GEORGIA DEPARTMENT OF TRANSPORTATION

GDOT Project No: NH000-0575-01(028)

PI No: 713640

JBT Project No. 255717

Bridge No. 38
I-575 REVERSIBLE OVER BELLS FERRY RD

November, 2009

COBB COUNTY

DESIGN CALCULATIONS

Note 1: Georgia Department of Transportation (GDOT) terminated Contract Number TOURDPPI60072 for its convenience prior to the completion of all work under that contract and directed that the work with respect to these calculations be discontinued.

(a) These calculations were not completed at the time of GDOT's direction and the information contained herein is not complete and/or has not been fully verified or checked. These calculations are a work-in-progress and are presented only as such.

(b) Any user is cautioned that the use of these calculations and any related information or calculations, without access to pertinent factors and without proper regard for their purpose, could lead to erroneous conclusions.

(c) If any such calculations or any information contained herein is used in future work efforts or any follow on design work activity, a complete confirmation of the information contained herein should be performed prior to any such use.

(d) GTP has no responsibility for the use of this information not under its direct control.

Prepared for Georgia Transportation Partners
Atlanta, Georgia

J.B. TRIMBLE, INC.
2550 Heritage Ct, SE. Suite 250
Atlanta, GA 30339-3062
(770) 952-1022

Purpose of Calculation

Bridge design calculations for Bridge #38 were made for costing purposes.

1. Specifications and References

AASHTO 17th Edition, 2002
GDOT Bridge Design Manual, 2008

2. Computer

Computer Type Used: PC
Operating System: Windows XP, Pentium 4, 2GB RAM (min.)

3. Computer Programs (Standard Computer Program)

None

CALCULATION COVER SHEET

PROJECT	JOB NO.	CALC NO.	SHEET
I-75 / I-575 NORTHWEST CORRIDOR	NH000-0575-01(028)	BR#38	1

SUBJECT	DISCIPLINE
References for Design	STRUCTURAL

CALCULATION STATUS DESIGNATION	PRELIMINARY	CONFIRMED	SUPSEDED	VOIDED	INCOMPLETE
					X

COMPUTER PROGRAM/TYPE	SCP	MAINFRAME	PC	PROGRAM	VERSION/RELEASE NO.
	YES NO			NONE	

Note 1: Georgia Department of Transportation (GDOT) terminated Contract Number TOURDPPI60072 for its convenience the completion of all work under that contract and directed that the work with respect to these calculations be discontinued.
(a) These calculations were not completed at the time of GDOT's direction and the information contained herein is not and/or has not been fully verified or checked. These calculations are a work-in-progress and are presented only as such.
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Included Reference Information:

- Roadway information
- Bridge Survey Shots
- Existing Bridge Plans
- Existing Bridge Maintenance Reports
- BFI

NO.	REASON FOR REVISION	TOTAL NO. OF SHEETS	LAST SHEET NO.	BY	CHECKED	APPROVED/ ACCEPTED	DATE
A	As per GDOT's termination for convenience direction	68	68	JCR			11/30/09

RECORD OF REVISIONS

CALCULATION SHEET

PROJECT: I-75 / I-575 NORTHWEST CORRIDOR
JOB NUMBER NH000-0575-01(028)
CALC NO. BR#38

SUBJECT: Roadway Information
BY: JCR DATE: 11/30/2009

SHEET NO.
SHEET REV.

PI	( )	1162+59.8641	1468028.9379	2176862.6992
PI	( )	1176+85.4854	1469435.3671	2176629.5621
Tangential Direction:		N 9°24'43.4203" W		
Tangential Length:		1425.6213		

Element: Linear

PI	( )	1176+85.4854	1469435.3671	2176629.5621
PI	( )	1183+52.8783	1470093.5595	2176519.1261
Tangential Direction:		N 9°31'29.1403" W		
Tangential Length:		667.3929		

Element: Linear

PI	( )	1183+52.8783	1470093.5595	2176519.1261
PC	( )	1189+11.4340	1470644.5222	2176427.3407
Tangential Direction:		N 9°27'29.1619" W		
Tangential Length:		558.5558		

Element: Circular

PC	( )	1189+11.4340	1470644.5222	2176427.3407
PI	( )	1218+37.7290	1473531.0373	2175946.4734
CC	( )		1471178.5827	2179633.1603
PT	( )	1236+76.1628	1474311.0107	2178766.9067
Radius:		3250.0000		
Delta:		83°59'58.7274" Right		
Degree of Curvature (Arc):		1°45'46.6095"		
Length:		4764.7288		
Tangent:		2926.2950		
Chord:		4349.3340		
Middle Ordinate:		834.7726		
External:		1123.2942		
Tangent Direction:		N 9°27'29.1619" W		
Radial Direction:		N 80°32'30.8380" E		
Chord Direction:		N 32°32'30.2018" E		
Radial Direction:		S 15°27'30.4344" E		
Tangent Direction:		N 74°32'29.5656" E		

BR#38 575 @ Betts Ferry

Element: Linear

PT	( )	1236+76.1628	1474311.0107	2178766.9067
PC	( )	1258+60.9756	1474893.3497	2180872.6817
Tangential Direction:		N 74°32'29.5656" E		
Tangential Length:		2184.8128		

Element: Circular

PC	( )	1258+60.9756	1474893.3497	2180872.6817
PI	( )	1276+86.2122	1475379.8475	2182631.8884
CC	( )		1477683.6201	2180101.0496
PT	( )	1291+18.0216	1477176.9079	2182951.3598
Radius:		2895.0000		
Delta:		64°27'40.0868" Left		
Degree of Curvature (Arc):		1°58'44.8637"		
Length:		3257.0459		

BR#39 575 @ Hawkins Store

PROJECT:	NW Corridor
COUNTY:	COBB
BRIDGE:	38
DESCRIPTION:	I-575 over Bells Ferry Rd.

VERTICAL GRADE DATA FOR NEW ALIGNMENT, ADJUSTED FOR SURVEY DIFF.:

PVC =	1227+99.63	PVI =	1233+99.63	PVT =	1239+99.63
PVI EL. =	1016.2400	PVI EL. =	1006.82	PVI EL. =	1005.3200
		VC Length (ft) =	1200		

ELEVATION COMPARISON, ADJUSTED FOR SURVEY DIFF.

BENT 1R LEFT SIDE		BENT 1R RIGHT SIDE	
Geomath Rdy EL. =	1009.553	Geomath Rdy EL. =	1007.209
Survey EL. =	1009.566	Survey EL. =	1007.157
DIFFERENCE =	-0.013	DIFFERENCE =	0.052

BENT 3R LEFT SIDE		BENT 3R RIGHT SIDE	
Geomath Rdy EL. =	1007.283	Geomath Rdy EL. =	1004.864
Survey EL. =	1007.273	Survey EL. =	1004.932
DIFFERENCE =	0.010	DIFFERENCE =	-0.068

Mean EL. Difference =	-0.005

Degree of Curvature (Arc):	2°51'53.2403"
Length:	718.1910
Tangent:	363.0047
Chord:	714.3384
Middle Ordinate:	32.1509
External:	32.6762
Tangent Direction:	S 21°27'32.4974" E
Radial Direction:	S 68°32'27.5026" W
Chord Direction:	S 11°10'18.1158" E
Radial Direction:	S 89°06'56.2659" W
Tangent Direction:	S 0°53'03.7341" E

BELLS FERRY RD

Element: Linear

PT	( )	293+39.3773	1474918.3415	2178583.2832
POE	( )	305+92.5328	1473665.3353	2178602.6251
Tangential Direction:		S 0°53'03.7341" E		
Tangential Length:		1253.1555		

Alignment Name: XR 1280+00 Hawkins Store
Alignment Description: I-575 Hawkins Store Road
Alignment Style: MAIN_P_SIDECL

Element: Linear

		Station	Northing	Easting
POB	( )	346+19.4014	1476189.0826	2182198.5369
POE	( )	353+89.5329	1476184.6832	2182968.6559
Tangential Direction:		S 89°40'21.6972" E		
Tangential Length:		770.1315		

Alignment Name: XR 1449+00 Towne Lake
Alignment Description: I-575 Towne Lake Pkwy
Alignment Style: MAIN_P_SIDECL

Element: Linear

		Station	Northing	Easting
POB	( )	491+04.8011	1492492.6748	2185975.2171
POE	( )	497+98.0939	1492576.4982	2186663.4238
Tangential Direction:		N 83°03'20.1529" E		
Tangential Length:		693.2928		

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BELLS FERRY

Tangent Grade:	2.33%	
Tangent Length:	50.0000	

Element: Linear

PVI	298+00.0000	977.1434
PVI	298+50.0000	978.4530
Tangent Grade:	2.62%	
Tangent Length:	50.0000	

Element: Linear

PVI	298+50.0000	978.4530
PVI	299+00.0000	980.4041
Tangent Grade:	3.90%	
Tangent Length:	50.0000	

Element: Linear

PVI	299+00.0000	980.4041
PVI	299+50.0000	981.7541
Tangent Grade:	2.70%	
Tangent Length:	50.0000	

Element: Linear

PVI	299+50.0000	981.7541
PVI	300+00.0000	983.2850
Tangent Grade:	3.06%	
Tangent Length:	50.0000	

Element: Linear

PVI	300+00.0000	983.2850
PVI	300+50.0000	984.7541
Tangent Grade:	2.94%	
Tangent Length:	50.0000	

Element: Linear

PVI	300+50.0000	984.7541
PVI	301+00.0000	985.7637
Tangent Grade:	2.02%	
Tangent Length:	50.0000	

Element: Linear

PVI	301+00.0000	985.7637
PVI	301+50.0000	987.2488
Tangent Grade:	2.97%	
Tangent Length:	50.0000	

Element: Linear

PVI	301+50.0000	987.2488
PVI	302+00.0000	988.6820
Tangent Grade:	2.87%	
Tangent Length:	50.0000	

Element: Linear

J. B. Trimble Inc.

CALCULATION SHEET

PROJECT: I-75 / I-575 NORTHWEST CORRIDOR
JOB NUMBER NH000-0575-01(028)
CALC NO. BR#38

SUBJECT: Bridge Survey Shots
BY: JCR DATE: 11/30/2009

SHEET NO.
SHEET REV.

I-575 over Bells Ferry (Existing Right Bridge)

BENT 1 LEFT SIDE
SVXO10251 N 1474216.412400 E 2178461.681100 Z 1009.566 TBRDG
"ZEBG68"
BENT 1 RIGHT SIDE
SVXO10248 N 1474172.128600 E 2178462.395600 Z 1007.157 TBRDG
"ZEBG71"

BENT 3 LEFT SIDE
SVXO10230 N 1474305.222800 E 2178726.551700 Z 1007.273 TBRDG
"ZEBG68"
BENT 3 RIGHT SIDE
SVXO10241 N 1474262.238300 E 2178727.566600 Z 1004.932 TBRDG
"ZEBG71"

CALCULATION SHEET

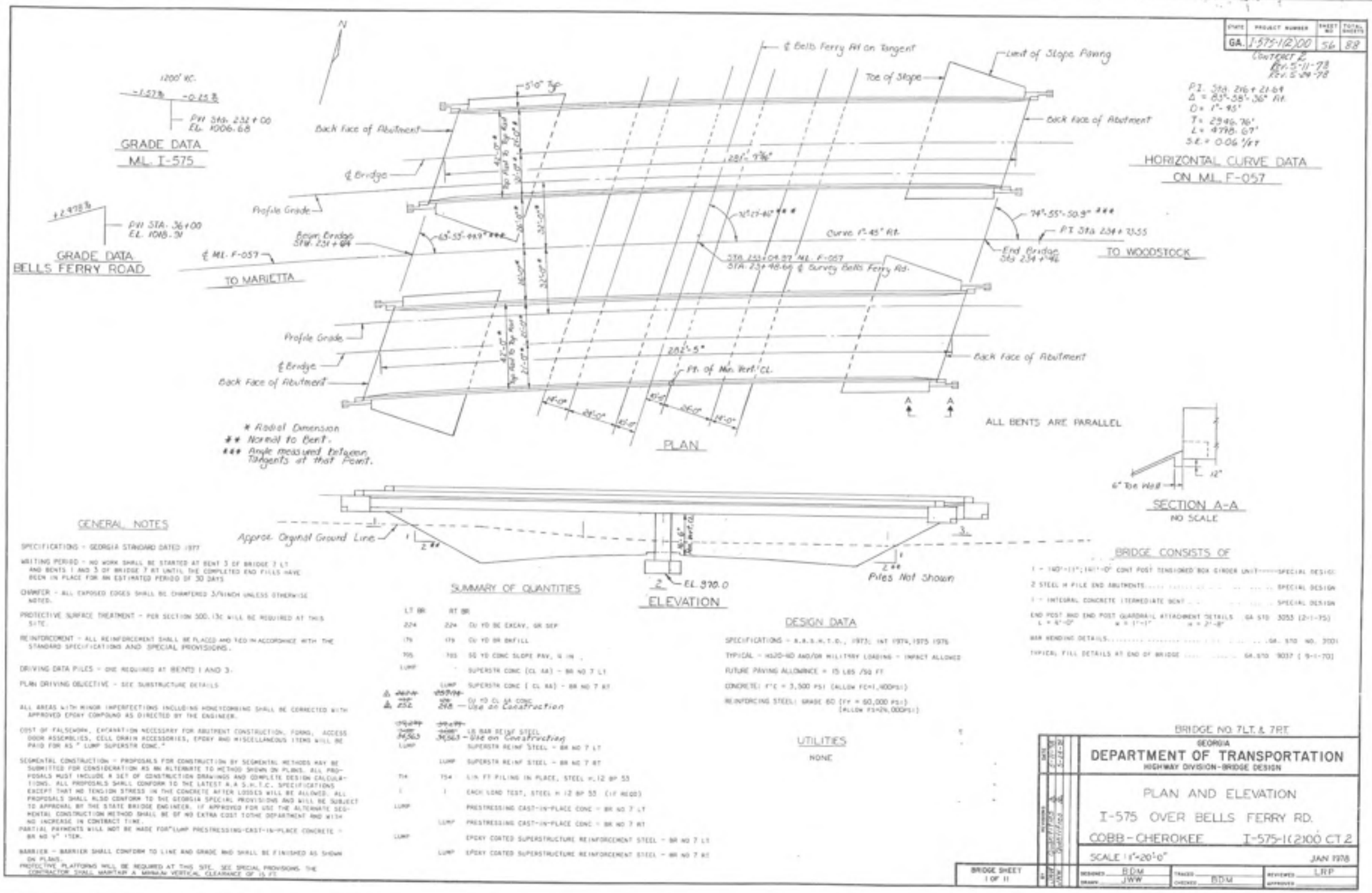
PROJECT: I-75 / I-575 NORTHWEST CORRIDOR
JOB NUMBER NH000-0575-01(028)
CALC NO. BR#38

SUBJECT: Existing Bridge Plans
BY: JCR DATE: 11/30/2009

SHEET NO.
SHEET REV.

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	I-575-1(210)0	56	88

CONTRACT 2
Rev. 5-11-78
Rev. 5-24-78



HORIZONTAL CURVE DATA ON ML. F-057

P.I. Sta. 216+21.69
Δ = 83°-58'-36" Rt.
D = 1°-45'
T = 2946.76'
L = 4798.07'
S.E. = 0.06 ft/ft

GENERAL NOTES

SPECIFICATIONS - GEORGIA STANDARD DATED 1977

WRITING PERIOD - NO WORK SHALL BE STARTED AT BENT 3 OF BRIDGE 7 LT AND BENTS 1 AND 3 OF BRIDGE 7 RT UNTIL THE COMPLETED END FILLS HAVE BEEN IN PLACE FOR AN ESTIMATED PERIOD OF 30 DAYS.

CHAMFER - ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4INCH UNLESS OTHERWISE NOTED.

PROTECTIVE SURFACE TREATMENT - PER SECTION 500.13C WILL BE REQUIRED AT THIS SITE.

REINFORCEMENT - ALL REINFORCEMENT SHALL BE PLACED AND TIED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

DRIVING DATA PILES - ONE REQUIRED AT BENTS 1 AND 3.

PLAN DRIVING OBJECTIVE - SEE SUBSTRUCTURE DETAILS

ALL AREAS WITH MINOR IMPERFECTIONS INCLUDING HONEYCOMBING SHALL BE CORRECTED WITH APPROVED EPOXY COMPOUND AS DIRECTED BY THE ENGINEER.

COST OF FALSEWORK, EXCAVATION NECESSARY FOR ABUTMENT CONSTRUCTION, FORMS, ACCESS DOOR ASSEMBLIES, CELL DRAIN ACCESSORIES, EPOXY AND MISCELLANEOUS ITEMS WILL BE PAID FOR AS " LUMP SUPERSTR CONC."

SEGMENTAL CONSTRUCTION - PROPOSALS FOR CONSTRUCTION BY SEGMENTAL METHODS MAY BE SUBMITTED FOR CONSIDERATION AS AN ALTERNATE TO METHOD SHOWN ON PLANS. ALL PROPOSALS MUST INCLUDE A SET OF CONSTRUCTION DRAWINGS AND COMPLETE DESIGN CALCULATIONS. ALL PROPOSALS SHALL CONFORM TO THE LATEST A.A.S.H.T.O. SPECIFICATIONS EXCEPT THAT NO TENSION STRESS IN THE CONCRETE AFTER LOSSES WILL BE ALLOWED. ALL PROPOSALS SHALL ALSO CONFORM TO THE GEORGIA SPECIAL PROVISIONS AND WILL BE SUBJECT TO APPROVAL BY THE STATE BRIDGE ENGINEER. IF APPROVED FOR USE THE ALTERNATE SEGMENTAL CONSTRUCTION METHOD SHALL BE OF NO EXTRA COST TO THE DEPARTMENT AND WITH NO INCREASE IN CONTRACT TIME.

PARTIAL PAYMENTS WILL NOT BE MADE FOR "LUMP PRESTRESSING-CAST-IN-PLACE CONCRETE - BR NO 7" ITEM.

BARRIER - BARRIER SHALL CONFORM TO LINE AND GRADE AND SHALL BE FINISHED AS SHOWN ON PLANS.

PROTECTIVE PLATFORMS WILL BE REQUIRED AT THIS SITE. SEE SPECIAL PROVISIONS. THE CONTRACTOR SHALL MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 15 FT.

SUMMARY OF QUANTITIES

LT BR	RT BR	
224	224	CU YD BC EXCAV, GR SEP
179	179	CU YD BR BKFILL
705	705	SQ YD CONC SLOPE PAV, 4 IN
LUMP		SUPERSTR CONC (CL AA) - BR NO 7 LT
	LUMP	SUPERSTR CONC (CL AA) - BR NO 7 RT
~~[illegible]~~ 205		CU YD CL AA CONC
~~[illegible]~~ 218		— Use on Construction
~~[illegible]~~ 34,563		LB BAR REINF STEEL
	~~[illegible]~~ 34,563	— Use on Construction
LUMP		SUPERSTR REINF STEEL - BR NO 7 LT
	LUMP	SUPERSTR REINF STEEL - BR NO 7 RT
754	754	LIN FT PILING IN PLACE, STEEL H,12 BP 53
1	1	EACH LOAD TEST, STEEL H 12 BP 53 (IF REQD)
LUMP		PRESTRESSING CAST-IN-PLACE CONC - BR NO 7 LT
	LUMP	PRESTRESSING CAST-IN-PLACE CONC - BR NO 7 RT
LUMP		EPOXY COATED SUPERSTRUCTURE REINFORCEMENT STEEL - BR NO 7 LT
	LUMP	EPOXY COATED SUPERSTRUCTURE REINFORCEMENT STEEL - BR NO 7 RT

DESIGN DATA

SPECIFICATIONS - A.A.S.H.T.O., 1973; INT 1974,1975 1976

TYPICAL - H20-44 AND/OR MILITARY LOADING - IMPACT ALLOWED

FUTURE PAVING ALLOWANCE = 15 LBS /SQ FT

CONCRETE: f'c = 3,500 PSI (ALLOW fc=1,400PSI)

REINFORCING STEEL: GRADE 60 (fy = 60,000 PSI) (ALLOW fs=24,000PSI)

UTILITIES

NONE

BRIDGE CONSISTS OF

1 - 140'-11"; 140'-0" CONT POST TENSIONED BOX GIRDER UNIT-----SPECIAL DESIGN

2 STEEL H PILE END ABUTMENTS..... SPECIAL DESIGN

1 - INTEGRAL CONCRETE INTERMEDIATE BENT..... SPECIAL DESIGN

END POST AND END POST GUARDRAIL ATTACHMENT DETAILS GA STD 3053 (2-1-75)
L = 6'-0" W = 1'-1" H = 2'-8"

BAR BENDING DETAILS..... GA. STD NO. 3001

TYPICAL FILL DETAILS AT END OF BRIDGE ..... GA.STD 9037 (9-1-70)

BRIDGE SHEET 1 OF 11

BRIDGE NO. 7LT. & 7RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION-BRIDGE DESIGN

PLAN AND ELEVATION

I-575 OVER BELLS FERRY RD.

COBB - CHEROKEE I-575-1(210)0 CT 2

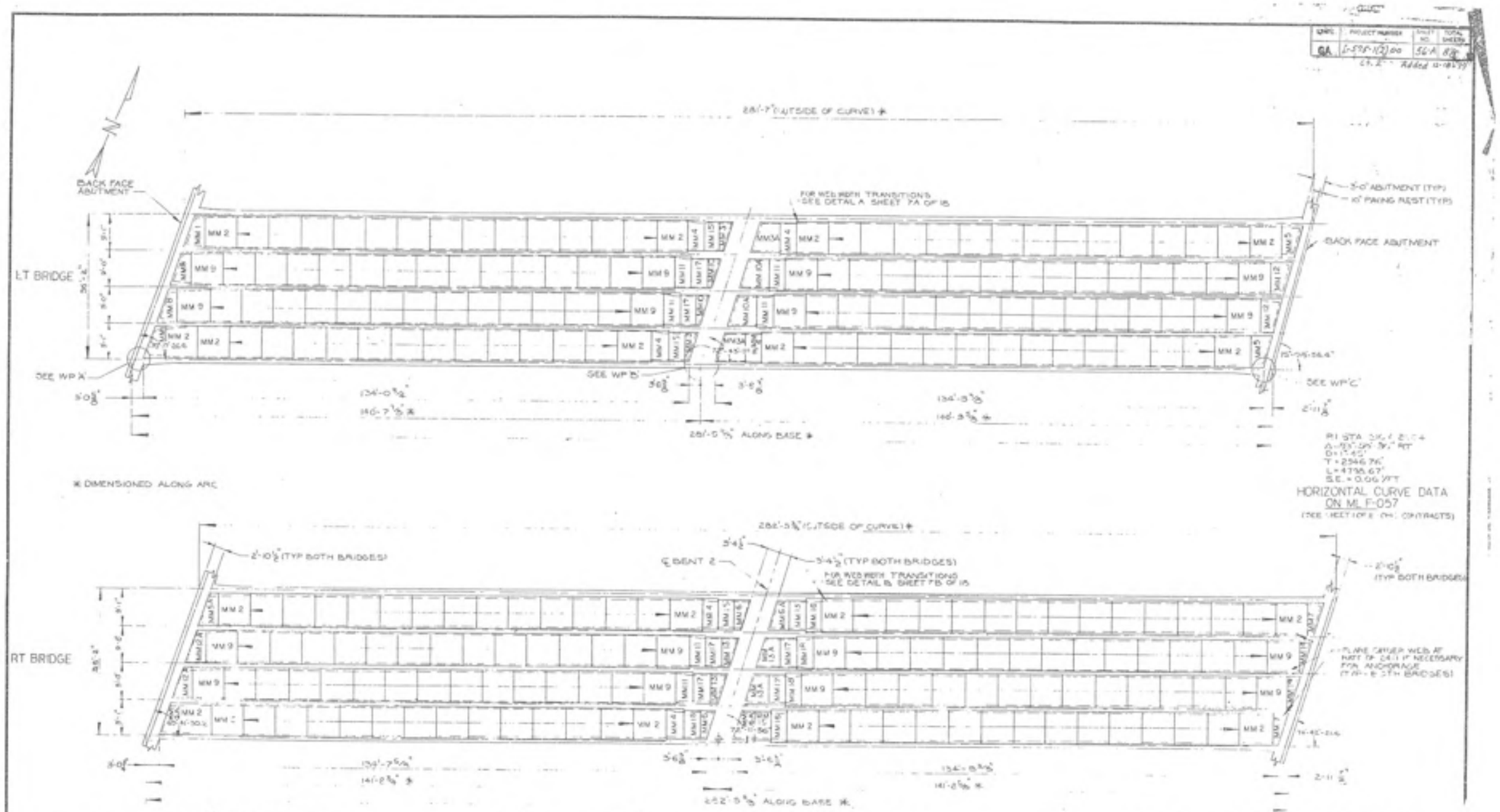
SCALE 1"=20'-0" JAN 1978

DESIGNED BDM TRACED DRAWN JWW CHECKED BDM REVIEWED LRP APPROVED

REVISIONS	DATE	BY
ADD QUANTITIES	5-24-78	JWW
ADD QUANTITIES	5-11-78	JWW

CONTR.	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	I-575-1(2)00	5A	8A

CT. 2 Added 11-18-77



GEORGIA DEPT OF TRANSPORTATION
COBB-CHEROKEE CTY PROJ. NO. I-575-1(2)00 CT. 2

I-75 OVER BELLS FERRY ROAD

REVISIONS			
NO.	DATE	DESCRIPTION	BY

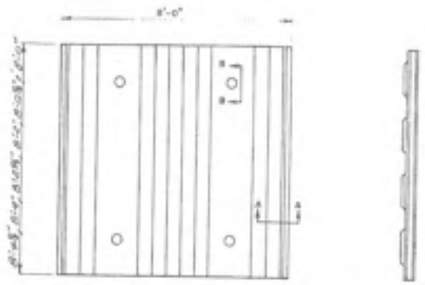
SCALE 1"=10' | DRAWN BY | CHECKED BY | DATE 2-27-79 | DESIGNED BY DRD

"BOBBITT" IN PLACE INC.
P.O. BOX 1
TRUSSVILLE, ALA.

AUSTIN BRIDGE CO.
P.O. BOX 7001
DALLAS, TEXAS 75220

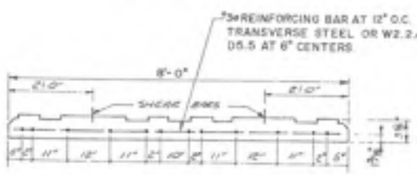
BRIDGE DESIGNER 1B OF 1

STATE	PROJECT NUMBER	SHEET	TOTAL
GA	I-575-1(12)00	56B	88



TYP. PRECAST UNIT

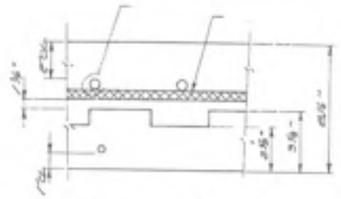
SECTION A-A
EDGE DETAIL



NOTE:
12-7/8" ϕ 270K 7 WIRE STRAND STRESSED @ 15,900 LBS. EA.

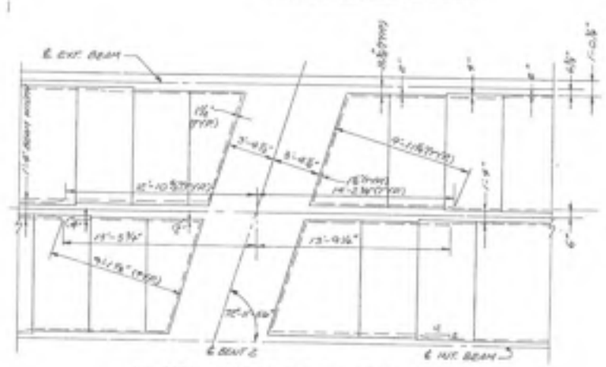
STRAND LOCATION
IN SAW-CUT UNITS

NOTE: THESE STRAND PATTERNS ARE FOR HS-LOADING AS PER CONTRACT DRAWINGS



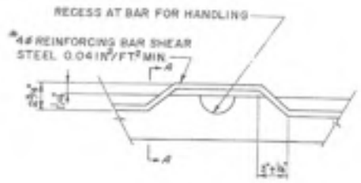
PARTIAL SECTION

SHEAR BAR CYCLE

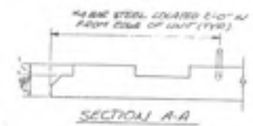


GIRDER WIDTH TRANSITIONS - RT. BR.

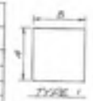
PRECAST PANEL SCHEDULE								
GENERAL			PANEL DIMENSIONS					
MARK	QUAN.	TYPE	A	B	C	D	AREA	"Z"
MM1	2	2	8'-4 5/8"	3'-6"	3'-0"	2'-5 7/8"	33.3669	1359
MM2	100	1	8'-4 5/8"	8'-0"			67.1129	1359
MM3	2	3	8'-0 5/8"	5'-1 7/8"	2'-6 5/8"	0'-7 7/8"	19.9503	1281
MM4	6	1	8'-5 5/8"	4'-0"			32.8555	1095
MM5	2	3	8'-4 5/8"	5'-0 5/8"	2'-6 5/8"	2'-9 7/8"	38.0461	1371
MM5A	2	2	8'-4 5/8"	5'-2"	3'-1 7/8"	2'-6 5/8"	35.5830	1357
MM6	2	3	8'-0 5/8"	4'-1 7/8"	2'-7 7/8"	1'-5 7/8"	20.3746	1278
MM6A	2	2	8'-0 5/8"	5'-3 5/8"	2'-1"	2'-8 5/8"	32.2155	
MM7	2	3	8'-4 5/8"	5'-7 7/8"	2'-3 5/8"	1'-3 5/8"	20.3746	
MM8	2	2	8'-4"	5'-8 7/8"	2'-11 7/8"	2'-6"	33.3554	1355
MM9	100	1	8'-4"	8'-0"			66.6612	1355
MM10	2	3	8'-0"	5'-1 7/8"	2'-8 5/8"	0'-7 7/8"	19.8760	1220
MM10A	2	2	8'-0"	5'-4 5/8"	2'-5 7/8"	4'-10 7/8"	48.1240	1220
MM11	6	1	8'-2"	4'-0"			32.6660	1020
MM12	2	3	8'-4"	5'-0 7/8"	2'-2 5/8"	2'-10 7/8"	32.9462	1351
MM12A	2	2	8'-4"	5'-1 7/8"	3'-1"	2'-10 7/8"	30.1060	
MM13	2	3	8'-0"	4'-0 7/8"	2'-6 7/8"	1'-6"	22.2856	1220
MM13A	2	2	8'-0"	5'-3 5/8"	2'-6 7/8"	2'-8 5/8"	32.9906	1220
MM14	2	3	8'-4"	5'-7 7/8"	2'-3 5/8"	1'-4 5/8"	20.3747	1234
MM15	6	1	8'-0 5/8"	4'-0"			32.2280	1281
MM16	2	1	8'-4 5/8"	4'-0"			33.5496	
MM17	6	1	8'-0"	4'-0"			32.0000	1220
MM18	2	1	8'-4"	4'-0"			33.3552	
MM19	2	2	8'-0 5/8"	7'-1 7/8"	2'-6 5/8"	4'-10 7/8"	48.4826	1274



SECTION B-B
SHEAR BAR

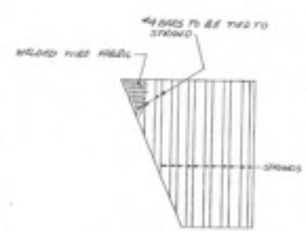


SECTION A-A



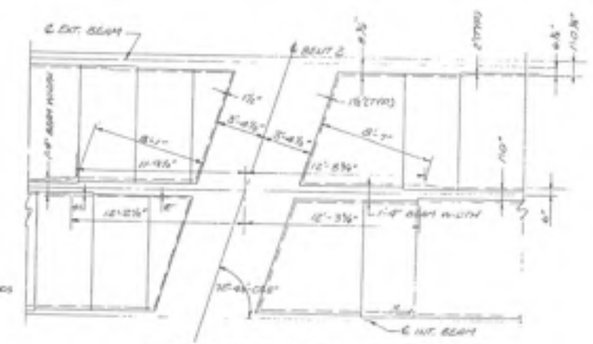
TYPE 1

TYPE 2 & 3



ADDITIONAL REINF.
FOR ALL STRAND UNITS

NOTE:
WELDED WIRE FABRIC MAY BE USED AT THE PRODUCERS OPTION TO PREVENT SPALLING OR CHIPPING



GIRDER WIDTH TRANSITIONS - LT. BR.

NOTE: ADDED TO PLANS 12-18-79, D.E.M.

ENGINE SHEET 18 OF 11

PRODUCER BOBBITT-IN-PLACE CORP.
PO BOX 854
TITUSVILLE, FLORIDA

CONTRACTOR: ALSTON BRIDGE CO.
P.O. BOX 19191
DALLAS, TEXAS

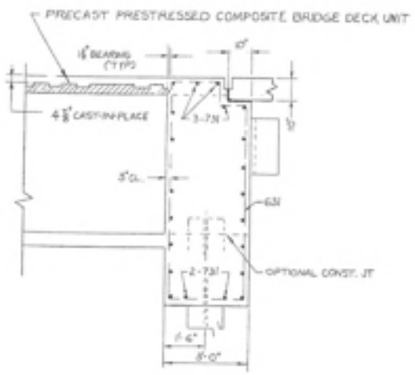
I-575-1(12) 00 SH 2
I-575 OVER BELLS FERRY RD.
COBB-CHEROKEE CO., GEORGIA

STAY-IN PLACE FORM DETAILS

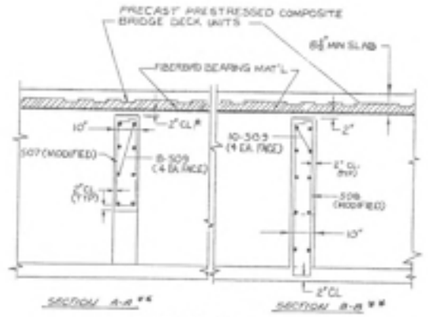
79025

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA	I-575-1(2)00	56-C	88

CH. 2 Added 12-18-79



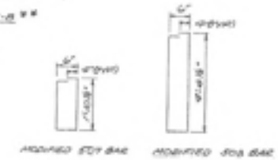
TYP SECTION AT END BENTS

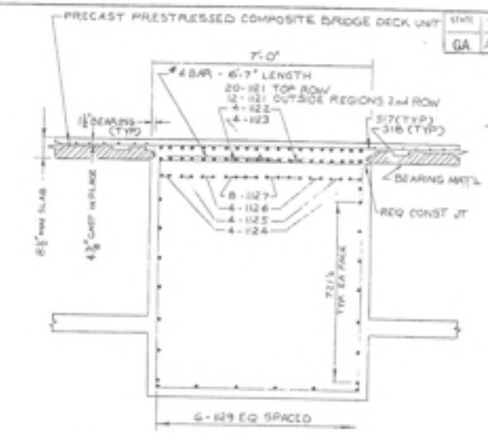


DIAPHRAGM DETAILS

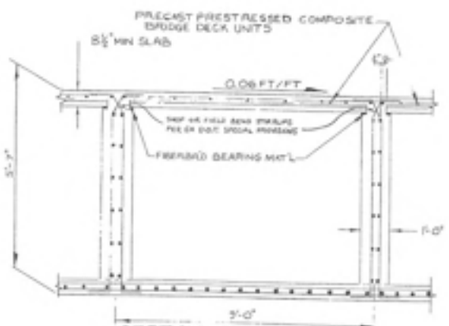
** MODIFIED FROM SECTIONS ON SHEET 5 OF 11 OF DESIG. CONTRACTS.

LOOSENING INTERMEDIATE DIAPHRAGMS 2" REGARDS DECK UNITS TO PRES. CURE TOP WITHOUT INTERBRAID WITH OR REMOVING DOWELS ON DIAPHRAGM.

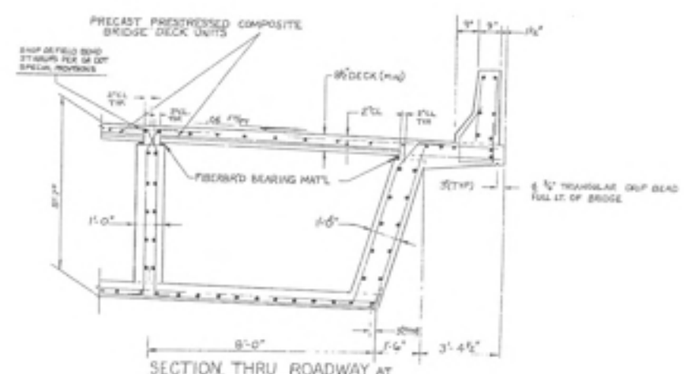




SECTION AT INTERMEDIATE BENT



SECTION THRU ROADWAY
AT BAYS NO 2 & 3



SECTION THRU ROADWAY AT
EXTERIOR BAYS 1 & 4

NOTE: ADDED TO PLANS 12-18-79, D.E.M.

BRIDGE SHEET 1C OF 11

PRODUCER: BOBBITT-IN PLACE CORP.
P.O. BOX 654 MYAKKA, FLORIDA

CONTRACTOR: AUSTIN BRIDGE CO.
P.O. BOX 1790 DALLAS, TEXAS

I-575 OVER BELLS FERRY RD.
COBB-CHEROKEE CO. GEORGIA

STAY-IN PLACE FORM DETAILS

DRAWING NUMBER 2

79225

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	I-575-1(200	57	88

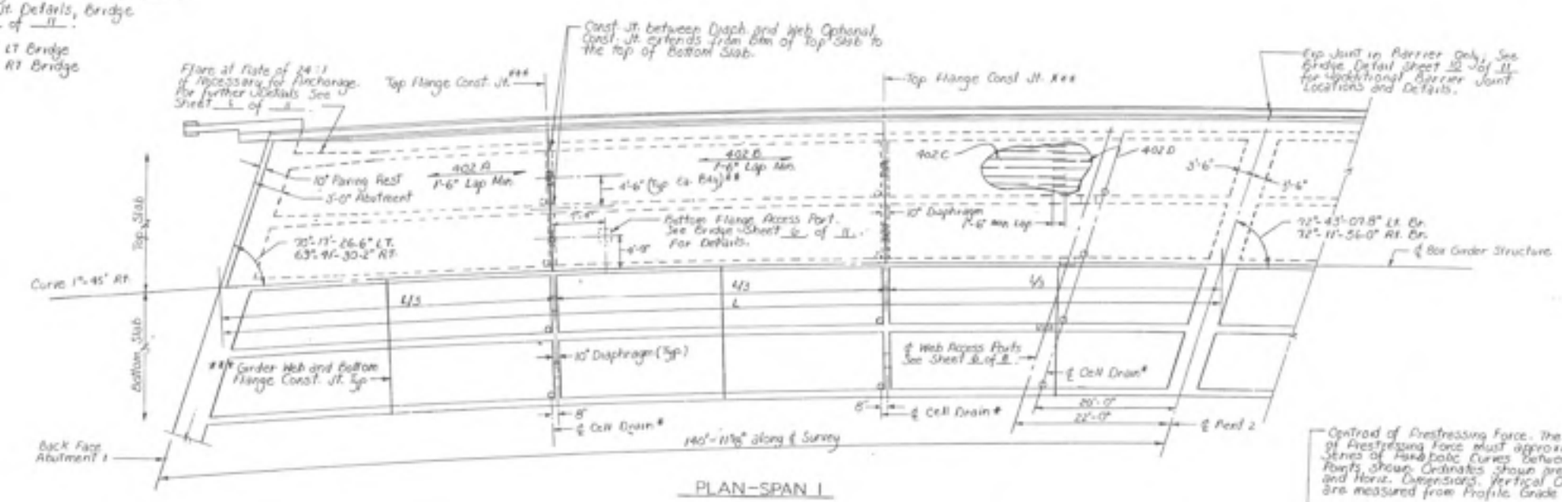
CONTRACT 2
Rev 6-8-79

* For Cell Drain Details, See Bridge Detail Sheet 6 of 11.

** See Diaphragm Detail with Access Port, Bridge Sheet 2 of 11.

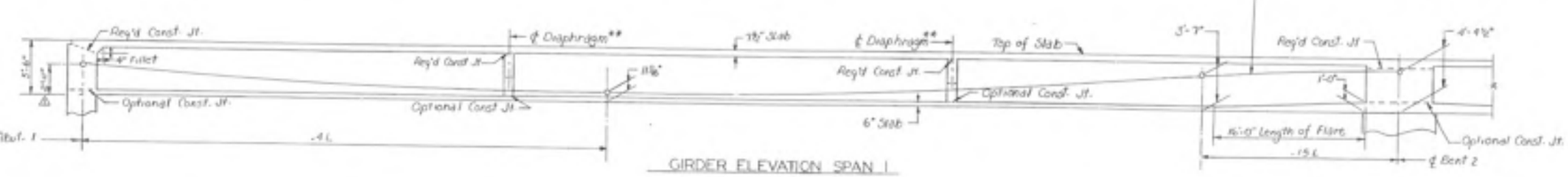
*** See Const. Jt. Details, Bridge Sheet 6 of 11.

L = 140'-8⅞" LT Bridge
141'-2½" RT Bridge



PLAN-SPAN 1

Centroid of Prestressing Force. The Centroid of Prestressing Force must approximate a series of Parabolic Curves between the points shown. Ordinates shown are Vert. and Horiz. Dimensions. Vertical Ordinates are measured from Profile Grade Elevations.



GIRDER ELEVATION SPAN 1

Concrete: Post-Tensioning shall not begin until the concrete has reached a minimum compressive strength of 3000 psi (f'ci = 3000)

Post-Tensioning: The required Jacking Force (Pjack) is 2082 Kips at each Girder Web or a Total force of 10,409 Kips. Tendons shall be stressed to the required Jacking force from both Ends (simultaneous stressing not required). Stressing shall proceed on the basis of Cycles: One Tendon in each Web, in such an order that lateral and vertical Eccentricity of Prestressing will be a minimum.

All features of the Prestressing System proposed shall be subject to approval of the Engineer, including number, location and type of Tendons and Ducts, Anchorage Details, Tensioning Sequence and provisions for Grouting and Venting. If the system requires Plating of Girder Webs at the Anchorage Ends, Details and additional reinforcement required will be subject to approval by the Engineer.

A minimum of 3" clearance shall be maintained between Tendon Groups Vertically and 2½" Horizontally.

A Maximum Group of 3 Post-Tensioning Units may be bundled Vertically.

Bar Reinf. interfering with Prestressing Tendon Alignment shall be adjusted as directed by the Engineer.

Design is based on following:

a. Friction Loss Coefficients are $k = 0.0003$; $\mu = 0.25$.
b. Jacking Force (Pjack) includes friction losses and provision for other losses in accordance with the 1973 A.A.S.H.T.O. Interim Specifications.
c. Tendons to be jacked to $0.75 f'_s$ and anchored at an equivalent Anchor Set of 5/8".
d. f'c = 3300 PSI (28 Day Compressive Strength)

BRIDGE NO. 7 LT & 7RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION-BRIDGE DESIGN

SUPERSTRUCTURE DETAILS
I-575 OVER BELLS FERRY RD.
COBB-CHEROKEE I-575-1(200)CT.2

NO SCALE

BRIDGE SHEET 2 OF 11

DESIGNED FEC DRAWN JWW TRACED CHECKED BDM REVIEWED LRP APPROVED

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	I-575-1(20)0	58	88

CONTRACT 2
Rev. 6-8-79

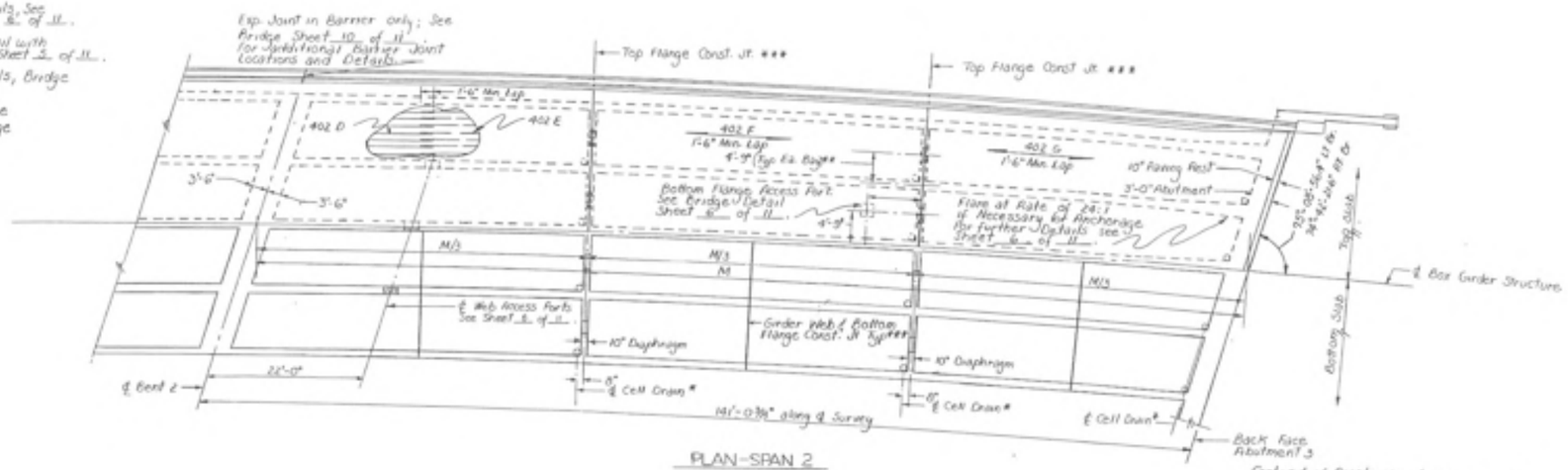
Note: Webs are laid out as Arcs of Concentric Circles and Diaphragms are laid out on Radial Lines.

* For Cell Drain Details, See Bridge Detail Sheet 8 of 11.

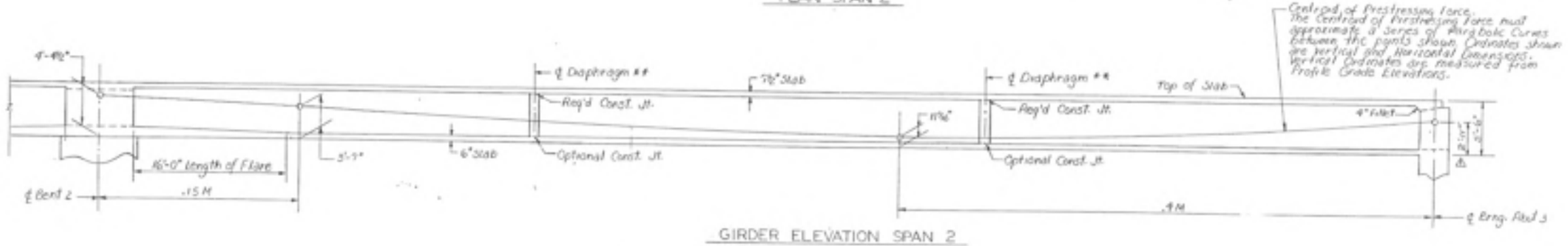
** See Diaphragm Detail with Access Port, Bridge Sheet 5 of 11.

*** See Const. Jt. Details, Bridge Sheet 6 of 11.

M= 140'-10⅜" LT. Bridge
141'-2½" RT. Bridge



PLAN-SPAN 2



GIRDER ELEVATION SPAN 2

BRIDGE NO 7LT & 7RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION-BRIDGE DESIGN

SUPERSTRUCTURE DETAILS

I-575 OVER BELLS FERRY RD.

COBB-CHEROKEE I-575-1(21)00 CT. 2

NO SCALE

BRIDGE SHEET 3 OF 11

DESIGNED F.E.C. DRAWN JWW TRACED CHECKED BDM REVIEWED LRP APPROVED

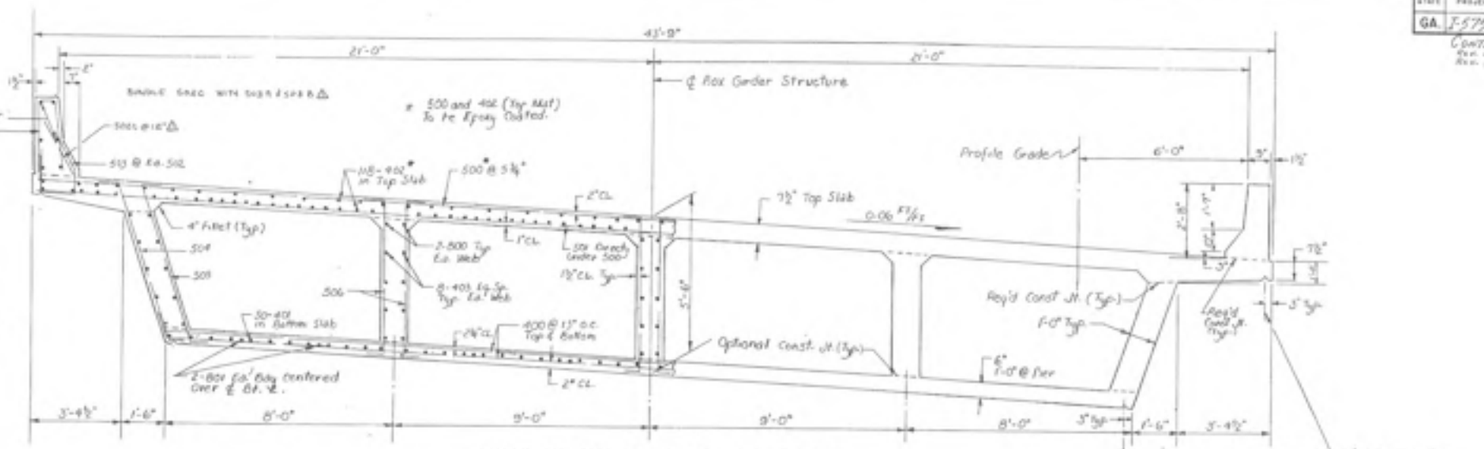
STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	I-575-1(2)00	59	88

CONTRACT 2

NOTE: BOTTOM SLAB IS PARALLEL TO TOP SLAB.

ALL HORIZONTAL DIMENSIONS ON TRANSVERSE SECTION ARE RADIAL TO ℄ SURVEY.

ALL BAR REINF. IN BRIDGES 7LT. & 7RT. IS TO BE GRADE 60 STEEL.

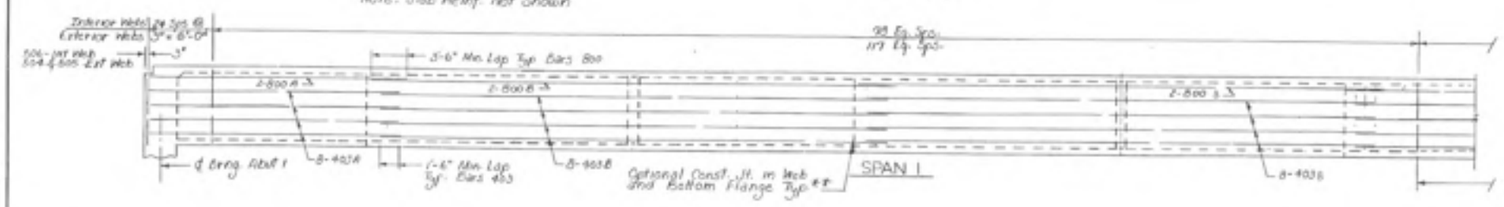


LT. BR. LOOKING AHD. (RT. BR. SIMILAR)

TRANSVERSE SECTION

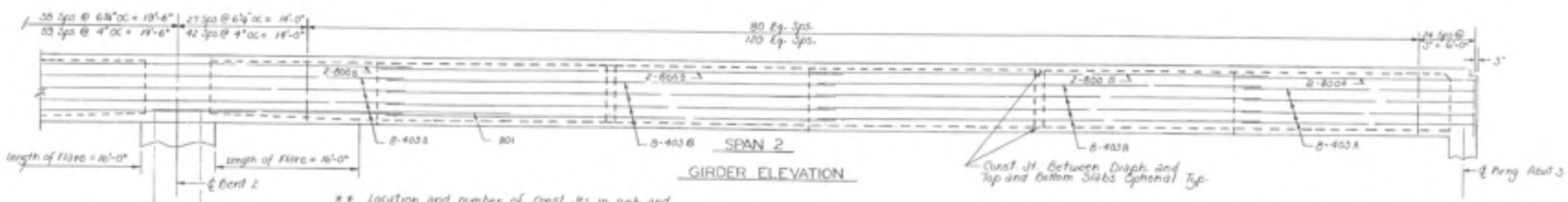
Scale: ½" = 1'-0"

Note: Slab Reinf. Not Shown



SPAN 1

Note: Top and Bottom Slab Reinf. (500, 501 and 400) are to be placed parallel to the Rent. and Spacing is to be measured along ℄ Bridge.



SPAN 2

GIRDER ELEVATION

** Location and number of Const. Jts. in web and bottom flange are at contractors option and subject to approval of the State Bridge Engineer.

QUANTITIES

ITEM	SPAN 1 LT.	SPAN 2 LT.	SPAN 1 RT.	SPAN 2 RT.	TOTAL LT.	TOTAL RT.
Lump Superstructure Concrete, Cu. Yds.	469.86	467.12	469.33	468.08	934.78	937.43
Lump Superstructure Reinforcement Steel, Lbs.	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Lump Superstructure Epoxy Coated Rebar Steel, Lbs.	~~26655~~ 24101	28385 22,379	~~26655~~ 24101	~~28385~~ 22,379	~~55040~~ 46,500	~~55040~~ 46,500

NOTE: BARRIER AND END POST CONCRETE AND REINF. ARE INCLUDED IN SUPERSTRUCTURE QUANTITIES.

BRIDGE NO. 7LT & 7RT.

GEORGIA

DEPARTMENT OF TRANSPORTATION

HIGHWAY DIVISION-BRIDGE DESIGN

SUPERSTRUCTURE DETAILS

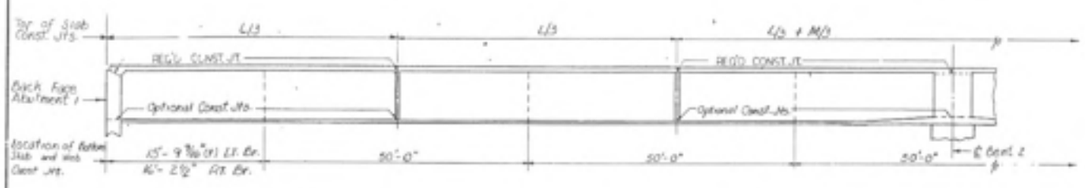
I-575 OVER BELLS FERRY RD.

COBB-CHEROKEE I-575-1(2)00 CT 2

SCALE AS SHOWN OCT. 1977

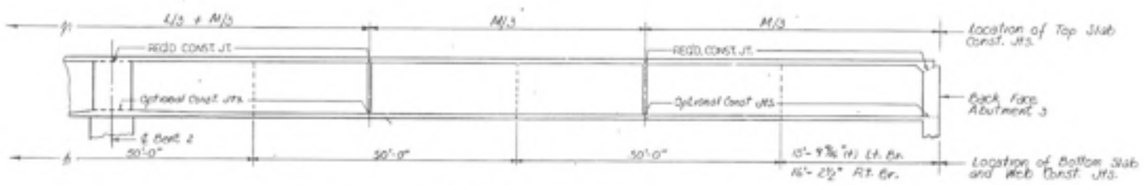
BRIDGE SHEET 4 OF 11

DESIGNED FEC DRAWN JWW TRACED CHECKED BDM REVIEWED LRP APPROVED



CONCRETE PLACING SEQUENCE – SPAN 1

NOTE: CONCRETE PLACING SEQUENCE DIMENSIONS ARE ALONG THE PROFILE GRADE LINE.



CONCRETE PLACING SEQUENCE – SPAN 2

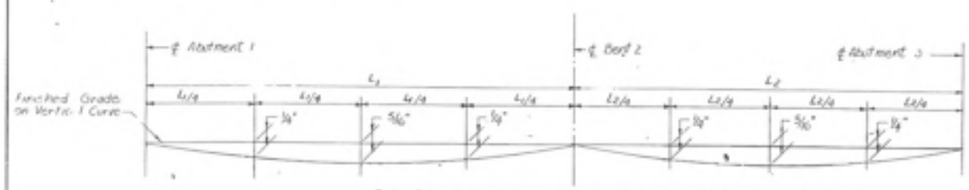
1) FORMS AND FALSEWORK FOR THE BOTTOM SLAB OF THE ENTIRE LENGTH AND WIDTH OF SUPERST. SHALL BE IN PLACE PRIOR TO PLACING ANY SUPERSTRUCTURE CONCRETE.

2) CONCRETE FOR BOTTOM SLAB, WEB WALLS AND DIAPHRAGMS MAY BE PLACED IN ANY SEQUENCE.

3) NO TOP SLAB CONCRETE MAY BE PLACED UNTIL ALL WALLS AND DIAPHRAGMS ARE IN PLACE.

4) CONSTRUCTION JOINTS WILL BE PERMITTED AT DESIGNATED LOCATIONS ONLY OR AT LOCATIONS PROPOSED BY CONTRACTOR AND APPROVED BY THE STATE BRIDGE ENGINEER.

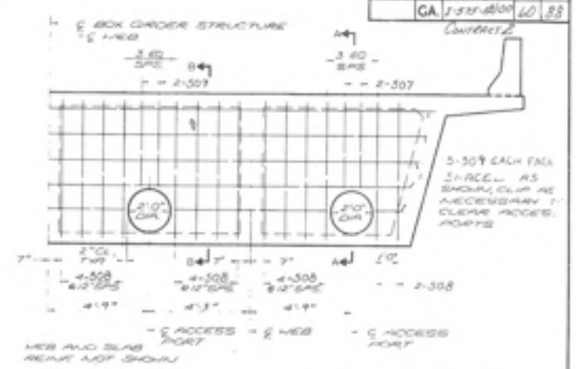
5) CONCRETE SHALL NOT BE PLACED IN BARRIER UNTIL FALSEWORK HAS BEEN RELEASED. BARRIER MAY BE PLACED IN ANY SEQUENCE.



Deflections shown are approximate. Final Deflections due to Dead Load and Prestress, including time effects. Initial Deflections at time of prestressing are approximately 40% of these values.

Falsework shall be cambered for the full Deflection shown, plus effects of Vertical Curve, Normal Slope of Road and Anticipated Settlement of Deflection of Falsework.

GIRDER DEFLECTION CURVE

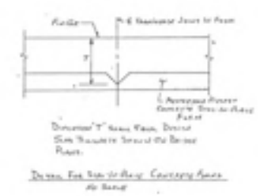


SECTION A-A

DIAPHRAGM DETAILS
WITH ACCESS PORTS

SECTION B-B

DIAPHRAGM DETAIL - WITH ACCESS PORT. SAME WITH CUTOUT IN BOX GIRDER STRUCTURE.



Deviation "T" Across Width, Deviation Slope Transverse Toward the Bridge Plank.

Deviation For Slope Of Roadway Centerline Across the Bridge

FHWA-GA 7 LT and 7 RT

FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.		SHEET NO.	TOTAL SHEETS
	GA.	I-575-1(2)100		60	88

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION - BRIDGE DESIGN

SUPERSTRUCTURE DETAILS
I-575 OVER BELLS FERRY RD.
COBB-CHEROKEE I-575-1(2)100 CT.2
NO SCALE FIP 1577

BRIDGE SHEET 5 OF 11

DATE | REVISIONS

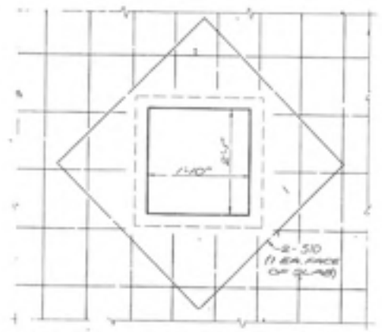
DESIGNED TJK DRAWN JWM TRACED CHECKED JCM REVIEWED LRK APPROVED

FED. ROAD DIV. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.	I-575-1(2)00		61	88

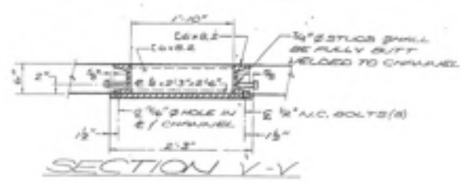
Contract 2

NOTE: CLIP BARS IN BOTTOM SLAB TO CLEAR OPENING BY 2" MIN.

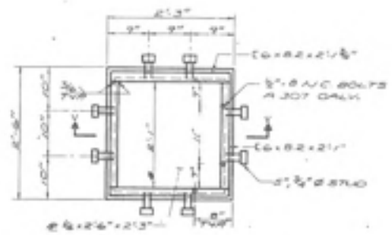
NOTE: 2 ACCESS PORT ASSEMBLIES REQUIRED. A-36 STEEL GALVANIZED, ASTM A-123, OR A-153, AFTER FABRICATION. APPROX. WEIGHT PER ASSEMBLY UNIT - 125 lbs.



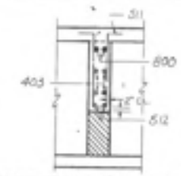
BOTTOM FLANGE ACCESS PORT



SECTION Y-Y

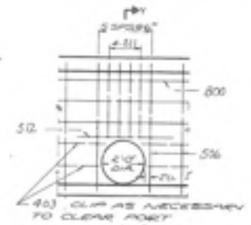


PLAN



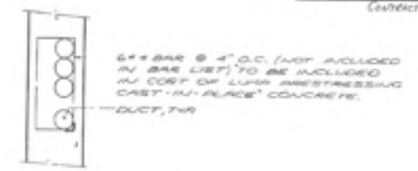
SECTION Y-Y

SLAB REINF. NOT SHOWN



WEB ACCESS PORT

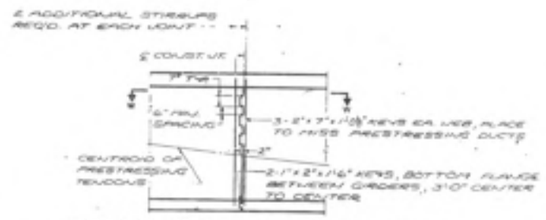
SLAB REINF. NOT SHOWN



SECTION Z-Z

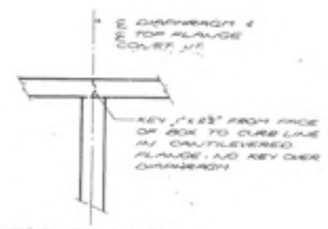
GIRDER FLARE REINF. DETAIL

SECTION W-W



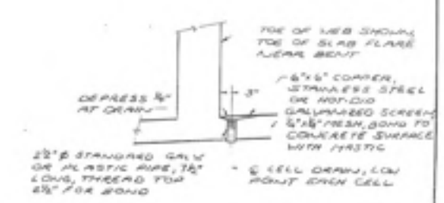
GIRDER WEB & BOTTOM FLANGE

CONSTRUCTION JOINT



TOP FLANGE

DETAILS



CELL DRAIN DETAILS

NO SCALE

BRIDGE NO. 7 LT. & 7 RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION - BRIDGE DESIGN

SUPERSTRUCTURE DETAILS
I-575 OVER BELLS FERRY RD.
COBB-CHEROKEE I-575-1(2)00 CT. 2

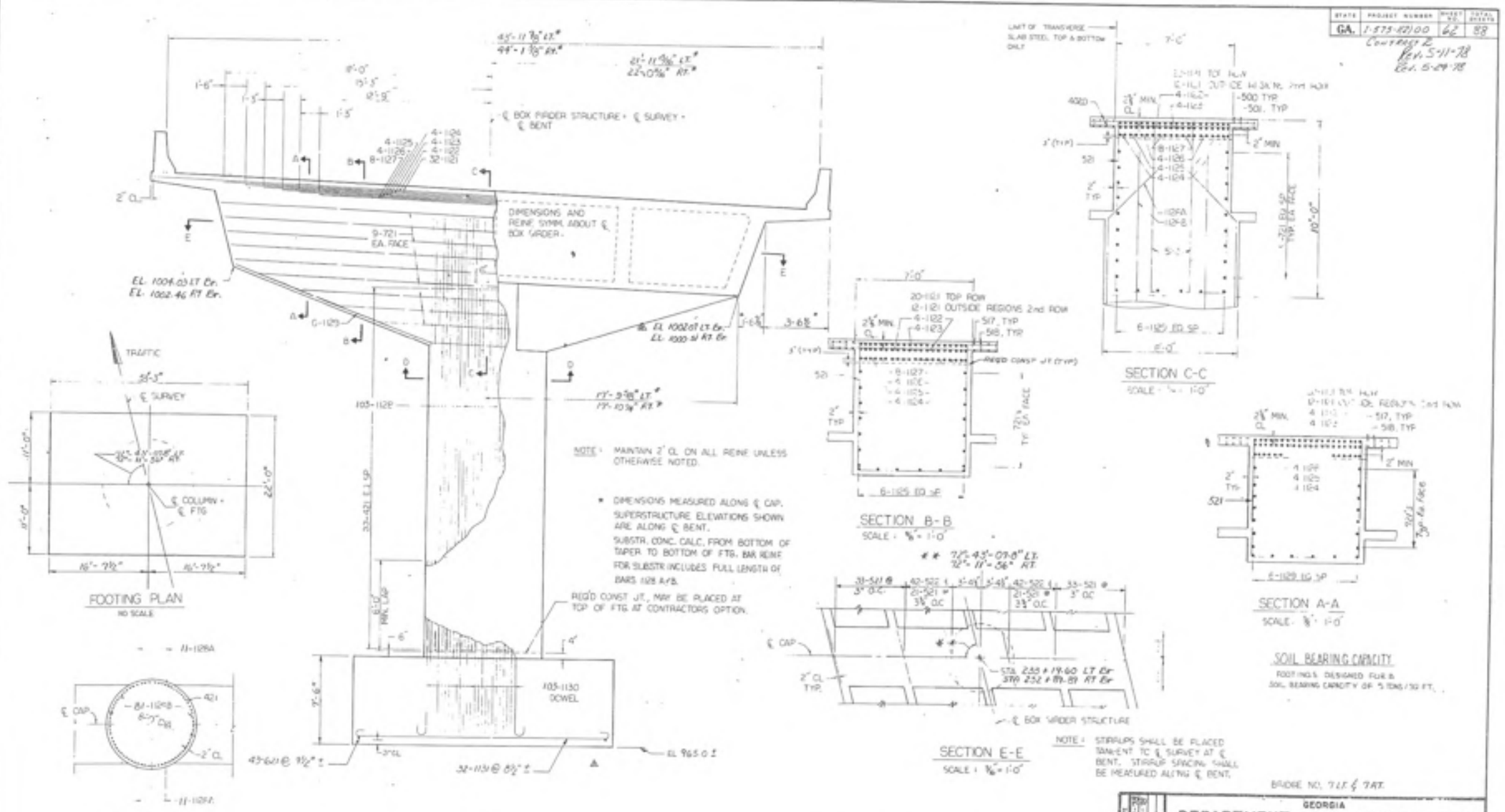
NO SCALE FEB. 1977

BRIDGE SHEET 6 OF 11

DESIGNED DDM | TRACED | REVIEWED LRP
DRAWN JAW | CHECKED RDM | APPROVED

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	I-575-(12)00	62	88

Contract 2
Rev. 5-11-78
Rev. 5-24-78



SOIL BEARING CAPACITY

FOOTINGS DESIGNED FOR A SOIL BEARING CAPACITY OF 5 TONS/SQ FT.

QUANTITIES

ITEM	BENT	2LT	2RT
CU. YDS. CLASS AA CONCRETE			
LBS. BAR REINF STEEL		34,563	34,563

BRIDGE NO. 71LT & 71RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION - BRIDGE DESIGN

BENT 2 DETAILS

I-575 OVER BELLS FERRY RD.

COBB CHEROKEE · I-575-(12)00 CT.2

SCALE - AS SHOWN

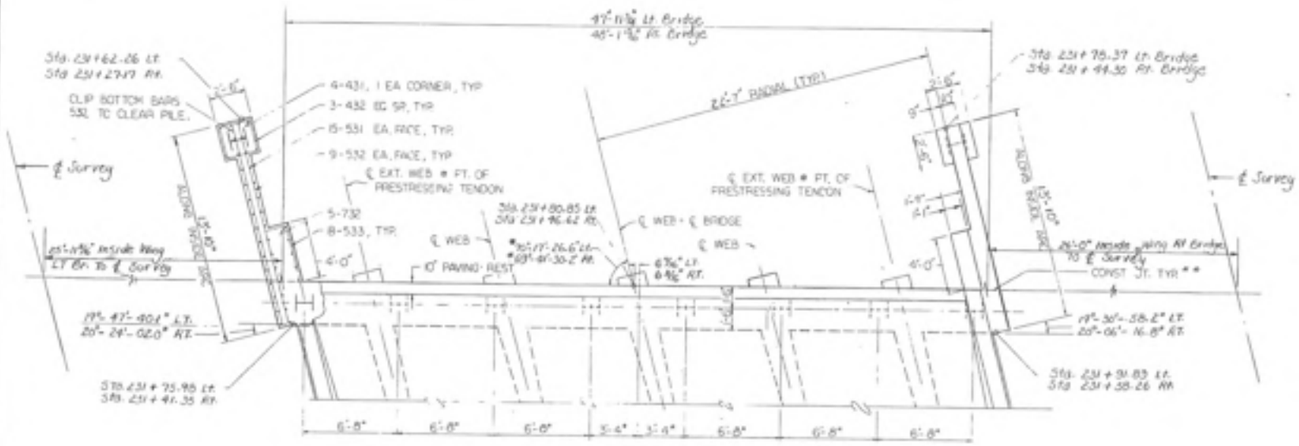
MAR. 1977

BRIDGE SHEET 7 OF 11

DESIGNED · DRAWN · CHECKED · TRACED · REVIEWED · APPROVED

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	I-575-1(2)00	63	88

CONTRACT 2
REV. 7-26-79



PLAN
SCALE: 1/4" = 1'-0"

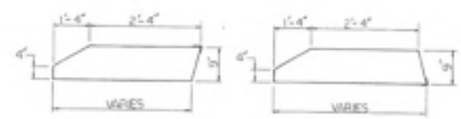
NOTE: * MEASURED FROM TANGENT TO ℄ BRIDGE AT ITS INTERSECTION WITH BK. FACE OF ABUTMENT.

SEE BRIDGE SHEET 9 OF 11 FOR FURTHER ABUTMENT DETAILS.

** WINGWALLS BEYOND CONST. JT. SHALL BE POURED AFTER THE POST-TENSIONING OF THE STRUCTURE IS COMPLETED.

NOTES

1) CONTRACTOR TO SUBMIT FOR APPROVAL WORKING DRAWINGS OF THE BEARING SEAT DETAILS NEEDED FOR THE PRESTRESSING SYSTEM THAT WILL BE USED.
2) EDGE DISTANCE OF BEARING PLATES SHALL BE 1 1/2" MIN.
3) THE ANCHORAGES SHALL BE RECESSED AND THE RECESS SHALL BE FILLED WITH CONCRETE TO PROVIDE 2" MINIMUM COVER OVER ALL METAL SURFACES AFTER POST-TENSIONING AND GROUTING OF THE TENDONS HAS BEEN COMPLETED AND ACCEPTED.
4) CONCRETE IN ABUTMENTS 1 AND 3 SHALL BE INCLUDED WITH LUMP SUPERSTR. CONC. (CL AA). BAR REINFORCEMENT IN ABUTMENTS 1 AND 3 SHALL BE INCLUDED WITH LUMP SUPERSTR. REINF. STEEL.
5) NUMBER AND LENGTH OF 434, 435, AND 436 BARS AND VOLUME OF CONCRETE IN BEARING SEAT TO COMPLY WITH PROPOSED PRESTRESSING SYSTEM. THE COST OF CONCRETE AND BARS SHALL BE INCLUDED IN PRICE OF LUMP PRESTRESSING CAST-IN-PLACE CONCRETE.
6) SEE GA. STD 3053 FOR DETAILS OF 4'-0" × 1'-1" × 2'-8" ENDPOST AND BAR REINF. IN ENDPOST. COST OF BARS IN ENDPOST SHALL BE INCLUDED WITH PRICE OF LUMP LBS. BAR REINF. FOR SUPERSTRUCTURE.

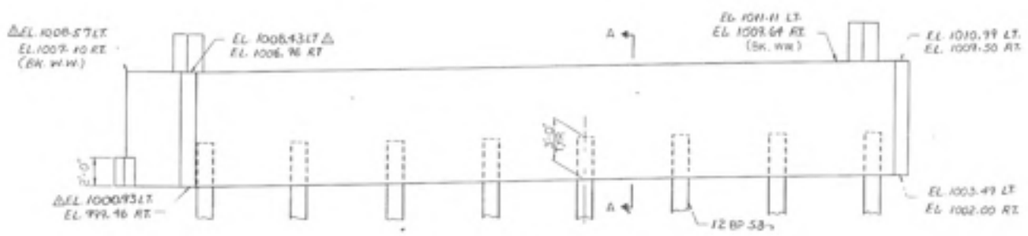


P501A P501B

ENDPOST BAR DETAILS
SCALE: NONE

PLAN DRIVING OBJECTIVE

DRIVE ALL PILES TO A DRIVING RESISTANCE OF 90 TONS AFTER A MIN. TIP ELEV OF 990 IS ACHIEVED.



ELEVATION
SCALE: 1/4" = 1'-0"
LOOKING BACK

BRIDGE NO. 7 LT. & 7 RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION - BRIDGE DESIGN

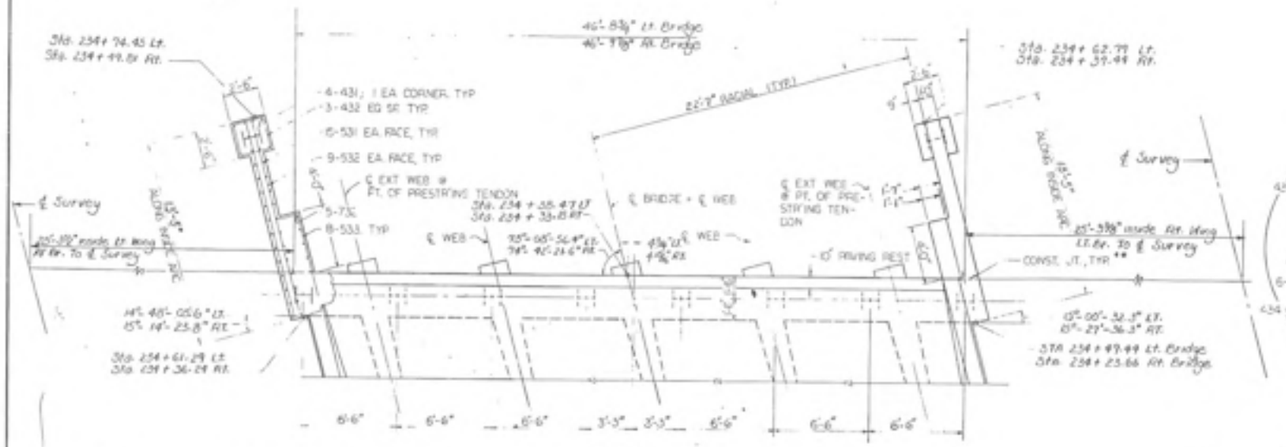
ABUTMENT 1
I-575 OVER BELLS FERRY RD.
COBB-CHEROKEE I-575-1(2)00 CT 2
SCALE: AS SHOWN MAR. 1977

BRIDGE SHEET 8 OF 11

DESIGNED RGM TRACED CHECKED RGM
DRAWN JWW APPROVED

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.	I-575-1(2)00	69	88

CONTRACT 2
Rev 7-24-79



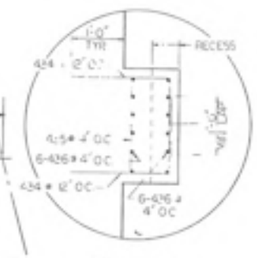
PLAN
SCALE: NONE

NOTE: MAINTAIN 2" CL. ON ALL REINF. UNLESS OTHERWISE NOTED.

* MEASURED FROM TANGENT TO ℄ BRIDGE AT ITS INTERSECTION WITH BACK FACE OF ABUTMENT.

** WINGWALLS BEYOND CONST. JT. SHALL BE POURED AFTER THE POST TENSIONING OF THE STRUCTURE IS COMPLETED.

COST OF EXP. JT. MATERIAL SHALL BE INCLUDED IN PRICE BID FOR CL. AA CONCRETE.



DETAIL "B"
SCALE: 1" = 1'-0"

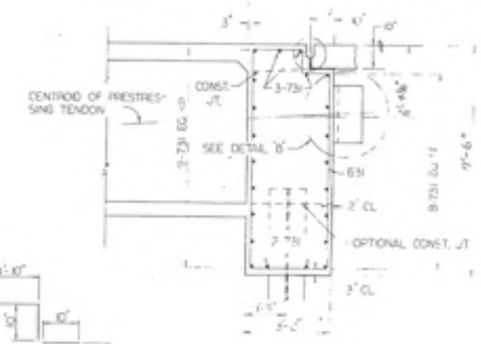
PLAN DRIVING OBJECTIVE

DRIVE ALL PILES TO A DRIVING RESISTANCE OF 70 TONS, AFTER achieving a minimum Tip Elevation of:

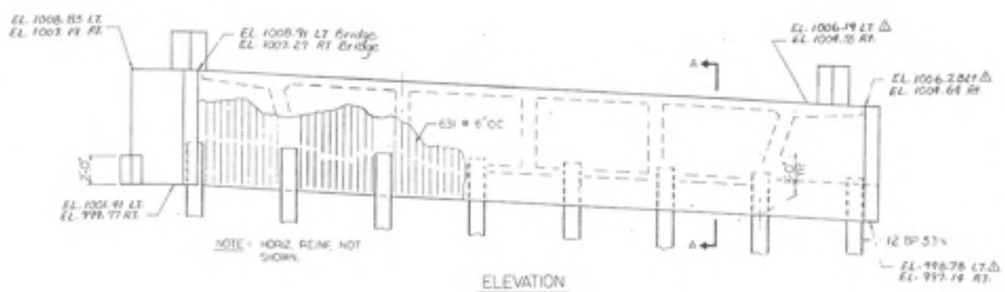
980 Bent 1 Lt.
975 Bent 1 Rt.

LIMITS OF TRANSVERSE REINF (TOP & BOT) IN FLANGE

SEE GA. STD. 5017H (1-C-786) FOR EXP. JT. DETAIL. (A=1 3/8" & 5 1/2")

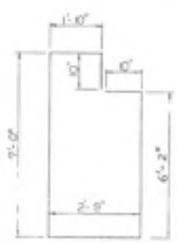


SECTION A-A
SCALE: 1" = 1'-0"



NOTE: HORIZ. REINF. NOT SHOWN.

ELEVATION
SCALE: NONE
LOOKING AHEAD



TYPE 99 BAR
SCALE: NONE

BRIDGE NO. 7 LT & 7 RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION - BRIDGE DESIGN

ABUTMENT 3
I-575 OVER BELLS FERRY RD.
COBB-CHEROKEE I-575-1(2)-1(2) 00 CT2
SCALE AS SHOWN MAR. 1977

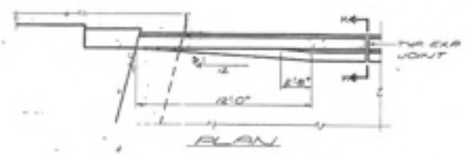
BRIDGE SHEET 9 OF 11

REVISIONS | DATE | REVISED ELEVATIONS | BY

DESIGNED LDM | TRACED | REVIEWED LRD
DRAWN TDS | CHECKED JWM | APPROVED

3	GA	I-575-1(2)00	65	88	

CONTRACT 2



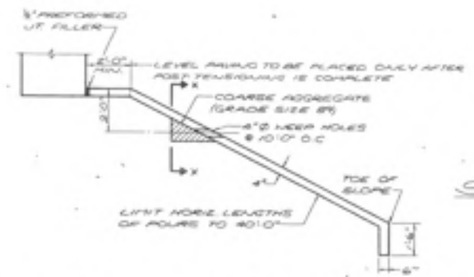
PLAN

ELEVATION

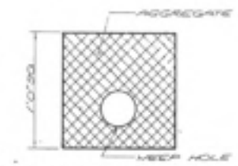
BARRIER TRANSITION DETAILS

SECTION K-K

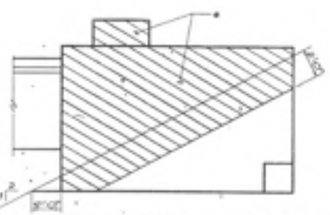
NOTE: 1" EXP JOINTS SHALL BE PLACED IN BARRIER AT ℄ BENT 2 AND AT ADDITIONAL INTERVALS OF NOT LESS THAN 10 FT NOR MORE THAN 30 FT. THESE SPACINGS SHALL BE AT CONTRACTOR'S OPTION. BARS 40s WERE ASSUMED AS FULL LENGTH OF BARRIER FOR QUANTITY CALCULATIONS.



SLOPE PAVING DETAIL

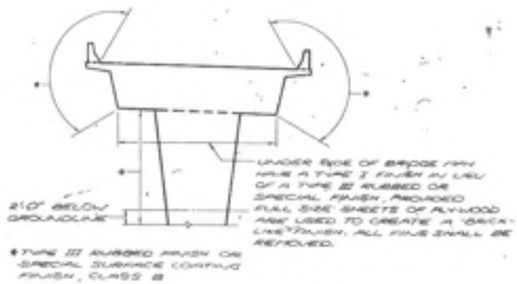


SECTION X-X



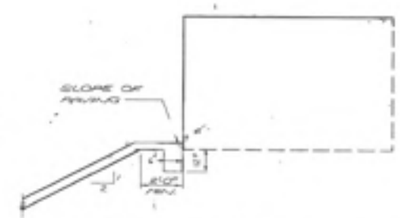
NOTE: FINISH EXTERIOR SIDES OF ENDPOSTS AND WINGWALLS TO 2'-0" BELOW SLOPE PAVING LINE, WITH TYPE III RUBBED FINISH OR SPECIAL SURFACE COATING FINISH, CLASS B

FINISH DETAIL

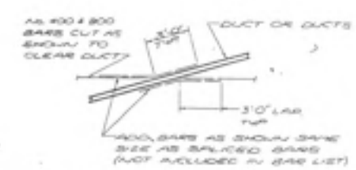


* TYPE III RUBBED FINISH OR SPECIAL SURFACE COATING FINISH, CLASS B

FINISH DETAIL



SLOPE PAVING DETAIL AT WINGS



WEB REINF. DETAIL**

** THIS DETAIL TO BE USED ONLY IF WEB REINFORCEMENT STEEL INTERFERES WITH TENDON DUCTS

BRIDGE NO. 7 LT. & 7 RT.

GEORGIA
DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION - BRIDGE DESIGN

MISCELLANEOUS DETAILS
I-575 OVER BELLS FERRY RD
COBB-CHEROKEE I-575-1(2)00 CT2
NO SCALE MAR. 1977

BRIDGE SHEET 10 OF 11

DESIGNED EM | DRAWN JNW | TRACED | CHECKED TMM | REVIEWED LRP | APPROVED

LOCATION	NO. OF LOC.	BAR MARK	LENGTH FT. IN.	NO. BARS REQ'D	TYPE	A	G	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	J FT. IN.	K FT. IN.	N	Θ
SPAN 1	1																
		400A	VARY	252	1												
		401A	VARY	50	1												
		401B	51- 6	100	1												
	*	402A	VARY	118	1												
	*	402B	48- 7	118	1												
	⚠ *	402C	23- 7	118	1												
	⚠ *	402D	51- 6	118	1												
		403A	VARY	60	1												
		403B	51- 6	60	1												
		404	VARY	13	1												
	*	500	VARY	269	3			VARIES	1- 0	1- 0							
		501	VARY	269	1												
		502A	3-11	259	23			0- 8	1- 9	1- 9							84
	⚠	502B DOUC	VARY A.O.	26 DEG	46			0- 0	1- 9	0- 5	VARIES	1- 4					
		503A	4- 9	259	46			1- 4	1- 3	8	1- 0	1- 0					
		503B	VARY	26	46			1- 4	VARIES	0- 8	1- 0	VARIES					
		504	7- 5	402	7			9- 5	1- 0	1- 0						252	72
		505	7- 5	402	8			9- 5	1- 0	1- 0						72	72
		506	7- 2	846	2			9- 2	1- 0	1- 0							
		507	6- 8	16	30	4	4	2- 6	2- 7	2- 7							
		508	7- 2	56	2			9- 2	1- 0	1- 0							
		509	VARY	20	1												
		510	15- 0	2	25	4	4	3- 6	3- 6								
		511	6-10	12	30	4	4	8- 6	2- 7	2- 7							
		512	4- 0	5	1												
		600A	VARY	17	1												
		600B	53- 0	20	1												
		601	29- 0	8	1												
SEE 401B 403B & 600B			SUPPORT	ARE	INCL.	IN		SPAN 2 QUANTITIES									
SPAN 2	1																
		400B	VARY	252	1												
		401B	51- 6	150													
		401C	VARY	50	1												
	*	402E	24- 1	118	1												
	*	402F	48- 7	118	1												
	*	402G	VARY	118	1												
		402H	51- 6	120													
		403C	VARY	60	1												
		404	VARY	13	1												
	*	500	VARY	269	3			VARIES	1- 0	1- 0							
		501	VARY	269	1												
		502A	3-11	259													
	⚠	502B DOUC	VARY A.O.	26 DEG	46			0- 0	1- 9	0- 5	VARIES	1- 4					
		503B	4- 9	259													
		503B	VARY	26	46			1- 4	VARIES	0- 8	1- 0	VARIES					
		504	7- 5	374													
		505	7- 5	374													
		506	7- 2	792													
		507	6- 8	15													
		508	7- 2	55													
		509	VARY	20	1												
		510	15- 0	2													
		511	6-10	12													
		512	4- 0	5													
		600A	VARY	17	1												
		600B	53- 0	20													
CHP AND MASONRY	1																
		521	VARY	108	25	4	4	8- 8	VARIES								

LOCATION	NO. OF LOC.	BAR MARK	LENGTH FT. IN.	NO. BARS REQ'D	TYPE	A	G	B FT. IN.	C FT. IN.	D FT. IN.	E FT. IN.	F FT. IN.	H FT. IN.	J FT. IN.	K FT. IN.	N	Θ
		522	VARY	84	115	1	1	VARIES									
		722A	VARY	10	1												
	*	1121	45- 7	22	1												
	*	1122	36- 0	4	1												
	*	1123	33- 0	4	1												
		1124	30- 6	4	1												
		1125	28- 0	4	1												
		1126	25- 6	4	1												
		1127	23- 0	8	1												
		1129	38- 4	6	7			7- 8	14- 6	14- 6						182	18
COL AND FTG	1																
		431	25- 1	21	13			1- 0	3-10								5
	⚠	431	32-10	43	16	1	1	21- 4									
	⚠	11388	31-9	22	4			26-9	5- 0								45
		11389	36-3	41	3												
	*	1130	15- 3	103	9	1		11- 4									
		1131	55-11	52	10	1	1	32-9									
ABUTMENT 1	1																
		431	1- 4	8	1												
		432	9- 5	6	25	4	4	2- 2	2- 2								
		531	VARY	60	1												
		532A	13- 6	36	1												
		533	7- 0	16	1			6- 0	3- 0								
		631	19- 4	77	99												
		731A	51- 4	22	7			48- 4	1- 6	1- 6						72	79
		732	7- 2	10	1												
ABUTMENT 2	1																
		431	1- 4	8													
		432	9- 5	6													
		531	VARY	60	1												
		532B	13- 1	36	1												
		533	7- 0	16													
		631	19- 4	77													
		731B	51- 2	22	7			48- 2	1- 6	1- 6						72	79
		732	7- 2	10													
SEE CA 305 3615 FOR BAR BENDING DETAILS																	

TOT. PAGE NO. IN.	DATE	PAGE NO. PROJ. NO.	PAGE NO. PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA				66	88

Rev. 5-11-78
Rev. 5-24-78
Rev. 10-6-79
Rev. 10-17-80

NOTE: ASTERISK (*) DENOTES EPOXY-COATED BARS.

BRIDGE 7 L.T. & RT.

STATE HIGHWAY DEPARTMENT OF GEORGIA
BRIDGE DIVISION

BAR REINFORCEMENT DETAILS

I-575 OVER BELLS FERRY RD.

COBB-CHEROKEE — I-575 (20) OCT 2

NO SCALE — FEBRUARY 10 "-

BRIDGE SHEET 11 OF 11

DESIGNED RDM — TRACED — REVIEWED LRP
DRAWN CRW — CHECKED RDM — APPROVED

CALCULATION SHEET

PROJECT: I-75 / I-575 NORTHWEST CORRIDOR
JOB NUMBER NH000-0575-01(028)
CALC NO. BR#38

SUBJECT: Bridge Maintenance Reports
BY: JCR DATE: 11/30/2009

SHEET NO.
SHEET REV.

BRIDGE INVENTORY DATA LISTING GEOI 'A DEPARTMENT OF TRANSPORTATION

Structure ID: 067-0117-0 **Cobb** SUFF. RATING 90.90

Location & Geography

*	Structure I.D.No:	067-0117-0	
	200 Bridge Information	07	
*	6A Feature Int:	M-9020 BELLS FERRY ROAD	
*	6B Critical Bridge:	0	
*	7A Route Number Carried:	SR00417	
*	7B Facility Carried:	I-575 (NBL)	
*	9 Location:	4 MI NE OF KENNESAW	
	2 DOT District:	7	
	207 Year Photo:	2007	
*	91 Inspection Frequency:	24 Date: 05/09/2007	
	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:	1	
	Designation:	1	
	Number:	00575	
	Direction:	0	
*	16 Latitude: 34-3.1252	MMS Prefix: SR	
*	17 Longitude: 84-33.3728	MMS Suffix: 00	MP: 4.02
	98 Border Bridge: 000	%Shared: 00	
	99 ID Number: 000000000000000		
*	100 STRAHNET: 1		
	12 Base Highway Network:	1	
	13A LRS Inventory Route:	671041700	
	13B Sub Inventory Route:	0	
*	101 Parallel Structure:	R	
*	102 Direction of Traffic:	1	
*	264 Road Inventory Mile Post:	020.88	
*	208 Inspection Area: 09	Initials: JMC	
	Engineer's Initial: sgm		

* Location I.D. No.: 067-00417D-004.02N

*	104 Highway System:	1	
*	26 Functional Classification:	11	
*	204 Federal Route Type:	1	No.: 05751
	105 Federal Lands Highway:	0	
*	110 Truck Route:	1	
	206 School Bus Route:	0	
	217 Benchmark Elevation:	0000.00	
	218 Datum:	0	
*	19 Bypass Length:	01	
*	20 Toll:	3	
*	21 Maintenance:	01	
*	22 Owner:	01	
*	31 Design Load:	6	
	37 Historical Significance:	5	
	205 Congressional District:	11	
	27 Year Constructed:	1980	
	106 Year Reconstructed:	0000	
	33 Bridge Median:	1	
	34 Skew:	20	
	35 Structure Flared:	0	
	38 Navigation Control:	N	
	213 Special Steel Design:	0	
	267 Type of Paint:	0	
*	42 Type of Service on:	1	
		1	
	214 Movable Bridge:	0	
	203 Type Bridge:	O-O-P-O	
	259 Pile Encasement:	3	
*	43 Structure Type Main:	6 06	
	45 No. Spans Main:	002	
	44 Structure Type Appr:	0 00	
	46 No. Spans Appr:	0000	
	226 Bridge Curve Horz:	1	Vert: 0
	111 Pier Protection:	0	
	107 Deck Structure Type:	1	
	108 Wearing Surface Type:	1	
	Mi	0	
	F	0	

Signs & Attachments

	225 Expansion Joint Type:	15	
	242 Deck Drains:	0	
	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	
	Fwrd:	0	
	Oppo Dir Rear:	0	
	Fwrd:	0	
	244 Approach Slab:	3	
	224 Retaining Wall:	0	
	233 Posted Speed Limit:	65	
	236 Warning Sign:	0	
	234 Delineator:	1	
	235 Hazard Boards:	0	
	237 Utilities Gas:	00	
	W	00	
	Ele	00	
	Telephone:	00	
	Sc	00	
	247 Lighting Street:	0	
	Naviagtion:	0	
	Aerial:	0	
*	248 County Continuity No.:	01	

Programming Data

201 Project No.: I-575-1 (2) 00 CT.2
202 Plans Available: 4
249 Prop. Proj. No. 0000000000000000
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: 141945 Year: 2026

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: N
216 Water Depth: 00.0 Br. Height: 00.0
222 Slope Protection: 4
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
* 265 U/W Insp. Area: 0 Diver: ZZZ

* Location I.D. No.: 067-00417D-004.02N

Measurements

* 29 ADT: 094630 Year: 2006
109 % Trucks: 0
* 28 Lanes On: 02 Under: 04
210 No. Tracks On: 00 Under: 00
* 48 Max. Span Length: 0141
* 49 Structure Length: 282
51 Br. Rwdy. Width: 40.50
52 Deck Width: 43.70
* 47 Tot. Horz. Cl: 40.50
50 Curb/Sdewlk Width: 0.00/0.00
32 Approach Rdwy Width: 038
* 229 Shoulder Width:
Rear Lt: 4.00 Type: 2 Rt: 10.00
Fwrd Lt: 4.00 Type: 2 Rt: 10.00
Pavement Width:
Rear: 24.00 Type: 2
Fwrd: 24.00 Type: 2
Intersection Rear: 1 Fwrd: 1
36 Safety Features Br. Rail: 1
Transition: 1
App. G. Rail: 1
App. Rail End: 1
53 Minimum Cl.Over: 99 ' 99 "
Under: H 16 ' 06 "
* 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: H 17.50
56 Lateral Undercl. Lt: 6.00
* 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: 7.50
Deck Thick Approach: 0.00
246 Overlay Thickness: 0.00
212 Year Last Painted: Sup: 0000 Sub: 0000

Ratings

65 Inventory Rating Method: 2
63 Inventory Rating Method: 2
66 Inventory Type: 2 Rating: 36
64 Operating Type: 2 Rating: 51
231 Calculated Loads
H-Modified: 20 0
HS-Modified: 25 0
Type 3: 28 0
Type 3s2: 40 0
Timber: 36 0
Piggyback: 40 0
261 H Inventory Rating: 20
262 H Operating Rating: 28
67 Structural Evaluation: 7
58 Deck Condition: 7
59 Superstructure Condition: 7
* 227 Collision Damage: 1
60A Substructure Condition: 8
60B Scour Condition: N
60C Underwater Condition: N
71 Waterway Adequacy: N
61 Channel Protection Cond: N
68 Deck Geometry: 7
69 UnderClr. Horz/Vert: 6
72 Appr. Alignment: 8
62 Culvert: N

Posting Data

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

GEORGIA DEPARTMENT OF TRANSPORTATION

Bridge Inspection Report

District: 7 **Inspection Date:** 5/9/2007 **Inspection Area:** 09

Bridge Inspector: Jerry Cooper **Over:** M-9020 BELLS FERRY ROAD **Bridge Status:** 07

Location ID: 067-00417D-004.02N **County:** Cobb

Structure ID: 067-0117-0 **Road Name:** I-575 (NBL)

EVALUATION & DEFICIENCIES

SubStructure: **Year Painted:** 0000

Concrete caps at both abutments.
Bent 2 has a hammer head cap on one concrete column.
All substructure units are poured with superstructure, no bearings.
Abut. 3 has some sealing done, some minor leakage still exists.
Minor erosion at wing wall abut. 3 rt.

SuperStructure: **Year Painted:** 0000

2 span post-tensioned box beam.
Very minor cracking in the exterior walls at both abutments.
Went inside box 9-93 - minor cracking in back walls at both abutments and at bent 2.
Minor hairline cracking in exterior wall along cable path.
Two minor spalls in the exterior wall in span 2.
Went back in box on 7-99 and there was no change since the 3-93 inspection.
Very minor collision damage over inside EBL (scratch)

Deck:

7 1/2" concrete slab (poured continuous).
Evazote joints at both abutments.
Minor cracking in the deck surface.
Minor transverse cracking in the deck over bent 2.

General:

Built in 1980 project # I-575-1 (2) 00 CT.2.
Note: Use the basket truck to enter the box for inspection.

Condition Rating

Component	Material	Rating
Substructure	Concrete	8
Superstructure	Concrete	7
Deck	Concrete	7

Temp Shored: **No**

Truck Type	Gross/H-Mod	HSMod	Tand	3-S-2	Log	Piggy
Calculated Posting	20	25	28	40	36	40
Posting Required	No	No	No	No	No	No
Existing Posting	00	00	00	00	00	00

Not a School Bus Route.

Structure Does Not Require Posting

GEORGIA DEPARTMENT OF TRANSPORTATION

Deficiency Report

District: 7 **Inspection Date:** 5/9/2007 **Inspection Area:** 09

Bridge Inspector: Jerry Cooper **Over:** M-9020 BELLS FERRY ROAD

Location ID: 067-00417D-004.02N **County:** Cobb

Structure ID: 067-0117-0 **Asst. District Engineer:** Shun Pringle

EVALUATION & DEFICIENCIES

I-575 (NBL) Over M-9020 BELLS FERRY ROAD--------4 MI NE OF KENNESAW

Item	Units	Work	P	Date Reported	Location	Date Completed	Complete
845	HOURS	112	A	4/1/1985		8/1/1985	122.00
800	LIN. FT.	81	B	5/23/2001		12/14/2001	205.00

Comments:

GEORGIA DEPARTMENT OF TRANSPORTATION

Collision Report

District:	7	**Inspection Date:**	5/9/2007	**Inspection Area:**	09
Bridge Inspector:	Jerry Cooper	**Over:**	M-9020 BELLS FERRY ROAD		
Location ID:	067-00417D-004.02N	**County:**	Cobb	**Skew:**	20
Structure ID:	067-0117-0	**Road Name:**	I-575 (NBL)	**Initial Report Date:**	6/1/1999

Steel Cont. Pl grid. Beam

Span # with Beam Damage	1
Total # of Beams in Span	1
# of Damaged Beams	1

Minor Nick

Minimum VC	16.00' 8.00"
Actual VC (POI)	16.00' 7.00"
Posted VC	0.00' 0.00"

POI---> Point of Impact

VC ---> Vertical Clearenc

Initial report, Damage was present prior to last inspection.

Damage Location in Span

Span 1 over inside EBL.

Damage in Detail 1-Localized damage, nicks, burs, minor knots.

Very minor scratch to bottom of box.

Repairs *** Repairs are not Required ***

None

Additional Comments

None

BRIDGE INVENTORY DATA LISTING GEOI A DEPARTMENT OF TRANSPORTATION

Structure ID: 067-0117-0 **Cobb** SUFF. RATING 90.90

Location & Geography

* Structure I.D.No: 067-0117-0
* 6A Feature Int: SR 417 NBL (I-575)
* 6B Critical Bridge: 0
* 7A Route Number Carried: CR02845
* 7B Facility Carried: BELLS FERRY ROAD
* 9 Location: 4 MI NE OF KENNESAW
* 91 Inspection Frequency: 00 Date: 02/01/1901
* 4 Place Code: 00000
* 5 Inventory Route (O/U): 2
  Type: 5
  Designation: 1
  Number: 09020
  Direction: 0
* 16 Latitude: 34-3.1252 HMMS Prefix:
* 17 Longitud 84-33.3728 HMMS Suffix: MP:
* 100 STRAHNET: 0
  12 Base Highway Network: 1
  13A LRS Inventory Route: 672284500
  13B Sub Inventory Route: 0
* 101 Parallel Structure: R
* 102 Direction of Traffic: 2
* 104 Highway System: 0
* 26 Functional Classification: 16
* 204 Federal Route Type: M No.:
  105 Federal Lands Highway: 0
* 110 Truck Route: 0
* 19 Bypass Length: 01
* 20 Toll: 3
* 21 Maintenance: 01
* 22 Owner: 01
  27 Year Constructed: 1980
* 42 Type of Service on: 1 Under: 1
* 43 Structure Type Main: 6 06
* 208 Inspection Area: 09 Initials: JMC
* Location I.D. No.: 067-09020M-007.81N
* XReference I.D. No 067-00417D-004.02N

Signs & Attachments

* 240 Median Barrier Rail: 0
* 230 Guardrail Loc Dir Rear: 4
  Fwrd: 4
  Oppo Dir Rear: 4
  Fwrd: 4

Measurements

* 29 ADT: 010700 Year: 1998
* 28 Lanes On: 02 Under: 04
* 48 Max. Span Length: 0141
* 49 Structure Length: 282
* 47 Tot. Horz. Cl: 69.50
* 229 Shoulder Width:
  Rear Lt: 2.00 Type: 3 Rt: 10.00
  Fwrd Lt: 2.00 Type: 3 Rt: 10.00
  Pavement Width:
  Rear: 24.00 Type: 2
  Fwrd: 24.00 Type: 2
  Intersection Rear: 1 Fwrd: 1
* 228 Min. Vertical Cl
  Act. Odm Dir: 16 ' 06 "
  Oppo. Dir: 16 ' 06 "
  Posted Odm. Dir: 00 ' 00 "
  Oppo. Dir: 00 ' 00 "
* 10 Max Min Vert Cl: 16 ' 08 " Dir: 1

Ratings

* 227 Collision Damage: 1

Posting Data

* 103 Temporary Structure: 0
* 248 County Continuity No.: 01

Hydraulic Data

* 265 U/W Insp. Are 0 Diver: ZZZ

GEORGIA DEPARTMEN OF TRANSPORTATION

Bridge Component Report

District: 7
Bridge Inspector: Jerry Cooper
Location ID: 067-00417D-004.02N
Structure ID: 067-0117-0

Inspection Date: 5/9/2007
Over: M-9020 BELLS FERRY ROAD
County: Cobb
Road Name: I-575 (NBL)

Inspection Area: 09

SubStructure Data

Bent#	Type	Foundation	Col	#Cols	Piling	#Piles	Sway	CAP	Remarks
1	A	DP		0		0		C	Only back wall exposed.
2	P	SF	C	1		0		C	1 large round pier.
3	A	DP		0		0		C	Only back wall exposed.

SuperStructure Data

Span#	Beam Type	Spacing	Length	#Beams	Remarks
1	P.S. Concrete Box	0.00	141.00	1	Pre-stressed Post-tension
2	P.S. Concrete Box	0.00	141.00	1	Pre-stressed Post-tension

Bearing Data

Span#	Rear Type Bearing	FWD Type Bearing	Remarks
1	08 - Beam on Cap	08 - Beam on Cap	No Bearings.
2	08 - Beam on Cap	08 - Beam on Cap	No Bearings.

BRIDGE INVENTORY DATA LISTING GEOI A DEPARTMENT OF TRANSPORTATION

Structure ID: 067-0118-0 **Cobb** SUFF. RATING 91.75

Location & Geography

*	Structure I.D.No:	067-0118-0	
	200 Bridge Information	07	
*	6A Feature Int:	M-9020 BELLS FERRY ROAD	
*	6B Critical Bridge:	0	
*	7A Route Number Carried:	SR00417	
*	7B Facility Carried:	I-575 (SBL)	
*	9 Location:	4 MI NE OF KENNESAW	
	2 DOT District:	7	
	207 Year Photo:	2007	
*	91 Inspection Frequency:	24	Date: 07/02/2007
	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:	1	
	Designation:	1	
	Number:	00575	
	Direction:	0	
*	16 Latitude: 34-3.1418	MMS Prefix: SR	
*	17 Longitude: 84-33.3733	MMS Suffix: 00	MP: 3.97
	98 Border Bridge: 000	%Shared: 00	
	99 ID Number:	000000000000000	
*	100 STRAHNET:	1	
	12 Base Highway Network:	1	
	13A LRS Inventory Route:	671041700	
	13B Sub Inventory Route:	0	
*	101 Parallel Structure:	L	
*	102 Direction of Traffic:	1	
*	264 Road Inventory Mile Post:	020.89	
*	208 Inspection Area: 09	Initials: JMC	
	Engineer's Initial: sgm		

* Location I.D. No.: 067-00417D-004.03N

*	104 Highway System:	1	
*	26 Functional Classification:	11	
*	204 Federal Route Type:	1	No.: 05751
	105 Federal Lands Highway:	0	
*	110 Truck Route:	1	
	206 School Bus Route:	0	
	217 Benchmark Elevation:	0000.00	
	218 Datum:	0	
*	19 Bypass Length:	01	
*	20 Toll:	3	
*	21 Maintenance:	01	
*	22 Owner:	01	
*	31 Design Load:	6	
	37 Historical Significance:	5	
	205 Congressional District:	11	
	27 Year Constructed:	1980	
	106 Year Reconstructed:	0000	
	33 Bridge Median:	1	
	34 Skew:	20	
	35 Structure Flared:	0	
	38 Navigation Control:	N	
	213 Special Steel Design:	0	
	267 Type of Paint:	0	
*	42 Type of Service on:	1	
		1	
	214 Movable Bridge:	0	
	203 Type Bridge:	Z-O-P-O	
	259 Pile Encasement:	3	
*	43 Structure Type Main:	6	06
	45 No. Spans Main:	002	
	44 Structure Type Appr:	0	00
	46 No. Spans Appr:	0000	
	226 Bridge Curve Horz:	1	Vert: 0
	111 Pier Protection:	0	
	107 Deck Structure Type:	1	
	108 Wearing Surface Type:	1	
	M	0	
	F	0	

Signs & Attachments

	225 Expansion Joint Type:	15	
	242 Deck Drains:	0	
	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	
	Fwrd:	0	
	Oppo Dir Rear:	0	
	Fwrd:	0	
	244 Approach Slab:	3	
	224 Retaining Wall:	0	
	233 Posted Speed Limit:	65	
	236 Warning Sign:	0	
	234 Delineator:	1	
	235 Hazard Boards:	0	
	237 Utilities Gas:	00	
	W	00	
	Ele	00	
	Telephone:	00	
	Se	00	
	247 Lighting Street:	0	
	Naviagtion:	0	
	Aerial:	0	
*	248 County Continuity No.:	01	

Programming Data

201 Project No.: I-575-1 (2) 00 CT.2
202 Plans Available: 0
249 Prop. Proj. No. 0000000000000000
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: 124935 Year: 2026

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: N
216 Water Depth: 00.0 Br. Height: 00.0
222 Slope Protection: 4
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
* 265 U/W Insp. Area: 0 Diver: ZZZ

* Location I.D. No.: 067-00417D-004.03N

Measurements

* 29 ADT: 083290 Year: 2006
109 % Trucks: 0
* 28 Lanes On: 02 Under: 04
210 No. Tracks On: 00 Under: 00
* 48 Max. Span Length: 0141
* 49 Structure Length: 282
51 Br. Rwdy. Width: 40.50
52 Deck Width: 43.70
* 47 Tot. Horz. Cl: 40.50
50 Curb/Sdewlk Width: 0.00/0.00
32 Approach Rdwy Width: 038
* 229 Shoulder Width:
Rear Lt: 4.00 Type: 2 Rt: 10.00
Fwrd Lt: 4.00 Type: 2 Rt: 10.00
Pavement Width:
Rear: 24.00 Type: 2
Fwrd: 24.00 Type: 2
Intersection Rear: 1 Fwrd: 1
36 Safety Features Br. Rail: 1
Transition: 1
App. G. Rail: 1
App. Rail End: 1
53 Minimum Cl.Over: 99 ' 99 "
Under: H 21 ' 02 "
* 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: H 17.90
56 Lateral Undercl. Lt: 6.00
* 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: 7.50
Deck Thick Approach: 0.00
246 Overlay Thickness: 0.00
212 Year Last Painted: Sup: 0000 Sub: 0000

Ratings

65 Inventory Rating Method: 2
63 Inventory Rating Method: 2
66 Inventory Type: 2 Rating: 36
64 Operating Type: 2 Rating: 51
231 Calculated Loads
H-Modified: 20 0
HS-Modified: 25 0
Type 3: 28 0
Type 3s2: 40 0
Timber: 36 0
Piggyback: 40 0
261 H Inventory Rating: 20
262 H Operating Rating: 28
67 Structural Evaluation: 7
58 Deck Condition: 7
59 Superstructure Condition: 7
* 227 Collision Damage: 0
60A Substructure Condition: 8
60B Scour Condition: N
60C Underwater Condition: N
71 Waterway Adequacy: N
61 Channel Protection Cond: N
68 Deck Geometry: 7
69 UnderClr. Horz/Vert: 6
72 Appr. Alignment: 8
62 Culvert: N

Posting Data

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

GEORGIA DEPARTMENT OF TRANSPORTATION

Bridge Inspection Report

District: 7 **Inspection Date:** 7/2/2007 **Inspection Area:** 09

Bridge Inspector: Jerry Cooper **Over:** M-9020 BELLS FERRY ROAD **Bridge Status:** 07

Location ID: 067-00417D-004.03N **County:** Cobb

Structure ID: 067-0118-0 **Road Name:** I-575 (SBL)

EVALUATION & DEFICIENCIES

SubStructure: **Year Painted:** 0000

All concrete units - hammer head cap and 1 column at bent #2.
Concrete abutments and superstructure was poured as one during construction.

SuperStructure: **Year Painted:** 0000

2 span post tensioned box beam (1 box).
Went inside box on 09-93 .
Minor cracking in back walls at both abutments and at bent #2 .
Minor hair line cracking in exterior walls along cable path .
Went in the box on 7-99 and there was no change since the last inspection of 3-93.

Deck:

7 1/2" concrete slab (poured continuous).
Rubber compression seals at both abutments have been replaced with silicone.
The deck surface has minor cracking throughout with moderate transverse cracking located over bent 2.

General:

Built in 1980 project # I-575-1 (2) 00 CT.2
Note: Use the basket truck to enter the box for inspection.

Condition Rating

Component	Material	Rating
Substructure	Concrete	8
Superstructure	Concrete	7
Deck	Concrete	7

Temp Shored: **No**

Truck Type	Gross/H-Mod	HSMod	Tand	3-S-2	Log	Piggy
Calculated Posting	20	25	28	40	36	40
Posting Required	No	No	No	No	No	No
Existing Posting	00	00	00	00	00	00

Not a School Bus Route.

Structure Does Not Require Posting

GEORGIA DEPARTMENT OF TRANSPORTATION

Deficiency Report

District: 7 **Inspection Date:** 7/2/2007 **Inspection Area:** 09

Bridge Inspector: Jerry Cooper **Over:** M-9020 BELLS FERRY ROAD

Location ID: 067-00417D-004.03N **County:** Cobb

Structure ID: 067-0118-0 **Asst. District Engineer:** Shun Pringle

EVALUATION & DEFICIENCIES

I-575 (SBL) Over M-9020 BELLS FERRY ROAD--------4 MI NE OF KENNESAW

Item	Units	Work	P	Date Reported	Location	Date Completed	Complete
800	LIN. FT.	81	B	6/1/1999		7/19/2005	2,240.00
845	HOURS	16	B	5/23/2001		6/28/2006	1,862.00
845	HOURS	80	B	7/19/2005		6/28/2006	344.00

Comments:

Structure ID: 067-0118-0 **Cobb** SUFF. RATING 91.75

Location & Geography

* Structure I.D.No: 067-0118-0
* 6A Feature Int: SR 417 SBL (I-575)
* 6B Critical Bridge: 0
* 7A Route Number Carried: CR02845
* 7B Facility Carried: BELLS FERRY ROAD
* 9 Location: 4 MI NE OF KENNESAW
* 91 Inspection Frequency: 00 Date: 02/01/1901
* 4 Place Code: 00000
* 5 Inventory Route (O/U): 2
  Type: 5
  Designation: 1
  Number: 09020
  Direction: 0
* 16 Latitude: 34-3.1418 HMMS Prefix:
* 17 Longitud 84-33.3733 HMMS Suffix: MP:
* 100 STRAHNET: 0
  12 Base Highway Network: 1
  13A LRS Inventory Route: 672284500
  13B Sub Inventory Route: 0
* 101 Parallel Structure: L
* 102 Direction of Traffic: 2
* 104 Highway System: 0
* 26 Functional Classification: 16
* 204 Federal Route Type: M No.:
  105 Federal Lands Highway: 0
* 110 Truck Route: 0
* 19 Bypass Length: 01
* 20 Toll: 3
* 21 Maintenance: 01
* 22 Owner: 01
  27 Year Constructed: 1980
* 42 Type of Service on: 1 Under: 1
* 43 Structure Type Main: 6 06
* 208 Inspection Area: 09 Initials: JMC
* Location I.D. No.: 067-09020M-007.82N
* XReference I.D. No 067-00417D-004.03N

Signs & Attachments

* 240 Median Barrier Rail: 0
* 230 Guardrail Loc Dir Rear: 4
  Fwrd: 4
  Oppo Dir Rear: 4
  Fwrd: 4

Measurements

* 29 ADT: 010700 Year: 1998
* 28 Lanes On: 02 Under: 04
* 48 Max. Span Length: 0141
* 49 Structure Length: 282
* 47 Tot. Horz. Cl: 69.50
* 229 Shoulder Width:
  Rear Lt: 2.00 Type: 3 Rt: 12.00
  Fwrd Lt: 2.00 Type: 3 Rt: 10.00
  Pavement Width:
  Rear: 24.00 Type: 2
  Fwrd: 24.00 Type: 2
  Intersection Rear: 1 Fwrd: 1
* 228 Min. Vertical Cl
  Act. Odm Dir: 21 ' 02 "
  Oppo. Dir: 21 ' 03 "
  Posted Odm. Dir: 00 ' 00 "
  Oppo. Dir: 00 ' 00 "
* 10 Max Min Vert Cl: 21 ' 05 " Dir: 2

Ratings

* 227 Collision Damage: 0

Posting Data

* 103 Temporary Structure: 0
* 248 County Continuity No.: 01

Hydraulic Data

* 265 U/W Insp. Are 0 Diver: ZZZ

GEORGIA DEPARTMEN OF TRANSPORTATION

Bridge Component Report

District: 7
Bridge Inspector: Jerry Cooper
Location ID: 067-00417D-004.03N
Structure ID: 067-0118-0

Inspection Date: 7/2/2007
Over: M-9020 BELLS FERRY ROAD
County: Cobb
Road Name: I-575 (SBL)

Inspection Area: 09

SubStructure Data

Bent#	Type	Foundation	Col	#Cols	Piling	#Piles	Sway	CAP	Remarks
1	A	ZZ		0		0		C	Only back wall exposed.
2	P	ZZ	C	1		0		C	Hammer hd. cap & pier.
3	A	ZZ		0		0		C	Only back wall exposed.

SuperStructure Data

Span#	Beam Type	Spacing	Length	#Beams	Remarks
1	PSC Box Beam	0.00	141.00	1	Pre-stressed Post-tension
2	PSC Box Beam	0.00	141.00	1	Pre-stressed Post-tension

Bearing Data

Span#	Rear Type Bearing	FWD Type Bearing	Remarks
1			No Bearings
2			No Bearings.

CALCULATION SHEET

PROJECT: I-75 / I-575 NORTHWEST CORRIDOR
JOB NUMBER NH000-0575-01(028)
CALC NO. BR#38

SUBJECT: Bridge Foundation Investigation
BY: JCR DATE: 11/30/2009

SHEET NO.
SHEET REV.

BRIDGE AND RETAINING WALL
FOUNDATION INVESTIGATION REPORT
I-575 over M-9020 (Bells Ferry Road)
Northwest Corridor Project
GDOT Project No. CSNHS-0008-00(256), PI No. 0008256
Cobb County, Georgia

WILLMER ENGINEERING INC.
Project No ATI -171-3099D

Document No.: ATL-171-3099**D**
Revision: 1
Issue Date. August 22, 2008
Document Status: Issued for Use

Prepared For

GEORGIA TRANSPORTATION PARTNERS
Atlanta, Georgia

Prepared By

WILLMER ENGINEERING INC.
3772 Pleasantdale Road
Suite 165
Atlanta, Georgia 30340-1270

770.939.0089

WILLMER ENGINEERING INC. WE

August 22, 2008

VIA COURIER

Pete M. McMahon, PE
Georgia Transportation Partners
c/o PBS&J, Inc.
5665 New Northside Drive
Suite 400
Atlanta, Georgia 30328

SUBJECT: Bridge and Retaining Wall Foundation Investigation Report
I-575 over M-9020 (Bells Ferry Road)
Northwest Corridor Project
GDOT Project No. CSNHS-0008-00(256), PI No. 0008256
Cobb County, Georgia
Willmer Project No. ATL-171-3099D

Dear Mr. McMahon:

Willmer Engineering Inc. (Willmer) is pleased to provide this Bridge and Retaining Wall Foundation Investigation (BFI and WFI) report for the proposed widening of the I-575 bridge over M-9020 (Bells Ferry Road) in Cobb County, Georgia. The BFI and WFI were performed in general accordance with our contract with Georgia Transportation Partners (GTP), dated May 12, 2007. The objective of this investigation was to gather enough geotechnical information to support the costing plans to be developed by GTP. Additional borings will be performed in the design/build phase of the project to provide additional information as required. This report was prepared in general accordance with Georgia Department of Transportation (GDOT) guidance documents for bridge and retaining wall foundation investigation. This report was revised to incorporate GTP comments dated January 3 and 9, 2008, and GDOT comments dated July 18, 2008.

The attached summary presents the site and subsurface conditions along the proposed bridge and retaining wall alignments, and our geotechnical recommendations related to foundation design and construction.

We appreciate the opportunity to be of service to you on this project and look forward to a continuing relationship. Please contact us if you have any questions concerning this report or require further assistance.

Sincerely,

WILLMER ENGINEERING INC.

Murthy S. Kotha
Project Engineer

Sujit K. Bhowmik, PhD, PE
Chief Engineer

James L. Willmer, PE
Executive Vice President/Principal Consultant

MSK/SKB/JLW:ks

3772 Pleasantdale Road
Suite 165
Atlanta, GA 30340-4270
P: 770.939.0089
F: 770.939.4299
www.willmerengineering.com

8/22/08

Attachments: **Bridge and Retaining Wall Foundation Investigations**

Figures

Figure 1	Project Location Map
Figure 2	Boring Location Plan
Figure 3	Generalized Subsurface Profile Section A-A' (LT Bridge & MSE Walls)
Figure 4	Generalized Subsurface Profile Section B-B' (RT Bridge & MSE Walls)

Appendix I

Boring Record Legend
Unified Soil Classification System Reference Sheet
Engineering Description of Rock Hardness
Boring Records: BB-1, BB-2, W-1 and W-2 (New Borings)
Laboratory Test Results

Appendix II

Boring Records: B-1L through B-3L and B-1R through B-4R
(Borings from Existing GDOT BFI Report)

Revision History:

Revision	Issue Date	Document Status
A	December 11, 2007	Issued for Review
0	January 11, 2008	Issued for Use
1	August 22, 2008	Issued for Use

BRIDGE FOUNDATION INVESTIGATION

Willmer Project Number	ATL-171-3099D
GDOT Project Number	CSNHS-0008-00(256)
Project P.I. Number	0008256
Location	I-575 Bridge over M 9020 (Bells Ferry Road), Cobb County, Georgia (see Figure 1)

GENERAL INFORMATION

Project Description	The two existing I-575 bridges over M-9020 (Bells Ferry Road) are planned to be replaced with one new bridge as part of the proposed I-575 widening over Bells Ferry Road. The bridge will be a reinforced concrete structure with two 85-foot spans. The existing bridges have three spans and are supported on H-piles at the end bents and H-pile footings at the intermediate bents. The BFI report for the existing bridges was obtained from GDOT, and it includes seven borings performed by GDOT in 1977
Geologic Information	The project alignment is geologically sited within the Piedmont Physiographic Province of Georgia, and is underlain by Metamorphosed Mafic Rock Formations which include amphibolite, mica schist and biotite gneiss.
Subsurface Features	Subsurface information for this project was obtained from two borings (BB-1 and BB-2) performed by Willmer as part of the present study (see Appendix I) and seven borings (B-1L through B-3L and B-1R through B-4R) performed by GDOT in 1977 as part of the BFI for the two existing bridges (see Appendix II). The subsurface profile at the two new boring locations is generally comprised of residuum underlain by partially weathered rock (PWR) and parent bedrock. The residual soils consist of loose to very dense silty sand/sandy silt. Although no fill material was encountered at the two borings performed for the BFI, fill was encountered at two borings (W-1 and W-2) drilled from the existing roadway (I-575) shoulders for the retaining wall investigation. The fill material consisted of loose to medium dense silty sand. During the present field investigation ground water was encountered at all boring locations between elevations 973 and 975 feet, and during the field investigation by GDOT in 1977, ground water was encountered between elevations 982 and 984 feet.

PWR AND AUGER REFUSAL ELEVATIONS (feet)

Bent No.	Reference Boring No.	Top of PWR	Auger Refusal
1	B-1L	964	961
	B-1R	962	958
	BB-1	964	963
2	B-2L	960	*
	B-2R	960	*
	B-3R	972	968
3	BB-2	958	955
	B-3L	975	957
	B-4R	970	953

* Boring was not extended to auger refusal.

MAXIMUM PILE DESIGN LOADS

Pile Type	Load Transfer (%) Friction	Load Transfer (%) End Bearing	Design Load
H-Piles	10	90	10 BP 42 = 55 Tons
			12 BP 53 = 70 Tons
			14 BP 73 = 96 Tons
			14 BP 89 = 117 Tons

FOUNDATION RECOMMENDATIONS

Bent No.	Pile Footing (Type)	Pile Bent (Type)
1		H
2		H
3		H

PILE TIP ELEVATIONS (feet)

Bent No.	Reference Boring No.	H-Pile Minimum Tip	H-Pile Estimated Tip
1-Left	B-1L, B-2L	962	960
1-Right	BB-1	963	963
2-Left	B-2L	960 ±	960 ±
2-Right	B-2R, B-3R	964 ±	962 ±
3-Left	BB-2	955	955
3-Right	B-3R, B-4R	964	964

NOTES

Elevations All elevations referenced in this report are based on Control Points No. 293 (Scribe Mark-T El. 976.66 feet), No. 243 (60D Traverse, EL. 1007.25 feet) and No. 138 (3/4" rebar, EL. 1004.88 feet) established by the surveyors.

PDO Driving resistance after Minimum Tip Elevations are achieved.

Points	Pile points are recommended for piles driven at all bents to insure adequate penetration through/into dense/very dense soils and PWR. The use of points should be at the direction of the project Geotechnical Engineer.
Down-drag Protection	To avoid inducing down-drag loads onto the piles from potential settlement of the loose to medium dense silty sand during construction of the MSE wall, we recommend that the piles at Bents 1 and 3 be protected from down-drag by using Jackets or other approved measures.
Waiting Period	None required (see MSE wall recommendations)
Special Problems	None.
As-built Information	As-built information should be forwarded to the Geotechnical Engineering Bureau upon completion of the foundation system.

RETAINING WALL INVESTIGATION

Location

Two MSE retaining walls (Wall Nos. 6 and 7) are proposed for the bridge at I-575 over M-9020 (Bells Ferry Road). Wall No. 6 and 7 are comprised of the abutment walls and wing walls on the two sides at Bents 1 and 3, respectively. The total length of each wall is about 325 feet (see Figure 2) and the maximum height of the walls is about 35 feet. The bottom elevation of the walls at the bridge bents is about 978 feet.

Subsurface Features

The subsurface profile (see Figures 3 and 4 and boring logs for BB-1, BB-2, W-1 and W-2) along the proposed walls is comprised of fill and residuum underlain by partially weathered rock (PWR). The fill consists of loose to medium dense silty sand. The residual soils consist of loose to very dense silty sand and/or soft to stiff sandy silt underlain by partially weathered rock.

Ground water was not encountered at borings W-1 and W-2. Groundwater was encountered at borings BB-1 and BB-2 between elevations 973 and 975 feet during the present field investigation, and between elevations 982 and 984 feet during the field investigation by GDOT in 1977. It should be noted that the borings for the present study were performed during an extended dry period, and ground water may be encountered at a higher elevation during construction.

Soil Parameters

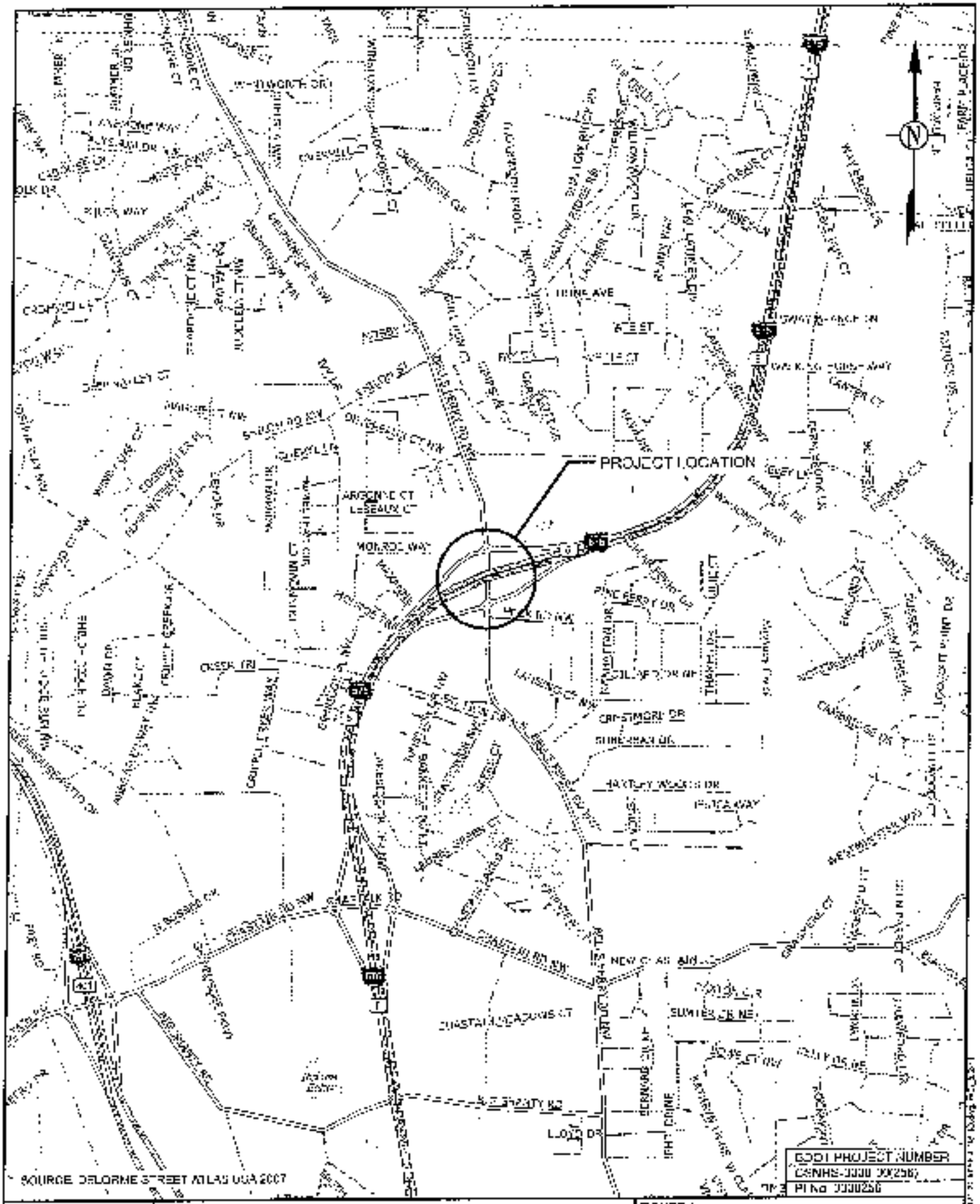
The following soil design parameters are recommended for use for the proposed MSE walls:

Soil Unit Weight	γ	=	125 pcf
Cohesion	c	=	0 psf
Angle of Internal Friction	ϕ	=	32 degrees
Coefficient of Sliding Friction	μ	=	0.40

The above design parameters assume the backfill material behind the MSE wall fill to consist of silty sand compacted to the specified density, and the subgrade prepared as recommended below.

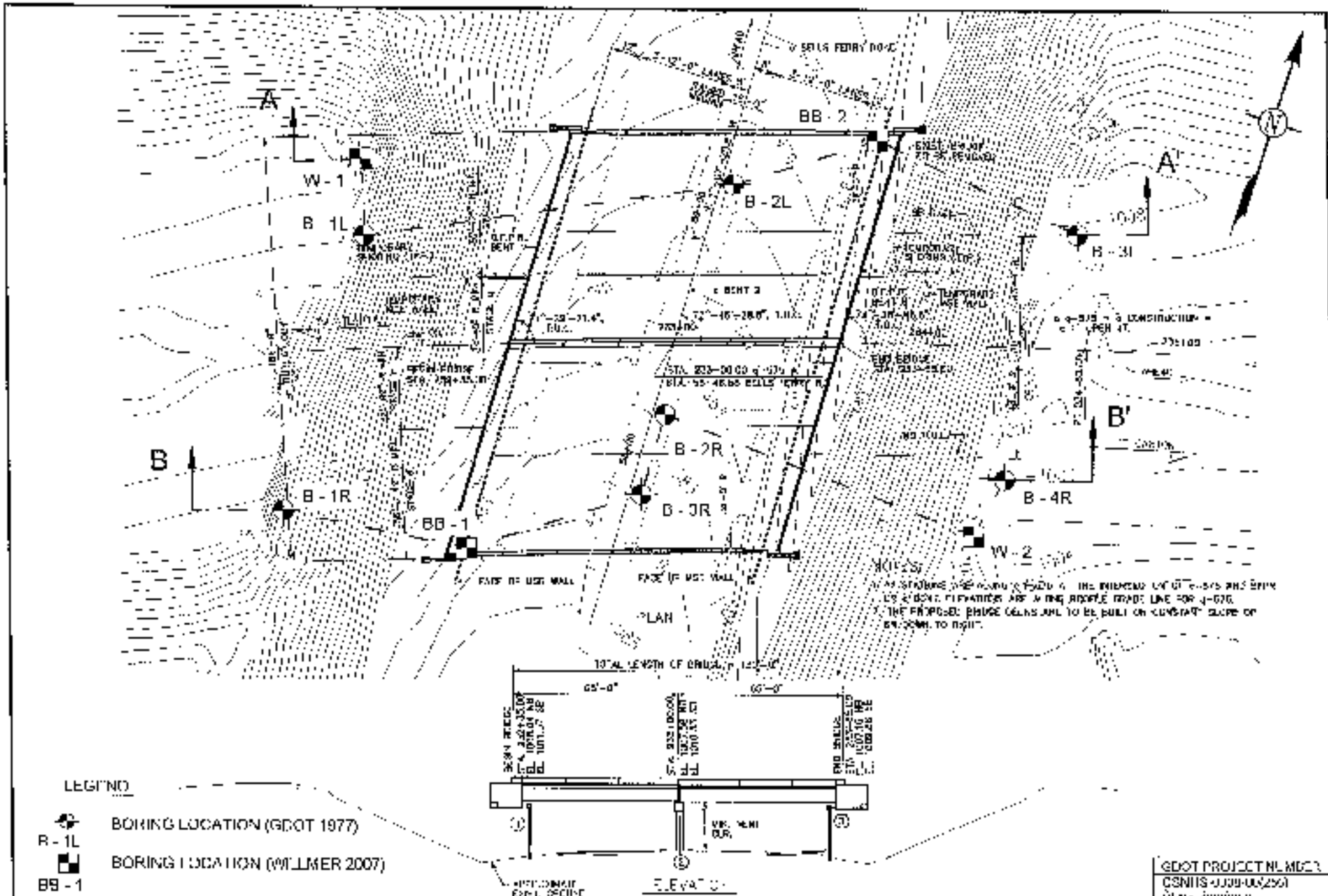
Recommendations	Based on the available boring data in the vicinity of the proposed MSE walls, the soil type and strength along the walls are expected to vary significantly. We recommend that the MSE walls be constructed in stages to minimize differential settlement along the walls. The following steps are recommended for the MSE walls. (i) Based on available information on location and elevation of the proposed MSE walls, the MSE walls at the bridge abutments will likely be along or adjacent to an existing concrete-lined ditch. Prior to MSE wall construction, the concrete-lined ditch should be removed and final grade achieved by placement of compacted structural fill. (ii) Any soft/loose soils from beneath the MSE walls should be over-excavated and replaced with compacted wall backfill material. The depth and extent of any over-excavation should be determined during construction by the project Geotechnical Engineer. (iii) The maximum allowable bearing pressures for Wall Nos. 6 and 7 are 2,500 psf and 2,000 psf, respectively. However, at the location of maximum wall height, the design bearing pressures will likely exceed the corresponding maximum allowable bearing pressures. Therefore, we recommend that the MSE walls be constructed in two stages. In the first stage, the wall should be constructed to half of its final height. A minimum 30-day waiting period should be allowed after the first stage before beginning the second stage of construction. Settlement of the MSE wall should be monitored upon completion of the first stage of construction. The length of the waiting period may be increased or decreased based on the settlement monitoring data, at the discretion of the project Geotechnical Engineer. (iv) After the waiting period, the MSE wall should be constructed to the final height. (v) The MSE wall backfill material and drainage measures should conform to GDOT standard specifications.
Prepared By	Murthy S. Kotha / Sujit K. Bhowmik, PhD, PE
Senior Review By	James L. Willmer, PE

FIGURES



SCALE: 1" = 2000'	GEOTECHNICAL ENGINEERING CONSTRUCTION SERVICES ENVIRONMENTAL SERVICES AND ENGINEERING 2772 PLEASANTDALE ROAD - SUITE 165 ATLANTA, GA 30340-4270	FIGURE 1 PROJECT LOCATION MAP I-575 OVER M-2020 (BELLS FERRY ROAD) NORTHWEST CORRIDOR PROJECT COBB COUNTY, GEORGIA WILLMER PROJECT No. ATL-171-3069D
DATE: 12/X/2007		
DRAWN BY: VDB		
REVIEWED BY: MK		

GDOT PROJECT NUMBER
CSNHS-0000-00(256)
PI No. 0000256



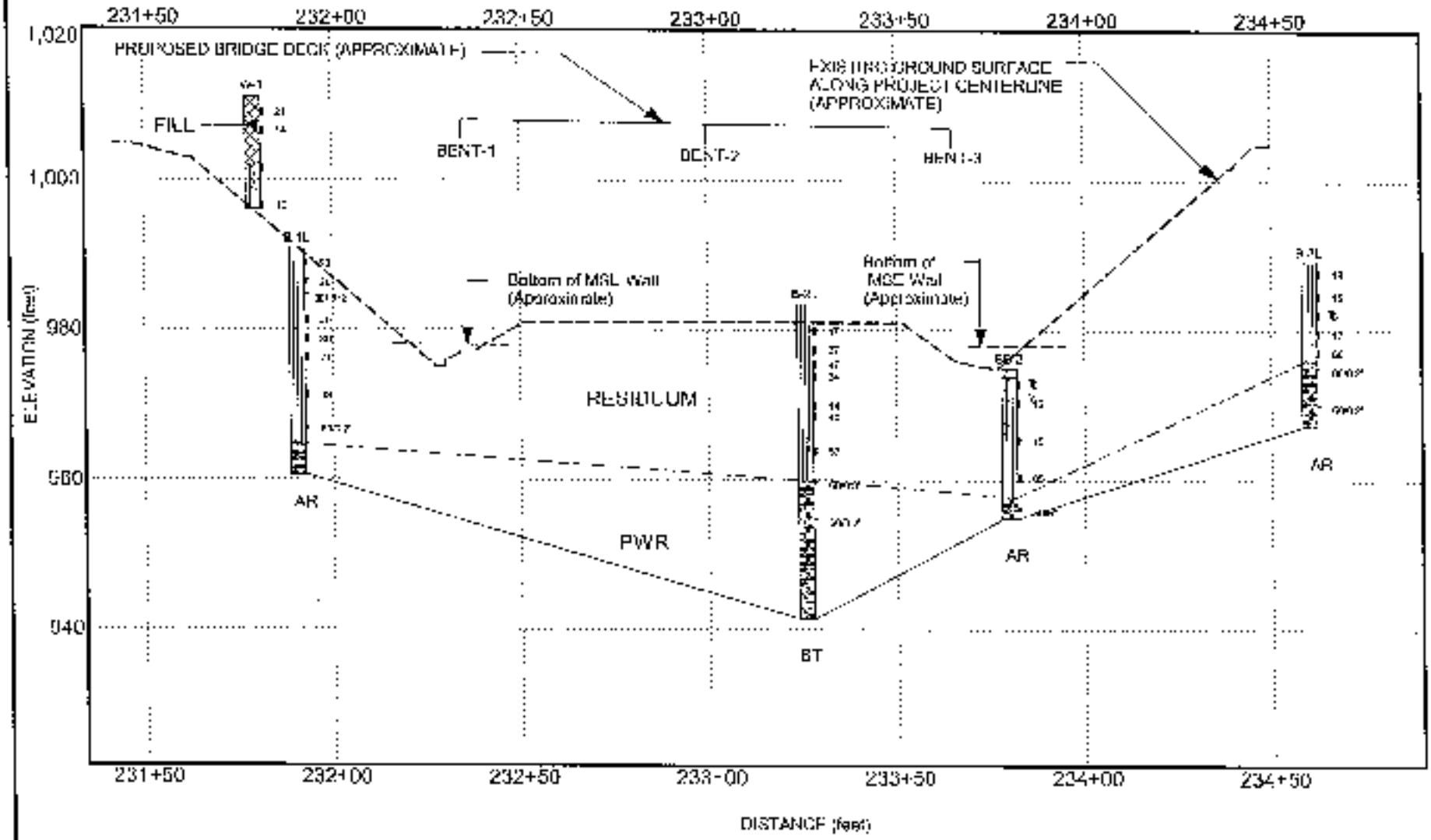
GDOT PROJECT NUMBER
CSNHS-0009-00(250)
PI No. 0000250

SCALE 1" = 50'
DATE: 6/3/2009
DRAWN BY MDB
REVIEWED BY MK

WILLMER ENGINEERING INC.

WE

FIGURE 5
BORING LOCATION PLAN
I-575 OVER M-8020 (DE... S FERRY ROAD)
NORTHWEST CORRIDOR PROJECT
COBB COUNTY, GEORGIA
WILLMER PROJECT No. ATL-171-3000



LEGEND:
- Groundwater Table @ 24 hours
- Groundwater Table @ Time of Boring
AR - Auger Refusal
BT - Boring Terminated
PWR - Partially Weathered Rock

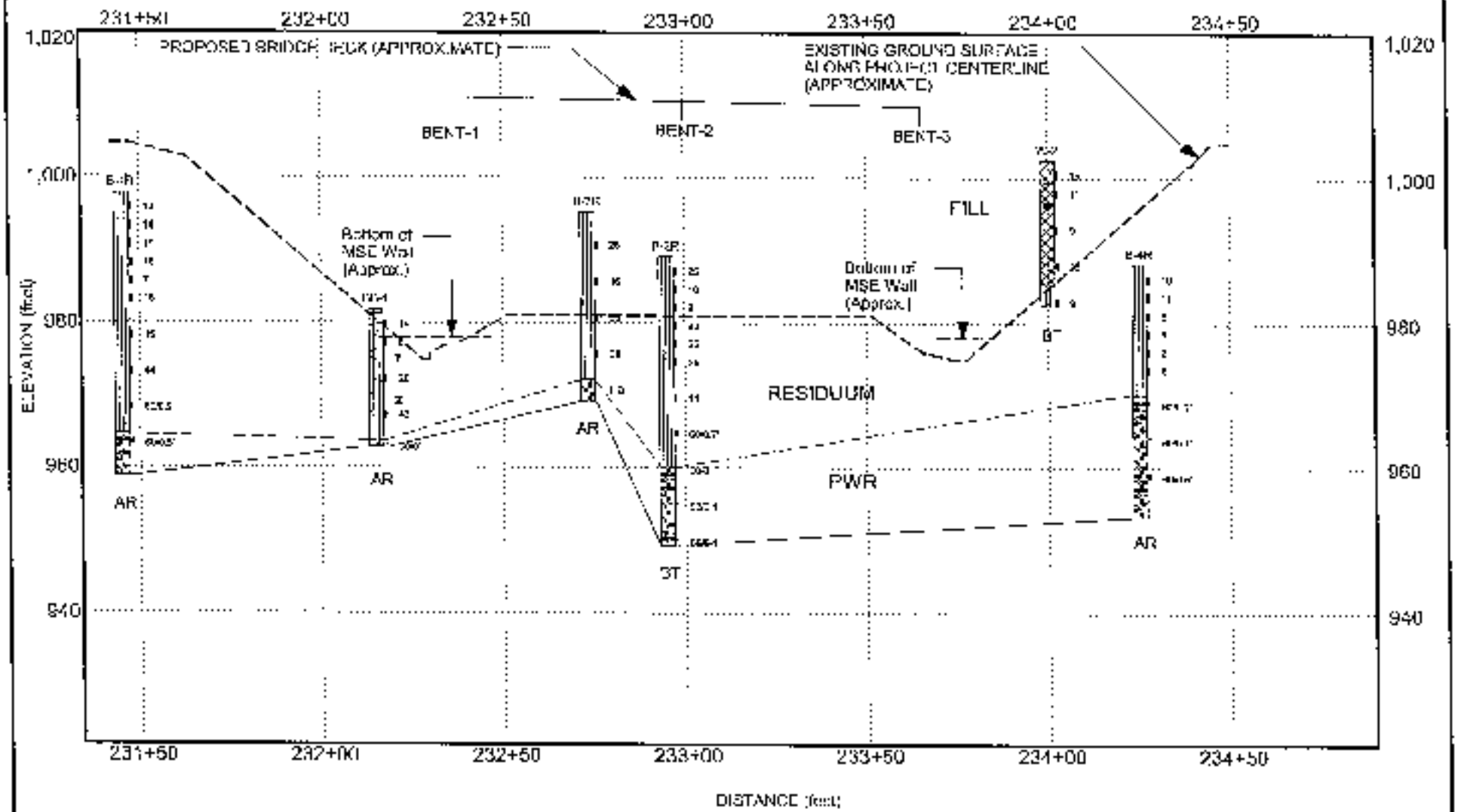
SCALE : 1 inch = 20 feet (vertical)
1 inch = 40 feet (horizontal)

NOTE:
1. Borings B-1L, B-2L and B-3L were performed by GDOT in 1977.
2. Boring B-1L is plotted 10 feet right from the actual location for clarity.

GENERALIZED SUBSURFACE PROFILE
SECTION A-A'
(LT. BRIDGE and MSE Walls)

-575 over M-9020 (Hollis Ferry Road)
GDOT Proj. # CSNHS-0006-00(256); PI # : 0008250
Cobb County, Georgia

PROJECT #	DATE	FIGURE
171-30990	August 20, 2008	3



LEGEND:
- ▼ - Groundwater Table @ 24 hours
- ▲ - Groundwater Table @ Time of Boring
- AR - Auger Refusal
- BT - Boring Terminated
- PWR - Partially Weathered Rock
- HB - Hammer Bounce

SCALE : 1 inch = 20 feet (vertical)
1 inch = 40 feet (horizontal)

NOTE:
1. Borings B-1R, B-2R, B-3R and B-4R were performed by GDOT in 1977.
2. Boring B-3R is plotted 10 feet left and W-2 is plotted 20 feet left from the actual boring location for clarity.

GENERALIZED SUBSURFACE PROFILE
SECTION B-B'
(RT. BRIDGE and MSE Walls)

I-575 over M-9020 (Bells Ferry Road)
GDOT Proj. # : CSNHS-0008-00(256) Pr # : 0008256
Cobb County, Georgia

PROJECT #	DATE	FIGURE
171-3099D	August 20, 2008	4

APPENDIX I

BORING RECORD LEGEND

SM, CL, etc: - GROUP SYMBOL based on Unified Soil Classification System.
(Refer to ASTM D-2488 and Table 1 of D-2487)

N-VALUE: BLOWS PER FOOT- Standard Penetration Resistance (SPT) blow count, the sum of the second and third 6-inch increments of the SPT test.
(Refer to ASTM D-1586)

CONSISTENCY / RELATIVE DENSITY Correlated with SPT Blow Count, N:

SILTS AND CLAYS

N (blows per foot)	Consistency
0 - 2	Very Soft
3 - 4	Soft
5 - 8	Firm
9 - 15	Stiff
16 - 30	Very Stiff
31 - 50	Hard
> 50	Very Hard

SANDS

N (blows per foot)	Relative Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
> 50	Very Dense

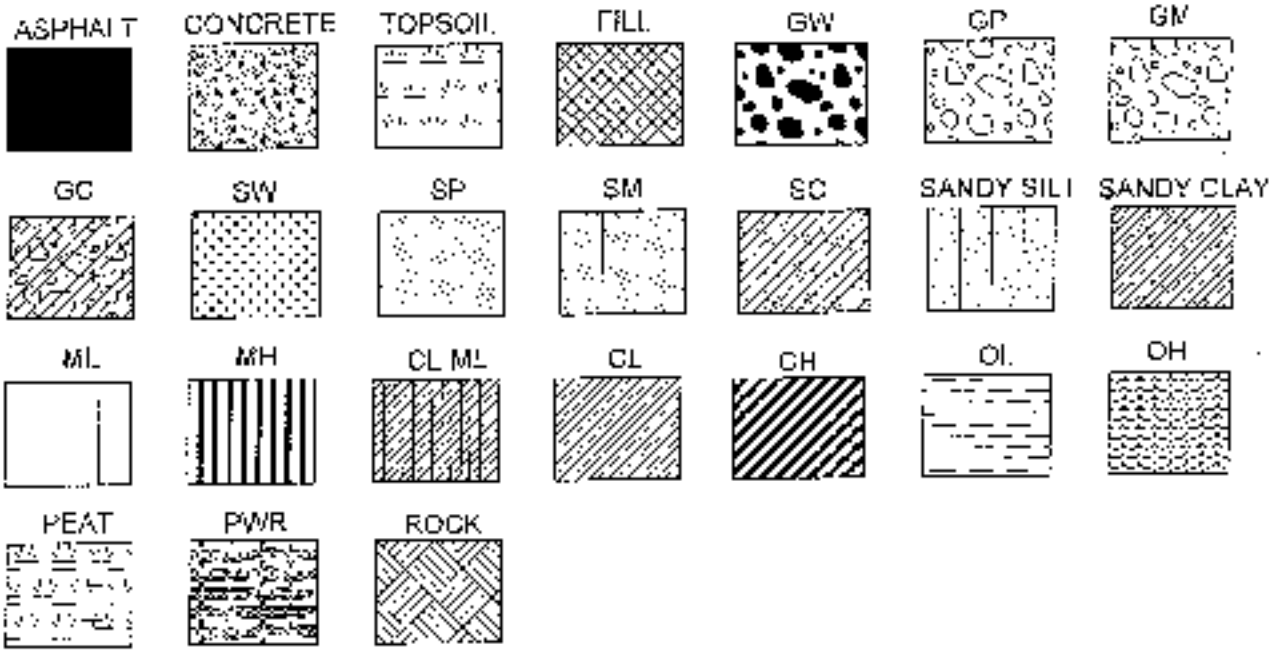
NOTES:

Groundwater Measurements.

▼ Water level at time of backfilling

▽ Water level at time of boring

▽ Caved level at 24 hours



Willmer Engineering Inc.
3772 Pleasantdale Road, Suite 165
Atlanta, Georgia 30340

UNIFIED SOIL CLASSIFICATION SYSTEM REFERENCE SHEET

MAJOR DIVISIONS			LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN #200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED #4 SIEVE	CLEAN GRAVELS LITTLE OR NO FINES	(GW)	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
			(GP)	POORLY GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES APPRECIABLE AMOUNT OF FINES	(GM)	SILTY GRAVELS and GRAVEL-SAND-SILT MIXTURES
			(GC)	CLAYEY GRAVELS and GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING #4 SIEVE	CLEAN SAND LITTLE OR NO FINES	(SW)	WELL GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
			(SP)	POORLY GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
		SANDS WITH FINES APPRECIABLE AMOUNT OF FINES	(SM)	SILTY SANDS and SAND-SILT MIXTURES
			(SC)	CLAYEY SANDS and SAND-CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN #200 SIEVE SIZE	SILTS AND CLAYS LIQUID LIMIT LESS THAN 50		(ML)	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR VERY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			(CL)	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			(OL)	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50		(MH)	INORGANIC ELASTIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SANDY OR SILTY SOILS
			(CH)	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			(OH)	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS			(PT)	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

ENGINEERING DESCRIPTION
OF
ROCK HARDNESS

Hardness	Description
Very hard	Cannot be scratched with knife or sharp pick. Breaking of hand specimens requires several hard blows of geologist's pick.
Hard	Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
Moderately hard	Can be scratched with knife or pick. can be excavated by hard blow of point of a geologist's pick. Hand specimens can be detached by moderate blow.
Medium	Can be grooved or gouged 1/16 inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1 inch maximum size by hard blows of the point of a geologist's pick.
Soft	Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of a pick point. Small thin pieces can be broken by finger pressure.
Very soft	Can be carved with knife. Can be excavated readily with point of pick. Pieces 1 inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.
Partially Weathered Rock	For engineering purposes, partially weathered rock (PWR) is locally defined as residual soils exhibiting Standard Penetration Test N-values in excess of 50 blows for 6 inches of penetration.

Project: I-575 over M-9020 (Bells Ferry Road)

Location: Cobb County, Georgia

Project Number: 171-3099D; GDOT Proj. # : CSNHS-0008-00(256); PI # : 0008256

HOLE No. BB-1

Sheet 1 of 1

Location: BENT - 1

Azimuth: -- Angle from Horizontal: 90 Surface Elevation (ft): 981.80 Station: ST. 232+15, 80' Rt. of CL

Drilling Equipment: CME 550 Drilling Method: HSA

Core Boxes: -- Samples: 5 Overburden (%): 19 Rock (%): -- Total Depth (ft): 19.0

Logged By: MK Date Drilled: 10/1/07

VERTICAL DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE	RECOVERY %	RQD %	MATERIAL DESCRIPTION	ELEVATION (feet)	STANDARD PENETRATION TEST DATA (blows/foot)	N-VALUE
					CONCRETE = 6 inches	981.8		
		SS			RESIDUUM: Loose, medium dense and dense reddish brown to brown and tan silty medium to fine **SAND** with quartz fragments	AM		
		SS				965		14
5								3
						975	Bottom of MSE Wall (Approx.)	
10		SS						26
						970		
								42
15		SS				955		
		SS			PARTIALLY WEATHERED ROCK: Sampled as very dense brown and tan silty medium to fine **SAND** with rock fragments	PWR		50/0.0'

Auger refusal encountered at 15 feet below existing ground surface

Groundwater was encountered at 13 feet below existing ground surface at time of boring and at 7 feet below existing ground surface at 24 hours after boring completion.

SAMPLER TYPE		DRILLING METHOD		Hole No.
SS - Split Spoon	NX - Rock Core 2-7/8"	HSA - Hollow Stem Auger	RW - Rotary Wash	BB-1
ST - Shelby Tube	CS - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core	
NC - Rock Core, 1-7/8"	CT - Continuous Tube	DC - Driving Casing		

[redacted]

Project: I-575 over M-9020 (Bells Ferry Road)
Location: Cobb County, Georgia
Project Number: 171-3099D; GDOT Proj. # : CSNHS-0008-00(256); PI # : 0008256

HOLE No. BB-2

Sheet 1 of 1

Location: BENT - 3

Azimuth: -- Angle from Horizontal: 90 Surface Elevation (ft): 974.89 Station: ST. 233+85, 60' Lt. of CL

Drilling Equipment: CME 550 Drilling Method: HSA

Core Boxes: -- Samples: 5 Overburden (ft): 20 Rock (ft): -- Total Depth (ft): 20.0

Logged By: MK Date Drilled: 10/1/07

VERTICAL DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE	REC%	RQD %	MATERIAL DESCRIPTION	ELEVATION (feet)	STANDARD PENETRATION TEST DATA (blows/foot)	N-VALUE
					CONCRETE = 5 inches	974.9		
					GRADED AGGREGATE BASE = 7 inches	GAB		
		SS			RESIDUUM: Loose to very dense reddish brown to brown and tan silty medium to fine **SAND** with rock fragments	SM	Bottom of MSE Wall El 979.0 (Approx.)	3
5		SS						15
10		SS				970		15
15		SS				965		63
		SS			PARTIALLY WEATHERED ROCK: Sampled as very dense black, brown and tan silty medium to fine **SAND** with rock fragments	960		50/5"
20						PWR		
						955		

Auger refusal encountered at 20 feet below existing ground surface

Groundwater was encountered at 4 feet below existing ground surface at time of boring and at 2 feet below existing ground surface at 24 hours after boring completion.

SAMPLER TYPE
SS - Split Spoon
ST - Shelby Tube
NQ - Rock Core, 1-7/8"
NX - Rock Core, 2 1/8"
CC - Cuttings
CT - Continuous Tube

DRILLING METHOD
HSA - Hollow Stem Auger
CFA - Continuous Flight Augers
DC - Driving Casing
RW - Rotary Wash
RC - Rock Core

Hole No.
BB-2

Project: I-575 over M-9020 (Bells Ferry Road)
Location: Cobb County, Georgia
Project Number: 171-3099D; GDOT Proj. # : CSNHS-0008-00(256); PI # : 0008256

HOLE No. W-1

Sheet 1 of 1
Location: MSE Wall No.6

Azimuth: -- Angle from Horizontal: 90 Surface Elevation (ft): 1011.01 Station: ST. 231+80, 75' Lt. of CL
Drilling Equipment: CME 550 Drilling Method: HSA
Core Boxes: -- Samples: 4 Overburden (ft): -- Rock (ft): -- Total Depth (ft): 15.0
Logged By: MK Date Drilled: 10/4/07

VERTICAL DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE	REC%	RQD %	MATERIAL DESCRIPTION	ELEVATION (feet)	STANDARD PENETRATION TEST DATA (blows/foot)	N-VALUE
					TOPSOIL = 1 inch	1011.0		
		SS			FILL : Medium dense reddish brown and tan silty medium to fine SAND with GAB and rock fragments	1010		24
5		SS						14
						1005		
10		SS			RESIDUUM : Loose to medium dense silty medium to fine SAND (slightly micaceous)	SM 1000	Bottom of MSE Wall (Approx.)	11
15		SS						10

Boring terminated at 15 feet below existing ground surface

Groundwater was not encountered at time of boring.

SAMPLER TYPE
SS - Split Spoon
ST - Shelby Tube
NQ - Rock Core, 1-7/8"
NX - Rock Core 2 1/8"
CL - Cuttings
CT - Continuous Tube

DRILLING METHOD
HSA - Hollow Stem Auger
CFA - Continuous Flight Augers
DC - Driving Casing
RW - Rotary Wash
RC - Rock Core

Hole No. W-1

HOLE No. W-2

Sheet 1 of 1

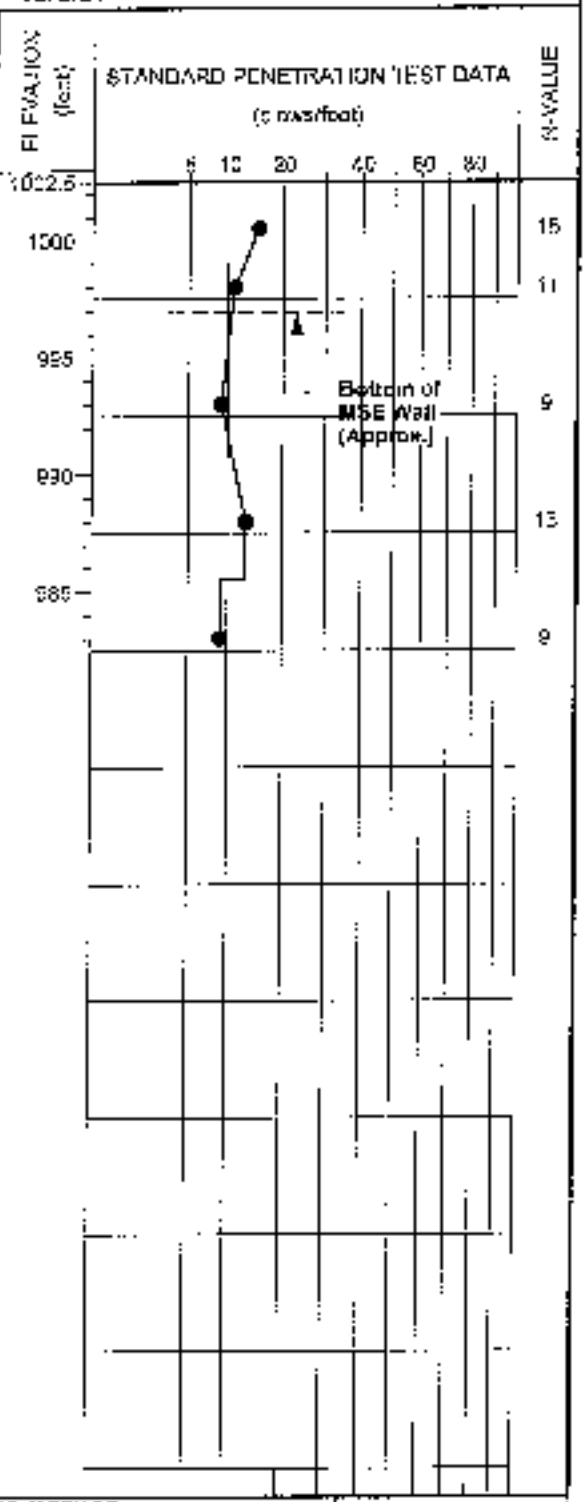
Project: I-575 over M-9020 (Bells Ferry Road)
Location: Cobb County, Georgia
Project Number: 171-3099D; GDOT Proj. # : CSNHS-0008-00(256); PI # : 0006256
Location: MSE Wall No. 7

Azimuth: — Angle from Horizontal: 90 Surface Elevation (ft): 1002.50 Station: ST. 234+20, 75' Rt. of CL
Drilling Equipment: CME 550 Drilling Method: HSA
Core Boxes: — Samples: 5 Overburden (ft): — Rock (ft): — Total Depth (ft): 20.0
Logged By: MK Date Drilled: 10/3/07

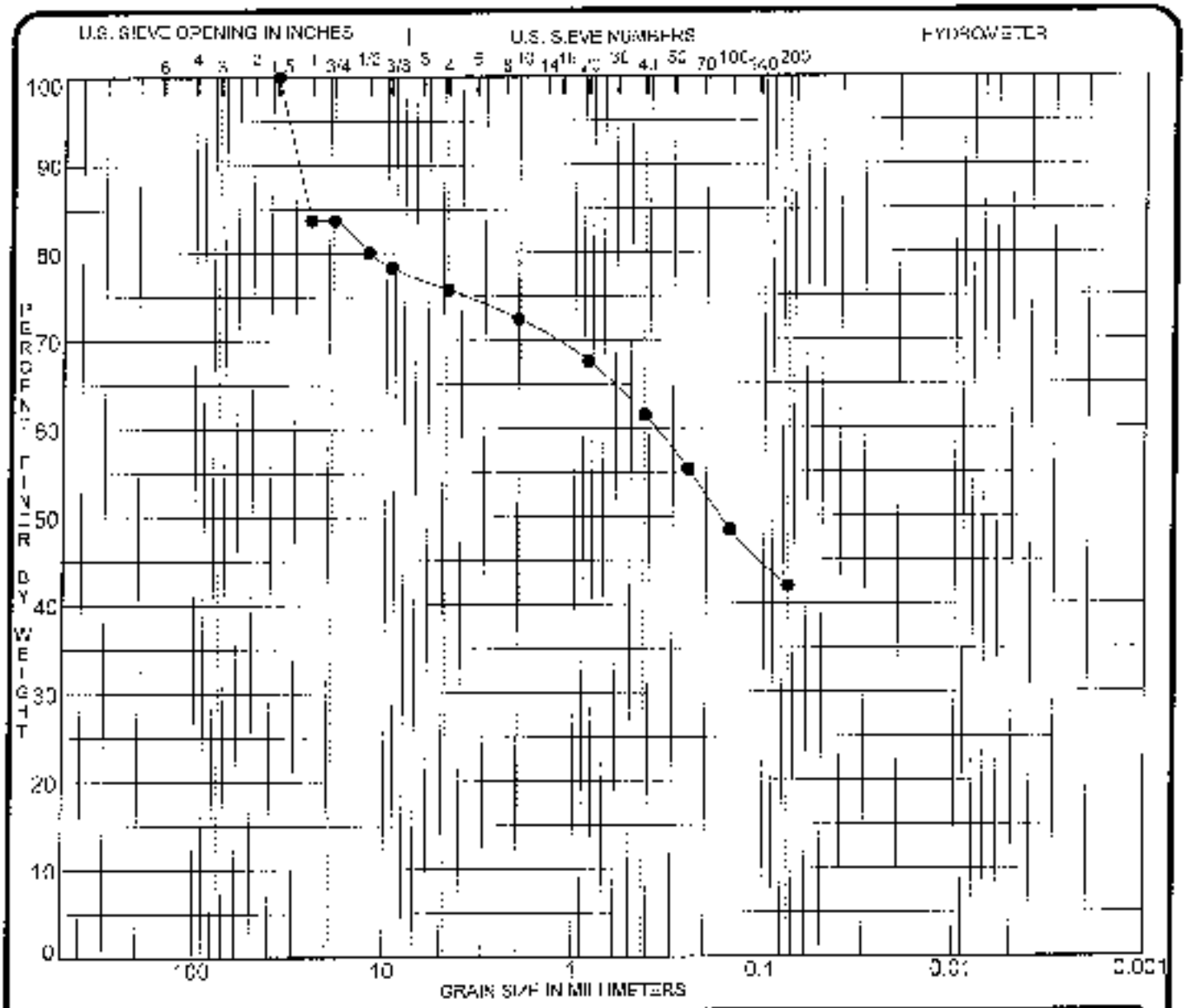
VERTICAL DEPTH (ft)	GRAPHIC LOG	SAMPLE TYPE	REC%	RQD %	MATERIAL DESCRIPTION		ELEVATION (feet)	STANDARD PENETRATION TEST DATA (blows/foot)	N-VALUE
					TOPSOIL = 1 inch	FILL	1002.5		
		SS			FILL : Medium dense reddish brown and tan silty medium to fine SAND	FILL	1000		15
5		SS			Loose and medium dense reddish brown and tan silty medium to fine SAND with gravel				11
10		SS					995	Bottom of MSE Wall (Approx.)	9
					Medium dense dark brown silty medium to fine SAND with organic odor	FILL	990		
15		SS							13
					RESIDUUM Loose reddish brown silty coarse to fine SAND	SM	985		
20		SS							9

Boring terminated at 20 feet below existing ground surface

Groundwater was not encountered at time of boring



SAMPLER TYPE		DRILLING METHOD		Hole No.
SS - Split Spoon	NX - Rock Core, 2-1/8"	HSA - Hollow Stem Auger	RW - Rotary Wash	W-2
ST - Shelby Tube	CU - Cuttings	CFA - Continuous Flight Augers	RC - Rock Core	
NO - Rock Core 1-7/8"	CT - Continuous Tube	DC - Driving Casing		



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen Identification	Soil Description	MC%	LL	PL	PI	Cc	Cu
● W-2 (3.5-5 ft)	Brown silty medium to fine SAND with gravel (micaceous)						

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● W-2 (3.5-5 ft)	37.50	0.37			24.2	33.7	42.1	

PROJECT I-575/M-9020 (Bells Ferry Rd), Cobb County, GA
GDOT Proj. # CSNHS-0008-00(256); PI # 0008256

JOB NO. 171-3099 D
DATE 12/7/07

GRADATION CURVE

APPENDIX II

DOT 490

DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS AND RESEARCH, FOREST PARK, GEORGIA

SOILS ENGINEERING AND GEOLOGY BRANCH

BRIDGE SUBSURFACE INVESTIGATION

CGNHS-0008 00 (259)

PROJECT PI No. 0008259 COUNTY Cobb DATE 3/1/77

LOCATION I-575 over M-9020 (Hells Ferry Road) BORING NO. E-1L

BENT NO. 1 FOOTING GROUND ELEV. 990.66

PROPOSED FOOTING ELEV. PARTY CHIEF Hollis

ELEV	BORING LOG		BLOW	UNIFIED	γ	W	Gs	% 200	% CLAY	LL	PI	O	φ		
	Gr. El. 1														
990	Med.Dense Mttc.Micas. Clayey Sandy Silt	1s	23												
Swt	Dse.Mttc.Micas.Sdy.Slt	2s	26												
	V.Dse.Weathered Boulder	3s	50=2'												
980	Dse.Mttc.Micas.Sandy Silt W/Weath. Rock	4s	38												
		5s	36												
	Medium Dense Same	6s	21												
970	Dse.Mttc.Micas.Sandy Silt W/Weathered Rock	7s	33												
	Very Dense Same	8s	60=7'												
	V.Hd.Weath.Granite														
960	Refusal														

The Department of Transportation [illegible] this information report [illegible] assumed no responsibility for its accuracy.

No claim will be considered if the [illegible] or relies on this information in his bidding or in the construction operations and finds that it is inaccurate.

This information investigation report is not considered as a part of the Plans and Specifications or Contract on the job.

DOT 490

DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS AND RESEARCH, FOREST PARK, GEORGIA

SOILS ENGINEERING AND GEOLOGY BRANCH

BRIDGE SUBSURFACE INVESTIGATION

CSNHS-0008-00 (256)

PROJECT P. No. 0008256 COUNTY Cobb DATE 2/28/77

LOCATION I-575 over M-9020 (Bell's Ferry Road) BORING NO. B-1R

BENT NO. 1 FOOTING GROUND ELEV. 997.75

PROPOSED FOOTING ELEV. PARTY CHIEF Hollis

ELEV.	BORING LOG		BLOW	UNIFIED	γ	W	Gs	% 200	% CLAY	LL	PI	Q	φ
1000	Gr. El.												
	Med. Dense Red Micac. Clayey Sdy. Silt	1s	13										
		2s	14										
980		3s	19										
	Medium Dense Mic. Sandy Silt	4s	18										
	Loose Same	5s	7										
		6s	16										
960	Medium Dense Mic. Micac. Sandy Silt W/ Weathered Rock	7s	15										
	Dense Same	8s	44										
940	Very Dense Weath. Granite	9s	60=9"										
		10s	60=5"										
930	Rock												
	Refusal												

DOT 490

DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS AND RESEARCH, FOREST PARK, GEORGIA
SOILS ENGINEERING AND GEOLOGY BRANCH

BRIDGE SUBSURFACE INVESTIGATION

PROJECT CSNHS-0008 00 (256) PI No. 0008255 COUNTY Cobb DATE 3/1/77

LOCATION I-575 over M-902C (Bells Ferry Road) BORING NO. B-2L

BENT NO. 2 FOOTING GROUND ELEV. 983.44

PROPOSED FOOTING ELEV. PARTY CHIEF Hollis

ELEV	BORING LOG		BLOW	UNIFIED	γ	W	ei	% 200	% CLAY	LL	PI	C	φ
	Gr. El. 7												
980	Med Dense Mtc. Micac. Clayey Sandy Silt	1s	17										
	Dse. Mtc. Micac. Sdy Silt W/ Weathered Rock	2s	27										
		3s	47										
		4s	34										
970	Medium Dense Sand	5s	14										
	Dse. Mtc. Micac. Sdy. Silt W/ Weathered Rock	6s	40										
		7s	37										
960	Very Dense Sand	8s	50/3"										
		9s	50/2"										
950	Very Hard Weath. Granite												
940	End Drilling												

(001 490)

DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS AND RESEARCH, FOREST PARK, GEORGIA

SOILS ENGINEERING AND GEOLOGY BRANCH

BRIDGE SUBSURFACE INVESTIGATION

PROJECT CSNHS-0008-00 (256) PI No. 0008256 COUNTY Cobb DATE 2/28/77

LOCATION I-575 over M-3020 (Bells Ferry Road) BORING NO. D-2R

BENT NO. 2 FOOTING GROUND ELEV. 989.16

PROPOSED FOOTING ELEV. PARTY CHIEF Hollis

ELEV	BORING LOG		BLOW	UNIFIED	γ	W	Gs	% 200	% CLAY	LL	PI	C	φ
990	Gr. El.												
	Dense Mic. Micas. Sandy Silt	1s	25										
	Medium Dense Sand	2s	18										
980	Lse. Mic. Micas. Sdy. Silt	3s	9										
	Medium Dense Sand	4s	26										
	Dse. Mic. Sdy. Silt W/ Weathered Rock	5s	35										
		6s	29										
970	Medium Dense Mic. Sandy Silt W/Gravel	7s	11										
		8s	60=7"										
960	Very Dense Weath. Granite	9s	60=1"										
			60=1"										
950			60=1"										
	End Drilling												

NOTE 490

DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS AND RESEARCH, FOREST PARK, GEORGIA

SOILS ENGINEERING AND GEOLOGY BRANCH

BRIDGE SUBSURFACE INVESTIGATION

PROJECT USNRS-0009-00 (255) PI No. 0003256 COUNTY Cobb DATE 3/1/77

LOCATION I-575 over M-5020 (Hollis Ferry Road) BORING NO. 3 SI

BENT NO. 3 FOOTING GROUND ELEV. 889.16

PROPOSED FOOTING ELEV. PARTY CHIEF Hollis

ELEV	BORING LOG		BLOW	UNIFIED	γ	w	e_o	% 200	% CLAY	LL	PI	C	φ		
990	Gr. El.														
	Med. Dense Mtlc. Micos. Clayey Sandy Silt	1s	18												
Sert.	Medium Dense Mtlc. Micos. Sandy Silt	2s	15												
980	Lse. Same W/ Gravel	3s	6												
	med. dense mtlc. micos. sdy. silt w/ gravel	4s	17												
		5s	60												
	Very Dense Mtlc. Micos. Sandy Silt W/ Weathered Rock	6s	60=2"												
970		7s	60=2"												
	Very Hard Rock														
	Refusal														

The [illegible] the [illegible] assumed [illegible]

[illegible] or [illegible] in the [illegible] it is [illegible]

This [illegible] is not [illegible] as a part of the [illegible] Contract of the job.

DOT 450

DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS AND RESEARCH, FOREST PARK, GEORGIA

SOILS ENGINEERING AND GEOLOGY BRANCH

BRIDGE SUBSURFACE INVESTIGATION

PROJECT CGNHS-[illegible]-00 (256) P. No. 0006256 COUNTY Cobb DATE 3/2/77

LOCATION I-575 over M. 9021 (Bells Ferry Road) BORING NO. U-9R

BENT NO. 2 FOOTING GROUND ELEV. 995.25

PROPOSED FOOTING ELEV. PARTY CHIEF Hollis

ELEV	BORING LOG		BLOW	UNIFIED	γ	W	Gs	% 200	% CLAY	LL	PI	C	φ
	Gr. El.												
990	Medium Dse. to Dense Mtle. Micas. Sdy. Silt	1s	25										
		2s	18										
980	Very Dense Same		55										
	Dense Mtle. Micas. Sandy Silt	4s	36										
970	V. Dse. Weathered Rock	5s	HB										
	Very Hard Rock												
	Practical Refusal												

The Department of Transportation is making this foundation report available to contractors [illegible] no responsibility for its accuracy.

No claim will be considered if the contractor [illegible] on this information in the bidding of [illegible] and [illegible] it is inaccurate.

This foundation investigation report is not considered as a part of the Plans and Special Headings or Contract on the job.

DOT 490

DEPARTMENT OF TRANSPORTATION

OFFICE OF MATERIALS AND RESEARCH, FOREST PARK, GEORGIA

SOILS ENGINEERING AND GEOLOGY BRANCH

BRIDGE SUBSURFACE INVESTIGATION

CSNHS-0008 00 (256)

PROJECT PI No. 0008200 COUNTY Cobb DATE 2/28/77

LOCATION I-575 over M-9020 (Bells Ferry Road) BORING NO. B-4R

BENT NO. 3 FOOTING GROUND ELEV. 988.25

PROPOSED FOOTING ELEV. PARTY CHIEF Hollis

ELEV	BORING LOG		ROW	UNIFIED	γ	W	Gr	% 200	% CLAY	LL	PI	C	ϕ	
990	Gr. El.													
	Stiff Mtc. Sandy Silty Clay	1s	10											
	Same	2s	11											
980	Loose Mtc. Micas. Sandy Silt	3s	8											
		4s	5											
	V.Lse.Gray Micas.Sdy.Slt	5s	3											
	Loose Mtc. Micas. Sandy Silt	6s	8											
970		7s	60=2'											
	V.Dec.Wealth. Rock	8s	60=1'											
960		9s	60=3'											
	Refusal													

The Department of Transportation is making this foundation report available to contractors [illegible] responsibility for its accuracy.

No claim will be considered in the construction [illegible] in the bidding of [illegible] construction [illegible] and [illegible] if it is [illegible].

This foundation investigation report is not [illegible] and [illegible]