

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

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

FILE P.I. # 0010241 **OFFICE** Design Policy & Support
Fulton County
GDOT District 7 - Metro Atlanta **DATE** January 9, 2013
CR 1332/Encore Pkwy from Westside Pkwy to
North Point Pkwy Streetscape and Big Creek
Greenway Extension

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:

Bobby Hilliard, Program Control Administrator
Genetha Rice-Singleton, State Program Delivery Engineer
Glenn Bowman, State Environmental Administrator
Cindy VanDyke, State Transportation Planning 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
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Tamaya Huff, State Pedestrian and Bicycle Coordinator
Rachel Brown, District Engineer
Scott Lee, District Preconstruction Engineer
Jonathan Walker, District Utilities Engineer
Merishia Robinson, Project Manager
BOARD MEMBER - 6th Congressional District
FHWA – attn: Rodney Barry, Georgia Division Administrator

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

County: Fulton
P. I. Number: 0010241
Federal Route Number: N/A
State Route Number: 400

Encore Parkway from Westside Parkway to Northpoint Parkway
Streetscape and Big Creek Greenway Extension

Submitted for approval:
DATE 10/11/11 (10/5/12) ST
DATE 10/13/11 (10/5/12) ST
DATE _____
DATE 11/11/2012
DATE 10/6/12

Recommendation for approval:
DATE 11/5/2012
* DATE 3/15/2012
* DATE 1/10/2012
* DATE 1/20/2012
* DATE 1/4/2012
* DATE 1/26/2012
* DATE 1/19/2012
DATE _____

ARCADIS
Design Consultant Name and Firm Name (if applicable)
ARCADIS
Local Government (if applicable)
N/A
Design Phase Office Head (if applicable)
Johny Bell
Office Head (Project Manager's Office)
Wendy Robinson
Project Manager
Benita Rice-Lott
Program Control Administrator
GLENN BOWMAN
State Environmental Administrator
KATHY ZAHUN
State Traffic Engineer
LISA MYERS
Project Review Engineer
GAIL FORD
State Utilities Engineer
BRYANT POONE
District Engineer / District Utilities Engineer
BEN TABLIN
State Bridge Design Engineer (if applicable)
State Transportation Financial Management Administrator

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

DATE 1/4/2012

QUINTIA L. VANDERKES
State Transportation Planning Administrator

* RECOMMENDATION ON FILE - [Signature]

Project Location Map Not to Scale



Need and Purpose:

Background:

The Encore Parkway Streetscape and Roadway Improvements project includes multi-faceted improvements along Encore Parkway between Westside Parkway to a point east of North Point Parkway in the City of Alpharetta. As developed through The City of Alpharetta's LCI study, Encore Parkway is envisioned as the major east-west corridor for multimodal transportation connecting the high-density residential centers on the west side of Georgia State Route 400 (SR 400) with the North Point Mall Commercial Area, a major activity center on the east side of SR 400.

The City of Alpharetta, as project sponsor, proposes that Encore parkway be limited to a 2-lane roadway with a boulevard style landscaped median. The project would include bicycle and pedestrian improvements, the reconstruction of Encore Parkway bridge over SR 400, median construction, turn lane improvements, signal upgrades, way finding, connectivity to existing multi-use trails, lighting, and landscaping improvements to match the North Fulton Community Improvement District (NFCID) overlay standards.

Planned multimodal facilities would include the establishment of dedicated bike lanes and wide pedestrian sidewalks along Encore Parkway. A sidewalk shall also be constructed along North Point Parkway beginning at Encore Parkway and extending and connecting to the existing trailhead of Big Creek Greenway. This construction would allow efficient connectivity not only to the 6.15-mile Big Creek Greenway multi-use trail system, but also to the City of Roswell multi-use trail system which is connected to the Greenway. There are currently no sidewalks on Encore Parkway east of SR 400 and the sidewalk on the existing bridge does not meet ADA standards.

The project shall be designed to ensure these improvements do not preclude other future multimodal improvements in the area, including the currently programmed GDOT SR 400 Managed Lane project (HOV, HOT or BRT) along with the possibility of a managed lane access point at Encore Parkway and the aspiration plan, future MARTA line extension along SR 400.

The Encore Parkway Streetscape and Roadway Improvements project will include the bridge replacement of the Encore Parkway Bridge over SR 400. The existing bridge at this location is insufficient in width to accommodate proposed bike lanes and sidewalks. Bridge widening would not be appropriate due to the amount of widening required as well as additional span width needed for future SR 400 managed lanes.

Existing Conditions:

The existing conditions in the area are as follows:

- Encore Pkwy (Two lane roadway with 12 ft lanes, curb and gutter, 5 ft sidewalks at various locations, 0 ft-24 ft left turn lanes.
- North Point Pkwy (Six lane roadway with 12 ft lanes, 12 ft-24 ft raised median, curb and gutter, 5 ft sidewalks on the north side, 0 ft-12 ft left turn lanes.
- Westside Pkwy (Four lane roadway with 12 ft lanes, 6 ft raised median, curb and gutter, 5 ft sidewalks on both sides, 0 ft-12 ft left and right turn lanes.

Logical Termini:

Logical Termini are defined as rational endpoints for a transportation improvement and rational endpoints for a review of the environmental impacts. The Encore Parkway corridor constitutes a main entrance to Northpoint Mall and path to Verizon Wireless Amphitheatre. The project will

connect the pedestrian facilities at Westside Parkway to the mall and also to the Big Creek Greenway.

Projects in the Area:

There are eight federally funded projects in the immediate area:

- CSNHS-0008-00(444): AR-936: SR 400 from CR 209/Spalding Dr to CR 458/McFarland Rd.
- MSL00-0001-00(757): AR-H-400: SR 400 from I-285 to McFarland Rd/Forsyth Co HOV Lanes – widening and addition of HOV / Managed Lanes
- CSNHS-0006-00(398): AR-440: SR 400 ATMS Ramp Meters from I-285 to SR 120/Old Milton Pkwy – addition of ramp meters
- NHS00-M0001-00(752): AR-311: SR 400 from I-285 to Windward Parkway – resurface and addition of bus lanes
- NH000-0056-01(060): FN-AR-198A: SR 400 from Haynes Bridge Rd/Fulton to SR 20/Forsyth – GRTA – widening and addition of SOV lanes
- NH000-0056-01(059): FN-AR-400A&B: SR 400 from SR 140/Holcomb Bridge Rd to McFarland Rd – GRTA – widening and addition of noise walls
- STP00-00TS-00(078): AR-315: Non-interstate Limited Access Highway Sign Upgrade – SR 400 – replace signing
- CSCMQ-0006-00(054): North Point Pkwy Traffic Signal Interconnections – Mansell Rd to Windward Pkwy (awarded by City Council 12-6-10; pending GDOT approval) - signal upgrades

Land Use:

Mostly commercial buildings and mixed-use residential developments are located along the project corridor. The destinations located within the project limits are within a walk-able distance to each other and to surrounding neighborhoods. However, due to the limited sidewalk network, awkward crosswalks, and increasing traffic on local roads, access to these destinations can be difficult for pedestrians especially during events at the nearby Amphitheatre.

Need and Purpose:

Encore Parkway is becoming a more heavily traveled corridor in Alpharetta as it leads to a major shopping mall (Northpoint Mall) and a major event center (Verizon Wireless Amphitheatre) and the Big Creek Greenway. The area currently lacks adequate or enhanced pedestrian facilities, handicap access and improved linkage to the multimodal system. The project would provide substantial pedestrian improvements such as new sidewalks, improved street crossings, handicap improvements, lighting and improved signage as well as bike lanes on the new, wider bridge. The completed project would make Alpharetta substantially more pedestrian oriented. The project would comply with all ADA requirements. The demands created by population and economic growth will require expansion of the transportation network.

The City of Alpharetta is within the 13 County Atlanta non-attainment area for air quality. The proposed project would support efforts to reduce dependence upon automobile-oriented development by investing in a developed area where no pedestrian infrastructure presently exists, which is connected to neighborhoods, schools, businesses and parks via a local street network. The proposed project would support Atlanta Regional Commission (ARC), USEPA and regional efforts to “foster greater livability in activity and employment centers in our region”. The project

would provide funding to enhance livability and mobility for residents, and support the fundamental concepts of:

- Connecting homes, shops and offices;
- Enhance streetscaping and sidewalks;
- Emphasizing ease of operations and security for the pedestrian and cyclists.

Alternatives to the Proposed Work:

The No Build Alternative is one in which no action would be taken to construct the proposed project. This was the only alternative considered. The No Build alternative would not provide any pedestrian and cycling security or handicap access improvements in the project area. This alternative would not provide the social, economic, environmental and alternative transportation improvements provided by the build alternative.

The alternative of widening the existing bridge was considered and dismissed due to the need for a larger span for future project PI 0001757: MSL00-0001-00(757): AR-H-400: SR 400 from I-285 to McFarland Rd/Forsyth Co HOV Lanes. The future project requires a bridge replacement and therefore limits the service life of this project's improvements. Bridge replacement will not preclude future projects and ensure at least a minimum of 20 year service life of the proposed work.

An alternative was considered for a two lane roadway with bike lanes and a standard or narrow width median. This alternative was rejected during concept development because the City of Alpharetta and the NFCID want a wide landscaped boulevard style median in order to accommodate street lighting, landscaping and planters.

Description of the proposed project: The project estimates to approximately 0.7 miles. Encore Parkway will be improved from Westside Parkway to North Point Parkway. Each direction of the proposed roadway section will include one 12 ft travel lane with a 2 ft offset and one 6 ft bike lane. The proposed raised median will vary from 8 ft to 30 ft and include left turn lanes. This typical section will result in a directional clear width of 20 feet which will allow vehicles and emergency vehicles the ability to pass a disabled vehicle on the roadway. The proposed shoulders from Westside Parkway to North Point Parkway will be 18 ft wide and will include a 6 ft buffer planter strip and an 8 ft sidewalk at appropriate locations.

Although the traffic analysis indicates that design year traffic would require 4 through lanes on Encore Parkway, the City of Alpharetta and NFCID support limiting Encore Parkway to a two-lane facility at this time. They recognize that other future federal-aid projects may require that Encore Parkway be upgraded to a 4-lane facility. However, a two-lane facility with a wide, boulevard style median is the local preferred alternative in which the enhanced, wider shoulders would not be thrown away if and when a future project is ever built.

In addition to Encore Parkway improvements, an 8 ft sidewalk will be constructed along the East side of North Point Parkway and shared lanes or sharrows will be used on North Point Parkway to connect the new Encore Parkway sidewalks and bike lanes to the existing Big Creek Greenway trail and parking area. The existing Encore Parkway Bridge over SR 400 will be replaced and upgraded in order to accommodate future SR 400 widening. Bridge construction will utilize lane shifts to the outside shoulder of SR 400. The project will provide signal upgrades and signal timing and will also include installing streetscape features such as street trees and landscaping, street and pedestrian lighting, and street furniture on both the roadway and bridge sections.

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

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

This project is not increasing the number of through lanes on Encore Parkway corridor or any side streets and matches the ARC model network.

PDP Classification: Major Minor X

Federal Oversight: Full Oversight (X) Exempt () State Funded () or Other ()
Project changed from Exempt to Full Oversight Sept 2012

Functional Classification: Urban Collector Street

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

Traffic (AADT):

Encore Pkwy	Base Year: (2015) 19040 VPD	Design Year: (2035) 30100 VPD
SR 400	Base Year: (2015) 172016 VPD	Design Year: (2035) 209000 VPD

Existing design features:

- Typical Section: Encore Pkwy from Westside Pkwy to North Point Pkwy
 - Two 12 ft Travel lanes
 - Curb & Gutter
 - 5 ft Sidewalk at various locations
 - 0 ft – 24 ft Left turn lanes
- Posted speed 35 mph Minimum radius for curve: 970 ft
- Maximum super-elevation rate for curve: 3.0%
- Maximum grade:
 - Mainline: 8.00%
 - Crossroads: 7.00%
 - Driveways: 10.00%
- Width of right-of-way: Varies from 100 ft to 140 ft
- Major structures:
 - Bridge over SR 400
 - Length: 310.00 ft Width: 41.00 ft
- Major Intersections:
 - Westside Parkway at Encore Parkway
 - North Point Center at Encore Parkway
 - North Point Parkway at Encore Parkway
 - Driveway east of Encore Parkway Bridge
- Existing length of roadway segment: 2345 ft
- Accident Data:
 - See attachment

Proposed Design Features:

- Typical Section: Westside Pkwy to North Point Pkwy
 - Two 12 ft Travel lanes
 - Two 6 ft Bike lanes
 - Two 2 ft Buffer offsets
 - 24 in Curb & Gutter
 - 18 ft border area including 6 ft planter strip and 8 ft sidewalk
 - 8 ft – 30 ft Raised median with left turn lanes

- Proposed Design Speed Mainline: 35 mph
- Proposed Maximum grade Mainline: 9.0 %
- Proposed Grade/Maximum Grade Allowable:

	<u>Proposed Max Grade</u>	<u>Maximum Grade Allowable</u>
Encore Parkway	9.0%	9.0%
Commercial Driveway	11.0%	15.0%
Residential Driveway	16.0%	27.0%

- Proposed Minimum radius of curve: 990 ft
- Minimum radius allowable: 371 ft
- Maximum allowable superelevation rate: 4.0 %
- Proposed maximum superelevation rate: 3.0 %
- Right-of-Way:
 - Width : Varies (100 ft min, 140 ft max)
 - Easements: Temporary () Permanent (X) Utility () Other ().
 - Type of access control: Full () Partial () By Permit (X) Other ().
 - Number of parcels: 8 Number of displacements: 0
 - Business: 0
 - Residences: 0
 - Mobile homes: 0
 - Other: 0
- Structures:
 - 3 Gravity walls – Utilized to avoid impacts to storm water detention basins and parking lots.
 - Encore Parkway Bridge over SR 400 including MSE walls.
Length: 312.00 ft Width: 117.58 ft
- Major Intersections:
 - Westside Parkway at Encore Parkway – Existing signal.
 - North Point Center at Encore Parkway – Existing signal.
 - North Point Parkway at Encore Parkway – Existing signal.
 - Driveway east of Encore Parkway Bridge – Median opening.
- Transportation Management Plan Anticipated: Yes (X) No ()
Traffic control during construction: Staged construction along Encore Pkwy west of SR 400 and east of SR 400 with maintenance of driveway access. Through traffic along Encore Parkway will be restricted since the Encore Parkway Bridge will be closed during construction. Offsite detours will be provided and signed. Offsite detours will be coordinated and approved with emergency services and the detour plan will be presented to

the public during concept development. Utilities located on the bridge will be disconnected temporarily and reconnected as soon as practical after the proposed bridge is completed. Bridge construction will utilize lane shifts to the outside shoulder of SR 400.

- Design Exceptions to controlling criteria anticipated:

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

- Design Variances: None
- Environmental concerns – Possible Stream Buffer Variance & NPDES
- Anticipated Level of environmental analysis:
 - Are Time Savings Procedures appropriate? Yes () No (X)
 - Categorical exclusion anticipated (X).
 - Environmental Assessment/Finding of No Significant Impact anticipated (FONSI) ().
 - Environmental Impact Statement (EIS) ().
- Utility involvements: The following have possible utilities located within the project limits:
 - TV – Comcast
 - Telephone – Verizon
 - Water & Sewer – Fulton County
 - Gas – AGL Resources
 - Power – Georgia Power
 - Telecom – AT&T

The project team will work with utility owners for utility relocations and impacts to bridge staging during design development.
- VE Study Anticipated Yes (X) No ()
Dates Held: July 18-21, 2011
- Benefit/Cost Ratio: N/A

Project Cost Estimate and Funding Responsibilities:

	PE	ROW	UTILITY	CST	MITIGATION
By Whom	Local	Local	Utility Owner	Federal & Local	N/A
\$ Amount	\$1,200,000	\$1,530,000	\$403,500	\$10,132,036	\$0
LCI \$ Amount	\$0	\$0	\$0	\$4,000,000	\$0
Local \$ Amount	\$227,100	\$1,530,000	\$0	\$6, 132,036	\$0

*CST Cost includes: Construction, Engineering and Inspection, Asphalt Cement Cost Adjustment

Project Activities Responsibilities:

- Design: City of Alpharetta / NFCID with Consultant (ARCADIS)
- Right-of-Way Acquisition: City of Alpharetta / NFCID
- Right-of-Way funding (real property): City of Alpharetta / NFCID
- Relocation of Utilities: City of Alpharetta to coordinate
- Letting to contract: ~~GDOT~~ Local Gov't *AKP 01/14/2013*
- Supervision of construction: GDOT
- Providing material pits: Contractor
- Providing detours: Contractor
- Environmental Studies/Documents/Permits: City of Alpharetta/ NFCID – Consultant (ARCADIS)
- Environmental Mitigation: City of Alpharetta / NFCID – Consultant (ARCADIS)

Coordination:

- Initial Concept Meeting: 5/10/10
- Concept meeting date: 2/7/11 – Minutes Attached
- P. A. R. meetings: Not anticipated
- FEMA, FHWA (Appalachian Development Program), SHPO coordination required
- Public involvement: PIOH Held 4/26/11, Detour Meeting Held 4/26/11
- Local government comments: The City of Alpharetta fully supports this project and is a sponsor of this project along with the NFCID.
- Other projects in the area:
 - CSNHS-0008-00(444), PI 0008444, Forsyth, Fulton County – SR 400 From Spalding Dr. to McFarland Rd. – Flexible Shoulder Lanes (Long Range)
 - MSL00-0001-00(757), PI 0001757, Forsyth, Fulton County – SR 400 From I-285 To McFarland Rd/Forsyth Co, HOV Lanes (IPD)
 - MARTA – Aspirations for SR 400 corridor expansion and Encore Pkwy park and ride station.
 - City of Alpharetta – Sidewalks from Ethan Allen to Haynes Bridge Rd.

Fiscal Years Proposed:

PE – 2011

ROW – 2013

Construction - 2014

Other alternatives considered:

- No Build - The No Build Alternative is one in which no action would be taken to construct the proposed project. The No Build alternative would not provide any pedestrian and cycling security or handicap access improvements in the project area. This alternative would not provide the social, economic, environmental and alternative transportation improvements provided by the build alternative.
- Bridge Widening - The alternative of widening the existing bridge was considered and dismissed due to the need for a larger span for future project PI 0001757: MSL00-0001-

00(757): AR-H-400: SR 400 from I-285 to McFarland Rd/Forsyth Co HOV Lanes. The future project requires a bridge replacement and therefore limits the service life of this project's improvements. Bridge replacement will compliment future projects and ensure at least a minimum of 20 year service life of the proposed work.

- Narrow Median - An alternative was considered for a two lane roadway with bike lanes and a standard or narrow width median. This alternative was rejected during concept development because the City of Alpharetta and the NFCID want a wide landscaped boulevard style median in order to accommodate street lighting, landscaping and planters.

Attachments:

1. Detailed Cost Estimates:
 - a. Construction including Engineering and Inspection
 - b. Completed Fuel & Asphalt Price Adjustment forms
 - c. Right-of-Way
 - d. Utilities
 - e. Environmental Mitigation (EPD, etc) (N/A)
2. Sketch location map (See sheet 2 of concept report)
3. Typical sections.
4. Bridge concept layouts.
5. Accident summaries.
6. Traffic diagrams.
7. Capacity Analysis Summary including Summary of Signal Warrant Studies.
8. Bridge inventory.
9. Minutes of Concept meetings.
10. PFA's and/or SAA's.
11. Conforming plan's network schematics showing thru lanes. (Note: This attachment is required for non-attainment areas only)
12. VE Implementation Letter.

Exempt projects

Concur: Bill R McManis
Director of Engineering

Approve: Melinda Umber 1/8/13
Division Administrator, FHWA

Approve: Bill R McManis Date: 1/8/13
Chief Engineer

Appendix 1

Detailed Cost Estimates

Project No: 0010241					
Date: September 2011					
Description: Encore Parkway Improvements					
ESTIMATE OF PROBABLE CONSTRUCTION COST					
Item No.	Item Description	Unit	Quantity	Price	Cost
ROADWAY ITEMS					
150-1000	TRAFFIC CONTROL	LS	LUMP	\$600,000.00	\$600,000.00
150-5010	TRAFFIC CONTROL, PORTABLE IMPACT ATTENUATOR	EA	2	\$10,000.00	\$20,000.00
210-0100	GRADING COMPLETE	LS	LUMP	\$1,100,000.00	\$1,100,000.00
310-5100	GRADED AGGR BASE CRS, 10 INCH, INCL MATL	SY	10,500	\$15.00	\$157,500.00
402-1811	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL	TN	800	\$61.00	\$48,800.00
402-3121	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2	TN	1,700	\$55.00	\$93,500.00
402-3133	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL	TN	1,250	\$60.00	\$75,000.00
402-3190	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2	TN	850	\$60.00	\$51,000.00
413-1000	BITUM TACK COAT	GAL	1,500	\$2.00	\$3,000.00
433-1000	REINF CONC APPROACH SLAB	SY	300	\$150.00	\$45,000.00
441-0104	CONC SIDEWALK, 4 IN	SY	4,400	\$25.00	\$110,000.00
441-0740	CONCRETE MEDIAN, 4 IN	SY	100	\$23.00	\$2,300.00
441-6012	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	LF	4,365	\$10.00	\$43,650.00
441-6718	CONC CURB & GUTTER, 8 IN X 24 IN, TP 7	LF	3,650	\$15.00	\$54,750.00
500-3110	CLASS A CONCRETE, TYPE P1, RETAINING WALL	LF	0	\$400.00	\$0.00
	3' HEIGHT RETAINING WALL, INCLUDING TENNESSEE FIELD STONE	LF	260	\$350.00	\$91,000.00
	4' HEIGHT RETAINING WALL, INCLUDING TENNESSEE FIELD STONE	LF	260	\$400.00	\$104,000.00
	COLUMN, INCLUDING TENNESSEE FIELD STONE	EA	20	\$2,000.00	\$40,000.00
500-9999	CLASS B CONCRETE, BASE OR PVMT WIDENING	CY	100	\$200.00	\$20,000.00
550-1180	STORM DRAIN PIPE, 18 IN, H 1-10	LF	1,700	\$30.00	\$51,000.00
550-1240	STORM DRAIN PIPE, 24 IN, H 1-10	LF	100	\$35.00	\$3,500.00
550-4218	FLARED END SECTION 18 IN, STORM DRAIN	EA	1	\$500.00	\$500.00
550-4224	FLARED END SECTION 24 IN, STORM DRAIN	EA	1	\$600.00	\$600.00
620-0100	TEMPORARY BARRIER, METHOD NO. 1	LF	1,600	\$25.00	\$40,000.00
641-1100	GUARDRAIL, TP T	LF	84	\$50.00	\$4,200.00
641-1200	GUARDRAIL, TP W	LF	1,200	\$20.00	\$24,000.00
641-5001	GUARDRAIL ANCHORAGE, TP 1	EA	5	\$700.00	\$3,500.00
641-5012	GUARDRAIL ANCHORAGE, TP 12	EA	1	\$2,000.00	\$2,000.00
668-1100	CATCH BASIN, GP 1	EA	15	\$2,200.00	\$33,000.00
ROADWAY ITEMS SUBTOTAL					\$2,821,800.00
	EROSION CONTROL	LS	LUMP	\$140,000.00	\$140,000.00
EROSION CONTROL ITEMS SUBTOTAL					\$140,000.00
SIGNAL/SIGNING & MARKING ITEMS					
639-3004	ORNAMENTAL STEEL STRAIN POLE, TP IV (45 FT MASTARM)	EA	8	\$20,000.00	\$160,000.00
647-1000	TRAFFIC SIGNAL INSTALLATION - 1	LS	LUMP	\$67,000.00	\$67,000.00
647-1000	TRAFFIC SIGNAL INSTALLATION - 2	LS	LUMP	\$67,000.00	\$67,000.00
	PAVEMENT MARKINGS AND SIGNING	LS	LUMP	\$150,000.00	\$150,000.00
SIGNAL/SIGNING & MARKING ITEMS SUBTOTAL					\$444,000.00
LANDSCAPING ITEMS					

	PAVERS AT ENTRY PLAZA AREAS	SY	1540	\$130.00	\$200,200.00
	COLORED CONCRETE PAVEMENT (MEDIAN)	SY	205	\$130.00	\$26,650.00
	INSTALLATION OF BASES FOR 16' PEDESTRIAN LIGHT POLES (ALUMINUM)	EA	50	\$600.00	\$30,000.00
	INSTALLATION OF BASES FOR 25'-30' STREET LIGHT POLES	EA	42	\$700.00	\$29,400.00
682-6120	CONDUIT, RIGID, 2 IN	LF	730	\$14.00	\$10,220.00
682-6222	CONDUIT, NONMETL, TP 2, 2 IN	LF	3300	\$6.00	\$19,800.00
	PEDESTRIAN WAYFINDING SIGNAGE	LS	LUMP	\$25,000.00	\$25,000.00
	BENCHES	EA	23	\$1,500.00	\$34,500.00
	TRASH RECEPTACLES	EA	13	\$1,200.00	\$15,600.00
	PLANTER BEDS WITH SEASONAL COLORS	EA	13	\$500.00	\$6,500.00
	TREE PIT	EA	93	\$250.00	\$23,250.00
	TREE PIT ROOT PATH INSTALLATION	EA	LUMP	\$50,000.00	\$50,000.00
	STREET TREES	EA	53	\$875.00	\$46,375.00
	ORNAMENTAL TREES	EA	40	\$500.00	\$20,000.00
	GROUNDCOVERS	EA	5960	\$6.00	\$35,760.00
	GRASS LANDSCAPED VERGE (SEED)	SY	2000	\$1.50	\$3,000.00
	SHRUBS	EA	96	\$75.00	\$7,200.00
	TENNESSEE FIELD STONE VENEER WALL (12' LENGTH)	EA	7	\$7,500.00	\$52,500.00
	TENNESSEE FIELD STONE VENEER WALL (6' LENGTH)	EA	12	\$3,750.00	\$45,000.00
	TENNESSEE FIELD STONE COLUMN (3' SQUARE)	EA	26	\$3,000.00	\$78,000.00
	TENNESSEE FIELD STONE BRIDGE APPROACH WALLS	LS	LUMP	\$155,000.00	\$155,000.00
	KEYSTONE RETAINING WALL (4'-10' HIGH)	SF	1200	\$20.00	\$24,000.00
	BRIDGE LANDSCAPING ALLOTMENT	LS	LUMP	\$1,200,000.00	\$1,200,000.00
	LANDSCAPING ITEMS SUBTOTAL				\$2,137,955.00
	BRIDGE ITEMS				
540-1101	REMOVAL OF EXISTING BR, BR NO - 1	LS	LUMP	\$250,000.00	\$250,000.00
543-9000	BRIDGE COMPLETE - ENCORE ROAD BRIDGE (300' X 105')	SF	31,500	\$96.19	\$3,030,000.00
627-1020	MSE WALL FACE, 20-30 FT HT	SF	7,700	\$40.00	\$308,000.00
	BRIDGE ITEMS SUBTOTAL				\$3,588,000.00
	SUBTOTAL CONSTRUCTION COST				\$9,131,755.00
	E & I (10%)				\$913,175.50
	AC ADJUSTMENT				\$87,105.47
	TOTAL CONSTRUCTION COST				\$10,132,035.97
	SEE ROW COST ESTIMATE ATTACHED				
	TOTAL RIGHT OF WAY COST				\$1,530,000.00
	TOTAL PROJECT COST				\$11,662,035.97

PROJ. NO.	Encore Pkwy Streetscape and Big Creek Greenway Extension
P.I. NO.	0010241
DATE	3/21/2012

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED	Mar-12	\$ 3.679
DIESEL		\$ 4.070
LIQUID AC		\$ 614.00

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

LIQUID AC ADJUSTMENTS

$PA = \left(\frac{APM - APL}{APL} \right) \times TMT \times APL$

Asphalt

Price Adjustment (PA)				84732	\$	84,732.00
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	982.40		
Monthly Asphalt Cement Price month project let (APL)			\$	614.00		
Total Monthly Tonnage of asphalt cement (TMT)				230		

ASPHALT	Tons	%AC	AC ton
Leveling	800	5.0%	40
12.5 OGFC		5.0%	0
12.5 mm	1250	5.0%	62.5
9.5 mm SP		5.0%	0
25 mm SP	1700	5.0%	85
19 mm SP	850	5.0%	42.5
	4600		230

BITUMINOUS TACK COAT

Price Adjustment (PA)			\$	2,373.47	\$	2,373.47
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	\$	982.40		
Monthly Asphalt Cement Price month project let (APL)			\$	614.00		
Total Monthly Tonnage of asphalt cement (TMT)				6.442651383		

Bitum Tack		
Gals	gals/ton	tons
1500	232.8234	6.44265138

PROJ. NO.

Encore Pkwy Streetscape and Big Creek Greenway Extension

CALL NO.

P.I. NO.

0010241

DATE

3/21/2012

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)						0	\$	-
Monthly Asphalt Cement Price month placed (APM)		Max. Cap	60%	\$	982.40			
Monthly Asphalt Cement Price month project let (APL)				\$	614.00			
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
					0

TOTAL LIQUID AC ADJUSTMENT							\$	87,105.47
-----------------------------------	--	--	--	--	--	--	----	------------------

**GEORGIA DEPARTMENT OF TRANSPORTATION
CONCEPT ROW COST ESTIMATE SUMMARY**

Date (MM/YYYY): March-11 Project: Encore Pkwy
 Revised: County: Fulton
 PI: 10241
 Description: Encore Pkwy from Westside Pkwy to Northpoint Pkwy
 Parcels: 8 R/W Plan Date:

CONTRACT

Land and Improvements _____ \$1,328,235.49
 Valuation Services _____ \$16,000.00
 Legal Services _____ \$79,400.00
 Relocation _____ \$17,500.00
 Demolition _____ \$0.00
 TOTAL CONTRACT _____ \$1,441,135.49

INHOUSE

TOTAL INHOUSE _____ \$87,500.00
 TOTAL ESTIMATED COSTS _____ \$1,528,635.49

TOTAL ESTIMATED COSTS (ROUNDED) _____ \$1,530,000.00

Preparation Credits	Hours	Signature

Lashone Alexander CG# 286999 5/15/2012
Lashone Alexander CG# 286999 05/15/2012

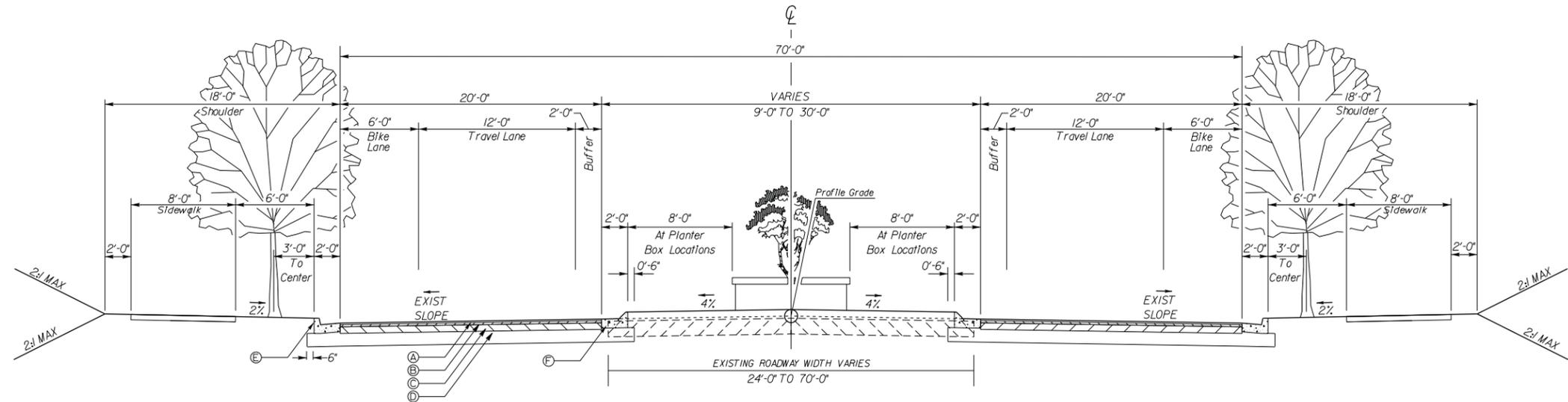
Attachment(s): Project Location Map; Subject/Comp Location Map; Comparable Sales Data

**Encore Pkwy Streetscape & Big Creek Greenway Extension
 Concept Utility Cost Estimate**

Utility Relocation	Unit	Qty	Unit Price	Total
AGL	LF	860	\$ 100.00	\$ 86,000.00
Zayo large fiber	LF	900	\$ 75.00	\$ 67,500.00
Zayo small fiber	LF	1000	\$ 25.00	\$ 25,000.00
Fiberlight	LF	900	\$ 25.00	\$ 22,500.00
Verizon	LF	500	\$ 75.00	\$ 37,500.00
Ga Power	EA	2	\$15,000.00	\$ 30,000.00
Comcast	LF	500	\$ 25.00	\$ 12,500.00
Fulton County Water	LF	400	\$ 87.50	\$ 35,000.00
ATT large fiber	LF	900	\$ 75.00	\$ 67,500.00
ATT small fiber	LF	800	\$ 25.00	\$ 20,000.00
TOTAL				\$403,500.00

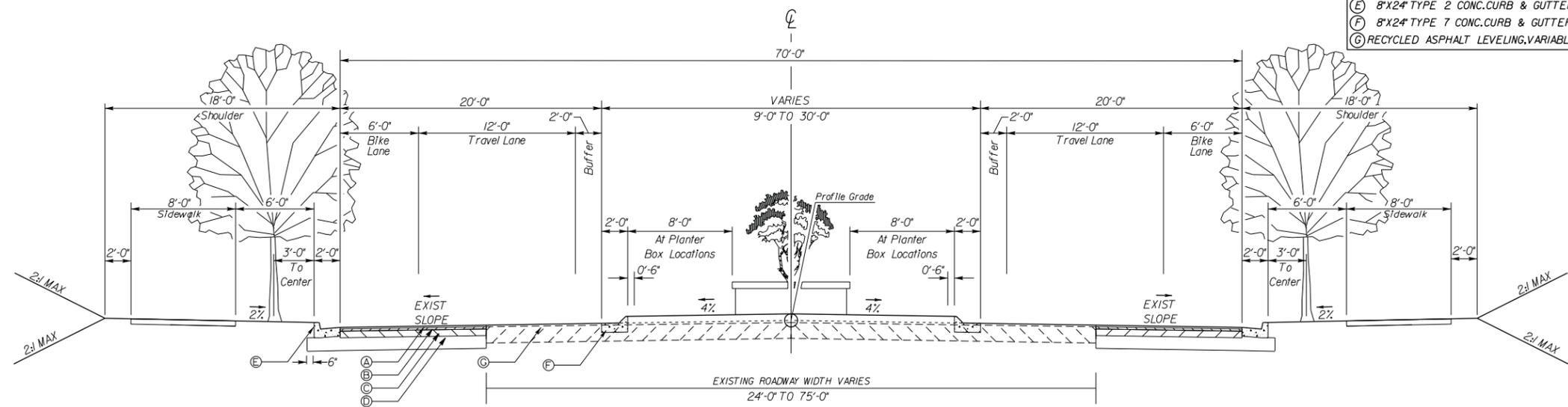
Appendix 3

Typical Sections



TYPICAL SECTION NO. 1
 Encore Pkwy Widening Full Depth Section
 STA 103+50 LT TO NORTH POINT PKWY LT
 STA 103+50 RT TO STA 112+00 RT
 NORMAL CROWN OR SUPERELEVATED

REQUIRED PAVEMENT	
(A)	ASPH.CONC.,12.5 mm Superpave,GP 2 ONLY,165 lb/sy
(B)	ASPH.CONC.,19.0 mm Superpave,GP 1 OR 2,220 lb/sy
(C)	ASPH.CONC.,25.0 mm Superpave,GP 1 OR 2,440 lb/sy
(D)	GR.AGGR.BASE CRS 10' INCL MATL
(E)	8'X24' TYPE 2 CONC.CURB & GUTTER (GA STD 9032-B)
(F)	8'X24' TYPE 7 CONC.CURB & GUTTER (GA STD 9032-B)
(G)	RECYCLED ASPHALT LEVELING,VARIABLE DEPTH AS REQUIRED



TYPICAL SECTION NO. 2
 Encore Pkwy Widening Overlay Section
 STA 101+72.43 LT TO STA 103+50 LT
 STA 101+72.43 RT TO STA 103+50 RT
 STA 112+00 RT TO NORTH POINT PKWY RT
 NORMAL CROWN OR SUPERELEVATED

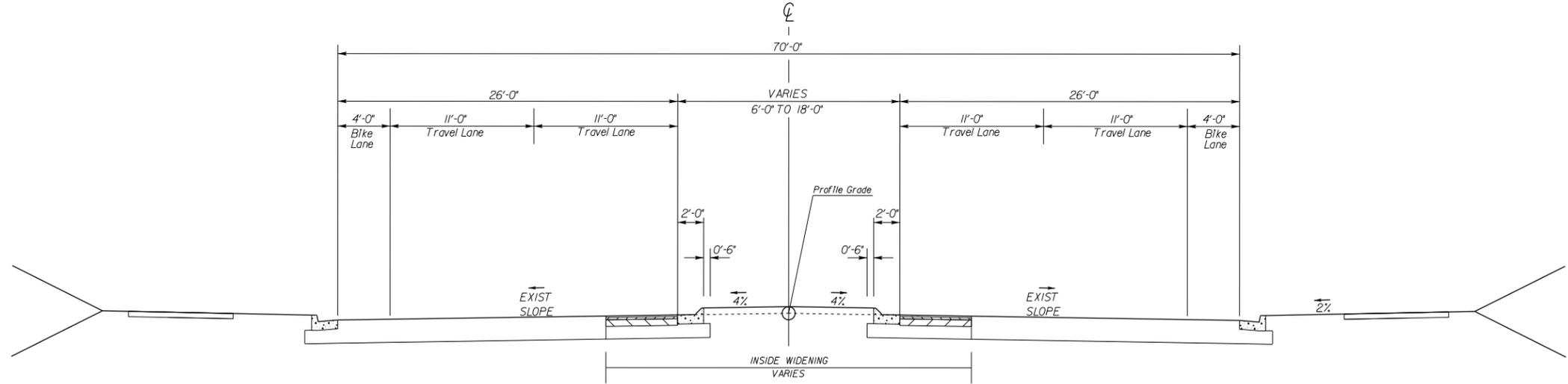
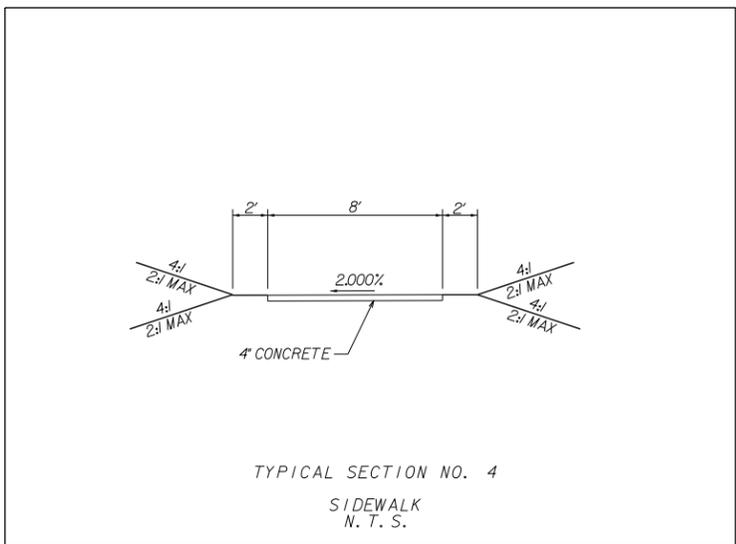
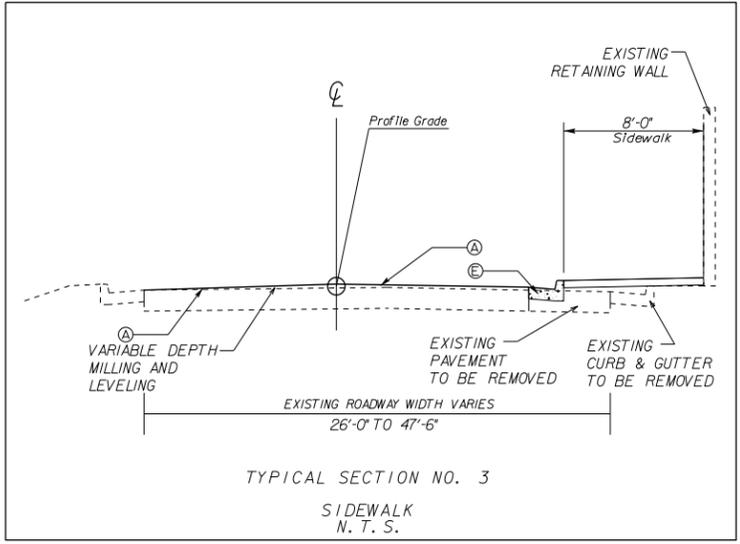
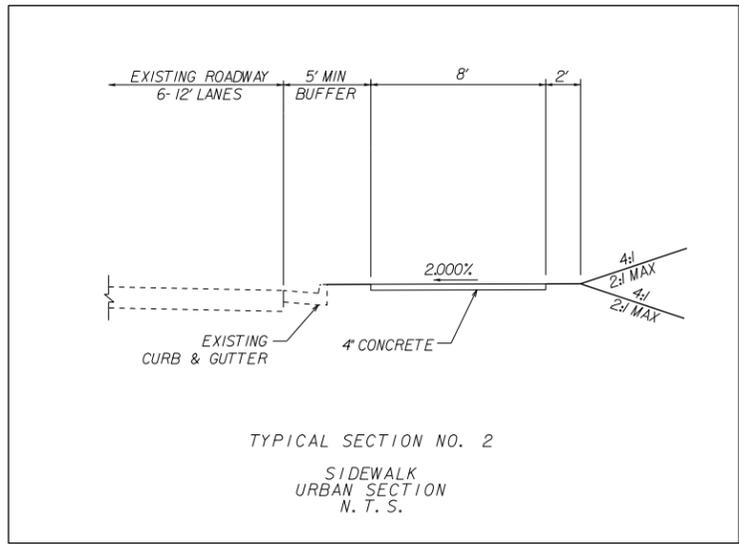


REVISION DATES	

STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE:
TYPICAL SECTIONS

ENCORE PKWY

DRAWING No.
5-01



(Shoulders not affected. Widening to the inside median.)
 From North Point Pkwy to Westside Pkwy
 NORMAL CROWN OR SUPERELEVATED



REVISION DATES		

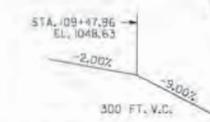
STATE OF GEORGIA
 DEPARTMENT OF TRANSPORTATION
 OFFICE: **TYPICAL SECTIONS**
 ENCORE PKWY

DRAWING No.
5-02

Appendix 4

Bridge Concept Layouts

DATE	REVISION	SHEET	TOTAL SHEETS
GA.			



VERTICAL CURVE DATA
ALONG E. ENCORE PKWY.

SR 400 HORIZONTAL CURVE DATA

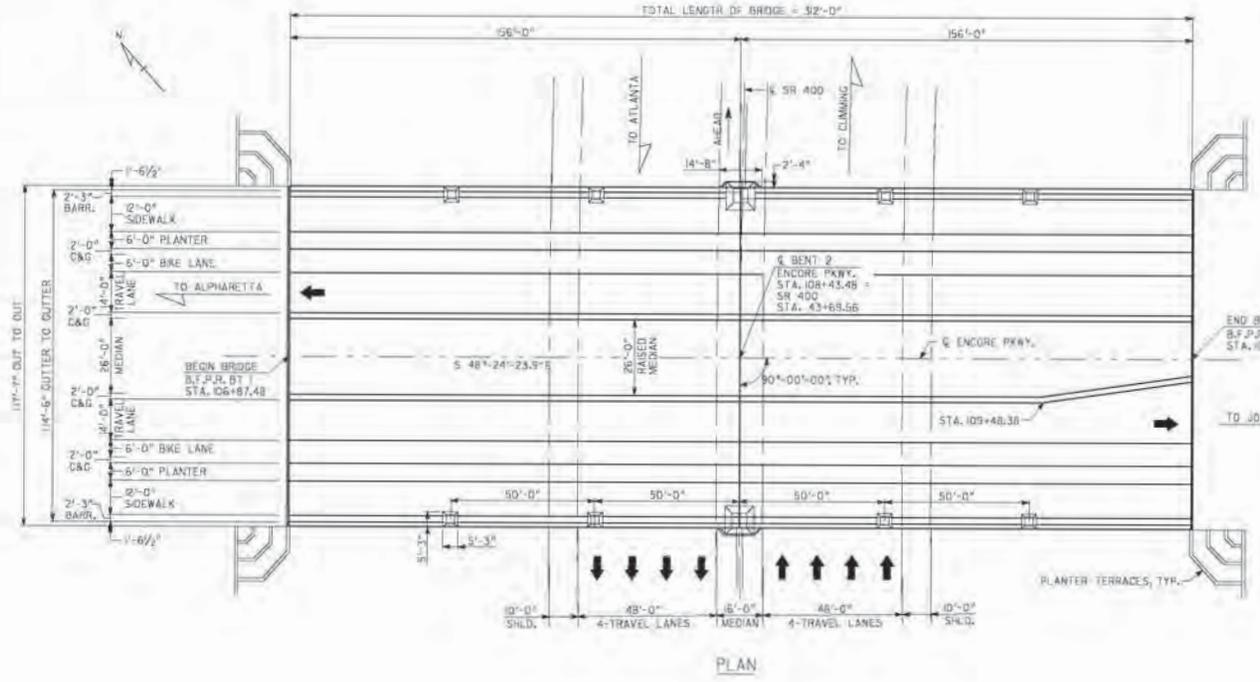
PI = STA. 44+31.44
N 142325.40
E 225367.15
Δ = 4°-50'-15.6"
D = 1'-00"-8.7"
T = 240.15'
L = 482.2'
R = 5700.00'
PC = 4+90.69
PT = 4671.93

BRIDGE CONSISTS OF

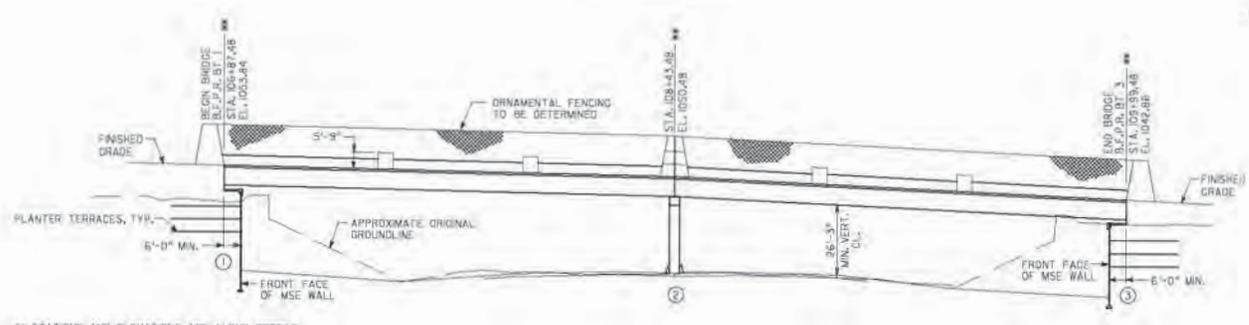
- 2 - 196'-0" BULB TEE, 74 IN. PSC BEAM SPAN ----- SPECIAL DESIGN
- 2 - PILE END BENTS ----- SPECIAL DESIGN
- 1 - CONCRETE INTERMEDIATE BENTS ----- SPECIAL DESIGN

DESIGN DATA

- SPECIFICATIONS ----- AASHTO LRFD 5TH EDITION WITH 2010 (DESIGNED FOR SEISMIC PERFORMANCE CATEGORY A1)
- TYPICAL HS20-44 AND/OR MILITARY LOADING ----- IMPACT INCLUDED
- FUTURE PAVING ALLOWANCE ----- 30 LB/SG PER SQ FT



PLAN



ELEVATION

** STATIONS AND ELEVATIONS ARE ALONG PROFILE GRADE LINE AT THE INTERSECTION OF PROFILE GRADE LINE AND B.F.P.R. OR E BENT.

BRIDGE NO. 1

ARCADIS
3000 WEST 10TH STREET, SUITE 400
DENVER, COLORADO 80202
TEL: 303.733.8800 FAX: 303.733.0500

GEORGIA
DEPARTMENT OF TRANSPORTATION
ENGINEERING DIVISION-OFFICE OF BRIDGES AND STRUCTURES

CONCEPT LAYOUT
ENCORE PARKWAY OVER SR 400
FULTON COUNTY XXXXX-000X-00(XXX)

SCALE: NO SCALE DECEMBER 2010

DRAWING NO. 35-	DESIGNED: XXX	CHECKED: XXX	APPROVED: RND/PEC
BRIDGE SHEET OF XX	DATE: 11/17	SCALE: 1"=10'	APPROVED: SFR

User: NDMH.MLS Date: 2/17/2010 Time: 8:05:35 AM
 I:\work\01171413390 - FCG - Encore Pkwy\bridge\Drawings\152490-1.dwg

Appendix 5

Accident Summaries

Accident Analysis – Encore Parkway, Fulton County, Georgia

The latest three years (2007 through 2009) of accident data for the project area was obtained from Georgia Department of Transportation (DOT). Accident rates, injury rates, and fatality rates were calculated and compared with statewide average rates as shown in Table 1.

Table 1 Accident Data Analysis – Encore Parkway (2.48 - 2.91 Mile Point)

Item/Year		Year		
		2007	2008	2009
Crash Type	Angle	0	4	3
	Rear-End	4	4	0
	Sideswipe – Same Direction	0	0	0
	Sideswipe – Opposite Direction	0	0	0
	Not a Collision with a Motor Vehicle	0	0	1
	Head-On	0	1	0
Total Accidents		4	9	4
Total Non-Fatal Injuries		0	4	1
Total Fatalities		0	0	0
Vehicle Miles Traveled		10,260	10,470	10,680
Accident Rate (per 100 million vehicle miles traveled [mvmt])		107	236	103
Statewide Accident Rate (per 100 mvmt)		407	348	363
Non-Fatality Injury Rate (per 100 mvmt)		0.00	104.67	25.65
Statewide Non-Fatality Injury Rate (per 100 mvmt)		128	126	135
Fatality Rate (per 100 mvmt)		---	---	---
Statewide Fatality Rate (per 100 mvmt)		1.01	1.05	0.91

Notes:

- *GDOT STARS data is not available for analysis segment. Therefore, VMT were calculated for 2007 and 2008 by applying 2% reduction to 2009 collected counts multiplied by the distance traveled by segment vehicles.*
- *Statewide Accident Rates for Local, Urban Road were considered*

Figure 1 Accident Summary by Crash Type

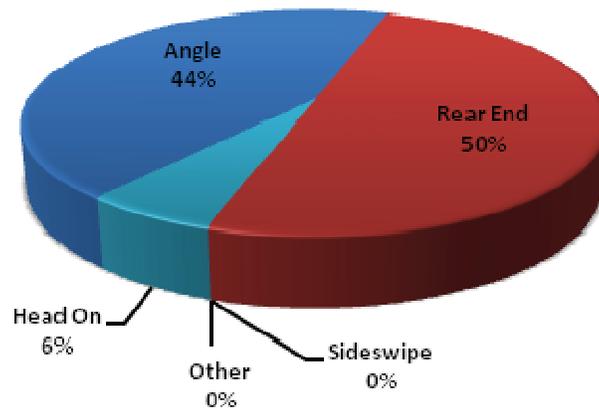


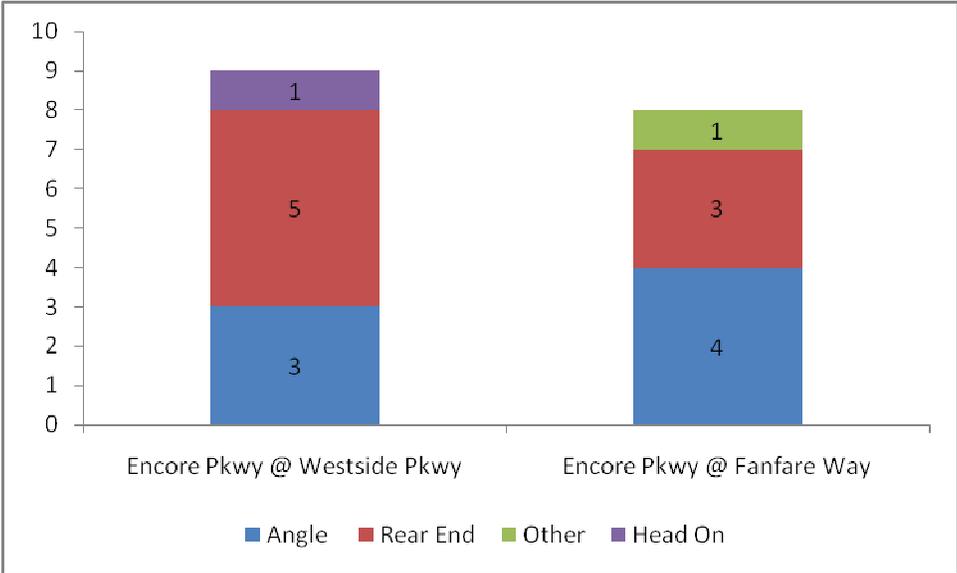
Table 1 shows that the accident rates and injury rates for the analysis segment are lower than the statewide averages. Figure 1 indicates that angle and rear-end type accidents are more predominant within the project limits. A deeper analysis was also performed at the intersection level to see if any of these accidents occurred at the intersections or occurred at mid-block. Below is the summary of accidents at intersection level:

Table 2 Accident Data Analysis – Encore Parkway at intersections

Encore Parkway		Prevailing Type of Accident	Number of Accidents at Intersecting Street		
Westside Parkway to Northpoint Parkway			Year 2007	Year 2008	Year 2009
Mile Point (MP)	Intersecting Street (s)				
2.48	Westside Parkway	Rear End	2	7	0
2.6	Fanfare Way	Angle	2	2	4
2.91	Northpoint Parkway		0	0	0
Total Accidents in Project Area			4	9	4

Table 2 indicates all of the accidents have occurred at two intersections: Encore Parkway at Westside Parkway and Encore Parkway at Fanfare Way. As shown in Figure 2, rear-end accidents are more prevailing around the intersection of Encore Parkway at Westside Parkway. These types of accidents are a result of capacity constraints which are anticipated to be addressed with increased capacity that was proposed for the future year. Angle accidents are prevailing at the intersection of Encore Parkway at Fanfare Way. The proposed median closure at Fanfare Way at the intersection of Encore Parkway at Fanfare Way is anticipated to prevent any angle accident to occur at that intersection.

Figure 2 Accident Summary by Crash Type at Intersections



Appendix 6

Traffic Diagrams

Figure 11: Open Year (2015) No-Build DHV

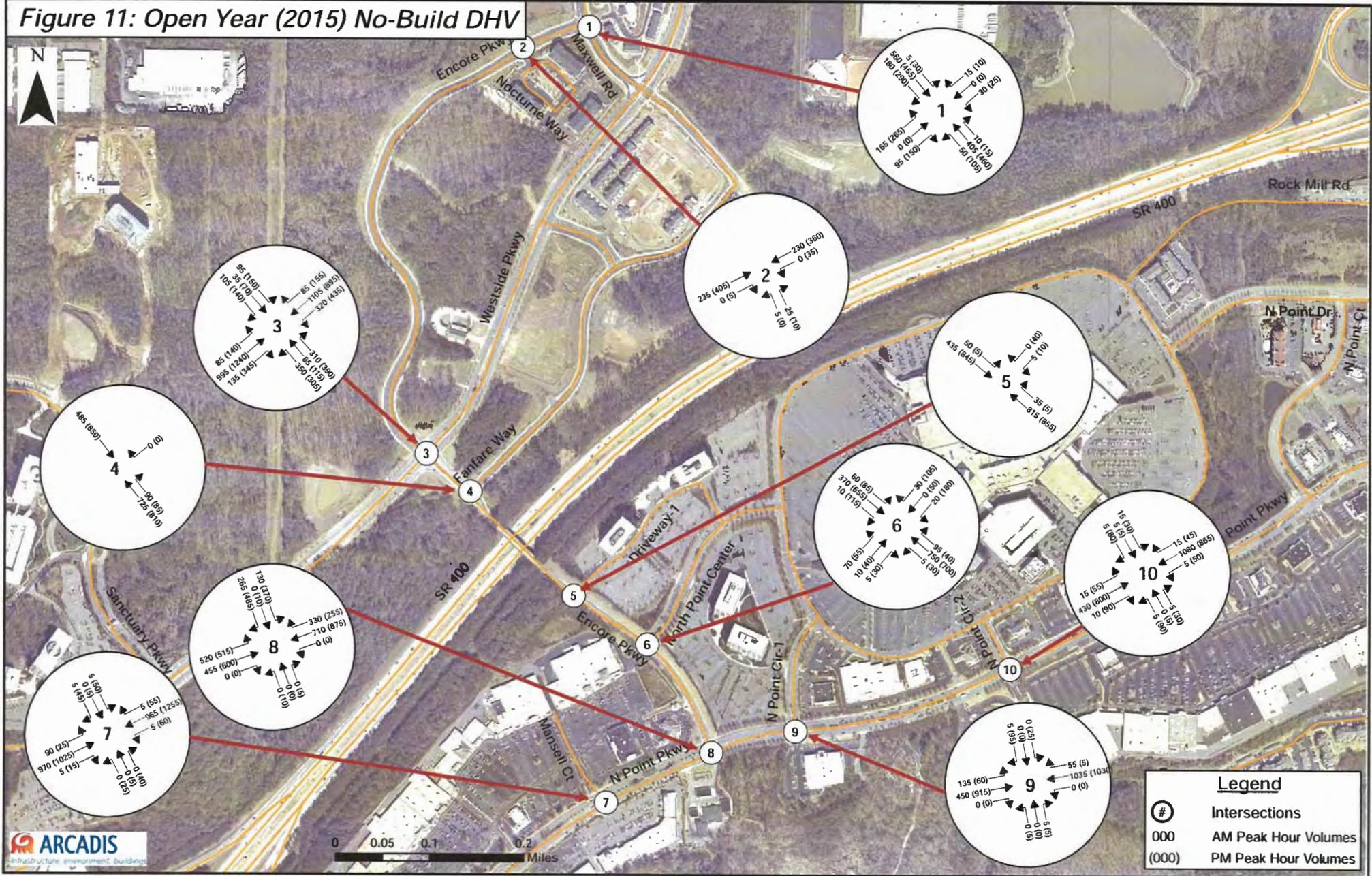


Figure 12: Design Year (2035) No-Build DHV

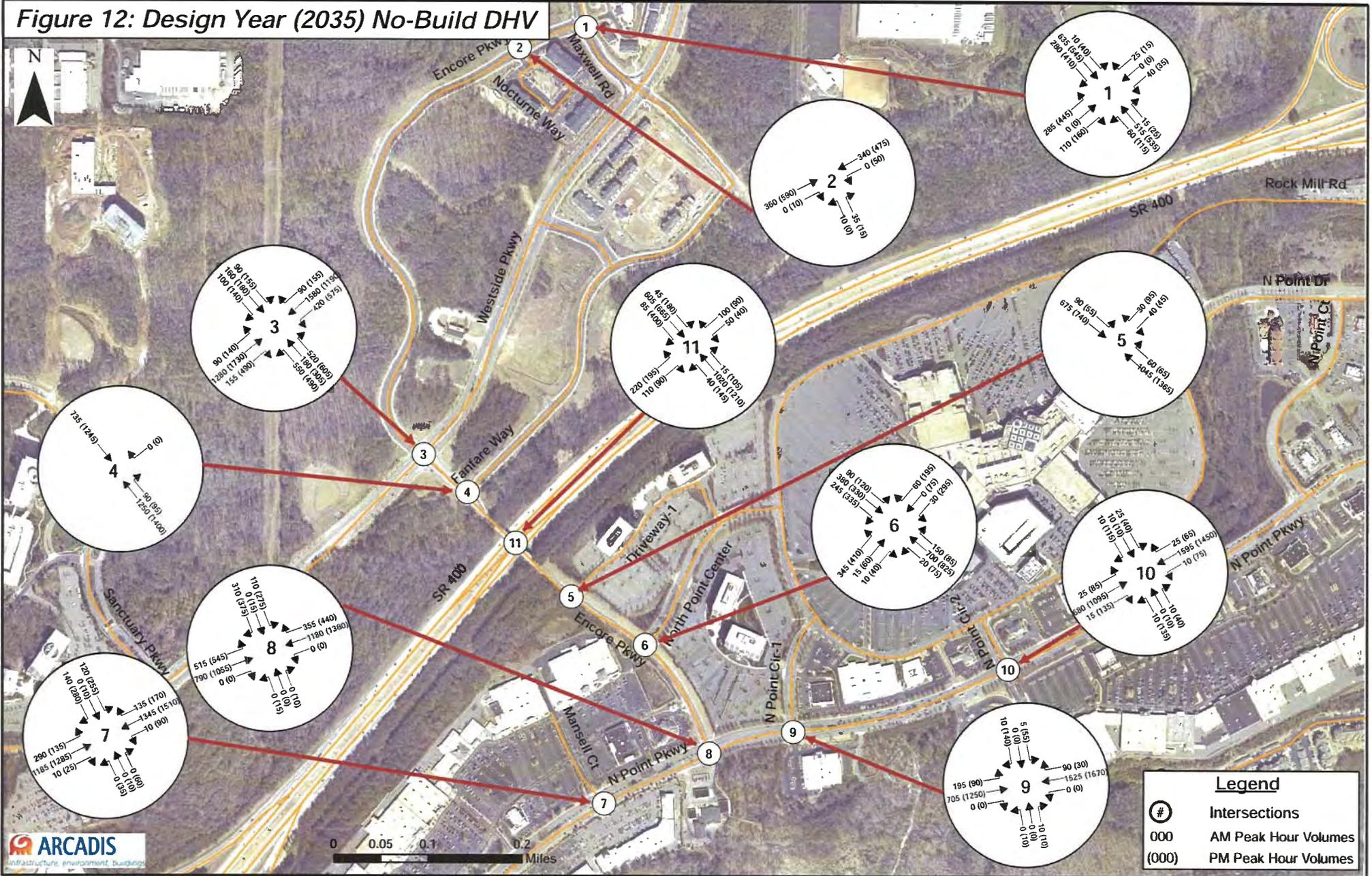


Figure 13: 2015 (2035) No-Build ADT

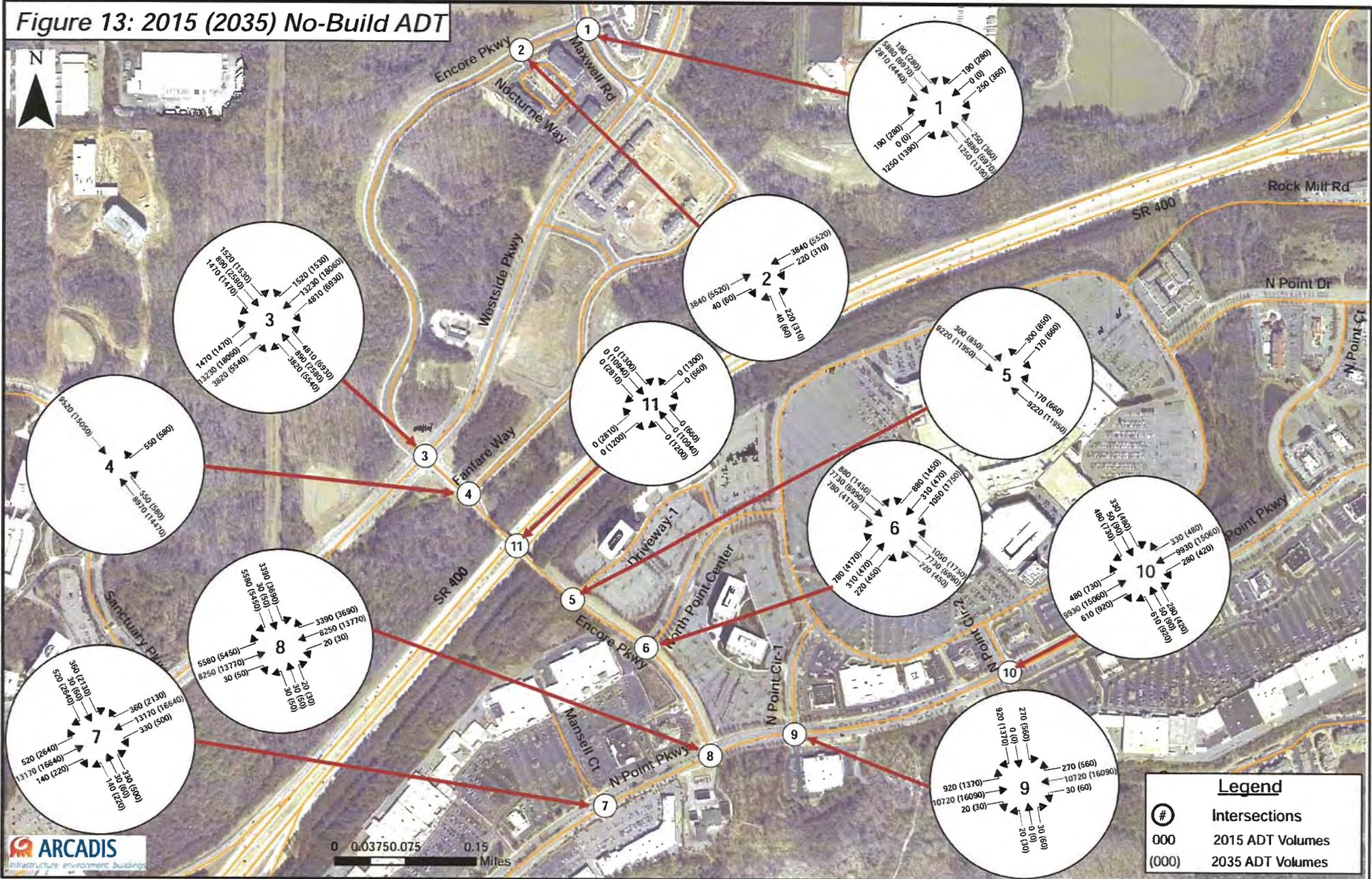


Figure 14: Open Year (2015) Build DHV

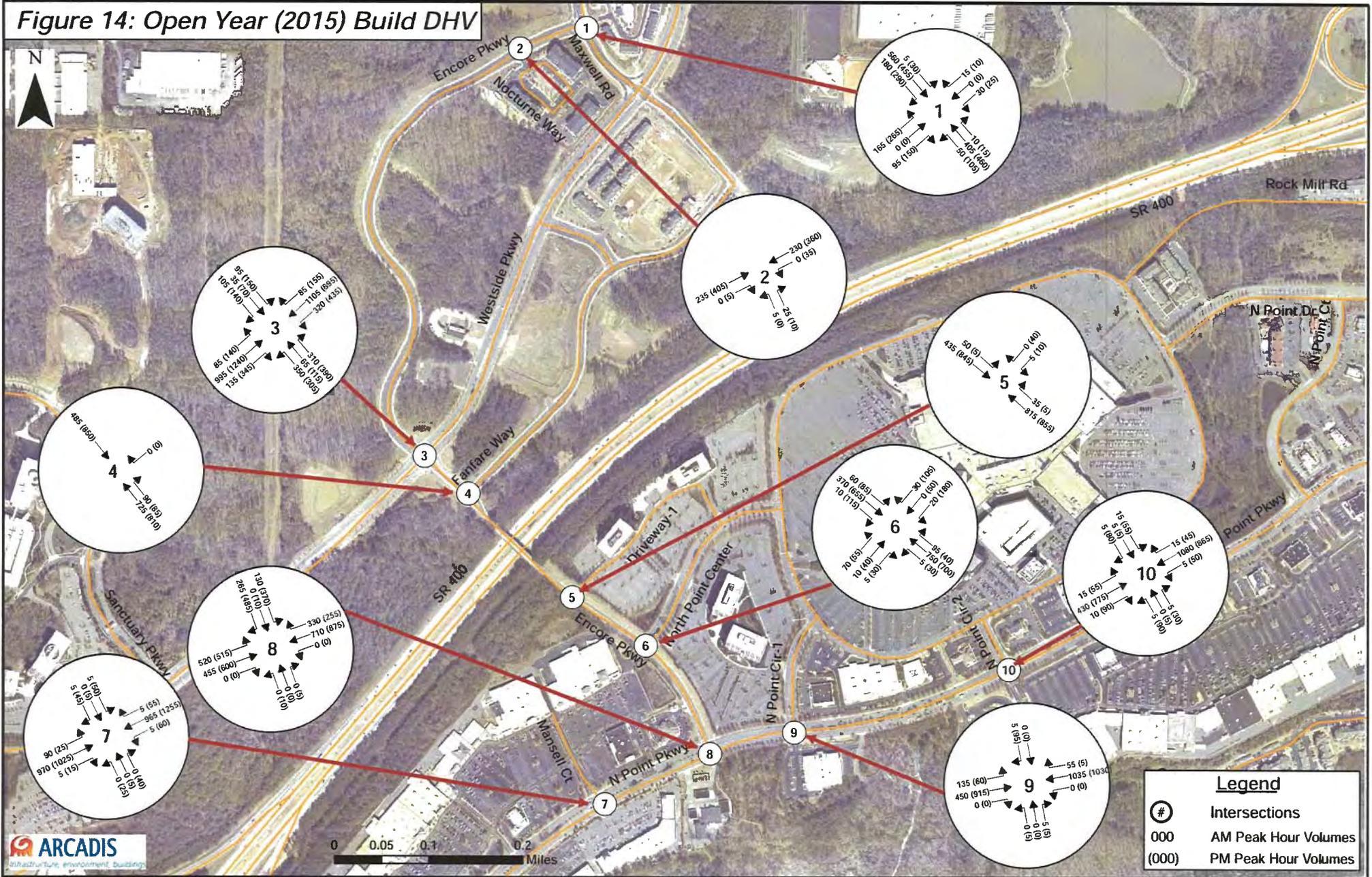


Figure 15: Design Year (2035) Build DHV

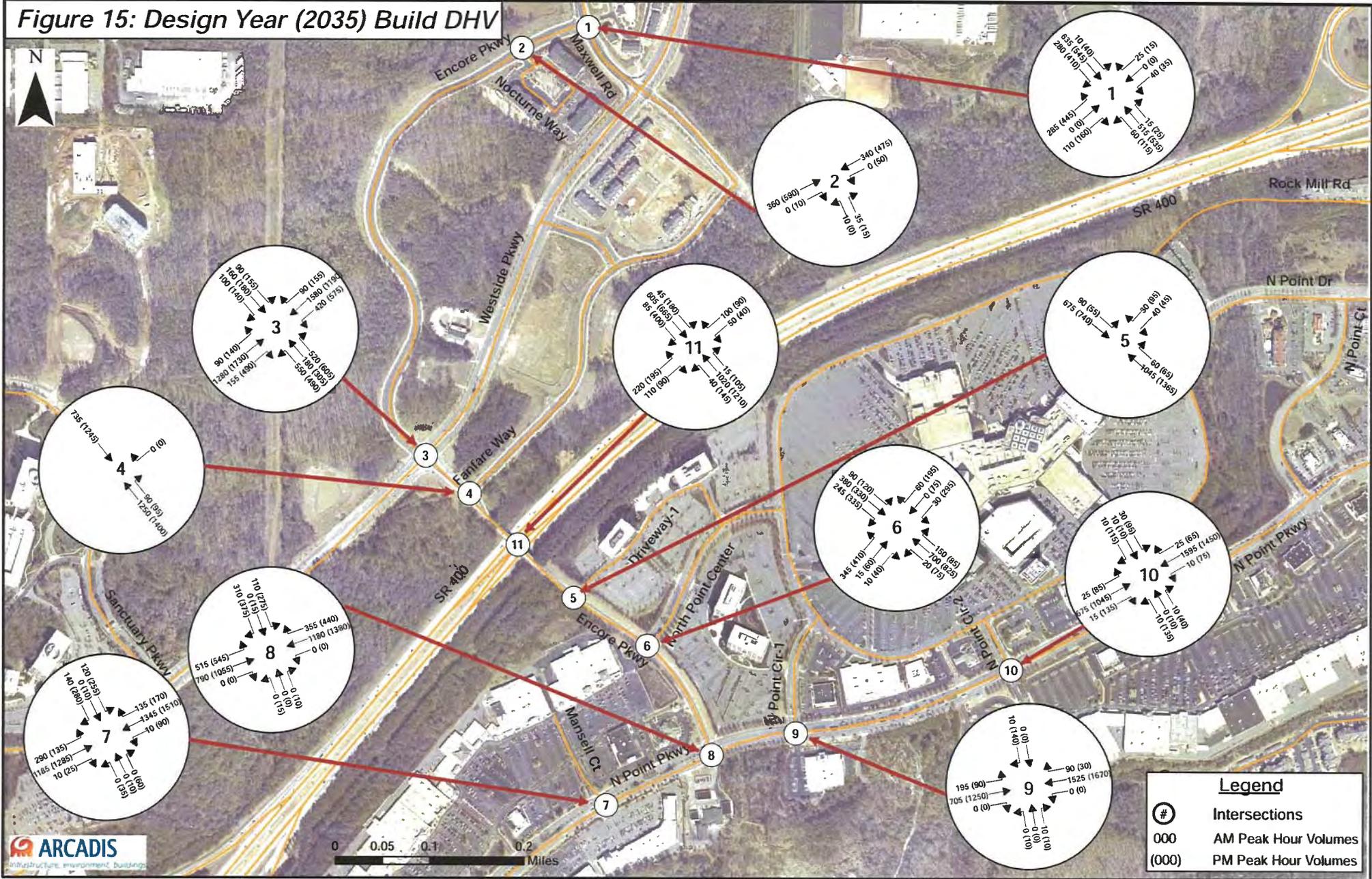
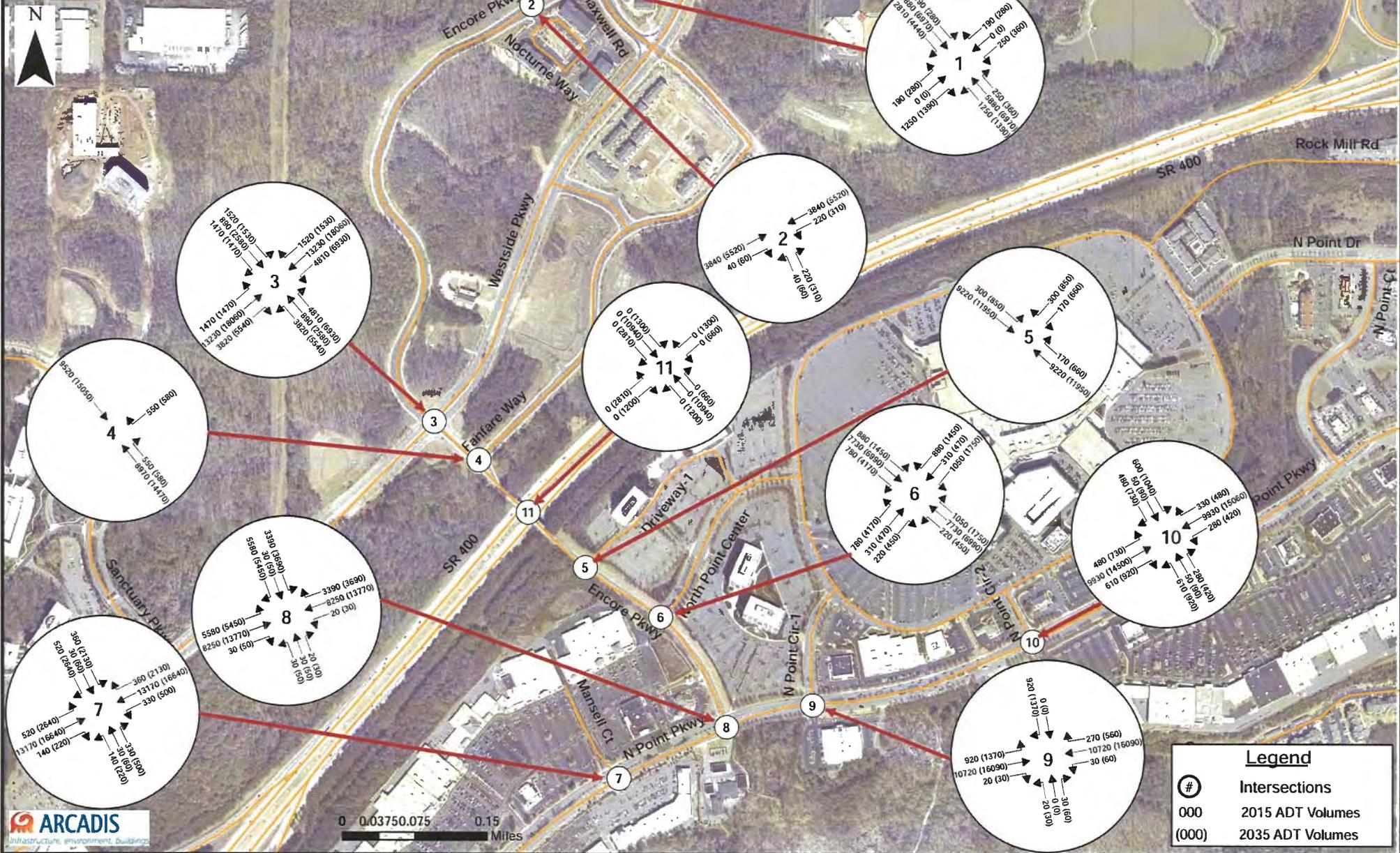


Figure 16: 2015 (2035) Build ADT



Legend

- # Intersections
- 000 2015 ADT Volumes
- (000) 2035 ADT Volumes

Appendix 7

**Capacity Analysis
Summary Including
Signal Warrant
Studies**

1. Capacity Analysis – Encore Parkway, Fulton County, Georgia

A capacity analysis is the primary method for evaluating the quality of service of highway and street facilities. Level of service (LOS) is a quality measure describing operational conditions of these facilities. The *Highway Capacity Manual 2000* (HCM 2000), published by the Transportation Research Board, outlines capacity analysis procedures and criteria for defining LOS.

The HCM 2000 defines six levels of service, designated by the letters A through F. LOS A represents the best operating conditions and LOS F represents the worst. LOS criteria for signalized and unsignalized intersections are listed in Tables 3 and 4, respectively.

Table 1 LOS Criteria for Signalized Intersections

LOS	Average Control Delay (Sec)
A	≤10
B	>10–20
C	>20–35
D	>35–55
E	>55–80
F	>80

Table 2 LOS Criteria for Unsignalized Intersections

LOS	Average Control Delay (Sec)
A	0–10
B	>10–15
C	>15–25
D	>25–35
E	>35–50
F	>50

Capacity analyses were performed for intersections along Encore Parkway and North Point Parkway for the a.m. and p.m. peak hours for existing (2009) conditions and for open year (2015) and design year (2035) no-build and build conditions. SYNCHRO 7 and CORSIM 6.0 software were used for the capacity analyses.

1.1 Existing Conditions for Intersections

Capacity analyses were performed for the a.m. and p.m. peak hours for existing conditions using the collected traffic counts, which include detour volumes. The results for signalized and unsignalized intersections are summarized in Tables 5 and 6, respectively. The intersection LOS summary for existing conditions is shown on Figure 17. CORSIM 6.0 reports are provided in Appendix B. SYNCHRO signal timing reports are provided in Appendix C.

The results of the intersection capacity analyses, summarized in Tables 5 and 6, indicate that all intersections currently operate at LOS D or better during both the a.m. and p.m. peak hours.

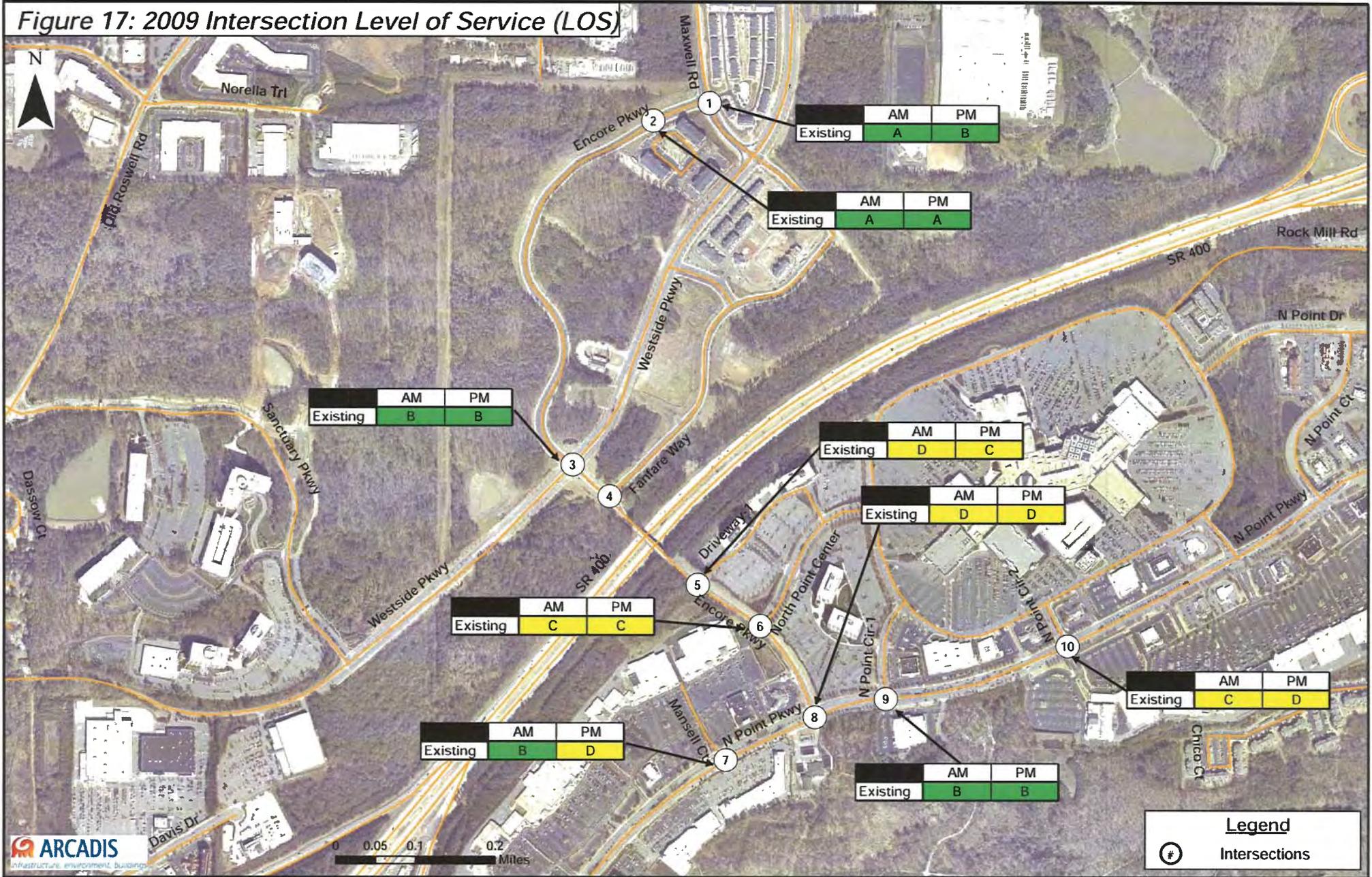
Table 3 Signalized Intersection LOS Summary for Existing Conditions (Year 2009)

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and Mansell Court	B	12	D	54
North Point Parkway and Encore Parkway	D	40	D	46
North Point Parkway and North Point Circle 2	C	30	D	40
Encore Parkway and North Point Center	C	32	C	34
Encore Parkway and Westside Parkway	B	17	B	14

Table 4 Unsignalized Intersection LOS Summary for Existing Conditions (Year 2009)

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and North Point Circle 1				
Northbound Left	B	14	B	11
Eastbound Approach	A	5	A	6
North Point Parkway and Driveway 1				
Eastbound Left	B	12	A	5
Southbound Approach	D	29	C	18
North Point Parkway and Fanfare Way	Right-In/Right-Out			
Encore Parkway and Nocturne Drive				
Westbound Left	A	0	A	5
Northbound Approach	A	6	A	3
Encore Parkway and Maxwell Road				
Northbound Left	A	2	A	2
Southbound Left	A	1	A	2
Eastbound Approach	A	9	A	9
Westbound Approach	A	10	B	10

Figure 17: 2009 Intersection Level of Service (LOS)



1.2 No-Build Conditions Capacity Analysis

A capacity analysis was performed for the a.m. and p.m. peak hours for open year and design year no-build conditions. The traffic volumes include adjustments to the detour volumes to replicate the true traffic pattern. The results of the traffic analysis for signalized and unsignalized intersections are summarized in Tables 7 through 10. CORSIM 6.0 reports are provided in Appendix B. SYNCHRO signal timing reports and queuing analysis reports are provided in Appendix C.

Table 5 Signalized Intersection LOS Summary for No-Build Conditions for Year 2015

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and Mansell Court	B	11	B	18
North Point Parkway and Encore Parkway	D	39	D	49
North Point Parkway and North Point Circle 2	B	19	D	35
Encore Parkway and North Point Center	C	21	D	39
Encore Parkway and Westside Parkway	C	30	D	40

Table 6 Unsignalized Intersection LOS Summary for No-Build Conditions for Year 2015

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and North Point Circle 1				
Northbound Left	C	24	B	14
Eastbound Approach	A	5	B	11
North Point Parkway and Driveway 1				
Eastbound Left	C	16	D	28
Southbound Approach	C	23	F	56
North Point Parkway and Fanfare Way				
Right-In/Right-Out				
Encore Parkway and Nocturne Drive				
Westbound Left	A	0	F	197
Northbound Approach	F	52	F	120
Encore Parkway and Maxwell Road				
Northbound Left	A	5	A	4
Southbound Left	A	6	A	5
Eastbound Approach	F	278	F	461
Westbound Approach	C	24	E	42

The results for open year (2015) no-build conditions indicate that all of the signalized intersections will operate at LOS D or better during the a.m. and p.m. peak hours as shown in Table 7. However, most of the stop-controlled side street approaches at the unsignalized intersections will operate at LOS E or worse during the p.m. peak hour as shown in Table 8.

Table 7 Signalized Intersection LOS Summary for No-Build Conditions for Year 2035

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and Mansell Court	C	27	F	94
North Point Parkway and Encore Parkway	E	55	F	123
North Point Parkway and North Point Circle 2	B	15	C	33
Encore Parkway and North Point Center	E	68	F	226
Encore Parkway and Westside Parkway	E	64	F	140
Encore Parkway and GA 400 HOV Ramps	E	61	E	64

Table 8 Unsignalized Intersection LOS Summary for No-Build Conditions for Year 2035

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and North Point Circle 1				
Northbound Left	D	33	F	58
Eastbound Approach	A	7	F	130
North Point Parkway and Driveway 1				
Eastbound Left	F	58	F	50
Southbound Approach	F	302	F	536
North Point Parkway and Fanfare Way	Right-In/Right-Out			
Encore Parkway and Nocturne Drive				
Westbound Left	A	0	F	274
Northbound Approach	F	64	F	2,170
Encore Parkway and Maxwell Road				
Northbound Left	A	6	A	5
Southbound Left	A	9	A	7
Eastbound Approach	F	529	F	577
Westbound Approach	F	52	F	59

The results for design year (2035) no-build conditions indicate that most of the signalized intersections, except for the intersection of North Point Parkway at North Point Circle 2, would operate at and over capacity as indicated by LOS E and LOS F during the a.m. and p.m. peak hours, respectively. Most of the stop-controlled side street approaches at the unsignalized intersections will operate at LOS F during the a.m. and p.m. peak hours.

1.3 Build Conditions Capacity Analysis

The results of the no-build conditions capacity analyses and queuing analyses were used as baselines to identify and evaluate operational impacts as part of the build conditions traffic analysis. This task included performing a signal warrant analysis for critical intersections that will experience operational deficiencies in the future, and identifying, evaluating, and recommending potential traffic operation and safety improvements along the study corridor.

1.3.1 Signal Warrant Analysis

A signal warrant analysis was performed for the intersection of Encore Parkway and Maxwell Road using open year DHVs and for the intersection of Encore Parkway and the Georgia 400 HOV ramps using design year DHVs. The Georgia 400 HOV ramps at Encore Parkway project is not a programmed project for the open year (2015) of this streetscape project, but is anticipated to be completed by 2035 based on ARC's long-range implementation program. Therefore, design year volumes (2035) were used for the signal warrant analysis for this intersection. Warrants were analyzed based on the guidelines of the *Manual on Uniform Traffic Control Devices (MUTCD)*, 2003 edition, published by the Federal Highway Administration (FHWA). The MUTCD specifies eight warrants to justify the installation of a traffic signal. However, the above-mentioned intersections were analyzed for the peak-hour warrant (Warrant 3) only. The warrant analysis indicated that both intersections warrant installation of a traffic signal. A summary of the signal warrant analysis for both intersections is provided in the following table. HCS Plus reports are provided in Appendix D.

Table 9 Signal Warrant Analysis

Intersection	Year	Warrant Analyzed	A.M. Peak (DHV)		P.M. Peak (DHV)		Warranted
			Major Street (total of both approaches)	Minor Street (peak direction volume)	Major Street (total of both approaches)	Minor Street (peak direction volume)	
Encore Parkway and Maxwell Road	2015	Warrant 3: Peak-Hour Volumes	1,210	165	1,555	265	Yes
Encore Parkway and GA 400 HOV Ramps	2035	Warrant 3: Peak-Hour Volumes	1,810	220	2,705	195	Yes

1.3.2 Potential Improvements

The following potential improvements for build conditions were identified based on the results of the no-build conditions analysis:

- Encore Parkway

- The design year (2035) ADT on Encore Parkway is approximately 30,100 vehicles per day (vpd). This estimated daily demand significantly exceeds the available capacity of a two-lane arterial (17,200 vpd) based on highway capacity methodology, and this corridor would operate at LOS F.
- To meet future demand and improve traffic operations along Encore Parkway, it is recommended that Encore Parkway be widened to a four-lane divided roadway between Westside Parkway and North Point Parkway. This proposed widening would improve the LOS from F under no-build conditions to LOS D or better under build conditions in the design year (2035).
- North Point Parkway and Mansell Court
 - The eastbound approach is anticipated to carry heavy turning volumes in the design year with the new mixed-use village center development.
 - Based on the queuing analysis, it is recommended that a 300-foot right-turn lane be provided on the eastbound approach.
- North Point Parkway and Encore Parkway
 - A single left-turn lane will not be sufficient to handle the heavy northbound left-turn volume (545 vehicles per hour), and the lack of available turn-lane capacity will result in heavy spillback and thereby reduce the adjacent through lane capacity. It is recommended that 300-foot dual left-turn lanes be added on the northbound approach to minimize spillback and improve traffic operations.
 - The design year queuing analysis indicates that the heavy southbound right-turn volume will be blocked by the through volumes that will share the capacity of the rightmost through lane of the southbound approach. This condition will result in long queues on the rightmost lane of the southbound approach and also affect operations at the upstream intersection. It is recommended that a turn lane be added to eliminate the conflict and improve traffic operations at this intersection. It is also recommended that a 300-foot right-turn lane be provided on the southbound approach.
- North Point Parkway and North Point Circle 1
 - North Point Parkway is a six-lane divided roadway in the vicinity of this intersection. Eastbound left-turning vehicles from North Point Circle 1 onto North Point Parkway will have to cross over multiple lanes (four to five lanes) of mainline traffic. This intersection configuration will pose a significant safety issue for side street traffic. It is recommended that the eastbound left-turn movement be prohibited from North Point Circle 1 and that this approach be reconfigured with right-out access only. It is recommended that the northbound left-turn movement from North Point Parkway onto North Point Circle 1 continue to be allowed to maintain safe traffic operations at this intersection.
 - North Point Circle 1 traffic heading to northbound North Point Parkway has potential alternate access at North Point Circle 2, which has a signalized intersection with North Point Parkway.

- Encore Parkway and North Point Center
 - Longer storage lanes (300 feet) are recommended on both the eastbound and westbound approaches based on the results of the queuing analysis.
 - The design year peak-hour volumes indicate heavy northbound and southbound left-turn volumes. The heavy left-turn volumes warrant dual left-turn lanes for these approaches. Therefore, it is recommended that 300-foot and 350-foot dual left-turn storage lanes be provided on the northbound and southbound approaches, respectively.

- Encore Parkway and Driveway 1 (North Point Mall Entrance)
 - The eastbound approach is anticipated to service heavy right-turn volumes in the design year with the new mixed-use village center development. Based on the queuing analysis, it is recommended that a 300-foot right-turn lane be added on the southbound approach.

- Encore Parkway and Georgia 400 HOV Ramps
 - This intersection will operate at a failing level of service in the design year and is recommended to be signalized based on the results of the signal warrant analysis.

- Encore Parkway and Westside Parkway
 - In the design year, this intersection is anticipated to service significant demand during the peak hours. Intersection demand will be higher than available capacity, primarily on Westside Parkway. Intersection operational improvements that include additional turn lane capacity and longer storage lanes will benefit traffic operations at this intersection.
 - Based on the results of the queuing analysis, it is recommended that the storage length for the northbound right-turn lane be increased to 500 feet. To accommodate the heavy southbound left-turn movement, dual left-turn lanes with 500 feet of storage length are recommended. In addition, it is recommended that the storage length for the southbound right-turn lane be increased to 300 feet.
 - It is recommended that the storage length for the westbound dual left-turn lanes be increased to 300 feet to minimize spillback from the westbound left-turn movement. Additionally, it is recommended that the westbound right-turn movement be reconfigured to facilitate free-flow movement by providing a 600-foot auxiliary lane along Westside Parkway, between Encore Parkway and the proposed retail/residential development.

- Encore Parkway and Maxwell Road
 - This intersection operates at a failing level of service in the design year and is recommended to be signalized based on the results of the signal warrant analysis.

The results of the capacity analyses performed for the build conditions, including the recommended operational improvements, are summarized in Tables 12 and 13 for the open year and Tables 14 and 15 for the design year. The intersection LOS comparison between no-build and build conditions is shown on Figures 18 and 19. CORSIM 6.0 reports are provided in Appendix B. SYNCHRO signal timing reports are provided in Appendix C.

Table 10 Signalized Intersection LOS Summary for Build Conditions for Open Year 2015

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and Mansell Court	A	5	B	11
North Point Parkway and Encore Parkway	B	19	C	23
North Point Parkway and North Point Circle 2	B	18	B	19
Encore Parkway and North Point Center	A	9	B	14
Encore Parkway and Westside Parkway	C	26	C	27
Encore Parkway and Maxwell Road	B	12	B	13

Table 11 Unsignalized Intersection LOS Summary for Build Conditions for Open Year 2015

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and North Point Circle 1				
Northbound Left	B	11	B	12
Eastbound Approach	A	4	A	6
North Point Parkway and Driveway 1				
Eastbound Left	A	8	B	12
Southbound Approach	A	5	A	9
North Point Parkway and Fanfare Way	Right-In/Right-Out			
Encore Parkway and Nocturne Drive				
Westbound Left	A	0	A	7
Northbound Approach	A	8	A	4

The capacity analysis for the open year (2015) build conditions indicates that all signalized intersections will operate at LOS C or better during a.m. and p.m. peak hours. The analysis of unsignalized intersections indicates that all unsignalized intersections will operate at LOS B or better during the a.m. and p.m. peak hours.

Table 12 Signalized Intersection LOS Summary for Build Conditions for Design Year 2035

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and Mansell Court	B	11	C	30
North Point Parkway and Encore Parkway	C	22	C	28
North Point Parkway and North Point Circle 2	B	15	C	24
Encore Parkway and North Point Center	B	18	C	29
Encore Parkway and Westside Parkway	D	37	E	72
Encore Parkway and GA 400 HOV Ramps	B	19	E	57
Encore Parkway and Maxwell Road	B	19	C	25

Table 13 Unsignalized Intersection LOS Summary for Build Conditions for Design Year 2035

Intersection	A.M. Peak		P.M. Peak	
	LOS	Delay (sec)	LOS	Delay (sec)
North Point Parkway and North Point Circle 1				
Northbound Left	C	24	C	23
Eastbound Approach	A	5	A	10
North Point Parkway and Driveway 1				
Eastbound Left	C	16	E	44
Southbound Approach	B	12	C	23
North Point Parkway and Fanfare Way	Right-In/Right-Out			
Encore Parkway and Nocturne Drive				
Westbound Left	A	0	A	10
Northbound Approach	A	7	A	3

The capacity analysis results for design year build conditions indicate that all signalized intersections, except for Encore Parkway at Westside Parkway and the Georgia 400 HOV ramps, will operate at LOS C or better. The intersections of Westside Parkway and the Georgia 400 HOV ramps along Encore Parkway will operate at capacity.

In the design year, the demand on Westside Parkway will be approximately 2,360 vehicles per hour (vph) and 1,920 vph on the northbound and southbound approaches, respectively. Because anticipated demand on Westside Parkway will be higher than available capacity, this intersection will operate at LOS E. It is recommended that the capacity needs along Westside Parkway be reviewed and addressed as part of another project. Capacity improvements along Westside Parkway will not only improve operations along Westside Parkway, but will also improve the overall level of service at the intersection of Encore Parkway and Westside Parkway. The proximity of the Georgia 400 HOV ramps and Westside Parkway along Encore Parkway will have some operational impacts. However, this segment of Encore Parkway has the necessary capacity to handle this demand, and in combination with projects that address Westside Parkway capacity needs, these two intersections would have an improved level of service.

Figure 18: 2015 Intersection Level of Service (LOS)

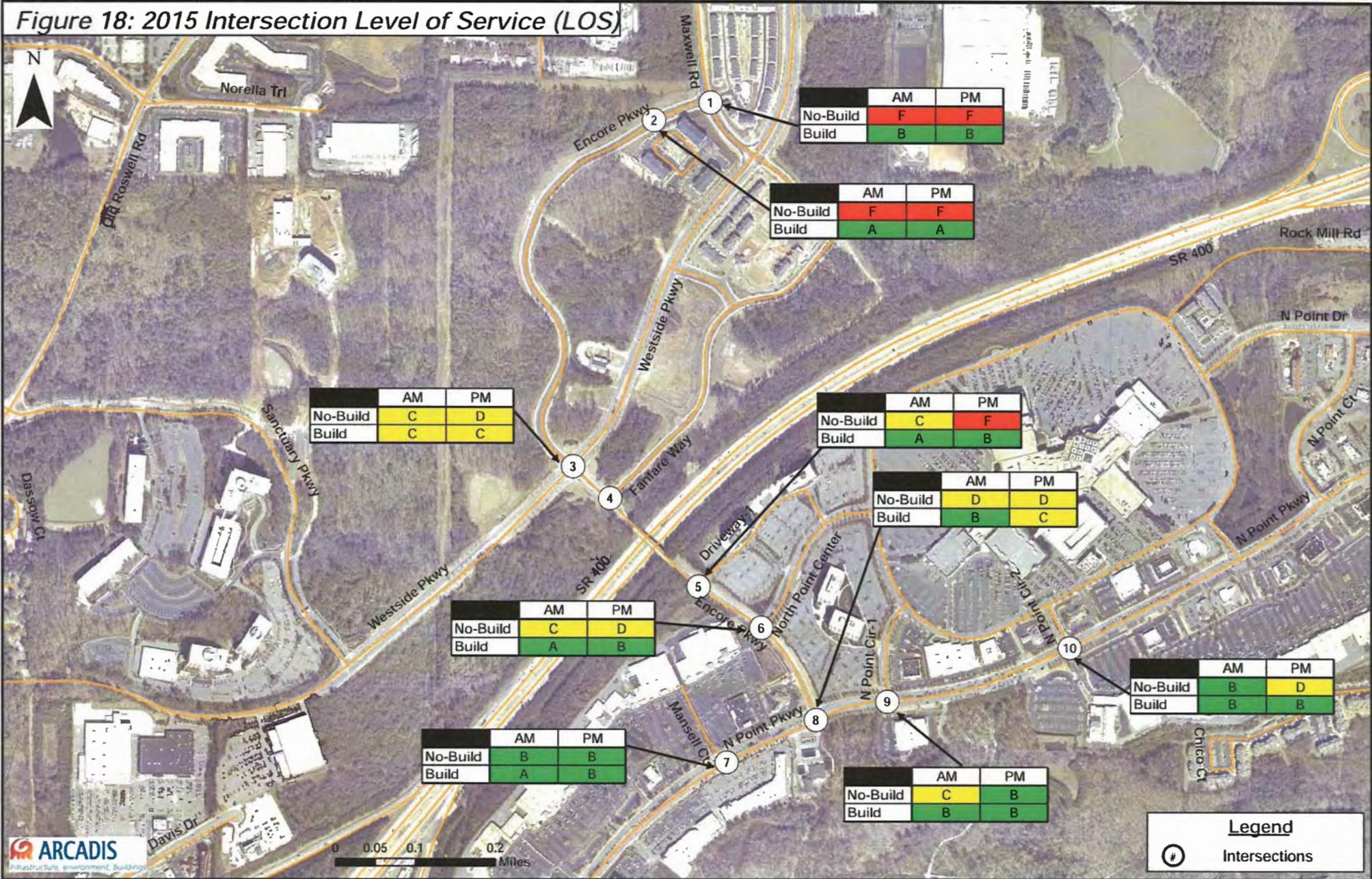
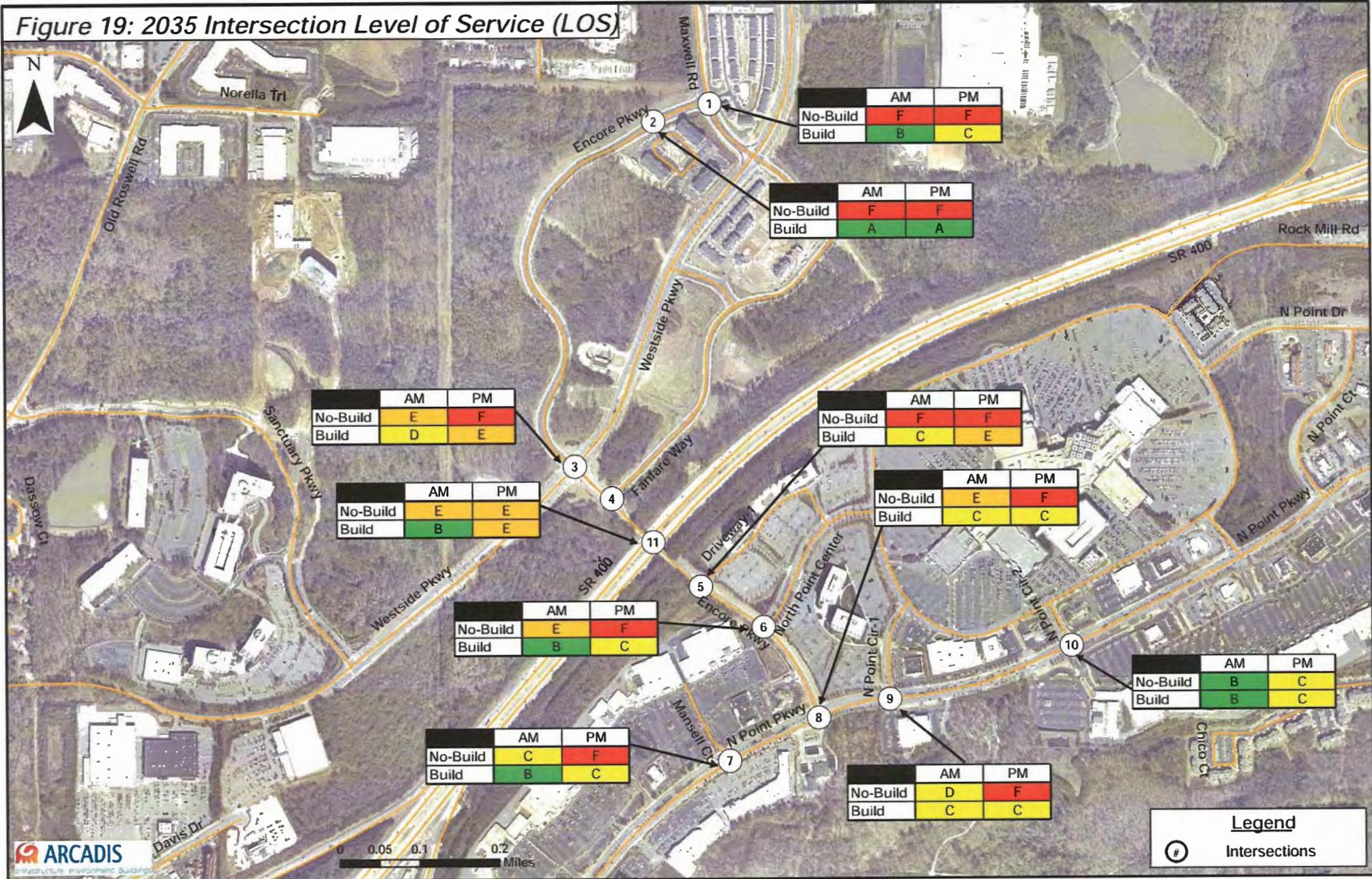


Figure 19: 2035 Intersection Level of Service (LOS)



1.4 Arterial Analysis

Arterial analyses were performed for roadway segments on Encore Parkway for existing, no-build, and build conditions for the open year and design year. Tables 16 and 17 summarize the eastbound and westbound arterial operation, respectively, for the scenarios analyzed.

Table 14 Arterial LOS for Encore Parkway – Eastbound Direction

	A.M. Peak		P.M. Peak	
Year	Speed (mph)	LOS	Speed (mph)	LOS
Existing Conditions				
2009	23	C	24	B
No-Build Conditions				
2015	23	C	20	C
2035	17	D	15	D
Build Conditions				
2015	26	B	25	B
2035	22	C	20	C

Table 15 Arterial LOS for Encore Parkway – Westbound Direction

	A.M. Peak		P.M. Peak	
Year	Speed (mph)	LOS	Speed (mph)	LOS
Existing Conditions				
2009	22	C	23	C
No-Build Conditions				
2015	21	C	18	D
2035	14	D	11	E
Build Conditions				
2015	22	C	23	C
2035	23	C	20	C

The arterial analysis indicates that Encore Parkway currently operates at LOS C or better during the a.m. and p.m. peak hours. The arterial analysis for the open year (2015) no-build conditions indicates that Encore Parkway will operate at LOS D or better during a.m. and p.m. peak hours. The arterial analysis for the design year no-build conditions indicates that Encore Parkway will operate at LOS D or better during the a.m. peak hour and at LOS E during the p.m. peak hour. The low operating speeds indicate that this corridor will be operating close to capacity. Based on the highway capacity methodology, the design year demand for this two-lane arterial (30,100 vpd) significantly exceeds capacity and this arterial is anticipated to operate at LOS F.

The open year (2015) build condition arterial analysis indicates that Encore Parkway will operate at LOS C or better during the a.m. and p.m. peak hours. The design year build conditions arterial analysis indicates an overall arterial LOS of C; however, the arterial segment of Encore Parkway between the Georgia 400 HOV ramps and Westside Parkway will operate at capacity during the p.m. peak hour. Based on the highway capacity methodology, the design year demand for this proposed four-lane divided arterial (30,100 vpd) is less than capacity, and it is estimated that this arterial will operate at LOS D or better.

2. Conclusions and Recommendations

The Encore Parkway streetscape project aims to develop a conceptual design for streetscape and roadway improvements along Encore Parkway between Maxwell Road and North Point Parkway in Alpharetta, Georgia. As part of this project, traffic forecasts and capacity analyses were performed for various improvement scenarios along Encore Parkway between North Point Parkway and Maxwell Road. The results were used to identify safety and operational improvements.

Currently, a detour plan is being implemented within the study area as a result of the road widening on Rock Mill Road/Westside Parkway between Old Roswell Road and Sanctuary Parkway, which is south of Encore Parkway. The existing conditions operational analysis was performed using the field-collected turning movement counts, which include the detour volumes to reflect the current traffic pattern within the study area. The detour plan operations are temporary and therefore the existing traffic volumes were calibrated to replicate the true traffic pattern and forecasted to generate the open year (2015) and design year (2035) background traffic. The site-generated trips were then added to the background traffic to determine the open year (2015) and design year (2035) DHVs. Capacity analyses were performed for the a.m. and p.m. peak hours for open year and design year no-build and build conditions.

Key operational issues were identified from the no-build capacity analysis, including mainline capacity deficiency along Encore Parkway between Westside Parkway and North Point Parkway, the need for additional turn-lane capacity and longer storage lanes to minimize impact on mainline operations at all signalized intersections, and the need for traffic signals at unsignalized intersections within the study area. To fully address future operational needs and safety issues, various operational improvements were identified, evaluated, and recommended at corridor and intersection levels in the vicinity of the study area.

Based on the results of intersection and arterial capacity analyses, it is recommended that Encore Parkway be widened from a two-lane road to a four-lane divided roadway between Westside Parkway and North Point Parkway. The operational improvements recommended as part of the Encore Parkway widening project are summarized in Table 18. Proposed lane configurations are provided on Figure 20, and detailed intersection sketches are provided in Appendix E.

Appendix 8

Bridge Inventory

Bridge Inventory Data Listing



Parameters: Bridge Serial Num

Structure ID:121-0307-0

Fulton

SUFF. RATING: 59.48

Location & Geography

Structure ID: 121-0307-0
 200 Brdge Information: 06
 *6A Feature Int: SR 400 (US 19)
 *6B Critical Bridge: 0
 *7A Route No Carried: CR01332
 *7B Facility Carried: ENCORE PARKWAY
 9 Location: IN ALPHARETTA
 2 Dot District: 7
 207 Year Photo: 2010
 *91 Inspection Frequency: 24 Date: 09/20/2010
 92A Fract Crit Insp Freq: 0 Date: 02/01/1901
 92B Underwater Insp Freq: 0 Date: 02/01/1901
 92C Other Spc. Insp Freq: 0 Date: 02/01/1901
 * 4 Place Code: 01696
 *5 Inventory Route(O/U): 1
 Type: 5
 Designation: 1
 Number: 09407
 Direction: 0
 *16 Latitude: 34 -02.8470 HMMS Prefix:00
 *17 Longtitude: 84 -18.2220 HMMS Suffix:000 MP:0.00
 98 Border Bridge: 000%Shared:00
 99 ID Number: 0000000000000000
 *100 STRAHNET: 0
 12 Base Highway Network: 1
 13A LRS Inventory Route: 1212133200
 13B Sub Inventory Route: 0
 101 pallel Structure: N
 *102 Direction of Traffic: 2
 *264 Road Inventory Mile Post: 002.54
 *208 Inspection Area: 7 Initials: EFP
 Engineer's Initials: sgm
 * Location ID No: 121-09407M-002.46E

*104 Highway System: 0
 *26 Functional Classification: 17
 *204 Federal Route Type: M No: 09407
 105 Federal Lands Highway: 0
 *110 Truck Route: 0
 2006 School Bus Route: 1
 217 Benchmark Elevation: 0000.00
 218 Datum: 0
 *19 Bypass Length: 05
 *20 Toll: 3
 *21 Maintanance: 01
 *22 Owner: 01
 *31 Design Load: 6
 37 Historical Significance: 5
 205 Congressional District: 06
 27 Year Constructed: 1969
 106 Year Reconstructed: 0000
 33 Bridge Medium: 0
 34 Skew: 00
 35 Structure Flared: 0
 38 Navigation Control: N
 213 Special Steel Design: 0
 267 Type of Paint: 2
 *42 Type of Service On: 5
 Type of Service Under: 1
 214 Movable Bridge: 0
 203 Type Bridge: 0
 259 Pile Encasement 3
 *43 Structure Type Main: 4 02
 45 No.Spans Main: 004
 44 Structure Type Appr: 0 00
 46 No Spans Appr: 0000
 226 Bridge Curve Horz 0 Vert: 0
 111 pier Protection 0
 107 Deck Structure Type: 1
 108 Wearing Structure Type: 1
 Membrane Type: 0
 Deck Protection: 8

Signs & Attachments

225 Expansion Joint Type: 15
 242 Deck Drains: 0
 243 Parapet Location: 0
 Height: 0
 Width: 0
 238 Curb Height: 1
 Curb Material: 1
 239 Handrail 7 7
 *240 Medium Barrier Rail: 0
 241 Bridge Median Height: 0
 * Bridge Median Width: 0
 230 Guardrail Loc. Dir. Rear: 3
 Frwd: 3
 Oppo. Dir. Rear: 0
 Oppo. Frwd: 0
 244 Aproach Slab 3
 224 Retaining Wall: 0
 233Posted Speed Limit: 25
 236 Warning Sign: 0.00
 234 Delineator: 0.00
 235 Hazzard Boards: 0
 237 Utilities Gas: 22
 Water: 21
 Electric: 00
 Telephone: 22
 Sewer: 00
 247 Lighting Street: 0
 Navigation: 0
 Aerial: 0
 *248 County Continuity No.: 00

Bridge Inventory Data Listing



Parameters: Bridge Serial Num

Structure ID:121-0307-0

Programming Data		Measurements:		Inventory Data	
201 Project No:	APD-056-1 (13) CT.2	*29ADT	022430 Year:2007	65 Inventory Rating Method:	1
202 Plans Available:	4	109%Trucks:	0	63 Operating Rating Method:	1
249 Prop Proj No:	000000000000000000000000000000	* 28 Lanes On:	02 Under:08	66 Inventory Type:	2 Rating: 27
250 Approval Status:	0000	210 No. Tracks On:	00 Under:00	64 Operating Type:	2 Rating: 27
251 PI Number:	0000000	* 48 Max. Span Length	0088	231 Calculated Loads:	
252 Contract Date:	02/01/1901	* 49 Structure Length:	278	H-Modified:	21 0
260 Seismic No:	00000	51 Br. Rwdy. Width	30.00	HS-Modified:	30 0
75 Type Work:	00 0	52 Deck Width:	40.80	Type 3:	28 0
94 Bridge Imp. Cost:	\$0	* 47 Tot. Horiz. Cl:	30	Type 3s2:	34 0
95 Roadway Imp. Cost:	0	50 Curb / Sidewalk Width	4.00 / 4.00	Timber:	31 0
96 Total Imp Cost:	0	32 Approach Rdwy. Width	030	Piggyback:	00 0
76 Imp Length:	000000	*229 Shoulder Width:		261 H Inventory Rating:	26
97 Imp Year:	0000	Rear Lt:	2.00 Type:1 Rt:2.00	262 H Operating Rating	44
114 Future ADT:	033645 Year:2027	Fwd. Lt:	2.00 Type:1 Rt:2.00	67 Structural Evaluation:	6
Hydraulic Data		Permanent Width:		58 Deck Condition:	6
215 Waterway Data:		Rear:	26.00 Type:1	59 Superstructure Condition:	7
High Water Elev:	0000.0 Year:1900		26.00 Type:2	* 227 Collision Damage:	1
Flood Elev:	0000.0 Freq:00	Intersection Rear:	1 Fwd: 1	60A Substructure Condition:	7
Avg Streambed Elev:	0000.0	36 Safety Features Br. Rail:	2	60B Scour Condition:	N
Drainage Area:	00000	Transition:	2	60C Underwater Condition	N
Area of Opening:	000000	App. G. Rail:	2	71 Waterway Adequacy:	N
113 Scour Critical	N	App. Rail End:	2	61 Channel Protection Cond.:	N
216 Water Depth:	00.0 Br.Height:00.0	53 Minimum Cl. Over:	99' 99 "	68 Deck Geometry:	4
222 Slope Protection:	4	Under:		69 UnderClr. Horz/Vert:	5
221 Slope Protection	0 Fwd:0	*228 Minimum Vertical Cl		72 Appr. Alignment:	6
219 Fender System	0	Act. Odm Dir.:	99' 99"	62 Culvert:	N
220 Dolphin:	0	Oppo. Dir:	99' 99"	Posting Data	
223 Current Cover:	000	Posted Odm. Dir:	00' 00"	70 Bridge Posting Required	5
Type:	0	Oppo. Dir:	00' 00"	41 Struct Open, Posted, CL:	A
No. Barrels:	0	55 Lateral Undercl. Rt:	H 30 30	* 103 Temporary Structure:	0
* Width:	0.00 Height:0.00	56 Lateral Undercl. Lt:	6.00	232 Posted Loads	
* Length:	0 Apron:0	*10 Max Min Vert Cl:	99' 99" Dir:0	H-Modified:	00
265 U/W Insp. Area	0 Diver:ZZZ	39 Nav Vert Cl:	000 Horiz:0000	HS-Modified:	00
Location ID No:	121-09407M-002.46E	116 Nav Vert Cl Closed:	000	Type 3:	00
		245 Deck Thickness Main Deck Thick Approach:	7.00	Type 3s2:	00
		246 Overlay Thickness:	0.00	Timber:	00
		212 Year Last Painted:	Sup:1994Sub:0000	Piggyback	00
				253 Notification Date:	02/01/1901
				258 Fed Notify Date:	2/1/1901 12:00:00AM

Appendix 9

Minutes of Concept Meetings



ARCADIS U.S., Inc.
2410 Paces Ferry Road
#400
Atlanta
Georgia 30339
Tel 770.431.8666
Fax 770.435.2666

MEETING REPORT

Subject:
Encore Parkway Concept Team Meeting
February 7, 2011
P.I. No. 001024

Department:
Transportation

ARCADIS Project No.:
GA063890

Place/Date of Meeting:
GDOT District 7

Report No.:
1

Minutes by:
Keith Kunst/Bonnie Bynum

Issue Date:
February 17, 2011

Participants:
See attached sign in sheet

Not Present:
N/A

Copies:
PBS&J

Keith Kunst began the meeting with introductions and a description of the proposed action along Encore Parkway. The project begins at Westside Parkway and continues along Encore Parkway to North Point Parkway in the City of Alpharetta. The project consists of pedestrian improvements, bicycle accommodations and the replacement of the existing Encore Parkway Bridge over SR 400. Funding is currently through LCI grants with contributions from the City of Alpharetta and the North Fulton CID.

Keith explained that although this project is scheduled for a non-capacity increasing project, the future traffic analysis shows that a 4-lane roadway along Encore Parkway would be appropriate. In order to protect the investment of hardscaping, sidewalks, landscaping and lighting items of this project, the current concept proposes installing a 2-lane roadway with a wide raised median. If future traffic volumes require a four-lane roadway, the widening can be performed to the middle without affecting the improvements constructed under this project. In addition, the Encore Parkway Bridge over SR 400 would be sized to accommodate the programmed managed lane project along SR 400 as well as allowing for a direct access managed lane interchange. All of these measures are intended to eliminate the possibility of "throw away" elements. The bridge would have landscaping, facade techniques, bicycle lanes and sidewalks. The bridge would be constructed with clear spans to allow for the future improvements to SR 400.

Discussion was held about the landscaping and aesthetics proposed for the bridge. These discussions included:

- Who would maintain the landscaping – it was discussed that a local maintenance agreement would be required with the GDOT.
- Give consideration to irrigation- truck watering vs. on site irrigation with truck preferred
- Try to perform design to avoid the need for design variances, if possible.
- Median setback requirement is 8-feet- if there is a Design Variance, it should be submitted with the final Concept Report
- If vines or other plantings are to be used on the fencing of the bridge, consider Confederate jasmine (as it has been successful on other bridges)
- Use Special Provision 702.2 article 11 in the mowing and maintenance agreement
- As currently shown there is spacing between the median planter boxes, this will need to be modified to straight line barrier style to prohibit pedestrian crossing and also to prevent vehicles from catching on edges.
- Consider graffiti protection coatings
- Consider wind impact on pedestrians
- Consider lighting on the bridge and that it does not shine on the drivers
- Re-assess cost per square foot with the bridge office 5th street was \$150 per square foot

Utilities

- There is a 16-inch water transmission line on the north side of the bridge and going beneath SR 400
- Verizon has 2 optic cables running 5-feet inside of the Encore Pkwy right-of-way and bored under SR 400 north of the existing Encore Pkwy Bridge.
- Has any money been set aside for utility relocations – this has been addressed in the concept report estimate, but better estimates from the owners will be required.
- Georgia Power has lines on the bridge- it was stated that they would cut power in this line during construction and replacing the existing power line in a conduit beneath the bridge. This would be classified as an overhead to underground conversion and would therefore be entirely on the City for reimbursement. A coordination meeting will be held to discuss additional relocation options and decide on which one suits the needs of the project and the budget.

SUE

- Direction was given to work with the office of utilities- Full SUE investigation not proposed at this time

Schedule and Budget

- Let March 2013
- \$10 M cost
- 8 commercial parcels require ROW acquisition, can be handled rapidly by the North Fulton CID
- Robert Hughes should coordinate with FHWA on Full Oversight and the GDOT Office of Innovative Program Delivery
- Mac Cranford and the city of Alpharetta mentioned that TE funds will be applied to the project.
- Amy Goodwin confirmed that LCI funds can be used for any portion of the project.

Environmental

Currently proposed for a Categorical Exclusion

A non-eligible archaeological site is within the Area of Potential Effect, but outside of construction limits
A combined public information open house and detour meeting should be scheduled in late April and no later than June 2011

The City of Alpharetta would make and post the public information open house signs and the meeting could be held at the Greater North Fulton Chamber of Commerce building if needed.

Mac Cranford then initiated the review of the draft concept report. The team went through each page and comments were given. Below is an overview (not intended to be exhaustive list) of some of the major changes to be included in the report:

- Revise project name to match the TIP description” Encore Parkway from Westside Parkway to Northpoint Parkway Streetscape and Big Creek Greenway Extension.
- Add SR 400 as a SR
- Add a bicycle typical section
- Show accident data as at angle crashes
ARCADIS Response: The information is in the attached accident analysis.
- Remove project number from Concept Report title page and header for each page
- Remove Concept Scoring Results page
- Include the No-Build Alternative as Other Alternatives considered
- Submit Design Exception and Variances with Concept Report
ARCADIS Response: None are anticipated at this time.
- Add base count data traffic on SR 400
- Check on FHWA regarding oversight
- Check with Office of Innovative Program Delivery

Action Items

All comments on the draft concept report are due by February 21, 2011

Comments received from Robert Hughes after concept meeting:

- The Need and Purpose statement contains the word “safety”.
- The draft concept report states that project is in full oversight, while T-Pro says that it is exempt. Please clarify for this discrepancy.
- According to the functional classification map of Fulton County, the proposed project is an Urban Collector Street/Urban Local Road. The report classifies it as an Urban Minor Arterial Street. Please update the functional classification as the map advises.
- The draft concept report lists the State Route number for the proposed project as SR 400. T-Rex lists it as CR 1332.
- If possible, please attach the traffic diagrams to the draft report.
- Existing Design Features: for Typical Section, please list the name of the roadway proposed for upgrades.

- The location and design approval process has changed, and the notice is no longer apart of the concept report. Please see the PDP manual for more information.
- Please attach the available ROW cost estimate.
- Please attach the available Utilities estimate.
ARCADIS Response: An estimate has been included in the project cost estimate. A more detailed estimate will be available after the preliminary design phase. No reimbursable utility costs are expected.
- Has a capacity analysis summary been done?
ARCADIS Response: The information is in the attached capacity analysis.

Comments received from ARC after concept meeting and responses are on pages 5-7.



LCI Transportation Project- Technical Review Comments

Submittal: Initial Concept Report
 Date of Review: January 5, 2011
 Project Number: TBD
 PI Number: 0010241
 Project Name/Description: Encore Parkway Bridge and Streetscape
 County: Fulton- City of Alpharetta

Comment No:	Sheet No:	Comment	Sponsor Response
1	1	Add project number when available.	Project number is not available at this time.
2	2	Clarify the north arrow on the project location map. Is Center Bridge the same as Encore Parkway at SR 400? I recommend using one name.	Center Bridge is the same as Encore Pkwy. "Center Bridge" has been removed from the map.
3	3	Need and Purpose: Background: 1 st Para, 1 st sentence: Remove "and "after parkway and add "to a point east of" before North.	The need and purpose has been updated.
4	3	Need and Purpose: 1 st Para, last sentence: add "lighting" to the scope listing.	The need and purpose has been updated.
5	3	Need and Purpose: 2nd Para, 1 st sentence: Add "and" after "lanes,..."	The need and purpose has been updated.
6	3	Under existing conditions, doesn't North Point Parkway have a raised median? Please add to the description. Likewise, add Westside parkway's existing conditions/laneage.	The existing conditions have been updated.
7	4	Under Projects in the Area, add the scope of all projects at the end of each project listing to make the listing comprehensive and consistent.	The scopes have been added.
8	4	Under Environmental Justice, add any minority communities/residences/businesses that are/not to be displaced. Since Alpharetta has a low % of minorities, any displacements would be significant if they would occur.	No displacements are expected.
9	4	Land Use: First sentence: aren't there residential developments in the NW quadrant of the project? Please note.	The land use section has been updated.
10	4	Land Use: Add to the end of the last sentence: "...especially during events at the nearby Amphitheater."	The land use section has been updated.
11	5	Need and Purpose: 1 st para: 1 st sentence: Replace "is a" with "is becoming a more heavily..."	The need and purpose has been updated.
12	5	Need and Purpose: 1 st para: 3 rd sentence: Add after signage " as well as bike lanes on the new, wider bridge."	The need and purpose has been updated.

13	5	Need and Purpose: 1st para: last 2 sentences: Remove sentences; while it is understood the need for alternate transportation and air quality, by widening the bridge to allow for 4 lanes in the future, it is debatable that future 4 laning would provide an environmentally benign...	The need and purpose has been updated.
14	5	Need and Purpose: 2nd para: 3 blurbs: Change the last to read “Emphasizing ease of operations and safety for the pedestrian and cyclists”	The need and purpose has been updated.
15	5	Alternates to the Proposed Work: 1st para, 3rd sentence add “and cycling” after “pedestrian,”	The alternatives section has been updated.
16	5	Alternates to the Proposed Work: 2nd para, last sentence: Change “a 20...”to ”at least a minimum of 20 ..” The bridge should have a 50 year design life!	The alternatives section has been updated.
17	5	Description of the proposed project: 3rd sentence: Add to the end “at appropriate locations.”	The description has been updated.
18	6	Federal oversight: add in parenthesis under that line: ” Bridge is over SR 400, which is part of the Appalachian Developmental Highway System)	Federal oversight has been changed to “exempt.”
19	7	Major Intersections: You list 2 at the top, but later under proposed you list 4 major intersections. Which is it? I remember 3- Encore at Westside, the Mall entrance, and North Point Parkway. Please clarify.	Major intersections have been adjusted to be 4 in total.
20	8	Transportation Management Plan: It states that the bridge will be removed before any new bridge is built. Are there utilities on the bridge? If not, state. If so, how will they be maintained? Can the bridge be stage so traffic can be maintained, esp for amphitheater events?	The Transportation Management Plan has been updated.
21	8	DE/DV: What about lighting and landscaping? (even if placed later!), 14 ft travelled lanes?	A design variance will be needed for 14’ travel lanes.
22	9	Project Cost Estimate: Note LCI funding limits on applicable phases, as well as other federal and local shares for each phase.	The project cost estimate has been updated.
23	9	Fiscal Years Proposed: What is in the TIP? If these dates were in the updated TIP, please note.	The dates have been verified.
24	Cost Est	Item 402-3113 should be GRP 2 Only; Check to ensure all lighting work is included and costs included within the cost estimate. Move landscaping header to next page.	The item has been updated. The header has been moved. It is our understanding that Ga Power will be installing and paying for lights. We have included the installation of the bases only.
25	Cost Est	Should 2 years of 5 % inflation be added? Is \$1.2 M for bridge landscaping in addition to the other landscape items shown?	The inflation has been added. \$1.2 M is in addition to the other landscape items shown.
26	Typ Section	Add legend for paving/concrete items. Add locations of light foundations/poles/luminaires, utilities and trees.	These details will be provided in the preliminary plans phase.

ARCADIS

27	Typ Section	What is to be placed in median during “phase1” Should sidewalk/path at greenway have aggregate under the asphalt? Will maintenance trucks use the trail?	Plantings are to comply with GDOT Streetscape Manual.
28	Typ Section	For 4 lane section, indicate that the TS is for info only, proving the 4 lane can be addressed through the proposed Phase 1 dimensions.	The note has been added.
29	10	Items 5.and 6. shall be made available prior to the concept meeting for review.	The items are included.
30	Accident Analysis	This is a broad summary. Drill a little deeper. Are crashes concentrated at certain locations within the project? Intersections? DW's? How will the project address the higher than average statewide rates (3.5X, 1.5X)?	The accident analysis has been updated and includes intersections.
31		Is a sectional view required along SR 400 under the bridge to show clear zone/lateral offsets to the proposed future laneage?	The future laneage is shown on the future bridge concept layout in the concept report.

Sponsor responses provided by:

Local Government Contact (if different than above):

Email:

Email:

Phone:

Phone:

Appendix 10

PFA's and/or SSA's

Vance C. Smith, Jr., Commissioner



GEORGIA DEPARTMENT OF TRANSPORTATION

One Georgia Center, 600 West Peachtree Street, NW
Atlanta, Georgia 30308
Telephone: (404) 631-1000

January 18, 2011

The Honorable Arthur Letchas, Mayor
City of Alpharetta
2 South Main Street
Alpharetta, Georgia 30009

Dear Mayor Letchas:

I am returning for your files an executed agreement between the Georgia Department of Transportation and the City of Alpharetta for the following projects:

P.I. #0010241, Fulton County

We look forward to working with you on the successful completion of the joint project.
Should you have any questions, please contact the Project Manager Robert Hughes at (770)631-1799.

Sincerely,

Angela Robinson,
Financial Management Administrator

AR: rm

Enclosure

c: Bob Rogers
Bryant Poole – District 7
Mac Cranford – District 7
Jonathan Walker – District 7
Jeff Baker – Utilities

AGREEMENT
BETWEEN
DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
AND
CITY OF ALPHARETTA
FOR
TRANSPORTATION FACILITY IMPROVEMENTS

DO NOT OBLIGATE

This Framework Agreement is made and entered into this 28th day of December, 2010, by and between the DEPARTMENT OF TRANSPORTATION, an agency of the State of Georgia, hereinafter called the "DEPARTMENT", and the CITY OF ALPHARETTA, acting by and through its Mayor and City Council, hereinafter called the "LOCAL GOVERNMENT".

WHEREAS, the LOCAL GOVERNMENT has represented to the DEPARTMENT a desire to improve the transportation facility described in Attachment A, attached and incorporated herein by reference and hereinafter referred to as the "PROJECT"; and

WHEREAS, the LOCAL GOVERNMENT has represented to the DEPARTMENT a desire to participate in certain activities including the funding of certain portions of the PROJECT and the DEPARTMENT has relied upon such representations; and

WHEREAS, the DEPARTMENT has expressed a willingness to participate in certain activities of the PROJECT as set forth in this Agreement; and

WHEREAS, the Constitution authorizes intergovernmental agreements whereby state and local entities may contract with one another "for joint services, for the provision of services, or for the joint or separate use of facilities or equipment; but such contracts must deal with activities, services or facilities which the parties are authorized by law to undertake or provide." Ga. Constitution Article IX, §III, ¶I(a).

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. The LOCAL GOVERNMENT has applied for and received "Qualification Certification" to administer federal-aid projects. The GDOT Certification Committee has reviewed, confirmed and approved the certification for the Local Government to develop federal project(s) within the scope of its certification using the DEPARTMENT'S Local Administered Project Manual procedures. The Local Government shall contribute to the PROJECT by funding all or certain portions of the PROJECT costs for the preconstruction engineering (design) activities, hereinafter referred to as "PE", all reimburseable utility relocations, all non-reimburseable utilities owned by the LOCAL GOVERNMENT, railroad costs, right of way acquisitions and construction, as specified in Attachment A, attached hereto and incorporated herein by reference. Expenditures incurred by the LOCAL GOVERNMENT prior to the execution of this AGREEMENT or

subsequent funding agreements shall not be considered for reimbursement by the DEPARTMENT. PE expenditures incurred by the LOCAL GOVERNMENT after execution of this AGREEMENT shall be reimbursed by the DEPARTMENT once a written notice to proceed is given by the DEPARTMENT.

2. The DEPARTMENT shall contribute to the PROJECT by funding all or certain portions of the PROJECT costs for the PE, right of way acquisitions, reimbursable utility relocations, railroad costs, or construction as specified in Attachment A.

3. It is understood and agreed by the DEPARTMENT and the LOCAL GOVERNMENT that the funding portion as identified in Attachment "A" of this Agreement only applies to the PE. The Right of Way and Construction funding estimate levels as specified in Attachment "A" are provided herein for planning purposes and do not constitute a funding commitment for right of way and construction. The DEPARTMENT will prepare LOCAL GOVERNMENT Specific Activity Agreements for funding applicable to Right of Way or Construction when appropriate.

Further, the LOCAL GOVERNMENT shall be responsible for repayment of any expended federal funds if the PROJECT does not proceed forward to completion due to a lack of available funding in future PROJECT phases, changes in local priorities or cancellation of the PROJECT by the LOCAL GOVERNMENT without concurrence by the DEPARTMENT.

4. The LOCAL GOVERNMENT shall be responsible for all costs for the continual maintenance and operations of any and all sidewalks and the grass strip between the curb and sidewalk within the PROJECT limits.

5. Both the LOCAL GOVERNMENT and the DEPARTMENT hereby acknowledge that Time is of the Essence. It is agreed that both parties shall adhere to the schedule of activities currently established in the approved Transportation Improvement Program/State Transportation Improvement Program, hereinafter referred to as "TIP/STIP". Furthermore, all parties shall adhere to the detailed project schedule as approved by the DEPARTMENT, attached as Attachment B and incorporated herein by reference. In the completion of respective commitments contained herein, if a change in the schedule is needed, the LOCAL GOVERNMENT shall notify the DEPARTMENT in writing of the proposed schedule change and the DEPARTMENT shall acknowledge the change through written response letter; provided that the DEPARTMENT shall have final authority for approving any change.

If, for any reason, the LOCAL GOVERNMENT does not produce acceptable deliverables in accordance with the approved schedule, the DEPARTMENT reserves the right to delay the PROJECT's implementation until funds can be re-identified for right of way or construction, as applicable.

6. The LOCAL GOVERNMENT shall certify that the regulations for "CERTIFICATION OF COMPLIANCES WITH FEDERAL PROCUREMENT

REQUIREMENTS, STATE AUDIT REQUIREMENTS, and FEDERAL AUDIT REQUIREMENTS” are understood and will comply in full with said provisions.

7. The LOCAL GOVERNMENT shall accomplish the PE activities for the PROJECT. The PE activities shall be accomplished in accordance with the DEPARTMENT's Plan Development Process hereinafter referred to as "PDP", the applicable guidelines of the American Association of State Highway and Transportation Officials, hereinafter referred to as "AASHTO", the DEPARTMENT's Standard Specifications Construction of Transportation Systems, and all applicable design guidelines and policies of the DEPARTMENT to produce a cost effective PROJECT. Failure to follow the PDP and all applicable guidelines and policies will jeopardize the use of Federal Funds in some or all categories outlined in this agreement, and it shall be the responsibility of the LOCAL GOVERNMENT to make up the loss of that funding. The LOCAL GOVERNMENT's responsibility for PE activities shall include, but is not limited to the following items:

a. Prepare the PROJECT Concept Report and Design Data Book 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 7b and approved by the DEPARTMENT. The concept report shall be approved by the DEPARTMENT prior to the LOCAL GOVERNMENT beginning further development of the PROJECT plans. It is recognized by the parties that the approved concept may be updated or modified by the LOCAL GOVERNMENT as

required by the DEPARTMENT and re-approved by the DEPARTMENT during the course of PE due to updated guidelines, public input, environmental requirements, Value Engineering recommendations, Public Interest Determination (PID) for utilities, utility/railroad conflicts, or right of way considerations.

b. Prepare a Traffic Study for the PROJECT that includes Average Daily Traffic, hereinafter referred to as "ADT", volumes for the base year (year the PROJECT is expected to be open to traffic) and design year (base year plus 20 years) along with Design Hour Volumes, hereinafter referred to as "DHV", for the design year. DHV includes morning (AM) and evening (PM) peaks and other significant peak times. The Study shall show all through and turning movement volumes at intersections for the ADT and DHV volumes and shall indicate the percentage of trucks on the facility. The Study shall also include signal warrant evaluations for any additional proposed signals on the PROJECT.

c. Prepare environmental studies, documentation, reports and complete Environmental Document for the PROJECT along with all environmental re-evaluations required that show the PROJECT is in compliance with the provisions of the National Environmental Policy Act or the Georgia Environmental Policy Act as per the DEPARTMENT's Environmental Procedures Manual, as appropriate to the PROJECT funding. This shall include any and all archaeological, historical, ecological, air, noise, community involvement, environmental justice, flood plains, underground storage tanks, and hazardous

waste site studies required. The completed Environmental Document approval shall occur prior to Right of Way funding authorization. A re-evaluation is required for any design change as described in Chapter 7 of the Environmental Procedures Manual. In addition, a re-evaluation document approval shall occur prior to any Federal funding authorizations if the latest approved document is more than 6 months old. The LOCAL GOVERNMENT shall submit to the DEPARTMENT all studies, documents and reports for review and approval by the DEPARTMENT, the FHWA and other environmental resource agencies. The LOCAL GOVERNMENT shall provide Environmental staff to attend all PROJECT related meetings where Environmental issues are discussed. Meetings include, but are not limited to, concept, field plan reviews and value engineering studies.

d. Prepare all PROJECT public hearing and public information displays and conduct all required public hearings and public information meetings with appropriate staff in accordance with DEPARTMENT practice.

e. Perform all surveys, mapping, soil investigations and pavement evaluations needed for design of the PROJECT as per the appropriate DEPARTMENT Manual.

f. Perform all work required to obtain all applicable PROJECT permits, including, but not limited to, Cemetery, TVA and US Army Corps of Engineers permits, Stream Buffer Variances and Federal Emergency Management Agency (FEMA) approvals. The LOCAL GOVERNMENT shall provide all mitigation

required for the project, including but not limited to permit related mitigation. All mitigation costs are considered PE costs. PROJECT permits and non-construction related mitigation must be obtained and completed 3 months prior to the scheduled let date. These efforts shall be coordinated with the DEPARTMENT.

g. Prepare the stormwater drainage design for the PROJECT and any required hydraulic studies for FEMA Floodways within the PROJECT limits. Acquire of all necessary permits associated with the Hydraulic Study or drainage design.

h. Prepare utility relocation plans for the PROJECT following the DEPARTMENT's policies and procedures for identification, coordination and conflict resolution of existing and proposed utility facilities on the PROJECT. These policies and procedures, in part, require the Local Government to submit all requests for existing, proposed, and relocated facilities to each utility owner within the project area. Copies of all such correspondence, including executed agreements for reimbursable utility/railroad relocations, shall be forwarded to the DEPARTMENT's Project Manager and the District Utilities Engineer and require that any conflicts with the PROJECT be resolved by the LOCAL GOVERNMENT. If it is determined that the PROJECT is located on an on-system route or is a DEPARTMENT LET PROJECT, the LOCAL GOVERNMENT and the District Utilities Engineer shall ensure that permit applications are approved for each utility company in conflict with the project. If

it is determined through the DEPARTMENT's Project Manager and State Utilities Office during the concept or design phases the need to utilize Overhead/Subsurface Utility Engineering, hereinafter referred to as "SUE", to obtain the existing utilities, the LOCAL GOVERNMENT shall be responsible for acquiring those services. SUE costs are considered PE costs.

i. Prepare, in English units, Preliminary Construction plans, Right of Way plans and Final Construction plans that include the appropriate sections listed in the Plan Presentation Guide, hereinafter referred to as "PPG", for all phases of the PDP. All drafting and design work performed on the project shall be done utilizing Microstation and CAICE software respectively using the DEPARTMENT's Electronic Data Guidelines. The LOCAL GOVERNMENT shall further be responsible for making all revisions to the final right of way plans and construction plans, as deemed necessary by the DEPARTMENT, for whatever reason, as needed to acquire the right of way and construct the PROJECT.

j. Prepare PROJECT cost estimates for construction, Right of Way and Utility/railroad relocation along with a Benefit Cost, hereinafter referred to as "B/C ratio" at the following project stages: Concept, Preliminary Field Plan Review, Right of Way plan approval (Right of Way cost only), Final Field Plan Review and Final Plan submission using the applicable method approved by the DEPARTMENT. The cost estimates and B/C ratio shall also be updated yearly if the noted project stages occur at a longer frequency. Failure of the LOCAL GOVERNMENT to provide timely and accurate cost estimates and B/C

ratio may delay the PROJECT's implementation until additional funds can be identified for right of way or construction, as applicable.

k. Provide certification, by a Georgia Registered Professional Engineer, that the Design and Construction plans have been prepared under the guidance of the professional engineer and are in accordance with AASHTO and DEPARTMENT Design Policies.

l. Provide certification, by a Level II Certified Design Professional that the Erosion Control Plans have been prepared under the guidance of the certified professional in accordance with the current Georgia National Pollutant Discharge Elimination System.

m. Provide a written certification that all appropriate staff (employees and consultants) involved in the PROJECT have attended or are scheduled to attend the Department's PDP Training Course and Local Administered Project Training. The written certification shall be received by the Department no later than the first day of February of every calendar year until all phases have been completed.

8. The Primary Consultant firm or subconsultants 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. The LOCAL GOVERNMENT shall comply with all applicable

state and federal regulations for the procurement of design services and in accordance with the Brooks Architect-Engineers Act of 1972, better known as the Brooks Act, for any consultant hired to perform work on the PROJECT.

9. The DEPARTMENT shall review and has approval authority for all aspects of the PROJECT provided however this review and approval does not relieve the LOCAL GOVERNMENT of its responsibilities under the terms of this agreement. The DEPARTMENT will work with the FHWA to obtain all needed approvals as deemed necessary with information furnished by the LOCAL GOVERNMENT.

10. The LOCAL GOVERNMENT shall be responsible for the design of all bridge(s) and preparation of any required hydraulic and hydrological studies within the limits of this PROJECT in accordance with the DEPARTMENT's policies and guidelines. The LOCAL GOVERNMENT shall perform all necessary survey efforts in order to complete the hydraulic and hydrological studies and the design of the bridge(s). The final bridge plans shall be incorporated into this PROJECT as a part of this Agreement.

11. The LOCAL GOVERNMENT unless otherwise noted in attachment "A" shall be responsible for funding all LOCAL GOVERNMENT owned utility relocations and all other reimbursable utility/railroad costs. The costs include but are not limited to PE, easement acquisition, and construction activities necessary for the utility/railroad to accommodate the PROJECT. The terms for any such reimbursable relocations shall be laid out in an agreement that is supported by plans, specifications, and itemized costs of the work agreed upon and shall be executed prior to certification by the DEPARTMENT.

The LOCAL GOVERNMENT shall certify via written letter to the DEPARTMENT's Project Manager and District Utilities Engineer that all Utility owners' existing and proposed facilities are shown on the plans with no conflicts 3 months prior to advertising the PROJECT for bids and that any required agreements for reimbursable utility/railroad costs have been fully executed. Further, this certification letter shall state that the LOCAL GOVERNMENT understands that it is responsible for the costs of any additional reimbursable utility/railroad conflicts that arise on construction.

12. The DEPARTMENT will be responsible for all railroad coordination on DEPARTMENT Let and/or State Route (On-System) projects; the LOCAL GOVERNMENT shall address concerns, comments, and requirements to the satisfaction of the Railroad and the DEPARTMENT. If the LOCAL GOVERNMENT is shown to LET the construction in Attachment "A" on off-system routes, the LOCAL GOVERNMENT shall be responsible for all railroad coordination and addressing concerns, comments, and requirements to the satisfaction of the Railroad and the DEPARTMENT for PROJECT.

13. The LOCAL GOVERNMENT shall be responsible for acquiring a Value Engineering Consultant for the DEPARTMENT to conduct a Value Engineering Study if the total estimated PROJECT cost is \$10 million or more. The Value Engineering Study cost is considered a PE cost. The LOCAL GOVERNMENT shall provide project related design data and plans to be evaluated in the study along with appropriate staff to present and answer questions about the PROJECT to the study team. The LOCAL GOVERNMENT shall provide responses to the study recommendations indicating

whether they will be implemented or not. If not, a valid response for not implementing shall be provided. Total project costs include PE, right of way, and construction, reimbursable utility/railroad costs.

14. The LOCAL GOVERNMENT, unless shown otherwise on Attachment A, shall acquire the Right of way 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. Upon the DEPARTMENT's approval of the PROJECT right of way plans, verification that the approved environmental document is valid and current, a written notice to proceed will be provided by the DEPARTMENT for the LOCAL GOVERNMENT to stake the right of way and proceed with all pre-acquisition right of way activities. The LOCAL GOVERNMENT shall not proceed to property negotiation and acquisition whether or not the right of way funding is Federal, State or Local, until the right of way agreement named "Contract for the Acquisition of Right of Way" prepared by the DEPARTMENT's Office of Right of Way is executed between the LOCAL GOVERNMENT and the DEPARTMENT. Failure of the LOCAL GOVERNMENT to adhere to the provisions and requirements specified in the acquisition contract may result in the 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. Right of way costs eligible for reimbursement include land and improvement costs, property damage values, relocation assistance expenses and contracted property management costs. Non reimbursable right of way costs include administrative expenses such as appraisal, consultant, attorney fees and any in-house property management or staff expenses. The LOCAL GOVERNMENT

shall certify that all required right of way is obtained and cleared of obstructions, including underground storage tanks, 3 months prior to advertising the PROJECT for bids.

15. The DEPARTMENT unless otherwise shown in Attachment "A" shall be responsible for Letting the PROJECT to construction, solely responsible for executing any agreements with all applicable utility/railroad companies and securing and awarding the construction contract for the PROJECT when the following items have been completed and submitted by the LOCAL GOVERNMENT:

a. Submittal of acceptable PROJECT PE activity deliverables noted in this agreement.

b. Certification that all needed rights of way have been obtained and cleared of obstructions.

c. Certification that the environmental document is current and all needed permits and mitigation for the PROJECT have been obtained.

d. Certification that all Utility/Railroad facilities, existing and proposed, within the PROJECT limits are shown, any conflicts have been resolved and reimbursable agreements, if applicable, are executed.

If the LOCAL GOVERNMENT is shown to LET the construction in Attachment "A", the LOCAL GOVERNMENT shall provide the above deliverables and certifications and shall follow the requirements stated in Chapter 10 of the DEPARTMENT's Local Administered Project Manual.

16. The LOCAL GOVERNMENT shall provide a review and recommendation by the engineer of record concerning all shop drawings prior to the DEPARTMENT review and approval. The DEPARTMENT shall have final authority concerning all shop drawings.

17. The LOCAL GOVERNMENT agrees that all reports, plans, drawings, studies, specifications, estimates, maps, computations, computer files and printouts, and any other data prepared under the terms of this Agreement shall become the property of the DEPARTMENT if the PROJECT is being let by 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.

18. The LOCAL GOVERNMENT shall be responsible for the professional quality, technical accuracy, and the coordination of all reports, 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 reports,

designs, drawings, specifications, and other services furnished for this PROJECT. Failure by the LOCAL GOVERNMENT to address the errors or deficiencies within 30 days of notification shall cause the LOCAL GOVERNMENT to assume all responsibility for construction delays caused by the errors and deficiencies. 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, to the extent allowed by law that is attributable to errors, omissions, or negligent acts related to the designs, drawings, specifications, and other services furnished by or on behalf of the LOCAL GOVERNMENT pursuant to this Agreement.

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.

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.

DEPARTMENT OF TRANSPORTATION

CITY OF ALPHARETTA

BY: Nauc C. Smith, Jr.
Commissioner *(NS)*

BY: *[Signature]*
Name Arthur G. Lettias
Title MAYOR

ATTEST: *[Signature]*
Treasurer *(NS)*



Signed, sealed and delivered this 18th day of NOVEMBER, 2010, in the presence of:

[Signature]
Witness

[Signature]
Notary Public EXP. 1-14-12

Approved as to Formed:
[Signature]
City Attorney

This Agreement approved by CITY OF ALPHARETTA, the 18th day of NOVEMBER, 2010.

Attest
[Signature]
Name and Title City Clerk

FEIN: 58-6011454

ATTACHMENT "A"

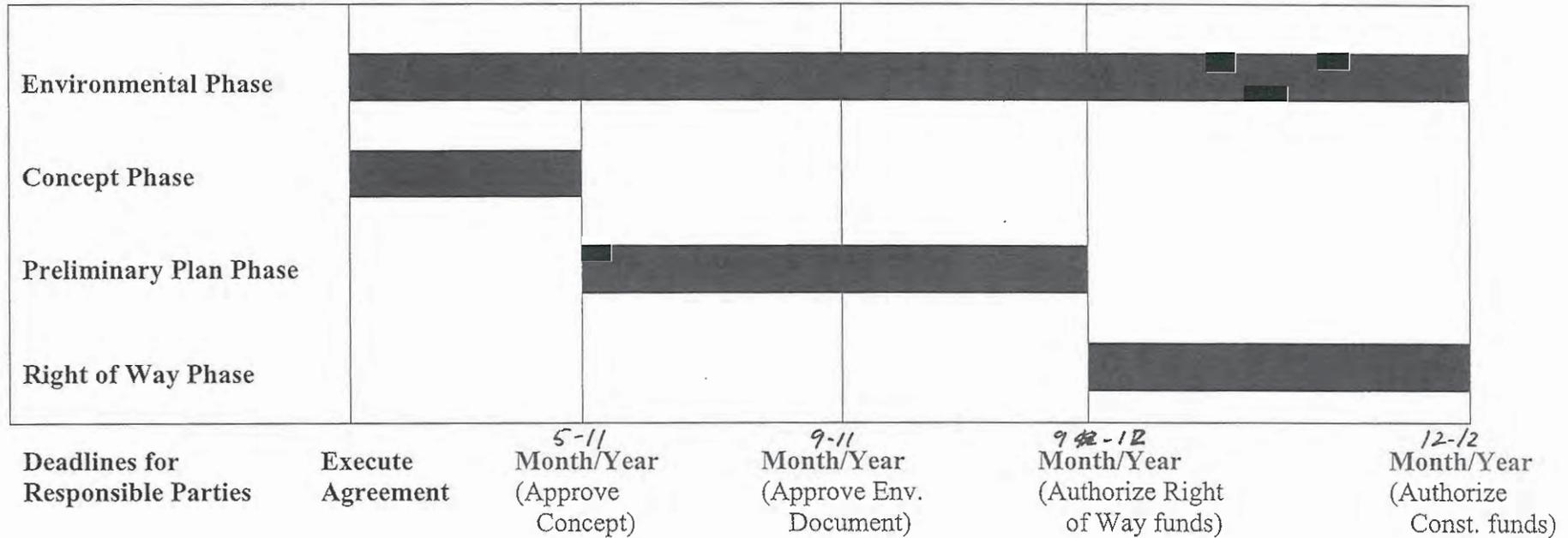
Project Number: 0010241 – City of Alpharetta

Project (PI#, Project #, Description)	Preliminary Engineering		Right of Way			Construction		Utility Relocation	
	Funding	PE Activity by	*Funding of Real Property	Acq. by	Acq. Fund by	*Funding	Letting by	Utility Funding by	Railroad Funding by
P.I. # 0010241 CR 1332/Encore Pkwy FM Westside Pkwy to North Point Pkwy	100% Local Gov.	Local Gov.	100% Local Gov.	Local Gov.	Local Gov.	(80%) Federal (\$4,000,000) (20%) LCL GOV (\$1,000,000) >(\$5,000,000) 100% Local Gov.	Local Gov.	100% Local Gov.	100% Local Gov.

Note: Maximum allowable GDOT participating amounts for PE category shall be shown above. Local Government will only be reimbursed the percentage of the accrued invoiced amounts up to but not to exceed the maximum amount indicated. *R/W and Construction amounts shown are estimates for budget planning purposes only.

ATTACHMENT "B"
0010241 – City of Alpharetta

Proposed Project Schedule



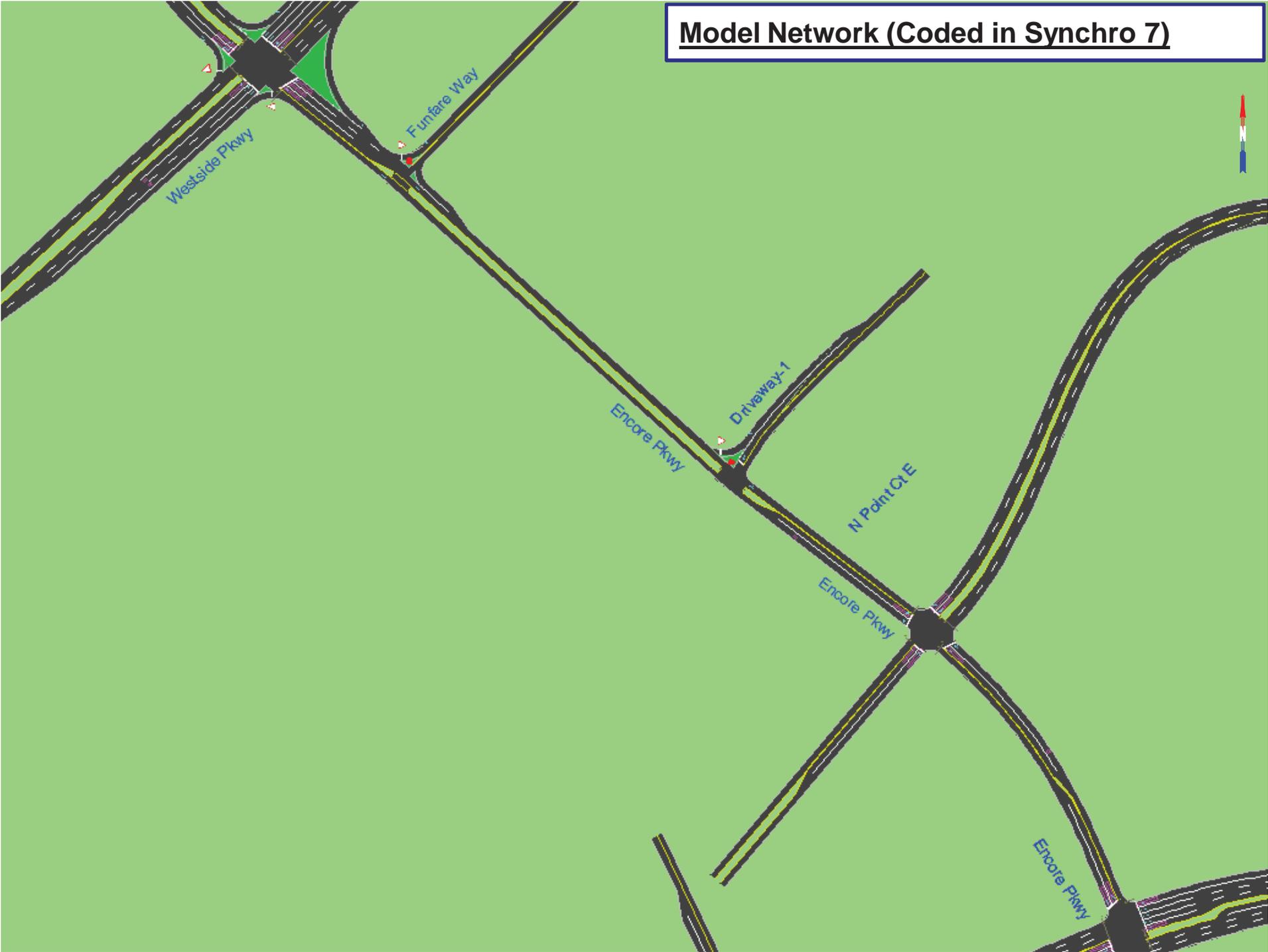
Annual Reporting Requirements

The Local Government shall provide a written status report to the Department's Project Manager with the actual phase completion date(s) and the percent complete/proposed completion date of incomplete phases. The written status report shall be received by the Department no later than the first day of February of every calendar year until all phases have been completed.

Appendix 11

Conforming Plan's Network Schematics Showing Thru Lanes

Model Network (Coded in Synchro 7)



Appendix 12

VE Implementation Letter

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: P.I. No.: 0010241 Fulton **OFFICE:** Engineering Services
Encore Parkway Streetscape

DATE: September 2, 2011

FROM: Ronald E. Wishon, State Project Review Engineer *REW*

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Robert Hughes

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above project was held July 18-21, 2011. Responses were received on September 1, 2011. Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. The Project Manager shall incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

ALT #	Description	Potential Savings/LCC	Implement	Comments
A-2	Construct a 12-foot multi-use path on the north side of Encore Parkway with a separate bridge over SR 400 just north of the existing Encore Parkway Bridge	\$5,974,000	No	The sponsor of the project is committed to designing and partially funding a long-term multimodal improvement along the Encore Parkway corridor that will not conflict with other programmed projects in the area. The project as planned would provide improvements for bicycle, pedestrian, vehicular, and transit operations and would improve the aesthetics of the corridor. It is also designed to replace the existing bridge over SR 400 with one that would complement the planned SR 400 managed lanes project (PI No. 0001757), a potential managed lane access point at Encore Parkway, and the potential extension of MARTA services up the SR 400 corridor whereas the VE recommendation would not.

A-2.1	Extend the Big Creek Greenway multi-use path on a new alignment through the North Point Mall area and cross SR 400 about 2,000 feet north of the existing Encore Parkway Bridge	\$6,758,000	No	The sponsor of the project is committed to designing and partially funding a long-term multimodal improvement along the Encore Parkway corridor that will not conflict with other programmed projects in the area. The project as planned would provide improvements for bicycle, pedestrian, vehicular, and transit operations and would improve the aesthetics of the corridor. It is also designed to replace the existing bridge over SR 400 with one that would complement the planned SR 400 managed lanes project (PI No. 0001757), a potential managed lane access point at Encore Parkway, and the potential extension of MARTA services up the SR 400 corridor whereas the VE recommendation would not. In addition, this alternative would require a significant swath of right of way through the North Point Mall commercial area and would require a signalized intersection and crosswalk across North Point Parkway that would result in unacceptable intersection spacing between it and the Encore Parkway intersection.
A-2.2	Add bike lanes and sidewalks to existing Encore Parkway and construct a new 3-lane bridge suitable for future widening	\$3,139,000	No	The sponsor of the project is committed to designing and partially funding a long-term multimodal improvement along the Encore Parkway corridor that will not conflict with other programmed projects in the area. The project as planned would provide improvements for bicycle, pedestrian, vehicular, and transit operations and would improve the aesthetics of the corridor. It is also designed to replace the existing bridge over SR 400 with one that would complement the planned SR 400 managed lanes project (PI No. 0001757), a potential managed lane access point at Encore Parkway, and the potential extension of MARTA services up the SR 400 corridor whereas the VE recommendation would not.

A-4	Eliminate the sixteen large internal planter boxes next to the sidewalk and reduce the width of the Encore Parkway Bridge	\$600,000	No	The planter boxes provide positive separation between the travelway and pedestrian areas. In addition, the planter box area is designed to match up with the planter strip area just off the bridge and maintain continuity throughout the project. This typical section conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.
A-4.1	Reduce the width of the sixteen large sidewalk planter boxes, attach them to the parapets, and reduce the width of the Encore Parkway Bridge	\$300,000	No	The planter boxes provide positive separation between the travelway and pedestrian areas. In addition, the planter box area is designed to match up with the planter strip area just off the bridge and maintain continuity throughout the project. This typical section conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.
A-7	Reduce the width of the Encore Parkway Bridge pilasters and make them line up with the inside part of the side parapet	\$80,000	Yes, partially	The pilasters will be retained as designed inside of the parapet, but will be reduced in width to line up with the outside of the parapet, which should result in the same savings.
A-11	Remove the eight large planter boxes from the median of the Encore Parkway Bridge and replace them with small boxes suitable for ground cover plants/flowers	\$40,000	Yes, partially	The width of the planter boxes will be reduced and the Designer will work with the Bridge Design Office to create a scaled-back compromise with smaller landscaping features.
A-14	Reduce the length of the Encore Parkway Bridge by eliminating the 50-foot end spans	\$1,000,000	Yes	This will be done to the extent possible. Further coordination with the SR 400 Managed Lanes project and MARTA will be required. The Office of Bridge Design will make a final determination after reviewing the preliminary bridge layout.
A-18	Reduce the width of the Encore Parkway Bridge by adding pedestrian plazas at the ends of the bridge in lieu of placing benches and wide shoulder areas on the bridge	\$400,000	No	The width of the bridge is set to coordinate with the sidewalk and planting strip locations off the bridge and to maintain continuity throughout the project. This typical section conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.

B-7	Construct the Big Creek connector multi-use path alongside the existing entrance road wall (SW side) and reduce the width of the entrance road or shift the entrance road to the NE	\$138,000	Yes	This will be done.
D-1	Lower the Encore Parkway profile between Sta. 103+50 and Sta. 113+00	\$110,000	No	The profile as currently designed allows for near-minimum vertical clearance for the NB lanes of SR 400 when accounting for an at-grade managed lane system on SR 400 (PI No. 0001757), as well as a potential managed lane access point at Encore Parkway. Coordination will continue on the planned project in the corridor and the profile will be lowered and the bridge will be shortened as much as possible pending the preferred alternatives for the other projects.
O-1	Construct 5-foot sidewalks along both sides of Encore Parkway in lieu of 8-foot sidewalks	\$44,000	No	The 8-foot sidewalks shown in the design conform to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.
O-1.1	Construct a 12-foot multi-use path on the north side of Encore Parkway, a 5-foot sidewalk on the south side of the parkway, and eliminate the bike lanes in the roadway	\$194,000	No	The inclusion of dedicated bike lanes was part of the initial LCI grant application and conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master plan standards.
O-4	Eliminate the 6-inch GAB under the sidewalks	\$42,000	Yes	This will be done.

The Office of Engineering Services and the Office of Bridge Design concur with the Project Manager's responses.

Approved:  Date: 9/3/11
Gerald M. Ross, PE, Chief Engineer

REW/LLM

Attachments

c: Russell McMurry
Bobby Hilliard/Mike Haithcock/Elaine Armster/Robert Hughes/Moussa Issa
Paul Liles/Ben Rabun/Bill Duvall/Bill Ingalsbe
Paul Alimia
Lee Upkins
Ken Werho
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE Fulton County OFFICE Program Delivery
P.I. No. 0010241 DATE September 1, 2011

CR 1332/ Encore Pkwy from West Side Pkwy to North Point Pkwy

FROM  Bobby K. Hilliard, PE, State Program Delivery Engineer

TO Ronald E. Wishon, State Project Review Engineer
Attn: Lisa Myers

SUBJECT **RESPONSE TO VALUE ENGINEERING STUDY ATERNATIVES**

Attached are the responses for the Value Engineering Study. This office concurs with the responses.

If there are any questions please contact Moussa Issa, Project Manager of this Office at (404) 631-1657

BKH:MAH:ibm
Attachment

Cc: Russell McMurry



Infrastructure · Water · Environment · Buildings

Dr. Moussa Issa, PE
Georgia Department of Transportation
Office of Program Delivery
One Georgia Center, Suite 2500
600 West Peachtree Street NW
Atlanta, Georgia 30308

Subject:

Value Engineering Report Responses
Encore Parkway Streetscape & Big Creek Greenway Extension
City of Alpharetta, Fulton County, PI 0010241

Dear Dr. Issa:

ARCADIS has reviewed the Value Engineering Report prepared by AMEC E&I, Inc. and provides the following responses:

Idea A-2: Construct a 12-foot multi use path on the north side of Encore Parkway with a separate bridge over SR 400 just north of the existing Encore Parkway Bridge.

ARCADIS Response – Will not implement. The sponsor of the project is committed to designing and partially funding a long-term multimodal improvement along the Encore Parkway corridor that will not conflict with other programmed projects in the area. The project as planned would provide improvements for bicycle, pedestrian, vehicular, and transit operations and would improve the aesthetics of the corridor. It is also designed to replace the existing bridge over SR 400 with one that would complement the planned SR 400 managed lanes project (PI 0001757), a potential managed lane access point at Encore parkway, and the potential extension of MARTA services up the SR 400 corridor whereas the VE recommendation would not.

Idea A-2.1 Alternative to Idea A-2: Extend the Big Creek Greenway multi-use path on a new alignment through the North Point Mall area and cross SR 400 about 2000 feet north of the existing Encore Parkway Bridge

ARCADIS Response – Will not implement The sponsor of the project is committed to designing and partially funding a long-term multimodal improvement along the

Imagine the result

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2410 Paces Ferry Road
#400
Atlanta
Georgia 30339
Tel 770 431 8866
Fax 770 435 2666
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TRANSPORTATION

Date:
August 31, 2011

Contact:
Keith Kunst

Phone:
Ext 332

Email:
Keith.kunst@arcadis-us.com

Our ref:
GA063890.0004

Encore Parkway corridor that will not conflict with other programmed projects in the area. The project as planned would provide improvements for bicycle, pedestrian, vehicular, and transit operations and would improve the aesthetics of the corridor. It is also designed to replace the existing bridge over SR 400 with one that would complement the planned SR 400 managed lanes project (PI 0001757), a potential managed lane access point at Encore parkway, and the potential extension of MARTA services up the SR 400 corridor whereas the VE recommendation would not. In addition, this alternative would require a significant swath of right of way through the North Point Mall commercial area and would require a signalized intersection and crosswalk across North Point Parkway that would result in unacceptable intersection spacing between it and the Encore Parkway intersection.

Idea A-2.2 Alternative to Idea A-2: Add bike lanes and sidewalks to existing Encore Parkway and construct a new 3-lane bridge suitable for future widening.

ARCADIS Response – Will not implement The sponsor of the project is committed to designing and partially funding a long-term multimodal improvement along the Encore Parkway corridor that will not conflict with other programmed projects in the area. The project as planned would provide improvements for bicycle, pedestrian, vehicular, and transit operations and would improve the aesthetics of the corridor. It is also designed to replace the existing bridge over SR 400 with one that would complement the planned SR 400 managed lanes project PI 0001757, a potential managed lane access point at Encore parkway, and the potential extension of MARTA services up the SR 400 corridor whereas the VE recommendation would not.

Idea A-4: Eliminate the sixteen large internal planter boxes next to the sidewalk and reduce the width of the Encore Parkway bridge.

ARCADIS Response – Will not implement. The planter boxes provide positive separation between the travelway and pedestrian areas. In addition, the planter box area is designed to match up with the planter strip area just off the bridge and maintain continuity throughout the project. This typical section conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.

Idea A-4.1 Alternative to Idea A-4: Reduce the width of the sixteen large sidewalk planter boxes, attach them to the bridge parapets, and reduce the width of the Encore Parkway Bridge.

ARCADIS Response – Will not implement. The planter boxes provide positive separation between the travelway and pedestrian areas. In addition, the planter box area is designed to match up with the planter strip area just off the bridge and maintain continuity throughout the project. This typical section conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.

Idea A-7: Reduce the width of the Encore Parkway Bridge Pilasters and make them line-up with the inside part of the side parapet.

ARCADIS Response – Will partially implement. The pilasters will be retained as designed inside of the parapet, but will be reduced in width to line-up with the outside of the parapet, which should result in the same savings.

VE Team Savings: \$80,000 (taken from VE Study report)

Idea A-11: Remove the eight large planter boxes from the median of the Encore Parkway Bridge and replace them with small boxes suitable for ground cover plants / flowers.

ARCADIS Response – Will partially implement. We will reduce the width of the planter boxes and will work with the GDOT bridge office to implement a scaled-back compromise with smaller landscaping features.

VE Team Savings: \$40,000 (taken from VE Study report)

Idea A-14: Reduce the length of the Encore Parkway Bridge by eliminating the 50-foot end spans.

ARCADIS Response – Will implement. Further coordination with the SR 400 Managed Lanes project and MARTA is required. The overall bridge length and span arrangements will be reduced as much as possible without precluding those future projects.

VE Team Savings: \$1,000,000 (taken from VE Study report)

Idea A-18: Reduce the width of the Encore Parkway Bridge by adding pedestrian plazas at the ends of the bridge in lieu of placing benches and wide shoulder areas on the bridge.

ARCADIS Response – Will not implement. The width of bridge is set to coordinate with the sidewalk and planting strip locations off the bridge and to maintain continuity throughout the project. This typical section conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.

Idea B-7: Construct the Big Creek Connector multi-use path alongside the existing entrance road wall (SW side) and reduce the width of the entrance road or shift the entrance road to the NE.

ARCADIS Response – Will implement.

VE Team Savings: \$138,000 (taken from VE Study report)

Idea D-1: Lower the Encore Parkway profile between Station 103+50 and Station 113+00.

ARCADIS Response – Will not implement. The profile as currently designed allows for near-minimum vertical clearance for the NB lanes of SR 400 when accounting for an at-grade managed lane system on SR 400 (PI 0001757), as well as a potential managed lane access point at Encore Parkway. We will continue to coordinate with GDOT on the planned projects in the corridor and lower the profile and shorten the bridge as much as possible pending the preferred alternatives for those other projects.

Idea O-1: Construct 5-foot sidewalks along both sides of the roadway in-lieu-of 8-foot sidewalks.

ARCADIS Response – Will not implement. The 8-foot sidewalks shown in the design conform to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.

Idea O-1.1 Alternative to Idea O-1: Construct a 12-foot multi-use path on the north side of Encore Parkway, a 5-foot sidewalk on the south side of the parkway and eliminate the bike lanes in the roadway.

ARCADIS Response – Will not implement. The inclusion of dedicated bike lanes was part of the initial LCI grant application and conforms to the LCI study and the City of Alpharetta's 2008 Blueprint North Fulton Master Plan standards.

ARCADIS

Dr. Moussa Issa
August 31, 2011

Idea O-4: Eliminate the 6-inch GAB under the sidewalks.

ARCADIS Response – Will implement.

VE Team Savings: \$42,000 (taken from VE Study report)

Please let me know if you have any questions or need additional information.

Sincerely,

ARCADIS U.S., Inc.



Keith Kunst, PE
Project Manager

Copies:

Dennis Woodling, Atkins

Myers, Lisa

From: DuVall, Bill
Sent: Thursday, September 01, 2011 2:24 PM
To: Myers, Lisa
Cc: Rabun, Ben; Hughes, Robert; Issa, Moussa
Subject: VE Responses, Encore Parkway
Attachments: responses.pdf

P.I. No. 0010241

Lisa,

As you are aware, Program Delivery provided the attached responses to the VE Study without proper coordination with the Bridge Office. We understand that this LCI project is being substantially sponsored by the locals and grants. I also understand that you need a quick response due to the end of the Federal Fiscal Year reporting requirements.

I am in agreement with the responses provided by the consultant, ARCADIS. Alternative A 14 proposes to eliminate the end spans by moving the proposed end abutment walls to the approximate location of piers 2 and 4 (from the original conceptual drawings). This project is in the concept phase and preliminaries have not been submitted for our review. We generally do not recommend using end abutments unless the project is constrained by Right of Way or due to staging. I accept the proposed savings for this alternative. However, should we recommend a change once the preliminary layouts are submitted for our review, then the Project Manager would need to request a reversal from Engineering Services.

If you have any questions or comments, please let me know.

Bill

Bill DuVall, P.E.
Assistant State Bridge Engineer
Georgia Department of Transportation
direct: (404) 631-1883
main: (404) 631-1985