

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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

**FILE** P.I. # 0012645  
Newton County  
GDOT District 2 - Tennille  
CR 309/CR 518/Crowell Road @  
CR 511/Brown Bridge Road

**OFFICE** Design Policy & Support

**DATE** November 13, 2014

**FROM**  for Brent Story, State Design Policy Engineer

**TO** SEE DISTRIBUTION

**SUBJECT** APPROVED CONCEPT REPORT

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

Attachment

**DISTRIBUTION:**

Glenn Bowman, Director of Engineering  
Joe Carpenter, Director of P3/Program Delivery  
Genetha Rice-Singleton, Assistant Director of P3/Program Delivery  
Bobby Hilliard, Program Control Administrator  
Albert Shelby, State Program Delivery Engineer  
Cindy VanDyke, State Transportation Planning Administrator  
Hiral Patel, State Environmental Administrator  
Ben Rabun, State Bridge Engineer  
Kathy Zahul, State Traffic Engineer  
Angela Robinson, Financial Management Administrator  
Lisa Myers, State Project Review Engineer  
Charles "Chuck" Hasty, State Materials Engineer  
Mike Bolden, State Utilities Engineer  
Richard Cobb, Statewide Location Bureau  
Katelyn Digioia, State Pedestrian and Bicycle Coordinator  
Jimmy Smith, District Engineer  
Neal O'Brien, District Preconstruction Engineer  
Jamie Lindsey, District Utilities Engineer  
Daniel Chastain, Project Manager  
BOARD MEMBER - 4th Congressional District

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**LIMITED SCOPE PROJECT CONCEPT REPORT**

Project Type: <u>Intersection Improvement</u>	P.I. Number: <u>0012645</u>
GDOT District: <u>2</u>	County: <u>Newton</u>
Federal Route Number: <u>N/A</u>	State Route Number: <u>N/A</u>
Project Number: _____	Not assigned yet

**Project Description:** CR 309/CR 518/Crowell Road at CR 511/Brown Bridge Road Intersection Improvement

**Submitted for approval:**

Will Sheehan 10-8-14  
 Moreland Altobelli Associates, Inc. DATE

Aan Wang *TRANS. DIRECTOR* 10/8/14  
 Newton County DATE

Albert Shuff *gro* 10/15/14  
 State Program Delivery Engineer DATE

GDOT Project Manager DATE

*\* Recommendation on file*

**Recommendation for approval:**

*\* Hiral Patel / KLP* 7-30-14  
 State Environmental Administrator DATE

*\* Kathy Zabal / KLP* 8-5-14  
 State Traffic Engineer DATE

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

Christina L. Vazquez *\** 10-24-14  
 State Transportation Planning Administrator DATE

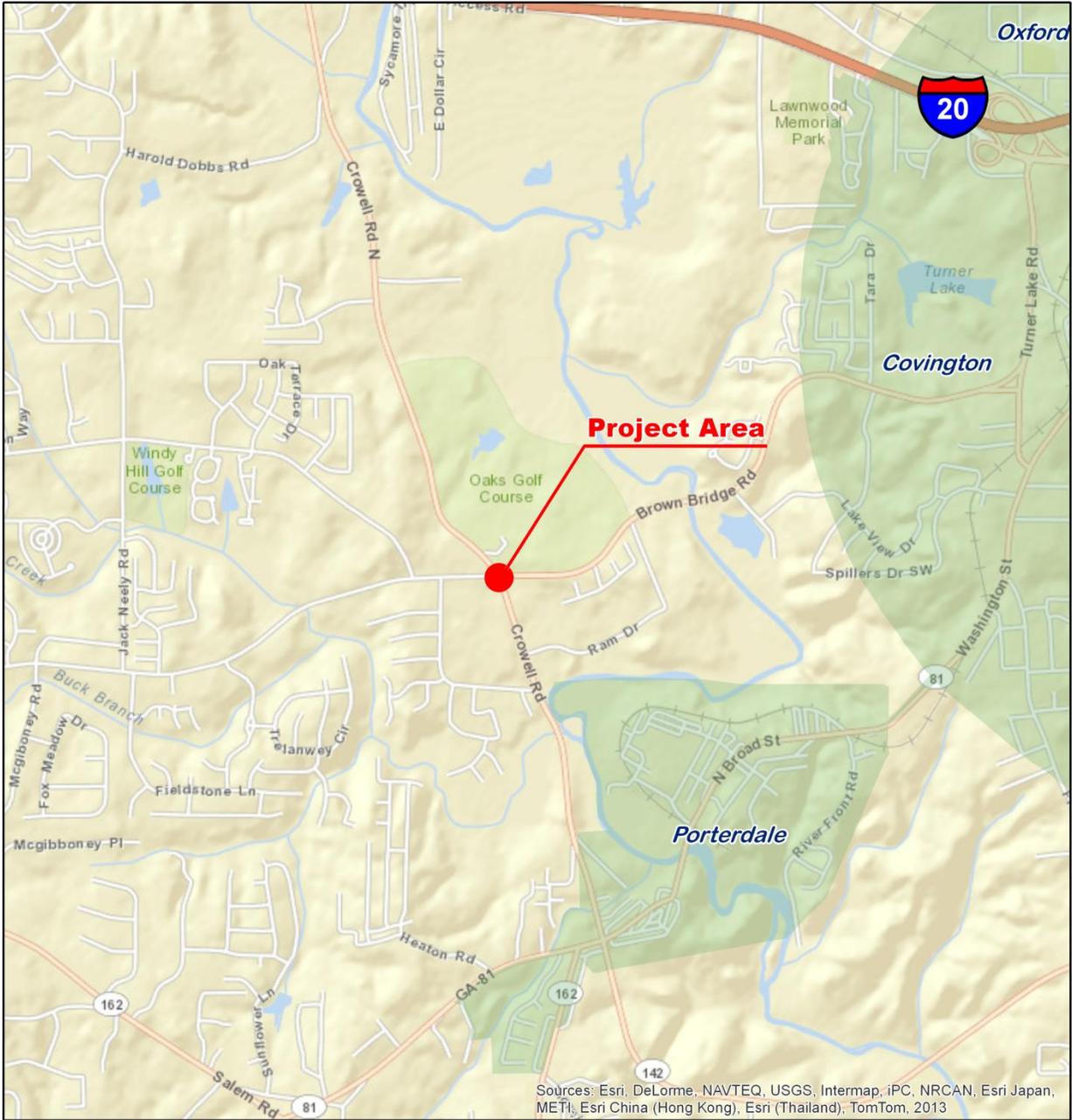
**Approval:**

Concur: Glenn Brown 11/6/14  
 GDOT Director of Engineering DATE

Approve: Allen M. Mims 11/9/14  
 GDOT Chief Engineer DATE

*\* Planning will coordinate with the Atlanta MPO to ensure this concept is reflected in the TIP, upon approval of this concept report.*

### PROJECT LOCATION



Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2013

1-20-14



#### Project Location Map

● Project Area



Brown Bridge Road  
at Crowell Road Intersection  
PI 0012645

Newton County, GA



## **PLANNING & BACKGROUND DATA**

**Project Justification Statement:** This project was initiated by the local government of Newton County. It is an intersection improvement project intended to improve the traffic operations at the intersection of Brown Bridge Road and Crowell Road and to reduce the potential for crashes at this intersection.

The new Newton County High School was constructed in 2012 on Crowell Road approximately 1.1 miles north of the intersection of Brown Bridge Road. The traffic patterns of school traffic travelling to the new high school has created a projected demand of 300 vehicles per hour (including buses) turning left from Brown Bridge Road to Crowell Road during the AM peak hour. This traffic demand has created the need for additional left-turn lane storage. Also, the eastbound through traffic on Brown Bridge Road queues and blocks the left-turning vehicles from accessing the left turn lane. Currently, the eastbound left-turn lane provides approximately 270 feet of left-turn lane storage. The project is proposed to lengthen the left-turn lane storage an additional 200 feet, which will accommodate the future traffic demand and prevent the left-turning vehicles from being blocked.

The intersection of these two-lane roadways has a skew angle of approximately 65 degrees. There is a right-turn island in the corner of the northwest quadrant that restricts the turning radius of left-turn vehicles from Brown Bridge Road to Crowell Road. The proposed project would cut the corner of the island to provide buses and trucks with a larger turning radius.

The three-year crash data from 2010-2012 shown in Attachment 4 indicates that 63% of the traffic crashes are left-turning or angle collisions. This project would improve the intersection to allow left-turning vehicles to more easily execute their turns at this intersection, thereby reducing the potential for left-turning and angle collisions.

The current Average Daily Traffic (ADT) on Brown Bridge Road and Crowell Road is 15,800 vehicles per day (vpd) and 10,600 vpd, respectively. Traffic is expected to grow by the design year 2037 to 17,900 vpd on Brown Bridge Road and 12,000 vpd on Crowell Road with or without the project. The corresponding existing Level of Service (LOS) of the intersection is LOS B and it is projected to be LOS C in the design year under the no-build and build traffic conditions.

**Existing conditions:** The intersection of Crowell Road and Brown Bridge Road is a crossing of two-lane roadways with left-turn and right-turn lanes on all approaches. There are raised right-turning islands in the northwest and southeast quadrants of the intersection. Crosswalks and handicap ramps are provided on these corners with no sidewalks. The intersection is controlled by a traffic signal. There are no sidewalks and curb and gutter is only present on the northwest quadrant of the intersection in front of the gas station.

The intersection contains aerial utilities along the north side of Brown Bridge Road and along the southwest and northeast sides of Crowell Road that should not be impacted by the construction of this project.

**Other projects in the area:** None

**Description of the proposed project:** The proposed project would construct 200 feet of additional eastbound left-turn lane storage on Brown Bridge Road and modify the traffic signal to include left turn arrows and loop detectors on all approaches. The proposed project would cut the corner of the island located in the northwest corner to provide eastbound vehicles on Brown Bridge Road with a larger left-turning radius. The intersection would be resurfaced and striped. This project would be constructed within existing right-of-way. The length of the project is 0.25 mile along Crowell Rd.

In addition, there is insufficient pavement width on the north leg of Brown Bridge Rd. to accommodate left-turning trucks from Crowell Rd. This project would add additional pavement to the shoulder of Brown Bridge Rd. to prevent the trucks from tracking off the existing pavement and damaging the grass shoulder.

**MPO:** Atlanta Regional Commission (ARC)

MPO Project ID NE-099A

**Regional Commission:** Atlanta Regional Commission

RC Project ID NE-099A

**Congressional District(s):** 4

**Federal Oversight:**  Exempt  State Funded  Other

**Projected Traffic:** ADT

	<b>Current Year (2013)</b>	<b>Open Year (2017)</b>	<b>Design Year (2037)</b>
CR 309/CR 518/Crowell Road	10,600	10,800	12,000
CR 511/Brown Bridge Road	15,800	16,200	17,900

Traffic Projections Performed by: Moreland Altobelli Associates, Inc.

**Functional Classification (Mainline):** Rural Major Collector - Brown Bridge Road and Crowell Road

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

Warrants met:  None  Bicycle  Pedestrian  Transit

This intersection is currently signalized and has pedestrian crosswalks and signals to accommodate the pedestrian traffic.

## DESIGN AND STRUCTURAL

**Description of Proposed Project:** Intersection Improvement of CR 309/CR 518/Crowell Road at CR 511/Brown Bridge Road

**Major Structures:** N/A

**Mainline Design Features: Brown Bridge Road and Crowell Road**

Feature	Existing	Standard*	Proposed
<b>Typical Section</b>			
- Number of Lanes	2	2	2
- Lane Width(s)	12'	12'	12'
- Outside Shoulder or Border Area Width	8' total (2' paved/6' grass)	8' total (4' paved/4' grass)	8' total (2' paved/6' grass)
- Outside Shoulder Slope	6%	6%	6%
- Inside Shoulder Width	N/A	N/A	N/A
- Sidewalks	No	No	No
- Auxiliary Lanes	Yes	No	Yes
- Bike Lanes	No	No	No
Posted Speed	45 mph		45 mph
Design Speed	45 mph	35-55 mph	45 mph
Min Horizontal Curve Radius	tangent	533'	tangent
Maximum Superelevation Rate	6%	6%	6%
Maximum Grade	4% max	5%	4% max
Access Control	By Permit	By Permit	By Permit
Design Vehicle	SU	BUS-40 or SU	WB-50**

\*According to current GDOT design policy if applicable

\*\*The proposed design vehicle exceeds the standard because there is a known problem with buses and trucks turning left from eastbound Brown Bridge Road to Crowell Road. Newton County High School is located on Crowell Road 1.1 miles north of this intersection and the Crowell Road interchange with I-20 is located 2.3 miles north of the intersection.

**Major Interchanges/Intersections:** CR 309/CR 518/Crowell Road at CR 511/Brown Bridge Road

Lighting required:  No  Yes

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

Will Context Sensitive Solutions procedures be utilized?  No  Yes

Design Exceptions to FHWA/AASHTO controlling criteria anticipated: None

**Design Variances to GDOT Standard Criteria anticipated:**

A design variance may be required for paved shoulder width. The GDOT Design Policy Manual (Table 6.5) states that minimum paved shoulder width is 4-ft. The proposed paved shoulder width is 2-ft which matches the existing; this is appropriate due to the limited project scope of extending the left turn lane. No benefit would be realized by widening the shoulder for such a short distance.

A design variance will be required for intersection angle. The existing angle is 65 degrees and improvements to it are outside the scope of this project. GDOT policy requires a minimum angle of 70 degrees.

## UTILITY AND PROPERTY

**Temporary State Route Needed:**  No  Yes  Undetermined

**Railroad Involvement:** None

**Utility Involvements:** Minimal conflicts anticipated. Aerial utilities have been identified and should not conflict with proposed construction. Underground utilities are expected and may have to be relocated slightly to accommodate the roadway widening.

**SUE Required:**  No  Yes

**Public Interest Determination Policy and Procedure recommended (Utilities)?**  No  Yes

**Right-of-Way:** Existing width: 75-100 ft with 10' easements  
Proposed width: 75-100 ft with 10' easements

Required Right-of-Way anticipated:  No  Yes  Undetermined  
Easements anticipated:  None  Temporary  Permanent  Utility  Other

Anticipated number of impacted parcels:	0
Displacements anticipated:	Total: 0
	Businesses: 0
	Residences: 0
	Other: 0

## ENVIRONMENTAL AND PERMITS

**Anticipated Environmental Document:**

GEPA:  NEPA:  CE  PCE

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

The project is located in Newton County which is an MS4 area; however, the project would be adding less than 5,000 square feet of new impervious area (pavement) so it should be exempt from MS4 requirements.

**Environmental Permits, Variances, Commitments, and Coordination anticipated:**

**Air Quality:**

Is the project located in a PM 2.5 Non-attainment area?  No  Yes  
Is the project located in an Ozone Non-attainment area?  No  Yes  
Is a Carbon Monoxide hotspot analysis required?  No  Yes

**NEPA/GEPA Comments & Information:** An environmental screening was performed for the project. There are no anticipated wetland/stream impacts or US Army Corps of Engineers permits. Historic properties, air quality, noise effects, and archeology will be examined further as part of the Programmatic Categorical Exclusion (PCE). There is a gas station at the northwest quadrant of the intersection with Underground Storage Tanks (UST's). No right-of-way or easements are anticipated on this property, but it will be examined further as part of the PCE document.

## COORDINATION, ACTIVITIES, RESPONSIBILITIES, AND COSTS

**Project Meetings:** Concept Team meeting was held on June 16, 2014. Minutes are attached.

Project Activity	Party Responsible for Performing Task(s)
Concept Development	Newton County
Design	Newton County
Right-of-Way Acquisition	Newton County (no R/W anticipated)
Utility Relocation	Utility Owner
Letting to Contract	GDOT
Construction Supervision	GDOT
Providing Material Pits	Contractor
Providing Detours	Contractor (none anticipated)
Environmental Studies, Documents, and Permits	Newton County
Environmental Mitigation	Newton County
Construction Inspection & Materials Testing	GDOT

**Other coordination to date:** A “Kickoff” Meeting was held on December 2, 2013. Minutes are attached.

### Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Utility*	CST**	Environmental Mitigation	Total Cost
Funded By	Newton County	Newton County	GDOT/Locals	GDOT	Newton County	
\$ Amount	\$138,000	\$0 none anticipated	\$40,000	\$442,730	\$0 none anticipated	\$620,730
Date of Estimate	12/9/2013	N/A	8/20/2014	9/24/2014	N/A	

\*Reimbursable Utility Costs only

\*\*CST Cost includes: Construction, Engineering and Inspection, and ~~Liquid AC Cost Adjustment~~, and contingencies.  
 KLP

### ALTERNATIVES DISCUSSION

<b>Preferred Alternative:</b> The preferred alternative would construct 200 feet of additional eastbound left-turn lane storage on Brown Bridge Road. The proposed project would cut the corner of the island located in the northwest corner to provide eastbound vehicles on Brown Bridge Road with a larger left-turning radius. The intersection would be resurfaced and striped.			
<b>Estimated Property Impacts:</b>	0	<b>Estimated Total Cost:</b>	\$620,730
<b>Estimated ROW Cost:</b>	0	<b>Estimated CST Time:</b>	9-12 months
<b>Rationale:</b> The extension of the left-turn lane would provide storage so that the left-turn vehicles would not be blocked by the eastbound through traffic on Brown Bridge Road. Removing a portion of the island in the northwest corner of the intersection would provide the need radius for school buses and large trucks to turn left from eastbound Brown Bridge Road onto Crowell Road.			
<b>No-Build Alternative:</b> Newton County would not take any action to improve the intersection.			
<b>Estimated Property Impacts:</b>	0	<b>Estimated Total Cost:</b>	0
<b>Estimated ROW Cost:</b>	0	<b>Estimated CST Time:</b>	0
<b>Rationale:</b> The eastbound through traffic demand would continue to queue and block the eastbound left-turning traffic on Brown Bridge Road. The island in the northwest quadrant of the intersection would continue to be an obstacle for school buses and large trucks to maneuver around when making an eastbound left-turn from Brown Bridge Road.			

**Comments/Additional Information:** None

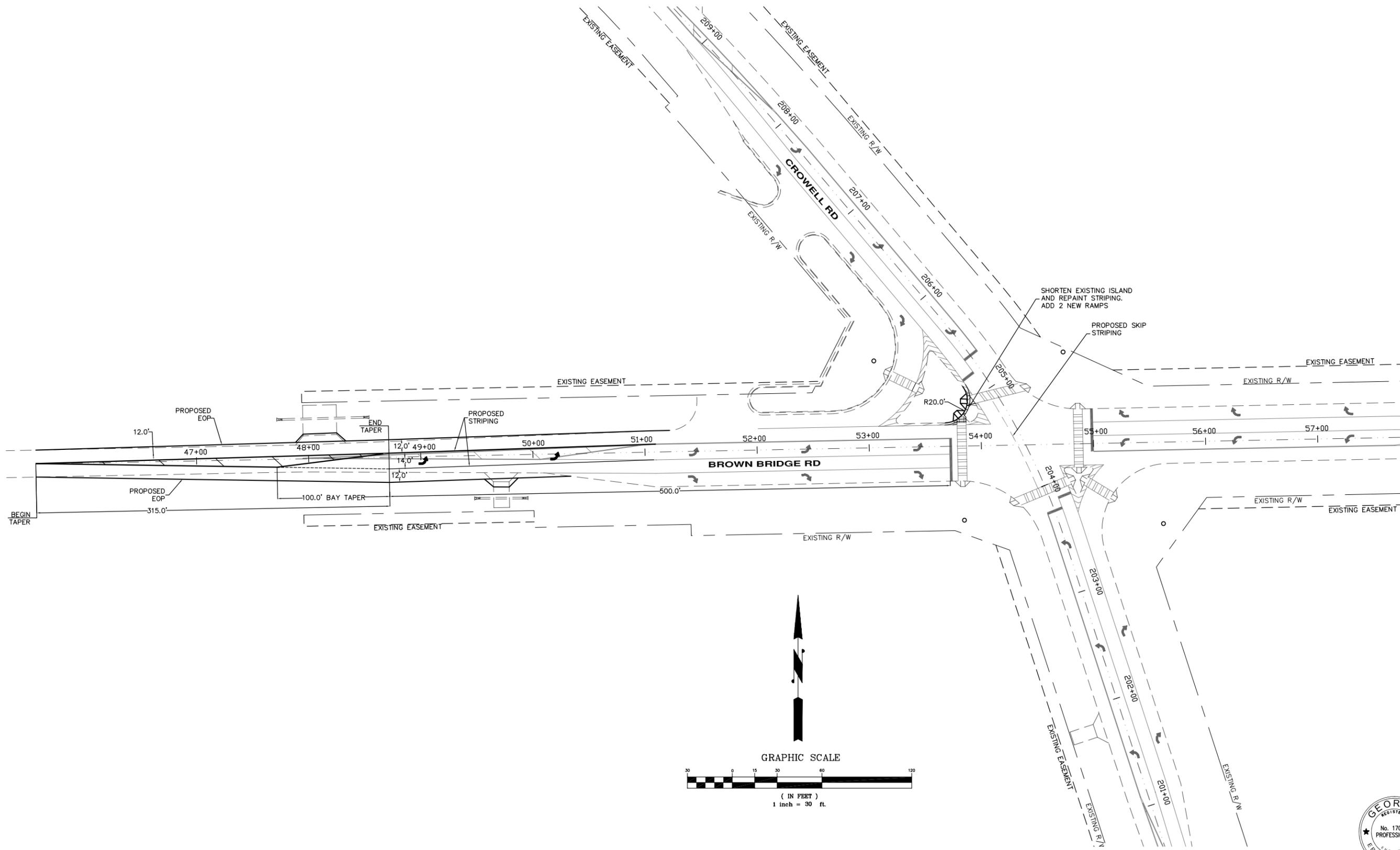
### LIST OF ATTACHMENTS/SUPPORTING DATA

1. Concept Layout
2. Typical section
3. Cost Estimates
4. Crash summaries
5. Traffic diagrams
6. Capacity analysis summary
7. Meeting Minutes

# Attachment 1

## Concept Layout

STATE	PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
GA.			



REVISIONS							
Δ	DATE	BY	DESCRIPTION	Δ	DATE	BY	DESCRIPTION

**MA** Moreland Altobelli Associates, Inc.  
 101 Meadow Drive  
 Suite D  
 Cumming, Georgia 30040  
 Telephone (770) 781-5531

DESIGNED BY	NAME	DATE	DRAWN BY	NAME	DATE	QUANTITIES BY	NAME	DATE
CHECKED BY	NAME	DATE	CHECKED BY	NAME	DATE	CHECKED BY	NAME	DATE
SUPERVISED BY	NAME	DATE	SUPERVISED BY	NAME	DATE	SUPERVISED BY	NAME	DATE

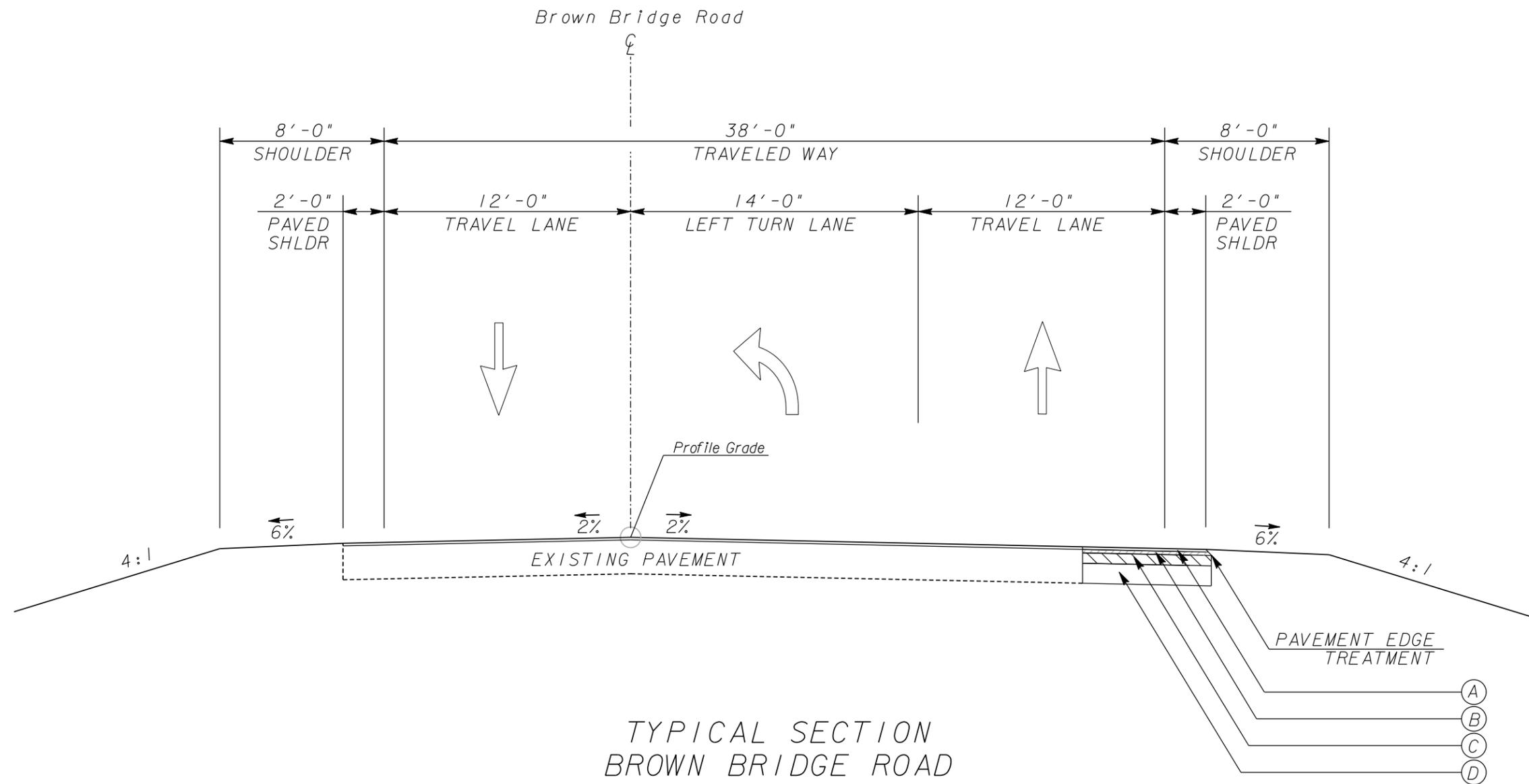
**NEWTON COUNTY**

**BROWN BR & CROWELL ROAD INTERSECTION**  
 NEWTON COUNTY, GEORGIA

DRAWING NUMBER  
**E-1**

# Attachment 2

## Typical Section



TYPICAL SECTION  
BROWN BRIDGE ROAD  
NORMAL CROWN SECTION  
N. T. S.

- Ⓐ - RECYCLED ASPH CONC 12.5 mm SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H-LIME
- Ⓑ - RECYCLED ASPH CONC 19 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H-LIME
- Ⓒ - RECYLCED ASPH CONC 25 mm SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H-LIME
- Ⓓ - GRADED AGGREGATE BASE COURSE

				REVISION DATES		STATE OF GEORGIA DEPARTMENT OF TRANSPORTATION
						OFFICE: TYPICAL SECTION
						DRAWING No. <b>5-01</b>

# Attachment 3

## Cost Estimates

# DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA

## INTERDEPARTMENT CORRESPONDENCE

FILE P.I. No.

OFFICE

**PROJECT DESCRIPTION**

DATE

From:

To: Lisa L. Myers, State Project Review Engineer

Subject: **REVISIONS TO PROGRAMMED COSTS**

PROJECT MANAGER

MGMT LET DATE

MGMT ROW DATE

**PROGRAMMED COSTS (TPro W/OUT INFLATION)**

**LAST ESTIMATE UPDATE**

CONSTRUCTION \$

DATE

RIGHT OF WAY \$

DATE

UTILITIES \$

DATE

**REVISED COST ESTIMATES**

CONSTRUCTION\* \$

RIGHT OF WAY \$

UTILITIES \$

\*Cost Contains  % Contingency

**REASONS FOR COST INCREASE AND CONTINGENCY JUSTIFICATION:**

# CONTINGENCY SUMMARY

<b>A. CONSTRUCTION COST ESTIMATE:</b>	\$	376,213.50	Base Estimate From CES	
<b>B. ENGINEERING AND INSPECTION (E &amp; I):</b>	\$	18,810.68	Base Estimate (A) x	5 %
<b>C. CONTINGENCY:</b>	\$	19,751.21	Base Estimate (A) + E & I (B) x	5 %
			<a href="#">See % Table in "Risk Based Cost Estimation" Memo</a>	
<b>D. TOTAL LIQUID AC ADJUSTMENT:</b>	\$	27,954.39	Total From Liquid AC Spreadsheet	
<b>E. CONSTRUCTION TOTAL:</b>	\$	442,729.77	(A + B + C + D = E)	

## REIMBURSABLE UTILITY COSTS

UTILITY OWNER	REIMBURSABLE COST
Georgia Power	\$ 40,000.00
<b>TOTAL</b>	\$ 40,000.00

**ATTACHMENTS:**

Detailed Cost Estimate Printout From CES  
 Liquid AC Adjustment Spreadsheet

GEORGIA DEPARTMENT OF TRANSPORTATION

DATE : 09/24/2014

PAGE : 1

JOB DETAIL ESTIMATE

JOB NUMBER : 0012645                      SPEC YEAR: 01  
 DESCRIPTION: BROWN BRIDGE RD AT CROWELL ROAD COST ESTIMATE

ITEMS FOR JOB 0012648

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000		LS	TRAFFIC CONTROL - PI 0012648	1.000	75000.00	75000.00
0010	210-0100		LS	GRADING COMPLETE - PI 0012648	1.000	120000.00	120000.00
0015	310-1101		TN	GR AGGR BASE CRS, INCL MATL	220.000	23.82	5240.40
0020	318-3000		TN	AGGR SURF CRS	100.000	23.02	2302.00
0025	402-1812		TN	RECYL AC LEVELING, INC BM&HL	100.000	96.75	9675.00
0030	402-3130		TN	RECYL AC 12.5MM SP, GP2, BM&HL	722.000	70.46	50872.12
0035	402-3121		TN	RECYL AC 25MM SP, GP1/2, BM&HL	88.000	75.78	6668.64
0040	402-3190		TN	RECYL AC 19 MM SP, GP 1 OR 2 , INC BM&HL	538.000	93.22	50152.36
0045	413-1000		GL	BITUM TACK COAT	696.000	2.00	1392.00
0050	432-5010		SY	MILL ASPH CONC PVMT, VARB DEPTH	222.000	13.02	2890.44
0055	441-6022		LF	CONC CURB & GUTTER/ 6"X 30" TP2	100.000	25.57	2557.00
0060	441-0748		SY	CONCRETE MEDIAN, 6"	50.000	51.06	2553.00
0065	441-4020		SY	CONCRETE VALLEY GUTTER, 6"	56.000	36.32	2033.92
0070	163-0001		LS	EROSION CONTROL, INCLUDING TEMPORARY GRASSING, MULCHING	1.000	10000.00	10000.00
0075	163-0300		EA	CONSTRUCTION EXIT	1.000	1335.27	1335.27
0080	163-0550		EA	CONS & REM INLET SEDIMENT TRAP	2.000	146.08	292.16
0085	163-0525		EA	CONSTR AND REMOVE TEMPORARY DITCH CHECKS	5.000	229.55	1147.75
0090	165-0010		LF	MAINTENANCE OF TEMPORARY SILT FENCE, TYPE A	100.000	0.75	75.00
0095	165-0030		LF	MAINTENANCE OF TEMPORARY SILT FENCE, TYPE C	1600.000	0.91	91.00
0100	171-0010		LF	TEMPORARY SILT FENCE, TYPE A	100.000	2.30	230.00
0105	171-0030		LF	TEMPORARY SILT FENCE, TYPE C	1600.000	3.30	5280.00
0110	603-2181		SY	STN DUMPED RIP RAP, TP 3, 18"	50.000	39.34	1967.00
0115	603-7000		SY	PLASTIC FILTER FABRIC	50.000	4.38	219.00
0120	700-6001		LS	GRASSING - COMPLETE	1.000	5000.00	5000.00
0125	653-1501		LF	THERMO SOLID TRAF ST 5 IN, WHI	2200.000	0.62	1364.00
0130	653-1502		LF	THERMO SOLID TRAF ST, 5 IN YEL	2200.000	0.49	1078.00
0135	653-1704		LF	THERM SOLID TRAF STRIPE, 24", WH	38.000	5.68	215.84
0140	653-6004		SY	THERM TRAF STRIPING, WHITE	200.000	3.67	734.00
0145	653-6006		SY	THERM TRAF STRIPING, YELLOW	20.000	3.78	75.60
0150	654-1001		EA	RAISED PVMT MARKERS TP 1	100.000	3.94	394.00
0155	654-1003		EA	RAISED PVMT MARKERS TP 3	100.000	3.78	378.00
0160	647-1000		LS	TRAFFIC SIGNAL INSTALLATION	1.000	15000.00	15000.00
ITEM TOTAL							376213.50
ESTIMATED TOTAL							376213.50

PROJ. NO. [REDACTED]  
 P.I. NO. 0012645  
 DATE 9/26/2014

CALL NO. 9/29/2009

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Sep-14	\$ 3.335
DIESEL		\$ 3.765
LIQUID AC		\$ 618.00

Link to Fuel and AC Index:  
<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

**LIQUID AC ADJUSTMENTS**

PA=[((APM-APL)/APL)]xTMTxAPL

**Asphalt**

Price Adjustment (PA)				<b>26845.92</b>	\$	<b>26,845.92</b>
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	988.80		
Monthly Asphalt Cement Price month project let (APL)			\$	618.00		
Total Monthly Tonnage of asphalt cement (TMT)				72.4		

ASPHALT	Tons	%AC	AC ton
Leveling	100	5.0%	5
12.5 OGFC		5.0%	0
12.5 mm	722	5.0%	36.1
9.5 mm SP		5.0%	0
25 mm SP	88	5.0%	4.4
19 mm SP	538	5.0%	26.9
	<b>1448</b>		<b>72.4</b>

**BITUMINOUS TACK COAT**

Price Adjustment (PA)				\$	<b>1,108.47</b>	\$	<b>1,108.47</b>
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	988.80			
Monthly Asphalt Cement Price month project let (APL)			\$	618.00			
Total Monthly Tonnage of asphalt cement (TMT)				2.989390242			

Bitum Tack

Gals	gals/ton	tons
696	232.8234	2.98939024

**BITUMINOUS TACK COAT (surface treatment)**

Price Adjustment (PA)				\$	<b>0</b>	\$	<b>-</b>
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	988.80			
Monthly Asphalt Cement Price month project let (APL)			\$	618.00			
Total Monthly Tonnage of asphalt cement (TMT)				0			

Bitum Tack

	SY	Gals/SY	Gals	gals/ton	tons
Single Surf. Trmt.		0.20	0	232.8234	0
Double Surf. Trmt.		0.44	0	232.8234	0
Triple Surf. Trmt		0.71	0	232.8234	0

**TOTAL LIQUID AC ADJUSTMENT \$ 27,954.39**

Brown Bridge Rd @ Crowell Rd Intersection Utility Cost Estimate

8/20/14

Utility	Quantity	Unit	Cost per unit	Non-Reimbursable Costs	Reimbursable Costs
<b>Georgia Power Distribution</b> <b>These poles have multiple</b> <b>Circuits- Require bigger poles</b> Includes lighting, transformers drops, guying, switches Zig-Zags, shortspans, road crossings for feeds, etc.	2	ea	\$20,000.00		\$40,000.00
<b>Power Total</b>				\$0.00	\$40,000.00
<b>AT&amp;T Distribution</b>					
Underground Cable	200	Feet	\$55.00	\$11,000.00	
<b>Phone Total</b>				\$11,000.00	\$0.00
<b>Water</b>					
All other size DIP	200	Feet	\$68.00	\$13,600.00	
Long side feeds	1	Ea	\$1,500.00	\$1,500.00	
Relo Fire Hyd	1	Ea	\$2,100.00	\$2,100.00	
<b>Water Total</b>				\$17,200.00	\$0.00
<b>Total</b>				\$28,200.00	\$40,000.00
<b>Total Non-Reimbursable &amp; Reimbursable Utilities</b>					\$68,000.00

# Attachment 4

## Crash Summaries

**Summary of Crash Data by Type from 2010 to 2012  
Intersection of Brown Bridge Road at Crowell Road**

<b>Year</b>	<b>Total Number of Crashes</b>	<b>Total Number of Injuries</b>	<b>Right Angle</b>	<b>Rear-End</b>	<b>Left-Turn</b>	<b>Other Type of Collision</b>
2010	8	16	0	3	4	1
2011	6	6	1	2	3	0
2012	2	1	2	0	0	0
Totals	16	23	3	5	7	1

# Attachment 5

## Traffic Diagrams

# Department of Transportation State of Georgia

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## INTERDEPARTMENT CORRESPONDENCE

**FILE** P.I. # 0012645 **OFFICE** Planning  
Newton County **DATE** March 3, 2014

**FROM** Cynthia L. VanDyke, State Transportation Planning Administrator

**TO** Joe Carpenter, P.E., Division Director of P3/Program Delivery  
**Attention:** Daniel Chastain

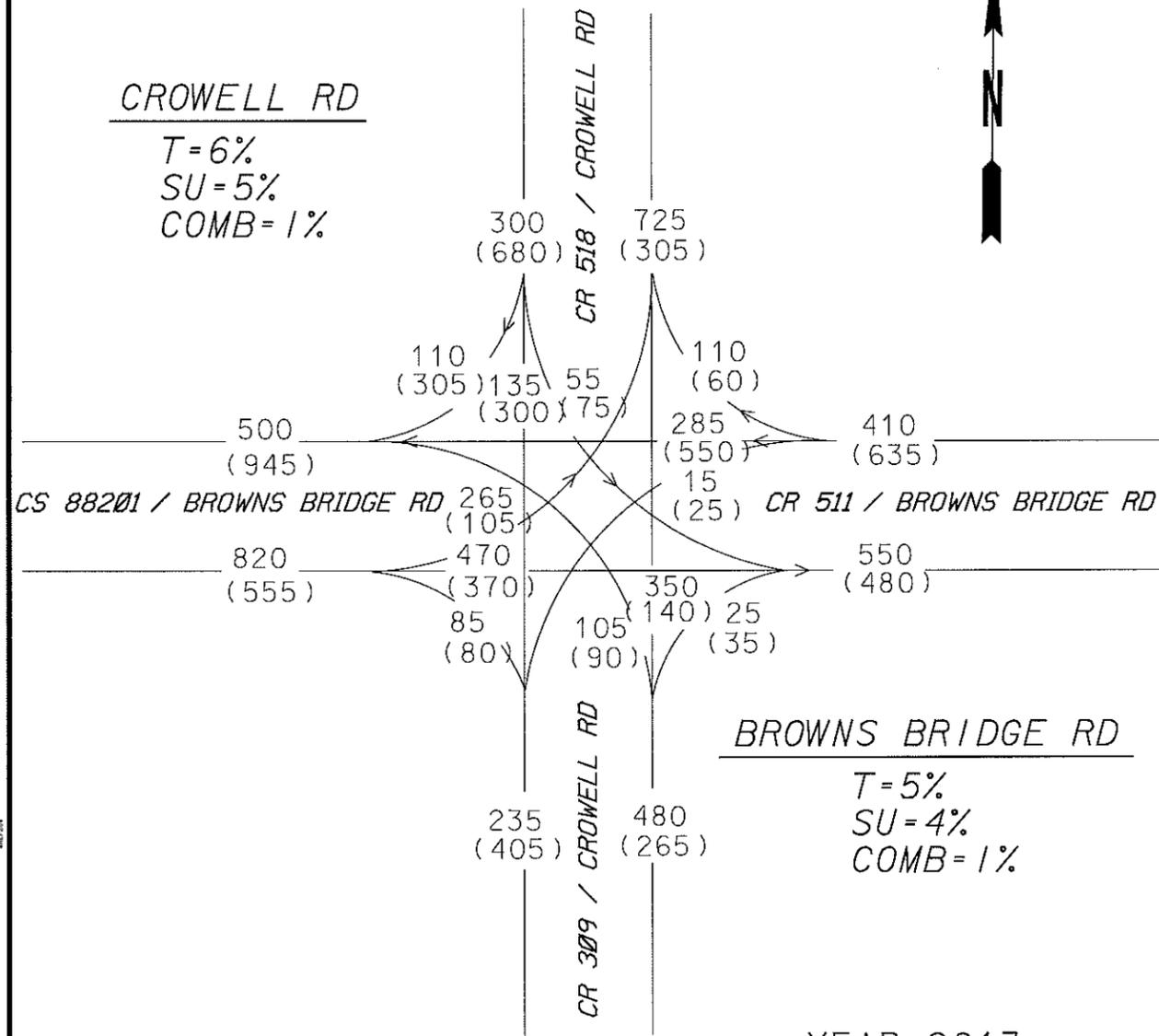
**SUBJECT** **Reviewed** Design Traffic for *CR 309/CR 518/CROWELL ROAD @ CR 511/BROWN BRIDGE ROAD*

As per your request, we reviewed the consultant's **Design Traffic** for the above project.

The **Design Traffic** is approved based on the information furnished. Any questions concerning this review should be addressed to Ms. Leslie R. Woods at e-mail [lwoods2@dot.ga.gov](mailto:lwoods2@dot.ga.gov) or phone (404) 631-1773.

CLV/LRW

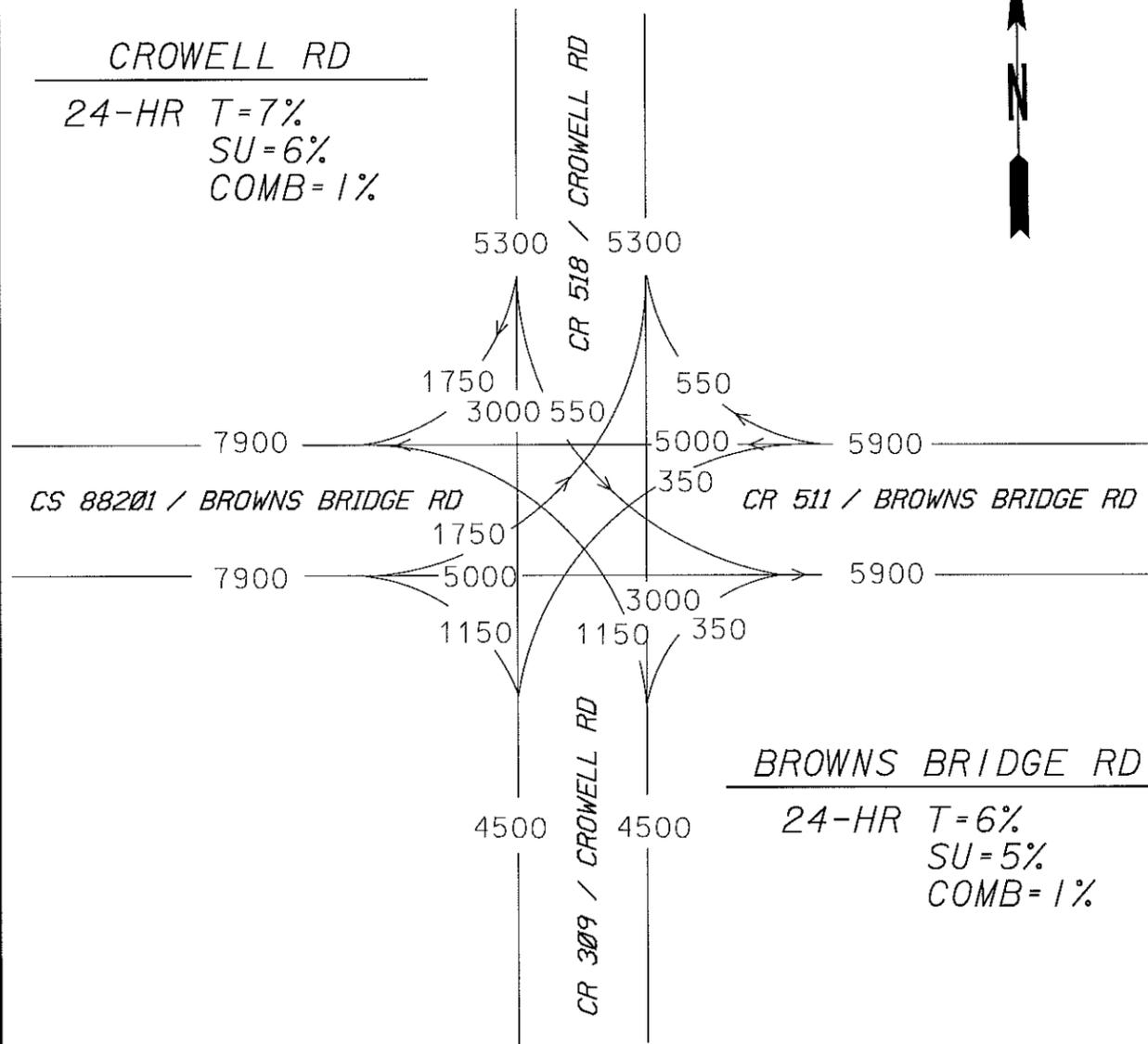
NEWTON COUNTY  
GEORGIA



YEAR 2013

00 AM PEAK HOUR  
(00) PM PEAK HOUR

NEWTON COUNTY  
GEORGIA



BROWNS BRIDGE RD

24-HR T=6%  
SU=5%  
COMB=1%

YEAR 2013

00 AVERAGE DAILY TRAFFIC

NOT FOR CONSTRUCTION

NOT FOR CONSTRUCTION

**MA** MORELAND-ALTOBELLI ASSOC., INC.  
2211 BEAVER RUIN RD, SUITE 190  
NORCROSS, GEORGIA 30071  
(770) 263-5945

DF 2/14

NEWTON COUNTY,  
GEORGIA  
P. I. NO. 0012645

REVISION DATES

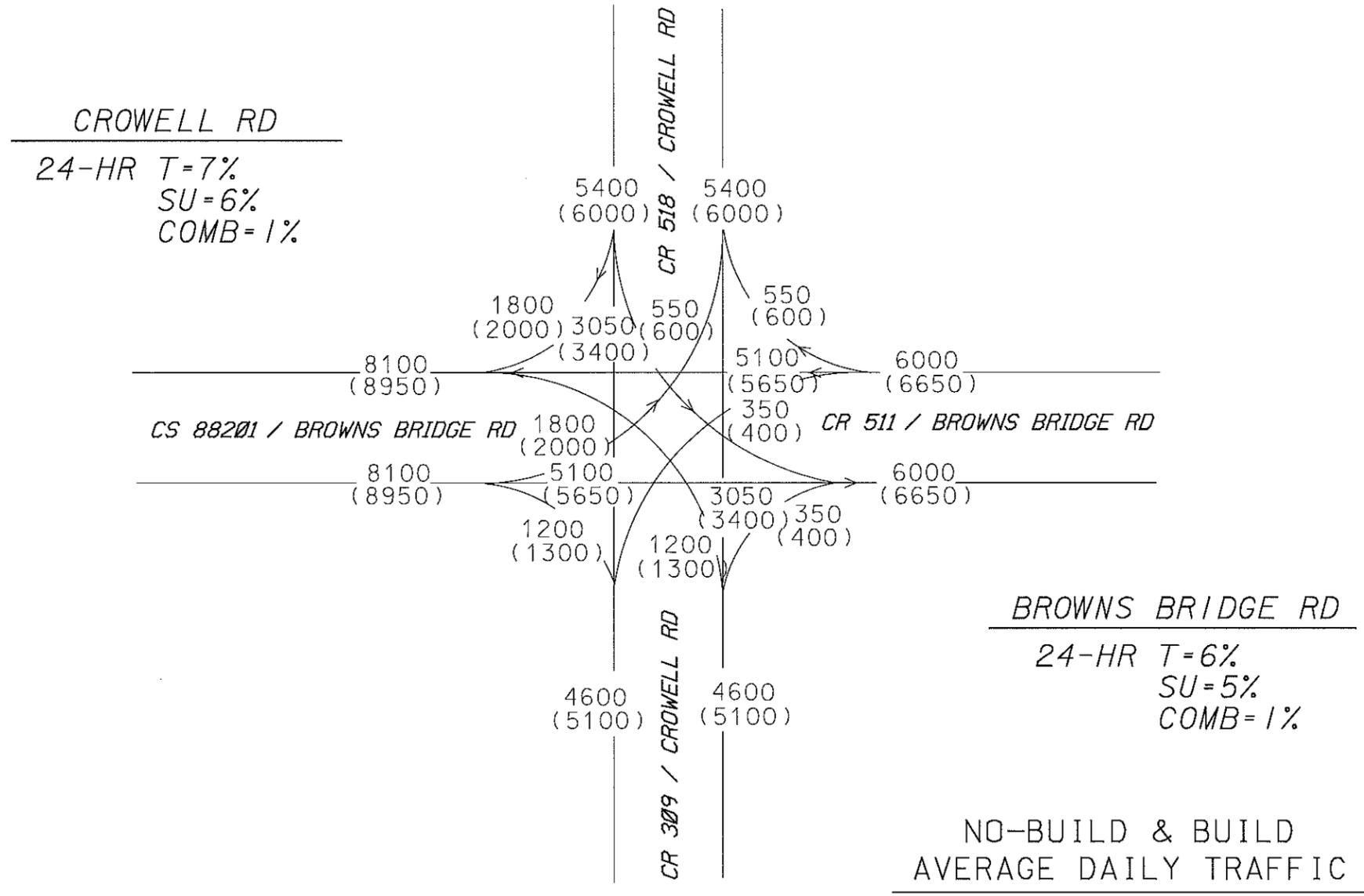

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION  
OFFICE: DISTRICT 2

**TRAFFIC FLOW DIAGRAMS**  
CR 309/CR 518/CROWELL RD  
& CR 511/BROWN BRIDGE RD  
2013 EXISTING DHV & ADT

DRAWING No. 10-001



NEWTON COUNTY  
GEORGIA



NOTE: THE BUILD AND NO-BUILD TRAFFIC VOLUMES ARE ASSUMED TO BE THE SAME.

NO-BUILD & BUILD  
AVERAGE DAILY TRAFFIC  
00 2017 ADT  
(00) 2037 ADT

DATE PLOTTED: 11/14/14

DATE PLOTTED: 11/14/14

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DF 2/14

NEWTON COUNTY,  
GEORGIA  
P. I. NO. 0012645

REVISION DATES	

STATE OF GEORGIA  
DEPARTMENT OF TRANSPORTATION  
OFFICE: DISTRICT 2  
**TRAFFIC FLOW DIAGRAMS**  
CR 309/CR 518/CROWELL RD  
& CR 511/BROWN BRIDGE RD  
2017/2037 ADT NO-BUILD & BUILD  
DRAWING No. **10-003**

Attachment 6  
Capacity Analysis Summary

### SUMMARY OF CAPACITY ANALYSIS

Brown Bridge Road @ Crowell Road				
YEAR	Intersection LOS		EB Queue Length (95%)	
	AM	PM	AM	PM
2013	B (17.9)	B (19.2)	318 ft	204 ft
2017	B (18.3)	B (19.6)	328 ft	212 ft
2037	C (22.9)	C (21.7)	388 ft	234 ft

# Attachment 7

## Meeting Minutes



**Moreland Altobelli Associates, Inc.**  
 2211 Beaver Ruin Road, Suite 190  
 Norcross, Georgia 30071  
 Phone: 770-263-5945 Fax: 770-263-0166

## MEETING MINUTES

**Project:** Crowell Rd. @ Brown Bridge Rd., PI #0012645  
SR 81 @ SR 142, PI #0012648

**Meeting:** Kickoff Meeting

**Location:** Newton County Transportation Dep't. Conference Room

**Prepared By:** Will Sheehan

**Prepared On:** December 2, 2013

Meeting Date	12/2/2013
MA Project No.	NEWT016 & NEWT017
CC:	File NEWT016 File NEWT017

ATTENDEES	ORGANIZATION	EMAIL
Keith Ellis	Newton County (Commissioner)	<a href="mailto:kellis@co.newton.ga.us">kellis@co.newton.ga.us</a>
Tom Garrett	Newton County (Engineering)	<a href="mailto:tgarrett@co.newton.ga.us">tgarrett@co.newton.ga.us</a>
Chester Clegg	Newton County (Engineering)	<a href="mailto:cclegg@co.newton.ga.us">cclegg@co.newton.ga.us</a>
George Brewer	GDOT	<a href="mailto:gbrewer@dot.ga.gov">gbrewer@dot.ga.gov</a>
Daniel Chastain	GDOT	<a href="mailto:dchastain@dot.ga.gov">dchastain@dot.ga.gov</a>
Buddy Gratton	MAAI	<a href="mailto:bgratton@maai.net">bgratton@maai.net</a>
Will Sheehan	MAAI	<a href="mailto:wsheehan@maai.net">wsheehan@maai.net</a>

The purpose of this meeting was to kick off the above-referenced intersection improvement projects in Newton County. MA provided aerial layouts of the existing intersections along with printouts of some “preliminary” concepts as visual aids. The key points of the meeting are summarized below.

- MA will bill Newton County. Newton County will pay invoice and seek reimbursement from GDOT. If there are any large sum invoices (not anticipated given engineering budget), Newton County may have to wait to pay MA until funds are received from GDOT.
- Project will be designed in InRoads; this is specified in PFA according to GDOT personnel.
- MA will keep Mr. Chastain and/or Mr. Brewer in the loop on any submittals to Office of Environmental Services (OES), so that they may work on their end to facilitate prompt reviews.
- Schedules for each project were provided by both MA & GDOT. The schedules were similar, but the meeting consensus was to go with the slightly more aggressive MA schedule. Other notes on schedule are listed below.
  - The schedules for each project will be the same all the way through the first plan review.
  - For the simpler project (Crowell @ Brown Bridge), MA will make a request to GDOT that only one field plan review be held. GDOT personnel did not see any problems with doing that. They suggested the possibility of an email review.
  - Official GDOT Concept Meeting will be held in February.
  - GDOT personnel mentioned that PI #0012645 CST funds and PI #0012648 ROW funds had recently been moved out from FY 2016 to 2017 and from FY 2015 to 2016, respectively. The MA schedule met the previous targets. The meeting consensus was that the funds could be moved up or the plans could be shelved (if only for a few months). The final decision was deferred to a later date.
- The level of NEPA document is anticipated to be a PCE for the Crowell / Brown Bridge intersection and a CE for SR 81 / SR 142.



- Right-of-way is anticipated on SR 81 / SR 142, but not at Crowell / Brown Bridge.
- MA presented the “preliminary” concepts for SR 81 at SR 142 that had been developed by Atkins. The concepts are described below.
  - “Concept 1” consists of reconfiguring the existing intersection so that the southern leg of SR 81 tees into a re-aligned SR 81 / SR 142 curve; this would allow the more heavily travelled movement to be continuous (no stop), while putting the stop condition on the lesser movement.
  - “Concept 2” would re-align SR 142 to intersect SR 81 at 90 degrees and would add a traffic signal and turn lanes.
  - Additionally, the possibility of a roundabout was discussed. The traffic volumes on each of the 3 legs are close enough that a roundabout cannot be ruled out at this point.

The meeting consensus was that “Concept 1” and the roundabout were probably the best options to evaluate in the Concept Report subject to the traffic analysis. Ultimately, the preferred alternative would be selected based on a variety of factors including but not limited to cost, traffic operations, right-of-way impacts, and Newton County preference.

Newton County pointed out that truck traffic should be considered as SR 142, also called Industrial Park Blvd., leads to industrial area so there is frequent truck traffic. Another consideration is encouraging truck traffic to use SR 142 instead of SR 81 to reach I-20, thereby bypassing downtown Oxford. MA noted that “Concept 1” would handle the truck traffic more effectively than a roundabout.

- MA also presented the “preliminary” concept for Crowell Rd. at Brown Bridge Rd. This concept consisted of extension of a left-turn lane, traffic signal upgrades, and minor improvements to allow for adequate truck movements.
  - Newton County pointed out that there is a “dirt” area along Brown Bridge Rd. where the trucks had worn a path on the shoulder due to insufficient pavement width to perform left-turns. MA stated that they would overlay a truck turning template and propose modifications to allow for a proper turning movement.
- MA does not anticipate any environmental issues on either project. A thorough environmental screening will occur, but as of now, the environmental work consists simply of viewing the area on Google Earth.
  - There is a gas station within the project limits of the SR 81 / SR 142 Project. All efforts will be made not to impact gas station in order to avoid UST investigation.
  - There is also a residential property along SR 81 that the MA historian would like to take a closer look at in the field to determine if it is contributing. Even if it is contributing, it is anticipated that adverse impacts could be avoided.

**ACTION ITEMS**

- MA to schedule traffic counts and submit traffic data to GDOT.
- GDOT to update baseline schedule to match MA’s.