

**CONTRACT CHANGE ORDER MEMORANDUM**

TO: Tony Anziano, Program Manager /			FILE: <b>E.A.</b> 04 - 0120F4	
FROM: Darryl Schram, Senior TE			<b>CO-RTE-PM</b> SF-80-13.2/13.9	
			<b>FED. NO.</b>	
CCO#: <b>271</b>	SUPPLEMENT#: <b>0</b>	Category Code: <b>BZZZ</b>	CONTINGENCY BALANCE (incl. this change): <b>\$100,248,838.27</b>	
COST: <b>\$922,905.00</b>		INCREASE <input checked="" type="checkbox"/> DECREASE <input type="checkbox"/>	HEADQUARTERS APPROVAL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
SUPPLEMENTAL FUNDS PROVIDED: <b>\$0.00</b>		IS THIS REQUEST IN ACCORDANCE WITH ENVIRONMENTAL DOCUMENTS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
<b>CCO DESCRIPTION:</b> Cable Band Risk Mitigation			<b>PROJECT DESCRIPTION:</b> CONSTRUCT SELF-ANCHORED SUSPENSION BRIDGE	
Original Contract Time: <b>2490</b> Day(s)	Time Adj. This Change: <b>0</b> Day(s)	Previously Approved CCO Time Adjustments: <b>501</b> Day(s)	Percentage Time Adjusted: (including this change) <b>20</b> %	Total # of Unreconciled Deferred Time CCO(s): (including this change) <b>3</b>

**THIS CHANGE ORDER PROVIDES FOR:**

Furnishing 4 additional B16 Cable Bands and 48 additional cable band bolts, complete with hot dip galvanized plate washers for use under the cable band bolt heads. Cable Bands and cable band bolts shall be fabricated in accordance with Engineer approved shop drawings issued via State Letter No. 05.03.01-010977, "Submittal 2754, Rev. 1 – Additional B16 Cable Bands."

During installation and initial bolt tensioning of the cable bands it was discovered that the measured gap between the male/female halves of several cable bands were smaller than expected. Previously, confirmation of cable band dimension was verified and agreed to during the cable band friction test conducted at Pier 7. However, the cable band diameter of the North Main Span was compacted to a smaller diameter than what was observed during the cable band friction test; therefore, the Department became concerned about the small gap condition between the male/female halves. An evaluation was performed and the Department issued CCO 247 directing the Contractor to modify a number of the cable bands to increase the gap size to account for the expected cable band gap reductions associated with the expected reduction in cable diameter that would take place during load transfer as the main cable is loaded.

Subsequently, as more information has become available field observations show locations of several cable bands where gaps have closed to less than 5mm. This is primarily due to the reduction in main cable diameter commensurate with the elongation of the main cable as it is loaded. However, field staff have also witnessed further cable compaction (i.e.: reduction in cable diameter and cable band gaps) from the continual cable band bolt tensioning effort directed in CCO 264. In addition, the main cable may further elongate and reduce in diameter as it receives additional loading from the application of the epoxy AC wearing surface and the opening to vehicular "live load" traffic. Additional cable band bolt tensioning may be required to maintain the required cable band hoop stress (i.e.: sliding friction). With the additional tensioning, if the cable band gaps were to close and the cable band halves come into contact, a loss of hoop stress may be realized requiring remedial action to maintain the required sliding friction. To address this issue, the Department is exploring multiple risk response strategies. Some of the strategies being explored include removing and machining close gap cable bands to increase the gap size, developing retrofit measures to increase frictional resistance to sliding and procuring additional cable bands to place beneath existing cable bands to bolster frictional resistance. While the various options are being explored and in order to maintain schedule and ensure multiple risk response measures are available this change order will procure 4 additional cable bands to be ready to bolster sliding frictional resistance if needed. These additional cable bands being procured will be modified to increase the cable band gap size, chamfer sharp edges of bands to prevent pinched PWS cable wires, and will be modified to provide for S wire cable wrap terminations.

The work is not covered by any contract items. Therefore, payment for this work will be at lump sum for a total of \$922,905.00, which can be financed from the contingency fund. A detailed cost estimate is on file.

No time adjustment is warranted as this change order does not affect the controlling operation.

This change has concurrence from William Casey (Supervising TE), Rich Foley (HQ Oversight), Ade Akinsanya (Bridge Design), and Lina Ellis (Maintenance).

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CONCURRED BY:		ESTIMATE OF COST																			
Construction Engineer:	William Casey, Sup TE	Date	12/7/12																		
Bridge Engineer:	CT Oversight, Ade Akinsanya, P.E.	Date	12/7/12																		
Project Engineer:		Date																			
Project Manager:		Date																			
FHWA Rep.:		Date																			
Environmental:		Date																			
Other (specify):	HQ, Rich Foley	Date	12/7/12																		
Other (specify):	Struct. Maint, Lina Ellis	Date	12/7/12																		
District Prior Approval By:	HQ, Larry Salhaney	Date	10/30/12																		
HQ (Issue Approve) By:		Date																			
Resident Engineer's Signature:		Date	12/7/12																		
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		<b>FEDERAL PARTICIPATION</b> <input type="checkbox"/> PARTICIPATING <input type="checkbox"/> PARTICIPATING IN PART <input checked="" type="checkbox"/> NONE <input type="checkbox"/> NON-PARTICIPATING (MAINTENANCE) <input type="checkbox"/> NON-PARTICIPATING																			
		<b>FEDERAL SEGREGATION</b> (if more than one Funding Source or P.I.P. type) <input type="checkbox"/> CCO FUNDED PER CONTRACT <input type="checkbox"/> CCO FUNDED AS FOLLOWS																			
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