14B

Form C-104
Rev. 02/2009

VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

☐ Conceptual Proposal ☒ Final Proposal

Date 06/18/2010

Contract ID 100430-611

Job No. J6I1885

County St. Louis I-270

Original Bid Cost $2,748,495.89

Contractor Millstone Bangert, Inc.

By Bob Kile

Designed By MoDOT

Phone 314-691-3958

VECP# 10-67 (to be completed by C.O.)

VECP ☒ or PDVECP ☐

1. **Description of existing requirements and proposed change(s). Advantages/Disadvantages**
   Existing: Current Stage I plans show EB and WB existing pavement marking removals and temporary pavement markings extending approximately 1100' east of the I-64 bridges over Ballas(A45801 & A45802) work zone. Proposed: MBI proposes to shorten the EB and WB temporary lane configurations to include only the work zone configuration required to rehab the I-64 bridges over I-270 (A46501 & A46521). The scope of the work on the I-64 bridges over Ballas will be performed using off-peak lane closures and TMAs. The work zone length reduction will reduce the quantity temporary traffic control items needed and will eliminate the need to remove and replace the WB shoulder.

2. **Estimate of reduction in construction costs.** $130,901.10

3. **Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.**
   None

4. **Anticipated date for submittal of detailed change(s) of items required by Section 104.6 of the Specifications.**

   06/21/2010
   (date)

5. **Deadline for issuing a change order to obtain maximum cost reduction, noting the effect of contract completion time or delivery schedule.**

   N/A (date) None (effect)

6. **Dates of any previous or concurrent submission of the same proposal.**

   N/A
   (date and/or dates)

Additional Comments:
Attached is a spreadsheet with estimated quantity revisions for this VE. Using this revised construction method MBI will minimize the durations of impact on the regional mobility of the traveling public. Extra work shifts requiring lane restrictions will not be required to switch traffic to the next stage. No peak traffic closures or lanes reductions will be used at this location.

**** Portion Below This Line To Be Filled Out by MoDOT ****

Comments: THE CORE TEAM HAS BEEN INVOLVED WITH THIS PROPOSAL & SUPPORTS IT. THIS WILL SAVE TIME & MONEY TO THE CONTRACT WILL POSING NO LONG TERM MAINTENANCE COSTS OR SAFETY RISKS.

Submitted By Resident Engineer — Date: 7-8-10

Comments: I am in agreement as long as all safety concerns and traffic management issues have been discussed and addressed.

☒ Approval Recommended
☐ Rejection Recommended

District Engineer — Date

Digitally signed by Matthew Budd
DN: cn=Matthew Budd, o=MoDOT, ou=D6 Construction and Materials, email=Matthew.Budd@modot.mo.gov, c=US
Date: 2010.07.14 14:56:42 -05'00'

Comments: I am in agreement with the findings and recommend approval.

☒ Approval Recommended
☐ Rejection Recommended

Debbie Lehmann — 8/3/10

Federal Highway Administration
Required for FHWA Full Oversight Projects — Date

Comments: This is approved based on core team's findings, but contingent on FHWA approval. Denis Glascock. 7/19/2010

☒ Approval
☐ Rejection

State Construction and Materials Engineer — Date

Digitally signed by Denis Glascock
DN: cn=Denis Glascock, c=US, o=MoDOT, ou=3H35, email=Denis.Glascock@modot.mo.gov
Date: 2010.07.19 08:07:48 -05'00'

Distribution: Resident Engineer, Project Manager, District Construction & Materials Engineer, State Construction & Materials Engineer, FHWA
Value Engineering Administrator – MoDOT, P. O. Box 270, Jefferson City, MO 65102

PROJECT J6I1885 I-64 & I-270 BRIDGE REHAB
VALUE ENGINEERING CHANGE PROPOSAL NO. 1
STAGE 1-1E TRAFFIC CONTROL REVISION
QUANTITIES INCLUDED FOR STAGE I THROUGH IE ONLY

				PLAN			REVISION 1				
		ITEM	UNIT	UNITS	UNIT PRICE($)	CONTRACT VALUE($)	UNITS	VARIANCE UNITS	REVISION 1 VALUE($)		VARIANCE ($)
20	4019905	MISC. SHOULDER STABILIZATION	SQYD	2,241	32.2	$ 72,160.20	0	(2,241)	$ -	$	(72,160.20)
90	6122014	IMPACT ATTENUATORS (14 SAND BARRELS)	EA	2	$ 3,500.00	$ 7,000.00	0	(2)	$ -	$	(7,000.00)
110	6122030	IMPACT ATTENUATORS(RELOCATION)	EA	8	$ 600.00	$ 4,800.00	0	(8)	$ -	$	(4,800.00)
260	6173600D	TEMPORARY TRAFFIC BARRIER	LF	188	$ 15.00	$ 2,812.50	0	(188)	$ -	$	(2,812.50)
270	6175010A	RELOCATE TEMPORARY TRAFFIC BARRIER	LF	1,013	$ 3.00	$ 3,037.50	0	(1,013)	$ -	$	(3,037.50)
290	6205301B	PREFORMED REMOVABLE TAPE 4" WHITE	LF	66,050	$ 0.84	$ 55,482.00	41,599	(24,451)	$ 34,943.16	$	(20,538.84)
300	6205303B	PREFORMED REMOVABLE TAPE 4" YELLOW	LF	20,372	$ 0.84	$ 17,112.48	14,664	(5,708)	$ 12,317.76	$	(4,794.72)
340	6207001	EXISTING PAVEMENT MARKING REMOVAL	LF	9,650	$ 0.32	$ 3,088.00	0	(9,650)	$ -	$	(3,088.00)
340	6207001	PREFORMED TAPE REMOVAL	LF	86,422	$ 0.32	$ 27,655.04	56,263	(30,159)	$ 18,004.16	$	(9,650.88)
310	6205922	6" WHITE REFLECTIVE WATERBORNE PAINT	LF	6,173	$ 0.32	$ 1,975.36	0	(6,173)	$ -	$	(1,975.36)
320	6205926	6" YELLOW REFLECTIVE WATERBORNE PAINT	LF	3,477	$ 0.30	$ 1,043.10	0	(3,477)	$ -	$	(1,043.10)
										$	(130,901.10)

PREFORMED REMOVABLE MARKING TAPE 4 IN., WHITE

PLAN QUANTITY - STAGE 1-1E

STAGE	LOCATION	STATION	STATION	LINE TYPE	NUMBER OF LINES	LENGTH (FOOT)	REMARKS
1	EB I-64	666+60	705+17	SOLID LINE	3	11571	
1	EB I-64	704+99	710+40	SOLID LINE	3	1623	
1	WB I-64	666+60	695+73	SOLID LINE	3	8739	
1	WB I-64	695+73	705+16	SOLID LINE	5	4715	
1	WB I-64	704+99	711+54	SOLID LINE	5	3275	
1	RAMP 9	0+81	2+55	SOLID LINE	2	348	
1	RAMP 9	2+55	10+70	SOLID LINE	1	815	
1	RAMP 1	0+00	5+19	SOLID LINE	2	1038	
1	RAMP 1	5+19	6+82	SOLID LINE	3	489	
1	RAMP 1	6+82	13+10	SOLID LINE	1	628	
1A	EB I-64	666+60	705+17	SOLID LINE	1	3857	
1A	EB I-64	704+99	710+40	SOLID LINE	1	541	
1A	WB I-64	666+60	705+16	SOLID LINE	1	3856	
1A	WB I-64	704+99	711+54	SOLID LINE	1	655	
1A	RAMP 9	2+42	5+98	SOLID LINE	1	356	PLAN 578
1B	EB I-64	666+60	705+17	SOLID LINE	1	3857	
1B	EB I-64	704+99	710+40	SOLID LINE	1	541	
1B	WB I-64	666+60	705+16	SOLID LINE	1	3856	
1B	WB I-64	704+99	711+54	SOLID LINE	1	655	
1B	RAMP 1	0+00	4+77	SOLID LINE	2	954	
1C	EB I-64	666+60	704+27	SOLID LINE	1	3767	
1C	WB I-64	666+60	705+16	SOLID LINE	1	3856	
1C	WB I-64	704+99	711+54	SOLID LINE	1	655	
1D	WB I-64	695+73	697+93	SOLID LINE	3	660	
1D	WB I-64	695+73	711+54	SOLID LINE	1	1581	
1D	WB I-64	704+99	709+27	SOLID LINE	1	428	
1D	RAMP 1	0+00	4+77	SOLID LINE	1	477	
1E	WB I-64	695+73	701+65	SOLID LINE	1	592	
1E	WB I-64	701+65	704+98	SOLID LINE	5	1665	
						66050	

PREFORMED REMOVABLE MARKING TAPE 4 IN., WHITE

PROPOSED REVISION 1 QUANTITY - STAGE 1-1E

STAGE	LOCATION	STATION	STATION	LINE TYPE	NUMBER OF LINES	LENGTH (FOOT)	REMARKS
1	EB I-64	666+60	703+00	SOLID LINE	3	10920	
1	WB I-64	666+60	697+00	SOLID LINE	3	9120	
1	RAMP 9	0+81	2+55	SOLID LINE	2	348	?
1	RAMP 9	2+55	10+70	SOLID LINE	1	815	?
1A	EB I-64	666+60	703+00	SOLID LINE	1	3640	
1A	WB I-64	666+60	697+00	SOLID LINE	1	3040	
1A	RAMP 9	2+42	5+98	SOLID LINE	1	356	PLAN 578
1B	EB I-64	666+60	703+00	SOLID LINE	1	3640	
1B	WB I-64	666+60	697+00	SOLID LINE	1	3040	
1C	EB I-64	666+60	703+00	SOLID LINE	1	3640	
1C	WB I-64	666+60	697+00	SOLID LINE	1	3040	
						41599	
					PLAN	66050	
					VARIANCE	24451	
					UNIT $	$ 0.84	
					VARIANCE $	$ 20,538.84	

PREFORMED REMOVABLE MARKING TAPE 4 IN., YELLOW

PLAN QUANTITY - STAGE 1-1E

STAGE	LOCATION	STATION	STATION	LINE TYPE	NUMBER OF LINES	LENGTH (FOOT)	REMARKS
1	EB I-64	666+60	705+17	SOLID LINE	1	3857	
1	EB I-64	704+99	710+40	SOLID LINE	1	541	
1	WB I-64	666+60	705+17	SOLID LINE	1	3857	
1	WB I-64	704+98	711+54	SOLID LINE	1	656	
1	RAMP 9	2+55	8+21	SOLID LINE	1	566	
1	RAMP 1	0+00	6+48	SOLID LINE	1	648	
1	RAMP 1	6+82	7+98	SOLID LINE	1	116	
1A	EB I-64	666+60	710+40	SOLID LINE	1	4380	
1A	WB I-64	666+60	711+54	SOLID LINE	1	4494	
1A	RAMP 9	2+42	9+80	SOLID LINE	1	738	
1B	RAMP 1	0+17	5+36	SOLID LINE	1	519	
						20372	

PREFORMED REMOVABLE MARKING TAPE 4 IN., YELLOW

PROPOSED REVISION 1 QUANTITY - STAGE 1-1E

STAGE	LOCATION	STATION	STATION	LINE TYPE	NUMBER OF LINES	LENGTH (FOOT)	REMARKS
1	EB I-64	666+60	703+00	SOLID LINE	1	3640	
1	WB I-64	666+60	697+00	SOLID LINE	1	3040	
1	RAMP 9	2+55	8+21	SOLID LINE	1	566	
1A	EB I-64	666+60	703+00	SOLID LINE	1	3640	
1A	WB I-64	666+60	697+00	SOLID LINE	1	3040	
1A	RAMP 9	2+42	9+80	SOLID LINE	1	738	
						14664	
					PLAN	20372	
					VARIANCE	5708	
					UNIT $	$ 0.84	
					VARIANCE $	$ 4,794.72	

EXISTING PAVEMENT MARKING REMOVALS
AND PERMANENT STRIPING UNDERRUNS

PLAN QUANTITY - STAGE 1-1E VS. PROPOSED VE #1

QUANTITIES INCLUDE SHORTENED WORK ZONE REMOVAL OF EXISTING MARKINGS AND RESTRIPING PERMANENT PAVEMENT

LANE	OFFSET W/TRAFFIC	LOCATION	OLD END STATION	NEW END STATION	LINE TYPE	COLOR	NO. OF LINES	LENGTH (FOOT)	YELLOW LF	WHITE LF
1	LT	EB I-64	710+40	703+00	SOLID	YELLOW	1	740	740	
2	LT	EB I-65	710+40	703+00	INT	WHITE	1	185		185
3	LT	EB I-66	710+40	703+00	INT	WHITE	1	185		185
3	RT	EB I-69	710+40	703+00	SOLID	WHITE	1	740		740
1	LT	WB I-64	711+54	697+00	SOLID	YELLOW	1	1454	1454	
2	LT	WB I-64	711+54	697+00	INT	WHITE	1	363.5		363.5
3	LT	WB I-64	711+54	697+00	INT	WHITE	1	363.5		363.5
4	LT	WB I-64	711+54	697+00	INT	WHITE	1	363.5		363.5
5	LT	WB I-64	711+54	697+00	INT	WHITE	1	363.5		363.5
5	RT	WB I-64	711+54	697+00	SOLID	WHITE	1	1454		1454
1	RT	RAMP 1	0+00	5+19	SOLID	WHITE	2	1038		1038
1	RT	RAMP 1	5+19	6+82	SOLID	WHITE	3	489		489
1	RT	RAMP 1	6+82	13+10	SOLID	WHITE	1	628		628
	LT	RAMP 1	0+00	6+48	SOLID	YELLOW	1	648	648	
	LT	RAMP 1	6+82	7+98	SOLID	YELLOW	1	116	116	
	LT	RAMP 1	0+17	5+36	SOLID	YELLOW	1	519	519	
								9650	3477	6173

TEMPORARY TRAFFIC BARRIER & IMPACT ATTENUATORS

PLAN QUANTITY - STAGE 1-1E

QUANTITIES SCALED FROM STAGING PLANS

STAGE	LOCATION	STATION	STATION	NUMBER OF LINES	LENGTH (FOOT)	TTB FURNISH	TTB RELOCATE	IMP ATTN FURNISH	IMP ATTN RELOCATE
1	EB I-64	701+50	702+50	1	100.0	100.0	0.0	1.0	
1	WB I-64	697+75	698+63	1	87.5	87.5	0.0	1.0	
1A	EB I-64	698+20	698+58	2	75.0		75.0		1.0
1A	WB I-64	701+50	702+00	2	100.0		100.0		1.0
1B	EB I-64	698+20	698+58	2	75.0		75.0		1.0
1B	WB I-64	701+50	702+13	2	125.0		125.0		1.0
1C	EB I-64	697+50	698+50	1	100.0		100.0		1.0
1C	WB I-64	701+50	702+00	2	100.0		100.0		1.0
1D	WB I-64	701+50	702+00	1	50.0		50.0		1.0
1E	WB I-64	699+00	702+88	1	387.5		387.5		1.0
					1,200.0	187.5	1,012.5	2.0	8.0

REVISED QUANTITY - STAGE 1-1E

STAGE	LOCATION	STATION	STATION	NUMBER OF LINES	LENGTH (FOOT)	TTB FURNISH	TTB RELOCATE	IMP ATTN FURNISH	IMP ATTN RELOCATE
1	EB I-64	701+50	702+50	0					
1	WB I-64	697+75	698+63	0					
1A	EB I-64	698+20	698+58	0					
1A	WB I-64	701+50	702+00	0					
1B	EB I-64	698+20	698+58	0					
1B	WB I-64	701+50	702+13	0					
1C	EB I-64	697+50	698+50	0					
1C	WB I-64	701+50	702+00	0					
1D	WB I-64	701+50	702+00	0					
1E	WB I-64	699+00	702+88	0					
					0.0	0.0	0.0	0.0	0.0
VE QUANTITY REVISION					(1,200.0)	(187.5)	(1,012.5)	(2.0)	(8.0)

VALUE ENGINEERING CHECK SHEET

TYPE OF WORK

(Check one that applies)

- o Bridge/Structure/Footings
- o Drainage Structures (RCP, RCB, CMP's, ect.)
- ✓ TCP/MOT
- o Paving (PCCP, ect.)
- o Grading/MSE Walls
- o Signal/Lighting/ITS
- o Misc

SUMMARY OF PROPOSAL

(If needed, condense summary to a couple of lines)

This VE involves altering the work schedule to allow traffic handling during off peak travel times, eliminating the need for temporary pavement marking.

SCANNING OF DOCUMENT

If the proposal is large, please mark or make note, which pages need to be scanned into the database. If there are special instructions, make note of them here.