ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 141880-, Forsyth County
STP00-2348-00(003)
Widening of Bethelview Road from SR 9/
Atlanta Highway to Castleberry Road

OFFICE Preconstruction

DATE March 27, 2009

FROM Genetha Rice-Singleton, Assistant Director of Preconstruction

TO SEE DISTRIBUTION

SUBJECT APPROVED REVISED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

Attachment

DISTRIBUTION:

Ron Wishon
Glenn Bowman
Ken Thompson
Michael Henry
Keith Golden
Russell McMurry
Paul Liles
Robert Mahoney
Brent Story
BOARD MEMBER

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

RECEIVED
MAR 16 2009

FILE: STP00-2348-00(003), Forsyth County
P.I. No. 141880

OFFICE: Road Design
DATE: February 27, 2009

FROM: Brent Story, P.E., State Road Design Engineer

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT: **Revised Project Concept Report**

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

The concept report for Bethelview Road project STP00-2348-00(003), P.I. No. 141880 was originally approved on February 13, 2001. The originally proposed project consisted of the widening and reconstruction of Bethelview Road between SR 9 and SR 20 from a two-lane highway to a four-lane divided highway with a 20-foot raised median. The outside shoulders would be reconstructed as 12-foot urban shoulders with curb and gutter and 5-foot sidewalks, except for a 4.11-mile segment from Bennett Parkway to Bethwick Drive, which would be reconstructed with 12-foot rural shoulders (6.5-foot paved). The approved concept is proposed to be amended as follows:

1. The northern limit of the project has been shifted from SR 20 to Castleberry Road. The new project length is 0.86 miles, instead of 6.11 miles. **The remaining section of Bethelview Road from Castleberry Road to SR 20 will be programmed and constructed under a separate project. A draft copy of the proposed Concept for this new project is attached for your use in creating this new project. This Concept will be routed for approval once a project number and P.I. number are established.**
2. The Bethelview Road typical section between Bennett Parkway and Beckwith Drive has been revised from a rural section to an urban section, resulting in a consistent urban section throughout the project limits. This modification was requested by the Office of Road Design in September 2003.
3. The urban shoulder width has been increased from 12 to 16 feet to allow for a more desirable sidewalk alignment. This modification was also requested by the Office of Road Design in September 2003.
4. Projected traffic volumes (AADT) have been updated from year 2025 to 2030.

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

DATE 3/13/09

State Transportation Planning Administrator

Pending amendment to ARC TIP proposed for June 2009.

REVISED PROJECT CONCEPT REPORT

Need and Purpose: See Attachment section 4i

Project location: The proposed project is located along Bethelview Road/CR 455 southwest of the City of Cumming in central Forsyth County, beginning at SR 9/Atlanta Highway and ending at Castleberry Road. The total project length is 0.86 miles, beginning approximately at milepost 5.78 and ending at milepost 4.93.

Description of the approved concept: The approved concept for Project STP00-2348-00(003) consists of the widening and reconstruction of Bethelview Road from SR 9 to SR 20. The project would improve safety and capacity on Bethelview Road through widening, alignment modifications, addition of a raised median, and the reconfiguration and/or reconstruction of a number of existing intersections to provide adequate turn lanes and storage capacity. Bethelview Road currently consists of two 12-foot lanes with grassed shoulders of varying widths. There are turn lanes at the existing signalized intersections of SR 9 and Castleberry Road.

The construction proposes to widen and reconstruct Bethelview Road to an urban typical section with 12-foot outside shoulders including curb and gutter, 5-foot sidewalks on both sides, and four 12-foot lanes with a 20-foot raised median from SR 9 to Bennett Parkway and again from Bethwick Drive to SR 20. From Bennett Parkway to Bethwick Drive, a rural typical section is proposed with 12-foot outside shoulders (6.5-foot paved) and four 12-foot lanes separated by a 20-foot raised grassed median. This project will connect with a similar widening/reconstruction project to the south, resulting in an improved corridor from SR 400 to the terminus of Bethelview Road at SR 20.

PDP Classification: Major __X__ Minor _____
Federal Oversight: Full Oversight ( ) Exempt (X) State Funded ( ) Other ( )

Functional Classification: Rural Major Collector

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

Traffic (AADT):
(from approved concept) Base Year: 21,000 (2005) Design Year: 35,500 (2025)

Proposed features to be revised: The revised concept will relocate the project's northern terminus along Bethelview Road. In addition, the Bethelview Road typical section has been revised to eliminate the proposed rural section between Bennett Parkway and Bethwick Drive in favor of an urban section throughout the entire project. The width of the urban shoulder has been increased from 12 to 16-feet.

Describe the revised feature(s) to be approved: The revised concept will shorten the project limits along Bethelview Road by relocating the end of the project to Castleberry Road instead of SR 20. The southern project terminus would remain at SR 9. The new project length for STP00-2348-00(003) is 0.86 miles, beginning approximately at milepost 5.78 and ending at milepost 4.93. The section of Bethelview Road from Castleberry Road to SR 20 will be a separate project.

In order to promote a more consistent typical section and to accommodate the anticipated commercial development along Bethelview Road, the rural section between Bennett Parkway and Bethwick Drive has been eliminated in favor of an urban section throughout the entire corridor. Furthermore, the width of the urban shoulder section has been increased from 12 to 16-feet to provide a more desirable sidewalk alignment. There are over 120 driveways on Bethelview Road and a 12-foot shoulder width would require the sidewalk to wrap around each drive resulting in an unaesthetic, jagged alignment that would be undesirable for pedestrian movements. The 16-foot shoulder allows for a smoother, more continuous sidewalk alignment, while also improving the intersection sight distance.

Updated Traffic (AADT): Current Year: 21,000 (2010) Design Year: 39,000 (2030)

Programmed/Schedule:
P.E.: FY 2003 R/W: FY 2009 Construction: Long Range

Revised cost estimates:

1. Construction Cost (incl inflation and E&I)	$5,432,923
2. Right-of-Way	$2,540,000
3. Utilities	$ 295,100
Total:	**$8,268,023**

Is the project located in a Non-attainment area? X Yes _____ No
The proposed widening and reconstruction of Bethelview Road from SR 9 to Castleberry Road is listed in the Atlanta Regional Commission's (ARC's) long range 2030 Regional Transportation Plan (RTP) and 2008-2013 short term Transportation Improvement Program (TIP) as part of project FT-008. The conforming plan schematic, found in Attachment Section 3, provides for four through lanes on this section Bethelview Road.

Recommendation: Recommend that the proposed revision to the concept be approved for implementation.

Attachments:
1. Project Location Map
2. Cost Estimate
3. Conforming Plan Schematics
4. Other supporting documents
   i. Revised Need and Purpose
   ii. Revised Benefit Cost Analysis Worksheet

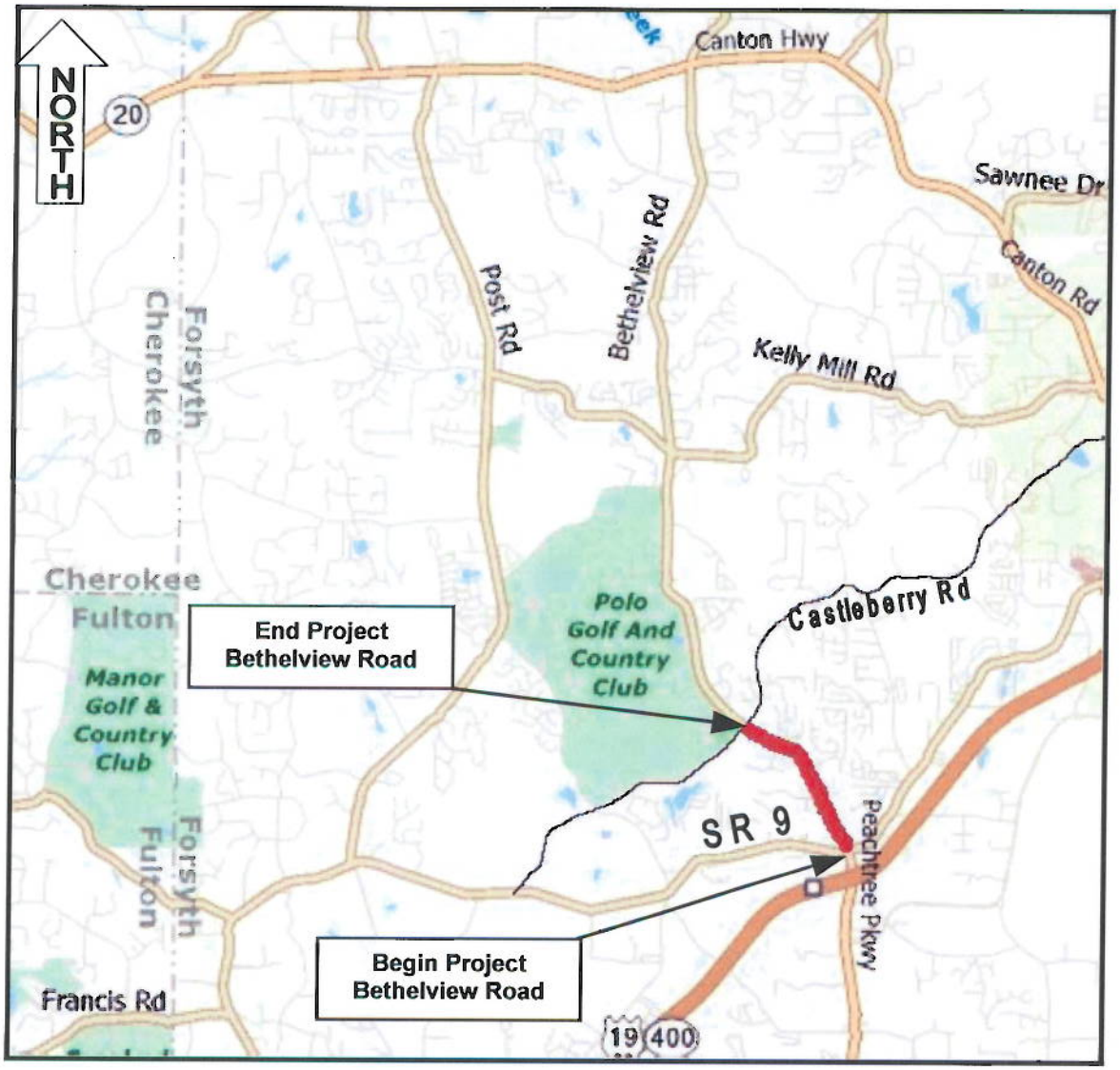
iii. Revised Typical Section
iv. Revised Traffic Flow Diagrams

Exempt projects

Concur: _____
Director of Preconstruction

Approve: _____
Chief Engineer

Project Location Map



Estimate Report for file "Bethelview Rd"

Section ROADWAY

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	211017.12	TRAFFIC CONTROL -	211017.12
153-1300	1	EA	68546.71	FIELD ENGINEERS OFFICE TP 3	68546.71
210-0100	1	LS	485042.00	GRADING COMPLETE -	485042.00
310-5060	330	SY	12.07	GR AGGR BASE CRS, 6 INCH, INCL MATL	3983.10
310-5120	31400	SY	22.76	GR AGGR BASE CRS, 12 INCH, INCL MATL	714664.00
402-3121	10680	TN	62.61	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	668674.80
402-3130	4160	TN	64.62	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	268819.20
402-3190	5370	TN	67.66	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	363334.20
413-1000	7930	GL	2.14	BITUM TACK COAT	16970.20
432-5010	19042	SY	1.23	MILL ASPH CONC PVMT, VARIABLE DEPTH	23421.66
433-1100	93	SY	149.63	REINF CONC APPROACH SLAB, INCL CURB	13915.59
441-0018	66	SY	45.37	DRIVEWAY CONCRETE, 8 IN TK	2994.42
441-0104	5474	SY	34.31	CONC SIDEWALK, 4 IN	187812.94
441-0740	1667	SY	33.16	CONCRETE MEDIAN, 4 IN	55277.72
441-4030	269	SY	44.42	CONC VALLEY GUTTER, 8 IN	11948.98
441-6022	10362	LF	16.02	CONC CURB & GUTTER, 6 IN X 30 IN, TP 2	165999.24
441-6720	8950	LF	17.40	CONC CURB & GUTTER, 6 IN X 30 IN, TP 7	155730.00
550-1180	4665	LF	37.74	STORM DRAIN PIPE, 18 IN, H 1-10	176057.10
550-1240	811	LF	45.44	STORM DRAIN PIPE, 24 IN, H 1-10	36851.84
550-1300	143	LF	60.50	STORM DRAIN PIPE, 30 IN, H 1-10	8651.50
550-4218	9	EA	624.47	FLARED END SECTION 18 IN, STORM DRAIN	5620.23
603-2181	600	SY	39.40	STN DUMPED RIP RAP, TP 3, 18 IN	23640.00
641-1100	60	LF	50.25	GUARDRAIL, TP T	3015.00
641-1200	1776	LF	17.59	GUARDRAIL, TP W	31239.84
641-5001	6	EA	664.48	GUARDRAIL ANCHORAGE, TP 1	3986.88
641-5012	3	EA	1867.46	GUARDRAIL ANCHORAGE, TP 12	5602.38
668-1100	51	EA	2515.38	CATCH BASIN, GP 1	128284.38
668-2100	1	EA	2429.51	DROP INLET, GP 1	2429.51
668-4300	8	EA	2252.38	STORM SEWER MANHOLE, TP 1	18019.04
				Section Sub Total:	**$3,861,549.58**

Section WALLS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3107	6	CY	399.26	CLASS A CONCRETE, RETAINING WALL	2395.56
511-1000	385	LB	0.89	BAR REINF STEEL	342.65
621-6201	80	LF	445.22	CONCRETE SIDE BARRIER, TP 2-SA	35617.60
621-6202	46	LF	517.87	CONCRETE SIDE BARRIER, TP 2-SB	23822.02
621-6203	25	LF	715.00	CONCRETE SIDE BARRIER, TP 2-SC	17875.00
				Section Sub Total:	**$80,052.83**

Section TEMPORARY EROSION CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	2	AC	395.22	TEMPORARY GRASSING	790.44
163-0240	7	TN	169.64	MULCH	1187.48
163-0300	3	EA	1171.08	CONSTRUCTION EXIT	3513.24
163-0503	9	EA	454.43	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	4089.87
163-0521	47	EA	230.65	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS	10840.55
163-0530	5888	LF	2.72	CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK	16015.36
163-0550	63	EA	205.18	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	12926.34
165-0010	432	LF	0.72	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	311.04
165-0030	706	LF	0.80	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	564.80
165-0040	47	EA	57.41	MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS	2698.27

165-0070	2904	LF	2.22	MAINTENANCE OF BALED STRAW EROSION CHECK	6446.88
165-0087	9	EA	108.90	MAINTENANCE OF SILT CONTROL GATE, TP 3	980.10
165-0101	3	EA	476.92	MAINTENANCE OF CONSTRUCTION EXIT	1430.76
165-0105	63	EA	82.18	MAINTENANCE OF INLET SEDIMENT TRAP	5177.34
167-1000	1	EA	577.61	WATER QUALITY MONITORING AND SAMPLING	577.61
167-1500	5	MO	707.94	WATER QUALITY INSPECTIONS	3539.70
171-0010	864	LF	2.41	TEMPORARY SILT FENCE, TYPE A	2082.24
171-0030	1413	LF	3.45	TEMPORARY SILT FENCE, TYPE C	4874.85
				Section Sub Total:	**$78,046.87**

Section PERMANENT EROSION CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
603-2012	110	SY	41.29	STN DUMPED RIP RAP, TP 1, 12 IN	4541.90
700-6910	5	AC	831.65	PERMANENT GRASSING	4158.25
700-7000	5	TN	64.43	AGRICULTURAL LIME	322.15
700-7010	12	GL	21.82	LIQUID LIME	261.84
700-8000	2	TN	425.74	FERTILIZER MIXED GRADE	851.48
700-8100	236	LB	2.32	FERTILIZER NITROGEN CONTENT	547.52
702-9020	22796	SY	6.55	MULCH	149313.80
710-9000	1295	SY	4.69	PERMANENT SOIL REINFORCING MAT	6073.55
716-2000	6840	SY	0.96	EROSION CONTROL MATS, SLOPES	6566.40
				Section Sub Total:	**$172,636.89**

Section SIGNING AND MARKING

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	70	SF	16.70	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	1169.00
636-1033	230	SF	19.98	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	4595.40
636-2070	80	LF	9.24	GALV STEEL POSTS, TP 7	739.20
636-2080	500	LF	11.69	GALV STEEL POSTS, TP 8	5845.00
653-0120	66	EA	74.34	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	4906.44
653-0170	5	EA	88.40	THERMOPLASTIC PVMT MARKING, ARROW, TP 7	442.00
653-1501	16265	LF	0.44	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	7156.60
653-1502	9640	LF	0.45	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	4338.00
653-1704	310	LF	3.51	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	1088.10
653-1804	4565	LF	1.71	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	7806.15
653-3501	9790	GLF	0.30	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	2937.00
653-6004	885	SY	2.78	THERMOPLASTIC TRAF STRIPING, WHITE	2460.30
654-1001	30	EA	3.09	RAISED PVMT MARKERS TP 1	92.70
654-1003	1400	EA	3.19	RAISED PVMT MARKERS TP 3	4466.00
				Section Sub Total:	**$48,041.89**

Section TRAFFIC SIGNAL INSTALLATION

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1041	30	SF	47.37	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 9	1421.10
639-2001	6000	LF	2.20	STEEL WIRE STRAND CABLE, 1/4 IN	13200.00
639-4004	4	EA	5927.09	STRAIN POLE, TP IV	23708.36
647-1000	1	LS	56592.00	TRAFFIC SIGNAL INSTALLATION NO.1	56592.00
935-1113	6900	LF	1.72	OUTSIDE PLANT FIBER OPTIC CABLE, LOOSE TUBE, SINGLE MODE, 24 FIBER	11868.00
935-1511	250	LF	2.08	OUTSIDE PLANT FIBER OPTIC CABLE, DROP, SINGLE MODE, 6 FIBER	520.00
935-3201	1	EA	460.00	FIBER OPTIC CLOSURE, AERIAL (SEALED), 6 FIBER	460.00
935-3203	2	EA	715.25	FIBER OPTIC CLOSURE, AERIAL (SEALED), 24	1430.50

				FIBER	
935-3203	2	EA	715.25	FIBER OPTIC CLOSURE, AERIAL (SEALED), 24 FIBER	1430.50
935-3401	1	EA	412.00	FIBER OPTIC CLOSURE, FDC (RACK MOUNTED), 6 FIBER	412.00
935-4010	8	EA	56.54	FIBER OPTIC SPLICE, FUSION	452.32
935-5060	16	EA	170.88	FIBER OPTIC SNOWSHOE	2734.08
935-6562	1	EA	1909.72	EXTERNAL TRANSCEIVER, DROP AND REPEAT, 1310 SINGLE MODE, (SIGNAL JOBS)	1909.72
935-8000	1	LS	6325.47	TESTING	6325.47
				Section Sub Total:	**$121,033.55**

Total Estimated Cost: $4,361,361.61

Subtotal Construction Cost	**$4,361,361.61**
E&I Rate 0.0 %	$0.00
Inflation Rate 0.0 % @ 0 Years	$0.00
Total Construction Cost	**$4,361,361.61**
Right Of Way	$2,540,000.00
ReImb. Utilities	$295,100.00
Grand Total Project Cost	**$7,196,461.61**

CONCEPT REPORT RIGHT OF WAY

COST ESTIMATE

Date:	February 16, 2009		
Project:	STP00-2348-00 (003)	**P.I. Number:**	141880
Existing/Required R/W:	100' to 120' / 100' to 170'	**No. Parcels:**	24
Project Termini:	Bethelview Road from SR9 to Castleberry Road		
Project Description:	Widening and reconstruction of Bethelview Road from 2-lane undivided to 4-lane divided roadway with urban shoulders		

Right of Way:

Heavy Commercial				
0 SF	@	$10.00/SF =	$	0
Light Commercial				
102,841 SF	@	$5.00/SF =	$514,205	
Premium Residential				
21,127 SF	@	$4.00/SF =	$ 84,508	
Average Residential				
0 SF	@	$2.00/SF =	$	0
Large Residential				
0 SF	@	$1.00/SF =	$	0

Permanent Construction Easement:

Heavy Commercial				
0 SF	@	$5.00/SF =	$	0
Light Commercial				
103,769 SF	@	$2.50/SF =	$259,423	
Premium Residential				
19,032 SF	@	$2.00/SF =	$ 38,064	
Average Residential				
0 SF	@	$1.00/SF =	$	0
Large Residential				
0 SF	@	$0.50/SF =	$	0

TOTAL: $896,200

Improvements:

Buildings:	$ 0	
Minor site improvements (paving, signs, etc.):	$107,000	
TOTAL:		$107,000

Relocation:

None	$ 0	
TOTAL:		$ 0

Damages:

Proximity-None	$ 0	
Consequential-None	$ 0	
Cost to Cure-2 Parcels	$ 21,000	
TOTAL:		$ 21,000

Net Cost:	$1,024,200
Plus Scheduling Contingency (55%):	$ 563,310
Plus Admin./Court Cost (60% of 2 lines above):	$ 952,506
	$2,540,016

TOTAL COST: **$2,540,000 (R)**

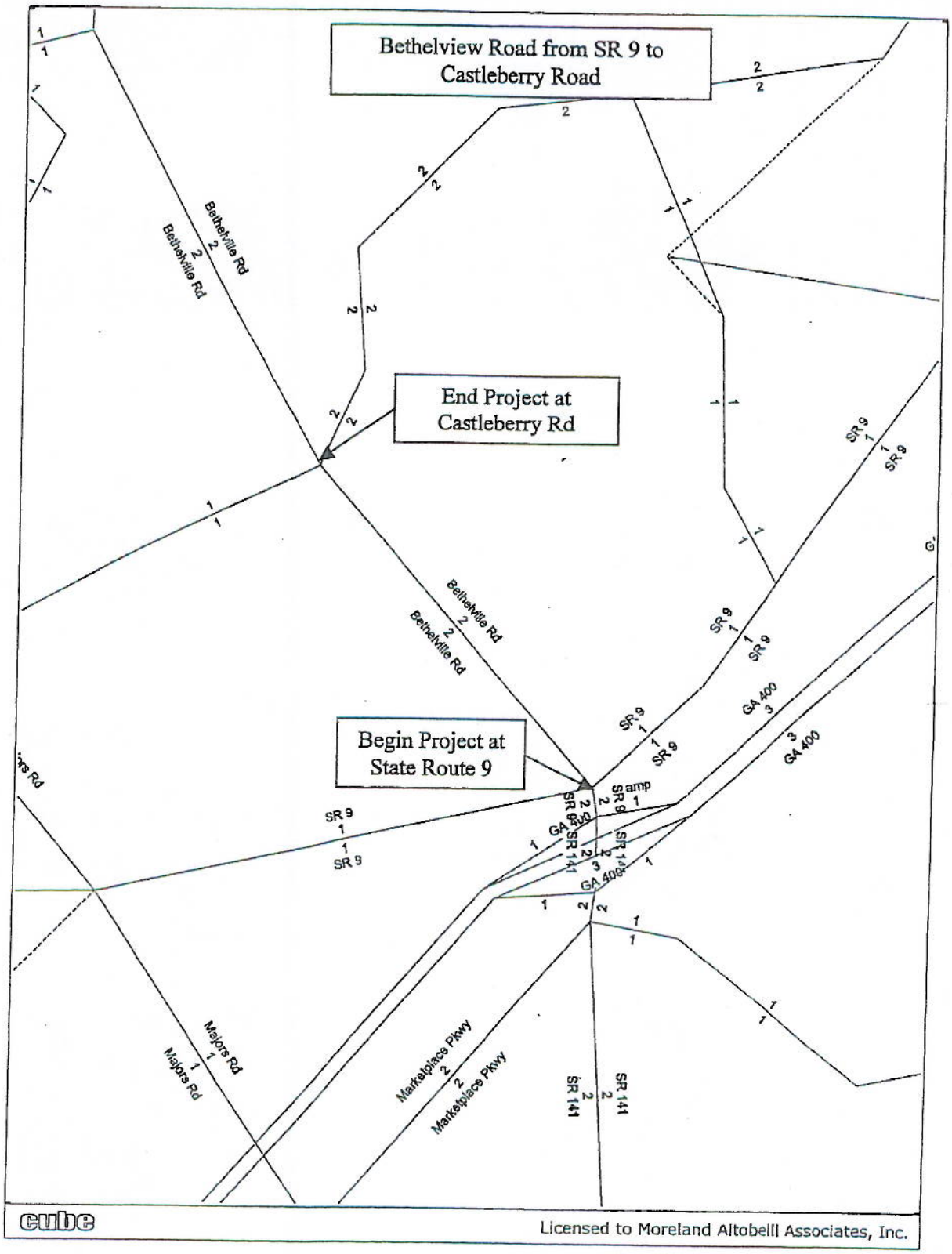
Notes:

There are no apparent displacees based on the current plans.

55% adjustment for scheduling contingencies between date of estimate and project implementation. There are additional adjustments for unforeseen management and condemnation costs. Per current GDOT practice, no "3rd layer" multiplier for inflation is applied to the calculations.

Prepared by: _____, Moreland Altobelli Associates

Approved by: _____, GDOT R/W


Bethelview Road from SR 9 to Castleberry Road
End Project at Castleberry Rd
Begin Project at State Route 9
Bethelville Rd
SR 9
GA 400
SR 141
Majors Rd
Marketplace Pkwy
ramp
cube
Licensed to Moreland Altobelli Associates, Inc.

Need and Purpose

The purpose of the proposed project is to provide improved capacity and safety along this established travel corridor by widening the existing 2-lane rural roadway to a 4-lane divided urban facility with a 20-foot raised median. The proposed project would provide an efficient and safe facility with separate turn lanes for all vehicle maneuvers at controlled access points along the length of the project. This project is planned in response to the tremendous growth that has occurred and continues to occur in the project area, which is likely the result of its close proximity to major transportation facilities such as SR 20, SR 9 (Atlanta Highway), and SR 400, as well as the City of Cumming and Lake Lanier.

The proposed improvements would be able to accommodate anticipated travel demand by widening SR 141 and Bethelview Road to a four-lane divided facility between SR 400 and SR 20. As a result of the widening, improvements would be necessary at all side street locations. These improvements would range from minor approach realignments to major median openings with traffic signals, separate left and right-turn lanes, and acceleration/deceleration lanes.

Planning Background and Project History:

The proposed project is listed in the State Transportation Improvement Program (STIP) as Project STP00-2348-00 (003), P.I. # 141880 and has been listed by Forsyth County as one of a number of projects in its Major Transportation Plan to upgrade its existing roadway network infrastructure. The project is also listed in the Atlanta Regional Commission's (ARC's) long range 2030 Regional Transportation Plan (RTP) and 2008-2013 short term Transportation Improvement Program (TIP) as project FT-008.

Population and Demographic Trends:

Having been ranked by the U.S. Census as the fastest growing county in Georgia, Forsyth County has more than tripled its population over the last twenty years, increasing its population by over 250% from 27,958 in 1980 to 98,407 in 2000. This growth has been fueled by the expansion of SR 400 as a limited access facility through the southern portions of the county as the Atlanta Metropolitan Area continues to expand to the north. In an effort to develop a long-range plan for sustainable transportation, the county developed the 1995-2015 Forsyth County Major Transportation Plan to determine the transportation needs of the county over a twenty-year period based on projected residential and commercial growth in specific areas of the county. The proposed project is a major part of implementing this plan.

Other Planned Projects:

The proposed project would be coordinated with other planned projects to upgrade the existing transportation infrastructure for this part of Forsyth County to provide sustainable traffic capacity and connectivity. This project is connected to four other planned GDOT projects and two local government planned projects that either intersect or traverse this project. They are listed as follows:

1. Project STP00-0104-01(039), P.I. # 121980 – This project will widen SR 141 to a multi-lane divided section, beginning near the Fulton County line and continuing north through the interchange with SR 400 to SR 9. Included with this project is the reconstruction of the SR 400 interchange and ramps, as well as the intersection of SR 141, SR 9, and Bethelview Road. This project has a total length of approximately six miles and was let to construction in August 2004. The section of SR 141 from the interchange with SR 400 to SR 9 is being analyzed as part of the proposed project since SR 400 represents the logical southern

terminus of the proposed project. However, this section of SR 141 would be constructed under project STP00-0104-01(039) as described in this paragraph.

2. Project STIP-141890 (TIP# FT-001E) plans to widen SR 9 from SR 20 (Buford Highway) to SR 306 from the existing 2 lanes to 4 lanes, for a total project length of 2.85 miles. Preliminary Engineering is scheduled for 2007, with right of way and construction commencing sometime after 2008.

3. A long-range project (not yet programmed by GDOT, although it is included in the ARC TIP as Project FT-023B) proposes to widen SR 9 from SR 371 to SR 141/Bethelview Road from two to four lanes for a total project length of approximately three miles.

4. Project STP00-0003-00(682), P.I. # 0003682 – This project proposes to widen SR 20 from SR 371 west of the northern terminus of this project to SR 400 from two to four lanes for a total project length of approximately eight miles. This is a long-range project not likely to be released for construction until after 2008.

5. Forsyth County plans to widen Castleberry Road from Bethelview Road to Hutchinson Road from two to four lanes for a total project length of approximately three miles. This project is currently planned for release to construction in 2010.

6. Forsyth County plans to widen Kelly Mill Road from SR 371 west of Bethelview Road to the Cumming city limits east of Bethelview Road from two to three lanes for a total project length of approximately five miles. This is a long-range project with a projected release to construction of 2010.

7. Chamblee Gap Road, listed as project number FT-085 in the 2006-2011 TIP, proposes roadway operational upgrades from Bethelview Road to the current end of the graveled section, for a total length of 1.04 miles. It is proposed to open in 2011.

These projects represent a significant investment in infrastructure improvements as this area of Forsyth County continues to become more urban and the future traffic on some of these facilities change their function from rural arterials to urban arterials. Increasing levels of traffic on these major arterials will also impact the adjacent lower class roadways, since traffic must be distributed to various locations using these streets.

Land Use Along the Corridor:

Bethelview Road is currently a two-lane rural major collector connecting SR 20 to the north and SR 9 and SR 141 to the south, serving as the most direct north-south facility for local and commercial traffic to SR 400. Expanding commercial areas currently exist at both ends of Bethelview Road, and a significant number of residential subdivisions have recently been constructed or are currently under construction along Bethelview Road. Prior to this recent growth, residences along Bethelview Road occurred on large plots of land. Some of these residences remain, although much of the land along Bethelview Road has been or is currently being converted to subdivisions. Bethelview Road also serves as a major collection point for smaller east-west collector roadways that provide access into and out of Cumming, including Castleberry Road (CR 456) and Kelly Mill Road (CR 5). Congestion and operational safety problems are occurring at local intersections along the project corridor as demonstrated in later Level of Service tables. Bethelview Road traverses an area of uneven

topography and the roadway has both large horizontal and vertical curves.

Level of Service Analysis

Bethelview Road has a posted speed of 50 miles per hour (mph), no paved shoulders, and no acceleration or deceleration lanes approaching or departing the major intersections. These conditions are causing conflicts between fast-moving peak hour through traffic and local traffic attempting to access driveways and cross streets, resulting in extreme delays and unsafe traffic conditions. The proposed project would provide relief for these capacity and operational problems caused by the heavy traffic volumes associated with adjacent existing and expanding residential and commercial development.

A capacity analysis for the existing and proposed facility was performed in order to estimate the ability of Bethelview Road to accommodate the volumes under the build and no-build conditions. The objective of this analysis is to determine the maximum amount of traffic that can be accommodated with reasonable safety while maintaining a LOS. Level of Service is a quality measure for roadway segments and intersections that describe operational conditions and the driver's perception of those conditions, ranging from A to F with LOS A representing the best operating conditions and LOS F the worst.

This analysis was performed for roadway segments based on the existing and projected 2010 and 2030 average volumes and at major intersections along Bethelview Road using the 2030 design hourly volumes (DHV). For roadway segments, LOS is generally defined as the ability to maneuver within a traffic stream, whereas at intersections, LOS is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Control delay is made up of a number of factors relating to intersection control (signalization or stop signs), geometry, traffic, and incidents.

TABLE 1
LEVELS OF SERVICE OF ROADWAY SEGMENTS

LOCATION	LEVELS OF SERVICE					
	2007		2010 No-Build		2030 No-Build	
	ADT	ADT	LOS	LOS	ADT	LOS
SR 141 from SR 400 to SR 9	21,000	F	28,800	F	53,300	F
Bethelview Rd from SR 9 to Castleberry Rd	20,430	F	21,000	F	39,000	F
Bethelview Rd from Castleberry Rd to SR 20	13,000	C	17,800	E	32,900	F
Friendship Cir north of SR 20	5,100	B	6,400	B	10,300	B

As indicated in Table 1, the section of SR 141 between the SR 400 interchange and SR 9 currently carries an estimated ADT volume of 21,000 vehicles per day (vpd). This volume is indicative of LOS F for a two-lane undivided section as it is presently designed. However, because of the close proximity of the signalized intersections at the southbound on/off-ramps of the interchange and at SR 9, the LOS for this segment is more directly a result of the intersection operations (see Table 2 for Intersection Capacity Analysis Results for Major Intersections). This volume is projected to increase by approximately 37% to 28,800 vpd for the 2010 build year as a result of continued travel demand

and growth along Bethelview Road and SR 9 utilizing the SR 400/SR 141 interchange. This volume is then projected to increase by 85% to 53,300 vpd by the 2030 design year. Based on these projected volumes, this segment of SR 141 would continue to experience LOS F conditions if widening did not occur. Based on these volumes, a six-lane divided facility with multiple turn lanes at each intersection on either end of the segment is necessary and would provide operations within the range of LOS D by the 2030 design year.

As also indicated in Table 1, the section of Bethelview Road between SR 9 and Castleberry Road currently carries an estimated ADT of 20,430 vpd and operates within the range of LOS F. Upon construction of the proposed project, Bethelview Road would serve as a primary minor arterial for collecting and distributing traffic from SR 400 and commercial nodes at SR 9 to parts north, with a projected ADT volume of 21,000 vpd for the 2010 build year. This volume is then projected to increase by 86% to 39,000 vpd by the 2030 design year. Based on these projected volumes, Bethelview Road would operate at LOS F under the existing two-lane undivided section. With the proposed typical section, this roadway would operate at LOS F for the 2010 build year and LOS F for the 2030 design year.

The section of Bethelview Road between Castleberry Road and SR 20, at the northern terminus of the project, currently carries an estimated ADT of 13,000 vpd and operates within the range of LOS C. This volume is projected to increase by approximately 37% to 17,800 vpd for the 2010 build year as a result of traffic from residential areas to the west being diverted from SR 20 to Bethelview Road on route to SR 141 and the SR 400 interchange. This volume is then projected to increase by 85% to 32,900 vpd by the 2030 design year. Based on the projected volumes, this segment would operate at LOS E for the 2010 build year and would decline to LOS F for the 2030 design year under the build condition.

Also indicated in Table 1, the existing ADT on Friendship Circle just north of SR 20 is currently 5,100 vpd and operates within the range of LOS B. This volume is projected to increase by 25% to 6,400 vpd by the 2010 build year, and then increase by 61% to 10,300 vpd by the 2030 design year. Based on the projected volumes, Friendship Circle would continue to operate within the range of LOS B through the 2030 design year with no further improvements necessary.

A capacity analysis was performed at nine intersections along Bethelview Road and SR 141 to determine the intersection LOS using the existing 2005 volumes and the 2030 DHV under the Build and No-Build conditions. This analysis was conducted using the methods described in the 1994 Highway Capacity Manual (HCM), published by the Transportation Research Board in Washington, DC. The procedures measure overall intersection LOS operations based on the intersection's turning movement (hourly) volume, lane configuration, and traffic control operations according to threshold values defined in the HCM. The six LOS letters previously described apply to this analysis and represent a range of operating conditions at the intersections and the driver's perception of those conditions. Safety is not included in the measures that establish service levels. Results of the LOS analysis are provided in Table 2: Intersection Capacity Analysis Results for Major Intersections.

Table 2: Intersection Capacity Analysis Results for Major Intersections

Intersection	Type of Traffic Control (Existing or Proposed)	Existing		No-Build		Build	
		2005		2030		2030	
		AM	PM	AM	PM	AM	PM
SR 141 at SR 400 NB Off-Ramp	Signalized (Existing)	B	C	F	F	B	D
SR 141 at SR 400 SB On-Ramp	Signalized (Existing)	C	C	F	F	C	B
Bethelview Road and SR 141 at SR 9	Signalized (Existing)	C	C	F	F	D	D
Bethelview Road at Castleberry Road	Signalized (Existing)	C	C	F	F	C	D
Bethelview Road at Polo Fields Parkway	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Pittman Road	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Kelly Mill Road	Signalized (Existing)	B	B	F	F	C	D
Bethelview Road at Drew Road	Unsignalized (Existing)	B	C	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Aaron Sosebee Road	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Chamblee Gap Road	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				C	C
Bethelview Road at SR 20	Signalized (Existing)	C	C	F	F	C	C

The results presented in Table 2 indicate that although all intersections are operating adequately under existing conditions, by the 2030 design year, the existing lane configurations and intersection control would not provide an adequate LOS for the projected peak hour volumes and turning movements at each intersection.

As part of the proposed project, access to a number of existing side streets would be routed through appropriately spaced median openings and signalized intersections. In addition, separate left and right turn lanes, as well as acceleration and deceleration lanes, would be provided at major intersections to improve operational efficiency in accordance with the projected turning movements. As Table 2 indicates, a total of six (6) new traffic signals are proposed at the following intersections with Bethelview Road: Bennett Parkway, Polo Fields Parkway, Pittman Road, Drew Road, Aaron Sosebee Road, and Chamblee Gap Road. These proposed improvements would sustain the design year volumes and provide an adequate LOS at each intersection.

Crash Data

An analysis of crash data for the project corridor was performed to determine the total number of crashes, injuries and fatalities for the entire corridor. From these totals, crash, injury and fatality rates were calculated and compared to statewide average crash, injury and fatality rates for roadways of the same functional class where possible. Bethelview Road, between SR 9 and SR 20, is classified as a rural major collector according to Georgia Department of Transportation (GDOT) records; however, the section of SR 141 included with this project is classified as a rural minor arterial. Because of the difference in functional classifications, the two facilities have to be assessed separately. In the case of SR 141, this section consists of approximately 1,500 feet of the total project length. For the purpose of calculating crash, injury and fatality rates, standard engineering practice requires a minimum length of one mile; therefore, crash, injury and fatality rates could not be calculated for the section of SR 141 between the SR 400 interchange and SR 9 and a comparison to statewide average crash, injury and fatality rates for this section was not possible.

Crash data, as well as statewide average crash, injury and fatality rates were provided from the GDOT Office of Traffic Operations and the Georgia Department of Public Safety, Crash Reporting Unit for the years 2004 through 2006, the three latest years for which complete statewide crash data is available. A summary of the total number of crashes, injuries and fatalities along Bethelview Road, as well as a comparison with statewide rates are provided in Table 3. A breakdown of the crash by type is provided in Table 4. The calculated crash, injury and fatality rates are presented in terms of the number of crashes, injuries or fatalities per 100 million vehicle miles traveled. A summary of the total number of crashes and injuries along the SR 141 section of the project, as well as the breakdown of the crash by type, is then provided in Table 5.

TABLE 3

SUMMARY OF CRASHES, INJURY AND FATALITY RATES

Bethelview Road from SR9/Atlanta Hwy to SR20/Canton Hwy: Rural Major Collector (6.11 miles)									
Year	No. of Crashes	No. of Injuries	No. of Fatalities	Crash Rate*	Statewide Average Crash Rate*	Injury Rate*	Statewide Average Injury Rate*	Fatality Rate*	Statewide Average Fatality Rate*
2004	90	44	1	398	*273*	195	*94*	4.42	*3.24*
2005	70	36	1	263	*197*	135	*74*	*3.76*	*3.23*
2006	87	34	0	285	*203*	111	*73*	*0.00*	*3.56*

*Values for Rate of Crashes, Injuries and Fatalities are per 100 million vehicle-miles.

The results from Table 3 demonstrate that the crash rates along Bethelview Road have exceeded the statewide average for all three years. Also, it should be noted that there was one fatal crash reported in 2004 and 2005 along Bethelview Road. Table 4 provides a breakdown of these crashes based on type, so as to identify the predominant types of crashes occurring along Bethelview Road and to see if any particular trend is evident.

TABLE 4

SUMMARY OF TRAFFIC CRASH TYPES

Year	Total No. of Crashes	Crash Types for Bethelview Road (SR 9 to SR 20)				
		Rear End	Angle	Sideswipe	Head On	Other[1]
2004	90	36	33	10	3	8
2005	70	30	21	8	4	7
2006	87	46	17	7	5	12

[1] This category includes "Non-Collision With a Motor Vehicle," "Struck Object," and "Overturned" crashes.

The results in Table 4 indicate a predominance of "rear-end" and "angle" crashes, and that these types of crashes have increased during this time period. A review of the crash records indicate that the majority of "rear-end" crashes occurred at intersections under heavy congestion, while others occurred at mid-block locations where vehicles were struck from behind while slowing down and attempting to turn left into private driveways and other uncontrolled access points. The data also revealed a large number of "angle" crashes, both at intersections and at uncontrolled access points involving vehicles attempting to enter Bethelview Road. In some cases up to four vehicles were involved in one rear-end crash.

The crash records also revealed an increasing trend in "other" crashes. These crashes primarily involved individual motorists inadvertently veering onto the soft shoulder that then lose control of their vehicles after overcorrecting, as well as drivers performing evasive maneuvers in an attempt to avoid a rear-end collision with the driver in front of them that was stopped to make a left turn. The predominance of these types of crashes are, in part, attributable to a high volume of commuter traffic interacting with local traffic seeking access to adjacent residential development. The existing two-lane facility does not provide adequate capacity and storage for stopped or decelerating traffic attempting to turn left or right, nor does it provide a separation for opposing traffic volumes, leaving little room for error. The additional through lanes, turn lanes at intersections, a raised median and curbs and gutters would provide additional capacity, storage, and room to maneuver safely along the project corridor.

In the same manner as Bethelview Road, a breakdown of the crash types along SR 141, from SR 9 through the SR 400 interchange is shown in Table 5.

TABLE 5

Crash Inventory for SR 141 (SR 400 NB Off-Ramp to SR 9)

Year	Total No. of Crashes	Total No. of Injuries	Crash Types				
			Rear End	Angle	Sideswipe	Head On	Other[1]
2004	49	15	30	11	4	4	0
2005	75	18	45	20	8	1	1
2006	70	16	41	16	9	0	4

[1] This category includes "Non-Collision With a Motor Vehicle," "Struck Object," and "Overturned" crashes.

The results of Table 5 are similar to those in Table 4, which indicate a predominant number of "rear-end" and "angle" crashes. A review of the crash records for this section of the project indicate a large number of "rear-end" crashes at the ramp intersections, and a large number of "angle" crashes involving vehicles attempting to turn left out of the BP gas station to go south on SR 141 and striking vehicles traveling northbound. The data provided in lists all crashes occurring on SR 141 between SR 9 and the northbound off-ramp from SR 400 as one separate roadway section, and makes no special distinction for the interchange portion. All crashes occurring at the ramp intersections are noted as if they were regular side streets. The majority of crashes occurring within the influence area of the interchange are primarily attributable to general congestion resulting from over-capacity and poor signal progression and not from any specific geometric design flaw in the existing interchange or ramps. The proposed project would help reduce congestion and improve signal progression by providing additional roadway capacity and improved traffic signals with new lane configurations at major intersections. This crash data is provided for informational purposes to complete the data provided in and for the SR 141 section of the project only, and is neither intended, nor detailed enough to provide a quantitative statement related to the overall operational conditions at the interchange.

The installation of separate lanes for left and right turning movements at all signalized intersections and other controlled access points along the project would help to remove stopped or slowing traffic from the through traffic lanes, thereby lessening the opportunity for "rear-end" collisions. Construction of a raised median would also help to reduce "angle" crashes occurring at mid-block locations between vehicles on the mainline and those entering from the opposite side of the road. Without the project, crashes are likely to continue to increase as more residential developments are under construction and access across Bethelview Road is not confined to controlled intersections. These conflicts between access and mobility will also continue to increase as more traffic uses Bethelview Road and SR 141 to reach SR 400. In addition to providing a safe and efficient facility, the proposed project would improve several existing substandard horizontal and vertical curves that are not suited to the current posted speed of 50 mph. The proposed facility would have a design speed of 45 mph consistent with the proposed typical section. This difference in the posted speed limit may also contribute to lower crash and injury rates.

Logical Termini

The logical southern terminus for the proposed widening of Bethelview Road would occur at the interchange between SR 400 and SR 141 because SR 400 serves as the primary origin and destination for the majority of traffic volumes on Bethelview Road. Bethelview Road actually ends at the

intersection with SR 9, approximately 1,500 feet north of the interchange; however, because the majority of traffic at that intersection is comprised of through traffic destined for SR 400, it was necessary to continue the widening south of SR 9 to include both ramp intersections of the interchange. The projected 2030 hourly turning movement volumes demonstrate a break in traffic volumes at the southbound on-ramp to SR 400 during the AM peak hour and the northbound off-ramp to northbound SR 141 during the PM peak hour. Because of the travel patterns reflected by the peak hour volumes at the interchange, it was chosen as the southern project terminus.

The logical northern terminus for the proposed widening of Bethelview Road would occur at a point approximately 600 feet north of the SR 20 intersection on Friendship Circle. The project would extend onto Friendship Circle to accommodate the reconstruction of this intersection. Approximately 57% of northbound traffic on Bethelview Road turns left or right onto SR 20 with the remainder continuing north onto Friendship Circle. Friendship Circle serves as a rural minor collector roadway that distributes traffic to and from residential areas to the north, and reconnects with SR 20 east of Bethelview Road. As a result of this break in traffic volumes across the SR 20 intersection, the future traffic anticipated at this proposed terminus would dissipate such that no additional improvements would be necessary beyond this intersection. The Bethelview Road/SR 20 intersection is also included as part of a federal and state funded project to widen SR 20 from SR 371 west of this intersection, through Cumming, to SR 400.

Summary

In reviewing the nature of the crash data along the project corridor, the projected increase in traffic volumes as a result of adjacent residential developments, and the poor geometry of Bethelview Road, it has been determined by the GDOT that the proposed project is a needed transportation improvement project. The proposed project would separate through traffic from turning vehicles on Bethelview Road, provide adequate capacity and access at major intersections and median openings, and maintain the efficient functionality of this facility. As the LOS analysis results demonstrate, without the recommended intersection and capacity improvements, the projected traffic volumes would experience extreme congestion and delay at signalized and non-signalized intersections with inadequate lane configurations. This congestion would extend back from these intersections, causing a total breakdown in the general flow of traffic and a substantial decline in LOS for the length of the project that would be unacceptable to the driving public. The expanding adjacent residential development along Bethelview Road, continued commercial development along SR 9 near the southern project terminus, and direct access to SR 400 substantiate the need for the proposed project to improve capacity and increase safety along Bethelview Road.

The proposed project is one of a system of planned projects in southwest Forsyth County to reduce congestion, improve safety, and increase operational efficiency by providing improved capacity and traffic mobility along the project corridor. Construction of a raised median for the length of the project would also improve safety and provide an orderly flow of traffic along the project corridor.

Benefit Cost Analysis Work Sheet
CONGESTION PROJECTS

Project Number:STP00-2348-00(003)
PI Number:141880
County: Forsyth

Project Description:Bethelview Road from SR 9 to Castleberry Road

Congestion Benefit = Tb + CMb + Fb

Person Time Savings Benefit (Tb)

*Db (hrs)	0.0447
ADT	39,000.00
Tb ($s)	$59,925,937.50

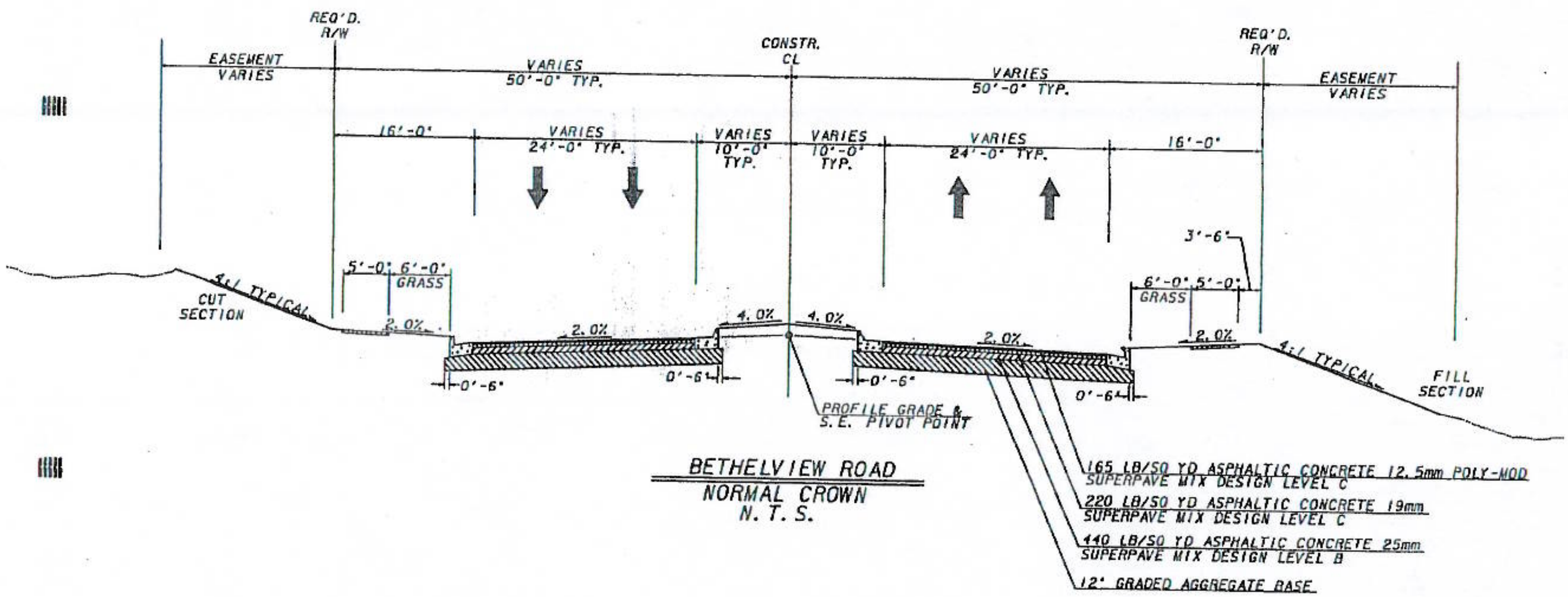
Commercial Truck Time Savings Benefit (CMb)

Db (hrs)	0.0447
% Truck Traffic	0.05
ADT	39,000.00
CMb	$15,831,343.13

Fuel Savings Benefit (Fb)

ADT	39,000.00
Fb ($s)	$20,883,281.25

Total Congestion Benefit	$96,640,561.88
Total Project Cost	$8,268,023.00
B/C Ratio	**11.69**



BETHELVIEW ROAD
NORMAL CROWN
N. T. S.

Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 190
Norcross, Georgia 30071
Telephone (770) 263-5945

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTIONS
BETHELVIEW RD

Drawing No. 5-01

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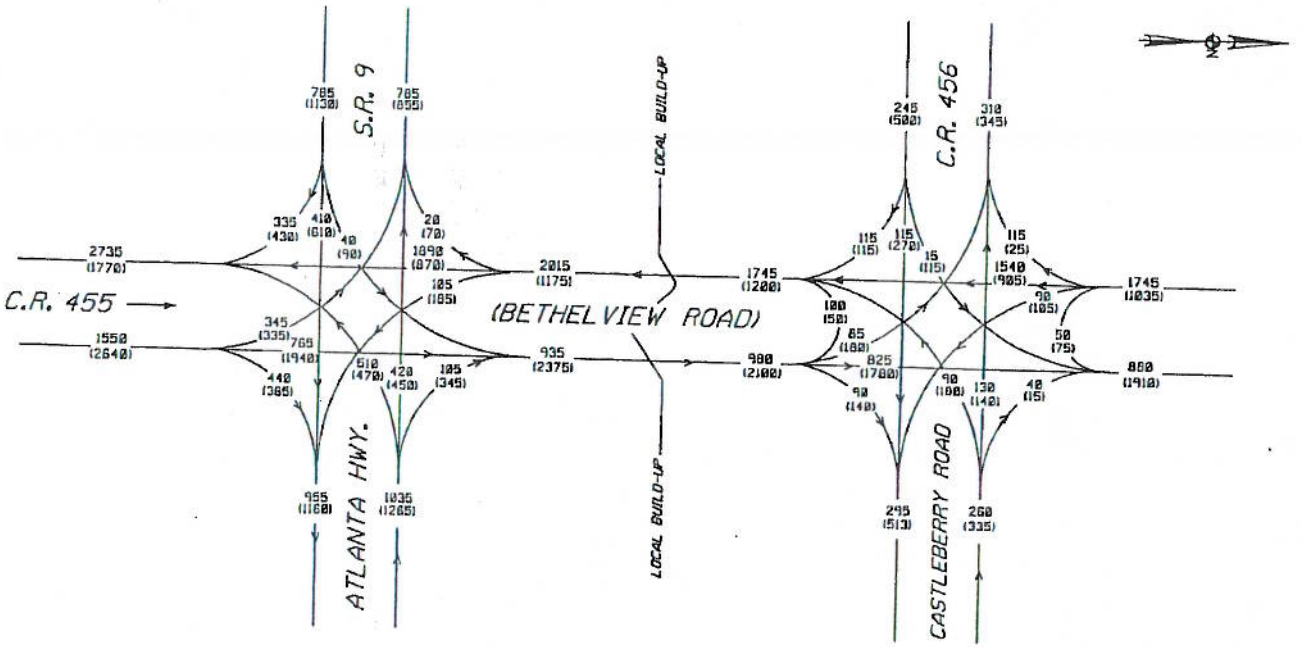

YEAR 2030
000 AM PEAK HOUR TRAFFIC
(000) PM PEAK HOUR TRAFFIC

Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 140
Norcross, Georgia 30071
Telephone (770) 263-8443

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TRAFFIC DIAGRAM
BETHELVIEW ROAD WIDENING
YEAR 2030 PEAK HOUR TRAFFIC

DRAWING No. 10-01

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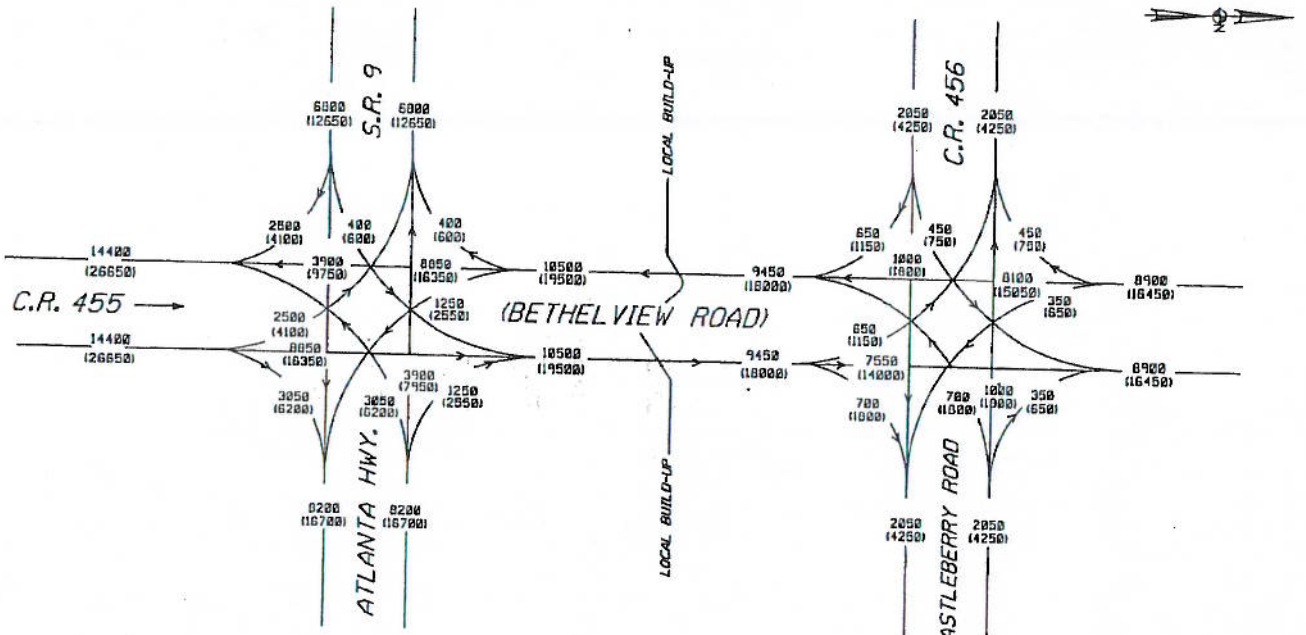
S.R. 9
ATLANTA HWY.
C.R. 456
CASTLEBERRY ROAD
C.R. 455
(BETHELVIEW ROAD)
LOCAL BUILD-UP
LOCAL BUILD-UP
6800 (12650)
6800 (12650)
2850 (4250)
2850 (4250)
2500 (4100)
400 (600)
400 (600)
650 (1150)
450 (750)
450 (700)
14400 (26650)
3900 (9750)
8050 (16350)
10500 (19500)
9450 (18000)
1000 (1800)
8100 (15050)
8900 (16450)
1250 (2550)
350 (650)
650 (1150)
14400 (26650)
8050 (16350)
10500 (19500)
9450 (18000)
7550 (14000)
8900 (16450)
3900 (7950)
3050 (6200)
3050 (6200)
1250 (2550)
700 (1000)
700 (1000)
1000 (1800)
350 (650)
8200 (16700)
8200 (16700)
2850 (4250)
2850 (4250)
LEGEND
000 YEAR 2010 ADT
(000) YEAR 2030 ADT
Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 190
Norcross, Georgia 30071
Telephone (770) 263-8446
REVISION DATES
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:
TRAFFIC DIAGRAM
BETHELVIEW ROAD WIDENING
YEAR 2010/2030
AVERAGE DAILY TRAFFIC
DRAWING No. 10-02
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DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No. STP00-2348-00 (003), Forsyth County
Bethelview Road Widening and Reconstruction
from S.R. 9 to Castleberry Road
P.I. No. 141880

OFFICE Road Design

DATE February 16, 2009

FROM Brent Story, P.E., State Road Design Engineer

TO Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER Scott MacLean

MNGT LET DATE Long Range

MNGT R/W DATE Jan. 2009

PROGRAMMED COST (TPro W/OUT INFLATION)		**LAST ESTIMATE UPDATE**
CONSTRUCTION	$35,738,734	DATE 10-09-2008
RIGHT OF WAY	$13,109,000	DATE 10-09-2008
UTILITIES	$NA	DATE Not Applicable

REVISED COST ESTIMATES

CONSTRUCTION*	$5,432,922.33
RIGHT OF WAY	$2,540,000
UTILITIES**	$295,100.00

* Costs contain 5% Engineering and Inspection and 3% Construction Contingencies and Fuel and Liquid AC Adjustments.

** Costs contain 30% contingency.

REASON FOR COST INCREASE The change in cost is due to shifting the northern project terminus from S.R. 20 to Castleberry Road (reduction from 6.11 to 0.86 miles in project length) as well as the addition of the fuel and the asphalt cement price adjustments.

CONTINGENCY SUMMARY

Construction Cost Estimate:	$4,361,361.61	(Base Estimate)
Engineering and Inspection:	$218,068.08	(Base Estimate x 5 %)
Construction Contingency:	$130,840.85	(Base Estimate x 3 %) (The Construction Contingency is based on the Project Improvement Type in TPro.)
Total Fuel Adjustment	$ 209,981.67	(From attached worksheet)
Total Liquid AC Adjustment	$ 512,670.12	(From attached worksheet)
Construction Total:	$5,432,922.33	
Utility Cost Estimate:	$227,000.00	
Utility Contingency:	$68,100	30 %
Utility Total:	$295,100	

REIMBURSABLE UTILITY COST

Utility Owner	Reimbursable Costs

Attachments

c: Genetha Rice - Singleton, Assistant Director of Preconstruction
Angela Whitworth, Financial Management Administrator

Date 2/25/2009

P.I. Number 141880 County Forsyth

Project Number STP00-2348-00(003)

Special Provision, Section 109-Measurement and Payment

FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX*)

ENTER FPL DIESEL	2.266
ENTER FPM DIESEL	5.099

ENTER FPL UNLEADED	1.812
ENTER FPM UNLEADED	4.077

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

INCREASE ADJUSTMENT
125.00%

INCREASE ADJUSTMENT
125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 **(CUBIC YARD)**		0.29		0.15		
Excavations paid as specified by Sections 206 **(CUBIC YARD)**		0.29		0.15		
GAB paid as specified by the ton under Section 310 **(TON)**	21780.000	0.29	6316.20	0.24	5227.20	
Hot Mix Asphalt paid as specified by the ton under Sections 400 **(TON)**		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 **(TON)**	20210.000	2.90	58609.00	0.71	14349.10	
PCC Pavement paid as specified by the square yard under Section 430 **(SY)**		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Class __Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
PSC Beams_____ (LF) Section 507				8.00		1.50		
PSC Beams_____ (LF) Section 507				8.00		1.50		
PSC Beams_____ (LF) Section 507				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		

SUM QF DIESEL=	64925.20	SUM QF UNLEADED=	19576.30

DIESEL PRICE ADJUSTMENT($)	$169,188.58
UNLEADED PRICE ADJUSTMENT($)	$40,793.09

ASPHALT CEMENT PRICE ADJUSTMENT
(BITUMINOUS TACK COAT 125% MAX)

APPLICABLE TO CONTRACTS/PROJECTS CONTAINING THE 413 SPECIFICATION, SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

ENTER APL 409 ENTER APM 920.25

125.00%	INCREASE ADJUSTMENT

L.I.N.	TYPE	TACK (GALLONS)	TACK (TONS)	REMARKS
413-1000	PG 58-22	7930	34.0601	

TMT = 34.0601

PRICE ADJUSTMENT($)	$16,716.72

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX

ENTER APL 409 ENTER APM 920.25

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

125.00%	INCREASE ADJUSTMENT

L.I.N. / Spec Number	MIX TYPE	HMA	JMF AC%	AC	REMARKS
402-3121	25 mm SP	10680	5.00	534.00	
402-3130	12.5 mm SP	4160	5.00	208.00	
402-3130	12.5 mm SP	5370	5.00	268.50	
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			TMT =	1010.50	

PRICE ADJUSTMENT($)	$495,953.40

ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

ENTER APL | ENTER APM

MISSING APL OR APM	MISSING APL OR APM

Use this side for Asphalt Emulsion Only

L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)

TMT =

REMARKS:

Use this side for Asphalt Cement Only

L.I.N.	TYPE	TACK (GALLONS)

TMT =

REMARKS:

MONTHLY PRICE ADJUSTMENT($)	MISSING APL OR APM

ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT *(ENGLISH 125% MAX)*

DIESEL PRICE ADJUSTMENT($)	$169,188.58
UNLEADED PRICE ADJUSTMENT($)	$40,793.09
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	$16,716.72
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	$495,953.40
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	MISSING APL OR APM

REMARKS:

TOTAL ADJUSTMENTS	$722,651.79

DWM 10/08

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Road Design

PROJECT CONCEPT REPORT

Project Number:
County: Forsyth County
P. I. Number:

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

Regional or Wide area location sketch and Project Description (See Page 2)

Recommendation for approval: Date of Report: February 27, 2009

DATE _____ _____
Project Manager

DATE _____ _____
State Road Design Engineer

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

DATE _____ _____
State Transportation Planning Administrator

DATE _____ _____
State Transportation Financial Management Administrator

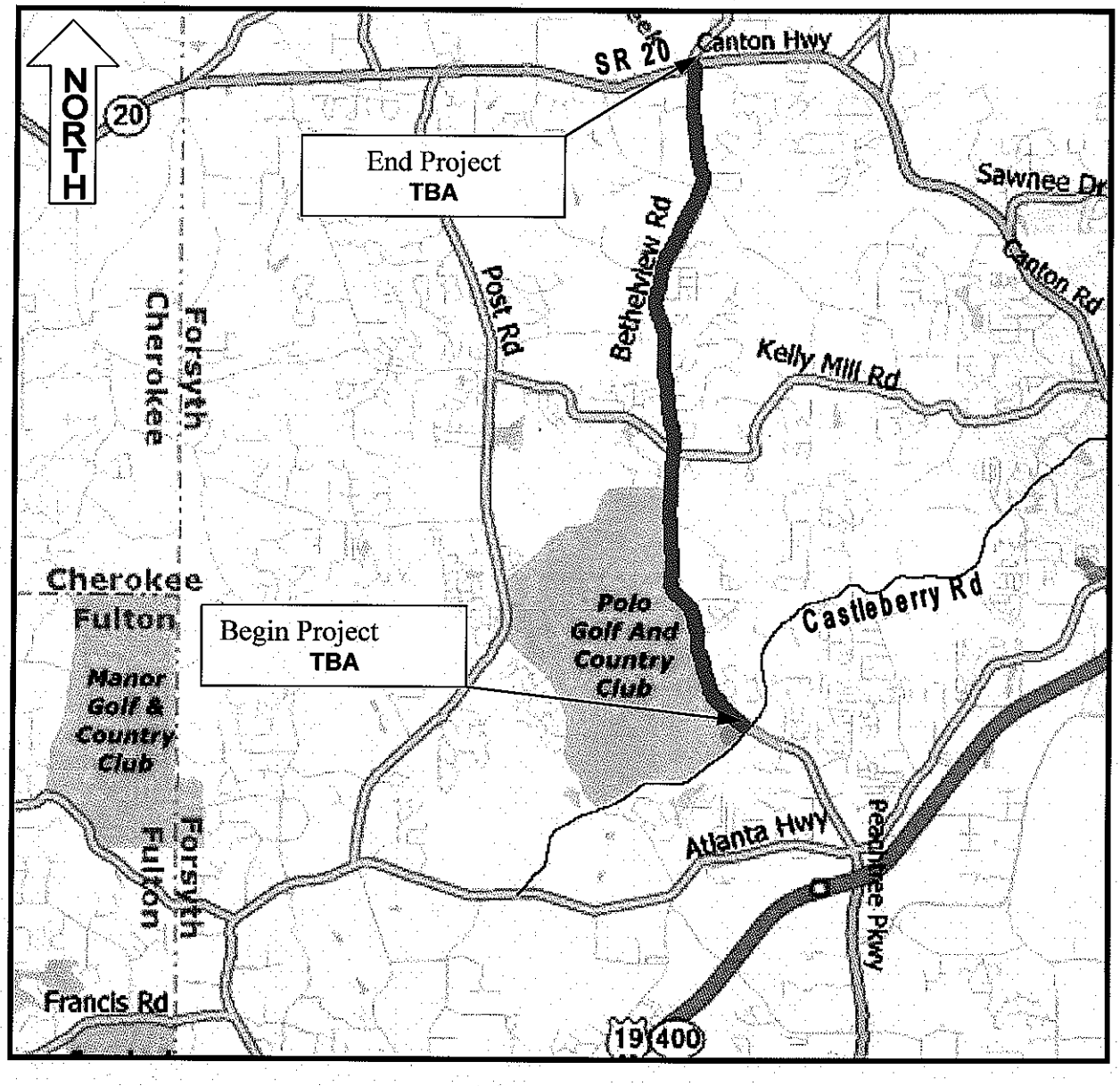
DATE _____ _____
State Environmental/Location Engineer

DATE _____ _____
State Traffic Safety & Design Engineer

DATE _____ _____
District Engineer

DATE _____ _____
Project Review Engineer

Project Location Map



Need and Purpose: See Attachment Section 1

Description of the proposed project: The proposed project is located southwest of the City of Cumming in Forsyth County. The project consists of the widening and reconstruction of Bethelview Road/CR 455 from Castleberry Road to SR 20/Canton Highway. The project would improve safety and capacity on Bethelview Road through widening, alignment modifications, the addition of a raised median, and the reconfiguration and/or reconstruction of a number of existing intersections to provide adequate turn lanes and storage capacity. Bethelview Road currently consists of two 12-foot lanes with grassed shoulders of varying widths. There are turn lanes at the existing signalized intersections of Castleberry Road/CR 456, Kelly Mill Road/CR 5, and Canton Highway/SR 20. The total project length is 5.02 miles, beginning approximately at milepost 4.93 and ending just beyond milepost zero.

The portion of Bethelview Road from Castleberry Road to SR 20 will be widened and reconstructed into an urban section with 16-foot outside shoulders including curb and gutter, 5-foot sidewalks on both sides, and four 12-foot lanes with a 20-foot raised median. This project will connect with similar widening/reconstruction projects to the north and south, resulting in an improved corridor from SR 400 to the terminus of Bethelview Road at SR 20/Canton Highway.

Is the project located in a Non-attainment area? X **Yes** _____ **No**
The proposed widening and reconstruction of Bethelview Road from Castleberry Road to SR 20 is listed in the Atlanta Regional Commission's (ARC's) long range 2030 Regional Transportation Plan (RTP) and 2008-2013 short term Transportation Improvement Program (TIP) as part of project FT-008. The conforming plan schematic, found in Attachment Section 8, provides for four through lanes on this section of Bethelview Road.

PDP Classification: Major X Minor _____
Federal Oversight: Full Oversight ( ) Exempt (X) State Funded ( ) Other ( )

Functional Classification: Rural Major Collector

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

Traffic (AADT): Current Year: 17,800 (2010) Design Year: 32,900 (2030)

Existing design features:

- Typical section: Rural section consisting of two 12-foot lanes (1 in each direction) with variable width grassed shoulders
- Posted speed: 50 mph Minimum radius for curve: 1000 ft
- Maximum superelevation rate for curve: 6.4%

- Maximum grade:

Bethelview Rd	7.5%
Canton Hwy. (SR 20)	1.7%
Chamblee Gap Rd. (CR1)	12.7%
Aaron Sosebee Rd. (CR 2)	3.7%
Drew Rd. (CR 3)	6.9%
Kelly Mill Rd. (CR 5)	8.4%
Pitman Rd. (CR 7)	7.6%
Polo Fields Parkway	2.4%
Castleberry Rd. (CR 456)	3.0%
Bluffton Springs Dr.	10.0%
Driveways	20%

- Width of right of way: 70 to 150 ft
- Major structures: 111' by 82' Bridge at Big Creek,
  Double 10' x 9' Box Culvert at Cheatam Creek
- Major intersections along the project:
  Bethelview Rd. at Canton Hwy. (SR 20)
  Bethelview Rd. at Chamblee Gap Rd. (CR1)
  Bethelview Rd. at Aaron Sosebee Rd. (CR2)
  Bethelview Rd. at Drew Rd. (CR 3)
  Bethelview Rd. at Kelly Mill Rd. (CR 5)
  Bethelview Rd. at Pitman Rd. (CR 7)
  Bethelview Rd. at Polo Fields Parkway.
  Bethelview Rd. at Castleberry Rd. (CR 456)
  Bethelview Rd. at Bluffton Springs Dr.
- Existing length of roadway segment: 5.02 miles of Bethelview Road from milepost 4.93 to just beyond milepost zero in Forsyth County

Proposed Design Features:

- Proposed typical section(s): Urban section consisting of four 12-foot lanes (2 in each direction) with 20' raised grass median and 16-foot outside shoulders including curb & gutter and 5-foot sidewalks
- Proposed mainline design speed: 45 mph
- Proposed maximum grade mainline: 6.69% Maximum grade allowable: 8%
- Proposed maximum grade sidestreet: 9.8% Maximum grade allowable: 10%
- Proposed maximum grade driveway: 21.70%
- Proposed minimum radius for curve: 975 ft Minimum radius allowable: 711 ft
- Proposed maximum degree of curve: 5.9 ° Maximum degree allowable: 8 °
- Proposed maximum superelevation rate for curve: 3.79%
  maximum superelevation rate allowable: 4.00%
- Right of way:
  - Proposed width: 110 to 250 ft
  - Easements: Temporary (X) Permanent (X) Utility ( ) Other (X)
  - Type of access control: Full ( ) Partial ( ) By Permit (X) Other ( )
  - Number of parcels: 213

- Number of displacements:

Business:	1
Residences:	7
Mobile homes:	0
Other:	0

- Major structures: 150' by 86'-5" Bridge at Big Creek,
  Triple 10' x 9' Box Culvert at Cheatam Creek

- Major intersections and interchanges: Bethelview Rd. at Canton Hwy. (SR 20)
  Bethelview Rd. at Chamblee Gap Rd. (CR1)
  Bethelview Rd. at Aaron Sosebee Rd. (CR 2)
  Bethelview Rd. at Drew Rd. (CR 3)
  Bethelview Rd. at Kelly Mill Rd. (CR 5)
  Bethelview Rd. at Pitman Rd. (CR 7)
  Bethelview Rd. at Polo Fields Parkway.
  Bethelview Rd. at Castleberry Rd. (CR 456)
  Bethelview Rd. at Bluffton Springs Dr.

- Traffic control during construction: Traffic control will consist of staged construction and will allow for Bethelview Road and all cross streets to remain open during construction.

- Design Exceptions to controlling criteria anticipated:

	UNDETERMINED	YES	NO
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:
  A Design Variance is being requested for a proposed intersecting angle of Kelly Mill Rd and Bethelview Rd at station 272+00.37. The proposed centerline alignment for Kelly Mill Rd was set based on using the existing edge of pavement location in order to minimize the impact on the adjacent properties and reduce the construction limits as much as possible.

- Environmental concerns:
  - Permits required: none
  - Underground Storage Tanks (UST's): Four sites that may require further investigation due to UST's were identified in the project vicinity. An unnamed convenience store and gas station in the northeast corner of the Kelly Mill Road/Bethelview Road intersection where UST's are located, an abandoned store in the southwest corner of

the Chamblee Gap Road/Bethelview Road intersection where UST's may be or may have been located, an Amoco Food Mart in the northeast corner of the SR 20/Bethelview Road intersection where UST's are located and a Shell Food Mart in the northwest corner of SR 20/Bethelview Road intersection where UST's are located. The current plan would require additional right of way from these sites where UST's are or may have been located.

- Hazardous Waste Sites: Although there were other sites of concern identified within the project corridor in addition to the aforementioned UST sites, the current plan either does not indicate the need to obtain right-of-way from these sites or appears to be located far enough from the potential contamination sources to warrant no additional investigation.
- Historic Sites: Two sites within the project corridor were identified as historic. The first site is located at the southeast corner of the Bethelview Road and Castleberry Road intersection and is referred to as the Southard House. A slight shift in the alignment away from the property was implemented in order to minimize the impact to this resource. The shifted alignment affords a finding of No Adverse Effect for the Southard House historic site. The second site which is identified as the Aickelin House is located on the east side of Bethelview Road across from the Polo Fields Parkway/Bethelview Road intersection and has a historic boundary that is offset 10' from the footprint of the main residence. This boundary is far enough from the proposed project to avoid impact by the required right-of-way and easements affording a finding of No Historic Properties Affected for the Aickelin House.

- Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ) No (X)
  - Categorical exclusion ( )
  - Environmental Assessment/Finding of No Significant Impact (FONSI) (X)
    Note: The approved EA/FONSI is currently being re-evaluated.
  - Environmental Impact Statement (EIS) ( )

- Utility involvements: Possible affected utilities include telecommunications, TV cable, water, sanitary sewer, power, gas, and fiber optic facilities

Project responsibilities:

- Design: Consultant (for Georgia DOT)
- Right of Way Acquisition: Forsyth County
- Relocation of Utilities: Forsyth County
- Letting to contract: Georgia DOT
- Supervision of construction: Georgia DOT
- Providing material pits: Contractor (if required)
- Providing detours: Georgia DOT

Coordination

- Initial Concept Team Meeting: October 18, 2000, see Attachment Section 6 for meeting minutes.
- P.A.R.: The impacts to streams or wetlands on this project involve the construction of the proposed 150' by 86'-5" bridge at Big Creek and construction of the proposed triple 10'

x 9' box culvert at Cheatam Creek. Due to these impacts a nation wide 404 permit is required.

- FEMA, USCG, and/or TVA: No coordination necessary.
- Public involvement: Both a Public Hearing and Public Information Open House were held.
  - Public Hearing: A public hearing was held on October 6, 2003, at which 148 people were in attendance. Of the 148 attendees, 17 were in opposition to the project and 40 were in support of the project, while 17 were uncommitted and 24 offered conditional support. Major concerns involved request for median opening at the Ashbrooke Subdivision, priority of project, desire for noise barriers, and concern over the final placement of median openings and traffic signals.
  - Public Information Open House: A Public Information Open House was held on February 26, 2008, at which 179 people were in attendance. Of the 179 attendees, 6 were in opposition to the project and 26 were in support of the project, while 18 were uncommitted and 29 offered conditional support. Major concerns involved right-of-way issues, access during construction, the proposed median openings and traffic signal locations, request for additional turn bays or turn bay lengths, concern over congestion, truck traffic and noise in the project area.

- Local government comments: See Attachment Section 7 for Local Government Project Agreement (LGPA)

- Other projects in the area:
  - Project STP00-0104-01(039), PI No. 121980 proposes to widen and reconstruct SR141/Peachtree Parkway south of this project from SR 9/Atlanta Highway to its interchange with SR 400. Bethelview Road terminates at the intersection with SR 9 and continues on as SR 141.
  - Project STP00-2348-00(003) proposes to widen and reconstruct Bethelview Road south of this project from Atlanta Highway/SR 9 to its terminus at Castleberry Road/CR 456.
  - Project STIP-141890 (TIP# FT-001E) proposes to widen SR 9 from SR 20/Buford Highway to SR 306/Dahlonega Highway from two lanes to four lanes.
  - Project TIP# FT-023B proposes to widen SR 9/Atlanta Highway from SR 371/Post Road to SR 141/Bethelview Road. This long range project is not yet programmed by GDOT, although it is included in the Atlanta Regional Council (ARC) TIP.
  - Project STP00-0003-00(682), PI No. 0003682 proposes to widen SR 20/Canton Highway from SR 371/Post Road to SR 400.
  - Forsyth County plans to widen Castleberry Road from two to four lanes between Bethelview Road and Hutchinson Road.
  - Forsyth County has a long range plan to widen Kelly Mill Road from SR 371/Post Road to the Cumming city limits.
  - Chamblee Gap Road, listed as project number FT-085 in the 2006-2011 TIP proposes operational upgrades to the roadway from Bethelview Road to the current end of the unpaved section.

- Railroad: There are no railroad facilities in the vicinity of this project, therefore, no railroad coordination is necessary.

Scheduling – Responsible Parties' Estimate:

• Time to complete the environmental process:	completed
• Time to complete re-evaluation of the approved EA/FONSI:	3 months
• Time to complete preliminary construction plans:	completed
• Time to complete right of way plans:	completed
• Time to complete the Section 404 Permit:	4 months
• Time to complete final construction plans:	2 months
• Time to complete purchase of right of way:	6 months

Other alternates considered: The No-Build Alternative does not meet the capacity and operational needs of the project as stated in the Need and Purpose.

Comments: none

Attachments:

1. Need and Purpose
2. Cost Estimates
    a. Construction
    b. Right of Way
    c. Revisions to programmed costs/contingency summary
    d. Fuel/asphalt price adjustment
3. Benefit Cost Analysis Worksheet
4. Typical Section
5. Traffic Flow Diagrams
6. Concept Team Meeting Minutes
7. Local Government Project Agreement
8. Conforming Plan Schematic

SCORING RESULTS AS PER TOPPS 2440-2

Project Number:	**County:**	**PI No.:**

Report Date:	**Concept By:**
	DOT Office:
☐ CONCEPT	
	Consultant:

Project Type: Choose One From Each Column	☐ Major ☐ Minor	☐ Urban ☐ Rural	☐ ATMS ☐ Bridge ☐ Building ☐ Interchange ☐ Intersection ☐ Interstate ☐ New Location ☐ Widening & Reconstruction ☐ Miscellaneous

FOCUS AREAS	**SCORE**	**RESULTS**
Presentation		
Judgement		
Environmental		
Right of Way		
Utility		
Constructability		
Schedule		

Need and Purpose

The purpose of the proposed project is to provide improved capacity and safety along this established travel corridor by widening the existing 2-lane rural roadway to a 4-lane divided urban facility with a 20-foot raised median. The proposed project would provide an efficient and safe facility with separate turn lanes for all vehicle maneuvers at controlled access points along the length of the project. This project is planned in response to the tremendous growth that has occurred and continues to occur in the project area, which is likely the result of its close proximity to major transportation facilities such as SR 20, SR 9 (Atlanta Highway), and SR 400, as well as the City of Cumming and Lake Lanier.

The proposed improvements would be able to accommodate anticipated travel demand by widening SR 141 and Bethelview Road to a four-lane divided facility between SR 400 and SR 20. As a result of the widening, improvements would be necessary at all side street locations. These improvements would range from minor approach realignments to major median openings with traffic signals, separate left and right-turn lanes, and acceleration/deceleration lanes.

Planning Background and Project History:

The proposed project is listed in the State Transportation Improvement Program (STIP) as Project STP00-2348-00 (003), P.I. # 141880 and has been listed by Forsyth County as one of a number of projects in its Major Transportation Plan to upgrade its existing roadway network infrastructure. The project is also listed in the Atlanta Regional Commission's (ARC's) long range 2030 Regional Transportation Plan (RTP) and 2008-2013 short term Transportation Improvement Program (TIP) as project FT-008.

Population and Demographic Trends:

Having been ranked by the U.S. Census as the fastest growing county in Georgia, Forsyth County has more than tripled its population over the last twenty years, increasing its population by over 250% from 27,958 in 1980 to 98,407 in 2000. This growth has been fueled by the expansion of SR 400 as a limited access facility through the southern portions of the county as the Atlanta Metropolitan Area continues to expand to the north. In an effort to develop a long-range plan for sustainable transportation, the county developed the 1995-2015 Forsyth County Major Transportation Plan to determine the transportation needs of the county over a twenty-year period based on projected residential and commercial growth in specific areas of the county. The proposed project is a major part of implementing this plan.

Other Planned Projects:

The proposed project would be coordinated with other planned projects to upgrade the existing transportation infrastructure for this part of Forsyth County to provide sustainable traffic capacity and connectivity. This project is connected to four other planned GDOT projects and two local government planned projects that either intersect or traverse this project. They are listed as follows:

1. Project STP00-0104-01(039), P.I. # 121980 – This project will widen SR 141 to a multi-lane divided section, beginning near the Fulton County line and continuing north through the interchange with SR 400 to SR 9. Included with this project is the reconstruction of the SR 400 interchange and ramps, as well as the intersection of SR 141, SR 9, and Bethelview Road. This project has a total length of approximately six miles and was let to construction in August 2004. The section of SR 141 from the interchange with SR 400 to SR 9 is being analyzed as part of the proposed project since SR 400 represents the logical southern

terminus of the proposed project. However, this section of SR 141 would be constructed under project STP00-0104-01(039) as described in this paragraph.

2. Project STIP-141890 (TIP# FT-001E) plans to widen SR 9 from SR 20 (Buford Highway) to SR 306 from the existing 2 lanes to 4 lanes, for a total project length of 2.85 miles. Preliminary Engineering is scheduled for 2007, with right of way and construction commencing sometime after 2008.

3. A long-range project (not yet programmed by GDOT, although it is included in the ARC TIP as Project FT-023B) proposes to widen SR 9 from SR 371 to SR 141/Bethelview Road from two to four lanes for a total project length of approximately three miles.

4. Project STP00-0003-00(682), P.I. # 0003682 – This project proposes to widen SR 20 from SR 371 west of the northern terminus of this project to SR 400 from two to four lanes for a total project length of approximately eight miles. This is a long-range project not likely to be released for construction until after 2008.

5. Forsyth County plans to widen Castleberry Road from Bethelview Road to Hutchinson Road from two to four lanes for a total project length of approximately three miles. This project is currently planned for release to construction in 2010.

6. Forsyth County plans to widen Kelly Mill Road from SR 371 west of Bethelview Road to the Cumming city limits east of Bethelview Road from two to three lanes for a total project length of approximately five miles. This is a long-range project with a projected release to construction of 2010.

7. Chamblee Gap Road, listed as project number FT-085 in the 2006-2011 TIP, proposes roadway operational upgrades from Bethelview Road to the current end of the graveled section, for a total length of 1.04 miles. It is proposed to open in 2011.

These projects represent a significant investment in infrastructure improvements as this area of Forsyth County continues to become more urban and the future traffic on some of these facilities change their function from rural arterials to urban arterials. Increasing levels of traffic on these major arterials will also impact the adjacent lower class roadways, since traffic must be distributed to various locations using these streets.

Land Use Along the Corridor:

Bethelview Road is currently a two-lane rural major collector connecting SR 20 to the north and SR 9 and SR 141 to the south, serving as the most direct north-south facility for local and commercial traffic to SR 400. Expanding commercial areas currently exist at both ends of Bethelview Road, and a significant number of residential subdivisions have recently been constructed or are currently under construction along Bethelview Road. Prior to this recent growth, residences along Bethelview Road occurred on large plots of land. Some of these residences remain, although much of the land along Bethelview Road has been or is currently being converted to subdivisions. Bethelview Road also serves as a major collection point for smaller east-west collector roadways that provide access into and out of Cumming, including Castleberry Road (CR 456) and Kelly Mill Road (CR 5). Congestion and operational safety problems are occurring at local intersections along the project corridor as demonstrated in later Level of Service tables. Bethelview Road traverses an area of uneven

topography and the roadway has both large horizontal and vertical curves.

Level of Service Analysis

Bethelview Road has a posted speed of 50 miles per hour (mph), no paved shoulders, and no acceleration or deceleration lanes approaching or departing the major intersections. These conditions are causing conflicts between fast-moving peak hour through traffic and local traffic attempting to access driveways and cross streets, resulting in extreme delays and unsafe traffic conditions. The proposed project would provide relief for these capacity and operational problems caused by the heavy traffic volumes associated with adjacent existing and expanding residential and commercial development.

A capacity analysis for the existing and proposed facility was performed in order to estimate the ability of Bethelview Road to accommodate the volumes under the build and no-build conditions. The objective of this analysis is to determine the maximum amount of traffic that can be accommodated with reasonable safety while maintaining a LOS. Level of Service is a quality measure for roadway segments and intersections that describe operational conditions and the driver's perception of those conditions, ranging from A to F with LOS A representing the best operating conditions and LOS F the worst.

This analysis was performed for roadway segments based on the existing and projected 2010 and 2030 average volumes and at major intersections along Bethelview Road using the 2030 design hourly volumes (DHV). For roadway segments, LOS is generally defined as the ability to maneuver within a traffic stream, whereas at intersections, LOS is defined in terms of control delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. Control delay is made up of a number of factors relating to intersection control (signalization or stop signs), geometry, traffic, and incidents.

TABLE 1
LEVELS OF SERVICE OF ROADWAY SEGMENTS

LOCATION	LEVELS OF SERVICE					
	2007		2010 No-Build		2030 No-Build	
	ADT	ADT	LOS	LOS	ADT	LOS
SR 141 from SR 400 to SR 9	21,000	F	28,800	F	53,300	F
Bethelview Rd from SR 9 to Castleberry Rd	20,430	F	21,000	F	39,000	F
Bethelview Rd from Castleberry Rd to SR 20	13,000	C	17,800	E	32,900	F
Friendship Cir north of SR 20	5,100	B	6,400	B	10,300	B

As indicated in Table 1, the section of SR 141 between the SR 400 interchange and SR 9 currently carries an estimated ADT volume of 21,000 vehicles per day (vpd). This volume is indicative of LOS F for a two-lane undivided section as it is presently designed. However, because of the close proximity of the signalized intersections at the southbound on/off-ramps of the interchange and at SR 9, the LOS for this segment is more directly a result of the intersection operations (see Table 2 for Intersection Capacity Analysis Results for Major Intersections). This volume is projected to increase by approximately 37% to 28,800 vpd for the 2010 build year as a result of continued travel demand

and growth along Bethelview Road and SR 9 utilizing the SR 400/SR 141 interchange. This volume is then projected to increase by 85% to 53,300 vpd by the 2030 design year. Based on these projected volumes, this segment of SR 141 would continue to experience LOS F conditions if widening did not occur. Based on these volumes, a six-lane divided facility with multiple turn lanes at each intersection on either end of the segment is necessary and would provide operations within the range of LOS D by the 2030 design year.

As also indicated in Table 1, the section of Bethelview Road between SR 9 and Castleberry Road currently carries an estimated ADT of 20,430 vpd and operates within the range of LOS F. Upon construction of the proposed project, Bethelview Road would serve as a primary minor arterial for collecting and distributing traffic from SR 400 and commercial nodes at SR 9 to parts north, with a projected ADT volume of 21,000 vpd for the 2010 build year. This volume is then projected to increase by 86% to 39,000 vpd by the 2030 design year. Based on these projected volumes, Bethelview Road would operate at LOS F under the existing two-lane undivided section. With the proposed typical section, this roadway would operate at LOS F for the 2010 build year and LOS F for the 2030 design year.

The section of Bethelview Road between Castleberry Road and SR 20, at the northern terminus of the project, currently carries an estimated ADT of 13,000 vpd and operates within the range of LOS C. This volume is projected to increase by approximately 37% to 17,800 vpd for the 2010 build year as a result of traffic from residential areas to the west being diverted from SR 20 to Bethelview Road on route to SR 141 and the SR 400 interchange. This volume is then projected to increase by 85% to 32,900 vpd by the 2030 design year. Based on the projected volumes, this segment would operate at LOS E for the 2010 build year and would decline to LOS F for the 2030 design year under the build condition.

Also indicated in Table 1, the existing ADT on Friendship Circle just north of SR 20 is currently 5,100 vpd and operates within the range of LOS B. This volume is projected to increase by 25% to 6,400 vpd by the 2010 build year, and then increase by 61% to 10,300 vpd by the 2030 design year. Based on the projected volumes, Friendship Circle would continue to operate within the range of LOS B through the 2030 design year with no further improvements necessary.

A capacity analysis was performed at nine intersections along Bethelview Road and SR 141 to determine the intersection LOS using the existing 2005 volumes and the 2030 DHV under the Build and No-Build conditions. This analysis was conducted using the methods described in the 1994 Highway Capacity Manual (HCM), published by the Transportation Research Board in Washington, DC. The procedures measure overall intersection LOS operations based on the intersection's turning movement (hourly) volume, lane configuration, and traffic control operations according to threshold values defined in the HCM. The six LOS letters previously described apply to this analysis and represent a range of operating conditions at the intersections and the driver's perception of those conditions. Safety is not included in the measures that establish service levels. Results of the LOS analysis are provided in Table 2: Intersection Capacity Analysis Results for Major Intersections.

Table 2: Intersection Capacity Analysis Results for Major Intersections

Intersection	Type of Traffic Control (Existing or Proposed)	Existing		No-Build		Build	
		2005		2030		2030	
		AM	PM	AM	PM	AM	PM
SR 141 at SR 400 NB Off-Ramp	Signalized (Existing)	B	C	F	F	B	D
SR 141 at SR 400 SB On-Ramp	Signalized (Existing)	C	C	F	F	C	B
Bethelview Road and SR 141 at SR 9	Signalized (Existing)	C	C	F	F	D	D
Bethelview Road at Castleberry Road	Signalized (Existing)	C	C	F	F	C	D
Bethelview Road at Polo Fields Parkway	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Pittman Road	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Kelly Mill Road	Signalized (Existing)	B	B	F	F	C	D
Bethelview Road at Drew Road	Unsignalized (Existing)	B	C	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Aaron Sosebee Road	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				B	B
Bethelview Road at Chamblee Gap Road	Unsignalized (Existing)	B	B	F	F	F	F
	Signalized (Proposed)	Not Applicable				C	C
Bethelview Road at SR 20	Signalized (Existing)	C	C	F	F	C	C

The results presented in Table 2 indicate that although all intersections are operating adequately under existing conditions, by the 2030 design year, the existing lane configurations and intersection control would not provide an adequate LOS for the projected peak hour volumes and turning movements at each intersection.

As part of the proposed project, access to a number of existing side streets would be routed through appropriately spaced median openings and signalized intersections. In addition, separate left and right turn lanes, as well as acceleration and deceleration lanes, would be provided at major intersections to improve operational efficiency in accordance with the projected turning movements. As Table 2 indicates, a total of six (6) new traffic signals are proposed at the following intersections with Bethelview Road: Bennett Parkway, Polo Fields Parkway, Pittman Road, Drew Road, Aaron Sosebee Road, and Chamblee Gap Road. These proposed improvements would sustain the design year volumes and provide an adequate LOS at each intersection.

Crash Data

An analysis of crash data for the project corridor was performed to determine the total number of crashes, injuries and fatalities for the entire corridor. From these totals, crash, injury and fatality rates were calculated and compared to statewide average crash, injury and fatality rates for roadways of the same functional class where possible. Bethelview Road, between SR 9 and SR 20, is classified as a rural major collector according to Georgia Department of Transportation (GDOT) records; however, the section of SR 141 included with this project is classified as a rural minor arterial. Because of the difference in functional classifications, the two facilities have to be assessed separately. In the case of SR 141, this section consists of approximately 1,500 feet of the total project length. For the purpose of calculating crash, injury and fatality rates, standard engineering practice requires a minimum length of one mile; therefore, crash, injury and fatality rates could not be calculated for the section of SR 141 between the SR 400 interchange and SR 9 and a comparison to statewide average crash, injury and fatality rates for this section was not possible.

Crash data, as well as statewide average crash, injury and fatality rates were provided from the GDOT Office of Traffic Operations and the Georgia Department of Public Safety, Crash Reporting Unit for the years 2004 through 2006, the three latest years for which complete statewide crash data is available. A summary of the total number of crashes, injuries and fatalities along Bethelview Road, as well as a comparison with statewide rates are provided in Table 3. A breakdown of the crash by type is provided in Table 4. The calculated crash, injury and fatality rates are presented in terms of the number of crashes, injuries or fatalities per 100 million vehicle miles traveled. A summary of the total number of crashes and injuries along the SR 141 section of the project, as well as the breakdown of the crash by type, is then provided in Table 5.

TABLE 3

SUMMARY OF CRASHES, INJURY AND FATALITY RATES

Bethelview Road from SR9/Atlanta Hwy to SR20/Canton Hwy: Rural Major Collector (6.11 miles)									
Year	**No. of Crashes**	**No. of Injuries**	**No. of Fatalities**	**Crash. Rate***	**Statewide Average Crash Rate***	**Injury Rate***	**Statewide Average Injury Rate***	**Fatality Rate***	**Statewide Average Fatality Rate***
2004	90	44	1	398	*273*	195	*94*	4.42	*3.24*
2005	70	36	1	263	*197*	135	*74*	*3.76*	*3.23*
2006	87	34	0	285	*203*	111	*73*	*0.00*	*3.56*

*Values for Rate of Crashes, Injuries and Fatalities are per 100 million vehicle-miles.

The results from Table 3 demonstrate that the crash rates along Bethelview Road have exceeded the statewide average for all three years. Also, it should be noted that there was one fatal crash reported in 2004 and 2005 along Bethelview Road. Table 4 provides a breakdown of these crashes based on type, so as to identify the predominant types of crashes occurring along Bethelview Road and to see if any particular trend is evident.

TABLE 4

SUMMARY OF TRAFFIC CRASH TYPES

Year	Total No. of Crashes	Crash Types for Bethelview Road (SR 9 to SR 20)				
		Rear End	Angle	Sideswipe	Head On	Other[1]
2004	90	36	33	10	3	8
2005	70	30	21	8	4	7
2006	87	46	17	7	5	12

[1] This category includes "Non-Collision With a Motor Vehicle," "Struck Object," and "Overturned" crashes.

The results in Table 4 indicate a predominance of "rear-end" and "angle" crashes, and that these types of crashes have increased during this time period. A review of the crash records indicate that the majority of "rear-end" crashes occurred at intersections under heavy congestion, while others occurred at mid-block locations where vehicles were struck from behind while slowing down and attempting to turn left into private driveways and other uncontrolled access points. The data also revealed a large number of "angle" crashes, both at intersections and at uncontrolled access points involving vehicles attempting to enter Bethelview Road. In some cases up to four vehicles were involved in one rear-end crash.

The crash records also revealed an increasing trend in "other" crashes. These crashes primarily involved individual motorists inadvertently veering onto the soft shoulder that then lose control of their vehicles after overcorrecting, as well as drivers performing evasive maneuvers in an attempt to avoid a rear-end collision with the driver in front of them that was stopped to make a left turn. The predominance of these types of crashes are, in part, attributable to a high volume of commuter traffic interacting with local traffic seeking access to adjacent residential development. The existing two-lane facility does not provide adequate capacity and storage for stopped or decelerating traffic attempting to turn left or right, nor does it provide a separation for opposing traffic volumes, leaving little room for error. The additional through lanes, turn lanes at intersections, a raised median and curbs and gutters would provide additional capacity, storage, and room to maneuver safely along the project corridor.

In the same manner as Bethelview Road, a breakdown of the crash types along SR 141, from SR 9 through the SR 400 interchange is shown in Table 5.

TABLE 5

Crash Inventory for SR 141 (SR 400 NB Off-Ramp to SR 9)

Year	Total No. of Crashes	Total No. of Injuries	Crash Types				
			Rear End	Angle	Sideswipe	Head On	Other[1]
2004	49	15	30	11	4	4	0
2005	75	18	45	20	8	1	1
2006	70	16	41	16	9	0	4

[1] This category includes "Non-Collision With a Motor Vehicle," "Struck Object," and "Overturned" crashes.

The results of Table 5 are similar to those in Table 4, which indicate a predominant number of "rear-end" and "angle" crashes. A review of the crash records for this section of the project indicate a large number of "rear-end" crashes at the ramp intersections, and a large number of "angle" crashes involving vehicles attempting to turn left out of the BP gas station to go south on SR 141 and striking vehicles traveling northbound. The data provided in lists all crashes occurring on SR 141 between SR 9 and the northbound off-ramp from SR 400 as one separate roadway section, and makes no special distinction for the interchange portion. All crashes occurring at the ramp intersections are noted as if they were regular side streets. The majority of crashes occurring within the influence area of the interchange are primarily attributable to general congestion resulting from over-capacity and poor signal progression and not from any specific geometric design flaw in the existing interchange or ramps. The proposed project would help reduce congestion and improve signal progression by providing additional roadway capacity and improved traffic signals with new lane configurations at major intersections. This crash data is provided for informational purposes to complete the data provided in and for the SR 141 section of the project only, and is neither intended, nor detailed enough to provide a quantitative statement related to the overall operational conditions at the interchange.

The installation of separate lanes for left and right turning movements at all signalized intersections and other controlled access points along the project would help to remove stopped or slowing traffic from the through traffic lanes, thereby lessening the opportunity for "rear-end" collisions. Construction of a raised median would also help to reduce "angle" crashes occurring at mid-block locations between vehicles on the mainline and those entering from the opposite side of the road. Without the project, crashes are likely to continue to increase as more residential developments are under construction and access across Bethelview Road is not confined to controlled intersections. These conflicts between access and mobility will also continue to increase as more traffic uses Bethelview Road and SR 141 to reach SR 400. In addition to providing a safe and efficient facility, the proposed project would improve several existing substandard horizontal and vertical curves that are not suited to the current posted speed of 50 mph. The proposed facility would have a design speed of 45 mph consistent with the proposed typical section. This difference in the posted speed limit may also contribute to lower crash and injury rates.

Logical Termini

The logical southern terminus for the proposed widening of Bethelview Road would occur at the interchange between SR 400 and SR 141 because SR 400 serves as the primary origin and destination for the majority of traffic volumes on Bethelview Road. Bethelview Road actually ends at the

intersection with SR 9, approximately 1,500 feet north of the interchange; however, because the majority of traffic at that intersection is comprised of through traffic destined for SR 400, it was necessary to continue the widening south of SR 9 to include both ramp intersections of the interchange. The projected 2030 hourly turning movement volumes demonstrate a break in traffic volumes at the southbound on-ramp to SR 400 during the AM peak hour and the northbound off-ramp to northbound SR 141 during the PM peak hour. Because of the travel patterns reflected by the peak hour volumes at the interchange, it was chosen as the southern project terminus.

The logical northern terminus for the proposed widening of Bethelview Road would occur at a point approximately 600 feet north of the SR 20 intersection on Friendship Circle. The project would extend onto Friendship Circle to accommodate the reconstruction of this intersection. Approximately 57% of northbound traffic on Bethelview Road turns left or right onto SR 20 with the remainder continuing north onto Friendship Circle. Friendship Circle serves as a rural minor collector roadway that distributes traffic to and from residential areas to the north, and reconnects with SR 20 east of Bethelview Road. As a result of this break in traffic volumes across the SR 20 intersection, the future traffic anticipated at this proposed terminus would dissipate such that no additional improvements would be necessary beyond this intersection. The Bethelview Road/SR 20 intersection is also included as part of a federal and state funded project to widen SR 20 from SR 371 west of this intersection, through Cumming, to SR 400.

Summary

In reviewing the nature of the crash data along the project corridor, the projected increase in traffic volumes as a result of adjacent residential developments, and the poor geometry of Bethelview Road, it has been determined by the GDOT that the proposed project is a needed transportation improvement project. The proposed project would separate through traffic from turning vehicles on Bethelview Road, provide adequate capacity and access at major intersections and median openings, and maintain the efficient functionality of this facility. As the LOS analysis results demonstrate, without the recommended intersection and capacity improvements, the projected traffic volumes would experience extreme congestion and delay at signalized and non-signalized intersections with inadequate lane configurations. This congestion would extend back from these intersections, causing a total breakdown in the general flow of traffic and a substantial decline in LOS for the length of the project that would be unacceptable to the driving public. The expanding adjacent residential development along Bethelview Road, continued commercial development along SR 9 near the southern project terminus, and direct access to SR 400 substantiate the need for the proposed project to improve capacity and increase safety along Bethelview Road.

The proposed project is one of a system of planned projects in southwest Forsyth County to reduce congestion, improve safety, and increase operational efficiency by providing improved capacity and traffic mobility along the project corridor. Construction of a raised median for the length of the project would also improve safety and provide an orderly flow of traffic along the project corridor.

Estimate Report for file "BETHELVIEW RD(CASTLEBERRY RD TO SR20)"

Section ROADWAY

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	1488982.88	TRAFFIC CONTROL -	1488982.88
153-1300	1	EA	68546.71	FIELD ENGINEERS OFFICE TP 3	68546.71
201-1500	1	LS	1264500.00	CLEARING & GRUBBING -	1264500.00
208-0100	287054	CY	3.50	IN PLACE EMBANKMENT	1004689.00
310-5060	1776	SY	12.07	GR AGGR BASE CRS, 6 INCH, INCL MATL	21436.32
310-5120	168600	SY	22.76	GR AGGR BASE CRS, 12 INCH, INCL MATL	3837336.00
402-3121	57320	TN	62.61	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	3588805.20
402-3130	22340	TN	64.62	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	1443610.80
402-3190	28830	TN	67.66	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2,INCL BITUM MATL & H LIME	1950637.80
413-1000	42570	GL	2.14	BITUM TACK COAT	91099.80
432-5010	102242	SY	1.23	MILL ASPH CONC PVMT, VARIABLE DEPTH	125757.66
433-1100	497	SY	149.63	REINF CONC APPROACH SLAB, INCL CURB	74366.11
441-0016	500	SY	37.01	DRIVEWAY CONCRETE, 6 IN TK	18505.00
441-0018	334	SY	45.37	DRIVEWAY CONCRETE, 8 IN TK	15153.58
441-0104	29376	SY	34.31	CONC SIDEWALK, 4 IN	1007890.56
441-0740	23811	SY	33.16	CONCRETE MEDIAN, 4 IN	789572.76
441-0754	492	SY	42.71	CONCRETE MEDIAN, 7 1/2 IN	21013.32
441-4020	3890	SY	37.95	CONC VALLEY GUTTER, 6 IN	147625.50
441-4030	1181	SY	44.42	CONC VALLEY GUTTER, 8 IN	52460.02
441-5002	190	LF	13.03	CONCRETE HEADER CURB, 6 IN, TP 2	2475.70
441-6012	1500	LF	16.09	CONC CURB & GUTTER, 6 IN X 24 IN, TP 2	24135.00
441-6022	55638	LF	16.02	CONC CURB & GUTTER, 6 IN X 30 IN, TP 2	891320.76
441-6720	48050	LF	17.40	CONC CURB & GUTTER, 6 IN X 30 IN, TP 7	836070.00
441-7011	53	EA	670.00	CURB CUT WHEELCHAIR RAMP, TP A	35510.00
441-7014	501	EA	820.00	CURB CUT WHEELCHAIR RAMP, TP D	410820.00
500-3101	26	CY	246.73	CLASS A CONCRETE	6414.98
550-1180	27485	LF	37.74	STORM DRAIN PIPE, 18 IN, H 1-10	1037283.90
550-1240	3689	LF	45.44	STORM DRAIN PIPE, 24 IN, H 1-10	167628.16
550-1300	3357	LF	60.50	STORM DRAIN PIPE, 30 IN, H 1-10	203098.50
550-1360	1850	LF	69.02	STORM DRAIN PIPE, 36 IN, H 1-10	127687.00
550-1480	50	LF	105.65	STORM DRAIN PIPE, 48 IN, H 1-10	5282.50
550-4218	81	EA	624.47	FLARED END SECTION 18 IN, STORM DRAIN	50582.07
550-4224	11	EA	726.48	FLARED END SECTION 24 IN, STORM DRAIN	7991.28
550-4230	6	EA	857.73	FLARED END SECTION 30 IN, STORM DRAIN	5146.38
550-4236	2	EA	1091.23	FLARED END SECTION 36 IN, STORM DRAIN	2182.46
550-4248	1	EA	2555.36	FLARED END SECTION 48 IN, STORM DRAIN	2555.36
603-2181	100	SY	39.40	STN DUMPED RIP RAP, TP 3, 18 IN	3940.00
610-9097	2	Lump Sum	2500.00	REM WINGWALLS, STA 308+80	5000.00
611-8000	3	EA	2115.75	ADJUST CATCH BASIN TO GRADE	6347.25
611-8040	5	EA	1034.86	ADJUST DROP INLET TO GRADE	5174.30
621-6203	965	LF	714.78	CONCRETE SIDE BARRIER, TP 2-SC	689762.70
641-1100	24	LF	50.25	GUARDRAIL, TP T	1206.00
641-1200	8324	LF	17.59	GUARDRAIL, TP W	146419.16
641-5001	30	EA	664.48	GUARDRAIL ANCHORAGE, TP 1	19934.40
641-5012	25	EA	1867.46	GUARDRAIL ANCHORAGE, TP 12	46686.50
643-8200	2500	LF	2.73	BARRIER FENCE (ORANGE), 4 FT	6825.00
668-1100	299	EA	2515.38	CATCH BASIN, GP 1	752098.62
668-2100	22	EA	2429.51	DROP INLET, GP 1	53449.22
668-4300	23	EA	2252.38	STORM SEWER MANHOLE, TP 1	51804.74
				Section Sub Total:	**$22,616,820.96**

Section WALLS

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3107	29	CY	399.26	CLASS A CONCRETE, RETAINING WALL	11578.54
511-1000	2065	LB	0.89	BAR REINF STEEL	1837.85
621-6201	430	LF	445.22	CONCRETE SIDE BARRIER, TP 2-SA	191444.60
621-6202	249	LF	517.87	CONCRETE SIDE BARRIER, TP 2-SB	128949.63

621-6203	135	LF	715.00	CONCRETE SIDE BARRIER, TP 2-SC	96525.00
				Section Sub Total:	**$430,335.62**

Section BRIDGE

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-0100	1167	SY	4.67	GROOVED CONCRETE	5449.89
500-1006	527	LS	1122.40	SUPERSTR CONCRETE, CL AA, BR NO -	591504.80
500-3002	130	CY	495.22	CLASS AA CONCRETE	64378.60
507-9003	1617	LF	142.77	PSC BEAMS, AASHTO TYPE III, BR NO -	230859.09
511-1000	25528	LB	0.89	BAR REINF STEEL	22719.92
511-3000	98511	LS	0.94	SUPERSTR REINF STEEL, BR NO -	92600.34
516-1100	288	LF	54.15	ALUM HANDRAIL, STD 3626	15595.20
520-0573	6	EA	194.57	H-PILE POINTS, HP 14 X 73	1167.42
520-1147	550	LF	72.18	PILING IN PLACE, STEEL H, HP 14 X 73	39699.00
520-4147	1	EA	0.84	LOAD TEST, STEEL H, HP 14 X 73	0.84
520-5000	80	LF	503.44	PILOT HOLES	40275.20
524-0010	110	LF	1580.45	DRILLED CAISSON -	173849.50
540-1101	1	LS	125542.28	REMOVAL OF EXISTING BR, STA NO -	125542.28
603-2024	983	SY	48.25	STN DUMPED RIP RAP, TP 1, 24 IN	47429.75
603-7000	983	SY	4.43	PLASTIC FILTER FABRIC	4354.69
620-0100	956	LF	30.44	TEMPORARY BARRIER, METHOD NO. 1	29100.64
				Section Sub Total:	**$1,484,527.16**

Section TEMPORARY EROSION CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	13	AC	395.22	TEMPORARY GRASSING	5137.86
163-0240	38	TN	169.64	MULCH	6446.32
163-0300	17	EA	1171.08	CONSTRUCTION EXIT	19908.36
163-0503	51	EA	454.43	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 3	23175.93
163-0521	253	EA	230.65	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS	58354.45
163-0530	31612	LF	2.72	CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK	85984.64
163-0550	337	EA	205.18	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	69145.66
165-0010	2318	LF	0.72	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	1668.96
165-0030	3794	LF	0.80	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	3035.20
165-0040	253	EA	57.41	MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS	14524.73
165-0070	15596	LF	2.22	MAINTENANCE OF BALED STRAW EROSION CHECK	34623.12
165-0087	51	EA	108.90	MAINTENANCE OF SILT CONTROL GATE, TP 3	5553.90
165-0101	17	EA	476.92	MAINTENANCE OF CONSTRUCTION EXIT	8107.64
165-0105	337	EA	82.18	MAINTENANCE OF INLET SEDIMENT TRAP	27694.66
167-1000	3	EA	577.61	WATER QUALITY MONITORING AND SAMPLING	1732.83
167-1500	27	MO	707.94	WATER QUALITY INSPECTIONS	19114.38
171-0010	4636	LF	2.41	TEMPORARY SILT FENCE, TYPE A	11172.76
171-0030	7587	LF	3.45	TEMPORARY SILT FENCE, TYPE C	26175.15
				Section Sub Total:	**$421,556.55**

Section PERMANENT EROSION CONTROL

Item Number	Quantity	Units	Unit Price	Item Description	Cost
603-2012	590	SY	41.29	STN DUMPED RIP RAP, TP 1, 12 IN	24361.10
700-6910	25	AC	831.65	PERMANENT GRASSING	20791.25
700-7000	25	TN	64.43	AGRICULTURAL LIME	1610.75
700-7010	63	GL	21.82	LIQUID LIME	1374.66
700-8000	4	TN	425.74	FERTILIZER MIXED GRADE	1702.96
700-8100	1264	LB	2.32	FERTILIZER NITROGEN CONTENT	2932.48
702-9020	122404	SY	6.55	MULCH	801746.20
710-9000	6955	SY	4.69	PERMANENT SOIL REINFORCING MAT	32618.95
716-2000	36720	SY	0.96	EROSION CONTROL MATS, SLOPES	35251.20

Section Sub Total:	**$922,389.55**

Section SIGNING AND MARKING

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1020	275	SF	16.70	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	4592.50
636-1033	1045	SF	19.98	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	20879.10
636-2070	425	LF	9.24	GALV STEEL POSTS, TP 7	3927.00
636-2080	2195	LF	11.69	GALV STEEL POSTS, TP 8	25659.55
653-0120	255	EA	74.34	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	18956.70
653-0170	38	EA	88.40	THERMOPLASTIC PVMT MARKING, ARROW, TP 7	3359.20
653-1501	80065	LF	0.44	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	35228.60
653-1502	61670	LF	0.45	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	27751.50
653-1704	995	LF	3.51	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	3492.45
653-1804	13285	LF	1.71	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	22717.35
653-3501	56280	GLF	0.30	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	16884.00
653-6004	3675	SY	2.78	THERMOPLASTIC TRAF STRIPING, WHITE	10216.50
653-6006	940	SY	2.70	THERMOPLASTIC TRAF STRIPING, YELLOW	2538.00
654-1001	170	EA	3.09	RAISED PVMT MARKERS TP 1	525.30
654-1003	1020	EA	3.19	RAISED PVMT MARKERS TP 3	3253.80
657-1085	420	LF	5.22	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-WHITE), TP PB	2192.40
657-3085	420	GLF	3.91	PREFORMED PLASTIC SKIP PVMT MKG, 8 IN, CONTRAST (BLACK-WHITE), TP PB	1642.20
657-6085	420	LF	5.28	PREFORMED PLASTIC SOLID PVMT MKG, 8 IN, CONTRAST (BLACK-YELLOW), TP PB	2217.60
				Section Sub Total:	**$206,033.75**

Section TRAFFIC SIGNAL INSTALLATION

Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1041	277	SF	47.37	HIGHWAY SIGNS, TP 2 MATL, REFL SHEETING, TP 9	13121.49
639-2001	25800	LF	2.20	STEEL WIRE STRAND CABLE, 1/4 IN	56760.00
639-4004	20	EA	5927.09	STRAIN POLE, TP IV	118541.80
647-1000	1	LS	62863.00	TRAFFIC SIGNAL INSTALLATION NO.5	62863.00
647-1000	1	LS	69566.00	TRAFFIC SIGNAL INSTALLATION NO.3	69566.00
647-1000	1	LS	72685.00	TRAFFIC SIGNAL INSTALLATION NO.4	72685.00
647-1000	1	LS	76581.00	TRAFFIC SIGNAL INSTALLATION NO.2	76581.00
647-1000	1	LS	72325.00	TRAFFIC SIGNAL INSTALLATION NO.6	72325.00
682-6120	300	LF	8.93	CONDUIT, RIGID, 2 IN	2679.00
935-1113	30950	LF	1.72	OUTSIDE PLANT FIBER OPTIC CABLE, LOOSE TUBE, SINGLE MODE, 24 FIBER	53234.00
935-1511	1250	LF	2.08	OUTSIDE PLANT FIBER OPTIC CABLE, DROP, SINGLE MODE, 6 FIBER	2600.00
935-3201	4	EA	460.00	FIBER OPTIC CLOSURE, AERIAL (SEALED), 6 FIBER	1840.00
935-3203	7	EA	715.25	FIBER OPTIC CLOSURE, AERIAL (SEALED), 24 FIBER	5006.75
935-3401	5	EA	412.00	FIBER OPTIC CLOSURE, FDC (RACK MOUNTED), 6 FIBER	2060.00
935-4010	208	EA	56.54	FIBER OPTIC SPLICE, FUSION	11760.32
935-5060	50	EA	170.88	FIBER OPTIC SNOWSHOE	8544.00
935-6562	5	EA	1909.72	EXTERNAL TRANSCEIVER, DROP AND REPEAT, 1310 SINGLE MODE, (SIGNAL JOBS)	9548.60
935-8000	1	LS	6325.47	TESTING	6325.47
				Section Sub Total:	**$646,041.43**

Section CULVERT

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3101	458	CY	246.73	CLASS A CONCRETE	113002.34
511-1000	66511	LB	0.89	BAR REINF STEEL	59194.79
540-1202	1	LS	1200.00	REMOVAL OF PARTS OF EXISTING BRIDGE, BR NO -	1200.00
603-2024	1150	SY	48.25	STN DUMPED RIP RAP, TP 1, 24 IN	55487.50
				Section Sub Total:	**$228,884.63**

Total Estimated Cost: $26,956,589.65

Subtotal Construction Cost	**$26,956,589.65**
E&I Rate 0.0 %	$0.00
Inflation Rate 0.0 % @ 2 Years	$0.00
Total Construction Cost	**$26,956,589.65**
Right Of Way	$12,045,000.00
ReImb. Utilities	$1,631,500.00
Grand Total Project Cost	**$40,633,089.65**

CONCEPT REPORT RIGHT OF WAY

COST ESTIMATE

Date: February 16, 2009
Project: **P.I. Number:**
Existing/Required R/W: 100' to 120' / 100' to 170' **No. Parcels:** 213
Project Termini: Bethelview Road from Castleberry Road to SR20
Project Description: Widening and reconstruction of Bethelview Road from 2-lane undivided to 4-lane divided roadway with urban shoulders

Right of Way:

Heavy Commercial 20,495 SF	@	$10.00/SF =	$204,950
Light Commercial 65,474 SF	@	$5.00/SF =	$327,370
Premium Residential 67,562 SF	@	$4.00/SF =	$270,248
Average Residential 160,345 SF	@	$2.00/SF =	$320,690
Large Residential 528,479 SF	@	$1.00/SF =	$528,479

Permanent Construction Easement:

Heavy Commercial 27,876 SF	@	$5.00/SF =	$139,380
Light Commercial 193,696 SF	@	$2.50/SF =	$484,240
Premium Residential 107,654 SF	@	$2.00/SF =	$215,308
Average Residential 290,910 SF	@	$1.00/SF =	$290,910
Large Residential 490,264 SF	@	$0.50/SF =	$245,132

TOTAL: $3,026,707

Improvements:

Buildings:		
7 Residential	$880,000	
1 Commercial	$125,000	
Minor site improvements (paving, signs, etc.):	$ 60,000	
TOTAL:		$1,065,000

Relocation:

7 Residential	$175,000	
1 Commercial	$ 35,000	
TOTAL:		$ 210,000

Damages:

Proximity-30 Parcels	$330,000	
Consequential-4 Parcels	$175,000	
Cost to Cure-1 Parcel	$ 50,000	
TOTAL:		$ 555,000

Net Cost:	$ 4,856,707
Plus Scheduling Contingency (55%):	$ 2,671,189
Plus Admin./Court Cost (60% of 2 lines above):	$ 4,516,738
	$12,044,634

TOTAL COST: **$12,045,000 (R)**

Notes:

There are 8 apparent displacees based on the current plans. Relocation costs for displaces estimated at $25,000 (residential) and $35,000 (commercial).

55% adjustment for scheduling contingencies between date of estimate and project implementation. There are additional adjustments for unforeseen management and condemnation costs. Per current GDOT practice, no "3rd layer" multiplier for inflation is applied to the calculations.

Prepared by: _____, Moreland Altobelli Associates

Approved by: _____, GDOT R/W

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE PROJECT No. TBA, Forsyth County
Bethelview Road Widening and Reconstruction
from Castleberry Road to S.R. 20
P.I. No. TBA

OFFICE Road Design

DATE February 20, 2009

FROM Brent Story, P.E., State Road Design Engineer

TO Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT REVISIONS TO PROGRAMMED COSTS

PROJECT MANAGER Scott MacLean

MNGT LET DATE TBA

MNGT R/W DATE TBA

PROGRAMMED COST (TPro W/OUT INFLATION)		**LAST ESTIMATE UPDATE**
CONSTRUCTION	$0.00	DATE Not Applicable
RIGHT OF WAY	$0.00	DATE Not Applicable
UTILITIES	$NA	DATE Not Applicable

REVISED COST ESTIMATES

CONSTRUCTION*	$33,026,681.76
RIGHT OF WAY	$12,045,000.00
UTILITIES**	$1,631,500.00

* Costs contain 5% Engineering and Inspection and 3% Construction Contingencies and Fuel and Liquid AC Adjustments.

** Costs contain 30% contingency.

REASON FOR COST INCREASE The change in cost is from zero to the above listed costs due to fact that this is a new, previously none existent project.

CONTINGENCY SUMMARY

Construction Cost Estimate:	$26,956,589.65	(Base Estimate)
Engineering and Inspection:	$1,347,829.48	(Base Estimate x 5 %)
Construction Contingency:	$808,697.69	(Base Estimate x 3 %) (The Construction Contingency is based on the Project Improvement Type in TPro.)
Total Fuel Adjustment	$ 1,161,481.29	(From attached worksheet)
Total Liquid AC Adjustment	$ 2,752,083.65	(From attached worksheet)
Construction Total:	$33,026,681.76	
Utility Cost Estimate:	$1,255,000.00	
Utility Contingency:	$376,500.00 30 %	
Utility Total:	$1,631,500.00	

REIMBURSABLE UTILITY COST

Utility Owner	Reimbursable Costs

Attachments

c: Genetha Rice - Singleton, Assistant Director of Preconstruction
Angela Whitworth, Financial Management Administrator

Date 2/24/2009

P.I. Number TBA County Forsyth

Project Number TBA

Special Provision, Section 109-Measurement and Payment

FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX)*

ENTER FPL DIESEL	2.266
ENTER FPM DIESEL	5.099

ENTER FPL UNLEADED	1.812
ENTER FPM UNLEADED	4.077

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

INCREASE ADJUSTMENT
125.00%

INCREASE ADJUSTMENT
125.00%

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 **(CUBIC YARD)**		0.29		0.15		
Excavations paid as specified by Sections 206 **(CUBIC YARD)**		0.29		0.15		
GAB paid as specified by the ton under Section 310 **(TON)**	116946.720	0.29	33914.55	0.24	28067.21	
Hot Mix Asphalt paid as specified by the ton under Sections 400 **(TON)**		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 **(TON)**	108490.000	2.90	314621.00	0.71	77027.90	
PCC Pavement paid as specified by the square yard under Section 430 **(SY)**		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __Concrete (CY) Section 500	527.00	1,122.40	591.5048	8.00	4732.04	1.50	887.26	SUPERSTR CONC CLASS AA
Class __Concrete (CY) Section 500	130.00	495.22	64.3786	8.00	515.03	1.50	96.57	CLASS AA CONC
Class __Concrete (CY) Section 500	458.00	246.73	113.0023	8.00	904.02	1.50	169.50	CLASS A CONC *BRDG CULV*
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
PSC Beams_____ (LF) Section 507	1617.00	142.77	230.8591	8.00	1846.87	1.50	346.29	TYPE II
PSC Beams_____ (LF) Section 507				8.00		1.50		
PSC Beams_____ (LF) Section 507				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511	25528.00	0.89	22.7199	8.00	181.76	1.50	34.08	BAR REINF STEEL
Stru Reinf Plan Quantity(LB) Section 511	98511.00	0.94	92.6003	8.00	740.80	1.50	138.90	SUPERSTR REINF STEEL
Bar Reinf Steel (LB) Section 511	66511.00	0.89	59.1948	8.00	473.56	1.50	88.79	BAR REINF STEEL*BRDG CULV*
Piling___inch (LF) Section 520	550.00	72.18	39.6990	8.00	317.59	1.50	59.55	PILING IN PLACE STEEL H
Piling___inch (LF) Section 520	80.00	503.44	40.2752	8.00	322.20	1.50	60.41	PILOT HOLES
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Piling___inch (LF) Section 520				8.00		1.50		
Drilled Caisson,___ (LF) Section 524	110.00	1,580.45	173.8495	8.00	1390.80	1.50	260.77	DRILLED CAISSON
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		

SUM QF DIESEL=	359960.22	SUM QF UNLEADED=	107237.24

DIESEL PRICE ADJUSTMENT($)	$938,020.33
UNLEADED PRICE ADJUSTMENT($)	$223,460.96

ASPHALT CEMENT PRICE ADJUSTMENT
(BITUMINOUS TACK COAT 125% MAX)

APPLICABLE TO CONTRACTS/PROJECTS CONTAINING THE 413 SPECIFICATION, SECTION 413.5.01 ADJUSTMENTS
ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

ENTER APL 409 **ENTER APM** 920.25

125.00% **INCREASE ADJUSTMENT**

L.I.N.	TYPE	TACK (GALLONS)	TACK (TONS)	REMARKS
413-1000	PG 58-22	42570	182.8424	

TMT = **182.8424**

PRICE ADJUSTMENT($) **$89,739.05**

400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX

ENTER APL 409 **ENTER APM** 920.25

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

125.00% **INCREASE ADJUSTMENT**

L.I.N. / Spec Number	MIX TYPE	HMA	JMF AC%	AC	REMARKS
402-3121	25 mm SP	57320	5.00	2866.00	
402-3130	12.5 mm SP	22340	5.00	1117.00	
402-3190	19 mm SP	28830	5.00	1441.50	
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
			5.00		
				TMT = 5424.50	

PRICE ADJUSTMENT($) **$2,662,344.60**

ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx

ENTER APL [ ] ENTER APM [ ]

MISSING APL OR APM	MISSING APL OR APM

Use this side for Asphalt Emulsion Only

L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)

TMT = [ ]

REMARKS:

Use this side for Asphalt Cement Only

L.I.N.	TYPE	TACK (GALLONS)

TMT = [ ]

REMARKS:

MONTHLY PRICE ADJUSTMENT($)	MISSING APL OR APM

ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT (*ENGLISH 125% MAX)*

DIESEL PRICE ADJUSTMENT($)	$938,020.33
UNLEADED PRICE ADJUSTMENT($)	$223,460.96
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	$89,739.05
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	$2,662,344.60
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	MISSING APL OR APM

REMARKS:

TOTAL ADJUSTMENTS	$3,913,564.94

DWM 10/08

Benefit Cost Analysis Work Sheet
CONGESTION Projects

Project Number TBA
PI Number TBA
County Forsyth

Project Description Bethelview Road from Castleberry Road to SR20/Canton Hwy

Congestion Benefit = Tb + CMb + Fb

Person Time Savings Benefit (Tb)

*Db (hrs)	0.1495
ADT	32,900.00
Tb ($s)	$169,075,156.25

Commercial or Truck Time Savings Benefit (CMb)

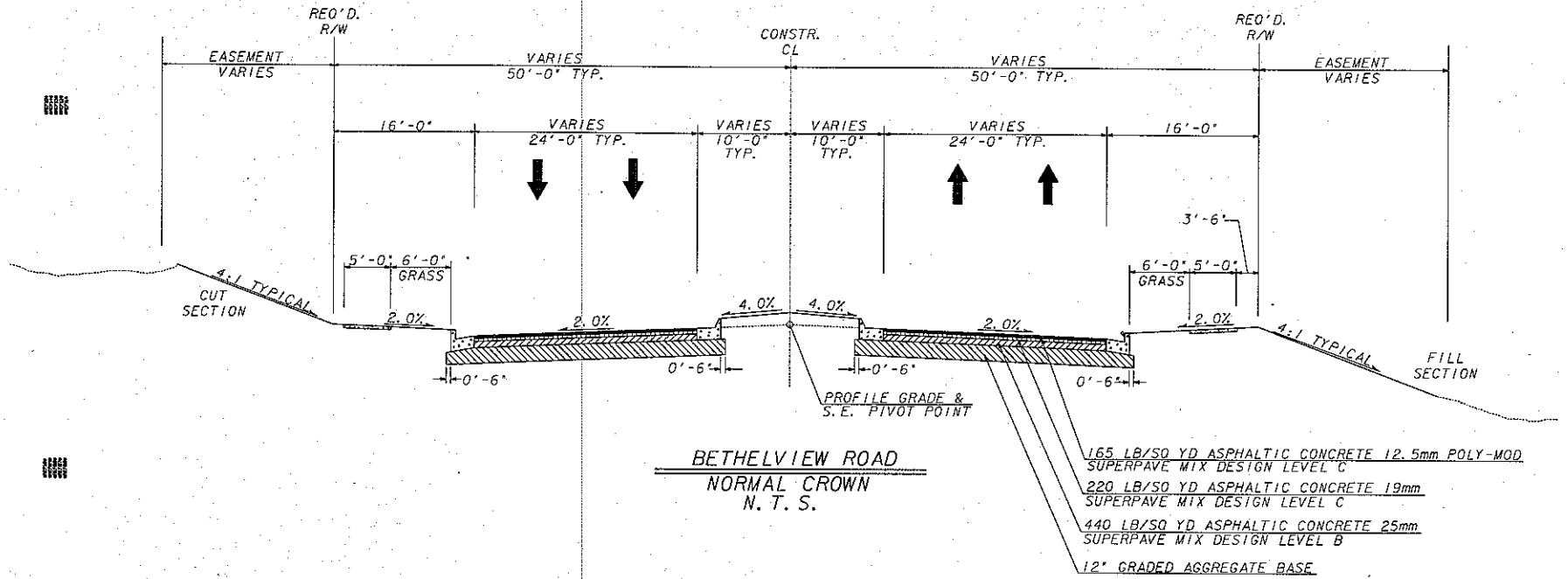
Db (hrs)	0.1495
% Truck Traffic	0.05
ADT	32,900.00
CMb	$44,666,582.19

Fuel Savings Benefit (Fb)

ADT	32,900.00
Fb ($s)	$58,920,130.21

Total Congestion Benefit	**$272,661,868.65**
Total Project Cost	**$46,703,181.76**
B/C Ratio	**5.84**

DATETIME###	TIME###	#PRF#	#DGN#	COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
#USER#		##PENTABLE##					



BETHELVIEW ROAD
NORMAL CROWN
N. T. S.

165 LB/SQ YD ASPHALTIC CONCRETE 12.5mm POLY-MOD SUPERPAVE MIX DESIGN LEVEL C

220 LB/SQ YD ASPHALTIC CONCRETE 19mm SUPERPAVE MIX DESIGN LEVEL C

440 LB/SQ YD ASPHALTIC CONCRETE 25mm SUPERPAVE MIX DESIGN LEVEL B

12" GRADED AGGREGATE BASE

Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 190
Norcross, Georgia 30071
Telephone (770) 263-5945

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTIONS
BETHELVIEW RD

DRAWING No. 5-01

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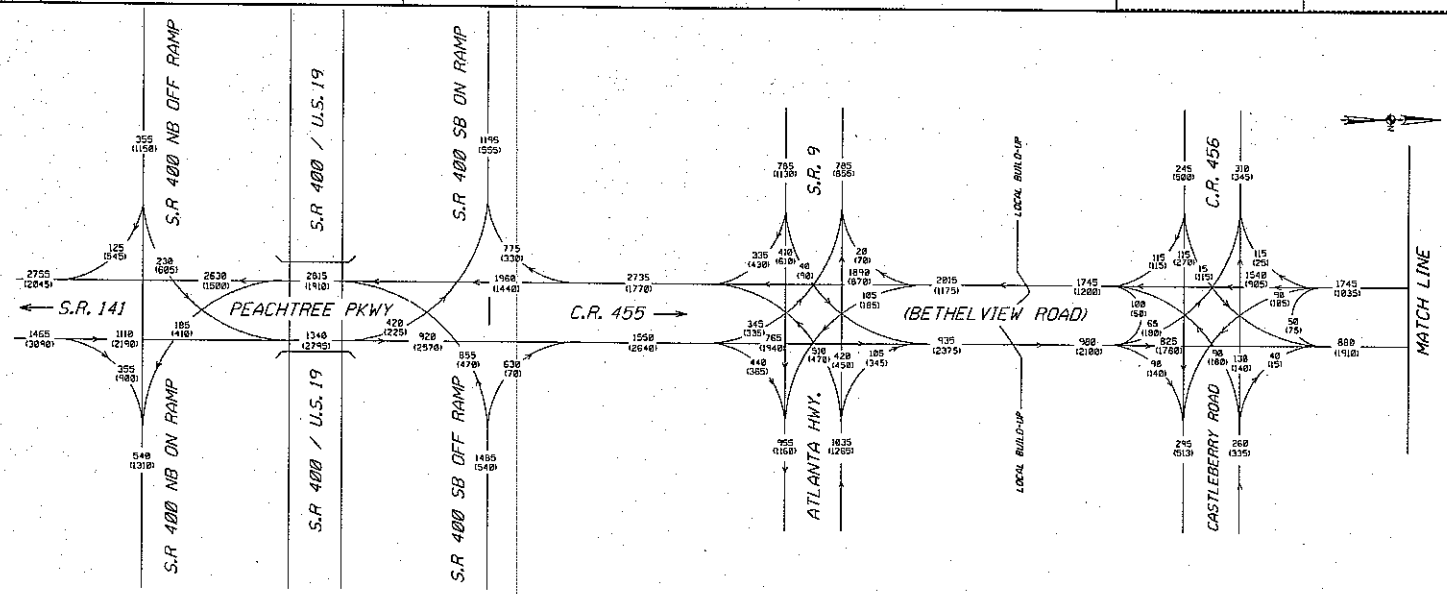
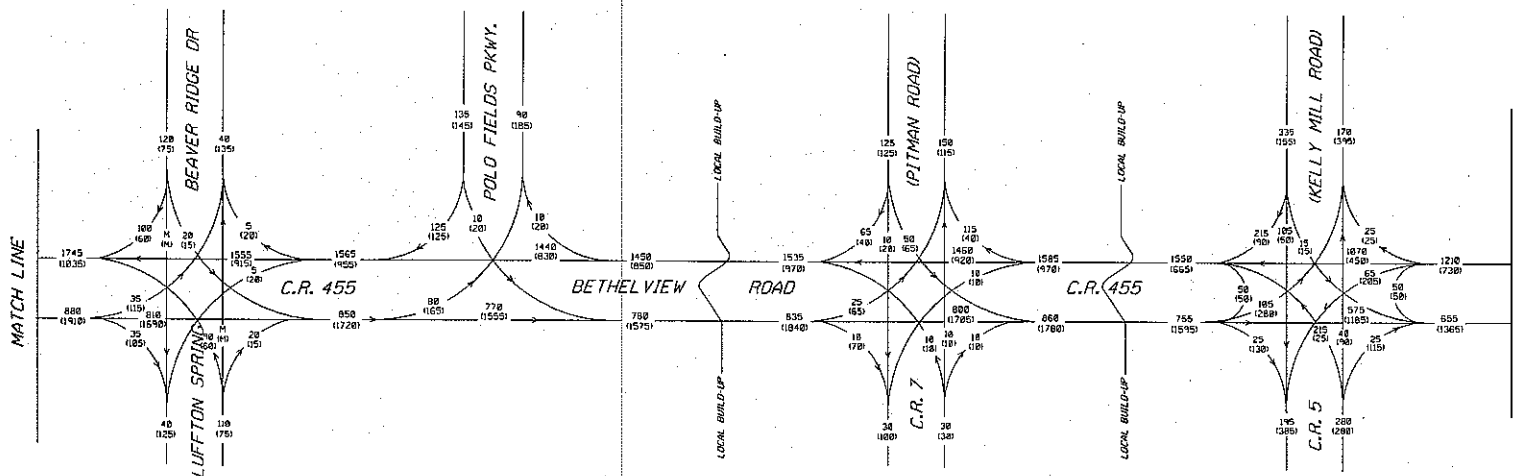
COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS





YEAR 2030
000 AM PEAK HOUR TRAFFIC
(000) PM PEAK HOUR TRAFFIC

Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 150
Norcross, Georgia 30071
Telephone (770) 263-5948

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TRAFFIC DIAGRAM
BETHELVIEW ROAD WIDENING
YEAR 2030 PEAK HOUR TRAFFIC

DRAWING No. 10-01

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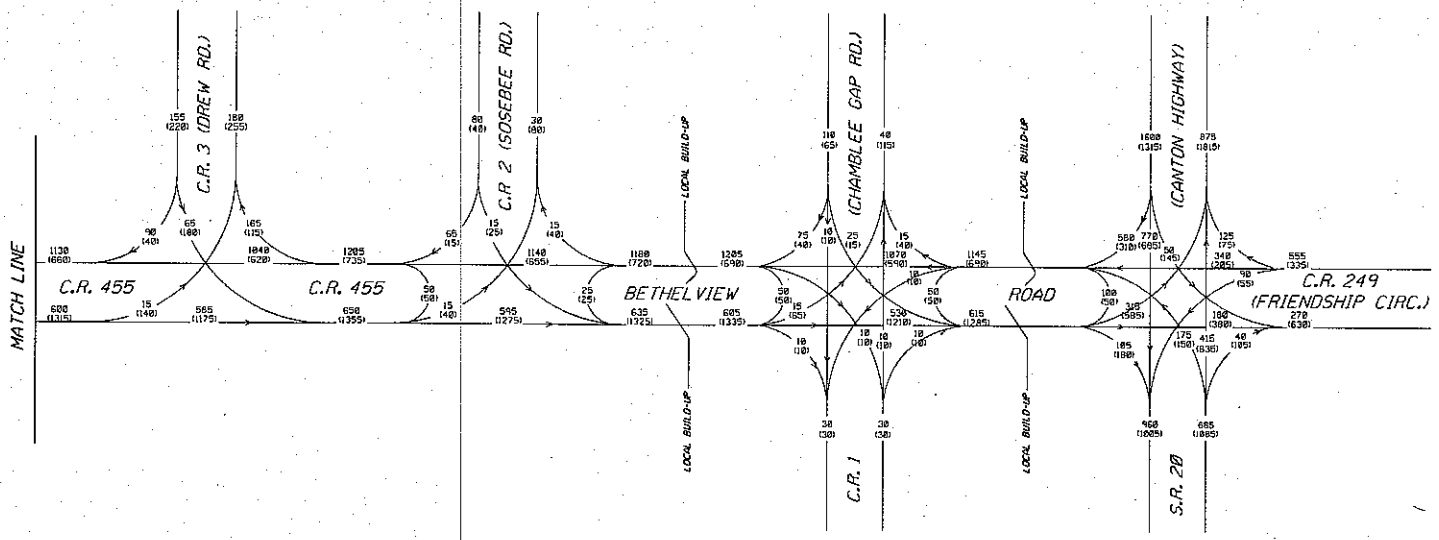

YEAR 2030
000 AM PEAK HOUR TRAFFIC
(000) PM PEAK HOUR TRAFFIC

Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 190
Norcross, Georgia 30071
Telephone (770) 263-5945

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TRAFFIC DIAGRAM
BETHELVIEW ROAD WIDENING
YEAR 2030 PEAK HOUR TRAFFIC

DRAWING No. 10-02

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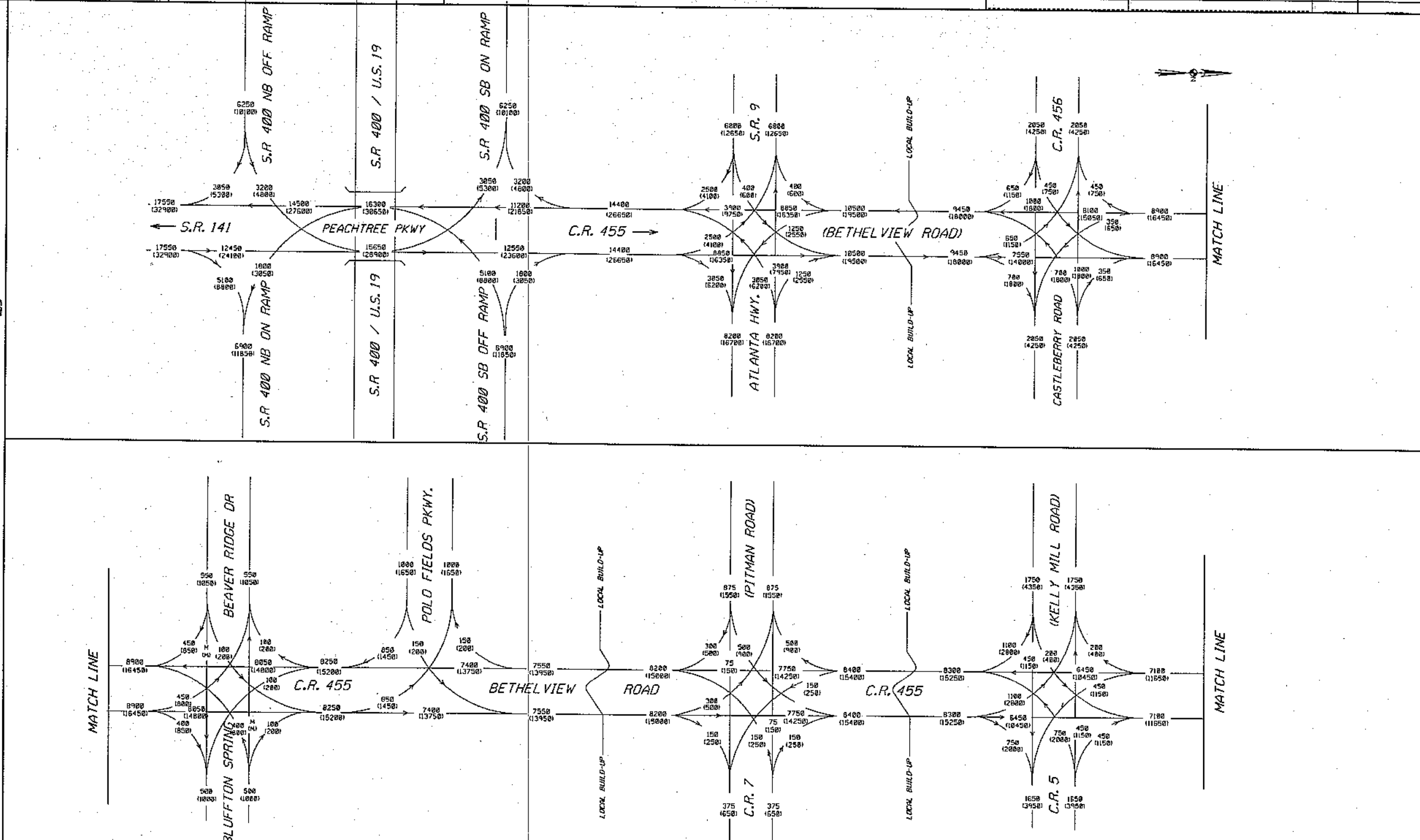

COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS

LEGEND

000 YEAR 2010 ADT
(000) YEAR 2030 ADT

Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 190
Norcross, Georgia 30071
Telephone (770) 263-5945

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TRAFFIC DIAGRAM
BETHELVIEW ROAD WIDENING
YEAR 2010/2030
AVERAGE DAILY TRAFFIC

DRAWING No. 10-03

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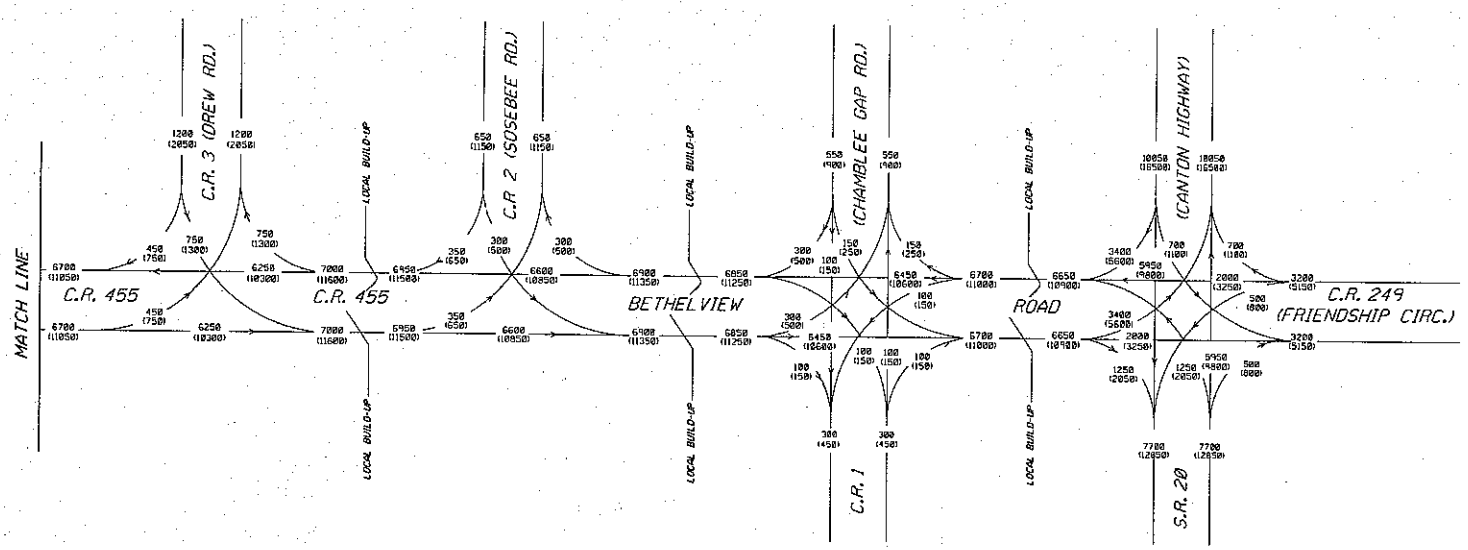
COUNTY	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS



LEGEND

000 YEAR 2010 ADT
(000) YEAR 2030 ADT

Moreland Altobelli Associates, Inc.
2211 Beaver Ruin Road
Suite 190
Norcross, Georgia 30071
Telephone (770) 263-8448

REVISION DATES

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TRAFFIC DIAGRAM
BETHELVIEW ROAD WIDENING
YEAR 2010/2030
AVERAGE DAILY TRAFFIC

DRAWING No. 10-04

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Minutes of Concept Team Meeting
Improvements to Bethelview Road (CR 455)
Project Number: STP-2348-(3) P.I. No. 141880
Forsyth County

ATTENDEES	ORGANIZATION	PHONE NUMBER
Kim Fulbright	GDOT Road Design	404-656-5407
Tim Smith	GDOT Traffic Operations	404-635-8126
Joe Leoni	GDOT Road Design	404-656-5390
Jimmy Vaughan	Moreland Altobelli Associates, Inc	770-886-5945
Tim Allen	Forsyth County	770-781-2165
William G. Hasty	9th District Board Member	770-425-8528
Chuck Wilson	Moreland Altobelli Associates, Inc	770-263-5945
Nicole Beckman	Moreland Altobelli Associates, Inc	770-263-5945
Steve Walker	GDOT Planning	404-463-0694
Don Frazier	City of Cumming	770-781-2010
David Mulling	GDOT Engineering Services	404-656-6846
Katie Mullins	GDOT Programming	404-656-7043
Karla Poshedly	Moreland Altobelli Associates, Inc	770-263-5945
Brent Cook	GDOT Gainesville	770-532-5530
R. Keith Canup	GDOT Gainesville	770-532-5565

Mr. Kim Fulbright, GDOT Road Design, opened the meeting and began with introductions of all attendees. Ms. Karla Poshedly then gave a project description of the programmed project: STP-23748-(3) Improvements to Bethelview Road (CR 455). She stated that the proposed project consists of widening and reconstruction of Bethelview Road from a 2-lane undivided to a 4-lane divided roadway. A number of existing intersections will be reconfigured to provide adequate turn-lanes and storage capacity for the design year traffic (2025), and will include the installation and/or upgrade of traffic signals at major intersections.

Ms. Poshedly continued by stating that the functional classification of the road is rural major collector. She affirmed the accident history and traffic projections as found in the concept report. The projected AADT is 35,500 on Bethelview Road. Ms. Poshedly described the existing typical section as being two 12-foot rural lanes with variable grass shoulders. She stated that the proposed design criteria would have a design speed of 45 mph, maximum degree of curve of 4.0°, and a maximum grade of 3%. No special design exceptions are requested for the proposed project. The estimated right-of-way costs for the project are to be $2,500,000.

Ms. Poshedly described the need and purpose of this project. The proposed improvements serve two primary purposes. The first is to provide additional traffic capacity and improved access to accommodate existing and future traffic volumes in the

project corridor. The second is to improve traffic safety by dividing Bethelview Road with a 20-foot median to separate on-coming traffic and to promote the orderly flow of traffic by providing median breaks with designated left-turn lanes at major intersections. Bethelview Road is a two-lane rural major collector between SR 400 to the south and SR 20 to the north, providing access to residential and small commercial developments located along the roadway, and serving as a collector for SR 400.

Ms. Poshedly stated that there would be 10 residential displacements and 2 businesses. This change has already been made in the Concept Report.

Ms. Poshedly also stated that the Underground Storage Tanks (UST's) have already been removed, which were a concern earlier. Mr. Chuck Wilson further stated that he was recently at the business that had the UST's and confirmed that they were removed.

Mr. Wilson stated that this project would require an Environmental Assessment (EA) for the environmental documentation. He stated that he anticipates the process to be minimal.

Mr. Fulbright asked for additional discussion of the project. There were none at this time.

Mr. Fulbright brought forward some questions and comments regarding the Concept Report. He stated that it should list today's date as the concept team meeting date. The typical sections should be separate and reflect urban and rural sections. He also wanted to ensure that there is enough length for deceleration in the turn lanes. Mr. Fulbright discussed the 350-foot length for deceleration lanes in AASHTO's green book. He mentioned that this minimum should be used, but to check to see if traffic will require more than the minimum length.

Mr. Fulbright also questioned the lack of sidewalks and bike lanes. Ms. Poshedly stated that this project is not included in the GDOT or County Bicycle Route Plan so no bike lanes are included in this project. However, all the urban sections of the roadway include curb and gutter as well as sidewalks.

Mr. Fulbright thought the right-of-way was a bit conservative, especially considering the hilly terrain in the project area. He wants to double-check the number of parcels again.

Mr. Fulbright asked County Representatives for any comments or concerns they may have. Forsyth County Representative Mr. Tim Allen wanted clarification on the number of wetlands in the project area. Mr. Wilson stated that there is one location on one side of the road, and it was considered Waters of the U.S. and therefore a Nationwide 14 permit would be required. A Nationwide 14 permit can be used when less than 1/2 of an acre will be impacted. The bridge is also Waters of the U.S. The channel alignment of the stream is not of any concern. An Ecology Report has not been conducted yet. Mr. Allen also wanted to know the status of the historical survey. Mr. Wilson stated that 2 historic sites were found, and the current alignment avoids impacting these resources. Mr.

Wilson did however express concern over the YMCA soccer field located behind the cemetery and church. He stated that the soccer field was recently placed in the area, and will need to pursue this resource further. Mr. Wilson reiterated that Moreland Altobelli Associates, Inc. would be preparing all environmental documents for this project.

Mr. Fulbright asked for any comments or concerns from the GDOT Right-of-Way department. Mr. Cook expressed concern over the number is displacements and the right-of-way cost estimate. He would like those estimates to be re-visited.

Mr. Fulbright asked for any comments or concerns from the GDOT Traffic Operations department. Mr. Tim Smith stated that he had no comments at this time, other than there might be problems with reducing the speed limit from 50 mph to 45 mph. He also stated that the radii on traffic for trucks should be matched in the design phase.

Mr. Fulbright asked for any comments or concerns from the GDOT Engineering Services Division. Mr. David Mulling wanted to know how the project would be tied into other projects in the area, particularly the proposed Outer Perimeter Highway and Canton Highway Improvements. Ms. Poshedly stated that she would have to check on how that would be accomplished.

Mr. Fulbright asked the GDOT Utilities division if they had any questions or concerns. Mr. Allen responded by stating that the City and County share the water lines, and this might affect service levels if not properly coordinated. The cost estimates should be examined again, and this should be coordinated through the district.

Mr. Fulbright asked the GDOT Office of Programming for any questions or concerns they might have. Ms. Mullins responded by stating that they had no comments or questions.

Mr. Fulbright asked the GDOT Planning Office for any questions or concerns they might have. Mr. Steve Walker stated that he had no comments or concerns at this time.

Mr. Fulbright asked for any further comments or questions. It was stated that a Public Information Meeting was up to the County to decide to hold it. The County decided that it was in their best interest to hold a Public Information Meeting, in addition to the required Public Hearing. The concept would most likely be approved in the next few months, and they anticipate having a Public Information Hearing in the first of the year.

Mr. Fulbright then stated that the comments would be incorporated into the concept report and revised accordingly.

Mr. Fulbright then adjourned the meeting.

AGREEMENT

BETWEEN

DEPARTMENT OF TRANSPORTATION

STATE OF GEORGIA

AND

FORSYTH COUNTY

FOR

BETHELVIEW ROAD FROM SR 9 TO SR 20

THIS AGREEMENT, is made and entered into this 30TH day of June, 1999, by and between the DEPARTMENT OF TRANSPORTATION, an agency of the State of Georgia, hereinafter called the "DEPARTMENT", and FORSYTH COUNTY, GEORGIA, acting by and through its Chairman and Board of Commissioners, hereinafter called the "LOCAL GOVERNMENT".

WHEREAS, the LOCAL GOVERNMENT has represented to the DEPARTMENT a desire to improve the roadway facility along Bethelview Road from SR 9 to SR 20 including the SR 20 intersection, Georgia Department of Transportation Project Number STP-2348(3), P.I. Number 141880 hereinafter referred to as the "PROJECT"; and

WHEREAS, the LOCAL GOVERNMENT has represented to the DEPARTMENT a desire to participate in providing the preconstruction engineering activities needed for the improvements, relocating the utilities, and other costs as specified in the AGREEMENT, and the DEPARTMENT has relied upon such representations; and

WHEREAS, the DEPARTMENT has expressed a willingness to participate in the funding of the construction of the PROJECT with funds of the DEPARTMENT, funds apportioned to the DEPARTMENT by the Federal Highway Administration, hereinafter referred to as the "FHWA", under Title 23, United States Code, Section 104, or a combination of funds from any of the above sources subject to those certain conditions set forth in the AGREEMENT.

NOW, THEREFORE, in consideration of the mutual promises made and of the benefits to flow from one to the other, the DEPARTMENT and the LOCAL GOVERNMENT hereby agree each with the other as follows:

1. All Primary Consultant firms hired by the LOCAL GOVERNMENT to provide services on the PROJECT shall be prequalified with the DEPARTMENT in the appropriate area-classes. The DEPARTMENT shall, on request, furnish the LOCAL GOVERNMENT with a list of prequalified consultant firms in the appropriate area-classes.

2. The PROJECT construction and right-of-way plans shall be prepared in English units.

3. Both the LOCAL GOVERNMENT and the DEPARTMENT hereby acknowledge that time is of the essence and both parties shall adhere to the priorities established in the approved State Transportation Improvement Program (STIP) or earlier. Furthermore, all parties shall adhere to the detailed project schedule, as approved by the DEPARTMENT. In the completion of respective commitments contained herein, if a change in schedule is needed, the

DEPARTMENT shall have final authority. If, for any reason, the LOCAL GOVERNMENT does not produce acceptable deliverables at the milestone dates defined in the STIP, or in the approved schedule, the DEPARTMENT reserves the right to delay the project's implementation until funds can be re-identified for construction or right-of-way, as applicable.

4. All drafting and design work performed on the project shall be done utilizing Microstation and CAICE software respectively, and shall be organized as per the DEPARTMENT'S guidelines on electronic file management.

5. The LOCAL GOVERNMENT shall contribute towards the PROJECT by funding all cost for the preconstruction engineering (design). The preconstruction engineering activities shall be accomplished in accordance with the DEPARTMENT'S Plan Development Process, the Plan Presentation Guide, the applicable guidelines of the American Association of State Highway and Transportation Officials, hereinafter referred to as "AASHTO", the DEPARTMENT'S Standard Specification for the Construction of Transportation Systems, PROJECT schedules, and applicable guidelines of the DEPARTMENT. The LOCAL GOVERNMENT responsibility for design shall include, but is not limited to the following items.

a. Prepare the PROJECT concept report in accordance with the format used by the DEPARTMENT. The concept for the PROJECT shall be developed to accommodate the future traffic volumes as generated by the LOCAL GOVERNMENT as provided for in paragraph 5b and approved by the DEPARTMENT. It is recognized by the parties that the approved concept may be modified by the LOCAL GOVERNMENT as required by the DEPARTMENT and reapproved by the DEPARTMENT during the course of design due to public input,

environmental requirements, or right-of-way considerations.

b. Develop the PROJECT'S base year (year facility is expected to be open to traffic) and design year (base year plus 20 years) traffic volumes. This shall include average daily traffic (ADT) and morning (am) and evening (pm) peak hour volumes. The traffic shall show all through and turning movement volumes at intersections for the ADT and peak hour volumes and shall indicate the percentage of trucks expected on the facility.

c. Validate (check and update) the approved PROJECT concept and prepare a PROJECT Design Book for approval by the DEPARTMENT prior to the beginning of preliminary plans.

d. Prepare environmental studies, documentation, and reports for the PROJECT that show the PROJECT is in compliance with the provisions of the National Environmental Protection Act and Georgia Environmental Protection Act, as appropriate to the PROJECT funding. This shall include any and all archaeological, historical, ecological, air, noise, underground storage tanks (UST), and hazardous waste site studies required. The LOCAL GOVERNMENT shall submit to the DEPARTMENT all environmental documents and reports for review and approval by the DEPARTMENT and the FHWA.

e. Prepare all public hearing and public information displays and conduct all required public hearings and public information meetings in accordance with DEPARTMENT practice.

f. Perform all surveys, mapping, and soil investigation studies needed for design of the PROJECT.

g. Perform all work required to obtain project permits, including, but not limited to, US Army Corps of Engineers 404 and Federal Emergency Management Agency (FEMA)

approvals. These efforts shall be coordinated with the DEPARTMENT.

h. Prepare the PROJECT'S drainage design including erosion control plans and the development of the hydraulic studies for the Federal Emergency Management Agency Floodways and acquisition of all necessary permits associated with the drainage design.

i. Prepare traffic studies, preliminary construction plans, preliminary and final utility plans, preliminary and final right-of-way plans, staking of the required right-of-way, and final construction plans including erosion control, traffic handling, and construction sequence plans and specification including special provisions for the PROJECT.

j. Provide certification, by a Georgia Registered Professional Engineer, that the construction plans have been prepared under the guidance of the professional engineer and are in accordance with acceptable industry standards.

6. The DEPARTMENT shall review and has approval authority for all aspects of the PROJECT. The DEPARTMENT will work with the FHWA to obtain all needed approvals with information furnished by the LOCAL GOVERNMENT.

7. Upon the LOCAL GOVERNMENT'S determination of the rights-of-way required for the PROJECT and the approval of the right-of-way plans by the DEPARTMENT, the DEPARTMENT shall fund the acquisition. The LOCAL GOVERNMENT will acquire the necessary rights-of-way for the PROJECT and be reimbursed for the property costs by the DEPARTMENT. Right-of-way acquisition shall be in accordance with the law and the rules and regulations of the FHWA including, but not limited to, Title 23, United States Code; 23 CFR 710, et. seq., and 49 CFR Part 24, and the rules and regulations of the DEPARTMENT. Failure

to follow these requirements will result in loss of Federal funding for the PROJECT, and it will be the responsibility of the LOCAL GOVERNMENT to make up the loss of that funding. All required right-of-way shall be obtained and cleared of obstructions, including underground storage tanks, prior to the DEPARTMENT'S advertising the PROJECT for bids. The LOCAL GOVERNMENT shall further be responsible for making all changes to the approved right-of-way plans, as deemed necessary by the DEPARTMENT, for whatever reason, as needed to purchase the right-of-way or to match actual conditions encountered.

8. The LOCAL GOVERNMENT shall be responsible for the design of any bridges which lay within the limits of this PROJECT. The LOCAL GOVERNMENT shall perform all necessary survey efforts regarding the design of the bridge and shall incorporate these plans into this PROJECT as a part of this Agreement.

9. The LOCAL GOVERNMENT shall be responsible for all utility relocation costs necessary for the construction of the PROJECT.

10. The LOCAL GOVERNMENT shall be responsible for all costs for providing energy, maintenance, and operational costs of any roadway and interchange lighting within the PROJECT limits.

11. The LOCAL GOVERNMENT shall be responsible for all costs for continual maintenance, and the continual operations of any and all sidewalks within the PROJECT limits.

12. The LOCAL GOVERNMENT shall follow the DEPARTMENT'S procedures for identification of existing and proposed utility facilities on the PROJECT. These procedures, in part, require all requests for existing, proposed, or relocated facilities to flow through the DEPARTMENT'S Project Liaison and the District Utilities Engineer.

13. Upon completion and approval of the PROJECT plans, certification that all needed rights-of-way have been obtained and cleared of obstructions, and certification that all needed permits for the PROJECT have been obtained by the LOCAL GOVERNMENT, the DEPARTMENT shall let the PROJECT for construction. Except as provided herein and upon receipt of an acceptable bid, the DEPARTMENT shall bear all costs for construction, including all costs associated with inspection and materials testing during construction. The DEPARTMENT shall be solely responsible for securing and awarding the construction contract for the PROJECT.

14. The LOCAL GOVERNMENT agrees that all reports, plans, drawings, studies, specifications, estimates, maps, computations, computer diskettes and printouts, and any other data prepared under the terms of this agreement shall become the property of the DEPARTMENT. This data shall be organized, indexed, bound, and delivered to the DEPARTMENT no later than the advertisement of the PROJECT for letting. The DEPARTMENT shall have the right to use this material without restriction or limitation and without compensation to the LOCAL GOVERNMENT.

15. The LOCAL GOVERNMENT shall be responsible for the professional quality, technical accuracy, and the coordination of all designs, drawings, specifications, and other services furnished by or on behalf of the LOCAL GOVERNMENT pursuant to this AGREEMENT. The LOCAL GOVERNMENT shall correct or revise, or cause to be corrected or revised, any errors or deficiencies in the designs, drawings, specifications, and other services furnished for this PROJECT. All revisions shall be coordinated with the DEPARTMENT prior to issuance. The LOCAL GOVERNMENT shall also be responsible for any claim, damage, loss or expense that is attributable to negligent acts, errors, or omissions related to the designs, drawings, specifications, and other services furnished by or on behalf of the LOCAL GOVERNMENT pursuant to this AGREEMENT.

16. The LOCAL GOVERNMENT shall prepare all shop drawings for approval by the DEPARTMENT.

17. This AGREEMENT is made and entered into in Fulton County, Georgia, and shall be governed and construed under the laws of the State of Georgia.

18. The covenants herein contained shall, except as otherwise provided, accrue to the benefit of and be binding upon the successors and assigns of the parties hereto.

IN WITNESS WHEREOF, the DEPARTMENT and the LOCAL GOVERNMENT have caused these presents to be executed under seal by their duly authorized representatives.

RECOMMENDED:

James A. Kennerly
State Road & Airport Design Engineer

Walker W. Scott, Jr., P.E.
Director of Preconstruction

Frank L. Danchetz
Chief Engineer

DEPARTMENT OF TRANSPORTATION

BY: Wayne Shackelford
Commissioner

ATTEST:

Treasurer

REVIEWED AS TO LEGAL FORM:

Office of Legal Services

DATE: 6-18-99

BOARD OF COMMISSIONERS

BY: Bill Jenkins
Chairman

Signed, sealed and delivered this 24th day of May, 1999 in the presence of:

Donald M. Major
Witness

Witness

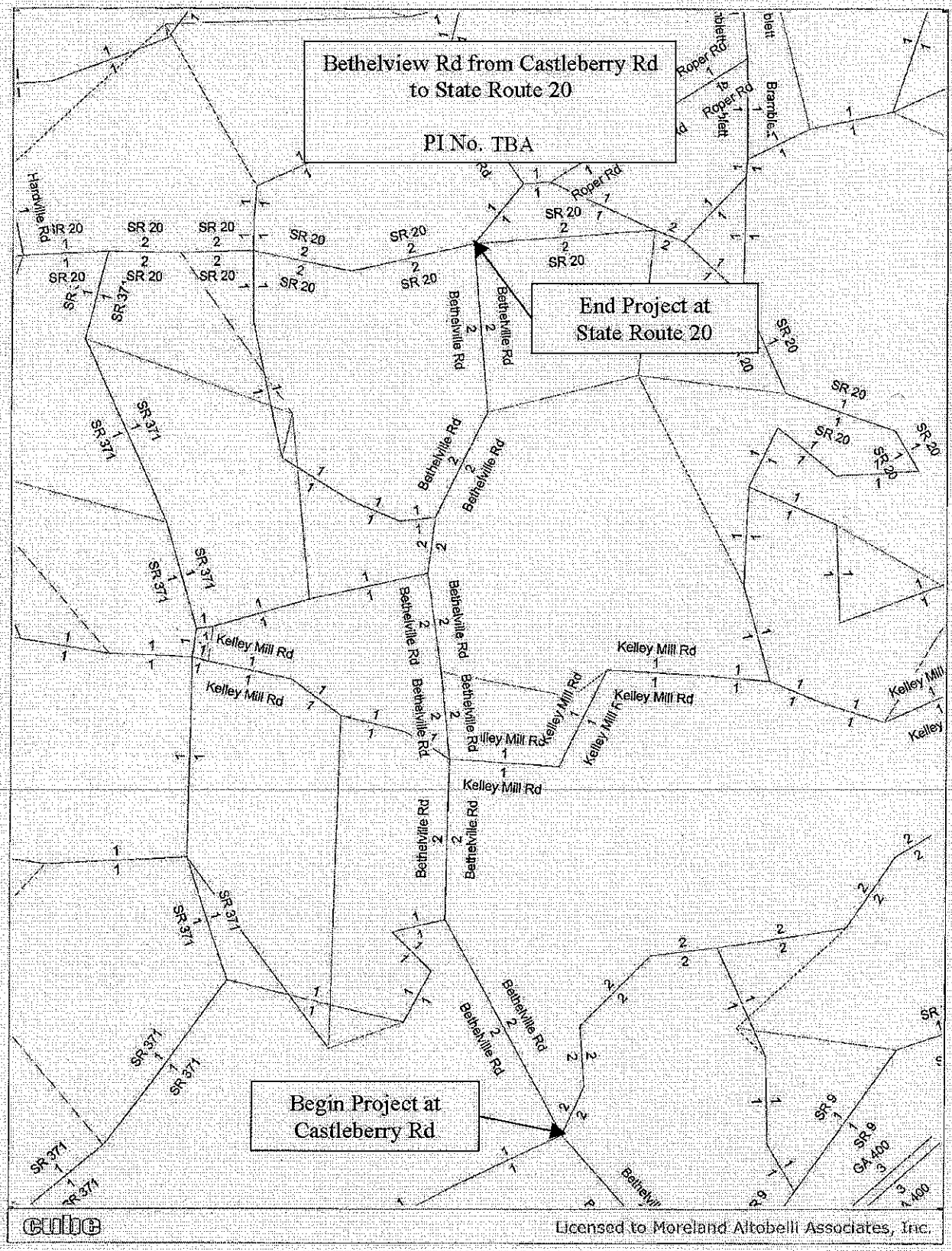
Cindy Henderson
Notary Public
Notary Public, Forsyth County, Georgia
My Commission Expires May 15, 2001

This Agreement approved by the County Commission at a meeting held at:

Forsyth County Administration Building

the 24th day of May, 1999

County Clerk


Bethelview Rd from Castleberry Rd
to State Route 20
PI No. TBA
End Project at
State Route 20
Begin Project at
Castleberry Rd
Bethelville Rd
Kelley Mill Rd
SR 20
SR 371
Roper Rd
Harqville Rd
Licensed to Moreland Altobelli Associates, Inc.