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THE STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION



CHRISTOPHER D. CLEMENT, SR.
COMMISSIONER

JEFF BRILLHART, P.E.
ASSISTANT COMMISSIONER

Bureau of Construction
March 8, 2013

Her Excellency, Governor Margaret Wood Hassan
And the Honorable Council
State House
Concord, New Hampshire 03301



ARRA FUNDS

REQUESTED ACTION

Authorize the Department of Transportation to enter into a contract amendment, (Contract #4002349), with Liddell Brothers, Inc., (Vendor # 162607), of Halifax, MA by increasing the contract amount by \$520,000.00 (from \$5,869,910.00 to \$6,389,910.00) for installation of continuous fiber optic communications system and all necessary appurtances along 23 miles of I-93 between Bodwell Road in Manchester and Manchester Street in Concord, effective upon G&C approval. This is a multi-funded project with 80% Federal grant funds (ARRA), 20% Turnpike funds.

Funding is available as follows:

FY 2013

04-96-96-960515-3052 Transportation Management Center 039-500181 Telecommunications Equipment - Major	\$416,000.00
04-96-96-961017-7057 RSA 237:2 VII Central Turnpike 400-500870 Highway Contract Payments	\$104,000.00

EXPLANATION

The Manchester-Concord X-A000(456), 14510Z contract was approved by Governor and Council on April 18, 2012 (Item #151) on a basis of a low bid for an original contract encumbrance of \$5,869,910.00. The contract is proposed to be increased by \$520,000.00 to address the following items:

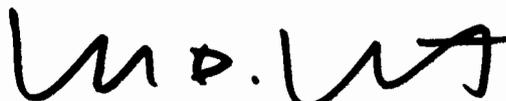
1. Additional unanticipated costs to change the required fiber optic cable from 192-strand fiber to 288-strand fiber. The 192-strand fiber initially in the contract is now a special order item and is not readily available. The 288-strand fiber is an industry standard and is readily available. Estimated Cost \$55,000.

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2. Additional unanticipated costs to increase the quantities for concrete fiber splice vaults. A Revision After Proposal modified the fiber conduit design south of Bodwell Road to the I-293 split. These field adjustments are necessary to avoid future impacts by the Salem-Manchester 14633H project and add splice vaults to accommodate for the varying ground profile. This revision will install a new segment of conduit along the west side of I-93, abandon the portion constructed on the east side, and reconnect back to the previously installed conduit. Estimated Cost \$98,000.
 3. Additional unanticipated costs to upgrade the fiber optic system support equipment included in this contract. Progression in technology and growth of the Department's intelligent transportation system since the original project design has increased the need for support equipment. Two additional routers and networking equipment will be required for the system to operate properly. This equipment will connect the dynamic message signs and closed circuit television cameras along the corridor to the Traffic Management Center. Estimated Cost \$97,000.
 4. Additional unanticipated costs to install the fiber optic lines through the backwalls of six bridges along the corridor. The original design by Transcore included three options for installing the conduit at bridge crossings. The options were to directionally bore the conduit under the intersecting street, open trench the conduit in front of the abutment, or a combination of the first two coupled with hanging the conduit from the bridge beams. At a majority of the bridge locations it was possible to directionally bore the conduit under the intersecting roadways or open trench in front of the abutments. However, at six of the bridge locations these options were not possible, and the combination option was not practical as presented in the plans. The plans for installing conduit at these bridges were lacking details and quantities of material needed. Following meetings with U.N.H., Administrators of the B.T.O.P. grant, NHDOT, the design consultant Vanasse Hangen Brustlin, Inc., and the Contractor, a design change to install the conduit and fiber through the backwalls of bridges was determined to be the best approach. This option reduces the number of splices and bends in the conduit and fiber, which is preferred to minimize potential damage to the fiber optic cable. Also, by proceeding across the bridge and straight through the backwalls there is no need for exposed pull boxes or conduit mounted on the abutment face or wing walls, minimizing potential vandalism. The additional work includes coring through twelve abutments, cutting and reforming approach slabs, and shoulder work to tie back into the proposed conduit locations. Estimated Cost \$270,000.

The Governor and Council previously authorized (Item #380; June 22, 2011) whereby the Department was the recipient of a sub-awarded Federal ARRA Grant. This grant was awarded to the University System and requires State matching funds. If approved, DOT is providing a total of \$749,690.00 (11.73%) Turnpike funds and \$528,292.00 (8.27%) Highway fund match already budgeted in 04-96-96-960515-3052 Transportation Management Center. This request is 80% federal and 20% turnpikes.

Your approval of this resolution is respectfully requested.

Sincerely,



Christopher D. Clement, Sr.
Commissioner

MWH/PEM/pw