ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. # 0011657

OFFICE Design Policy & Support

Cobb County
GDOT District 7 - Metro Atlanta
QUICK Project: Diverging Diamond Intersection – Wade Green Road/CR 4396 @ I-75

DATE February 26, 2014

FROM for Brent Story, State Design Policy Engineer

TO SEE DISTRIBUTION

SUBJECT **APPROVED CONCEPT REPORT**

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

Attachment

DISTRIBUTION:

Glenn Bowman, Director of Engineering / State Environmental Administrator
Joe Carpenter, Director of P3/Program Delivery
Genetha Rice-Singleton, Asst. Dir. of P3/Prog. Delivery / State Prog. Delivery Engineer
Bobby Hilliard, Program Control 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
Mike Bolden, State Utilities Engineer
Jeff Fletcher, Statewide Location Bureau Chief
Rachel Brown, District Engineer
Scott Lee, District Preconstruction Engineer
Patrick Allen, District Utilities Engineer
Merishia Robinson, Project Manager
BOARD MEMBER - 11th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
PROJECT CONCEPT REPORT

Project Type:	Operational Improvement	P.I. Number:	0011657
GDOT District:	Seven	County:	Cobb
Federal Route Number:	I-75	State Route Number:	SR 401
		Project Number:	N/A

The proposed project entails reconfiguring the Wade Green Road interchange at I-75 from a conventional diamond interchange to a Diverging Diamond Interchange (DDI) in order to improve traffic operations without a need for bridge widening or replacement.

Submitted for approval:

Shamir Poudel, ARCADIS — DATE 10/31/13

Cobb County Department of Transportation — DATE 11-4-13

State Program Delivery Engineer — DATE 11-6-13

GDOT Project Manager — DATE 11-5-13

Recommendation for approval:

Program Control Administrator — DATE

GLENN BOWMAN*/EKP — State Environmental Administrator *(recommendation required)* — DATE 11/20/2013

KATHY ZAHUL*/EKP — State Traffic Engineer *(recommendation required for roundabout projects)* — DATE 12/30/2013

LISA MYERS*/EKP — Project Review Engineer — DATE 11/20/2013

JUN BIRNKAMMER*/EKP — FOR State Utilities Engineer — DATE 11/18/2013

RACHEL BROWN*/EKP — District Engineer *(projects not originating in District Office)* — DATE 12/10/2013

BEN RABON*/EKP — State Bridge Design Engineer — DATE 11/18/2013

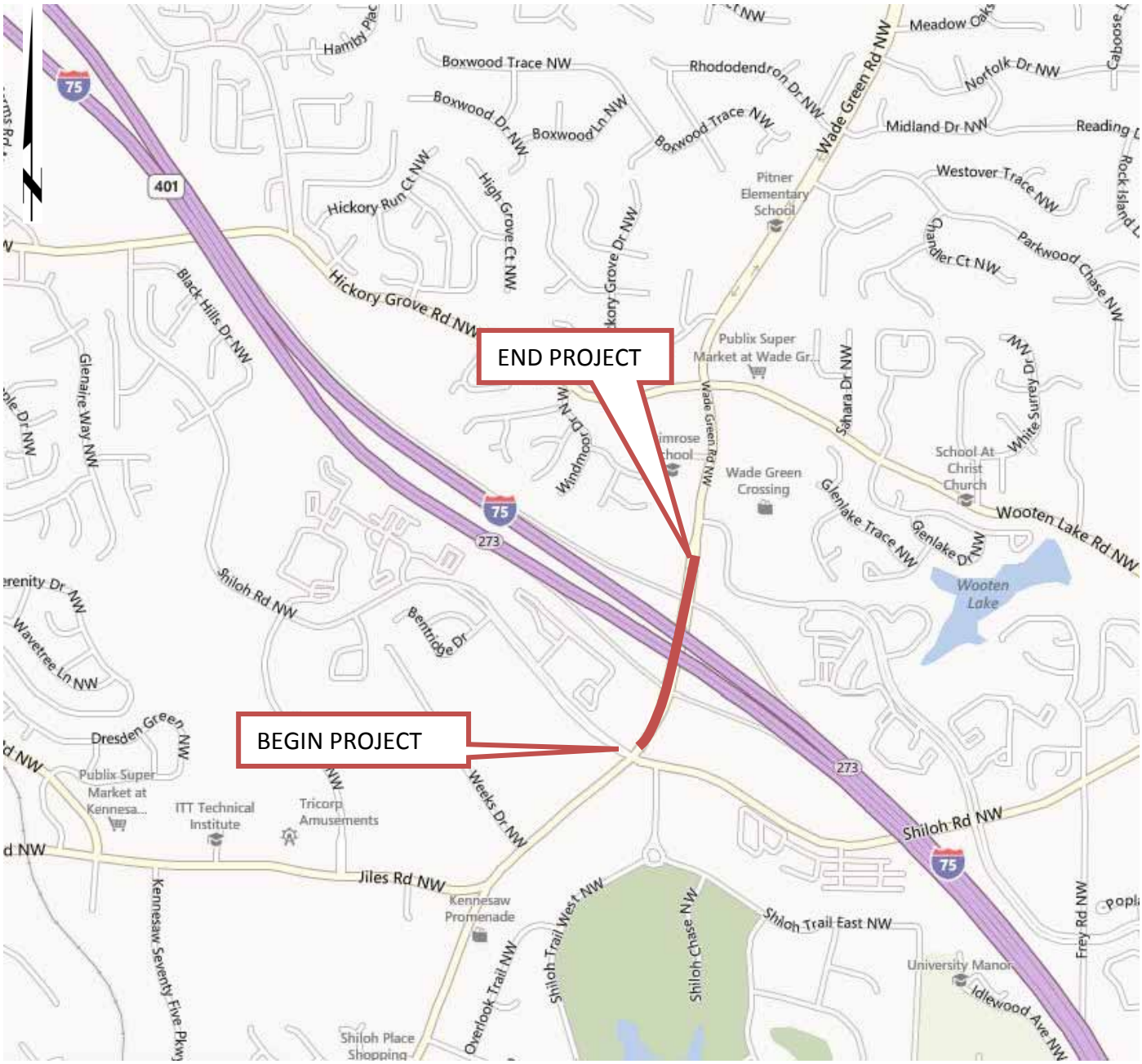
State Transportation Financial Management Administrator — DATE

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

CINDY VANDYKE*/EKP — State Transportation Planning Administrator *(recommendation required)* — DATE 11/22/2013

* - RECOMMENDATION ON FILE

PROJECT LOCATION



Not to Scale

PLANNING & BACKGROUND DATA

Project Justification Statement:

The Wade Green Road interchange project seeks to improve operations of the I-75 at Wade Green Road interchange. During the AM peak hour, the major traffic flow is toward the I-75 southbound on-ramp. Demand for traffic making east to south right turns along Wade Green Road conflicts with demand for traffic making west to south left turns causing traffic queues along Wade Green Road. Eastbound queues along Wade Green Road regularly extend to Jiles Road intersection, which is located half a mile to the west of I-75 southbound ramps. In the PM peak hour, congestion occurs at the intersection of I-75 northbound off-ramp at Wade Green Road.

The DDI improvement proposes an innovative way to accommodate heavy left-turn volumes in a more efficient manner. By crossing the eastbound and westbound travel lanes across the bridge within the interchange, the left turn lanes are provided priority at the ramp intersections. The geometric configuration of a DDI allows for the reduction of signal phases to two, thereby reducing delays and increasing the capacity of the interchange without the need for additional lanes. In addition, the DDI configuration is expected to provide improvements to the interchange by reducing the number of conflict points.

Conceptual idea for this project was brought to GDOT District 7 by Cobb County to improve traffic operations in the vicinity of the interchange. This concept was subsequently presented to the GDOT Operations Committee and was approved by the committee in 2012.

Description of the proposed project:

The proposed project consists of operational improvements to the interchange of Wade Green Road and I-75. The existing traditional diamond type interchange will be converted to a Diverging Diamond Interchange (DDI) to utilize the existing bridge while providing operational improvements at this interchange.

The current roadway and bridge consists of two, twelve foot wide travel lanes plus one left turn lane in either direction. A new eastbound right turn lane is currently under construction in the vicinity of I-75 southbound ramps (by Cobb County DOT) to serve traffic heading to I-75 southbound ramps. There are no existing sidewalks in the vicinity of the interchange. The existing right-of-way varies from 115 to 160 feet along Wade Green Road. The project is approximately 0.5 mile in length.

The project will require widening, median construction, signing, pavement markings, signalization, and minor bridge re-construction along Wade Green Road as well as widening along the southbound on-ramp to I-75.

Re-construction of the westbound lanes of Wade Green Road will begin just to the east of the intersection of Wade Green Road and the I-75 northbound ramps. A right turn lane for traffic going to I-75 northbound will be added from the existing driveway of the BP gas station to the intersection with I-

75 northbound. Approaching the Wade Green Road intersection with the I-75 northbound ramps, a left turn lane will be added to the two Wade Green Road westbound thru lanes. At the intersection with the I-75 northbound ramps, three westbound lanes of Wade Green Road will cross to the southern side of the existing Wade Green Bridge over I-75. These three westbound travel lanes will continue across I-75 on the southern side of the existing Wade Green Road Bridge until they reach the intersection with the I-75 southbound ramps. At that location, the two westbound thru lanes will cross back to the northern side of the roadway while the left turn lane continues to I-75 southbound on-ramp. The Wade Green Road westbound thru lanes will tie to the existing roadway before reaching the intersection of Shiloh Road. The existing I-75 southbound on-ramp will be widened to a two-lane ramp to provide additional storage. This two lane ramp will taper to a single lane ramp prior to reaching the gore point with I-75 southbound.

Re-construction of the eastbound lanes of Wade Green Road will begin just to the east of Shiloh Road. An additional right turn lane will be included to serve the eastbound lanes of Wade Green Road at this location making this a dual right-turn lane configuration. These right turn lanes will serve traffic leaving Wade Green Road and entering the southbound lanes of I-75. The two eastbound thru lanes of Wade Green Road will cross from the southern side of the roadway to the northern side of the roadway in the vicinity of Wade Green Road intersection with I-75 southbound ramps. These two eastbound travel lanes will continue across I-75 on the northern side of the existing Wade Green Road Bridge until reaching the intersection with the I-75 northbound ramps. At this intersection, an option lane exit will open up serving traffic entering I-75 northbound lanes. The two eastbound thru lanes will cross back to the southern side of the road and continue east until tying to the existing roadway just east of the I-75 northbound ramps intersection.

This project will include coordinating the signals at the intersections of Wade Green Road and Shiloh Road and the intersection of Wade Green Road and George Busbee Parkway so that queues from each of these intersections do not impinge upon the ramp terminals of the interchange. With the widening of the southbound on-ramp to I-75 to two lanes, the existing single lane ramp meter in this location will be replaced with a two lane ramp meter.

This project will add new sidewalks within the project limits. On the west side of I-75, a 5-foot wide sidewalk would be added on the south side of Wade Green Road. Sidewalk will not be added along north side of Wade Green Road to avoid construction within and adjacent to a National Register Eligible Church and Cemetery. Within the interchange, a 10-foot sidewalk will be included in the center of the existing bridge. On the east side of I-75, a 5-foot sidewalk will be included on both the north and south sides of Wade Green Road. These sidewalks will tie to the existing sidewalks at the eastern end of the project.

The project will also include routine rehabilitation of the existing bridge. These include replacement longitudinal joint and transverse joints at abutment 1, 2, 4 and 5. In addition, the bridge deck will be sealed with two part polymer overlay.

It is anticipated that the project can be constructed within existing right-of-way and with no need of temporary easement.

Federal Oversight: ☐ Full Oversight ☒ Exempt ☐ State Funded ☐ Other

MPO: Atlanta Regional Commission (ARC) MPO Project ID N/A

Regional Commission: Atlanta Regional Commission RC Project ID: N/A

Congressional District(s): 11

Projected Traffic: ADT

Current Year (2012): 34,680 Open Year (2015): 36,480 Design Year (2035): 44,560
Traffic Projections Performed by: ARCADIS

Functional Classification (Mainline): Urban Minor Arterial Street

Is this a 3R (Resurfacing, Restoration, & Rehabilitation) Project? ☒ No ☐ Yes

Is this project on a designated Bike Route, Pedestrian Plan, or Transit Network?
☒ None ☐ Bike Route ☐ Pedestrian Plan ☐ Transit Network

CONTEXT SENSITIVE SOLUTIONS

Issues of Concern:
National Register Eligible Church and Cemetery (Mt. Zion African Methodist Episcopal Church of Kennesaw) are located in the northwest quadrant of the interchange and potential impacts of this project to these resources are issues of concern for this project.

Context Sensitive Solutions:
Pedestrian Accommodations
Pedestrian improvements will be implemented for the majority of the proposed project corridor except for the area along the frontage of the Mt. Zion African Methodist Episcopal Church of Kennesaw in the northwest quadrant of the interchange. This church and the adjacent cemetery are a National Register Eligible Church and Cemetery so to avoid any impacts to the property, the existing curb in this area will be retained and no pedestrian improvements will be implemented. Pedestrians will instead be directed to utilize the sidewalks that will be installed on the southern side of Wade Green Road.

Driver Expectancy
The Diverging Diamond Interchange is still a relatively new concept which hasn't been widely implemented in the Metro Atlanta Area. As a result drivers along this corridor may not have

encountered this type of interchange configuration before. To improve driver expectancy and minimize confusion within the interchange the following mitigation strategies are recommended to combat several design elements along the roadway which may not meet driver expectancy for this corridor. The design speed along Wade Green Road, functionally classified as an Urban Minor Arterial, is 45mph. The proposed project will reconstruct the existing conventional diamond interchange to a Diverging Diamond Interchange. The major controlling element of a DDI is the design speed of the horizontal alignment (e.g. crossover movements). The crossover movements associated with the proposed project have been designed to meet a 25 mph speed design. The placement of the crossovers is largely dependent on the spacing and location of the Interstate Interchange Ramps (i.e. intersections spaced closely together will result in lower horizontal curve radii). The horizontal alignment of the DDI consists of three main interacting elements: 1) crossing angle; 2) tangent length approaching and following the crossover; and 3) curve radii approaching and following the crossover.

1. Crossing Angle
    a. Potential mitigation strategies:
        i. Additional signage indicating “no right turn” or “no left turn” at crossover intersections to clarify permitted movements
        ii. Enhanced pavement markings, such as directional arrows on opposite sides of the intersections to guide traffic to the appropriate lanes.
        iii. Enhanced pavement markings, such as RPMs and “mini-skips” across intersections as guidance.
        iv. Additional intersection lighting for clarity during night-time operations.
        v. Upward-oriented “green arrow” on signal installations to indicates straight-ahead movements.

2. Tangent Length
    a. Potential mitigation strategies:
        i. Additional signage indicating reverse curves.
        ii. Enhanced pavement markings such as RPMs for guidance
        iii. Select curve radii such that normal crown can be maintained throughout based on design speed and low-speed super elevation criteria.
3. Curve Radii
    a. Potential mitigation strategies:
        i. Install speed reduction zone through the interchange to incrementally step the travel speed along Wade Green Road from 45 mph to 35 mph and finally down to 25 mph prior to traffic reaching the crossover movements at each ramp terminal.
        ii. Additional signage indicating reverse curves.
        iii. Enhanced pavement markings such as RPMs for guidance
        iv. Select curve radii such that normal crown can be maintained throughout based on design speed and low-speed super elevation criteria.

DESIGN AND STRUCTURAL DATA

Mainline Design Features:

Wade Green Road

Feature	Existing	Standard*	Proposed
Typical Section			
- Number of Lanes	4-lane	4-lane	4-lane
- Lane Width(s)	11-12 ft	11-12 ft	11-13 ft
- Median Width & Type	20 ft raised	20 ft raised	20 ft raised
- Outside Shoulder or Border Area Width	10 ft	10-16 ft	10 ft
- Outside Shoulder Slope	2%	2%	2%
- Inside Shoulder Width	N/A	N/A	N/A
- Sidewalks	N/A	5 ft	5 ft 9'-11" Bridge
- Auxiliary Lanes	N/A	N/A	0 to 2 lanes 0' to 12' each
- Bike Lanes	N/A	4 ft	N/A
Posted Speed	45 mph		25 mph
Design Speed	45 mph	25 mph	25 mph
Min Horizontal Curve Radius	1030 ft	198 ft	300 ft
Superelevation Rate	2%	4% Max	2%
Grade	4%	6%	4%
Access Control	Partial Control	Partial Control	Partial Control
Right-of-Way Width	115'-160'	N/A	115'-160'
Maximum Grade – Crossroad	5%	6%	5%
Design Vehicle	WB-50	WB-62	WB-62

*According to current GDOT design policy if applicable

Major Structures:

Structure	Existing	Proposed
067-0122-0	*The existing bridge is 405'-0" long and 92'-0" wide. The bridge consists of two 12' wide northbound thru lanes and two 12' southbound thru lanes. A single 12' left turn lane is provided for both northbound and southbound traffic. The bridge has a raised 20' concrete median and 10' outside shoulders*	*The existing bridge will be modified to accommodate three 13' travel lanes on the eastern side of the bridge and two 13' travel lanes on the western side of the bridge. The median will consist of a 9'-11" sidewalk with concrete barrier walls on either side. Median shoulders will be 3' while outer shoulders will be 4'. The overall length and width of the bridge will remain unchanged.*
Retaining walls	*Existing 4'tall, 105' long gravity wall in the southwest corner of the interchange adjacent to the Texaco Gas Station will be retained*	*Extension of existing concrete gravity wall will be necessary to avoid Right-of-way impacts to adjacent parcel.*
Other	*N/A*	*N/A*

Major Interchanges/Intersections: The proposed project seeks to reconfigure the interchange of Wade Green Road with I-75. The project limits include proposed construction to all ramp terminals from Wade Green Road to I-75.

Utility Involvements:
Utility Owner - Facility Description:
Atlanta Gas Light Company - 4" MP Steel/PI
AT&T Networks – Copper/Fiber, OH/UG, 9 4" duct
Cobb County Water Systems - 8"/ 12" DIP, 8" PCV sewer
Comcast Cable - Coaxial/ Fiber cable, aerial & underground
Cobb EMC - 12.5 kV 3ph OH/ UG
Georgia Transmission Corporation - 230 kV
Sunesys - 48 ct fiber
Tower Cloud - Fiber

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

SUE Required: ☒ No ☐ Yes

Railroad Involvement: There are no railroads in the project vicinity which would be affected by the project.

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

Warrants met: ☐ None ☐ Bicycle ☒ Pedestrian ☐ Transit

- Pedestrian facility warrant is met for this project. Sidewalk currently exists on either end of the project. Addition of sidewalk is included in the proposed improvement and this sidewalk will provide the missing sidewalk connection. Sidewalks will not be along the frontage of Mt. Zion AME Church and cemetery.

Right-of-Way:

Required Right-of-Way anticipated: ☒ No ☐ Yes ☐ Undetermined

Easements anticipated: ☒ None ☐ Temporary ☐ Permanent ☐ Utility ☐ Other

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

Location and Design approval: ☒ Not Required ☐ Required

Off-site Detours Anticipated: ☐ No ☐ Undetermined ☒ Yes

Transportation Management Plan [TMP] Required: ☐ No ☒ Yes

If Yes: Project classified as: ☒ Non-Significant ☐ Significant

TMP Components Anticipated: ☒ TTC ☐ TO ☒ PI

Design Exceptions to FHWA/AASHTO controlling criteria anticipated:

FHWA/AASHTO Controlling Criteria	No	Undeter -mined	Yes	Appvl Date (if applicable)
1. Design Speed	☒	☐	☐	
2. Lane Width	☒	☐	☐	
3. Shoulder Width	☒	☐	☐	
4. Bridge Width	☒	☐	☐	
5. Horizontal Alignment	☒	☐	☐	
6. Superelevation	☒	☐	☐	
7. Vertical Alignment	☒	☐	☐	
8. Grade	☒	☐	☐	
9. Stopping Sight Distance	☒	☐	☐	
10. Cross Slope	☒	☐	☐	
11. Vertical Clearance	☒	☐	☐	
12. Lateral Offset to Obstruction	☒	☐	☐	
13. Bridge Structural Capacity	☒	☐	☐	

Design Exceptions:
N/A

Design Variances to GDOT Standard Criteria anticipated:

GDOT Standard Criteria	Reviewing Office	No	Undeter--mined	Yes	Appvl Date (if applicable)
1. Access Control - *Median Opening Spacing*	DP&S	☒	☐	☐	
2. Median Usage & Width	DP&S	☒	☐	☐	
3. Intersection Skew Angle	DP&S	☒	☐	☐	
4. Lateral Offset to Obstruction	DP&S	☒	☐	☐	
5. Intersection Sight Distance	DP&S	☒	☐	☐	
6. Bike, Pedestrian & Transit Accommodations	DP&S	☐	☒	☐	
7. GDOT Drainage Manual	DP&S	☒	☐	☐	
8. Georgia Standard Drawings	DP&S	☒	☐	☐	
9. GDOT Bridge & Structural Manual	Bridge Design	☒	☐	☐	
10. Roundabout Illumination	DP&S	☒	☐	☐	
11. Rumble Strips	DP&S	☒	☐	☐	
12. Safety Edge	DP&S	☒	☐	☐	

Bike, Pedestrian & Transit Accommodations

Sidewalk is not included along Wade Green Road in the vicinity of Mt. Zion African Methodist Episcopal Church of Kennesaw to avoid any impacts to this resource. Need for design variance for pedestrian accommodation will be evaluated during preliminary plans stage.

VE Study anticipated: ☒ No ☐ Yes ☐ Completed – Date:

ENVIRONMENTAL DATA

Anticipated Environmental Document:
GEPA: ☐ **NEPA:** ☒ PCE/CE ☐ EA/FONSI ☐ EIS

Project Air Quality:
Is the project located in a PM 2.5 Non-attainment area? ☐ No ☒ Yes
Is the project located in an Ozone Non-attainment area? ☐ No ☒ Yes
Is a Carbon Monoxide hotspot analysis required? ☐ No ☒ Yes

Carbon Monoxide hotspot analysis is currently being conducted. Due to operational nature of the project, it is not expected that the minimum standards will be exceeded.

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

The project is located in Cobb County, which is within the MS4 boundary of the state. The project disturbs more than 1 acre of land, therefore compliance with post-construction storm water treatment requirement of the MS4 permit is required. These requirements include

- Removal of 80 % of the average annual TSS load from pavement runoff by treating the first 1.2 inch rainfall.
- Stream channel protection by detaining 1 year 24 hour rainfall for 24 hours.
- Provide overbank protection by not increasing the post-developed compared to pre-developed flows for the 25 year 24 hour rainfall event.
- Provide extreme flood protection by controlling the 100 year 24 hour flood and routing through the BMP.

Use of post-construction best management practices (BMPs) including detention ponds and enhanced swales are being evaluated. A summary of the conceptual hydrology study is attached to report with site specific discussions on these BMPs.

Environmental Permits/Variances/Commitments/Coordination anticipated:

Permit/ Variance/ Commitment/ Coordination Anticipated	No	Yes	Remarks
1. U.S. Coast Guard Permit	☒	☐	
2. Forest Service/Corps Land	☒	☐	
3. CWA Section 404 Permit	☒	☐	
4. Tennessee Valley Authority Permit	☒	☐	
5. Buffer Variance	☒	☐	
6. Coastal Zone Management Coordination	☒	☐	
7. NPDES	☐	☒	Land disturbance is expected to be greater than one acre.
8. FEMA	☒	☐	
9. Cemetery Permit	☒	☐	Cemetery in vicinity of project but no impacts are anticipated.
10. Other Permits	☒	☐	
11. Other Commitments	☒	☐	
12. Other Coordination	☒	☐	

Is a PAR required? ☒ No ☐ Yes ☐ Completed – Date:

NEPA/GEPA: The project is proposed as a Programmatic Categorical Exclusion (PCE). The PCE is currently under way with a low environmental risk.

Ecology: The Phase I/Phase 2 ecology field survey was completed on March 28, 2013. One jurisdictional resource, a wetland located within a fenced stormwater detention basin north of the I-75 northbound entry ramp from Wade Green Road adjacent to the BP Gas Station was observed. This resource is outside of the construction area of the project but is within the Ecology survey project area. The project is located in a heavily urbanized area. Habitats within the project area consist primarily of ruderal environments and mixed pine hardwood forest. No federal or state protected species or species habitat was observed within the project area and no evidence of bat roosting or migratory bird nesting was present under the Wade Green Road Bridge over Interstate 75 (I-75). The Phase 1/Phase 2 Ecology Report is in progress.

History: The project area was surveyed for historical resources in March 2013. Two historic properties located within the project area were identified: the Mt. Zion Church and cemetery and the Shiloh United Methodist Church cemetery. Both of these resources are National Register of Historic Places (NRHP) eligible. The project is not expected to have any effects on these historic properties. The Shiloh United Methodist Church Cemetery is located south of the Wade Green Road and Shiloh Road intersection; the proposed project does not cross this intersection. In the area of the Mt. Zion Church and cemetery, the proposed project would be far enough away from the property that no impacts would occur. The Historic Resources Survey Report is in progress. SHPO concurrence has not been received.

Archeology: The project area was surveyed for archaeological resources on March 14, 2013. Two cemeteries are located within the project area: the Mount Zion Church cemetery and the Shiloh United Methodist Church cemetery. The project is not expected to have any effects on these resources. The Shiloh United Methodist Church Cemetery is located south of the Wade Green Road and Shiloh Road intersection; the proposed project does not cross this intersection. In the area of the Mt. Zion Church and cemetery, the proposed project would be far enough away from the property that no impacts would occur.

Air & Noise:
Air: Analysis required for Ozone, Carbon Monoxide, Particulate Matter (PM) 2.5, and Mobile Source Air Toxins. No impacts anticipated.

Noise: Type III noise assessment will be required. No impacts anticipated.

Public Involvement: A Pubic Information Open House (PIOH) was held on June 20th, 2013.

Major stakeholders: City of Kennesaw, Cobb County.

CONSTRUCTION

Issues potentially affecting constructability/construction schedule:

Staging of construction may be complicated due to traffic shift that reverses the traffic flow across the bridge from its current configuration. Special care will need to be taken to develop and appropriate staging plan including signing plans to indicate traffic shifts during construction. Bridge rehabilitation needs to coincide with roadway construction activities.

Early Completion Incentives recommended for consideration: ☒ No ☐ Yes

PROJECT RESPONSIBILITIES

Project Activities:

Project Activity	Party Responsible for Performing Task(s)
Concept Development	ARCADIS
Design	TBD
Right-of-Way Acquisition	N/A
Utility Relocation	Utility Owners
Letting to Contract	Cobb County
Construction Supervision	Cobb County
Providing Material Pits	Contractor
Providing Detours	N/A
Environmental Studies, Documents, and Permits	ARCADIS
Environmental Mitigation	N/A
Construction Inspection & Materials Testing	Cobb County

Lighting required: ☐ No ☒ Yes

Concept Meeting: A Concept Team Meeting was held June 5, 2013.

Other projects in the area:
PI No. 0005128 – I-75 Noise Barriers from Chastain Road/Cobb Co. to SR 92/Cherokee Co. – Long Range Program
PI No. 0006419 – I-75 from I-575 Interchange to Wade Green Road for HOV Lanes - Concept
PI No. 0008256 – I-75/I-575 Managed Lanes in Cobb & Cherokee Counties – Design Build 2014
PI No. 0010218 – I-75 from Jodeco Rd. to Wade Green Road – Variable Speed Signs – Environmental Approval
PI No. 0007892 – I-75 from SR 5 Connector to CR 633/Glade Road – Long Range Program
PI No. M004422 – I-75 Sign Upgrades from Windy Hill Road to Wade Green Road – Under Construction
PI No. 713700 – I-75 Gateway Welcome Center Construction at Wade Green Road – Long Range Program
PI No. 0010157 – Skip Spann Connector from Busbee Pkwy. to Frey Road – Preliminary Plans
Cobb County Project No. D6220 – Shiloh Road/Shallowford Road Safety and Operational Improvements – Under Construction

Other coordination to date:

Project Cost Estimate and Funding Responsibilities:

	Breakdown of PE	ROW	Reimbursable Utility	CST*	Environmental Mitigation	Total Cost
By Whom	Cobb County	N/A	GDOT	Cobb County/ GDOT	N/A	
$ Amount	$400,000	N/A	$0	Local: $1,209,363 GDOT: $1,270,000	N/A	$2,879,363
Date of Estimate	5/13/2013	N/A	4/17/2013	10/31/2013	N/A	

*CST Cost includes: Construction, Engineering and Inspection, and Liquid AC Cost Adjustment.

ALTERNATIVES DISCUSSION

Alternative selection:

Preferred Alternative: *Diverging Diamond Interchange*			
Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$2,879,363**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**9-12 months**
Rationale: *The DDI alternative improves the operations of the interchange while keeping project costs to a minimum. The DDI alternative has a reduced width across the Wade Green Road bridge means that the project can be constructed without costly bridge widening, substantially reducing the overall cost of the project while still meeting the objective of improving traffic operations for the interchange.*			

No-Build Alternative: *No-Build*			
Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$0**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**N/A**
Rationale: *A No-Build alternative does not meet the project objective of improving traffic operations for the project corridor.*			

Alternative 1: *Conventional Bridge Widening*			
Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$3,950,559**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**12-18 months**
Rationale: *The increased cost of the widening alternate was the reason this option was not selected as the preferred alternative. The majority of the cost difference between the widening alternative and the DDI alternative are due to the expense of widening the existing bridge. The DDI alternate would not require any bridge widening. In addition, widening of bridge is expected to required longer construction time.*			

Alternative 2: *Diverging Diamond Interchange with Three Lane Southbound Onramp to I-75*			
Estimated Property Impacts:	**None**	**Estimated Total Cost:**	**$2,923,414**
Estimated ROW Cost:	**$0**	**Estimated CST Time:**	**9-12 months**
Rationale: *This alternate utilized the same DDI configuration for the interchange as the preferred alternate but additionally evaluated a three lane southbound on-ramp which would allow both the eastbound dual right turn lanes and the single westbound left turn lane to run continuously. The distance between the intersection of the on-ramp with Wade Green Road and the existing single lane configuration at the gore point of the ramp required the three lane ramp to be transitioned down to two lanes by the proposed ramp meter and then down to a single lane ramp before the gore point of the ramp with I-75. To accommodate this transition the third lane at the beginning of the ramp would need to begin transitioning to a two lane section almost immediately. This would force vehicles in the third lane to merge as soon as they entered the ramp which was deemed to be undesirable configuration and a potential safety concern. This quick transition from a three lane ramp to a two lane ramp also impacted the performance of the ramp, as it was effectively operating as a two lane ramp with such a short transition from three lanes to two.* *This alternate did not provide enough additional benefit due to the added lane to offset the cost of the additional pavement & grading required for the third ramp lane when compared to the dual southbound ramp with a signal controlled intersection.*			

Comments:

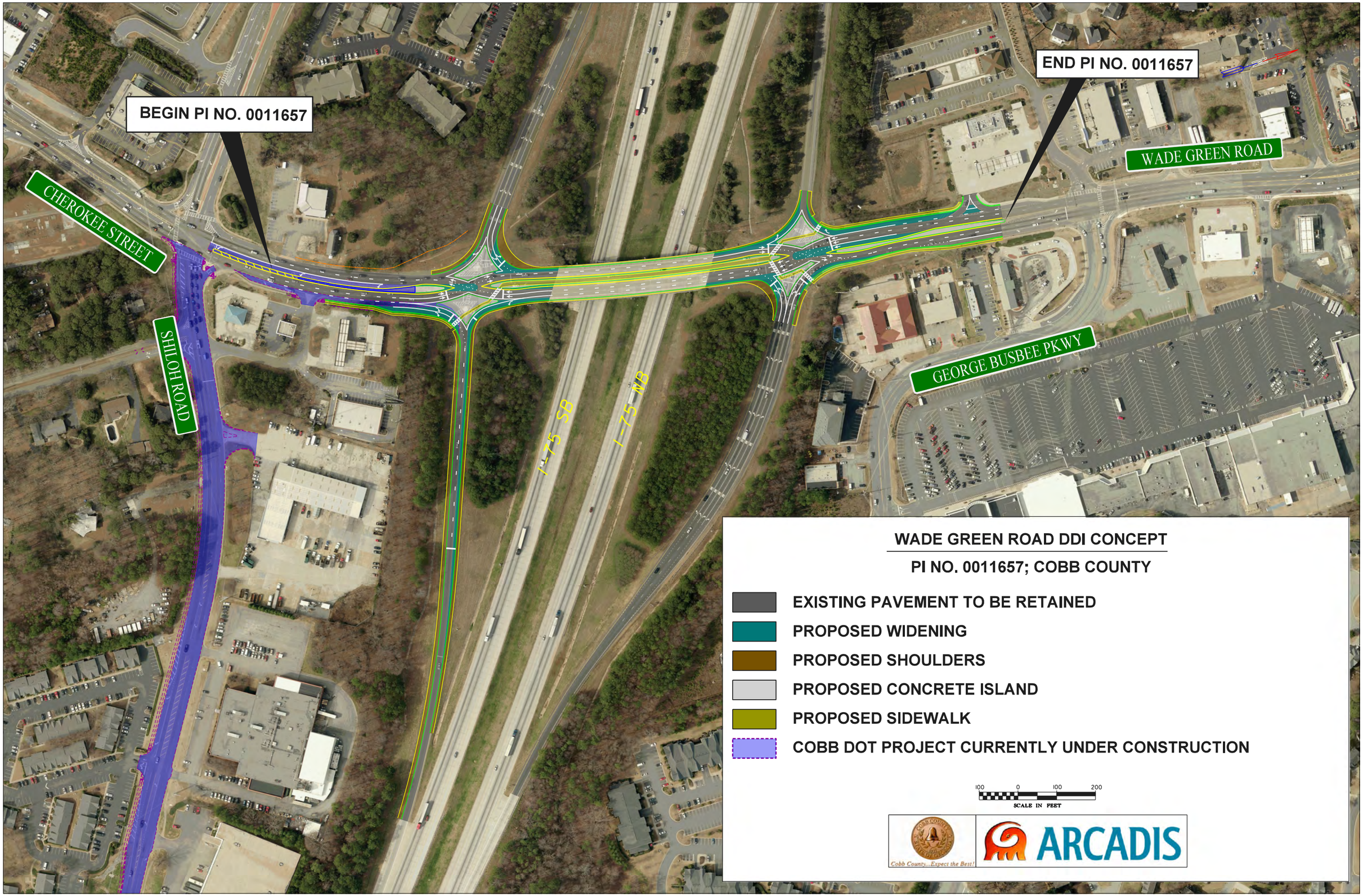
Attachments:

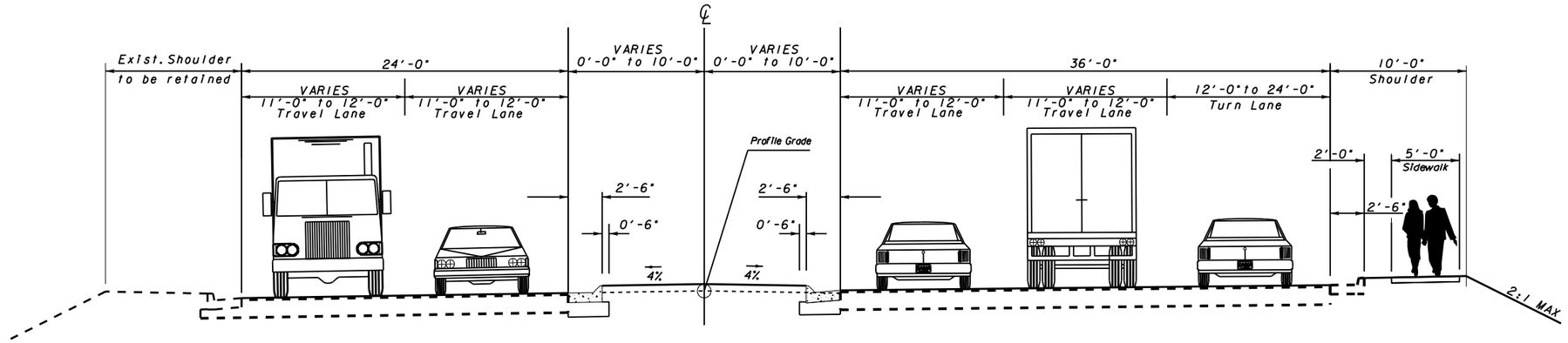
1. Concept Layout
2. Typical sections
3. Detailed Cost Estimates:
    a. Construction including Engineering and Inspection
    b. Completed Fuel & Asphalt Price Adjustment forms
    c. Utilities
4. Crash summaries
5. Traffic diagrams
6. Summary of TE Study/Capacity Analysis Summary
7. Bridge inventory
8. Bride condition survey recommendations
9. Minutes of Concept meetings
10. Level of Service Diagrams
11. Travel Time Diagrams
12. Summary of Conceptual Hydrology Study

APPROVALS

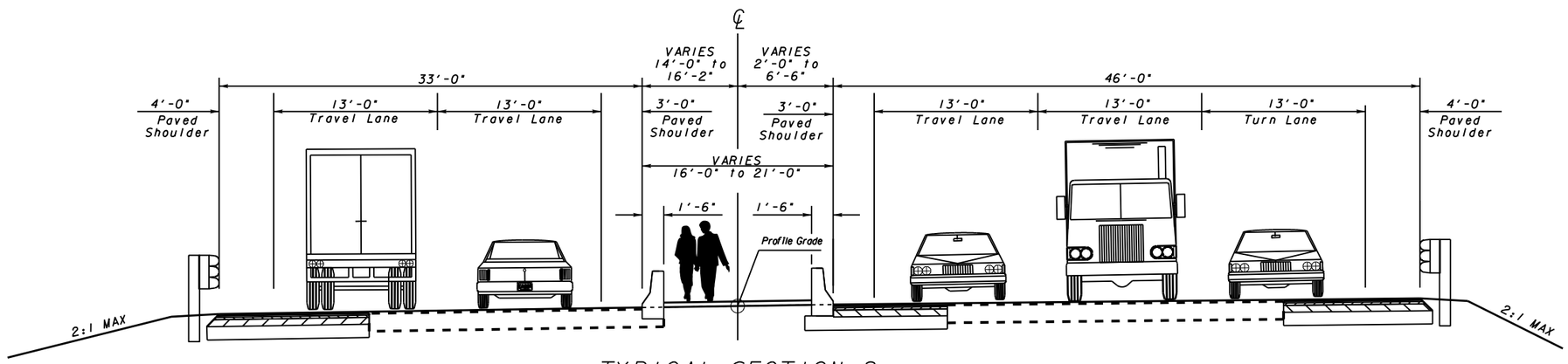
Concur: _____
Director of Engineering

Approve: _____ 2/24/14
Chief Engineer Date


BEGIN PI NO. 0011657
END PI NO. 0011657
CHEROKEE STREET
SHILOH ROAD
WADE GREEN ROAD
GEORGE BUSBEE PKWY
I-75 SB
I-75 NB
WADE GREEN ROAD DDI CONCEPT
PI NO. 0011657; COBB COUNTY
EXISTING PAVEMENT TO BE RETAINED
PROPOSED WIDENING
PROPOSED SHOULDERS
PROPOSED CONCRETE ISLAND
PROPOSED SIDEWALK
COBB DOT PROJECT CURRENTLY UNDER CONSTRUCTION
100 0 100 200
SCALE IN FEET
Cobb County...Expect the Best!
ARCADIS



TYPICAL SECTION 1
WADE GREEN ROAD WEST OF I-75 INTERCHANGE



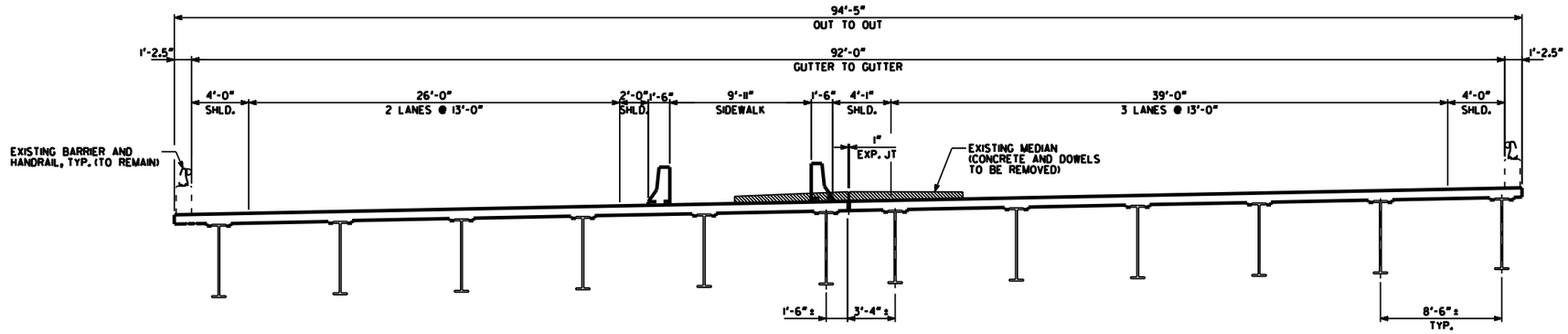
TYPICAL SECTION 2
WADE GREEN ROAD BETWEEN
I-75 RAMP TERMINALS

REVISION DATES		

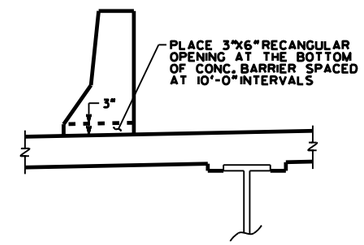
STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTIONS

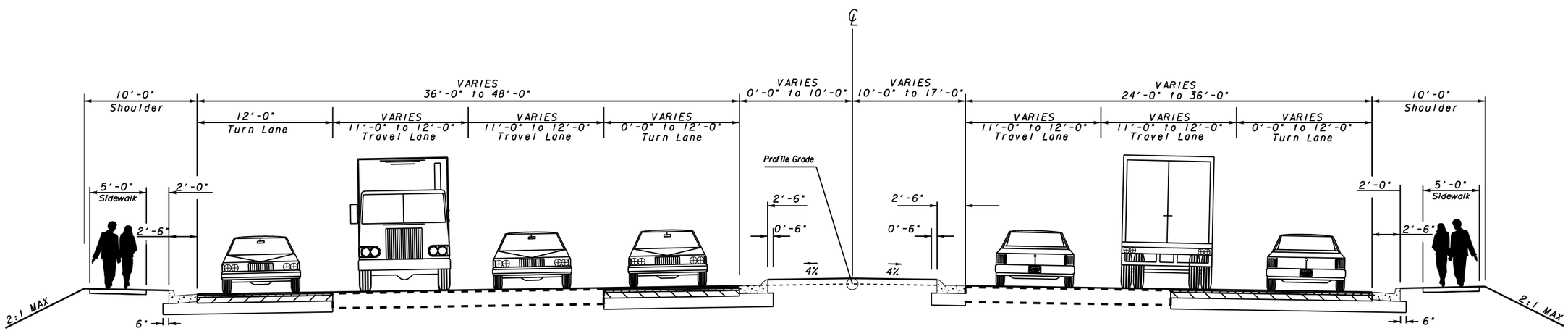
DRAWING No. 05-001



TYPICAL SECTION
WADE GREEN ROAD BRIDGE OVER I-75



DECK DRAIN DETAIL



TYPICAL SECTION
WADE GREEN ROAD EAST OF I-75 INTERCHANGE

REVISION DATES		

STATE OF GEORGIA
DEPARTMENT OF TRANSPORTATION
OFFICE:

TYPICAL SECTIONS

DRAWING No. 05-002

DETAILED COST ESTIMATE

Georgia Department of Transportation

Job: 0011657

JOB NUMBER *0011657* **FED/STATE PROJECT NUMBER**

SPEC YEAR: *01*

DESCRIPTION: *WADE GREEN RD IMPROVEMENTS AT I-75*

ITEMS FOR JOB 0011657

001 - ROADWAY

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0005	150-1000	1.000	LS	$113,000.00000	TRAFFIC CONTROL - PI 0011657	$113,000.00
0010	210-0100	1.000	LS	$285,000.00000	GRADING COMPLETE - PI 0011657	$285,000.00
0015	310-1101	6300.000	TN	$19.83511	GR AGGR BASE CRS, INCL MATL	$124,961.19
0020	402-1812	850.000	TN	$75.19328	RECYL AC LEVELING,INC BM&HL	$63,914.29
0025	402-3121	1300.000	TN	$75.46943	RECYL AC 25MM SP,GP1/2,BM&HL	$98,110.26
0030	402-3130	2100.000	TN	$80.45038	RECYL AC 12.5MM SP,GP2,BM&HL	$168,945.80
0035	402-3190	1100.000	TN	$78.90726	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	$86,797.99
0040	413-1000	1600.000	GL	$2.78149	BITUM TACK COAT	$4,450.38
0045	432-5010	15300.000	SY	$2.12577	MILL ASPH CONC PVMT,VARB DEPTH	$32,524.28
0050	441-0050	48.000	SY	$54.92717	CONC SLOPE DRAIN	$2,636.50
0055	441-0104	1800.000	SY	$25.21629	CONC SIDEWALK, 4 IN	$45,389.32
0060	441-0303	6.000	EA	$1,538.45039	CONC SPILLWAY, TP 3	$9,230.70
0065	441-0740	1100.000	SY	$27.85843	CONC MEDIAN, 4 IN	$30,644.27
0070	441-0748	2100.000	SY	$36.40031	CONC MEDIAN, 6 IN	$76,440.65
0075	441-6222	2700.000	LF	$13.98345	CONC CURB & GUTTER/ 8"X30"TP2	$37,755.32
0080	441-6740	2100.000	LF	$15.12727	CONC CURB & GUTTER/ 8"X30" TP7	$31,767.27
0085	500-3201	20.000	CY	$430.90024	CL B CONC, RET WALL	$8,618.00
0090	500-9999	49.000	CY	$160.16577	CL B CONC,BASE OR PVMT WIDEN	$7,848.12
0135	641-1100	100.000	LF	$62.02981	GUARDRAIL, TP T	$6,202.98
0140	641-1200	350.000	LF	$18.86540	GUARDRAIL, TP W	$6,602.89
0145	641-5001	2.000	EA	$669.99783	GUARDRAIL ANCHORAGE, TP 1	$1,340.00
0150	641-5012	2.000	EA	$1,883.05630	GUARDRAIL ANCHORAGE, TP 12	$3,766.11
					SUBTOTAL FOR ROADWAY:	**$1,245,946.32**

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DETAILED COST ESTIMATE

Georgia Department of Transportation

Job: 0011657

002 - DRAINAGE

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0095	550-1180	400.000	LF	$38.52534	STM DR PIPE 18",H 1-10	$15,410.14
0100	550-1240	200.000	LF	$42.49198	STM DR PIPE 24",H 1-10	$8,498.40
0105	550-4218	2.000	EA	$477.27653	FLARED END SECT 18 IN, ST DR	$954.55
0110	550-4224	2.000	EA	$598.90352	FLARED END SECT 24 IN, ST DR	$1,197.81
0115	573-2006	100.000	LF	$19.17513	UNDDR PIPE INCL DRAIN AGGR 6"	$1,917.51
0120	603-2182	25.000	SY	$44.26372	STN DUMPED RIP RAP, TP 3, 24"	$1,106.59
0125	603-7000	25.000	SY	$3.23252	PLASTIC FILTER FABRIC	$80.81
0130	611-3000	1.000	EA	$1,920.10353	RECONSTR CATCH BASIN, GROUP 1	$1,920.10
0155	668-1100	2.000	EA	$2,203.77386	CATCH BASIN, GP 1	$4,407.55
0160	668-1110	4.000	LF	$233.67950	CATCH BASIN, GP 1, ADDL DEPTH	$934.72
0165	668-2100	4.000	EA	$1,863.54314	DROP INLET, GP 1	$7,454.17
0170	668-2110	8.000	LF	$181.45543	DROP INLET, GP 1, ADDL DEPTH	$1,451.64
0175	668-4300	1.000	EA	$1,701.17598	STORM SEW MANHOLE, TP 1	$1,701.18
0180	668-4311	2.000	LF	$214.44561	ST SEW MANHOLE,TP 1,A DEP,CL 1	$428.89
0470	999-3155	605.000	LF	$34.89628	DRY SWALE EDGE DRAIN	$21,112.25
					SUBTOTAL FOR DRAINAGE:	**$68,576.31**

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DETAILED COST ESTIMATE

Georgia Department of Transportation

Job: 0011657

003 - TRAFFIC

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0265	615-1200	800.000	LF	$12.89717	DIRECTIONAL BORE - PI 0011657	$10,317.74
0270	636-1033	36.000	SF	$19.15076	HWY SIGNS, TP1MAT,REFL SH TP 9	$689.43
0275	636-1041	384.000	SF	$30.46849	HWY SIGNS,TP 2MAT,REFL SH TP 9	$11,699.90
0280	636-2070	75.000	LF	$8.26944	GALV STEEL POSTS, TP 7	$620.21
0285	639-3004	8.000	EA	$10,820.62625	STEEL STRAIN POLE, TP IV	$86,565.01
0290	647-1000	1.000	LS	$125,000.00000	TRAF SIGNAL INSTALLATION NO - 1	$125,000.00
0295	647-1000	1.000	LS	$125,000.00000	TRAF SIGNAL INSTALLATION NO - 2	$125,000.00
0300	647-2160	2.000	EA	$1,105.14079	PULL BOX, PB-6	$2,210.28
0305	647-2170	2.000	EA	$1,200.88287	PULL BOX, PB-7	$2,401.77
0310	652-5451	2260.000	LF	$0.30410	SOLID TRAF STRIPE, 5 IN, WHITE	$687.27
0315	653-0110	20.000	EA	$65.10261	THERM PVMT MARK, ARROW, TP 1	$1,302.05
0320	653-0120	14.000	EA	$72.77937	THERM PVMT MARK, ARROW, TP 2	$1,018.91
0325	653-1501	3726.000	LF	$0.61200	THERMO SOLID TRAF ST 5 IN, WHI	$2,280.31
0330	653-1502	4654.000	LF	$0.59502	THERMO SOLID TRAF ST, 5 IN YEL	$2,769.22
0335	653-1704	204.000	LF	$6.10171	THERM SOLID TRAF STRIPE,24",WH	$1,244.75
0340	653-1804	965.000	LF	$2.18857	THERM SOLID TRAF STRIPE, 8",WH	$2,111.97
0345	653-3501	3770.000	GLF	$0.38471	THERMO SKIP TRAF ST, 5 IN, WHI	$1,450.36
0350	653-6004	330.000	SY	$3.46586	THERM TRAF STRIPING, WHITE	$1,143.73
0355	654-1003	90.000	EA	$3.50242	RAISED PVMT MARKERS TP 3	$315.22
0360	657-1054	235.000	LF	$7.01959	PRF PL SD PVMT MKG,5",WH,TP PB	$1,649.60
0365	657-6054	2200.000	LF	$3.87592	PRF PL SD PVMT MKG,5",YW,TP PB	$8,527.02
0370	657-8045	1275.000	GLF	$2.00000	PRF PL SK PMT MG, 5 IN., YLW, TP PB	$2,550.00
0375	682-6231	2500.000	LF	$3.39000	CONDUIT, NONMETL, TP 3, 1 1/4 IN	$8,475.00
0380	935-1115	2000.000	LF	$2.14000	OUT PLNT FBR OPT CBL,LOOSE TB,SM,48 FBR	$4,280.00
0385	935-1511	200.000	LF	$1.26413	OUT PLNT FBR OPT CBL,DROP,SM,6 FBR	$252.83
0390	935-3105	2.000	EA	$457.32000	FIBER OPTIC CLOSURE,UNDRGRD,48 FIBER	$914.64
0395	935-3602	2.000	EA	$638.20921	FBR. OP. CLOS., FDC PRE-TERM., TYP. A, 6	$1,276.42
0400	935-4010	16.000	EA	$41.22970	FIBER OPTIC SPLICE, FUSION	$659.68
0405	937-6050	11.000	EA	$4,313.10262	INT VIDEO DET SYS ASMBLY, TP A	$47,444.13
0410	939-2305	2.000	EA	$1,830.55067	FIELD SWITCH, TYPE C	$3,661.10
					SUBTOTAL FOR TRAFFIC:	**$458,518.55**

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DETAILED COST ESTIMATE

Georgia Department of Transportation

Job: 0011657

004 - EROSION

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0185	163-0232	1.000	AC	$103.73772	TEMPORARY GRASSING	$103.74
0190	163-0240	16.000	TN	$291.62784	MULCH	$4,666.05
0195	163-0300	2.000	EA	$1,184.82421	CONSTRUCTION EXIT	$2,369.65
0200	163-0528	50.000	LF	$3.43034	CONSTR AND REM FAB CK DAM -TP C SLT FN	$171.52
0205	163-0550	7.000	EA	$116.98088	CONS & REM INLET SEDIMENT TRAP	$818.87
0210	165-0030	2100.000	LF	$0.73059	MAINT OF TEMP SILT FENCE, TP C	$1,534.24
0215	165-0101	2.000	EA	$487.57560	MAINT OF CONST EXIT	$975.15
0220	165-0105	7.000	EA	$33.86755	MAINT OF INLET SEDIMENT TRAP	$237.07
0225	167-1000	1.000	EA	$184.17891	WATER QUALITY MONITORING AND SAMPLING	$184.18
0230	167-1500	12.000	MO	$344.82032	WATER QUALITY INSPECTIONS	$4,137.84
0235	171-0030	4200.000	LF	$2.69831	TEMPORARY SILT FENCE, TYPE C	$11,332.90
0240	700-6910	2.000	AC	$624.18020	PERMANENT GRASSING	$1,248.36
0245	700-7000	3.000	TN	$96.71641	AGRICULTURAL LIME	$290.15
0250	700-8000	2.000	TN	$463.40455	FERTILIZER MIXED GRADE	$926.81
0255	700-8100	53.000	LB	$2.28397	FERTILIZER NITROGEN CONTENT	$121.05
0260	716-2000	1100.000	SY	$1.06443	EROSION CONTROL MATS, SLOPES	$1,170.87
					SUBTOTAL FOR EROSION:	**$30,288.45**

005 - BRIDGE

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0435	449-1620	408.000	LF	$60.00000	LWDEN,CLSCL,XLNK,EVA,PLYCPLY,NBS,BR NO - PI 0011657	$24,480.00
0440	461-2000	405.000	LF	$27.83907	RESEALING BRIDGE JOINTS, TP - PI 0011657	$11,274.82
0420	500-2100	1400.000	LF	$35.87396	CONCRETE BARRIER	$50,223.54
0445	519-0515	4140.000	SY	$5.39071	SURFACE PREPARATION	$22,317.54
0450	519-0530	4140.000	SY	$47.21363	POLYMER OVERLAY	$195,464.43
0415	543-9000	1.000	LS	$90,000.00000	CONSTR OF BRIDGE COMPLETE - REHAB AFTER REMOVAL OF DOWELED MEDIAN	$90,000.00
0455	658-1200	2200.000	LF	$6.24000	SOLID POLYUREA TRAF STRIPE,5IN, WHITE	$13,728.00
0460	658-1201	1275.000	LF	$6.28000	SOLID POLYUREA TRAF STRIPE, 5IN, YELLOW	$8,007.00
0465	658-1300	2500.000	GLF	$5.35000	SKIP POLYUREA TRAF STRIPE,5IN, WHITE	$13,375.00
					SUBTOTAL FOR BRIDGE:	**$428,870.33**

006 - LIGHTING

Line Number	ITEM	QUANTITY	UNITS	PRICE	DESCRIPTION	AMOUNT
0425	681-4211	16.000	EA	$1,659.00000	LT STD, 32 FT MH, POST TOP	$26,544.00
0430	681-6900	16.000	EA	$932.00000	LUMINAIRE - PI 0011657	$14,912.00
					SUBTOTAL FOR LIGHTING:	**$41,456.00**

TOTALS FOR JOB 0011657

ITEMS COST:	**$2,273,655.96**
COST GROUP COST:	**$0.00**
ESTIMATED COST:	**$2,273,655.96**
CONTINGENCY PERCENT:	**0.05**
ENGINEERING AND INSPECTION:	**0.00**
ESTIMATED COST WITH CONTINGENCY AND E&I:	**$2,387,338.76**

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PROJ. NO.	N/A		CALL NO.
P.I. NO.	0011657		
DATE	5/6/2013		

INDEX (TYPE)	**DATE**	**INDEX**
REG. UNLEADED	Dec-13	$ 3.241
DIESEL		$ 3.823
LIQUID AC		$ 559.00

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

LIQUID AC ADJUSTMENTS

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

Asphalt

Price Adjustment (PA)				**89719.5**	**$ 89,719.50**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	894.40	
Monthly Asphalt Cement Price month project let (APL)			$	559.00	
Total Monthly Tonnage of asphalt cement (TMT)				267.5	

ASPHALT	**Tons**	**%AC**	**AC ton**
Leveling	850	5.0%	42.5
12.5 OGFC	0	5.0%	0
12.5 mm	2100	5.0%	105
9.5 mm SP	0	5.0%	0
25 mm SP	1300	5.0%	65
19 mm SP	1100	5.0%	55
	5350		**267.5**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$**	**2,304.92**	**$ 2,304.92**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	894.40	
Monthly Asphalt Cement Price month project let (APL)			$	559.00	
Total Monthly Tonnage of asphalt cement (TMT)				6.872161475	

Bitum Tack Gals	gals/ton	tons
1600	232.8234	6.87216148

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				**0**	**$ -**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	894.40	
Monthly Asphalt Cement Price month project let (APL)			$	559.00	
Total Monthly Tonnage of asphalt cement (TMT)				0	

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

TOTAL LIQUID AC ADJUSTMENT **$ 92,024.42**

COBB COUNTY
DEPARTMENT OF TRANSPORTATION

1890 County Services Parkway
Marietta, Georgia 30008-4014
(770) 528-1600 • Fax: (770) 528-1601

Date: April 17, 2013

RE: Preliminary Utility Cost Estimate – PI0011657/ E4050 – I-75 @ Wade Green Road Interchange, D.D.I.

Utility Owner/ Facility Description	Utility Cost	Reimbursable
Atlanta Gas Light Company: 4" MP Steel/ Pl	$65,000.00	
AT&T Networks: Copper/ Fiber, OH/ UG, 9 4" duct	$135,500.00	
Cobb County Marietta Water Authority: 36" trans. main	$0.00	
Cobb County Water System: 8"/ 12" DIP, 8" PCV sewer	$50,000.00	
Comcast Cable: Coaxial/ Fiber cable, aerial & underground	$30,000.00	
Cobb EMC: 12.5 kV 3ph OH/ UG	$75,000.00	
Georgia Transmission Corporation: 230 kV	$0.00	
Sunesys: 48 ct fiber	$20,000.00	
Tower Cloud: fiber	$25,000.00	
Total:	$400,500.00	$0.00
Total Preliminary Utility Cost Estimate:	$400,500.00	

***Estimate based on preliminary plan information, signals and ATMS cost not included**
***Utility investigation was performed from field, GIS mapping and plan information.**

Please contact me if you have any questions. Thanks,

Andy Rikard
Preconstruction Utility Coordinator
Cobb DOT/ Arcadis
(770)528-3660

I-75 at Wade Green Road, PI 0011657
Crash Analysis

The latest five years (2005 through 2009) of crash data were collected from GDOT and analyzed to quantify the severity, type, and spatial distribution of the crashes on Wade Green Road between Shiloh Rodd and George Busbee Parkway. The corridor was divided into three segments based on varying historical average annual daily traffic (AADT) information. The segments analyzed were Wade Green Road between Shiloh Road and I-75 SB ramp, represented by mile point 20.29 to mile point 2.5; Wade Green Road between I-75 SB ramp and I-75 NB ramp, represented by mile point 2.5 to mile point 2.62; and Wade Green Road I-75 NB ramp and George Busbee Parkway, represented by mile point 2.62 to mile point 2.78. Each of the segments was analyzed to determine crash rate, crash type, and the spatial distribution of the crashes along the corridor.

Crash Rate Analysis

The crash data were analyzed to calculate crash rates for each of the four intersections analyzed. Table 1 presents a comparison of calculated crash rates on Wade Green Road with the statewide average crash rates.

Table 1: Wade Green Road Crash Rates vs. Statewide Average Crash Rates

Wade Green Rd Intersections		2005			2006			2007			2008			2009*		
		AADT	Intersection Avg.	Statewide Avg.	AADT	Intersection Avg.	Statewide Avg.	AADT	Intersection Avg.	Statewide Avg.	AADT	Intersection Avg.	Statewide Avg.	AADT	Intersection Avg.	Statewide Avg.
Shiloh Rd	Total Crashes	47,475	2.9	14.74	47,950	2.4	17.32	48,430	0.8	12.59	48,914	0.9	15.45	49,403	0.9	15.45
	Fatality Crashes		0.0	0.00		0.0	0.04		0.0	0		0.0	0		0.0	0
	Injury Crashes		0.4	3.78		0.7	3.92		0.3	2.81		0.3	3.4		0.2	3.4
I-75 SB Ramp	Total Crashes	42,401	4.4	14.73	42,825	4.9	26.36	43,254	4.4	10.46	43,686	3.6	6.6	44,123	2.9	6.6
	Fatality Crashes		0.0	0.01		0.0	0.01		0.0	0.01		0.0	0		0.0	0
	Injury Crashes		0.6	3.07		1.0	6.04		0.5	2.43		1.1	1.32		0.4	1.32
I-75 NB Ramp	Total Crashes	40,429	4.2	14.73	40,833	3.0	26.36	41,241	3.1	10.46	41,654	2.4	6.6	42,070	1.7	6.6
	Fatality Crashes		0.0	0.01		0.0	0.01		0.0	0.01		0.0	0		0.0	0
	Injury Crashes		1.3	3.07		0.8	6.04		0.9	2.43		0.3	1.32		0.7	1.32
George Busbee Pkwy	Total Crashes	38,773	2.3	12.66	39,161	2.0	19.89	39,552	1.9	10.08	39,948	2.2	10.1	40,347	1.9	10.1
	Fatality Crashes		0.0	0.01		0.0	0.04		0.0	0.02		0.0	0.01		0.0	0.01
	Injury Crashes		0.6	3.00		0.7	4.64		0.6	2.1		0.4	2.12		0.7	2.12

Source: GDOT Crash Database (2005 – 2009)
Crash rates are per Million Entering Vehicles (MEV)
2008 statewide averages have been used for year 2009

The table shows that, on average, the frequency of total crashes on Wade Green Road within the study corridor are less than the statewide average during the five years studied. The average injury crash rate is also less than the statewide average injury crash rate for all five years. Finally, the table shows that fatal crashes are less frequent on Wade Green Road as compared to statewide averages for all five years studied.

Crash Type Analysis

The crash data was analyzed to determine the frequency and type of each crash occurring on the corridor. In Georgia, crash data is categorized by type. With the exception of one type, not a collision

with a motor vehicle, the types focus on the manner in which the vehicles collided. A crash categorized as Not a Collision with a Motor Vehicle occurs when a vehicle strikes a fixed object (utility pole, guardrail, curb, structure, etc.), a bicyclist or pedestrian, or when the vehicle leaves the roadway. Figure 1 illustrates the total number of each type of crash that occurred along the entire study corridor, mile point 2.29 to mile point 2.78.

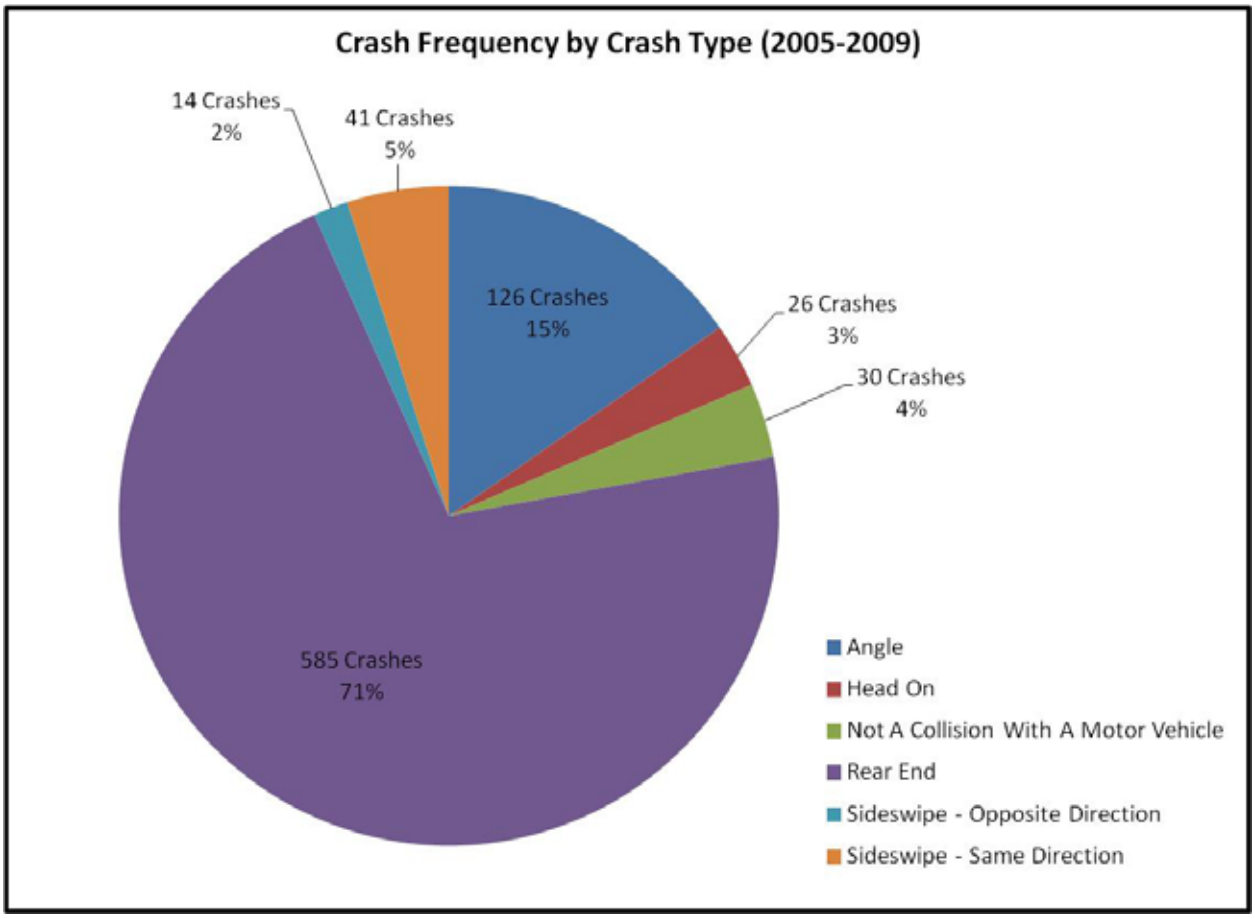


Figure 1: Wade Green Crash Frequency by Type

Figure 3 shows that 585 rear-end crashes and 126 angle crashes occurred on the corridor. This represents approximately 86 percent of the total crashes that occurred in each of the three segments analyzed. These crash types are most prevalent at signalized intersections and non-signalized access points.

Figure 1 also shows that 41 sideswipe crashes occurred on the corridor. This represents approximately 5 percent of the total crashes that occurred on each of the three segments analyzed. This crash type is common in locations where traffic must weave across lanes to access adjacent land uses.

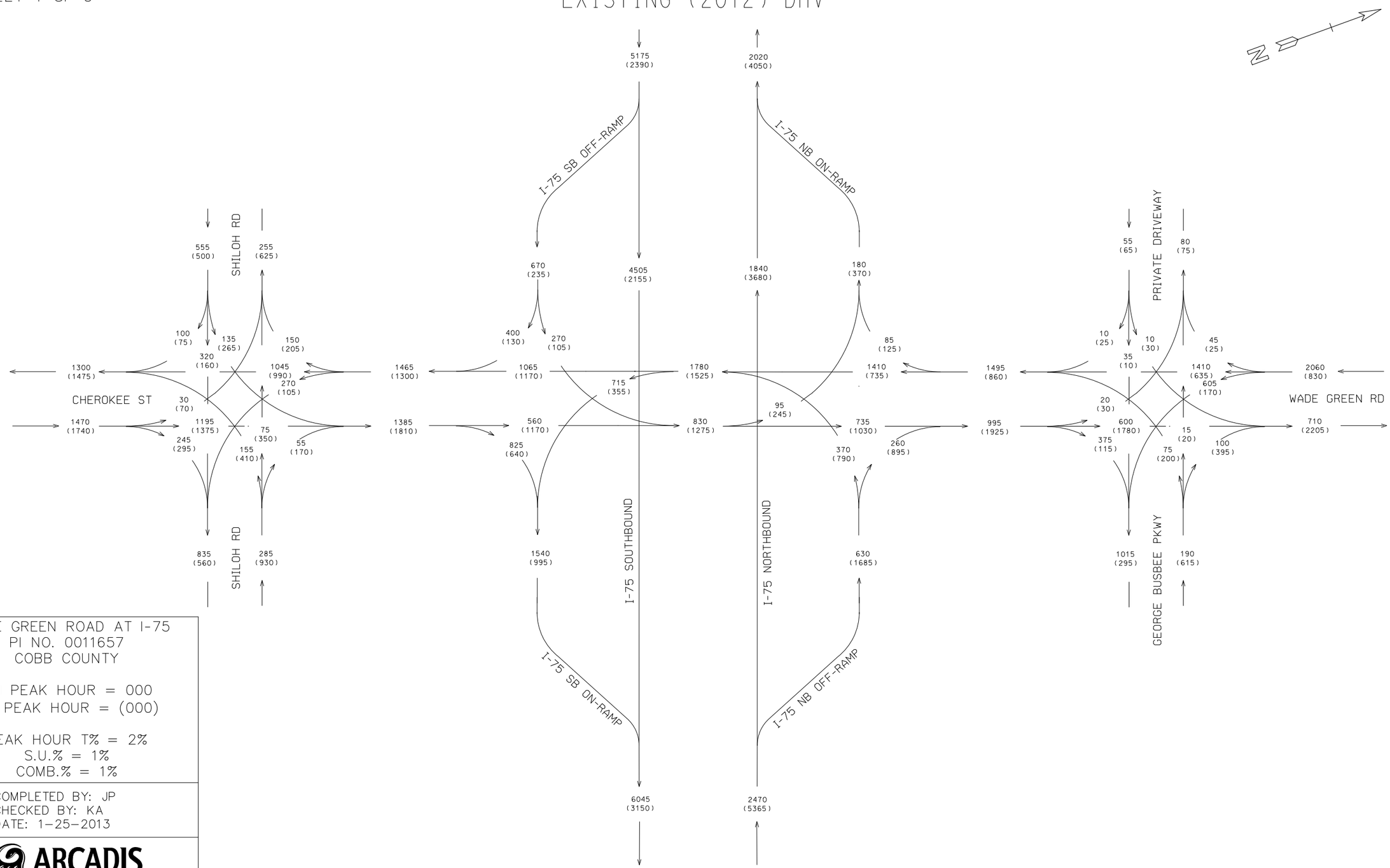
The severity of the crashes was analyzed by determining which percentage of each crash type included injuries or fatalities. Injuries are common among all of the crash types that occurred on the corridor. According to Table 2, approximately 42 percent of the angle crashes, 18 percent of the rear-end crashes, 36 percent of the sideswipe crashes with the same direction, 20 percent of the sideswipe crashes with

opposite direction, 17 percent of the crashes not involving another motor vehicle, and 50 percent of the head-on crashes involved injuries. There are no fatalities associated with any of the crash types analyzed. In general, 23 percent of crashes between 2005 through 2009 involved injuries.

Table 2: Wade Green Road Crash Severity

Day	Number of Crashes	Number of Injuries	% Injuries
Angle	126	53	42%
Head On	26	13	50%
Not A Collision With A Motor Vehicle	30	5	17%
Rear End	585	107	18%
Sideswipe - Opposite Direction	14	5	36%
Sideswipe - Same Direction	41	8	20%
Total (%)	**822**	**191**	**23%**

EXISTING (2012) DHV



WADE GREEN ROAD AT I-75
PI NO. 0011657
COBB COUNTY

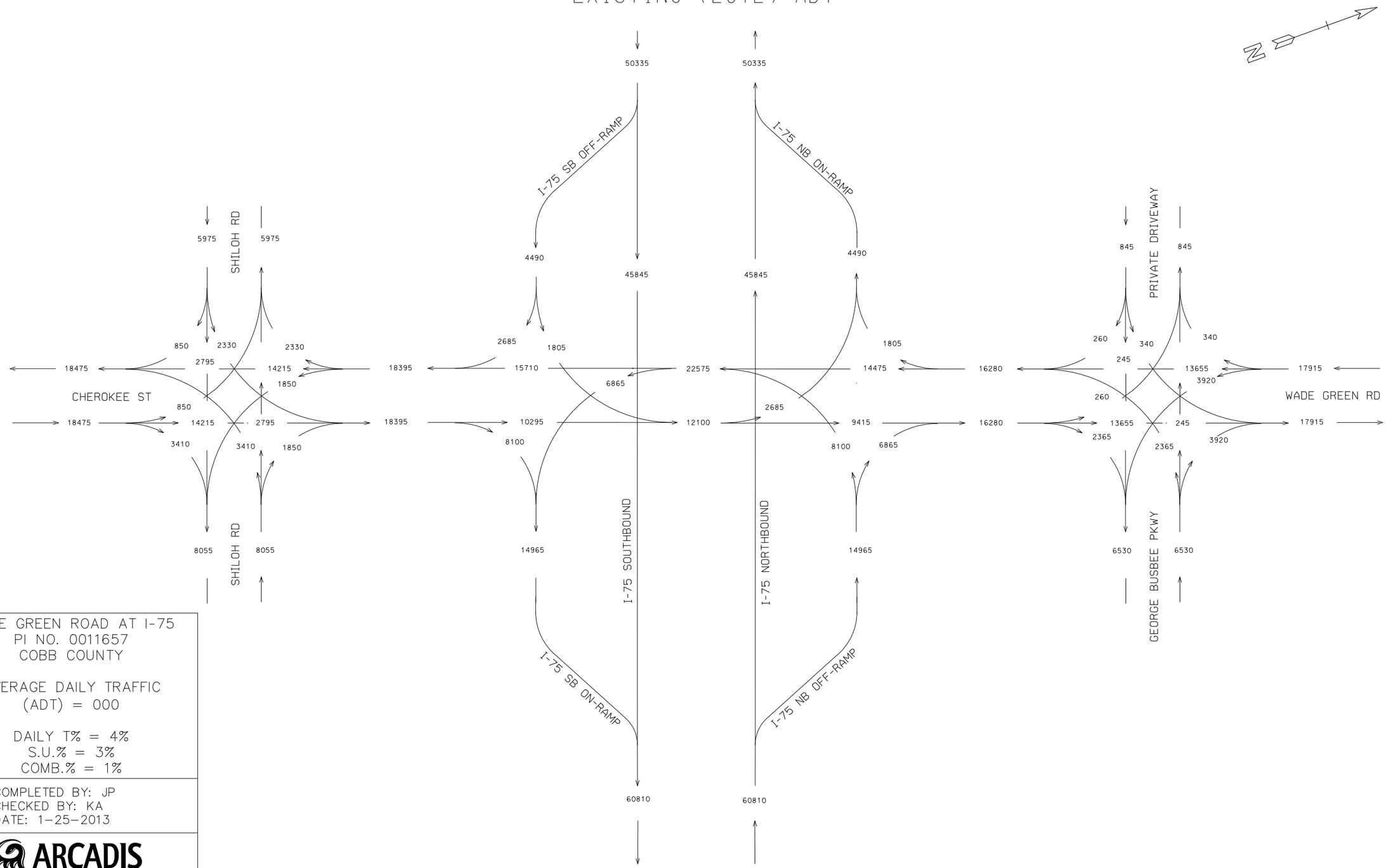
AM PEAK HOUR = 000
PM PEAK HOUR = (000)

PEAK HOUR T% = 2%
S.U.% = 1%
COMB.% = 1%

COMPLETED BY: JP
CHECKED BY: KA
DATE: 1-25-2013

ARCADIS
Infrastructure, Water, Environment, Buildings

EXISTING (2012) ADT



WADE GREEN ROAD AT I-75
PI NO. 0011657
COBB COUNTY

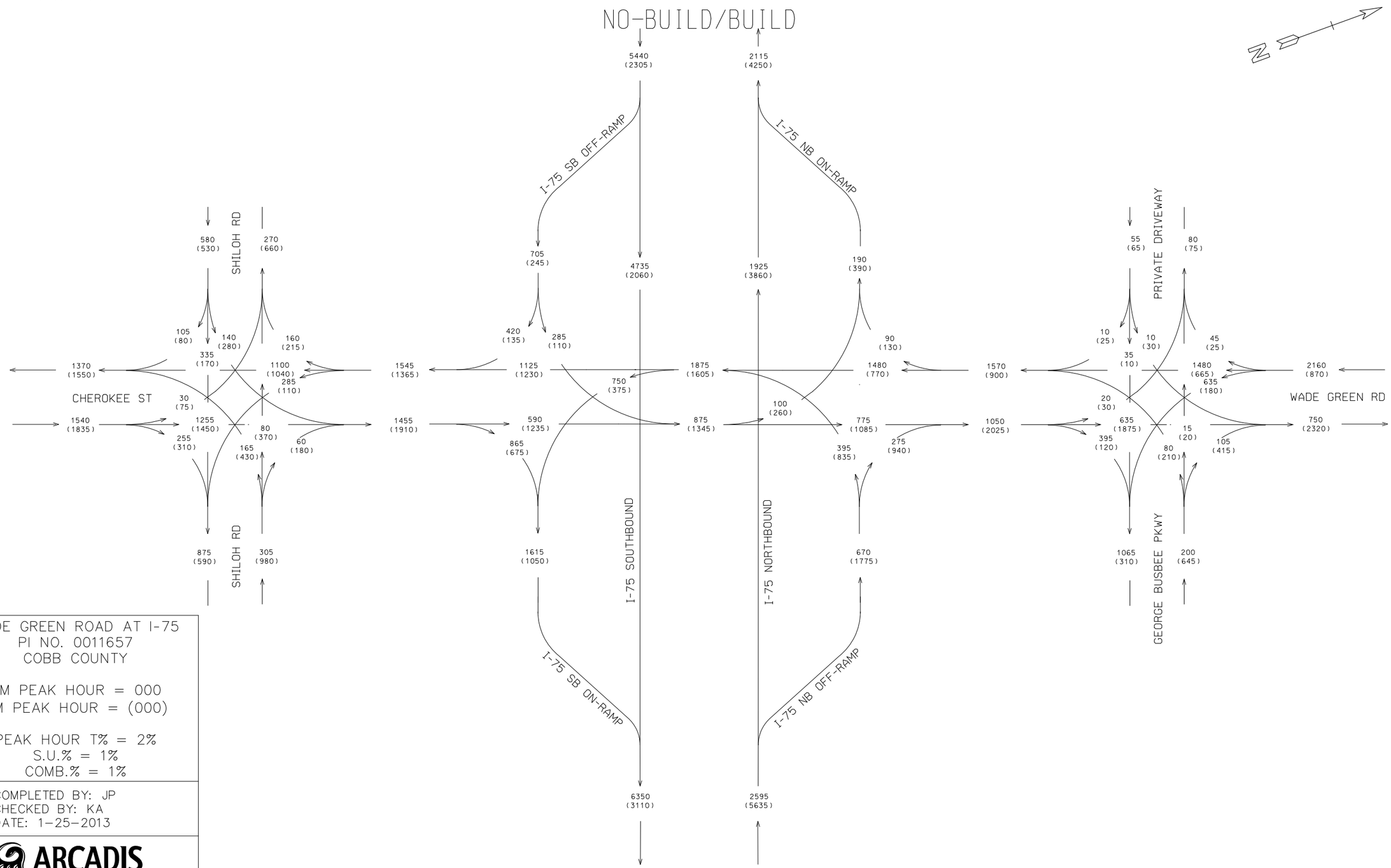
AVERAGE DAILY TRAFFIC
(ADT) = 000

DAILY T% = 4%
S.U.% = 3%
COMB.% = 1%

COMPLETED BY: JP
CHECKED BY: KA
DATE: 1-25-2013

ARCADIS
Infrastructure, Water, Environment, Buildings

OPEN (2015) DHV
NO-BUILD/BUILD



WADE GREEN ROAD AT I-75
PI NO. 0011657
COBB COUNTY

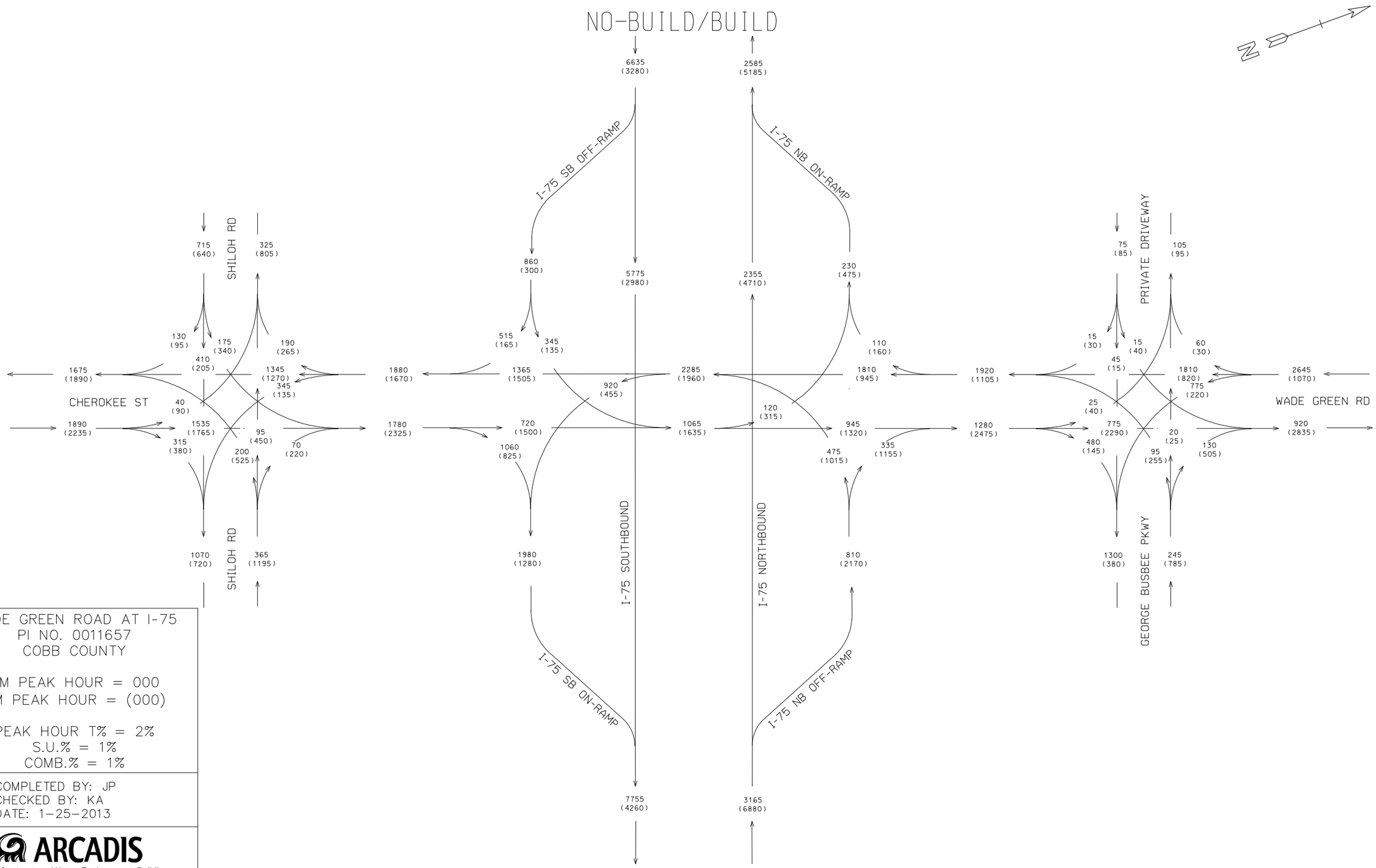
AM PEAK HOUR = 000
PM PEAK HOUR = (000)

PEAK HOUR T% = 2%
S.U.% = 1%
COMB.% = 1%

COMPLETED BY: JP
CHECKED BY: KA
DATE: 1-25-2013

ARCADIS
Infrastructure, Water, Environment, Buildings

DESIGN (2035) DHV
NO-BUILD/BUILD



WADE GREEN ROAD AT I-75
PI NO. 0011657
COBB COUNTY

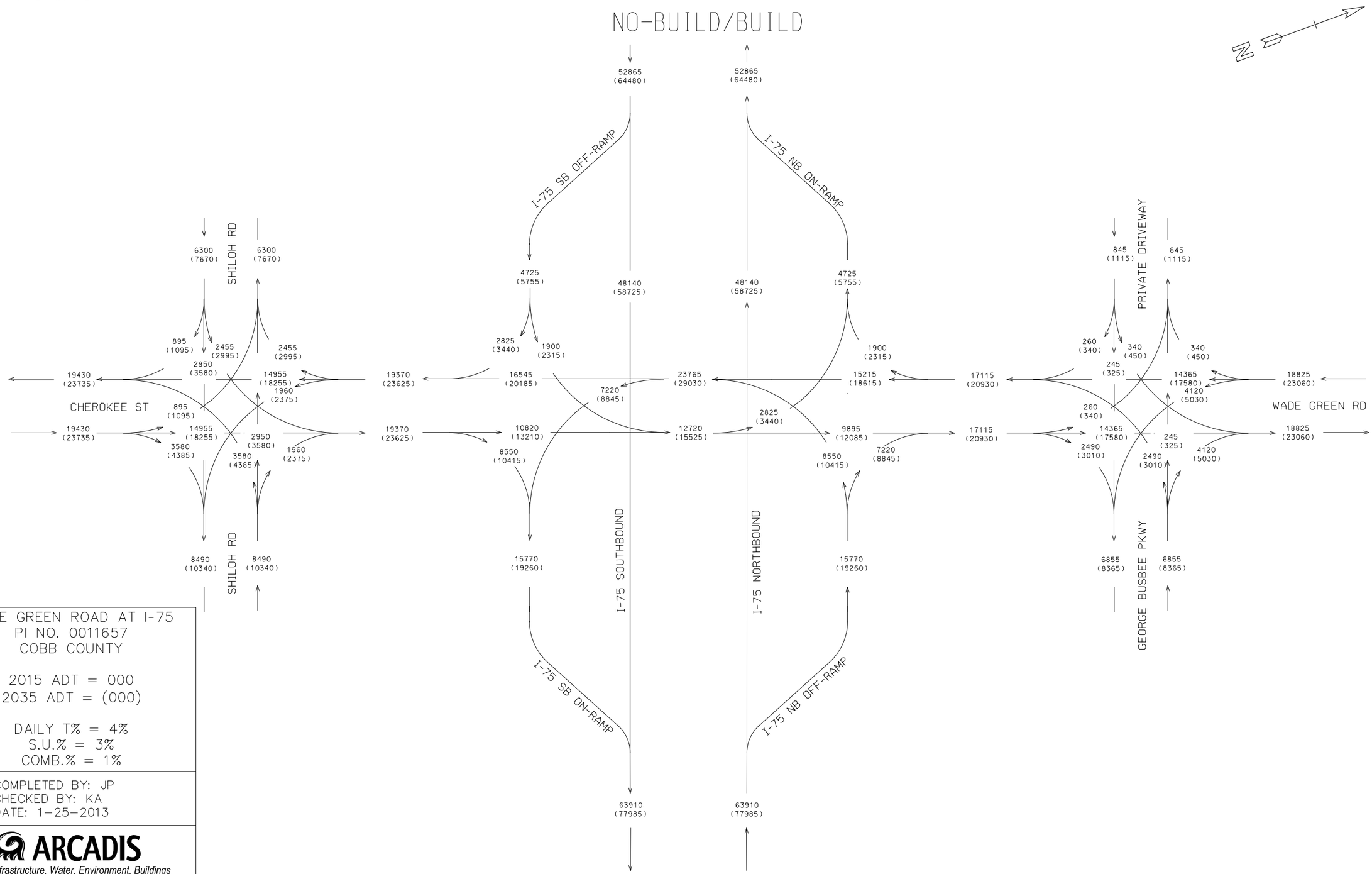
AM PEAK HOUR = 000
PM PEAK HOUR = (000)

PEAK HOUR T% = 2%
S.U.% = 1%
COMB.% = 1%

COMPLETED BY: JP
CHECKED BY: KA
DATE: 1-25-2013

ARCADIS
Infrastructure, Water, Environment, Buildings

OPEN (2015)/DESIGN (2035) ADT
NO-BUILD/BUILD



WADE GREEN ROAD AT I-75
PI NO. 0011657
COBB COUNTY

2015 ADT = 000
2035 ADT = (000)

DAILY T% = 4%
S.U.% = 3%
COMB.% = 1%

COMPLETED BY: JP
CHECKED BY: KA
DATE: 1-25-2013

ARCADIS
Infrastructure, Water, Environment, Buildings

Traffic Analysis Report Summary

An operational and capacity analysis was completed for the interchange using Synchro and VISSIM modeling software. The analysis examined operations in existing year (2012), open year (2015), and design year (2035) under both no-build and build conditions. The analysis showed that the proposed design will have significant improvements on operations at the southbound ramp termini intersection and also on travel times for vehicles accessing I-75 Southbound in the AM peak hour. Intersection delay at southbound ramp intersection is expected to reduce from 183 seconds per vehicle (sec/veh) to 37 sec/veh in design year (2035) AM conditions. Travel times for key movements are also expected to reduce by three to five minutes in the design year (2035). Much less congestion exists during the PM peak hour, therefore the improvements are only marginal at many locations. The results of the intersection capacity analysis are shown in Table 1.

Table 1: Peak Hour Intersection Level of Service

Intersection	AM Peak Hour					PM Peak Hour				
	Existing Year (2012)	Open Year (2015)		Design Year (2035)		Existing Year (2012)	Open Year (2015)		Design Year (2035)	
		No-Build	Build	No-Build	Build		No-Build	Build	No-Build	Build
Shiloh Road	47.6 (LOS D)	51.7 (LOS D)	58.5 (LOS E)	**95.2 (LOS F)**	**127.7 (LOS F)**	48.9 (LOS D)	58.3 (LOS E)	68.1 (LOS E)	**109.2 (LOS F)**	**113.8 (LOS F)**
I-75 Southbound Ramp	68.0 (LOS E)	**81.2 (LOS F)**	20.4 (LOS C)	**182.9 (LOS F)**	36.7 (LOS D)	19.5 (LOS B)	23.5 (LOS C)	23.4 (LOS C)	35.8 (LOS D)	28.2 (LOS C)
I-75 Northbound Ramp	25.1 (LOS C)	27.9 (LOS C)	27.8 (LOS C)	51.9 (LOS D)	24.9 (LOS C)	38.2 (LOS D)	38.2 (LOS D)	26.6 (LOS C)	42.4 (LOS D)	32.0 (LOS C)
George Busbee Parkway/Driveway	31.2 (LOS C)	25.5 (LOS C)	20.8 (LOS C)	34.7 (LOS C)	36.4 (LOS D)	43.3 (LOS D)	51.0 (LOS D)	38.7 (LOS D)	**125.7 (LOS F)**	**90.3 (LOS F)**

While the proposed design focuses on improvements at the two ramp termini intersections, operations at the adjacent intersections of Shiloh Road and George Busbee Parkway were also analyzed due to their impact on the overall system. A project is currently underway to improve operations at the intersection of Wade Green Road and Shiloh Road; however, more improvements will be necessary to ensure that queuing from the intersection does not impact operations at the interchange.

Additionally, a benefit cost (B/C) analysis was completed for the project. The analysis used vehicle miles travelled (VMT), vehicle hours travelled (VHT), and value of time to calculate the overall benefits of the project. The analysis estimated a B/C ratio of 1.44.

Processed Date:3/5/2013

Parameters: Bridge Serial Num

Bridge Inventory Data Listing

Structure ID:067-0122-0 | **Cobb** | **SUFF. RATING:** 72.29

Location & Geography

Structure ID:	067-0122-0
200 Brdge Information:	06
*6A Feature Int:	I-75
*6B Critical Bridge:	0
*7A Route No Carried:	CR04396
*7B Facility Carried:	WADE GREEN ROAD
9 Location:	2.5 MI NE OF KENNESAW
2 Dot District:	7
207 Year Photo:	2011
*91 Inspection Frequency:	24 Date: 09/08/2011
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:	00000
*5 Inventory Route(O/U):	1
Type:	5
Designation:	1
Number:	09359
Direction:	0
*16 Latitude:	34 - 03.2415 HMMS Prefix:00
*17 Longtitude:	84 - 35.6207 HMMS Suffix:000 MP:0.00
98 Border Bridge:	000%Shared:00
99 ID Number:	000000000000000
*100 STRAHNET:	0
12 Base Highway Network:	1
13A LRS Inventory Route:	672439600
13B Sub Inventory Route:	0
101 parellel Structure:	N
*102 Direction of Traffic:	2
*264 Road Inventory Mile Post:	002.50
*208 Inspection Area:	7 Initials: EFP
Engineer's Initials:	eep
* Location ID No:	067-09359M-002.65N

*104 Highway System:	0
*26 Functional Classification:	16
*204 Federal Route Type:	M No: 09359
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:	01
*20 Toll:	3
*21 Maintanance:	01
*22 Owner:	01
*31 Design Load:	6
37 Historical Significance:	5
205 Congressional District:	11
27 Year Constructed:	1976
106 Year Reconsrtucted:	0000
33 Bridge Medium:	2
34 Skew:	21
35 Structure Flared:	0
38 Navigation Control:	N
213 Special Steel Design:	0
267 Type of Paint:	5
*42 Type of Service On:	1
Type of Service Under:	1
214 Movable Bridge:	0
203 Type Bridge:	A
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	1 Vert: 1
111 pier Protection	0
107 Deck Structure Type:	1
108 Wearing Structure Type:	1
Membrane Type:	0
Deck Protection:	0

Signs & Attachments

225 Expansion Joint Type:	15
242 Deck Drains:	0
243 Parapet Location:	3
Height:	2
Width:	1
238 Curb Height:	0
Curb Material:	0
239 Handrail	7 7
*240 Medium Barrier Rail:	0
241 Bridge Median Height:	1
* Bridge Median Width:	16
230 Guardrail Loc. Dir. Rear:	2
Fwrd:	2
Oppo. Dir. Rear:	2
Oppo. Fwrd:	2
244 Aproach Slab	3
224 Retaining Wall:	0
233Posted Speed Limit:	40
236 Warning Sign:	0.00
234 Delineator:	0.00
235 Hazzard Boards:	0
237 Utilities Gas:	21
Water:	22
Electric:	00
Telephone:	21
Sewer:	00
247 Lighting Street:	0
Navigation:	0
Aerial:	0
*248 County Continuity No.:	00

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Bridge Inventory Data Listing

Structure ID:067-0122-0

Programming Data

201 Project No:	I-75-3 (40) 284 CT.3
202 Plans Available:	4
249 Prop Proj No:	NHS-M001-00(995)
250 Approval Status:	0000
251 PI Number:	M001995
252 Contract Date:	02/01/1901
260 Seismic No:	00000
75 Type Work:	00 0
94 Bridge Imp: Cost:	$0
95 Roadway Imp. Cost:	0
96 Total Imp Cost:	0
76 Imp Length:	000000
97 Imp Year:	0000
114Furure ADT:	050055 Year:2030

Hydralic Data

215Waterway Data:	
High Water Elev:	0000.0 Year:1900
Flood Elev:	0000.0 Freq:00
Avg Streambed Elev:	0000.0
Drainage Area:	00000
Area of Opening:	000000
113 Scour Critical	N
216Water Depth:	00.0 Br.Height:00.0
222Slope Protection:	4
221Slope Protection	0 Fwd:0
219Fender System	0
220Dolphin:	0
223Current Cover:	000
Type:	0
No. Barrels:	0
* Width:	0.00 Height:0.00
* Length:	0 Apron:0
265 U/W Insp. Area	0 Diver:ZZZ
Location ID No:	067-09359M-002.65N

Measurements:

*29ADT	033370 Year:2007
109%Trucks:	1
* 28 Lanes On:	04 Under:06
210 No. Tracks On:	00 Under:00
* 48 Max. Span Length	0145
* 49 Structure Length:	405
51 Br. Rwdy. Width	92.00
52 Deck Width:	94.40
* 47 Tot. Horiz. Cl:	92
50 Curb / Sidewalk Width	0.00 / 0.00
32 Approach Rdwy. Width	072
*229 Shoulder Width:	
Rear Lt:	2.00 Type:3 Rt:10.00
Fwd. Lt:	2.00 Type:3 Rt:10.00
Permanent Width:	
Rear:	24.00 Type:3
	24.00 Type:2
Intersaction Rear:	1 Fwd: 1
36Safety Features Br. Rail:	1
Transition:	1
App. G. Rail:	1
App. Rail End:	1
53 Minimum Cl. Over:	99' 99 "
Under:	
*228 Minimum Vertical Cl	
Act. Odm Dir::	99' 99"
Oppo. Dir:	99' 99"
Posted Odm. Dir:	00' 00"
Oppo. Dir:	00' 00"
55 Lateral Undercl. Rt:	H 30 30
56 Lateral Undercl. Lt:	64.00
*10 Max Min Vert Cl:	99' 99" Dir:0
39 Nav Vert Cl:	000 Horiz:0000
116 Nav Vert Cl Closed:	000
245 Deck Thickness Main	8.10
Deck Thick Approach:	0.00
246 Overlay Thickness:	0.00
212 Year Last Painted:	Sup:1997Sub:0000

65 Inventory Rating Mathod:	1
63 Operating Rating Method:	1
66 Inventory Type:	2 Rating: 18
64 Operating Type:	2 Rating: 18
231Calculated Loads:	
H-Modified:	21 0
HS-Modified:	23 0
Type 3:	22 0
Type 3s2:	25 0
Timber:	23 0
Piggyback:	00 0
261 H Inventory Rating:	21
262 H Operating Rating	36
67 Structural Evaluation:	4
58 Deck Condition:	5
59 Superstructure Condition:	6
* 227 Collision Damage:	0
60A Substructure Condition:	6
60B Scour Condition:	N
60C Underwater Condition	N
71 Waterway Adequacy:	N
61 Channel Protection Cond.:	N
68 Deck Geometry:	9
69 UnderClr. Horz/Vert:	7
72 Appr. Alignment:	8
62 Culvert:	N

Posting Data

70 Bridge Posting Required	5
41 Struct Open, Posted, CL:	A
* 103 Temporary Structure:	0
232 Posted Loads	
H-Modified:	00
HS-Modified:	00
Type 3:	00
Type 3s2:	00
Timber:	00
Piggyback	00
253 Notification Date:	02/01/1901
258 Fed Notify Date:	2/1/1901 12:00:00AM

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DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE: P.I. No 0011657, Cobb County **OFFICE:** Bridge Maintenance Unit
DATE: July 17, 2013

FROM: Clayton Bennett, P.E., State Bridge Inspection Engineer

TO: Genetha Singleton-Rice, State Program Delivery Engineer
ATTN: Merishia Robinson

SUBJECT: **Bridge Condition Survey**

Our office received the request for a Bridge Condition Survey to be conducted. This request was dated June 19, 2013; a Bridge Condition Survey has been completed for this project.

Structure ID 067-0122-0
CR 4396 (Wade Green Road) over I-75

The bridge is an HS-20 design and was constructed in 1976. The superstructure consists of a concrete deck, four (4) spans of steel beams on concrete caps with concrete columns.

After conducting a field inspection of the structure our office recommends the following rehabilitation:

- **Joints:**
  - Replace the joints at Abutment 1 and 5 and bents 2 and 4.
  - Replace the longintidunal joint with a backer rod and type D silicone
- **Deck:**
  - seal the with a two part polymer overlay

I see no reason why the project cannot proceed, as long as correction of the issues cited above are incorporated into the plans.

If you have any questions, please contact Clayton Bennett at (404) 635-2889.

CLB:kms

Wade Green DDI
Cost Estimate

Wade Green at I-75
Bridge Rehabilitation Cost Estimate
PI 0011657

Bridge Length = 405 ft.
Bridge Width = 92 ft.

Pay Item	Description	Unit	Unit Cost	Qty	Total	Notes
449-1620	Low-Density, Closed Cell, X-Linked Joint Seal	LF	60	408.0	$ 24,480.00	Joints at Bents 1,2,4 & 5
461-2000	Resealing Bridge Joints	LF	27.83	405.0	$ 11,271.15	Longitudinal Joints
519-0515	Surface Preparation	SY	5.39	4140.0	$ 22,314.60	Deck
519-0530	Polymer Overlay	SY	47.21	4140.0	$ 195,449.40	Deck
657-1054	Prf Pl SD Pvmt Mkg,5",WH,TP PB	LF	7.01	2200.0	$ (15,422.00)	Deduct Preformed Marking needed without the polymer overlay
657-6054	Prf Pl SD Pvmt Mkg,5",YW,TP PB	LF	3.87	1275.0	$ (4,934.25)	
657-8045	Prf Pl Sk Pmt Mg, 5 IN., YLW, TP PB	GLF	2	2500.0	$ (5,000.00)	
658-1200	Solid Polyurea Traffic Stripe, 5 IN, White	LF	6.24	2200.0	$ 13,728.00	Add Polyurea Marking needed with the polymer overlay
658-1201	Solid Polyurea Traffic Stripe, 5 IN, Yellow	LF	6.28	1275.0	$ 8,007.00	
658-1300	Skip Polyurea Traffic Stripe, 5 IN, White	GLF	5.35	2500.0	$ 13,375.00	
			Subtotal		**$ 263,268.90**	
			E& I (5%)		$ 13,163.45	
			Traffic Control (10%)		$ 26,326.89	
			TOTAL COST		**$ 302,759.24**	

ARCADIS U.S., Inc.
2410 Paces Ferry Road
#400
Atlanta
Georgia 30339
Tel 770 431 8666
Fax 770 435 2666

MEETING REPORT

Subject:
I-75 at Wade Green Road Interchange
Improvements, DDI
Concept Team Meeting
PI# 0011657, Cobb County

Department:
Transportation

ARCADIS Project No.:
GA064005

Place/Date of Meeting:
GDOT Room 407
June 5, 2013

Report No.:
1

Minutes by:
Ryan Graves

Issue Date:
June 19, 2013

Participants:
See Attached List of Attendees

A concept team meeting was held among Georgia Department of Transportation (GDOT), Cobb County, and ARCADIS U.S., Inc. (ARCADIS) to review the concept report for the I-75 at Wade Green Road Interchange Improvements Project (PI 0011657). The purpose of this meeting was to finalize the scope/concept for the project. Following is a summary of the meeting discussion.

1. Merishia Robinson, GDOT project manager for the I-75 at Wade Green Road Interchange Improvements Project, opened by discussing the purpose of the meeting and providing an overview of the meeting agenda.

2. Shamir Poudel, project manager for ARCADIS, presented a project overview and background. His presentation included a review of the existing conditions and proposed improvements for the interchange as well as the traffic data for the project corridor, highlighting the level of service for each intersection in the project study area and presenting travel time estimates for no-build and build design year conditions.

3. Bonnie Bynum of ARCADIS highlighted the environmental data for the project. No ecologically sensitive areas are within the project limits. Two churches and two cemeteries are within the project study area; however, impacts to these resources are being avoided by the proposed project. A Public Information Open House is planned for June 20, 2013. The anticipated environmental document for the project is a Programmatic Categorical Exclusion (PCE), assuming that no public objections are raised against the project.

4. After the presentation concluded, the meeting was opened for a Q&A session. The questions raised and their responses are listed below:

Q. – How will traffic from the dual right turn lanes from Wade Green Road eastbound and the single left turn lane from Wade Green Road westbound entering the two-lane ramp to I-75 south be controlled?

A. – The dual right turn lanes from Wade Green Road eastbound will be signal controlled. ARCADIS will revise the design to make this clear.

Corrected A. – The design currently assumes both left and right turns will be controlled by a signal. An additional lane on the ramp will be required to facilitate a free-flow left turn. The benefit of a free-flow left turn will be evaluated against the cost and impact of an additional lane on the ramp. The concept will be adjusted if needed.

Q. – Has an analysis been done to determine if southbound queues from the intersection of Wade Green Road at Shiloh Road would back into the diverging diamond interchange (DDI)?

A. – No, this analysis has not been done; ARCADIS will analyze the queues and determine if modifications to the Shiloh Road intersection are needed.

Q. – Do the traffic volumes used for this concept include the completed Skip Spann Connector build-out?

A. – Yes, the volumes include this new roadway connection.

Q. – What is the level of service of the failing intersections in the open year?

A. – Shiloh Road: D/E (a.m./p.m.), George Busbee Parkway: C/D (a.m./p.m.).

Q. – Was a concept of just widening the southbound on-ramp to I-75 considered?

A. – No, the existing left turn lanes on the bridge need to be extended to meet traffic demand. For this reason, the only alternatives considered were a DDI or widening of the bridge to accommodate additional left turn lanes.

Q. – Examine the proposed access from the BP gas station in the northeast quadrant of the interchange. As shown on the project layout, traffic exiting the BP driveway on Wade Green Road would be forced to the northbound on-ramp for I-75.

A. – ARCADIS will examine the access from this parcel to Wade Green Road and adjust the concept as needed.

Q. – The proposed typical section for the bridge shows the expansion joint at the base of the barrier wall separating the pedestrian walkway from the travel lanes. Because the bridge is in the southeast quadrant, drainage from the travel lanes will be directed toward this wall and the joint. Examine the drainage for the bridge to avoid any issues relating to the proximity of the expansion joints to the base of the barrier wall.

A. – ARCADIS will examine the drainage of the bridge and revise the proposed design if necessary.

Q. – Are 13-foot-wide lanes typical for a DDI?

A – Yes, to allow trucks to navigate the S-curves. This width was also used for the Ashford-Dunwoody Road DDI.

Q. – GDOT indicated that there are some known maintenance needs for the bridge deck. The bridge deck has a condition code 5 and likely should be addressed before implementation of the DDI.

A. – Merishia Robinson will request a bridge maintenance report to assess what maintenance will be needed.

Q. – Is this project a Full Oversight or Exempt?

A. – The project is currently shown as Exempt. Merishia Robinson will double check.

<u>Additional questions received via email</u>

Q. - Ensure there is no possibility of a conflict between the two Eastbound right turning lanes (when they are green) and the continuous flow left turn lane. It appears that there could be a potential conflict between these approaches on the proposed aerial.

A. – The design currently assumes both left and right turns will be controlled by a signal. An additional lane on the ramp will be required to facilitate a free-flow left turn. The benefit of a free-flow left turn will be evaluated against the cost and impact of an additional lane on the ramp. The concept will be adjusted if needed.

Q. - Will traffic coming from the West and the East receive an equal opportunity/green time (or green time that is approximately proportional to the traffic volumes from each direction) to access the ramp? I would like to suggest having a 1 free flow lane from the East and 1 free flow lane from the West.

A. - Green time will depend on the time of the day and will have to be field adjusted after it's open. We looked at doing just 1 right and 1 left turn lane on Wade Green at the I-75 south on-ramp. Due to the short storage length available for right turn lane, a single right configuration did not work. Dual right turn lane is currently proposed.

Q. - The benefit to the traveling public/DOT lies primarily in expanding the ramp. If we are unable to expand the entrance of ramp near the Wade Green Rd, then the project would lose most of its value

A. – Existing SB ramp has been widened as much as possible to provide additional storage on the ramp. Providing additional entrance capacity or additional lane along I-75 southbound while beneficial is outside the scope of this operational improvement project.

5. Merishia Robinson initiated the concept report review. Comments on the report were as follows:

   a. Label the project location sketch as "Not to Scale."

   b. Delete all instructions to the author from the concept report template.

c. The Office of Planning needs to review the Project Justification Statement. Kyle Mote was mentioned as the person likely to review this.

d. Update the information in the mainline design features table for sidewalks to reflect the proposed width of the sidewalk across the bridge.

e. Consider a speed reduction zone prior to the crossover movements of the DDI that are designed for 25 mph. The existing posted speed limit for Wade Green Road is 45 mph. A speed reduction zone should be included to reduce the speed from 45 mph to 35 mph prior to the interchange and finally to 25 mph for the interchange.

f. Determine if a design exception for superelevation will be required due to the reduced speed design and to match the existing cross slope of the roadway and bridge.

g. Add level of service diagrams and travel time figures as attachments to the report.

h. Resize the project layout in the report to a standard size, typically 11 inches by 17 inches.

i. Have the reimbursable utilities cost estimate reviewed and concurred upon by GDOT. The final concurred version will be included in the concept report.

j. Recheck the federal oversight requirement.

k. The Regional Commission is ARC – page 4.

l. Include as part of this project the coordination of all traffic signals for the corridor (Shiloh Road, interchange ramps, and George Busbee Parkway).

m. Revise the mainline design features table on page 5 to demonstrate all elements of the typical section (e.g., turn lanes, sidewalks).

n. Revise text on page 12 to show the project as a PCE/CE.

o. Remove completed projects on page 13 (other projects in the area) and add any missing Cobb County projects to the list.

p. Attach the Bridge Condition Report (if available) to the concept report.

q. Update the table on page 14 to accurately reflect project cost and funding responsibilities.

r. It was asked whether the project is being considered for Design-Build. That option is still in consideration and Butch Welch is to check on this.

6. Action Items

a. ARCADIS will submit draft meeting minutes for the concept team meeting by June 12, 2013.

b. ARCADIS will incorporate comments and distribute final meeting minutes by June 19, 2013.

c. ARCADIS will submit the draft concept report to GDOT for comments by July 3, 2013.

d. ARCADIS will send the utility estimate to GDOT for review.

e. The GDOT project manager will request the Bridge Condition Report.

f. The GDOT project manager or GDOT IPD will check whether the procurement method is Design-Build or Design-Bid-Build.

g. The GDOT project manager will verify if the project is Exempt or Full Oversight.

I-75 at Wade Green Road Interchange Improvements

June 5, 2013
Concept Team Meeting
List of Attendees

Name	Company	Phone	Email
Merishia Robinson	GDOT	404.631.1151	mrobinson@dot.ga.gov
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Davida White	GDOT OPD	404.631.1717	dwhite@dot.ga.gov
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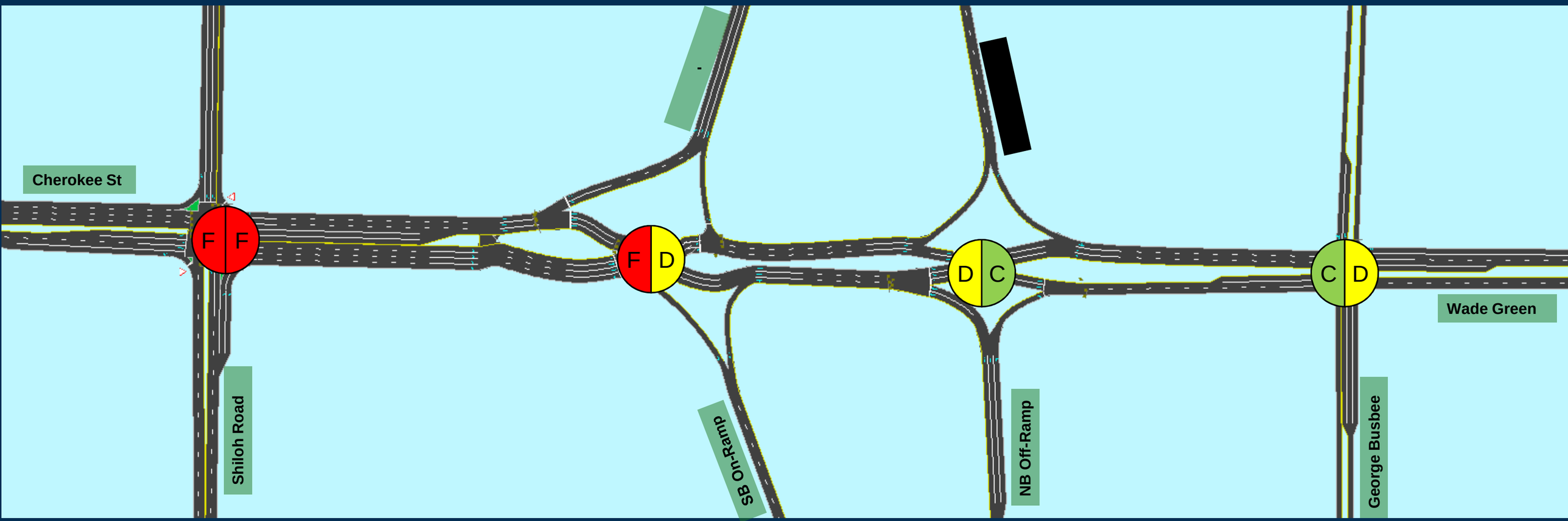
Albert Shelby	GDOT OPD	404.631.1758	ashelby@dot.ga.gov

Intersection LOS Analysis

Analysis Year	2035 (AM)
Tool	Synchro



LEGEND

LOS		LOS	
	A		D (35+)
	B		E (55+)
	C (20+)		F (80+)

No-Build / Build

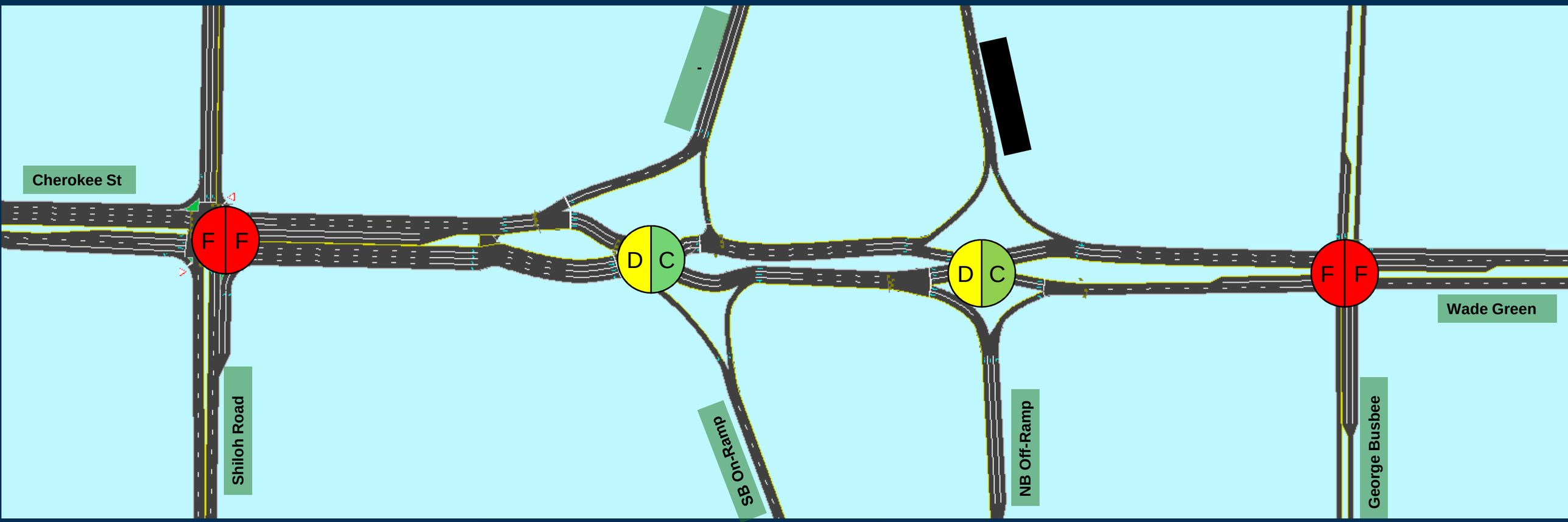
Intersection Analysis

Intersection	No-Build Delay (sec/veh)	Build Delay (sec/veh)
Shiloh Road	95	128
SB Ramps	183	37
NB Ramps	52	25
George Busbee	35	36

***Note:* Optimized Cycle Length – 150 Sec**

Intersection LOS Analysis

Analysis Year	2035 (PM)
Tool	Synchro



LEGEND

LOS		LOS	
	A		D (35+)
	B		E (55+)
	C (20+)		F (80+)

No-Build | Build

Intersection Analysis

Intersection	No-Build Delay (sec/veh)	Build Delay (sec/veh)
Shiloh Road	109	114
SB Ramps	36	28
NB Ramps	42	32
George Busbee	126	90

***Note:* Optimized Cycle Length – 150 Sec**

Figure 4: AM Peak Hour Travel Times

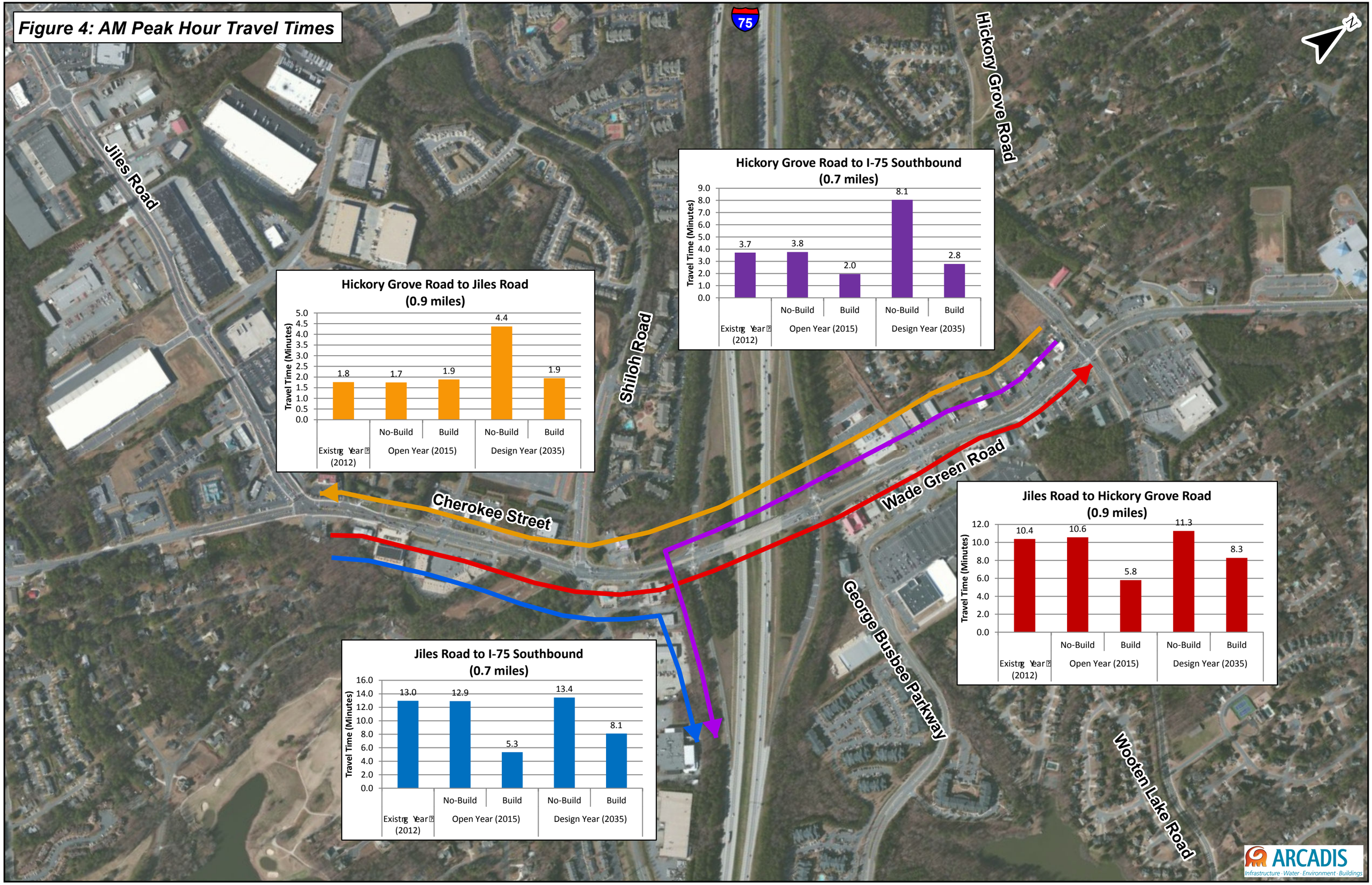
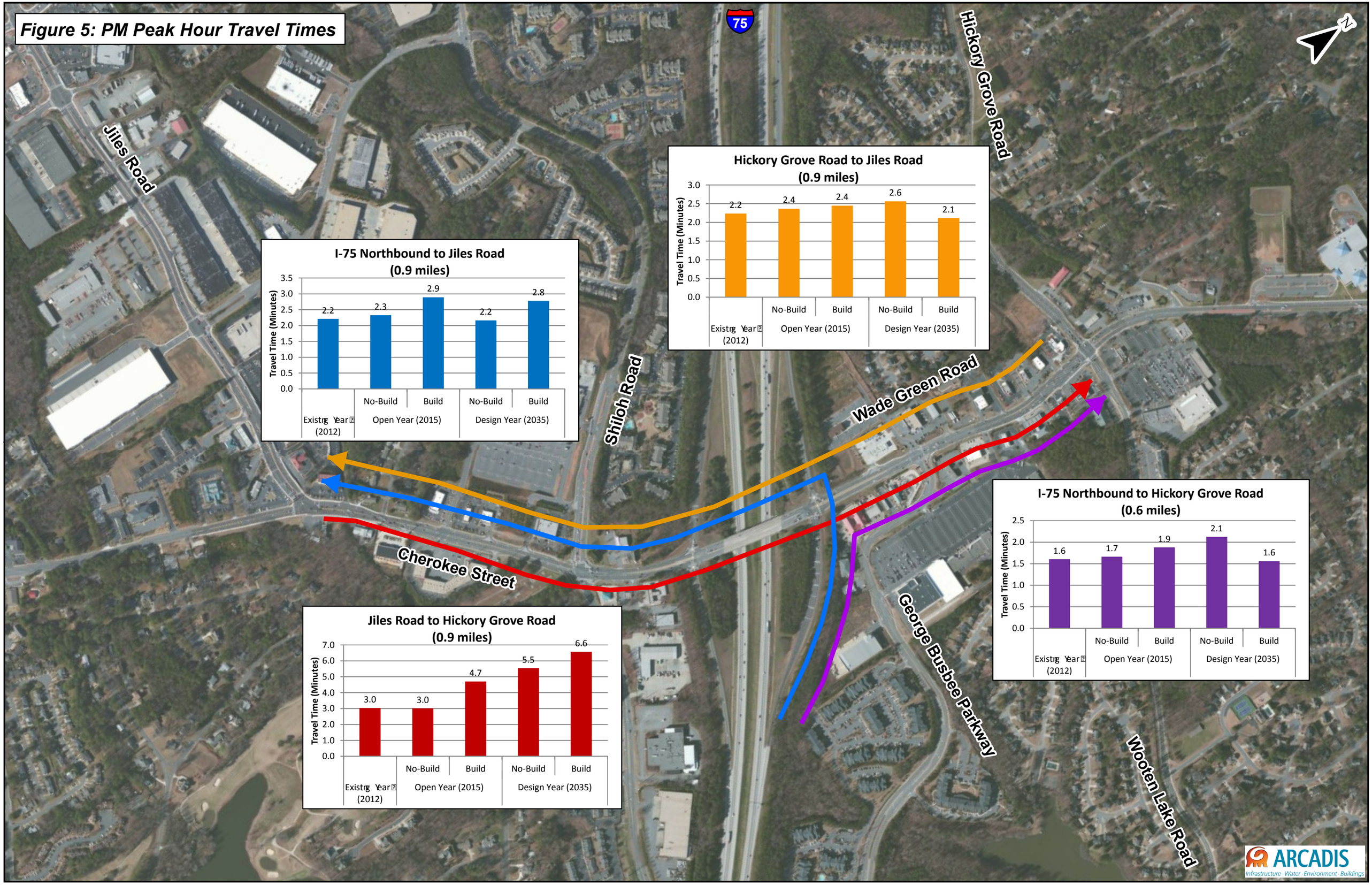


Figure 5: PM Peak Hour Travel Times



Summary of Conceptual Hydrology Study - Wade Green Road at I-75

Basin Name	Basin Area [ac]	MS4 Requirements				Post-Construction BMP Applicability
		80% TSS [cf]	Channel Protection [cf]	Overbank Protection		
				Pre-construction flows [cfs]	Post-construction flows [cfs]	
1.1	1.37	499.05	1630.00	11.60	12.75	Treatment of TSS & Channel Protection can be achieved with an Enhanced Swale, terrain and ROW preclude use of ponds. (ROW acquisition would delay project by 90+ days)
1.2	1.44	778.68	1621.00	11.53	12.68	Enhanced Swales and Detention ponds should be further evaluated for this drainage basin.
1.3	1.32	201.24	379.00	6.47	6.87	Enhanced Swales and Detention ponds should be further evaluated for this drainage basin.
2	0.05	17.55	36.00	1.38	1.41	Treatment of TSS & Channel Protection can be achieved with an Enhanced Swale, terrain and ROW preclude use of ponds. (ROW acquisition would delay project by 90+ days)
3.1	0.50	132.12	525.00	7.72	8.16	Enhanced Swales and Detention ponds should be further evaluated for this drainage basin.
3.2	2.23	12.15	575.00	18.10	18.39	Enhanced Swales and Detention ponds should be further evaluated for this drainage basin.
3.3	0.39	N/A	N/A	3.18	2.95	Less Impervious area in proposed condition than in existing condition - No Treatment Necessary
3.4	5.18	287.28	1052.00	48.04	48.36	Not enough space for adequate BMPs due to ROW constriants (ROW acquisition would delay project by 90+ days)
4	0.55	N/A	N/A	7.16	6.64	Less Impervious area in proposed condition than in existing condition - No Treatment Necessary

CHEROKEE STREET
WADE GREEN ROAD
SHILOH ROAD
GEORGE BUSBEE PKWY
INTERSTATE
75
DA 1.1
DA 1.2
DA 1.3
DA 2
DA 3.1
DA 3.2
DA 3.3
DA 3.4
DA 4
WADE GREEN ROAD AT
I-75 INTERCHANGE IMPROVEMENTS
MS4 BMP CONCEPT LAYOUT
PRELIMINARY
LEGEND
DRAINAGE AREA DA
EXISTING PROPERTY LINES
200 0 200 400
SCALE IN FEET
Cobb County...Expect the Best!
ARCADIS