ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #0000425
NHS00-0000-00(425)
GDOT District 1 - Gainesville
Hall County
I-985 New Interchange - North of SR 13 Crossover
Near Martin Road

OFFICE Design Policy & Support

DATE July 20, 2012

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
Cindy VanDyke, State Transportation Planning Administrator
Angela Robinson, Financial Management Administrator
Glenn Bowman, State Environmental Administrator
Ben Rabun, State Bridge Engineer
Kathy Zahul, State Traffic Engineer
Georgene Geary, State Materials & Research Engineer
Lisa Myers, State Project Review Engineer
Jeff Baker, State Utilities Engineer
Ken Thompson, Statewide Location Bureau Chief
Michael Henry, Systems & Classification Branch Chief
Bayne Smith, District Engineer
Robert Mahoney, District Preconstruction Engineer
Jason Dykes, for District Utilities Engineer
Vinesha Pegram, Project Manager
BOARD MEMBER - 9th Congressional District
FHWA – attn: Rodney Barry, Georgia Division Administrator

Keith Golden, P.E., Commissioner

GEORGIA DEPARTMENT OF TRANSPORTATION

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

June 6, 2012

NHS-0000-00(425), Hall County
P.I. No. 0000425
I-985 New Interchange N of SR 13 Crossover Near Martin Road

Mr. Rodney Barry, Division Director
Federal Highway Administrator
61 Forsyth Street
Suite 17T10C
Atlanta, GA 30303

Re: **Responses to Concept Report**

Dear Mr. Barry:

This letter is in response to the comments for the concept report regarding Project NHS00-000-00(425), P.I. No. 0000425 in Hall County. Please see the responses below to the concept report.

With respect to FHWA comments, please note the followings:

1. Attachment 14 documents the minutes of a meeting between FHWA and GDOT on December 19, 2011. The minutes clearly state that FHWA "stated that the concept report must clearly document that the ramp delay would not adversely affect operations on the interstate." This was not done, and Attachment 5 shows a LOS F for the build scenarios at the I-985 ramps, and states that there will be impact on operation of northbound I-985.

   Response: There is no negative impact on the ramp in the build year. Per Attachment 5, Table 2, in the Capacity Analysis Summary for the ramps, there is enough length on the ramp such that the que length of the ramp would not extend out into I-985 on the mainline. In the build year 2015, the estimated que length of the northbound ramp is 457 feet and the available length on the ramp is 856 feet.

2. Was a two lane roadway considered as alternative? If so, Please discuss in the "Other alternatives considered" section.

   Response: A two lane roadway was not considered as an alternative, because Martin Road east of SR 13 to SR 53 programmed to be widened to four lanes, per Gainesville Hall County MPO. An analysis with the 4 lane on Martin Road Extension shows a LOS of F (que length 457 ft) on the Northbound Ramp in the build year. If a 2 lane was considered, the que was length is anticipated length is anticipated to be longer. The que length would be 80 ft on the Northbound Ramp.

3. Please include Schedule for PI # 0001822 in the "Projects in the Area" section.

   Response: The project Right of Way and Construction Section has been added to the "Projects in the Area" section.

The Department has coordinated with FHWA email to resolve these issues. The email is attached for reference. If you require additional information, please contact Mr. Bobby Hilliard, State Program Delivery Engineer at (404) 631-1122.

Sincerely,

Keith Golden, P.E.
Commissioner

KG:BKH:SH:vcp
Attachment
cc: Mr. Bobby Hilliard, State Program Delivery Engineer

U.S. Department of Transportation
Federal Highway Administration

Georgia Division

61 Forsyth Street SW
Suite 17T100
Atlanta, Georgia 30303
Phone 404-562-3630
Fax 404-562-3703
Georgia.fhwa.@fhwa.dot.gov

April 3, 2012

In Reply Refer To:
HPD-GA

Mr. Keith Golden, P.E., Commissioner
Georgia Department of Transportation
One Georgia Center
600 West Peachtree St. NW
Atlanta, GA 30308

Dear Commissioner Golden:

This letter is in response to the Project Concept Report for Project NHS00-0000-00(425), PI# 0000425 in Hall County. FHWA cannot approve the Concept Report as it stands. The following comments must be addressed before FHWA will approve the concept report:

1. Attachment 14 documents the minutes of a meeting between FHWA and GDOT on December 19, 2011. The minutes clearly state that FHWA "stated that the concept report must clearly document that the ramp delay would not adversely affect operations on the interstate." This was not done, and Attachment 5 shows a LOS F for the Build scenarios at the I-985 ramps, and states that there will be impact on operation of northbound I-985.
2. Was a two lane roadway considered as an alternative? If so, please discuss in the "Other alternatives considered" section.
3. Please include the schedule for PI# 0001822 in the "Projects in the Area" section.

As a reminder, the open and design years will need to be consistent with the TIP during the NEPA phase.

Thank you for your attention to this matter. If you have any questions please contact Ms. Kendra Fly at (404) 562-3644.

Sincerely,

for Rodney N. Barry P.E.
Division Administrator

Cc: Brent Story, State Design Policy Engineer

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

PROJECT CONCEPT REPORT

Project Number: NHS00-0000-00(425)
County: Hall
P. I. Number: 0000425
Federal Route Number: U.S. 23 (I-985)
State Route Number: S. R. 365

I-985 New Interchange North of SR 13 Crossover Near Martin Road

Submitted for approval:

DATE January 17, 2012
rev. 5-7-2012 — Rajiv K. Shah — R. K. SHAH & ASSOCIATES, INC. — Design Consultant Name

DATE 1-24-2012 — Bobby Hilliard — State Program Delivery Engineer

DATE January 23, 2012 — Venesha C Pegram — Project Manager

Recommendation for approval:

DATE _____ — _____ — Program Control Administrator

DATE 2-8-2012 — * Glenn Bowman /MOA — State Environmental Administrator

DATE 2-2-2012 — * Kathy Zahul /MOA — State Traffic Engineer

DATE 1-31-2012 — * Lisa Myers /MOA — Project Review Engineer

DATE 1-31-2012 — * Sal Pirzad /MOA — for State Utility Engineer

DATE 2-8-2012 — * Allen Ferguson /MOA — District Engineer/District Utility Engineer

DATE 2-13-2012 — * Ben Rabun /MOA — State Bridge Design Engineer

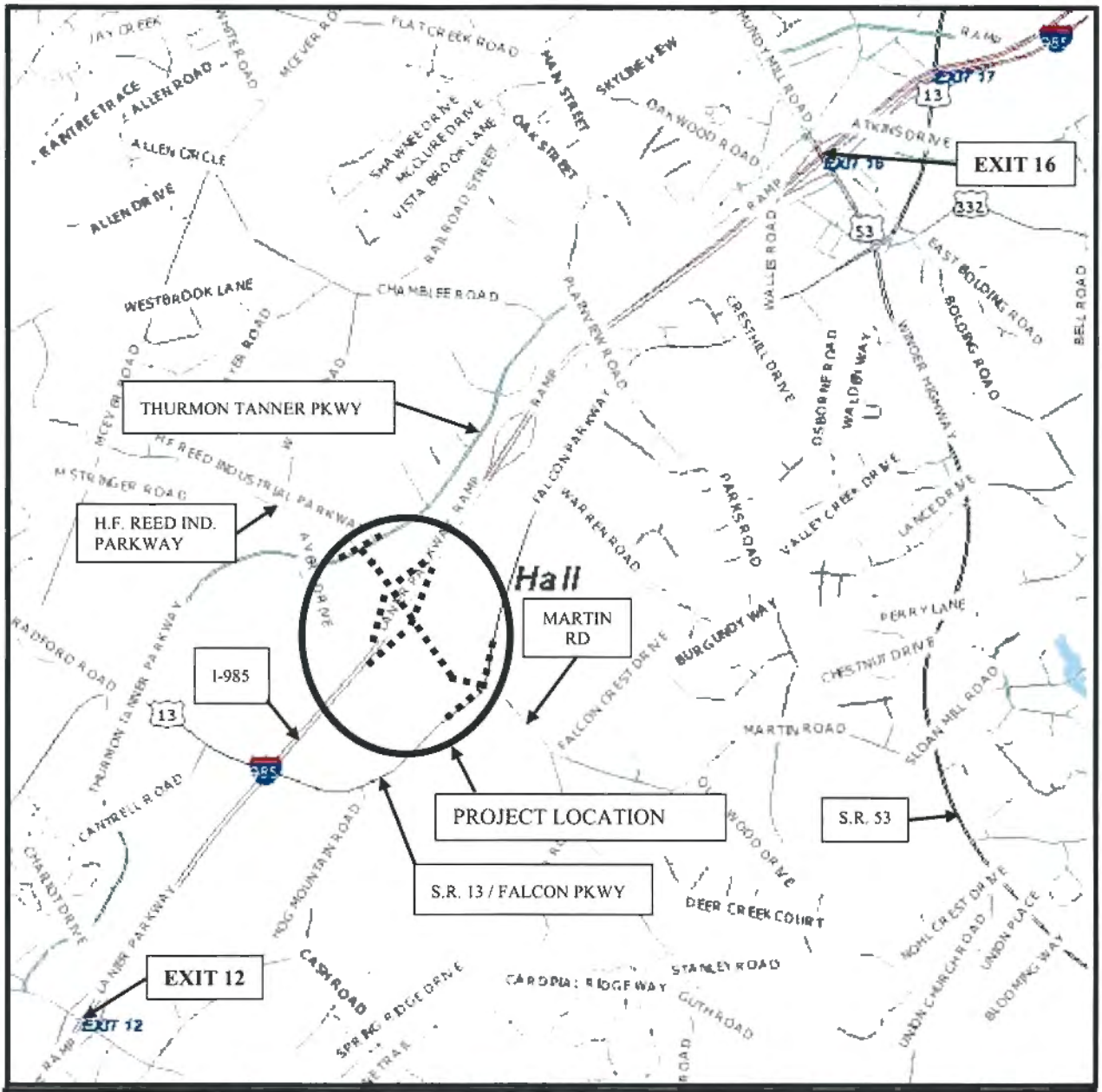
DATE _____ — _____ — State Transportation Financial Management Administrator

* Recommendations on file - MOA

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

DATE 2-1-12 — Cynthia L Vanke — State Transportation Planning Administrator

Discrepancy in air quality model network year will have to be addressed.



Project Location Map

I-985 New Interchange
North of S.R. 13 Crossover Near Martin Rd
(Between Exit 12 and Exit 16)
NHS00-0000-00(425)
PI # 0000425
HALL COUNTY, GA

Source:
Hall County
GIS

The proposed project would operate as intended without the need for additional improvements elsewhere, and would not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Existing and Projected Traffic Conditions

The Average Annual Daily Traffic (AADT) for two-way traffic along the adjacent corridors (I-985, SR 13/Falcon Pkwy, Martin Road, Thurmon Tanner Pkwy, H.F Reed Industrial Pkwy) was evaluated to determine the level of service (LOS). The LOS is a qualitative measure of the operational efficiency of a roadway under peak hour conditions as they are seen from the driver's perspective. There are a total of six (6) different LOS designations, from A to F, with LOS A representing the best case operational conditions with no delays in traffic and LOS F representing a complete breakdown in traffic flow. The LOS was evaluated for the build year conditions (2015), and the design year under the no-build condition (2035).

The AADT for the No-Build Alternative for the build year (2015) ranges from 2,900 (LOS B) on H.F. Reed Industrial Parkway up to 59,600 (LOS D) on I-985, this range also includes a segment on SR 13 / Falcon Parkway with an AADT of 18,300 (LOS F). The AADT for the No-Build Alternative for the design year (2035) ranges from an estimated low of 4,200 (LOS B) on H.F. Reed Industrial Parkway and to an estimated high of 85,200 (LOS F) on I-985, this range also includes a 26,200 (LOS F) segment on SR 13 / Falcon Parkway. Table 1 below provides a detailed list of 2015 and 2035 No Build AADT and corresponding Level of Services (LOS) on segment of roadways that are beyond the current project limits. The increase in AADT on both I-985 and SR 13 / Falcon Parkway demonstrates the need for additional road capacity and new connectivity at the proposed interchange. The IJR that was approved in 2011 indicated that the proposed interchange would not adversely affect the operation of I-985 between Exit 12 and Exit 16.

TABLE # 1- Average Annual Daily Traffic Volumes and Level of Service (LOS) beyond Project Limits:

Roadway Segment	No Build AADT 2015	No Build LOS 2015	No Build AADT 2035	No Build LOS 2035
Martin Road Extension-(1)	n/a	n/a	n/a	n/a
I-985 North of Martin Road Extension-(2)	59,600	D	85,200	F
I-985 South of Martin Road Extension—(2)	59,600	D	85,200	F
Spout Springs Road West of I-985 – (2)	17,300	B	24,700	C
Spout Springs Road East of I-985 – (2)	14,800	B	21,200	B
SR 53 West of I-985 – (4)	27,100	C	38,700	D
SR 53 East of I-985 – (4)	26,000	C	37,200	D
H.F. Reed Industrial Pkwy West of Thurmon Tanner Pkwy–(3)	2,900	B	4,200	B
Thurmon Tanner Pkwy. North of H.F. Reed Ind. Pkwy–(1)	6,200	B	8,900	B
Thurmon Tanner Pkwy. South of H.F. Reed Ind. Pkwy-(1)	7,000	B	10,000	B
Martin Road East of S.R. 13/Falcon Pkwy.-(3)	8,300	B	11,850	C
S.R. 13/Falcon Pkwy. North of Martin Road- (3)	14,700	C	21,000	F
S.R. 13/Falcon Parkway South of Martin Road-(3)	18,300	F	26,200	F

(1)- Four lane divided with urban shoulder (3) - Two lane undivided with rural shoulder
(2)- Four lane divided with rural shoulder (4) - Six lane divided with urban shoulder
LOS established using Highway Capacity Software (HCS)

Project Justification Statement: I-985 New Interchange North of SR 13 Crossover near Martin Road. NHS00-0000-00(425), Hall County, P.I. No: 0000425

Background / Proposed Improvements

The proposed project was added to the Department's Construction Work Program in 1999. As identified in the planning process, the proposed project would create a new diamond interchange approximately 3/4th of a mile north of the SR 13 crossover. A new Industrial Connector Road (extension of Martin Road) would connect H.F. Reed Industrial Parkway at Thurmon Tanner Parkway at the west end of the project to Martin Road at SR 13/Falcon Parkway at the east end of the project. The new Industrial Connector Road would be a four lane divided roadway with a variable width (24 ft. to 32 ft.) raised median and 12 ft. ADA compliant urban shoulders. The proposed interchange would divert traffic generated by the existing and proposed development along SR 13/Falcon Parkway, Thurmon Tanner Parkway, and McEver Road away from SR 53 and Spout Springs Road by providing a direct connection to I-985 via an extension of Martin Road. For the location of project, see Location Map.

Local officials in Hall County, the City of Flowery Branch, and the City of Oakwood requested that the Georgia Department of Transportation (GDOT) study the feasibility of an additional interchange on Interstate 985 (I-985) in Hall County between the cities of Oakwood and Flowery Branch, to serve the rapidly growing industrial area.

In 2000, an Interchange Justification Report (IJR) for a new I-985 interchange near Martin Road between Spout Springs Road (Exit # 12) and SR 53 (Exit # 16) was prepared by the GDOT Office of Planning and approved by FHWA. Since the approved new interchange on I-985 did not progress to construction then, an updated IJR was prepared and submitted to FHWA in March 2011. The updated IJR was approved by FHWA in May 2011.

Existing Travel Conditions

Currently, no interchange exists in the project area. The proposed interchange would connect Martin Road at SR 13 with H.F. Reed Industrial Parkway at Thurmon Tanner Parkway and would create an interchange with I-985. The existing SR 13 roadway is a two-lane facility with the posted speed limit of 55 mph. The functional classification for SR 13 in Hall County is an urban minor arterial, the functional classification for Martin Road and Thurmon Tanner Parkway are urban collector streets. The amount of truck traffic on the SR 13 corridor adjacent to the proposed interchange site is estimated to be 6% of AADT. SR 13 and Martin Road are adjacent the new interchange project site, and are local school bus routes.

Logical Termini

Termini for the proposed project are comprised of H.F. Reed Industrial Parkway at Thurmon Tanner Parkway on the west and Martin Road at SR 13/Falcon Parkway on the east. These points are logical in that the proposed project would create a connection between these two areas and I-985 by constructing a new interchange. These termini are of sufficient length to address environmental matters on a broad scope as the purpose of the project is to provide a direct connection between the growing industrial area and I-985.

Projects in the Area

In an effort to meet growing traffic demands, the Hall County Metropolitan Transportation Plan (MTP), or Long Range Transportation Plan (LRTP), has identified the SR 13 corridor to be improved to a four lane divided facility from CR 528 to south of SR 53, P.I. # 0001822 Hall (GHMPO referenced # GH-033) and Martin Road to be improved to four lane divided facility form SR 13 to SR 53 per GHMPO referenced # GH-024. This Project Right of Way acquisition is scheduled for 2018 and Construction is in Long Ronge-1.

Land Use

The existing land use in the proposed project area is primarily a mixture of industrial and undeveloped land. The area North and West of I-985 is primarily industrial and the area South and East of I-985 is zoned agricultural with a mixture of residential and undeveloped land near SR 13. Small percentages of the total land uses along the project corridor are comprised of public/institutional, vacant, and park/recreation/conservation land uses. The future land use plan for the County indicates that most of the land adjacent to the new interchange will be developed as industrial, commercial, and residential uses.

Crash Data

The proposed Martin Road Extension (New Industrial Connector Road) will cross over I-985 and create a new diamond Interchange. Martin Road Extension (New Industrial Connector Road) will connect H. F. Reed Industrial Parkway @ Thurmon Tanner Parkway with Martin Road @ SR 13 (Falcon Parkway). The proposed Martin Road Extension (New Industrial Connector Road) is on new location hence no historical crash data is available.

From 2006 to 2008, the proposed project segment (SR 13/Falcon Parkway) that had crash data available experienced a total of 96 crashes (averaging 32 accidents per year). Moreover, from 2006 to 2008, the crash and injury rates increased. In comparison to statewide rates for similar roadways, crash rates for the project area were below the statewide average for all three years from 2006 to 2008. Similarly, injury rates for the project area were below the statewide average than for similar roadways over the three year period. There were no fatalities reported for the project area from 2006 to 2008. Table 2 below indicates the available crash rate data for this project area.

Table # 2 Crash Rate:

	2006			2007			2008		
	Crash Rate	Injury Rate	Fatality Rate	Crash Rate	Injury Rate	Fatality Rate	Crash Rate	Injury Rate	Fatality Rate
Project Area	193.66	77.46	0.0	200.13	87.01	0.0	232.11	80.35	0.0
State Average	548	137	1.43	513	126	1.36	469	117	1.33

Class: Minor Urban Arterial, Non NHS, Urban

The majority of the crashes that occurred along this route were rear end type accidents. Table 3 below indicates the type of crashes along the identified segments of the subject area for the three years of 2006, 2007, and 2008. Further reviewing the crash rate and type of crash does not reveal any safety concern.

Table # 3 Detailed Crash Analysis:

Crash Type	2006	2007	2008	Total
Rear End	16	17	19	52
Angle	4	9	9	22
Head On	0	1	1	2
Side Swipe	3	2	0	5
Single Vehicle	5	4	6	15
Total	28	33	35	96

Class: Minor Urban Arterial, Non NHS, Urban

Need and Purpose

The need of this project is to provide direct access to I-985 to traffic generated by the existing and proposed development along SR 13/Falcon Parkway, Thurmond Tanner Parkway, and McEver Road. The new interchange would improve traffic flow and continuity between the interchange area and the large industrial employers located between Flowery Branch (Exit # 12) and Oakwood (Exit # 16) by providing convenient and efficient access to I-985. The new interchange will also provide the following associated benefits of optimized traffic operations, enhanced emergency response and coverage and enhanced economic development opportunities.

Description of the proposed project:

This project will provide a new diamond interchange on I-985 near Martin Road between Exit # 12 (Spout Springs Road/City of Flowery Branch) and Exit 16 (S. R. 53/City of Oakwood). A four lane divided with a variable width (24 ft.-32 ft.) raised median and 12 ft. urban shoulders with curb, gutter and sidewalk roadway (Martin Road Extension /New Industrial Connector Road) on a new location will connect H. F. Reed Industrial Parkway at Thurmon Tanner Parkway on the west side of I-985 and Martin Road at SR 13 (Falcon Parkway) on the east side of I-985. As part of project 4 ft. wide bike lane on the north side and south side of Martin Road Extension (New Industrial Connector Road) will be provided between Thurmon Tanner Parkway and SR 13 (Falcon Parkway). Martin Road Extension (New Industrial Connector Road) will cross over I-985 with a 212 ft long by 105 ft.-5 in. wide bridge.

The intersection of SB Entrance/Exit Ramps and NB Entrance/Exit Ramps with Martin Road Extension (New Industrial Connector Road) will be separated by approximately 1000 ft. Entrance and Exit Ramps will be Taper Type per GDOT details.

As a part of this project the Thurmon Tanner Parkway intersection with the Martin Road Extension (New Industrial Connector Road) and H. F. Reed Industrial Parkway will be improved to provide Dual Left Turn Lanes for southbound traffic turning east.

As a part of this project, SR 13 (Falcon Parkway) with Martin Road Extension (New Industrial Connector Road) intersection will be improved to provide Dual Left Turn Lanes for northbound traffic turning west and eastbound traffic turning north. The improved S.R. 13 (Falcon Parkway) will have a 4 lane divided with a variable width (0 ft.-32 ft.) raised median and 12 ft. shoulders with curb, gutter and sidewalk roadway at the Martin Road Intersection. The improved SR 13 will also provide a 4 ft. wide Bike Lane on both sides within the project limits.

H. F. Reed Industrial Road and Martin Road will be widened to provide for transition from a 4 Lane Divided at Martin Road Extension (New Industrial connector Road) to the existing two lane roadways. The improved section of H. F. Reed Industrial Road and Martin Road will also provide a 4 ft. wide Bike Lane on both sides within the project limits.

No improvements are planned on I-985 except southbound and northbound exit and entrance ramp tie-ins and installation of regulatory, warning and guide signs for a new interchange (Exit 14).

As a part of the project approximately:

- 0.71 mile of Martin Road Extension (New Industrial Connector Road) on new location
- 2.75 mile of I-985 (for SB and NB Exit and Entrance Ramps tie-in) and installation of regulatory, warning and guide signs for a new interchange (Exit # 14) No improvements of I-985 mainline.
- 0.33 mile of Thurmon Tanner Parkway
- 0.59 mile of S. R. 13 (Falcon Parkway)
- 0.32 mile of South Bound Exit Ramp
- 0.32 mile of South Bound Entrance Ramp
- 0.28 mile of North Bound Exit Ramp
- 0.35 mile of North Bound Entrance Ramp
- 0.33 mile of H. F. Reed Industrial Parkway
- 0.11 mile of Martin Road

Roadway segments will be either widened or constructed on new location.

Is the project located in a PM 2.5 Non-attainment area? X Yes _____No

Is the project located in an Ozone Non-attainment area? X Yes _____No

The project is consistent with the State Transportation Improvement Program for attainment of clean air quality in the area. Project is identified in FY 2006-2011 State Transportation Improvement Program by reference # GH-015. The proposed project concept is the same as GH-015.

PDP Classification: Major X Minor _____
Federal Oversight: Full Oversight (X), Exempt ( ), State Funded ( ), or Other ( )
Functional Classification: Urban Collector Street–Martin Road Extension (New Industrial Connector Road)
Urban Interstate Principal Arterial- I-985

U. S. Route Number(s): U.S. 23 (I-985) **State Route Number(s):** 365

Traffic (AADT): Martin Road Extension/New Industrial Connector Road

Open Year (2015): 10,750 Design Year (2035): 15,400

Existing design features:

- Typical Section:
  - I-985: 4 lane divided with 64 ft. depressed grassed median with cable barrier and 10 ft (4 ft. paved, 6 ft. graded) inside and 12 ft (10 ft. Paved and 2 ft. graded) outside rural shoulder.
  - Martin Road Extension (New Industrial Connector Road)-N/A (New Location)
  - Thurmon Tanner Parkway: 4 lane divided with 20 ft. raised median and 10 ft. urban shoulder
  - S.R. 13 (Falcon Parkway): 2 lane undivided with variable width rural shoulder
  - H. F. Reed Industrial Pkwy.: 2 lane undivided with variable width rural shoulder
  - Martin Road: 2 lane undivided with 10.5 ft. urban shoulder on major part of south side and 8 ft. rural shoulder for short length of south side and all of the north side.

- Posted speed:
  - I-985: 70 mph
  - Martin Road Extension (New Industrial Connector Road): N/A
  - Thurmon Tanner Parkway: 45 mph
  - S.R. 13 (Falcon Parkway): 45 mph
  - H. F. Reed Industrial Pkwy: 45 mph
  - Martin Road: 45 mph

- Minimum radius for curve:
  - I-985: R= 11,459.16 ft.
  - Martin Road Extension (New Industrial Connector Road): N/A
  - Thurmon Tanner Parkway: R=954 ft.
  - S.R. 13 (Falcon Parkway): R= 744 ft.
  - H. F. Reed Industrial Pkwy: R=1484.54
  - Martin Road: R=744 ft.

- Maximum super-elevation rate for curve:
  - I-985: 2.00 %
  - Martin Road Extension (New Industrial Connector Road): N/A
  - Thurmon Tanner Parkway: 3.80 %
  - S.R. 13 (Falcon Parkway): 7.60 %
  - H. F. Reed Industrial Pkwy: 3.30 %
  - Martin Road: 3.80 %

- Maximum grade:
  - I-985: 2.3387 %
  - Martin Road Extension (New Industrial Connector Road): N/A

  - Thurmon Tanner Parkway: 3.5319 %
  - S.R. 13 (Falcon Parkway): 3.6875 %
  - H. F. Reed Industrial Pkwy: 7.26 %
  - Martin Road: 3.06%

- Width of Right of Way:
  - I-985: Varies from 320 ft. to 1150 ft. Limit of Access and Right of Way.
  - Martin Road Extension (New Industrial Connector Road): N/A
  - Thurmon Tanner Parkway: Varies from 120 ft. to 225 ft.
  - S.R. 13 (Falcon Parkway): Varies from 80 ft. to 250 ft.
  - H. F. Reed Industrial Pkwy: Varies from 190 ft. to 210 ft.
  - Martin Road: Varies from 250 ft. to 300 ft.

- Major Structures: N/A

- Major interchanges or intersections along the project:
  - H. F. Reed Parkway at Thurmon Tanner Parkway (Stop Control on Side Street)
  - Martin Road at S.R 13 (Falcon Parkway)-Signalized

- Existing length of roadway segment and the beginning mile logs for each county segment. For new location projects, the existing length of roadway is zero (0).
  - I-985: 2.75 Miles
  - Martin Road Extension (New Industrial Connector Road): 0.0 Mile
  - Thurmon Tanner Parkway: 0.33 Mile
  - S.R. 13 (Falcon Parkway): 0.59 Mile
  - H. F. Reed Industrial Pkwy: 0.33 Mile
  - Martin Road: 0.11 Mile

Proposed Design Features:

- Proposed typical section(s):

  - I-985: 4 lane divided with 64 ft. depressed grassed median and 10 ft (4 ft. paved, 6 ft. graded) inside and 12 ft (10 ft. Paved and 2 ft. graded) outside rural shoulder. Part of the Cable Barrier will be removed and replaced. (To provide access to Construction Equipment for construction of Bridge Columns.) No improvements are planned on I-985 except southbound and northbound exit and entrance ramps tie-ins and installation of regulatory, warning and guide signs for a new interchange (Exit 14).

  - Martin Road Extension (New Industrial Connector Road): 4-12 ft. lanes divided with a variable width (24 ft.-32 ft.) raised median and 12 ft. urban shoulders with curb gutter, 2 ft. grass strip and 5 ft. sidewalk. Martin Road Extension (New Industrial Connector Road) will provide 4 ft. wide bike lane in both directions within the project limits.

- Thurmon Tanner Parkway: 4 lane divided with a variable width (20 ft.-32 ft.) raised median and 12 ft. shoulders with curb gutter, 2 ft. grass strip and 5 ft. sidewalk. Thurmon Tanner Parkway is being improved to provide southbound dual left turn lanes. The proposed 12 ft. urban shoulder will transition to the existing 10 ft. urban shoulder at the tie-in points.

- S.R. 13 (Falcon Parkway): 4 lane divided with a variable width (0 ft.-32 ft.) raised median and 12 ft. shoulders with curb gutter, 2 ft. grass strip and 5 ft. sidewalk. SR 13 (Falcon Parkway) will have 12 ft. rural shoulder (6 ft. 6 inch paved and 5.5 ft. graded) for 720 ft. at the south end and for 750 ft. at the north end. SR 13 (Falcon Parkway will provide 4 ft. wide bike lane in both directions within the project limits. S. R. 13 (Falcon Parkway) is being improved to provide northbound dual left turn lanes.

- H. F. Reed Industrial Pkwy: 4-12 ft. lanes divided with a 24 ft. raised median transitioning to a 2 lane undivided roadway, 12 ft. urban shoulders with curb gutter, 2 ft. grass strip and a 5 ft. sidewalk tying to an existing rural shoulder on the north side (left side) and a 12 ft. rural shoulder (6 ft. 6 inch paved and 5.5 ft. graded) on the south side (right side) from White Road for a distance of 1194 ft. and 12 ft. urban shoulders with curb gutter, 2 ft. grass strip and 5 ft. sidewalk from the end of the rural shoulder to Thurmon Tanner Parkway for a distance of 381 ft. H. F. Reed Industrial Pkwy will provide 4 ft. wide bike lanes in both directions within the project limits.

- Martin Road: 4-12 ft. lanes divided with a variable width (12 ft.-32 ft.) median and 12 ft. urban shoulders with curb gutter, 2 ft. grass strip and a 5 ft. sidewalk tying to an existing 2 lane divided with a 12 ft. flush median. Martin Road will provide 4 ft. wide bike lanes in both directions within the project limits.

- Proposed Design Speed Mainline:

  - I-985: 70 mph
  - Martin Road Extension (New Industrial Connector Road): 45 mph
  - Thurmon Tanner Parkway: 45 mph
  - S.R. 13 (Falcon Parkway): 45 mph
  - H. F. Reed Industrial Pkwy: 45 mph
  - Martin Road: 45 mph

- Proposed Maximum grade Mainline (I-985): 2.3387 %

- Maximum grade Allowable (I-985): 3.000 %

No improvement of the I-985 main line is planned under this project.

- Proposed Maximum grade Side Streets:
    - Martin Road Extension: 4.25 %,
    - Thurmon Tanner Parkway: 3.5319 %
    - S.R. 13 (Falcon Parkway): 3.6875 %
    - H. F. Reed Parkway: 5.7250 %
    - Martin Road: 3.50 %
- Maximum grade Allowable:
    - Martin Road Extension: 8.00 %.
    - Thurmon Tanner Parkway: 8.00%
    - S.R. 13 (Falcon Parkway): 6.00 %
    - H. F. Reed Parkway: 8.00 %
    - Martin Road: 8.00 %
- Proposed Maximum grade driveway: 10 %
- Proposed Minimum radius of curve:
    - I-985: 11,459.16 ft
    - Martin Road Exten. (New Ind. Conn. Rd): 850 ft.
    - Thurmon Tanner Parkway: 900 ft.
    - S.R. 13 (Falcon Parkway): 900 ft.
    - H. F. Reed Industrial Pkwy: 1484.54 ft.
    - Martin Road: 970 ft.
- Minimum radius allowable:
    - I-985: 2040 ft
    - Martin Road Exten. (New Ind. Conn. Rd): 711 ft.
    - Thurmon Tanner Parkway: 711 ft.
    - S.R. 13 (Falcon Parkway): 711 ft.
    - H. F. Reed Industrial Pkwy: 711 ft.
    - Martin Road: 711 ft
- Maximum allowable superelevation rate:
    - I-985: 6.00 %
    - Martin Road Exten. (New Ind. Conn. Rd): 4.00 %.
    - Thurmon Tanner Parkway: 4.00 %.
    - S.R. 13 (Falcon Parkway): 4.00 %.
    - H. F. Reed Industrial Pkwy: 4.00 %
    - Martin Road: 4.00 %

- Proposed maximum superelevation rate:

  - I-985: R.C.
  - Martin Road Exten. (New Ind. Conn. Rd): 3.90 %.
  - Thurmon Tanner Parkway: 3.85 %.
  - S.R. 13 (Falcon Parkway): 3.85 %.
  - H. F. Reed Industrial Pkwy: 3.30 %.
  - Martin Road: 3.80 %

- Right of Way
  - I-985: Varies from 320 ft. to 1225 ft. Limit of Access and Right of Way
  - Martin Road Extension (New Industrial Connector Road): Varies from 175 ft. to 260 ft.
  - Thurmon Tanner Parkway: Varies from 120 ft. to 255 ft.
  - S.R. 13 (Falcon Parkway): Varies from 80 ft. to 265 ft.
  - H. F. Reed Industrial Pkwy: Varies from 210 ft. to 260 ft.
  - Martin Road: Varies from 250 ft. to 300 ft.
  - Easements: Temporary (), Permanent (X), Utility ( ), Other ( ).
  - Type of access control: Full ( ), Partial ( ), By Permit (X), Other ( ).
  - Number of parcels: 26
  - Number of displacements:
    - Business: None
    - Residences: None
    - Mobile homes: None
    - Other: None

- Structures:
  - Bridges:
    Bridge # 1- 108 ft. long and 108 ft.-2 in. (55 ft.-5.5 in. left and 52 ft.-8.5 in. right) wide single span bridge on Martin Road Extension (New Industrial Connector Road) over Stream # 15

    Bridge # 2 - 212 ft. long and 105 ft.-5 in. wide 2 span bridge on Martin Road Extension (New Industrial Connector Road) over I-985

    Bridge # 3 - 90 ft. long and 41 ft.-3 in. wide three span bridge on Southbound Entrance Ramp over Stream # 14

    Bridge # 4 - 125 ft. long and 41 ft.-3 in. wide three span bridge on Southbound Exit Ramp over Stream # 16

  - Bottomless Concrete Culvert:
    +/-65 L.F-28 ft. Span and 6 ft.-9 in. Rise Bottomless Concrete Culvert on Northbound Entrance Ramp over Stream # 19

- Retaining Walls:
  From the end of Bridge # 1 to the beginning of Bridge # 2; +/- 173 ft long and @ 10 ft.-20 ft. high wall on the north and south side of Martin Road Extension (New Industrial Connector Road). Another alternative considered was to provide embankment from the end of Bridge # 1 to beginning of Bridge # 2 which would have impacted stream # 15 on the north side and stream # 14 and Wetland # 13 on south side of Martin Road Extension adversely.

  +/- 330 ft long and @ 10 ft.-20 ft. high wall on the west side of southbound exit ramp

  +/- 260 ft long and @ 10 ft.-20 ft. high on the east side of southbound exit ramp.
  A total of four separate retaining walls are needed to reduce impacts on streams.

- Major intersections and interchanges:
  - Martin Road Extension (New Industrial Connector Road) intersection with Thurmon Tanner Parkway will be signalized.
  - Martin Road Extension (New Industrial Connector Road) intersection with Southbound Exit and Entrance Ramps will be signalized.
  - Martin Road Extension (New Industrial Connector Road) intersection with Northbound Exit and Entrance Ramps will be STOP CONTROL on Northbound Exit Ramp.
  - Martin Road Extension (New Industrial Connector Road) intersection with S. R. 13 (Falcon Parkway) existing traffic signal will be modified.

- Transportation Management Plan Anticipated: Yes ( ) No (X) –Letter of concurrence for exclusion of Transportation Management Plan attached.-Attachment # 11

- Design Exceptions to controlling criteria anticipated: None

	UNDETERMINED	YES	NO
HORIZONTAL ALIGNMENT:	(-)	(-)	(X)
LANE WIDTH:	(-)	(-)	(X)
SHOULDER WIDTH:	(-)	(-)	(X)
VERTICAL GRADES:	(-)	(-)	(X)
CROSS SLOPES:	(-)	(-)	(X)
STOPPING SIGHT DISTANCE:	(-)	0	(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:
  - There are 23 separate Jurisdictional Waters (18 streams, 4 Wetland and 1 Pond) within project limit.
  - Stream: Total of 18 separate Streams are within the project limits. Approximately combined 653 Lin. Ft. of Stream impacts are anticipated.
  - Wetland: Total of 4 separate wetland areas are within the project limits. Approximately combined 0.14 Acres of wetland impact anticipated.
  - Pond: Total of one Pond (private detention pond) within project limits. No impact to the pond anticipated.
  - Farmland: None within project limits.
  - Protected and Endangered Species and Habitat: None within project limits.
  - Historic Structure: None within project limits.
  - Archaeological Sites: None within project limits.
  - Hazardous Waste/Hazardous Material/Underground Storage Tanks/ None within project limits.
  - Permits: USACE Section 404 nationwide permit for anticipated impacts to streams and wetlands.
- Anticipated Level of environmental analysis:
  - Are Time Savings Procedures appropriate? Yes ( ), No (X),
  - Categorical exclusion ( ),
  - Environmental Assessment/Finding of No Significant Impact (FONSI) (X), or
  - Environmental Impact Statement (EIS) ( ).
- Utility involvements: Power, Telephone, Cable, Gas, Water and Sanitary Sewer.
- VE Study Required : Yes (X) Not ( ) – Letter of Implementation of VE Study Alternatives Attached.-Attachment # 12
- Benefit Cost Ration: N/A

Project Cost Estimate and Funding Responsibilities:

	PE	ROW	UTILITY	CST	MITIGATION
By Whom	GDOT	GDOT	GDOT	GDOT	GDOT
$ Amount	$ 1,922,694.25	$ 17,140,000.00	$ 203,750.00	$ 18,577,682.88	$ 103,008.50

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

Project Activities Responsibilities:

- Design : GDOT
- Right of Way Acquisition: GDOT
- Right of Way Funding: GDOT
- Relocation of Utilities: By Utility Owners
- Letting to contract: GDOT
- Supervision of construction: GDOT
- Providing material pits: Contractor
- Providing detours: None Anticipated
- Environmental Studies/Document/Permit: GDOT
- Environmental Mitigation: GDOT

Coordination

- Initial Concept Meeting. April 02, 2007
- Concept meeting date and brief summary. October 30, 2008-(See attachment)
- P. A. R. meetings, dates and results.-N/A
- FEMA, USCG, and/or TVA-N/A
- Public Involvement: A location and design Public Information Open House meeting was held on August 16, 2007 at Martin Elementary School located at 4216 Martin Road, Flowery Branch, Georgia, from 4:00 P.M. to 7:00 P.M. Total of 126 people were in attendance. Total of 23 written comments were received. 14 in favor, 2 conditional, 2 uncommitted and 7 against.
- Local government comments: No written comments provided the local governments. For local government input, please see Attachment 8 – Minutes of Concept Team Meeting's page # 7 under paragraph "Local Governments".
- Other projects in the area: Improvement of the I-985/SR 53 Interchange (Exit # 16) was recently completed. GDOT Project # IM-NH-985-1(322), Hall, P.I. # 110400. Extension of Thurmon Tanner Parkway from current terminus north of this project extending to north crossing SR 53 and intersecting with SR 13 at north end. The extension portion is planned to be a four lane divided section to match the existing four lane divided section, P.I. # 0001097 Hall County. This project is under construction. Improvement of SR 13 to provide a four lane divided roadway from CR 528 to south of SR 53, P.I. # 0001822 and improvement of Martin Road from SR 13 to SR 53 to provide four lane divided roadway, per GHMPO referenced # GH -024 are in LRTP.
- Railroads: N/A

Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: Begin: 05/17/2011 End: 04/18/2014
- Time to complete preliminary construction plans: Begin: 04/16/2012 End: 07/23/2014
- Time to complete right of way plans: Begin: 07/25/2014 End: 10/10/2014
- Time to complete the Section 404 Permit: Begin: 01/21/2016 End: 01/15/2016
- Time to complete final construction plans: Begin: 11/17/2014 End: 07/19/2016
- Time to complete the purchase of right of way: Begin: 11/12/2014 End: 03/28/2016
- List other major items that will affect the project schedule: N/A

Other alternates considered:

ALT # 1: No Build

.

ALT # 2: Direct Tangential Alignment from intersection of H. F. Reed Industrial Pkwy/Thurmon Tanner Parkway to S.R. 13 (Falcon Parkway)/Martin Road Intersection.

ALT # 3 Direct Alignment using one single horizontal curve from intersection of H. F. Reed Industrial Pkwy/Thurmon Tanner Parkway to S.R. 13 (Falcon Parkway)/Martin Road Intersection.

ALT # 4 Direct Alignment by extending H. F. Reed Industrial Parkway horizontal alignment across Thurmon Tanner Parkway and extending Martin Road horizontal alignment across SR 13 (Falcon Parkway) and using single horizontal curve between intersection of H. F. Reed Industrial Pkwy/Thurmon Tanner Parkway and S.R. 13 (Falcon Parkway)/Martin Road Intersection.

Comments:

ALT # 1

The proposed interchange will serve traffic generated by existing and proposed development along H. F. Reed Industrial Parkway, Thurmon Tanner Parkway and S.R. 13 (Falcon Parkway). Without this new proposed interchange, there are no alternatives available to address the growing existing and proposed transportation needs of the area.

ALT # 2

- Creates 75 Degree +/- Angle of Intersection at H. F. Reed Industrial Pkwy. / Thurmon Tanner Pkwy.
- Creates 69 Degree +/- Angle of Intersection at S.R. 13 (Falcon Pkwy)/Martin Road Intersection.
- Creates 76 Degree +/- Angle of Crossing at I-985 and New Industrial Connector Road (Martin Road), which makes the Bridge over I-985 approximately 3.00 % longer and creates potential of problem during construction.
- Requires Longer Entrance Ramps.
- Creates potential of impacts on Detention Pond in the southwest quadrant.
- Increases potential of longer Stream Impact.

ALT # 3

- Requires 6000 ft. radius Horizontal Curve.(S.E= Normal Crown)
- Creates 82 Degree +/- Angle of Intersection at S.R. 13 (Falcon Pkwy)/Martin Road Intersection.
- Creates 73 Degree +/- Angle of Crossing at I-985 and New Industrial Connector Road (Martin Road), which makes Bridge over I-985 approximately 5.00 % longer and creates potential of problem during construction.
- Bridge over I-985 will be totally within a curve.
- Requires Longer Entrance Ramps.
- Creates potential of impacts on Detention Pond in the southwest quadrant.
- Increases potential of longer Stream Impact.

ALT # 4

- Requires 3760 ft. radius Horizontal Curve. (S.E. =2.1 %)
- Creates 68 Degree +/- Angle of Crossing at I-985 and New Industrial Connector Road (Martin Road), which makes Bridge over I-985 approximately 8.00 % longer and creates potential of problem during construction.
- Bridge over I-985 will be totally within a curve.
- Requires Longer Entrance Ramps.
- Creates potential of impacts on Detention Pond in the southwest quadrant.
- Increases potential of longer Stream Impact.

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
2. Typical Sections
3. Accident Summary
4. Traffic Diagram
5. Capacity Analysis Summary
6. Summary of Signal Warrant Studies
7. Minutes of Concept Team Meeting
8. Public Information Open House Synopsis
9. Conforming plan's network schematic showing through lanes
10. Responses to FHWA review comments
11. Concurrence letter for exclusion of Transportation Management Plan
12. Implementation of Value Engineering Study Alternatives
13. Interchange Justification Report-FHWA acceptance letter
14. Logical Termini- Minutes of Meeting with FHWA
15. Concept Layout

Concur: _____
Director of Engineering

Approve: _____
Division Administrator, FHWA

Approve: _____ 7/11/2012
Chief Engineer

ATTACHMENT 1

COST ESTIMATES

- a. CONSTRUCTION INCLUDING ENGINEERING AND INSPECTION
- b. COMPLETED FUEL & ASPHALT PRICE ADJUSTMENT FORM
- c. RIGHT OF WAY
- d. UTILITIES
- e. ENVIRONMENTAL MITIGATION

DATE 05/04/2012

PROJECT No. NHS00-0000-00(425), Hall
New Interchange on I-985 north of SR 13 Crossover
near Martin Road
P.I. No. 0000425

SUB: REVISED COST ESTIMATES

CONSTRUCTION*	$ 18,577,682.88
RIGHT OF WAY	$ 17,140,000.00
UTILITIES	$ 203,750.00

* Costs contain 5% Engineering and Inspection and Liquid AC Adjustments.

CONTINGENCY SUMMARY

Construction Cost Estimate:	$ 16,782,561.06	(Base Estimate)
Engineering and Inspection:	$ 839,128.05	(Base Estimate x 5 %)
Total Liquid AC Adjustment	$ 955,993.77	(From attached worksheet)
Construction Total:	$ 18,577,682.88	
Utility Cost Estimate:	$ 203,750.00	
Utility Contingency:	$ 0.00	
Utility Total:	$ 203,750.00	

REIMBURSABLE UTILITY COST

Utility Owner	Reimbursable Costs
Jackson EMC	$ 47,000.00
Georgia Power	$ 88,000.00
AT & T	$ 16,000.00
Atlanta Gas Light Co.	$ 22,750.00
Charter Cable TV	$ 30,000.00

Attachments

PROJ. NO.: NHS00-0000-00(425) HALL
P.I. NO. 0000425
DATE: 5/4/2012

Base Construction Cost		$	16,782,561.06
E & I	5%	$	839,128.05
Construction Contingency		$	-
Subtotal Construction Cost		$	17,621,689.11
Liquid AC Adjustment (50 % cap)		$	955,993.77
Total Construction Cost		$	18,577,682.88

JOB DETAIL ESTIMATE

JOB NUMBER : 0000425_JRP SPEC YEAR: 01
DESCRIPTION: I-985 NEW INTERCHANGE N. OF SR 13 CROSSOVER NEAR MARTIN ROAD
HALL COUNTY

ITEMS FOR JOB 0000425_JRP

LINE	ITEM	ALT	UNITS	DESCRIPTION	QUANTITY	PRICE	AMOUNT
0005	150-1000		LS	TRAFFIC CONTROL - 0000425	1.000	200000.00	200000.00
0010	153-1300		EA	FIELD ENGINEERS OFFICE TP 3	1.000	60146.65	60146.65
0015	201-1500		LS	CLEARING & GRUBBING - 0000425	1.000	200000.00	200000.00
0020	205-0001		CY	UNCLASS EXCAV	151250.000	4.74	718307.43
0021	206-0002		CY	BORROW EXCAV, INCL MATL	249400.000	4.34	1083356.19
0023	310-1101		TN	GR AGGR BASE CRS, INCL MATL	77475.000	14.05	1088692.65
0025	318-3000		TN	AGGR SURF CRS	1000.000	24.56	24562.59
0030	402-1812		TN	RECYL AC LEVELING,INC BM&HL	8290.000	71.16	589939.69
0034	402-3121		TN	RECYL AC 25MM SP,GP1/2,BM&HL	20975.000	59.11	1240040.32
0035	402-3130		TN	RECYL AC 12.5MM SP,GP2,BM&HL	7215.000	65.47	472372.69
0040	402-3190		TN	RECYL AC 19 MM SP,GP 1 OR 2 ,INC BM&HL	14150.000	63.65	900741.74
0045	413-1000		GL	BITUM TACK COAT	3200.000	3.04	9729.57
0049	430-0180		SY	PLN PC CONC PVMT/CL1C/ 8" TK	41080.000	55.00	2259400.00
0050	433-1000		SY	REINF CONC APPROACH SLAB	1640.000	151.16	247904.58
0052	436-1000		LF	ASPH CONC CURB - 6"	3350.000	9.66	32378.29
0053	441-0004		SY	CONC SLOPE PAV, 4 IN	600.000	44.40	26642.51
0055	441-0018		SY	DRIVEWAY CONCRETE, 8 IN TK	1000.000	37.63	37634.31
0056	441-0104		SY	CONC SIDEWALK, 4 IN	9450.000	27.75	262257.82
0057	441-0301		EA	CONC SPILLWAY, TP 1	10.000	1947.41	19474.16
0058	441-0748		SY	CONC MEDIAN, 6 IN	5520.000	39.92	220410.07
0059	441-4030		SY	CONC VALLEY GUTTER, 8 IN	300.000	50.80	15242.66
0060	441-6222		LF	CONC CURB & GUTTER/ 8"X30"TP2	16860.000	10.48	176760.07
0061	441-6740		LF	CONC CURB & GUTTER/ 8"X30" TP7	12970.000	10.65	138195.87
0062	500-3101		CY	CLASS A CONCRETE	260.000	456.44	118676.73
0063	500-3800		CY	CL A CONC, INCL REINF STEEL	20.000	583.75	11675.20
0064	511-1000		LB	BAR REINF STEEL	28100.000	0.67	19019.77
0065	550-1180		LF	STM DR PIPE 18",H 1-10	4000.000	26.72	106915.68
0067	550-1240		LF	STM DR PIPE 24",H 1-10	2170.000	33.93	73633.46
0069	550-1300		LF	STM DR PIPE 30",H 1-10	2730.000	48.61	132706.31
0070	550-1360		LF	STM DR PIPE 36",H 1-10	840.000	49.80	41835.96
0072	550-1420		LF	STM DR PIPE 42",H 1-10	112.000	67.33	7541.89
0073	550-1480		LF	STM DR PIPE 48",H 1-10	8.000	75.34	602.77
0074	550-1600		LF	STM DR PIPE 60",H 1-10	250.000	107.15	26789.70
0080	550-4218		EA	FLARED END SECT 18 IN, ST DR	4.000	494.60	1978.43
0081	550-4224		EA	FLARED END SECT 24 IN, ST DR	2.000	541.85	1083.72
0086	550-4230		EA	FLARED END SECT 30 IN, ST DR	7.000	802.10	5614.76
0090	550-4236		EA	FLARED END SECT 36 IN, ST DR	4.000	995.56	3982.27
0095	550-4242		EA	FLARED END SECT 42 IN, ST DR	2.000	956.76	1913.53
0100	573-2006		LF	UNDDR PIPE INCL DRAIN AGGR 6"	1000.000	13.15	13152.68
0104	641-1100		LF	GUARDRAIL, TP T	175.000	48.93	8563.14
0105	641-1200		LF	GUARDRAIL, TP W	11875.000	12.72	151161.98
0109	641-5001		EA	GUARDRAIL ANCHORAGE, TP 1	22.000	611.39	13450.77

JOB DETAIL ESTIMATE

0110	641-5012	EA	GUARDRAIL ANCHORAGE, TP 12	25.000	1803.14	45078.58
0114	642-0100	LF	CABLE BARRIER	760.000	14.51	11029.17
0115	642-0300	EA	CABLE TERMINAL (NCHRP 350 TL-3 COMPLIAN)	2.000	3322.79	6645.59
0117	643-0155	LF	FIELD FENCE SPCL DESIGN	6050.000	9.73	58866.50
0120	668-1100	EA	CATCH BASIN, GP 1	40.000	2060.65	82426.05
0125	668-1200	EA	CATCH BASIN, GP 2	8.000	2780.44	22243.54
0129	441-0204	SY	PLAIN CONC DITCH PAVING, 4 IN	7000.000	32.47	227311.07
0130	603-2024	SY	STN DUMPED RIP RAP, TP 1, 24"	500.000	54.04	27022.86
0131	603-7000	SY	PLASTIC FILTER FABRIC	500.000	3.74	1873.00
0133	700-6910	AC	PERMANENT GRASSING	74.000	1113.15	82373.30
0135	700-7000	TN	AGRICULTURAL LIME	222.000	42.65	9468.47
0145	700-8000	TN	FERTILIZER MIXED GRADE	67.000	458.99	30752.41
0150	700-8100	LB	FERTILIZER NITROGEN CONTENT	3700.000	2.27	8411.21
0155	710-9000	SY	PERM SOIL REINFORCING MAT	8000.000	3.48	27856.08
0159	715-2200	SY	BITUM TRTD ROVING, WATERWAYS	8000.000	1.19	9554.40
0160	163-0232	AC	TEMPORARY GRASSING	37.000	458.28	16956.62
0165	163-0240	TN	MULCH	333.000	168.77	56203.23
0170	163-0300	EA	CONSTRUCTION EXIT	12.000	1058.06	12696.78
0175	163-0503	EA	CONSTR AND REMOVE SILT CONTROL GATE,TP 3	44.000	371.30	16337.33
0180	163-0529	LF	CNST/REM TEMP SED BAR OR BLD STRW CK DM	1000.000	3.12	3127.89
0185	163-0550	EA	CONS & REM INLET SEDIMENT TRAP	20.000	156.69	3133.93
0190	165-0010	LF	MAINT OF TEMP SILT FENCE, TP A	3000.000	0.74	2243.79
0195	165-0030	LF	MAINT OF TEMP SILT FENCE, TP C	4500.000	0.54	2468.61
0205	165-0071	LF	MAINT OF SEDIMENT BARRIER - BALED STRAW	500.000	1.06	534.08
0209	165-0087	EA	MAINT OF SILT CONTROL GATE, TP 3	46.000	86.72	3989.28
0210	165-0101	EA	MAINT OF CONST EXIT	12.000	316.62	3799.53
0215	165-0105	EA	MAINT OF INLET SEDIMENT TRAP	20.000	25.38	507.64
0220	167-1000	EA	WATER QUALITY MONITORING AND SAMPLING	2.000	628.44	1256.89
0225	167-1500	MO	WATER QUALITY INSPECTIONS	24.000	637.05	15289.30
0230	171-0010	LF	TEMPORARY SILT FENCE, TYPE A	6000.000	1.85	11103.18
0235	171-0030	LF	TEMPORARY SILT FENCE, TYPE C	9000.000	3.28	29565.27
0245	636-1020	SF	HWY SGN,TP1MAT,REFL SH TP3	50.000	14.91	745.74
0250	636-1029	SF	HWY SGN,TP2 MATL,REFL SH TP 3	150.000	15.91	2387.68
0255	636-1041	SF	HWY SIGNS,TP 2MAT,REFL SH TP 9	50.000	24.37	1218.69
0260	636-2070	LF	GALV STEEL POSTS, TP 7	50.000	9.63	481.56
0265	636-2080	LF	GALV STEEL POSTS, TP 8	100.000	8.87	887.76
0270	636-3000	LB	GALV STEEL STR SHAPE POST	7800.000	3.48	27206.01
0275	636-3010	EA	GROUND-MOUNTED BREAKAWAY SIGN SUPPORT	5.000	581.42	2907.15
0279	636-9094	LF	P-IN-PL,SIGNS,STL H,HP 12 X 53	140.000	74.02	10363.64
0280	652-0094	EA	PVMT MARKING, SYMBOL, TP 4	16.000	43.89	702.27
0281	652-0110	EA	PAVEMENT MARKING, ARROW, TP 1	16.000	41.61	665.91
0282	652-5301	LF	SOLID TRAF STRIPE, 6 IN, WHITE	5500.000	0.10	601.76
0283	652-6301	GLF	SKIP TRAF STRIPE, 6 IN, WHITE	700.000	0.10	73.40
0285	653-0120	EA	THERM PVMT MARK, ARROW, TP 2	100.000	66.84	6684.15
0290	653-1501	LF	THERMO SOLID TRAF ST 5 IN, WHI	25100.000	0.30	7543.81
0295	653-1502	LF	THERMO SOLID TRAF ST, 5 IN YEL	25100.000	0.31	7899.47
0300	653-1704	LF	THERM SOLID TRAF STRIPE,24",WH	640.000	3.17	2033.42
0305	653-1804	LF	THERM SOLID TRAF STRIPE, 8",WH	4350.000	1.57	6870.78

JOB DETAIL ESTIMATE

0310	653-3501	GLF	THERMO SKIP TRAF ST, 5 IN, WHI	21850.000	0.15	3344.80
0315	654-1001	EA	RAISED PVMT MARKERS TP 1	50.000	4.18	209.36
0320	654-1003	EA	RAISED PVMT MARKERS TP 3	400.000	3.21	1285.58
0325	657-1104	LF	PRF PL SD PVMT MKG,10",WH,TPPB	7400.000	7.50	55500.00
0330	657-2054	LM	PRF PL SD PVMT MKG,5",WH,TP PB	2.000	20200.00	40400.00
0335	657-3054	GLF	PRF PL SK PVMT MKG,5",WH,TP PB	4720.000	2.48	11736.04
0340	657-3085	GLF	PRF PL SK PVMT MKG,8",B/W,TPPB	4720.000	3.93	18577.68
0345	657-7054	LM	PRF PL SD PVMT MKG,5",YE,TP PB	1.000	13589.67	13589.68
0378	639-4004	EA	STRAIN POLE, TP IV	8.000	5279.67	42237.38
0379	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 1 - HF REED IND. @ THURMOND TANNER PKWY	1.000	44083.00	44083.00
0385	647-1000	LS	TRAF SIGNAL INSTALLATION NO - 3 - MARTIN RD. EXT. @ S.R. 13	1.000	44083.00	44083.00
0510	211-0200	CY	BR EXCAV, GRADE SEPARATION	2440.000	17.32	42284.20
0512	211-0300	CY	BR EXCAV, STREAM CROSSING	2440.000	29.72	72535.71
0515	500-1006	LS	SUPERSTR CONCRETE, CL AA, BR NO - 1 & 2	1980.000	612.00	1211760.00
0520	500-3002	CY	CL AA CONCRETE	260.000	493.16	128223.34
0525	507-9031	LF	PSC BEAMS,AASHTO,BULB TEE, 63" ,BR NO. - 1 & 2	3800.000	170.62	648362.16
0535	511-1000	LB	BAR REINF STEEL	30000.000	0.67	20214.90
0540	511-3000	LS	SUPERSTR REINF STEEL, BR NO - 1 & 2	1.000	552000.00	552000.00
0550	520-1147	LF	PIL-IN-PL,STEEL H,HP 14 X 73	5100.000	33.93	173070.13
0555	627-1010	SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO - MSE WALL	16467.000	33.21	547023.20
0560	627-1160	LF	TRAFFIC BARRIER H, WALL NO - MSE WALL	712.000	177.37	126287.44
0605	208-0200	CY	ROCK EMBANKMENT	50.000	45.16	2258.34
0610	211-0300	CY	BR EXCAV, STREAM CROSSING	50.000	34.73	1736.75
0615	500-1006	LS	SUPERSTR CONCRETE, CL AA, BR NO - 3	170.000	612.00	104040.00
0620	500-3002	CY	CL AA CONCRETE	65.000	493.16	32055.83
0625	507-9001	LF	PSC BEAMS,AASHTO TP I, BR NO - 3	460.000	93.08	42820.13
0630	511-1000	LB	BAR REINF STEEL	4300.000	0.76	3310.96
0635	511-3000	LS	SUPERSTR REINF STEEL, BR NO - 3	1.000	17500.00	17500.00
0640	520-1125	LF	PIL-IN-PL,STEEL H,HP 12 X 53	1200.000	43.81	52578.54
0645	627-1010	SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO - MSE WALL	1200.000	40.74	48889.62
0650	627-1160	LF	TRAFFIC BARRIER H, WALL NO - MSE WALL	60.000	177.37	10642.20
0705	211-0300	CY	BR EXCAV, STREAM CROSSING	400.000	31.96	12784.00
0710	500-1006	LS	SUPERSTR CONCRETE, CL AA, BR NO - 4	225.000	612.00	137700.00
0715	500-3002	CY	CL AA CONCRETE	75.000	493.16	36987.50
0720	507-9001	LF	PSC BEAMS,AASHTO TP I, BR NO - 4	610.000	90.76	55368.95
0725	511-1000	LB	BAR REINF STEEL	5700.000	0.75	4304.81
0730	511-3000	LS	SUPERSTR REINF STEEL, BR NO - 4	1.000	23000.00	23000.00
0735	520-1125	LF	PIL-IN-PL,STEEL H,HP 12 X 53	1200.000	43.81	52578.54
0740	627-1010	SF	MSE WALL FACE, 10 - 20 FT HT, WALL NO - MSE WALL	11200.000	34.23	383402.66
0745	627-1160	LF	TRAFFIC BARRIER H, WALL NO - MSE WALL	560.000	177.37	99327.20
0750	500-3800	CY	CL A CONC, INCL REINF STEEL - 65LF - 28' SPAN 6'9" RISE BTTMLSS BRC	263.000	724.63	190580.04

ITEM TOTAL	16782561.01
INFLATED ITEM TOTAL	16782561.01

JOB DETAIL ESTIMATE

TOTALS FOR JOB 0000425_JRP	
ESTIMATED COST:	16782561.06
CONTINGENCY PERCENT (0.0):	0.00
ESTIMATED TOTAL:	16782561.06

PROJ. NO.	NHS00-0000-00(425) HALL
P.I. NO.	0000425
DATE	5/4/2012

CALL NO.

INDEX (TYPE)	DATE	INDEX
REG. UNLEADED		
DIESEL		
LIQUID AC	5/4/2012	$ 626.00

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)				**950831.4**	**$ 950,831.40**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	1,001.60	
Monthly Asphalt Cement Price month project let (APL)			$	626.00	
Total Monthly Tonnage of asphalt cement (TMT)				2531.5	

ASPHALT	Tons	%AC	AC ton
Leveling	8290	5.0%	414.5
12.5 OGFC		5.0%	0
12.5 mm	7215	5.0%	360.75
9.5 mm SP		5.0%	0
25 mm SP	20975	5.0%	1048.75
19 mm SP	14150	5.0%	707.5
	50630		**2531.5**

BITUMINOUS TACK COAT

Price Adjustment (PA)			**$**	**5,162.37**	**$ 5,162.37**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	1,001.60	
Monthly Asphalt Cement Price month project let (APL)			$	626.00	
Total Monthly Tonnage of asphalt cement (TMT)				13.74432295	

Bitum Tack Gals	gals/ton	tons
3200	232.8234	13.744323

PROJ. NO.	NHS00-0000-00(425) HALL
P.I. NO.	0000425
DATE	5/4/2012

CALL NO.

BITUMINOUS TACK COAT (surface treatment)

Price Adjustment (PA)				**0**	**$ -**
Monthly Asphalt Cement Price month placed (APM)	Max. Cap	60%	$	1,001.60	
Monthly Asphalt Cement Price month project let (APL)			$	626.00	
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	**$**	**955,993.77**

Department of Transportation

State of Georgia

Interdepartmental Correspondence

FILE	R/W Cost Estimate Update	**OFFICE**	Atlanta
		DATE	June 22, 2011
FROM	Phil Copeland, Right of Way Administrator LaShone Alexander, Right of Way Cost Estimator		
TO	Vinesha C. Pegram, Associate Project Manager Raju K. Shah, R.K. SHAH & ASSOCIATES, INC		

SUBJECT **Preliminary Right of Way Cost Estimate**
Project: NHS-0000-00(425) Hall County
P.I. No.: 0000425
Description: New Interchange I985- Hall County

As per your request, attached is a copy of the approved Preliminary Right of Way Cost Estimates on the above referenced projects.

If you have any questions, please contact LaShone Alexander at One Georgia Center 600 West Parkway Street, NW Atlanta, GA 30308, Right of Way Office at (478) 553-1569 or (478) 232-4045.

PC:LA
Attachments
c: File

Preliminary Right of Way Cost Estimate

Phil Copeland
Right of Way Administrator
By: LaShone Alexander

Date: June 22, 2011
Project: NHS-0000-00(425)Hall REVISED
Existing/Required R/W: Varies/Varies
Project Termini : New Interchange I 985 Hall
Project Description: Interchange Improvement

P.I. Number: 000425
No. Parcels: 26

Land: Industrial R/W: 2,098,329 sf @ $ 2.25/sf			$ 4,721,240
Improvements : signs, misc. site improvements			30,000
Relocation: Commercial (0)			
Residential (0)			0
Damage : Proximity			
Limits of Access (3)		$ 2,150,000	
Cost to Cure (2)		10,000	2,160,000
	Net Cost		$ 6,911,240

Net Cost		$ 6,911,240
Scheduling Contingency	55 %	3,801,182
Adm/Court Cost	60 %	6,427,453
		$ 17,139,875

Total Cost $17,140,000

Note: The Market Appreciation (40%) is not included in the updated Preliminary Cost Estimate.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE NHS00-0000-00(425) Hall
P.I. No. 0000425
I-985 New Interchange North of SR 13

OFFICE Gainesville

DATE May 26, 2011

FROM Allen Ferguson
District Utilities Engineer

TO Vinesha Pegram, Project Manager

SUBJECT PRELIMINARY UTILITY COST (ESTIMATE)

As requested by your office, we are furnishing you with a Preliminary Utility Cost estimate for the subject project.

FACILITY OWNER	NON-REIMBURSABLE	REIMBURSABLE
City of Gainesville	$110,875.00	
City of Flowery Branch	$10,175.00	
Georgia Power – Distribution	$16,000.00	$88,000.00
Jackson EMC	$18,000.00	$47,000.00
AT&T	$125,200.00	$16,000.00
Atlanta Gas Light	$130,320.00	$22,750.00
Charter Communications	$12,000.00	$30,000.00
Total Estimated Reimbursement Cost:		$203,750.00
Total Estimated Non-Reimbursement Cost: $422,570.00		

If you have any questions, please contact Allen Ferguson at 770-532-5510.

RAF

C: Jeff Baker, State Utilities Engineer
Angie Robinson, Office of Financial Management
Matt Needham, Area Engineer
File

Raju K. Shah

From: "Meadows, Austin B" <Austin.Meadows@atkinsglobal.com>
To: "Raju K. Shah" <raju.shah@rkshah.com>
Cc: "Vickery, Christen S" <Christen.Vickery@atkinsglobal.com>
Sent: Friday, October 28, 2011 9:49 AM
Attach: June 2011 Ecology Memorandum (mitigation).pdf; Hall 0000425 September 2011 Ecology Addendum (Draft).PDF
Subject: FW: Hall 0000425 updated Ecology impacts/mitigation costs

Hey Raju,

Updated impacts to ecological resources and required compensatory mitigation for Hall 0000425 are outlined below:

- Total impacts to intermittent and perennial streams: **653.0 linear feet / 0.036 acre**
- Compensatory mitigation credits required for intermittent and perennial stream impacts: **2,518.10 credits**
- Total impacts to wetlands and open waters: **0.06 acre of permanent and 0.08 acre of temporary impact (total 0.14 acre)**
- Compensatory mitigation credits required for wetland and open water impacts: **0.85 credit**

During my August 2011 site visit with USACE staff, it was determined that some of the previously documented ephemeral streams on the project are more indicative of valley sheet flow and are not considered jurisdictional waters. Therefore, the 597.0 linear feet of ephemeral stream impacts reported in the March 2009 Ecology Addendum have been removed in the most recent September 2011 draft Ecology Addendum.

As for the mitigation cost estimates, based on the prices included in my June 2011 Memorandum (attached), the updated total mitigation costs are as follows:

- Stream credits: 2,518.10 credits x $35.00 per credit = **$88,133.50**
- Wetland credits: 0.85 credit x $17,500 per credit = **$14,875.00**

Total estimated cost of mitigation is **$103,008.50**

I have also attached a .pdf copy of the draft September 2011 Ecology Addendum. Please let me know if you have any questions.

Thanks,

Austin B. Meadows
Ecologist

ATKINS

1600 RiverEdge Parkway NW, Suite 600, Atlanta, Georgia, 30328 | Tel: +1 (770) 933 0280 | Fax: +1 (770) 933 1083 | Direct: +1 (678) 247 2551 |
Email: austin.meadows@atkinsglobal.com | Web: www.atkinsglobal.com/northamerica www.atkinsglobal.com

From: Meadows, Austin B
Sent: Tuesday, October 11, 2011 2:17 PM
To: 'Raju K. Shah'
Cc: Vickery, Christen S

Raju K. Shah

From: "Cox, Jonathan" <jocox@dot.ga.gov>
To: "'Raju K. Shah'" <raju.shah@rkshah.com>
Cc: "Pegram, Vinesha C." <vpegram@dot.ga.gov>
Sent: Friday, September 16, 2011 1:37 PM
Subject: RE: PI 0000425 Hall- Mitigation Credit Cost

No. It is slim pickings around OES today. Please go with Austin's estimate. He's an experienced ecologist and knows how to do this task. Plus, it will be subject to change dependent on the cost of credits in the market at the time we need them.

JC

From: Raju K. Shah [mailto:raju.shah@rkshah.com]
Sent: Friday, September 16, 2011 1:52 PM
To: Cox, Jonathan
Cc: Pegram, Vinesha C.
Subject: Re: PI 0000425 Hall- Mitigation Credit Cost

Jonthan:

Any answer from Ecology on Mitigation Credit Cost ?

Raju K. Shah
R.K. SHAH & ASSOCIATES, INC.
"Working together to improve Transportation since 1988"
1280 Winchester Parkway
Suite 240
Smyrna, GA. 30080
Phone: 770-436-5070
Fax: 770-436-5410
raju.shah@rkshah.com

> ----- Original Message -----
> **From:** Cox, Jonathan
> **To:** 'Raju K. Shah' ; Pegram, Vinesha C.
> **Sent:** Thursday, September 15, 2011 12:23 PM
> **Subject:** RE: PI 0000425 Hall- Mitigation Credit Cost
>
> Raju – I received your request on 9/12/11. I forwarded to Ecology and Sharilyn was out in the field. I should have an answer tomorrow.
>
> If you can't wait, I'd go with Austin's estimate. He's experienced and can research the current credit rate (please note it will simply be an estimated # and is subject to change as the market fluctuates.)
>
> JC
>
> ---
>
> **From:** Raju K. Shah [mailto:raju.shah@rkshah.com]
> **Sent:** Thursday, September 15, 2011 11:08 AM
> **To:** Cox, Jonathan; Pegram, Vinesha C.
> **Subject:** PI 0000425 Hall- Mitigation Credit Cost
> **Importance:** High

Jonathan:

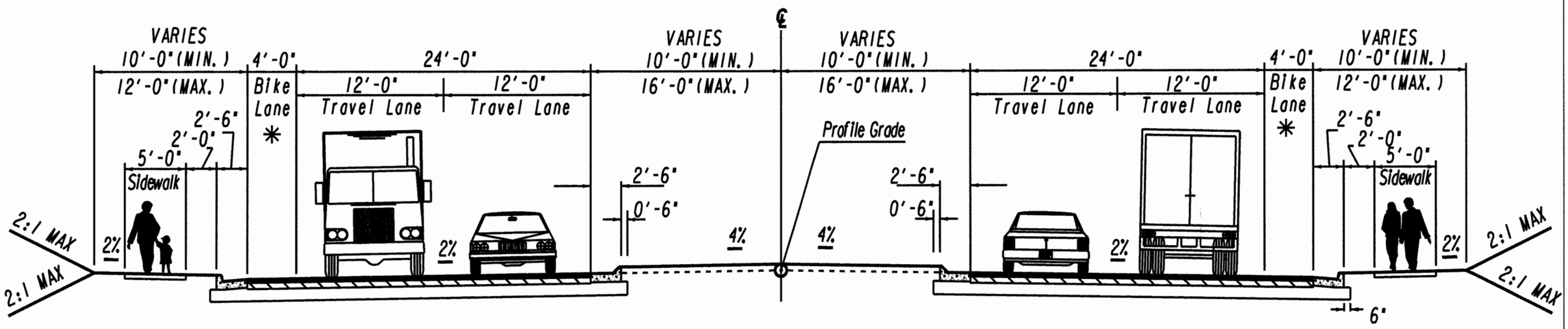
When approval or concurrence of Mitigation Credit Cost forthcoming ?
Please call me @ 404-406-8318 if you need any additional information/clarification.

Raju K. Shah
R.K. SHAH & ASSOCIATES, INC.
"Working together to improve Transportation since 1988"
1280 Winchester Parkway
Suite 240
Smyrna, GA. 30080
Phone: 770-436-5070
Fax: 770-436-5410
raju.shah@rkshah.com

ATTACHMENT 2

- TYPICAL SECTIONS

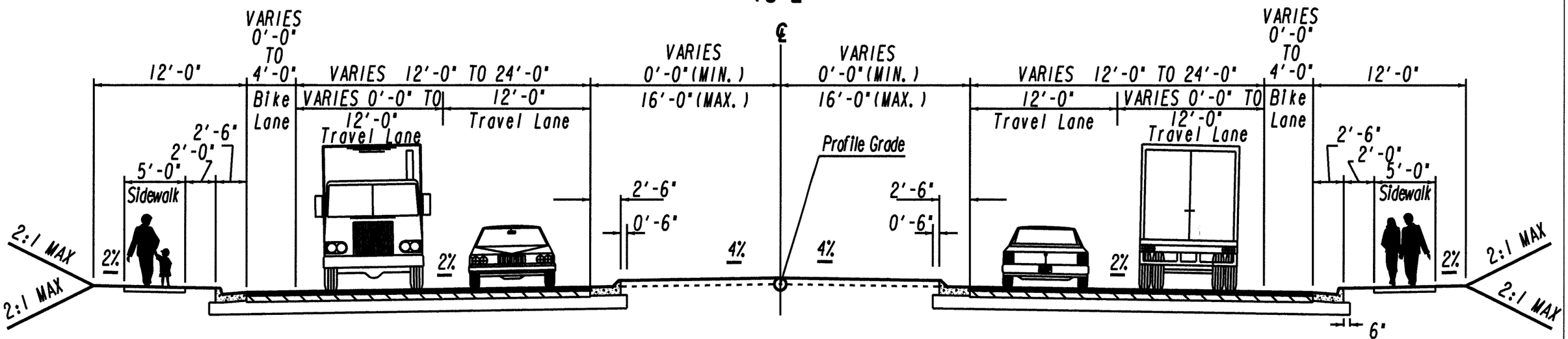
TS-1



APPLIES TO NEW INDUSTRIAL CONNECTOR ROAD
(FROM THURMON TANNER PKWY TO SR 13/ FALCON PARKWAY) AND
THURMON TANNER PKWY

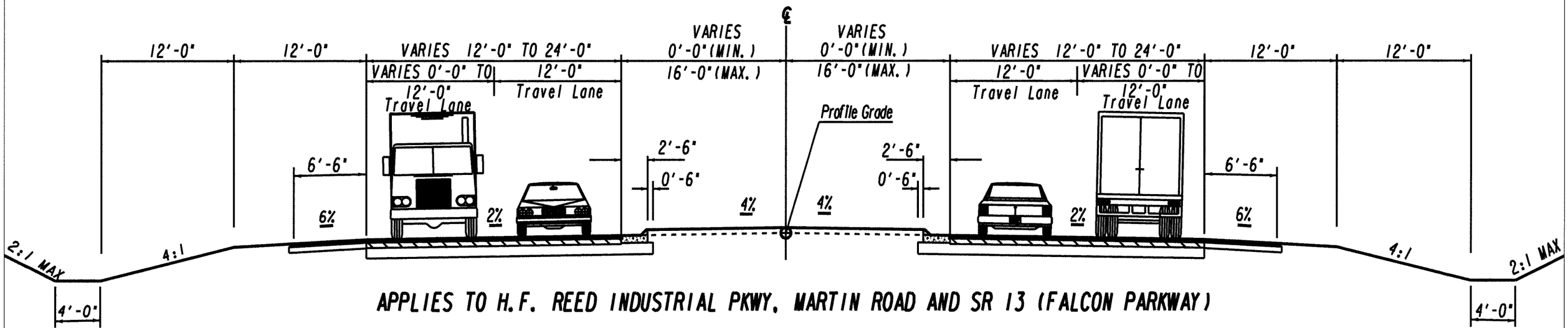
* NO BIKE LANE ON THURMON TANNER PKWY.

TS-2



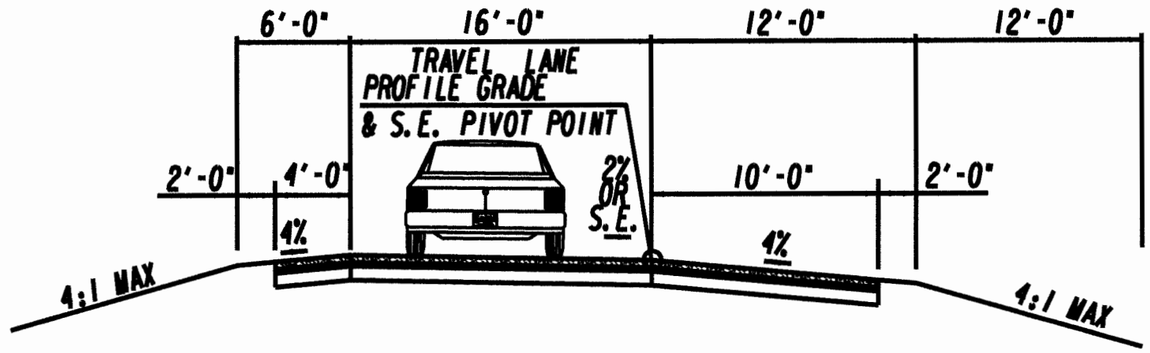
APPLIES TO H.F. REED INDUSTRIAL PKWY, MARTIN ROAD AND SR 13 (FALCON PARKWAY)

TS-2A



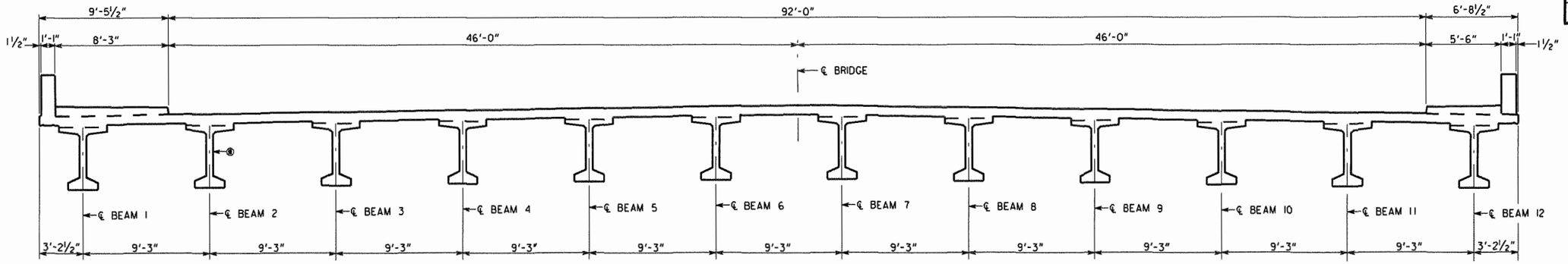
APPLIES TO H.F. REED INDUSTRIAL PKWY, MARTIN ROAD AND SR 13 (FALCON PARKWAY)

TS-3



ENTRANCE / EXIT RAMP
ONE LANE
TANGENT SECTION

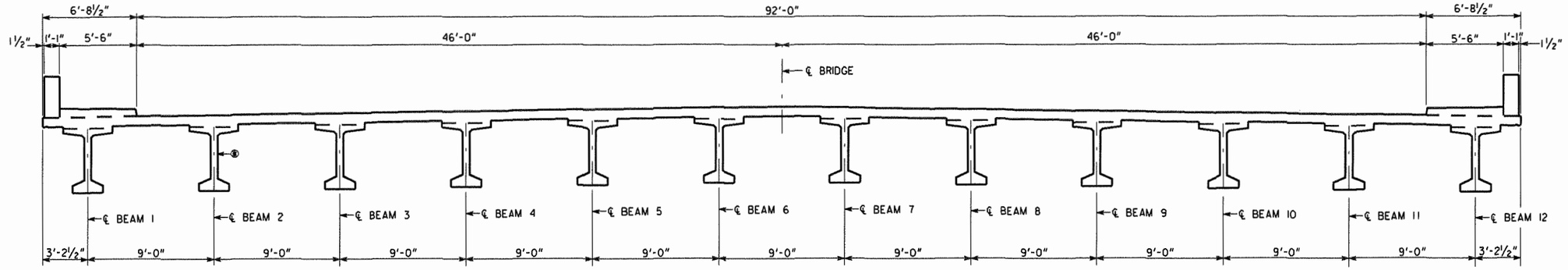
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	NHS-0000-00(425)		



④AASHTO BT 63

TYPICAL SECTION

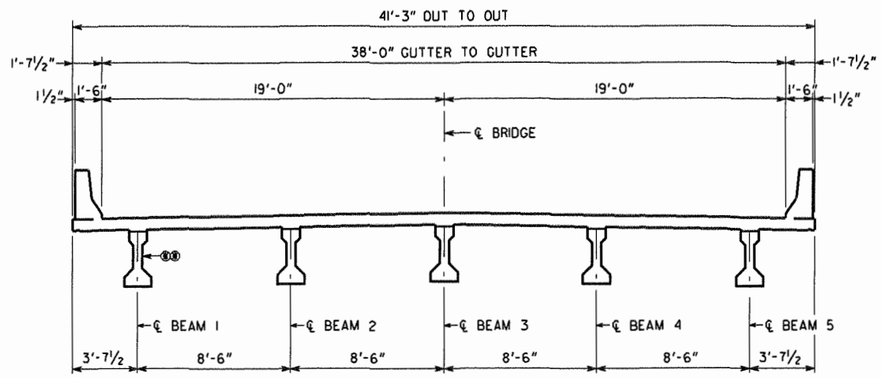
BRIDGE 1: MARTIN ROAD EXT. OVER STREAM #15



④AASHTO BT 63

TYPICAL SECTION

BRIDGE 2: MARTIN ROAD EXT. OVER I-985



⑥⑥AASHTO TYPE I MOD.

TYPICAL SECTION

BRIDGE 3: I-985 SB ON RAMP OVER STREAM #14
BRIDGE 4: I-985 SB OFF RAMP OVER STREAM #16

BRIDGE NO. 1

Hatch Mott MacDonald
2550 Heritage Ct, SE, Suite 250
Atlanta GA 30339-3062
(770) 952-1022

GEORGIA
DEPARTMENT OF TRANSPORTATION
PRECONSTRUCTION DIVISION-OFFICE OF BRIDGE DESIGN

TYPICAL SECTIONS
MARTIN ROAD EXT. OVER I-985
& I-985 SB RAMPS

HALL COUNTY — NHS-0000-00(425)

SCALE: NO SCALE — DECEMBER 2011

DRAWING NO.	BY	DATE	REVISIONS
35-01			
BRIDGE SHEET 1 OF 1			

DESIGNED	WBN	CHECKED	SHG	REVIEWED	JPT-HST
DRAWN	WBN	DESIGN GROUP		APPROVED	PVL

n:\tra\31-6037 I-985 Interchange\Deck Sections\decksectd.dgn 5/3/2012

ATTACHMENT 3

- ACCIDENT SUMMARY

Crash Data: Crash Rate and Crash Type shown below are for the SR 13 (Falcon Parkway) from one mile north of Martin Road to one mile south of Martin Road intersection.

Table # 2 Crash Rate:

Crash Rate	2006			2007			2008		
	All Crashes	Injury	Fatality	All Crashes	Injury	Fatality	All Crashes	Injury	Fatality
Project Area	193.66	77.46	0.0	200.13	87.01	0.0	232.11	80.35	0.0
State Average	548	137	1.43	513	126	1.36	469	117	1.33

Class: Minor Urban Arterial, Non NHS, Urban

Table # 3 Detailed Crash Analysis:

Crash Type	2006	2007	2008	Total
Rear End	16	17	19	52
Angle	4	9	9	22
Head On	0	1	1	2
Side Swipe	3	2	0	5
Single Vehicle	5	4	6	15
Total	28	33	35	96

Class: Minor Urban Arterial, Non NHS, Urban

As seen in table 2 above, the crash rates and fatality rates for the project area are below the statewide average. Further reviewing the crash rate and type of crash does not reveal any safety concern.

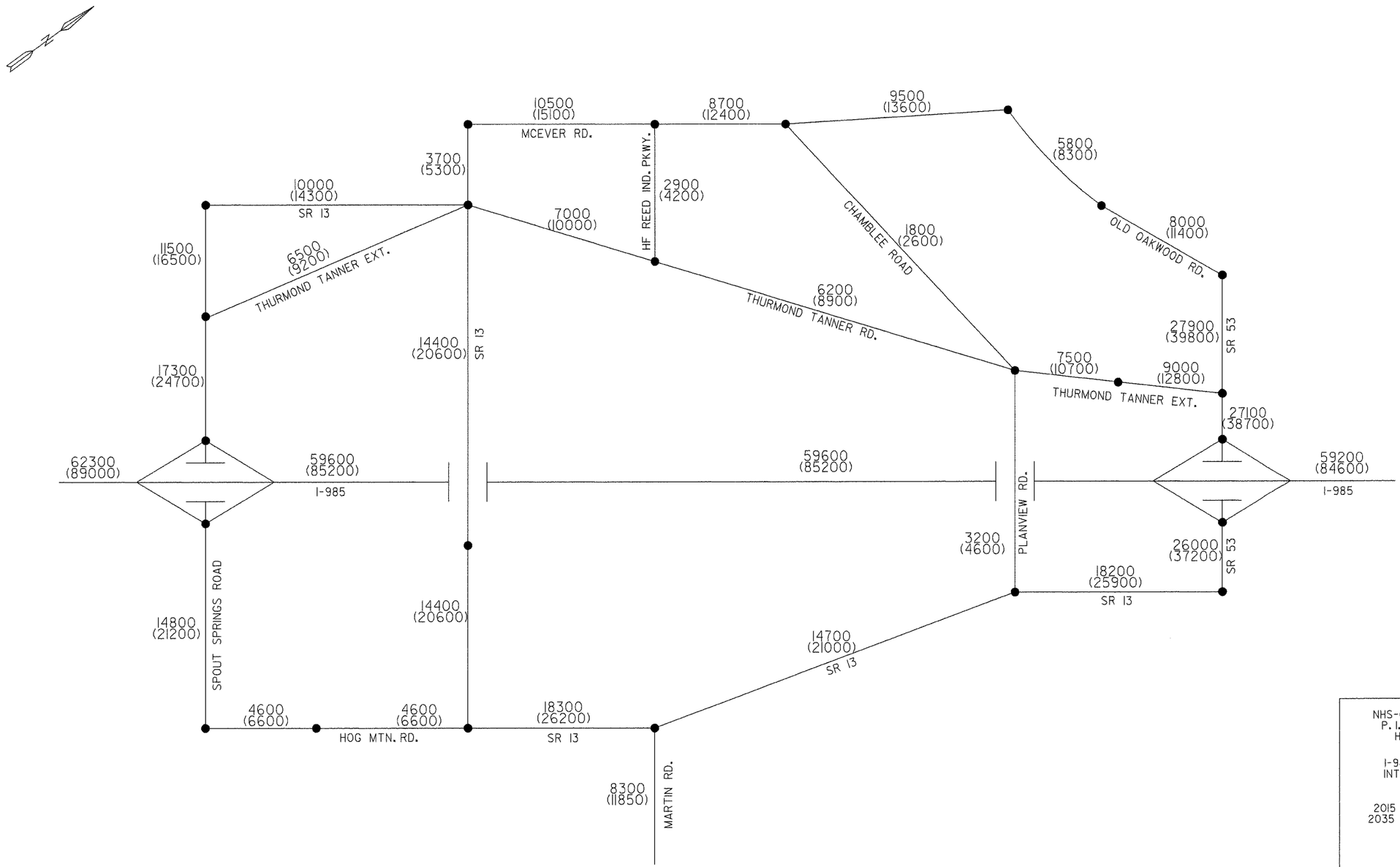
ATTACHMENT 4

- TRAFFIC DIAGRAM

1 OF 1

HALL COUNTY 2015 (2035) NO BUILD

Wolverton & Associates INCORPORATED
WOLVERTON & ASSOCIATES, INC.
6745 SUGARLOAF PARKWAY
SUITE 100
DULUTH, GA 30097
(770) 447-8999



NHS-000-00(425)
P.I. # 000425
HALL CO.

I-985 @ NEW INTERCHANGE

2015 ADT = 000
2035 ADT = (000)

MTD
10/10

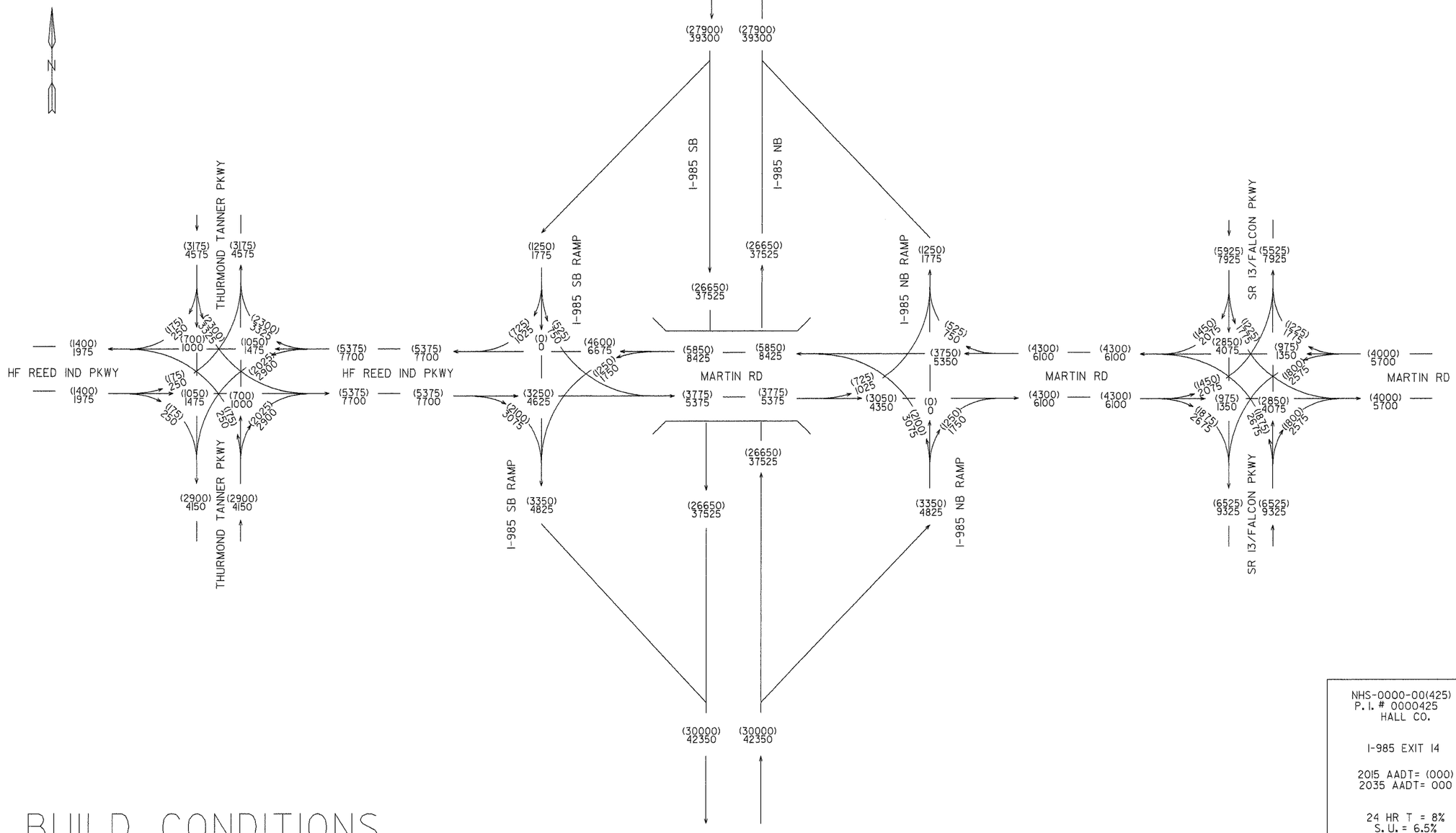
...\DGN\volume diagrams.dgn 12/16/2011 2:03:12 PM

1 OF 3

HALL COUNTY

Wolverton & Associates INCORPORATED

WOLVERTON & ASSOCIATES, INC.
6745 SUGARLOAF PARKWAY
SUITE 100
DULUTH GA 30097
(770) 447-8999



BUILD CONDITIONS

NHS-0000-00(425)
P. I. # 0000425
HALL CO.

I-985 EXIT 14

2015 AADT= (000)
2035 AADT= 000

24 HR T = 8%
S. U. = 6.5%
COMB. = 1.5%

MTD
09/10

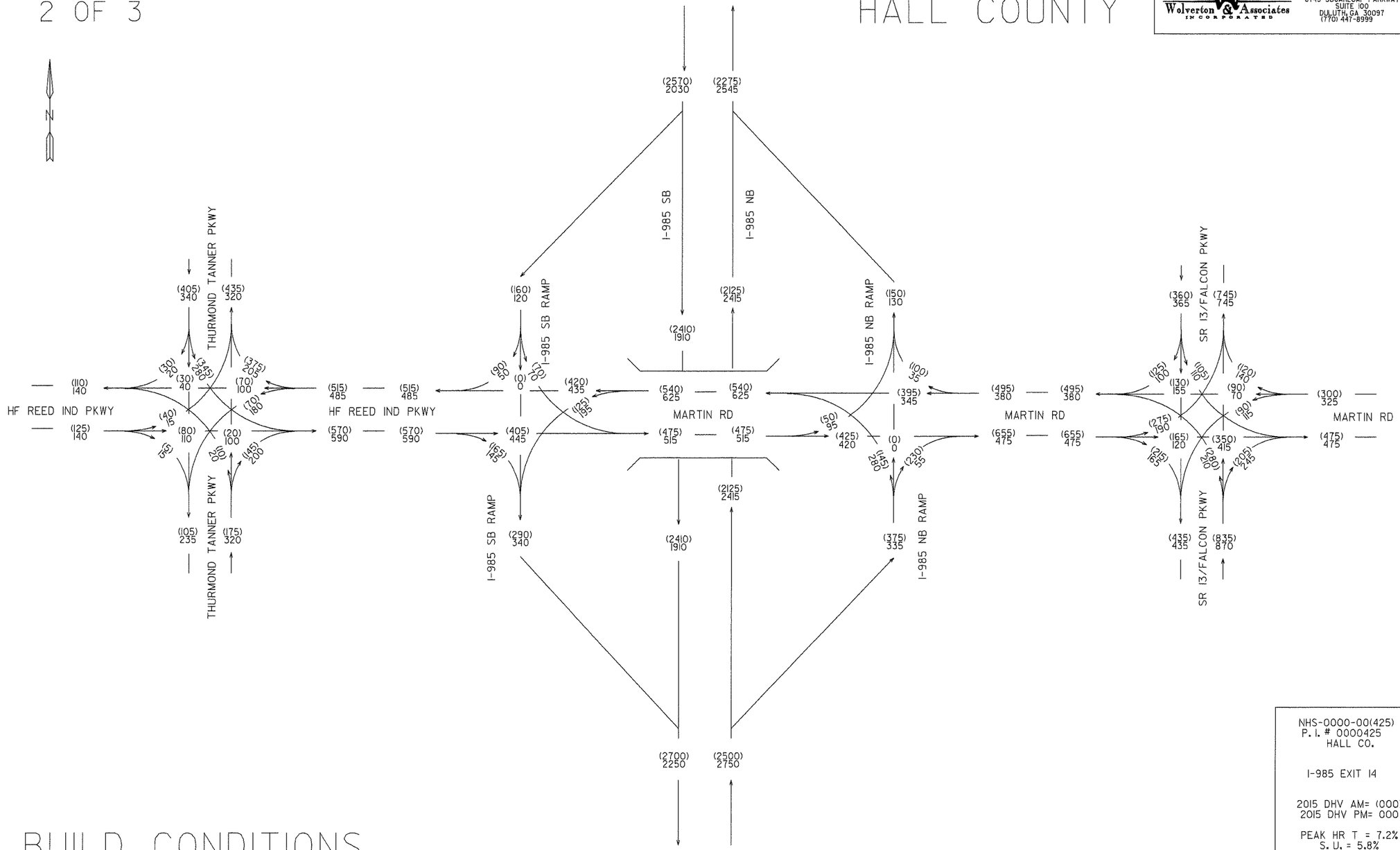
...\06-738\DGN\C000425 3of13.dgn 12/16/2011 2:01:26 PM

2 OF 3

HALL COUNTY

Wolverton & Associates INCORPORATED

WOLVERTON & ASSOCIATES, INC.
6745 SUGARLOAF PARKWAY
SUITE 100
DULUTH, GA 30097
(770) 447-8999



BUILD CONDITIONS

NHS-0000-00(425)
P. I. # 0000425
HALL CO.

I-985 EXIT 14

2015 DHV AM= (000)
2015 DHV PM= 000

PEAK HR T = 7.2%
S. U. = 5.8%
COMB. = 1.4%

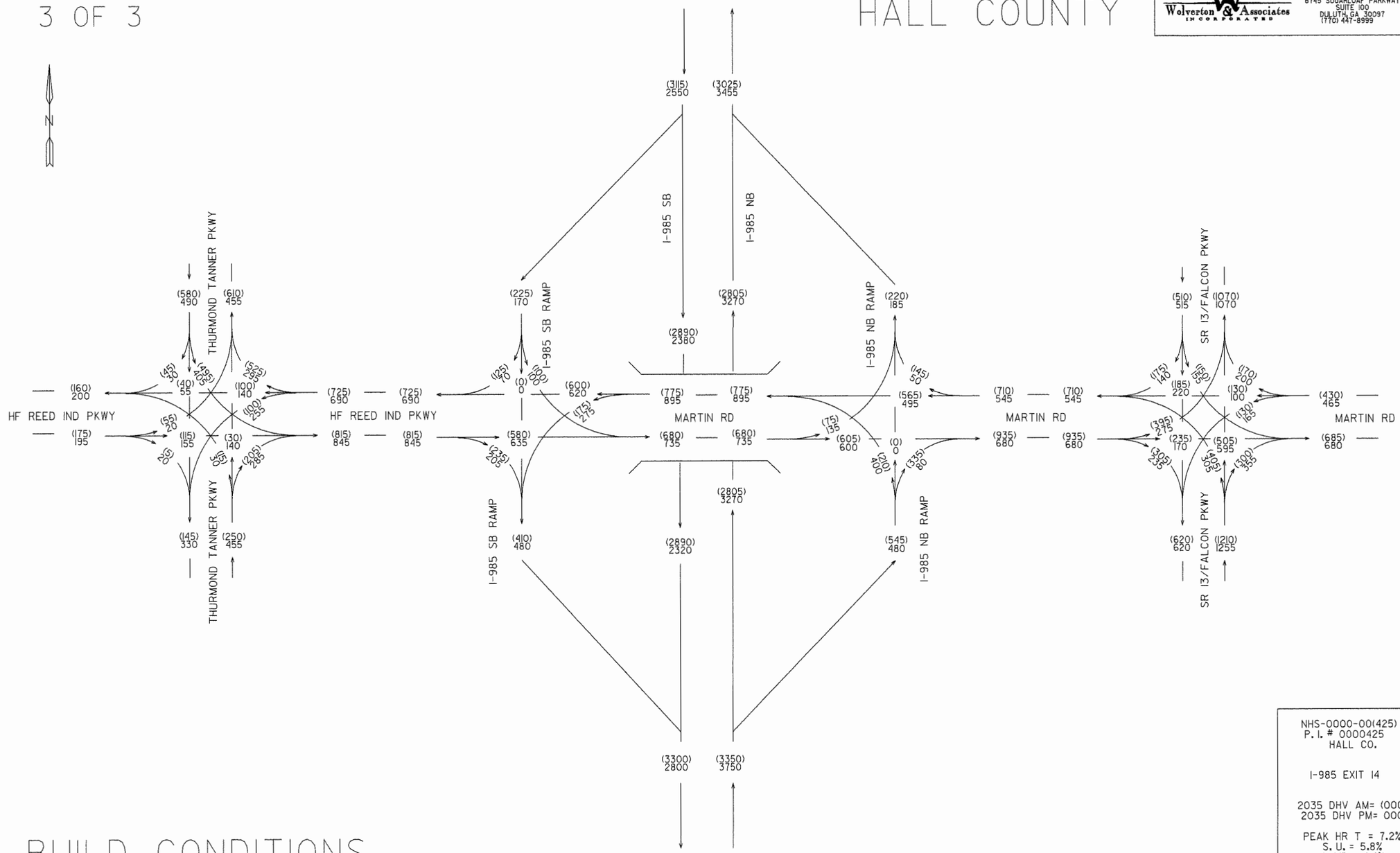
MTD
09/10

...\06-738\DGN\0000425 3of3.dgn 12/16/2011 2:01:37 PM

3 OF 3

HALL COUNTY

Wolverton & Associates INCORPORATED
WOLVERTON & ASSOCIATES, INC.
6745 SUGARLOAF PARKWAY
SUITE 100
DULUTH, GA 30097
(770) 447-8999



NHS-0000-00(425)
P. I. # 0000425
HALL CO.

I-985 EXIT 14

2035 DHV AM= (000)
2035 DHV PM= 000

PEAK HR T = 7.2%
S. U. = 5.8%
COMB. = 1.4%

MTD
09/10

BUILD CONDITIONS

...\06-738\DGN\0000425 build.dgn 12/16/2011 2:01:47 PM

ATTACHMENT 5

- CAPACITY ANALYSIS SUMMARY

Table # A: Build/ No Build Design Year Intersection LOS and Delay

Intersections	No Build (Design Year 2035)				Build (Design Year 2035)			
	A.M.		P.M.		A.M.		P.M.	
	LOS	DELAY (Seconds)	LOS	DELAY (Seconds)	LOS	DELAY (Seconds)	LOS	DELAY (Seconds)
Spout Springs Rd @ I-985 NB Ramps	E	58.5	E	55.7	B	19.3	C	25.8
Spout Springs Rd @ I-985 SB Ramps	E	59.4	D	42.8	C	20.0	B	19.1
SR 53 @ I-985 NB Ramps	C	26.6	C	23.1	C	21.8	C	21.8
SR 53 @ I-985 NB Ramps	B	19.3	C	22.1	B	18.4	B	15.6

LOS and Delay established using Synchro Version 7 software

Table # B - Build/No Build Intersection LOS and Delay for Build Year and Design Year within Project Limit

Intersection	2015				2035			
	No Build		Build		No Build		Build	
	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.	a.m.	p.m.
Thurmon Tanner Pkwy at H.F. Reed Industrial Conn (1)	A/ (9.8)	A/ (9.9)	B/ (19.6)	C/ (21.2)	B/ (11.1)	B/ (11.2)	B/ (19.9)	C/ (24.3)
Martin Road Extension at I-985 SB Ramps-Signalized	-	-	A(4.6)	A(6.8)	-	-	A(6.7)	A(9.0)
Martin Road Extension at I-985 NB Ramps-Signalized	-	-	A(8.0)	B(12.7)	-	-	B(11.8)	B(17.2)
Martin Road Extension at I-985 SB Ramps-Unsignalized	-	-	D(34.8)	F(63.6) (2)	-	-	F(232.1) (3)	F(691.3) (4)
Martin Road Extension at I-985NB Ramps-Unsignalized	-	-	C(20.8)	F(199.8) (5)	-	-	F(359.9) (6)	F(*) (7)
Martin Road at SR 13-Signalized	C(32.9)	B(14.9)	C(25.4)	C(30.0)	F(100.7)	C(25.0)	C(27.3)	C(33.0)

(1)-This intersection is unsignalized in the no build condition and signalized in the build condition.

LOS and Delay established using Synchro Version 7 software

(2) Estimated queue length is 72 ft. However available storage length is 700 ft. Hence no impact on operation of southbound I-985

(3) Estimated queue length is 187 ft. However available storage length is 700 ft. Hence no impact on operation of southbound I-98

(4) Estimated queue length is 273 ft. However available storage length is 700 ft. Hence no impact on operation of southbound I-98

(5) Estimated queue length is 457 ft. However available storage length is 856 ft. Hence no impact on operation of northbound I-985.

(6) Estimated queue length is 922 ft. Available storage length is 856 ft. This will have impact on operation of northbound I-985 during 2035 A.M. peak hour.

(7) Queue length is too large to estimate. Available storage length is 856 ft. This will have impact on operation of northbound I-985 during 2035 P.M. Peak Hour.

TABLE # C- Level of Service (LOS) beyond Project Limits:

Roadway Segment	No Build		Build	
	2015	2035	2015	2035
Martin Road Extension-(1)	-	-	B	B
I-985 North of Martin Road Extension-(2)	D	F	D	F
I-985 South of Martin Road Extension—(2)	D	F	D	F
Spout Springs Road West of I-985-(2)	B	C	B	B
Spout Springs Road East of I-985-(2)	B	B	B	B
SR 53 West of I-985-(4)	C	D	C	C
SR 53 East of I-985-(4)	C	D	C	C
H. F Reed Industrial Pkwy. West of Thurmon Tanner Pkwy. –(3)	B	B	B	B
Thurmon Tanner Pkwy. North of H. F. Reed Industrial Parkway –(1)	B	B	B	B
Thurmon Tanner Pkwy. South of H. F. Reed Industrial Parkway-(1)	B	B	B	B
Martin Road East of S.R. 13/Falcon Pkwy.-(3)	B	C	B	C
S.R. 13/Falcon Pkwy. North of Martin Road- (3)	C	F	C	D
S.R. 13/Falcon Parkway South of Martin Road-(3)	F	F	C	F

(1)- Four lane divided with urban shoulder
(2)- Four lane divided with rural shoulder
(3)- Two lane undivided with rural shoulder
(4) –Six lane divided with urban shoulder
LOS established using Highway Capacity Software (HCS)

Recommendation:

1. As traffic builds on the southbound off ramps and northbound off ramp, the southbound and northbound ramp intersections with Martin Road Extension (New Industrial Connector Road) should be periodically studied for signalization. As shown in Table B, Signalization of the ramps intersection with Martin Road Extension (New Industrial Connector Road) will provide LOS B or better.

2. Build/No Build Intersection LOS and Delay for Build Year and Design Year within project Limit shown in Table B is based upon providing four lane divided roadway i.e. two lane in each direction on Martin Road Extension (New Industrial Connector Road).

3. Providing two lane i.e one lane in each direction on Martin Road Extension (New Industrial Connector Road) will have LOS worst than shown in Table B at the intersection of southbound On/Off ramps with Martin Road Extension (New Industrial Connector Road) and the intersection of northbound On/Off ramps with Martin Road Extension (New Industrial Connector Road. Further this will have impact on the operation of I-985.

ATTACHMENT 6

- SUMMARY OF SIGNAL WARRANT STUDIES

Summary of Signal Warrant Analysis

WARRANT	Martin Road Conn @		
	Thurmond Tanner Parkway	**I-985 SB Ramps**	**I-985 NB Ramps**
1. Eight-Hour Vehicular Volume	**Satisfied**	Not Satisfied	Not Satisfied
2. Four-Hour Vehicular Volume	**Satisfied**	Not Satisfied	Not Satisfied
3. Peak Hour	Not Applicable	Not Applicable	Not Applicable
4. Pedestrian Volume	Not Applicable	Not Applicable	Not Applicable
5. School Crossing	Not Applicable	Not Applicable	Not Applicable
6. Coordinated Signal System	Not Applicable	Not Applicable	Not Applicable
7. Crash Experience	Not Applicable	Not Applicable	Not Applicable
8. Roadway Network	Not Applicable	Not Applicable	Not Applicable

Signal Warrant Analysis established using MUTCD 2009 Edition guidelines.

ATTACHMENT 7

- MINUTES OF CONCEPT TEAM MEETING

R. K. SHAH & ASSOCIATES, INC.
1280 Winchester Parkway, Suite 240
Smyrna, Georgia, 30080
Phone: 770-831-1640 Fax: 770-436-5410

MINUTES OF MEETING

Project No: NHS00-0000-00(425), Hall County
P.I. # 0000425

Project Description: **A new Interchange on I-985 north of SR 13 crossover near Martin Road (between Exit # 12 and Exit # 16).**
Meeting Place: **GDOT/District # 1 conference room**
Meeting Time: **10:00 AM (EST)**

Sub: Concept Team Meeting

ATTENDEES	ORGANIZATION	PHONE	E-MAIL
Vinesha C. Pegram	GDOT/Program Delivery	404-631-1587	vpegram@dot.ga.gov
Stanley Hill	GDOT/Program Delivery	404-631-1560	sthill@dot.ga.gov
Latoya Johnson	FHWA	404-562-4280	Latoya.johnson@fhwa.dot.gov
Russell McMurry	GDOT/D-1/District Eng.	770-532-5526	rmcmurry@dot.ga.gov
Robert Mahoney	GDOT/D-1	770-532-5520	rmahoney@dot.ga.gov
Douglas Fadool	GDOT/D-1 Design	770-718-5007	dfadool@dot.ga.gov
Kim Coley	GDOT/D-1 Environment	770-532-5582	kcoley@dot.ga.gov
Brent Cook	GDOT/D-1 Traffic Oper.	770-532-5563	bcook@dot.ga.gov
Todd Sumpton	GDOT/D-1 Traffic Oper.	770-532-5532	tsumpton@dot.ga.gov
William B. whitecotton	GDOT/D-1 R/W	770-532-5546	bwhitecotton@dot.ga.gov
Stephen Sander	GDOT/D-1/Traffic	770-535-5759	ssander@dot.ga.gov
Jason Dykes	GDOT/D-1/AAE	770-535-5759	jdykes@dot.ga.gov
Brandon Kirby	GDOT/Construction	770-718-5029	bkirby@dot.ga.gov
Steve Mathews	GDOT/Engineering Services	404-631-1769	smathews@dot.ga.gov
Darrell Pyeatt	GDOT/D-1 /Utilities	770-718-5031	dpyeatt@dot.ga.gov
Billy Cantrell	GDOT/D-1	770-532-5530	bcntrell@dot.ga.gov
Ken Wero	GDOT/Traffic Oper.	404-635-8144	kwero@dot.ga.gov
Phil Sutton	Hall County	770-535-8295	psutton@hallcounty.org
Billy Powell	Hall County	770-535-8288	bpowell@hallcounty.org
Jody Woodall	Hall County	770-531-6800	jwoodall@hallcounty.org
Kevin McInturff	Hall County	770-531-6800	kmcinturff@hallcounty.org
Scott Puckett	Hall County-Traffic Eng.	770-531-6800	spuckett@hallcounty.org
Matt Tarver	City of Gainesville	770-538-4977	mtarver@gainesville.org
Tommy Evans	Jackson EMC	770-538-2507	tevans@jacksonemc.com
Todd Devos	Wolverton/Traffic	770-447-8999	todd.devos@wolverton-assoc.com
Wendy Dyson	PBSJ/Environment	770-933-0280	wedyson@pbsj.com
Christen Vickery	PBSJ/Environmental	770-933-0280	csvickery@pbsj.com
Garrick Edwards	J. B. Trimble, Inc.	404-925-8385	Garrick.edwards@hatchmott.com
Renard Johnson	R. K. SHAH & ASSOC.	770-436-5070	renard.johnson@rkshah.com
Raju K. Shah	R. K .SHAH & ASSOC.	770-436-5070	Raju.shah@rkshah.com

Notes prepared by: Raju K. Shah
Date: November 12, 2008
File: PI 0000425 Minutes of Meeting: October 30, 2008

R. K. SHAH & ASSOCIATES, INC.
1280 Winchester Parkway, Suite 240
Smyrna, Georgia, 30080
Phone: 770-831-1640 Fax: 770-436-5410

MINUTES OF MEETING

The following items were discussed and agreed upon at the meeting. Please notify the note preparer, if your understanding differs.

(Action Items in Bold)

Ms. Vinesha C. Pegram of GDOT/Program Delivery, Project Manager for this project, welcomed the attendees to the Concept Team Meeting, and asked attendees to introduce themselves and their participation.

At the conclusion of the attendee introduction Ms. Pegram, asked Raju Shah of R. K .SHAH & ASSOCIATES, INC, Consultant for the project to address "Agenda Items" for this meeting.

Mr. Shah discussed each of the "Agenda Items" in the following order:

Project Identification: A new Diamond Interchange on I-985 north of SR 13 crossover near Martin Road between Exit # 12 and Exit # 16

Need and Purpose Statement: The proposed new interchange will provide improved access to a rapidly growing industrial area along I-985 between the City of Flowery Branch and the City of Oakwood and its vicinity. Further this project will provide alternative direct connection between McEver Road on the west of I-985 to SR 13 and SR 53 on the east of I-985. Also this new interchange will divert traffic off of Exit 12 and Exit 16.

Proposed Project Description: This project will provide a new diamond interchange on I-985 between Exit # 12 (Spout springs road/City of Flowery Branch) and Exit 16 (S. R. 53/City of Oakwood). A four lane divided with variable width (24 ft.-32 ft.) raised median and 16 ft. urban shoulder roadway, Marin Road Extension (New Industrial Connector Road) on a new location will connect H. F. Reed Industrial Road on west end at Thurman Tanner Road with Martin Road at SR 13 (Falcon Parkway) on the east end.

The New Industrial Connector Road will cross over I-985 with a 212 ft long by 98.42 ft wide bridge. SB Entrance/Exit Ramps and NB Entrance/Exit Ramps will be separated by 1000 ft. +/-. Entrance and Exit Ramps will be Taper Type per GDOT details.

As a part of this project, Thurman Tanner Road will be improved to provide Dual Left Turn Lanes for southbound traffic turning east.

As a part of this project, SR 13 (Falcon Parkway) will be improved to 4 lane divided with 20 ft. raised and 16 ft. urban shoulder roadway at the Martin Road Intersection.

H. F. Reed Industrial Road and Martin Road will be widened to provide for transition from Four Lane Divided Martin Road Extension (New Industrial connector Road) to the existing two lane roadways.

No Improvements on I-985 are planned for under this project.

Functional Classification: Urban Minor Arterial –Martin Road Extension and Principal Rural Freeway-I-985

Traffic Projection: Current Year (2012): 12,840 Design Year (2032): 21,670

Existing and Proposed Design Feature:

Existing:

I-985

Posted Speed: 70 mph
Typical Section: 4 lane divided with 64 ft. depressed grassed median and rural shoulder.
Right of Way: 300 ft. Limited Access.

Thurman Tanner Road

Posted Speed: 45 mph
Typical Section: 4 lane divided with 20 ft. raised median and urban shoulder.
Right of Way: 80 ft.- Control Access.

SR 13 (Falcon Parkway)

Posted Speed: 45 mph
Typical Section: 2 lane undivided and rural shoulder.
Right of Way: 80 ft. - Control Access.

Martin Road

Posted Speed: 45 mph
Typical Section: 2 lane divided with 12 ft. flush median and urban shoulder on the south side and a rural shoulder on the north side.
Right of Way: 80 ft. – Control Access.

New Industrial Connector Road (Martin Road)

Posted Speed: N/A-New Location
Typical Section: N/A-New Location
Right of Way: N/A-New Location.

Proposed Design Feature:

I-985

Posted Speed: 70 mph
Typical Section: N/A- No improvements on I-985
Right of Way: 300 ft. - Limited Access.

Entrance and Exit Ramps

Posted Speed: 60 mph at Ramp termini.
Typical Section: minimum 16 ft travel way, 14 ft. outside shoulder (12 ft. Paved and 2 ft. graded) and 6 ft. inside shoulder (4ft. paved and 2 ft. graded).
Right of Way: Minimum 50 ft. or as needed for construction and maintenance of slope and drainage structure.- Limited Access.

Thurman Tanner Road

Posted Speed: 45 mph
Typical Section: 4 lane divided with variable width (20 ft. minimum) raised median to accommodate dual left turn lanes and urban shoulder.
Right of Way: Minimum 120 ft or as needed for construction and maintenance of slope and drainage structure.- Control Access.

SR 13 (Falcon Parkway)

Posted Speed: 45 mph
Typical Section: 4 lane divided with variable width (20 ft. minimum) raised median to accommodate dual left turn lanes and urban shoulder.
Right of Way: Minimum 120 ft. or as needed for construction and maintenance of slope and drainage structure. - Control Access.

Martin Road

Posted Speed: 45 mph
Typical Section: 2 lane divided with variable width (20 ft. minimum) raised median to accommodate left turn lanes and urban shoulder.
Right of Way: Minimum 120 ft. or as needed for construction and maintenance of slope and drainage structure.- Control Access.

New Industrial Connector Road (Martin Road)

Posted Speed: 45 mph.
Typical Section: 4 lane divided with variable width (24 ft. minimum) raised median to accommodate dual left turn lanes and 16 ft. urban shoulder.
Right of Way: Minimum 120 ft. or as needed for construction and maintenance of slope and drainage structure.- Limited Access.

Traffic Control: New traffic signal will be install at Thurman Tanner Parkway @ H. F. Reed Industrial Parkway, Martin Road Extension(New Industrial connector Road) @ SB Exit and SB Entrance Ramps, and Martin Road Extension (New Industrial Connector Road) @ NB Exit and Entrance Ramp Intersections. Existing Traffic Signal at SR 13 (Falcon Parkway) @ Martin Road will be upgraded.

Alternate Considered and Reason for Rejection: Three Alternative alignment were considered for the Connection between Thurman Tanner Road @ H.F. Reed Industrial Parkway on west side of I-985 and SR 13 (Falcon Parkway) @ Martin Road. All three alternates were rejected because they provided less than desirable angle of intersection (70 degree to 80 degree) skew bridge angle over I-985, and the bridge would also be on a Horizontal curve. Also all three alternates were impacting a private detention pond located in the southwest quadrant. One additional alternative alignment is under review by the Department.

Preferred Concept Alternate:

This project will provide a new diamond interchange on I-985 between Exit # 12 (Spout springs road/City of Flowery Branch) and Exit 16(S. R. 53/City of Oakwood). A four lane divided with variable width (24 ft.-32 ft.) raised median and 16 ft. urban shoulder roadway (New Industrial Connector Road) on a new location will connect H. F. Reed Industrial Road on west end at Thurman Tanner Road with Martin Road at SR 13 (Falcon Parkway) on the east end.

The New Industrial Connector Road will cross over I-985 with a 320 ft long by 100 ft wide bridge. SB Entrance/Exit Ramps and NB Entrance/Exit Ramps will be separated by 1000 ft. +/-. Entrance and Exit Ramps will be Taper Type per GDOT details.

As a part of this project, Thurman Tanner Road will be improved to provide Dual Left Turn Lanes for southbound traffic turning east.

As a part of this project, SR 13 (Falcon Parkway) will be improved to 4 lane divided with 20 ft. raised and 16 ft. urban shoulder roadway at the Martin Road Intersection. Further as part

of project, Dual Left Turn Lanes for north bound traffic turning west will be provided on SR 13.

H. F. Reed Industrial Road and Martin Road will be widened to provide for transition from Four Lane Divided New Industrial connector Road to the existing two lane roadways.

No Improvements on I-985 are planned for under this project.

Right of Way Displacements and Relocation: Total of 30 (+/-) parcel of land will be impacted. No Residential, commercial or Industrial Displacement/Relocation are anticipated.

Major Structure:
212 ft. long and 98.42 ft. ft. wide bridge over I-985 on Martin Road Extension.
108 ft. long and 98.42 ft. wide bridge over Stream # 15 on Martin Road Extension
90 ft. long and 43.25 ft. wide bridge over Stream # 14 on Ramp 'B'
125 ft. long and 43.25 ft. wide bridge over Stream # 16 on Ramp 'C'
65 LF- 26 ft. Span and 6 ft-9 in. rise Bottomless Culvert over stream # 19 on Ramp 'D'

Staging and Maintenance of Traffic: No off site Detour will be required. All construction will occur under traffic. All lanes of traffic will be maintained at all times.

Design variance and Exception: None anticipated, however will check with Engineering Services for less than required cross slope at intersections.

Environmental Concerns/Level of Environmental Analysis:

Stream: There are **16** (sixteen) streams within the project limit (7 Perennial, 5 Intermittent and 4 Ephemeral). Two streams (1 Perennial and 1 intermittent stream) out of sixteen will not be impacted.

Wetlands: There are four separate Wetland area within the project limit. Some impact on Wetlands is anticipated. Area of Impact is not computed.

Pond: There is one private pond near the project. No impact is anticipated.

Parkland: None

Potential Historical properties and archeological sites: No Historical Property within project limits. Archeological survey will start upon selection of Alignment.

Cemeteries: Two Cemeteries are located north of Martin Road on SR 13(Falcon Parkway). May require slope easements.-No permit required.

Potential Hazardous Waste sites: None anticipated.

Underground storage tank sites: None anticipated

Environmental Assessment (EA) is anticipated for the project.

Utility: Subsurface Utility Engineering (SUE) Services is part of the project. Level "D" is completed. One overhead and one underground power line will be impacted. One 4" gas line will be impacted.

Coordination:
Early Coordination Public Information Open House held on August 16, 2007 at Martin Elementary School.

Local Government Meeting: None so far.

FHWA Meeting: Two meetings.
GDOT: Several meetings with GDOT/OCD

Other Project in the Area: I-985/SR 53 Interchange (Exit # 16) is under reconstruction. Extension of Thurmond Tanner Parkway from current terminus to SR 13 at north end project is scheduled to let to construction in October 2008

Project Development Schedule: Right of Way-2010 Construction- Long Range

Comments form Attendees:

LOCAL GOVERNMENTS

Mr. Phil Sutton of Hall County requested expedited project schedule rather than long range for construction. The Department stated that it will depend upon availability of funding.

Mr. Billy Powell of Hall County requested need for median openings on Martin Road Extension between I-985 and SR 13. The Department stated that based upon current Limited Access type of right of way as shown on display. Median opening will be not be possible.

Hall County requested addition of Traffic Signal at Martin Road and Martin Elementary School Driveway east of SR 13. The Department stated that Traffic Engineering study needs to be performed in order to establish need for the new traffic signal.

No further comments from Mr. Powell, Mr. McInturfe, Mr. Woodall, Mr. Tarver, and Mr. Puckett.

Engineering Services: Engineering Services requested reducing the outside shoulder width on ramps to meet AASHTO criteria.

Office of Financial Managment: Financial Management was not represented at the meeting.

Traffic Safety and Design: GDOT/D-1 TS&D stated that Traffic Engineering Study will require for three new proposed traffic signals. No inter connection of Traffic Signals will required under this project. Further it was requested to review need of proposed Dual Left Lane on eastbound Martin Road Extension at SR 13. Add Preformed Plastic and 8 inch Constrat Stripping to Cost Estimate

ENVIRONMENTAL/Location: Environmental/Location was not represented at the meeting.

Office of Planning: Office of Planning was not represented at the meeting.

District Office: Mr. Russell McMurry/Mr.Robert Mahoney stated followings:

1. Needs to reduce limit of Limited Access on Martin Road Extension.
   The consultant responded that Limited Access on Martin Road Extension was requested by the FHWA.

2. Need to reduce Span of Bridge over I-985. Bridge abutment can be located at 2 ft. from usable shoulder on Main Line I-985. The consultant stated that, they will contact Bridge Design Office for required clearance for Bridge Bent/Abutment from Edge of Pavement.

3. Need to study Full Access to Fire Station from SR 13. The Consultant stated that driveway to Fire Station is very close to intersection.

4. SR 13 is on State Bike Route. Need to revise typical section for SR 13.

5. Reduce scope of work on H.F. Reed Parkway, if feasible. The consultant stated that improvement as shown will accommodate future four lanes divided urban section. The consultant will request meeting with GDOT/D-1 to determine needed improvement on H. F. Industrial Parkway.

6. Show proposed retaining wall on Concept Plans. The consultant stated that retaining wall location will be shown on concept display.

7. Need to add future I-985 HOV lane project in the text of Concept Report.

RIGHT OF WAY: No comment.

UTILITY: No comment.

Other Comments or Concern-Open discussion:

Local Government would like to see this project in the Department's Six Year Program or sooner.

There was an over all appreciation for the amount of information presented at the meeting at this stage of the Plan Development Process.

Since there was not further comment and/or discussion, Ms. Pegram thanked every one for attending the meeting, and asked that any further comment be submitted by November 14, 2008. She then declared the meeting adjourned.

FHWA: Ms. Latoya Johnson of FHWA stated the followings:

1. She will investigate and advise required limit of Limited Access.
2. She will investigate and advise if Interchange Justification Report approved in 2000 will require validation or not.

Comments received after the meeting and response:

1. Comments were received from Office of Financial Management via E-Mail advising to change signature title to " Financial Management Administrator". Further E-mail stated that:

PE	2001 (Authorized)
ROW	2010 (earmark)
ROW	LR
CST	LR

Action Items:

1. The consultant to contact Bridge Design Office for required clearance for Bridge Bent/Abutment from Edge of Pavement.

2. The Consultant to revise typical section for SR 13 to include Bike Lane.

3. The consultant to request meeting with GDOT/D-1 to determine needed improvement on H. F. Industrial Parkway.

4. The consultant to delineate retaining wall locations on concept display.

5. FHWA will investigate and advise required limit of Limited Access.

6. FHWA will investigate and advise if Interchange Justification Report approved in 2000 will require validation or not.

ATTACHMENT 8

- PUBLIC INFORMATION OPEN HOUSE SYNOPSIS

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 0000425 OFFICE Environmental/Location

GSB/tc DATE August 20, 2007

FROM: Glenn S. Bowman, P.E., State Environmental/Location Engineer

TO: Distribution Below

SUBJECT: PUBLIC INFORMATION OPEN HOUSE SYNOPSIS

PROJECT No. & COUNTY: NHS-0000-00(425)

PROJECT DESCRIPTION: A New Interchange on I-985 North of SR 13 Crossover Near Martin Road (Between Exit#12 and Exit #16)

DATE: ~~August 17, 2007~~ AUGUST 16, 2007 RLH

NUMBER IN ATTENDANCE: 126

FOR: 12

CONDITIONAL: 2

UNCOMMITTED: 2

AGAINST: 7

OFFICIALS IN ATTENDANCE: Bill Andrew, City of Flowery Branch
Diane Hirling, City of Flowery Branch
Stan Brown, City of Oakwood
Jason Spencer, City of Oakwood

ADDITIONAL COMMENTS: The comments from those against the project relate to the increased traffic resulting from the project, and the belief that it is unnecessary to create an additional exit between exits 12 and 16 on I-985 in Hall County.

PREPARED BY: Christen Vickery, PBS&J for Melanie Nable, GDOT OEL

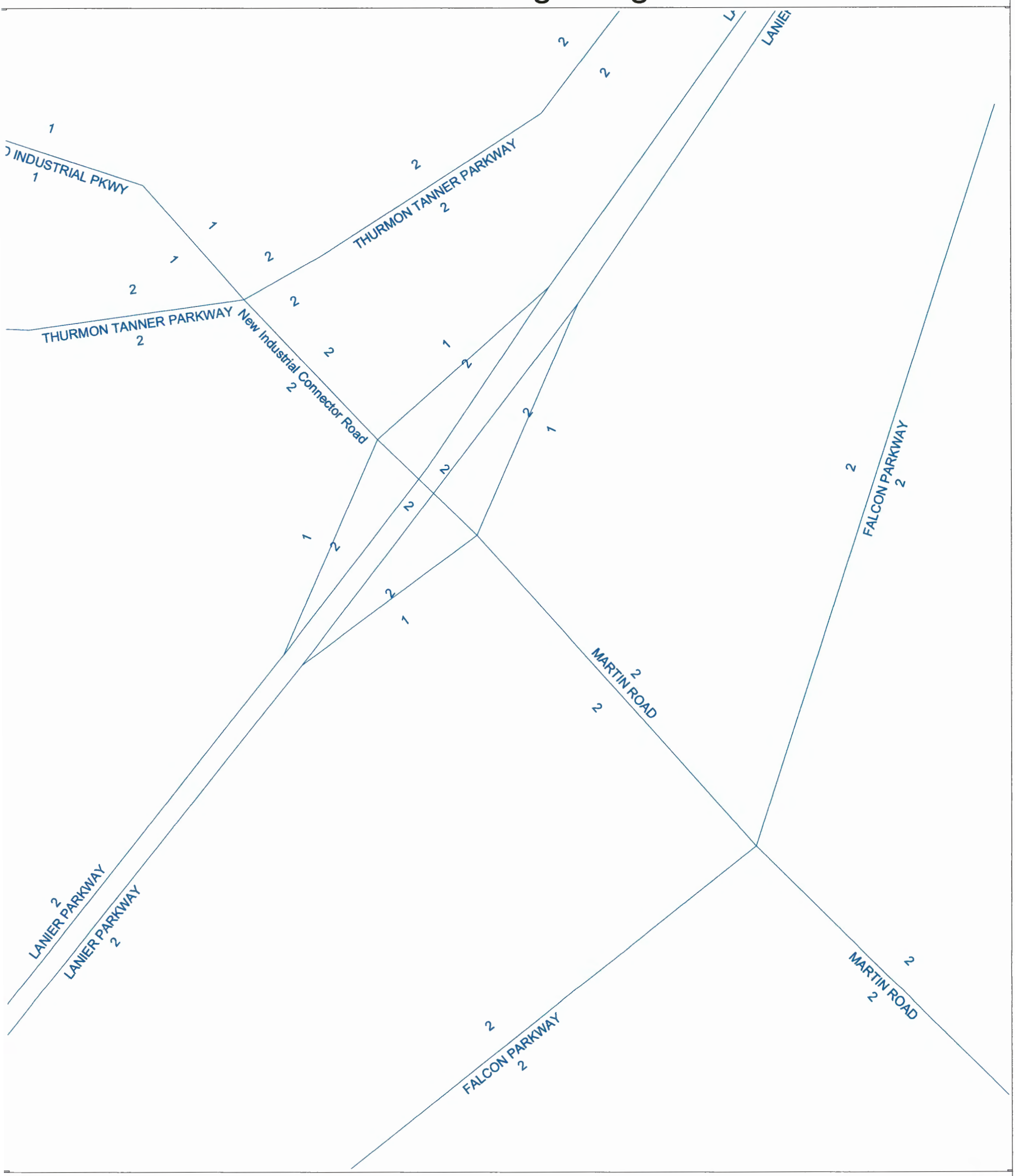
TELEPHONE No.: (404) 699-4432 (Melanie Nable)

cc: David E. Studstill, Jr., P.E.
Russell McMurry
Neil A. Kantner, P.E.
Teri Pope
Keisha Jackson
Jonathan Cox
Vinesha Pegram, P.E.

ATTACHMENT 9

- CONFORMING PLAN'S NETWORK SCHEMATIC SHOWING THROUGH LANES

Network Schematic for New Interchange- Hall County
GHMPO 2040 Long Range Model



ATTACHMENT 10

- RESPONSES TO FHWA REVIEW COMMENTS

Vance C. Smith, Jr. Commissioner

DEPARTMENT OF TRANSPORTATION

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

August 30, 2010

NHS00-0000-00(425), Hall County
P.I. No. 0000425
I-985 New Interchange N of SR 13 Crossover Near Martin Road

Mr. Rodney Barry
Georgia Division Director
61 Forsyth Street, Suite 17 T100
Atlanta, GA 30303

Dear Mr. Barry:

This office has reviewed your comments made on October 02, 2009 regarding the Concept Report and the Interchange Justification Report (IJR) for the above referenced project. The Department offers the following responses to your comments in bold italics.

Concept Report Comments

1. Page 4, Planning Background and Project History: According to the Gainesville-Hall LRTP, the project has an open to traffic date of 2015. This is inconsistent with the build year of 2012 used in the concept report.

   The traffic volumes and analyses will be updated, for 2015 and 2035, in the resubmitted concept report.

2. Page 8, Logical Termini: Based on the information in Table 1, there will be a traffic increase on H.F. Reed Industrial Parkway, Thurmond Tanner Road and Martin Road. However, the level of service (LOS) information for points beyond the project limits is not provided. Please disclose the existing typical sections, build and no-build AADT, and LOS for these roadways and adjacent roadways.

   Currently, the termini of the side streets are established by the length necessary to transition from the proposed mainline to the existing roadway sections along the side streets. The level of service will be analyzed beyond the project limits.

   As for the typical section of existing roadway, this is provided in the Concept Report under "Existing Design Feature".

   The typical sections, build and no build AADT, and LOS for the roadways beyond the project limits will be included in the updated concept report.

3. Page 12, Table 5: The accident data should be updated. Please clarify that these are accident rates for the corridor. Also, show historical number of accidents and fatalities. What types of accidents are most common at this location? Are there any safety issues that can be addressed with this project?

The crash history and types of crashes including the number of fatalities will be included in the updated concept report.

Accident data is not available for this interchange, as this is on new location. Information will be provided for the side roads in the concept report.

No safety issues are foreseen, other than the SR 13 at Martin Road intersection being above the statewide average. Information regarding SR 13 at Martin Road will be provided in the updated concept report.

4. Page 13: Why are bike lanes not included on Martin Road Extension/New Industrial Connector Road? Do bike trails currently exist or are there any plans for bike trails on the west side of I-985? If so, how do they connect with the bike lanes along SR13?

   There are no existing bike trails within project limits.

   The Gainesville Hall County Metropolitan Planning Organization's (GHMPO) bike and pedestrian plan, adopted in 2006, does not recommend bicycle facilities along Martin Road Extension/New H.F. Reed Industrial Connector in the GHMPO Plans.

   The concept will be updated to provide for bike lanes on H. F. Reed Industrial Parkway, Martin Road and S.R. 13 (Falcon Parkway) within the project limit.

5. Page 18: Provide more detail about traffic control during construction. Discuss whether a Transportation Management Plan (TMP) will be needed.

   A new bridge over I-985 will require construction of center bent within existing 64 ft. depressed median of I-985. Since this project is not within identified Transportation Management Area (TMA), required traffic control to construct center pier within existing 64 ft. depressed grassed median and install prestressed Concrete Beams over I-985 Northbound and Southbound lanes can be addressed by Special Provision 150 "Traffic Control" hence no Transportation Management Plan (TMP) required.

   Our determination is based upon the "Appendix C-Significant Project Flow Chart" of TOPPS-5240-1 (Work Zone Safety and Mobility and concurred by the GDOT/D-1/Area 1 Office.

6. Attachment 4: It is very difficult to read the traffic diagrams. What is the anticipated percentage of truck traffic using the new interchange? Since this is an industrial area and heavy truck traffic is expected, it should be noted in the concept report.

   More legible traffic diagram will be provided. 24 HR Truck percentage is 8 %. As a part of Concept Report, attachment 4 shows this information.

7. Currently, there is cable barrier in the median of I-985. This should be reflected in the existing design features for I-985. Although a portion of the cable barrier will be removed to accommodate the construction of the bridge over I-985, as much cable barrier as needed should be retained in the proposed design for this portion of the project. Some cable barrier quantities may need to be added to the estimate.

   The existing design feature for I-985 will be revised to include Cable Barrier. We will add the required Cable Barrier quantity to the cost estimate.

Interchange Justification Report Comments

1. The IJR should read as a stand alone document, i.e. independent of the concept report or environmental document.

   The Office of Planning is currently undertaking an Interchange Justification Report Update for this project. As part of the update, the IJR will read as a stand-alone document.

2. Page 13 and 20: GDOT TOPPS Policy 3140-1 is referenced in the document, but it is not listed on the GDOT website. Is this TOPPS Policy still valid? Explain the significance or location of SR347 and SR60 with respect to the project.

   TOPPS 3140-1 is still valid; the policy was being updated at the time of the previous iteration of the IJR. SR 347 and SR 60 will be considered as part of the ongoing IJR update.

3. Page 19: Explain why this updated IJR does not indicate a need to widen I-985. Was this based on the updated traffic analysis?

   Travel conditions on I-985 will be considered as part of the IJR update, including traffic analysis and current transportation plans in the area.

4. Page 20 Policy A: Please discuss in more detail any projects that have been let to construction or completed to improve access in the project area, i.e. reconstruction of I-985 at SR53 and widening of Thurmond Tanner Parkway. Discuss any evidence that shows that despite these improvements, interstate access is still an issue in the area.
   Projects that have been let to construction or completed, including the reconstruction of I-985 at SR 53 and the widening of Thurmond Tanner Parkway, will be considered as part of the forthcoming IJR update. Policy A will be revisited utilizing the most up-to-date information available to examine if interstate access is still an issue in the area.

5. Page 20 Policy B: Are there any plans to provide any park and ride lots at the proposed interchange? Are HOV lanes being considered along this corridor of I-985? If so, can the proposed interchange accommodate these lanes?

As part of the IJR update, Policy B will be revisited to include analysis of any potential plans of park and ride lots, HOV lanes, other managed lanes, etc. This information will be examined with respect to providing new access in the area.

6. Page 21 Policy C: Discuss what software was used to perform traffic analyses. Also, please provide electronic copies of the simulation model files used to assess freeway conditions, i.e. CORSIM, SYNCHRO, and HCS files. Include any assumptions made in modeling the project area. Discuss the results of the safety and operational analysis. Does the analysis include at least one exit to the north and south of the proposed interchange? Are there any areas where queue lengths or freeway LOS sections are of concern? It is stated that "a weave analysis is not required" for this interchange, please reference the thresholds and document that justifies this statement.

   Electronic copies of all the simulations files and traffic analyses (CORSIM, SYNCHRO, HCS) performed will be included with the IJR update. This documentation will include any assumptions made as part of the analysis. The safety and operational analyses will be updated and results discussed. Potential queuing, weaving area, etc. will be examined and analyzed with the update. Analyses will be performed in the IJR for at least one exit upstream and downstream of the proposed interchange.

7. Page 21 Policy E: Mention or reference some of the planned improvements in the vicinity.

   A table of planned/programmed will be included with the IJR update and shall be considered within the modeling and analysis work.

8. Page 22 Policy H: Ensure that the number of streams and wetlands within the project area are consistent throughout the IJR and concept report.

   A preliminary environmental screening will be included with the IJR update and consistency will be ensured throughout the updated IJR and concept report.

If you have any questions, please contact Vinesha C. Pegram at (404) 631-1587.

Sincerely,

Bobby K. Hilliard, P.E.
State Program Delivery Engineer

S.H.
BKH:SH: VCP
cc: Genetha Rice-Singleton, Director of Program Control
Brent Story, State Design Policy Engineer

ATTACHMENT 11

- CONCURRENCE LETTER FOR EXCLUSION OF TRANSPORTATION MANAGEMENT PLAN

R.K. SHAH & ASSOCIATES, INC.

• ENGINEERS •
TRANSPORTATION / SITE / CIVIL

ESTABLISHED 1988

June 28, 2010

Raju (Rajendrakumar) K. Shah, P.E.

Mr. Thomas B. Howell, P.E.
State Construction Engineer
Georgia Department of Transportation
One Georgia Center,
600, West Peachtree Street, N.W.
Atlanta, Georgia 30308

RE: I-985 New Interchange North of SR 13 Crossover Near Martin Road
Project # NHS000-0000-00(425) Hall, P.I. # 0000425

SUB: Transportation Management Plan.

Dear Mr. Howell:

In order to respond to Federal Highway Administration (FHWA) review comment no. 5 dated October 02, 2009 on "Draft Concept Report" which states that provide more detail about traffic control during construction. Further comment states that discuss whether a Transportation Management Plan (TMP) will be needed.

We are seeking your concurrence of our determination that Transportation Management Plan is not required for this project.

This project is to construct a new interchange on I-985 north of SR 13 crossover near Martin Road. A new bridge over I-985 will require construction of center bent within existing 64 ft. depressed median of I-985. Since this project is not within identified Transportation Management Area (TMA) required traffic control to construct center pier within existing 64 ft. depressed grassed median and install prestressed Concrete Beams over I-985 Northbound and Southbound lanes can be addressed by Special Provision 150 "Traffic Control" hence no Transportation Management Plan (TMP) required.

Our determination is based upon the "Appendix C-Significant Project Flow Chart" of TOPPS-5240-1 (Work Zone Safety and Mobility).

Please let me know, if you need any additional information/Clarification.

Yours very truly,
R. K. SHAH & ASSOCIATES, INC.

Raju (Rajendrakumar) K. Shah, P.E.
Project Manager

Concurred
Thomas B. Howell, P.E.
~~State Construction Engineer~~
Director of Construction Division

CC: Stanley Hill, P.E., Transportation Engineer Assistant Administrator, Office of Program Delivery
Vinesha C. Pegram, P.E. ,P.M.-Office of Program Delivery

1280 WINCHESTER PARKWAY • SUITE 240 • ATLANTA, (SMYRNA) GEORGIA 30080
TELEPHONE: 770/436-5070 • FAX: 770/436-5410
EMAIL: RAJU.SHAH@RKSHAH.COM • WEBSITE: WWW.RKSHAH.COM

ATTACHMENT 12

- IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: NHS00-0000-00(425) Hall
CSNHS-0008-00(796)(797)
P.I. Nos.: 0000425/0008796/0008797
I-985 New Interchange north of SR 113

OFFICE: Engineering Services

DATE: September 23, 2010

FROM: Ronald E. Wishon, State Project Review Engineer KEW

TO: Bobby K. Hilliard, PE, State Program Delivery Engineer
Attn.: Vinesha Pegram

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

The VE Study for the above projects was held February 1-4, 2010. Responses were received on August 13, 2010. 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-3	Reduce the size of the PSC beams on Bridges #1 and #2 to simplify construction and reduce the height of the roadway	$179,000	No	The Bridge Office has indicated that there is insufficient information to determine which option is more efficient and it is too early in the design process to make this design decision. If it is determined at a later date that this recommendation is viable, it will be implemented.
A-9	Replace Bridge #1 with a triple 8 ft x 8 ft concrete box culvert	$566,000	No	Providing the triple box culvert will cost $852,235, increase the stream impacts, require an Individual Permit, and require a PAR. This could delay the project by 18 months and would incur an additional $75,000 in design fees.
B-5	Shift the NB off-ramp and NB on-ramp 200 feet to save ROW	$1,549,000	No	Shifting the ramps would reduce the left turn storage for EB Martin Road Extension to 100 ft which does not meet the minimum requirements in the traffic study.

C-1	Use full depth asphalt pavement in lieu of PC concrete pavement to construct the interchange ramps	$1,026,000	No	According to the life cycle cost analysis provided by OMR, PCC pavement is more economical.
C-2	Use asphalt pavement for the ramp shoulders in lieu of PC concrete shoulders	$857,000	No	According to the life cycle cost analysis provided by OMR, PCC pavement is more economical.
C-2.1	Reduce the width of the right PC concrete ramp shoulder from 10 ft to 6 ft	$381,000	No	The minimum outside shoulder width allowed by AASHTO is between 8 and 12 ft.
C-2.2	Reduce the width of the right ramp shoulder from 10 ft to 6 ft and construct the shoulder with full depth asphalt instead of PC concrete	$993,000	No	The minimum outside shoulder width allowed by AASHTO is between 8 and 12 ft. According to the life cycle cost analysis provided by OMR, PCC pavement is more economical.
F-1	Construct Bridge #4 on a skew instead of rectangular to reduce the deck area and use smaller beams	$201,000	No	The Bridge Office has indicated that there is insufficient information to determine which beam size is more efficient and it is too early in the design process to make this design decision. If it is determined at a later date that this recommendation is viable, it will be implemented. Providing a skewed bridge would increase impacts to wetland No. 18 by 2400 sq. ft.; therefore, the bridge will not be skewed.
F-1.1	Replace Bridge #4 with a double 8 ft x 8 ft concrete box culvert	$677,000	No	The Office of Environmental Services does not recommend implementation since the installation of the double box culvert would increase the project stream impacts.
M-1	Construct Bridge #3 on a skew instead of rectangular to reduce deck area and use smaller beams	$125,000	No	The Bridge Office has indicated that there is insufficient information to determine which beam size is more efficient and it is too early in the design process to make this design decision. If it is determined at a later date that this recommendation is viable, it will be implemented. Providing a skewed bridge would increase impacts to wetland No. 11 by 600 sq. ft.; therefore, the bridge will not be skewed.

M-1.1	Replace Bridge #3 with a double 8 ft x 8 ft concrete box culvert	$197,000	No	The Office of Environmental Services does not recommend implementation since the installation of the double box culvert would increase the project stream impacts.
O-1	Eliminate the concrete sidewalks throughout the entire project	$323,000	No	FHWA has requested that sidewalks remain throughout the entire project.
O-1.1	Construct sidewalks on only one side of the roadways throughout the entire project	$162,000	No	FHWA has requested that sidewalks remain throughout the entire project.
R-1	Replace the bottomless culvert over Stream #19 on the NB on-ramp with a standard 6 ft x 6 ft concrete box culvert	$109,000	No	Providing a standard 6 x6 box culvert will cost $54,921 and increase the perennial and intermittent stream impacts. Stream impacts of 1,500 LF would require an Individual Permit; total impacts would be 1,391 LF if the recommendation was implemented.
X-1	Reduce the shoulder width to 12 ft on the Martin Road extension	$188,000	Yes	This will be done.
X-4	Eliminate the dual bike lanes on SR 13 and East Martin Road and provide a multi-use trail on the east side of SR 13	$65,000	No	SR 13 is on a state bike route.
X-5	End the reconstruction of the HF Reed Industrial Parkway at Sta. 99+00	$386,000	No	The outside WB turn lane must be dropped at West White Road at Sta. 88+63. West White Road serves an industrial area and dropping the turn lane at this location helps to facilitate the position of the signage along HF Reed Parkway.

X-6	Reduce the median width by 4 ft on the Martin Road extension.	$336,000	No	There are three horizontal curves between Thurmond Tanner Parkway and SR 13 (Falcon Parkway). Part of the roadway drains toward the median. The proposed 8 ft median provides for 2 ft wide gutter on each side of the 4 ft wide raised median. The 4 ft median proposed by the VE Team would not provide for the required gutter to drain the roadway.
X-7	Construct 11 ft lanes in lieu of 12 ft lanes along the Martin Road extension between Thurmon Pkwy and SR 13	$344,000	No	Martin Road Extension is an Urban Area Type Be roadway, on new location. Estimated traffic volume for Open Year (2012) is 12,840 ADT and Design Year (2032) 21,670 ADT. Truck traffic is estimated at 8%.
X-10	Reduce the length of the turn lane storage areas to lengths shown in the traffic study report	$331,000	No	The turn lane storage lengths have been designed as required by the approved Traffic Study.
X-12	Reduce ROW acquisition and use temporary slope easements where possible	$613,000	No	Due to the topography of the project site, drainage ditches are required on 1600 ft of the north side and 500 ft of the south side of the proposed roadway. The required ROW cannot be converted to easement in these areas.

The Office of Engineering Services concurs with the Project Manager's responses.

Kendra Bunker with FHWA concurred with the responses on September 1, 2010.

Angel Correa, PE with FHWA requested that Alternate O-1 be changed from a "Partial Yes" to a "No" on September 20, 2010.

The Project Manager submitted revised responses on September 23, 2010.

Approved: _____ **Date:** 9/27/10
Gerald M. Ross, PE, Chief Engineer

Approved: _____ **Date:** 9/27/2010
for Rodney Barry, PE, FHWA Division Administrator

REW/LLM
Attachments
c: Angel Correa/Kendra Bunker - FHWA
Ben Buchan
Bobby Hilliard/Stanley Hill/Vinesha Pegram
Paul Liles/Bill Duvall/Bill Ingalsbe/Stanley Kim
Emmanuella Myrthil
Randy Davis
Nabil Raad
Lisa Myers
Matt Sanders

ATTACHMENT 13

- INTERCHANGE JUSTIFICATION REPORT- FHWA ACCEPTANCE LETTER

U.S. Department of Transportation
Federal Highway Administration

Georgia Division

61 Forsyth Street SW
Atlanta, Georgia 30303
404-562-3630
404-562-2703
GA.fhwa@dot.gov

May 3, 2011

In Reply Refer To:
HPE-GA

Mr. Vance C. Smith, Jr., Commissioner
Georgia Department of Transportation
One Georgia Center
600 West Peachtree
Atlanta, Georgia 30308

Dear Mr. Smith:

The IJR for the proposed interchange on I-985 near Martin Road in Hall County, PI 0000425, has been reviewed. The proposed interchange is intended to improve accessibility and traffic operations, as well as enhance emergency response and economic development in the area.

Based on FHWA's operations and engineering review, the proposed interchange is acceptable. If there are no major changes to the proposed design, final approval may be given upon completion of the NEPA process. This approval is subject to reevaluation if significant changes occur in the final design or if the construction is delayed (as specified in 23 CFR 771.129).

If you have any questions please contact Kendra Bunker at (404) 562-3644.

Sincerely,

Rodney N. Barry, P.E.
Division Administrator

Cc: Cynthia L. VanDyke, GDOT
Andrew Heath, GDOT

ATTACHMENT 14

- **LOGICAL TERMINI-MINUTES OF MEETING WITH FHWA**

R. K. SHAH & ASSOCIATES, INC.
1280 Winchester Parkway, Suite 240
Smyrna, Georgia, 30080
Phone: 770-831-1640 Fax: 770-436-5410

MINUTES OF MEETING

Project No: NHS00-0000-00(425), Hall County
P.I. # 0000425

Project Description: A new Interchange on I-985 north of SR 13 crossover near Martin Road (between Exit # 12 and Exit # 16).
Meeting Place: GDOT/Office of Environmental Compliance (OEC)

Meeting Date: December 19, 2011

Meeting Time: 9:00 AM (EST)

Re: Concept Report

Sub: To discuss Glenn Bowman comment regarding Logical Termini dated December 02, 2011

ATTENDEES	ORGANIZATION	PHONE	E-MAIL
Kelly Wade	FHWA	N/A	kelly.wade@fhwa.dot.gov
Kendra Bunker	FHWA	N/A	kendra.bunker@fhwa.dot.gov
Carla Benton-Hooks	GDOT/OEC	404-631-1415	cbenton_hooks@dot.ga.gov
Michael Murdoch	GDOT/OEC	404-631-1178	mmurdoch@dot.ga.gov
Vinesha Pegram	GDOT/OPD	404-631-1587	vpegram@dot.ga.gov
Christen Vickery	ATKIN/NEPA	770-933-0280	Christen.vickery@atkinsglobal.com
Raju K. Shah	R. K .SHAH & ASSOC.	770-436-5070	Raju.shah@rkshah.com

The following items were discussed and agreed upon at the meeting. Please notify the note preparer, if your understanding differs.
(Action Items in Bold)

Mr. Murdoch opened the meeting and asked the participants to introduce themselves.

After participant introduction Ms. Pegram provided project background information and discussed previous coordination meetings in 2007 with George Merritt of FHWA. Ms. Pegram noted that Mr. Merritt had never raised a concern regarding "Logical Termini."

Mr. Raju Shah of R. K .SHAH & ASSOCIATES, INC, Consultant for the project; presented layout and describe the project. Further Mr. Shah mentioned that Martin Road from SR 13 to SR 53 is programmed to be widened to a four lane divide roadway in Gainesville-Hall County MPO and SR 13 from to SR 53 is in the Department long range plan to widen to four lane divided roadway.

The discussion then focused on the termini issue. The participants consulted a table from the Concept Report showing LOS for segments beyond the project corridor. Ms. Wade stated

that because the project did not appear to cause LOS to degrade outside the project limits, she did not see a logical termini concern. She did express concern, however, that the opening year cited in the table (2015) might be unrealistic and that the data would need to be updated for the EA. She reserved the right to change her opinion on the termini depending on what the updated traffic and LOS data showed.

Turning to LOS estimates for the project itself, Mr. Murdoch noted that build condition LOS was F for the northbound ramp in both the opening and design years. Mr. Shah noted that this F was for left turning movements coming off the ramp from the I-985. The LOS of F was a consequence of a signal not being warranted at the ramp. He noted that a roundabout had been considered as a means of alleviating left turn delay , but was ruled out due to environmental impacts. Traffic volumes were examined, and Ms. Wade and Ms. Bunker stated that the concept report must clearly document that the ramp delay would not adversely affect operations on the interstate.

FHWA asked that the following information and revisions be incorporated in either the Concept Report and/or in the NEPA Document:

1. Add label to Martin Road and SR 53 in location map
2. Discuss why bike-lanes are not incorporated on New Industrial Connector Road (Martin road Extension).
3. NEPA document should reflect the traffic for Open Year and Design Year based upon Let Date. 2015 Open Year and 2035 Design Year traffic volume are acceptable for the Concept Report.
4. Identify Roadway Segment for which Crash Data are provided. Consider whether safety is an actual need to be addressed by this project.
5. Discus why four lane divided roadway is proposed for New Industrial Connector (Martin road Extension).
6. Provide a more thorough discussion of alternatives considered.

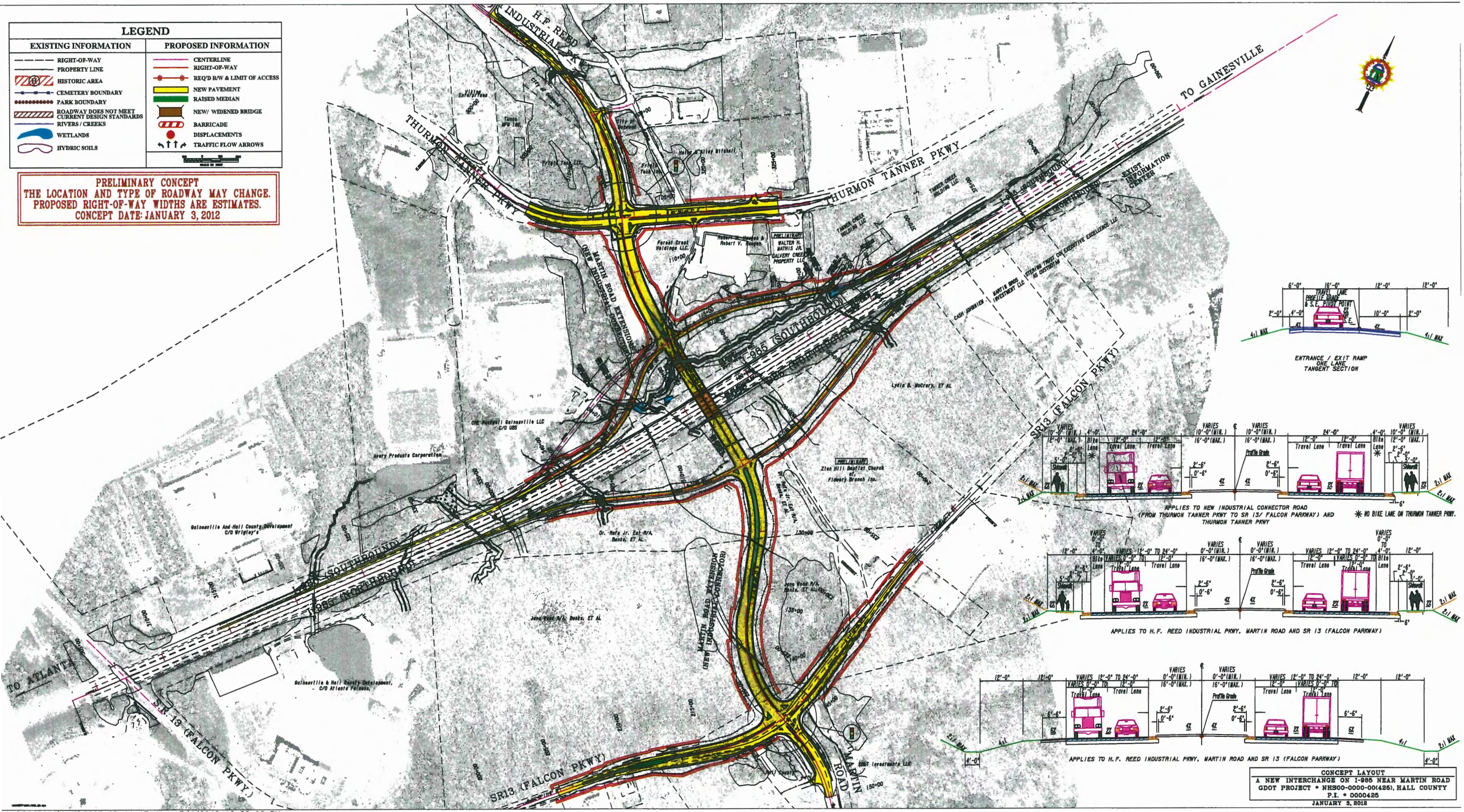
ATTACHMENT 15

- **CONCEPT LAYOUT**

LEGEND

EXISTING INFORMATION	PROPOSED INFORMATION
RIGHT-OF-WAY	CENTERLINE
PROPERTY LINE	RIGHT-OF-WAY
HISTORIC AREA	REQ'D R/W & LIMIT OF ACCESS
CEMETERY BOUNDARY	NEW PAVEMENT
PARK BOUNDARY	RAISED MEDIAN
ROADWAY DOES NOT MEET CURRENT DESIGN STANDARDS	NEW/ WIDENED BRIDGE
RIVERS / CREEKS	BARRICADE
WETLANDS	DISPLACEMENTS
HYDRIC SOILS	TRAFFIC FLOW ARROWS

PRELIMINARY CONCEPT
THE LOCATION AND TYPE OF ROADWAY MAY CHANGE.
PROPOSED RIGHT-OF-WAY WIDTHS ARE ESTIMATES.
CONCEPT DATE: JANUARY 3, 2012



CONCEPT LAYOUT
A NEW INTERCHANGE ON I-985 NEAR MARTIN ROAD
GDOT PROJECT • NHS00-0000-00(426), HALL COUNTY
P.I. • 0000425
JANUARY 3, 2012

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