

CONSTRUCTION VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

Contract ID 070831-701 Date 2-18-08
County Jasper Job No. J7U0436H
Route 249 Original Bid Cost \$6,667,006.49
Contractor APAC-Missouri, Inc. By Doug Fronick
Designed By APAC-Missouri, Inc. Phone 417-868-6700

VE # 08-13

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages

The original design has the contractor using preformed removable marking tape for stage two and three construction. The tape is used as part of the traffic control in detouring traffic so the tie-ins can be constructed at Rt. 171. In stage two construction the traffic will be handled on the west bound lanes of Rt. 171 while the east bound lane tie-ins are made. 2600 LF of the west bound concrete lane will be removed in stage three (STA 2+925.00 to STA 3+717.776). APAC-Missouri, Inc. proposes to use waterborne paint instead of the preformed removable marking tape in this section. The existing striping will not be removed prior to the temporary striping, but the temporary paint will be sprayed over the top of the existing yellow center line and the existing dashed white skips. We are also proposing to change the striping for the stage three detour. The current design calls for laying the SP125 surface on the new EB Rt. 171 and then using preformed removable marking tape to stripe for the detour. APAC-Missouri, Inc. is proposing to lay the SP250 and not the SP125. Then complete the dirt work, edge drains, guardrail, and seed the shoulders. We will only seed the shoulders up to 12' +/- off of the edge of shoulder. We would leave enough dirt to come back and shoulder up once we laid our SP125 in the later stage. We would then reenact stage 2 construction (called Stage 3A construction from this point forward). During stage 3A construction, traffic would be put back to stage 2 construction. While traffic will be in the same location in stage 3A as in stage 2, we are not going to put traffic head to head. We would put a flagger at each cross-over, with a pilot car guiding the cars down WB 171. By using a pilot car, we would eliminate the need for the temporary barrier wall and tubular markers since it will be for such a short duration. We would then pave the SP125 on the new EB lanes. We anticipate stage 3A construction taking 1 shift to complete. At this time the surface will also be laid on ramp 4 and NB Rt. 249 south to the bridges over the railroad tracks. Once one pass of the SP125 was laid, stage 3A construction would be complete and traffic would be split back out to east bound traffic on EB171 and west bound traffic on WB 171. We would then finish paving the SP125 on EB 171, dirt work of our 12' +/- on the outside of EB 171 and seed this area.

The first advantage is the paint will better adhere to the pavement and will have no chance of peeling up. This will virtually reduce all maintenance for the temporary paint markings.

The second advantage is the paint will serve the same purpose as the tape at a lower cost to the taxpayers.

APAC-Missouri, Inc. does not foresee any disadvantages to the above proposal.

The estimated net savings is \$28,770.93. See attached sheet showing detailed location of striping and related contract items. Two new items will have to be created for yellow waterborne paint and white waterborne paint. Item 520 will have to be over run for the temporary markings between the time the surface is laid and the final striping is completed on EB Rt. 171. A third item will have to be created for a pilot car.

2. Estimate of reduction in construction costs. _____
3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.

APAC-Missouri, Inc. foresees no additional costs for MODOT. The changes affect temporary work only and not permanent work.

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

Detailed breakdown is attached
(date)

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

March 3, 2008
(date)

No change to completion date or schedule.
(effect)

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

N/A
(date and/or dates)

Additional Comments:

Additional Comments:

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

Comments: I agree with APAC's proposal to alter the traffic control phasing. This proposal will provide a final roadway with clean lines and proper joint locations. This proposal will also eliminate the daily maintenance of the temporary tape along the head to head sections of traffic.

Michael C. Middleton

2/25/08

Submitted By Resident Engineer

Date

Comments: I concur.

Approval
Recommended

Rejection
Recommended

Becky Baltz

District Engineer

2/26/08

Date

Comments:

Approval

Rejection

David D. Coates

State Construction & Materials Engineer

3-24-08

Date

Distribution: Resident Engineer, District Operations Engineer, State Operations Engineer
*Value Engineering Administrator - *MoDOT, P.O. Box 270, Jefferson City, MO 65102

**Temporary Striping V.E.
Rt. 249 Jasper
J7U0436H**

Current Contract

Item	Description	Quantity	Unit	Unit Price	Total Price
460	Removable Tape 4" White	21,388	LF	\$1.00	\$21,388.00
470	Removable Tape 4" Yellow	30,249	LF	\$1.00	\$30,249.00
480	Removable Tape 8" White	3,671	LF	\$1.80	\$6,607.80
490	Removalbe Tape 8" Yellow	2,795	LF	\$1.80	\$5,031.00
500	Paint Removal	24,894	LF	\$0.24	\$5,974.56
510	Tape Removal	48,159	LF	\$0.24	\$11,558.16

TOTAL

\$80,808.52

V.E. Proposal

Item	Description	Quantity	Unit	Unit Price	Total Price
460	Removable Tape 4" White	4,633	LF	\$1.00	\$4,633.00
XX1	Waterborne Paint 4" White	16,749		\$0.32	\$5,359.68
470	Removable Tape 4" Yellow	12,753	LF	\$1.00	\$12,753.00
XX2	Waterborne Paint 4" Yellow	17,481		\$0.34	\$5,943.54
480	Removable Tape 8" White	3,671	LF	\$1.80	\$6,607.80
490	Removalbe Tape 8" Yellow	2,794	LF	\$1.80	\$5,029.20
500	Paint Removal	21,636	LF	\$0.24	\$5,192.64
510	Tape Removal	23,354	LF	\$0.24	\$5,604.96
520	Temporary Raised Pavement Marker, Type 1	120	EA	\$2.50	\$300.00
xx3	Pilot Car - Misc. Traffic Control Device	1	EA	\$613.77	\$613.77

TOTAL

\$52,037.59

TOTAL SAVINGS

\$28,770.93

**Preformed Marking Tape 2B Sheet
Revised for V.E. on Temporary Markings.**

STA --> STA	Stage	4" White Tape (Meters)	4" White Paint (Meters)	4" Yellow Tape (Meters)	4" Yellow Paint (Meters)	8" White Tape (Meters)	8" Yellow Tape (Meters)	Remarks
1+501.189 --> 1+957.180	2	455.99						Taper/EBL
1-920.000 --> 2+146.129	2			226.16				Edge Line/WBL
0+000.000 --> 0+244.700	2					244.11		Crossover/Edge Line/Rt. & Lt.
2+146.129 --> 2+925.00	2			1557.74				Double Yellow CL WBL/Rt.
2+925.000 --> 3+717.776	2				1582.55			Double Yellow CL WBL/Rt.
3+717.776 --> 3+900.000	2			364.45				Double Yellow CL WBL/Rt.
2+146.129 --> 3+900.000	2		1753.87					Edge Line Rt.
0+000.000 --> 0+242.630	2							Crossover/Edge Line/WBL/Lt. & Rt.
0+000.000 --> 0+170.334	2	170.35				243.07	238.53	Temp Ramp 2/Edge Line/Rt.
0+033.442 --> 0+170.334	2			137.56				Temp Ramp 2/Edge Line/Lt.
3+900.000 --> 4+499.000	2			597.03				Taper/WBL
1+501.189 --> 2+165.189	3			764.05				Taper/EBL
1+957.180 --> 2+200.000	3					244.15		Crossover/Rt./EBL
1+957.180 --> 2+200.000	3						243.46	Crossover/Lt./EBL
2+165.189 --> 3+897.594	3				3746.76			Double CL/Rt./EBL
2+165.189 --> 2+306.005	3	140.816						Edge Line/Rt. & Lt./EBL
2+306.005 --> 3+718.56	3		3352.3					Edge Line/Rt. & Lt./EBL
3+718.560 --> 3+897.594	3	179.034						Edge Line/Rt. & Lt./EBL
3+752.840 --> 3+886.100	3					145.06		Crossover/Ramp 1/Lt./EBL
3+774.838 --> 3+886.100	3						126.9	Crossover/Ramp 1/Rt./EBL
0+000.000 --> 0+242.651	3					242.89	242.87	Crossover/EBL
3+897.594 --> 4+138.531	3			240.94				Taper/EBL
4+104.808 --> 4+574.717	3	466.16						EBL
TOTALS (Meters)		1412.35	5106.17	3887.93	5329.31	1119.28	851.76	
TOTALS (Feet)		4633	16749	12753	17481	3671	2794	



MEMORANDUM

Missouri Department of Transportation
Construction & Materials
District 7

TO: Dave Ahlvers
State Construction & Materials Engineer

RECEIVED

FROM: Dan Salisbury *DS*
Assistant District Engineer

FEB 28 2008

DATE: February 26, 2008

Construction & Materials

SUBJECT: Contract 070831-701
Job No. JU0436H
Route 249, Jasper County
Value Engineering Proposal

Attached you will find three copies of a Value Engineering Proposal from APAC-Missouri, Inc. on the above referenced project for your review and signature.

Please return two copies to my attention, retaining the third copy for your records.

Thank you.

PROPOSAL APPROVED

3-24-08 DSB

Missouri
Department
of Transportation



Carthage Project Office
P.O. Box 855
Carthage, MO 64836
417-359-1508
Fax 417-359-1509
Toll free 1-888 ASK MoDOT

Michael C. Middleton, Resident Engineer

February 25, 2008

Becky Baltz, P.E.
District Engineer – D7

Subject: Value Engineering Proposal
Contract 070831-701
Job No. J7U0436H
Rte 249, Jasper County

Dear Mrs. Baltz,

APAC Missouri submitted a Value Engineering Change Proposal for the J7U0436H project. The VECP is requesting to alter the construction phasing on the eastbound and westbound Rte. 171 lanes. The current traffic control layout depicts using temporary tape for line delineation and this proposal will utilize waterborne paint at one-third the price. The waterborne paint will be placed in areas that will not be the final surface course to minimize the amount of grinding on the surface. This proposal will also allow the new eastbound lane to be completed without traffic along the new pavement by using a pilot car to direct traffic on the westbound lane. I believe this is a good VECP and should be considered due to a potential cost savings of \$28,770.00 less construction activity along traffic and minimal maintenance of stripping.

If you have any questions, please call.

Sincerely,

Michael C. Middleton, P.E.
Resident Engineer

Copy: File



Springfield Branch Office
P.O. Box 1187
Springfield, Missouri 65801
(417) 868-6700 • Fax (417) 868-6785

APAC - Missouri, Inc. • Missouri Division • P.O. Box 1117 • Columbia, Missouri 65205 • (573) 449-0886 • Fax (573) 449-7966

February 19, 2008

MODOT Dist. #7
Attn: Mike Middleton, R.E.
P.O. Box 855
Carthage, MO 64836

RECEIVED
FEB 22 2008
CONSTRUCTION
CARTHAGE OFFICE

Re: JOB NO: J7U0436H
Rt. 249, Jasper County

Dear Mike,

Attached are four copies of our VE proposal to change the temporary striping on the above referenced job. We are proposing to use waterborne paint in lieu of performed tape as set up in the contract in the locations specified in the attached. We are submitting this proposal under section 104.6 of the Missouri Standard Specifications for Highway Construction. Any temporary striping quantities that differ from what is in the VE will be field measured and considered part of the 50/50 split between APAC and MODOT.

Please call if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read 'David Wilkins', with a long horizontal flourish extending to the right.

David Wilkins
Project Engineer

CONSTRUCTION VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

RT

Contract ID 070831-701 Date 2-18-08
County Jasper Job No. J7U0436H
Route 249 Original Bid Cost \$6,667,006.49
Contractor APAC-Missouri, Inc. By Doug Fronick
Designed By APAC-Missouri, Inc. Phone 417-868-6700

1. Description of existing requirements and proposed change(s). Advantages/Disadvantages

The original design has the contractor using preformed removable marking tape for stage two and three construction. The tape is used as part of the traffic control in detouring traffic so the tie-ins can be constructed at Rt. 171. In stage two construction the traffic will be handled on the west bound lanes of Rt. 171 while the east bound lane tie-ins are made. 2600 LF of the west bound concrete lane will be removed in stage three (STA 2+925.00 to STA 3+717.776). APAC-Missouri, Inc. proposes to use waterborne paint instead of the preformed removable marking tape in this section. The existing striping will not be removed prior to the temporary striping, but the temporary paint will be sprayed over the top of the existing yellow center line and the existing dashed white skips. We are also proposing to change the striping for the stage three detour. The current design calls for laying the SP125 surface on the new EB Rt. 171 and then using preformed removable marking tape to stripe for the detour. APAC-Missouri, Inc. is proposing to lay the SP250 and not the SP125. Then complete the dirt work, edge drains, guardrail, and seed the shoulders. We will only seed the shoulders up to 12' +/- off of the edge of shoulder. We would leave enough dirt to come back and shoulder up once we laid our SP125 in the later stage. We would then reenact stage 2 construction (called Stage 3A construction from this point forward). During stage 3A construction, traffic would be put back to stage 2 construction. While traffic will be in the same location in stage 3A as in stage 2, we are not going to put traffic head to head. We would put a flagger at each cross-over, with a pilot car guiding the cars down WB 171. By using a pilot car, we would eliminate the need for the temporary barrier wall and tubular markers since it will be for such a short duration. We would then pave the SP125 on the new EB lanes. We anticipate stage 3A construction taking 1 shift to complete. At this time the surface will also be laid on ramp 4 and NB Rt. 249 south to the bridges over the railroad tracks. Once one pass of the SP125 was laid, stage 3A construction would be complete and traffic would be split back out to east bound traffic on EB171 and west bound traffic on WB 171. We would then finish paving the SP125 on EB 171, dirt work of our 12' +/- on the outside of EB 171 and seed this area.

The first advantage is the paint will better adhere to the pavement and will have no chance of peeling up. This will virtually reduce all maintenance for the temporary paint markings.

The second advantage is the paint will serve the same purpose as the tape at a lower cost to the taxpayers.

APAC-Missouri, Inc. does not foresee any disadvantages to the above proposal.

The estimated net savings is \$28,770.93. See attached sheet showing detailed location of striping and related contract items. Two new items will have to be created for yellow waterborne paint and white waterborne paint. Item 520 will have to be over run for the temporary markings between the time the surface is laid and the final striping is completed on EB Rt. 171. A third item will have to be created for a pilot car.

2. Estimate of reduction in construction costs.

3. Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.

APAC-Missouri, Inc. foresees no additional costs for MODOT. The changes affect temporary work only and not permanent work.

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

Detailed breakdown is attached
(date)

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

March 3, 2008
(date)

No change to completion date or schedule.
(effect)

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

N/A
(date and/or dates)

Additional Comments:

Additional Comments:

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

Comments: I agree with APAC's proposal to alter the traffic control phasing. This proposal will provide a final roadway with clean lines and proper joint locations. This proposal will also eliminate the daily maintenance of the temporary tape along the head to head sections of traffic.

Michael C. Millon
Submitted By Resident Engineer

2/25/08
Date

Comments: I concur.

Approval Recommended
 Rejection Recommended

Becky Baltz
District Engineer

2/26/08
Date

Comments:

Approval
 Rejection

State Construction & Materials Engineer

Date

Distribution: Resident Engineer, District Operations Engineer, State Operations Engineer
*Value Engineering Administrator - *MoDOT, P.O. Box 270, Jefferson City, MO 65102

**Temporary Striping V.E.
Rt. 249 Jasper
J7U0436H**

Current Contract

Item	Description	Quantity	Unit	Unit Price	Total Price
460	Removable Tape 4" White	21,388	LF	\$1.00	\$21,388.00
470	Removable Tape 4" Yellow	30,249	LF	\$1.00	\$30,249.00
480	Removable Tape 8" White	3,671	LF	\$1.80	\$6,607.80
490	Removalbe Tape 8" Yellow	2,795	LF	\$1.80	\$5,031.00
500	Paint Removal	24,894	LF	\$0.24	\$5,974.56
510	Tape Removal	48,159	LF	\$0.24	\$11,558.16

TOTAL

\$80,808.52

V.E. Proposal

Item	Description	Quantity	Unit	Unit Price	Total Price
460	Removable Tape 4" White	4,633	LF	\$1.00	\$4,633.00
XX1	Waterborne Paint 4" White	16,749		\$0.32	\$5,359.68
470	Removable Tape 4" Yellow	12,753	LF	\$1.00	\$12,753.00
XX2	Waterborne Paint 4" Yellow	17,481		\$0.34	\$5,943.54
480	Removable Tape 8" White	3,671	LF	\$1.80	\$6,607.80
490	Removalbe Tape 8" Yellow	2,794	LF	\$1.80	\$5,029.20
500	Paint Removal	21,636	LF	\$0.24	\$5,192.64
510	Tape Removal	23,354	LF	\$0.24	\$5,604.96
520	Temporary Raised Pavement Marker, Type 1	120	EA	\$2.50	\$300.00
xx3	Pilot Car - Misc. Traffic Control Device	1	EA	\$613.77	\$613.77

TOTAL

\$52,037.59

TOTAL SAVINGS

\$28,770.93

**Preformed Marking Tape 2B Sheet
Revised for V.E. on Temporary Markings.**

STA --> STA	Stage	4" White Tape (Meters)	4" White Paint (Meters)	4" Yellow Tape (Meters)	4" Yellow Paint (Meters)	8" White Tape (Meters)	8" Yellow Tape (Meters)	Remarks
1+501.189 --> 1+957.180	2	455.99						Taper/EBL
1-920.000 --> 2+146.129	2			226.16				Edge Line/WBL
0+000.000 --> 0+244.700	2					244.11		Crossover/Edge Line/Rt. & Lt.
2+146.129 --> 2+925.00	2			1557.74				Double Yellow CL WBL/Rt.
2+925.000 --> 3+717.776	2				1582.55			Double Yellow CL WBL/Rt.
3+717.776 --> 3+900.000	2			364.45				Double Yellow CL WBL/Rt.
2+146.129 --> 3+900.000	2		1753.87					Edge Line Rt.
0+000.000 --> 0+242.630	2					243.07	238.53	Crossover/Edge Line/WBL/Lt/ & Rt.
0+000.000 --> 0+170.334	2	170.35						Temp Ramp 2/Edge Line/Rt.
0+033.442 --> 0+170.334	2			137.56				Temp Ramp 2/Edge Line/Lt.
3+900.000 --> 4+499.000	2			597.03				Taper/WBL
1+501.189 --> 2+165.189	3			764.05				Taper/EBL
1+957.180 --> 2+200.000	3					244.15		Crossover/Rt./EBL
1+957.180 --> 2+200.000	3						243.46	Crossover/Lt./EBL
2+165.189 --> 3+897.594	3				3746.76			Double CL/Rt./EBL
2+165.189 --> 2+306.005	3	140.816						Edge Line/Rt. & Lt./EBL
2+306.005 --> 3+718.56	3		3352.3					Edge Line/Rt. & Lt./EBL
3+718.560 --> 3+897.594	3	179.034						Edge Line/Rt. & Lt./EBL
3+752.840 --> 3+886.100	3					145.06		Crossover/Ramp 1/Lt./EBL
3+774.838 --> 3+886.100	3						126.9	Crossover/Ramp 1/Rt./EBL
0+000.000 --> 0+242.651	3					242.89	242.87	Crossover/EBL
3+897.594 --> 4+138.531	3			240.94				Taper/EBL
4+104.808 --> 4+574.717	3	466.16						EBL
TOTALS (Meters)		1412.35	5106.17	3887.93	5329.31	1119.28	851.76	
TOTALS (Feet)		4633	16749	12753	17481	3671	2794	

Pavement Marking Removal 2B Sheet
Revised for V.E. on Temporary Markings.

STA -> STA	Location	Paint Removal			Preformed Removable Tape Removal				Comments	
		6" Solid White (Meters)	6" Intermediate White (Meters/4)	6" Solid Yellow (Meters)	4" Solid White (Meters)	4" Solid Yellow (Meters)	8" Solid Yellow (Meters)	8" Solid Yellow (Meters)		
1+501.189 -> 1+957.180	EBL Taper									
1+501.189 -> 2+306.005	CL EBL	809.94	809.89		455.99				WBL Striping	
0+000.000 -> 0+244.700	Temp. Crossover					244.7				
1+920.000 -> 1+993.170	Temp. Crossover							244.7		
1+920.000 -> 2+146.129	WBL Taper				76.83					
2+146.129 -> 2+925.000	Double CL WBL/Rt.		226.12	226.16						
3+718.560 -> 3+900.000	Double CL WBL/Rt.				1557.74					
2+146.129 -> 2+925.000	Edge Line/Lt. & Rt.	778.87			362.88				Paint over existing yellow with white paint and remove paint after stage 2. No tape removal	
2+146.129 -> 2+925.000	WBL		778.87	778.87					Paint over existing stripes on pavement that is to be removed	
3+718.560 -> 3+900.000	Edge Line/Lt. & Rt.				362.88					
0+002.291 -> 0+242.630	Temp. Crossover					242.47				
3+718.560 -> 3+840.551	WBL	121.99	121.99	121.99				239.78		
3+840.551 -> 4+765.830	WBL	923.73	923.54							
0+072.488 -> 0+170.334	Temp Ramp 2/Edge Line/Rt.				97.85					
0+084.558 -> 0+170.334	Temp Ramp 2/Edge Line/Lt.								Temp Ramp 2	
3+900.000 -> 4+499.000	CL Rt. 17.1 Taper				85.78				Temp Ramp 2	
3+900.000 -> 4+499.000	WBL				597.03					
4+280.956 -> 4+765.830	CL									
1+501.189 -> 2+165.189	Taper/EBL		474.88	597.03						
1+501.189 -> 2+165.189	EBL				764.05					
0+000.000 -> 0+053.448	Temp. Crossover			664.33						
0+145.876 -> 0+244.700	Temp. Crossover							55.76		
0+000.000 -> 0+097.542	Temp. Crossover							99.05		
0+184.608 -> 0+244.700	Temp. Crossover							98.34		
2+200.000 -> 3+897.594	Edge Line/ Double CL							63.1		
3+768.560 -> 3+886.100	Temp. Crossover				286.79	182.18			Pave Surface Over Stripes	
3+774.838 -> 3+885.493	Temp. Crossover							145.06	Ramp 1	
0+000.000 -> 0+048.430	Temp. Crossover							48.39	Ramp 1	
0+000.000 -> 0+097.673	Temp. Crossover							97.67		
0+125.123 -> 0+242.651	Temp. Crossover		117.52	116.88						
0+174.228 -> 0+242.651	Temp. Crossover									
0+144.621 -> 0+242.651	Temp. Crossover									
4+138.960 -> 4+547.717	Temp. Crossover	397.93	395.55	96.45				86.45		
4+104.808 -> 4+574.717	EBL									
TOTALS (Meters)		3032.46	962.09	2601.71	432.43			938.51	948.9	
TOTALS (Feet)		9,947	3,156	8,534	5,520			3,078	3,112	
Total Paint					11,643					
Total Tape										

21,636
23,354