

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE P. I. No. 0003452, Walker County
BR-0003-00(452)
Bridge Replacement on CR 835/
Happy Valley Road

OFFICE Preconstruction

DATE June 1, 2005

FROM *Cypher Kunkle*
Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO *for* SEE DISTRIBUTION

SUBJECT REVISED PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

MBP/cj

Attachment

DISTRIBUTION:

David Mulling
Harvey Keepler
Ken Thompson
Jamie Simpson
Michael Henry
Keith Golden
Joe Palladi (file copy)
Babs Abubakari
Kent Sager
BOARD MEMBER

**DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA**

INTERDEPARTMENT CORRESPONDENCE

FILE: PROJECT: BR-0003-00(452) **OFFICE:** Cartersville
COUNTY: Walker
P.I. #: 0003452 **DATE:** May 23, 2005

FROM: Kent L. Sager, District Engineer

TO: Meg Pirkle, Assistant Division Director of Preconstruction

SUBJECT: REVISED PROJECT CONCEPT REPORT

Attached is the original copy of the revised Concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

We request that Projects BR-0003-00(452) and BR-0003-00(453) be combined into one project due to their proximity. Both projects are located on Happy Valley Road (CR 835) in Walker County. Project BR-0003-00(452) proposes to replace the existing overflow bridge on Happy Valley Road over Chattanooga Creek in Walker County. This project begins at MP 0.28 and ends at MP 0.36. Project BR-0003-00(453) proposes to replace the bridge on Happy Valley Road (CR 835) over Chattanooga Creek near the intersection of SR 193 and Happy Valley Road (CR 835). This project begins on Happy Valley Road (CR 835) at MP 0.17 and ends at MP 0.28. The bridges are approximately 475' apart and will be constructed simultaneously. Also, an approved signal permit for the intersection of SR 193 and Happy Valley Road (CR 835) was located during research for the above mentioned concept reports. This approved signal permit is dated September 24, 1999. The current traffic on Happy Valley Road (CR 835) is 1,850 ADT (2010) and on SR 193 is 5,650. The design traffic on Happy Valley Road (CR 835) is 2,700 ADT (2030) and on SR 193 is 8,350 ADT (2030).

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

DATE 5/24/05


State Transportation Planning Administrator

By: David P. Moore
District Design Engineer
District Six

KLS:DPM:dwr

Attachments:

CC: Brian Summers, Project Review Engineer
Harvey Keepler, State Environmental/Location Engineer
Carla Holmes, State Traffic Operations Engineer
Joe Palladi, State Transportation Planning Administrator
Jamie Simpson, State Transportation Financial Management Administrator
Paul Liles, State Bridge Design Engineer

REVISED PROJECT CONCEPT REPORT

Revised Need and Purpose

Project BR-0003-00(452) will provide for the replacement of two bridges on CR 835/Happy Valley Road over Chattanooga Creek in Walker County. The first bridge is located at Milepost (MP) 0.17 and was formerly part of project BR-0003-00(453). The second bridge is an overflow bridge located at MP 0.28. The bridges are only 475 ft apart and will be constructed simultaneously. In addition to the bridge replacements, the proposed project will include the addition of a signal at the intersection of SR 193 and Happy Valley Road (CR 835).

Bridge Replacement Justification

The two bridges on CR 835 meet GDOT's policy 2405-1 requirements to be replaced. The policy allows bridges with a sufficiency rating below 50 and on the Highway Bridge Replacement Rehabilitation Program (HBRRP) list to be replaced. The bridges are on the required HBRRP list. The first bridge has a sufficiency rating of 23.21 and the second bridge has a sufficiency rating of 40.60.

Signal Justification

A signal warrant study was completed of the intersection of SR 193 and CR 835. The study determined there is a need for the proposed signal.

In the immediate area of the project, there were 9 accidents in 2000, 7 in 2001, and 4 in 2002. It was reported 10 of the accidents were angle type accidents, 4 were rear-ends, 3 were non-motorist collisions, and 2 were head-on collisions. About 12 of the accidents occurred at MP 23.99, the center of the intersection. About 6 of the 12 accidents involved vehicles making a left or right turn.

SR 193 Intersection with CR 835	Total No. of Accidents	Non-motorist Collision	Head-on	Angle Type	Rear-Ends	Sideswipe (Opposite Direction)	Left Turn	Right Turn
MP								
23.58	1				1			
23.9	1		1				1	
23.99	12	1	1	8	2		5	1
24.01	1					1	1	
24.02	1			1			1	
24.09	1	1						
24.23	1			1				
24.28	1				1			
24.38	1	1					1	
Total	20	3	2	10	4	1	9	1

The accident, injury, and fatality rates for the route were lower than the Statewide average rates, with exception of the injury rates in 2000 and 2001.

SR 193 (Urban Minor Arterial)	2000			2001			2002		
	Number	Rate	Statewide	Number	Rate	Statewide	Number	Rate	Statewide
Accidents	9	320	660	7	223	550	4	145	577
Injuries	18	640	258	1	323	218	3	109	222
Fatalities	0	0	1.44	0		1.4	0	0	1.24

The termini of the signal improvement are logical. Accidents drop off beyond the center of the intersection of SR 193 and CR 835.

The AADT along CR 835 is expected to be 1,850 in 2010 and 2,700 AADT by 2030. The LOS of the route is expected to be A in 2010 and remain A by 2030. The traffic volume along SR 193 is expected to be 5,650 AADT in 2010 and 8,350 AADT by 2030. The LOS of the route is expected to be C in 2010 and remain C by 2030.

Local and State transportation plans

Local and State transportation plans were reviewed to determine their involvement with the proposed project. The project lies within the Chattanooga urbanized area and is included in the Metropolitan Planning Organization’s 2025 Transportation Plan and will be included in the upcoming 2006 -2008 Transportation Improvement Program. The Plan also includes a project that will widen SR 193 from old SR 193 (CR 837) to the Tennessee State line. The proposed signal under Project BR-0003-00(453), which will be constructed at the intersection of SR 193 and CR 835, lies within the limits of this widening project. There are no other projects in the area that will directly impact the proposed project. SR 193 and CR 835 are not a part of the GDOT’s Statewide Bicycle & Pedestrian Plan and not on a school bus route.

Environmental Justice

The project lies within Census Tracts 203.01 and 203.02. The population for Census Tract 203.01 was 4,822 in 2000. About 1.8% of the population was Hispanic and 2.9% was Black. About 1,359 families lived in the area and 13.8% of these families lived below the poverty level. The total population for Census Tract 203.02 was 5,647 in 2000. About 0.7% of the population was Hispanic and 0.9% was Black. About 1,666 families lived in this census tract and 5.9% of these families lived below the poverty level. Land use in the area is mixed commercial, industrial, and residential.

Project location: This project is located on Happy Valley Road (CR 835) and at the intersection of Happy Valley Road (CR 835) and SR 193 in Walker County. On Happy Valley Road (CR 835) the project begins at MP 0.17 and ends at MP 0.36 for a total length of 0.19 miles (approximately 1000'). On SR 193 the project begins at MP 23.80 and ends at MP 24.18 for a total length of 0.38 miles (approximately 2000'). This project is approximately 4.20 miles southwest of Rossville, Georgia.

Description of the approved concept:

BR-0003-00(452):

This Project is for the replacement of the overflow bridge on County Road 835 (Happy Valley Road) The Project begins at M.P. 0.275 and ends at M.P. 0.360 at the intersection of C.R. 835 and State Route 193 with a total project length of 0.085 miles (apx. 450 ft). This project is located 4.2 miles southwest of Rossville, Ga. This project will be constructed concurrently with project BR-0003-00(453) Walker County P.I. No. 0003453 which is the replacement of the bridge on C.R. 835 over Chattanooga Creek. These two bridges are approximately 475 ft apart which will necessitate the projects being constructed together. This overflow bridge should be replaced with a bridge culvert if possible because of the grades and the close proximity to S. R. 193.

BR-0003-00(453):

This Project is for the replacement of the Chattanooga Creek bridge on County Road 835 (Happy Valley Road) The Project begins at M.P. 0.17 and ends at M.P. 0.28 at the intersection of C.R. 835 and State Route 193 with a total project length of 0.085 miles (apx. 555 ft). This project is located 4.2 miles southwest of Rossville, Ga. This project will be constructed concurrently with project BR-0003-00(452) Walker County P.I. No. 0003452 which is the replacement of the bridge on C.R. 835 over Chattanooga Creek overflow. These two bridges are approximately 475 ft apart which will necessitate the projects being constructed together.

PDP Classification: Major () Minor (X)

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

Functional Classification: *SR 193: Rural Major Collector*
Happy Valley Road (CR 835): Rural Local Road

U. S. Route Number(s): None **State Route Number(s): SR 193**

Traffic (AADT) as shown in the approved concept:

Current Year: (2008) 1,400 Design Year: (2028) 2,050

Proposed features to be revised: The concept for project BR-0003-00(452) is being revised to include the bridge replacement for project BR-0003-00(453) as well as to add a signal at the intersection of SR 193 and Happy Valley Road (CR 835). A typical section for SR 193 has been added and the typical sections for Happy Valley Road (CR 835) have been revised. The project

termini for BR-0003-00(452) and BR-0003-00(453) have been combined and lengthened for a total project length along Happy Valley Road of 0.39 miles [MP 0.09 to MP 0.48]. The length of the project that includes the new signal on SR 193 is approximately 0.22 miles [MP 23.89 to 24.11]. Since the project termini has been extended to include approximately 1200' of SR 193, the scope of the environmental analyses will increase. No changes are expected that will affect the alignment or access control.

- *Typical sections:*
 - *A Typical Section for SR 193 has been added*
 - *2-12' Travel Lanes w/ Left & Right Turn Lanes on both approaches*
 - *10' shoulders (2' paved – 8' grassed)*
 - *The Typical Sections for CR 835 have been revised*
 - *2-12' Travel Lanes w/ Left & Right Turn Lanes on both approaches*
 - *8' shoulders (2' paved – 6' grassed)*
- *Project termini*
 - *Project will begin at MP 0.09 and end at MP 0.48 (CR 835)*
 - *Project limits are from MP 23.89 to MP 24.11 (SR 193)*
- *Changes in right-of-way limits which may affect the analyses of:*
 - *Historic resources, Endangered species, Air quality, or Noise studies:*
 - *Project Length and Limits increased*
- *Controlling criteria:*
 - *The Speed Design on CR 835 has been revised from 40 mph to 35 mph*
 - *The Speed Design on SR 193 is 55 mph*

Describe the revised feature(s) to be approved: This project consists of the replacement of two bridges, one being an overflow bridge, over Chattanooga Creek on Happy Valley Road (CR 835) in Walker County, beginning at MP 0.09 and ending at MP 0.48 on Happy Valley Road. The total project length on Happy Valley Road is 0.39 miles (approximately 2000'). This project extends to include approximately 1200' [MP 23.89 to MP 24.11] of SR 193 to install a new traffic signal at the intersection of Happy Valley Road and SR 193.

Updated traffic data (AADT):

SR 193:	Current Year: (2010) <u>5,650</u>	Design Year: (2030) <u>8,350</u>
CR 835:	Current Year: (2010) <u>1,850</u>	Design Year: (2030) <u>2,700</u>

Programmed/Schedule:

BR-0003-00(452) - P.E.:	<u>2003</u>	R/W: <u>LOCAL</u>	Construction: <u>2007</u>
BR-0003-00(453) - P.E.:	<u>2003</u>	R/W: <u>LOCAL</u>	Construction: <u>2007</u>

Revised cost estimates:

1. Construction cost including inflation and E&C,
2. Right-of-way, and
3. Utilities

Is the project located in a Non-attainment area? () Yes (X) No.

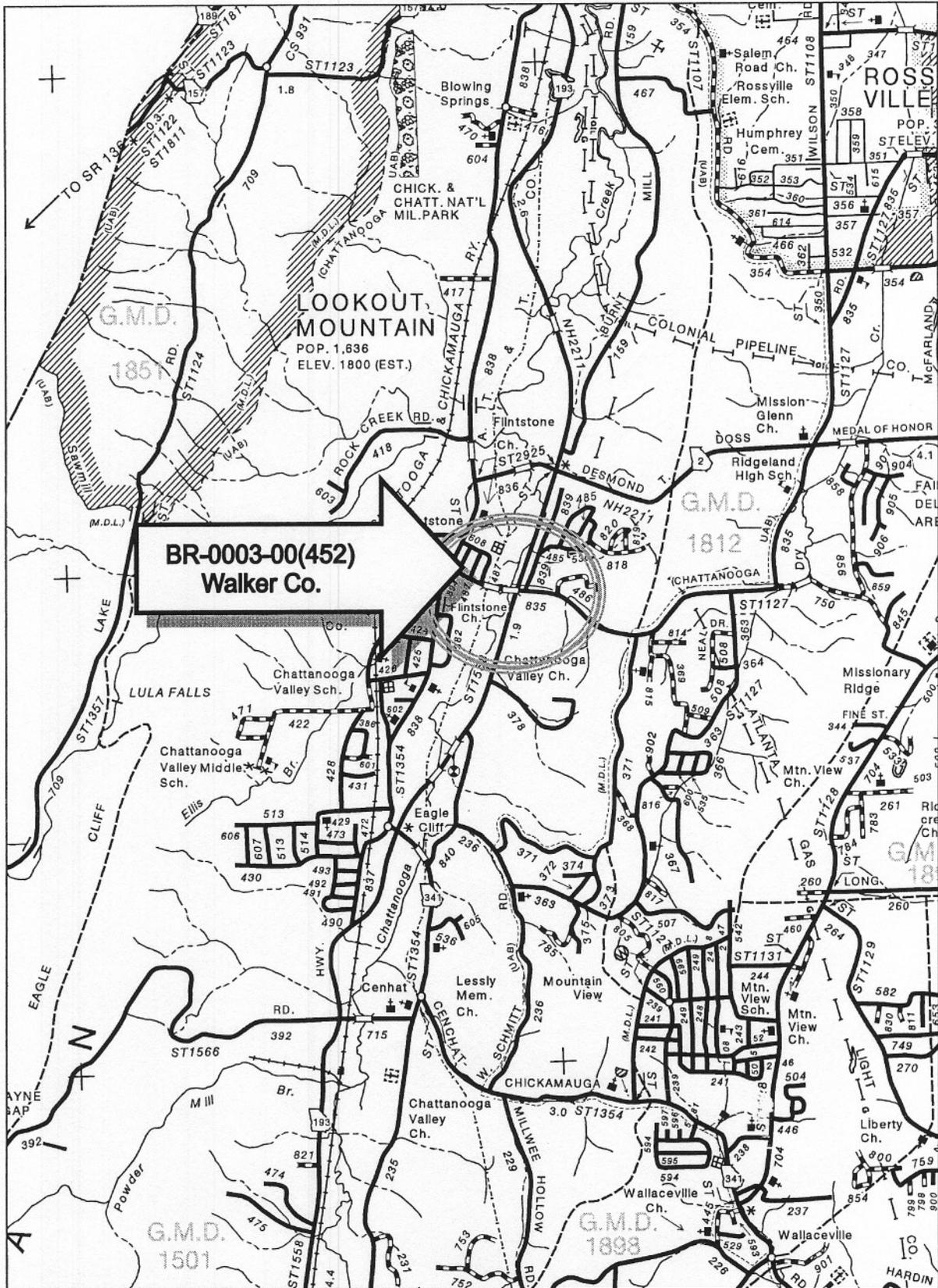
Recommendation: Recommend that the proposed revision to the concept be approved for implementation.

Attachments:

1. Sketch Map,
2. Cost Estimate,
3. Approved Concept Report for BR-0003-00(452)
4. Approved Concept Report for BR-0003-00(453)
5. Approved signal permit for SR 193 at Happy Valley Road (CR 835)

Concur: Buddy A
Director of Preconstruction

Approve: D E Hill
Chief Engineer



Estimate Report for file "003452"

Section ROADWAY					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
150-1000	Lump	LS	69822.97	TRAFFIC CONTROL -	69822.97
153-1300	1.00	EA	49371.24	FIELD ENGINEERS OFFICE TP 3	49371.24
210-0100	Lump	LS	352704.41	GRADING COMPLETE -	352704.41
310-1101	4826.00	TN	13.35	GR AGGR BASE CRS, INCL MATL	64427.1
318-3000	1100.00	TN	15.22	AGGR SURF CRS	16742.0
402-3121	1574.00	TN	35.71	RECYCLED ASPH CONC 25 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	56207.54
402-3130	957.00	TN	36.60	RECYCLED ASPH CONC 12.5 MM SUPERPAVE, GP 2 ONLY, INCL BITUM	35026.20
402-3190	1181.00	TN	39.12	RECYCLED ASPH CONC 19 MM SUPERPAVE, GP 1 OR 2, INCL BITUM	46200.71
413-1000	250.00	GL	0.94	BITUM TACK COAT	235.0
432-5010	4311.00	SY	1.49	MILL ASPH CONC PVMT, VARIABLE DEPTH	6423.39
441-0104	28.00	SY	22.04	CONC SIDEWALK, 4 IN	617.12
441-0748	174.00	SY	30.63	CONCRETE MEDIAN, 6 IN	5329.62
446-3000	1350.00	LF	3.81	PVMT REINF FABRIC STRIPS, SELF ADHESIVE	5143.5
550-1180	120.00	LF	28.02	STORM DRAIN PIPE, 18 IN, H 1-10	3362.4
550-1480	126.00	LF	77.08	STORM DRAIN PIPE, 48 IN, H 1-10	9712.08
550-4218	4.00	EA	403.32	FLARED END SECTION 18 IN, STORM DRAIN	1613.28
573-2006	3960.00	LF	10.89	UNDDR PIPE INCL DRAINAGE AGGR, 6 IN	43124.4
603-2182	72.00	SY	42.84	STN DUMPED RIP RAP, TP 3, 24 IN	3084.48
603-7000	72.00	SY	3.96	PLASTIC FILTER FABRIC	285.12
634-1200	38.00	EA	83.62	RIGHT OF WAY MARKERS	3177.56
641-1200	1819.00	LF	11.90	GUARDRAIL, TP W	21646.10
641-5001	2.00	EA	440.34	GUARDRAIL ANCHORAGE, TP 1	880.68
641-5012	2.00	EA	1424.68	GUARDRAIL ANCHORAGE, TP 12	2849.36
Section Sub Total:					\$797,986.27

Section TRAFFIC SIGNS					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
636-1031	67.00	SF	17.12	HIGHWAY SIGNS, TP 1 MATL, REFL SHEETING TP 6	1147.04
636-2070	130.00	LF	6.46	GALV STEEL POSTS, TP 7	839.8
652-0120	24.00	EA	42.44	PAVEMENT MARKING, ARROW, TP 2	1018.56
652-6501	646.00	GLF	0.07	SKIP TRAFFIC STRIPE, 5 IN, WHITE	45.22
653-1501	8805.00	LF	0.25	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, WHITE	2201.25
653-1502	4972.00	LF	0.23	THERMOPLASTIC SOLID TRAF STRIPE, 5 IN, YELLOW	1143.56
653-1704	125.00	LF	3.16	THERMOPLASTIC SOLID TRAF STRIPE, 24 IN, WHITE	395.0
653-6006	901.00	SY	2.58	THERMOPLASTIC TRAF STRIPING, YELLOW	2324.58
Section Sub Total:					\$9,115.01

Section EROSION CONTROL					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
700-6910	9.00	AC	739.15	PERMANENT GRASSING	6652.34
700-7000	30.00	TN	59.55	AGRICULTURAL LIME	1786.5
700-7010	30.00	GL	20.62	LIQUID LIME	618.6
700-8000	9.00	TN	234.39	FERTILIZER MIXED GRADE	2109.50
700-8100	450.00	LB	1.43	FERTILIZER NITROGEN CONTENT	643.5
Section Sub Total:					\$11,810.46

Section TEMPORARY EROSION CONTROL					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
163-0232	5.00	AC	458.11	TEMPORARY GRASSING	2290.55
163-0240	78.00	TN	194.07	MULCH	15137.46
163-0300	4.00	EA	1063.42	CONSTRUCTION EXIT	4253.68
163-0530	1262.00	LF	2.24	CONSTRUCT AND REMOVE BALED STRAW EROSION CHECK	2826.88

165-0010	785.00	LF	1.01	MAINTENANCE OF TEMPORARY SILT FENCE, TP A	792.85
165-0030	1750.00	LF	1.29	MAINTENANCE OF TEMPORARY SILT FENCE, TP C	2257.5
165-0070	631.00	LF	1.24	MAINTENANCE OF BALED STRAW EROSION CHECK	782.43
165-0101	2.00	EA	351.61	MAINTENANCE OF CONSTRUCTION EXIT	703.22
167-0100	12.00	MO	955.65	WATER QUALITY MONITORING	11467.8
167-0200	2.00	EA	58.24	WATER QUALITY SAMPLING	116.48
171-0010	1570.00	LF	1.71	TEMPORARY SILT FENCE, TYPE A	2684.7
171-0030	3500.00	LF	3.15	TEMPORARY SILT FENCE, TYPE C	11025.0
716-2000	10222.00	SY	1.10	EROSION CONTROL MATS, SLOPES	11244.2
Section Sub Total:					\$65,582.76

Section BRIDGE NO. 1					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3101	0.00	CY	426.84	CLASS A CONCRETE	0.0
507-9001	0.00	LF	86.77	PSC BEAMS, AASHTO TYPE I, BR NO -	0.0
511-1000	0.00	LB	0.63	BAR REINF STEEL	0.0
520-1104	0.00	LF	29.89	PILING IN PLACE, STEEL H, HP 10 X 42	0.0
520-2214	0.00	LF	35.04	PILING, PSC, 14 IN SQ	0.0
520-3214	0.00	EA	4477.32	TEST PILE, PSC, 14 IN SQ	0.0
520-4104	0.00	EA	0.77	LOAD TEST, STEEL H, HP 10 X 42	0.0
520-5000	0.00	LF	163.07	PILOT HOLES	0.0
543-1100	1.00	LS	138421.80	CONSTR OF BRIDGE - COMPLETE - TO BOTTOM OF CAP	138421.8
547-2012	0.00	LF	186.50	PILE ENCASEMENT, 12 IN PILE	0.0
Section Sub Total:					\$138,421.80

Section BRIDGE NO. 2					
Item Number	Quantity	Units	Unit Price	Item Description	Cost
500-3101	0.00	CY	426.84	CLASS A CONCRETE	0.0
507-9001	0.00	LF	86.77	PSC BEAMS, AASHTO TYPE I, BR NO -	0.0
511-1000	0.00	LB	0.63	BAR REINF STEEL	0.0
520-1104	0.00	LF	29.89	PILING IN PLACE, STEEL H, HP 10 X 42	0.0
520-2214	0.00	LF	35.04	PILING, PSC, 14 IN SQ	0.0
520-3214	0.00	EA	4477.32	TEST PILE, PSC, 14 IN SQ	0.0
520-4104	0.00	EA	0.77	LOAD TEST, STEEL H, HP 10 X 42	0.0
520-5000	0.00	LF	163.07	PILOT HOLES	0.0
543-1100	1.00	LS	138421.80	CONSTR OF BRIDGE - COMPLETE - TO BOTTOM OF CAP	138421.8
547-2012	0.00	LF	186.50	PILE ENCASEMENT, 12 IN PILE	0.0
Section Sub Total:					\$138,421.80

Total Estimated Cost: \$1,161,338.10

Subtotal Construction Cost	\$1,161,338.10
E&C Rate 10.0 %	\$116,133.81
Inflation Rate 5.0 % @ 2.0 Years	\$130,940.87
Total Construction Cost	\$1,408,412.78
Right Of Way	\$0.00
ReImb. Utilities	\$0.00
Grand Total Project Cost	\$1,408,412.78