Form C-104
Rev. 03/2012

VALUE ENGINEERING CHANGE PROPOSAL
MISSOURI DEPARTMENT OF TRANSPORTATION

PG 5/3/12

☒ Conceptual Proposal ~~☒ Final Proposal~~ Date 04/25/12

Contract ID 120217-D01 Job No. J5I2164B, J5I2168B

County Boone / Callaway Route I-70 Original Contract Amount $2,394,189.50

Contractor APAC-Missouri, Inc. By Phillip Raines

Designed By MoDOT Phone 573-449-0886

VECP# 12-24 (to be completed by C.O.) VECP ☒ or PDVECP ☐

1. **Description of existing requirements and proposed change(s). Advantages/Disadvantages**
   The original plans are for the removal of 2.25" of asphalt wearing surface from Big Cedar Creek bridge so that half-sole repairs and full depth repairs can be made to the bridge deck. Upon completion of the concrete repairs, 2.25" of asphalt wearing surface is to be paved over the bridge deck. This work was to be completed during nighttime hours and opening the bridge to traffic each day.

   See attached sheet for additional information.

2. **Estimate of reduction in construction costs.** $4,100.00

3. **Prediction of any effects the proposed change(s) will have on other department costs, such as maintenance and operations.**
   No change from original design upon completion of repairs.

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

   5/2/12
   (date)

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

   5/4/12 (date) Delivery schedule (effect)

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

   (date and/or dates)

Additional Comments:

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

Comments:
This proposal is a very good idea. It eliminates traffic running on new and old patches plus additional work that was not covered in the contract. To assist in the management of traffic an incident management plan will be used to assisit in the handling of traffic. Coordination with KC Scout for monitoring the DMS signs at the 177 and 151 MM of I-70 WB along with tow additional PCMS's will help notify travelers of upcoming work. I approve of this VE in content.

Submitted By Resident Engineer — 4-25-12 Date

Comments:
This is a valid conceptual proposal. Since its submittal, negotiations have been accomplished to proceed w/ this concept including the introduction of milestone dates w/ an incentive/disincentive clause. Proceeding with the 24-hr type will accomplish the work much faster and should result in better performing patches using the B2-Mix in lieu of rapid set.

☒ **Approval Recommended** ☐ **Rejection Recommended**

Digitally signed by Duane Kliethermes
DN: cn=Duane Kliethermes, o=MoDOT, ou, email=Duane.Kliethermes@modot.mo.gov, c=US
Date: 2012.05.03 12:13:00 -05'00'

District Engineer — 5/3/2012 Date

Comments:
Note: This is conceptual, final VE savings will be based on final quantities at the completion of the work. VE @ 50/50.

N/A

☐ **Approval Recommended** ☐ **Rejection Recommended**

Federal Highway Administration
Required for FHWA Full Oversight Projects

Date

Comments:
Concur. This is a 50/50 cost share proposal.

☒ **Approval** ☐ **Rejection**

Digitally signed by Dennis Brucks
DN: cn=Dennis Brucks, o=Field Office, ou=6N25, email=Dennis.Brucks@modot.mo.gov, c=US
Date: 2012.05.03 16:37:27 -05'00'

State Construction and Materials Engineer — Date

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

APAC-Missouri proposes the following changes for performing the bridge rehabilitation.

1. Perform the bridge rehabilitation on a 24 hour per day time frame to reduce the amount of time the old bridge deck is exposed to traffic. With this change, we will only mill the asphalt from one lane of the bridge deck at a time. Hours of work will be 8 p.m. on Sunday night to 6 a.m. Friday morning for each lane.
2. Allow for B-2 concrete to be used for the patching instead of the rapid set mortar. This change would allow for sufficient curing before any traffic would be allowed on the repaired deck.

Advantages of the proposal are as follows:

1. Elimination of water ponding on the driving surface as the bridge deck drains would be 2.25" higher that the exposed concrete surface. The 24-hr lane drop would keep traffic off of the exposed concrete and potential water ponding during a rain storm.
2. Elimination of traffic running on a deteriorated bridge deck and potentially exposing more repairs than can be repaired in one night.
3. Repairs to each lane would be shortened from 12-13 days per lane to 5 days reducing the amount of time that traffic would be exposed to the deteriorated concrete, water ponding, and lane height differentials.
4. Elimination of additional depth transition milling for getting traffic onto a deteriorated bridge deck.

Disadvantages of the proposal are as follows:

1. Potential for congestion or slow traffic due to the 24-hr lane drop

Cost Savings can be achieved by utilizing the B-2 concrete in lieu of the rapid set mortar as follows.

Line Item 370 – Unit Price reduction to $43.50/SF = $10,000.00 savings

Line Item 380 – Unit price reduction to $100.50/SF = $2,600.00 savings

Total savings for using B-2 concrete = $12,600.00

Additional Costs in this proposal are as follows:

Mobilize milling crew for 2nd lane removing asphalt wearing surface - $1,500.00 cost

Mobilize asphalt crew for bridge deck paving, 1 mob per lane @ $3,500.00 each = $7,000.00

Total additional costs = $8,500.00

Net savings to MoDOT = $12,600.00 - $8,500.00 = $4,100.00.