

CONTRACT CHANGE ORDER MEMORANDUM

TO: Tony Anziano, Program Manager /			FILE: E.A. 04 - 0120F4	
FROM: Darryl Schram, Senior TE			CO-RTE-PM SF-80-13.2/13.9	
FED. NO. No				
CCO#: 376	SUPPLEMENT#: 0	Category Code: CHPT	CONTINGENCY BALANCE (incl. this change) \$31,653,743.86	
COST: \$990,000.00 INCREASE <input checked="" type="checkbox"/> DECREASE <input type="checkbox"/>			HEADQUARTERS APPROVAL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
SUPPLEMENTAL FUNDS PROVIDED: \$0.00			IS THIS REQUEST IN ACCORDANCE WITH ENVIRONMENTAL DOCUMENTS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CCO DESCRIPTION: PWS Anchor Plate			PROJECT DESCRIPTION: CONSTRUCT SELF-ANCHORED SUSPENSION BRIDGE	
Original Contract Time: 2490 Day(s)	Time Adj. This Change: 0 Day(s)	Previously Approved CCO Time Adjustments: 630 Day(s)	Percentage Time Adjusted: (including this change) 25 %	Total # of Unreconciled Deferred Time CCO(s): (including this change) 1

THIS CHANGE ORDER PROVIDES FOR:

Increase the clearance between the PWS (Parallel Wire Stand) anchor rods and anchor plates at 42 locations by performing the following:

- Procure, fabricate, and perform field work to relocate the PWS anchor rod within the hole in the bearing block by implementing a repositioning procedure which jacks the rods against the bearing blocks (Alternative B per Submittal 3078R0).
- Provide and remove temporary access and utilities as necessary.
- Procure, fabricate, provide hydraulic jacks, and calibrate hydraulic jacks for possible jacking of the rods against the bearing stiffener plates (Alternative A per Submittal 3066R1). No work in the field shall proceed until direction has been given by the Department.
- Procure and fabricate bearing block shims (per Submittal 3073R0).
- Provide options for preliminary machining procedures and methods that could be used to increase PWS tolerances.
- Design fixtures, machines, and tooling for the Annular Cutter option and fabricate two prototypes. Manufacture a mockup of the anchor rod and plate and test the prototype.

Perform additional work as necessary on the PWS anchor rods and anchor plates as directed by the Engineer.

Adjustments will be made to provide the anchor rod with a minimum 2 mm clearance from the anchor plate at all points around the rod perimeter.

Contract Plan Sheets No. 316 "East Cable Anchorage "E" Line Layout No. 3", 319 "East Cable Anchorage "W" Line Layout No. 3", and 320 "East Cable Anchorage Details" provide details for the interface of the PWS anchor rods as they pass through the east end anchor plate to anchor at the bearing block connection. The PWS anchor rods are 90 mm in diameter while the holes in the anchor plates are 100 mm in diameter. Ideally, this provides for a maximum 5 mm clearance. While not specifically identified on the plans, the PWS anchor rods are not intended to be in contact with the anchor plate as they pass through the hole to the bearing block anchorage.

During the shop drawing phase, the Contractor through TVC RFI No. 10 R0 requested permission to increase the hole in the anchor plate from 100 mm to 110 mm. This change provided a nominal clearance of 10 mm to provide for a larger fabrication and installation tolerance. This dimensional change was included in CCO 87. However, while in fabrication the Contractor submitted RFI No. 1644 R3 requesting a further modification to change the anchor rod hole to 120 mm to create additional fabrication and installation clearance (nominally 15 mm).

During the anchor rod installation process, the rods were installed with the intent of being centered in the anchor plate holes. However after load transfer and the removal of all temporary blocking used to hold the rods into place, the final clearance was measured and recorded for all 274 anchor rods. Taking into account both the "E" line and "W" line anchorage plates, 42 rod locations were identified as having less than 2 mm all around clearance while the remaining 232 rod locations were identified as having 2 mm all around clearance.

Design has reviewed the final clearance measurements and determined that a full 2 mm clearance all around is required to ensure appropriate long term performance of the Structure and that none of the rods come into contact with the bearing plate throughout the life of the Structure. As there is no clearance tolerance specified in the Contract, this change order will compensate the Contractor for adjusting the PWS anchor rods and/or machining larger holes in the anchorage plate to

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provide a full 2 mm of clearance all around.

The original scope and cost of this work was negotiated and agreed to at a May 15, 2014 meeting of the TBPOC and the ABFJV Principals. At the June 4, 2014 executive session of the TBPOC meeting the Department was directed to prepare and present for TBPOC approval CCO 376 and 379 for a negotiated lump sum of \$3,700,000 as agreed to on May 15th. However, as the work has been substantially reduced from that agreed to at the May 15th meeting the Contractor has agreed to perform CCO 376 on a force account basis as opposed to lump sum. Of the \$3.7 million agreement for the combined CCOs 376 and 379, this work represented \$2 million and will be deducted from the agreement.

The total cost of this change order is \$990,000.00 force account, which can be financed from the contingency fund. A detailed cost analysis is on file.

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

This change order has concurrence from William Casey (Supervising TE), Rich Foley (HQ Oversight), Wenyi Long (Bridge Design), Jing Chen (District Design), and Lina Ellis (Maintenance).

CONCURRED BY:			ESTIMATE OF COST		
Construction Engineer:	William Casey, Sup TE	Date 8/4/14		THIS REQUEST	TOTAL TO DATE
Bridge Engineer:	CT Oversight, Wenyi Long, P.E.	Date 8/5/14	ITEMS	\$0.00	\$0.00
Project Engineer:	District Design, Jing Chen	Date 8/5/14	FORCE ACCOUNT	\$990,000.00	\$990,000.00
Project Manager:		Date	AGREED PRICE	\$0.00	\$0.00
FHWA Rep.:		Date	ADJUSTMENT	\$0.00	\$0.00
Environmental:		Date	TOTAL	\$990,000.00	\$990,000.00
Other (specify):	HQ, Rich Foley	Date 8/6/14	FEDERAL PARTICIPATION		
Other (specify):	Struct. Maint, Lina Ellis	Date 8/5/14	<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		
District Prior Approval By:		Date	FEDERAL SEGREGATION (if more than one Funding Source or P.I.P. type)		
HQ (Issue Approve) By:		Date	<input type="checkbox"/> CCO FUNDED PER CONTRACT <input type="checkbox"/> CCO FUNDED AS FOLLOWS		
Resident Engineer's Signature:		Date	FEDERAL FUNDING SOURCE	PERCENT	
		8/6/14	_____	_____	
			_____	_____	
			_____	_____	