



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

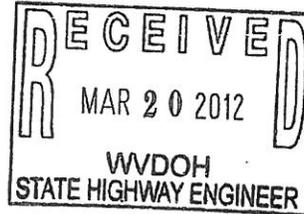
Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

March 19, 2012

MEMORANDUM

TO: CC
THRU: CH *MAM*
FROM: HD *[Signature]*
SUBJECT: Value Engineering Proposal
Federal Project ACBI-0642(140)
State Project S320-64-57.51
Carter Bridge and Bigley Avenue Bridge
LMC Overlay



The Contractor (Penhall Company) of the subject project has submitted an initial Value Engineering Proposal (VEP) to the District Construction Engineer.

As per the State Highway Engineer, we are to follow the memorandum issued on December 29, 2011 (Pilot Program for Contractor Value Engineering Proposals).

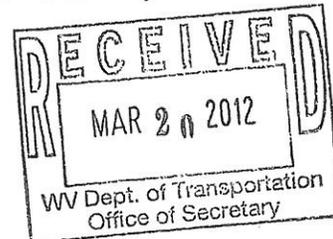
The purpose of this memo is to request that the committee make arrangements for the presentation and review of the final VEP by the Contractor. The final date in which to approve or deny the VEP is March 30, 2012. The Contractor has requested March 28, 2012, if possible, for the presentation. Please inform the Contractor (contact information below) of the date and time of the presentation, once it is scheduled.

Jason J. Brynick
Penhall Company
14045 Northdale Boulevard
Post Office Box 310
Rogers, Minnesota 55374-9490
(612) 807-2317
jbrynick@penhall.com

Your prompt attention to this matter is greatly appreciated. Should you have any questions, please contact my office at (304) 558-6266.

DWA:Rh

cc: CH, HD, DC, D-1(Construction)





Value Engineering Proposal

Extended Working Hours

In Accordance with: 104.12

Carter & Bigley Ave Bridge LMC Overlay

Federal Project: ACBI – 0642(140)

State Project: S320 – 64 – 57.51



Value Engineering Proposal

1. Statement of VEP
2. Description of VEP
3. Basis of VEP & Division Benefits
4. Cost Estimates – Bid vs. VEP
5. Proposed Changes to Project Plans, Design, & Specifications
6. Collateral Costs
7. VEP Timeline
8. Table 1 – Cost Comparison Bid vs. VEP
9. Appendix A – Proposed Changes to Project Plans

March 16, 2012



West Virginia Department of Transportation
1334 Smith Street
Charleston, West Virginia 25301-1492

Job No: 585
Letter No: 006

Attention: Gary W. Mullins

Reference: Contract No. S320-64-57.51 / ACBI-0642(140)
Carter Br. & Bigley Ave. Br. – LMC Overlay
Charleston, West Virginia

Subject: Value Engineering Proposal – Extended Working Hours

Dear Mr. Mullins:

• **Statement of VEP**

Please accept this letter as a Value Engineering Proposal (VEP) pursuant to Standard Provision 104.12 – Value Engineering of the West Virginia Department of Highways (WVDOH) Standard Provisions. Penhall Company is in agreement with the State's request to submit this VEP as part of the Pilot Program for Contractor Value Engineering Proposals as mandated in WVDOH Memorandum dated December 29, 2011.

• **Description of VEP**

As a follow-up to our previous correspondence regarding the subject matter Penhall Company is requesting a VEP which extends the working hours within lane closures for our LMC Overlay Project. The current Project Plans and Specifications do not allow the Contractor to begin work until 9pm any day of the week and stop work by 6am Monday – Friday and by 10am Saturday and Sunday. Penhall Company's Proposal would consist of extending working hours each night during the week (Monday – Thursday) one (1) hour by closing down the associated lanes at 8:00 PM. Additionally, Penhall Company proposes to start a continuous weekend closures on Friday at 8:00 PM with all lanes re-opened the following Monday by 6:00 AM.

Penhall Company strongly believes that approval of this VEP will significantly reduce the Project's impact on the general public as well as provide a safer, higher quality end product all while offering a substantial savings to the State. We'd like to offer the following proposal to support our position.

• Basis of VEP & Division Benefits

The basis of this VEP is Penhall Company's commitment to providing the WVDOH the best possible product at the best possible price. As well as greatly reducing the exposure for both WVDOH and Penhall's employees to the inherent risk of working adjacent to live traffic. By slightly extending the working hours within lane closures each shift we can accomplish a safer Project with significant savings to the State. Below is a detailed list of the benefits to the State once approval of this VEP is granted:

1. Safety

Penhall Company is proud of our safety record and culture. Approval of this VEP will allow us to strive closer towards the safest working environment possible, setting an example for all others to follow. By increasing the work windows, Penhall Company can complete the project in less time. This is less time that both Penhall Company's and WVDOH's employees are working adjacent to live traffic, an inherent risk associated with the work. Additionally, the daytime working hours proposed for each weekend will greatly improve visibility for WVDOH, Penhall Company, and the general public during Paving Operations and work on the bridge decks.

2. Product Quality

Penhall Company guarantees that the end product provided will be of the highest quality possible given the existing working hours, however minor modifications to extend the working hours per this VEP will tremendously increase the achievable quality.

- a. With greater working hours come longer paving runs. Longer paving runs will lead to less paving runs. The end result is less construction joints and will thus lead to a smoother ride overall.
- b. In a project that is linear as this one, with tight restrictions on the scope of work that needs to be completed in each shift, there is often little time to react and plan for unforeseen conditions. Therefore, with extended work windows Penhall Company & WVDOH will have a greater amount of time to react and handle unforeseen conditions or issues that otherwise couldn't be handled within the allotted closure.
- c. The extra hours during each shift will provide Penhall Company and WVDOH more time to locate, remove, and replace any unsound concrete that may exist. Removal of unsound concrete ensures the best possible bonding surface for the LMC overlay and will in turn increase product quality and life.

- d. Extended lane closures will increase the wet cure period. This will allow for a longer wet cure prior to opening the work area to traffic which will greatly reduce micro-fracturing of the newly placed latex modified concrete.
- e. Additional working hours will also increase joint quality. The extended lane closures will allow for a more complete joint removal and replacement process leading to a better end product. This will also drastically reduce the use of steel plates that the general public will be traveling over, once lanes are open to traffic, due to unfinished joint work. This also adds a reduction in risk and nuisance associated with the public traveling over these steel plates.

3. Public Perception

As with most Highway Construction Projects, this project is high profile with a lot of eyes from the public scrutinizing every move. By increasing the work windows each shift, with little to no effect on traffic, the project can be delivered in less time than anticipated. This will reduce the impact felt by the commuting public.

4. Cost Savings

Due to making the minor changes being proposed and slightly modifying the existing working hours the Contractor can offer a savings to the State of **\$1,088,567.00**.

• Cost Estimates – Bid vs. VEP

After careful review of all the contract plans, specifications, and addendums Penhall Company is prepared to offer a total project savings of **\$2,177,134.00** associated with the VEP. Once approval of this VEP is received, this savings would be split between Penhall Company and WVDOH pursuant to Standard Provision 104.12 – “Value Engineering.” Therefore the total savings given to the State, after approval, would be **\$1,088,567.00**. An itemized comparison by bid item is attached (see Table 1).

1. Remove & Rebuild Expansion Joint: As explained above, the additional work hours proposed for weekend work will allow necessary time for Penhall Company to remove and rebuild expansion joints during lane closures. This reduces the amount of time, equipment, and materials needed to support the placing, securing, removal, and maintaining of steel plates at each joint. The total LS savings for this item is \$57,390.30.
2. Concrete Deck Overlay, Rapid Set Cement: The multiple factors listed above all contribute to making this activity more productive and cost effective. In summary, additional working hours each shift will allow Penhall Company the ability to increase the production activities associated with the work. The total LS savings for this item is \$1,942,771.92.

3. Indirect Items: Indirect costs are costs incurred by Penhall Company that are not directly associated with the cost for performing the work. These costs include, but are not limited to; project supervision, equipment maintenance, temporary lighting, and jobsite and home office overhead. The total LS savings for this item is \$176,971.78.

- **Proposed Changes to Project Plans, Design, & Specifications**

The only changes to the Project Plans and Specifications proposed by Penhall Company as part of this VEP are the working hours for each shift at the two locations (Carter & Bigley Bridges). The proposed changes are shown on the attached plan sheets issued in Addendum No. 01 dated October 26, 2011 (see Appendix A).

- **Collateral Costs**

An estimate of the collateral costs, or indirect savings to the State, accompanied with the approval of this VEP is difficult to generate. Without knowledge of WVDOH costs for maintenance or supervision, Penhall Company can't accurately associate a dollar value to this savings. However, a list of these indirect savings is as follows:

- i. WVDOH Project Supervision: Less time on the project equates to less money to supervise the construction and contract closeout.
- ii. WVDOH Road Maintenance: Penhall anticipates that the useful service life of the bridges will be increased due to previously mentioned factors due to a higher quality product. This will significantly reduce the costs of long term maintenance.
- iii. Time Related Bid Quantities: All bid items which are measured by time should decrease with the shortened project duration. Exact numbers are hard to estimate at this time, but Penhall Company believes this is potentially another indirect savings to the State in addition to the savings being offer in this proposal.
- iv. Shorter Project Duration: By slightly modifying the existing work windows there are enormous benefits created for all Project stakeholders. One of which is a shorter Project duration. The longer work windows give the Contractor the ability to generate more production allowing the Project to be complete 4 months sooner than attainable using the existing work window.

- **VEP Timeline**

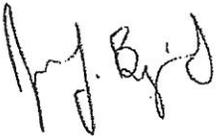
Penhall Company understands that the proposed VEP will take time to review. With that said, we would like to stress the importance of time and its association with the maximized cost savings. We'd like to propose an approval of the VEP on or before March 30th, 2012. To help

make this deadline Penhall Company would like to present to the voting committee the advantages of this VEP and answer any question or concerns there may be on March 28th 2012. Penhall Company would greatly appreciate an expedited review and approval process.

It is Penhall's opinion that the Project is a great candidate for the Pilot Program and offers the opportunity for the State to not only receive a significant savings but also set the precedence and pave the way to a prominent VE Program that will benefit all West Virginians for years to come.

As always, please do not hesitate to call with any further questions or concerns at (612) 807-2317.

Sincerely,



Jason J. Brynick
Project Manager

JB/jb
Cc: File



Value Engineering Proposal

Table 1

Cost Comparison - BID vs. VEP

Submitted By: The Penhall Company
 Project: Carter & Bigley Ave. Bridges
 Contract No. S320-64-57.51 / ACBI-0642(140)
 Location: Charleston, WV

Item No.	Item Description	UNITS	UOM	BID UNIT PRICE	VEP UNIT PRICE	DELTA (overall savings)
627016-001	Remove & Rebuild Expansion Joint	1,122	LF	\$ 2,080.00	\$ 2,028.85	\$ 57,390.30
679001-001	Concrete Deck Overlay, Rapid Set Cement	95,892	SY	\$ 159.00	\$ 138.74	\$ 1,942,771.92
	Indirect Items	1	LS	\$ 1,707,082.00	\$ 1,530,110.22	\$ 176,971.78
	Grand Total					\$ 2,177,134.00



Value Engineering Proposal

Appendix A

