



## MEMORANDUM

Missouri Department of Transportation  
Construction and Materials  
District 8

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**TO:** Joe Jones

**CC:** Jim McDiarmid  
D8 Construction & Materials

**FROM:** Gayle Davis  
Resident Engineer

**DATE:** December 1, 2008

**SUBJECT:** Value Engineering Submittal  
**Contract ID:** 060519-801  
**Job No.** J8P0609  
**Route.** 65  
**County:** Greene

This value engineering plan involves using the existing full depth asphalt shoulders on Route 65 in place and overlaying for the acceleration and deceleration lanes at four major side road connections on the project.

The existing two-lane Route 65 consisted of two 12 foot driving lanes and two 10 foot shoulders constructed of full depth asphalt on aggregate base in 1981. There has been one resurfacing project since that time, adding additional asphalt to the existing structure. At three of the locations, the intersections had been restriped to provide a center 12 foot left turn lane that reduced the actual shoulder to 4 feet. The contract plans required the existing pavement to be sawed at the edge of the 12 foot driving lanes and the shoulders removed. After this was accomplished the area was to be graded, 18 inch rock base placed, and 9 inches of superpave asphalt was to be laid to construct the new acceleration or deceleration lanes and new shoulders. The existing driving lanes were to be left in place and resurfaced under traffic.

The idea for the value engineering plan was conceived during a project team meeting, while trying to come up with some ways to accelerate various items of work on the project to facilitate a more timely completion. The sawing and removal work to be done at the four intersection locations could not be done until the new south bound lanes of Route 65 were complete and opened to traffic, due to the volume of traffic on Route 65 requiring that the intersections be left in their original configuration until alternate lanes were provided during the project. By moving the saw line from the edge of the driving lane to the edge of the original 10 foot shoulder, the construction work would not interfere with the flow of traffic in all existing lanes and the excavation, base placement, and asphalt construction for the remaining width of acceleration or deceleration lanes and shoulders could be accomplished earlier in the project, instead of waiting until the south bound lanes were open.

A conceptual value engineering plan, with an estimated value of \$500,000, was submitted by the contractor, McAninch Corp., on October 6, 2006 for consideration. This plan was reviewed for approval by MoDOT Branson Project Office, District 8, and Jefferson City offices. Conceptual approval was given as a Contractor generated Practical Design Proposal. This was based on Section 104.6 of the 2004 Missouri Standard Specifications, which states that Value Engineering Proposals shall provide a product of equal or improved quality that will reduce the project cost. While the proposal provided an acceptable, functional alternative to the contract specified construction at a reduced cost, it would not be equal to or of improved quality. Therefore, it more closely fit the requirements for a Practical Design concept. After the conceptual approval was given, McAninch provided a detailed submittal of more accurate savings for the proposal, in the amount of \$536,313.80. Review of this submittal and further negotiations resulted in a final value of the proposal of \$600,298.20, of which the contractor received \$150,074.55 at the 25% share allowed under Practical Design guidelines.

The proposal was implemented and did allow the acceleration of work in the four intersection areas, with little interference to traffic, and considerable savings of virgin raw materials was realized in the alternate construction. Therefore, not only were savings realized in contract pay items, but also in the time required for completion of the project, and unnecessary inconvenience to the traveling public.

# 2009 APPLICATION FORM

(required for each entry)

Complete this section for (check one):  Small Project  Large Project  
 Post-Design Solution  Off System Project

Job No. J8P0609 Route 65 County / LPA Taney

**Description** (attach separate sheet if necessary) Value Engineering proposal submitted by contractor, McAninch Corp, to eliminate construction of full depth widening for accel/decal lanes and shoulders at various locations on the existing NBL of Route 65. Utilize the existing 10' full depth asphalt shoulder in place and resurface, only having to widen with new construction to accommodate remainder of 12 foot lane and shoulder. Original submittal was a VE proposal, but was accepted as a Contractor generated Practical Design plan, at 25 % contractor share of savings.

**Project Leader** \_\_\_\_\_

**Key Team Members** (include key personnel irrespective of employer-nine individuals maximum)

Gayle Davis, Resident Engineer Terry Morgan, MoDOT Russ Klein, MoDOT

Don Taylor, McAninch Barry Carter, McAninch Adam Whittington, McAninch

**Project Budget:**

**Initial Cost / Estimate** \$27,216,973.57

**Final Cost / Award** Project Not Complete

**What would make this entry stand out from the rest of the entries when considering MoDOT's practical design philosophy?** (In layman's terms - 200 words or fewer-attach separate sheet if necessary) \_\_\_\_\_

The plan reduced the cost of the project by a significant amount, while lowering impact on the environment by not requiring the use of new virgin materials for construction of 18" rock base and full depth asphalt. The final product produced a functional roadway, that will last as long as the overlaid existing lanes, being utilized as the north bound driving lanes of Route 65. The construction process was facilitated in that traffic control was made simpler and impact on traffic was reduced.

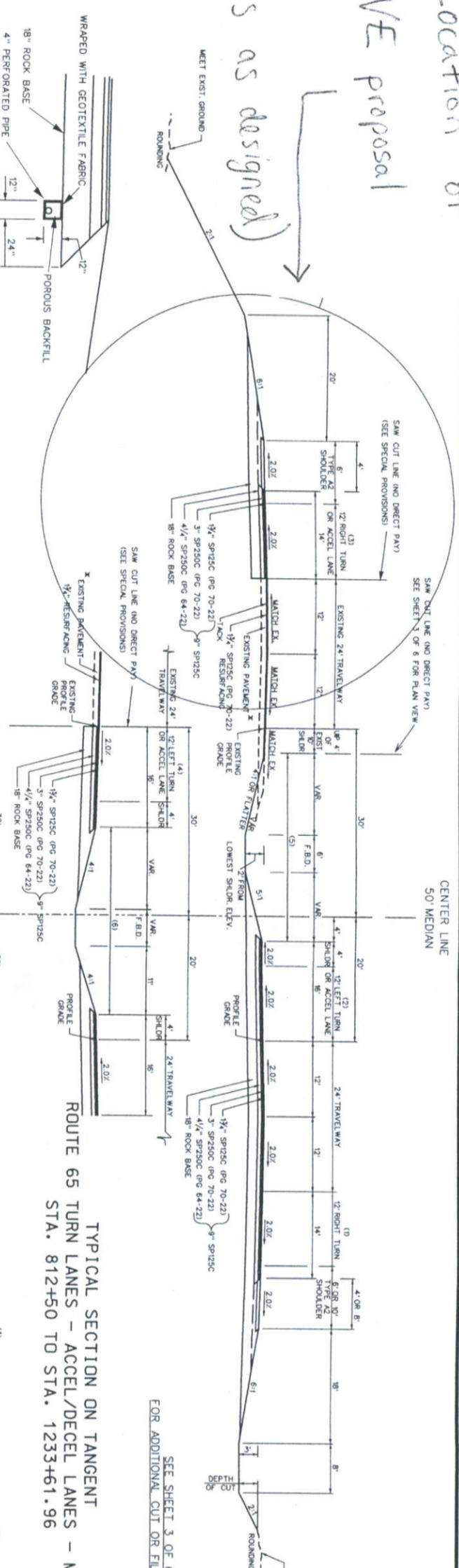
**Send entries to:** MoDOT Design Division, ATTN: Joe Jones  
1320 Creek Trail Dr., Jefferson City, Missouri 65109

**ALL ENTRIES MUST BE RECEIVED NO LATER THAN CLOSE OF BUSINESS ON DECEMBER 1, 2008**



Location of  
VE proposal

(Plans as designed)



**DETAIL**  
**PAVEMENT UNDERRAIN**  
**FOR 18" ROCK BASE**  
SEE PLANS FOR LOCATION  
SEE STANDARD PLAN 605.10E  
FOR OUTLET PIPE, SPLASH PAD AND OTHER DETAILS

**TYPICAL SECTION ON TANGENT**  
**ROUTE 65 TURN LANES - ACCEL/DECAL LANES - MEDIAN**  
STA. 812+50 TO STA. 1233+61.96

FOR ADDITIONAL CUT OR FILL SLOPES

928-14.00 - 929-94.00	0 - 12'	851-57.34 - 851-99.90	VAR.
929-94.00 - 931-32.00	12'	851-99.90 - 855-69.52	12'
1078-40.00 - 1080-20.00	0 - 12'	855-69.52 - 857-49.52	12'
1080-20.00 - 1083-71.84	12'	914-32.00 - 917-32.00	0 - 12'
1203-56.00 - 1205-36.00	0 - 12'	917-32.00 - 937-32.17	12'
1205-36.00 - 1208-86.24	12'	939-68.29 - 944-48.29	12'
		944-48.29 - 946-28.29	12'
		1085-91.72 - 1089-42.00	12'
		1089-42.00 - 1091-22.00	12'
		1209-98.10 - 1213-48.00	12'
		1213-48.00 - 1215-28.00	12'
		939-19.00 - 945-35.38	12'
		945-35.38 - 947-35.38	12'
		1085-54.03 - 1091-65.00	12'
		1078-01.44 - 1078-01.44	0 - 12'
		1200-64.67 - 1202-64.67	0 - 12'
		1180-58.63 - 1192-58.63	0 - 12'
		1192-58.63 - 1208-73.80	12'
		120-28.87 - 126-34.75	12'
		126-34.75 - 128-34.75	12'
		1226-61.96 - 1229-61.96	12' - 0

SEE CROSS SECTIONS FOR LOCATIONS  
AND FOR ADDITIONAL CUT OR FILL SLOPES

**TYPICAL SECTION ON SUPERELEVATION**  
**ROUTE 65 TURN LANES - ACCEL/DECAL LANES - MEDIAN**  
STA. 812+50 TO STA. 1233+61.96

NOTE: SEE SPECIAL SHEET 1 OF 7 FOR TYPE A2 SHOULDER DETAILS

EARTHWORK QUANTITIES AS SHOWN  
ON THE CROSS SECTIONS WERE BASED  
ON 12" PAVEMENT THICKNESS. THE  
CONTRACTOR IS RESPONSIBLE FOR  
ANY ADJUSTMENTS TO THE EARTHWORK  
REQUIRED FOR THE PAVEMENT THICKNESS.

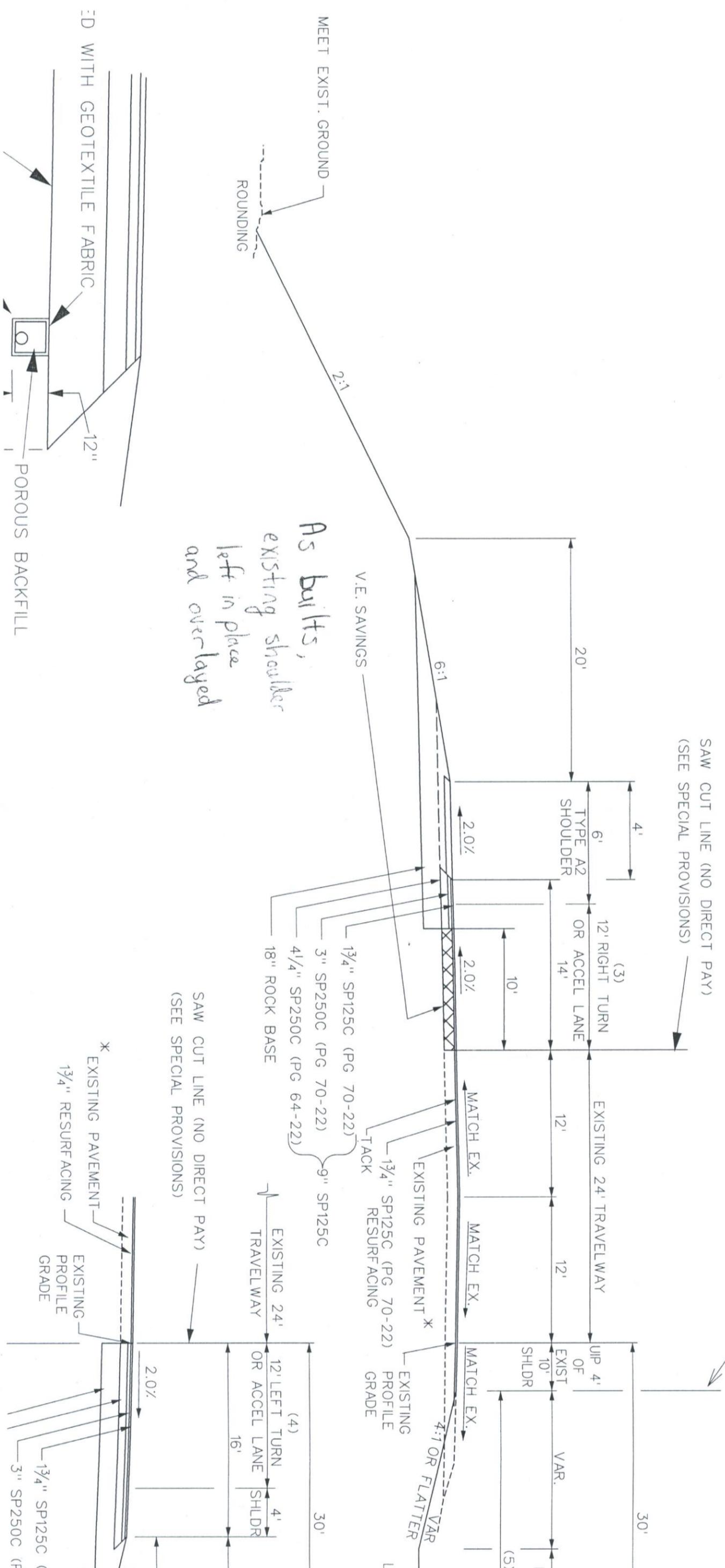
TYPICAL  
SECTIONS  
ALT. A

SHEET 4 OF 6

ROUTE 65	STATE MO	DISTRICT 8	SHEET NO. 2
JOB NO. J8P0609			
CONTRACT ID			
PROJECT NO.			
COUNTY TANEY			
DATE			
E.E.K. Moen, LLC Civil Engineering Design			

SAW CUT LINE (NO DIRECT PAY)  
(SEE SPECIAL PROVISIONS)

SAW CUT LINE (NO DIRECT PAY)  
SEE SHEET 3 OF 6 FOR PLAN VIEW



*As built,  
existing shoulder  
left in place  
and overlaid*

SAW CUT LINE (NO DIRECT PAY)  
(SEE SPECIAL PROVISIONS)

12" WITH GEOTEXTILE FABRIC

POROUS BACKFILL

\* EXISTING PAVEMENT  
1 3/4" RESURFACING

EXISTING PROFILE GRADE

1 3/4" SP125C  
3" SP250C (F