

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENT CORRESPONDENCE**

**FILE** P. I. No. 0007538, Cobb County  
CSHPP-0007-00(538),  
CR 2793/Queen Mill Road from SR 139/Mableton Pkwy-  
To SR 8/US 78/278(Veterans Memorial Highway)  
Safety and Operational Improvements

**OFFICE** Preconstruction

**DATE** February 3, 2009

**FROM**  Genetha Rice-Singleton, Assistant Director of Preconstruction

**TO** SEE DISTRIBUTION

**SUBJECT** APPROVED PROJECT CONCEPT REPORT

Attached for your files is the approval for subject project.

Attachment

**DISTRIBUTION:**

Ron Wishon  
Glenn Bowman  
Ken Thompson  
Michael Henry  
Keith Golden  
Bryant Poole  
Mile Lobdell  
Angela Alexander  
Paul Liles  
Scott Lee  
BOARD MEMBER

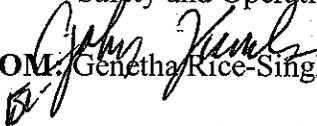
**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE:** P.I. No. 0007538, Cobb County  
CSHPP-0007-00(538)  
CR 2793/Queen Mill Road from SR 139/Mableton Pkwy  
To SR 8/US 78/278 (Veterans Memorial Highway)  
Safety and Operational Improvements

**OFFICE:** Preconstruction

**DATE:** January 7, 2009

**FROM:**  Genetha Rice-Singleton, Assistant Director of Preconstruction

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

**SUBJECT: PROJECT CONCEPT REPORT**

This project is the safety and operational improvements to CR 2793/Queen Mill Road from SR 139/Mableton Pkwy to SR 8/US 78/278 (Veterans Memorial Highway), for a total of 1.84 miles. With the increase in through traffic along CR 2793/Queen Mill Road the roadway has grown obsolete. The entire length of Queen Mill Road exceeds the statewide collision average for similar facilities. Residents in the area have expressed the need for sidewalks and roadway improvements to accommodate their way of life and decrease the dangers for pedestrians along the corridor. The alignment requires improvement to horizontal and vertical curves to bring the corridor into compliance with AASHTO standards.

The construction proposes to correct substandard horizontal curves north of Mableton Parkway and at Ivey Road. Several vertical curves will also be corrected to conform to AASHTO standards including several crest and sag vertical curves between Hunnicutt Road and Queensbrooke Way as well as crest and sag vertical curves between Ivey Road and US 78/278. Curb and gutter and sidewalk will be constructed along both sides of the road to facilitate pedestrian movement and storm water drainage. Sidewalk will be added to the bridge over Queen Creek and immediately north of Queensbrooke Way. The horizontal alignment of Queen Mill Road will be modified slightly 600' north of Queensbrooke Way, and two retaining walls added, to avoid construction impacts on Queens Creek. Traffic will be maintained during construction.

Environmental concerns include requiring a Categorical Exclusion be prepared; a Public Information Open House will be held; Time saving procedures is appropriate.

The estimated costs for this project are:

	<u>PROPOSED</u>	<u>APPROVED</u>	<u>FUNDING</u>	<u>PROG DATE</u>
Construction (includes E&C)	\$ 2,753,000	\$2,270,750	LY20	2010
Right-of-way & Utilities	Local	Local	Local	Local

\*Cobb County signed PFA for PE, ROW, utilities & 20% CST

P.I. No. 0007538, Cobb County  
Page 2  
January 7, 2009

I recommend this project concept be approved.

GRS: JDQ  
Attachment

CONCUR

*Ben H. Rice - J. Peter* for Director  
\_\_\_\_\_  
Director of Preconstruction

APPROVED

*Gerald M. Ross*  
\_\_\_\_\_  
Gerald M. Ross, P.E., Chief Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

**INTERDEPARTMENTAL CORRESPONDENCE**

**FILE:** CSHPP-0007-00(538), Cobb County  
CR 2793/Queens Mill Road fm SR 139/Mableton  
Pkwy to SR 8/US 78/278 (Veterans Memorial Hwy)  
P.I. Number: 0007538

**OFFICE:** Chamblee\Metro

**DATE:** October 01, 2008

**FROM:** Bryant Poole, Metro District Engineer *BP*

**TO:** Genetha Rice-Singleton, Assistant Director of Preconstruction

**SUBJECT:** *PROJECT CONCEPT REPORT*

Attached is the original copy of the concept report for your further handling for approval in accordance with the PDP.

If you have any questions in regards to this concept, please contact Chartrae Kent or Merishia Robinson s at (770) 986-1786.

BP\MAL\ck

cc: Angela Alexander  
Angela Whitworth  
Glenn Bowman  
Keith Golden  
Brian Summers  
File

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

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**INTERDEPARTMENT CORRESPONDENCE**

**FILE:** P.I. No. 0007538

**OFFICE:** Environment/Location

**PROJECT No.** CSHPP-0007-00(538) / **COBB County**     **DATE:** 10/20/08

**CR 2793/Queen Mill Rd. fr SR 139/Mableton Pkwy. to SR 8/US 78/278 (Veterans Memorial Highway)**

**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. A cemetery is listed near the intersection of Queen Mill Road and Ivey Road which may be eligible for the National Register. If significant impacts to historic (4f) resources cannot be avoided, then the proposed environmental schedule must be revised significantly.
2. A state listed crayfish was found in the stream within the area of potential effect of the project and coordination with GDNR will be required prior to completion of the environmental document.

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

GB:lc

cc: Brian Summers  
Jamie Simpson  
Keith Golden  
Angela Alexander  
Bryant Poole

14

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*District Seven Preconstruction*

**PROJECT CONCEPT REPORT**

Project Number: CSHPP-0007-00(538)

County: Cobb

P.I. Number: 0007538

Federal Route Number: None

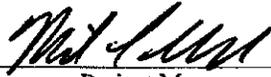
State Route Number: None

Location Sketch  
See Page 2

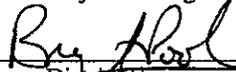
CR 2793/Queen Mill Road from S.R.139/Mableton Parkway to SR 8/US 78/278 (Veterans Memorial Highway), Safety and Operational Improvements

Recommendation for approval:

DATE 9/30/08

  
Project Manager

DATE 10/1/08

  
District Engineer

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

DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE 10/20/08

  
State Environment/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Structural and Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*District Seven Preconstruction*

**PROJECT CONCEPT REPORT**

Project Number: CSHPP-0007-00(538)

County: Cobb

P.I. Number: 0007538

Federal Route Number: None

State Route Number: None

Location Sketch  
See Page 2

CR 2793/Queen Mill Road from S.R.139/Mableton Parkway to SR 8/US 78/278 (Veterans Memorial Highway), Safety and Operational Improvements

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DATE \_\_\_\_\_

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District Engineer

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DATE \_\_\_\_\_

\_\_\_\_\_  
State Transportation Planning Administrator

DATE 10-14-08

*Angela O. Whitworth*  
Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environment/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Structural and Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*District Seven Preconstruction*

**PROJECT CONCEPT REPORT**

Project Number: CSHPP-0007-00(538)

County: Cobb

P.I. Number: 0007538

Federal Route Number: None

State Route Number: None

Location Sketch  
See Page 2

CR 2793/Queen Mill Road from S.R.139/Mableton Parkway to SR 8/US 78/278 (Veterans Memorial Highway), Safety and Operational Improvements

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State Transportation Planning Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
Office of Financial Management Administrator

DATE \_\_\_\_\_

\_\_\_\_\_  
State Environmental/Land Use Engineer

DATE 10-9-08

*Therese Gold*  
\_\_\_\_\_  
State Traffic Operations Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Structural and Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*District Seven Preconstruction*  
**PROJECT CONCEPT REPORT**  
Project Number: CSHPP-0007-00(538)  
County: Cobb  
P.I. Number: 0007538

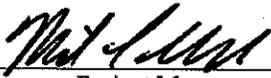
Federal Route Number: None  
State Route Number: None

Location Sketch  
See Page 2

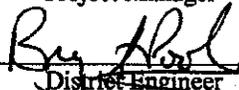
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Office of Financial Management Administrator

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\_\_\_\_\_  
State Environment/Location Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Traffic Operations Engineer

DATE 10/3/08

  
\_\_\_\_\_  
State Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Structural and Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*District Seven Preconstruction*

**PROJECT CONCEPT REPORT**

Project Number: CSHPP-0007-00(538)

County: Cobb

P.I. Number: 0007538

Federal Route Number: None

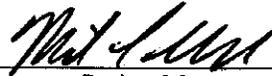
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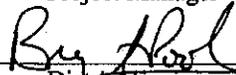
CR 2793/Queen Mill Road from S.R.139/Mableton Parkway to SR 8/US 78/278 (Veterans Memorial Highway), Safety and Operational Improvements

Recommendation for approval:

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State Structural and Bridge Design Engineer

**DEPARTMENT OF TRANSPORTATION  
STATE OF GEORGIA**

*District Seven Preconstruction*

**PROJECT CONCEPT REPORT**

Project Number: CSHPP-0007-00(538)

County: Cobb

P.I. Number: 0007538

Federal Route Number: None

State Route Number: None

Location Sketch See Page 2
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CR 2793/Queen Mill Road from S.R.139/Mableton Parkway to SR 8/US 78/278 (Veterans Memorial Highway), Safety and Operational Improvements

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State Traffic Operations Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Project Review Engineer

DATE \_\_\_\_\_

\_\_\_\_\_  
State Structural and Bridge Design Engineer

### Project Location Map



**Need and Purpose:**

The Queen Mill Road safety & operational improvement projects are a set of two phases designed to alleviate the high incidence of crashes along the Queen Mill Road (CR 2793) corridor. The first phase is a County-sponsored, federal-aid project, CSHPP-0007-00(538), PI 0007538 that is part of a federal legislative earmark. This first phase does not have sufficient funding to accomplish all of the proposed improvements. The second phase, D6200B is a county-only project in long range which expects funding from the 2011 Cobb County SPLOST program. The first phase as described in this document will address the greatest needs along the corridor. The second phase will complete the rest of the proposed improvements.

With the increase in thru-traffic between S.R.139/Mableton Parkway and S.R.8/U.S.78/U.S.278/Veterans Memorial Highway and residential development Queen Mill Road (CR 2793) has grown obsolete. The entire length of Queen Mill Road exceeds the statewide collision average for similar facilities (Table 1). Residents in the project area have expressed the need for sidewalks and roadway improvements to accommodate their way of life and decrease the dangers for pedestrians along the corridor. Many comments from the Public Information Open House (PIOH) indicate strong support for improvements to horizontal and vertical curves in order to bring the corridor into compliance with AASHTO standards. These substandard curves are located near S.R.139/Mableton Parkway, Hunnicutt Road, Queen Creek, Ivey Road and Queen Meadow Drive.

The purpose of this project is to address the deficient safety of Queen Mill Road and to address the concerns of the public with respect to pedestrian improvements.

**Table 1: Collision and Injury Rates**

Year <sup>1</sup>	Collision Rate	Statewide Average
2004	312	467
2005	313	388
2006	898	382
2007	940	500 (estimate)

*Source: Cobb County Department of Transportation, numbers are in collisions per 100 million vehicle miles traveled*  
<sup>1</sup> Collision Data available from April, 2004 to January, 2008.

Year <sup>1</sup>	Injury Rate	Statewide Average
2004	104	105
2005	0	90
2006	224	85
2007	313	100 (estimate)

*Source: Cobb County Department of Transportation, numbers are in injuries per 100 million vehicle miles traveled*  
<sup>1</sup> Collision Data available from April, 2004 to January, 2008.

During 2007 there were 940 collisions per 100 million vehicle miles traveled along the project corridor. No statewide average rate is available yet for comparison, but a reasonable approximation is 500 collisions per 100 million vehicle miles traveled. The corridor exceeds the statewide average collision rate and statewide average injury rate for similar facilities for 2 out of the past 4 years.

Capacity Analysis was conducted for the three main intersections that will be affected by this project: Mableton Parkway (SR 139), Hunnicutt Road and Ivey Road. The results are tabulated below:

**Table 2: Mableton Parkway Capacity Analysis**

	Two-way Stop Control		Signalized	
	LOS	Approach Delay (s)	LOS	Intersection Delay (s)
2008 AM	C	18.0	N/A	N/A
2008 PM	C	22.8	N/A	N/A
2010 AM	C	20.4	A	4.7
2010 PM	D	25.2	A	5.4
2030 AM	F	489.6	A	9.0
2030 PM	F	108.0	B	12.3

Source: Greenhorne & O'Mara, HCM

**Table 3: Hunnicutt Road Capacity Analysis**

	Two-way Stop Control		All-way Stop Control	
	LOS	Approach Delay (s)	LOS	Intersection Delay (s)
2008 AM	B	12.1	N/A	N/A
2008 PM	B	11.8	N/A	N/A
2010 AM	B	12.5	A	8.4
2010 PM	B	12.4	A	8.5
2030 AM	D	24.8	B	11.1
2030 PM	C	22.2	B	11.8

Source: Greenhorne & O'Mara, HCM

**Table 4: Ivey Road Capacity Analysis**

	One-way Stop Control		All-way Stop Control	
	LOS	Approach Delay (s)	LOS	Intersection Delay (s)
2008 AM	B	10.6	N/A	N/A
2008 PM	B	10.6	N/A	N/A
2010 AM	B	10.7	A	8.6
2010 PM	B	11.0	A	8.6
2030 AM	C	15.6	B	11.1
2030 PM	C	15.7	B	11.2

Source: Greenhorne & O'Mara, HCM

All intersections analyzed are currently in a two-way stop-controlled situation. Each intersection was analyzed in with existing control using 2008, 2010 and 2030 projected peak hour volumes. Mableton Parkway (SR 139) was also analyzed using a hypothetical signalized control condition while Ivey Road and Hunnicutt Road were analyzed using a hypothetical all-way stop condition.

As the tables show, both Hunnicutt Road and Ivey Road will maintain at least a level of service (LOS) "C" through the design year. This is considered acceptable within an urban area. No changes to the traffic control are recommended under this project.

Mableton Parkway (SR 139) exhibits a LOS "C" in the existing condition, and the AM Peak period of the build year. It worsens to LOS "D" in the PM Peak hour of the build year, but

LOS "D" is also considered acceptable in the Atlanta metropolitan region. By 2030, the intersection will further worsen to LOS "F" in both the AM and PM peak hours. The installation of a signal would alleviate this situation, but delay is not the most important factor when deciding whether or not to install a traffic signal. The Queen Mill Road/Mableton Parkway intersection does not meet any of the eight Signal Warrants set out by the Manual on Uniform Traffic Control Devices. A signal is not recommended.

**Description of the proposed project:**

The project is located in southeast Cobb County. The northern terminus of the project is S.R.8/U.S.78/U.S.278/Veterans Memorial Highway and the southern terminus is SR 139/Mableton Parkway. The project consists of two phases. See the project location map.

Phase 1 of the project, CSHPP-0007-00(538), PI 0007538; begins at Mile Log 1.4 and ends at S.R.8/U.S.78/U.S.278/ Veterans Memorial Highway, Cobb County Mile Log 0.0, a distance of approximately 1.4 miles. Phase I includes a project exception starting approximately 1,000' north of Hunnicutt Road, Cobb County Mile Log 1.18 and extending to the intersection of Queensbrooke Way, Cobb County Mile Log 0.87.

Phase 2 of the project, D6200B; begins at S.R.139/Mableton Parkway, Cobb County Mile Log 1.84 and ends at the intersection of Queensbrooke Way, Cobb County Mile Log 0.87 a distance of approximately 0.97 miles.

Both phases of this project consist of safety and pedestrian improvements of Queen Mill Road along the existing corridor. The concept provides a pedestrian friendly facility (sidewalk, curb and gutter) to meet the needs of residents in the vicinity. The proposed typical section is 2-lanes 11' wide with 11.5' – 12' urban shoulder, including 5' sidewalks and a grass strip between the back of curb and sidewalk. The project will also bring several substandard curves up to AASHTO design standards, which would provide a safer alignment thus reducing the possibility of crashes and rear-end collisions along the corridor.

MILE POINT REFERENCE: BEGIN 0 END 1.84

**Is project located in a Non-attainment area?**  X  Yes   No.

- The project will not add any additional roadway capacity to the existing facility and is therefore in compliance with the conforming plan model.

**Project Limits**

- (Phase 1, ARC # CO-352) Queen Mill Road from 200' south of Hunnicutt Road to S.R.8/U.S.78/U.S.278/Veterans Memorial Highway
- (Phase 2, ARC # To Be Determined) Queen Mill Road between S.R.139/Mableton Parkway and Queensbrooke Way

**Number of through lanes** - 1 each direction

**Proposed Open to Traffic Year – (Phase 1)** 2010

**Proposed Open to Traffic Year – (Phase 2)** To Be Determined

**PDP Classification:** Major   Minor  X

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

**Functional Classification:** Urban Collector Street

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

**Traffic (AADT):**

Current Year: (2010) 3,440      Design Year: (2030) 6,210

**Existing design features:**

- Typical Section: Two 11' wide lanes, no curb & gutter and variable width grass shoulders with occasional sections of guardrail
- Posted speed 35 mph                      Minimum radius for curve: 272 ft
- Maximum super-elevation rate for curve: 4%
- Maximum grades:
  - Mainline (Queen Mill Road) - 11 %
  - Cross roads (Ivey Road) – 8 %
- Width of right-of-way: (Queen Mill Road) 40-80 ft.
- Major structures: A two lane bridge (Structure ID 067-5122-0) over Queen Creek constructed in 1995. The bridge is 90' long and 43' wide with a rating of 77.33.
- Major interchanges or intersections along the project: Veterans Memorial Highway, Mableton Parkway
- Existing length of roadway segment and beginning mile logs for each county segment.
  - Length – 1.84 miles
  - Beginning mile log – 0.0

**Proposed Design Features:**

- Proposed typical section(s):
  - Queen Mill Road - Two lanes 11' wide with 11.5' – 12' urban shoulder, including 5' sidewalks and a grass strip between the back of curb and the sidewalk
  - Bridge Typical section
    - Existing: 39'6" deck with 1'6" Side Barrier on each side for two 11' lanes with 8' ¾" shoulders
    - Proposed: two 11' lanes with 3' of driveable shoulder leading to a 6'0" sidewalk and revised sidebarriers with handrails (see typical)
- Proposed Design Speed Mainline 35 mph
- Proposed Maximum grade Mainline 10.7%                      Maximum grade allowable 11%
- Proposed Maximum grade Side Street 6%      Maximum grade allowable 11%
- Proposed Maximum grade driveway (residential) 15%
- Proposed Maximum degree of curve (mainline) 21 (Equivalent Radius: 371' minimum)
- Proposed Maximum degree of curve allowable (mainline) 21 (Equivalent Radius: 371' minimum)

- Proposed Maximum degree of curve (sidestreet) 7 (Equivalent Radius: 800' minimum)
- Proposed Maximum degree of curve allowable (sidestreet) 37 (Equivalent Radius: 154' minimum)
- Right-of-Way (Queen Mill Road)
  - Width 80 - 140'
  - Easements: Temporary () , Permanent () , Utility ( ), Other ( ) .
  - Type of access control: Full ( ), Partial ( ), By Permit () , Other ( ) .
  - Number of Parcels: (Phase 1) 67      Number of displacements: (Phase 1)
    - Business:      0
    - Residences:    2
    - Mobile homes: 0
    - Other:          0
  - Number of Parcels: (Phase 2) 36      Number of displacements: (Phase 2)
    - Business:      0
    - Residences:    0
    - Mobile homes: 0
    - Other:          0
- Structures:
  - Bridges: (Phase 1) 1 over Queen Creek (Only Minor Sidewalk/Pedestrian Access Work)
  - Retaining walls: (Phase 2) 2 walls immediately south of Queensbrooke Way (1 cut and 1 fill – both for construction of wider shoulders to accommodate curb & gutter and sidewalk and to avoid Queen Creek)
- Major intersections and interchanges.
  - Phase I
    - Veterans Memorial Highway (SR 8/US 78/278)
  - Phase II
    - Mableton Parkway (SR 139)
- Length of Project:
  - 1.84 miles
- Traffic control during construction: Open. No proposed detours.

- Design Exceptions to controlling criteria anticipated:

	<u>UNDETERMINED</u>	<u>YES</u>	<u>NO</u>
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)

- Superelevation Rates – SE transition rate at Ivey Road curve. This transition rate cannot be brought into conformance with AASHTO recommendations without realignment to the Ivey Road curve that would have additional severe impacts to adjacent properties including additional displacements.

- Design Variances.

- Lane width – 11’

- Environmental concerns.

- Queen Creek and tributaries’ Stream Buffers – See Attached, “Potential Stream Buffer Variances”
- Historic Resources.
  - Two cemeteries. One north of Queen Creek, on the west side of Queen Mill Road. One north of Hunnicutt Road, on the west side of Queen Mill Road. No R/W will be taken from these parcels.
  - Three properties that are potentially eligible historical resources (exclusive of the cemeteries). Two will be avoided entirely; one will have minimal impacts to the property which will result in a non-adverse-affect determination.

- Level of environmental analysis:

- Are Time Savings Procedures Appropriate? Yes ( ), No (X),
- Categorical exclusion (X), Anticipated
- Environmental Assessment/Finding of No Significant Impact (FONSI) ( ), or
- Environmental Impact Statement (EIS) ( ).

- Utility involvements:

- Water – Cobb County Water System
- Power – Cobb EMC or Georgia Power
- Sanitary Sewer – Cobb County Water System
- Natural Gas – Atlanta Gas Light Company
- Telecommunication – AT&T
- Cable – Comcast

**VE Study Required**                      **Yes ( )**                      **No (X)**

**Project responsibilities:**

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

**Coordination**

- Kickoff Meeting: April 9, 2008; minutes attached
- Initial Concept Team Meeting: June 30, 2008; minutes attached
- Concept meeting date and brief summary:  
    The Concept Team Meeting was held on September 4, 2008. The meeting primarily discussed the logical termini of the project and the potential phasing. It was determined at the meeting to move forward with a phased project covering the entire length of Queen Mill Road
- FEMA, USCG, and/or TVA – N/A
- Public Involvement
  - Public Information Open House – May 20, 2008
- Local government comments.
- Other projects in the area – None relevant to Queen Mill Road
- Railroads - None
- Other coordination to date.

**Scheduling – Responsible Parties’ Estimate**

- Time to complete the environmental process: 12 Months.
- Time to complete preliminary construction plans: 5 Months.
- Time to complete right-of-way plans: 4 Months.
- Time to complete the Section 404 Permit: 6 Months.
- Time to complete final construction plans: 3 Months.
- Time to purchase right-of-way: 24 Months.

**Other alternates considered:**

- No-build alternate.
- A tighter curve at Ivey Road would eliminate the need for a design exception due to the SE transition requirements. The design team rejected this alternate due to the fact that additional displacements would result and the project would cost significantly more.

**Comments:**

**Attachments:**

1. Cost Estimates:
  - a. Construction including E&C,
  - a. Right-of-Way, and
  - b. Utilities.
2. Typical sections,
3. Accident summaries,
4. Capacity analysis,
5. Bridge inventory,
6. Benefit/Cost Analysis for Safety Projects
7. Notice of Location & Design Approval
8. Minutes of Initial Concept and Concept meetings,
9. Conforming plan's network schematics showing thru lanes, (Note: This attachment is required for non-attainment areas only.),
10. Other items referred to in the body of the report.
  - a. Potential Stream Buffer Variances

# CONCEPT COST ESTIMATE

CSHPP-0007-00(538), PI 0007538

A. RIGHT OF WAY							COST
	1	LS		\$1,484,142			\$1,484,142
<b>Section SubTotal</b>							\$1,484,142
B. REIMBURSABLE UTILITIES							COST
ITEM NUMBER	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	ITEM DESCRIPTION	COST	
GEORGIA NATURAL GAS							
GEORGIA POWER							
CITY OF CALHOUN							
BELLSOUTH							
COMCAST							
GEORGIA PUBLIC WEB							
CALNET							
	1	LS		\$0		\$0	
<b>Section SubTotal</b>							\$0
C. CONSTRUCTION							COST
ITEM NUMBER	QUANTITY	UNITS	ITEM DESCRIPTION	UNIT COST	ITEM DESCRIPTION	COST	
MISCELLANEOUS							
634-1200	142	EA		\$100	RIGHT OF WAY MARKERS	\$14,200	
<b>Section SubTotal</b>							\$14,200
EARTH WORK							COST
	1	LS		\$175,000	GRADING COMPLETE	\$175,000	
<b>Section SubTotal</b>							\$175,000
DRAINAGE							COST
550-1180	8886	LF		\$55	STORM DRAIN PIPE, 18 IN, H 1-10	\$488,730	
550-1240	250	LF		\$65	STORM DRAIN PIPE, 24 IN, H 1-10	\$16,250	
550-1360	500	LF		\$85	STORM DRAIN PIPE, 36 IN, H 1-10	\$42,500	
550-2180	165	LF		\$35	SIDE DRAIN PIPE, 18 IN, H 1-10	\$5,775	
550-4218	9	EA		\$700	FLARED END SECTION 18 IN. STORM DRAIN	\$6,300	
668-1100	31	EA		\$1,900	CATCH BASIN, GP 1	\$58,900	
<b>Section SubTotal</b>							\$618,455

# CONCEPT COST ESTIMATE

CSHPP-0007-00(538), PI 0007538

BASE AND PAVING						
ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	UNIT COST	COST
441-0104	1724	SY	\$35	CONCRETE SIDEWALK, 4'	\$35	\$60,340
310-1101	6297	TN	\$25	GR AGGR BASE CRS, INCL MATL	\$25	\$157,425
402-1812	355	TN	\$90	RECYCLED ASPH CONC LEVELING, INCL BITUM MATL & H LIME	\$90	\$31,950
402-3110	1004	TN	\$85	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM MATL & H LIME	\$85	\$85,340
402-3121	2677	TN	\$85	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MATL & H LIME	\$85	\$227,545
402-3112	1338	TN	\$85	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM MAYL & H LIME	\$85	\$113,730
413-1000	426	GL	\$2	BITUM TACK COAT	\$2	\$852
<b>Section SubTotal</b>						<b>\$677,182</b>
CONCRETE						
ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	UNIT COST	COST
441-6216	10100	LF	\$20	CONC CURB & GUTTER, 8 IN X 24 IN, TP 2	\$20	\$202,000
<b>Section SubTotal</b>						<b>\$202,000</b>
TRAFFIC CONTROL						
ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	UNIT COST	COST
150-1000	1	LS	\$150,000	TRAFFIC CONTROL - NH-STP-3-75-3(203)	\$150,000	\$150,000
<b>Section SubTotal</b>						<b>\$150,000</b>
EROSION CONTROL (TEMPORARY)						
ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	UNIT COST	COST
163-0232	2	AC	\$500	TEMPORARY GRASSING	\$500	\$1,000
163-0240	25	TN	\$220	MULCH	\$220	\$5,500
163-0300	4	EA	\$1,800	CONSTRUCTION EXIT	\$1,800	\$7,200
163-0501	4	EA	\$850	CONSTRUCT AND REMOVE SILT CONTROL GATE, TP 1	\$850	\$3,400
163-0520	300	LF	\$14	CONSTRUCT AND REMOVE TEMPORARY PIPE SLOPE DRAIN	\$14	\$4,200
163-0521	5	EA	\$180	CONSTRUCT AND REMOVE TEMPORARY DITCH CHECKS	\$180	\$900
163-0530	250	LF	\$3.50	CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK	\$3.50	\$875
163-0550	31	EA	\$300	CONSTRUCT AND REMOVE INLET SEDIMENT TRAP	\$300	\$9,300
165-0010	7100	LF	\$2	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	\$2	\$14,200
165-0030	1500	LF	\$2	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	\$2	\$3,000
165-0040	5	EA	\$120	MAINTENANCE OF EROSION CONTROL CHECKDAMS/DITCH CHECKS	\$120	\$600
165-0070	250	LF	\$2.00	MAINTENANCE OF BALED STRAW EROSION CHECK	\$2.00	\$500
165-0085	2	EA	\$375	MAINTENANCE OF SILT CONTROL GATE, TP 1	\$375	\$750
165-0105	31	EA	\$125	MAINTENANCE OF INLET SEDIMENT TRAP	\$125	\$3,875
171-0010	7100	LF	\$4.00	TEMPORARY SILT FENCE, TYPE A	\$4.00	\$28,400
171-0030	1500	LF	\$5.00	TEMPORARY SILT FENCE, TYPE C	\$5.00	\$7,500
700-7000	4	TN	\$70	AGRICULTURAL LIME	\$70	\$280
700-7010	6	GL	\$20	LIQUID LIME	\$20	\$120
700-8000	1	TN	\$285	FERTILIZER MIXED GRADE	\$285	\$285
700-8100	112	LB	\$2.50	FERTILIZER NITROGEN CONTENT	\$2.50	\$280
716-2000	15000	SY	\$2	EROSION CONTROL MATS, SLOPES	\$2	\$30,000

# CONCEPT COST ESTIMATE

CSHPP-0007-00(538), PI 0007538

## EROSION CONTROL (PERMANENT)

ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	COST
163-0240	6	TN	\$500	MULCH	\$3,000
167-1000	1	EA	\$1,800	WATER QUALITY MONITORING AND SAMPLING	\$1,800
167-1500	12	MO	\$900	WATER QUALITY INSPECTION	\$10,800
700-6910	2	AC	\$825	PERMANENT GRASSING	\$1,650
700-7000	2	TN	\$70	AGRICULTURAL LIME	\$140
700-7010	2	GL	\$20	LIQUID LIME	\$40
700-8000	1	TN	\$285	FERTILIZER MIXED GRADE	\$285
700-8100	50	LB	\$2.50	FERTILIZER NITROGEN CONTENT	\$125
710-9000	1200	SY	\$5.00	PERMANENT SOIL REINFORCING MAT	\$6,000
715-2200	2500	SY	\$2.50	BITUMINOUS TREATED ROVING, WATERWAYS	\$6,250
<b>Section SubTotal</b>					<b>\$152,255</b>

## SIGNING AND STRIPING

ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	COST
636-1020	240	SF	\$16	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 3	\$3,840
636-1033	120	SF	\$25	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING, TP 9	\$3,000
636-2070	390	LF	\$8	GALV STEEL POST, TP 7	\$3,120
653-0120	30	EA	\$70	THERMOPLASTIC PVMT MARKING, ARROW, TP 2	\$2,100
653-1501	11210	LF	\$1	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	\$11,210
653-1502	11210	LF	\$1	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	\$11,210
653-3501	590	GLF	\$1	THERMOPLASTIC SKIP TRAF STRIPE, 5 IN, WHITE	\$590
653-1804	710	LF	\$2	THERMOPLASTIC SOLID TRAF STRIPE, 8 IN, WHITE	\$1,065
653-6004	480	SY	\$3	THERMOPLASTIC TRAF STRIPING, WHITE	\$1,440
653-6006	480	SY	\$3	THERMOPLASTIC TRAF STRIPING, YELLOW	\$1,440
<b>Section SubTotal</b>					<b>\$39,015</b>

## GUARDRAIL

ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	COST
641-1100	21	LF	\$60	GUARDRAIL, TP T	\$1,260
641-1200	6510	LF	\$20	GUARDRAIL, TP W	\$130,200
641-5001	7	EA	\$600	GUARDRAIL ANCHORAGE, TP 1	\$4,200
641-5012	6	EA	\$2,000	GUARDRAIL ANCHORAGE, TP 12	\$12,000
<b>Section SubTotal</b>					<b>\$147,660</b>

# CONCEPT COST ESTIMATE

CSHPP-0007-00(538), PI 0007538

LIGHTING						
ITEM NUMBER	QUANTITY	UNITS	UNIT COST	ITEM DESCRIPTION	COST	
441-0004	5	SY	\$55	CONC SLOPE PAV, 4 IN	\$275	
500-3101	5	CU	\$450	CLASS A CONCRETE	\$2,250	
511-1000	100	LB	\$2	BAR REINF STEEL	\$150	
681-4302	2	EA	\$7,500	LIGHTING STD, 30 FT MH, 10 FT ARM	\$15,000	
681-6346	2	EA	\$700	LUMINAIRE, TP 3, 250W, HP SODIUM	\$1,400	
682-1507	800	LF	\$2	CABLE, TP RHH/RHW, AWG NO 4	\$1,456	
682-1509		LF	\$2	CABLE, TP RHH/RHW, AWG NO 2	\$0	
682-6120	40	LF	\$10	CONDUIT, RIGID, 2 IN	\$400	
682-6222	400	LF	\$8	CONDUIT, NONMETL, TP 2, 2 IN	\$3,276	
682-9010	1	EA	\$3,000	SVC POLE RISER	\$3,000	
682-9021	1	EA	\$2,000	ELECTRICAL JUNCTION BOX, CONC GROUND MOUNTED	\$2,000	
<b>Section SubTotal</b>					<b>\$29,207</b>	
BRIDGE SIDEWALK						
	1	LS	\$79,632	BRIDGE SIDEWALK CONSTRUCTION	\$79,632	
<b>Section SubTotal</b>					<b>\$79,632</b>	

## CONCEPT COST ESTIMATE SUMMARY

<b>A. RIGHT OF WAY</b>	<b>TOTAL</b>
	<b>\$1,484,142</b>
<b>B. REIMBURSABLE UTILITIES</b>	<b>\$0</b>
<b>C. CONSTRUCTION</b>	<b>TOTAL</b>
MISCELLANEOUS	\$14,200
EARTHWORK	\$175,000
DRAINAGE	\$618,455
BASE & PAVING	\$677,182
CONCRETE	\$202,000
TRAFFIC CONTROL	\$150,000
EROSION CONTROL	\$152,255
SIGNING & STRIPING	\$39,015
GUARDRAIL	\$147,660
LIGHTING	\$29,207
BRIDGE SIDEWALK	\$79,632
<b>SUBTOTAL CONSTRUCTION COST</b>	<b>\$2,284,606</b>
<b>E&amp;C RATE 10%</b>	<b>\$228,461</b>
<b>TOTAL CONSTRUCTION ESTIMATE</b>	<b>\$2,513,067</b>
<b>GRAND TOTAL PROJECT COST</b>	<b>\$3,997,209</b>

**Special Provision, Section 109-Measurement and Payment**  
**FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)**

ENTER FPL DIESEL	2.732
ENTER FPM DIESEL	6.147

ENTER FPL UNLEADED	1.729
ENTER FPM UNLEADED	3.89025

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

<b>INCREASE ADJUSTMENT</b>
<b>125.00%</b>

ROADWAY ITEMS	QUANTITY	DIESEL FACTOR	GALLONS DIESEL	UNLEADED FACTOR	GALLONS UNLEADED	REMARKS
Excavations paid as specified by Sections 205 (CUBIC YARD)		0.29		0.15		
Excavations paid as specified by Sections 206 (CUBIC YARD)		0.29		0.15		
GAB paid as specified by the ton under Section 310 (TON)	6297.000	0.29	1826.13	0.24	1511.28	
Hot Mix Asphalt paid as specified by the ton under Sections 400 (TON)		2.90		0.71		
Hot Mix Asphalt paid as specified by the ton under Sections 402 (TON)	5374.000	2.90	15584.60	0.71	3815.54	
PCC Pavement paid as specified by the square yard under Section 430 (SY)		0.25		0.20		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Bridge Excavation (CY) Section 211				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Class _ Concrete (CY) Section 500				8.00		1.50		
Class __ Concrete (CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Superstru Con Class__(CY) Section 500				8.00		1.50		
Concrete Handrail (LF) Section 500				8.00		1.50		
Concrete Barrier (LF) Section 500				8.00		1.50		

BRIDGE ITEMS	Quantity	Unit Price	QF/1000	Diesel Factor	Gallons Diesel	Unleaded Factor	Gallons Unleaded	REMARKS
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
Stru Steel Plan Quantity (LB) Section 501				8.00		1.50		
PSC Beams (LF) Section 507				8.00		1.50		
PSC Beams (LF) Section 507				8.00		1.50		
PSC Beams (LF) Section 507				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Stru Reinf Plan Quantity(LB) Section 511				8.00		1.50		
Bar Reinf Steel (LB) Section 511				8.00		1.50		
Piling ___ inch (LF) Section 520				8.00		1.50		
Piling ___ inch (LF) Section 520				8.00		1.50		
Piling ___ inch (LF) Section 520				8.00		1.50		
Piling ___ inch (LF) Section 520				8.00		1.50		
Piling ___ inch (LF) Section 520				8.00		1.50		
Piling ___ inch (LF) Section 520				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Drilled Caisson,___ (LF) Section 524				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		
Pile Encasement,___(LF) Section 547				8.00		1.50		

<b>SUM QF DIESEL=</b>	<b>17410.73</b>	<b>SUM QF UNLEADED=</b>	<b>5326.82</b>
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<b>DIESEL PRICE ADJUSTMENT(\$)</b>	<b>\$54,701.03</b>
<b>UNLEADED PRICE ADJUSTMENT(\$)</b>	<b>\$10,591.58</b>



# ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)

APPLICABLE TO CONTRACTS CONTAINING THE 413 SPEC. SECTION 413.5.01 ADJUSTMENTS ASPHALT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT

<http://www.dot.ga.gov/doingbusiness/Materials/Pages/asphaltcementindex.aspx>

ENTER APL

ENTER APM

125.00%	INCREASE ADJUSTMENT
---------	---------------------

Use this side for Asphalt Emulsion Only		
L.I.N.	TYPE	ASPHALT EMULSION (GALLONS)
TMT = <input style="width: 100px;" type="text"/>		
REMARKS:		

Use this side for Asphalt Cement Only		
L.I.N.	TYPE	TACK (GALLONS)
TMT = <input style="width: 100px;" type="text"/>		
REMARKS:		

MONTHLY PRICE ADJUSTMENT(\$)	
------------------------------	--

## ADJUSTMENT SUMMARY

FUEL PRICE ADJUSTMENT (ENGLISH 125% MAX)	
DIESEL PRICE ADJUSTMENT(\$)	<u>\$54,701.03</u>
UNLEADED PRICE ADJUSTMENT(\$)	<u>\$10,591.58</u>
ASPHALT CEMENT PRICE ADJUSTMENT (BITUMINOUS TACK COAT 125% MAX)	<u>\$1,146.13</u>
400 / 402 ASPHALT CEMENT PRICE ADJUSTMENT 125% MAX	<u>\$169,879.68</u>
ASPHALT CEMENT PRICE ADJUSTMENT FOR BITUMINOUS TACK COAT(Surface Treatment 125% MAX)	

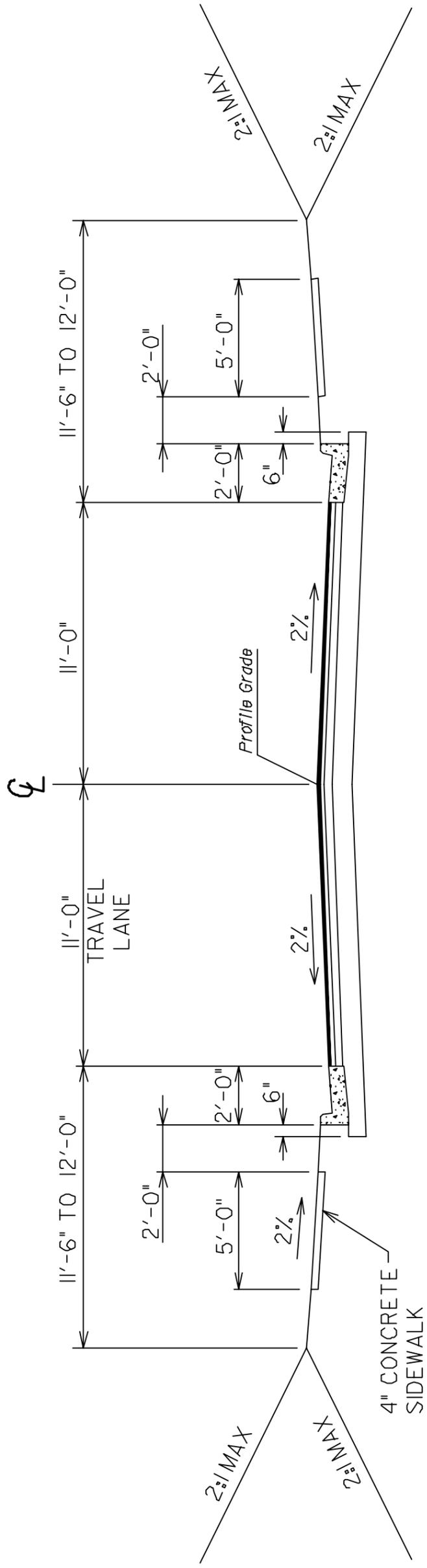
REMARKS:	
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<b>TOTAL ADJUSTMENTS</b>	<b>\$236,318.43</b>
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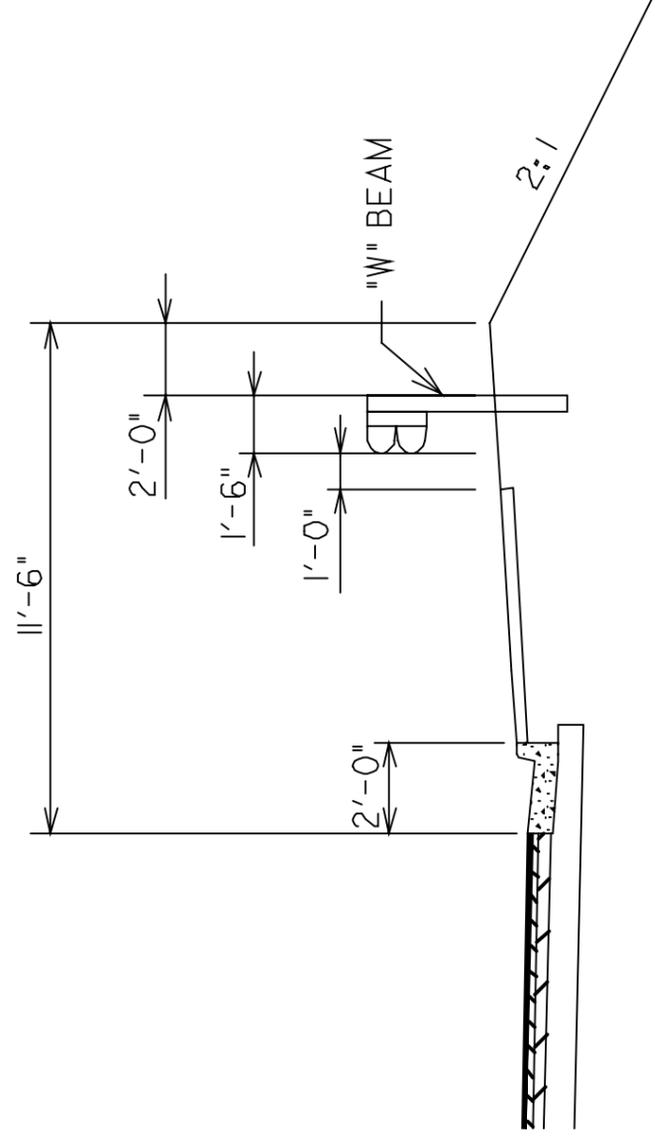
# Summary of Costs

Project P.I. No.0007538

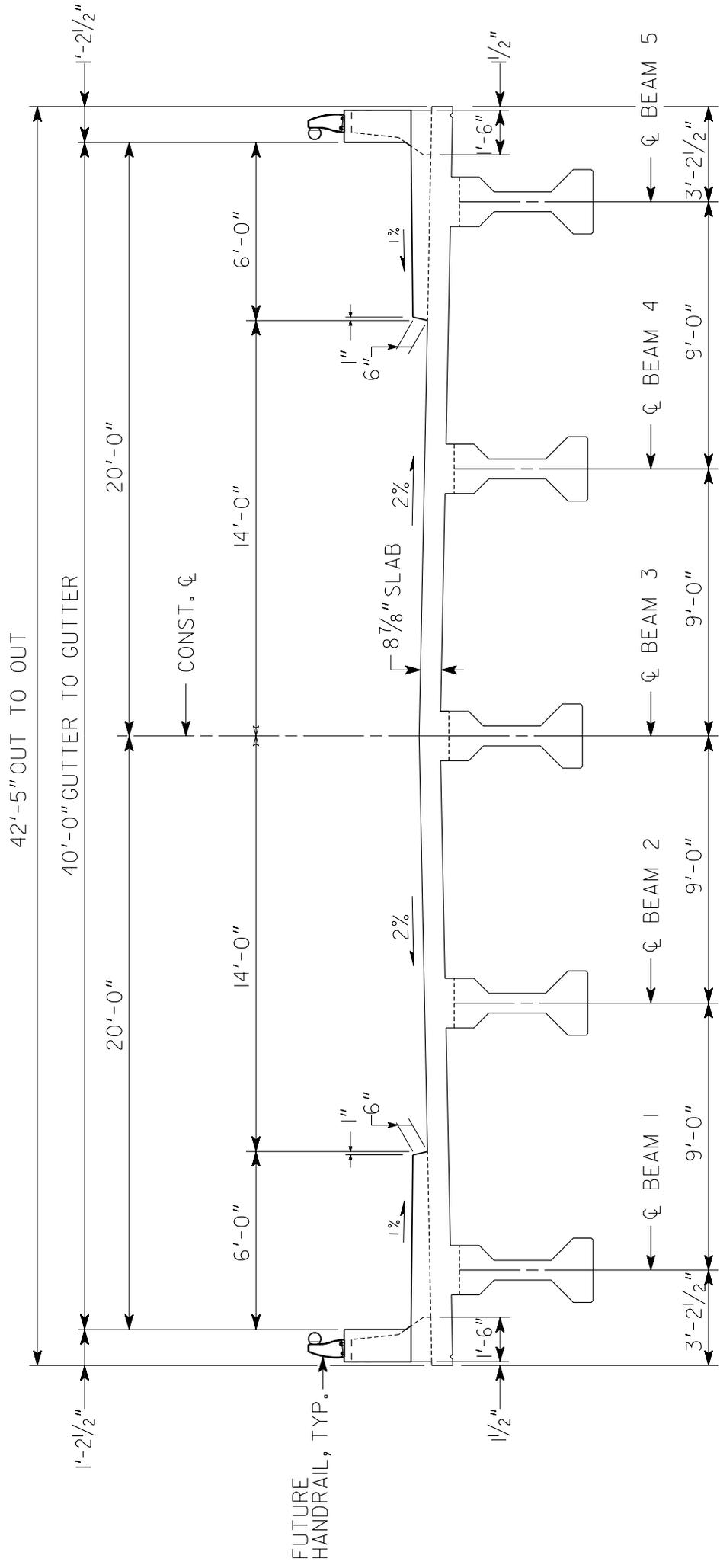
<b>Subtotal Construction Cost</b>	<b>\$2,284,606.00</b>
• Engineering & Inspection 5%	\$114,230.30
• Construction Contingency 5%	\$119,941.81
• Total Fuel Adjustment	\$62,292.61
• Total Liquid AC Adjustment	<u>\$171,025.81</u>
<b>Total Construction Cost</b>	<b>\$2,752,096.53</b>
• Right-of-Way	Local
• Reimbursable Utilities	<u>Local</u>
<b>Total Project Cost</b>	<b>\$2,752,096.23</b>



TYPICAL SECTION



GUARDRAIL LOCATION DETAIL FOR CURB AND GUTTER



TYPICAL SECTION

## Accident Summaries

<b>Year<sup>1</sup></b>	<b>Collision Rate</b>	<b>Statewide Average</b>
2004	312	467
2005	313	388
2006	898	382
2007	940	500 (estimate)

*Source: Cobb County Department of Transportation, numbers are in collisions per 100 million vehicle miles traveled*  
<sup>1</sup> Collision Data available from April, 2004 to January, 2008.

<b>Year<sup>1</sup></b>	<b>Injury Rate</b>	<b>Statewide Average</b>
2004	104	105
2005	0	90
2006	224	85
2007	313	100 (estimate)

*Source: Cobb County Department of Transportation, numbers are in injuries per 100 million vehicle miles traveled*  
<sup>1</sup> Collision Data available from April, 2004 to January, 2008.

## Capacity Analysis

### *Mableton Parkway*

The southbound approach of Queen Mill Road to Mableton Parkway is currently controlled using a stop sign with the Mableton Parkway approach having a free-flow condition. The Mableton Parkway/Queen Mill Road intersection experiences a 2008 level of service of C for the AM peak and C for the PM peak due to delay on Queen Mill Road. Levels of service in 2010 would be equivalent with LOS C in the AM peak hour and D in the PM peak hour. If the intersection were to be signalized, the 2010 LOS would improve to A in the AM peak hour and A in the PM peak hour, with intersection delays of 7.2 seconds per vehicle and 5.3 seconds per vehicle respectively. The unsignalized intersection LOS decreases to F in 2030 for the AM and PM peak.

With signalization, the 2030 AM peak hour LOS would be A with an average delay of 9.1 seconds, an improvement over the unsignalized delay of 477.7. The PM peak would experience similar improvement, resulting in LOS B and a delay of 12.4 seconds as opposed to 134.0 seconds.

**Table 1: Mableton Parkway Capacity Analysis**

	Two-way Stop Control		Signalized	
	LOS	Approach Delay (s)	LOS	Intersection Delay (s)
2008 AM	C	18.0	N/A	N/A
2008 PM	C	22.8	N/A	N/A
2010 AM	C	20.4	A	4.7
2010 PM	D	25.2	A	5.4
2030 AM	F	489.6	A	9.0
2030 PM	F	108.0	B	12.3

Source: Greenhorne & O'Mara, HCM

### *Hunnicut Road*

If the Hunnicutt Road intersection were changed to all-way stop, the 2010 LOS would improve from B to A for the AM and PM peak. However, the 2010 delays are not significantly greater than the LOS B threshold and will not impede traffic significantly.

If signed for an all-way stop, the intersection will continue to provide LOS B until the design year for the AM and PM peak. LOS for the two-way stop condition will fall to D and C for the AM and PM peaks respectively by the design year.

**Table 2: Hunnicutt Road Capacity Analysis**

	Two-way Stop Control		All-way Stop Control	
	LOS	Approach Delay (s)	LOS	Intersection Delay (s)
2008 AM	B	12.1	N/A	N/A
2008 PM	B	11.8	N/A	N/A
2010 AM	B	12.5	A	8.4
2010 PM	B	12.4	A	8.5
2030 AM	D	24.8	B	11.1
2030 PM	C	22.2	B	11.8

Source: Greenhorne & O'Mara, HCM

### *Ivey Road*

The Ivey Road intersection currently experiences a LOS of B in the AM and PM peaks. This will continue through 2010 with the LOS for both peak periods falling to C for 2030.

If changed, the intersection will continue to provide LOS B until the design year for the AM and PM peak. LOS for the two-way stop condition will fall to C for the AM and PM peaks by the design year. However the design year LOS for the one-way stop is just below the LOS C threshold and will not have a significant negative impact on operations.

**Table 3: Ivey Road Capacity Analysis**

	One-way Stop Control		All-way Stop Control	
	LOS	Approach Delay (s)	LOS	Intersection Delay (s)
2008 AM	B	10.6	N/A	N/A
2008 PM	B	10.6	N/A	N/A
2010 AM	B	10.7	A	8.6
2010 PM	B	11.0	A	8.6
2030 AM	C	15.6	B	11.1
2030 PM	C	15.7	B	11.2

Source: Greenhorne & O'Mara, HCM

**BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION**

Structure ID: 067-5122-0

Cobb

SUFF. RATING

77.33

**Location & Geography**

\* Structure I.D.No: 067-5122-0  
 \* 200 Bridge Information 06  
 \* 6A Feature Int: NICKAJACK CREEK TRIB.  
 \* 6B Critical Bridge: 0  
 \* 7A Route Number Carried: CR02793  
 \* 7B Facility Carried: QUEENS MILL ROAD  
 \* 9 Location: 5.5 MIS OF SMYRNA  
 \* 2 DOT District: 7  
 \* 207 Year Photo: 2007  
 \* 91 Inspection Frequency: 24 Date: 07/09/2007  
 \* 92A Fract Crit Insp Freq: 00 Date: 02/01/1901  
 \* 92B Underwater Insp Freq: 00 Date: 02/01/1901  
 \* 92C Other Spc. Insp Freq: 00 Date: 02/01/1901  
 \* 4 Place Code: 00000  
 \* 5 Inventory Route (O/U): 1  
 \* Type: 4  
 \* Designation: 1  
 \* Number: 02793  
 \* Direction: 0  
 \* 16 Latitude: 33-47.8360 MMS Prefix: 00  
 \* 17 Longitude: 84-32.0440 MMS Suffix: 000 MP: 0.00  
 \* 98 Border Bridge: 000 %Shared: 00  
 \* 99 ID Number: 0000000000000000  
 \* 100 STRAHNET: 0  
 \* 12 Base Highway Network: 1  
 \* 13A LRS Inventory Route: 672279300  
 \* 13B Sub Inventory Route: 0  
 \* 101 Parallel Structure: N  
 \* 102 Direction of Traffic: 2  
 \* 264 Road Inventory Mile Post: 000.79  
 \* 208 Inspection Area: 09 Initials: JMC  
 \* Engineer's Initial: sgm  
 \* Location I.D. No.: 067-02793X-000.795

**Signs & Attachments**

\* 104 Highway System: 0  
 \* 26 Functional Classification: 19  
 \* 204 Federal Route Type: 0 No.: 00000  
 \* 105 Federal Lands Highway: 0  
 \* 110 Truck Route: 0  
 \* 206 School Bus Route: 0  
 \* 217 Benchmark Elevation: 0000.00  
 \* 218 Datum: 0  
 \* 19 Bypass Length: 06  
 \* 20 Toll: 3  
 \* 21 Maintenance: 02  
 \* 22 Owner: 02  
 \* 31 Design Load: 6  
 \* 37 Historical Significance: 5  
 \* 205 Congressional District: 13  
 \* 27 Year Constructed: 1995  
 \* 106 Year Reconstructed: 0000  
 \* 33 Bridge Median: 0  
 \* 34 Skew: 30  
 \* 35 Structure Flared: 0  
 \* 38 Navigation Control: 0  
 \* 213 Special Steel Design: 0  
 \* 267 Type of Paint: 0  
 \* 42 Type of Service on: 1  
 \* 5  
 \* 214 Movable Bridge: 0  
 \* 203 Type Bridge: Z-O-O-O  
 \* 259 Pile Encasement: 3  
 \* 43 Structure Type Main: 5 02  
 \* 45 No. Spans Main: 001  
 \* 44 Structure Type Appr: 0 00  
 \* 46 No. Spans Appr: 0000  
 \* 226 Bridge Curve Horz: 0 Vert: 0  
 \* 111 Pier Protection: 0  
 \* 107 Deck Structure Type: 1  
 \* 108 Wearing Surface Type: 1 Mc 0 F 0  
 \* 225 Expansion Joint Type: 02  
 \* 242 Deck Drains: 1  
 \* 243 Parapet Location: 0  
 \* Height: 0.00  
 \* Width: 0.00  
 \* 238 Curb: 0.00 0  
 \* 239 Handrail: 9 9  
 \* 240 Median Barrier Rail: 0  
 \* 241 Bridge Median Height: 0.00  
 \* Width: 0.00  
 \* 230 Guardrail Loc Dir Rear: 6  
 \* Fwr: 6  
 \* Oppo Dir Rear: 0  
 \* Fwr: 0  
 \* 244 Approach Slab: 3  
 \* 224 Retaining Wall: 0  
 \* 233 Posted Speed Limit: 35  
 \* 236 Warning Sign: 1  
 \* 234 Delineator: 0  
 \* 235 Hazard Boards: 0  
 \* 237 Utilities Gas: 00  
 \* W 21  
 \* Ele 00  
 \* Telephone: 00  
 \* St 00  
 \* 247 Lighting Street: 0  
 \* Navigation: 0  
 \* Aerial: 0  
 \* 248 County Continuity No.: 00

**BRIDGE INVENTORY DATA LISTING GEORGIA DEPARTMENT OF TRANSPORTATION**

Structure ID: 067-5122-0

Cobb

SUFF. RATING

77.33

**Programming Data**

201 Project No.: BRZLB-067 (18)  
 202 Plans Available: 0  
 249 Prop. Proj. No. 000000000000000000  
 250 Approval Status: 0000  
 251 P.I. No.: 0000000  
 252 Contract Date: 02/01/1901  
 260 Seismic No.: 00000  
 75 Type Work: 00 0  
 94 Bridge Imp. Cost: \$ 0  
 95 Roadway Imp. Cost: \$ 0  
 96 Total Imp Cost: \$ 0  
 76 Imp. Length: 000000  
 97 Imp. Year: 0000  
 114 Future ADT: 002985 Year: 2026

**Measurements**

\* 29 ADT: 001990 Year: 2006  
 109 % Trucks: 0  
 \* 28 Lanes On: 02 Under: 00  
 210 No. Tracks On: 00 Under: 00  
 \* 48 Max. Span Length: 0089  
 \* 49 Structure Length: 89  
 51 Br. Rwdy. Width: 39.00  
 52 Deck Width: 42.60  
 \* 47 Tot. Horz. Cl: 39.00  
 50 Curb/Sdewlk Width: 0.00/0.00  
 \* 32 Approach Rdwy Width: 023  
 229 Shoulder Width:  
 Rear Lt: 8.00 Type: 8 Rt: 8.00  
 Fwrd Lt: 8.00 Type: 8 Rt: 8.00  
 Pavement Width:  
 Rear: 23.00 Type: 2  
 Fwrd: 23.00 Type: 2  
 Intersection Rear: 0 Fwrd: 0  
 36 Safety Features Br. Rail:  
 Transition: 1  
 App. G. Rail: 1  
 App. Rail End: 1  
 53 Minimum Cl.Over:  
 Under: N  
 \* 228 Min. Vertical Cl  
 Act. Odm Dir: 99 ' 99 "  
 Oppo. Dir: 99 ' 99 "  
 Posted Odm. Dir: 00 ' 00 "  
 Oppo. Dir: 00 ' 00 "  
 55 Lateral Undercl. Rt: N 0.00  
 56 Lateral Undercl. Lt: 0.00  
 \* 10 Max Min Vert Cl: 99 ' 99 " Dir: 0  
 39 Nav Vert Cl: 000 Horz: 0000  
 116 Nav Vert Cl Closed: 000  
 245 Deck Thickness Main: 8.50  
 Deck Thick Approach: 0.00  
 246 Overlay Thickness: 0.00  
 212 Year Last Painted: Sup: 0000 Sub: 0000

**Ratings**

65 Inventory Rating Method: 1  
 63 Inventory Rating Method: 1  
 66 Inventory Type: 2 Rating: 19  
 64 Operating Type: 2 Rating: 73  
 231 Calculated Loads  
 H-Modified: 18 0  
 HS-Modified: 19 0  
 Type 3: 18 0  
 Type 3s2: 25 0  
 Timber: 21 0  
 Piggyback: 00 0  
 261 H Inventory Rating: 13  
 262 H Operating Rating: 49  
 67 Structural Evaluation: 4  
 58 Deck Condition: 8  
 59 Superstructure Condition: 8  
 \* 227 Collision Damage: 0  
 60A Substructure Condition: 8  
 60B Scour Condition: 8  
 60C Underwater Condition: N  
 71 Waterway Adequacy: 9  
 61 Channel Protection Cond: 8  
 68 Deck Geometry: 6  
 69 UnderClr. Horz/Vert: N  
 72 Appr. Alignment: 8  
 62 Culvert: N

**Hydraulic Data**

215 Waterway Data  
 Highwater Elev.: 0000.0 Year: 1900  
 Avg. Streambed Elev.: 0000.0 Freq.: 00  
 Drainage Area: 00000  
 Area Of Opening: 000000  
 113 Scour Critical: 8  
 216 Water Depth: 01.0 Br. Height: 18.2  
 222 Slope Protection: 0  
 221 Spur Dikes Rear: 0 Fwrd: 0  
 219 Fender System: 0  
 220 Dolphin: 0  
 223 Culvert Cover: 000  
 Type: 0  
 No. Barrels: 0  
 Width: 0.00 Height: 0.00  
 Length: 0 Apron: 0 Diver: ZZZ  
 \* 265 U/W Insp. Area: 0

**Posting Data**

70 Bridge Posting Required: 5  
 41 Struct Open, Posted, Cl: A  
 \* 103 Temporary Structure: 0  
 232 Posted Loads H-Modified: 00  
 HS-Modified: 00  
 Type 3: 00  
 Type3s2: 00  
 Timber: 00  
 Piggyback: 00  
 253 Notification Date 02/01/1901  
 253 Fed Notify Date: 02/01/1901 0

**BENEFIT COST ANALYSIS WORKSHEET**  
*Queen Mill Road (CSHPP-0007-00(00538); PI 0007538)*  
*Cobb County*

**ACCIDENT DATA**

Description	Symbol	Value
Property Damage Accidents (no fatality or injury)	P	8
Fatalities	F	0
Injuries	I	2

**FIXED VALUES**

Description	Symbol	Value
Fatality Cost	Fc	\$5,800,000
Injury Cost	Ic	\$333,500
Property Damage Cost	Pc	\$4,400
Maintenance/Operating Cost	Cm	\$50,000

**TABLE VALUES**

Description	Symbol	Value
Reduction Factor (fatalities and injuries) (Appendix E)	R	0.87
Reduction Factor (property damage) (Appendix E)	Rp	0.87
Capital Recovery Factor (Appendix E)	Ek	0.087
Initial Improvement Cost (Itemized Cost Estimate)	Ci	\$3,998,296.00

**Q = Weighted cost of fatal and injury collisions**

$$Q = \frac{(Fc \times F) + (Ic \times I)}{F + I}$$

$$Q = 333500$$

**B = Benefit**

$$B = Q (F + I) (R) + Pc (P) (Rp)$$

$$B = 610914$$

**C = Cost**

$$C = Ek (Ci) + Cm$$

$$C = 397851.752$$

**B/C = Benefit/Cost Ratio**

$$B/C = 1.535531758$$

**BENEFIT/COST RATIO: 1.54**

***BENEFIT COST ANALYSIS FACTOR DEFINITIONS***

F: annual number of collisions involving fatalities during study period

I: average annual number of collisions involving injured people for the period of the study

P: average annual number of collisions involving only property damage for the period of the study

R: reduction of fatal and injury collisions by type (from Table A - Appendix E)

Rp: reduction of property damage only collisions by type (from Table A - Appendix E)

Pc: average cost, in thousands of \$, per property damage only collision

Q: weighted cost, in thousands of \$, of fatal and injury collisions

Ic: average cost per injury in thousands of \$

Fc: average cost per fatality in thousands of \$

Ek: capital recovery factor based on countermeasure life (from Table B - Appendix E)

Ci: estimated initial cost of the countermeasure (cost of the improvement including r/w) in thousands of \$

Cm: estimated annual maintenance and operating cost of the countermeasure in thousands of \$

# **NOTICE OF LOCATION AND DESIGN APPROVAL**

**CSHPP-0007-00(538)**

**Cobb County**

**P.I. 0007538**

Notice is hereby given in compliance with Georgia Code 22-2-109 that the Georgia Department of Transportation has approved the Location and Design of this project.

The date of location approval is \_\_\_\_\_.

This project consists of safety and operational improvements to Queen Mill Road (CR 2793). The project is in southeast Cobb County, beginning at Mableton Parkway (SR 139) and continuing the entire length of Queen Mill Road to Veterans Memorial Highway (US 78/278/SR 8). The project is included in Land Lots 166, 180-182, 277-278, 291, 393-394 and 405 in the 18th Land District.

Queen Mill Road (CR 2793) will be modified to correct substandard horizontal curves north of Mableton Parkway (SR 139) and at Ivey Road. Several vertical curves will also be modified to conform to national standards including several crest and sag vertical curves between Hunnicutt Road and Queensbrooke Way as well as a crest and sag vertical curve between Ivey Road and Veterans Memorial Highway (US 78/278/SR 8). Curb, gutter and sidewalk will be constructed along both sides of the road to facilitate pedestrian movement and storm water drainage. Sidewalk will be added to the otherwise unmodified bridge over Queen Creek immediately north of Queensbrooke Way. The horizontal alignment of Queen Mill Road will be modified slightly 600' south of Queensbrooke Way, and two concrete retaining walls added, to avoid construction impacts on Queens Creek. The existing pavement width of the roadway will be maintained at two 11' lanes. There will be no road closures during construction.

Drawings or maps or plats of the proposed project, as approved, are on file and are available for public inspection at the Georgia Department of Transportation:

Sebastian Nesbitt, Area 2 Engineer  
snesbitt@dot.ga.gov  
Georgia Department of Transportation  
1269 Kennestone Circle  
Marietta, GA 30066  
(770) 528-3238 / 3416

Any interested party may obtain a copy of the drawings or maps or plats or portions thereof by paying a nominal fee and requesting in writing to:

Mr. Mike Lobdell, P.E.  
mlobdell@dot.ga.gov  
Georgia Department of Transportation  
District 7  
5025 New Peachtree Road  
Chamblee, GA 30341  
(770) 986-1786

Any written request or communication in reference to this project or notice SHOULD include the Project and P. I. Numbers as noted at the top of this notice.



## Queen Mill Road Meeting Summary Concept Kickoff Meeting

**Project** Queen Mill Road Safety & Operational Improvements  
Cobb County, GA  
GDOT Project No. CSHP-0007-00(38)  
CCDOT Project No. D6200  
G&O Project No.0801

**Date/Place** April 9, 2008, GDOT District 7

### Attendees

Name	Organization	Phone	Email
William Ruhsam	G&O	(678) 987-3917	wruhsam@g-and-o.com
Anthony Prevost	G&O	(678) 987-3915	aprevost@g-and-o.com
William Rutlin	G&O	(678) 987-3918	wrutlin@g-and-o.com
Mike Lobdell	GDOT	(770) 986-1257	mlobdell@dot.ga.gov
Merishia Robinson	GDOT	(770) 986-1114	mrobinson@dot.ga.gov
Jania Braswell	GDOT	(770) 986-1785	jbraswell@dot.ga.gov
James Hudgins	Cobb County	(770) 920-6658	James.hudgins@cobbcounty.org
Anthony Gillon	Cobb County	(770) 528-3652	Anthony.gillon@cobbcounty.org

**Distribution** Attendees, Theon Grojean

**Subject** Concept Kickoff Meeting

### Discussion

- 1) Project Overview, Cobb County Project D6200, GDOT Project CSHP-0007-00(38). Bill Ruhsam introduced the proposed project concept: corrections of horizontal & vertical deficiencies; shoulder expansion with curb, gutter & sidewalk; and the use of a 14' lane with 11' earmarked for travel and 3' for bicycle-friendly shoulders. The project would result in 2 displacements and one significant change in grade at Hunnicut Lane.
- 2) Anthony Gillon said that he thought more displacements might be necessary at Hunnicut due to the inability to tie in the existing driveways. Bill Ruhsam said that G&O thinks the driveways can tie, but that it's close and they won't know until database is delivered.
- 3) The Design speed is 35 mph.
- 4) G&O intends to pursue an FHWA Coordination meeting ASAP after this initial concept team meeting. Logical Termini will be Mableton Parkway and Veteran's memorial Parkway.
- 5) The environmental document is scoped as a CE. G&O's intention is to do a full document from Mableton to Veterans Memorial. Mike is OK with going ahead with entire environmental document at this time.



- 6) The project need & purpose can address the deficient curves and possibly the public desire for an urban typical section with sidewalk, curb and gutter and bicycle access to calm traffic on Queen Mill.
- 7) As described in item (1) the project should only require one design exception; insufficient SE transition rates at the reverse curve approaching Ivey Road.
- 8) The project as described in (1) will require staging and road closures
- 9) The project is a federal earmark with a total budget of approximately \$4.9 million. The proposed project in (1) would cost approximately \$8.4 million. In order to construct within budget, the project is proposed to be divided into halves, with the bridge at Queen Creek as the dividing point. The south half of the project, from Mableton Parkway to Queen Creek is proposed to be first for design and construction.
- 10) Anthony Gillon said that he thought the cost estimate seemed low.
- 11) All intersections are unsignalized except at Veterans Memorial. Hunnicut Lane is being studied for all-way stops, but no results yet.
- 12) Mike Lobdell asked why we are doing this project? The title is “safety & operational improvements” but there doesn’t seem to be a safety concern. Crash data does not point to any hot spots. James Hudgins and Anthony Gillon both pointed out that this is a federal earmark project. Mike thought it might be best to arrange a PIOH and bring several alternatives for the public to consider. Sidewalk (one side), curb & gutter might be the only necessary improvement to satisfy the public requests. Bill Ruhsam pointed out that FHWA would have to sign off on design exceptions for vertical & horizontal curvature, shoulders, and SE transitions in that case.
- 13) Mike Lobdell stated that constructing a project with sidewalk on only one side would be acceptable to him. “Two miles of sidewalk are better than one mile on both sides.”
- 14) Mike Lobdell asked if there is any safety lighting on the project. A sag vertical curve that is not meeting AASHTO specifications can be mitigated by adding lighting. Mike’s biggest concern on vertical curves is stopping sight distance, not meeting K-value requirements.
- 15) A PIOH will be scheduled ASAP in order to present several alternatives to the public including the project as presented in (1) and one with curb, gutter & sidewalk. Typical Section alternatives will be stressed when talking with the public.
- 16) Bill Ruhsam said G&O is ready to move to a PIOH at this time and Cobb could schedule and advertise immediately. Anthony Gillon pointed out that Cobb prefers to have PIOHs during school months, which means prior to the third week of May, or in late August.



Queen Mill Road – Concept Kickoff Meeting

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- 17) James Hudgins pointed out that Commissioner Kesting was facing reelection this July and may not want a PIOH to move forward until after the election. Anthony Gillon will coordinate with Bob Galante and notify GDOT and G&O when the PIOH will take place.
- 18) Mike Lobdell pointed out that some earmarks are worded very specifically and that we needed to find the exact wording to be sure the project was addressing the legislation.
- 19) Bill Ruhsam and Bill Rutlin will discuss design exceptions with FHWA to see what would be palatable to them, in order to avoid backtracking.

The above represents our understanding of the items discussed. Please notify me of any discrepancies or questions as soon as possible.

Respectfully submitted,  
Greenhorne & O'Mara, Inc.

William Ruhsam, P.E., PTOE  
Project Manager  
(678) 987-3917



## Queen Mill Road Meeting Summary Initial Concept Team Meeting

**Project** Queen Mill Road Safety & Operational Improvements  
Cobb County, GA  
GDOT Project No. CSHPP-0007-00(538)  
CCDOT Project No. D6200  
G&O Project No.0801

**Date/Place** June 30, 2008, Cobb County DOT

### Attendees

Name	Organization	Phone	Email
William Ruhsam	G&O	(678) 987-3917	wruhsam@g-and-o.com
Anthony Prevost	G&O	(678) 987-3915	aprevost@g-and-o.com
Jane Stricklin	Cobb County	(678) 420-6664	jane.stricklin@cobbcounty.org
Chris Pruitt	Cobb County	(770) 528-1670	chris.pruitt@cobbcounty.org
Ron Cooper	Cobb County	(770) 590-6350	ron.cooper@cobbcounty.org
Scott Jordan	Cobb County	(770) 528-3685	scott.jordan@cobbcounty.org
James Hudgins	Cobb County	(770) 420-6658	james.hudgins@cobbcounty.org
Anthony Gillon	Cobb County	(770) 528-3652	anthony.gillon@cobbcounty.org
Daniel McDuff	Cobb County	(770) 528-1635	daniel.mcduff@cobbcounty.org
Mike Wright	Cobb County	(770) 528-4375	michael.wright@cobbcounty.org

**Distribution** Attendees, Theon Grojean, Jason Woods

**Subject** Concept Analysis Meeting

### Discussion

- 1) Project Overview, Cobb County Project D6200, GDOT Project CSHPP-0007-00(38). Bill Ruhsam reviewed the proposed engineering design for the project as it will be described in the Environmental Document. Significant engineering concerns at Hunnicutt Road (due to a vertical sag), Queen Creek (due to roadway encroachment in the stream buffer), and Ivey Road (due to a realignment).
- 2) The project will require approximately double the amount of funding that is currently assigned for full construction from Mableton Parkway to Veterans Memorial Highway. To build a project within the assigned budget, we need to pick a series of improvements that will meet the most immediate needs.
- 3) The PIOH comments were primarily concerned with roadway improvements at Ivey Road.
- 4) There was discussion about whether or not to construct the Ivey Road improvements given that they are the lion's share of the project budget.



## Queen Mill Road – Concept Analysis Meeting

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Leaving out Ivey Road would allow more of the rest of the project to be built within the current funding constraints.

- 5) If Ivey were to be left out of the first phase of construction, perhaps small improvements (such as a right turn lane off of Queen Mill Road) could be added to address some of the safety concerns.
- 6) Dan McDuff raised the question about whether GDOT and FHWA would agree to small, incremental, Ivey Road improvements during the first phase of construction because it wouldn't be addressing the Need & Purpose.
- 7) It was agreed that Ivey Road needs to be a part of the first phase of construction.
- 8) The mitigation of the sag at Hunnicutt will be lighting. This work is likely to be constructed by the County using maintenance forces. Anthony Gillon will liaise with G&O for any project budget impacts this might have.
- 9) G&O will develop the concept document for Phase I construction that includes the Queen Creek Bridge sidewalks (plus a sidewalk tie-in to the existing sidewalk at Queensbrooke Way) and extends north to Veterans Memorial Highway, correcting all deficiencies and adding sidewalk on both sides of the roadway.

The above represents our understanding of the items discussed. Please notify me of any discrepancies or questions as soon as possible.

Respectfully submitted,  
Greenhorne & O'Mara, Inc.

William Ruhsam, P.E., PTOE  
Project Manager  
(678) 987-3917





# **Queen Mill Road – Potential Stream Buffer Variances**

Project Number: D6200 & CSHPP-0007-00(538)

County: Cobb, GA

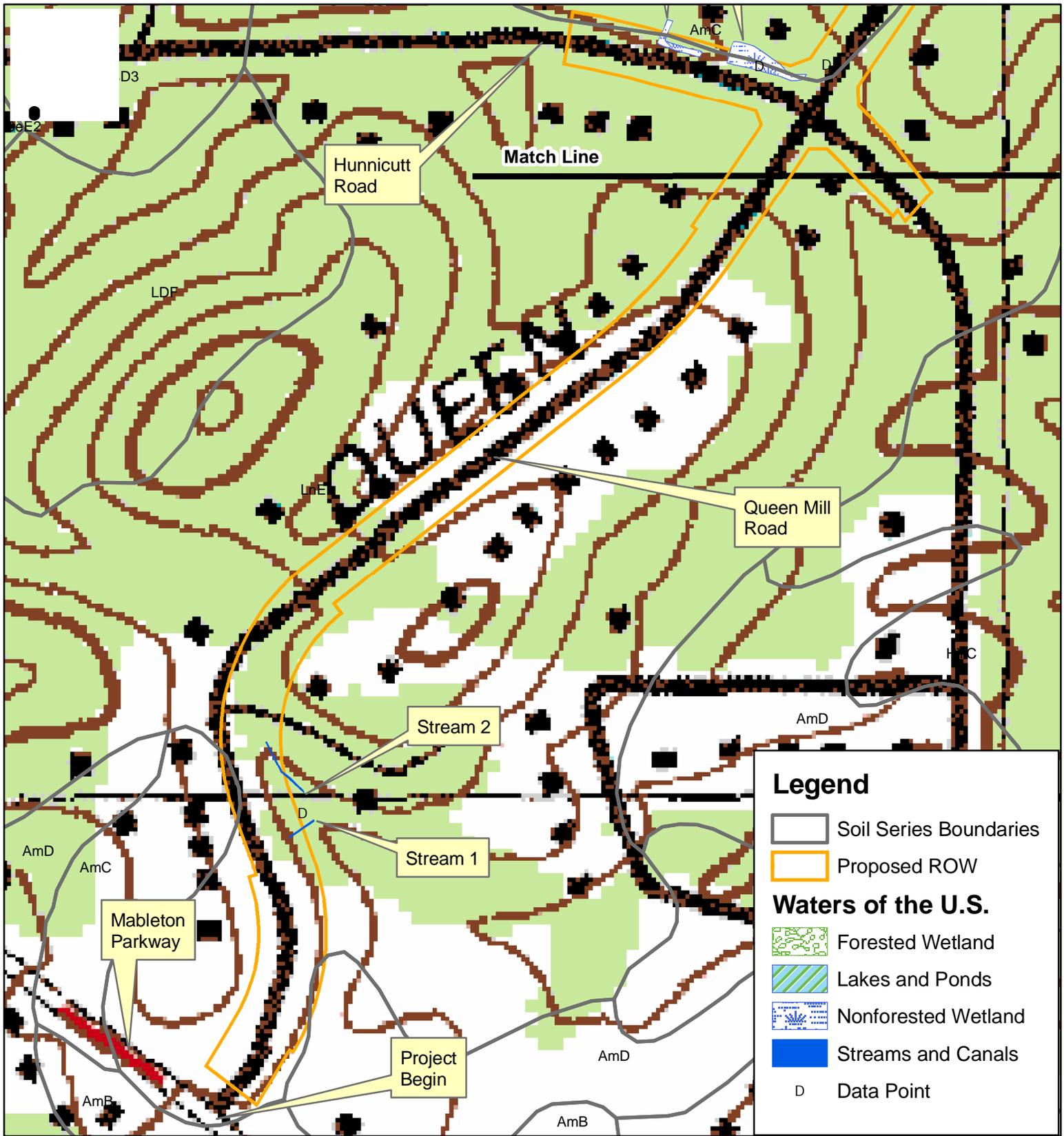
P.I. Number: 0007538

## **Locations of Potential Stream Buffer Variances:**

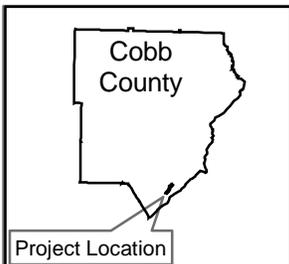
The following streams will potentially require stream buffer variances, depending on the design for roadside elements, due to encroachments within the 25' stream buffer. All noted streams are either :

- Stream 2 – Intermittent/Ephemeral stream
- Open Water 5 – Permanently flooded excavated pond
- Stream 7 (Queen Creek) – Perennial stream
- Stream 8 – Intermittent stream
- Stream 14 – Intermittent stream

Need for stream buffer variances to be fully determined during preliminary design phase.



SOURCE: USGS MABLETON 7.5' TOPOGRAPHIC QUADRANGLE



**CSHPP-0007-00 (38), Cobb County  
Queen Mill Road Safety  
and Operational Improvements  
PI No 0007538  
Cobb County Project Number D6200**

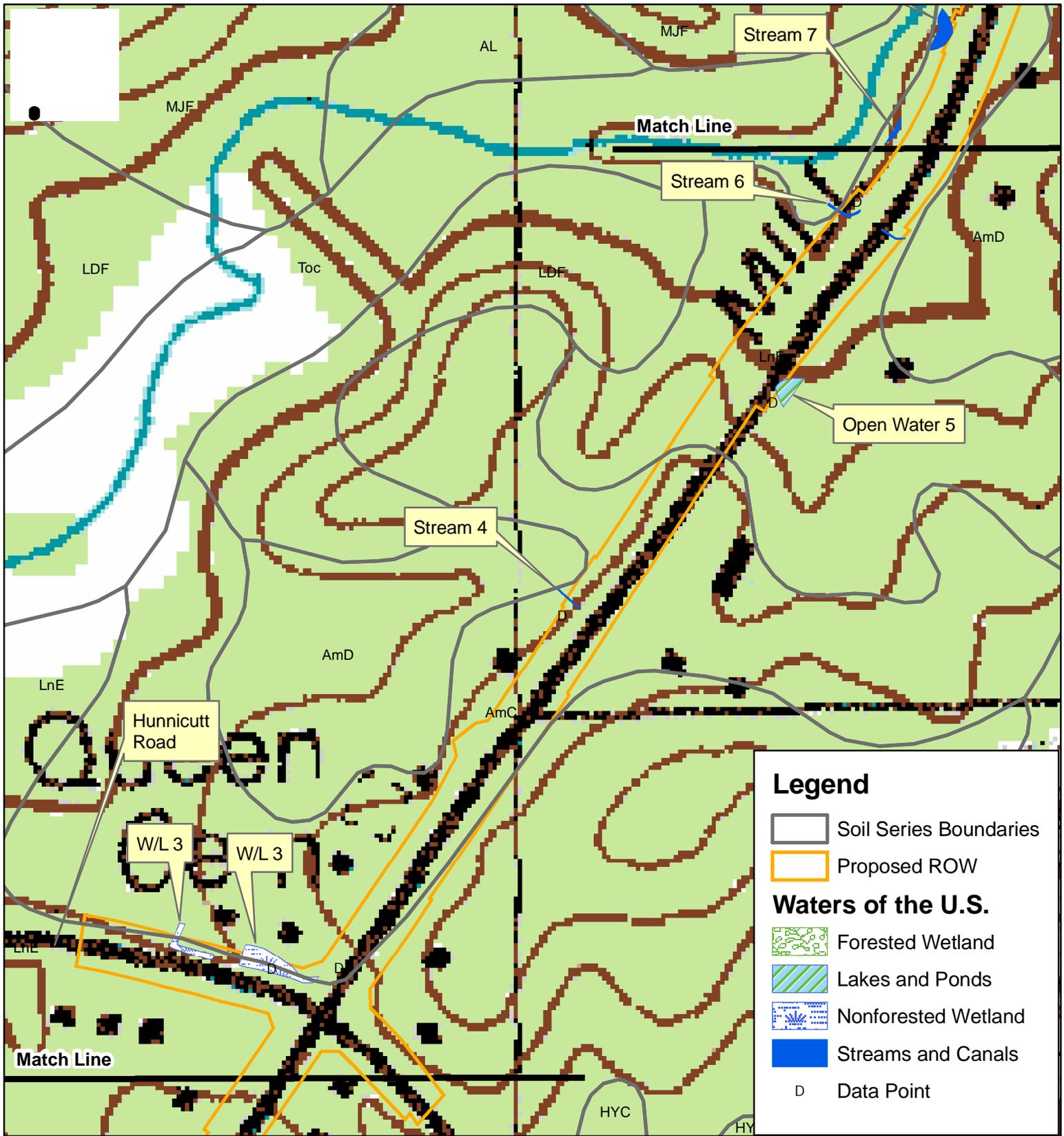
**Waters of the U.S. with Soils**

**Date:** March 2008

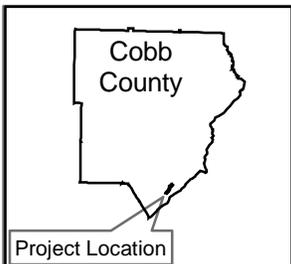
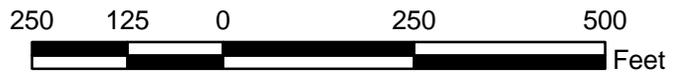
**Scale:** 1:3,000

**Project No.:** 0801

**Figure 3-1**



SOURCE: USGS MABLETON 7.5' TOPOGRAPHIC QUADRANGLE



**CSHPP-0007-00 (38), Cobb County  
Queen Mill Road Safety  
and Operational Improvements  
PI No 0007538  
Cobb County Project Number D6200**

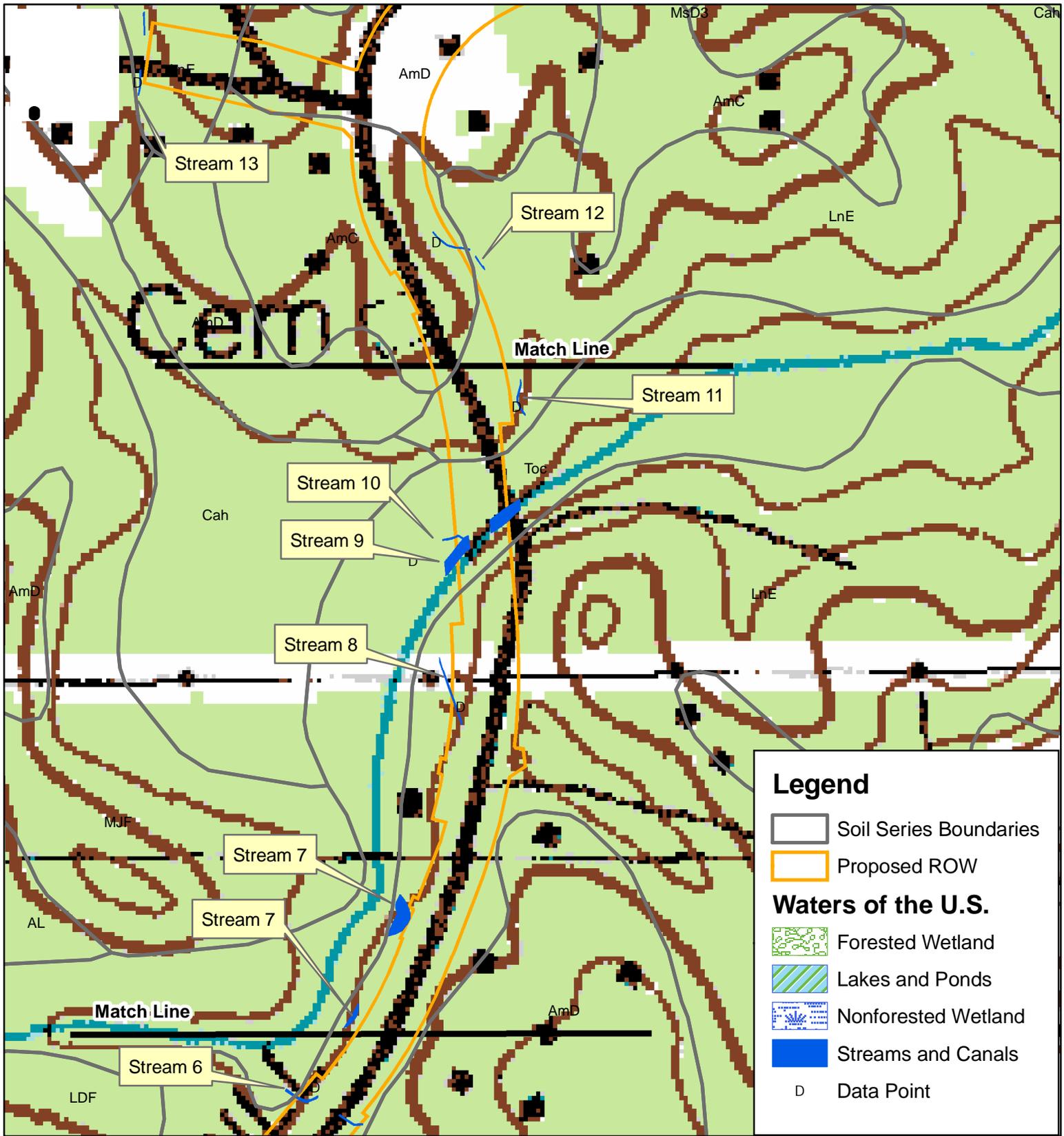
**Waters of the U.S. with Soils**

**Date:** March 2008

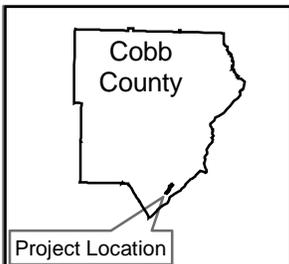
**Scale:** 1:3,000

**Project No.:** 0801

**Figure 3-2**



SOURCE: USGS MABLETON 7.5' TOPOGRAPHIC QUADRANGLE



**CSHPP-0007-00 (38), Cobb County  
Queen Mill Road Safety  
and Operational Improvements  
PI No 0007538  
Cobb County Project Number D6200**

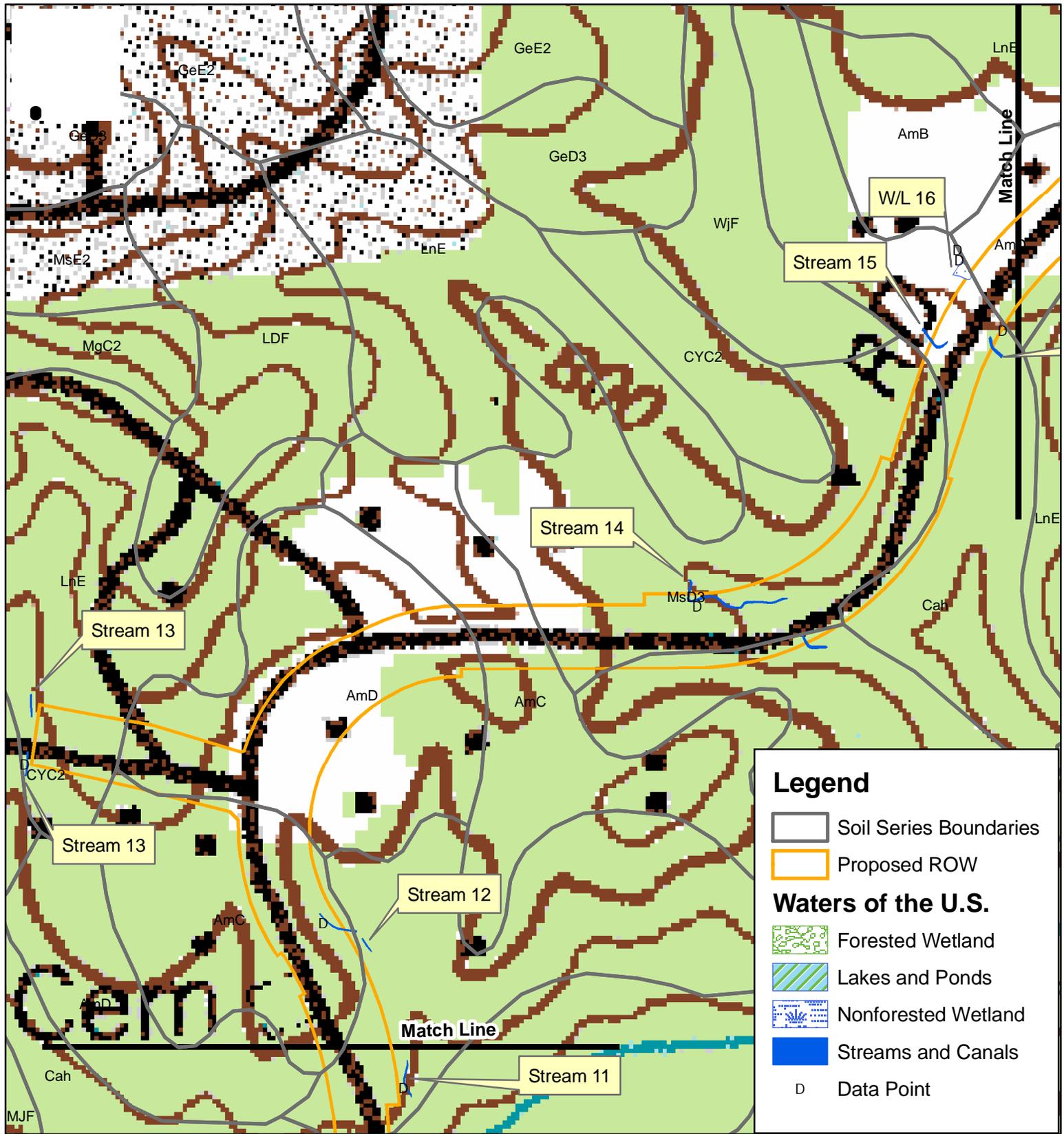
**Waters of the U.S. with Soils**

**Date:** March 2008

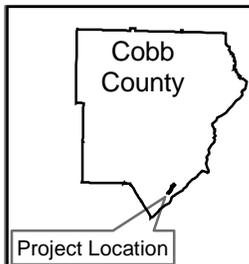
**Scale:** 1:3,000

**Project No.:** 0801

**Figure 3-3**



SOURCE: USGS MABLETON 7.5' TOPOGRAPHIC QUADRANGLE



**CSHPP-0007-00 (38), Cobb County  
Queen Mill Road Safety  
and Operational Improvements  
PI No 0007538  
Cobb County Project Number D6200**

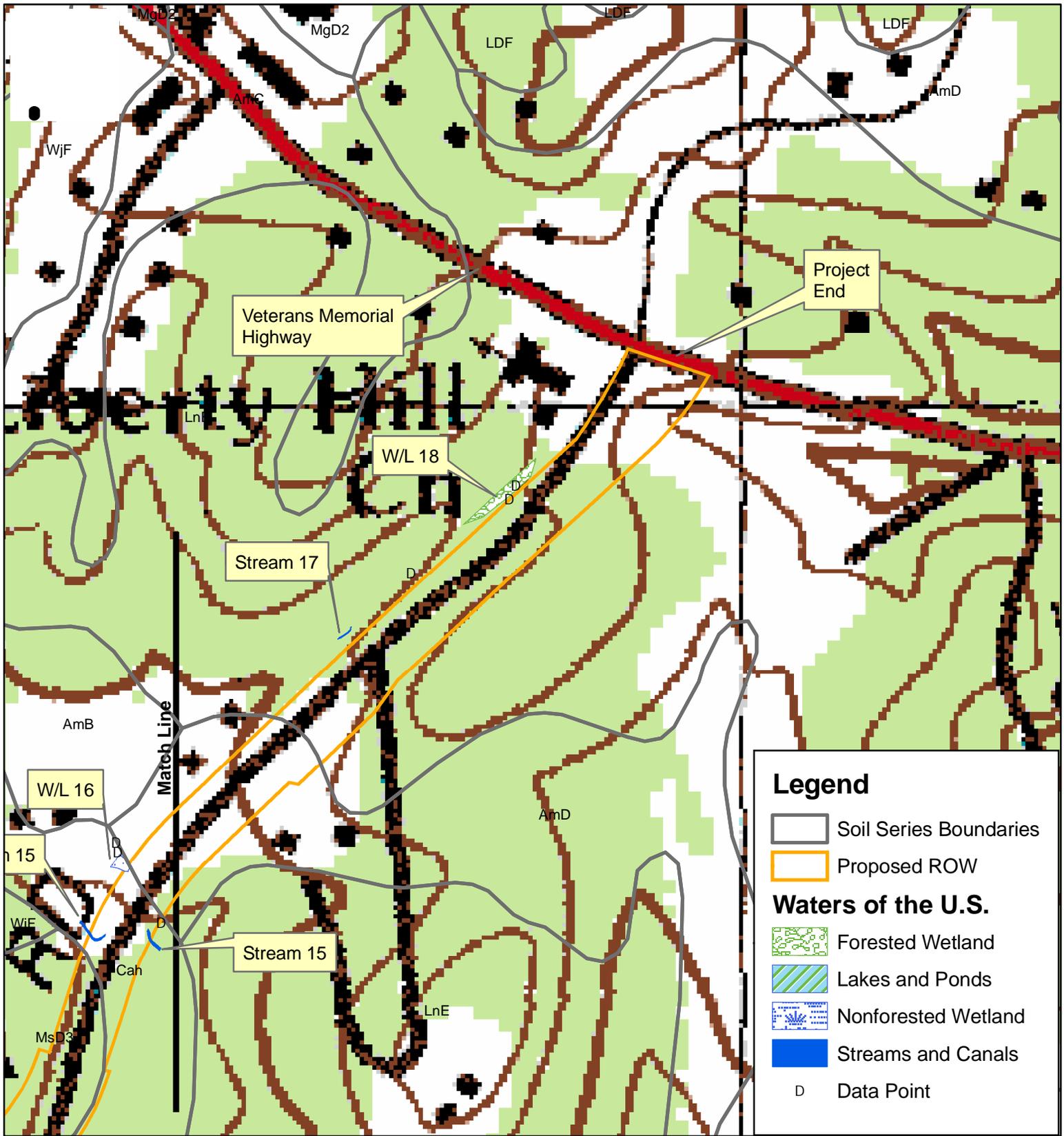
**Waters of the U.S. with Soils**

**Date:** March 2008

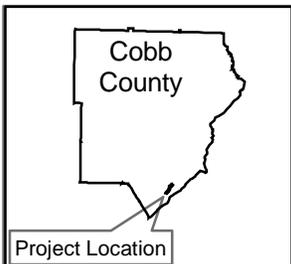
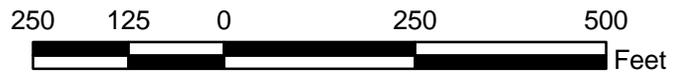
**Scale:** 1:3,000

**Project No.:** 0801

**Figure 3-4**



SOURCE: USGS MABLETON 7.5' TOPOGRAPHIC QUADRANGLE



**CSHPP-0007-00 (38), Cobb County  
Queen Mill Road Safety  
and Operational Improvements  
PI No 0007538  
Cobb County Project Number D6200**

**Waters of the U.S. with Soils**

**Date:** March 2008

**Scale:** 1:3,000

**Project No.:** 0801

**Figure 3-5**