

TRANSPORTATION PLANNING REPORT

Special Bridge Replacement Program
LOCAL ROUTE 01282 DAVIS CREEK ROAD, L.M. 5.00
CAMPBELL COUNTY
PIN 117270.00

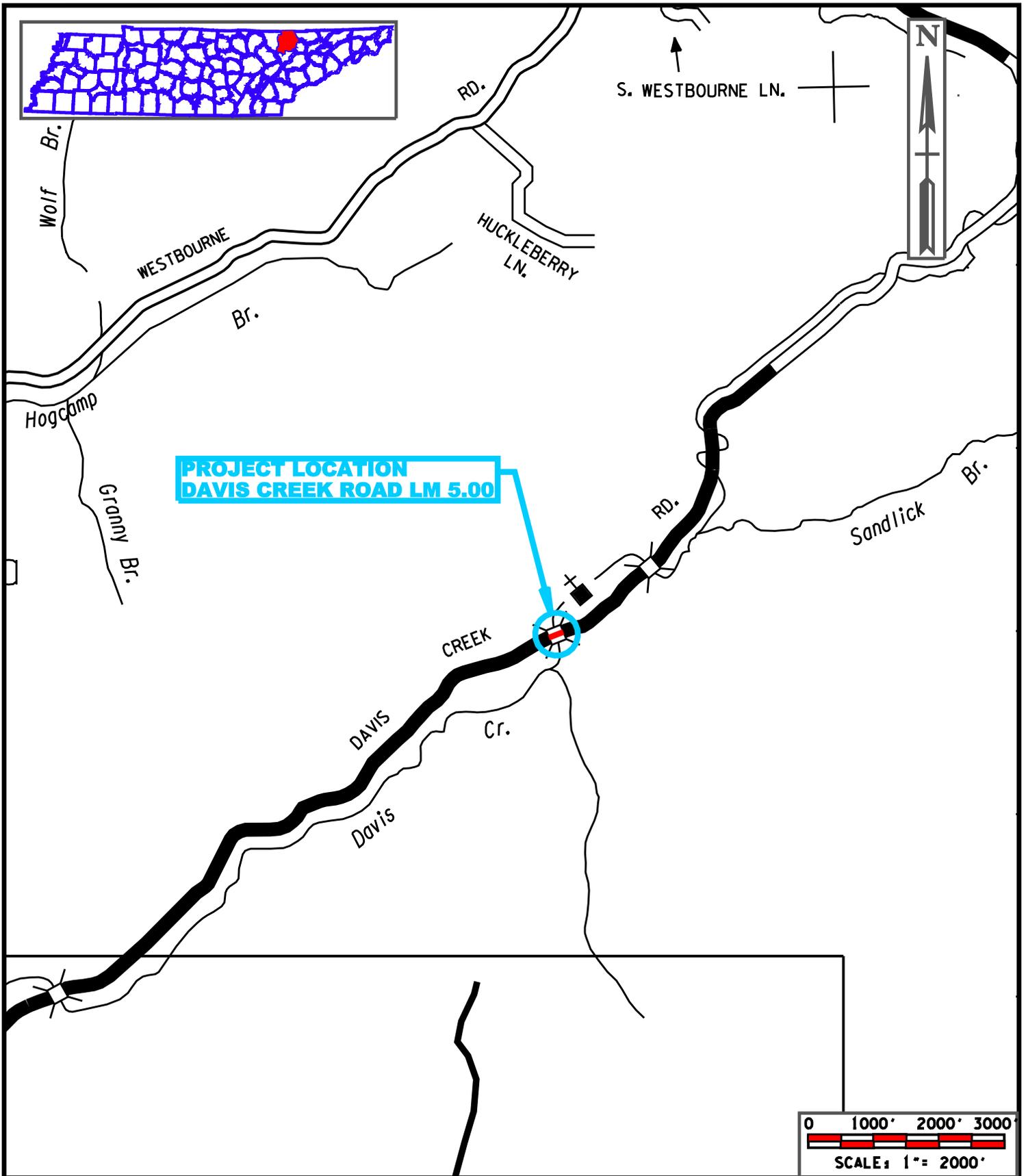


PREPARED BY
ARCADIS
FOR THE
TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION

Approved by [Signature] Date 1/9/13 Approved by [Signature] Date 1/29/13
Chief of Environment and Planning Deputy Commissioner and Chief Engineer

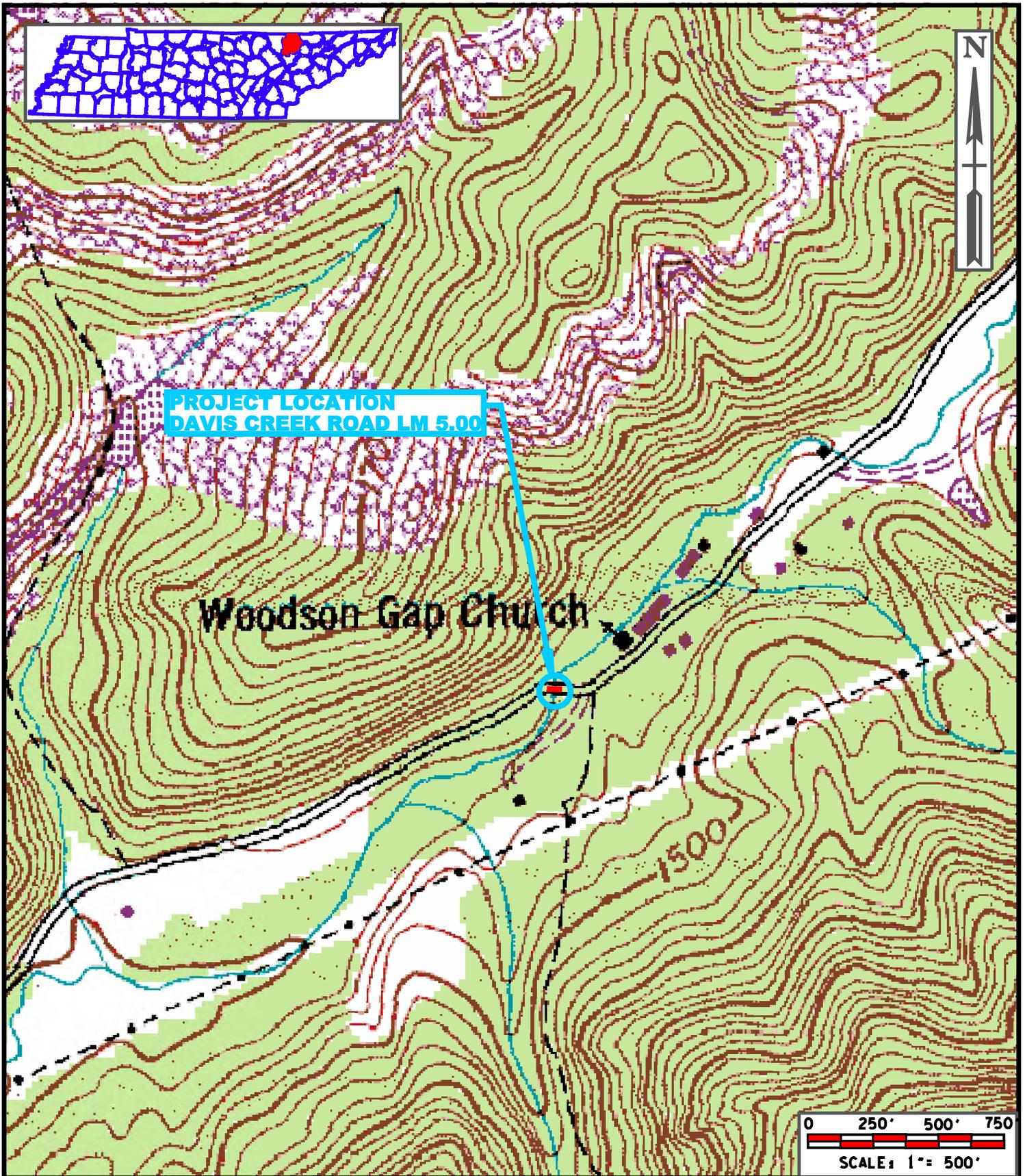
Approved by:	Signature	DATE
Transportation Director Project Planning Division	<u>[Signature]</u>	1-2-12
Engineering Director Design Division	<u>[Signature]</u>	1-3-13
Engineering Director Structures Division	<u>[Signature]</u>	1-7-13

This document is covered by 23 USC § 409 and its production pursuant to fulfilling public planning requirements does not waive the provisions of § 409.



LOCATION MAP
LOCAL ROUTE 01282 (DAVIS CREEK ROAD)
BRIDGE OVER DAVIS BRANCH @ L.M. 5.00
BRIDGE NUMBER 07S25820003
CAMPBELL COUNTY, TN

DRAWN BY: BH	CHECKED BY: HM
LR 01282 (DAVIS CREEK RD) L.M. 5.00	
PIN 117270.00	
DATE:	12-3-12



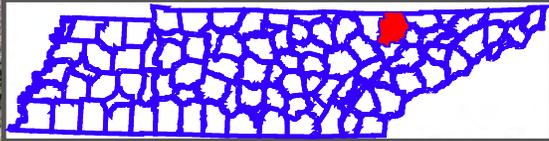
**PROJECT LOCATION
DAVIS CREEK ROAD LM 5.00**

Woodson Gap Church

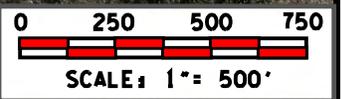


**VICINITY MAP
LOCAL ROUTE 01282 (DAVIS CREEK ROAD)
BRIDGE OVER DAVIS BRANCH @ L.M. 5.00
BRIDGE NUMBER 07S25820003
CAMPBELL COUNTY, TN**

DRAWN BY: BH	CHECKED BY: HM
LR 01282 (DAVIS CREEK RD) L.M. 5.00	
PIN 117270.00	
	DATE: 12-3-12



**PROJECT LOCATION
DAVIS CREEK ROAD LM 5.00**



**AERIAL MAP
LOCAL ROUTE 01282 (DAVIS CREEK ROAD)
BRIDGE OVER DAVIS BRANCH @ L.M. 5.00
BRIDGE NUMBER 07S25820003
CAMPBELL COUNTY, TN**

DRAWN BY:

BH

CHECKED BY:

HM

LR 01282 (DAVIS CREEK RD) L.M. 5.00

PIN 117270.00

DATE:

12-3-12

**TRANSPORTATION PLANNING WORKSHEET
BRIDGE REPLACEMENT ANALYSIS, NEEDS, AND COSTS**

County: Campbell Route: Local Route 01282 (Davis Creek Road) Log Mile: 5.00
 Feature Crossed: Davis Branch System: Local
 Functional Class: Rural Minor Collector Bridge ID: 07S25820003

EXISTING CONDITIONS

2016 AADT: 660 App. Cross Section: 20'/22'/30' No. Lanes: 2
 All Legal
 Approach Alignment: 10 Degrees Year Built: 1975 Load Limit: Loads
 Width (out to out): 44.0 Sidewalks: Right -- Left -- Length: 27
 No. Spans: Approach: -- Main: 2
 Substructure: Corrugated Metal Arch Pipe Vertical Clearance: 8' Sufficiency Rating: 73.2
 Other: Above ground utilities adjacent to Davis Creeek Road could be impacted by roadway fill slopes.
Scour on the upstream left side of the structure was noted (See Photos).

PROPOSED IMPROVEMENTS

STANDARDS FROM RD01-TS- 2 Type of Work: Replace
 Design Year: 2036 Design AADT: 790 Terrain Rolling ADL (F): -- (R): --
 Project Length: 560 Bridge Length: 30 ft Approach Length: 250' West, 280' East
 Design Speed (MPH): 35 Posted Speed (MPH): 35
 Approach Width:* 22'/30'/As Req'd Bridge Width (O to O): 36 ft No. Lanes: 2
 Right-of-Way Required: 0.4 acres Tract(s) Structure Type: (2) 14'X8' Slab Bridge

MAINTENANCE OF TRAFFIC

Temporary Detour: Temporary Runaround: Stage Construct:
 Alternate Route: North on Cotula Road and then east on WestBourne Road (approximately 8 miles).

Remarks: Construction phasing utilizing the above detour route should occur consecutively to Bridge ID 07S25820005 located approximately 0.25 miles east. Care should be taken such that construction of the two bridge locations does not occur simultaneously.

ESTIMATED COST

Right-of-Way: \$35,000 Approaches: \$177,900 Structure: \$119,400
 Preliminary Engineering: \$39,500 Utilities: \$10,000 Misc./Cont.: \$35,900
 Mobilization: \$17,100 Total: \$434,800

Remarks: Roadway to be realigned to improve adjacent curves. Bridge should be shifted to the west to properly align with stream channel. Grade to be raised 1 foot, two (2) 11' lanes and two (2) 4' shoulders to meet design standard RD01-TS-2.

Field Investigation by: Glenda Tyus (Planning), David Duncan (Planning), Lisa Reaney (Planning), Doug Shook (Reg. 1 ROW), Mark Parrish (Reg. 1 Design), Jay Morgan (Reg. 1 Design), Dennis Potter (County Road Super.), Blackie Muse (County Road Dept.), Clint Butler and Harvey McKaig (ARCADIS)

Route:	Local Route 01282 (Davis Creek Road)
Description:	Bridge over Davis Branch (07S25820003) L.M. 5.00
County:	Campbell
Length:	560 FT
Date:	December 3, 2012

<u>DESCRIPTION</u>	<u>LOCAL</u>	<u>STATE</u>	<u>FEDERAL</u>	<u>TOTAL</u>
Right-of-Way	\$ 7,000	\$ -	\$ 28,000	\$ 35,000
Clearing and Grubbing	\$ 1,000	\$ -	\$ 4,000	\$ 5,000
Earthwork	\$ 4,500	\$ -	\$ 18,000	\$ 22,500
Railroad Crossing or Separation	\$ -	\$ -	\$ -	\$ -
EPSC	\$ 2,000	\$ -	\$ 8,000	\$ 10,000
Utilities	\$ 2,000	\$ -	\$ 8,000	\$ 10,000
Structures	\$ 23,900	\$ -	\$ 95,500	\$ 119,400
Pavement Removal	\$ 1,300	\$ -	\$ 5,200	\$ 6,500
Paving	\$ 13,500	\$ -	\$ 53,800	\$ 67,300
Roadway and Pavement Appurtenances	\$ -	\$ -	\$ -	\$ -
Retaining Walls	\$ -	\$ -	\$ -	\$ -
Topsoil	\$ -	\$ -	\$ -	\$ -
Seeding	\$ -	\$ -	\$ -	\$ -
Sodding	\$ -	\$ -	\$ -	\$ -
Rip-Rap or Slope Protection	\$ 400	\$ -	\$ 1,400	\$ 1,800
Fencing	\$ -	\$ -	\$ -	\$ -
Signing	\$ -	\$ -	\$ -	\$ -
Pavement Markings	\$ 100	\$ -	\$ 400	\$ 500
Lighting	\$ -	\$ -	\$ -	\$ -
Signalization	\$ -	\$ -	\$ -	\$ -
Guardrail	\$ 3,100	\$ -	\$ 12,200	\$ 15,300
Other Construction Items (15%)	\$ 8,800	\$ -	\$ 35,200	\$ 44,000
Maintenance of Traffic	\$ 1,000	\$ -	\$ 4,000	\$ 5,000
Mobilization (5%)	\$ 3,400	\$ -	\$ 13,700	\$ 17,100
CONSTRUCTION COST (rounded)	\$ 72,000	\$ -	\$ 287,400	\$ 359,400
Engineering and Contingency (10%)	\$ 7,200	\$ -	\$ 28,700	\$ 35,900
TOTAL CONSTRUCTION COST (rounded)	\$ 79,200	\$ -	\$ 316,100	\$ 395,300
Preliminary Engineering (10%)	\$ 7,900	\$ -	\$ 31,600	\$ 39,500
PROJECT COST ¹(rounded)	\$ 87,100	\$ -	\$ 347,700	\$ 434,800

TDOT PAY ITEM	TDOT DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL COST
-	Right-of-Way	LS	LS	\$ 35,000.00	\$ 35,000
RIGHT-OF-WAY TOTAL (ROUNDED)					\$ 35,000
201-01	Clearing and Grubbing	LS	LS	\$ 5,000.00	\$ 5,000
CLEAR AND GRUBBING TOTAL (ROUNDED)					\$ 5,000
203-03	Borrow Excavation (Unclassified)	CY	1500	\$ 15.00	\$ 22,500
EARTHWORK TOTAL (ROUNDED)					\$ 22,500
202-03.01	Removal of Asphalt Pavement	SY	1,300	\$ 5.00	\$ 6,500
415-01.02	Cold Planning Bituminous Pavement	SY		\$ 3.50	\$ -
PAVEMENT REMOVAL TOTAL (ROUNDED)					\$ 6,500
	EPSC Measures	LS	LS	\$ 10,000.00	\$ 10,000
DRAINAGE TOTAL (ROUNDED)					\$ 10,000
	Overhead Utilities	LS	LS	\$ 10,000.00	\$ 10,000
UTILITIES TOTAL (ROUNDED)					\$ 10,000
	Removal of Existing Bridge	SF	1200	\$ 5.00	\$ 6,000
	2 Span Slab Bridge	SF	1,080	\$ 105.00	\$ 113,400
STRUCTURES TOTAL (ROUNDED)					\$ 119,400
Asphalt					
--	Full Depth Paving	SY	1770	\$ 38.00	\$ 67,260
411-03.10	ACS Mix (PG76-22) Grading D	TON	0.0	\$ 85.00	\$ -
403-01	Bituminous Material for Tack Coat (TC)	TON	0.0	\$ 480.00	\$ -
303-01	Mineral Aggregate, TY A Base, Grading D	TON	0.0	\$ 14.93	\$ -
PAVING TOTAL (ROUNDED)					\$ 67,300
RETAINING WALLS TOTAL (ROUNDED)					\$ -
712-01	Traffic Control	LS	1	\$ 5,000.00	\$ 5,000
MAINTENANCE OF TRAFFIC TOTAL (ROUNDED)					\$ 5,000
716-02.05	Plastic Pavement Marking (Stop Bar)	LF	0	\$ 12.41	\$ -
716-11.01	Spray Thermo Pvmnt Mrkng (4" Line)	LM	0.45	\$ 1,100.00	\$ 495
PAVEMENT MARKINGS TOTAL (ROUNDED)					\$ 500
730-40	Temporary Traffic Signal System	EACH	0	\$ 18,000.00	\$ -
SIGNALIZATION TOTAL (ROUNDED)					\$ -
FENCE TOTAL (ROUNDED)					\$ -
705-02.02	Single Guardrail (Type 2)	LF	680	\$ 15.55	\$ 10,574
705-04.03	Guardrail Terminal (Type 13)	EACH	2	\$ 575.76	\$ 1,152
705-04.04	Guardrail Terminal (Type 21)	EACH	2	\$ 1,773.47	\$ 3,547
705-01.01	Guardrail at Bridge Ends	LF	0	\$ 56.85	\$ -
706-01	Guardrail Removed	LF	0	\$ 2.00	\$ -
705-04.07	Type 38 End Terminal	EACH	0	\$ 2,500.00	\$ -
705-02.50	Shop Curved Guardrail	LF	0.0	\$ 19.04	\$ -
GUARDRAIL TOTAL (ROUNDED)					\$ 15,300
709-05.06	Machined Rip-Rap (Class C)	TON	85	\$ 20.34	\$ 1,729
RIP-RAP OR SLOPE PROTECTION TOTAL (ROUNDED)					\$ 1,800



**STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION**

PROJECT PLANNING DIVISION
SUITE 1000, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TN 37243
(615) 741-2208

JOHN C. SCHROER
COMMISSIONER

BILL HASLAM
GOVERNOR

MEMORANDUM

TO: Project Planning Division

FROM: Clint Butler, PE
ARCADIS

DATE: December 3, 2012

SUBJECT: TPR Field Review (Special Bridge Replacement Program)
Local Route 01282 (Davis Creek Road) Bridge over Davis Branch, Log Mile 5.00
Campbell County
PIN 117270.00

A field review was held for the above-mentioned project on August 16, 2012.

The existing structure consists of two (2) corrugated metal arch pipes with an out-to-out width of forty-four (44) feet. Overall bridge length is 26.9 feet with approximately eight (8) feet of vertical clearance. Bridge sufficiency rating is 73.2. The 10-year and 100-year discharges and depths of flow for the drainage basin were determined using the appropriate regression equations. The calculated 100-year flow depth is 6.6 feet and the 10-year flow depth is 5.1 feet. There is no evidence overtopping has occurred, however severe scour was observed on the upstream left side of the bridge. The scour appears to result from the existing pipe alignment not matching the channel.

The proposed alignment for this structure will be adjusted to better match the channel and roadway. Additionally, the roadway immediately adjacent to the bridge will be designed per TDOT design standard RD01-TS-2. Design criteria will be based on a 35 mph design speed. The route has a posted speed of 35 mph. Roadway grade will be raised approximately 1 foot in order to maintain existing vertical clearance. Construction of the proposed structure is to be completed in a single phase.

Based on low traffic volume and with approval of the Campbell County Road Superintendent, it is recommended that through traffic be detoured north on Cotula Road and east on WestBourne

Road (approximately eight (8) miles) during bridge construction (See Figure 2 – Detour Map). Additionally, the Road Superintendent requested bridge ID 07S25820005 located 0.25 miles east of this project be replaced during the same roadway closure. One closure in lieu of two detours in a short time frame is preferred.

The route has a base year (2016) AADT of 660 and a design year (2036) AADT of 790. The bridge over Davis Branch will consist of an out-to-out width of thirty six (36) feet with two (2) eleven (11) foot lanes and two (2) four (4) foot shoulders. The proposed structure is to be a two (2) span concrete slab bridge with a total length of approximately thirty (30) feet. The proposed vertical clearance shall remain approximately the same, which is above the 100 year flow depth of 6.6 feet. Given that there were no indications of overtopping, maintaining the existing clearance will be sufficient. Right-of-way is expected to be acquired to realign the bridge and improve Davis Creek Road immediately adjacent to the bridge. Some above ground utility work and right-of-way will be required for roadway and structure realignment.

The required approach work, right-of-way, estimated replacement, utility relocation and preliminary engineering costs for this bridge is approximately \$434,800.

CB

cc: file

CHECK LIST OF DETERMINANTS FOR LOCATION STUDY

If any of the following facilities or ESE categories are located within the project area or corridor, place an "x" in the blank opposite the item. Where more than one alternate is to be considered, place its letter designation in the blank.

1.	Agricultural land usage	
2.	Airport (existing or proposed)	
3.	Commercial area, shopping center	
4.	Floodplains	x
5.	Forested land	x
6.	Historical, cultural, or natural landmark	
7.	Industrial park, factory	
8.	Institutional usages	
	a. School or other educational institution	
	b. Church or other religious institution (Cemetery)	x
	c. Hospital or other medical facility	
	d. Public building, e.g., fire station	
	e. Defense installation	
9.	Recreation usages	
	a. Park or recreational area	
	b. Game preserve or wildlife area	
10.	Residential establishment	
11.	Urban area, town, city, or community	
12.	Waterway, lake, pond, river, stream, spring	x
	Permit required: Coast Guard	
	Section 404	x
	TVA Section 26a review	x
	NPDES	x
	Aquatic Resource Alteration	x
13.	Other	
14.	Location coordinated with local officials	
15.	Railroad crossings	
16.	Hazardous materials site	

**TENNESSEE DEPARTMENT OF TRANSPORTATION
PROJECT PLANNING DIVISION**

PROJECT NO.: 99109-1453-04 ROUTE: 01282 Davis Creek Road
 COUNTY: Campbell CITY: Cotula
 PROJECT PIN NUMBER: 117270.00
 PROJECT DESCRIPTION: Bridge Replacement Project Bridge over Davis Branch on Davis Creek Road
L.M. 5.00

DIVISION REQUESTING:

MAINTENANCE PAVEMENT DESIGN
 PLANNING STRUCTURES
 PROG. DEVELOPMENT & ADM. SURVEY & DESIGN
 PUBLIC TRANS. & AERO. TRAFFIC SIGNAL DESIGN
 OTHER
 YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: _____
 PROJECTED LETTING DATE: _____

TRAFFIC ASSIGNMENT:

BASE YEAR		DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
660	2016	790	103	13	2036	65-35	3	5		

REQUESTED BY: NAME Gena Gilliam DATE 5/11/12
 DIVISION Project Planing
 ADDRESS 10th Floor, JKP Bldg
Nashville, TN 37243

REVIEWED BY: TONY ARMSTRONG Tony Armstrong DATE 5-18-12
 TRANSPORTATION MANAGER 1
 SUITE 1000, JAMES K. POLK BUILDING

APPROVED BY: DUDLEY DANIEL Dudley Daniel DATE 21 May 12
 TRANSPORTATION MANAGER 2
 SUITE 1000, JAMES K. POLK BUILDING

COMMENTS:

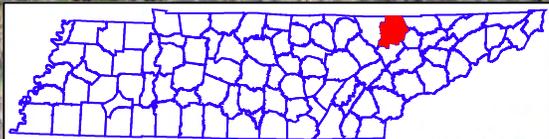
This Traffic is based on 2011 Cycle Count from ADAM. The Future Traffic Count is based on the Growth Rate from the ADAM Computer Program.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.

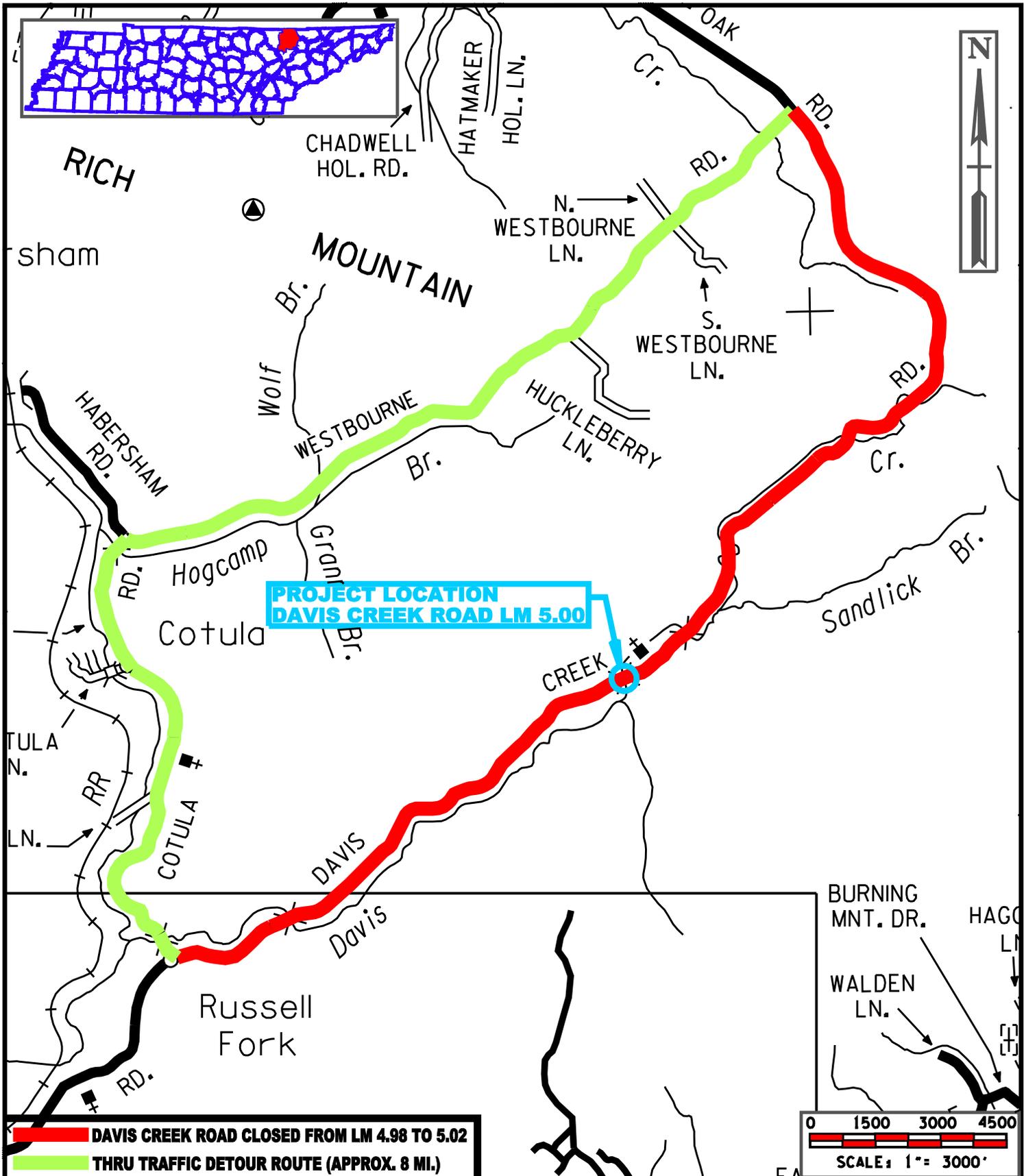
SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS.

(REV. 4/10/12)



**BRIDGE REPLACEMENT
 LOCAL ROUTE 01282 (DAVIS CREEK ROAD)
 BRIDGE OVER DAVIS BRANCH @ L.M. 5.00
 BRIDGE NUMBER 07S25820003
 CAMPBELL COUNTY, TN**

DRAWN BY: BH	CHECKED BY: HM
LR 01282 (DAVIS CREEK RD) L.M. 5.00	
PIN 117270.00	
FIGURE 1	DATE: 12-3-12



DETOUR MAP
LOCAL ROUTE 01282 (DAVIS CREEK ROAD)
BRIDGE OVER DAVIS BRANCH @ L.M. 5.00
BRIDGE NUMBER 07S25820003
CAMPBELL COUNTY, TN

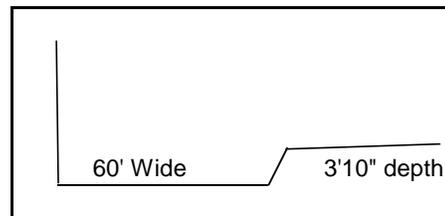
DRAWN BY: BH	CHECKED BY: HM
LR 01282 (DAVIS CREEK RD) L.M. 5.00	
PIN 117270.00	
FIGURE 2	DATE: 12-3-12

SITE INSPECTION

INSPECTION MADE BY: Clint Butler BRIDGE ID: 07S25820003 COUNTY: Campbell
 Date: 8/15/12 Route Name: Local Route 01282 (Davis Creek Road) Stream Name: Davis Branch @ L.M. 5.00

CHANNEL

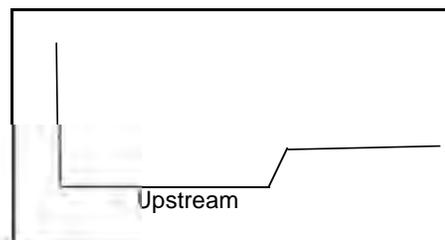
Approx depth and width of channel: Horizontal: 60' Vertical: 3'10"
 Depth of normal flow: 4" In Reservoir: Yes No
 Depth of Ordinary High Water: 18"
 Type of material in stream bed: cobble
 Type of vegetation on banks: Trees and Weeds
 "N" factor of the channel: 0.035
 Are channel banks stable: Yes No
 If the streambed is gravel: $D_{30} =$ 8" $D_{85} =$ 3"
 Skew of the channel with the roadway: 30°



Channel Shape Sketch

FLOODPLAIN

Is the skew same as the channel? Yes No
 Is it symmetrical about the channel? Yes No
 Type of vegetation in the floodplain and "N" factors
 Left U.S.: Hemlock Trees (0.07) Right U.S.: Mixed Hardwoods (0.07)
 Left D.S.: Mixed Hardwoods (0.07) Right D.S.: Min Trees/Overgrown Veg. (0.07)
 Are roadway approaches lower than the structure? Yes No
 Are there any buildings in the floodplain? Yes No
 Approx. floor elevations: _____
 Flood information from local residents:
 (elevations & dates) Local representatives did not recall an overtopping event.



Floodplain Sketch

EXISTING STRUCTURE

Length: 25' No. of spans: 2 Structure type: C.M. Arch Pipes No. of lanes: 2 Skew: 80°
 Width (out to out): 44' Width (curb to curb): 20' Approach: paved graveled
 Sidewalks on Structure: Yes No Bridgerail type: None Bridgerail height = N/A
 Superstructure depth: _____ Finished Grade to low girder = 6" Girder depth = N/A
 Are any substructures in the channel? Yes No Vertical Clearance = 8.0 ft
 Indications of overtopping: No.
 High water marks: No
 Local scour: Yes, Upstream Left No
 Any signs of stream aggradation or degradation? Sediment visible in structure
 Any drift or drift potential? Yes, Brush and dead trees. No
 Any obstructions (pipes, stock fences, etc.)? Brush/Dead Trees

PROPOSED STRUCTURE

Replacement Rehabilitate Widening New Location
 Bridge length: 30 ft Bridge type: Slab Span arrangement: (2) 14' x 8' Skew: 75°
 Bridge width: 36.0 ft Sidewalks: None Design Speed (MPH): 40 ADT (2036) = 790
 Proposed grade: Increase 1.5 ft Proposed alignment: Shift Approx. 25' South
 Method of maintaining traffic: Stage construction On site detour Close road Shift Centerline
 Cost of proposed Structure: \$105 per ft² X 30 / 36 length (ft) / width (ft) Cost = \$113,400
 Cost of bridge removal: \$5 per ft² X 44 / 26.9 length (ft) / width (ft) Cost = \$6,000
 Detour structure: Type and size = N/A Cost = \$0
Total Structure Cost = \$119,400

**Bridge TPR Flow Calculations
For Hydrologic Area 1
Area > 230 Acres**

County: Campbell
Bridge ID: 07S25820003
Route: Local Route 01282 (Davis Creek Road)
Feature Crossed: Davis Branch
Log Mile: 5.00

By: BH
Date: 8/16/12
PIN: 117270.00

DRAINAGE BASIN

Measurement from quad = 2,086 acres
Contributing Drainage Area, CDA = acres/640 = 3.26 sq. mi.

USGS REGRESSION EQUATIONS FOR FLOW

$Q_2 = 119(CDA)^{0.756} =$ 291 cfs
 $Q_5 = 197(CDA)^{0.740} =$ 472 cfs
 $Q_{10} = 258(CDA)^{0.731} =$ 612 cfs
 $Q_{25} = 343(CDA)^{0.721} =$ 804 cfs
 $Q_{50} = 412(CDA)^{0.715} =$ 959 cfs
 $Q_{100} = 485(CDA)^{0.709} =$ 1,121 cfs

DEPTH OF FLOW EQUATIONS

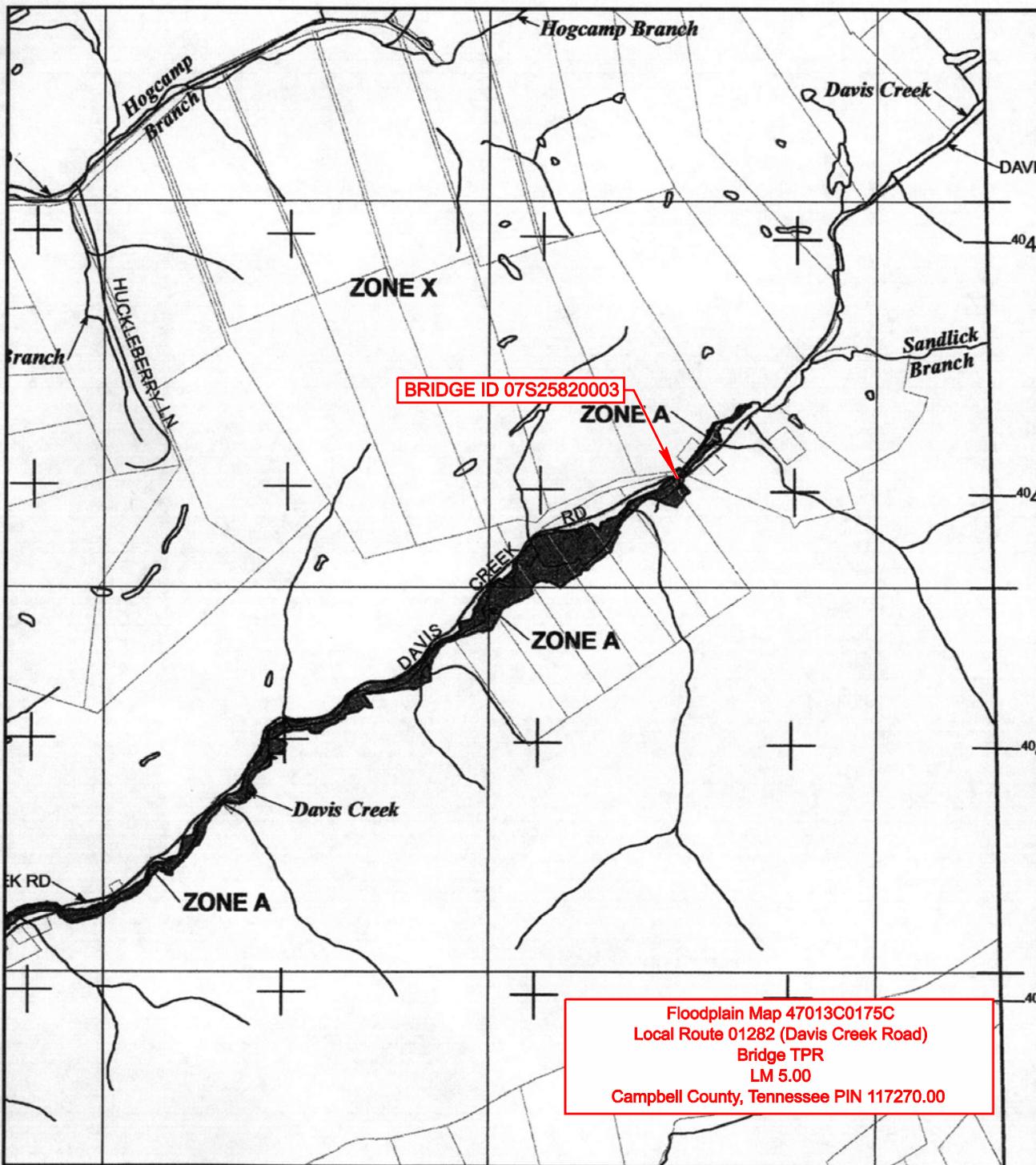
10-Year Flood Depth = $4.11(CDA)^{0.184} =$ 5.1 ft
100-Year Flood Depth = $5.32(CDA)^{0.186} =$ 6.6 ft

AREAS

Existing Area Below Low Chord = 166 ft²
Proposed Area Below Low Chord = 224 ft²
Proposed 10-Year Flood Area, $A_{10} =$ 143 ft²
Proposed 100-Year Flood Area, $A_{100} =$ 185 ft²

VELOCITIES

Proposed 10-Year Flood Velocity, $V_{10} = Q_{10}/A_{10} =$ 4.3 fps
Proposed 100-Year Flood Velocity, $V_{100} = Q_{100}/A_{100} =$ 6.1 fps

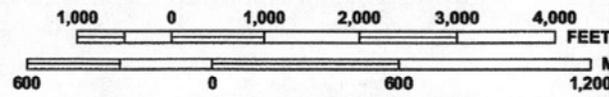


BRIDGE ID 07S25820003

Floodplain Map 47013C0175C
 Local Route 01282 (Davis Creek Road)
 Bridge TPR
 LM 5.00
 Campbell County, Tennessee PIN 117270.00



MAP SCALE 1" = 2000'



PANEL 0175C

FIRM
FLOOD INSURANCE RATE MAP
CAMPBELL COUNTY,
TENNESSEE
AND INCORPORATED AREAS

PANEL 175 OF 425

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
CAMPBELL COUNTY	470016	0175	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



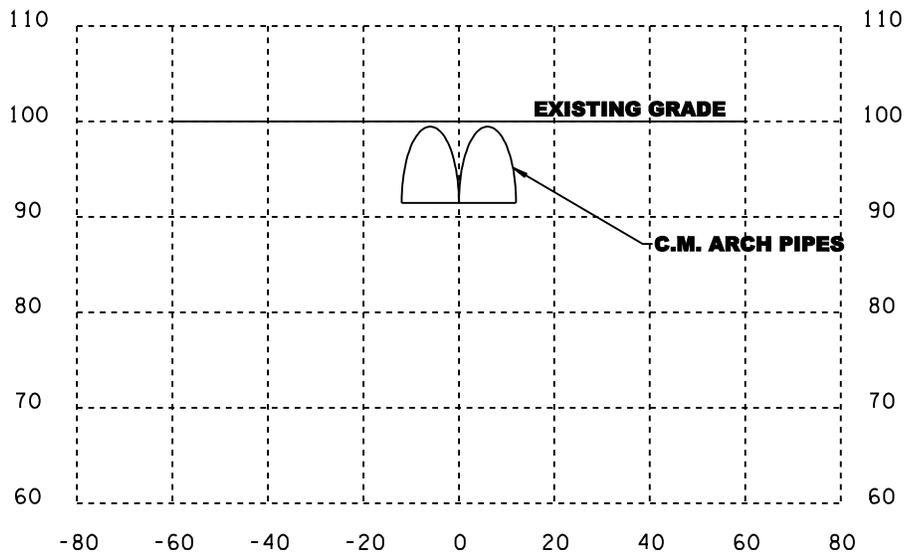
MAP NUMBER
47013C0175C

EFFECTIVE DATE
SEPTEMBER 28, 2007

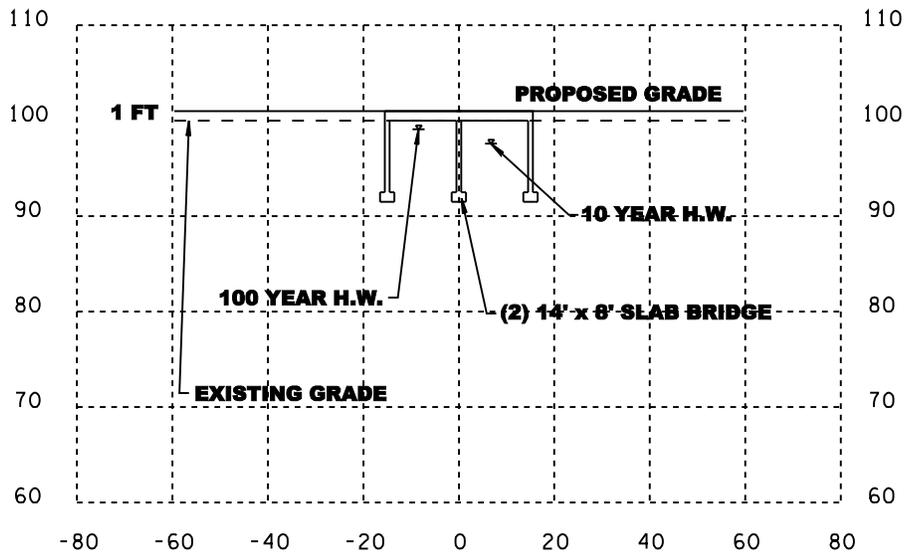
Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

EXISTING STRUCTURE (INLET)



PROPOSED STRUCTURE (INLET)



SCALE: 1" = 40' H
1" = 20' V

BRIDGE SECTIONS
CAMPBELL COUNTY
LOCAL ROUTE 01282 (DAVIS CREEK ROAD)
BRIDGE OVER DAVIS BRANCH @ L.M. 5.00
BRIDGE ID 07S2582003



View of Structure (Outlet)



View of Structure (Inlet)

Bridge ID: 07S25820003
Campbell County



Westbound Bridge Approach on Davis Creek Road



Upstream



Downstream



View of Inlet Stream Bank Erosion



Upstream Left



Upstream Right



Downstream Left



Downstream Right