ORIGINAL TO GENERAL FILES

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

OFFICE OF DESIGN POLICY & SUPPORT
INTERDEPARTMENTAL CORRESPONDENCE

FILE P.I. #762380-
NH000-0085-02(153)
Fulton County
SR 400/I-85 Interchange Connector Ramps

OFFICE Design Policy & Support

DATE June 4, 2010

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:

Genetha Rice-Singleton, Program Control Adminstrator
Ron Wishon, State Project Review Engineer
Glenn Bowman, State Environmental Administrator
Ken Thompson, Statewide Location Bureau Chief
Michael Henry, Systems & Classification Branch Chief
Keith Golden, State Traffic Operations Engineer
Angela Alexander, State Transportation Planning Administrator
Paul Liles, State Bridge Engineer
Bobby Hilliard, State Program Delivery Engineer
Angela Robinson, Financial Management Administrator
Jeff Baker, State Utilities Engineer
Johnathan Walker, District Utilities Engineer
Mike Lobdell, District Preconstruction Engineer
Bryant Poole, District Engineer
Albert Shelby, Project Manager
BOARD MEMBER - 5th Congressional District

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENTAL CORRESPONDENCE

FILE: P.I. No. 762380-, Fulton County
NH000-0085-02(153)
SR 400/I-85 Connector Ramps

OFFICE: Program Control

DATE: December 15, 2009

FROM: Genetha Rice-Singleton, Program Control Administrator

TO: Gerald M. Ross, P.E., Chief Engineer

SUBJECT: ***PROJECT CONCEPT REPORT***

This project is the reconstruction of the SR 400/I-85 interchange by providing connection ramps from SR 400 southbound to I-85 northbound and from I-85 southbound to SR 400 northbound. The total length of the project is 0.34 miles. No ramps are currently provided for southbound I-85 traffic to access northbound SR 400, or for southbound SR 400 traffic to access northbound I-85. Currently motorists must exit from I-85 and SR 400 and use surface streets (Sidney Marcus Boulevard, SR 13/Buford Highway, and Lenox Road) to transition from I-85 south to SR 400 north and from SR 400 south to I-85 north. At the time of its original construction, SR 400 traffic was forecasted to move in an almost exclusive southbound direction during the AM peak period, and in a similar northbound direction during the PM peak period. Viewed as a commuter route for northern Atlanta suburbs to downtown Atlanta, justification for connectivity to I-85 was limited based on forecasted travel demand. During the years since the completion of the interchange, traffic volumes have increased and traffic patterns have changed. As a result, conditions on the surface streets used to facilitate access to I-85 north of the interchange have deteriorated. The annual average daily traffic (AADT) along each of the facilities is as follows:

	2007	2015	2035
I-85 (north of Lenox Road)	**240,100**	**292,500**	**329,650**
SR 400 (N of Sidney Marcus Blvd)	**132,700**	**161,700**	**182,300**
Sidney Marcus Blvd	**46,400**	**54,800**	**65,700**
SR 13/Buford Highway	**51,100**	**60,300**	**72,800**
Lenox Road	**46,000**	**54,500**	**65,500**

The proposed ramps would provide vastly improved connectivity between the two regionally significant facilities. The ramps will reduce traffic on the heavily congested surface streets in the area that currently serve as the only connection from SR 400 south to I-85 and I-85 south to SR 400 north. As a result, the potential for accidents will be reduced. By providing direct connectivity, the ramps will also reduce driver indirection and delay along the surface streets which would reduce vehicle traveling distance thereby potentially reducing emissions.

The proposed construction would improve the interchange capacity by constructing two separate ramps. The first would exit I-85 southbound providing direct access to SR 400 northbound. The second would exit SR 400 southbound, cross over the mainline of I-85, then directly merge onto I-85 northbound. The proposed typical sections are as follows:

SR 400 SB to I-85 NB Ramp:
A 16' wide travel lane with a 6' inside shoulder and an 8' outside shoulder

I-85 SB to Buford Highway(SR 13)/SB/SR 400 NB Combined Ramps:
One existing 16' travel lane plus one proposed 16' travel lane with an existing tapered inside shoulder and a proposed 8' outside shoulder

I-85 SB to SR 400 NB Ramp
A 16' wide travel lane with a 4' inside shoulder and an 8' outside shoulder

The propose project will utilize stage construction, maintaining all travel lanes on SR 400 and I-85 at all times.

Environmental concerns include requiring a COE 404 permit; potentially historic properties are in the vicinity of the project limits; possible wetland impacts; An Environmental Assessment will be prepared; a Public Hearing Open House was held on February 26,2009; time saving procedures are not appropriate.

The estimated costs for this project are:

	PROPOSED	APPROVED	FUNDING	PROG DATE
Construction (includes E&C)	$ 35,724,500	$ 49,049,192	L050	2020
Right-of-way	~~$ 35,960,000~~ 1,500,000	$13,005,825	L010/L020	2016
Utilities*	$ 150,000			

*Notification needed.

I recommend this project concept be approved.

GRS: JDQ

Attachment

CONCUR _____
James B. Buchan, P.E., Director of Engineering

APPROVED * _____
Rodney A. Barry, P.E., Division Administrator FHWA
for

APPROVED _____
Gerald M. Ross, P.E., Chief Engineer

* FHWA comment:
Engineering and Operational Acceptability of the IMR has not been processed for this location. This creates a potential for discrepancies between the IMR and the Concept Report. If there is a discrepancy in the project description, the Concept Report would need to be revised to match the IMR.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Program Delivery

PROJECT CONCEPT REPORT

Project Number: NH000-0085-02(153)
County: Fulton
P. I. Number: 762380

Federal Route Number: I-85
State Route Number: S.R. 403 & S.R. 400

Description: This project is to reconstruct the interchange of SR 400/I-85 by providing connection ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound.

Recommendation for approval:

DATE 8-19-09 Albert V. Shelby III
Project Manager – Albert V. Shelby, III

DATE 8-21-09 Bobby H illiard
State Program Delivery Engineer – Bobby K. Hilliard

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

DATE 9/16/09 Angela I. Alexander
State Transportation Planning Administrator – Angela Alexander

DATE _____
State Transportation Financial Management Administrator – Angela Whitworth

DATE _____
State Environment/Location Engineer – Glenn Bowman

DATE _____
State Traffic Safety and Design Engineer – Keith Golden

DATE _____
District 7 Engineer – Rachel Brown

DATE _____
Project Review Engineer – Ron Wishon

DATE _____
State Bridge Design Engineer – Paul Liles

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Program Delivery

PROJECT CONCEPT REPORT

Project Number: NH000-0085-02(153)
County: Fulton
P. I. Number: 762380

Federal Route Number: I-85
State Route Number: S.R. 403 & S.R. 400

Description: This project is to reconstruct the interchange of SR 400/I-85 by providing connection ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound.

Recommendation for approval:

DATE 8-19-09 Albert V. Shelby III
Project Manager – Albert V. Shelby, III

DATE 8-21-09 Bobby Hilliard
State Program Delivery Engineer – Bobby K. Hilliard

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

DATE _____
State Transportation Planning Administrator – Angela Alexander

DATE _____
State Transportation Financial Management Administrator – Angela Whitworth

DATE 9/16/09 Glenn Bowman
State Environment/Location Engineer – Glenn Bowman

DATE _____
State Traffic Safety and Design Engineer – Keith Golden

DATE _____
District 7 Engineer – Rachel Brown

DATE _____
Project Review Engineer – Ron Wishon

DATE _____
State Bridge Design Engineer – Paul Liles

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: **P.I. No. 762380** **OFFICE:** Environment/Location

PROJECT No. NH000-0085-02(153) / FULTON County **DATE:** 9/16/09

SR 400/I-85 Connector Ramps

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

TO: Genetha Rice-Singleton, Assistant Director of Preconstruction

SUBJECT: **PROJECT CONCEPT REPORT REVIEW**

The Concept Report for the above project has been reviewed and appears satisfactory subject to the following comments:

1. Please note that Page 7 was blank.

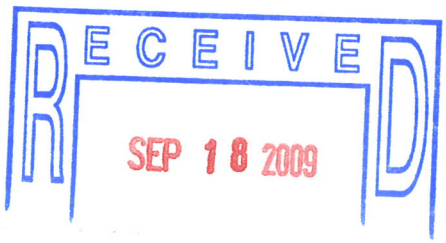
2. Please note that all direct impacts to historic resources may have been avoided, but more than likely there are several within the view shed which may be indirectly impacted. See page 8 in concept report. Numerous historic properties and two (2) NRHP historic districts are located immediately along the project corridor. If significant impacts to historic 4(f) resources cannot be avoided, then the proposed environmental schedule must be revised significantly.

3. The schedule to complete the EA in the concept report (24 months) does not match the MGT ROW authorization date in TPRO (May 2010) nor the Artemis schedule finish date for environmental (June 2010).

If you have any questions, please contact Glenn Bowman at (404) 699-4401.

GB:lc

cc: Ron Wishon
Angela Whitworth
Keith Golden
Angela Alexander
Bobby Hilliard
Paul Liles



DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Program Delivery

PROJECT CONCEPT REPORT

Project Number: NH000-0085-02(153)
County: Fulton
P. I. Number: 762380

Federal Route Number: I-85
State Route Number: S.R. 403 & S.R. 400

Description: This project is to reconstruct the interchange of SR 400/I-85 by providing connection ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound.

Recommendation for approval:

DATE 8-19-09 Albert V. Shelby III
Project Manager – Albert V. Shelby, III

DATE 8-21-09 Bobby Hilliard
State Program Delivery Engineer – Bobby K. Hilliard

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

DATE_____
State Transportation Planning Administrator – Angela Alexander

DATE_____
State Transportation Financial Management Administrator – Angela Whitworth

DATE_____
State Environment/Location Engineer – Glenn Bowman

DATE_____
State Traffic Safety and Design Engineer – Keith Golden

DATE 09-04-09 Rachel S. Brown
District 7 Engineer – Rachel Brown

DATE_____
Project Review Engineer – Ron Wishon

DATE_____
State Bridge Design Engineer – Paul Liles

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Program Delivery

PROJECT CONCEPT REPORT

Project Number: NH000-0085-02(153)
County: Fulton
P. I. Number: 762380

Federal Route Number: I-85
State Route Number: S.R. 403 & S.R. 400

Description: This project is to reconstruct the interchange of SR 400/I-85 by providing connection ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound.

Recommendation for approval:

DATE 8-19-09 Albert V. Shelby III
Project Manager – Albert V. Shelby, III

DATE 8-21-09 Bobby Hilliard
State Program Delivery Engineer – Bobby K. Hilliard

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

DATE _____
State Transportation Planning Administrator – Angela Alexander

DATE _____
State Transportation Financial Management Administrator – Angela Whitworth

DATE _____
State Environment/Location Engineer – Glenn Bowman

DATE _____
State Traffic Safety and Design Engineer – Keith Golden

DATE _____
District 7 Engineer – Rachel Brown

DATE 8-28-09 Ronald E. Wishon per
Project Review Engineer – Ron Wishon

DATE _____
State Bridge Design Engineer – Paul Liles

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

Office of Program Delivery

PROJECT CONCEPT REPORT

Project Number: NH000-0085-02(153)
County: Fulton
P. I. Number: 762380

Federal Route Number: I-85
State Route Number: S.R. 403 & S.R. 400

Description: This project is to reconstruct the interchange of SR 400/I-85 by providing connection ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound.

Recommendation for approval:

DATE 8-19-09 Albert V. Shelby III
Project Manager – Albert V. Shelby, III

DATE 8-21-09 Bobby Hilliard
State Program Delivery Engineer – Bobby K. Hilliard

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

DATE_____
State Transportation Planning Administrator – Angela Alexander

DATE_____
State Transportation Financial Management Administrator – Angela Whitworth

DATE_____
State Environment/Location Engineer – Glenn Bowman

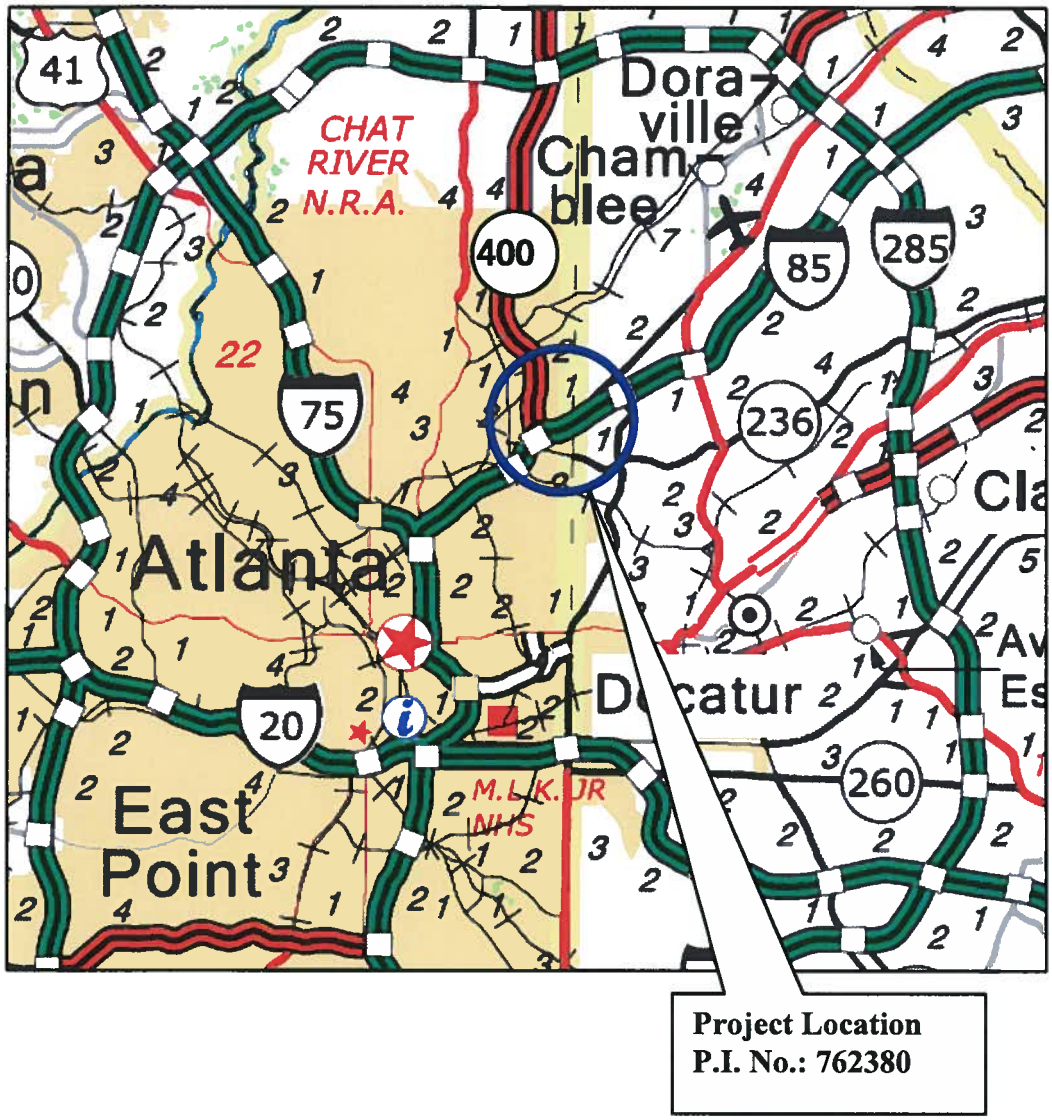
DATE_____
State Traffic Safety and Design Engineer – Keith Golden

DATE_____
District 7 Engineer – Rachel Brown

DATE_____
Project Review Engineer – Ron Wishon

DATE 9-3-09 Paul V. Liles Jr.
State Bridge Design Engineer – Paul Liles

Location Map
Project: NH000-0085-02(153)
PI No.: 762380



Description: This project is to reconstruct the interchange of SR 400/I-85 by providing connection ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound.

Need and Purpose (Approved by the Office of Planning on August 5, 2008): See attached Need and Purpose Statement

Description of the proposed project:
This project is to reconstruct the interchange of SR 400/I-85 by providing connector ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound. The total length of the project is 0.34 miles.

The project is located entirely inside the City of Atlanta, in Fulton County at the interchange of SR 400 with I-85. The project area is bordered by the following interchanges: along I-85, I-85/North Druid Hills Road Interchange to the north, the Buford Highway On and Off-Ramps to the south, and the SR 400/Lenox Road Interchange to the north along SR 400. The functional classifications for I-85 and SR 400 are Urban Interstate Principal Arterial and Urban Freeway/Expressway, respectively. The posted speed limit for both facilities in this area is 55 mph. The land uses in the vicinity of the project are a mix of high density commercial and low and medium residential property.

No ramps are currently provided for southbound I-85 traffic to access northbound SR 400, or for southbound SR 400 traffic to access northbound I-85. Currently motorists must exit from I-85 and SR 400 and use surface streets (Sidney Marcus Boulevard, SR 13/Buford Highway, and Lenox Road) to transition from I-85 south to SR 400 north and from SR 400 south to I-85 north.

At the time of its original construction, SR 400 traffic was forecasted to move in an almost exclusive southbound direction during the AM peak period, and in a similar northbound direction during the PM peak period. Viewed as a commuter route for northern Atlanta suburbs to downtown Atlanta, justification for connectivity to I-85 north of the SR400/I-85 interchange was limited based on forecasted traffic demand. During the years since the completion of the interchange, traffic volumes have increased and traffic patterns have changed. As a result, conditions on the surface streets used to facilitate access to the I-85 north of the interchange have deteriorated. The following table summarizes the existing traffic and forecasted future traffic for no-build condition.

Annual Average Daily Traffic (AADT) along each of the facilities is as following:

	2007	**2015**	**2035**
I-85 (north of Lenox Road)	240,100	292,500	329,650
SR 400 (North of Sidney Marcus Boulevard)	132,700	161,700	182,300
Sidney March Boulevard	46,400	54,800	65,700
SR 13/Buford Highway	51,100	60,300	72,800
Lenox Road	46,000	54,500	65,500

This project would improve interchange capacity by constructing two separate ramps. The first ramp would exit I-85 southbound providing direct access to SR 400 northbound. The second

ramp would exit SR 400 southbound, cross over the mainline of I-85, then directly merge onto I-85 northbound.

The proposed ramps would provide vastly improved connectivity between the two regionally significant facilities. The ramps would reduce traffic on the heavily congested surface streets in the area that currently serve as the only connection from SR 400 south to I-85 north and I-85 south to SR 400 north. As a result, the potential for accidents would be reduced. By providing direct connectivity, the ramps would also reduce driver indirection and delay along surface streets which would reduce vehicle traveling distance thereby potentially reducing emissions. The project would provide local and through traffic with a safer driving environment.

The project is located in a non-attainment area and is contained in Atlanta Region FY 2008-2013 TIP by reference number AT-AR-212B.

Is the project located in a Non-attainment area? **__X__ Yes** **____No**

PDP Classification: Major ___X_____ Minor_____

Federal Oversight: Full Oversight (X), Exempt (), State Funded ( ), or Other ( )

Functional Classification: I-85 - Urban Interstate Principal Arterial, SR 400 - Urban Freeway/Expressway

U. S. Route Number(s): I-85 **State Route Number(s): S.R. 403 & S.R. 400**

Traffic (AADT):

Data Year: (2007) I-85: 240,100, SR 400: 132,700
Opening Year: (2015) I-85: 292,500, SR 400: 161,700
Design Year: (2035) I-85: 329,650, SR 400: 182,300

Existing design features:

- Typical Section: N/A
- Posted speed __55__ mph (SR 400 and I-85) Minimum radius for curve: N/A
- Maximum super-elevation rate for curve: __N/A___
- Maximum grade: ___N/A___
- Width of right-of-way: N/A.
- Major structures: See the existing structure inventory table on the following page.
- Major interchanges or intersections along the project: I-85 at North Druid Hills Rd, I-85 at Lenox/Cheshire Bridge Rd, I-85 at SR 400, I-85 at Buford Highway, SR 400 at Lenox Rd, SR 400 at Sidney Marcus Boulevard
- The total project length is approximately 0.34 mile all in Fulton County

Existing Structure Inventory:

Structure ID	Description	Sufficiency Rating
121-0559-0	I-85 NB Ramp from SR 13 (over Peachtree Creek)	81.94
121-0558-0	I-85 SB Ramp to SR 13	85.00
121-0556-0	I-85 Mainline over SR 13	81.00
121-0213-0	I-85 Mainline over Peachtree Creek	72.22
121-0736-0	SR 400 NB over Sidney Marcus Blvd	64.76
121-0737-0	SR 400 SB over Sidney Marcus Blvd	66.79

Note: Based on the interpretation of the Concept Base mapping, the geometric configuration of the existing ramp from I-85 SB to SR 13/Buford Highway (Structure ID 121-0558-0) meets the design speed of 38 mph based on Stopping Sight Distance, which is less than the required 45 mph design speed. This determination will be verified after more detailed survey information becomes available.

Proposed Design Features:

- Proposed typical section(s) (per the VE study approved on 6/17/09):
  - SR 400 SB to I-85 NB Ramp: a sixteen-foot wide travel lane with a six-foot wide inside shoulder and a eight-foot wide outside shoulder;
  - I-85 SB to Buford Highway (SR 13) SB/SR 400 NB Combined Ramp: one existing sixteen-foot wide travel lane plus one proposed sixteen-foot wide travel lane with an existing tapered inside shoulder and a proposed eight-foot wide outside shoulder;
  - I-85 SB to SR 400 NB Ramp: a sixteen-foot wide travel lane with a four-foot wide inside shoulder and a eight-foot wide outside shoulder.

  Note: Proposed inside and outside shoulder widths include a 2-foot offset to the concrete barrier.
- Proposed Design Speed Mainline: 45 mph for SR 400 SB to I-85 NB ramp and 45 mph for I-85 SB to SR 400 NB ramp.
- Proposed Maximum grade Mainline _6_ % Maximum grade allowable _6_ %
- Proposed Maximum grade Side Street _N/A_ % Maximum grade allowable _N/A_ %
- Proposed Maximum grade driveway _N/A_ %
- Proposed Minimum Radius of Curve: I-85 SB to SR400 NB Ramp, 45 mph, R=1130 feet, SR 400 SB to I-85 NB Ramp, 45 mph, R=1250 feet.
- Minimum Radius Allowable: I-85 SB to SR400 NB Ramp, 45mph, Rmin=800 feet, SR400 SB to I-85 NB Ramp, 45mph, Rmin=1150 feet.

- Right-of-Way
  - Width: Varies
  - Easements: Temporary (), Permanent (X), Utility ( ), Other ( ).
  - Type of access control: Full (X), Partial ( ), By Permit ( ), Other ( ).
  - Number of parcels: 2 Number of displacements:
    - Business: 0
    - Residences: 0
    - Mobile homes: 0
    - Other: 0
- Structures:
  - SR 400 SB to I-85 NB Ramp
  - I-85 SB to SR 400 NB Ramp
  - Retaining walls: 5 walls anticipated
- Major intersections and interchanges: SR 400 at I-85, SR 400 at Sidney Marcus Blvd, and I-85 at Lenox Rd/Cheshire Bridge Rd (See the Preferred Alternative Configuration diagram on the following page).
- Traffic control during construction: Stage construction, maintaining all travel lanes on SR 400 and I-85 at all times.
- Design Exceptions to controlling criteria anticipated:

	UNDETERMINED	YES	NO
HORIZONTAL ALIGNMENT:	( )	( )	(X)
ROADWAY WIDTH:	( )	( )	(X)
SHOULDER WIDTH:	( )	( )	(X)
VERTICAL GRADES:	( )	( )	(X)
CROSS SLOPES:	( )	( )	(X)
STOPPING SIGHT DISTANCE:	( )	(X)	( )
SUPERELEVATION RATES:	( )	( )	(X)
HORIZONTAL CLEARANCE:	( )	( )	(X)
SPEED DESIGN:	( )	( )	(X)
VERTICAL CLEARANCE:	( )	( )	(X)
BRIDGE WIDTH:	( )	( )	(X)
BRIDGE STRUCTURAL CAPACITY:	( )	( )	(X)

Note: The alignment of the existing ramp from I-85 southbound to SR 13/Buford Highway provides 300 feet of Stopping Sight Distance (SSD), which is less than the required 360 feet of SSD for 45 mph Design Speed. The existing SSD is adequate for 38 mph Design Speed. A draft Design Exception Report is included as an attachment.

- Design Variances: None.

- Environmental concerns:

  Ecology – Four wetlands, 18 ephemeral streams, and nine intermittent/perennial streams were observed within the project study area. A Section 404 Permit may be required for impacts to wetlands and streams. The level of 404 Permit is currently not known until project design plans are more completely developed. A stream buffer variance may be required and this determination would not be made until construction limits are established. The project is anticipated to have no effect on any protected species.

  Noise – Public concern regarding the use and aesthetic of noise barriers.

  Historic Resources – Potentially historic resources and a potentially historic district are in the vicinity of the project limits. The proposed concept currently avoids these resources.

  Air – The proposed project lies within the Atlanta Metro non-attainment area for ozone and particulate matter.

- 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: Georgia Power, Atlanta Gas & Light, City of Atlanta Sewer, Comcast Cable, AT&T, AGL Networks, Level 3 Communications, City of Atlanta Dept. of Watershed Management

VE Study Required **Yes (X)** **No ( )** The VE study was approved on 6/17/09.

Project responsibilities:

- Design – GDOT
- Right-of-Way Acquisition – GDOT
- Relocation of Utilities – GDOT
- Letting to contract – GDOT
- Supervision of construction – GDOT
- Providing material pits – Contractor
- Providing detours – GDOT

Coordination

- Initial Concept Meeting date and brief summary. June 16, 2008, Meeting minutes attached.
- Concept meeting date and brief summary. September 2, 2008, Meeting minutes attached.
- P A R - N/A
- US Army Corps of Engineers. February 4, 2008, Response Pending
- Public involvement, a PIOH was held on February 26, 2009, Comments Response Letter attached.

- Local government comments, See attached project early coordination response letters.
- Other projects in the area –

PROJECT ID	FACILITY	LIMITS	DESCRIPTION	SCHEDULE
0006397	Ramp Meters	I-85 N from Buford Hwy to Pleasant Hill Rd	Ramp Meter Installation	Engineering: 2005 Construction: 2006
712950	Interchange	I-85 at Monroe Drive	Reconstruction/ Rehabilitation	Engineering: 1993 ROW LR Construction: LR
M002832	SR 400	SR 400 from I-85 to I-285	Leveling and resurfacing of SR 400	Construction: 2004 Status: Under Construction
M003416	SR 400	SR 400 between I-85 and SR 120	Maintenance and Miscellaneous improvements	Construction: 2006 Status: Construction work program

- Railroads, none
- Other coordination to date: City of Atlanta, Bureau of Planning (12/11/2007), DeKalb County Planning & Development Dept. (12/19/2007), MARTA (2/5/2008), DeKalb County, Public Works Dept. (2/7/2008), Lindbergh/LaVista Corridor Coalition (5/13/2007), meeting minutes attached.

Scheduling – Responsible Parties' Estimate

- Time to complete the environmental process: 24 Months.
- Time to complete preliminary construction plans: 13 Months.
- Time to complete right-of-way plans: 4 Months.
- Time to complete the Section 404 Permit: 3 Months.
- Time to complete final construction plans: 17 Months.
- Time to complete to purchase right-of-way: 10 Months.
- List other major items that will affect the project schedule: None

Other alternatives considered (see attached description of other alternatives considered and comments).

Attachments:

1. Approved Need and Purpose Statement
2. Initial Concept Team Meeting Minutes
3. Concept Team Meeting Minutes
4. Project Early Coordination Response Letters
5. Other project coordination meeting minutes
6. PIOH Comments Response Letter
7. Construction Cost Estimates including E&C
8. Preferred Alternative Alignment
9. VE study responses and approval
10. Typical Sections
11. Description of other alternatives considered and comments
12. Traffic Diagrams
13. Capacity analysis
14. Accident summaries, see approved need and purposed statement
15. Draft Design Exception Report
16. Estimates of Travel Time Savings White Paper

ATTACHMENT 1

Approved Need and Purpose Statement

Need and Purpose Statement
SR 400/I-85 Connector Ramps
NH000-0085-02(153) in Fulton County
P.I. No: 762380
Construction of New Connector Ramps between SR 400 and I-85
ARC Project No.: AT-AR-212B

Background

The proposed Project NH000-0085-02(153), Fulton County, would construct connector ramps between State Route (SR) 400 and I-85 in the City of Atlanta, which do not exist as part of the existing interchange. The proposed project would be approximately 0.34 miles in length (Figure 1 and 1A, Project Location Maps and Figure 2, Location Base Map). The proposed project is part of the Atlanta Regional Commission (ARC) Transportation Improvement Program (TIP)/ Regional Transportation Plan (RTP) and is programmed in the Georgia Department of Transportation (GDOT) Construction Work Plan (CWP) with construction scheduled in long range. According to the 2007 ARC 2030 Regional Transportation Plan (RTP), alleviating the bottleneck at this interchange is identified as a regional need.

The project is located entirely inside the City of Atlanta, in Fulton County at the interchange of SR 400 with I-85. The functional classifications for I-85 and SR 400 are Urban Interstate Principal Arterial and Urban Freeway/Expressway, respectively. The posted speed limit for both facilities in this area is 55 mph. The land uses in the vicinity of the project are a mix of high density commercial and low and medium residential property.

At the time of the SR 400 construction between I-285 and I-85 in the early 1990s, SR 400 traffic was forecasted to move in an almost exclusive southbound direction during AM peaks and in a similar northbound direction during PM peaks. Viewed as a commuter route for northern Atlanta suburbs to downtown Atlanta, justification for connectivity to I-85 north of the SR400/I-85 interchange was limited based on forecasted traffic demand at that time. Therefore, the interchange between SR 400 and I-85 was built with I-85 northbound ramps to SR 400 northbound and SR 400 southbound ramps to I-85 southbound; however, no ramps were constructed at that time to provide access from SR 400 southbound to I-85 northbound or from I-85 southbound to SR 400 northbound. During the years since the completion of the interchange, traffic volumes have increased and traffic patterns have changed. As a result, conditions on nearby surface streets that are being used to facilitate access for these missing connections have deteriorated.

The SR 400 and I-85 interchange is an important node of the metropolitan Atlanta transportation network. As employment centers have developed throughout Atlanta, motorists utilize both SR 400 and I-85 as important commuter routes. Motorists utilize the SR 400 and I-85 interchange as access points between the northern Atlanta suburbs, northern DeKalb County and further into the northeast metropolitan Atlanta suburbs including Gwinnett County. Additionally, as the Buckhead community has, and

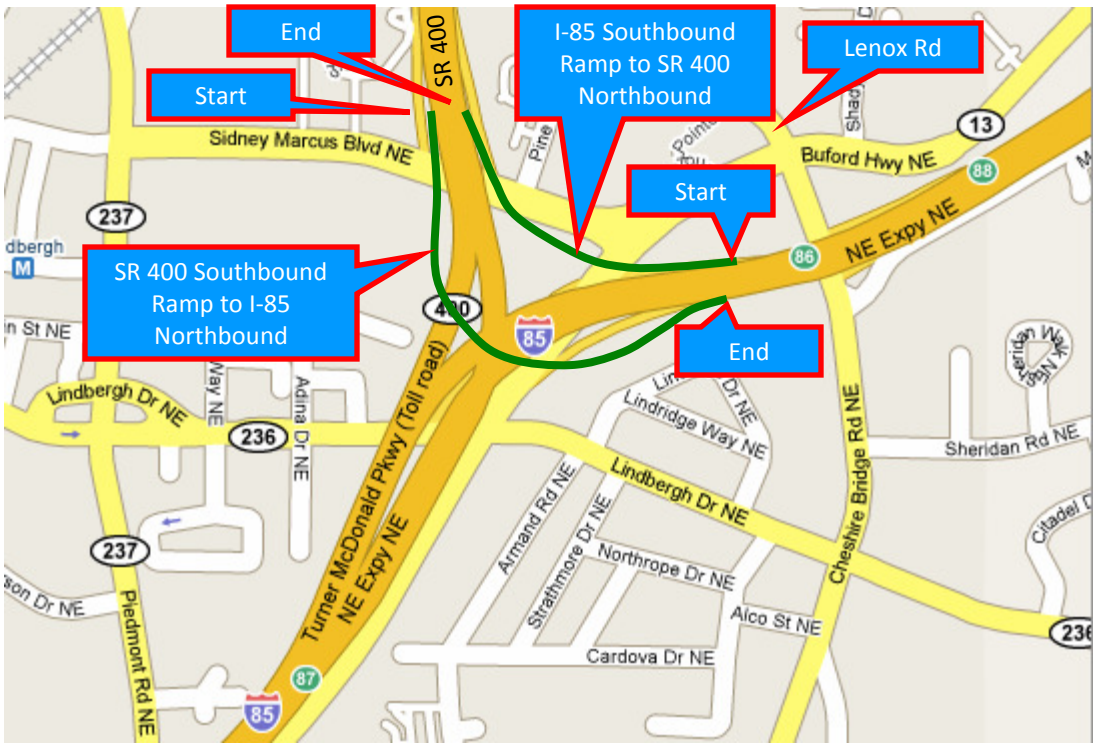


Figure 1: Project Location Map

0 1000 ft 2000 ft

Construction of New
SR 400 / I-85 Connector
Ramps
Fulton County

Project No.
NH000-0085-02(153)

P.I. #: 762380

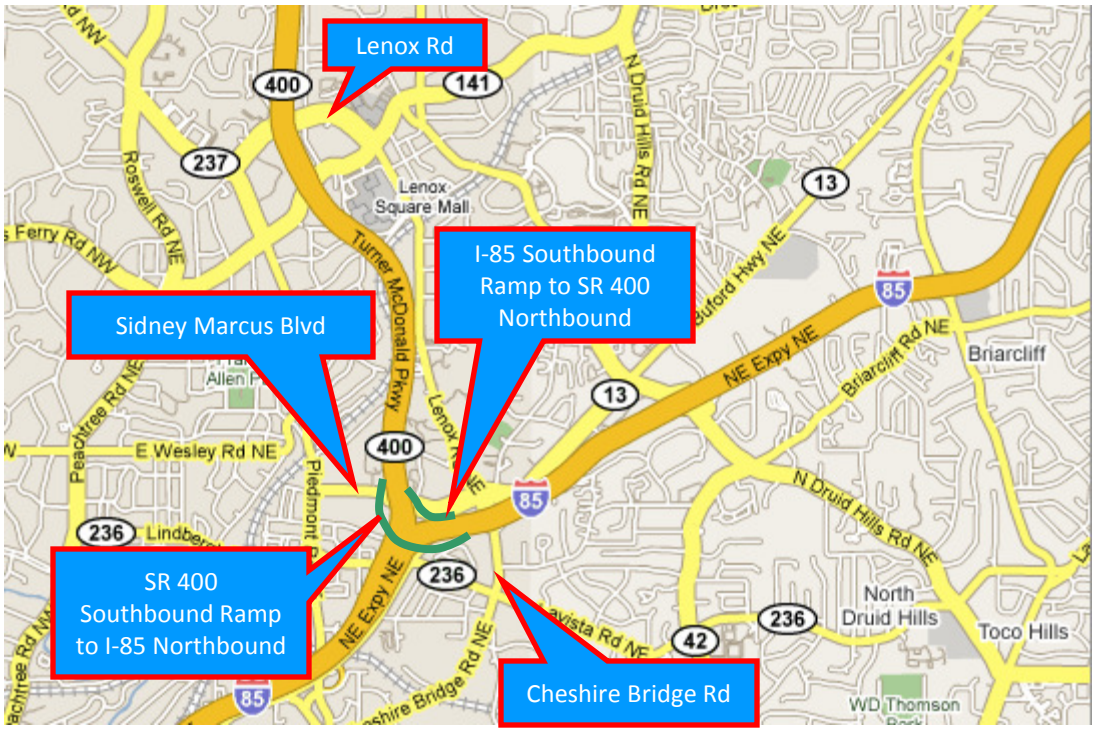


Figure 1A: Project Location Map

0 1 mile 2 miles

Construction of New
SR 400 / I-85 Connector Ramps
Fulton County

Project No.
NH000-0085-02(153)

P.I. #: 762380

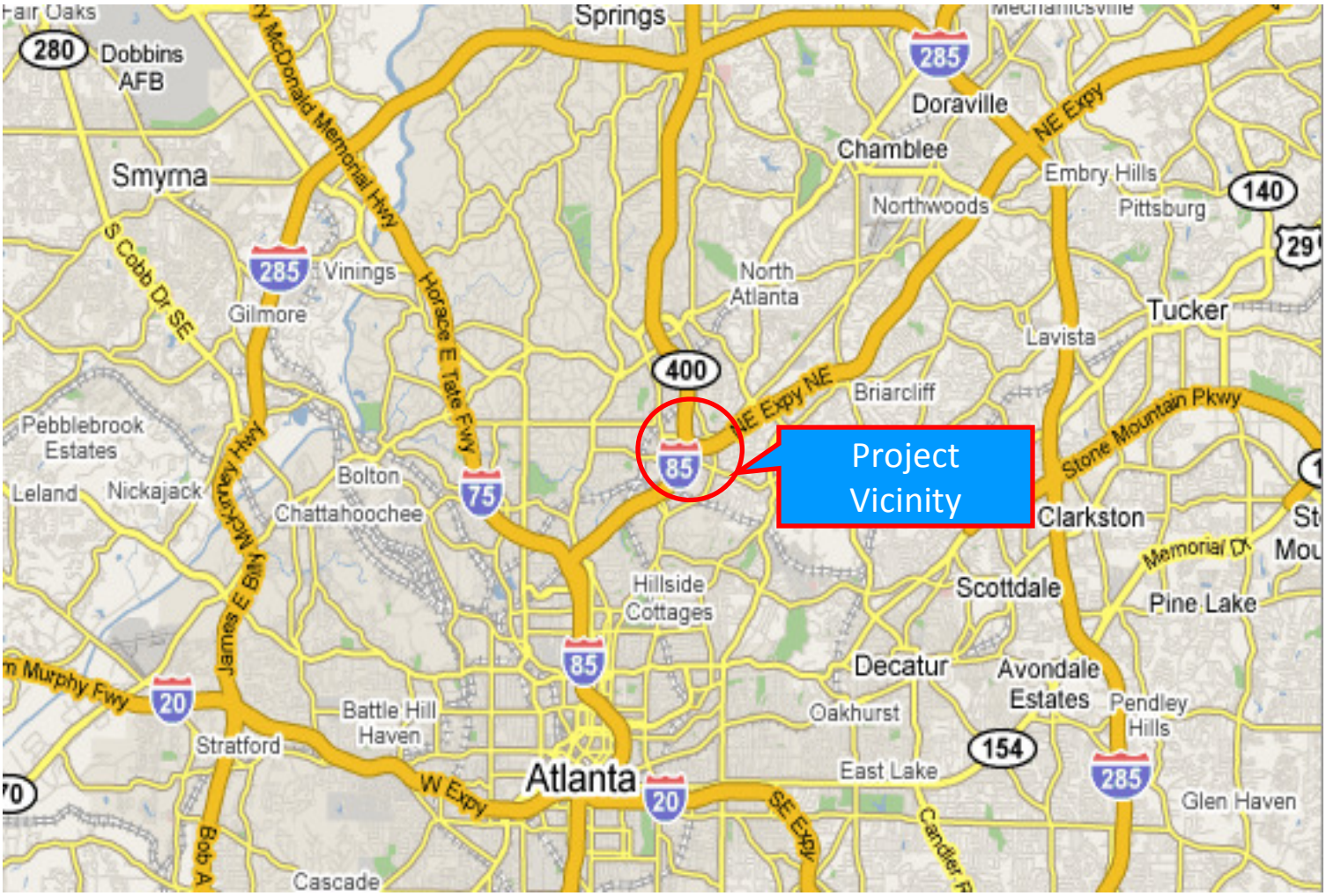


	**Figure 2: Location Base Map** NOT TO SCALE	Construction of New SR 400 / I-85 Connector Ramps Fulton County Project No. NH000-0085-02(153) P.I. #: 762380

continues to grow as a popular employment center, motorists traveling from the northeast suburbs utilize SR 400 as a primary access point to Buckhead and further north on SR 400 to employment centers located near I-285, Sandy Springs, and into the north Fulton communities of Roswell and Alpharetta.

According to the Regional Transportation Plan (RTP), the 20-county Atlanta metropolitan area is expected to increase approximately 46 percent, adding 2.2 million residents through 2030 for a total population of almost 7,000,000. From 2000 to 2030, the Atlanta Regional Commission (ARC) forecasts the area will add about 91,000 new residents per year on average. This continued rapid growth will create significant challenges from a congestion standpoint as additional vehicles use regional transportation infrastructure, including the I-85 and SR 400 corridors.

Existing Route Conditions

No ramps are currently provided for southbound I-85 traffic to access northbound (NB) SR 400, or for southbound (SB) SR 400 traffic to access northbound I-85. Currently motorists must exit from I-85 and SR 400 and use surface streets (Sidney Marcus Boulevard, SR 13/Buford Highway, and Lenox Road) to transition from I-85 south to SR 400 north and from SR 400 south to I-85 north. The posted speed limit for SR 400 and I-85 in this area is 55 mph.

As previously discussed above, SR 400 was originally constructed as a commuter route between the northern Atlanta suburbs and midtown/downtown Atlanta and little justification existed for accommodations between SR 400 and connectivity to I-85 north of the interchange. Subsequent population growth and associated traffic pattern changes have resulted in substantial deterioration of traffic movements on the surface streets used to facilitate access between SR 400 and I-85.

Proposed Improvements

This project would improve interchange capacity by constructing two separate ramps. The first proposed ramp would exit I-85 southbound providing direct access to SR 400 northbound. The second proposed ramp would exit SR 400 southbound, cross over the mainline of I-85, and directly merge onto I-85 northbound.

These proposed ramps would provide vastly improved connectivity between the two regionally significant facilities, and would better satisfy driver expectations for connectivity between these two major corridors. These proposed ramps would reduce Interstate-related traffic on the heavily congested surface streets in the area that currently serve as the only connection from SR 400 south to I-85 north and I-85 south to SR 400 north. As a result of the proposed ramp connections, the potential for future accidents on the surface street network would likely be reduced. By providing direct connectivity, the ramps would also reduce delay along surface streets and reduce vehicle traveling distance

along local surface streets. The proposed project would provide local and through traffic with a safer driving environment.

SR 400 SB to I-85 NB Ramp

This ramp would diverge from the right side of SR 400 SB mainline south of the SR 400 SB exit to Sidney Marcus Boulevard. From this point, it would cross Sidney Marcus Boulevard and the existing SR 400/I-85 Interchange structures. Continuing to I-85, it would cross the existing Buford Highway on-ramp and then turn north to join the I-85 NB mainline on the right side of the existing Buford Highway on-ramp. The ramp's typical cross section would consist of a 6-foot inside shoulder, a 16-foot lane, and a 10-foot outside shoulder. The proposed speed limit for this ramp would be 45 miles per hour (mph).

I-85 SB to SR 400 NB Ramp

This ramp would exit the existing I-85 SB mainline with the existing exit to Buford Highway SB. After exiting as a single two-lane ramp, the ramps to SR 400 NB and to Buford Highway SB would share a two-lane section for approximately 1,000 feet before splitting. Then the proposed ramp to SR 400 NB would turn north. From this point, the proposed ramp would cross Sidney Marcus Boulevard and then join SR 400 NB mainline as the third lane south of the northbound on-ramp from Sidney Marcus Boulevard. The proposed ramp's typical cross section would consist of a 4-foot inside shoulder, a 16-foot lane, and a 12-foot outside shoulder. The proposed speed limit for this ramp would be 45 miles per hour (mph).

Traffic

The primary purpose for the proposed project is to enhance connectivity at the SR 400/I-85 interchange. Providing the missing connectivity between SR 400 SB and I-85 NB as well as I-85 SB to SR 400 NB would serve to meet driver expectation for connectivity between these two major corridors at the existing interchange and would provide congestion relief to the surface street network that is currently used to make these missing connections between SR 400 SB/I-85 NB and I-85 SB/SR 400 NB. This reduction in surface street congestion would, in turn, likely reduce the high crash, injury, and fatality rates currently experienced on these surface streets, as well as reduce traffic emissions by providing a more free-flowing facility. **Table 1** illustrates the travel times of potential users of the proposed project. For existing (2007), Build Year (2015) and Design Year (2035) No-Build conditions, the travel times (in minutes) for AM and PM Peak Hours are measured primarily along the local arterial streets in the project area. The travel times for the AM and PM Peak Hours in the Build Year (2015) and Design Year (2035) under the Build Conditions are measured primarily along the proposed ramps. This table indicates a significant time savings under the Build Condition for the potential users of the proposed project.

Table 1. Travel Time Comparison of No Build and Build Conditions Traveling between SR 400 and I-85									
		NO BUILD CONDITIONS Travel Time along Local Arterial Streets (minutes)				**BUILD CONDITIONS Travel Time along Proposed Ramps (minutes)**			
		SR 400 SB To I-85 NB From: SR 400 SB at Sidney Marcus Blvd Diverge To: I-85 NB at Lenox Rd Merge		**I-85 SB To SR 400 NB** From: I-85 SB at Lenox Rd Diverge To: SR 400 NB at Sidney Marcus Blvd Merge		**SR 400 SB To I-85 NB** From: SR 400 SB at Sidney Marcus Blvd Diverge To: I-85 NB at Lenox Rd Merge		**I-85 SB To SR 400 NB** From: I-85 SB at Lenox Rd Diverge To: SR 400 NB at Sidney Marcus Blvd Merge	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Existing (2007)	**Measured**	5.62	6.77	4.13	4.82	N/A	N/A	N/A	N/A
Existing (2007)	**Simulated**	4.81	5.09	3.87	4.36	N/A	N/A	N/A	N/A
Base Year (2015)	**Simulated**	6.06	5.94	8.21	5.27	1.87	1.43	1.25	1.18
Design Year (2035)	**Simulated**	7.91	9.29	9.03	5.32	2.03	1.62	1.27	1.19

Note: Signal timings for future conditions have been adjusted to prevent arterial queues backing up onto freeways and resulting in gridlock.

Existing and Projected Travel Times for Project Users

SR 400 SB to I-85 NB

Potential users of the proposed ramps currently utilize the local street system to travel between SR 400 SB and I-85 NB spend 5.62 minutes and 6.77 minutes along this route during the AM peak and PM peak, respectively under the Existing (2007) Condition. Under the No-Build Condition in 2015 (Build Year), motorists would spend an estimated 6.31 minutes in the AM and 5.94 minutes in the PM Peak Hours accessing I-85 NB from SR 400 SB on the surface street network. Under the Build Condition in 2015 (Build Year), motorists would save an estimated 4.44 minutes in the AM and 4.51 minutes in the PM making the connection between SR 400 SB to I-85 NB by utilizing the proposed ramp to access I-85 NB from SR 400 SB instead of utilizing the surface street network.

The amount of time estimated to make the connection between SR 400 SB to I-85 NB would increase to 7.91 minutes in the AM and 9.29 minutes in the PM Peak Conditions in 2035 (Design Year) under the No-Build Condition. The time savings are estimated at 5.88 minutes in the AM and 7.67 minutes in the PM Peak Hours in 2035 (Design Year) under the Build Condition in 2035 (Design Year).

I-85 SB to SR 400 NB

Similarly, motorists traveling the local street system to gain access between I-85 SB and SR 400 NB spend approximately 4.13 minutes in the AM and 4.82 minutes in the PM Peak Hours under the Existing (2007) Condition. Under the No-Build Condition in 2015 (Build Year), motorists would spend an estimated 12.64 minutes in the AM and 5.27 minutes in the PM Peak Hours to access SR 400 NB from I-85 SB. Under the Build Condition in 2015 (Build Year) motorists would save an estimated 11.39 minutes in the AM and 4.09 minutes in the PM Peak Hours by accessing SR 400 NB from I-85 SB via the proposed ramp versus making the connection on the surface street network.

The amount of time estimated to make the connection between I-85 SB and SR 400 NB is predicted to be 9.0 minutes in the AM and 5.3 minutes in the PM Peak Hours in 20356 (Design Year) under the No-Build Condition. The time savings is estimated to be 7.76 minutes in the AM and 4.13 minutes in the PM Peak Hours under the Build Condition in 2035 (Design Year).

Existing and Projected Travel Times along SR 400 and I-85 for Non-users

The impacts to non-users of the project are quantified by the estimates of travel times along the mainlines of SR 400 and I-85, which are shown in **Table 2**. As can be seen

Table 2. Travel Time Comparison of No Build and Build Conditions Traveling on SR 400 and I-85																	
		NO BUILD CONDITIONS Travel Time along Freeways (minutes)								**BUILD CONDITIONS Travel Time along Freeways (minutes)**							
		I-85 Mainline				**SR 400 Mainline**				**I-85 Mainline**				**SR 400 Mainline**			
		Southbound **From:** North Druid Hills Road Merge **To:** SR 400 Merge		**Northbound** **From:** SR 400 Diverge **To:** North Druid Hills Road Diverge		**Southbound** **From:** Lenox Rd Merge **To:** I-85 Merge		**Northbound** **From:** I-85 NB Diverge **To:** Lenox Road Diverge		**Southbound** **From:** North Druid Hills Road Merge **To:** SR 400 Merge		**Northbound** **From:** SR 400 Diverge **To:** North Druid Hills Road Diverge		**Southbound** **From:** Lenox Rd Merge **To:** I-85 Merge		**Northbound** **From:** I-85 NB Diverge **To:** Lenox Road Diverge	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Existing (2007)	**Simulated**	2.31	1.79	2.05	2.11	3.39	2.44	2.46	2.41	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Base Year (2015)	**Simulated**	4.56	1.88	2.12	2.14	11.29	5.09	2.49	2.41	4.93	1.86	2.08	2.14	10.10	3.02	2.66	2.47
Design Year (2035)	**Simulated**	5.36	1.99	2.08	2.75	14.89	9.48	2.67	2.43	5.16	1.94	2.09	2.27	13.06	7.57	2.64	2.46

from **Table 2**, the build condition in 2015 and 2035 has very little to no impact on the travel time of the existing travel lanes on SR 400 and I-85. The largest negative impact of the proposed project is an 8-percent increase (0.36 minutes) in AM peak period travel time along I-85 Southbound in 2015. This increase would be more than offset by the reductions in travel times for the other periods and locations. The purpose of the proposed project is to add ramps to the SR 400/I-85 interchange where none currently exist and this resultant construction would not significantly increase or decrease the projected travel times on either SR 400 or I-85 in the 2015 and 2035 build conditions.

Existing and Projected Levels of Service for Local Street Intersections

Level of Service (LOS) is a measurement of traffic operating conditions on a particular type of facility. The letters A through F are designated to describe six levels of service. LOS "A" describes completely free-flow conditions, where the operation of vehicles is virtually unaffected by the presence of other vehicles, and operations are constrained only by the geometric features of the highway and by driver preferences. LOS "B" represents reasonably free flow, and speeds at the free flow speed are generally maintained, where the effects of minor incidents and point breakdowns are still easily absorbed. LOS "C" indicates that traffic flow is stable but driver comfort and convenience are declining. LOS "D" is the level at which speeds begin to decline slightly with increasing flows. LOS "E" describes operation at or near capacity. LOS "F" represents the worst operating conditions. In many cases, it will signify breakdowns in vehicular flow. **Table 3** indicates the LOS for the Existing (2007), Build Year (2015) and Design Year (2035) Build and No-Build Conditions at side road intersections that are currently utilized due to the missing connectivity of the existing SR 400/I-85 Interchange.

Existing LOS for Local Street Intersections

The surface streets and associated intersections utilized by motorists transitioning between I-85 SB to SR 400 NB and between SR 400 SB to I-85 NB are also used as arterial routes for motorists traveling in the vicinity of the neighborhoods that surround these surface streets. Given this multi-purpose use of these existing roads and intersections, traffic counts cannot discriminate between those motorists who are using these corridors as a result of the missing SR 400/I-85 interchange ramps and those motorists who are using the corridors for other local uses.

In 2007, the intersection of Lenox Road at Buford Highway operated at LOS F in both the AM and PM peak. The intersections on Lenox Road/Cheshire Bridge Road, Buford Highway and Sidney Marcus Boulevard (SMB) operated at either LOS C or D during the 2007 AM peak. In comparison, two intersections (SMB at Buford Highway and Lenox Road at Buford Highway) operated at LOS E and F, respectively, during the 2007 PM peak. Additionally, during the 2007 PM peak, SMB at SR 400 NB operated at LOS A and the remaining five intersections operated at either LOS C or D.

Table 3. Side Road Intersection Level of Service (LOS)										
Intersection	**Existing (2007)**		**No Build (2015)**		**Build (2015)**		**No Build (2035)**		**Build (2035)**	
	AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Sidney Marcus Blvd at SR 400 SB	C	C	C	D	C	C	C	D	C	C
Sidney Marcus Blvd at SR 400 NB	D	A	E	A	C	A	F	E	D	A
Sidney Marcus Blvd at Buford Highway	D	E	F	F	E	F	F	F	F	F
Lenox Rd at Buford Highway	F	F	F	F	E	E	F	F	F	F
Lenox Rd at I-85 SB	C	C	D	D	C	B	F	D	C	B
Lenox Rd at I-85 NB	D	C	E	D	C	B	F	F	C	B

Projected LOS for Local Street Intersections

A LOS comparison of the Build condition and No-Build condition for the AM and PM peaks during 2015 (Build Year) and 2035 (Design Year) for the local surface street intersections indicates that the build condition side road intersection LOS is an improvement to the no build condition at the majority of these intersections. The 2015 and 2035 build condition LOS is equal to or better than the no build LOS for all of the listed intersections.

However, while these intersections do show build condition LOS improvements in 2015 (Build Year), the LOS at several of these intersections have degraded to E or F between 2007 and 2015. Specifically, intersections with LOS E or F in the AM or PM peak are SMB at Buford Highway and Lenox Road at Buford Highway. These intersections would require extensive improvement in order for them to operate at LOS D or better in the build condition during 2015.

In 2035 (Design Year), more pronounced improvements between the AM peak and PM peak build condition and the comparable no build condition exist at these intersections. Except SMB at SR 400 NB intersection, all intersections would

operate at LOS D, E, and F in the 2035 No-Build condition. In comparison, all but two of these intersections would operate at LOS D or better in the 2035 Build condition. The intersections that operate at LOS E and F are: SMB at Buford Highway and Lenox Road at Buford Highway.

Existing and Projected Levels of Service for Proposed Interchange Ramps and Existing Highway System for SR 400 and I-85

Existing LOS for Proposed Interchange Ramps and Highway System

Table 4 presents the existing SR 400/I-85 interchanges LOS for the AM and PM Peak Hours for 2007, the existing year. Half of the segments operate at LOS F in the AM peak and half of the segments operate at LOS E in the PM peak. Two existing highway segments (SR 400 NB north of SR 400/I-85 diverge and I-85 NB north of the SR 400/I-85 diverge) operate at LOS C and D in both the AM and PM peak. One segment, I-85 SB north of SR 400/I-85 merge, improves in the PM peak, with a LOS B, from the AM peak LOS F. The level of service for this section of I-85 SB does not take into consideration of the occasional downstream spillback effects from the I-75/I-85 Downtown Connector.

Projected LOS for Proposed Interchange Ramps and Highway System

Table 4 presents the SR 400/I-85 interchange LOS comparisons for the AM peak and PM peak for the no build and build conditions in 2015 (Build Year) and 2035 (Design Year). In 2015, the build condition LOS is the same or is slightly improved compared to the no-build condition in almost every segment of the interchange. However, half of the segments operate at LOS F and E in the 2015 AM peak and one quarter of the segments operate at LOS E in the 2015 PM peak. Specifically, the following segments operate at LOS E or F in either the AM or PM peak: SR 400 SB north of SR 400/I-85 merge, I-85 SB north of SR 400/I-85 merge and south of the SR 400/I-85 merge, and I-85 NB south of the SR 400/I-85 diverge. The above ramp connections would require the widening of I-85 in both directions to operate at LOS D or better in the build condition during 2015, as it is the back-up on I-85 that would cause the failing conditions on those segments.

The proposed interchange ramps would operate at LOS C and D during the 2015 AM and PM peaks. In 2035, the SR 400 SB to I-85 NB ramp would operate at LOS C in both the AM and PM peak, while the I-85 SB to SR 400 NB ramps would operate at LOS D and C during the AM and PM peaks, respectively.

In 2035, the build condition LOS is the same or is slightly improved compared to the no build condition in almost every segment of the interchange. However, all segments except for SR 400 NB north of SR 400/I-85 diverge operate at either LOS E or F during the AM or PM peak. Most of these intersections operate at LOS E or F during the 2015 build AM or PM peaks. In contrast, the PM peak 2015 LOS D deteriorates to LOS E and F in 2035 at two segments: SR 400 SB

north of SR 400/I-85 merge and I-85 NB north of SR 400/I-85 diverge. The LOS for SR 400 SB north of SR 400/I-85 merge deteriorates from D to F in 2018 and the LOS for I-85 NB north of SR 400/I-85 diverge deteriorates from D to E in 2017.

Table 4. Interchange Movement Level of Service (LOS)										
	Existing (2007)		No Build (2015)		Build (2015)		No Build (2035)		Build (2035)	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
SR 400 NB North of SR 400/ I-85 Diverge	C	C	D	C	D	C	D	C	D	C
SR 400 SB North of SR 400/I-85 Merge	F	E	F	F	F	D	F	F	F	F
I-85 NB North of SR 400/I-85 Diverge	C	D	C	D	D	D	C	D	D	E
I-85 SB North of SR 400/I-85 Merge	F	B	F	C	F	C	F	D	F	C
I-85 NB South of SR 400/I-85 Diverge	D	E	E	E	E	E	E	E	E	E
I-85 SB South of SR 400/I-85 Merge	F	E	F	F	F	E	F	F	F	F
I-85 SB to SR 400 NB	N/A	N/A	N/A	N/A	D	C	N/A	N/A	D	C
SR 400 SB to I-85 NB	N/A	N/A	N/A	N/A	C	C	N/A	N/A	B	C

The proposed interchange ramps would operate at LOS B, C, and D during the 2035 AM and PM peaks. The SR 400 SB to I-85 NB ramp would operate at LOS B and C during the AM and PM peaks, respectively. The 2035 AM peak LOS is an improvement compared to the 2015 AM peak LOS of C. The 2035 PM peak LOS would operate at C, which is the same LOS for the 2015 PM peak. The

2035 AM and PM peak LOS, D and C, respectively for the I-85 SB to SR 400 NB ramp would remain the same as the 2015 AM and PM peak LOS.

Logical Termini

The proposed project has independent utility as the proposed ramps would provide connectivity between SR 400 and I-85 and would function without the need for additional improvements to be made. As previously discussed, the purpose of the proposed project is to construct ramps between SR 400 and I-85 where none currently exist as part of the existing interchange. The existing interchange only provides connectivity between SR 400 Southbound/I-85 Southbound and I-85 Northbound/SR 400 Northbound. The project would allow motorists to make direct and uninterrupted movements between SB SR 400 to NB I-85 and SB I-85 to NB SR 400. Therefore, the proposed project would function as a stand-alone utility by providing connectivity between two transportation facilities where none currently exist.

Project Linkage

Along this proposed project corridor there are other projects described below. Figure 2, Location Base Map, identifies the location of these projects also outlined in **Table 5**, Adjoining Projects.

Table 5: Adjoining Projects

PROJECT NO. P.I. No.	FACILITY	LIMITS	DESCRIPTION	SCHEDULE
0006397	Ramp Meters	I-85 N from Buford Hwy. to Pleasant Hill	Ramp meter installation	Engineering: 2005 Construction: 2006
712950	Interchange	I-85 at Monroe Drive	Reconstruction/Rehabilitation	Eng: 1993 ROW LR Construction: LR
M002832	SR 400	SR 400 from I-85 to I-285	Leveling and resurfacing of SR 400.	Construction: 2004 Status: Under Construction
M003416	SR 400	SR 400 between I-85 and SR 120	Maintenance and Miscellaneous improvements	Construction: 2006 Status: Construction Work Program

Environmental Justice

It does not appear that this proposed project would result in disproportionate adverse impacts to low-income or minority communities. The US Environmental Protection Agency (EPA) Environmental Justice (EJ) Geographic Assessment Tool

(http://www.epa.gov/compliance/whereyoulive/ejtool.html) was used to perform an initial analysis of the proposed project corridor's potential impacts to minority and low income populations. This tool utilizes data from the 2000 US Census and is compiled from the proposed project corridor including a 0.5 mile buffer to the east and west along the corridor. The resultant data set is referred to as the Study Area. According to the 2000 US Census, the Study Area minority population (6,059 persons) represents 42.9% of the Study Area's total population (14,125 persons). The 2000 census data indicate that Fulton County, GA and the State of Georgia have minority populations of 54.7% (446,355 persons) and 37.3% (3,053,546 persons). A person describing themselves as a minority may be Black or African American, American Indian, Asian/Pacific Islander, some other race alone, or as belonging to two or more races.

According to the 2000 US Census, the percentage of the Study Area below poverty level is 13.4% (1,896 persons) of the Study Area population (14,125 persons). The year 2000 data indicate that Fulton County, GA and the State of Georgia have low-income populations of 15.2% (124,421 persons) and 12.6% (1,033,793 persons). Although the project traverses areas containing low-income and minority populations, there would be no disproportionate adverse impacts to low-income or minority communities.

Throughout the project, context-sensitive design principles and public involvement efforts would be employed in order to avoid and minimize impacts to low-income and minority communities. Along the proposed alignment, public involvement with the local residents is crucial to obtain feedback on their community's needs. An EJ analysis and coordination/outreach with the community is discussed in the EJ Section of this document.

Land Use

The land uses in the vicinity of the project are a mix of high density commercial and low and medium density residential property. In the vicinity of the proposed project, SR 400 is bounded to the east and west primarily by medium residential properties consisting of low-rise apartment and condominium complexes. A large vacant commercial parcel once housing a Home Depot is located to the southwest of SR 400. I-85 is bounded to the south by low density residential properties, primarily comprised of single family homes. To the north, I-85 is bounded by existing GDOT right-of-way and the Buford Highway and Sidney Marcus Boulevard corridors. Low and medium density residential properties consisting primarily of low-rise apartment and condominium complexes are located to the north of these corridors.

Bike and Pedestrian Facilities

Existing bike and pedestrian facilities located on the surface street corridors would not be affected the proposed project. SR 400 and I-85 are limited access expressway facilities that prohibit by pedestrians and non-motorized bicycles therefore pedestrian and bicycle facilities do not exist on these corridors.

Crash Data

A three-year history of crashes along the proposed SR 400 and I-85 Connector Ramps is shown in **Tables 6-11**, Crashes History of SR 400 from Lenox Road to I-85, Crashes History of I-85 from North Druid Hills Road to Piedmont Road, Crashes History of Sidney Marcus Boulevard from SR 400 to Buford Highway, Crashes History of Buford Highway from Lenox Road to North Druid Hills Road, Crashes History of Lenox Road from Buford Highway to Chantilly Drive, and Crashes History of North Druid Hills Road from Buford Highway to Northeast Expressway, respectively. These tables provide the number of crashes, the number of injuries, and the number of fatalities (with respective crashes, injury, and fatality rates) per year between 2004 and 2006. In comparison, the statewide crashes and injury rates for Urban Freeway and Expressway, Urban Interstate Principal Arterial, Urban Minor Arterial, and Urban Principal Arterial roads for 2004-2005 are given in **Tables 12-15**, respectively. All crashes, injury, and fatality rates are per 100 million vehicle miles.

Table 6: Crashes History of SR 400 from Lenox Road to I-85

Project	Year	Total Crashes/ Crashes Rate*	Total Injuries/ Injury Rate*	Total Fatalities/ Fatality Rate*
NH000-0085-02(153)	2004	198/193**	77/75**	1/0.97**
	2005	257/224**	90/78**	0/0
	2006	232/201**	70/61**	2/1.73**

* All crashes, injury, and fatality rates are per 100 million vehicle miles.
** Exceeds statewide average for Urban Freeway and Expressway that year.

Table 7: Crashes History of I-85 from North Druid Hills Road to Piedmont Road

Project	Year	Total Crashes/ Crashes Rate*	Total Injuries/ Injury Rate*	Total Fatalities/ Fatality Rate*
NH000-0085-02(153)	2004	559/369**	151/100**	0/0
	2005	581/335**	210/121**	4/2.31**
	2006	508/311**	181/111**	0/0

* All crashes, injury, and fatality rates are per 100 million vehicle miles.
** Exceeds statewide average for Urban Interstate Principal Arterial that year.

Table 8: Crashes History of Sidney Marcus Boulevard from SR 400 to Buford Highway

Project	Year	Total Crashes/ Crashes Rate*	Total Injuries/ Injury Rate*	Total Fatalities/ Fatality Rate*
NH000-0085-02(153)	2004	31/1,151**	3/111	0/0
	2005	30/1,083**	3/108	0/0
	2006	45/988**	14/307**	0/0

* All crashes, injury, and fatality rates are per 100 million vehicle miles.
** Exceeds statewide average for Urban Minor Arterial that year.

Table 9: Crashes History of Buford Highway from Lenox Road to North Druid Hills Road

Project	Year	Total Crashes/ Crashes Rate*	Total Injuries/ Injury Rate*	Total Fatalities/ Fatality Rate*
NH000-0085-02(153)	2004	213/1,307**	60/368**	1/6.14**
	2005	207/1,768**	68/581**	0/0
	2006	101/793**	34/267**	0/0

* All crashes, injury, and fatality rates are per 100 million vehicle miles.
** Exceeds statewide average for Urban Principal Arterial that year.

Table 10: Crashes History of Lenox Road from Buford Highway to Chantilly Drive

Project	Year	Total Crashes/ Crashes Rate*	Total Injuries/ Injury Rate*	Total Fatalities/ Fatality Rate*
NH000-0085-02(153)	2004	13/4,755**	2/732**	0/0
	2005	12/379	5/158**	0/0
	2006	7/211	1/30	0/0

* All crashes, injury, and fatality rates are per 100 million vehicle miles.
** Exceeds statewide average for Urban Minor Arterial that year.

Table 11: Crashes History of North Druid Hills Road from Buford Highway to Northeast Expressway

Project	Year	Total Crashes/ Crashes Rate*	Total Injuries/ Injury Rate*	Total Fatalities/ Fatality Rate*
NH000-0085-02(153)	2004	242/2,862**	42/497**	0/0
	2005	248/5,199**	59/1,237**	0/0
	2006	172/4,490**	33/862**	0/0

* All crashes, injury, and fatality rates are per 100 million vehicle miles.
** Exceeds statewide average for Urban Minor Arterial that year.

Table 12: Statewide Crashes History Rate, Urban Freeway and Expressway

Year	Crashes Rate	Injury Rate	Fatality Rate
2004	190	44	0.59
2005	206	49	0.77
2006	200	46	0.73

Table 13: Statewide Crashes History Rate, Urban Interstate Principal Arterial

Year	Crashes Rate	Injury Rate	Fatality Rate
2004	202	47	0.70
2005	210	49	0.58
2006	220	49	0.56

Table 14: Statewide Crashes History Rate, Urban Minor Arterial

Year	Crashes Rate	Injury Rate	Fatality Rate
2004	490	123	1.41
2005	534	135	1.56
2006	531	132	1.51

Table 15: Statewide Crashes History Rate, Urban Principal Arterial

Year	Crashes Rate	Injury Rate	Fatality Rate
2004	463	116	1.13
2005	513	128	1.50
2006	494	120	1.52

The crash rates for 2004-2006 on SR 400 from Lenox Road to I-85, I-85 from North Druid Hills to Piedmont Road, Sidney Marcus Boulevard from SR 400 to Buford Highway, and Buford Highway from Lenox Road to North Druid Hills Road exceed the corresponding functional classification statewide average for each year. The 2004 crash rate on Lenox Road from Buford Highway to Chantilly Drive exceeds the statewide average for urban minor arterials. Further evaluation of the crash rates at these intersections indicates that these crash rates exceed the corresponding functional classification statewide average by 0.5% to 870%. The crash rates on SR 400 from Lenox Road to I-85 exceed the statewide average for urban freeways and expressways by 0.5% to 8.7%. The crash rates on I-85 from North Druid Hills Road to Piedmont Road exceed the statewide average for urban interstate principal arterials by 41% to 83%. The crash rates on Sidney Marcus Boulevard from SR 400 to Buford Highway exceed the statewide average for urban minor arterials by 86% to 135%. The crash rates on Buford Highway from Lenox Road to North Druid Hills Road exceed the statewide average for urban principal arterials by 62% to 245%. The 2004 crash rate on Lenox Road from Buford Highway to Chantilly Drive exceeds the statewide average for urban minor arterials by 870%.

Similarly, the 2004-2006 injury rates for these corridors, with the exception of Sidney Marcus Boulevard from SR 400 to Buford Highway, exceed the corresponding functional classification statewide average for each year. The injury rates at these intersections exceed the corresponding statewide average by 33% to 354%. The injury rates on SR 400 from Lenox Road to I-85 exceed the statewide average by 33% to 70%. The injury rates on I-85 from North Druid Hills Road to Piedmont Road exceed the statewide average by 113% to 147%. The 2004 injury rate on Sidney Marcus Boulevard from SR 400 to Buford Highway exceeds the statewide average by 133%. The injury rates on Buford Highway from Lenox Road to North Druid Hills Road exceed the statewide average by 123% to 354%.

Finally, the fatality rates on several corridors exceed the statewide average. The 2004 and 2006 fatality rates on SR 400 from Lenox Road to I-85 exceed the statewide average by 64% and 137%, respectively. The 2005 fatality rate on I-85 from North Druid Hills Road to Piedmont Road exceeds the statewide fatality rate by 298%. The 2004 fatality rate on Buford Highway from Lenox Road to North Druid Hills Road exceeds the statewide average by 443%.

Generally, the crash, injury and fatality rates along the project corridor substantially exceed the corresponding annual statewide averages. Given the predicted increases in traffic volumes in metropolitan Atlanta, crash, injury and fatality rates are likely to increase. The proposed improvements to SR 400 and I-85 would relieve traffic congestion on these surface streets by providing a more direct link for southbound traffic on SR 400 to access I-85 northbound and southbound traffic on I-85 to access SR 400 northbound. This reduction in surface street traffic would reduce congestion and likely reduce crashes at these locations.

Need and Purpose

The need for the SR 400/I-85 access ramps is to provide a connection that does not currently exist, which would reduce traffic congestion and improve safety on the surface streets currently being utilized to make the connection between these two facilities. The purpose of the proposed project is to provide a direct connection between southbound SR 400 and northbound I-85 as well as between southbound I-85 and northbound SR 400, which will improve access and reduce the crashes and injury rates in the proposed project study area's surface streets. Additionally, the proposed project would enhance the transportation system continuity at this interchange by establishing a consistent functional classification for motorists and eliminating the use of surface streets to connect between these freeway facilities. Also the travel time would be reduced and the operating speed would be more consistent for motorists by constructing the ramps between SR 400 and I-85.

ATTACHMENT 2

Initial Concept Team Meeting Minutes

MEETING NOTES

Date: 6/16/2008

HNTB Project Number: 45715

Project Name:
SR 400/I-85 Connector Ramps, NH-0085-02(153), Fulton County
PI No.762380

Location: GDOT Urban Design

Meeting Purpose: Project Status

Attending:

NAME	FIRM	PHONE/EMAIL
Darrell Richardson	GDOT-Urban Design	404-657-9872/drichardson@dot.ga.gov
Charles A. Robinson	GDOT-Urban Design	404-656-5440/chrobinson@dot.ga.gov
Albert Shelby	GDOT-Urban Design	404-656-5440/ashelby@dot.ga.gov
Eric Granados	HNTB	404-946-5765/egranados@hntb.com
Xuewen Le	HNTB	404-946-5741/xle@hntb.com
Keith McCage	HNTB	404-946-5731/kmccage@hntb.com
Robert Miller	HNTB	404-946-5713/rhmiller@hntb.com
Keith Strickland	HNTB	404-946-5744/kstrickland@hntb.com
Bruce Hart	KEA Group	678-904-8591 x 26/bhart@keagroup.com
Collin Lane	KEA Group	678-904-8591 x 30/clane@keagroup.com
Dale Youngkin	KEA Group	678-904-8591 x 23/dyoungkin@keagroup.com

A project status meeting was held on June 16, 2008 for the SR 400/I-85 Connector Ramps Project. The following is a summary of items discussed:

1. Introduction:
   Keith Strickland opened the meeting by having everyone introduce themselves to the group.

2. Meeting Objectives:
   The meeting was planned to review the current status of the traffic modeling and alternative development with GDOT and solicit their input before moving on to the next step of having a project team meeting with FHWA.

3. Existing Conditions:
   a) The 2007 level of service results from the CORSIM model were shown and explained.
      - Buford Highway interchange, Buckhead loop interchange, and Lindbergh Drive intersection had been added to the model
      - The CORSIM model does not take into account the effects of the Downtown Connector backing up nor does it show the effects from the North Druid Hills Road and Briarcliff Road intersection backing up
      - Results from the CORSIM model indicate which local road intersections and which sections of interstate currently are failing

4. Preferred Alignment
   Alternative 8, Design Speed and Typical Section
   a) Alternative 8 is revision of Alternative 7. This alternative was needed in order for the ramp to meet horizontal sight distance standards for a design speed of 55 mph. Alternative 7 with a typical section of a 4' inside shoulder, 16' lane, and 12' outside shoulder did not meet horizontal sight distance standards. For Alternative 8, the radius was increased and the typical section was changed to a 12' inside shoulder, 16' lane, and 4' outside shoulder. The change in radius and the lane being farther out causes the tie-in to be further north.

b) Darrell Richardson asked why the design had to meet 55 mph design speed. It is typical for the ramp design speed to be 10 mph lower than the mainline speed design. Darrell also suggested that HNTB look at the existing ramps at the interchange and see what sight distance they meet, the I-85 SB to Buford Hwy SB in particular looks like it has a similar radius. HNTB could also shift the shoulder widths before the gore if needed. Having the inside shoulder be the breakdown area does not meet driver's expectancy. The structure's overall width should stay the same while the lane and shoulder widths could be shifted on the structure until there is adequate sight distance. If existing structures at the interchange do not meet horizontal sight distance for a 45 mph design speed then we may look into a design exception to bring the speed design down to 40 mph.

5. Concept Guide Signing Plan
    a) Albert Shelby requested the group look at the signing concept. Keith S. gave a brief overview of the concept.
    b) Darrell asked if the exit to Sidney Marcus Blvd. on GA 400 SB was still the higher volume exit versus the new exit to I-85 NB. Xuewen responded that it was but by only 300-400 vph.
    c) After a brief review of the signing concept, Albert mentioned that he will send the plan to GDOT Traffic Operations for their comments. Albert will send Scott Zehngraff a PDF provided by HNTB.

6. Traffic Analysis
    a) Keith Strickland reviewed the results from the 2035 CORSIM model for No-Build and Build conditions.
    b) In the No-Build condition the surface streets back up so much that they impact the interstate.
    c) The NB exit to North Druid Hills Road backs up onto the interstate under No-Build conditions.
    d) In the Build condition the exit to GA 400 is moved to the south which increases the weave distance for vehicles from North Druid Hills Road.
    e) Albert asked if an opening year model had been developed. He is interested to see what the initial improvement looks like and for how many years the project will provide relief to the surface streets before they begin to fail due to increases in volume. Keith S. responded that HNTB did not want to do this model until we were more assured of a preferred alternative.
    f) In the PM, the CORSIM model does not show the effects of back up from the Downtown Connector.
    g) The section of I-85 NB from the 400 NB off-ramp to the new 400 SB on-ramp is the only area that is shown to be getting worse because the current alternative keeps this section as three lanes with three additional lanes coming on at the 400 SB and Buford Highway on-ramp.
    h) Albert asked if ramp meters were considered in the model. There will be one at the Lenox Road on-ramp. Keith S. said that they were not and that HNTB would look to add them in.

7. Construction Cost
    a) The realignment of the Buford Highway on-ramp adds significant cost to the project. This design is based on the desire to have 400 SB traffic on the inside with Buford Highway traffic on the outside. The cost would change if 400 SB ramp merged on the outside. This may be difficult to do with the vertical alignments.
    b) Albert said that he would like to know if it was possible to merge the 400 SB ramp on the outside and what the difference in cost, ROW impacts, and historic impacts would be. This information will be good to have in case anyone asks.

8. Community Issues
    a) Lindbergh/LaVista Corridor Coalition Meeting
        - Keith S. mentioned that HNTB received the meeting notes from GDOT for the community meeting but that these notes only listed the questions received and not the answers provided. Albert responded that the answers were generic responses that did not warrant writing down.
    b) Computer Rendering Process

- Keith S. talked about the computer rendering process and when HNTB needed the go ahead to let our rendering people begin this work.
- Albert asked what we were planning to render. Keith S. responded that it was an animation and that it was capable of doing a drive thru, flyby, or views from fixed points. The models typically take 3-4 weeks to do, depending on what views the Department would like to see and how much detail they would want.
- Albert would like to see a rendering of the "pinch point" where the flyover column comes down in the median of I-85.
- Darrell asked how elaborate the model would be. Keith S. responded that he would take the Department's requests and then see what our rendering team can do with the current budget.
- It was decided to wait on going forward with the computer rendering process until a preferred alternative is decided and more details such as noise wall locations are known.

9. Next Steps
    a) Albert wants to see what the opening year improvements would be and when the surface streets would start to degrade again. Keith S. mentioned that the year the surface street would start to fail would only be a rough estimate at this point.
    b) Will wait on Traffic Operations comments on the signing plan before moving forward with scheduling a meeting with FHWA.
    c) There was debate on whether the project would need an IJR or an IMR. Will discuss with FHWA when we have the meeting.
    d) Darrell recommended that we have the Public Information Open House (PIOH) before any smaller community meetings. By having the PIOH first, most questions can be addressed at once and answered with formal written responses.
10. Environmental
    a) Bob Miller mentioned that the draft ecology report had been finished but that we would need a recommended alignment before further study is done.
    b) There will be impacts to Peachtree Creek but this should be limited to mostly bridge columns.
    c) Corp of Engineers may want a stormwater system for the project. Darrell mentioned that GDOT has enough land in the area for a pond if it is needed.
    d) The possible location of a historic cemetery near the project site had been investigated and nothing was found. There is a chance the later archeology study could find something.
11. Project Schedule
    a) Albert stated that he considered that we have cleared the initial concept team meeting milestone by having this and previous meetings. The initial concept team meeting was original scheduled for June 18.
    b) SUE quality level D study has been approved
    c) Albert stated that the question that will most likely pop up will be how we can make it cheaper. Possibly look at exceptions on the one overpass.
    d) Will have a formal VE Study but Albert would like the team to do their own VE review before then.
    e) Albert would like to have as many questions answered as possible before meeting with FHWA.
    f) Next major milestone will be the Concept Team Meeting, currently scheduled for August 14.

12. Action Items Summary
    a) HNTB will provide PDFs of the guide sign concept and stick diagram for Albert to send along to Traffic Operations for comment. (This was provided to Charles Robinson at the end of the meeting)
    b) HNTB will run the CORSIM model for the opening year Build and No-Build conditions and also approximate what year the surface streets start to fail due to increasing volumes.
    c) Albert will need assurances from HNTB by the middle of July that they will be ready for a Concept Team Meeting in the middle of August.
    d) After Albert receives comments from Traffic Operations and HNTB revises the signing plan based on these comments, Albert will send PDFs of the roadway concept plans to FHWA so that they can become familiar with the design.

This is our understanding of items discussed and decisions reached. Please contact us if there are changes or additions.

Submitted by,

HNTB CORPORATION

Keith McCage, PE

ATTACHMENT 3

Concept Team Meeting Minutes

MEETING NOTES

Date: 9/02/2008

HNTB Project Number: 45715

Project Name:
SR 400/I-85 Connector Ramps, NH00-0085-02(153), Fulton County
PI No.762380

Location: GDOT Urban Design

Meeting Purpose: Project Concept Team Meeting

Attending:

NAME	FIRM	PHONE/EMAIL
Ben Buchan	GDOT-Urban Design	404-631-1700/bbuchan@dot.ga.gov
Darrell Richardson	GDOT-Urban Design	404-631-1705/drichardson@dot.ga.gov
Charles Robinson	GDOT-Urban Design	404-631-1675/chrobinson@dot.ga.gov
Albert Shelby	GDOT-Urban Design	404-631-1675/ashelby@dot.ga.gov
Nabil Raad	GDOT-Traffic Safety & Design	404-635-8126/nraad@dot.ga.gov
Ron Wishon	GDOT-Engineering Services	404-631-1753/rwishon@dot.ga.gov
Amber Phillips	GDOT-OEL	404-699-4408/aphillips@dot.ga.gov
Jennifer Giersch	FHWA	404-562-3653/jennifer.giersch@fhwa.dot.gov
Mindy Roberson	FHWA	404-562-3652/melinda.roberson@fhwa.dot.gov
Dan Hood	HNTB	404-946-5734/jhood@hntb.com
Xuewen Le	HNTB	404-946-5741/xle@hntb.com
Keith Strickland	HNTB	404-946-5744/kstrickland@hntb.com
Chauncey Elston	G&O	678-987-3912/celston@g-and-o.com
Nancy McReynolds	Terracon	770-623-0755/nkmcreynolds@terracon.com
Junior Tunnell	Street Smarts	770-813-0882/juniort@streetsmarts.us
Dale Youngkin	KEA Group	678-904-8591x23/dyoungkin@keagroup.com

I. WELCOME – Albert Shelby

II. INTRODUCTION OF ATTENDEES – Albert Shelby

III. PROJECT IDENTIFICATION – Albert Shelby

Project Number: NH000-0085-02(153)
County: Fulton Co. **City:** Atlanta
P.I. Number: 762380
SR 400/I-85 Connector Ramps

SR400/I-85
ROW – Long Range
CST – Long Range

Albert Shelby identified the project as SR 400/I-85 Connector Ramps with Project Number NH000-0085-02(153), PI No. 762380. It is located in Fulton County, City of Atlanta. He indicated that both Right-of-Way and Construction are in long range.

IV. NEED AND PURPOSE – HNTB Corporation

Dale Youngkin of KEA Group, the lead environmental subconsultant on the HNTB team, briefly explained the Need and Purpose of the project. He stated that the primary purpose of the project is to enhance connectivity between SR 400 and I-85, two important commuter routes, with proposed new ramps.

Keith Strickland reviewed the travel time table that summarizes the travel timing savings for the traffic movements, which would benefit from the proposed ramps, under Existing, Future No Build and Future Build conditions. He pointed out that the average existing travel times from SR 400 SB at Sidney Marcus Blvd Diverge to I-85 NB at Lenox Rd Merge are 4.8 minutes and 5.1 minutes during AM and PM peak hours, respectively. By using the proposed SR 400 SB to I-85 NB ramp, average 4.4 minutes and 4.5 minutes would be saved in 2015 during AM and PM peak hours, respectively. In 2035, average 5.9 and 7.9 minutes would be saved during AM and PM peak hours, respectively. Similarly, the average existing travel times from I-85 SB at Lenox Rd Diverge to I-85 SR 400 NB at Sidney Marcus Blvd Merge are 3.9 minutes and 4.4 minutes during AM and PM peak hours, respectively. By using the proposed I-85 SB to SR 400 NB ramp, average 11.4 minutes and 4.1 minutes would be saved in 2015 during AM and PM peak hours, respectively. In 2035, average 7.7 minutes and 4.1 minutes would be saved during AM and PM peak hours, respectively.

V. PROJECT DESCRIPTION – HNTB Corporation

- Proposed Concept
- Traffic Operational Conditions
- Environmental Concerns
- Other Alternatives Considered

Keith described the proposed project. A concept drawing with proposed alignments of the two ramps was shown. He used a lane diagram to explain the existing lane configuration at the SR 400/I-85 Interchange. Then he described the alignments and typical sections of the proposed I-85 SB to SR 400 NB Ramp and SR 400 SB to I-85 NB Ramp.

Dan Hood briefly summarized the design criteria that have been used. The design speed is 45 mph for both ramps. It is lower than the originally expected 50 mph or higher because of sight distance constraints. Proposed Maximum Grade is 6%, Maximum Super Elevation Rate is 6% for both ramps.

Keith explained the estimated project cost, which is approximately $38 million.

Keith continued to describe the project by summarizing the traffic forecasts and traffic operational conditions. LOS displays based on average lane densities from CORSIM traffic simulation runs were shown.

Ben Buchan questioned some of the travel times listed in the Need and Purpose table and suggested that HNTB should verify the travel times used in this comparison. He also suggested that the model be revisited to verify no build travel times.

Environmental concerns associated with the proposed alignments were discussed. No substantial physical impacts are anticipated to NRHP-eligible properties and impacts to wetland and streams should be minor (no Individual Permit anticipated).

Keith described other alternatives considered. A variety of alternatives were developed related to differing ramp connections to SR 400 and I-85 and the laneage of the northbound Buford Highway on-ramp at I-85 (one and two-lane ramps).

VI. COMMENTS, CONCERNS, OPEN DISCUSSION – Albert Shelby

- Local Government Representatives
  - State
  - County – Fulton
  - City- Atlanta
- Urban Design
- Planning
- Programming/Financial Management
- Engineering Services
- Traffic Safety & Design
- Environmental
- District Office
- Right of Way
- Utilities - GDOT
- Individual Utility Companies (in attendance)
- Other attendees

Albert Shelby then asked for comments and concerns from attendees. The following are the comments received:

Melinda Roberson of FHWA suggested a written discussion in the concept report to explain why the total shoulder width of the proposed ramps exceeds AASHTO recommended maximum width. The response was that the total width actually included 2 feet clearance to the barrier on each side. HNTB will revise the concept report to clarify this issue. She asked to clarify the location of the typical section for the SB I-85 Ramp to Buford Highway and SR 400 with two 16-foot lanes. She suggested that HNTB review the warning messages in the CORSIM models, which will need to be explained in the IMR. She also requested that HNTB include HCS freeway LOS information in the report, using CORSIM MOE's as supplemental information. She suggested that the design exception should be based on horizontal sight distance instead of speed design. Design speed is normally used when this is a problem over an extended corridor and not a spot issue.

Jennifer Giersch of FHWA asked what the public thought about the project and the plan to solicit local concerns. The response was that the project team has conducted early

coordination with the affected public agencies and has already met with the Lindbergh LaVista Corridor Coalition, a local citizen group that has shown strong interests in this project. A PIOH is also planned to gather public comments on the project. She also asked if we need to show the travel time saving on local arterials in Build Conditions in the travel time table. Ben Buchan replied that it is not necessary because that is not the main purpose of the project. The time saving on local arterials in Build Conditions could be a secondary benefit if there is any. Though it was not considered a main need and purpose, Jennifer noted that the NEPA document should still show the improved arterial street condition in Build Condition as a secondary benefit. Dale Youngkin stated that the Need and Purpose does include a table showing the LOS for surface street intersections, and this is discussed as a secondary benefit, but not the primary purpose of the proposed project.

Nabil Raad of Traffic Safety & Design asked if a combined exit to Sidney Marcus Blvd and to I-85 NB was considered for the ramp from SR 400 SB to I-85 NB. The project team confirmed and explained that the combined exit was considered but was not selected because it would mix system to system traffic (I-85) with local traffic (Sidney Marcus Blvd), and it would also cost more to construct.

Darrell Richardson of Urban Design asked if noise walls have to be constructed in areas that meet criteria even if that section of the roadway was not being touched. It is understood that the project scope includes a noise study, which should address issues related to noise walls.

Amber Phillips suggested that the time to complete the environmental process should be approximately 16 to 24 months. It was agreed that an EA was the expected level of NEPA documentation for this project.

VII. ADJOURN MEETING – Albert Shelby

This is our understanding of items discussed and decisions reached. Please contact us if there are changes or additions.

Submitted by,

HNTB CORPORATION

Xuewen Le, PE

ACTION ITEMS SUMMARY

1. **HTNB to revise the concept report to address comments related to shoulder width, LOS information, and the design exception.**
2. **HNTB to revise the draft Design Exception based on the comments received.**
3. **HTNB to review the CORSIM travel time results and revise the presentation of travel time comparison.**

ATTACHMENT 4

Project Early Coordination Response Letters

2. 104

GEORGIA FORESTRY COMMISSION

Sustainable Community Forestry Program
1055 East Whitehall Road
Athens, GA 30605
P 706-542-6880
F 706-369-5711

An Equal Opportunity Employer & Service Provider

February 14, 2008

Mr. Glenn Bowman, P.E.
State Environmental/Location Engineer
Department of Transportation
#2 Capitol Square, SW
Atlanta, GA 30334-1002

Dear Mr. Bowman:

Construction of the connector ramps for Project NH-0085-02(153) should not have any significant detrimental effect on the flora or fauna at the location.

Please let me know if you have any questions.

Sincerely,

Larry Morris

Larry Morris, Associate Chief
Sustainable Community Forestry Program

sg

cc: Frank Green

GENA L. ABRAHAM, Ph.D
COMMISSIONER
(404) 656-5206

GERALD M. ROSS, P.E.
CHIEF ENGINEER
(404) 656-5277

Department of Transportation

State of Georgia
#2 Capitol Square, S.W.
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BUDDY GRATTON, P.E.
DEPUTY COMMISSIONER
(404) 656-5212

EARL L. MAHFUZ
TREASURER
(404) 656-5224

February 4, 2008

Mr. Rick Hatten
Chief, Forest Management
Georgia Forestry Commission
Box 819, ATTN: Ms. Bonny Adams
Macon, GA 32198-4599

Re: Early Coordination Request for Project NH-0085-02(153), Fulton County, PI No. 762380 - SR 400/I-85 Connector Ramps

Dear Mr. Hatten,

The Georgia Department of Transportation is in the beginning stages of project development for the above noted project. The proposal consists of design and environmental documentation for the reconstruction of the SR 400/I-85 system-level Interchange to add connector ramps from I-85 Southbound to SR 400 Northbound and from SR 400 Southbound to I-85 Northbound in Fulton County. Please refer to Figure 1, Project Location Map for the location of the proposed project corridor.

The design for the project is being developed concurrently with environmental documentation and in compliance with applicable environmental laws and regulations. This process, developed by the Georgia Department of Transportation to make our projects responsive to social, economic, and environmental concerns, offers you the opportunity to identify site specific conditions to be addressed in the environmental document.

Please advise us of any known project area conditions of special concern. With your assistance, we can give these issues due consideration and integrate them into the development of the project alignment and design.

We appreciate your efforts in assisting us with the development of this project. We request your response within 30 days of receipt of this letter. If no comments are received from your agency by March 10, 2008, we will assume you have no comments. If you need additional review time, have any questions, or require additional information, please contact Amber Perkins, NEPA Specialist, at (404) 699-3473 or email at aperkins@dot.ga.gov.

Sincerely,

Glenn Bowman/jem

Glenn Bowman, P.E.
State Environmental/Location Engineer

GB/ap/dy
Attachment

Georgia Forestry Commission
Sustainable Community Forestry Program
Larry Morris – Associate Chief
1055 East Whitehall Road
Athens, GA 30605

Mr. Glenn Bowman, P.E.
State Environmental/Location Engineer
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#2 Capitol Square, SW
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BOWMAN
D'AVINO
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THOMPSON
WILLIAMS
FILE: NH-0085-02(153)
P.I. # 762380
Fulton Co.

Jennifer FT

ATLANTA CITY COUNCIL

MARY NORWOOD
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March 5, 2008

Mr. Glen Bowman, P.E.
State Environmental/Location Engineer
Department of Transportation
#2 Capitol Square, SW
Atlanta, GA 30334

Dear Mr. Bowman,

This letter is written in response to an early coordination letter for Project NH-0085-02(153), Fulton County, PI no. 762380-SR400/I-85 Connector Ramps that was sent to my office. The enclosed study area map includes the following neighborhoods in the City of Atlanta: Lindridge Martin Manor, Piedmont Heights, and Morningside Lenox Park all of which are located within Neighborhood Planning Unit (NPU)-F. Also included in the study area is the LaVista Park neighborhood in DeKalb County. Recently, leaders from these neighborhoods met with me to evaluate and delineate the surrounding neighborhoods' needs and concerns in relation to this project.

Neighborhood Preservation:
While the surrounding neighborhoods acknowledge the need for greater connectivity between SR400 and I-85, the people in NPU-F do not believe that mitigating automobile traffic congestion takes precedence over neighborhood preservation.

Coordination of Planning Efforts/Strategies:
The neighborhoods wish and desire that GDOT work cooperatively, not only with neighborhood leadership, but with the respective planning departments and elected officials in both the City of Atlanta and DeKalb County to develop a project that creates a future transportation infrastructure that is completely congruent with the agreed upon priorities outlined in the City of Atlanta's Comprehensive Transportation Plan (CTP) and well as plans for the Beltline.

Environmental Impact:
This project could pose significant negative environmental impact on the North Fork of Peachtree Creek and surrounding neighborhoods. It is the wish of the neighborhood leadership that GDOT agree to mitigate any negative impact. In addition, the subsequent

loss of permeable surface resulting from this project, will likely increase flooding in the area. Again, it is the expectation of neighborhood leadership that GDOT would adequately address this concern.

Quality of Life Concerns:
The proposed alignment of these ramps presented to stakeholders at the October 2006 meeting placed the southbound SR 400 ramp adjacent to residential property in Lindridge Martin Manor. What noise abatement measures would be instituted by GDOT should this alignment be finalized? Which properties will be impacted by eminent domain? Finally, what is the proposed funding mechanism for this project?

My office looks forward to working with GDOT, its consultants, and the surrounding neighborhoods to achieve a successful plan that is the least disruptive to the residents of NPU-F.

Respectfully,

Mary Norwood

Mary Norwood

cc: Emory McClinton

MARY NORWOOD
COUNCILMEMBER
CITYWIDE POST 2
55 TRINITY AVENUE, S.W.
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OF 762380
Fulton

SHIRLEY FRANKLIN
MAYOR

CITY OF ATLANTA

STEVEN R. COVER
COMMISSIONER

DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
55 Trinity Avenue, S.W. SUITE 1450 – ATLANTA, GEORGIA 30303
404-330-6070 – FAX: 404-658-7638
http://www.atlantaga.gov/Government/Planning.aspx

March 10, 2008

Mr. Glenn Bowman, P.E.
State Environment/Location Engineer
Georgia Department of Transportation
State of Georgia
#2 Capitol Square, S.W.
Atlanta, GA 30334-1002

Dear Mr. Bowman:

This letter is in response to the Early Coordination Request for Project NH-0085-02 (153) PI no. 762380 – SR 400/85 Connector Ramps. These are formal comments on behalf of the City of Atlanta's Department of Planning and Community Development, including the Department's Transportation Planning Division and Urban Design Commission. We appreciate the opportunity to respond and supply comments on this initial phase of environmental documentation.

Due to the limited roadway network in the area, and the potential for physical, visual, and operational affects outside the "Project Study Area", the study area needs to be expanded. The suggested limits are, but not limited to, Briarcliff Road on the east and the intersection of Piedmont Rd and Greenview Ave on the northwest and the intersection of Lindbergh and Sharondale Drive on the west.

While the region may be interested in capacity adding projects that solely relieve congestion on a large scale, the SR400/85 suggestions are contrary to the City's goals of predominately operational and transportation mitigation projects. Additionally, the City is only interested in projects that are supportive of mixed land uses and pedestrian -scaled projects.

The Piedmont Corridor Study was recently adopted by the Buckhead Community Improvement District and there were a number of recommendations to help alleviate traffic on SR400/85 that would not displace homes and neighborhoods. It is highly suggested to consider these recommendations over the ones outlined in GDOT's existing environmental assessment.

There are a couple of vehicular improvement suggestions that the City supports for further study. One is the completion of the HOV ramps. The other is the restriping at the merge of 85 south and GA 400 south.

As the region is keenly aware, there are very limited funds available to the State and Atlanta region at this point in time. The study and potential projects resulting from this study appear to be less competitive to other regional projects.

Although historic resource field surveys have not been conducted in this portion of the City recently, there is a high potential for districts, neighborhoods, and individual buildings or structures in the "Project Study Area" boundary to be considered eligible for the National Register of Historic Places, including, but not limited to:

- *Pine Hills* – northeast of the current Ga 400 and I-85 interchange – 1940s to 1960s residential neighborhood
- *Lindridge/Martin Manor* – southeast of the current Ga. 400 and I-85 interchange – 1930s to 1960s residential neighborhood
- *Piedmont Heights* – at the southeast corner of the "Project Study Area" – a 1920s to 1050s residential neighborhood
- *Lindbergh/Morasgo* – on the west side of the Ga. 400 and I-85 interchange – a 1940s to 1960s residential neighborhood
- *Peachtree Park* – at the very edge of the north leg of the "Project Study Area" – a 1920s to 1940s residential neighborhood

Further, in or near each of these neighborhoods, there are non-residential properties that could also be considered National Register eligible. Given their relative periods of development, these areas also likely contain significant post World War II historic resources that have not received substantive research and study, as they would have only recently become National Register eligible. There is a high potential for the proposed project to have effects, including likely adverse effects, on National Register eligible properties in and around the "Project Study Area".

Notwithstanding the concerns noted above, the City we would strongly recommend that full archival and field research we conducted for those potential historic resources in and around the "Project Study Area" as is called for in the National Historic Preservation Act of 1966, as amended.

Procedurally, the City would request that the Atlanta Urban Design Commission be considered a "consulting party" as defined under the National Historic Preservation Act of 1966, as amended. Ms. Karen Huebner should be considered the contact for all "consulting party" correspondence.

In conclusion, the historic, environmental and transportation impacts to the surrounding neighborhoods are not acceptable to the City. As one example, the CD Collectors impact the City and its residents in a number of ways. The extreme height required to route the collectors removes homes and neighborhoods and is a visual blight onto the remaining houses.

Again, I would like to thank you for your request for input from the City. If you have any further questions regarding the City's transportation-related comments, please contact Heather Alhadeff at halhadeff@atlantaga.gov or 404.330.6785. If you have any further questions regarding the City's historic preservation-related comments, please contact Karen Huebner at khuebner@atlantaga.gov or 404-330-6200.

Sincerely,

Steven R. Cover, Commissioner
Department of Planning and Community Development

SRC:ha/dy

Cc: Alice Wakefield, Director, Bureau of Planning (BOP)
Heather Alhadeff, Asst. Director, BOP, Transportation Planning
Karen Huebner, Asst. Director, BOP, Urban Design Commission
Doug Young, Principal Planner, BOP, Urban Design Commission
File

CITY OF ATLANTA
DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT
55 TRINITY AVENUE, S.W., SUITE 1450
ATLANTA, GEORGIA 30303

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Mr. Glenn Bowman, P.E.
State Environment/Location Engineer
Georgia Department of Transportation
State of Georgia
#2 Capitol Square, S.W.
Atlanta, GA 30334-1002

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ATLANTA CITY COUNCIL

HOWARD SHOOK
COUNCILMEMBER
DISTRICT 7

55 TRINITY AVENUE, S.W.
ATLANTA, GEORGIA 30335
DIRECT (404) 330-6050
MAIN (404) 330-6030
FAX (404) 658-6510

March 19, 2008

Mr. Glen Bowman, P.E.
State Environment/Location Engineer
Georgia Department of Transportation
State of Georgia
#2 Capitol Square, S.W.
Atlanta, GA 30334-1002

Dear Mr. Bowman,

Thank you for your invitation to comment on prospective GDOT plans to modify existing conditions as they relate to SR400/85 connections. As the member of City Council elected to represent the subject area, I can certainly say on behalf of my constituents that we appreciate GDOT's interest in this project.

Given the close proximity of existing homes and businesses, our support for a particular outcome will be largely dependent on the extent to which the plan minimizes harm to the adjacent community. Traffic engineers I have spoken with assure me that this can be done, and I am confident that GDOT will seek to be guided by that concern.

I'm sure you have a copy of the recent *Piedmont Corridor Study* commissioned by the Buckhead Community Improvement District. This thoughtful document presents a number of recommendations that reflect accepted engineering principles and very strong community support. I would appreciate it if you could provide responses to those recommendations.

Thank you again for your commitment to resolving this critical transportation issue.

Sincerely,

Howard Shook

Howard Shook

ATTACHMENT 5

Other Project Coordination Meeting Minutes

MEETING NOTES

Date: 12/11/2007

HNTB Project Number: 45715

Project Name:
SR 400/I-85 Connector Ramps, NH-0085-02(153), Fulton County
PI No.762380

Location: City of Atlanta, Bureau of Planning

Meeting Purpose: Project Coordination

Attending:

NAME	FIRM	PHONE/EMAIL
Heather Alhadeff	City of Atlanta, Bureau of Planning	404-330-6785/ halhadeff@atlantaga.gov
Shelley Peart	City of Atlanta, Bureau of Planning	404-330-6781 / speart@atlantaga.gov
Lorn Whittaker	City of Atlanta, Office of Transportation	404-330-6501 / lwhittaker@atlantaga.gov
Denise Starling	Buckhead Area TMA	404-842-2682 / denise@batma.org
Keith Strickland	HNTB	404-946-5744/ kstrickland@hntb.com
Tom Hutchinson	HNTB	404-946-5759/ thutchinson@hntb.com
Xuewen (Shawn) Le	HNTB	404-946-5741/ xle@hntb.com

A project coordination meeting was held on December 11, 2007 at City of Atlanta, Bureau of Planning for the SR 400/I-85 Connector Ramps Project. The following is a summary of items discussed:

Mr. Strickland started the meeting. He stated that this is a fact finding meeting to collect information to aid the travel demand modeling exercise. The output of the travel demand model will support the traffic forecasting task for the interchange project. He then reviewed the GDOT project purpose and project limits. He stated that the purpose of the project is to add two missing southbound movements at the interchange. He emphasized that this project is not going to address congestion at the merge area of SR 400 and I-85 southbound traffic.

Ms. Alhadeff suggested HNTB contact Mr. Jeff Rader, DeKalb County District 2 Commissioner regarding the Sembler development in the North Druid Hills Road/Briarcliff Road area. She also suggested that the team coordinate closely with SRTA.

Ms. Starling mentioned the Buckhead TMA's ongoing Piedmont Study is looking into transportation related improvements along Piedmont Road, as well as other local arterials within the project area. She will keep HNTB on the distribution list for future project updates. The study will be released in January. Ms. Peart stated that HNTB can contact Kimley-Horn for data related to this study.

Mr. Whittaker suggested that HNTB look into a future DRI (Morning Side) near Cheshire Bridge Road and Piedmont Road.

Ms. Starling, Ms. Alhadeff, and Mr. Whittaker mentioned several additional land development and transportation projects near the study area. Two potential future projects include a new MARTA rail station at Miami Circle and an extension of Miami Circle itself. Mention was also made of a Piedmont Circle redevelopment project, a Red Cross site redevelopment, a roadway project involving narrowing a section of Cheshire Bridge Road, and rework of the loop ramp from Buford Highway to Piedmont Road.

Ms. Alhadeff stated that the city recently started its first Comprehensive Transportation Plan (CTP) project. The CTP will use newly approved (2005) census data for traffic forecast. She will keep HNTB informed on project updates.

Regarding the potential CD concept, Ms. Alhadeff commented that because of the potential massive property impacts, the CD concept may be prohibitively expensive and difficult to gain public support.

Ms. Starling asked about the planned public involvement activities. Mr. Strickland indicated that the project team has sent letters to all property owners within the project area; however, the public involvement effort will be limited according to the scope. GDOT does not anticipate major controversy regarding this project. Ms. Starling commented that she thinks that the public has high interest in this project and was surprised that the plan for public involvement is not more extensive.

This is our understanding of items discussed and decisions reached. Please contact us if there are changes or additions.

Submitted by,

HNTB CORPORATION

Xuewen Le

cc: Albert Shelby, GDOT, Charles Robinson, GDOT, Bob Miller, HNTB

MEETING NOTES

Date: 12/19/2007

HNTB Project Number: 45715

Project Name:
SR 400/I-85 Connector Ramps, NH-0085-02(153), Fulton County
PI No.762380

Location: DeKalb County, Planning & Development Department

Meeting Purpose: Project Coordination

Attending:

NAME	FIRM	PHONE/EMAIL
Patrick Ejike	DeKalb County, Planning & Development Department	404-371-2155/ pejike@co.dekalb.ga.us
Lee Azimi	DeKalb County, Planning & Development Department	404-371-2027/ azlee@co.dekalb.ga.us
Shawanna Q. Bowles	DeKalb County, Planning & Development Department	404-371-9771/ sqbowles@co.dekalb.ga.us
Keith Strickland	HNTB	404-946-5744/ kstrickland@hntb.com
Tom Hutchinson	HNTB	404-946-5759/ thutchinson@hntb.com
Xuewen (Shawn) Le	HNTB	404-946-5741/ xle@hntb.com

A project coordination meeting was held on December 19, 2007 at DeKalb County, Planning & Development Department for the SR 400/I-85 Connector Ramps Project. The following is a summary of items discussed:

Mr. Strickland started the meeting. He reviewed the project purpose and project limits. He stated that the purpose of the project is to add two missing ramps at the interchange to relieve congestion on local streets. He stated that this project is not going to address congestion at the merge area of SR 400 and I-85 southbound traffic.

Mr. Ejike questioned how this project was going to impact DeKalb County since this project will move traffic more efficiently toward north on I-85. Mr. Strickland answered that the scope of the concept development is to study several alternatives to evaluate the potential impacts, including a possible CD option that will include North Druid Hills Road Interchange. He stated that the purpose of this meeting is to gather information related to future development and roadway improvement to be considered in the traffic forecasting effort.

Mr. Ejike stated that the Planning and Development Department will provide the information related to future development and land use in this area. He suggested the project team contact the county Public Works Department to obtain future transportation project list. Mr. Ejike then questioned how the project will address future traffic demand related to future development with the compressed project schedule. Mr. Strickland indicated that the travel demand modeling exercise during the concept phase will attempt to evaluate the impacts from future planned development.

Related to the concept study limit, Mr. Strickland explained that typical distance is approximate 500 feet from interchange ramps, and future developments within one mile range will be considered. He stated that during the concept study phase, the project team will modify the Atlanta Regional Commission (ARC) travel demand models to evaluate future traffic demand. Micro traffic simulation models will also be developed to evaluate traffic operations in detail.

Mr. Ejike indicated that the Public Works Department should have future scheduled transportation projects up to 2011. He suggested the team contact Ted Rhinehart or John Gurbal to setup a coordination meeting to discuss the County's improvement plan on North Druid Hills Road. If a meeting

to happen, he suggested Ms Bowles be invited as a coordinator from the Planning and Development Department.

Mr. Ejike also indicated that a Tax Allocation District (TAD) was approved for Briarcliff Area. No plans have been developed for the Executive Park Redevelopment and the Sembler Development.

Ms. Bowles asked HNTB to provide a map to specify the limits of the area that she need to look into for future planned developments. She indicated that she should be able to provide the team an information package with future developments and land use maps by mid January of 2008.

Mr. Azimi asked that HNTB consider traffic control plans for the construction phase of the project.

This is our understanding of items discussed and decisions reached. Please contact us if there are changes or additions.

Submitted by,

HNTB CORPORATION

Xuewen Le

cc: Albert Shelby, GDOT, Charles Robinson, GDOT, Bob Miller, HNTB

MEETING NOTES

Date: 2/05/2008

HNTB Project Number: 45715

Project Name:
SR 400/I-85 Connector Ramps, NH-0085-02(153), Fulton County
PI No.762380

Location: MARTA

Meeting Purpose: Project Coordination

Attending:

NAME	FIRM	PHONE/EMAIL
Scott Pendergrast	MARTA	404-848-4633/ spendergrast@itsmarta.com
Pei-pei Lu	MARTA	404-848-5273/ plu@itsmarta.com
Susan Nolan	MARTA	/ snolan@itsmarta.com
Willie Walker	MARTA	404-848-5151/ wjwalker@itsmarta.com
Roy Ovanessian	MARTA	404-848-4063/ rovanessian@itsmarta.com
Mahesh Mehta	MARTA	/ mmehta@itsmarta.com
Philippe Thomas	MARTA	404-848-5410/ pthomas@itsmarta.com
Keith Strickland	HNTB	404-946-5744/ kstrickland@hntb.com
Xuewen Le	HNTB	404-946-5741/ xle@hntb.com

A project coordination meeting was held on February 05, 2008 at MARTA for the SR 400/I-85 Connector Ramps Project. The following is a summary of items discussed:

Mr. Strickland started the meeting. He reviewed the project purpose and project limits. He stated that the purpose of the project is to add two missing ramps at the interchange. He stated that the purpose of the meeting is to identify any potential impacts to the existing MARTA facilities and any future planned activities in the area.

The project environmental study map was presented in the meeting. A map with lines that representing potential alignment of the two new ramps was also shown in the meeting.

Mr. Pendergrast noted that there is no existing MARTA facility in the area outlined in the study map except the triangular area at the north end of project area between SR 400 and MARTA tracks. There were discussion on the future use of this area but so far no definite plan identified. Mr. Strickland added that depending on where the southbound SR 400 Ramp take-off point is, it may potentially impact the existing right-of-way.

The existing utility facility at the north end of triangular area does not appear to be within the impacted area.

There is an existing CSX rail line crossing under I-85 south of the project. Mr. Pendergrast mentioned there is a plan to construct a light rail line to connect MARTA Lindbergh area with Emory/Clifton Road area. The light rail line will run along the existing CSX rail line within the existing right-of-way.

No formal redevelopment plan has been submitted related to the vacant Home Depot site.

Ms. Lu suggested a follow-up meeting when detailed concept layouts for the new ramps are available.

This is our understanding of items discussed and decisions reached. Please contact us if there are changes or additions.

Submitted by,

HNTB CORPORATION

Xuewen Le

cc: Albert Shelby, GDOT, Charles Robinson, GDOT, Bob Miller, HNTB

MEETING NOTES

Date: 2/07/2008

HNTB Project Number: 45715

Project Name:
SR 400/I-85 Connector Ramps, NH-0085-02(153), Fulton County
PI No.762380

Location: DeKalb County, Public Works Department

Meeting Purpose: Project Coordination

Attending:

NAME	FIRM	PHONE/EMAIL
Patrece Keeter	DeKalb County, Public Works Department/Transportation Division	770-492-5281/ pgkeeter@co.dekalb.ga.us
Keith Strickland	HNTB	404-946-5744/ kstrickland@hntb.com
Xuewen Le	HNTB	404-946-5741/ xle@hntb.com

A project coordination meeting was held on February 07, 2008 at DeKalb County, Public Works Department for the SR 400/I-85 Connector Ramps Project. The following is a summary of items discussed:

Mr. Strickland started the meeting. He reviewed the project purpose and the project scope. He stated that the purpose of the project is to add two missing ramps at the interchange to relieve congestion on local streets. He stated that the purpose of the meeting is to identify any future roadway improvements that DeKalb County is planning in the project area to anticipate potential impacts.

Mr. Strickland indicated that HNTB met with DeKalb County Planning and Development Department in December of 2007. GRTA has provided HNTB information related to some of the DRI's in the project area.

Ms. Keeter mentioned some of the preliminary ideas that the county has in order to improve the North Druid Hills Road/I-85 interchange area. Specifically, she mentioned the recommendation from the Garvin study to provide a connection between the I-85 northbound off ramp and Executive Park Drive. The county intends to use Executive Park as an alternative road to North Druid Hills Road to get around in this area. She indicated that the county has communicated with GDOT District 7 regarding these ideas, however nothing has yet been programmed. Currently there is no conceptual layout available.

Additionally, Ms. Keeter indicated that the county is planning on construct a bridge over I-85 to connect the Executive Park area and Buford Highway. She request HNTB to incorporate the location of the future bridge into the interchange concept if the location could be impacted by the interchange concept.

This is our understanding of items discussed and decisions reached. Please contact us if there are changes or additions.

Submitted by,

HNTB CORPORATION

Xuewen Le

cc: Albert Shelby, GDOT, Charles Robinson, GDOT, Bob Miller, HNTB

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

MEETING SUMMARY

FILE	NH-85-2(153), Fulton County GA400/I-85 Connector Ramps P.I. No. 762380	**OFFICE**	Urban Design
		DATE	May 13, 2008

LOCATION: Westminster Presbyterian Church
Fellowship Hall
1438 Sheridan Road NE
Atlanta, GA 30324
Time: 6:30 p.m. to 8:00 p.m.

ATTENDEES:
Ben Buchan, GDOT
Todd Long, GDOT
Albert Shelby, GDOT
Charles A. Robinson, GDOT
Lindbergh LaVista Corridor Coalition, Public

SUBJECT: GA400/I-85 Connector Ramps

DISCUSSION: GDOT attended a Lindbergh LaVista Corridor Coalition meeting and presented information to the attendees, in a Powerpoint presentation, regarding the purpose and the status of the above referenced project. The purpose of this project is to reconstruct the SR 400/I-85 interchange by providing ramps from SR 400 SB to I-85 NB and from I-85 SB to SR 400 NB. The GDOT SR400/I-85 Connector Ramps project is in its early stages, with data gathering of existing utilities, identification of environmental issues, and traffic modeling. An alignment for this project has not been set. GDOT/HNTB expect to obtain public input on the project when the physical constraints have been assessed, probably later this spring. Additionally, the federal environmental process has not started yet, which includes extensive public involvement. The aforementioned information was presented by Albert Shelby to the public followed by a question and answer (Q&A) session.

Below is a list of questions that were asked and answered by GDOT at the meeting:

1. What structural problems exist with the existing design?
2. Why choose a 55 mph speed design for ramps?

3. Can you remove existing HOV flyover ramp?
4. What is the eminent domain affect property acquisition?
5. What are the requirements for noise walls?
6. Can noise walls be requested by the public in affected areas?
7. What is the decibel level threshold for noise walls?
8. How will the creek within the project limits be affected?
9. How much impermeable surface will be added?
10. What flexibility exists in selecting the design speeds?
11. Can we convert existing HOV lane to an SOV lane?
12. How long will construction take?
13. Will the project be funded through PPI?
14. Is there another ramp connector location?
15. What kind of funding is available from SRTA?

Transcribed by: *Charles A. Robinson*
Reviewed by: *Albert Shelby* AJS

Design Notebook Copy ☐ *Project File Copy* ☐

ATTACHMENT 6

PIOH Comments Response Letter

Gerald M. Ross, P.E., Commissioner/Chief Engineer

DEPARTMENT OF TRANSPORTATION

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

April 24, 2009

Mr. Al Floda
107 Lenox Way
Atlanta, GA 30324

Re: Project NH000-0085-02(153), Fulton County - P.I. No. 762380 – SR 400/I-85 Connector Ramps

Dear Mr. Floda:

Thank you for your comments concerning the proposed project referenced above. We appreciate all of the input that was received as a result of the February 26, 2009 Public Information Open House (PIOH), and every comment will be made part of the official record of the project. On behalf of the Georgia Department of Transportation (Department), please accept our apologies for the delay in sending this response.

A total of 175 people attended the PIOH. Of the comments we received, 49 were in support of the project, 2 were opposed to the project, 2 were uncommitted, and 38 expressed conditional support for the project.

The attendees of the PIOH and those persons sending in comments afterwards raised the following questions and concerns. The Department has prepared this one response letter that addresses all comments received so that everyone can be aware of the concerns raised and the responses given. Please note that questions pertaining to individual property concerns have been forwarded to the Department's Office of Right-of-Way. The Office of Right-of-Way will provide a separate response letter specifically addressing any property value or acquisition concerns.

Please find the comments summarized below (*in italics*) followed by our response.

- *The design of the ramps should incorporate lower design speeds, lower ramp heights, and adequate on-ramp merge lengths.*

To safely function as a connector between SR 400 and I-85, the proposed ramps must adhere to current design standards and guidelines. There is only a small amount of flexibility allowed in design speed, turning radii, vertical clearance between roadways, and profile grades due to the proximity of physically constraining factors. These factors include the I-85 mainline expressway, the SR 400 mainline expressway, adjacent land use development, and the North Fork of Peachtree Creek. Specifically, minimum clearance over the existing I-85 southbound exit ramp to Buford Highway southbound must be maintained and governs the elevation required for the proposed fly-over ramp from SR 400 southbound to I-85 northbound. The piers for the proposed ramp crossing of I-85 have very limited locations for placement. Reducing the radius of the proposed ramp which crosses I-85 changes the location of the pier placement and thus makes it infeasible to span the I-85 mainline expressway and existing ramps. The reduced radius would also provide for an inadequate tie-in and merge condition to the I-85 mainline. The proposed alignments were developed through an iterative process evaluating varying design speeds while balancing traffic operations (e.g. merge conditions), right-of-way impacts, environmental impacts, and construction costs. Modifications to the currently proposed ramp alignments would result in a degraded ramp operational efficiency, additional right-of-way impacts, increased adverse environmental impacts, and increased construction cost.

- *It is requested that an anti-graffiti coating be placed on all new bridge and wall structures.*

The Department appreciates the suggestion to utilize an anti-graffiti coating to protect the proposed structures and will consider available options for materials to be used in constructing the proposed improvements as the project continues to be developed.

- *The project scope should be expanded to include additional connections or modifications to existing connections between SR 400, I-85 and local surface streets. Modifications should also be made to improve turn lanes and pedestrian access in the project area.*

The current project scope includes providing the missing direct connection between two limited access freeways. The requests to review modifications and/or additions to existing connections with local surface streets, make improvements to turn lanes along existing surface streets, and consider including bicycle and pedestrian facilities are outside the scope of this project. These requests, however, can be made to the City of Atlanta and/or the Atlanta Regional Commission (ARC) to consider for possible future projects to be added to the regional transportation plan.

- *Care should be taken during construction to minimize traffic impacts and to minimize impacts on residents.*

Minimizing impacts to traffic and area residents and business owners during construction is an important aspect in the design for all Department projects. Details on the feasibility and constructability of phased construction will be evaluated as the design develops and will be reviewed for incorporation into the project's construction plans. Impacts to the traveling public along I-85 will be reduced by limiting construction of the fly-over bridge to non-peak travel periods.

- *Please design low level lighting to reduce light pollution.*

The feasibility of using low level lighting and standards will be investigated during the design process.

- *The project should stay within the existing right-of-way and not require construction easements.*

The Department makes every attempt to construct projects that cause the least amount of impacts to the environment while attempting to minimize property acquisition and relocations. Unfortunately, property acquisitions and displacements are unavoidable during some projects. The design completed to date for the proposed project has substantially reduced the need for additional right-of-way. The preferred alignment presented at the PIOH does not require any residential displacements. Based on initial estimates, a small amount of property would be required from the former Home Depot property south of Sidney Marcus Boulevard and west of SR 400 and from the Tempo Parkway Apartments in the southwest quadrant of the intersection of Buford Highway and Lenox Road.

- *The project could result in reduced water quality of the North Fork of Peachtree Creek and could increase the flooding potential of the creek.*

The Department is aware that storm water runoff is an environmental concern and is working with state and federal agencies to make our projects more responsive. State-of-the-practice storm water management techniques will be used to mitigate anticipated increases in non-point source pollution and runoff from the project. Best Management Practices (BMPs) for storm water management during construction will be incorporated into the construction plans. Further, a

variety of temporary erosion and sedimentation control measures will be used during project construction. These may include the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods, as applicable. The temporary provisions would be coordinated with permanent erosion control features (such as re-vegetation) insofar as practical to assure economical, effective, and continuous erosion control throughout the construction and post-construction periods.

As part of the storm water system design, project engineers would also evaluate potential impacts to floodplains and ensure that the project does not create flooding problems for surrounding properties. Storm water conveyance from the proposed ramp structures to Peachtree Creek will continue to be evaluated as the design for the project progresses. As the Department prepares the necessary environmental permits with state and federal regulatory agencies, the Department will adhere to the requirements established by these agencies, including storm water collection.

The Department has worked, and will continue working to develop ways to avoid, minimize, and mitigate any impacts to jurisdictional wetlands and streams along the project corridor as the proposed project moves forward. These efforts to avoid and minimize impacts have resulted in a design that has only minor impacts to regulatory wetlands and streams. Impacts to wetlands and streams would require a permit from the US Army Corps of Engineers (USACE). It is expected that Nationwide permit (NWP) 14 will be required; however, since the impacts exceed regulatory thresholds, mitigation for these impacts would be required. Part of the mitigation would likely require the purchase of credits from an USACE-approved mitigation bank.

- *It is requested that a creek crossing be avoided and that overgrown vegetation (i.e., kudzu and bamboo) along the North Fork of Peachtree Creek be removed.*

The North Fork of Peachtree Creek crosses under I-85 within the project limits. Due to its proximity to I-85, crossing the creek cannot be avoided. The removal of existing vegetation along the banks of the North Fork of Peachtree Creek would require a stream buffer variance from the Environmental Protection Division. Since the area of requested vegetation removal is outside the construction limits of this project, the removal would be beyond the scope of the project.

- *Noise assessments should be conducted to collect accurate and representative data. Levels should be checked on a day when the pavement is wet. Noise walls should be added to the proposed ramps and to the existing portions of SR 400 and I-85 where noise levels exceed thresholds.*

Considerations to mitigate noise impacts from highway traffic generated noise are part of the planning, location, and design of this project, as for all Federal-aid transportation projects of this type. As part of this project, a Noise Impact Assessment Study will be conducted to determine the acoustic impact of the proposed project and the need for abatement measures. The determination of noise impacts and abatement measures will be in compliance with Title 23, Code of Federal Regulation (CFR), Part 772, and the Department's policies for highway noise barrier construction. More information regarding the Department's noise barrier policy can be found in Section 11.2.6 of the Department's Design Policy Manual, available online at http://wwwb.dot.ga.gov/dpm/index.html. Additional information concerning the Federal Highway Administration's guidelines is available at http://www.fhwa.dot.gov/environment/noise/mem_nois.htm.

- *Evergreen plantings should be used in conjunction with noise walls to buffer noise and improve visual aesthetics.*

In our experience vegetation does not significantly reduce traffic noise impacts. Should the Noise Impact Assessment Study indicate a need for noise mitigation, the Department will perform a cost and benefit analysis to determine the feasibility of installing appropriate noise abatement measures.

- *Efforts by the Department to inform the public about the PIOH were not adequate. An alternative meeting location at Westminster Presbyterian Church at 1438 Sheridan Road is suggested for future meetings.*

Public involvement is an important part of any project that is undertaken by the Department. As part of the notification for the public information open house, a legal advertisement was placed in the local papers, public service announcements ran on local radio stations, correspondence was transmitted to City, County, and State officials and local neighborhood associations, and signs were placed in various locations within the vicinity of the project area. In addition, information was placed on the Department's website. As coordination for future public outreach efforts proceeds, we appreciate the suggested location and we will evaluate it for adequate space and availability.

- *Information was requested about additional public involvement activities.*

Once the draft environmental document is approved, the Department will hold a public hearing open house (PHOH) to allow the public to review and comment on the project and the draft environmental document.

- *The proposed single lane connector ramps may not be adequate to handle future traffic volumes projected at this interchange.*

The design year (2035) traffic projections for these ramps were less than 1800 vehicles per hour, which is less than the capacity of a single lane ramp (2100 vehicles per hour). Therefore, the traffic analysis conducted for this project indicates single lane ramps will be sufficient to handle projected traffic through the design year of 2035.

- *The traffic flows on Lindbergh will be negatively impacted by this project.*

Currently motorists must utilize Lenox Road, Buford Highway, and Sidney Marcus Boulevard to travel between SR 400 North and I-85 North. Due to the severe congestion along these roads, Lindbergh Drive has been used as an alternative route. The proposed ramps will divert these trips from Lenox Road, Buford Highway, and Sidney Marcus Boulevard by providing direct access between SR 400 North and I-85 North. Consequently, the proposed ramps should positively impact Lindbergh Drive by diverting trips that will use the new ramps.

- *The project costs are too high and the project should be dropped from priority for funding.*

Currently, the estimate for completing the SR 400/I-85 Connector Ramps, including utility relocations, right-of-way acquisition, and construction, is approximately $36.7 Million. The lack of connectivity at this important transportation node in metropolitan Atlanta results in severe traffic congestion on numerous local surface streets. As residential areas and employment centers located along SR 400 and I-85 continue to see positive growth, the traffic situation worsens. A number of local transportation studies and plans place a high level of priority on the completion of this project as it will provide much needed relief to commuters and residents of the area alike.

- *How is the construction of the project being funded? Could tolls from SR 400 be increased and used as supplemental funding for the project? Tolls could also be added to the HOV exit and entrance ramps.*

The Department and the local governments have identified many projects that must compete for the available highway construction funds from the state and the federal government. Unfortunately, the needs continue to exceed the availability of highway construction funds and construction costs have skyrocketed making this problem even more critical. This project is in the first phase of development and will only move to construction when funds have been identified and allocated. The use of toll funds collected on SR 400 has not yet been reviewed as a source of funds for this project.

- *The project should become a high priority of the Atlanta Regional Commission, the Georgia Regional Transportation Authority, and the Georgia Department of Transportation and completed as soon as possible to relieve traffic congestion of the existing street network (e.g., Piedmont Road, Lenox Road, and Sidney Marcus Boulevard).*

The SR 400 and I-85 interchange project is considered a high priority by many locally approved transportation plans and is included in the region's Transportation Improvement Plan (TIP). The interchange improvements can only be authorized for construction after funds have been identified and allocated in the TIP.

- *A total of 41 respondents indicated full support of the project and believe it will relieve congestion on the existing surface street network used by travelers to transition between SR 400 and I-85. Many of these respondents expressed satisfaction in the minimal project impacts and indicated a strong desire to see this project advance to construction as quickly as possible.*

All comments received from citizens are appreciated. The current project schedule proposes the design to be complete in 2011. The right-of-way acquisition and construction phases are not currently funded.

Thank you again for your comments. Should you have any further questions concerning this project, please call the Department's project manager Albert Shelby at (404) 631-1675 or Amber Phillips of the Office of Environment/Location at (404) 699-4408.

Sincerely,

Glenn Bowman/ap

Glenn Bowman, P.E.
State Environmental/Location Engineer

GB/ap

cc: Albert Shelby, Georgia DOT Project Manager

ATTACHMENT 7

Construction Cost Estimate Including E&C

Estimate Report for file "762380 Separate Ramps"

Section Removal

Item Number	Quantity	Units	Unit Price	Item Description	Cost
201-1500	1	LS	75000.00	CLEARING & GRUBBING -	75000.00
				Section Sub Total:	**$75,000.00**

Section Traffic

Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	1	LS	150000.00	TRAFFIC CONTROL -	150000.00
500-2100	24000	LF	65.00	CONCRETE BARRIER	1560000.00
63X-XXXX	8	EA	60000.00	OVERHEAD SIGNS COMPLETE IN PLACE	480000.00
653-XXXX	1	Lump Sum	15000.00	SIGNING & PAVEMENT MARKING	15000.00
				Section Sub Total:	**$2,205,000.00**

Section Earthwork & Erosion Control

Item Number	Quantity	Units	Unit Price	Item Description	Cost
208-0100	94550	CY	10.00	IN PLACE EMBANKMENT	945500.00
700-XXXX	1	Lump Sum	15000.00	PERMANENT GRASSING	15000.00
716-XXXX	1	Lump Sum	150000.00	EROSION CONTROL	150000.00
				Section Sub Total:	**$1,110,500.00**

Section Paving

Item Number	Quantity	Units	Unit Price	Item Description	Cost
310-5120	19400	SY	25.00	GR AGGR BASE CRS, 12 INCH, INCL MATL	485000.00
400-3402	1050	TN	100.00	ASPH CONC 19 MM SMA, GP 2 ONLY, INCL POLYMER-MODIFIED BITUM MATL & H LIME	105000.00
430-0620	19400	SY	80.00	PLAIN PC CONC PVMT, CL HES CONC, 12 INCH THK	1552000.00
				Section Sub Total:	**$2,142,000.00**

Section Drainage

Item Number	Quantity	Units	Unit Price	Item Description	Cost
550-XXXX	1	Lump Sum	150000.00	DRAINAGE STRUCTURES & PIPE	150000.00
				Section Sub Total:	**$150,000.00**

Section Structures

Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3XXX	27250	SF	50.00	RETAINING WALL/MSE WALL	1362500.00
50X-XXXX	103500	SF	150.00	BRIDGE - SR 400 SB to I-85 NB	15525000.00
50X-XXXX	44500	SF	120.00	BRIDGE - I-85 SB to SR 400 NB	5340000.00
624-0400	39900	SF	25.00	SOUND BARRIER, TYPE-	997500.00
				Section Sub Total:	**$23,225,000.00**

Section Misc.

Item Number	Quantity	Units	Unit Price	Item Description	Cost
XXX-XXXX	1	Lump Sum	3500000.00	CONTINGENCY	3500000.00
				Section Sub Total:	**$3,500,000.00**

Total Estimated Cost: $32,407,500.00

Subtotal Construction Cost $32,407,500.00

E&C Rate 12.0 % $3,888,900.00

Inflation Rate 0.0 % @ 0 Years	$0.00
Total Construction Cost	**$36,296,400.00**
Right Of Way	$1,500,000.00
ReImb. Utilities	$150,000.00
Grand Total Project Cost	**$37,946,400.00**

ATTACHMENT 8

Preferred Alternative Alignment

LEGEND

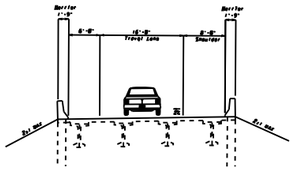
- SR400S TO I-85N RAMP
- I-85S TO SR400N RAMP
- RESTRIPED EXISTING LANES
- I-85N BARRIER
- POTENTIAL DISPLACEMENTS
- POTENTIAL HISTORICAL BOUNDARIES
- WETLANDS
- PARCEL
- RIVERS

EXISTING UNDERGROUND UTILITIES

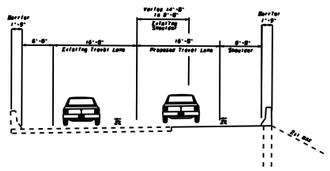
- E — ELECTRIC
- T — TELECOMMUNICATIONS
- TV — CABLE TV
- W — WATER
- SANITARY SEWER WITH FLOW DIRECTION
- G — GAS

EXISTING OVERHEAD UTILITIES

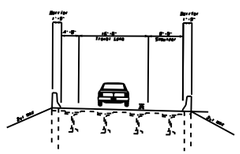
- E — ELECTRIC/TELECOMMUNICATIONS
- ELECTRIC/TELECOMMUNICATIONS/CABLE TV
- T — TRAFFIC CONTROL



SR 400 SOUTHBOUND TO I-85 NORTHBOUND



I-85 SOUTHBOUND TO
BUFORD HIGHWAY (SR 13) SOUTHBOUND/SR 400 NORTHBOUND



I-85 SOUTHBOUND TO SR 400 NORTHBOUND

SCALE IN FEET
0 100 200 400

N

SR 400 SB
SR 400 NB
CANTERBURY RD
PINE TREE RD
SIDNEY MARCUS BLVD
BUFORD HWY
LENOX RD
CHESHIRE BRIDGE RD
I-85 SB
I-85 NB
LINDBERGH DR
45 mph
R=1250'
6' inside shoulder
8' outside shoulder

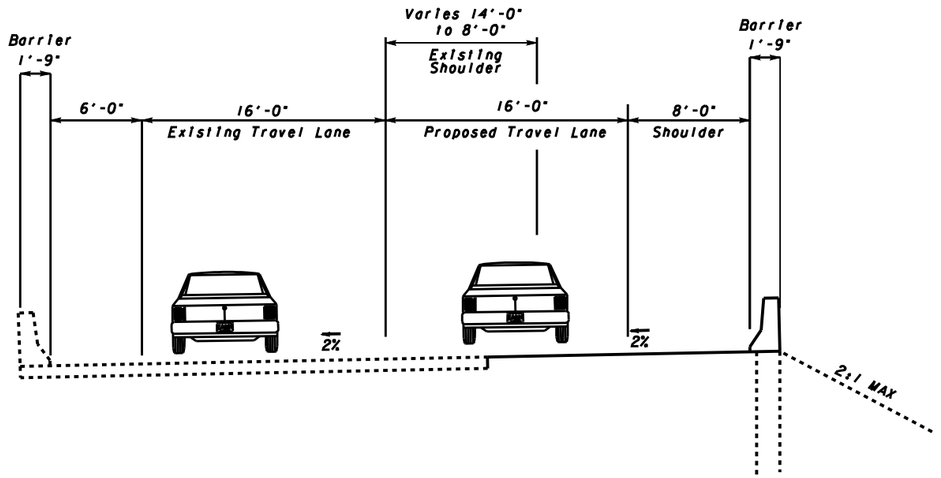
HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

Georgia Department of Transportation

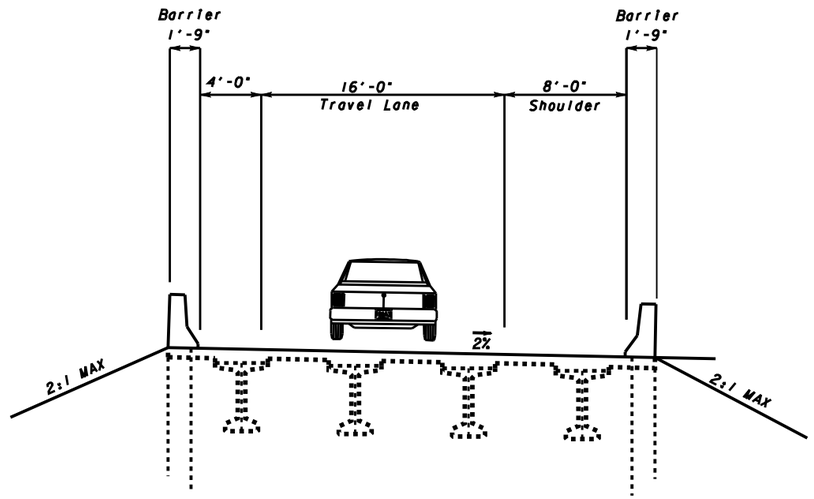
NH000-0085-02(153)
PI No. 762380
SR 400/I-85
CONNECTOR RAMPS,
FULTON CO.

ATTACHMENT 9

Typical Sections



I-85 SOUTHBOUND TO
BUFORD HIGHWAY (SR 13) SOUTHBOUND/SR 400 NORTHBOUND



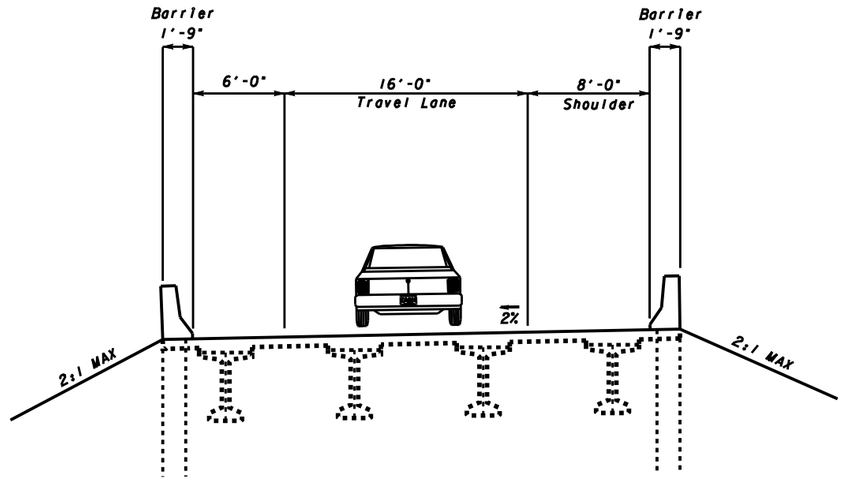
I-85 SOUTHBOUND TO SR 400 NORTHBOUND

SCALE: N.T.S.

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

SR 400/ I-85 CONNECTOR RAMPS TYPICAL SECTIONS

NH000-0085-02(153) PI NO. 762380



SR 400 SOUTHBOUND TO I-85 NORTHBOUND

SCALE: N.T.S.

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

SR 400/ I-85 CONNECTOR RAMPS TYPICAL SECTIONS

NH000-0085-02(153) PI NO. 762380

ATTACHMENT 10

Description of Other Alternatives Considered and Comments

Project Number: NH000-0085-02(153)
P. I. No.: 762380
County: Fulton

Description of Other Alternatives Considered and Comments:

Alternative 1:

SR 400 SB to I-85 NB Ramp:

Combined with the off-ramp to Sidney Marcus Boulevard, the proposed ramp would exit from the right side of SR 400 SB mainline approximately 1500 feet north of the existing Sidney Marcus Boulevard off-ramp. After exiting as a single two-lane ramp, the ramps to I-85 NB and to Sidney Marcus Boulevard would share a two-lane section for approximately 1,000 feet before splitting. Then the proposed ramp to I-85 NB would cross over Sidney Marcus Boulevard and the existing SR 400/I-85 Interchange structures. It would join the I-85 NB mainline on the left side of Buford Highway on-ramp. With this alternative, the existing Buford Highway NB on-ramp would be shifted outside to accommodate the new ramp from SR 400 SB. In addition, the Buford Highway NB on-ramp would merge down from two lanes to one lane before joining I-85 NB mainline. The proposed posted speed limit for this ramp would be 45 miles per hour (mph).

Typical Section 1:
One 16-foot wide travel lane with a 6-foot wide inside shoulder and a 10-foot wide outside shoulder.

I-85 SB to SR 400 NB Ramp

The proposed ramp would exit the existing I-85 SB mainline with the existing off-ramp to Buford Highway SB. After exiting as a single two-lane ramp, the ramps to SR 400 NB and to Buford Highway SB would share a two-lane section for approximately 1,000 feet before separating. Then the proposed ramp to SR 400 NB would turn north. From this point, the proposed ramp would cross over Sidney Marcus Boulevard and continue north. The existing Sidney Marcus Boulevard NB on-ramp would be shifted outside and merge with the proposed ramp from I-85 SB for approximate 1000 feet before merging onto the SR 400 NB mainline. The proposed posted speed limit for this ramp would be 45 miles per hour (mph).

Typical Section 1:
One 16-foot wide travel lane with a 4-foot wide inside shoulder and a 12-foot wide outside shoulder.

Alternative 1A:

SR 400 SB to I-85 NB Ramp:

The proposed ramp would be similar to Alternative 1 except the area where the proposed ramp from SR 400 SB joins I-85 NB mainline. With this alternative, the proposed ramp would join on the left side of Buford Highway on-ramp to create a new I-85 NB Collector-Distributor (CD) Road. This alternative would convert the Cheshire Bridge

Road on-ramp into a loop ramp so it would merge with the new I-85 NB CD Road sooner. After the merge, the three-lane I-85 NB CD Road would continue for approximate 2500 foot before merging down to two lanes. The two-lane I-85 NB CD Road would join the five I-85 NB mainline lanes (one HOV lane and four general purpose lanes) to match the existing seven-lane section on I-85. The proposed posted speed limit for this ramp would be 45 miles per hour (mph). The proposed posted speed limit for the new I-85 NB CD Road would be 55 miles per hour (mph).

Typical Section 1:
Same as Alternative 1.

I-85 SB to SR 400 NB Ramp
Same as Alternative 1.

Typical Section 1:
Same as Alternative 1.

Alternative 1B:

SR 400 SB to I-85 NB Ramp:
The proposed ramp would be similar what was proposed in Alternative 1 except the area where the proposed ramp from SR 400 SB joins I-85 NB mainline. With this alternative, the proposed ramp would still join the I-85 NB mainline on the left side of Buford Highway on-ramp as it would in Alternative 1. However, this alternative would maintain the Buford Highway on-ramp as two-lanes to the merge with I-85 NB mainline. The outside lane from the Buford Highway on-ramp would continue for approximately 2,500 feet prior to merging into the existing seven-lane section on I-85. Similar to Alternative 1A, it would convert the Cheshire Bridge Road on-ramp into a loop ramp so it would merge with the I-85 NB mainline sooner. The proposed posted speed limit for this ramp would be 45 miles per hour (mph).

Typical Section 1:
Same as Alternative 1.

I-85 SB to SR 400 NB Ramp
Same as Alternative 1.

Typical Section 1:
Same as Alternative 1.

Alternative 2:

SR 400 SB to I-85 NB Ramp:
The proposed ramp would exit from the right side of SR 400 SB mainline approximately 2,100 feet south of the SR 400 SB off-ramp to Sidney Marcus Boulevard. From this point, it would cross over Sidney Marcus Boulevard and continue southward in order to avoid crossing the existing SR 400/I-85 Interchange structures. It would cross over the

edge of the previously occupied Home Depot site. The ramp would loop around just south of Lindbergh Drive and cross over I-85 mainline. It would then turn north and cross over Lindbergh Drive again toward I-85 NB. It would merge with the outside lane of the existing Buford Highway on-ramp prior to joining I-85 NB mainline. The proposed design speed and posted speed limit for this ramp would be 40 miles per hour (mph), which is 5 mph less than the other alternatives.

Typical Section 1:
One 16-foot wide travel lane with a 12-foot wide inside shoulder and a 4-foot wide outside shoulder, which is opposite from the standard shoulder configuration.

I-85 SB to SR 400 NB Ramp
The proposed ramp would exit the existing I-85 SB mainline with the existing off-ramp to Buford Highway SB. After exiting as a single two-lane ramp, the ramps to SR 400 NB and to Buford Highway SB would share a two-lane section for approximately 1,000 feet before splitting. Then the proposed ramp to SR 400 NB would turn north. From this point, the proposed ramp would cross over Sidney Marcus Boulevard and then join SR 400 NB mainline as the third lane south of the northbound on-ramp from Sidney Marcus Boulevard. The existing SR 400 NB lane addition, which is immediately north of I-85 and widens SR 400 NB to three lanes, would be eliminated to accommodate the proposed ramp from I-85 SB. The proposed posted speed limit for this ramp would be 45 miles per hour (mph).

Typical Section 1:
One 16-foot wide travel lane with a 4-foot wide inside shoulder and a 12-foot wide outside shoulder.

Alternative 3 (Preferred Alternative):

SR 400 SB to I-85 NB Ramp:
The proposed ramp would exit from the right side of SR 400 SB mainline approximately 1000 feet south of the SR 400 SB off-ramp to Sidney Marcus Boulevard. From this point, it would cross over Sidney Marcus Boulevard and the existing SR 400/I-85 Interchange structures. Continuing to I-85, it would cross over the existing Buford Highway on-ramp and then turn north to join the I-85 NB mainline on the right side of the existing Buford Highway on-ramp. The existing I-85 NB lane addition, which is immediately north of the SR 400 NB off-ramp and widens I-85 to five lanes, would be eliminated to accommodate an additional lane on I-85 NB from the SR 400 SB to I-85 NB ramp. The existing Buford Highway on-ramp would shift to the left and join with a reduced four-lane I-85 NB mainline, which opens a lane for the proposed ramp. The proposed posted speed limit for this ramp would be 45 miles per hour (mph).

Typical Section 1:
One 16-foot wide travel lane with a 6-foot wide inside shoulder and a 10-foot wide outside shoulder.

I-85 SB to SR 400 NB Ramp

The proposed ramp would exit the existing I-85 SB mainline with the existing off-ramp to Buford Highway SB. After exiting as a single two-lane ramp, the ramps to SR 400 NB and to Buford Highway SB would share a two-lane section for approximately 1,000 feet before splitting. Then the proposed ramp to SR 400 NB would turn north. From this point, the proposed ramp would cross over Sidney Marcus Boulevard and then join SR 400 NB mainline as the third lane south of the northbound on-ramp from Sidney Marcus Boulevard. The existing SR 400 NB lane addition, which is immediately north of I-85 and widens SR 400 NB to three lanes, would be eliminated to accommodate the proposed ramp from I-85 SB. The proposed posted speed limit for this ramp would be 45 miles per hour (mph).

Typical Section 1:
One 16-foot wide travel lane with a 4-foot wide inside shoulder and a 12-foot wide outside shoulder.

Alternative 3A:

SR 400 SB to I-85 NB Ramp:
Similar to Alternative 3, the proposed ramp would exit from the right side of SR 400 SB mainline approximately 1000 feet south of the SR 400 SB off-ramp to Sidney Marcus Boulevard. From this point, it would cross over Sidney Marcus Boulevard and the existing SR 400/I-85 Interchange structures. It would join the I-85 NB mainline on the left side of Buford Highway on-ramp. With this alternative, the Buford Highway Ramp would be shifted outside to accommodate the ramp from SR 400 SB. Similar to Alternative 3, the existing I-85 NB lane addition, which is immediately north of the SR 400 NB off-ramp and widens I-85 to five lanes, would be eliminated to accommodate an additional lane on I-85 NB from the SR 400 SB to I-85 NB ramp. It would differ from Alternative 3 since the proposed ramp from SR 400 SB would join the I-85 NB mainline at the existing abandoned lane instead of the Buford Highway ramp shifting left to use this lane. The proposed posted speed limit for this ramp would be 45 miles per hour (mph).

Typical Section 1:
Same as Alternative 3.

I-85 SB to SR 400 NB Ramp
Same as Alternative 3.

Typical Section 1:
Same as Alternative 3.

Comments:

Alternative 3 is recommended.

Alternative 3 would have no impact to any the historical properties in the area. It also would have the least impact to existing structures, thus it would significantly reduce construction cost.

Alternative 1 was eliminated.

Alternative 1 would have significant negative impacts on Buford Highway NB by merging the Buford Highway ramp to I-85 NB to one lane prior to the merge with I-85. The combination of SR 400 SB off-ramps to Sidney Marcus Boulevard and I-85 NB would mix system-to-system interchange traffic with local interchange traffic and would require additional cost to reconstruct the existing Sidney Marcus Boulevard off-ramp.

Alternative 1A was eliminated.

Similar to Alternative 1, this alternative would have the same negative feature related to the SR 400/Sidney Marcus Boulevard interchange. The widening along I-85 NB would require the relocation of the adjacent surface street, Chantilly Drive, and numerous commercial displacements. Even though the problem with the Buford Highway lane drop in Alternative 1 would be eliminated in Alternative 1A, another operational problem would be created by this alternative. With the new I-85 NB CD Road joining the I-85 mainline much farther north than the other alternatives, there would be inadequate weaving distance between the I-85 NB CD Road and the off-ramp to North Druid Hills Road to adequately accommodate the project traffic.

Alternative 1B was eliminated.

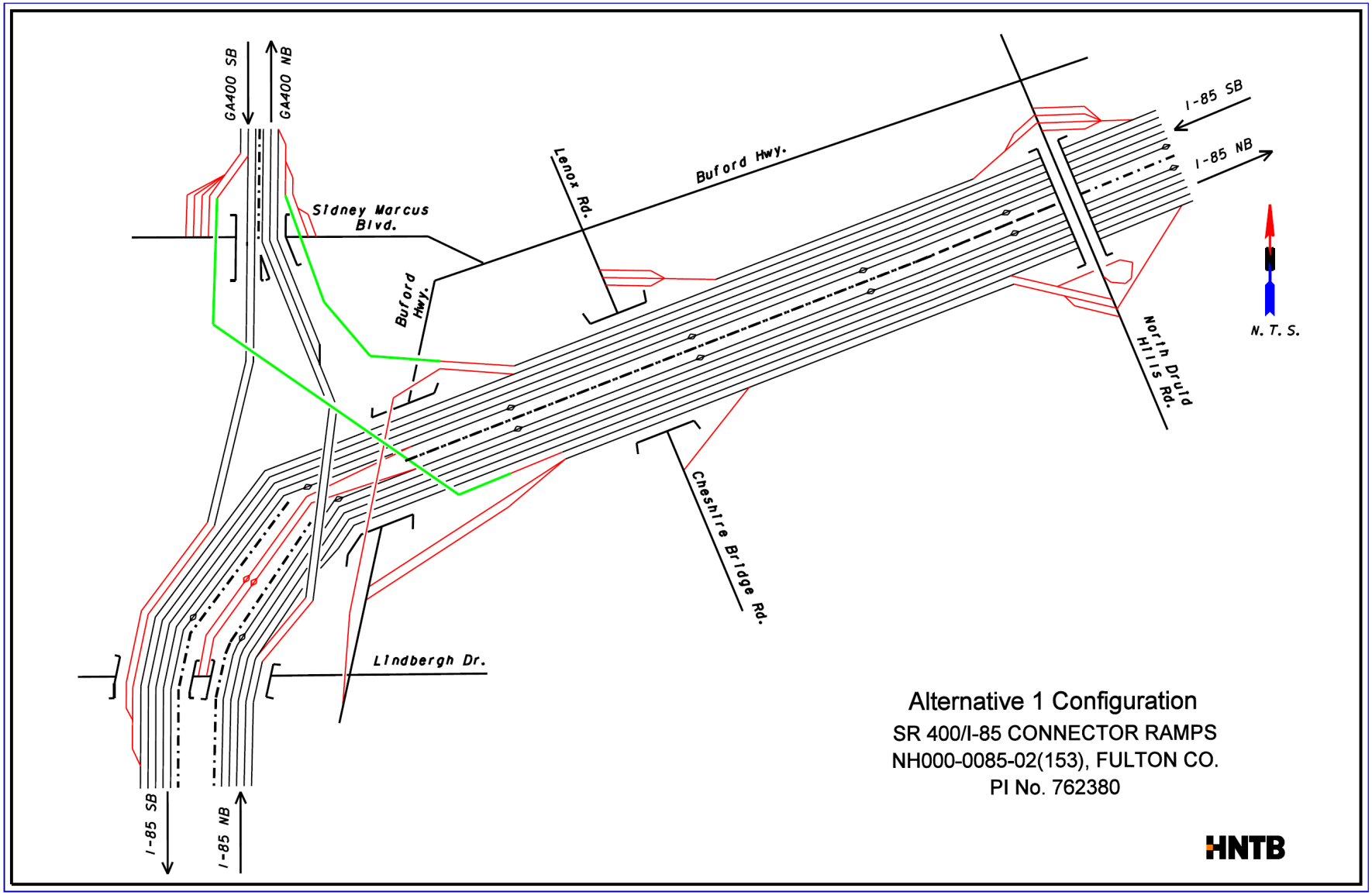
Similar to Alternatives 1 and 1A, this alternative would have the same negative feature related to the SR 400/Sidney Marcus Boulevard interchange. Similar to Alternative 1A, the widening along I-85 NB would require the relocation of the adjacent surface street, Chantilly Drive, and numerous commercial displacements. This widening would be slightly reduced from Alternative 1A since SR 400 SB and Buford Highway NB to I-85 NB ramps would merge with the I-85 NB mainline and not require the additional shoulders and concrete barrier that the new CD Road would need.

Alternative 2 was eliminated.

This alternative would have impacts to commercial and residential properties west side of the SR 400/I-85 Interchange or the potential historic district on the east side of the SR 400/I-85 Interchange. It would also have higher construction cost due to its longer alignment.

Alternative 3A was eliminated.

This alternative would require the reconstruction of the existing Buford Highway NB to I-85 NB Ramp structure to make space for the SR 400 SB to I-85 NB ramp, which would increase the construction cost significantly.



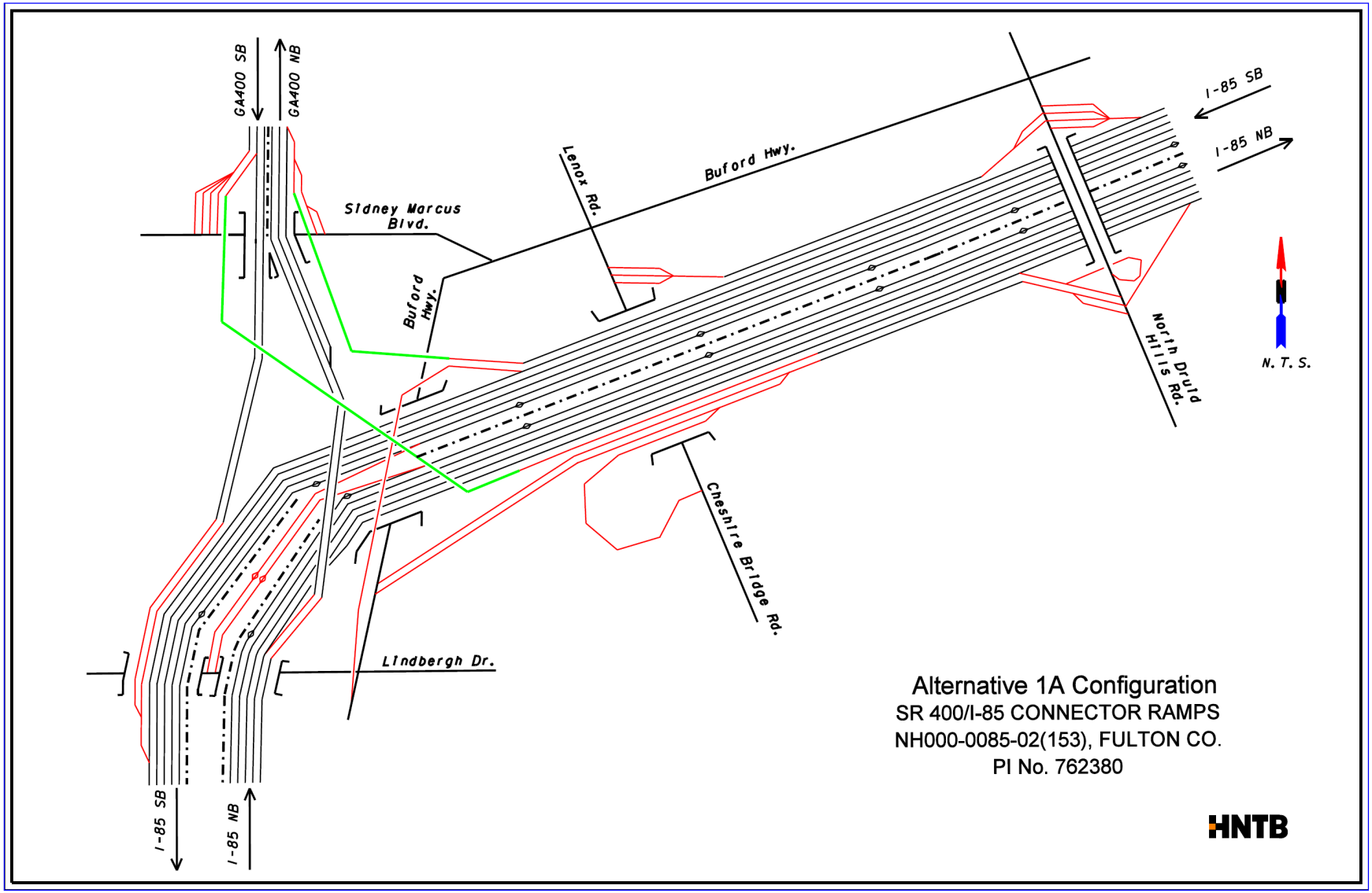
Alternative 1 Configuration

SR 400/I-85 CONNECTOR RAMPS

NH000-0085-02(153), FULTON CO.

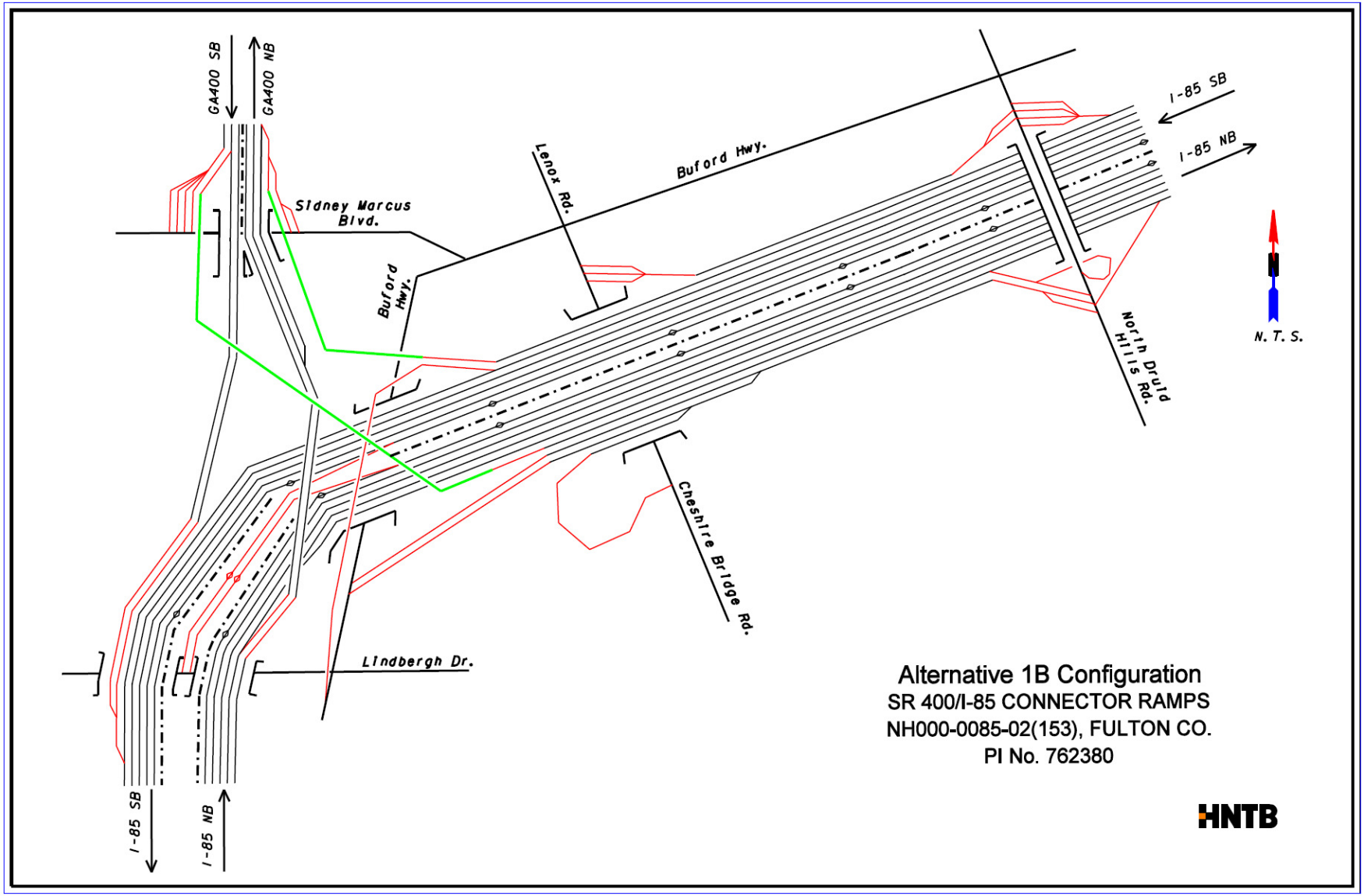
PI No. 762380

HNTB



Alternative 1A Configuration
SR 400/I-85 CONNECTOR RAMPS
NH000-0085-02(153), FULTON CO.
PI No. 762380

HNTB



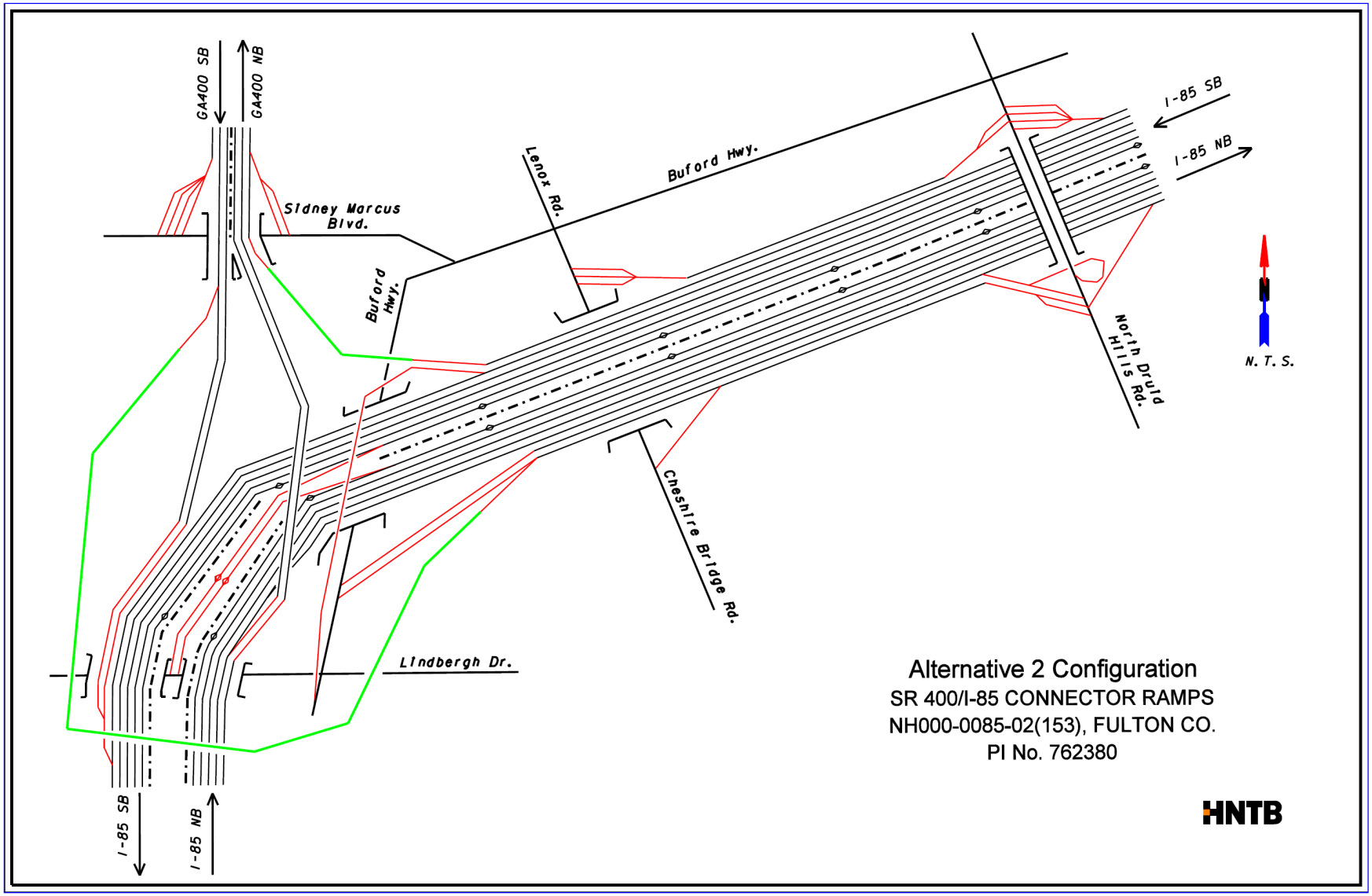
Alternative 1B Configuration

SR 400/I-85 CONNECTOR RAMPS

NH000-0085-02(153), FULTON CO.

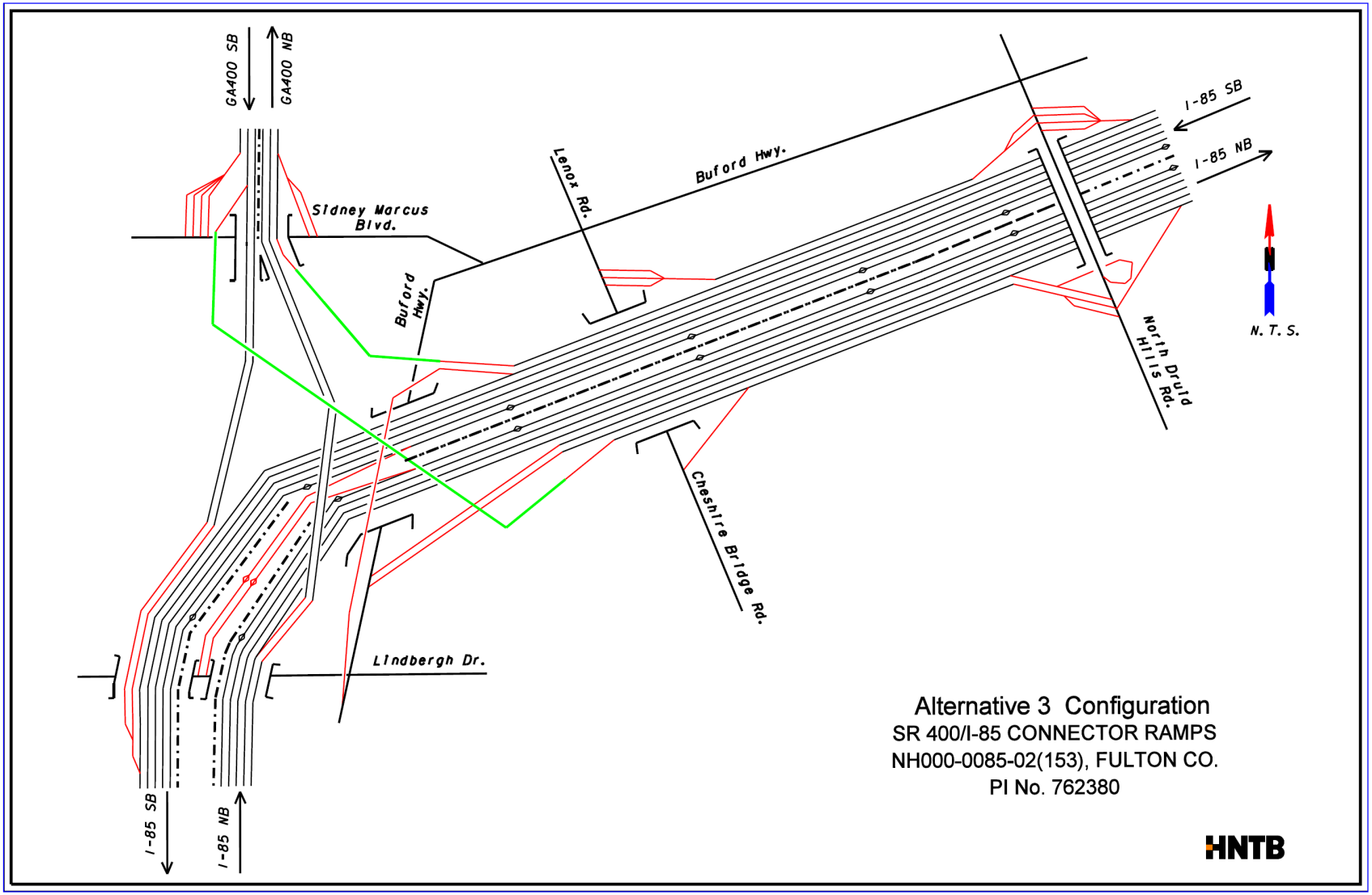
PI No. 762380

HNTB



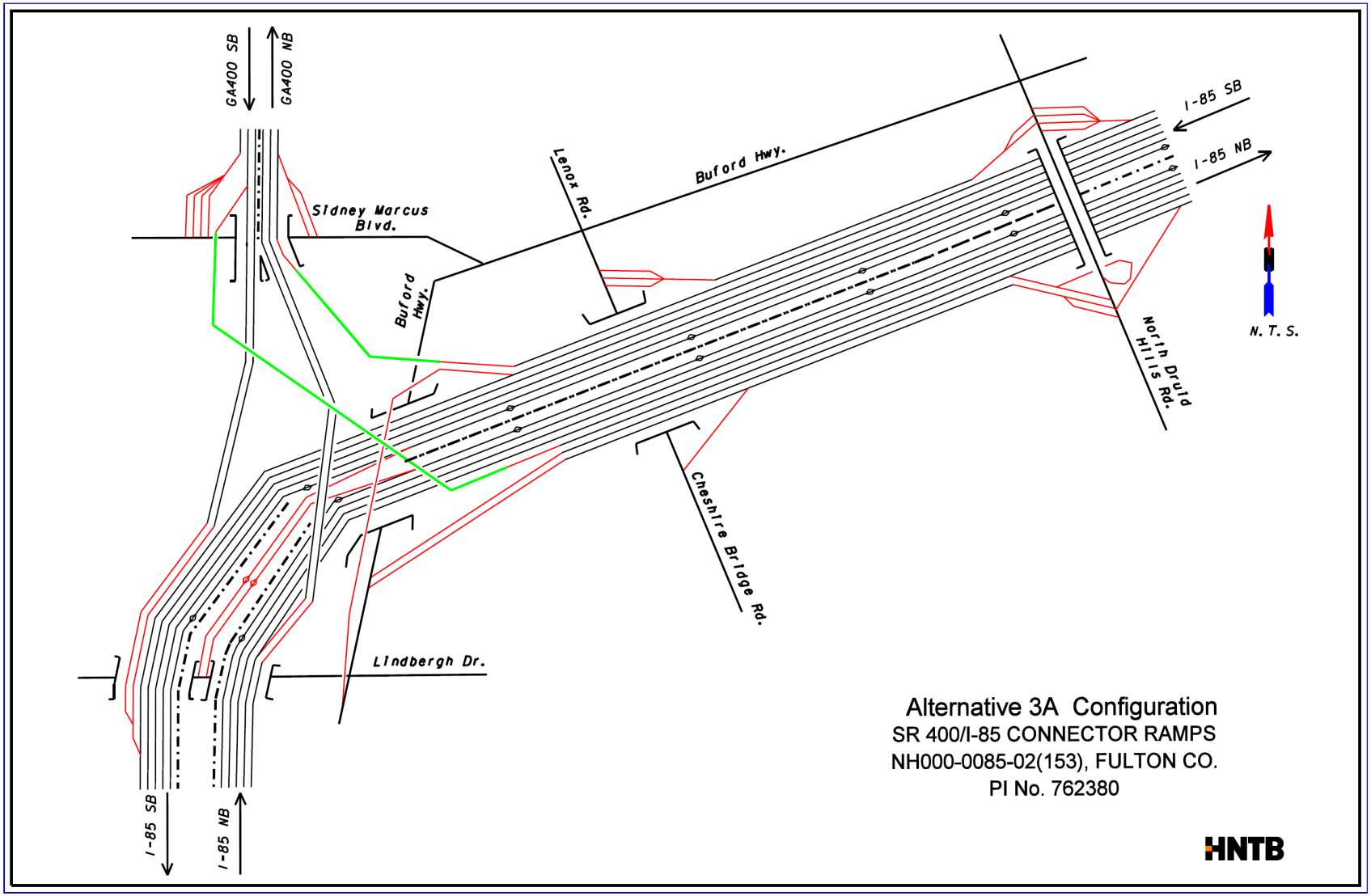
Alternative 2 Configuration
SR 400/I-85 CONNECTOR RAMPS
NH000-0085-02(153), FULTON CO.
PI No. 762380

HNTB



Alternative 3 Configuration
SR 400/I-85 CONNECTOR RAMPS
NH000-0085-02(153), FULTON CO.
PI No. 762380

HNTB



Alternative 3A Configuration
SR 400/I-85 CONNECTOR RAMPS
NH000-0085-02(153), FULTON CO.
PI No. 762380

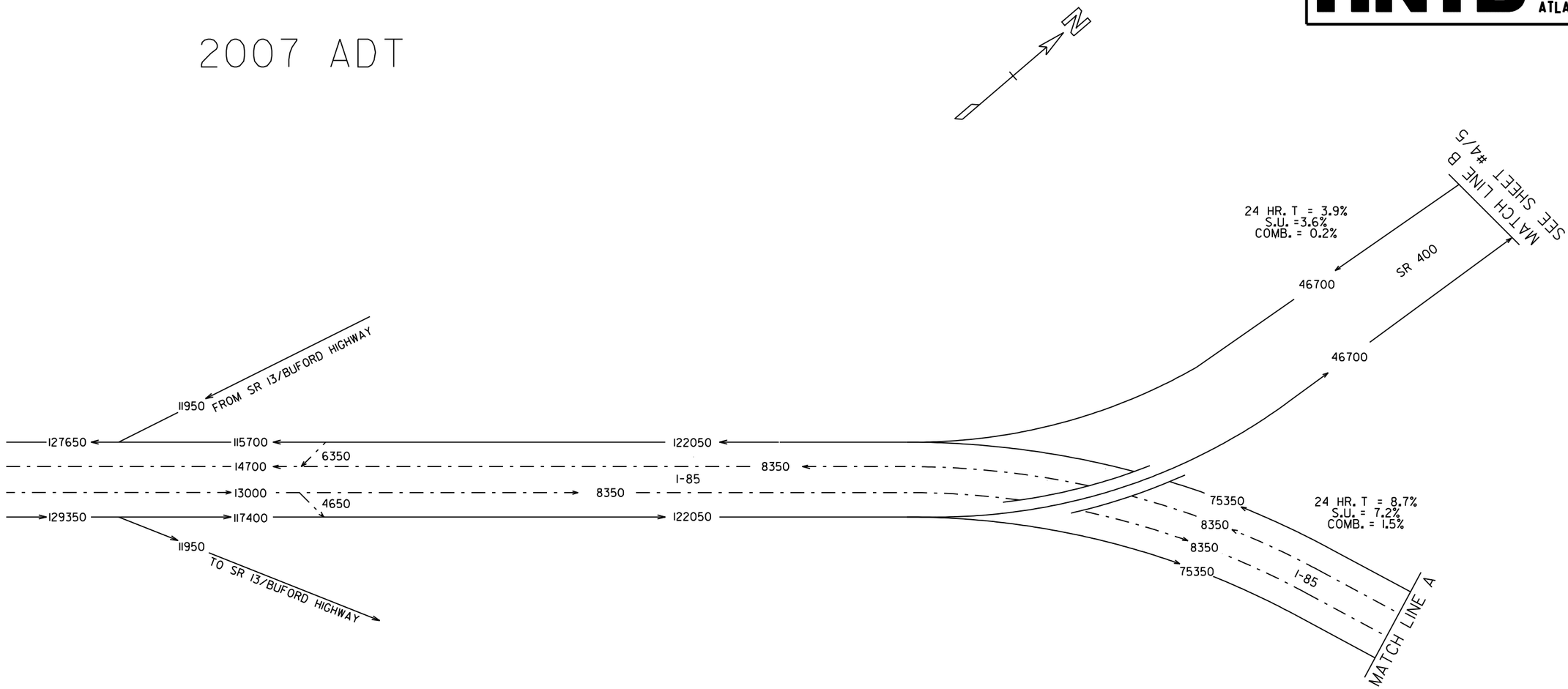
HNTB

ATTACHMENT 11

Traffic Diagrams

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2007 ADT



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

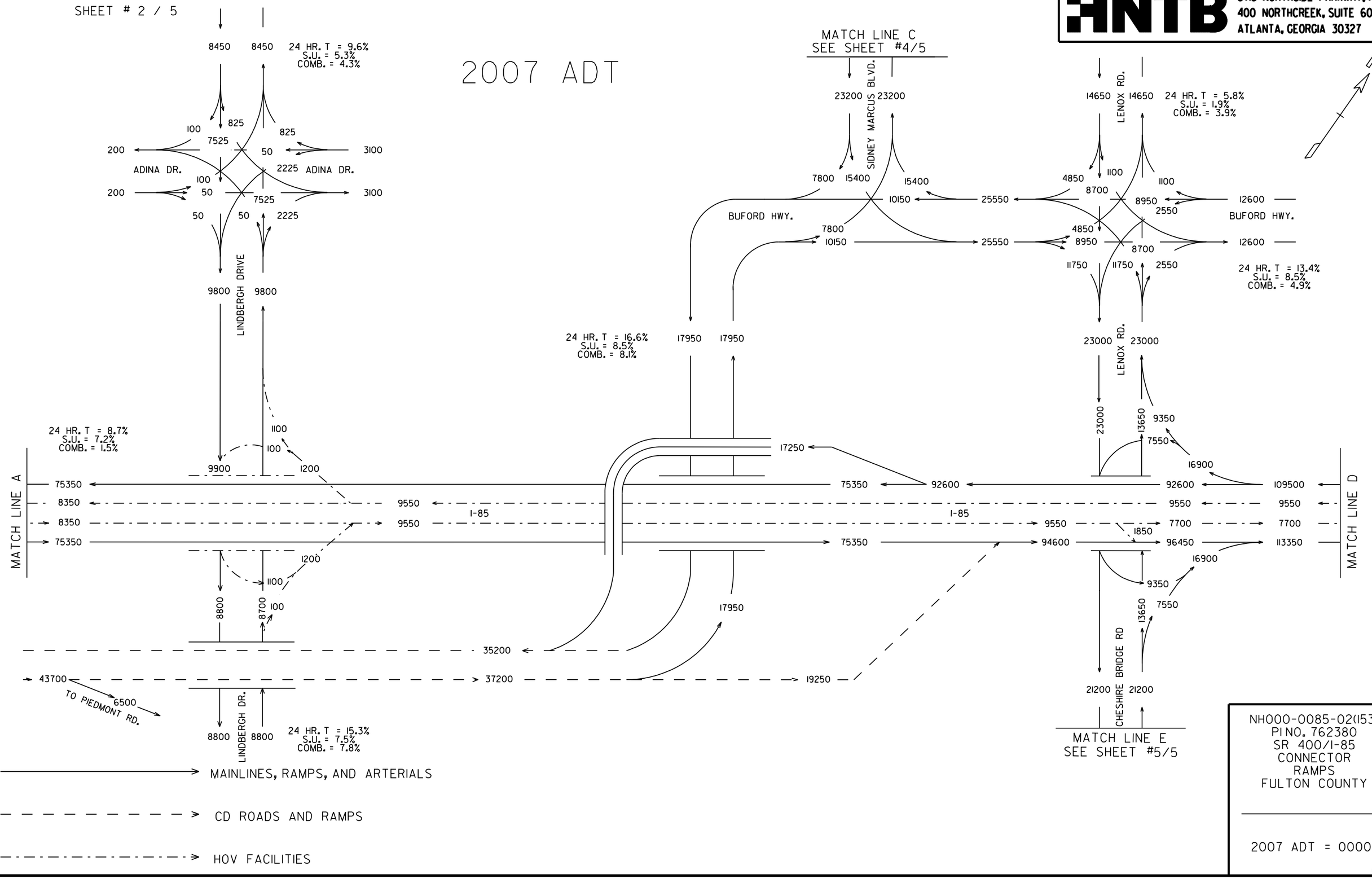
2007 ADT = 0000

6/08

SHEET # 2 / 5

2007 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

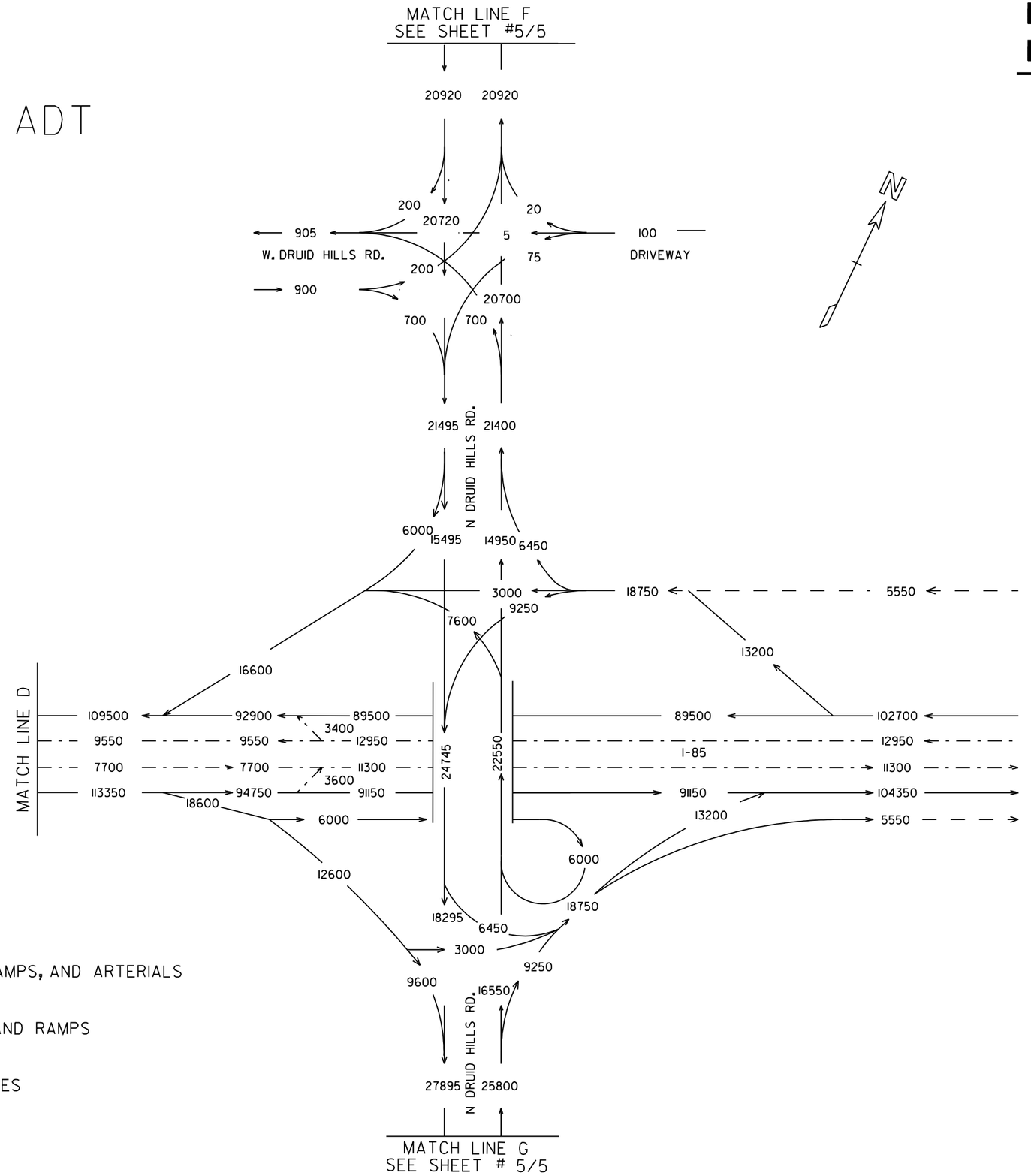
2007 ADT = 0000

6/08

SHEET # 3 / 5

2007 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

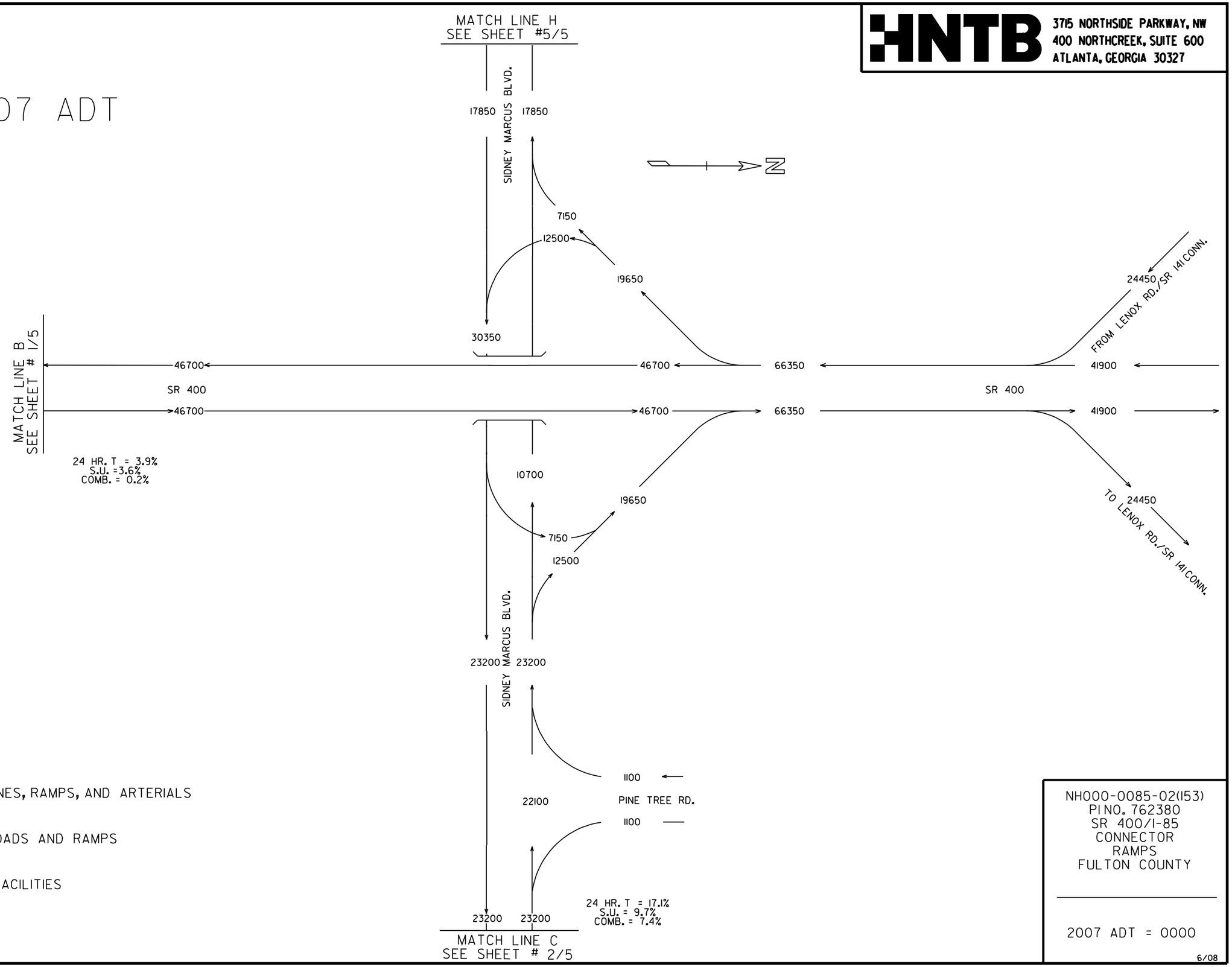
2007 ADT = 0000

6/08

SHEET # 4 / 5

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2007 ADT



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

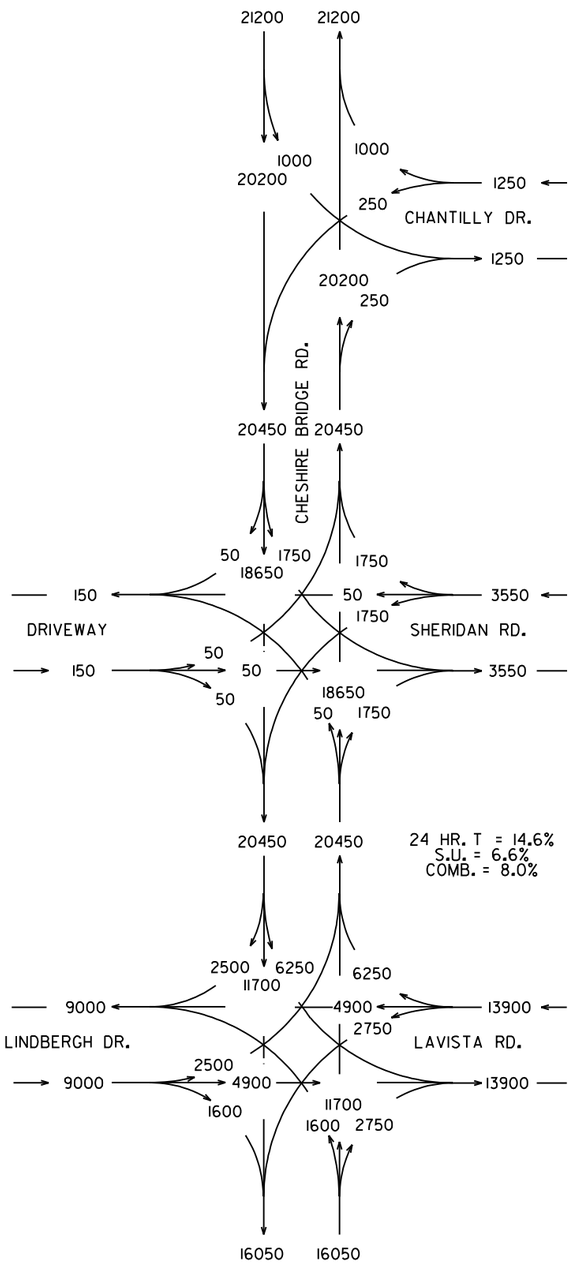
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

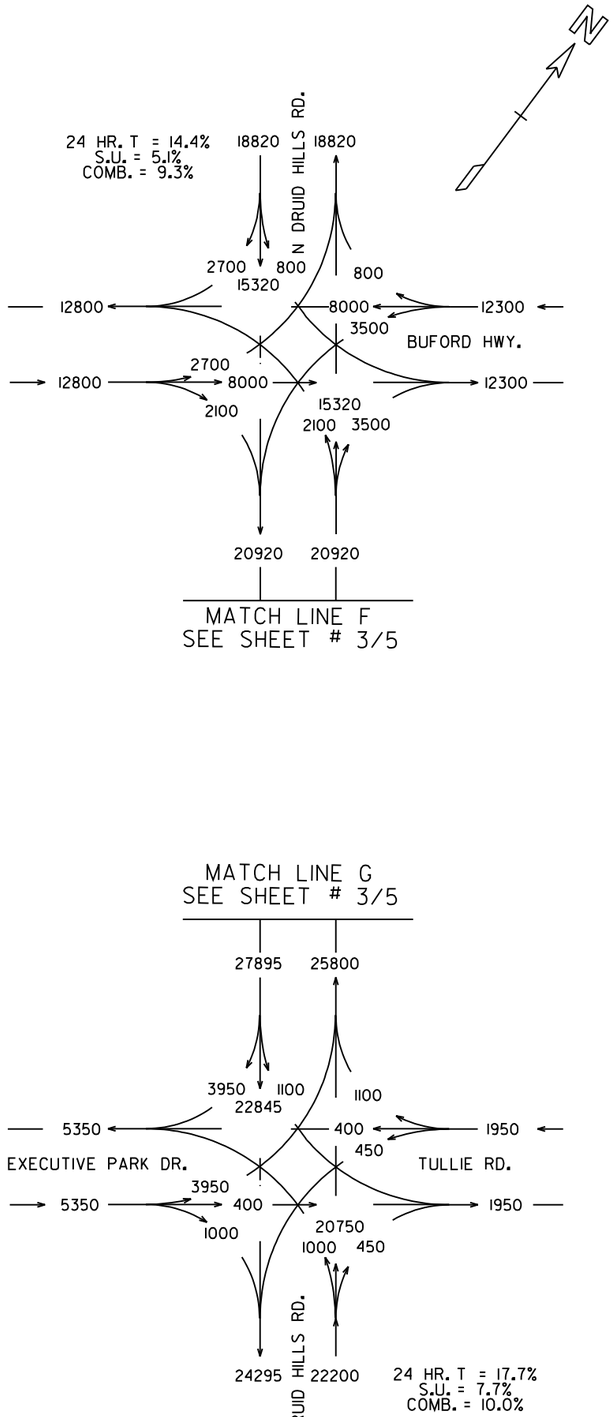
2007 ADT = 0000

6/08

SHEET # 5 / 5

MATCH LINE E
SEE SHEET # 2/5



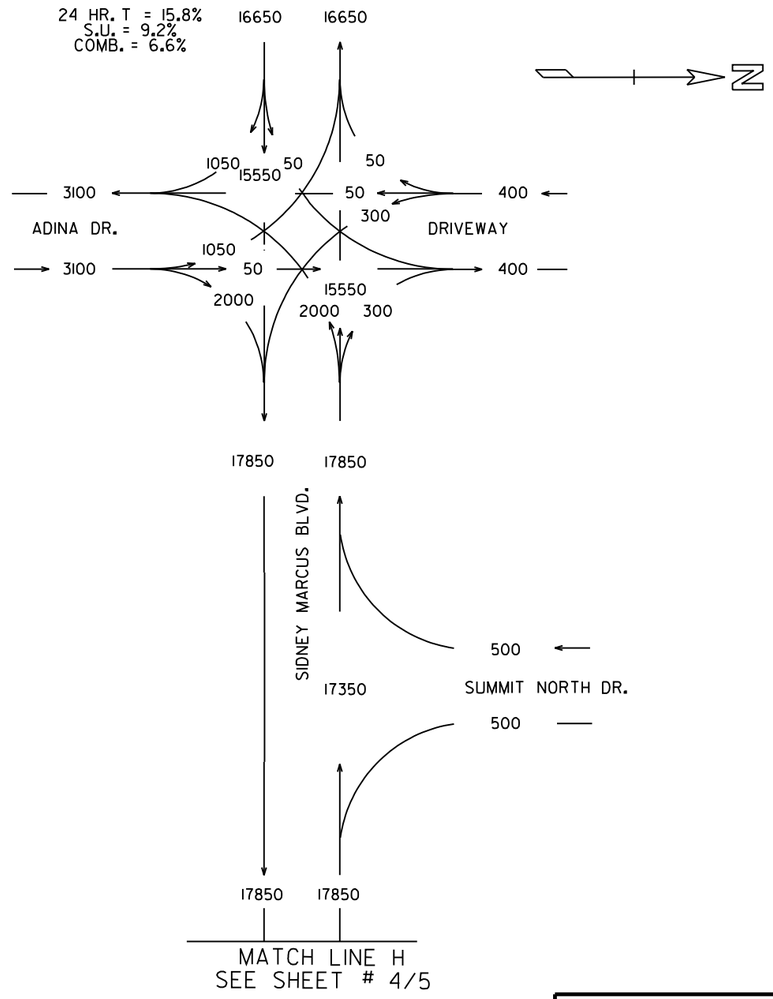


MATCH LINE F
SEE SHEET # 3/5

MATCH LINE G
SEE SHEET # 3/5

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2007 ADT



MATCH LINE H
SEE SHEET # 4/5

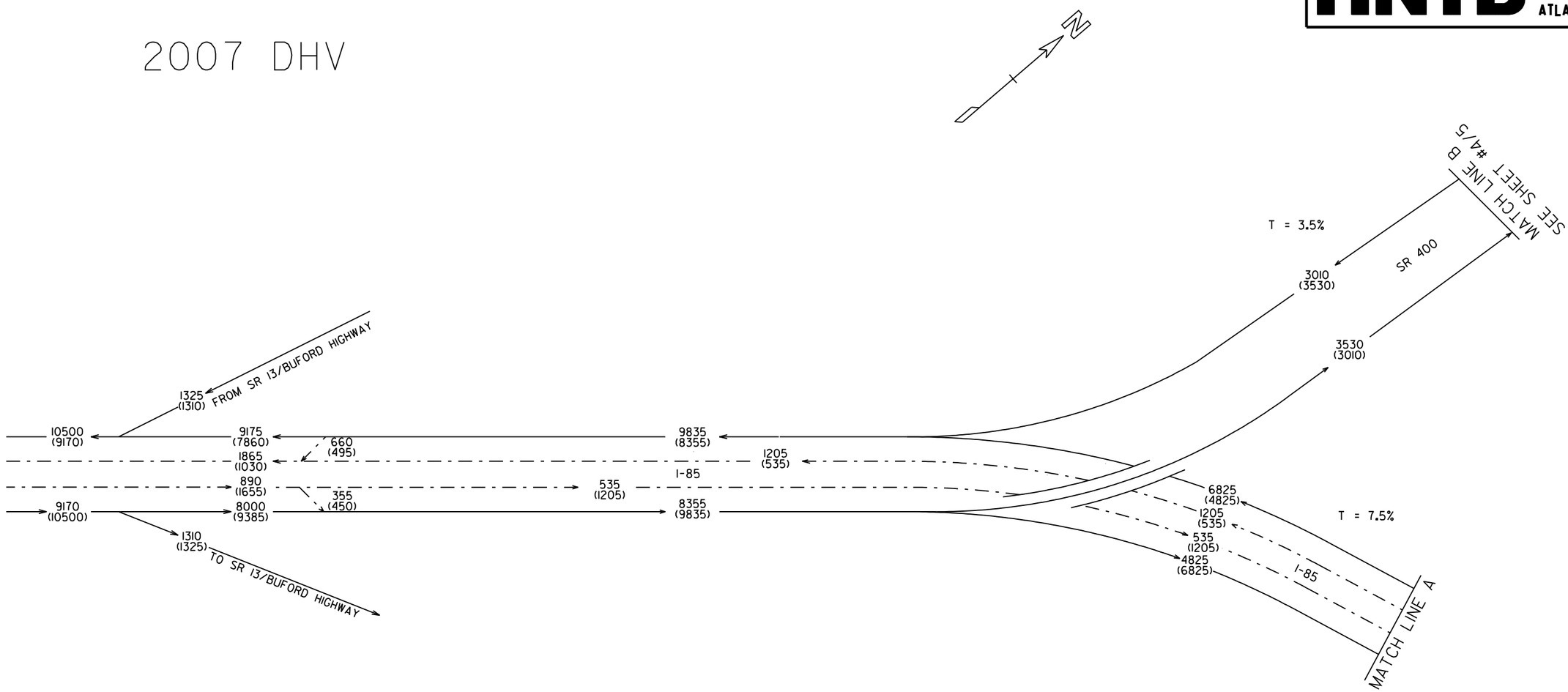
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

2007 ADT = 0000

6/08

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2007 DHV



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

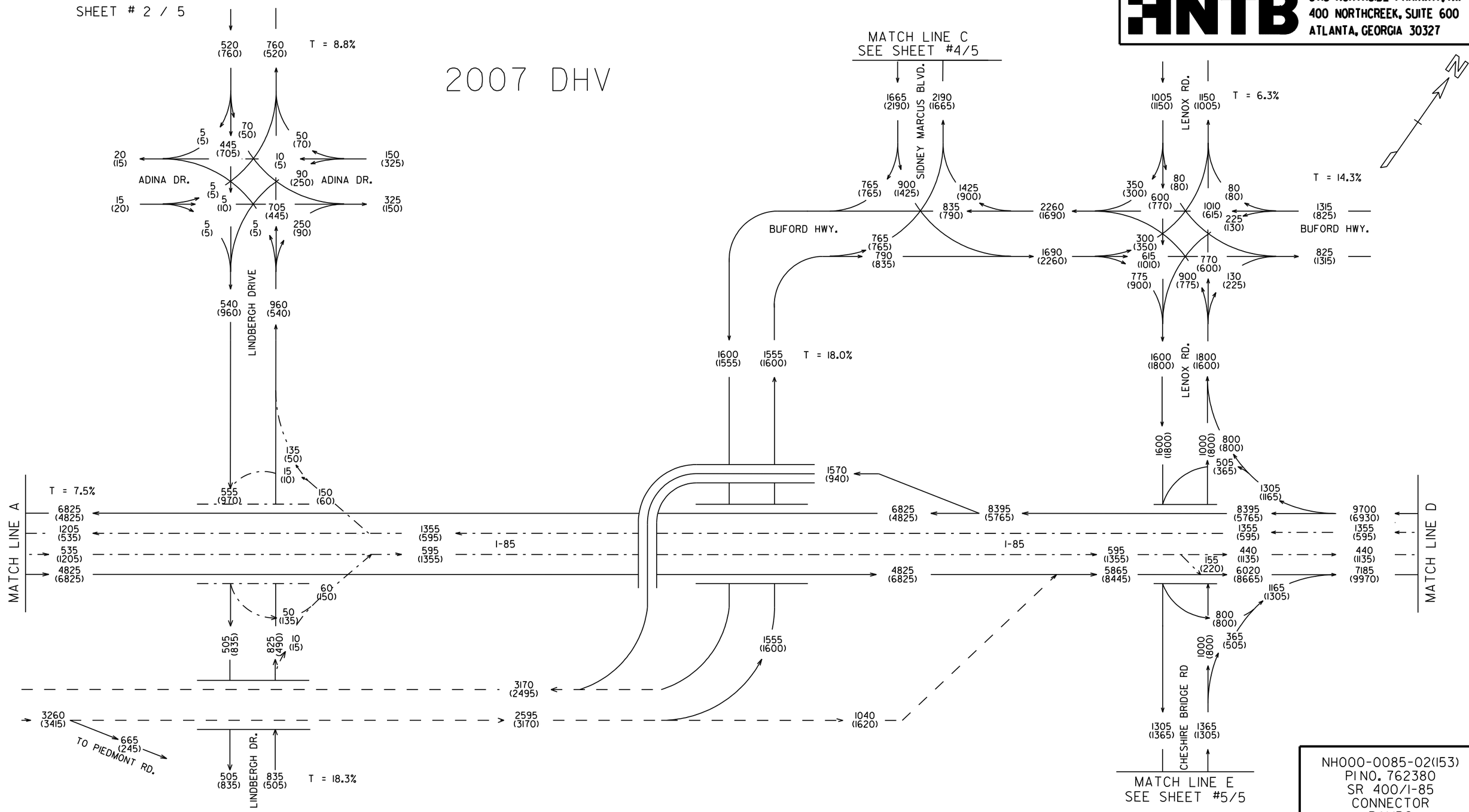
2007 AM DHV = 000
2007 PM DHV = (000)

6/08

SHEET # 2 / 5

2007 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

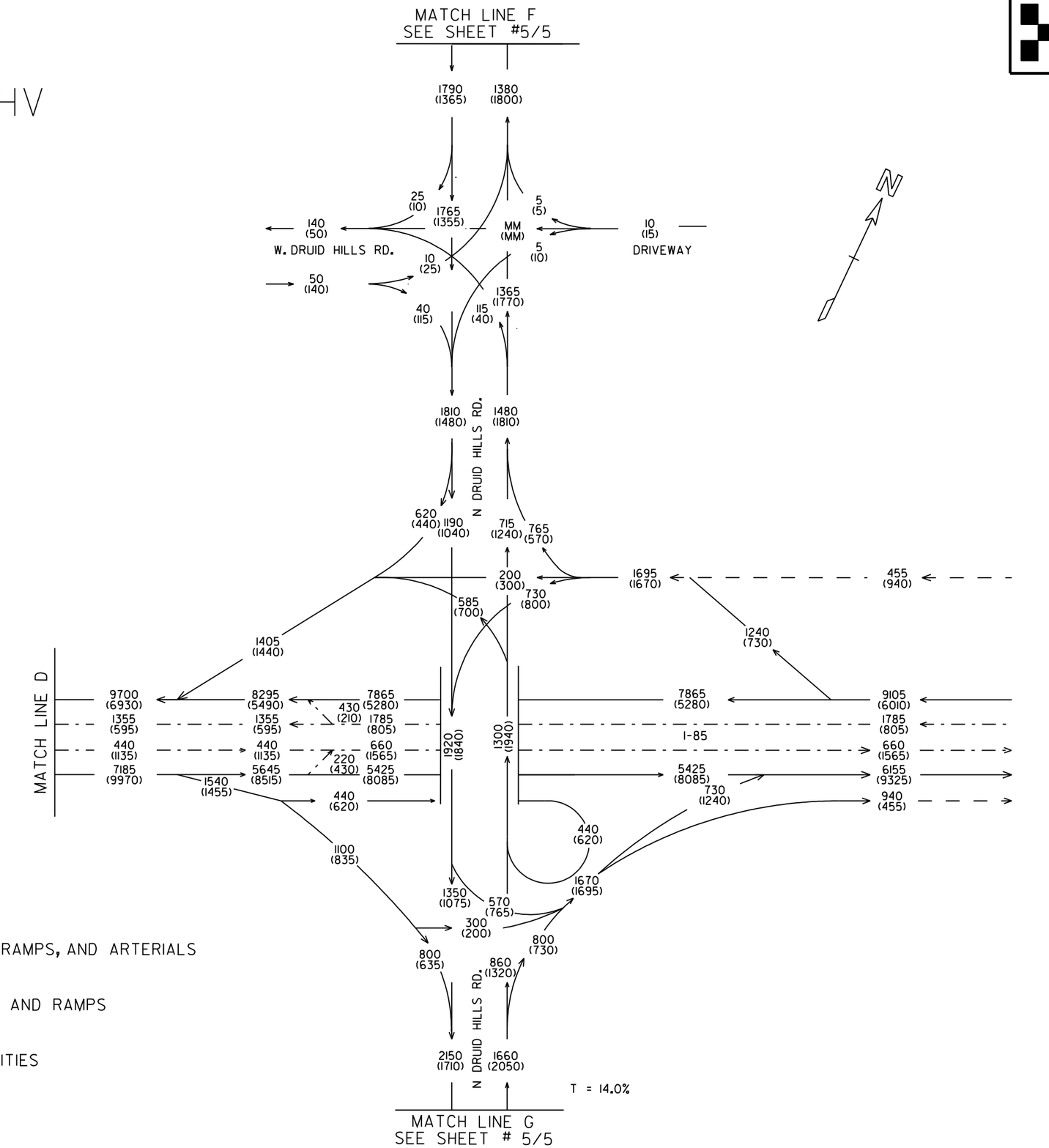
2007 AM DHV = 000
2007 PM DHV = (000)

6/08

SHEET # 3 / 5

2007 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



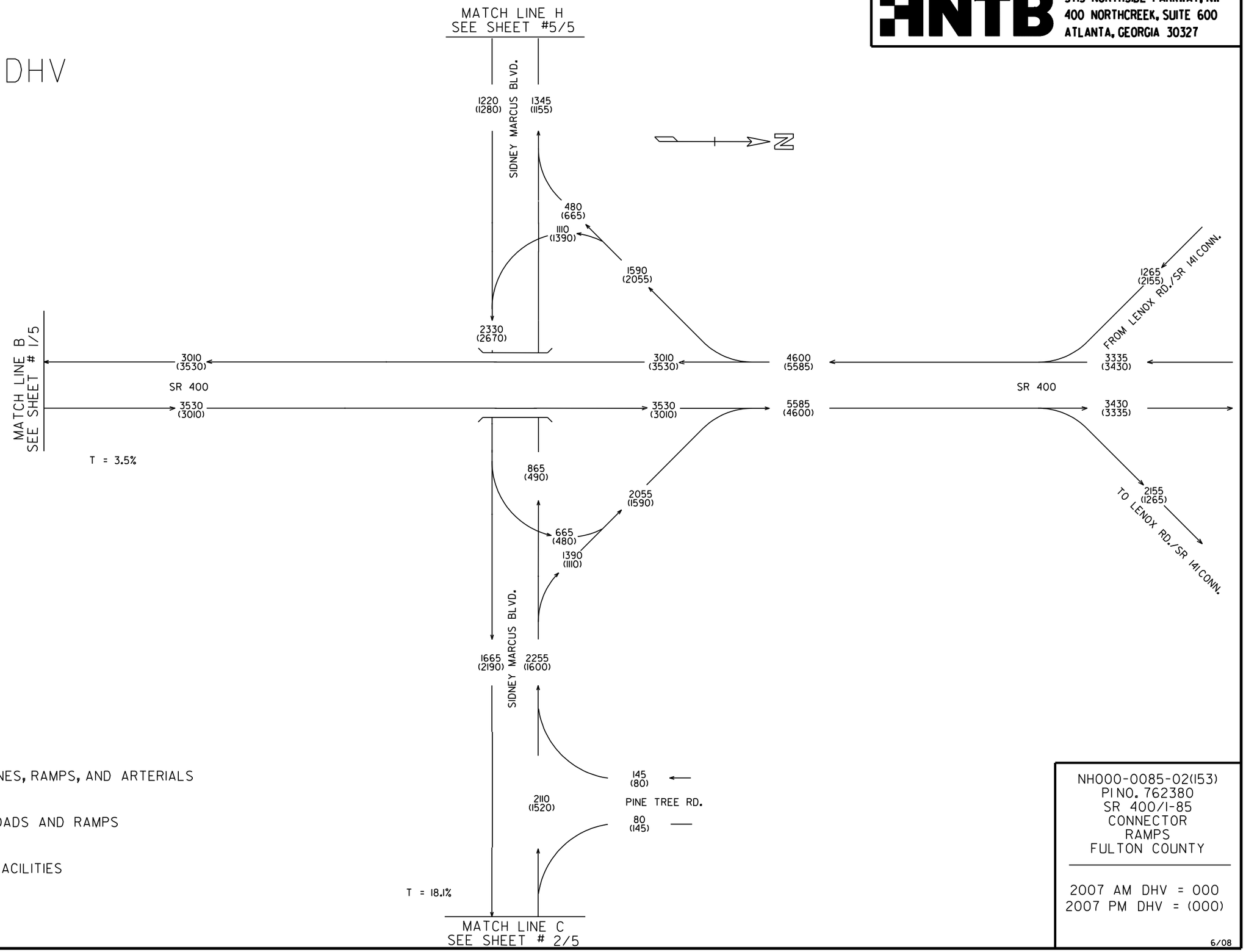
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

2007 AM DHV = 000
2007 PM DHV = (000)

6/08

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

2007 DHV



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

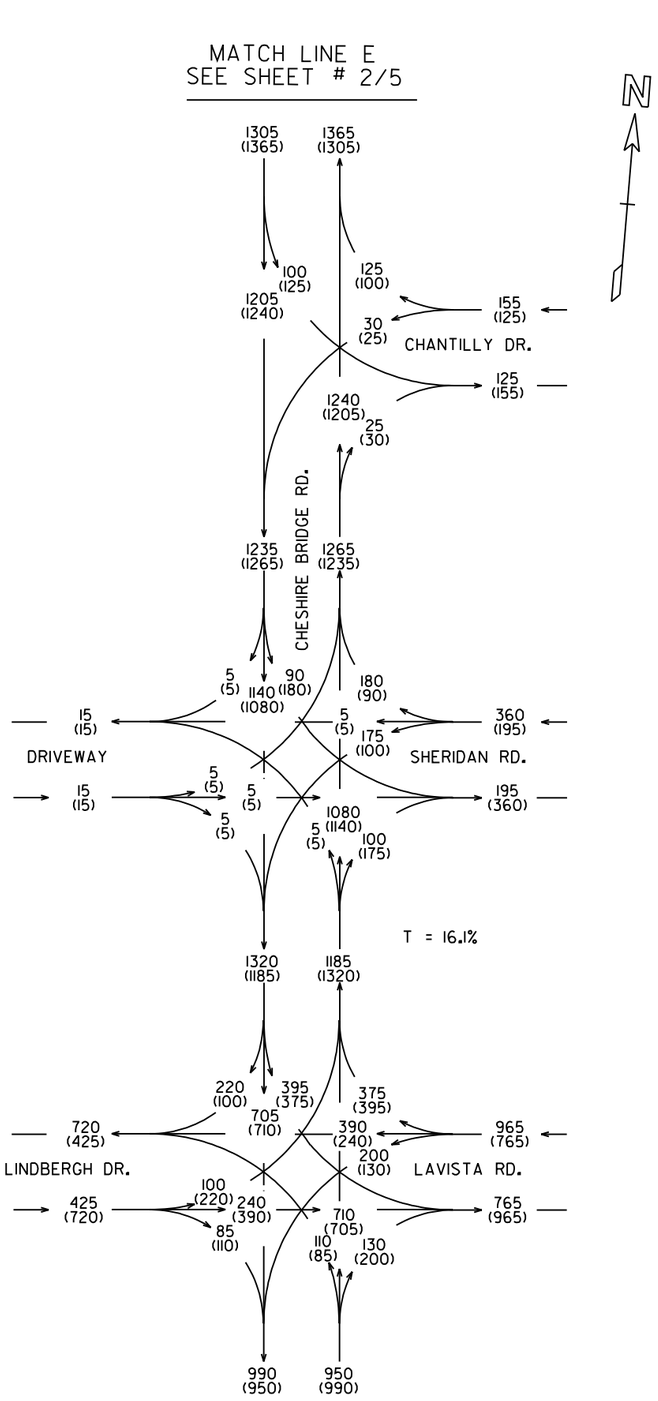
HOV FACILITIES

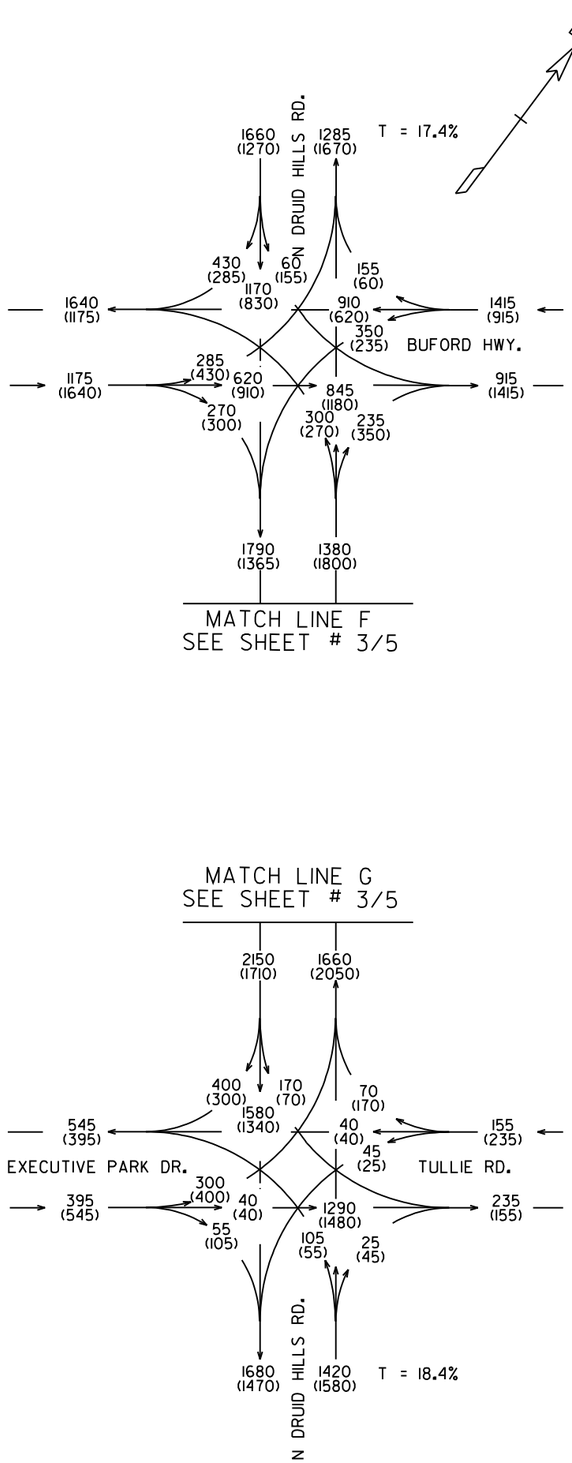
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

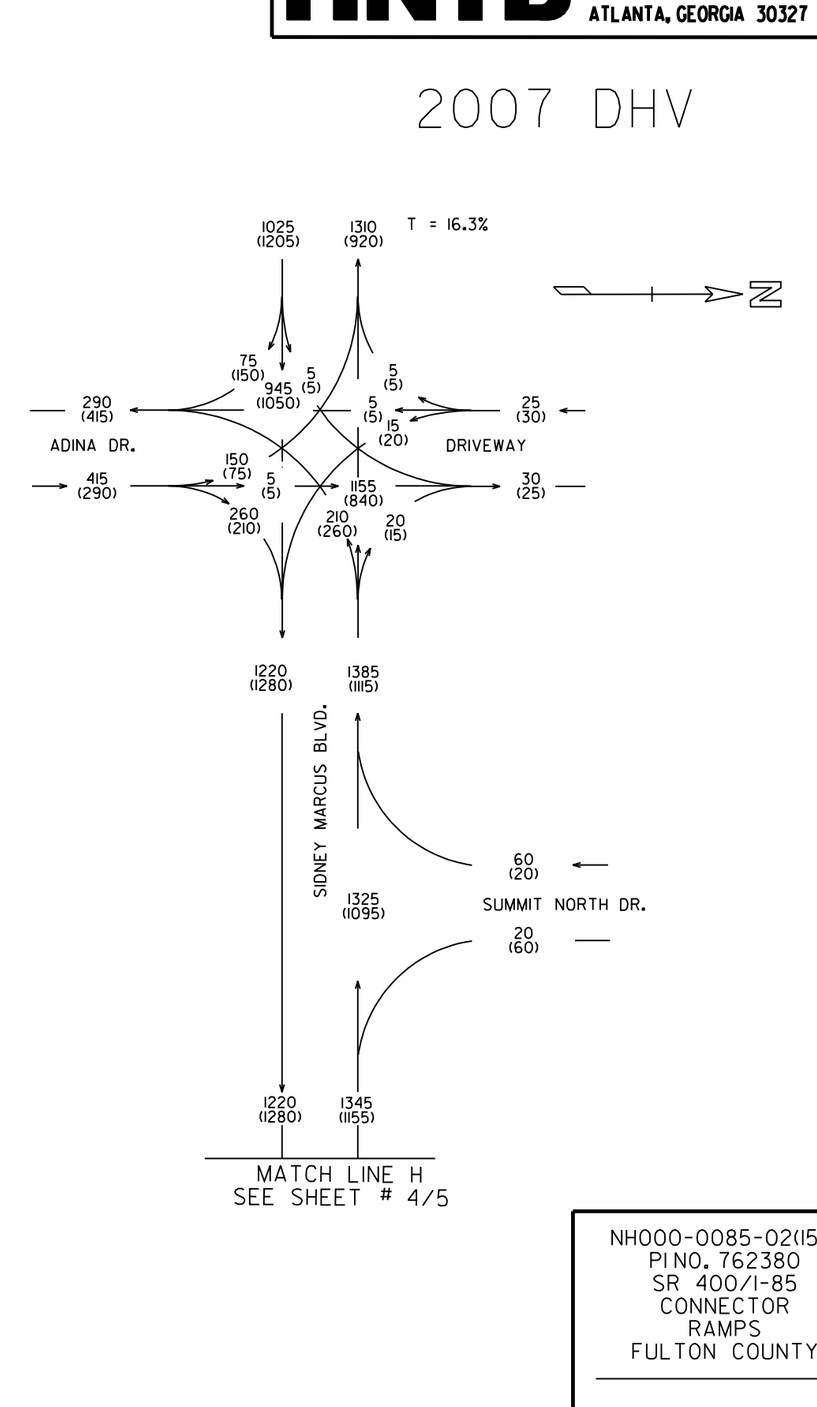
2007 AM DHV = 000
2007 PM DHV = (000)

6/08

SHEET # 5 / 5







HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

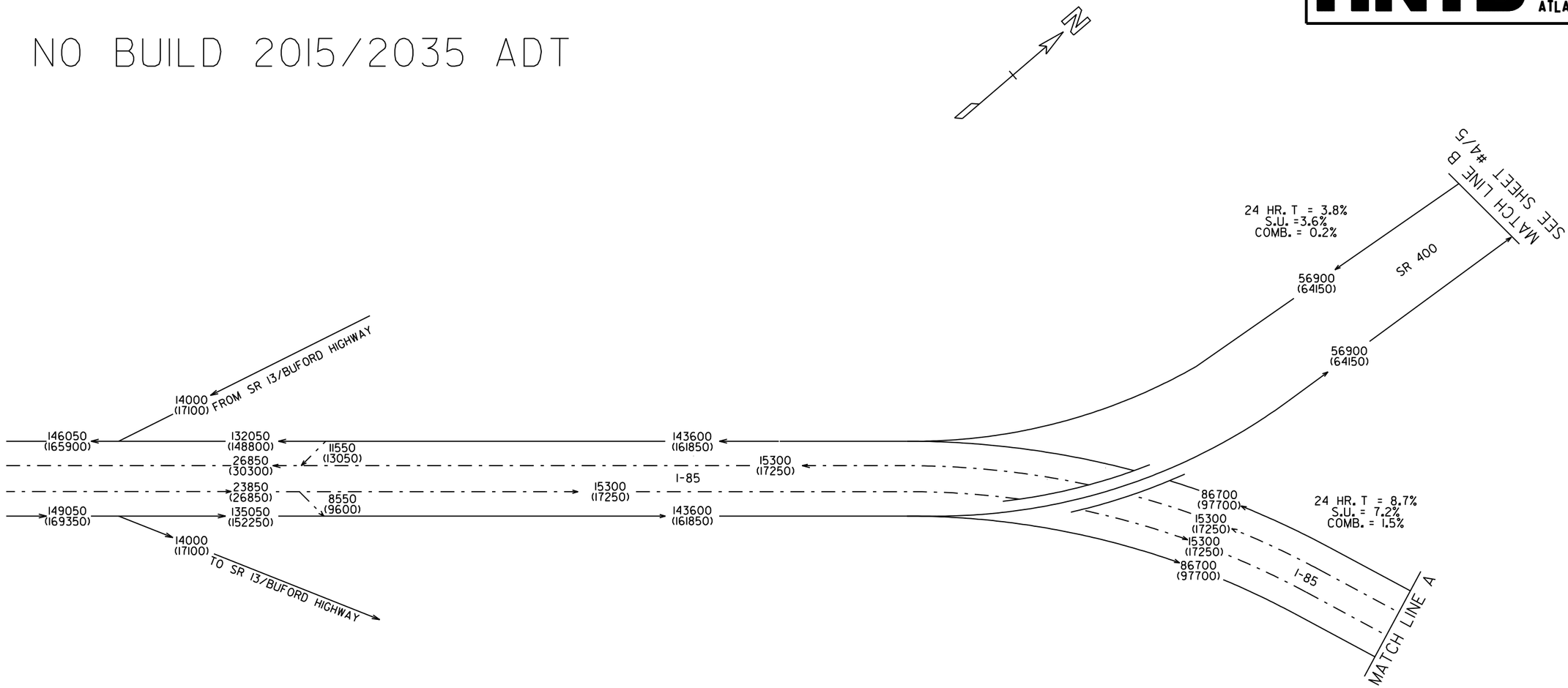
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

2007 AM DHV = 000
2007 PM DHV = (000)

6/08

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

NO BUILD 2015/2035 ADT



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

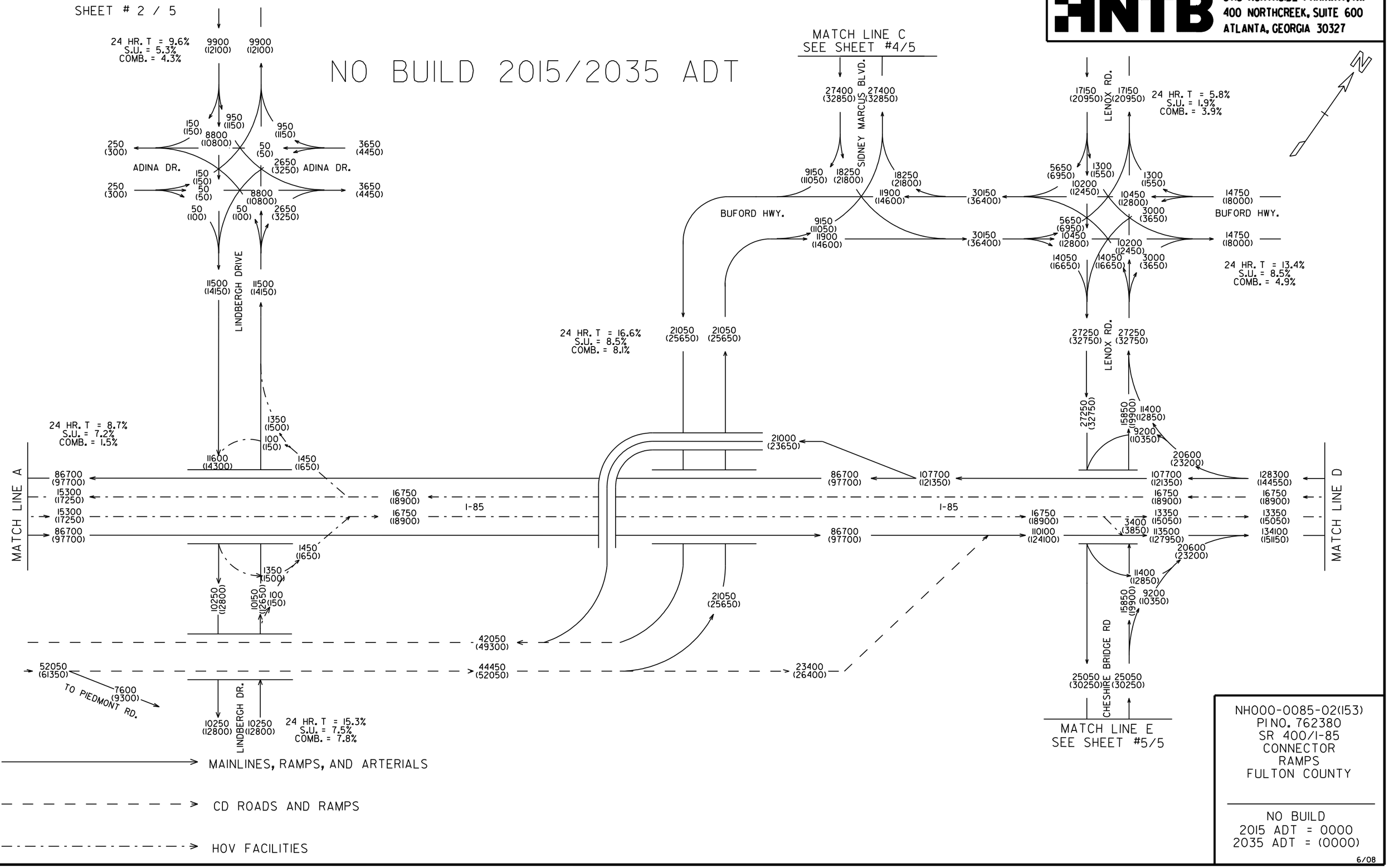
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

NO BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

NO BUILD 2015/2035 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

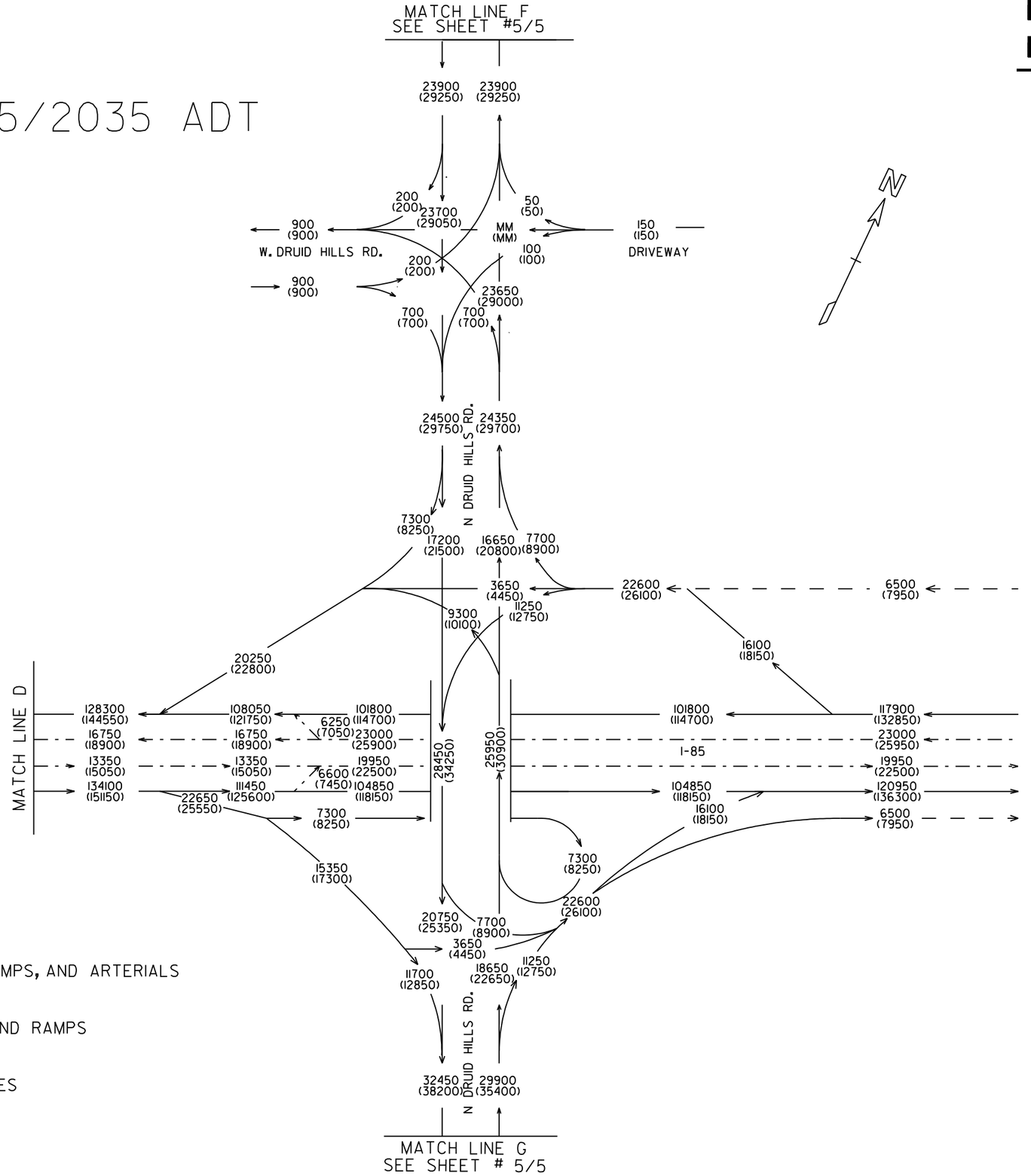
NO BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

SHEET # 3 / 5

NO BUILD 2015/2035 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

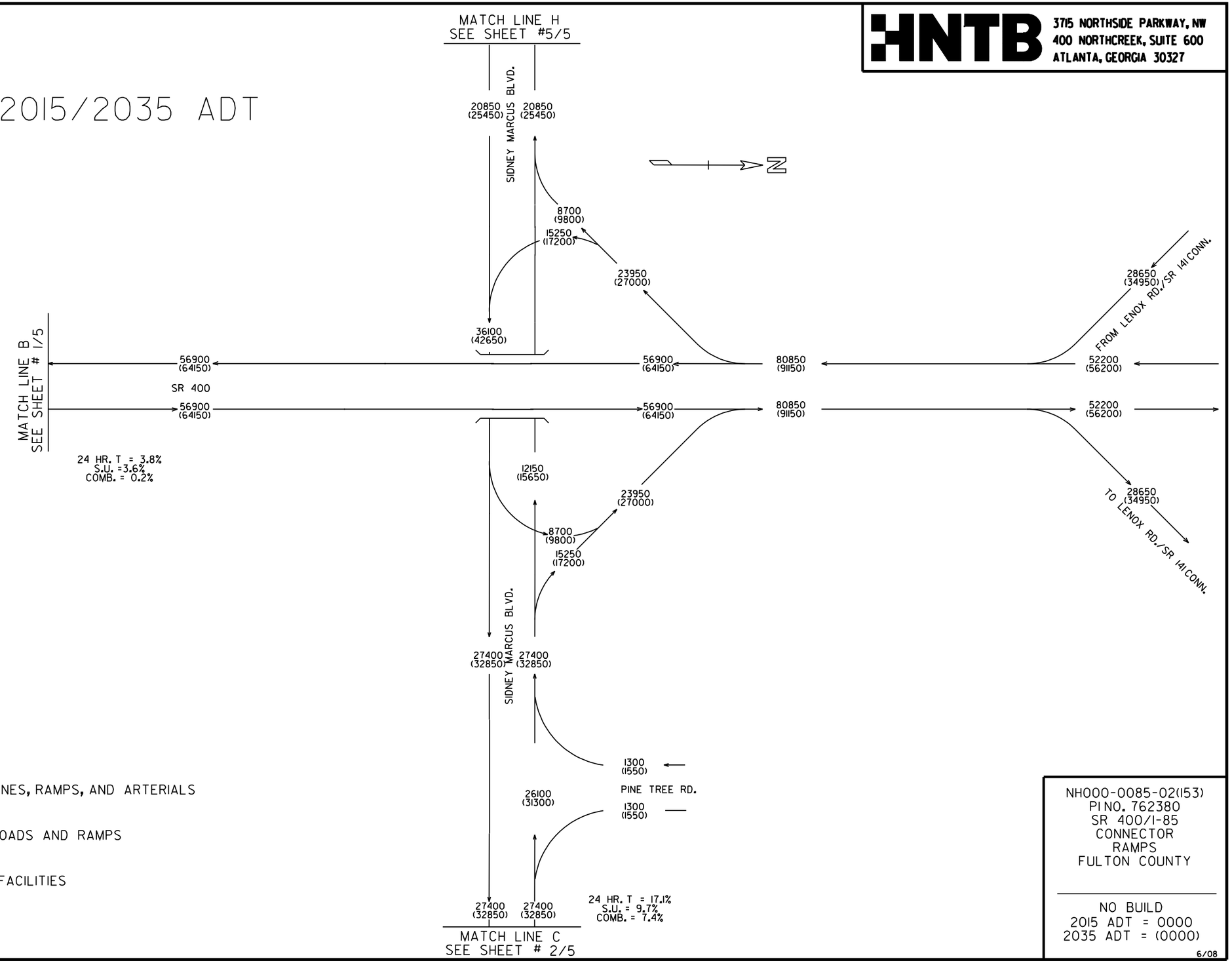
NO BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

SHEET # 4 / 5

NO BUILD 2015/2035 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

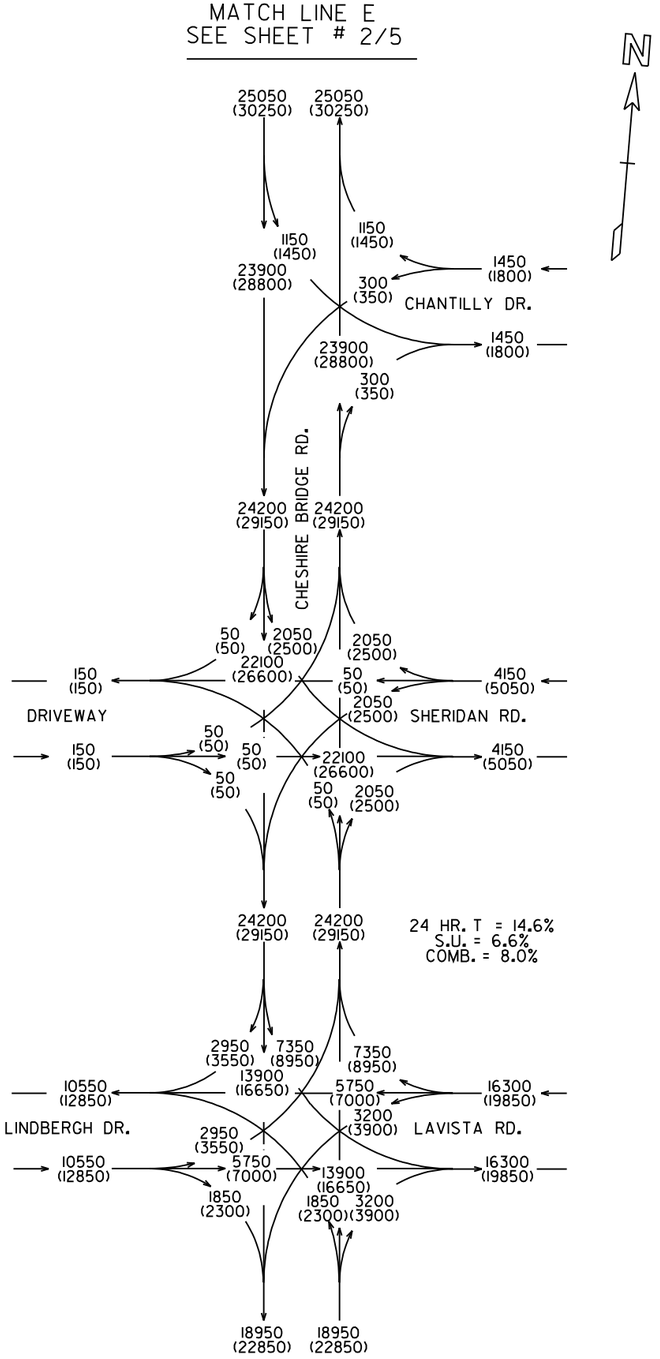
HOV FACILITIES

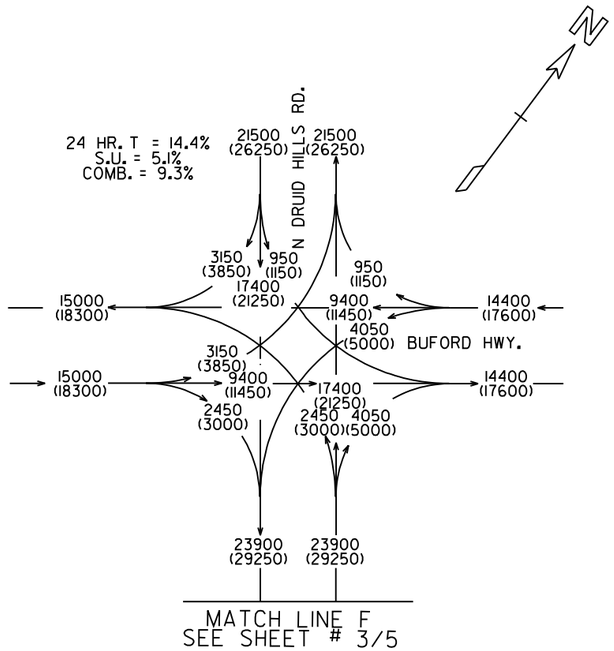
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

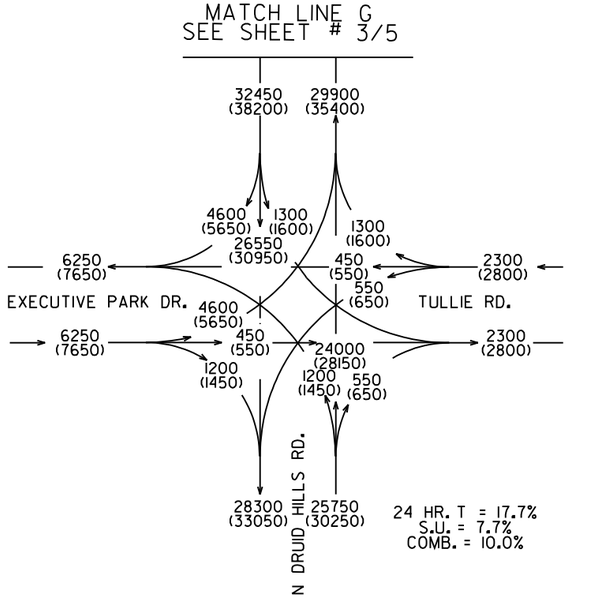
NO BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

SHEET # 5 / 5

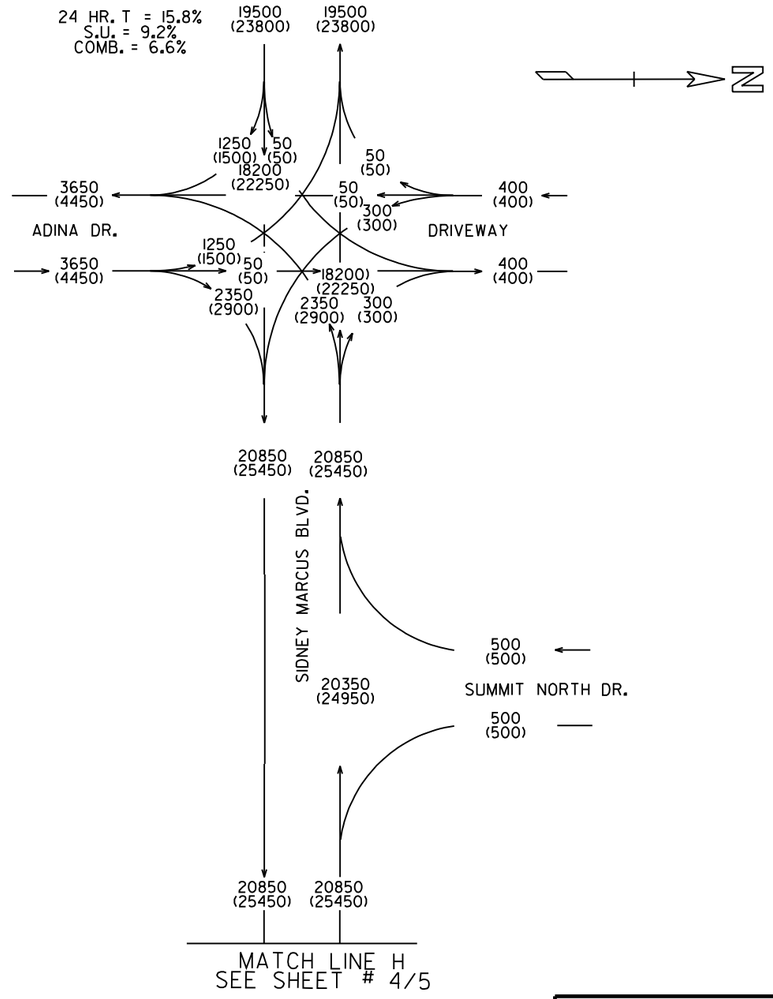






HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

NO BUILD 2015/2035 ADT



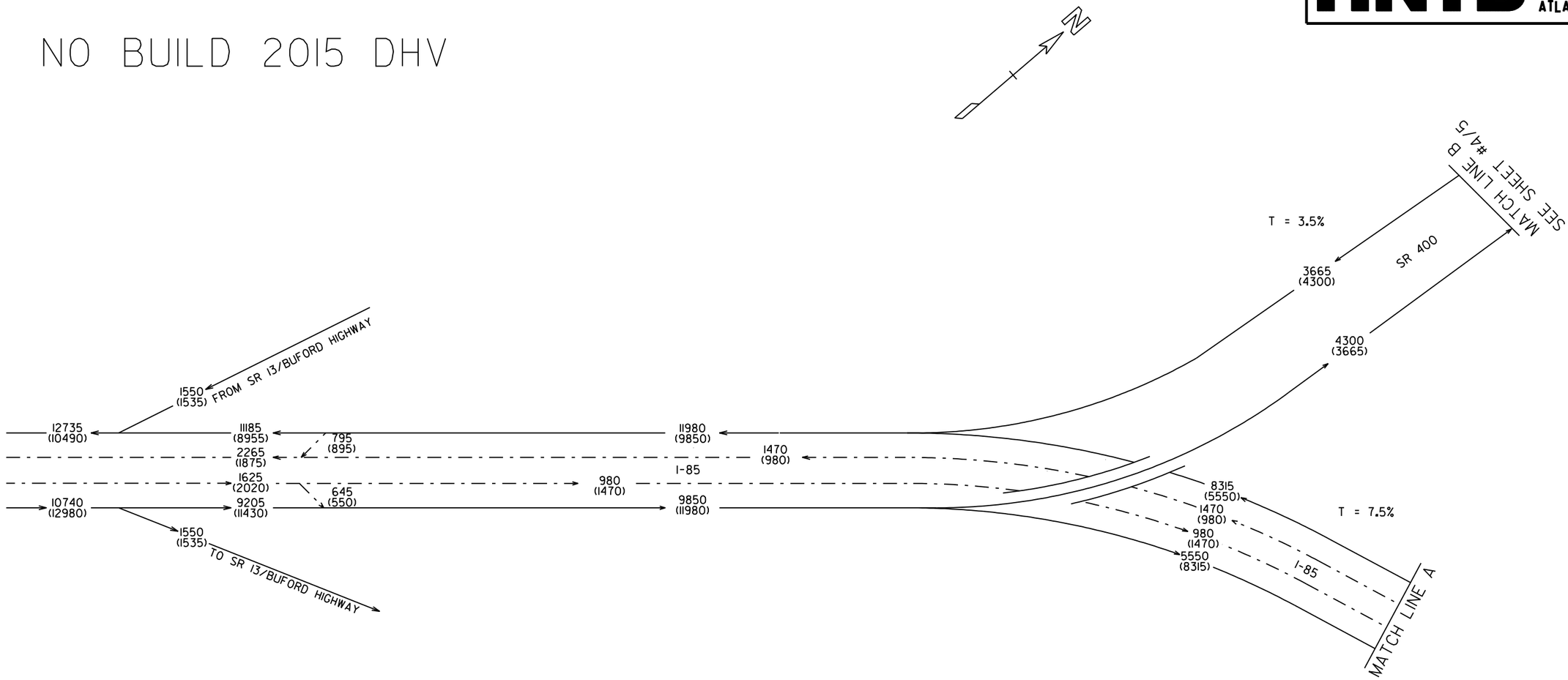
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

NO BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

NO BUILD 2015 DHV



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

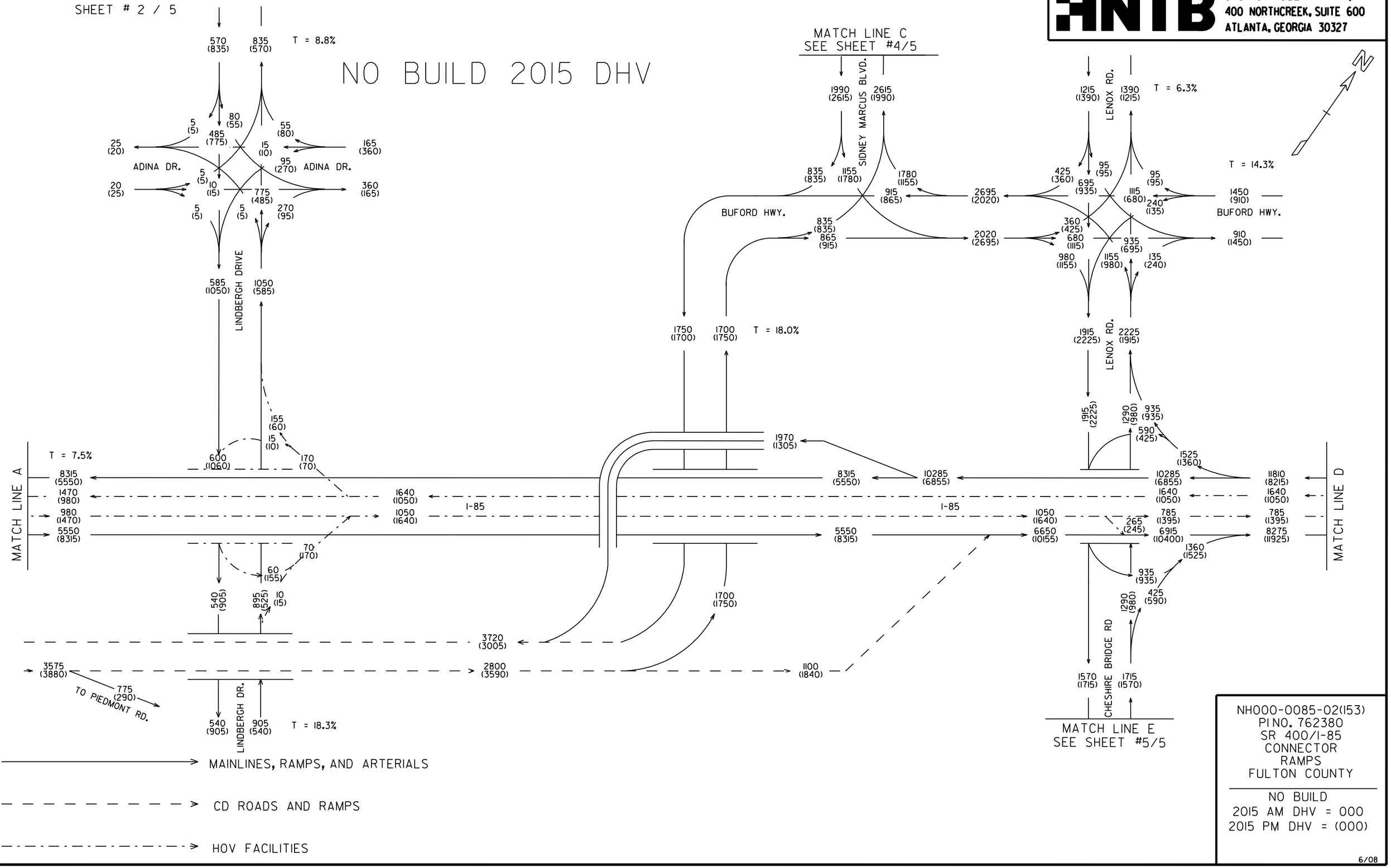
NO BUILD
2015 AM DHV = 000
2015 PM DHV = (000)

6/08

SHEET # 2 / 5

NO BUILD 2015 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

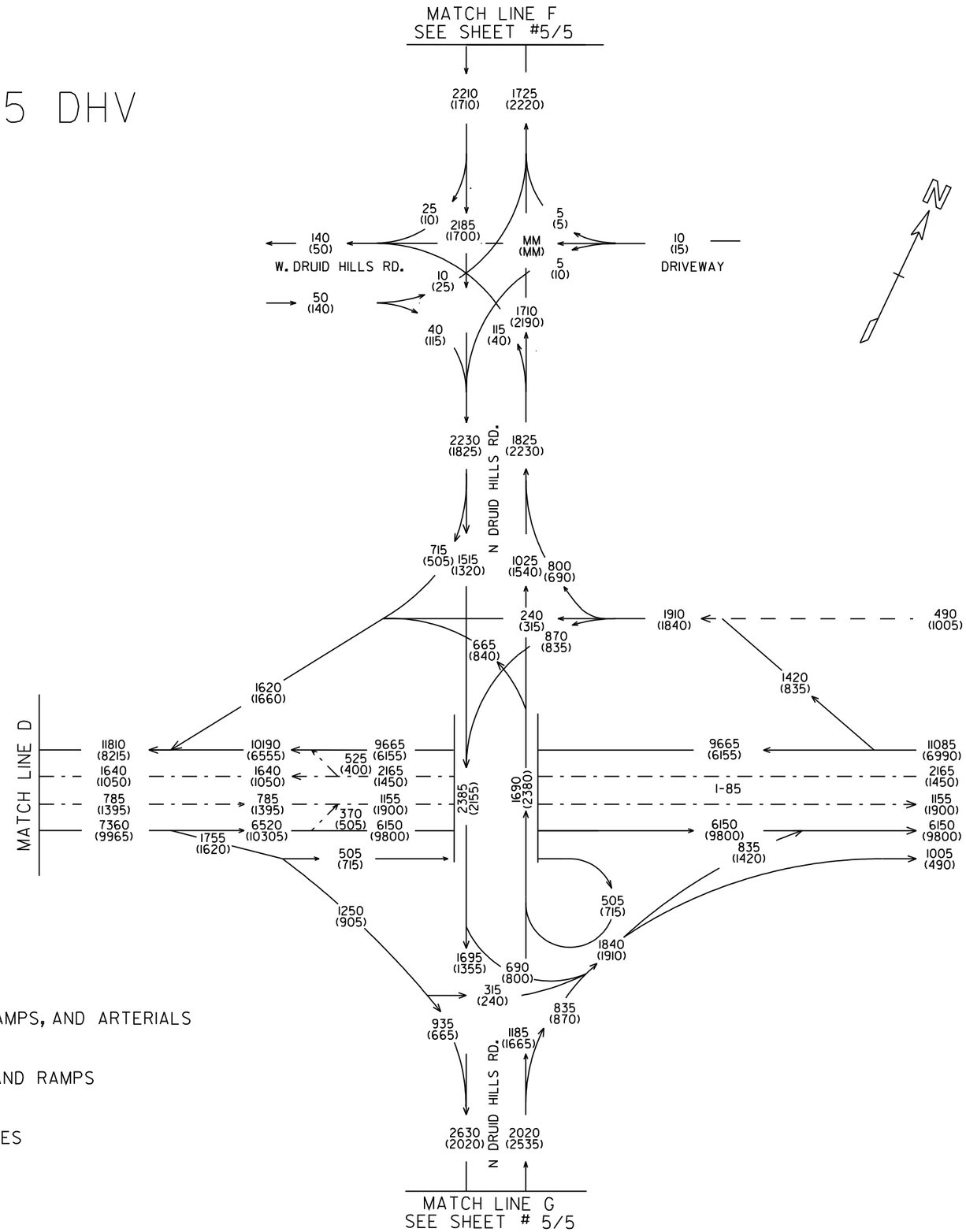
NO BUILD
2015 AM DHV = 000
2015 PM DHV = (000)

6/08

SHEET # 3 / 5

NO BUILD 2015 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



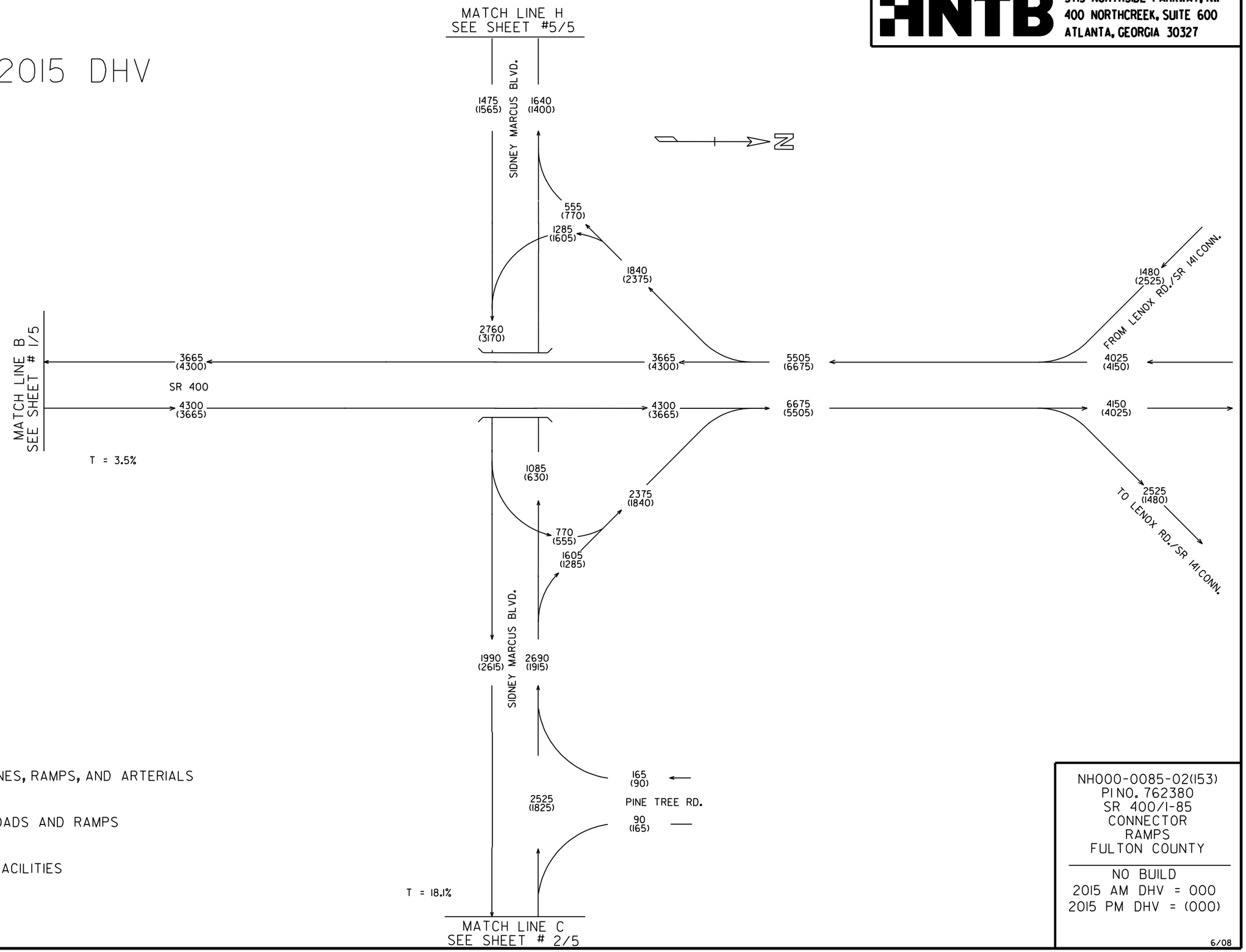
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

NO BUILD
2015 AM DHV = 000
2015 PM DHV = (000)

6/08

NO BUILD 2015 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

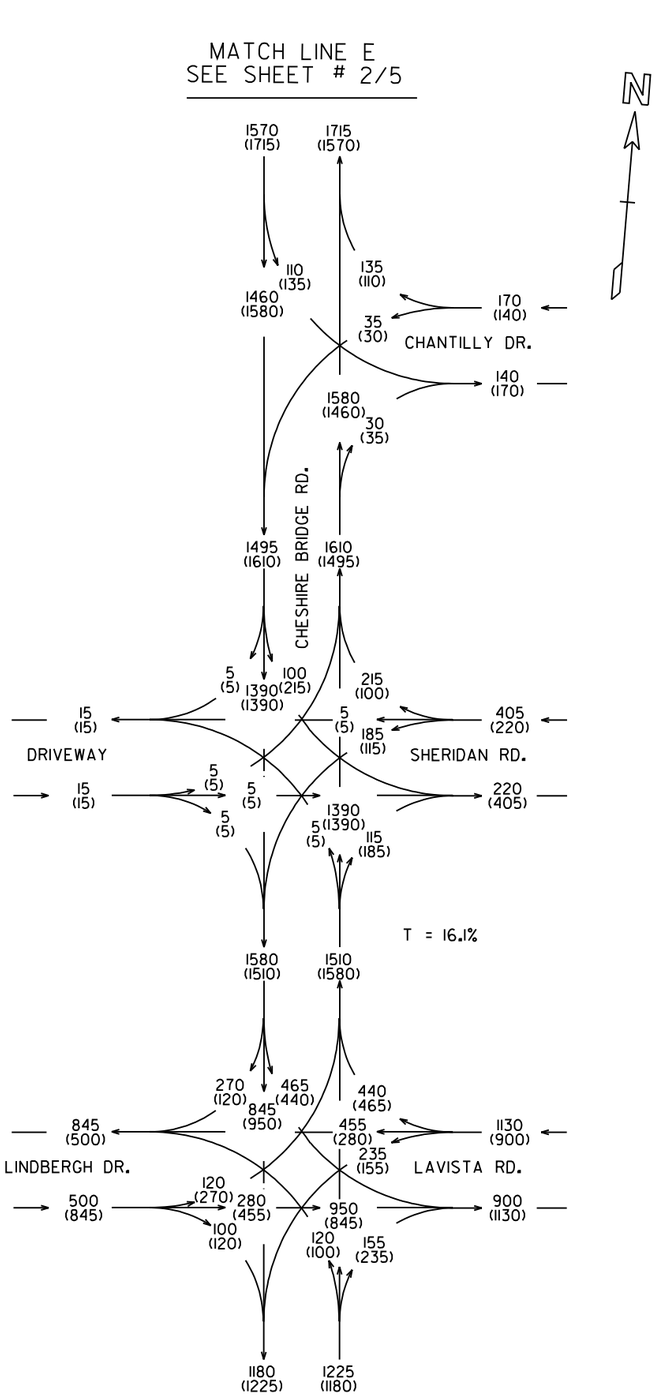
HOV FACILITIES

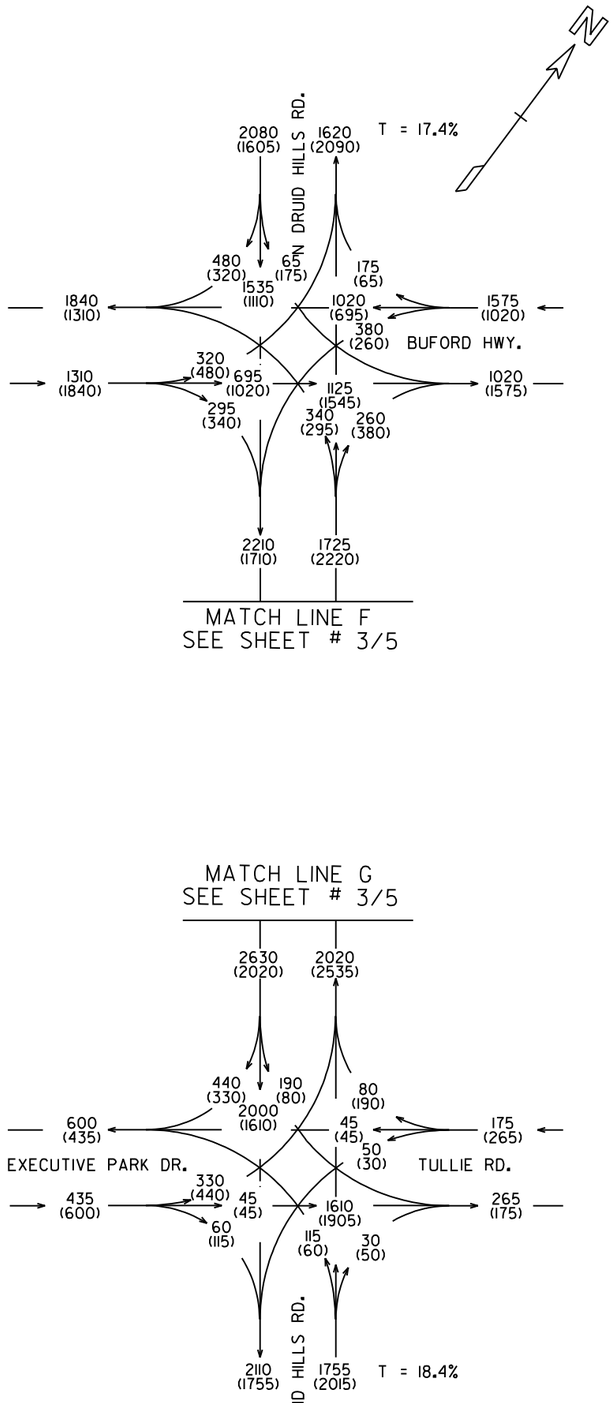
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

NO BUILD
2015 AM DHV = 000
2015 PM DHV = (000)

6/08

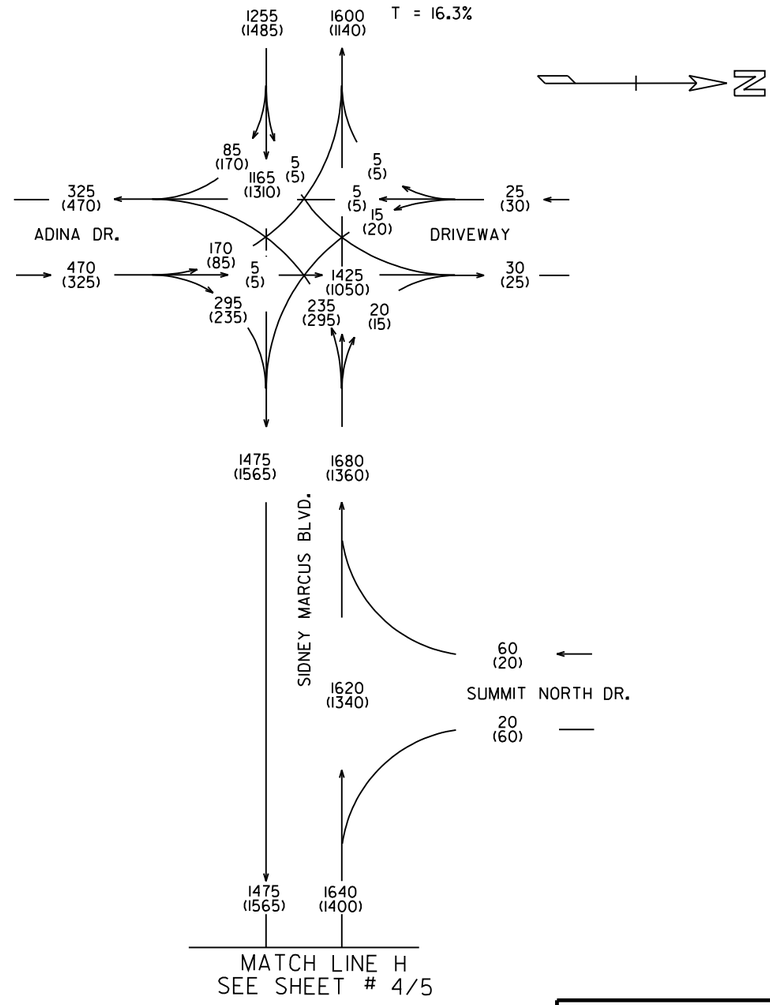
SHEET # 5 / 5





HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

NO BUILD 2015 DHV



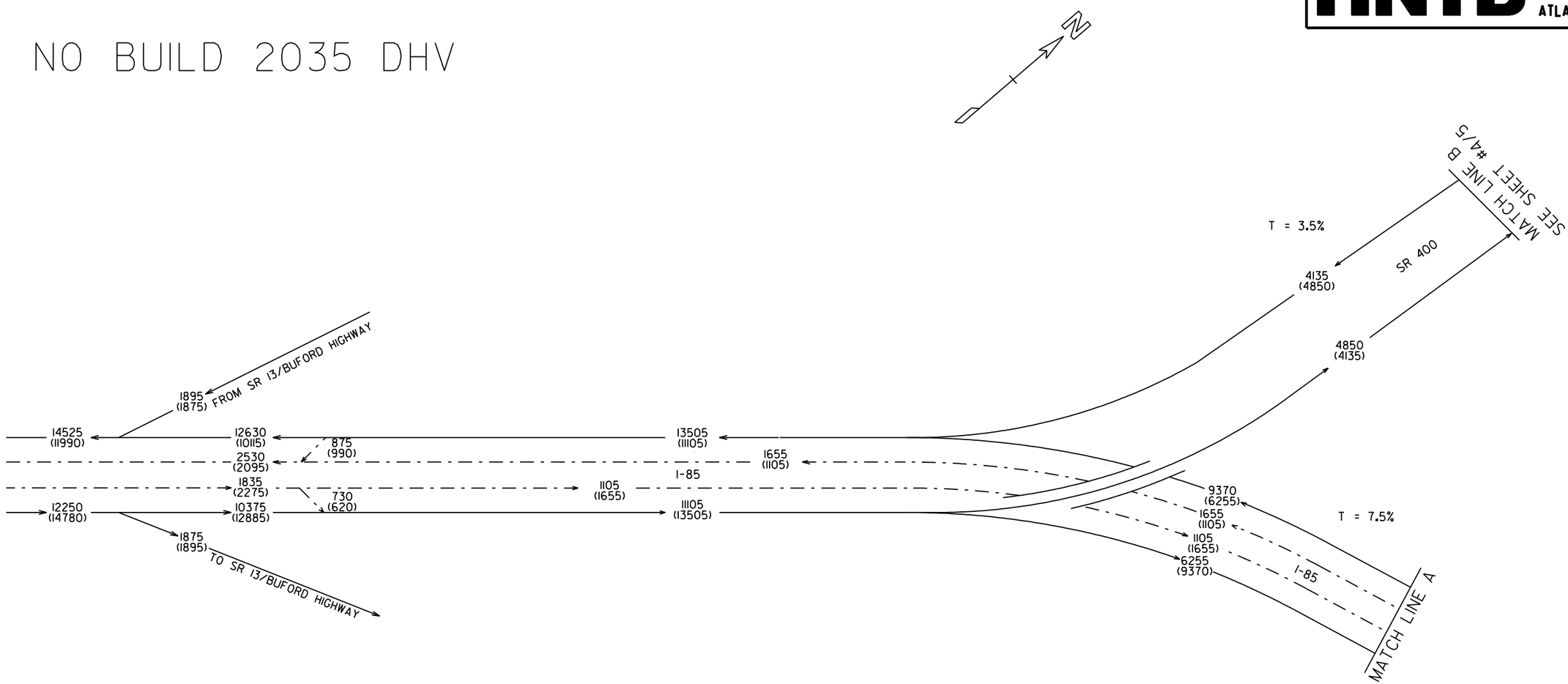
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

NO BUILD
2015 AM DHV = 000
2015 PM DHV = (000)

6/08

SHEET # 1/ 5

NO BUILD 2035 DHV



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

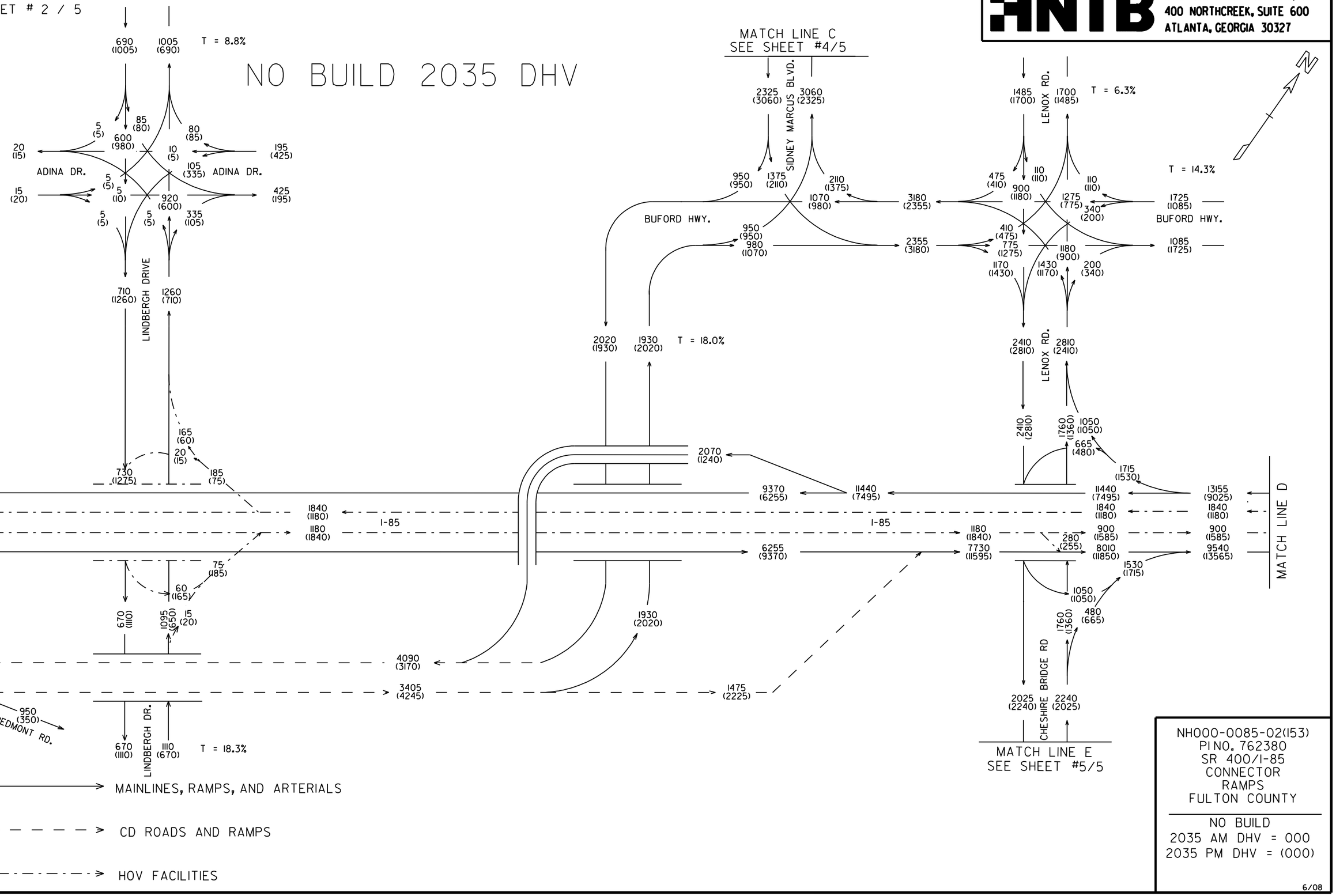
NO BUILD
2035 AM DHV = 000
2035 PM DHV = (000)

6/08

SHEET # 2 / 5

NO BUILD 2035 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

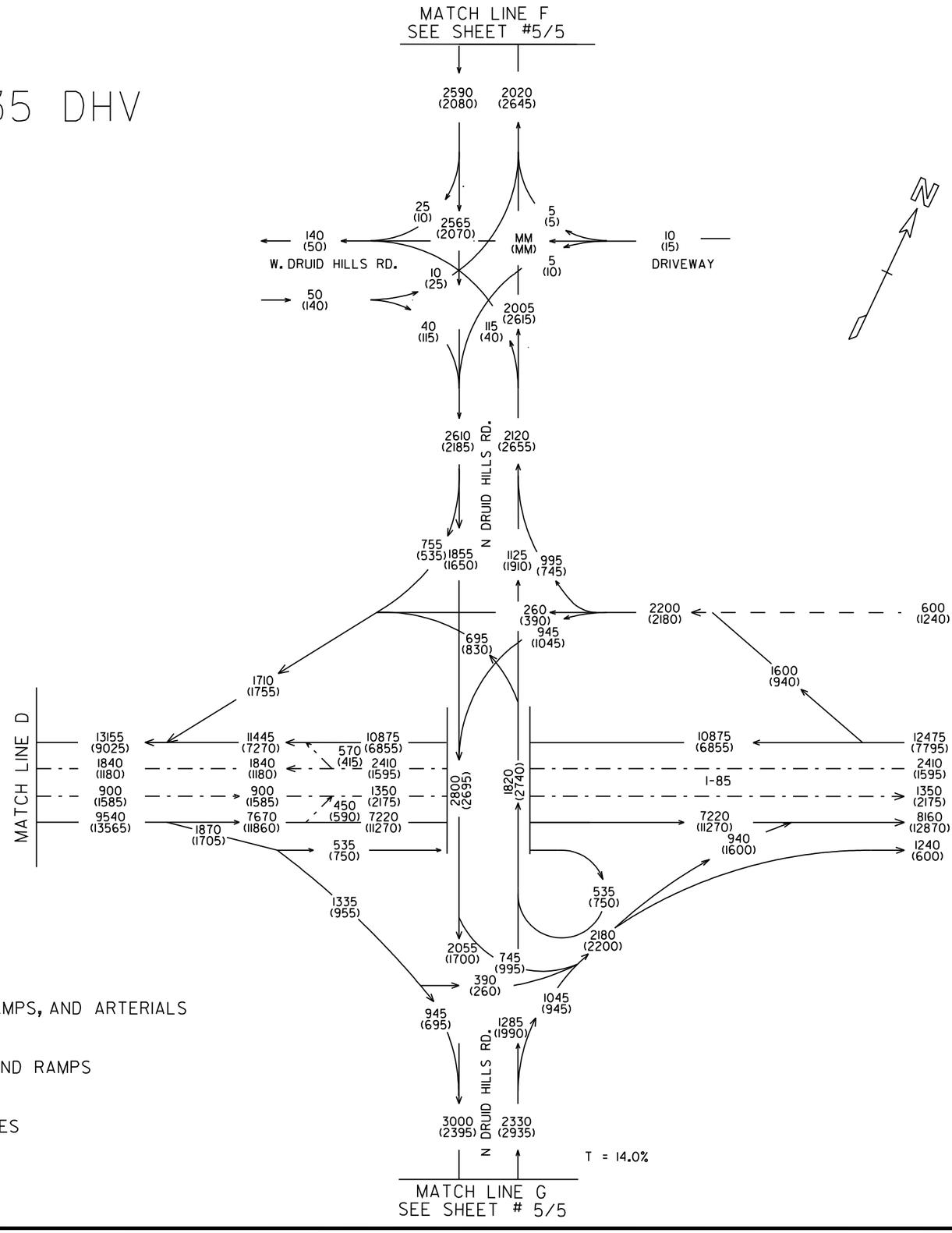
NO BUILD
2035 AM DHV = 000
2035 PM DHV = (000)

6/08

SHEET # 3 / 5

NO BUILD 2035 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

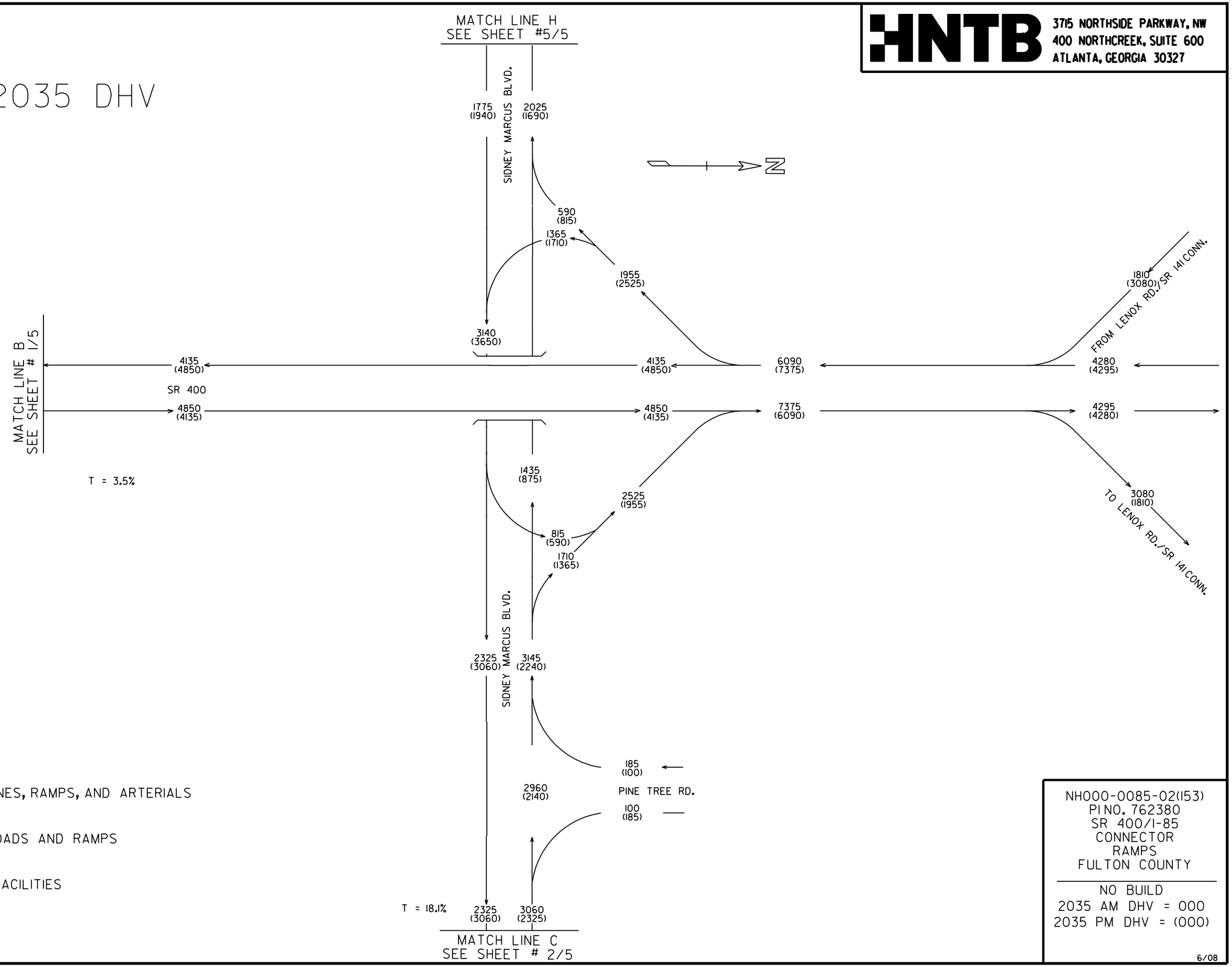
NO BUILD
2035 AM DHV = 000
2035 PM DHV = (000)

6/08

SHEET # 4 / 5

NO BUILD 2035 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

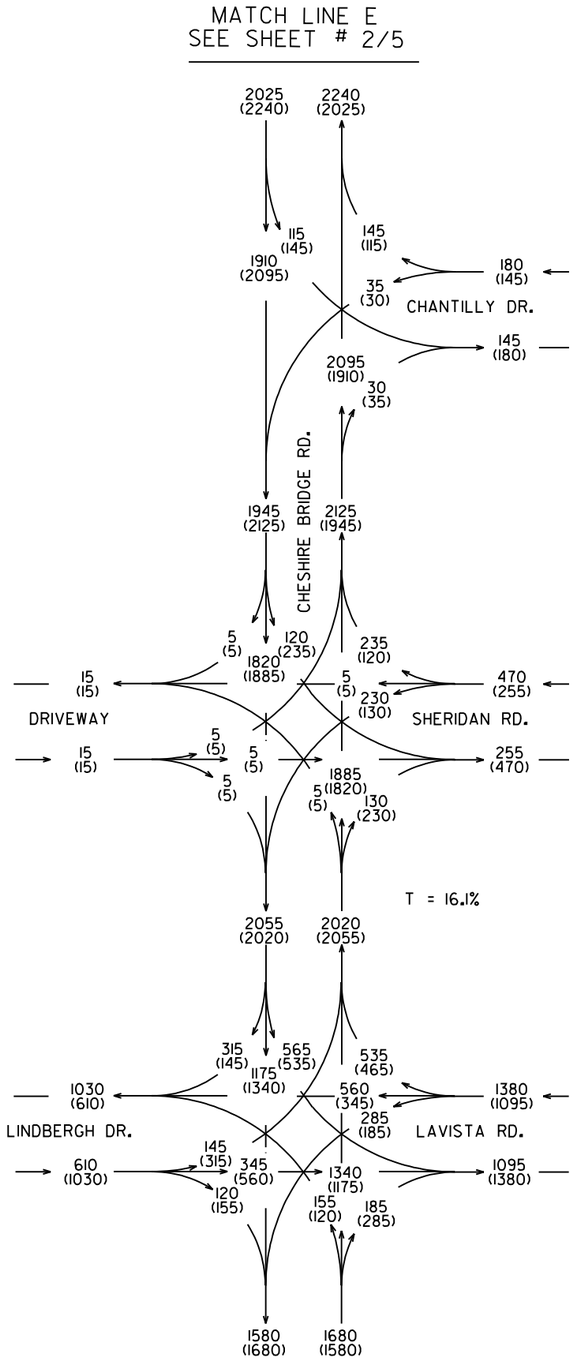
HOV FACILITIES

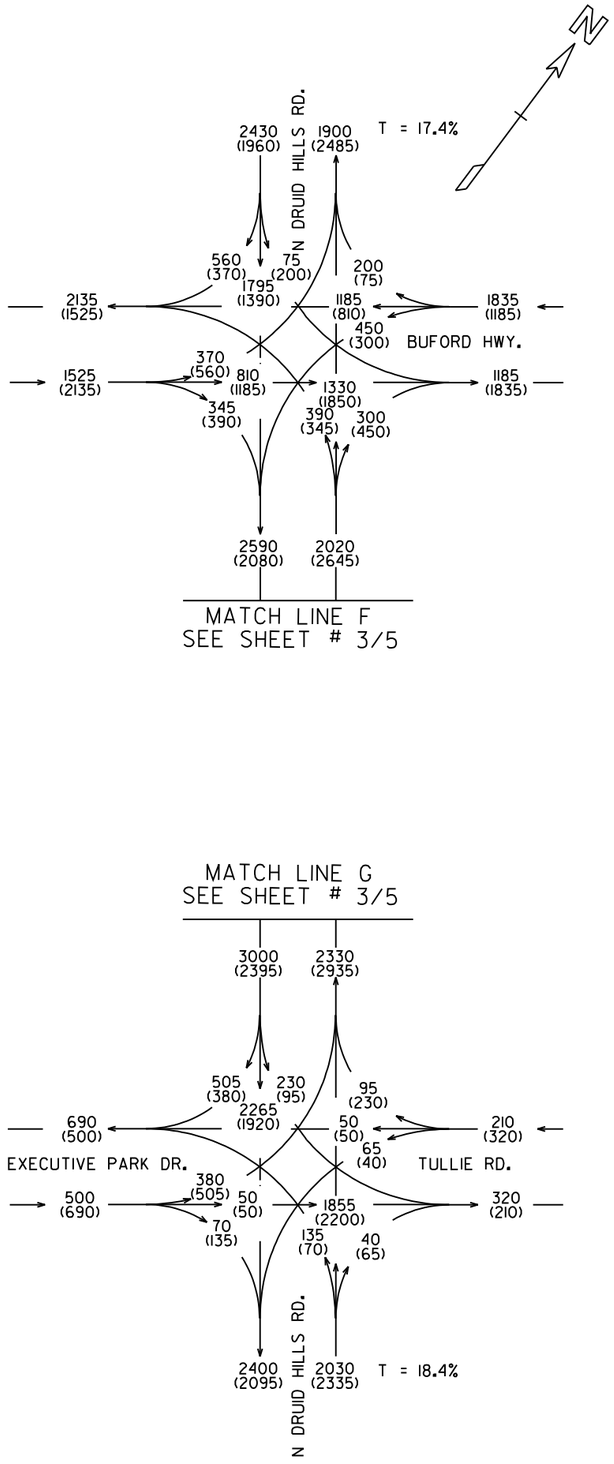
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

NO BUILD
2035 AM DHV = 000
2035 PM DHV = (000)

6/08

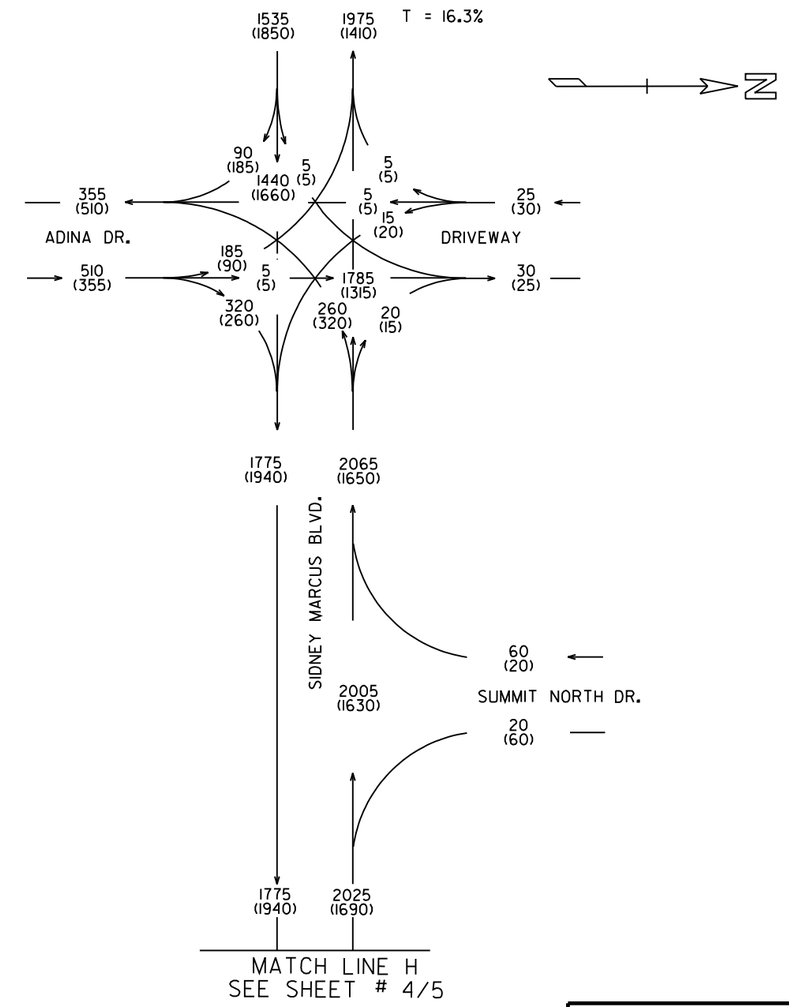
SHEET # 5 / 5





HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

NO BUILD 2035 DHV



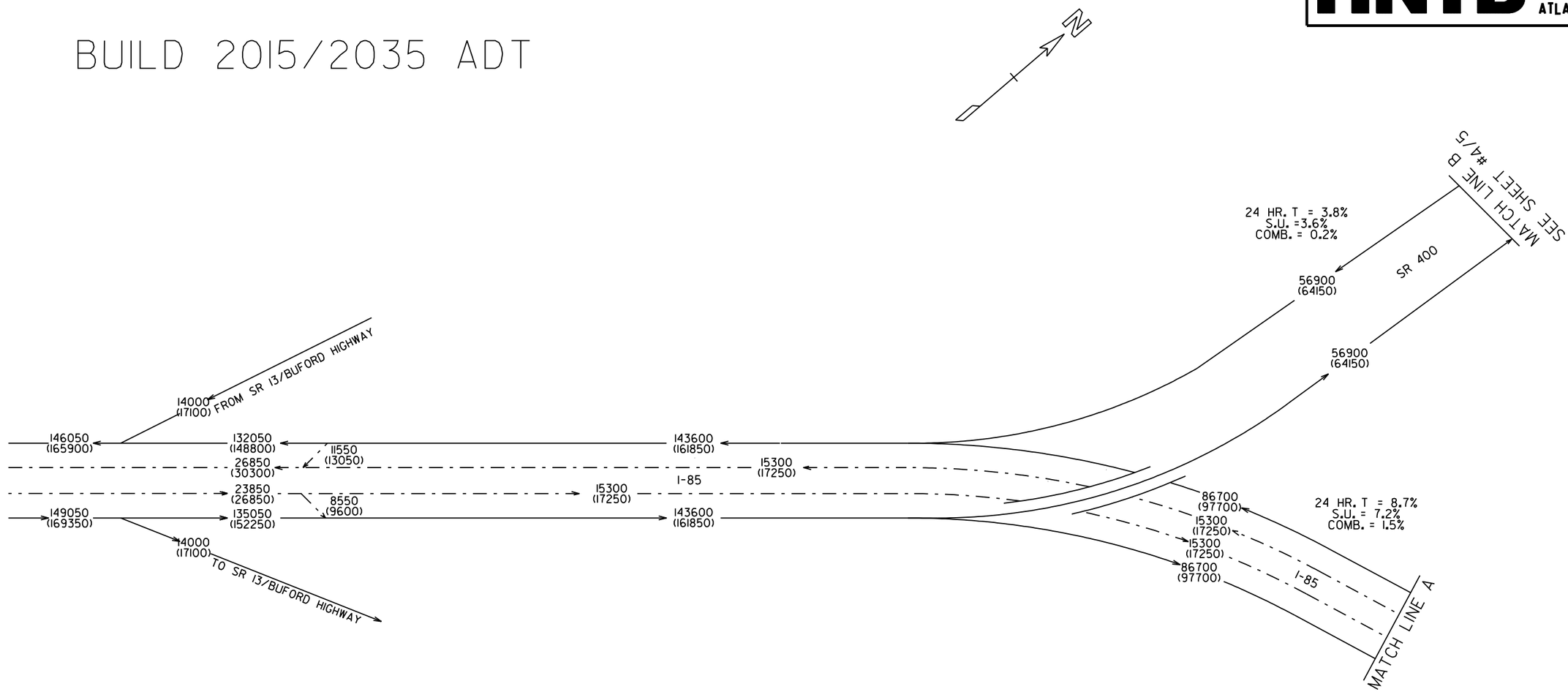
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

NO BUILD
2035 AM DHV = 000
2035 PM DHV = (000)

6/08

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

BUILD 2015/2035 ADT



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

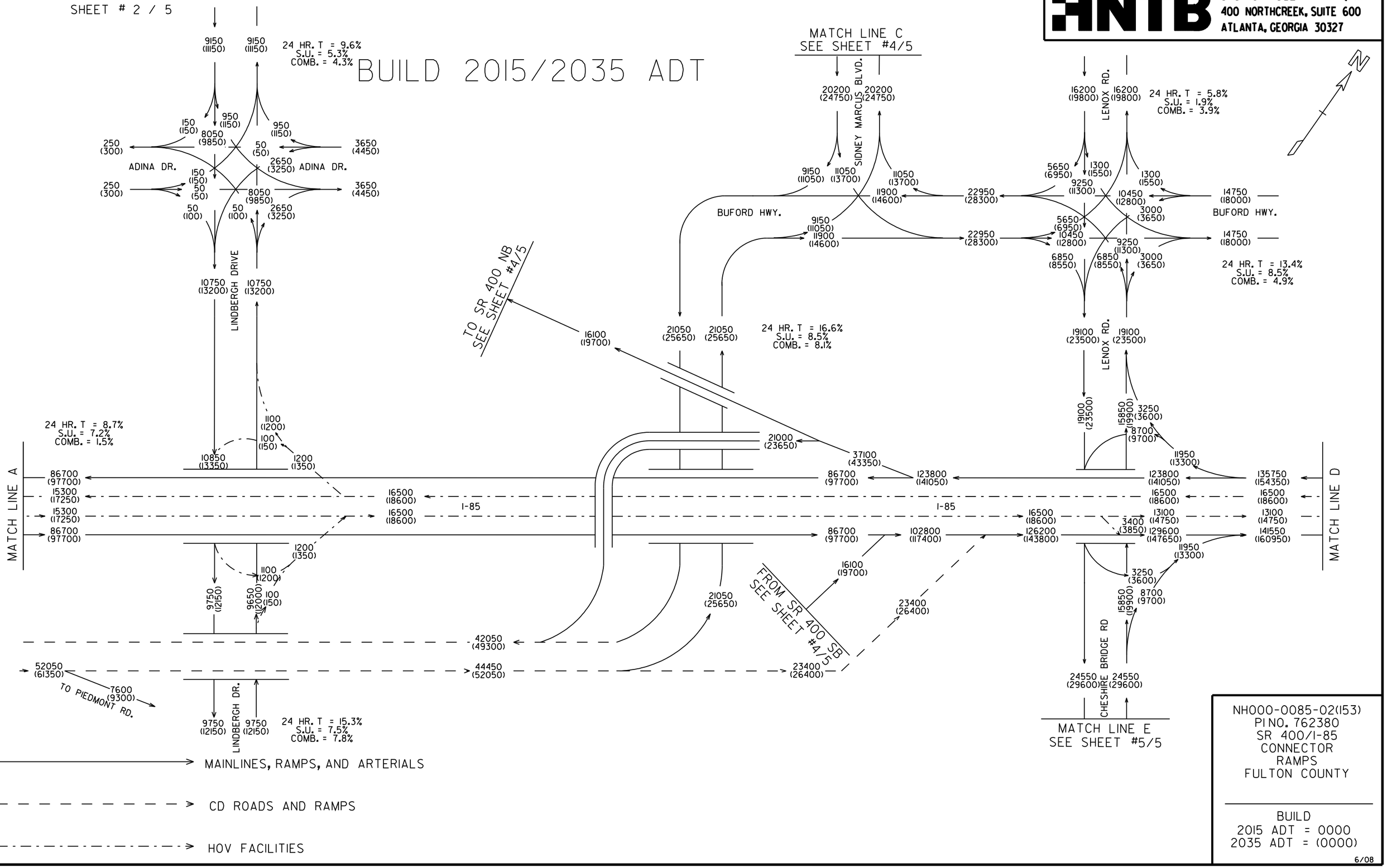
BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

SHEET # 2 / 5

BUILD 2015/2035 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

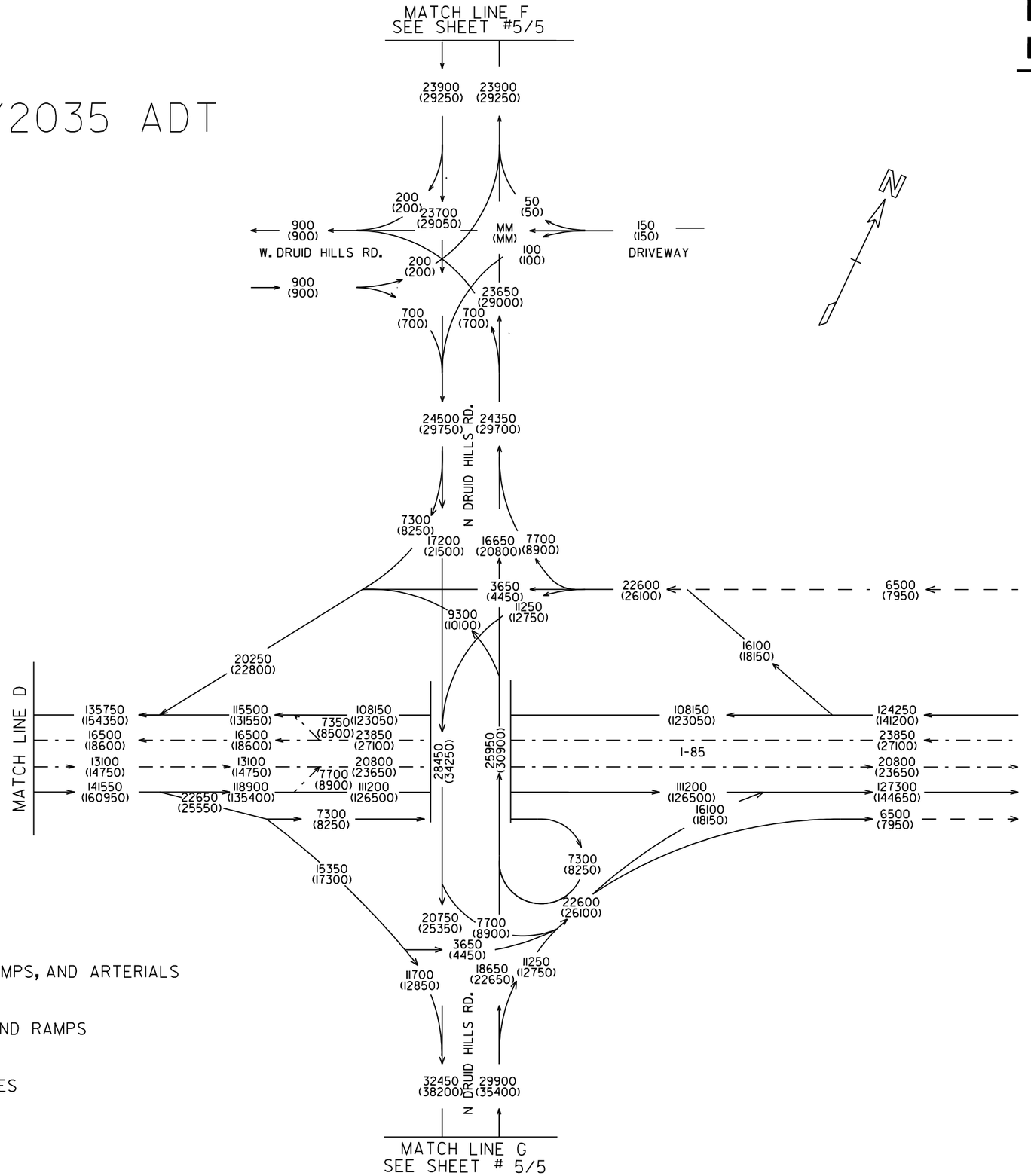
BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

SHEET # 3 / 5

BUILD 2015/2035 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

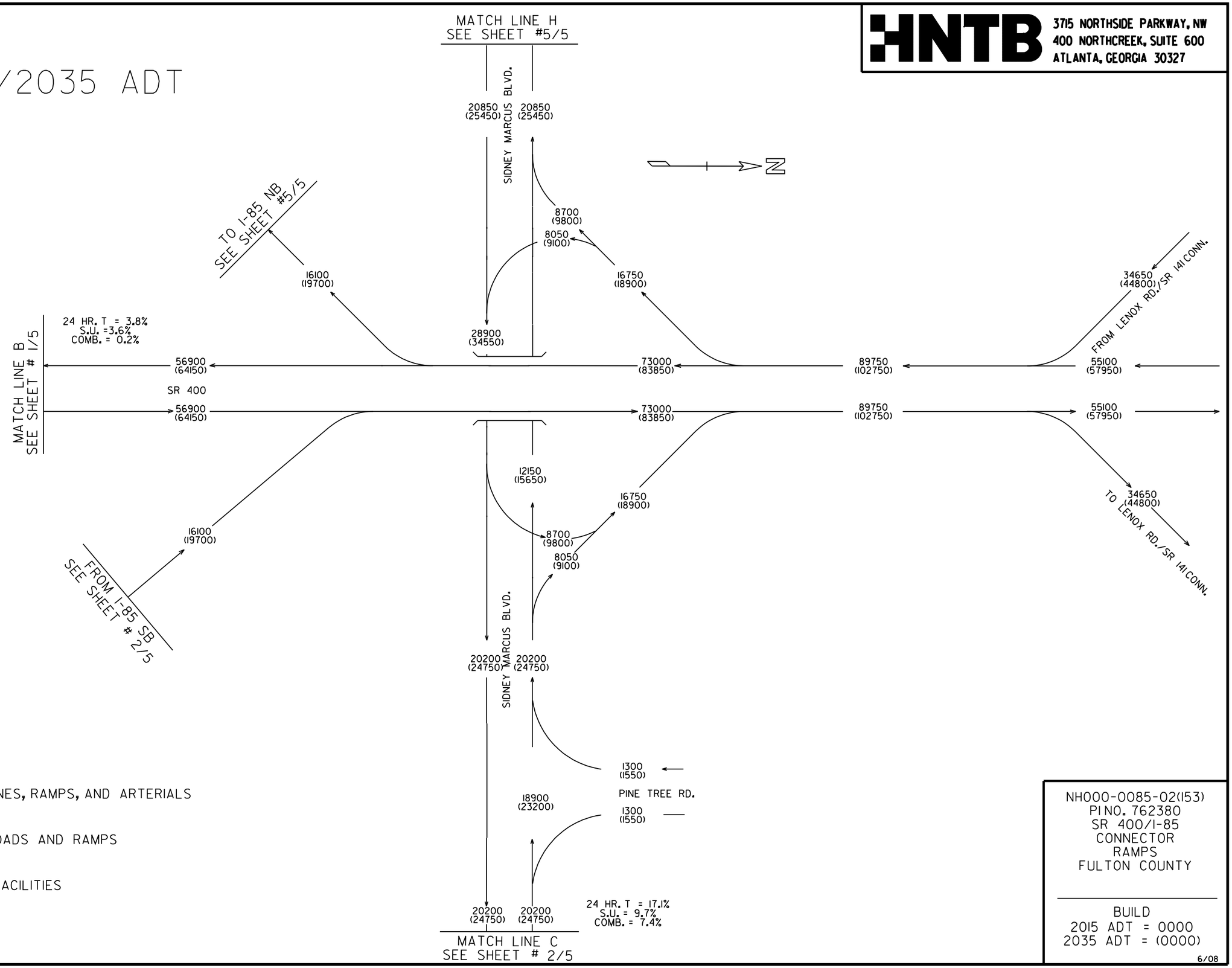
BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

SHEET # 4 / 5

BUILD 2015/2035 ADT

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

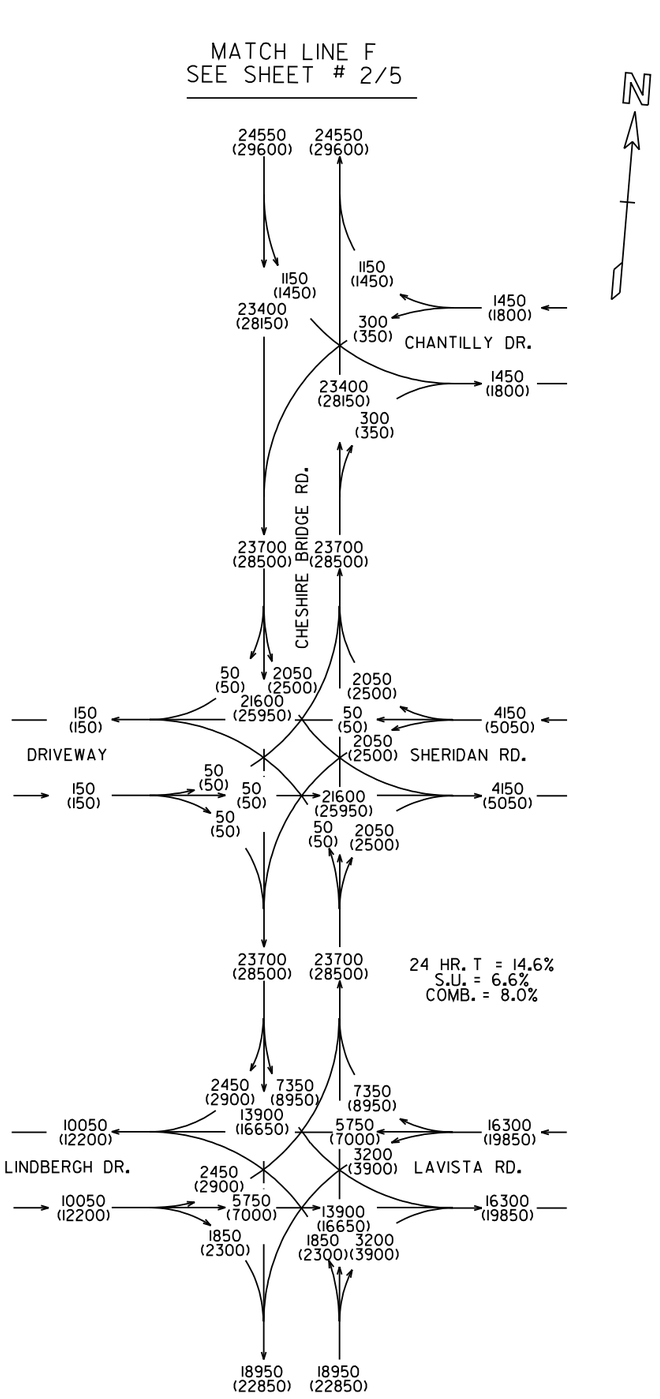
HOV FACILITIES

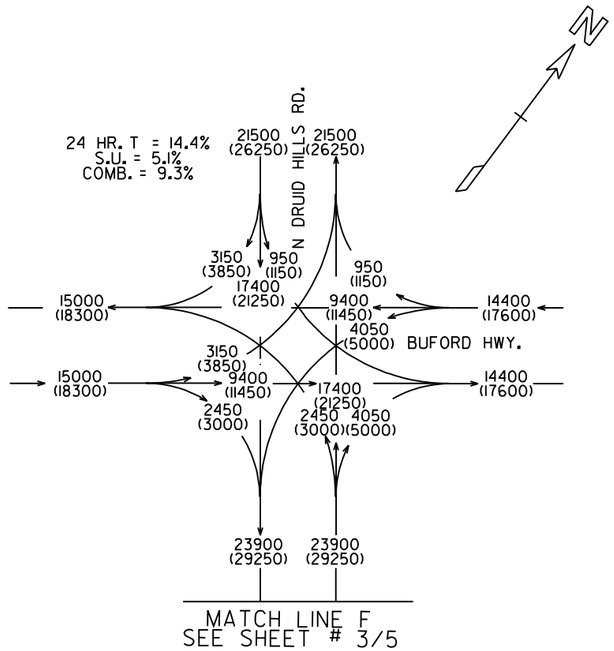
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

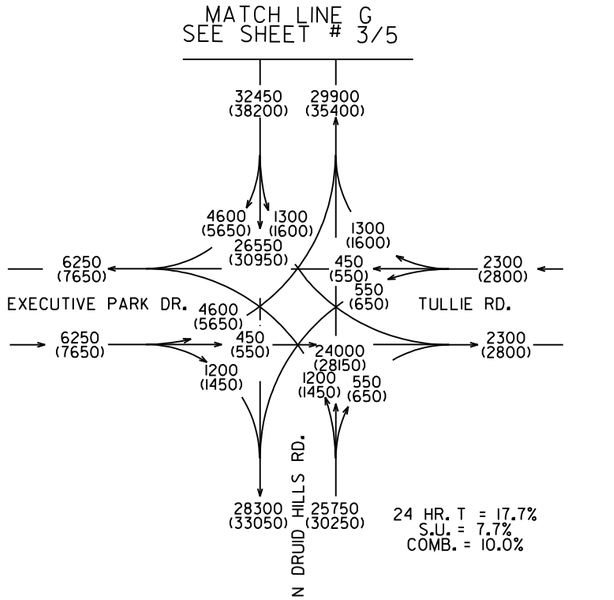
BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

SHEET # 5 / 5

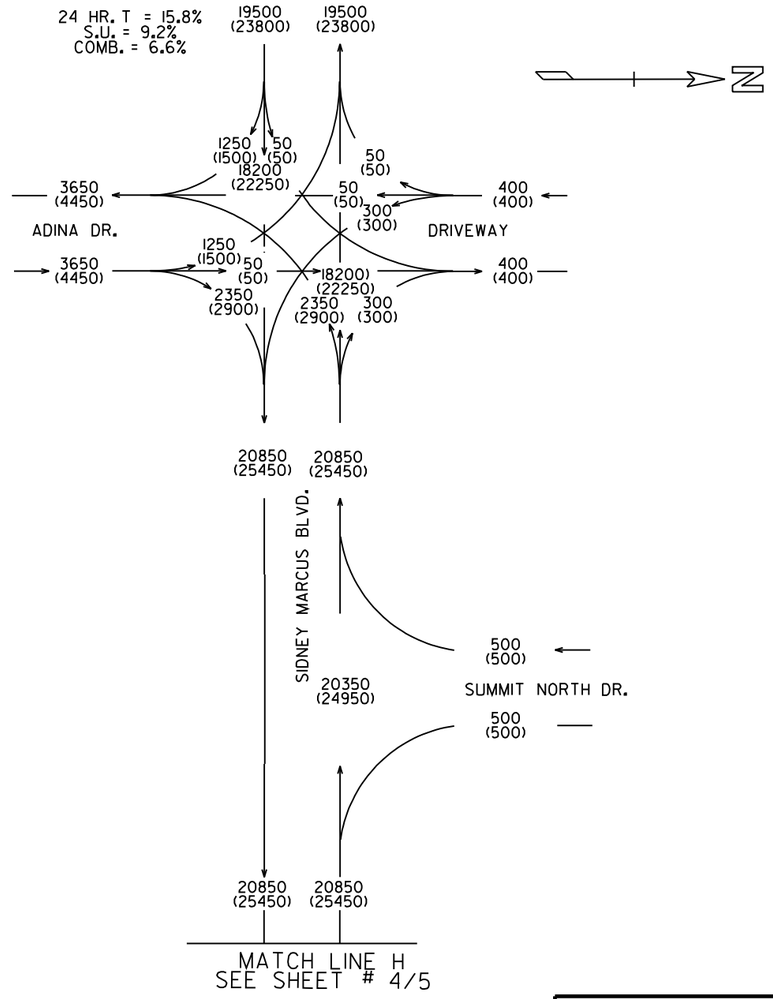






HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

BUILD 2015/2035 ADT



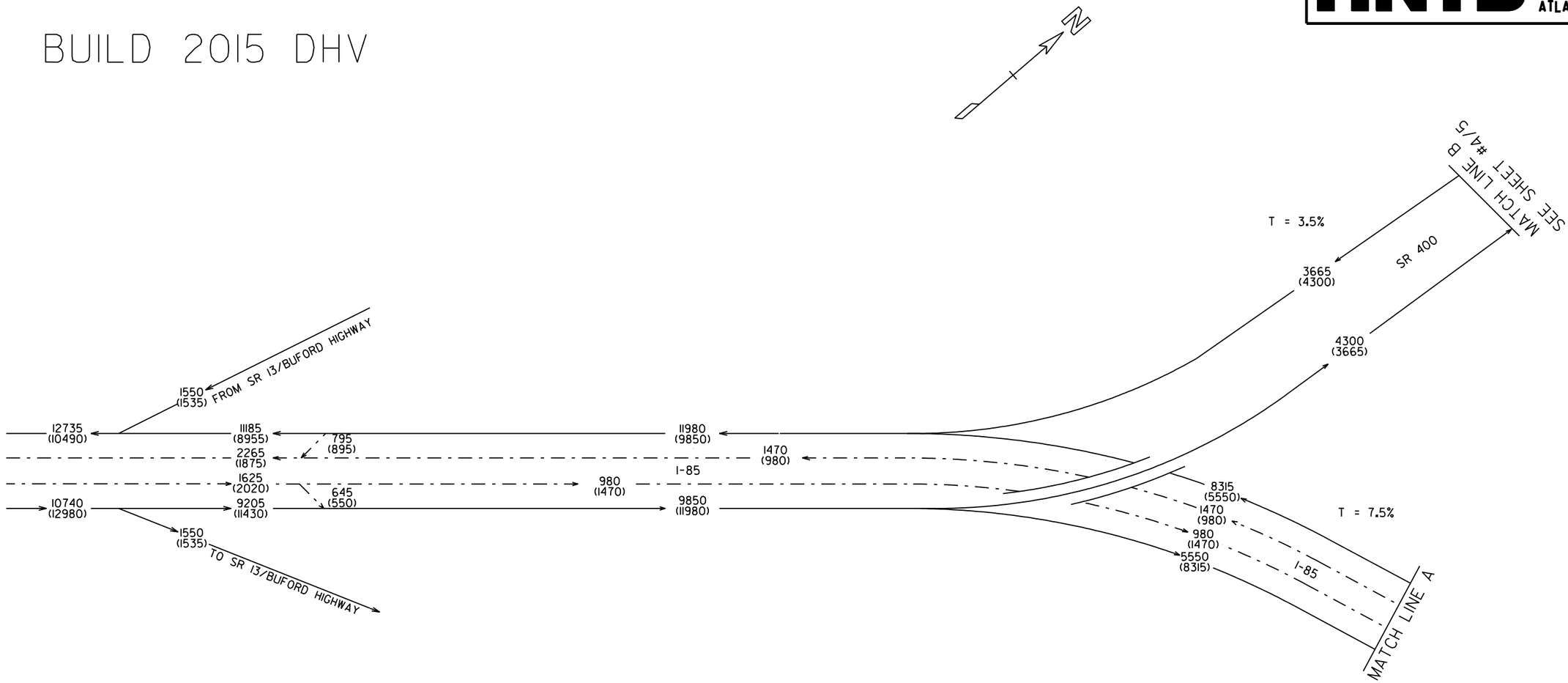
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

BUILD
2015 ADT = 0000
2035 ADT = (0000)

6/08

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

BUILD 2015 DHV



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

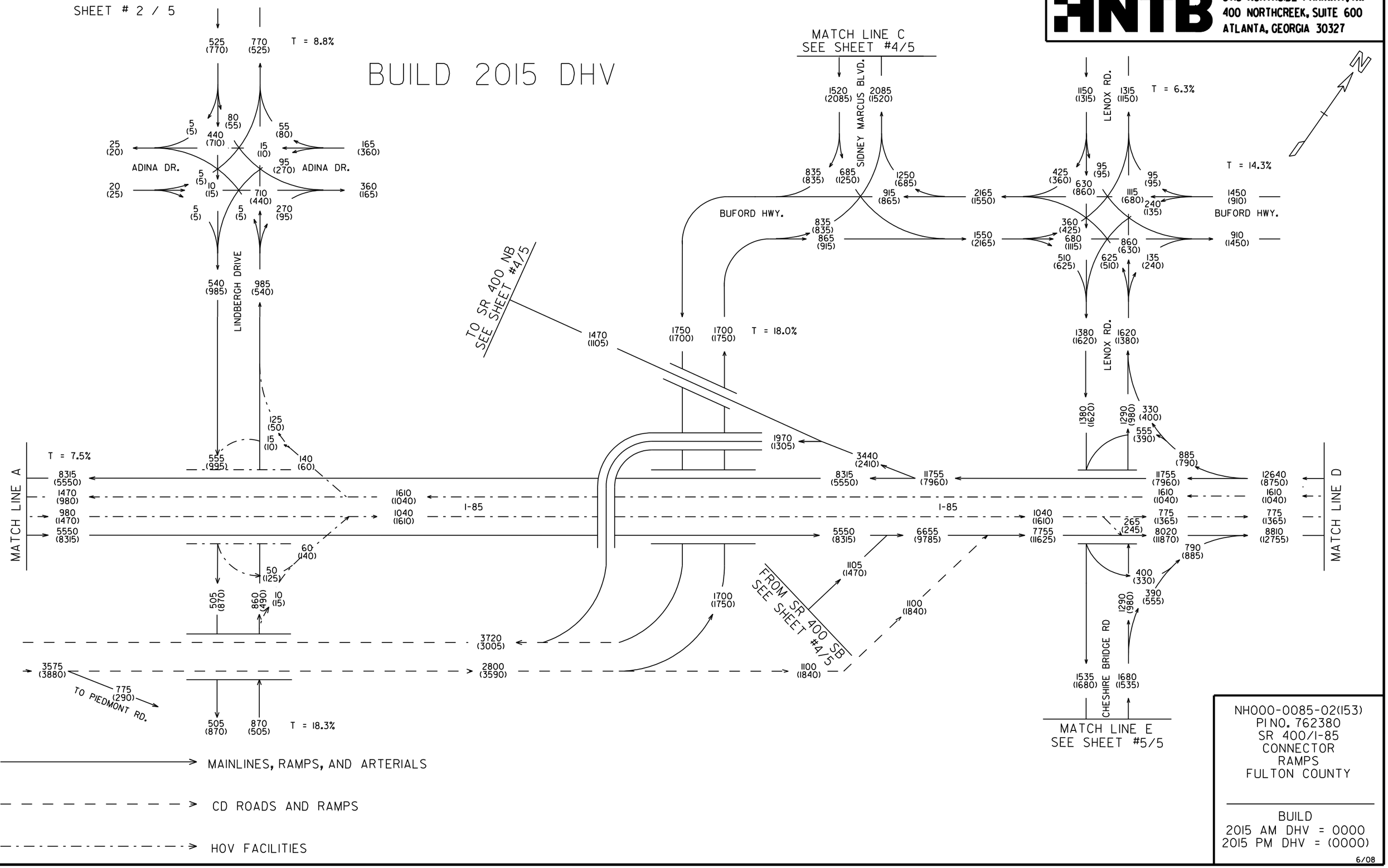
BUILD
2015 AM DHV = 0000
2015 PM DHV = (0000)

6/08

SHEET # 2 / 5

BUILD 2015 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

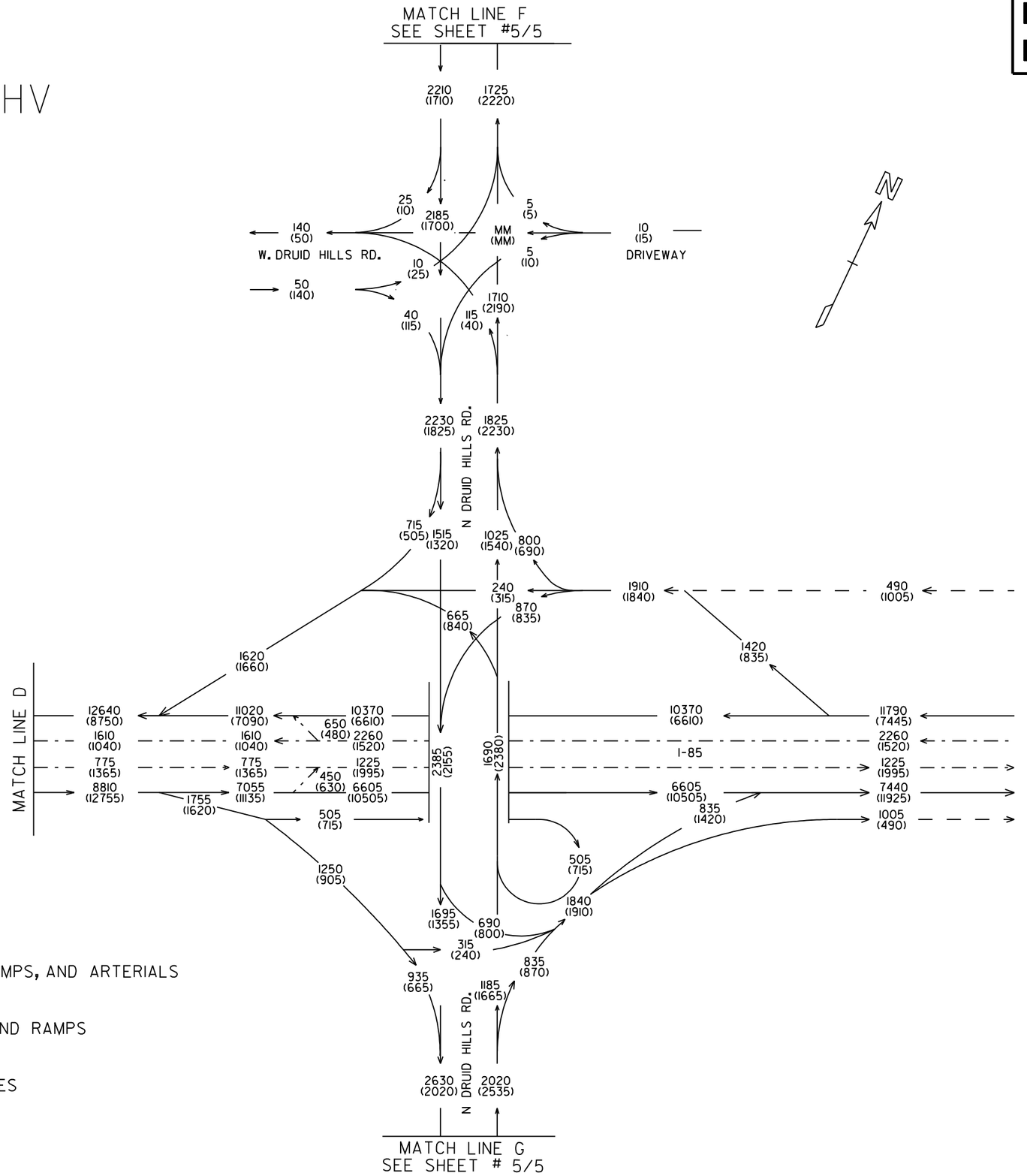
BUILD
2015 AM DHV = 0000
2015 PM DHV = (0000)

6/08

SHEET # 3 / 5

BUILD 2015 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

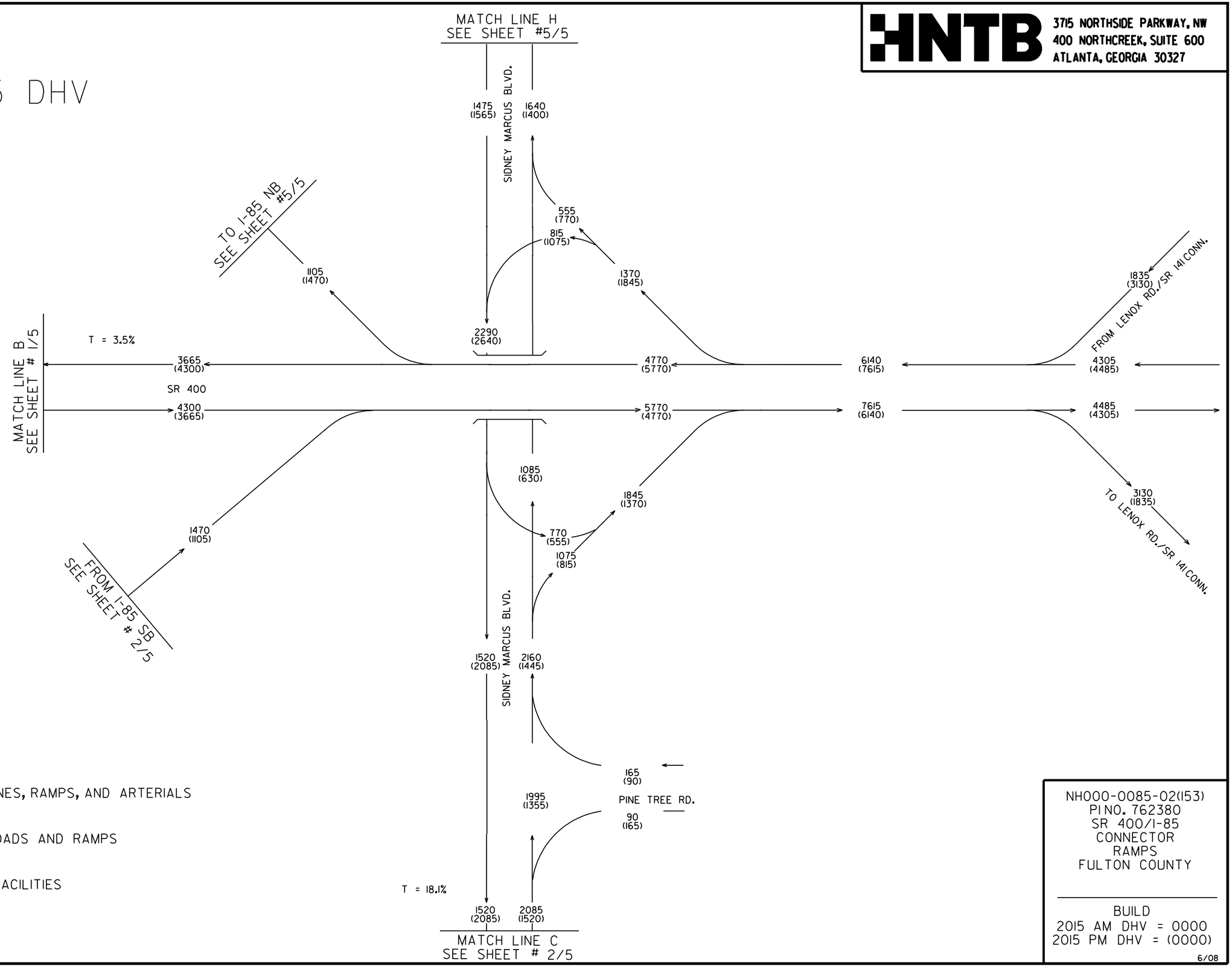
BUILD
2015 AM DHV = 0000
2015 PM DHV = (0000)

6/08

SHEET # 4 / 5

BUILD 2015 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

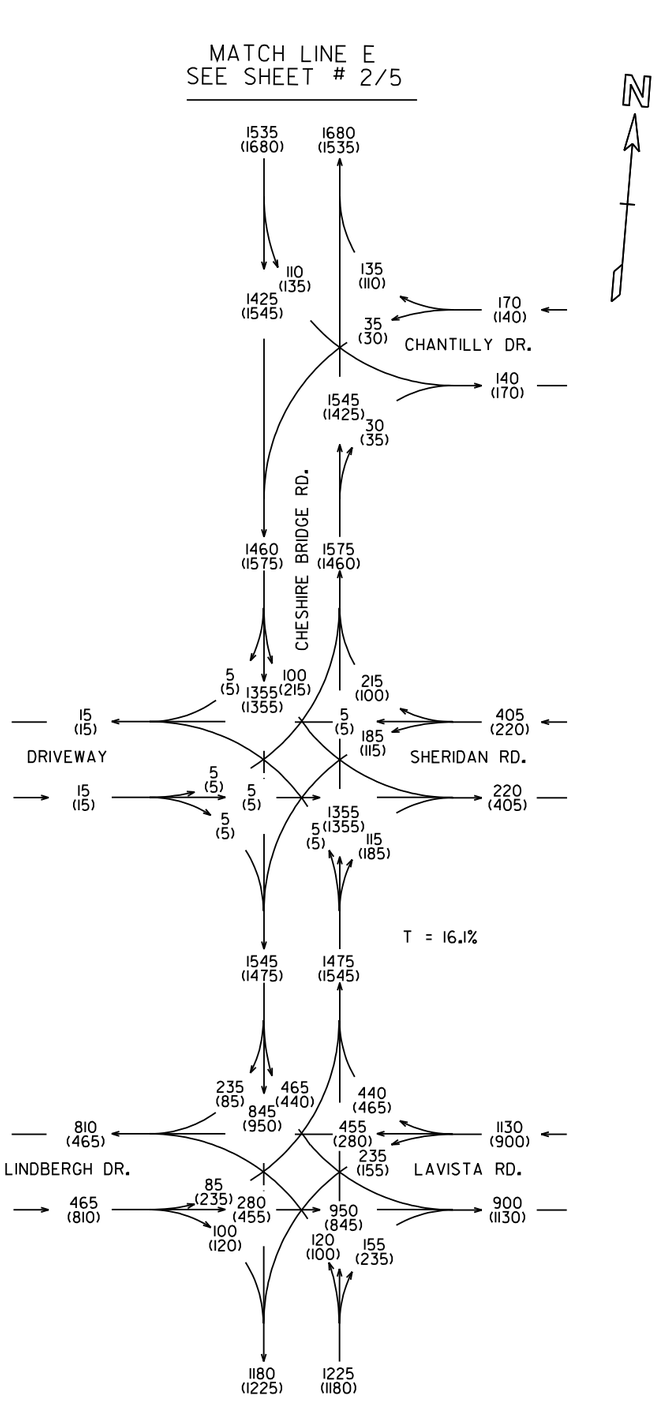
HOV FACILITIES

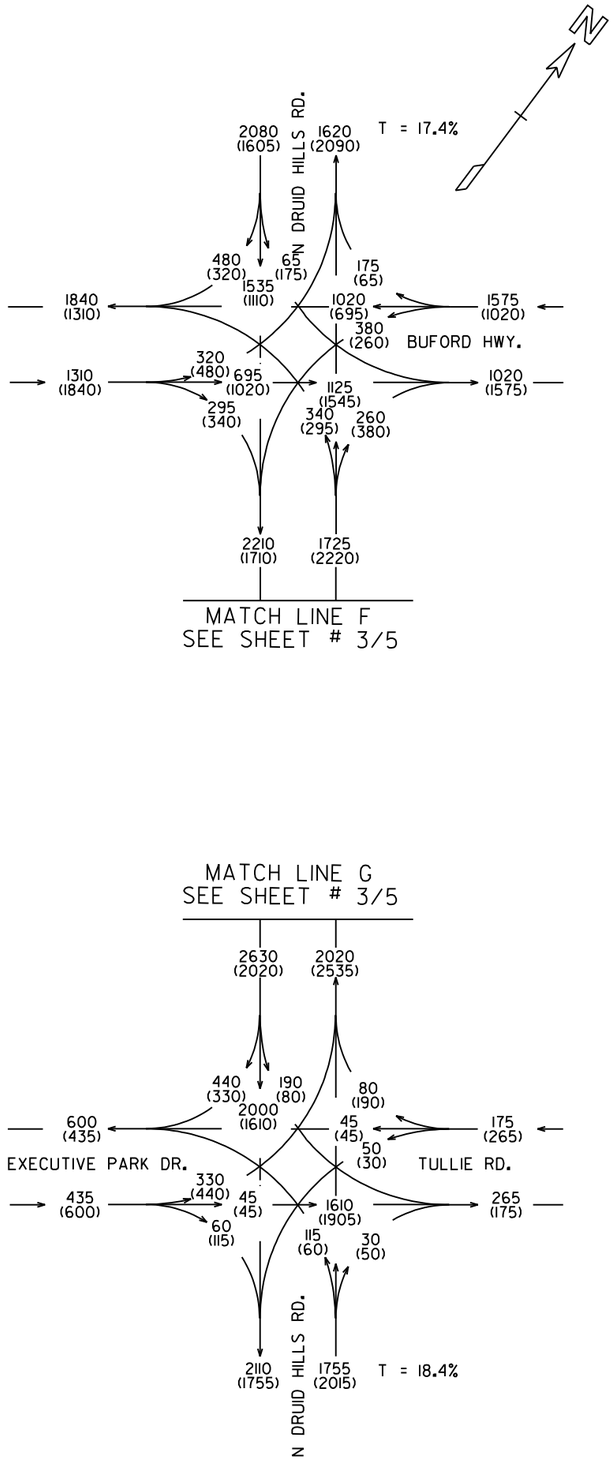
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

BUILD
2015 AM DHV = 0000
2015 PM DHV = (0000)

6/08

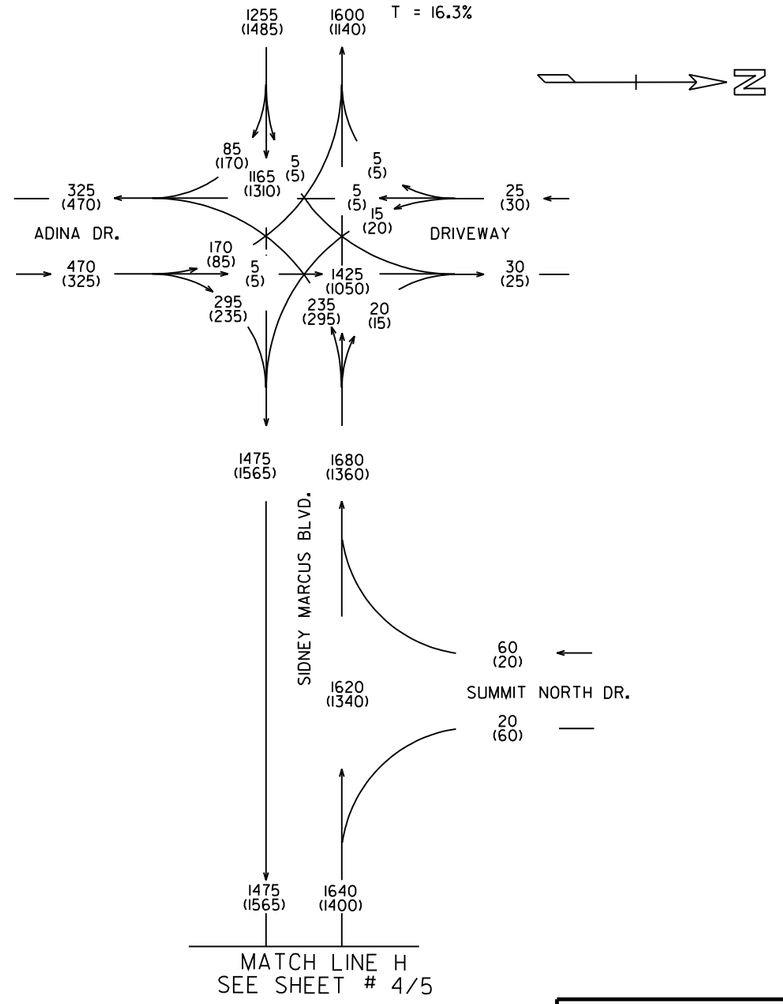
SHEET # 5 / 5





HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

BUILD 2015 DHV



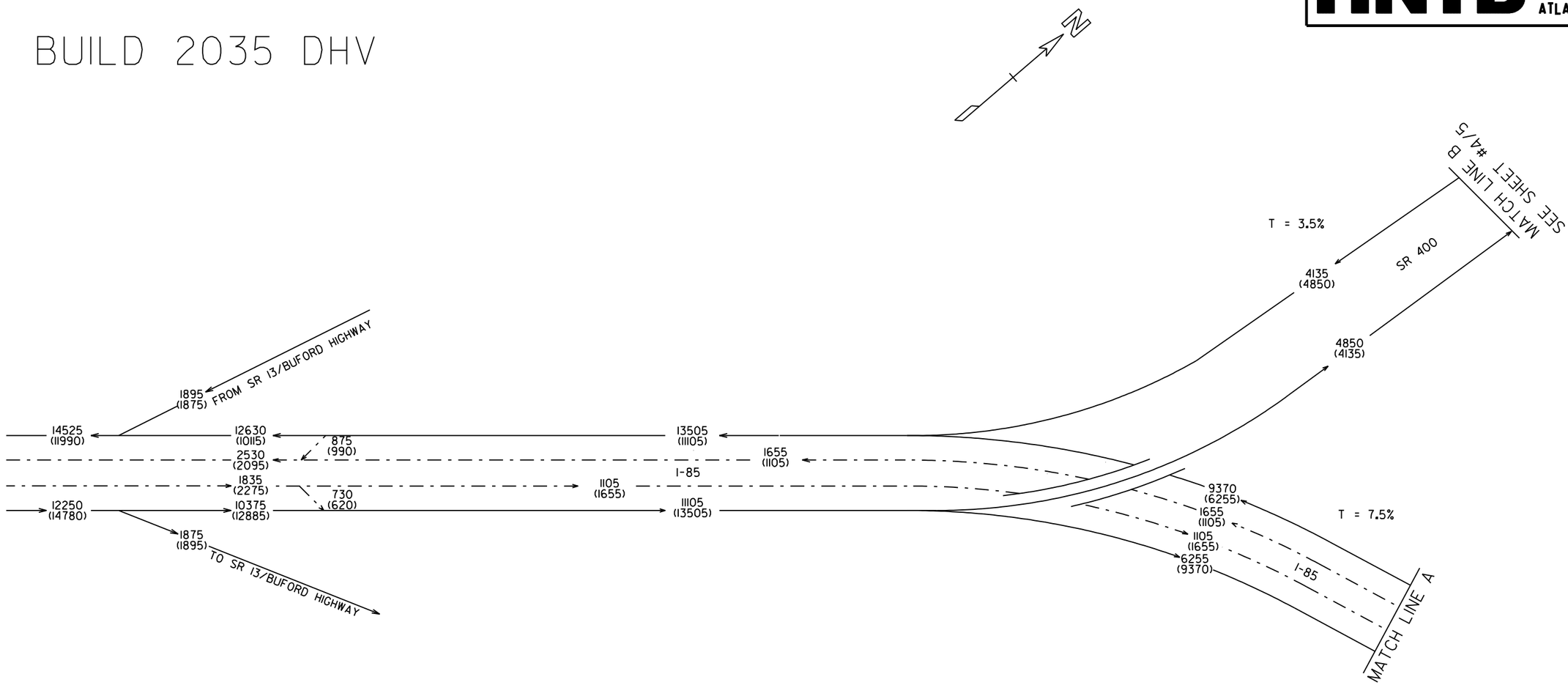
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

BUILD
2015 AM DHV = 0000
2015 PM DHV = (0000)

6/08

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

BUILD 2035 DHV



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

HOV FACILITIES

NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

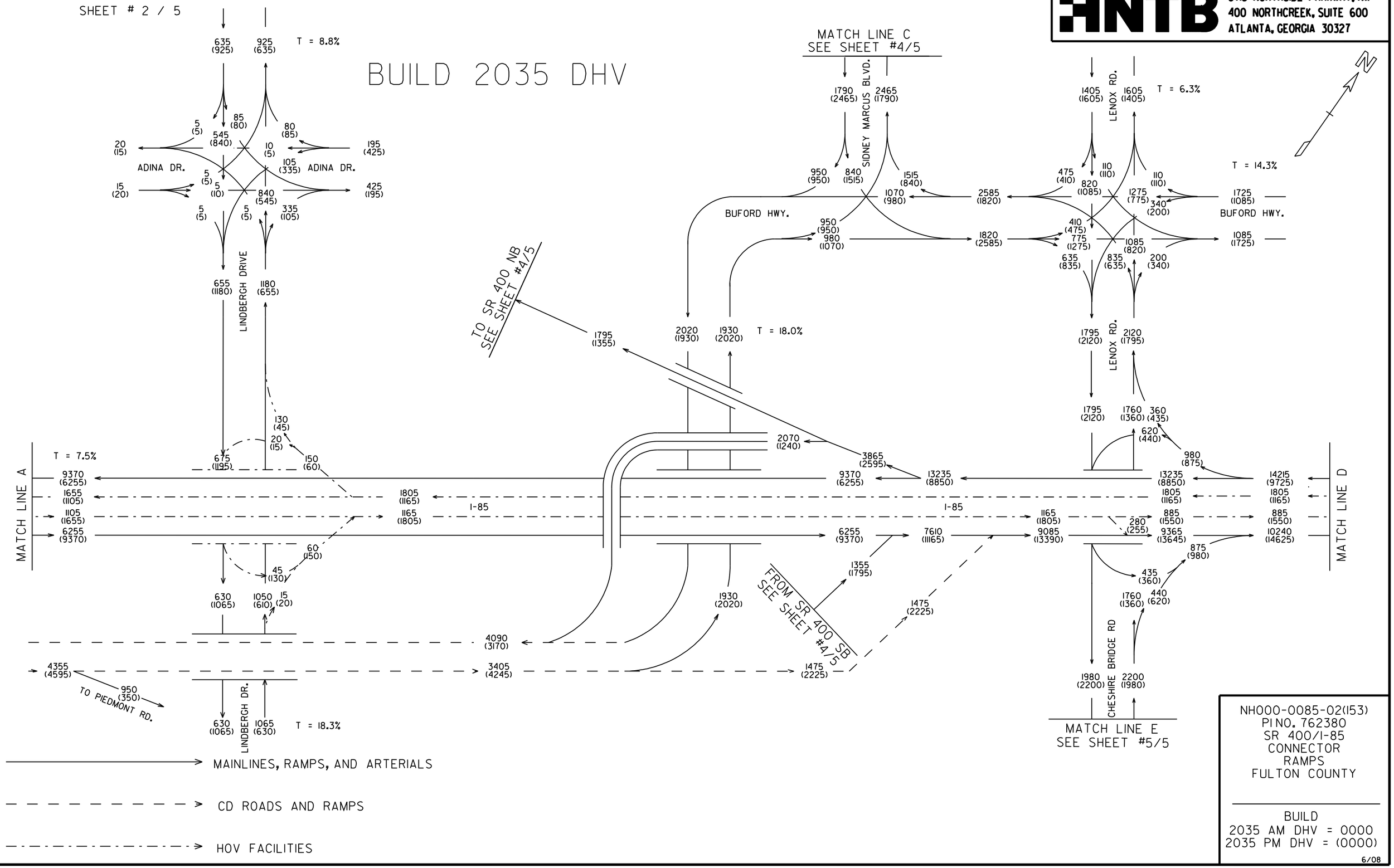
BUILD
2035 AM DHV = 0000
2035 PM DHV = (0000)

6/08

SHEET # 2 / 5

BUILD 2035 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

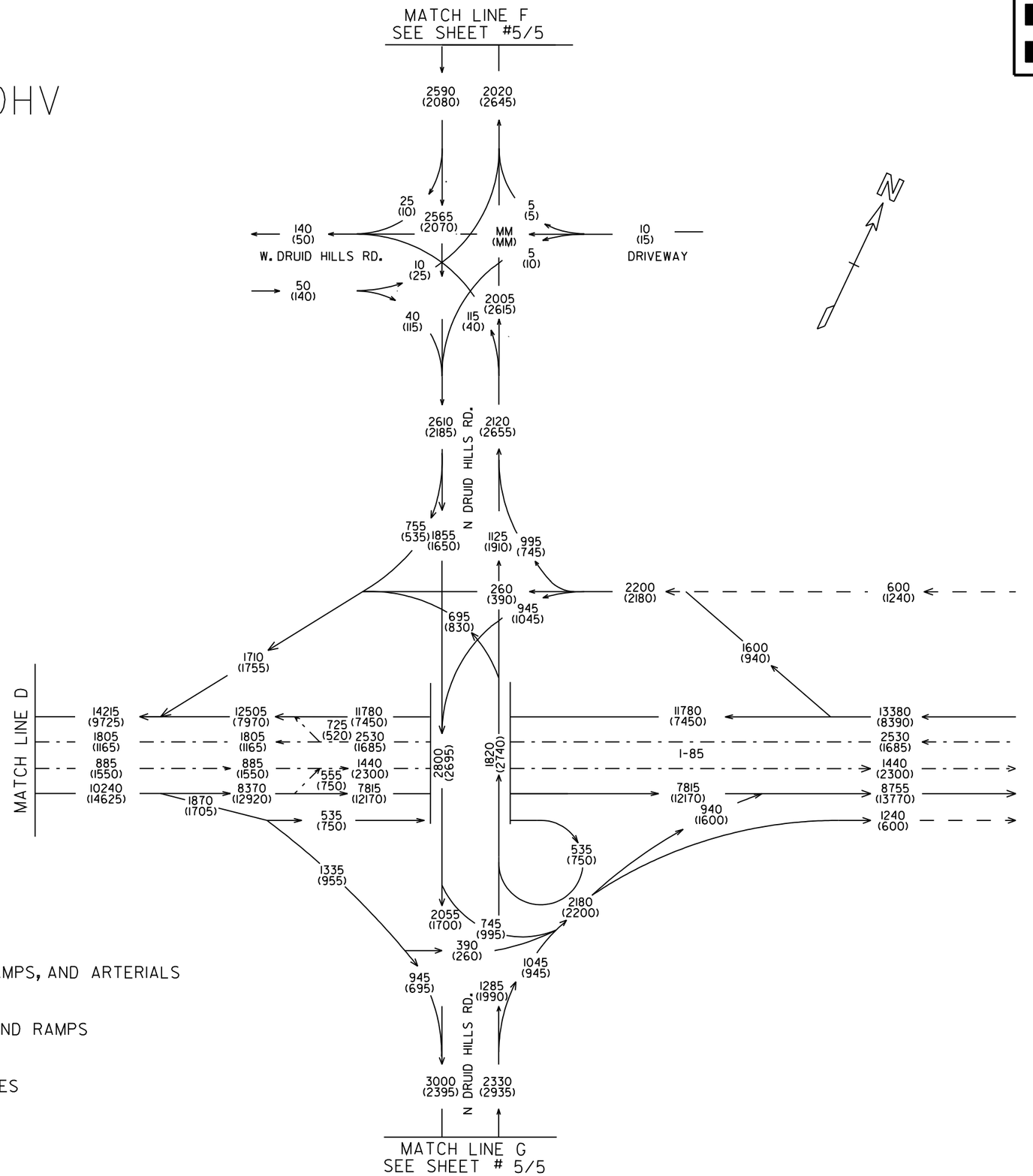
BUILD
2035 AM DHV = 0000
2035 PM DHV = (0000)

6/08

SHEET # 3 / 5

BUILD 2035 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

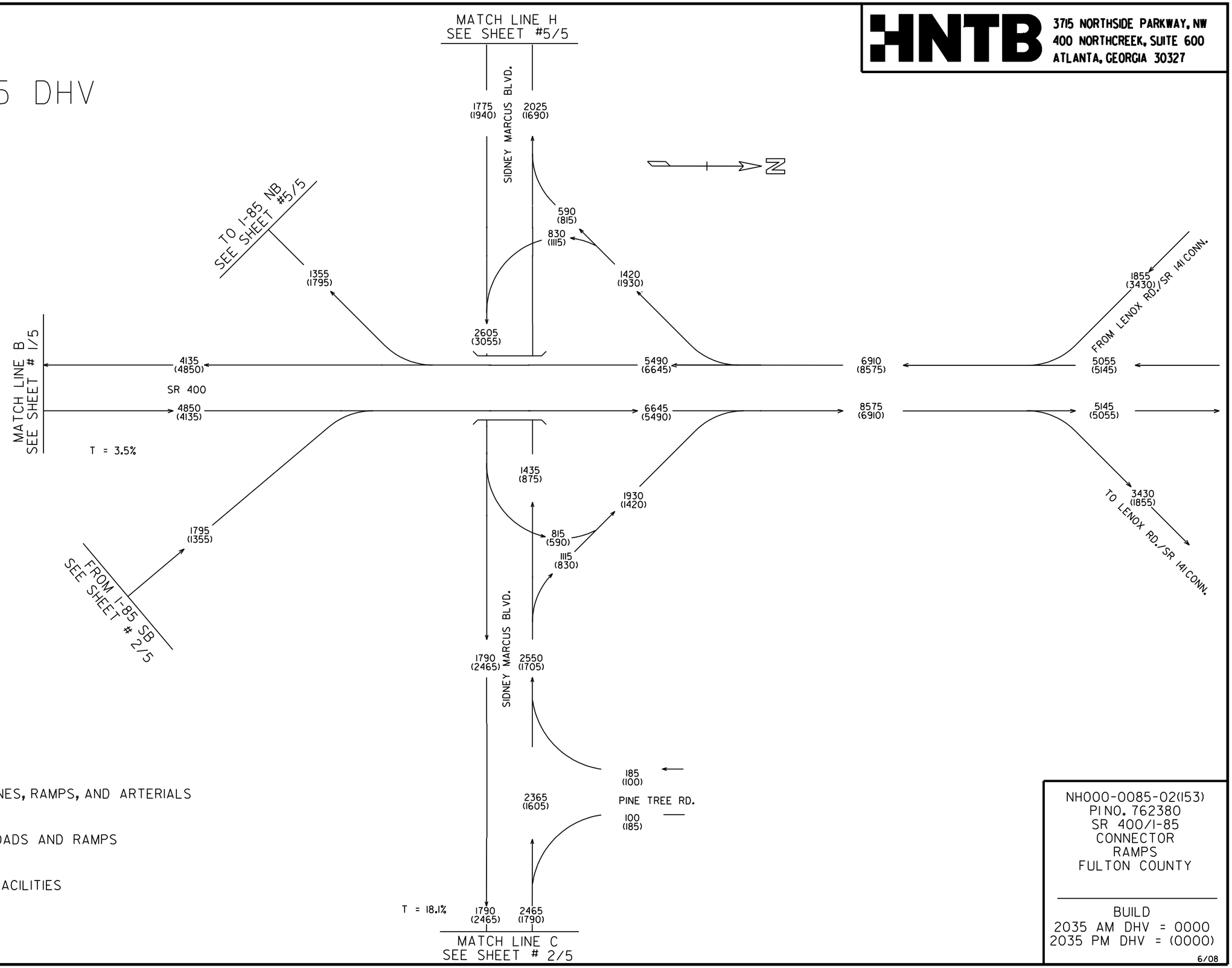
BUILD
2035 AM DHV = 0000
2035 PM DHV = (0000)

6/08

SHEET # 4 / 5

BUILD 2035 DHV

HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327



MAINLINES, RAMPS, AND ARTERIALS

CD ROADS AND RAMPS

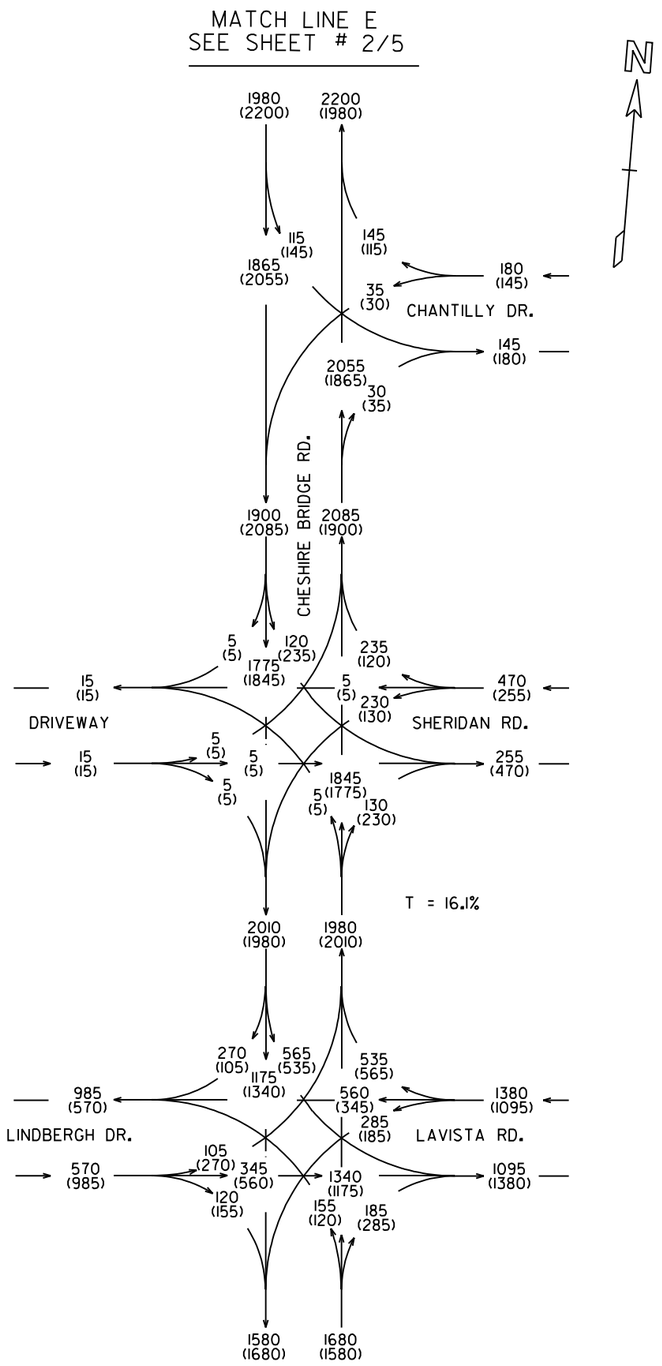
HOV FACILITIES

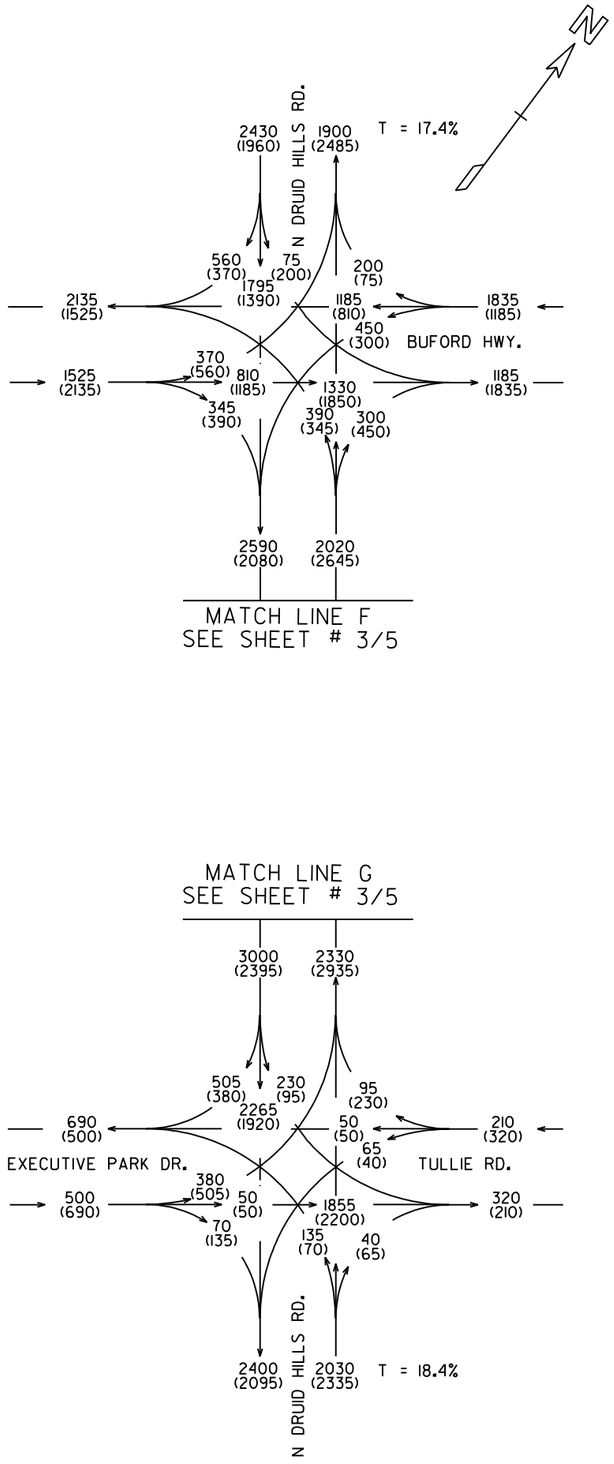
NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

BUILD
2035 AM DHV = 0000
2035 PM DHV = (0000)

6/08

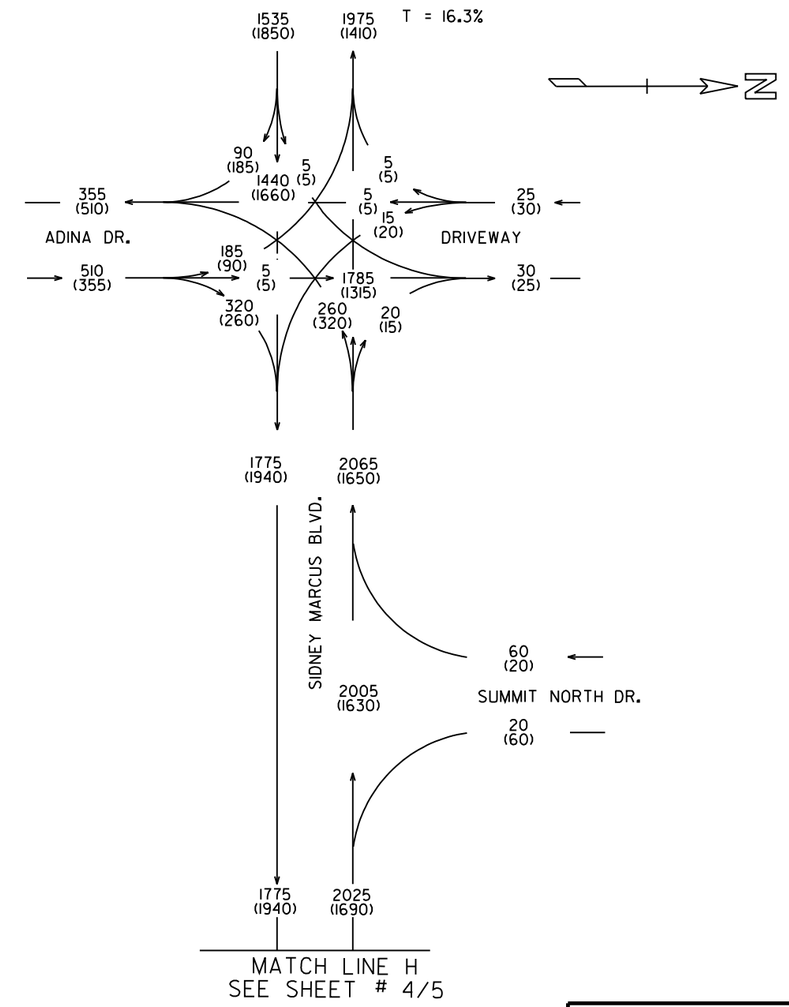
SHEET # 5 / 5





HNTB
3715 NORTHSIDE PARKWAY, NW
400 NORTHCREEK, SUITE 600
ATLANTA, GEORGIA 30327

BUILD 2035 DHV



NH000-0085-02(153)
PI NO. 762380
SR 400/I-85
CONNECTOR
RAMPS
FULTON COUNTY

BUILD
2035 AM DHV = 0000
2035 PM DHV = (0000)

6/08

ATTACHMENT 12

Capacity Analysis

Note:

- All intersections analyses are based on the HCM procedures.
- All freeway related analysis (basic freeway and merge/diverge) are based on the HCM procedures.
- CORSIM models generated freeway related MOE's are included as supplemental information.

2007 Existing Capacity Analysis Summary

Signalized Intersections	Signalized Intersections Control Delay (sec/veh)/LOS			
	2007 Existing			
	AM		PM	
Sidney Marcus Blvd @ Adina Drive	22.1	C	22.0	C
Sidney Marcus Blvd @ SR 400 SB Off-Ramp	20.7	C	25.5	C
Sidney Marcus Blvd @ SR 400 NB On-Ramp	40.6	D	7.7	A
Sidney Marcus Blvd @ Buford Hwy	36.6	D	79.4	E
Buford Hwy @ Lenox Rd	117.5	F	114.9	F
Lenox Rd @ I-85 SB Off-Ramp	25.2	C	24.6	C
Lenox Road/Cheshire Bridge Rd @ I-85 NB On-Ramp	46.0	D	25.0	C
Cheshire Bridge Rd @ Sheridan Road	39.0	D	47.7	D
Cheshire Bridge Rd @ Lindbergh Dr/Lavista Rd	62.1	E	69.5	E
North Druid Hills Rd @ Buford Hwy	85.6	F	109.9	F
North Druid Hills Rd @ West Druid Hills Dr	8.4	A	8.4	A
North Druid Hills Rd @ I-85 SB On-Ramp/Off Ramp	45.0	D	41.3	D
North Druid Hills Rd @ I-85 NB On-Ramp/Off Ramp	34.1	C	34.4	C
North Druid Hills Rd @ Executive Park Dr/Tullie Rd	41.1	D	39.5	D

Unsignalized Intersections	Unsignalized Intersections Worst Side Rd. Control Delay (sec/veh)/LOS			
	2007 Existing			
	AM		PM	
Lindbergh Dr @ I-85 On & Off-Ramps to HOV	14.9	B	11.7	B
Sidney Marcus Blvd @ Pine Tree Rd	72.7	F	22.3	C

PHF = 0.95
Trucks %:
Sidney Marcus Blvd, Buford Hwy, Cheshire Bridge Rd & N
Druid Hills Rd = 14%
Lindbergh Dr & Lavista Rd = 9%
Lenox Rd = 6%
Trucks on Side Roads = 2%

HCM 2000 Level of Service

LOS	Control Delay (s/veh) Signalized	LOS	Control Delay (s/veh) Unsignalized
A	0-10	A	0-10
B	>10-20	B	>10-15
C	>20-35	C	>15-25
D	>35-55	D	>25-35
E	>55-80	E	>35-50
F	>80	F	>50

SR 400/I-85 Connector Ramps
NH-85-2(153), PI No. 762380
Fulton County

HNTB

No Build Capacity Analysis Summary

Signalized Intersections	Signalized Intersections Control Delay (sec/veh)/LOS							
	2015 -No Build				2035 - No Build			
	AM		PM		AM		PM	
Lindbergh Dr @ I-85 On & Off-Ramps to HOV	7.3	A	4.3	A	8.0	A	4.7	A
Sidney Marcus Blvd @ Adina Drive	24.5	C	24	C	29.1	C	39.4	D
Sidney Marcus Blvd @ SR 400 SB Off-Ramp	22.4	C	38.3	D	29.9	C	59.2	D
Sidney Marcus Blvd @ SR 400 NB On-Ramp	61.8	E	8.4	A	85.1	F	66.8	E
Sidney Marcus Blvd @ Buford Hwy	91.9	F	131.4	F	170.5	F	194.2	F
Buford Hwy @ Lenox Rd	205.5	F	231.9	F	331.5	F	371.5	F
Lenox Rd @ I-85 SB Off-Ramp	53.0	D	37.4	D	79.1	F	52.6	D
Lenox Road/Cheshire Bridge Rd @ I-85 NB On-Ramp	76.4	E	50.7	D	143.9	F	103.9	F
Cheshire Bridge Rd @ Sheridan Road	114.0	F	122.7	F	280.5	F	260.7	F
Cheshire Bridge Rd @ Lindbergh Dr/Lavista Rd	105.2	F	108.4	F	203.5	F	223.4	F
North Druid Hills Rd @ Buford Hwy	145.8	F	182.2	F	228.2	F	266.8	F
North Druid Hills Rd @ West Druid Hills Dr	8.1	A	7	A	9.9	A	11.3	B
North Druid Hills Rd @ I-85 SB On-Ramp/Off Ramp	81.2	F	73.5	E	137.4	F	125.9	F
North Druid Hills Rd @ I-85 NB On-Ramp/Off Ramp	47.0	D	56.7	E	82.0	F	100.4	F
North Druid Hills Rd @ Executive Park Dr/Tullie Rd	40.8	D	47.3	D	56.7	E	64.4	E

Unsignalized Intersections	Unsignalized Intersections Worst Side Rd. Control Delay (sec/veh)/LOS							
	2015 - No Build				2035 - No Build			
	AM		PM		AM		PM	
Sidney Marcus Blvd @ Pine Tree Rd	236.9	E	32.3	D	597.7	F	55.0	F

PHF = 0.95
Trucks %:
Sidney Marcus Blvd, Buford Hwy, Cheshire Bridge Rd & N Druid Hills Rd = 14%
Lindbergh Dr & Lavista Rd = 9%
Lenox Rd = 6%
Trucks on Side Roads = 2%

HCM 2000 Level of Service

LOS	Control Delay (s/veh) Signalized
A	0-10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80
F	>80

LOS	Control Delay (s/veh) Unsignalized
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50
F	>50

Build Capacity Analysis Summary

Signalized Intersections	Signalized Intersections Control Delay (sec/veh)/LOS							
	2015 - Build				2035 - Build			
	AM		PM		AM		PM	
Lindbergh Dr @ I-85 On & Off-Ramps to HOV	5.9	A	4.1	A	6.9	A	4.1	A
Sidney Marcus Blvd @ Adina Drive	23.6	C	24.5	C	29.1	C	39.4	D
Sidney Marcus Blvd @ SR 400 SB Off-Ramp	18.7	C	22.7	C	20.6	C	23.7	C
Sidney Marcus Blvd @ SR 400 NB On-Ramp	20.9	C	8.5	A	39.0	D	8.8	A
Sidney Marcus Blvd @ Buford Hwy	57.8	E	82.9	F	105.0	F	138.8	F
Buford Hwy @ Lenox Rd	71.7	E	71.2	E	140.5	F	174.0	F
Lenox Rd @ I-85 SB Off-Ramp	22.8	C	17.7	B	26.7	C	19.5	B
Lenox Road/Cheshire Bridge Rd @ I-85 NB On-Ramp	21.1	C	17.4	B	25.5	C	19.0	B
Cheshire Bridge Rd @ Sheridan Road	109.9	F	116.3	F	264.8	F	249.6	F
Cheshire Bridge Rd @ Lindbergh Dr/Lavista Rd	103.9	F	103.5	F	193.8	F	216.6	F
North Druid Hills Rd @ Buford Hwy	145.8	F	182.2	F	228.2	F	266.8	F
North Druid Hills Rd @ West Druid Hills Dr	8.1	A	7.0	A	9.9	A	11.3	B
North Druid Hills Rd @ I-85 SB On-Ramp/Off Ramp	81.2	F	73.5	E	137.4	F	125.9	F
North Druid Hills Rd @ I-85 NB On-Ramp/Off Ramp	47.0	D	56.7	E	82.0	F	100.4	F
North Druid Hills Rd @ Executive Park Dr/Tullie Rd	40.8	D	47.3	D	56.7	E	64.4	E

Unsignalized Intersections	Unsignalized Intersections Worst Side Rd. Control Delay (sec/veh)/LOS							
	2015 - Build				2035 - Build			
	AM		PM		AM		PM	
Sidney Marcus Blvd @ Pine Tree Rd	74.1	F	20.4	C	223.1	F	27.4	D

PHF = 0.95
Trucks %:
Sidney Marcus Blvd, Buford Hwy, Cheshire Bridge Rd & N Druid Hills Rd = 14%
Lindbergh Dr & Lavista Rd = 9%
Lenox Rd = 6%
Trucks on Side Roads = 2%

HCM 2000 Level of Service

LOS	Control Delay (s/veh) Signalized
A	0-10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

LOS	Control Delay (s/veh) Unsignalized
A	0-10
B	>10-15
C	>15-25
D	>25-35
E	>35-50
F	>50

HCS Freeway Traffic Analysis Summary
SR 400

PHF = 0.95
X = Excessive volume, LOS F

Basic Freeway Segment Analysis
SR 400 SB, North of the Sidney Marcus Blvd. off-ramp

	No Build *					Build				
Year	Number of Lanes	Volume	Avg. Speed	Density	LOS	Number of Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	3	4600	66.6	24.6	C	N/A	N/A	N/A	N/A	N/A
2007 PM	3	5585	63.0	31.6	D	N/A	N/A	N/A	N/A	N/A
2015 AM	3	5505	63.5	30.9	E	3	6140	58.6	37.3	E
2015 PM	3	6675	X	X	F	3	7615	X	X	F
2035 AM	3	6090	59.1	36.7	E	3	6910	X	X	F
2035 PM	3	7375	X	X	F	3	8575	X	X	F

*In No-Build, off-ramp is also used to reach I-85 NB

SR 400 SB, South of the Sidney Marcus Blvd. off-ramp

	No Build *					Build**				
Year	Number of Lanes	Volume	Avg. Speed	Density	LOS	Number of Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	2	3010	65.3	24.6	C	N/A	N/A	N/A	N/A	N/A
2007 PM	2	3530	63.4	29.7	D	N/A	N/A	N/A	N/A	N/A
2015 AM	2	3665	62.5	31.3	D	2	4770	X	X	F
2015 PM	2	4300	54.4	42.2	E	2	5770	X	X	F
2035 AM	2	4135	57.1	38.7	E	2	5490	X	X	F
2035 PM	2	4850	X	X	F	2	6645	X	X	F

*In No-Build conditions, off-ramp is also used to reach I-85 NB
**In Build conditions, this is the capacity between the Sidney Marcus off-ramp and I-85 NB off-ramp

SR 400 SB, South of the I-85 NB off-ramp

	No Build					Build				
Year	Number of Lanes	Volume	Avg. Speed	Density	LOS	Number of Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2015 AM	N/A	N/A	N/A	N/A	N/A	2	3665	62.5	31.3	D
2015 PM	N/A	N/A	N/A	N/A	N/A	2	4300	54.4	42.2	E
2035 AM	N/A	N/A	N/A	N/A	N/A	2	4135	57.1	38.7	E
2035 PM	N/A	N/A	N/A	N/A	N/A	2	4850	X	X	F

SR 400 NB, South of the I-85 SB on-ramp

	No Build					Build				
Year	Number of Lanes	Volume	Avg. Speed	Density	LOS	Number of Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2015 AM	N/A	N/A	N/A	N/A	N/A	2	4300	54.4	42.2	E
2015 PM	N/A	N/A	N/A	N/A	N/A	2	3665	62.5	31.3	D
2035 AM	N/A	N/A	N/A	N/A	N/A	2	4850	X	X	F
2035 PM	N/A	N/A	N/A	N/A	N/A	2	4135	57.1	38.7	E

SR 400 NB, South of the Sidney Marcus Blvd. on-ramp

	No Build*					Build**				
Year	Number of Lanes	Volume	Avg. Speed	Density	LOS	Number of Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	3	3530	67.0	18.8	C	N/A	N/A	N/A	N/A	N/A
2007 PM	3	3010	67.0	16.0	B	N/A	N/A	N/A	N/A	N/A
2015 AM	3	4300	66.9	22.9	C	3	5770	61.8	33.3	D
2015 PM	3	3665	67.0	19.5	C	3	4770	66.3	25.6	C
2035 AM	3	4850	66.1	26.1	D	3	6645	52.8	44.8	E
2035 PM	3	4135	67.0	22.0	C	3	5490	63.6	30.8	D

*In No-Build conditions, on-ramp is also used by traffic from I-85 SB
**In Build conditions, this is the capacity between the I-85 SB on-ramp and the Sidney Marcus on-ramp and I-85 NB off-ramp

SR 400 NB, North of the Sidney Marcus Blvd. on-ramp

	No Build*					Build				
Year	Number of Lanes	Volume	Avg. Speed	Density	LOS	Number of Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	3	5585	63.0	31.6	D	N/A	N/A	N/A	N/A	N/A
2007 PM	3	4600	66.6	24.6	C	N/A	N/A	N/A	N/A	N/A
2015 AM	3	6675	X	X	F	3	7615	X	X	F
2015 PM	3	5505	63.5	30.9	D	3	6140	58.6	37.3	E
2035 AM	3	7375	X	X	F	3	8575	X	X	F
2035 PM	3	6090	59.1	36.7	E	3	6910	X	X	F

*In No-Build conditions, on-ramp is also used by traffic from I-85 SB

Diverge Condition Analysis
SR 400 SB, Off-Ramp to I-85 NB

	No Build						Build					
Year	Number of Lanes	Volume	Ramp Volume	SR	DR	LOS	Number of Lanes	Volume	Ramp Volume	SR	DR	LOS
2007 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2015 AM	N/A	N/A	N/A	N/A	N/A	N/A	2	4770	1105	56	44.3	F
2015 PM	N/A	N/A	N/A	N/A	N/A	N/A	2	5770	1470	55.2	53.5	F
2035 AM	N/A	N/A	N/A	N/A	N/A	N/A	2	5490	1355	55.4	51.0	F
2035 PM	N/A	N/A	N/A	N/A	N/A	N/A	2	6645	1795	54.4	61.6	F

SR = Speed in the ramp influence area
DR = Density of the ramp influence area

Merge Condition Analysis
SR 400 NB, On-Ramp from Sidney Marcus Blvd.

	No Build*						Build					
Year	Number of Lanes	Volume	Ramp Volume	SR	DR	LOS	Number of Lanes	Volume	Ramp Volume	SR	DR	LOS
2007 AM	3	3530	2055	52	34.9	D	N/A	N/A	N/A	N/A	N/A	N/A
2007 PM	3	3010	1590	56	28.7	D	N/A	N/A	N/A	N/A	N/A	N/A
2015 AM	3	4300	2375	41	41.3	F	3	5770	1845	32	44.5	F
2015 PM	3	3665	1840	53	33.9	D	3	4770	1370	51	35.7	E
2035 AM	3	4850	2525	27	45.2	F	3	6645	1930	5	49.5	F
2035 PM	3	4135	1955	49	37.2	F	3	5490	1420	45	39.7	F

*In No-Build conditions, on-ramp is also used by traffic from I-85 SB
SR = Speed in the ramp influence area
DR = Density of the ramp influence area

I-85

Basic Freeway Segment Analysis
I-85 SB, North of the Lenox Rd. off-ramp

	No Build*					Build				
Year	Number of GP Lanes	Volume	Avg. Speed	Density	LOS	Number of GP Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	6	9700	66.0	26.7	D	N/A	N/A	N/A	N/A	N/A
2007 PM	6	6930	67.2	18.7	C	N/A	N/A	N/A	N/A	N/A
2015 AM	6	11810	59.9	35.8	E	6	12640	55.5	41.4	E
2015 PM	6	8215	67.2	22.2	C	6	8750	67.0	23.7	C
2035 AM	6	13155	X	X	F	6	14215	X	X	F
2035 PM	6	9025	66.8	24.5	C	6	9725	66.0	26.8	D

*In No-Build conditions, off-ramp is also used to reach 400 NB

I-85 SB, Between Lenox Rd. off-ramp and Buford Hwy. off-ramp

	No Build *					Build**				
Year	Number of GP Lanes	Volume	Avg. Speed	Density	LOS	Number of GP Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	5	8395	65.4	28.0	D	N/A	N/A	N/A	N/A	N/A
2007 PM	5	5765	67.2	18.7	C	N/A	N/A	N/A	N/A	N/A
2015 AM	5	10285	57.2	39.2	E	5	11755	X	X	F
2015 PM	5	6855	67.2	22.2	C	5	7960	66.2	26.2	D
2035 AM	5	11440	X	X	F	5	13235	X	X	F
2035 PM	5	7495	66.8	24.4	C	5	8850	64.1	30.1	D

*In No-Build conditions, off-ramp is also used to reach 400 NB
**In Build Conditions, SR 400 NB traffic will use the Buford Hwy. off-ramp

I-85 SB, South of the Buford Hwy. off-ramp

	No Build					Build*				
Year	Number of GP Lanes	Volume	Avg. Speed	Density	LOS	Number of GP Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	4	6825	63.9	29.1	D	N/A	N/A	N/A	N/A	N/A
2007 PM	4	4825	65.7	20.0	C	N/A	N/A	N/A	N/A	N/A
2015 AM	4	8315	55.6	40.8	E	4	8315	55.6	40.8	E
2015 PM	4	5550	65.7	23.0	C	4	5550	65.7	23.0	C
2035 AM	4	9370	X	X	F	4	9370	X	X	F
2035 PM	4	6255	65.2	26.2	D	4	6255	65.2	26.2	D

*Off-Ramp also used to reach SR 400 in Build Conditon

I-85 NB, South of Buford Hwy. on-ramp

	No Build					Build*				
Year	Number of GP Lanes	Volume	Avg. Speed	Density	LOS	Number of GP Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	4	4825	65.7	20.0	C	N/A	N/A	N/A	N/A	N/A
2007 PM	4	6825	63.9	29.1	D	N/A	N/A	N/A	N/A	N/A
2015 AM	4	5550	65.7	23.0	C	3	5550	60.6	33.2	D
2015 PM	4	8315	55.6	40.8	E	3	8315	X	X	F
2035 AM	4	6255	65.2	26.2	D	3	6255	54.4	41.7	E
2035 PM	4	9370	X	X	F	3	9370	X	X	F

*On-Ramp for SR 400 SB is also added at this same point in Build Conditon

I-85 NB, Between Buford Hwy. on-ramp and Lenox Rd. on-ramp

	No Build*					Build**				
Year	Number of GP Lanes	Volume	Avg. Speed	Density	LOS	Number of GP Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	6	5865	67.2	15.8	B	N/A	N/A	N/A	N/A	N/A
2007 PM	6	8445	67.1	22.8	C	N/A	N/A	N/A	N/A	N/A
2015 AM	6	6650	67.2	18.0	B	6	7755	67.2	20.9	C
2015 PM	6	10155	65.2	28.3	D	6	11625	60.7	34.8	D
2035 AM	6	7730	67.2	20.9	C	6	9085	66.7	24.7	C
2035 PM	6	11595	60.8	34.6	D	6	13390	X	X	F

*In No-Build conditions, SR 400 SB traffic gets on at Lenox Rd. on-ramp
**In Build Conditions, on-ramp for SR 400 SB is also added at same point as Buford Hwy. on-ramp

I-85 NB, North of Lenox Rd. on-ramp

	No Build *					Build				
Year	Number of GP Lanes	Volume	Avg. Speed	Density	LOS	Number of GP Lanes	Volume	Avg. Speed	Density	LOS
2007 AM	6	7185	67.2	19.4	C	N/A	N/A	N/A	N/A	N/A
2007 PM	6	9970	65.6	27.6	D	N/A	N/A	N/A	N/A	N/A
2015 AM	6	8275	67.2	22.4	C	6	8810	66.9	23.9	C
2015 PM	6	11925	59.3	36.5	E	6	12755	54.8	42.3	E
2035 AM	6	9540	66.3	26.1	D	6	10240	65.1	28.6	D
2035 PM	6	13565	X	X	F	6	14625	X	X	F

*In No-Build conditions, SR 400 SB traffic gets on at Lenox Rd. on-ramp

Diverge Condition Analysis
I-85 SB, Off-Ramp to Buford Hwy.

	No Build*					Build**			
Year	Number of GP Lanes	vf	Density	LOS		Number of GP Lanes	vf	Density	LOS
2007 AM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2007 PM	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2015 AM	N/A	N/A	N/A	N/A	N/A	5	12805	27.9	C
2015 PM	N/A	N/A	N/A	N/A	N/A	5	8670	18.9	B
2035 AM	N/A	N/A	N/A	N/A	N/A	5	14420	31.4	D
2035 PM	N/A	N/A	N/A	N/A	N/A	5	9640	21.0	C

*In No-Build conditions, exit is a single lane drop, capacity is governed by geometry, no analysis
*In Build conditions, off-ramp is a drop + optional also used by traffic going to SR 400 NB
Use Equation 25-12 for major diverges. D = 0.0109 * (vf/n), LOS determined by Exhibit 25-4

Merge Condition Analysis
I-85 NB, On-Ramp from Lenox Rd.

	No Build*						Build					
Year	**Number of GP Lanes**	**GP Volume**	**Ramp Volume**	**SR**	**DR**	**LOS**	**Number of GP Lanes**	**Volume**	**Ramp Volume**	**SR**	**DR**	**LOS**
2007 AM	6	5865	1165	59	19.2	B	N/A	N/A	N/A	N/A	N/A	N/A
2007 PM	6	8445	1305	59	21.8	C	N/A	N/A	N/A	N/A	N/A	N/A
2015 AM	6	6650	1360	59	20.5	C	6	7755	790	59	19.8	B
2015 PM	6	10155	1525	58	24.8	C	6	11625	885	57	27.7	C
2035 AM	6	7730	1530	59	22.0	C	6	9085	875	59	21.8	C
2035 PM	6	11595	1715	57	27.8	C	6	13390	980	54	32.7	F

*In No-Build conditions, on-ramp is also used by traffic from SR 400 SB
SR = Speed in the ramp influence area
DR = Density of the ramp influence area
Reduced Vf by 2500 to analyze as 5-lane freeway

HCM 2000 Level of Service

Basic Freeway Segment Level of Service

LOS	Density Range (pc/mi/ln)
A	0-11
B	>11-18
C	>18-26
D	>26-35
E	>35-45
F	>45

EXHIBIT 25–4. LOS CRITERIA FOR MERGE AND DIVERGE AREAS

LOS	Density (pc/mi/ln)
A	≤ 10
B	> 10–20
C	> 20–28
D	> 28–35
E	> 35
F	Demand exceeds capacity

Georgia Department of Transportation

SR 400/I-85 Connector Ramps
NH000-0085-02(153)
P.I. No. 762380

CORSIM MOE SUMMARY

Scenarios:
2007 Existing AM & PM
2015 No Build AM & PM
2035 No Build AM & PM
2015 Build AM & PM
2035 Build AM & PM

Prepared by HNTB Corporation
7/29/2008

SR 400/I-85 Connector Ramps
NH000-0085-02(153)
PI No. 762380

List of Tables

Table 1
2007 Existing AM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	10164	61.9	27.4	D
Off-ramp diverge to Buford Hwy	0.31	10159	59.0	28.7	D
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	8863	60.1	29.5	D
Off-ramp diverge to SR 400	0.34	8862	59.8	29.7	D
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.86	5464	61.2	18.5	C
Between on-ramp from Buford and on-ramp from Lenox Rd	0.16	6560	61.7	15.2	B
On-ramp merge from Lenox Rd	0.28	7705	60.5	17.4	B
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	7706	61.5	17.9	B
Off-ramp diverge to North Druid Hills Rd	0.24	7703	59.1	18.6	C
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	6169	62.2	16.5	B
On-ramp merge from North Druid Hills Rd	0.23	6883	60.5	17.9	B
After on-ramp from North Druid Hills Rd	0.44	6886	62.1	18.5	C

Table 2
2007 Existing PM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12148	61.3	33.0	D
Off-ramp diverge to Buford Hwy	0.31	12151	58.5	34.6	D
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	10827	58.7	36.9	E
Off-ramp diverge to SR 400	0.34	10829	58.0	37.4	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.86	7861	59.4	27.5	D
Between on-ramp from Buford and on-ramp from Lenox Rd	0.16	9571	60.7	22.5	C
On-ramp merge from Lenox Rd	0.28	10841	59.6	24.8	C
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	10840	59.8	25.9	C
Off-ramp diverge to North Druid Hills Rd	0.24	10842	56.7	27.4	D
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	9373	60.7	25.7	C
On-ramp merge from North Druid Hills Rd	0.23	10573	55.7	29.8	D
After on-ramp from North Druid Hills Rd	0.44	10580	60.3	29.3	D

Table 3
2007 Existing AM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	10886	61.9	29.3	D
Off-ramp diverge to North Druid Hills Rd	0.23	10886	58.2	30.3	D
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	9621	61.0	26.3	D
On-ramp merge from North Druid Hills Rd	0.23	11026	59.7	26.4	D
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	11026	59.1	26.7	D
Off-ramp diverge to Lenox Rd	0.18	11029	49.1	32.1	D
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	9731	55.4	29.3	D
Off-ramp diverge to Buford Hwy	0.13	9734	58.5	27.7	D
Between off-ramp to Buford Hwy and on-ramp from SR400	0.61	8031	40.9	45.8	F
On-ramp merge from SR400	0.30	10580	26.4	68.1	F
Between on-ramp from SR400 and on-ramp from Buford Hwy	1.55	10758	49.8	43.2	E
After on-ramp from Buford Hwy	0.28	12057	59.5	33.8	D

Table 4
2007 Existing PM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	6811	63.6	17.9	B
Off-ramp diverge to North Druid Hills Rd	0.23	6812	61.4	18.0	B
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	6078	62.7	16.1	B
On-ramp merge from North Druid Hills Rd	0.23	7509	60.3	17.8	B
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	7512	61.9	17.3	B
Off-ramp diverge to Lenox Rd	0.18	7507	57.8	18.6	C
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	6353	60.9	17.4	B
Off-ramp diverge to Buford Hwy	0.13	6352	62.1	17.1	B
Between off-ramp to Buford Hwy and on-ramp from SR400	0.61	5400	60.3	17.9	B
On-ramp merge from SR400	0.30	8664	40.6	36.6	E
Between on-ramp from SR400 and on-ramp from Buford Hwy	1.55	8878	58.1	30.5	D
After on-ramp from Buford Hwy	0.28	10184	60.6	28.0	D

Table 5
2007 Existing AM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and on-ramp from Sidney Marcus Blvd	1.00	3418	62.2	21.5	C
On-ramp merge from Sidney Marcus Blvd	0.18	5434	55.8	27.6	D
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	5444	61.0	29.7	D
Off-ramp diverge to Lenox Rd	0.28	5449	54.4	29.9	D
After off-ramp to Lenox Rd	0.28	3462	63.2	18.3	C

Table 6
2007 Existing PM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and on-ramp from Sidney Marcus Blvd	1.00	3018	62.6	18.9	C
On-ramp merge from Sidney Marcus Blvd	0.18	4574	57.9	22.4	C
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	4574	61.9	24.6	C
Off-ramp diverge to Lenox Rd	0.28	4575	59.2	23.1	C
After off-ramp to Lenox Rd	0.28	3302	63.2	17.4	B

Table 7
2007 Existing AM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	3333	63.9	17.6	B
On-ramp merge from Lenox Rd	0.20	4598	59.0	22.5	C
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	4597	61.6	24.9	C
Off-ramp diverge to Sidney Marcus Blvd	0.21	4597	57.2	26.8	D
Between off-ramp to Sidney Marcus Blvd and I-85	0.75	2723	41.7	56.7	F

Table 8
2007 Existing PM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	3429	63.8	18.1	C
On-ramp merge from Lenox Rd	0.20	5582	51.4	31.3	D
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	5581	60.4	30.8	D
Off-ramp diverge to Sidney Marcus Blvd	0.21	5578	54.3	34.2	D
Between off-ramp to Sidney Marcus Blvd and I-85	0.75	3269	55.1	36.6	E

Table 9
2015 No Build AM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12179	39.0	53.3	F
Off-ramp diverge to Buford Hwy	0.31	12096	35.1	57.8	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	10591	34.3	63.2	F
Off-ramp diverge to SR 400	0.34	10590	52.7	40.3	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.86	6442	60.3	22.2	C
Between on-ramp from Buford and on-ramp from Lenox Rd	0.16	7533	61.4	17.5	B
On-ramp merge from Lenox Rd	0.28	8597	59.8	19.7	C
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	8561	57.4	21.8	C
Off-ramp diverge to North Druid Hills Rd	0.24	8524	53.7	23.8	C
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	6915	61.9	18.6	C
On-ramp merge from North Druid Hills Rd	0.23	7657	60.3	19.9	C
After on-ramp from North Druid Hills Rd	0.44	7673	61.8	20.7	C

Table 10
2015 No Build PM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12714	27.1	78.3	F
Off-ramp diverge to Buford Hwy	0.31	12679	30.6	69.2	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	11434	35.6	66.3	F
Off-ramp diverge to SR 400	0.34	11433	52.9	43.3	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.86	8486	57.7	30.5	D
Between on-ramp from Buford and on-ramp from Lenox Rd	0.16	10443	60.7	24.6	C
On-ramp merge from Lenox Rd	0.28	11811	59.6	27.1	D
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	11804	59.8	28.2	D
Off-ramp diverge to North Druid Hills Rd	0.24	11799	56.5	29.9	D
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	10479	60.5	28.9	D
On-ramp merge from North Druid Hills Rd	0.23	11794	52.3	35.4	E
After on-ramp from North Druid Hills Rd	0.44	11799	59.7	32.9	D

Table 11
2015 No Build AM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	12050	45.4	52.1	F
Off-ramp diverge to North Druid Hills Rd	0.23	11874	38.9	54.0	F
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	10524	30.8	65.9	F
On-ramp merge from North Druid Hills Rd	0.23	11449	22.2	80.7	F
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	11385	21.4	77.4	F
Off-ramp diverge to Lenox Rd	0.18	11353	30.7	53.1	F
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	10004	38.6	46.7	F
Off-ramp diverge to Buford Hwy	0.13	9984	34.1	52.8	F
Between off-ramp to Buford Hwy and on-ramp from SR400	0.61	8291	22.8	76.0	F
On-ramp merge from SR400	0.30	10994	26.4	71.9	F
Between on-ramp from SR400 and on-ramp from Buford Hwy	1.55	11237	48.3	46.8	F
After on-ramp from Buford Hwy	0.28	12810	58.5	36.5	E

Table 12
2015 No Build PM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	8041	33.6	55.8	F
Off-ramp diverge to North Druid Hills Rd	0.23	7923	31.7	45.5	F
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	7184	60.8	19.7	C
On-ramp merge from North Druid Hills Rd	0.23	8760	59.6	21.0	C
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	8758	61.0	20.5	C
Off-ramp diverge to Lenox Rd	0.18	8757	56.8	22.0	C
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	7463	60.1	20.7	C
Off-ramp diverge to Buford Hwy	0.13	7466	61.0	20.4	C
Between off-ramp to Buford Hwy and on-ramp from SR400	0.61	6332	56.3	23.2	C
On-ramp merge from SR400	0.30	9901	31.2	53.7	F
Between on-ramp from SR400 and on-ramp from Buford Hwy	1.55	10172	54.7	37.2	E
After on-ramp from Buford Hwy	0.28	11706	60.0	32.5	D

Table 13
2015 No Build AM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and on-ramp from Sidney Marcus Blvd	1.00	4163	61.2	26.6	D
On-ramp merge from Sidney Marcus Blvd	0.18	5865	57.3	29.0	D
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	5866	60.9	32.1	D
Off-ramp diverge to Lenox Rd	0.28	5868	52.5	33.4	D
After off-ramp to Lenox Rd	0.28	3634	63.2	19.2	C

Table 14
2015 No Build PM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and on-ramp from Sidney Marcus Blvd	1.00	3007	62.4	18.9	C
On-ramp merge from Sidney Marcus Blvd	0.18	4704	57.6	23.2	C
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	4707	61.7	25.4	C
Off-ramp diverge to Lenox Rd	0.28	4712	59.2	23.7	C
After off-ramp to Lenox Rd	0.28	3430	63.1	18.1	C

Table 15
2015 No Build AM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	3750	25.8	65.1	F
On-ramp merge from Lenox Rd	0.20	4983	21.0	76.0	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	4754	14.5	114.6	F
Off-ramp diverge to Sidney Marcus Blvd	0.21	4522	13.0	117.9	F
Between off-ramp to Sidney Marcus Blvd and I-85	0.75	2713	9.3	160.6	F

Table 16
2015 No Build PM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	4148	62.3	22.5	C
On-ramp merge from Lenox Rd	0.20	6287	37.4	48.4	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	6224	45.0	50.8	F
Off-ramp diverge to Sidney Marcus Blvd	0.21	6111	31.0	71.3	F
Between off-ramp to Sidney Marcus Blvd and I-85	0.75	3598	18.3	116.3	F

Table 17
2035 No Build AM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	11959	24.4	81.9	F
Off-ramp diverge to Buford Hwy	0.31	11944	27.3	73.1	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	10812	33.7	66.6	F
Off-ramp diverge to SR 400	0.34	10817	52.8	41.1	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.86	6852	59.9	23.7	C
Between on-ramp from Buford and on-ramp from Lenox Rd	0.16	8292	61.1	19.4	C
On-ramp merge from Lenox Rd	0.28	9382	60.3	21.2	C
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	9386	60.9	22.0	C
Off-ramp diverge to North Druid Hills Rd	0.24	9382	58.4	23.0	C
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	7793	61.5	21.1	C
On-ramp merge from North Druid Hills Rd	0.23	8572	59.0	22.8	C
After on-ramp from North Druid Hills Rd	0.44	8573	61.3	23.3	C

Table 18
2035 No Build PM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12898	29.2	73.8	F
Off-ramp diverge to Buford Hwy	0.31	12855	32.6	65.9	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	11430	36.1	65.3	F
Off-ramp diverge to SR 400	0.34	11422	52.6	43.5	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.86	8452	56.0	31.5	D
Between on-ramp from Buford and on-ramp from Lenox Rd	0.16	10282	44.6	37.1	E
On-ramp merge from Lenox Rd	0.28	11244	38.0	45.7	F
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	11167	36.9	45.6	F
Off-ramp diverge to North Druid Hills Rd	0.24	11107	35.2	46.9	F
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	9913	58.1	28.6	D
On-ramp merge from North Druid Hills Rd	0.23	11619	48.0	38.1	E
After on-ramp from North Druid Hills Rd	0.44	11626	59.5	32.6	D

Table 19
2035 No Build AM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	11785	21.7	91.6	F
Off-ramp diverge to North Druid Hills Rd	0.23	11646	22.6	84.7	F
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	10311	23.7	91.2	F
On-ramp merge from North Druid Hills Rd	0.23	11380	22.8	98.9	F
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	11379	25.3	77.5	F
Off-ramp diverge to Lenox Rd	0.18	11361	30.7	57.3	F
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	10035	29.3	63.6	F
Off-ramp diverge to Buford Hwy	0.13	10032	26.6	69.1	F
Between off-ramp to Buford Hwy and on-ramp from SR400	0.61	8343	20.1	84.6	F
On-ramp merge from SR400	0.30	10904	24.9	74.5	F
Between on-ramp from SR400 and on-ramp from Buford Hwy	1.55	11119	48.4	46.0	F
After on-ramp from Buford Hwy	0.28	13017	59.1	36.7	E

Table 20
2035 No Build PM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	9385	62.4	25.1	C
Off-ramp diverge to North Druid Hills Rd	0.23	9384	59.9	25.4	C
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	8449	61.6	22.9	C
On-ramp merge from North Druid Hills Rd	0.23	9845	59.2	23.8	C
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	9785	56.3	25.1	C
Off-ramp diverge to Lenox Rd	0.18	9756	49.3	28.9	D
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	8258	59.1	23.3	C
Off-ramp diverge to Buford Hwy	0.13	8262	60.8	22.7	C
Between off-ramp to Buford Hwy and on-ramp from SR400	0.61	7036	54.7	27.9	D
On-ramp merge from SR400	0.30	10185	26.7	64.3	F
Between on-ramp from SR400 and on-ramp from Buford Hwy	1.55	10432	51.0	40.9	E
After on-ramp from Buford Hwy	0.28	12298	59.6	34.4	D

Table 21
2035 No Build AM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and on-ramp from Sidney Marcus Blvd	1.00	3993	56.8	27.5	D
On-ramp merge from Sidney Marcus Blvd	0.18	5701	54.5	29.7	D
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	5699	56.2	33.8	D
Off-ramp diverge to Lenox Rd	0.28	5696	49.7	33.1	D
After off-ramp to Lenox Rd	0.28	3291	58.3	18.8	C

Table 22
2035 No Build PM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and on-ramp from Sidney Marcus Blvd	1.00	3021	62.3	19.0	C
On-ramp merge from Sidney Marcus Blvd	0.18	4611	57.5	22.8	C
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	4616	61.6	25.0	C
Off-ramp diverge to Lenox Rd	0.28	4625	57.8	23.0	C
After off-ramp to Lenox Rd	0.28	3234	62.5	17.3	B

Table 23
2035 No Build AM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	3515	8.9	135.6	F
On-ramp merge from Lenox Rd	0.20	4649	10.5	128.6	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	4418	9.5	156.2	F
Off-ramp diverge to Sidney Marcus Blvd	0.21	4247	10.1	141.0	F
Between off-ramp to Sidney Marcus Blvd and I-85	0.75	2621	7.9	175.2	F

Table 24
2035 No Build PM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	4154	23.3	63.1	F
On-ramp merge from Lenox Rd	0.20	5605	17.2	94.6	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	5406	16.0	114.1	F
Off-ramp diverge to Sidney Marcus Blvd	0.21	5213	15.5	112.9	F
Between off-ramp to Sidney Marcus Blvd and I-85	0.75	3131	11.7	145.2	F

Table 25
2015 Build AM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12227	46.6	45.0	E
Off-ramp diverge to Buford Hwy	0.31	12161	39.4	52.1	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	10547	35.4	60.9	F
Off-ramp diverge to SR 400	0.34	10541	52.7	40.1	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.82	6365	59.9	26.3	D
Between on-ramp from Buford Hwy/SR 400 and on-ramp from Lenox Rd	0.20	8273	60.0	20.3	C
On-ramp merge from Lenox Rd	0.28	9207	60.8	20.7	C
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	9205	61.1	21.5	C
Off-ramp diverge to North Druid Hills Rd	0.24	9204	58.5	22.5	C
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	7550	61.7	20.4	C
On-ramp merge from North Druid Hills Rd	0.23	8225	59.8	21.6	C
After on-ramp from North Druid Hills Rd	0.44	8224	61.5	22.3	C

Table 26
2015 Build PM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12540	35.5	59.5	F
Off-ramp diverge to Buford Hwy	0.31	12482	34.6	60.4	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	11161	35.7	64.4	F
Off-ramp diverge to SR 400	0.34	11155	53.1	42.1	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.82	8169	58.0	34.9	D
Between on-ramp from Buford Hwy/SR 400 and on-ramp from Lenox Rd	0.20	11089	58.9	27.7	D
On-ramp merge from Lenox Rd	0.28	12193	59.9	27.8	D
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	12187	59.5	29.2	D
Off-ramp diverge to North Druid Hills Rd	0.24	12189	55.9	31.2	D
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	10809	60.0	30.0	D
On-ramp merge from North Druid Hills Rd	0.23	12146	50.2	37.9	E
After on-ramp from North Druid Hills Rd	0.44	12149	59.3	34.2	D

Table 27
2015 Build AM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	12087	26.3	77.9	F
Off-ramp diverge to North Druid Hills Rd	0.23	11881	23.0	85.1	F
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	10566	16.7	106.8	F
On-ramp merge from North Druid Hills Rd	0.23	11669	14.8	113.1	F
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	11642	18.9	88.3	F
Off-ramp diverge to Lenox Rd	0.18	11629	33.0	50.3	F
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	10938	47.0	38.8	E
Off-ramp diverge to Buford Hwy/SR 400	0.13	10926	49.5	37.0	E
Between off-ramp to Buford Hwy and on-ramp from SR 400	0.61	8000	27.6	64.4	F
On-ramp merge from SR 400	0.30	10478	24.1	74.0	F
Between on-ramp from SR 400 and on-ramp from Buford Hwy	1.55	10678	48.6	44.1	E
After on-ramp from Buford Hwy	0.28	12220	59.7	34.1	D

Table 28
2015 Build PM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	8567	36.0	49.8	F
Off-ramp diverge to North Druid Hills Rd	0.23	8423	30.1	49.6	F
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	7746	60.1	21.5	C
On-ramp merge from North Druid Hills Rd	0.23	9213	59.5	22.1	C
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	9224	59.6	22.1	C
Off-ramp diverge to Lenox Rd	0.18	9241	52.2	25.3	C
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	8501	55.3	25.6	C
Off-ramp diverge to Buford Hwy/SR 400	0.13	8500	57.3	24.7	C
Between off-ramp to Buford Hwy and on-ramp from SR 400	0.61	6167	60.1	20.4	C
On-ramp merge from SR 400	0.30	9666	39.4	41.8	E
Between on-ramp from SR 400 and on-ramp from Buford Hwy	1.55	9911	56.6	34.9	D
After on-ramp from Buford Hwy	0.28	11453	60.0	31.8	D

Table 29
2015 Build AM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and ramp from I-85 SB	0.65	4190	60.6	31.8	D
Between ramp from I-85 SB and on-ramp from Sidney Marcus Blvd	0.35	5505	60.6	30.3	D
On-ramp merge from Sidney Marcus Blvd	0.18	7290	50.3	41.2	E
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	7291	57.2	43.1	E
Off-ramp diverge to Lenox Rd	0.28	7287	44.2	48.3	F
After off-ramp to Lenox Rd	0.28	4329	62.5	23.1	C

Table 30
2015 Build PM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and ramp from I-85 SB	0.65	3018	61.9	22.4	C
Between ramp from I-85 SB and on-ramp from Sidney Marcus Blvd	0.35	4226	61.3	23.0	C
On-ramp merge from Sidney Marcus Blvd	0.18	5575	54.5	29.1	D
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	5574	60.8	30.6	D
Off-ramp diverge to Lenox Rd	0.28	5578	55.7	28.8	D
After off-ramp to Lenox Rd	0.28	3902	61.9	21.0	C

Table 31
2015 Build AM I-85 SB to SR 400 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 SB and split to Buford Hwy	0.19	2781	48.4	26.9	D
Between split to Buford Hwy and SR 400 NB	0.29	1306	51.5	22.1	C

Table 32
2015 Build PM I-85 SB to SR 400 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 SB and split to Buford Hwy	0.19	2302	51.9	20.7	C
Between split to Buford Hwy and SR 400 NB	0.29	1202	52.5	19.9	C

Table 33
2015 Build AM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	4055	20.7	68.1	F
On-ramp merge from Lenox Rd	0.20	5455	18.7	84.7	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	5244	16.5	107.2	F
Off-ramp diverge to Sidney Marcus Blvd	0.21	5055	18.1	93.4	F
off-ramp diverge to I-85 NB	0.28	3885	16.2	111.3	F
Between off-ramp to I-85 NB and I-85	0.47	2879	9.5	153.1	F

Table 34
2015 Build PM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	4483	61.2	24.7	C
On-ramp merge from Lenox Rd	0.20	6533	36.1	52.1	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	6534	55.4	40.5	E
Off-ramp diverge to Sidney Marcus Blvd	0.21	6533	39.7	55.4	F
off-ramp diverge to I-85 NB	0.28	4981	47.3	49.2	F
Between off-ramp to I-85 NB and I-85	0.47	3757	55.4	34.9	D

Table 35
2015 Build AM SR 400 SB to I-85 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between SR 400 SB and I-85 NB and split to Buford Hwy	0.72	933	42.7	18.9	C

Table 36
2015 Build PM SR 400 SB to I-85 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between SR 400 SB and I-85 NB and split to Buford Hwy	0.72	1223	42.2	25.1	C

Table 37
2035 Build AM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12407	28.7	72.2	F
Off-ramp diverge to Buford Hwy	0.31	12382	30.0	69.0	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	10763	33.7	66.3	F
Off-ramp diverge to SR 400	0.34	10759	52.8	40.8	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.82	6623	59.9	27.4	D
Between on-ramp from Buford Hwy/SR 400 and on-ramp from Lenox Rd	0.20	8784	60.1	21.5	C
On-ramp merge from Lenox Rd	0.28	9695	60.6	21.8	C
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	9696	60.8	22.8	C
Off-ramp diverge to North Druid Hills Rd	0.24	9694	58.2	23.8	C
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	8144	61.4	22.1	C
On-ramp merge from North Druid Hills Rd	0.23	8894	59.2	23.6	C
After on-ramp from North Druid Hills Rd	0.44	8892	61.2	24.2	C

Table 38
2035 Build PM I-85 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to Buford Hwy	0.37	12883	29.5	72.8	F
Off-ramp diverge to Buford Hwy	0.31	12825	32.1	66.7	F
Between off-ramp to Buford Hwy and off-ramp to SR 400	0.81	11418	35.5	66.4	F
Off-ramp diverge to SR 400	0.34	11413	52.9	43.2	E
Between off-ramp to SR 400 and on-ramp from Buford Hwy	0.82	8390	57.1	36.5	E
Between on-ramp from Buford Hwy/SR 400 and on-ramp from Lenox Rd	0.20	11561	56.1	30.7	D
On-ramp merge from Lenox Rd	0.28	12463	55.4	31.7	D
Between on-ramp from Lenox Rd and off-ramp to North Druid Hills Rd	0.14	12441	54.0	33.8	D
Off-ramp diverge to North Druid Hills Rd	0.24	12413	48.7	37.5	E
Between off-ramp to North Druid Hills Rd and on-ramp from North Duid Hills Rd	0.63	11055	58.2	31.8	D
On-ramp merge from North Druid Hills Rd	0.23	12753	44.8	44.6	E
After on-ramp from North Druid Hills Rd	0.44	12768	58.7	36.2	E

Table 39
2035 Build AM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	11786	21.1	93.8	F
Off-ramp diverge to North Druid Hills Rd	0.23	11619	19.9	95.9	F
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	10449	15.6	114.1	F
On-ramp merge from North Druid Hills Rd	0.23	11659	14.5	115.6	F
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	11654	18.9	88.3	F
Off-ramp diverge to Lenox Rd	0.18	11656	33.1	50.3	F
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	10957	45.9	39.8	E
Off-ramp diverge to Buford Hwy/SR 400	0.13	10943	46.3	39.7	E
Between off-ramp to Buford Hwy and on-ramp from SR 400	0.61	7997	24.3	69.6	F
On-ramp merge from SR 400	0.30	10474	24.1	74.1	F
Between on-ramp from SR 400 and on-ramp from Buford Hwy	1.55	10666	48.2	44.5	E
After on-ramp from Buford Hwy	0.28	12542	59.5	35.1	E

Table 40
2035 Build PM I-85 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before off-ramp diverge to North Druid Hills Rd	0.73	10095	62.0	27.1	D
Off-ramp diverge to North Druid Hills Rd	0.23	10095	59.6	27.5	D
Between off-ramp to North Druid Hills Rd and on-ramp from North Druid Hills Rd	0.44	9180	61.1	25.0	C
On-ramp merge from North Druid Hills Rd	0.23	10546	60.0	25.1	C
Between on-ramp from North Druid Hills Rd and off-ramp to Lenox Rd	0.24	10544	59.5	25.3	C
Off-ramp diverge to Lenox Rd	0.18	10548	46.2	32.7	D
Between off-ramp to Lenox Rd and off-ramp to Buford Hwy	0.13	9662	51.3	31.4	D
Off-ramp diverge to Buford Hwy/SR 400	0.13	9664	56.0	28.8	D
Between off-ramp to Buford Hwy and on-ramp from SR 400	0.61	7161	57.3	25.7	C
On-ramp merge from SR 400	0.30	10295	26.4	65.6	F
Between on-ramp from SR 400 and on-ramp from Buford Hwy	1.55	10526	51.4	41.0	E
After on-ramp from Buford Hwy	0.28	12383	59.5	34.7	D

Table 41
2035 Build AM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and ramp from I-85 SB	0.65	4150	60.6	31.5	D
Between ramp from I-85 SB and on-ramp from Sidney Marcus Blvd	0.35	5428	60.5	29.9	D
On-ramp merge from Sidney Marcus Blvd	0.18	7153	49.2	41.3	E
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	7155	57.7	41.8	E
Off-ramp diverge to Lenox Rd	0.28	7158	45.1	46.4	F
After off-ramp to Lenox Rd	0.28	4265	62.4	22.8	C

Table 42
2035 Build PM SR 400 Northbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 and ramp from I-85 SB	0.65	3053	61.8	22.7	C
Between ramp from I-85 SB and on-ramp from Sidney Marcus Blvd	0.35	4331	61.2	23.6	C
On-ramp merge from Sidney Marcus Blvd	0.18	5645	54.6	29.4	D
Between on-ramp from Sidney Marcus Blvd and off-ramp to Lenox Rd	0.91	5647	60.9	30.9	D
Off-ramp diverge to Lenox Rd	0.28	5654	56.7	28.7	D
After off-ramp to Lenox Rd	0.28	4136	61.8	22.3	C

Table 43
2035 Build AM I-85 SB to SR 400 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 SB and split to Buford Hwy	0.19	2783	47.4	27.5	D
Between split to Buford Hwy and SR 400 NB	0.29	1276	51.2	21.7	C

Table 44
2035 Build PM I-85 SB to SR 400 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between I-85 SB and split to Buford Hwy	0.19	2470	52.0	22.1	C
Between split to Buford Hwy and SR 400 NB	0.29	1279	52.6	21.1	C

Table 45
2035 Build AM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	3865	9.5	139.3	F
On-ramp merge from Lenox Rd	0.20	4957	11.3	127.9	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	4751	11.1	144.6	F
Off-ramp diverge to Sidney Marcus Blvd	0.21	4619	14.5	106.4	F
off-ramp diverge to I-85 NB	0.28	3629	13.2	127.2	F
Between off-ramp to I-85 NB and I-85	0.47	2790	8.4	166.8	F

Table 46
2035 Build PM SR 400 Southbound

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Before on-ramp from Lenox Rd	0.28	4763	18.8	87.5	F
On-ramp merge from Lenox Rd	0.20	6215	19.3	93.6	F
Between on-ramp from Lenox Rd and off-ramp to Sidney Marcus Blvd	1.03	6104	19.1	107.6	F
Off-ramp diverge to Sidney Marcus Blvd	0.21	6040	27.2	74.3	F
off-ramp diverge to I-85 NB	0.28	4677	27.4	79.3	F
Between off-ramp to I-85 NB and I-85	0.47	3471	14.7	121.5	F

Table 47
2035 Build AM SR 400 SB to I-85 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between SR 400 SB and I-85 NB and split to Buford Hwy	0.72	820	42.9	16.5	B

Table 48
2035 Build PM SR 400 SB to I-85 NB Ramp

Location	Distance (miles)	Volume (veh/hr)	Average Speed (mph)	Density (veh/mile/ln)	LOS
Between SR 400 SB and I-85 NB and split to Buford Hwy	0.72	1149	41.9	23.9	C

ATTACHMENT 13

Accident Summaries
(See Approved Need and Purpose Statement)

ATTACHMENT 14

Draft Design Exception Report

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE NH000-0085-02(153), Fulton County
SR 400/I-85 Connector Ramps
P.I. No.762380

OFFICE Urban Design

DATE October 29, 2008

FROM: James B. Buchan, P.E. State Urban Design Engineer

TO: Brian Summers, Project Review Engineer

SUBJECT **Request for a Design Exception**

Approval of a Design Exception is requested for this project.

This project is to reconstruct the interchange of SR 400/I-85 by providing connector ramps from SR 400 Southbound to I-85 Northbound and from I-85 Southbound to SR 400 Northbound. The total length of the project is 0.34 miles. . The project is located entirely inside the City of Atlanta, in Fulton County.

The proposed SR 400 SB to I-85 NB Ramp will have a speed design of 45 mph with a typical section that would consist of a sixteen-foot wide travel lane with a six-foot wide inside shoulder and a ten-foot wide outside shoulder. The proposed I-85 SB to SR 400 NB Ramp will have a speed design of 45 mph with a typical section that would consist of a sixteen-foot wide travel lane with a four-foot wide inside shoulder and a twelve-foot wide outside shoulder.

The proposed I-85 SB to SR 400 NB Ramp would exit the existing I-85 SB mainline with the existing off-ramp to Buford Highway SB. After exiting as a single two-lane ramp, the ramps to SR 400 NB and to Buford Highway SB would share a two-lane section for approximately 1,000 feet before splitting. The alignment of the existing ramp from I-85 SB to SR 13/Buford Highway (Structure ID 121-0558-0) has an inside shoulder width of 6.5 feet (measured from the project Concept Base Mapping); it provides approximate 300 feet of Stopping Sight Distance (SSD), which is less than required 360 feet of SSD for 45 mph Design Speed. The existing SSD is adequate for 38 mph Design Speed. The existing shoulder width and SSD will be verified after more accurate survey information becomes available. The inside shoulder width would have to increase to a minimum of 13 feet to meet the SSD requirement for 45 mph Design Speed for this ramp.

The existing ramp from I-85 SB to SR 13/Buford Highway has AADT of 17,250 in 2007. The projected AADT is 21,000 and 23,650 in 2015 and 2035, respectively.

In order for the ramp from I-85 SB to SR 13/Buford Highway to meet the required 45 mph speed design, it was assumed that the entire ramp structure would have to be reconstructed due to the type of bridge superstructure (concrete box girder). The current construction cost of the project is estimated at $37.9 million. The additional cost to reconstruction the ramp to meet SSD is estimated at $10.3 million.

It is recommended to leave the existing ramp from I-85 SB to SR 13/Buford Highway as it is. It is also recommend posting a speed limit of 35 mph along this ramp to minimize the potential for accidents.

Recommend: _____ _____
Chief Engineer Date

Approved: _____ _____
FHWA Division Administrator Date

ATTACHMENT 15

Estimates of Travel Time Savings White Paper

SR 400/I-85 Connector Ramps
NH-0085-02 (153), Fulton County
P.I. No. 762380

WHITE PAPER

Estimates of Travel Time Savings

December, 2008

HNTB

GDOT
Keeping Georgia on the Move

This white paper addresses the comments that were made during the concept team meeting related to travel time savings estimates for the above referenced project. Specifically, questions were asked during the meeting if some of the existing travel time measurements taken along the local streets are too short and some of the future travel time projections for the proposed ramps from I-85 SB to SR400 NB and from SR 400 SB to I-85 NB are too long. It also discusses in detail how the existing travel times were measured and used in the study and how the future travel times via the proposed new ramps were estimated.

Existing Intersection Delay and Level of Service

Traffic counts were taken in 2007 during the AM and PM peak hours at the local arterial intersections along the same paths where the travel time runs were conducted. **Table 1** summarizes the average intersection delays and level of service calculated based on HCS procedures. Since these intersection delays are weighted averages for all vehicles entering these intersections from all approaches, the specific delays for individual movements will differ from the total intersection delay. Average intersection delay was used for comparison purposes instead of movement specific delays because the movement specific delays were very sensitive to signal timing splits, which resulted in erratic results depending on the allocation of green time.

Table 1: Existing (2007) Intersection Level of Service and Average Delay

Intersection	AM		PM	
	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
1. SR 400 SB Ramp at Sidney Marcus Boulevard	C	20.7	C	25.3
2. SR 400 NB Ramp at Sidney Marcus Boulevard	D	40.6	A	7.7
3. Sidney Marcus Boulevard at Buford Highway	D	36.6	E	79.4
4. Buford Highway at Lenox Road	F	117.5	F	114.9
5. Lenox Road at I-85 SB Ramp	C	25.2	C	24.6
6. Lenox Road at I-85 NB Ramp	D	46.0	C	25.0

Note: Level of Service and Delay are based on HCS procedures

Total average delay of all the intersections associated with the paths between SR 400 SB and I-85 NB are summed together and are listed in **Table 2**. These path specific intersection delays can be used as a basis of comparison for the travel times along these routes. However, it is not an exact comparison because in addition to the differences between individual movement delays and intersection delays, the HCS analyses are based on the peak 15 minutes of the peak hour while the travel time runs are measured from small samples of the peak hour traffic. The uninterrupted travel times along these paths should be added to the intersection delays to compare the measured to calculated travel times.

Table 2: Sum of Existing (2007) Intersection Delays along Arterial Streets between I-85 and SR 400

Path	AM Delay	PM Delay
I-85 SB to SR 400 NB (Intersections 2 through 5)	219.9 sec/veh (3.67 min/veh)	226.6 sec/veh (3.78 min/veh)
SR 400 SB to I-85 NB (Intersections 1 through 6)	286.6 sec/veh (4.78 min/veh)	276.9 sec/veh (4.62 min/veh)

Note: Total Path Delay estimates are based on HCS intersection delays

Existing Travel Times Along Local Arterial Streets

As part of the Existing Condition CORSIM simulation model calibration effort, field travel time runs were conducted to measure the existing travel times along the local arterial streets that are used by traffic that would otherwise use the proposed ramps from I-85 SB to SR 400 NB and from SR 400 SB to I-85 NB. The specific paths are shown in the attached **Field Travel Run Paths Map**.

Field runs were conducted by using the "floating car" method that was measured by a vehicle-mounted GPS unit. All runs followed pre-designated paths. Distance, time and speed along the paths were recorded. Multiple runs were made along each path during both AM and PM time periods. The distances varied slightly from run to run due to the travel in differing lanes during each run. Runs with normal weather and traffic condition (incident free) were used to calculate travel times. Speed-Distance graphs of all the completed runs were generated and are included in the attachment. Average travel times were calculated and are summarized in **Tables 3 and 4**.

Table 3: I-85 SB Exit at Lenox Rd to Sidney Marcus Entrance at SR 400 NB Existing (2007) Travel Time Run Summary

Location	AM			PM		
	Travel Time (seconds)	Distance (feet)	Average Speed (mph)	Travel Time (seconds)	Distance (feet)	Average Speed (mph)
I-85 Exit to Lenox Rd (Rt at Lenox)	98	1286	13.0	63	1302	20.6
Exit Ramp at Lenox Rd to Buford Hwy (Lt at Buford)	57	573	7.3	77	614	5.7
Lenox Rd at Buford Hwy to Sidney Marcus Blvd (Rt at Sidney Marcus)	18	775	29.0	44	746	12.3
Buford Hwy at Sidney Marcus Blvd to SR 400 NB Ramp (Rt at SR 400)	31	1295	29.4	59	1306	20.1
Sidney Marcus Blvd Ramp Merge with at SR400 NB	44	2395	38.3	46	2404	36.2
Total	**248 (4.13 min)**	**6324 (1.20 miles)**	**17.4**	**289 (4.82 min)**	**6372 (1.21 miles)**	**15.0**

Table 4: SR 400 SB Exit at Sidney Marcus to Lenox Entrance at I-85 NB Existing (2007) Travel Time Run Summary

Location	AM			PM		
	Travel Time (seconds)	Distance (feet)	Average Speed (mph)	Travel Time (seconds)	Distance (feet)	Average Speed (mph)
SR 400 SB Exit to Sidney Marcus Blvd (Lt at Sidney Marcus)	54	1859	27.7	59	1848	21.6
Exit Ramp at Sidney Marcus Blvd to Buford Hwy (Lt at Buford)	133	1513	7.8	175	1593	6.3
Sidney Marcus Blvd at Buford Hwy to Lenox Rd (Rt at Lenox)	36	1151	21.9	37	1144	21.2
Buford Hwy at Lenox Rd to I-85 NB Ramp (Lt at I-85)	94	760	7.7	114	837	5.0
Lenox Rd Ramp Merge with at I-85 NB	20	1108	39.0	21	1120	35.7
Total	**337 (5.62 min)**	**6391 (1.21 miles)**	**12.9**	**406 (6.77 min)**	**6542 (1.24 miles)**	**10.7**

The Total Path Intersection Delays from **Table 2** were added to theoretical free flow travel times to calculate theoretical total travel times for each path (See **Table 5**). These results indicate that the total calculated travel times are slightly higher than the comparable measured travel time runs for the majority of the cases. This is consistent with the assumption that the HCS intersection delays are slightly higher than measured delays due to the use of the peak 15-minute period. Therefore, we believe that the field measured travel times reasonably represent the conditions that existed in 2007.

Table 5: Comparison of Existing (2007) Intersection Delays along Arterial Streets and Travel Time Runs

Path	Existing (2007) Total Path Delay[1] (AM)	Existing (2007) Total Path Delay[1] (PM)	Free Flow Travel Time[2]	Total Calculated Travel Time[3] (AM)	Total Calculated Travel Time[3] (PM)	Average Measured Travel Time (AM)	Average Measured Travel Time (PM)
I-85 SB to SR 400 NB	3.67 min	3.78 min	1.60 min	**5.27 min**	**5.38 min**	**4.13 min**	**4.82 min**
SR 400 SB to I-85 NB	4.78 min	4.62 min	1.61 min	**6.39 min**	**6.23 min**	**5.62 min**	**6.77 min**

Note:
1. Total Path Delay estimates are sum of individual HCS intersection delays
2. Free flow travel time based on average speed of 45 mph
3. Total calculated travel time is sum of total path delay and free flow travel time

CORSIM 2007 Simulated Travel Times Along Local Arterial Streets

Peak hour CORSIM models were developed to simulate existing AM and PM peak hour conditions along arterial highways and freeways in the study area. One of the steps of the CORSIM model calibration process to is to compare the simulated average speeds with field measured speeds on the paths where field travel time runs were conducted. It is a standard industry practice that if the simulated speeds are within 20 percent of measured average speeds, the model is assumed to be calibrated. **Table 6** summarizes the comparison of the simulated speeds and field measured speeds. All of the simulated travel times were slightly less than the measured travel times, which resulted in simulated travel speeds that were slightly higher than measured speeds.

All travel times summarized in the Travel Time Table of the Need & Purposes Statement were calculated based on calibrated CORSIM models.

Table 6: Comparison of Existing (2007) Simulated Average Speeds and Field Measured Average Speeds along Local Arterial Streets between SR 400 and I-85

Path		AM			PM		
		Travel Time (min)	Distance (Miles)	Average Speed (mph)	Travel Time (min)	Distance (Miles)	Average Speed (mph)
I-85 SB to SR 400 NB	Simulated	3.87	1.14	17.6	4.36	1.14	15.7
	Field Measured	4.13	1.20	17.4	4.82	1.21	15.0
	Difference			**+1%**			**+5%**
SR 400 SB to I-85 NB	Simulated	4.81	1.13	13.9	5.09	1.13	13.1
	Field Measured	5.62	1.21	12.9	6.77	1.24	11.1
	Difference			**+8%**			**+18%**

Future Travel Times Along Proposed Ramps

Future travels times along the proposed ramps from I-85 SB to SR 400 NB and SR 400 to I-85 SB were calculated based CORSIM models and are summarized in **Tables 7 and 8**. For comparison purpose, the paths defined to calculate the travel time using the proposed ramps have the common starting and ending points of its corresponding paths via local arterial streets. The components of the travel times of each path are illustrated in the attached **Proposed Ramps Travel Time Paths Map**.

The assumed free flow speeds of the I-85 SB to SR 400 NB Ramp and the SR 400 SB to I-85 NB Ramp were 55 mph and 45 mph, respectively. The assumed free flow speeds for I-85 mainline and SR 400 mainline were both 65 mph, which were based on observed conditions.

Table 7: Travel Times along Proposed I-85 SB to SR 400 NB Ramp

		I-85 SB from Lenox Exit Gore to New Ramp Gore			New I-85 SB to SR 400 NB Ramp			Ramp Merge with SR 400 NB to Sidney Marcus Blvd Merge with SR 400 NB			Total Travel Time (min)
		Distance (mile)	Time (min)	Average Speed (mph)	Distance (mile)	Time (min)	Average Speed (mph)	Distance (mile)	Time (min)	Average Speed (mph)	
2015	AM	0.26	**0.319**	48.1	0.49	**0.580**	50.2	0.35	**0.350**	60.1	**1.25**
	PM	0.26	**0.273**	56.3	0.49	**0.558**	52.2	0.35	**0.346**	61.4	**1.18**
2035	AM	0.26	**0.334**	45.9	0.49	**0.587**	49.7	0.35	**0.351**	60.5	**1.27**
	PM	0.26	**0.286**	53.6	0.49	**0.556**	52.4	0.35	**0.347**	61.2	**1.19**

Table 8: Travel Times along Proposed SR 400 SB to I-85 NB Ramp

		SR 400 SB from Sidney Marcus Blvd Exit Gore to New Ramp Exit Gore			New SR 400 SB to I-85 NB Ramp			Ramp Merge with I-85 NB to Lenox Rd Merge with I-85			Total Travel Time (min)
		Distance (mile)	Time (min)	Average Speed (mph)	Distance (mile)	Time (min)	Average Speed (mph)	Distance (mile)	Time (min)	Average Speed (mph)	
2015	AM	0.19	**0.700**	16.1	0.72	**1.014**	42.8	0.16	**0.160**	60.0	**1.87**
	PM	0.19	**0.237**	47.6	0.72	**1.027**	42.2	0.16	**0.162**	59.0	**1.43**
2035	AM	0.19	**0.857**	13.2	0.72	**1.010**	42.9	0.16	**0.159**	60.1	**2.03**
	PM	0.19	**0.414**	27.3	0.72	**1.038**	41.8	0.16	**0.170**	55.3	**1.62**

The above simulated travel speeds show nominal changes between AM and PM peak hours and between 2015 and 2035 except for the sections that are impacted by the anticipated congestion along the southbound segments of I-85 and SR 400.

Table 9 summarizes the comparison of SR 400/I-85 travel times between No Build and Build Conditions. This table illustrates the travel time savings that the proposed ramps would provide to motorists traveling between SR 400 and I-85.

Table 9: Travel Time Comparison of No Build and Build Conditions Traveling between SR 400 and I-85

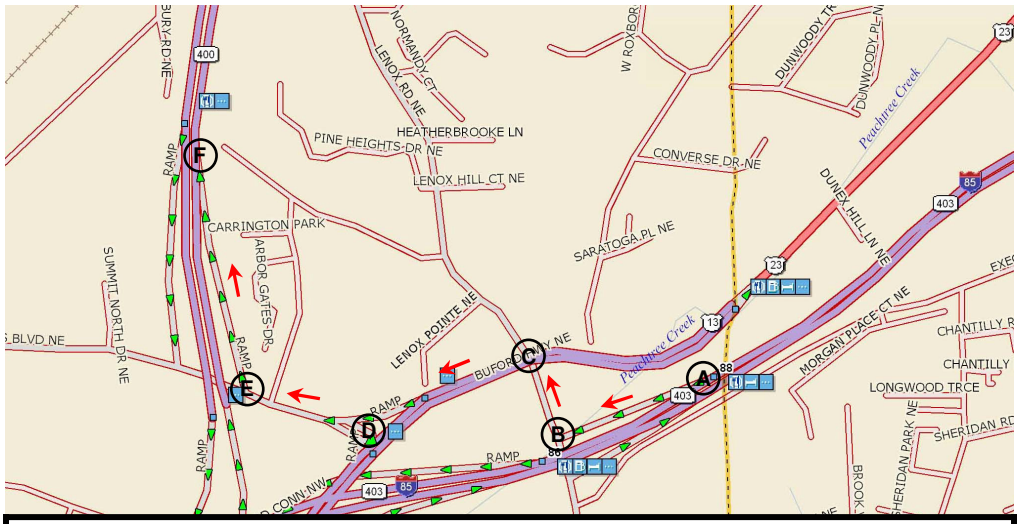
		NO BUILD CONDITIONS Travel Time along Local Arterial Streets (minutes)				BUILD CONDITIONS Travel Time along Proposed Ramps (minutes)			
		SR 400 SB To I-85 NB From: SR 400 SB at Sidney Marcus Blvd Diverge To: I-85 NB at Lenox Rd Merge		**I-85 SB To SR 400 NB** From: I-85 SB at Lenox Rd Diverge To: SR 400 NB at Sidney Marcus Blvd Merge		**SR 400 SB To I-85 NB** From: SR 400 SB at Sidney Marcus Blvd Diverge To: I-85 NB at Lenox Rd Merge		**I-85 SB To SR 400 NB** From: I-85 SB at Lenox Rd Diverge To: SR 400 NB at Sidney Marcus Blvd Merge	
		AM	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Existing (2007)	**Measured**	**5.62**	**6.77**	**4.13**	**4.82**	**N/A**	**N/A**	**N/A**	**N/A**
Existing (2007)	**Simulated**	**4.81**	**5.09**	**3.87**	**4.36**	**N/A**	**N/A**	**N/A**	**N/A**
Base Year (2015)	**Simulated**	**6.06**	**5.94**	**8.21**	**5.27**	**1.87**	**1.43**	**1.25**	**1.18**
Design Year (2035)	**Simulated**	**7.91**	**9.29**	**9.03**	**5.32**	**2.03**	**1.62**	**1.27**	**1.19**

Note: Signal timings for future conditions have been adjusted to prevent arterial queues backing up onto freeways and resulting in gridlock.

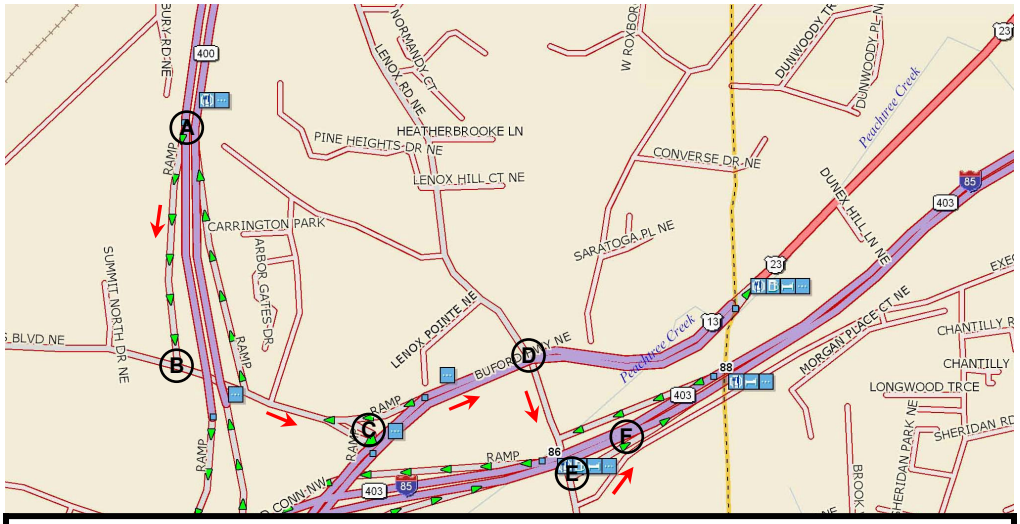
ATTACHMENTS:

1. Field Travel Time Run Paths Map
2. 2007 AM I-85 SB to SR 400 NB Speed-Distance Graph
3. 2007 PM I-85 SB to SR 400 Speed-Distance Graph
4. 2007 AM SR 400 SB to I-85 NB Speed-Distance Graph
5. 2007 PM SR 400 SB to I-85 NB Speed-Distance Graph
6. Proposed Ramps Travel Time Paths Map

Field Travel Time Run Paths

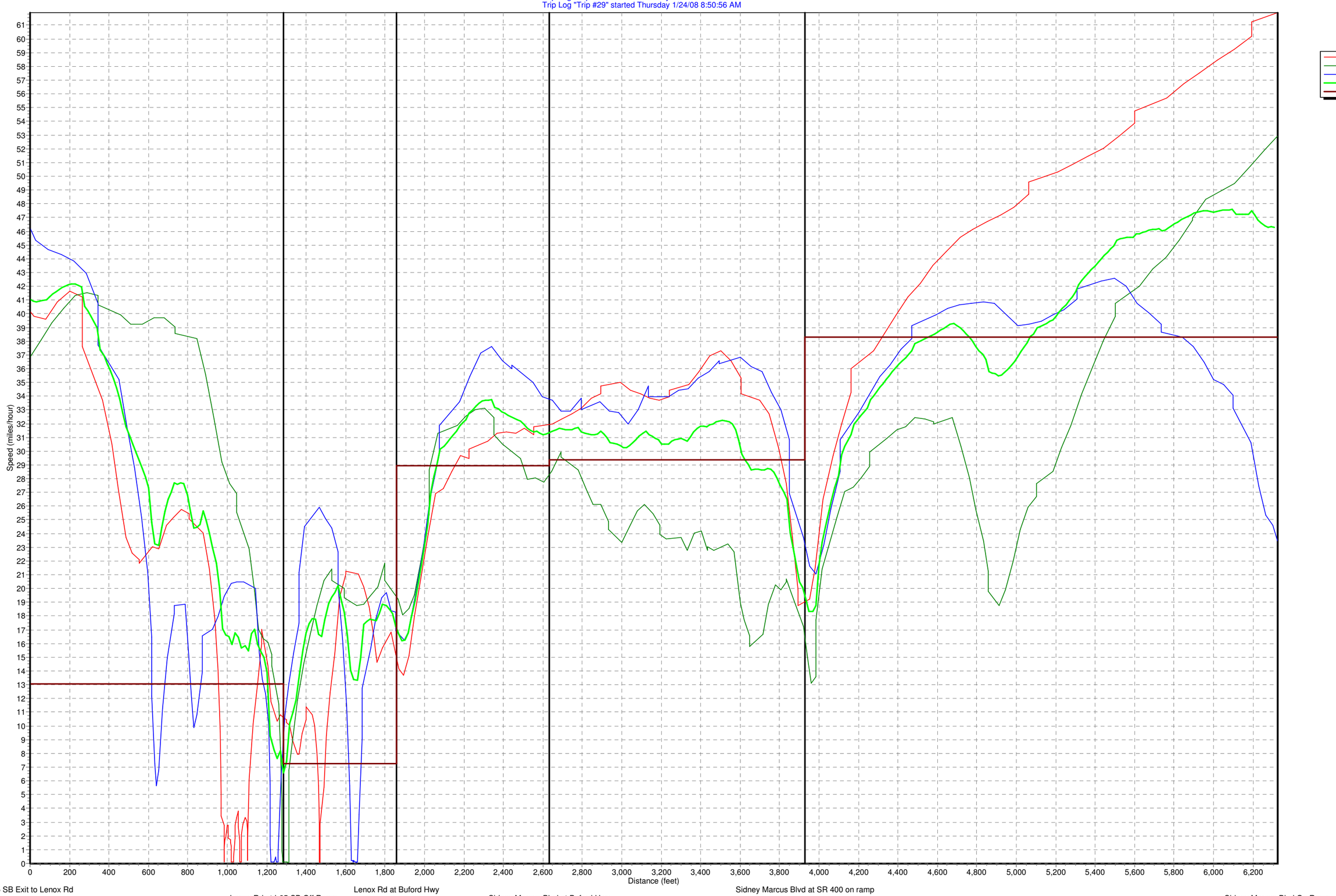


I-85 SB to SR 400 NB					
A	B	C	D	E	F
I-85 Exit to Lenox Rd	Exit Ramp at Lenox Rd	Lenox Rd at Buford Hwy	Buford Hwy at Sidney Marcus Blvd	Sidney Marcus Blvd at SR400 Ramp	Sidney Marcus Blvd Ramp Merge to SR 400 NB



SR 400 SB to I-85 NB					
A	B	C	D	E	F
SR 400 Exit to Sidney Marcus Blvd	Exit Ramp at Sidney Marcus Blvd	Sidney Marcus Blvd at Buford Hwy	Buford Hwy at Lenox Rd	Lenox Rd at I-85 Ramp	Lenox Rd Ramp Merge to I-85 NB

I-85 SB TO SR 400 NB
Trip Log "Trip #24" started Thursday 1/24/08 7:41:04 AM
Trip Log "Trip #26" started Thursday 1/24/08 8:06:58 AM
Trip Log "Trip #29" started Thursday 1/24/08 8:50:56 AM



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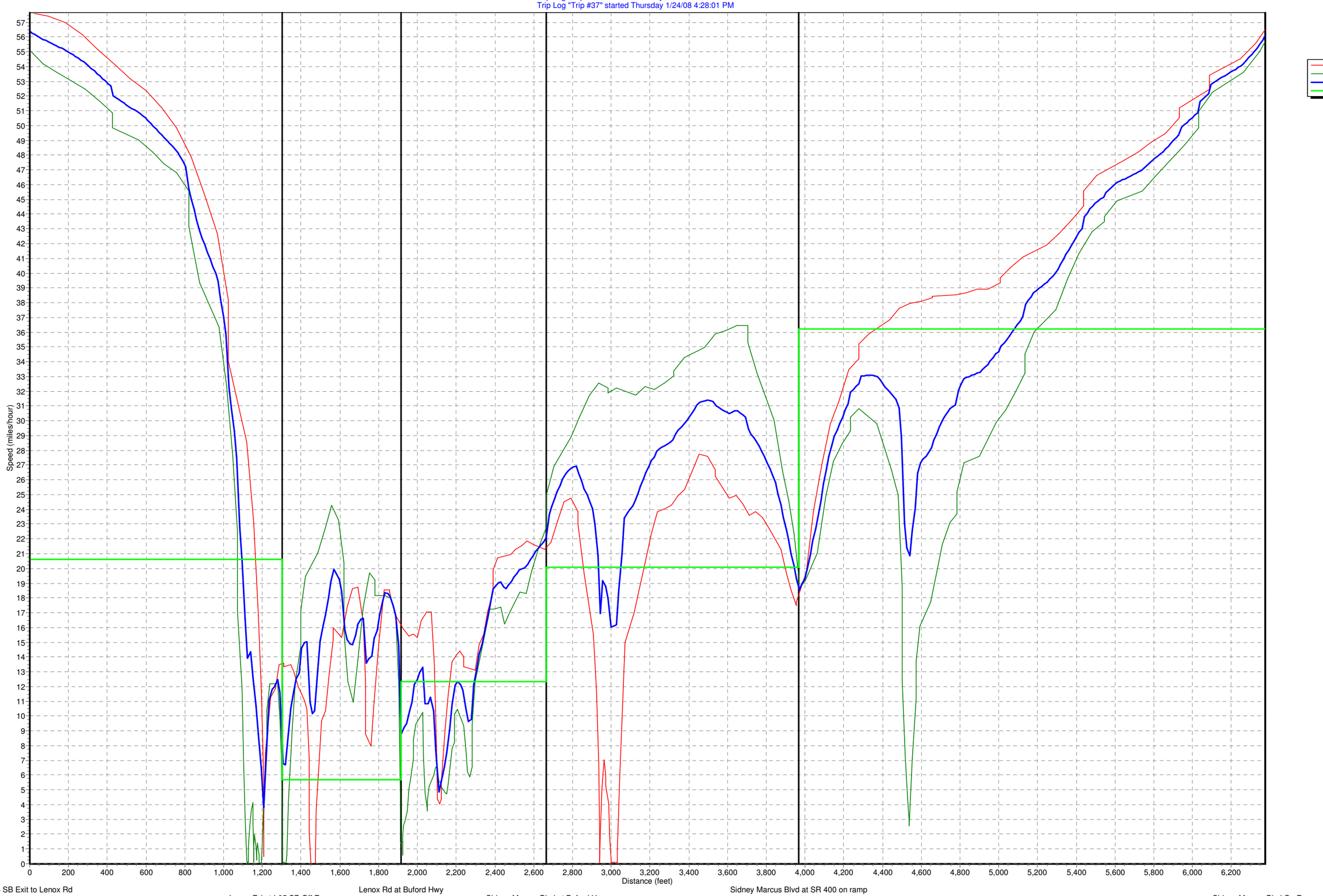
Trip Log "Trip #37" started Thursday 1/24/08 4:28:01 PM



SR 400 SB to I-85 NB
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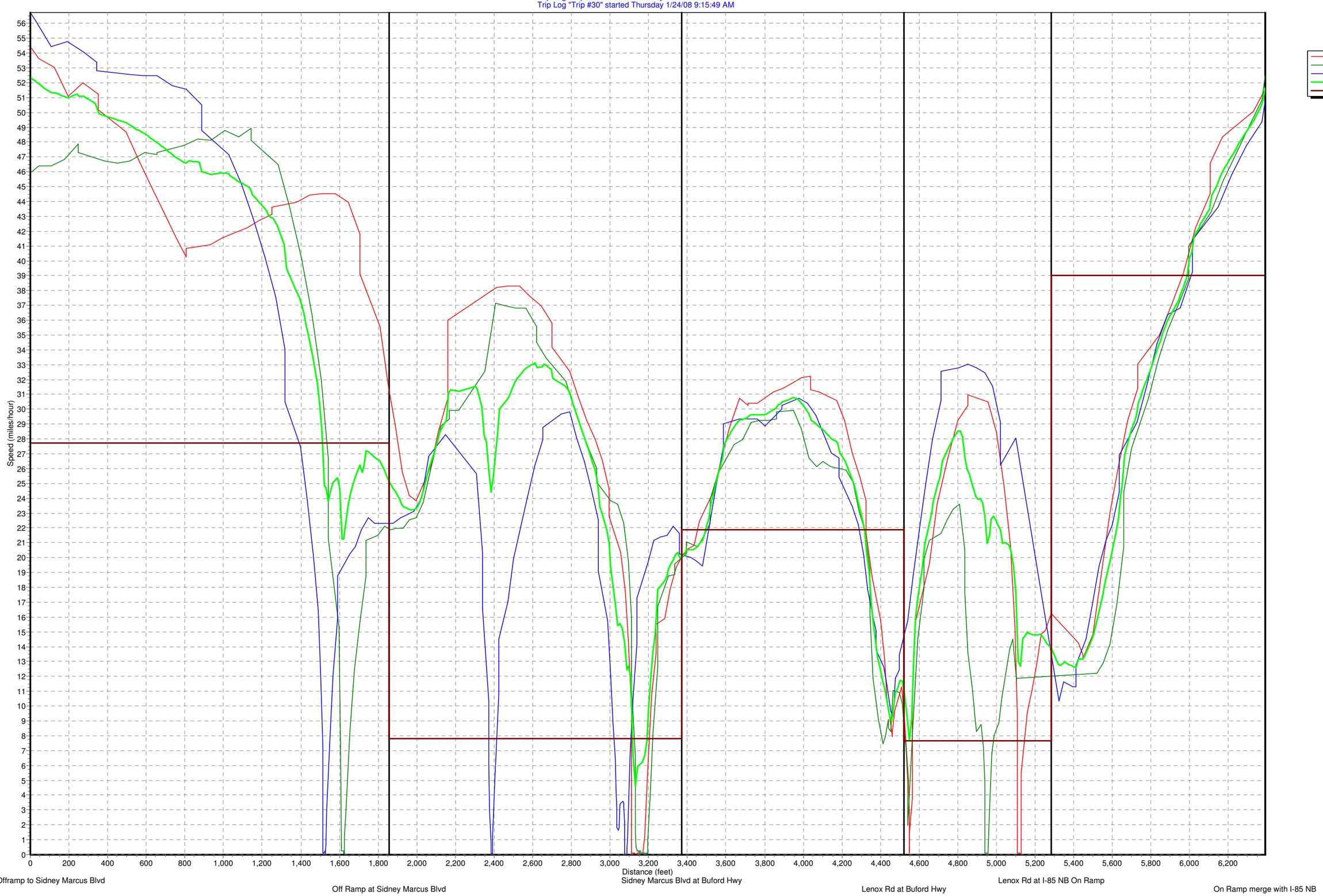

SR 400 SB to I-85 NB
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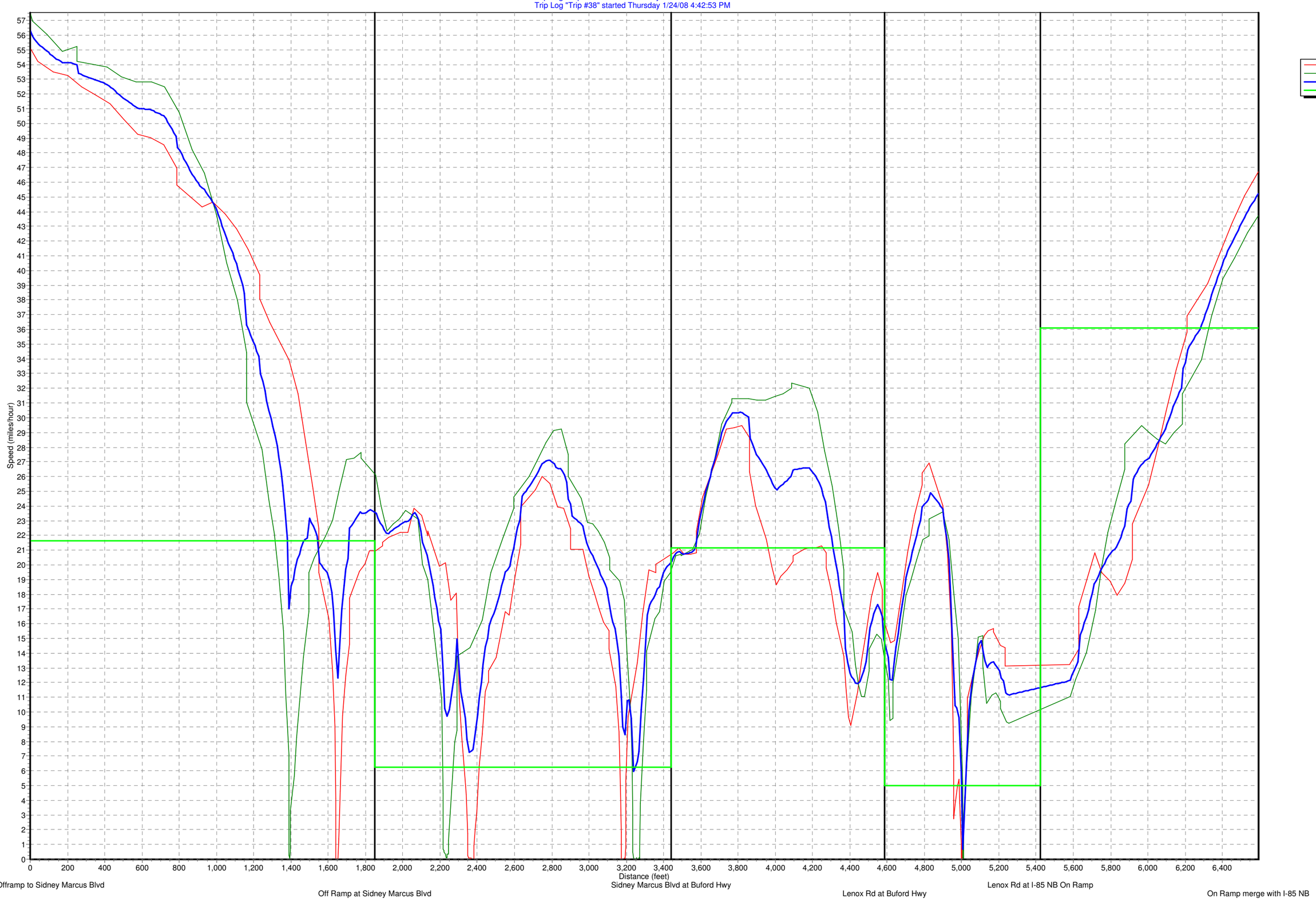
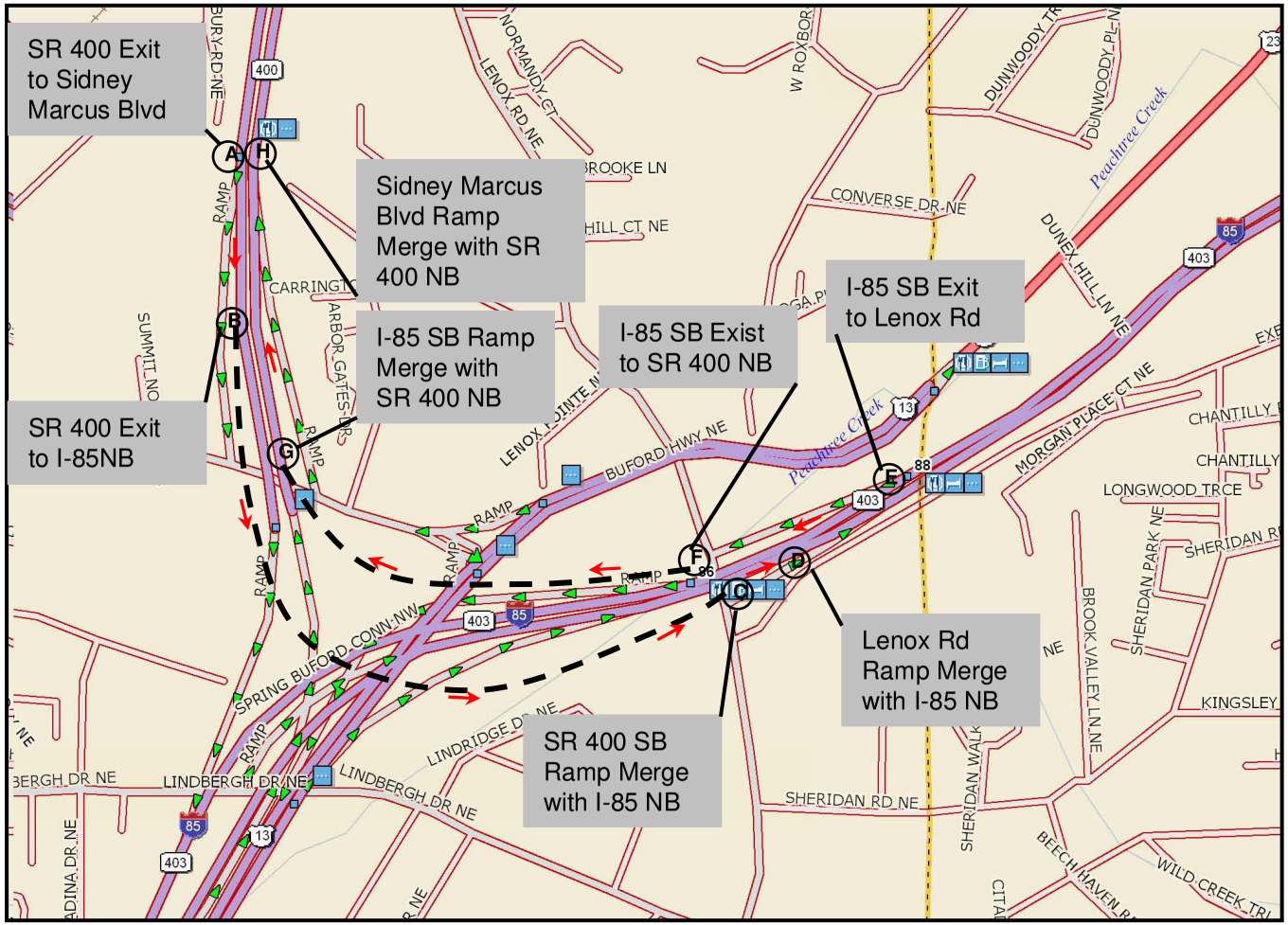




Proposed Ramps Travel Time Paths

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: NH-000-0085-02(153), Fulton County
P.I. No.: 762380
SR 400/I-85 Connector Ramps

OFFICE: Engineering Services

DATE: June 5, 2009

FROM: Ronald E. Wishon, Project Review Engineer REW

TO: James B. Buchan, P.E., State Urban Design Engineer
Attention: Albert Shelby, Project Manager

SUBJECT: IMPLEMENTATION OF VALUE ENGINEERING STUDY ALTERNATIVES

Recommendations for implementation of Value Engineering Study Alternatives are indicated in the table below. Incorporate the VE alternatives recommended for implementation to the extent reasonable in the design of the project.

SB SR 400 to NB I-85 Ramp:

ALT No.	Description	Savings PW & LCC	Implement	Comments
ALIGNMENT (AN)				
AN-3	Replace the flyover ramp with a loop using Lindbergh Drive. Exit SR 400 SB to a new stop light on Lindbergh, cross east over Lindbergh Drive and turn left onto the existing HOV ramp to NB I-85.	$17,476,838	No	This recommendation would contradict the Need and Purpose of the project which is to provide freeway connectivity between the two regionally significant facilities, and improve driver expectancy. The current HOV access would be eliminated. Moving the exit point of the new ramp would compound the current congestion problem at the merge area between SB SR 400 and SB I-85 Ramp. Contradicts current GDOT policy to develop a managed lane system.

ALIGNMENT (AN) Continued				
AN-4	Replace the flyover ramp with a loop using Lindbergh Drive. Exit SR 400 SB to a new stop light on Lindbergh, cross east over Lindbergh Drive and turn left onto a new entry ramp to NB I-85 (for the SB SR 400 to NB I-85 Ramp).	$17,346,920	No	This recommendation would contradict the Need and Purpose of the project which is to provide freeway connectivity between the two regionally significant facilities, and improve driver expectancy. Moving the exit point of the new ramp would compound the current congestion problem at the merge area between SB SR 400 and SB I-85 Ramp. The recommendation would cause significant environmental impacts. Mitigation requirements would dictate that the entire ramp be placed on a bridge structure which would increase the cost by approximately $3 million.
SECTION (SN)				
SN-1	Use a 30-foot wide section with a 14-foot travel lane flanked by 6-foot and 10-foot shoulders in lieu of a 32-foot section.	$1,949,181	Yes	This should be done. The 2-feet reduction will be from the shoulder width, the travel lane will remain 16-foot.

SECTION (SN) Continued				
SN-2	Use a 28-foot wide section with a 14-foot travel lane flanked by 4-foot and 10-foot shoulders in lieu of a 32-foot section (for the SB SR 400 to NB I-85 Ramp).	$2,725,498	No	Using a 4-foot inside median reduces horizontal sight distance to the point that it will only accommodate a maximum design speed of 40 mph. GDOT and FHWA both recommend that system to system ramps achieve a minimum of 45 mph whenever possible. The 14-foot wide travel lane does not meet AASHTO's minimum width of 15-feet and is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-feet.
SN-3	Use a 26-foot wide section with a 12-foot travel lane flanked by 4-foot and 10-foot shoulders in lieu of a 32-foot section (for the SB SR 400 to NB I-85 Ramp).	$3,609,536	No	Refer to the first paragraph in VE Recommendation SN-2, above. Similarly, the 12-foot wide travel lane does not meet AASHTO's minimum width of 15-feet and is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-feet.

BRIDGE (BN)				
BN-1	Lower the profile of the SR 400 SB to I-85 NB ramp by using steeper grades, minimum truck clearances and a 45 mph design speed (for the SB SR 400 to NB I-85 Ramp).	$94,039	Yes	This should be done. The Bridge Office will use shallower beams to lower the profile approximately 5 feet. This will allow for the grades to be reduced without decreasing the design speed.
BN-5	Use radially oriented piers and eliminate the skew on the pier bents (for the SB SR 400 to NB I-85 Ramp).	Design Suggestion	Yes	This should be done.
BN-8	Add a new exit ramp from I-85 to Cheshire Bridge Road to improve traffic flow.	Cost Increase (-$1,232,013)	No	The recommendation would mix freeway traffic with local traffic. Implementing the recommendation would complicate the freeway guide signing along southbound SR 400, would cause significant ROW impacts, and increase the construction costs of the overall project.
BN-9	Southbound SR 400 to Northbound I-85 Ramp – Use long span steel girders over the I-85 with 74" precast concrete bulb tees for all other approach spans. Reduce the number of columns required.	Design Suggestion	No	The steel span alternative was evaluated and the additional superstructure depth required for the steel span increases the profile and offsets the apparent cost saving.

SB I-85 to NB SR 400 Ramp:

ALIGNMENT (AS)				
AS-1	Replace the Southbound I-85 ramp with a partial surface solution using Sidney Marcus Boulevard; tie new elevated off-ramp into the west end of Sidney Marcus, close Pine Street, add cost for new ROW, and include new wall on north side of Sidney Marcus (for the SB I-85 to NB SR 400 Ramp).	Cost Increase (-$2,828,850)	No	This recommendation would contradict the Need and Purpose of the project which is to provide freeway connectivity between the two regionally significant facilities, and to improve driver expectancy. Moving the exit point of the new ramp would compound the current congestion problem at the merge area between SB SR 400 and SB I-85 Ramp. Would also cause additional ROW impacts.
AS-1A	Replace the Southbound I-85 ramp with a full at-grade solution using Sidney Marcus Boulevard; tie new off-ramp from I-85 into the east end of Sidney Marcus, and add additional ROW (for the SB I-85 to NB SR 400 Ramp).	$174,392	No	This recommendation would contradict the Need and Purpose of the project which is to provide significantly improved connectivity between the two regionally significant facilities, and to improve driver expectancy.

ALIGNMENT (AS) Continued				
AS-3/4	Reduce the design speed from 50 MPH to 40 MPH and shorten the curve radius from 1130 ft to 600 ft (for the SB I-85 to NB SR 400 Ramp).	$1,314,164	No	The designer was unable to replicate the proposed alignment without impacting the SR 400 bridge (the basis for the entire savings listed) while also maintaining two separate bridges at the off-ramp from I-85 Southbound (required by the GDOT Bridge Office).
SECTION (SS)				
SS-1	Use 30 ft wide section with a 14 ft travel lane flanked by 6 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB I-85 to NB SR 400 Ramp).	$419,328	No	The 14-foot wide travel lane does not meet AASHTO's minimum width of 15-feet and is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-feet. Redesign costs and other related costs would be $381,082 and would delay the project by 6-12 months. Providing twin structures in-lieu of a single wide bridge with future turn lanes eliminates the option of the future diamond interchange. A different type of interchange would have to be constructed, possibly a partial clover leaf.

SECTION (SS) Continued				
SS-2	Use 28 ft wide section with a 14 ft travel lane flanked by 4 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB I-85 to NB SR 400 Ramp).	$840,269	Yes	This will be done with a 16-feet wide travel lane with a left shoulder width of 4-feet and a right shoulder width of 8-feet, which equals a total width of 28-feet. The revised shoulder widths would still maintain minimum sight distance requirements for a 45 mph design speed. The 16-foot wide travel lane is consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-feet.
SS-3	Use 26 ft wide section with a 12 ft travel lane flanked by 4 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB I-85 to NB SR 400 Ramp).	$1,262,210	No	See the first paragraph in VE recommendation SS-1 above. Similarly, the 12-feet wide travel lane does not meet AASHTO's minimum width of 15-feet and the 12-feet wide travel lane is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-feet.

BRIDGE (BS) Continued				
BS-2	Shorten the bridge span over Buford Highway from 170 ft to 165 ft and use 74 inch deep precast concrete bulb tee girders in lieu of steel plate girders (for the SB I-85 to NB SR 400 Ramp).	$161,840	No	After consulting with the GDOT Office of Bridge Design, this bridge layout has been revised from a single span to three spans allowing the use of AASHTO beams with a shallower superstructure and bulb tees. The revised proposed design would have a similar cost savings to the VE alternative.

Additional information was provided to FHWA by email (attached) and by letter from Urban Design.

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

Approved: Gerald M. Ross **Date:** 6/8/09
Gerald M. Ross, P. E., Chief Engineer

Approved: Richard Wayne Tedors **Date:** 6/17/2009
for
Rodney Barry, P.E., FHWA Division Administrator

REW/DMF/LLM

Attachments

c: R. Wayne Fedora/Mindy Roberson/LaToya Johnson
Genetha Rice Singleton
Ben Buchan/Darrell Richardson/Charles Robinson
Albert Shelby
Chester Thomas
Paul Liles/Bill Ingalsbe/Bill Duvall/Judy Meisner
Amber Phillips
Mickey McGee
Ken Werho
Andres Netterville
Lakeshia Osborn
Lisa Myers
Matt Sanders

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE NH-000-0085-02(153)
Fulton County
SR400/I-85 Connector Ramps
PI No. 762380

OFFICE Urban Design

DATE March 20, 2009

FROM James B. Buchan, P.E., State Urban Design Engineer

TO Ron Wishon, Acting State Review Engineer

SUBJECT Value Engineering Study Report Responses

This Office has received and reviewed the Value Engineering Study Final Report dated January 26, 2009. The study has developed sixteen alternatives. The following are the alternatives with Urban Design's recommendations for each.

SB SR 400 to NB I-85 Ramp

VE Recommendation AN-3: Replace the flyover ramp with a loop using Lindbergh Drive. Exit SR 400 SB to a new stop light on Lindbergh, cross east over Lindbergh Dr. and turn left onto the existing HOV ramp to NB I-85 (for the SB SR 400 to NB I-85 Ramp).

This recommendation calls for the replacement of the proposed flyover ramp and routing traffic via a surface street (Lindbergh Drive) through two closely spaced traffic signals and eliminate the currently operationally exclusive HOV access. This recommendation was estimated in the VE Study to save $17.5 Million in construction costs.

This recommendation would contradict the Need and Purpose of the project which is to provide freeway system to system connectivity between the two regionally significant facilities, and to better satisfy driver expectancy. Additionally, moving the exit point of the new ramp would compound the current congestion problem at the merge area between SB SR 400 and SB I-85 Ramp.

The recommendation would also eliminate the current HOV access and would contradict current GDOT policy to develop a managed lane system.

This alternative is not recommended as a part of this project.

VE Recommendation AN-4: Replace the flyover ramp with a loop using Lindbergh Drive. Exit SR 400 SB to a new stop light on Lindbergh, cross east over Lindbergh Dr. and turn left onto a new entry ramp to NB I-85 (for the SB SR 400 to NB I-85 Ramp).

This recommendation calls for the new ramp to be added to the southeast of I-85. Ramp construction assumes the pavement can be placed on fill. It would appear that the ramp parallels and enters NB I-85 along with Buford Dr.

This recommendation would contradict the Need and Purpose of the project which is to provide freeway system to system connectivity between the two regionally significant facilities, and to better satisfy driver expectancy. Additionally, moving the exit point of the new ramp would compound the current congestion problem at the merge area between SB SR 400 and SB I-85 Ramp.

This recommendation was estimated in the VE Study to save $17.3 Million in construction costs. However, the proposal presented by the Value Engineering Team inaccurately assumes the new ramp can be placed on fill material. All areas between I-85 and the adjacent historic district are deemed wetlands and contain numerous streams. The recommendation would cause significant environmental impact. Mitigation requirements would dictate that the entire ramp be placed on a bridge structure which would increase the construction cost by approximately $3 Million, which would decrease the estimated cost savings to approximately $14 Million.

This alternative is not recommended as a part of this project.

VE Recommendation SN-1: Use 30 ft wide section with a 14 ft travel lane flanked by 6 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB SR 400 to NB I-85 Ramp).

This recommendation suggests reducing the ramp typical section width of 32-ft by 2-ft, all deducted from the lane width. This recommendation was estimated in the VE Study to save $1.95 Million in construction costs.

The recommended change to the proposed design that varies from the VE recommendation is a 16-ft wide travel lane with a left shoulder width of 6-ft and a right shoulder width of 8-ft, which equals a total width of 30-ft. The AASHTO publication, ***A Policy on Geometric Design of Highways and Streets***, 2004, indicates on Page 838 "Directional ramps with a design speed over 40 mph should have a paved right shoulder width of 8 to 10-ft and a paved left shoulder width of 1 to 6-ft." The revised shoulder widths meet these criteria.

AASHTO also indicates in Exhibit 10-67, "Design for Turning Roadways", for Case II (One-lane, one-way operation – with provision for passing a stalled vehicle) and Traffic Condition B, a minimum total pavement width of 19-ft. is required. Since this total pavement width includes paved shoulders, the effective minimum travel lane width is 15-ft., which corresponds to the

minimum total pavement width for Case I (One-lane, one way operation – no provision for passing a stalled vehicle) and Traffic Condition B. The proposed 16-ft wide travel lane exceeds this criterion. Traffic Condition B was used for this project, since the design year 24-hour truck percentages are 3.5 percent and 7.5 percent for SR 400 and I-85, respectively.

AASHTO also indicates on Page 840 "Ramps on overpasses should have the full-approach roadway width carried over the structure." The bridge over I-85 for the proposed ramp would have the same shoulder widths as the roadway and therefore meet this recommendation.

The revised shoulder widths would still maintain minimum sight distance requirements for a 45 mph design speed.

The 16-ft. wide travel lane is consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-ft.

This alternative with the variation is recommended as a part of this project.

VE Recommendation SN-2: Use 28 ft wide section with a 14 ft travel lane flanked by 4 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB SR 400 to NB I-85 Ramp).

This recommendation suggests reducing the ramp typical section width by 4-ft, of which 2-ft is deducted from the lane width and 2-ft is from the inside shoulder. This recommendation was estimated in the VE Study to save $2.73 Million in construction costs.

Using a 4-ft inside median reduces horizontal sight distance to the point that it will only accommodate a maximum design speed of 40 mph. GDOT and FHWA both recommend that system to system ramps achieve a minimum of 45 mph whenever possible.

The 14-ft wide travel lane does not meet AASHTO's minimum width of 15-ft, from Exhibit 10-67, which is described in the previous explanation for VE Recommendation SN-1. The 14-ft. wide travel lane is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-ft.

This alternative is not recommended as a part of this project.

VE Recommendation SN-3: Use 26 ft wide section with a 12 ft travel lane flanked by 4 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB SR 400 to NB I-85 Ramp).

This recommendation suggests reducing the ramp typical section width by 6-ft. Of which 4-ft is deducted from the lane width and 2-ft is from the inside shoulder. This recommendation was estimated in the VE Study to save $3.61 Million in construction cost.

Using a 4-ft inside median reduces horizontal sight distance to the point that it will only

accommodate a maximum design speed of 40 mph. GDOT and FHWA both recommend that system to system ramps achieve a minimum of 45 mph whenever possible.

Similar to VE Recommendation SN-2, the 12-ft wide travel lane does not meet AASHTO's minimum width of 15-ft. from Exhibit 10-67, which is described in the previous explanation for VE Recommendation SN-1. The 12-ft. wide travel lane is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-ft.

This alternative is not recommended as a part of this project.

VE Recommendation BN-1: Lower the profile of the SR 400 SB to I-85 NB ramp by using steeper grades, minimum truck clearances and a 45 MPH design speed (for the SB SR 400 to NB I-85 Ramp).

This recommendation assumes a structure depth developed but not yet approved by the GDOT Office of Bridge Design. This recommendation was estimated in the VE Study to save $94,039.00 in construction costs.

The current GDOT Office of Bridge Design approved concept structure type uses 74" Bulb Tee AASHTO beams which will allow the profile to be lowered approximately five feet throughout the length of the structure. This will allow for the grades to be reduced without decreasing the design speed.

This alternative with the variation is recommended as a part of this project.

VE Recommendation BN-5: Use radially oriented piers and eliminate the skew on the pier bents (for the SB SR 400 to NB I-85 Ramp).

This recommendation proposes reorienting a skewed pier and using radial oriented piers instead.

The current GDOT Office of Bridge Design approved concept structure type uses radially oriented piers. The estimate cost savings for this recommendation cannot be estimated at this time based on the limited information that is available related to the bridge construction details.

This alternative is recommended as a part of this project.

VE Recommendation BN-8: Add a new exit ramp from I-85 to Cheshire Bridge Road to improve traffic flow.

This recommendation suggests adding an additional exit point along the ramp in an already

congested interchange. This recommendation was estimated in the VE Study to cost an additional $1.23 Million in construction costs.

The recommendation would mix system to system freeway traffic with local traffic. Additionally, implementing the recommendation would complicate the freeway guide signing along Southbound SR 400, would cause significant R/W impacts, and increase the construction costs of the overall project.

This alternative is not recommended as a part of this project.

VE Recommendation BN-9: Southbound SR 400 to Northbound I-85 Ramp – Use long span steel girders over the I-85 with 74" precast concrete bulb tees for all other approach spans. Reduce the number of columns required.

This recommendation suggests using a combination superstructure type with bulb tees in all locations except over I-85 where a steel span will be used.

The steel span alternative was evaluated and the additional superstructure depth required for the steel span increases the profile and offsets the apparent cost saving.

This alternative is not recommended as a part of this project.

SB I-85 to NB SR 400 Ramp

VE Recommendation AS-1: Replace the Southbound I-85 ramp with a partial surface solution using Sidney Marcus Boulevard; tie new elevated off-ramp into the west end of Sidney Marcus, close Pine Street, add cost for new ROW, and include new wall on north side of Sidney Marcus (for the SB I-85 to NB SR 400 Ramp).

This recommendation calls for the replacement of the proposed ramp and routing traffic via a surface street option. This recommendation was estimated in the VE Study to cost an additional $2.83 Million in construction costs.

This recommendation would contradict the Need and Purpose of the project which is to provide freeway system to system connectivity between the two regionally significant facilities, and to better satisfy driver expectancy. Additionally, by moving the exit point of the new ramp would compound the current congestion problem at the merge area between SB SR 400 and SB I-85 Ramp. This recommendation would also cause additional R/W impacts.

This alternative is not recommended as a part of this project.

VE Recommendation AS-1A: Replace the Southbound I-85 ramp with a full at-grade solution using Sidney Marcus Boulevard; tie new off-ramp from I-85 into the east end of

Sidney Marcus, and add additional ROW (for the SB I-85 to NB SR 400 Ramp).

This recommendation calls for the replacement of the proposed ramp and routing traffic via a full surface street option. This recommendation was estimated in the VE Study to save $174,392.00 in construction costs.

This recommendation would contradict the Need and Purpose of the project which is to provide significantly improved connectivity between the two regionally significant facilities, and to better satisfy driver expectancy.

This alternative is not recommended as a part of this project.

VE Recommendation AS-3/4: Reduce the design speed from 50 MPH to 40 MPH shorten the curve radius from 1130 ft to 600 ft (for the SB I-85 to NB SR 400 Ramp).

This recommendation proposes reducing the existing design speed and implementing the use of a compound curve consisting of 600' radius followed by a short 500' radius curve. This recommendation was estimated in the VE Study to save $1.31 Million in construction cost.

The designer was unable to replicate the proposed alignment without impacting the SR 400 bridge (the basis for the entire savings listed) while also maintaining two separate bridges at the off-ramp from I-85 Southbound (required by the GDOT Bridge Group).

This alternative is not recommended as a part of this project.

VE Recommendation SS-1: Use 30 ft wide section with a 14 ft travel lane flanked by 6 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB I-85 to NB SR 400 Ramp).

This recommendation suggests reducing the ramp typical section width by 2-ft, all deducted from the lane width. This recommendation was estimated in the VE Study to save $419,328.00 in construction costs.

The AASHTO publication, ***A Policy on Geometric Design of Highways and Streets***, 2004, indicates in Exhibit 10-67, "Design for Turning Roadways", for Case II (One-lane, one-way operation – with provision for passing a stalled vehicle) and Traffic Condition B, a minimum total pavement width of 19-ft, is required. Since this total pavement width includes paved shoulders, the effective minimum travel lane width is 15-ft., which corresponds to the minimum total pavement width for Case I (One-lane, one way operation – no provision for passing a stalled vehicle) and Traffic Condition B. The 14-ft wide travel lane in this VE Recommendation SS-1 does not meet this criterion. Traffic Condition B was used for this project, since the design year 24-hour truck percentages are 3.5 percent and 7.5 percent for SR 400 and I-85, respectively. The 14-ft. wide travel lane is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane

width of 16-ft.

This alternative is not recommended as a part of this project.

VE Recommendation SS-2: Use 28 ft wide section with a 14 ft travel lane flanked by 4 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB I-85 to NB SR 400 Ramp).

This recommendation suggests reducing the ramp typical section width by 4-ft, of which 2-ft is deducted from the lane width and 2-ft is from the outside shoulder. This recommendation was estimated in the VE Study to save $840,269.00 in construction cost.

The recommended change to the proposed design that varies from the VE recommendation is a 16-ft wide travel lane with a left shoulder width of 4-ft and a right shoulder width of 8-ft, which equals a total width of 28-ft. The AASHTO publication, ***A Policy on Geometric Design of Highways and Streets***, 2004, indicates on Page 838 "Directional ramps with a design speed over 40 mph should have a paved right shoulder width of 8 to 10-ft and a paved left shoulder width of 1 to 6-ft." The revised shoulder widths meet these criteria.

AASHTO also indicates in Exhibit 10-67, "Design for Turning Roadways", for Case II (One-lane, one-way operation – with provision for passing a stalled vehicle) and Traffic Condition B, a minimum total pavement width of 19-ft. is required. Since this total pavement width includes paved shoulders, the effective minimum travel lane width is 15-ft., which corresponds to the minimum total pavement width for Case I (One-lane, one way operation – no provision for passing a stalled vehicle) and Traffic Condition B. The proposed 16-ft wide travel lane exceeds this criterion. Traffic Condition B was used for this project, since the design year 24-hour truck percentages are 3.5 percent and 7.5 percent for SR 400 and I-85, respectively.

AASHTO also indicates on Page 840 "Ramps on overpasses should have the full-approach roadway width carried over the structure." The bridge over I-85 for the proposed ramp would have the same shoulder widths as the roadway and therefore meet this recommendation.

The revised shoulder widths would still maintain minimum sight distance requirements for a 45 mph design speed.

The 16-ft. wide travel lane is consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-ft.

This alternative with the variation is recommended as a part of this project.

VE Recommendation SS-3: Use 26 ft wide section with a 12 ft travel lane flanked by 4 ft and 10 ft shoulders in lieu of a 32 ft section (for the SB I-85 to NB SR 400 Ramp).

Using a 10-ft outside median (inside of curve) is a viable option but this would limit the

available width for maneuvering around a traffic incident. This recommendation was estimated in the VE Study to save $1.26 Million in construction costs.

This recommendation suggests reducing the ramp typical section width by 6-ft. Four feet is deducted from the lane width and 2-ft is from the outside shoulder.

Similar to VE Recommendation SS-1, the 12-ft wide travel lane does not meet AASHTO's minimum width of 15-ft, from Exhibit 10-67, which is described in the previous explanation for VE Recommendation SS-1. The 12-ft. wide travel lane is not consistent with GDOT Construction Details for Interchange Ramps (R-1, R-2 and R-3), which all indicate a travel lane width of 16-ft.

This alternative is not recommended as a part of this project.

VE Recommendation BS-2: Shorten the bridge span over Buford Highway from 170 ft to 165 ft and use 74 inch deep precast concrete bulb tee girders in lieu of steel plate girders (for the SB I-85 to NB SR 400 Ramp).

This recommendation suggests using bulb tee girders by shortening the bridge. This recommendation was estimated in the VE Study to save $161,840.00 in construction costs.

After consulting with the GDOT Office of Bridge Design, this bridge layout has been revised from a single span to three spans allowing the use of AASHTO beams with a shallower superstructure and bulb tees. The revised proposed design would have a similar cost savings to the VE alternative.

This alternative is not recommended as a part of this project.

JBB:AVS

From: Shelby, Albert
Sent: Friday, April 24, 2009 12:15 PM
To: Fadool, Douglas
Subject: VE Study Report for NH-000-0085-02(153), Fulton County, PI No. 762380

We are going to discuss with her next week.

From: Fadool, Douglas
To: Shelby, Albert
Sent: Fri Apr 24 07:40:14 2009
Subject: RE: VE Study Report for NH-000-0085-02(153), Fulton County, PI No. 762380,

Have you heard back from Mindy yet?

From: Myers, Lisa
Sent: Thursday, April 16, 2009 10:03 AM
To: melinda.roberson@dot.gov
Cc: Fadool, Douglas; Latoya.Johnson@dot.gov; R.Wayne.Fedora@dot.gov; Shelby, Albert
Subject: VE Study Report for NH-000-0085-02(153), Fulton County, PI No. 762380,

Mindy,

I forwarded your comments to Albert. He is going to look into SN-1 and SN-2 and get back to us. He may contact you for more info. In the meantime, we'll hold off on processing the implementation letter until we resolve these 2 issues.

Lisa

From: melinda.roberson@dot.gov [mailto:melinda.roberson@dot.gov]
Sent: Wednesday, April 15, 2009 9:00 AM
To: Myers, Lisa
Cc: Fadool, Douglas; Latoya.Johnson@dot.gov; R.Wayne.Fedora@dot.gov
Subject: RE: VE Study Report for NH-000-0085-02(153), Fulton County, PI No. 762380

Lisa,

At this time, FHWA does not concur with the variation proposed for recommendations SN-1 or SS-2. We concur that using a 8' shoulder width meets the referenced language from the Green Book, however, we feel there should to be a 2' offset to the face of barrier for a total distance of 10' from edgeline to face of barrier, especially considering that there is some consideration being given to semitrailer vehicles in the design. Please refer to page 314-315 of the 2004 Green Book.

FHWA concurs with all other recommendations in the report. Please advise us how you would like to proceed.

Thanks,

Mindy Roberson

From: Myers, Lisa [mailto:lmyers@dot.ga.gov]
Sent: Wednesday, April 08, 2009 2:36 PM
To: Roberson, Melinda <FHWA>
Cc: Fadool, Douglas
Subject: FW: VE Study Report for NH-000-0085-02(153), Fulton County, PI No. 762380

Melinda,

Here are the responses to the questions you sent this morning. Please let Douglas or me know if you need anything else.

Lisa

From: Shelby, Albert
Sent: Wednesday, April 08, 2009 2:30 PM
To: Myers, Lisa
Cc: Fadool, Douglas; Robinson, Charles A.
Subject: FW: VE Study Report for NH-000-0085-02(153), Fulton County, PI No. 762380

Below and attached are the answers to Melinda's questions.

Thanks,
Albert V. Shelby, III

From: Keith Strickland [mailto:KStrickland@HNTB.com]
Sent: Wednesday, April 08, 2009 11:56 AM
To: Shelby, Albert
Cc: Robinson, Charles A.
Subject: RE: VE Study Report for NH-000-0085-02(153), Fulton County, PI No. 762380

Albert,

My responses are indicated in red font and I have attached a markup of the typical sections.

Keith

Recommendation SN-1: Is there barrier along the left and/or right side of this ramp? *YES If on the left, was sight distance verified? YES, that is why the shoulder was increased to 6 ft. If on the right, is there a 10' shoulder and then a 2' offset to barrier or is it 10' from edgeline to face of barrier? (If it is easier, you can just provide a typical for this ramp) The original VE recommendation was to reduce lane width by 2 ft and maintain 10 ft right shoulder. HNTB's response was to maintain 16 ft travel lane and reduce outside shoulder from 10 ft to 8 ft (from edge of travel to face of barrier). I have included a markup of the original typical section to illustrate this change (Sheet 2 of 2).*

Recommendation BN-1: What is posted speed of mainline for 400 and I-85 at this location? *Both are 55 mph.*

Recommendation SS-2: Is there barrier along the left and/or right side of this ramp? *YES If on the right, is there a 10' shoulder and then a 2' offset to barrier or is it 10' from edgeline to face of barrier? The original VE recommendation was to reduce lane width by 2 ft and reduce the right shoulder width by 2 ft to 10 ft (from edge of travel to face of barrier). HNTB's response was to maintain 16 ft travel lane and reduce outside shoulder width by 4 ft from 12 ft to 8 ft (from edge of travel to face of barrier). I have included a markup of the original typical section to illustrate this change (Sheet 1 of 2). Please note when reviewing Sheet 1 of 2 that the current concept has the proposed SR 400 NB bridge as a completely separate structure; therefore, the original typical section in the two-lane area where the SR 13 and SR 400 ramps overlap does not apply.*

Gerald M. Ross, P.E., Commissioner/Chief Engineer

DEPARTMENT OF TRANSPORTATION

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

May 1, 2009

Mr. Rodney Barry
Attn: Ms. Melinda Roberson
Federal Highway Administration (FHWA) – Georgia Division
61 Forsyth St. SW
Atlanta, Georgia 30303

Re: Project NH000-0085-02(153), Fulton County - P.I. No. 762380 – SR 400/I-85 Connector Ramps Minimum Shoulder Widths for Ramps

Dear Ms. Roberson:

The Georgia Department of Transportation (GDOT) Office of Urban Design and the project consultant HNTB have further reviewed pages 314-315 of the 2004 Green Book as suggested by FHWA. Please see the response below regarding proceeding forward with the VE recommendation for proposed ramp design showing an 8-ft outside shoulder width for the I-85 southbound to SR400 northbound ramp and the I-85 northbound to SR400 southbound ramp. The FHWA comment is listed below followed by the response from HNTB which includes their interpretation of the Chapter 4 section titled "Width of Shoulders" from pages 314-315 of the AASHTO 2004 Green Book along with supporting excerpts from the 2004 Green Book. The GDOT- Office of Urban Design concurs with the response provided below by HNTB.

FHWA Comment on the VE Study recommendations – Melinda Roberson

At this time, FHWA does not concur with the variation proposed for recommendations SN-1 or SS-2. We concur that using a 8' shoulder width meets the referenced language from the Green Book, however, we feel there should to be a 2' offset to the face of barrier for a total distance of 10' from edgeline to face of barrier, especially considering that there is some consideration being given to semitrailer vehicles in the design. Please refer to page 314-315 of the 2004 Green Book.

FHWA concurs with all other recommendations in the report. Please advise us how you would like to proceed.

HNTB Response – Keith Strickland

HNTB's understanding of the Chapter 4 section titled "Width of Shoulders", pages 314-315 of the AASHTO 2004 Green Book is as follows:

The 2nd paragraph of this section that includes the following text - "*Where roadside barriers, walls, or other vertical elements are present, it is desirable to provide a graded shoulder wide enough that the vertical elements will be offset a minimum of 0.6 m [2 ft] from the outer edge of the usable shoulder.*" only pertains to roadway sections (i.e., only roadway sections would have graded shoulders) and not the proposed ramp bridges.

The last paragraph in this same section includes the following text - "*Shoulders on structures should normally have the same width as usable shoulders on the approach roadways.*" is the guidance for shoulders on bridges. The subsequent text in this last paragraph **only** discusses cases where structure shoulder widths may need to be **less** than (not greater than) the approach usable shoulder widths. This last paragraph also includes a reference to Chapter 10 of the Green Book, which was also referenced in the VE Responses for Recommendations SN-1 an SS-2 as follows:

"The AASHTO publication, *A Policy on Geometric Design of Highways and Streets*, 2004, indicates on page 838, *"Directional ramps with a design speed over 40 mph should have a paved right shoulder width of 8 to 10 ft and a paved left shoulder width of 1 to 6 ft."* The revised shoulder widths meet these criteria.

The next to the last bullet in this same list on page 840 under "Shoulders and lateral clearances" also describes the widths of shoulders on structures. It states *"Ramps on overpasses should have the full approach roadway width carried over the structure."* HNTB's interpretation of full approach roadway width as described in this reference is the travel lane width plus any usable shoulder width, which is consistent with our understanding of the section in Chapter 4, Cross Section Elements, described above.

The GA400 Corridor allows limited access for semi-trailer vehicles. The truck percentages for the GA400 Corridor within the project limits is 3.5% for the design and build years according the project's traffic studies. This minimal truck percentage further supports the adequacy of the 8 ft outside shoulder width.

Based on the aforementioned information, it was HNTB's and the GDOT- Office of Urban Design's understanding that the AASHTO Green Book did not require the additional 2 ft of shoulder width (increasing 8 ft to 10 ft) on the proposed ramp bridges. Additionally, moving forward with the proposed design using the 8' outside shoulder width would result in a significant cost savings. The VE Recommendations SN-1 and SS-2 were estimated in the VE Study to save approximately $1,950,000 and $840,269, respectively in construction cost.

If you have any additional questions or concerns, please contact Charles Robinson or Albert Shelby at 404-631-1675.

Sincerely,

James B. Buchan

James B. Buchan, P.E.
State Urban Design Engineer

JBB:car AVS
Attachments:
Mark-ups of proposed GA400/I-85 Connector Ramps (2 pages)
Excerpts from 2004 AASHTO Green Book (pgs. 314-315 and 838-840)

Well-designed and properly maintained shoulders are needed on rural highways with an appreciable volume of traffic, on freeways, and on some types of urban highways. Their advantages include:

- Space is provided away from the traveled way for vehicles to stop because of mechanical difficulties, flat tires, or other emergencies.
- Space is provided for motorists to stop occasionally to consult road maps or for other reasons.
- Space is provided for evasive maneuvers to avoid potential crashes or reduce their severity.
- The sense of openness created by shoulders of adequate width contributes to driving ease and reduced stress.
- Sight distance is improved in cut sections, thereby potentially improving safety.
- Some types of shoulders enhance highway aesthetics.
- Highway capacity is improved because uniform speed is encouraged.
- Space is provided for maintenance operations such as snow removal and storage.
- Lateral clearance is provided for signs and guardrails.
- Storm water can be discharged farther from the traveled way, and seepage adjacent to the traveled way can be minimized. This may directly reduce pavement breakup.
- Structural support is given to the pavement.
- Space is provided for pedestrian and bicycle use, for bus stops, for occasional encroachment of vehicles, for mail delivery vehicles, and for the detouring of traffic during construction.

For further information on other uses of shoulders, refer to NCHRP Report 254, *Shoulder Geometrics and Use Guidelines* (6).

Urban highways generally have curbs along the outer lanes. A stalled vehicle, during peak hours, disturbs traffic flow in all lanes in that direction when the outer lane serves through-traffic. Where on-street parking is permitted, the parking lane provides some of the same services listed above for shoulders. Parking lanes are discussed later in this chapter in the section on "On-Street Parking."

Width of Shoulders

Desirably, a vehicle stopped on the shoulder should clear the edge of the traveled way by at least 0.3 m [1 ft], and preferably by 0.6 m [2 ft]. This preference has led to the adoption of 3.0 m [10 ft] as the normal shoulder width that should be provided along high-type facilities. In difficult terrain and on low-volume highways, shoulders of this width may not be practical. A minimum shoulder width of 0.6 m [2 ft] should be considered for the lowest-type highway, and a 1.8- to 2.4-m [6- to 8-ft] shoulder width is preferable. Heavily traveled, high-speed highways and highways carrying large numbers of trucks should have usable shoulders at least 3.0 m [10 ft] wide and preferably 3.6 m [12 ft] wide; however, widths greater than 3.0 m [10 ft] may encourage unauthorized use of the shoulder as a travel lane. Where bicyclists and pedestrians are to be accommodated on the shoulders, a minimum usable shoulder width (i.e., clear of rumble strips) of

1.2 m [4 ft] should be used. For additional information on shoulder widths to accommodate bicycles, see the AASHTO *Guide for the Development of Bicycle Facilities* (7). Shoulder widths for specific classes of highways are discussed in Chapters 5 through 8.

Where roadside barriers, walls, or other vertical elements are present, it is desirable to provide a graded shoulder wide enough that the vertical elements will be offset a minimum of 0.6 m [2 ft] from the outer edge of the usable shoulder. To provide lateral support for guardrail posts and/or clear space for lateral dynamic deflection of the particular barrier in use, it may be appropriate to provide a graded shoulder that is wider than the shoulder where no vertical elements are present. On low-volume roads, roadside barriers may be placed at the outer edge of the shoulder; however, a minimum clearance of 1.2 m [4 ft] should be provided from the traveled way to the barrier.

Although it is desirable that a shoulder be wide enough for a vehicle to be driven completely off the traveled way, narrower shoulders are better than none at all. For example, when a vehicle making an emergency stop can pull over onto a narrow shoulder such that it occupies only 0.3 to 1.2 m [1 to 4 ft] of the traveled way, the remaining traveled way width can be used by passing vehicles. Partial shoulders are sometimes used where full shoulders are unduly costly, such as on long (over 60 m [200 ft]) bridges or in mountainous terrain.

Regardless of the width, a shoulder should be continuous. The full benefits of a shoulder are not realized unless it provides a driver with refuge at any point along the traveled way. A continuous shoulder provides a sense of security such that almost all drivers making emergency stops will leave the traveled way. With intermittent sections of shoulder, however, some drivers will find it necessary to stop on the traveled way, creating an undesirable situation. A continuous paved shoulder provides an area for bicyclists to operate without obstructing faster moving motor vehicle traffic. Although continuous shoulders are preferable, narrow shoulders and intermittent shoulders are superior to no shoulders. Intermittent shoulders are briefly discussed below in the section on "Turnouts."

Shoulders on structures should normally have the same width as usable shoulders on the approach roadways. As previously discussed, the narrowing or loss of shoulders, especially on structures, may cause serious operational and safety problems. Long, high-cost structures usually warrant detailed special studies to determine practical dimensions. Reduced shoulder widths may be considered in rare cases. A discussion of these conditions is provided in Chapters 7 and 10.

Shoulder Cross Sections

Important elements in the lateral drainage systems, shoulders should be flush with the roadway surface and abut the edge of the traveled way. All shoulders should be sloped to drain away from the traveled way on divided highways with a depressed median. With a raised narrow median, the median shoulders may slope in the same direction as the traveled way. However, in regions with snowfall, median shoulders should be sloped to drain away from the traveled way to avoid melting snow draining across travel lanes and refreezing. All shoulders should be sloped sufficiently to rapidly drain surface water, but not to the extent that vehicular use would be

Ramp Traveled-Way Widths

Width and cross section. Ramp traveled-way widths are governed by the type of operation, curvature, and volume and type of traffic. It should be noted that the roadway width for a turning roadway includes the traveled-way width plus the shoulder width or equivalent clearance outside the edges of the traveled way. The section "Widths for Turning Roadways" in Chapter 3 may be referenced for additional discussion on the treatments at the edge of traveled way. Design widths of ramp traveled ways for various conditions are given in Exhibit 10-67. Values are shown for three general design traffic conditions, as follows:

Traffic Condition A—predominantly P vehicles, but some consideration for SU trucks.

Traffic Condition B—sufficient SU vehicles to govern design, but some consideration for semitrailer vehicles.

Traffic Condition C—sufficient buses and combination trucks to govern design.

Traffic conditions A, B, and C are described in broad terms because design traffic volume data for each type of vehicle are not available to define these traffic conditions with precision in relation to traveled-way width. In general, traffic condition A has a small volume of trucks or only an occasional large truck, traffic condition B has a moderate volume of trucks (in the range of 5 to 10 percent of the total traffic), and traffic condition C has more and larger trucks.

Shoulders and lateral clearances. Design values for shoulders and lateral clearances on the ramps are as follows:

- When paved shoulders are provided on ramps, they should have a uniform width for the full length of ramp. For one-way operation, the sum of the right and left shoulder widths should not exceed 3.0 to 3.6 m [10 to 12 ft]. A paved shoulder width of 0.6 to 1.2 m [2 to 4 ft] is desirable on the left with the remaining width of 2.4 to 3.0 m [8 to 10 ft] used for the paved right shoulder.
- The ramp traveled-way widths from Exhibit 10-67 for Case II and Case III should be modified when paved shoulders are provided on the ramp. The ramp traveled-way width for Case II should be reduced by the total width of both right and left shoulders. However, in no case should the ramp traveled-way width be less than needed for Case I. For example, with condition C and a 125-m [400-ft] radius, the Case II ramp traveled-way width without shoulders is 6.4 m [21 ft]. If a 0.6-m [2-ft] left shoulder and a 2.4-m [8-ft] right shoulder are provided, the minimum ramp traveled-way width should be 4.8 m [15 ft].
- Directional ramps with a design speed over 60 km/h [40 mph] should have a paved right shoulder width of 2.4 to 3.0 m [8 to 10 ft] and a paved left shoulder width of 0.3 to 1.8 m [1 to 6 ft].
- For freeway ramp terminals where the ramp shoulder is narrower than the freeway shoulder, the paved shoulder width of the through lane should be carried into the exit terminal. It should also begin within the entrance terminal, with the transition to the

Metric

Radius on inner edge of pavement R (m)	Pavement width (m)								
	Case I: One-lane, one-way operation—no provision for passing a stalled vehicle			Case II: One-lane, one-way operation—with provision for passing a stalled vehicle			Case III: Two-lane operation—either one-way or two-way		
	Design traffic conditions								
	A	B	C	A	B	C	A	B	C
15	5.4	5.5	7.0	6.0	7.8	9.2	9.4	11.0	13.6
25	4.8	5.0	5.8	5.6	6.9	7.9	8.6	9.7	11.1
30	4.5	4.9	5.5	5.5	6.7	7.6	8.4	9.4	10.6
50	4.2	4.6	5.0	5.3	6.3	7.0	7.9	8.8	9.5
75	3.9	4.5	4.8	5.2	6.1	6.7	7.7	8.5	8.9
100	3.9	4.5	4.8	5.2	5.9	6.5	7.6	8.3	8.7
125	3.9	4.5	4.8	5.1	5.9	6.4	7.6	8.2	8.5
150	3.6	4.5	4.5	5.1	5.8	6.4	7.5	8.2	8.4
Tangent	3.6	4.2	4.2	5.0	5.5	6.1	7.3	7.9	7.9
Width modification regarding edge treatment									
No stabilized shoulder	None			None			None		
Sloping curb	None			None			None		
Vertical curb:									
one side	Add 0.3 m			None			Add 0.3 m		
two sides	Add 0.6 m			Add 0.3 m			Add 0.6 m		
Stabilized shoulder, one or both sides	Lane width for conditions B & C on tangent may be reduced to 3.6 m where shoulder is 1.2 m or wider			Deduct shoulder width; minimum pavement width as under Case I			Deduct 0.6 where shoulder is 1.2 m or wider		

Note: A = predominantly P vehicles, but some consideration for SU trucks.
B = sufficient SU vehicles to govern design, but some consideration for semitrailer combination trucks.
C = sufficient bus and combination-trucks to govern design.

US Customary

Radius on inner edge of pavement R (ft)	Pavement width (ft)								
	Case I: One-lane, one-way operation—no provision for passing a stalled vehicle			Case II: One-lane, one-way operation—with provision for passing a stalled vehicle			Case III: Two-lane operation—either one-way or two-way		
	Design traffic conditions								
	A	B	C	A	B	C	A	B	C
50	18	18	23	20	26	30	31	36	45
75	16	17	20	19	23	27	29	33	38
100	15	16	18	18	22	25	28	31	35
150	14	15	17	18	21	23	26	29	32
200	13	15	16	17	20	22	26	28	30
300	13	15	15	17	20	22	25	28	29
400	13	15	15	17	19	21	25	27	28
500	12	15	15	17	19	21	25	27	28
Tangent	12	14	14	17	18	20	24	26	26
Width modification regarding edge treatment									
No stabilized shoulder	None			None			None		
Sloping curb	None			None			None		
Vertical curb:									
one side	Add 1 ft			None			Add 1 ft		
two sides	Add 2 ft			Add 1 ft			Add 2 ft		
Stabilized shoulder, one or both sides	Lane width for conditions B & C on tangent may be reduced to 12 ft where shoulder is 4 ft or wider			Deduct shoulder width; minimum pavement width as under Case I			Deduct 2 ft where shoulder is 4 ft or wider		

Note: A = predominantly P vehicles, but some consideration for SU trucks.
B = sufficient SU vehicles to govern design, but some consideration for semitrailer combination trucks.
C = sufficient bus and combination-trucks to govern design.

Exhibit 10-67. Design Widths for Turning Roadways

narrower ramp shoulder accomplished gracefully on the ramp end of the terminal. Abrupt changes should be avoided.

- Ramps should have a lateral clearance on the right outside of the edge of the traveled way of at least 1.8 m [6 ft], and preferably 2.4 to 3.0 m [8 to 10 ft], and a lateral clearance on the left of at least 1.2 m [4 ft] beyond the edge of traveled way.
- Where ramps pass under structures, the total roadway width should be carried through the structure. Desirably, structural supports should be located beyond the clear zone. As a minimum, structural supports should be at least 1.2 m [4 ft] beyond the edge of paved shoulder. The AASHTO *Roadside Design Guide* (3) provides guidance on clear zone and the use of roadside barriers.
- Ramps on overpasses should have the full approach roadway width carried over the structure.
- Edge lines or some type of color or texture differentiation between the traveled way and shoulder is desirable.

Shoulders and curbs. Shoulders should be provided on ramps and ramp terminals in interchange areas to provide a space that is clear of the traveled way for emergency stopping, to minimize the effect of breakdowns, and to aid drivers who may be confused.

Ramps at interchanges should be designed without curbs. Curbs should be considered only to facilitate particularly difficult drainage situations, such as in urban areas where restrictive right-of-way favors enclosed drainage. In some cases, curbs are used at the ramp terminals but are omitted along the central ramp portions. Where curbs are not used, full-depth paving should be provided on shoulders because of the frequent use of shoulders for turning movements.

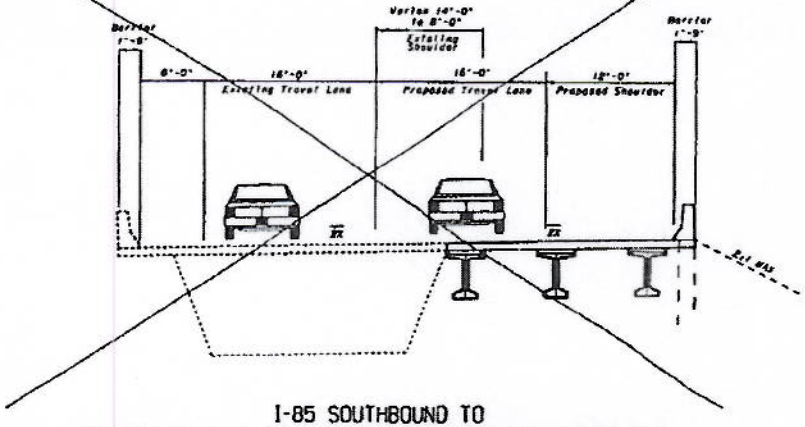
On low-speed facilities, curbs may be placed at the edge of roadway. Vertical curbs are seldom used in conjunction with shoulders, except where pedestrian protection is needed. Where curbs are used on high-speed facilities, sloping curbs should be placed at the outer edge of the shoulder. Because of fewer restrictions and more liberal designs in rural areas, the need for curbs seldom arises. See Chapter 4 for a full discussion of shoulder cross-section elements.

Ramp Terminals

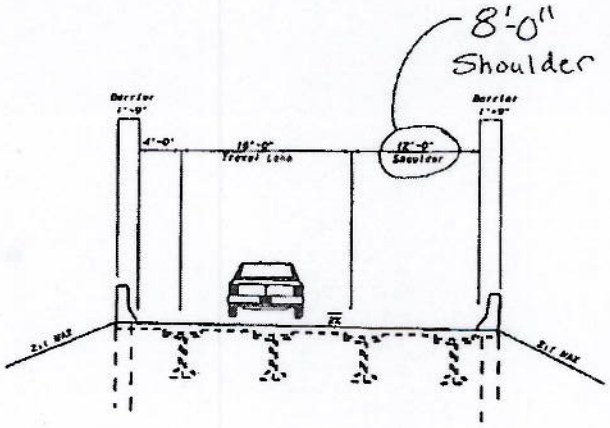
The terminal of a ramp is that portion adjacent to the through traveled way, including speed-change lanes, tapers, and islands. Ramp terminals may be the at-grade type, as at the crossroad terminal of diamond or partial cloverleaf interchanges, or the free-flow type where ramp traffic merges with or diverges from high-speed through traffic at flat angles. Design elements for the at-grade type are discussed in Chapter 9, and those for the free-flow type are discussed in the following sections.

Terminals are further classified as either single or multilane, according to the number of lanes on the ramp at the terminal and as either a taper or parallel type, according to the configuration of the speed-change lane.

This section is no longer applicable.
Existing SR13 and proposed SR 400 bridges will be separate structures.



I-85 SOUTHBOUND TO
BUFORD HIGHWAY (SR 13) SOUTHBOUND/SR 400 NORTHBOUND

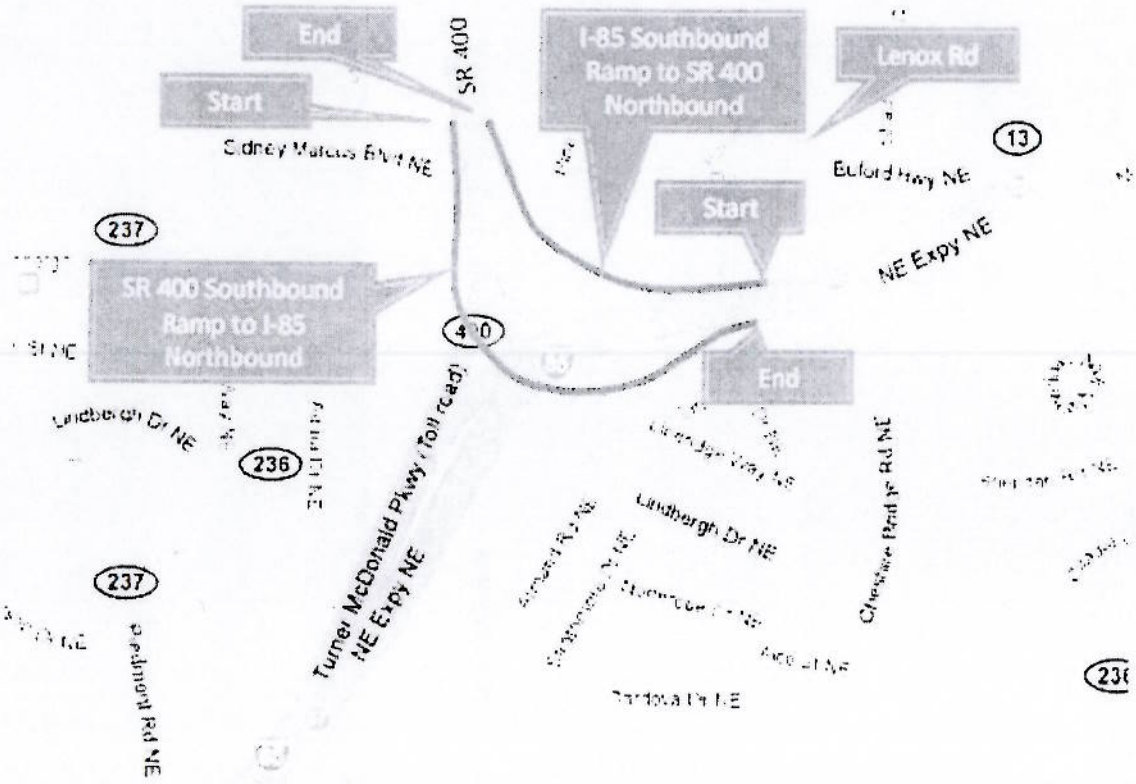


I-85 SOUTHBOUND TO SR 400 NORTHBOUND

SCALE: N.T.S.

HNTB	SR 400/ I-85 CONNECTOR RAMPS TYPICAL SECTIONS	NH000-0085-02(153) PI NO. 762380	SHEET 1 OF 2

PROJECT PLAN



PRECONSTRUCTION STATUS REPORT FOR PI:762380-

PROJ ID :	762380-	**SR 400/I-85 CONNECTOR RAMPS**				**MGMT LET DATE :**	
COUNTY :	Fulton					**MGMT ROW DATE :**	05/15/2010
LENGTH (MI) :	0.34	**MPO:**	Atlanta TMA	**DOT DIST:**	7		
PROJ NO.:	NH000-0085-02(153)	**TIP #:**	AT-AR-212B	**CONG. DIST:**	5	**SCHED LET DATE :**	6/8/2011
PROJ MGR:	Shelby, Albert	**MODEL YR :**	2020	**BIKE:**	N	**WHO LETS?:**	GDOT Let
OFFICE :	Urban Design	**TYPE WORK:**	Interchange	**MEASURE:**	E	**LET WITH :**	
CONSULTANT:	Turnkey Consultant, (Contract with GDOT)	**CONCEPT:**	INTERCHANGE	**NEEDS SCORE:**	05		
SPONSOR :	GDOT	**PROG TYPE:**	New Construction	**BRIDGE SUFF:**			
DESIGN FIRM:	HNTB Corporation	**Prov. for ITS:**	N				
		BOND PROJ :					

SCHED START	*SCHED FINISH*	*ACTIVITY*	*ACTUAL START*	*ACTUAL FINISH*	*%*
	7/30/2009	Concept Development	4/25/2007		73
		Concept Meeting	9/2/2008	9/2/2008	100
6/18/2009	6/18/2009	PM Submit Concept Report			0
6/19/2009	7/30/2009	Receive Preconstruction Concept Approval			0
7/30/2009	**7/30/2009**	**Management Concept Approval Complete**			0
	6/30/2009	Value Engineering Study	10/29/2008		83
		Public Information Open House Held	2/26/2009	2/26/2009	100
	3/18/2010	**Environmental Approval**	**10/25/2008**		2
1/1/2010	2/25/2010	Pub Hear Held/Comm Resp (EA/FONSI, GEPA)			0
	7/9/2009	Mapping	7/9/2008		94
	6/25/2009	Field Surveys/SDE	12/15/2007		100
	12/11/2009	**Preliminary Plans**	**1/16/2009**		16
6/19/2009	12/11/2009	Preliminary Bridge Design			0
7/31/2009	12/10/2009	Underground Storage Tanks			0
6/19/2009	10/1/2009	404 Permit Obtainment			0
4/9/2010	4/12/2010	PFPR Inspection			0
4/13/2010	8/2/2010	R/W Plans Preparation			0
8/3/2010	**9/3/2010**	**R/W Plans Final Approval**			0
5/19/2010	5/21/2010	L & D Approval			0
9/6/2010	4/12/2011	R/W Acquisition			0
12/16/2010	12/29/2010	Stake R/W			0
6/19/2009	12/11/2009	Soil Survey			0
12/14/2009	4/28/2010	Bridge Foundation Investigation			0
5/24/2010	**1/13/2011**	**Final Design**			0
7/15/2010	1/5/2011	Final Bridge Plans Preparation			0
2/4/2011	2/7/2011	FFPR Inspection			0
2/21/2011	3/4/2011	Submit FFPR Responses (OES)			0

PROGRAMMED FUNDS

Phase	Approved	Proposed	Cost	Fund	Status	Date Auth
PE	2001	2001	5,230,609.02	Q05	AUTHORIZED	8/4/2000
ROW	LR	2016	12,511,825.16	L010	PRECST	
ROW	NONE	2016	494,000.00	L020	PRECST	
CST	LR	2020	49,049,192.00	L050	PRECST	

PE Cost Est Amt:		Date:	
ROW Cost Est Amt:	5,555,400.00	Date:	12/10/1994
ROW Cost Est Amt:	494,000.00	Date:	12/10/1994
CST Cost Est Amt:	22,470,000.00	Date:	3/3/2004

STIP AMOUNTS

Phase	Cost	Fund
PE		Q05
ROW	0.00	L010
ROW	0.00	L020
CST	0.00	L050

PDD:	LR- 12-5-94 ASSIGNED URBAN DESIGN. South to North. Will require RW. 3/10/04
Bridge:	BRIDGE REQUIRED
Design:	UD: Robinson, C ; Jenkins, A. (12/29/08)
EIS:	EA/NoSched(ChiefDirectedContinueWork)/Phillips09.12.08
LGPA:	NOTIFICATION NEEDED
Planning:	Work Zone Safety: project considered significant; Transportation Management Plan(TMP) required
Programming:	#1 12-05|#2 1-06|#3 8-06|#4 6-07|ADDED $444,600 FED FY 2009 EARMARK 3-27-09
Traffic Op:	SEND PLNS FOR REVIEW 12-13-07
Utility:	CC: NEED PPLANS 12/04;OCD SUE;Tk1,Ct15
EMG:	INTERCHANGE: C=M/D(HNTB)/S(G&O'M)(SS)

District Comments

VE held 1/12-15/09. PIOH held 2/26/09. Responses to PIOH being finalized. Concept being finalized (4/17/09)

Prel. Parcel CT:	**Total Parcel in ROW System:**	**Cond. Filed:**	**Acquired by:**	DOT
Under Review:	**Options - Pending:**	**Relocations:**	**Acquisition MGR:**	
Released:	**Condemnations- Pend:**	**Acquired:**	**R/W Cert Date:**	

DEEDS CT: