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GRW Engineers, Inc.

September 26, 2012

Mr. J. H. Graham III, Mayor
 City of Crossville, City Hall
 99 Municipal Avenue
 Crossville, TN 38557

Re: Contract S12-01: WWTP Improvements – Phase II - UV
 Recommendation of Low Bidder & Bid Tabulation
 CDBG Project No. 33123

Dear Mayor Graham:

The Crossville contract referenced above was advertised in the Knoxville News Sentinel (copy of Publishers Affidavit is on file with Ms. Sally Oglesby) on Sunday, August 19, 2012. Bids for this contract were received and opened at 11:00 AM on Thursday, September 13, 2012. The lump sum bids received for Contract S12-01 were as follows:

| <u>Bidder</u> | <u>Base Bid</u> |
|--|---------------------------------------|
| J.S. Haren Company | \$ 564,000.00 (low bidder) |
| Southern Constructors, Inc | \$ 608,500.00 (low responsive bidder) |
| W & O Construction Co., Inc | \$ 667,000.00 |
| J. Cumby Construction, Inc | \$ 671,000.00 |
| Cumberland Valley Constructors, Inc | \$ 712,000.00 |
| Gilispie Construction Enterprises, Inc | \$ 737,800.00 |

We are enclosing a certified Bid Tabulation for this Contract showing a breakdown of the bids with this letter. This tabulation also shows the deductive alternates of each bidder.

The original design of this project was around the Enaqua UV unit. The bid by J.S. Haren was for substituting the Enaqua UV unit with a Trojan UV system. Using the Trojan unit would require some redesign by GRW Engineers for the space provided at the existing WWTP. Mr Haren was contacted and agreed to pay for the redesign expense. The Trojan system is used through the wastewater industry and is considered as meeting the intent of the bid.

In accordance with Section 01631, subsection 1.04C of the specifications, GRW Engineers requested information on the Operation and Maintenance (equipment replacement) costs for the Trojan UV system proposed by the low bidder (J.S. Haren). A comparison of these costs was evaluated against the Enaqua unit and GRW Engineers determined that after 5 years of operation the savings in lamp and ballast replacement will be approximately \$48,045 using the Enaqua unit (see attachment for breakdown). We also assumed that over a 10 year period the savings will be approximately \$96,090 in operation and equipment replacement costs. Based on our evaluation the Trojan O & M cost

Mayor Graham
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exceeds that of the Enaqua UV unit (original design) and therefore it is not considered equal. GRW Engineers then contacted Mr. Haren and asked if he would install the Enaqua UV unit instead of the Trojan UV unit at the same bid price. Mr. Haren declined and prepared a letter indicating that he would withdraw his bid if the Trojan UV unit is considered as not equal to the Enaqua UV unit (see the attached letter).

The difference in the J.S. Haren and Southern Constructors (bid used Enaqua equipment) bids is \$44,500, therefore, the O & M cost savings (for lamps and ballasts only) after 5 years will be greater than the initial capital expenditure if the second low bidder is awarded this contract.

GRW Engineers has discussed this issue with Mr. Clark Annis (WWTP project manager) and he agrees with our assumptions and methodology in evaluating these costs. We also discussed taking the two deductive alternates [1 – deletes electric valve operators (\$7,000) and 2 – deletes aluminum covers (\$45,000)] from the bid price which totals \$52,000. Mr Annis indicated that the staff can operate the valves manually and don't need the electric valve operators. He is also of the opinion that local machine shops in Crossville can manufacture and have installed the aluminum covers at a reduced price to the city. This will be done after completion of this project if the City agrees to take the covers out of this project.

GRW Engineers, Inc. has worked with Southern Constructors Inc. on several projects in the past consisting of pump station and treatment plant modifications. The Crossville Phase II WWTP Improvements were also accomplished by Southern Constructors. These projects were completed and the work done to the Owner's and our satisfaction. Based on the above discussions, GRW Engineers, Inc., recommends that the second low bidder, Southern Constructors Inc. (License #25089), be awarded Contract S12-01 at the revised bid contract amount of \$556,500.00 upon approval by the funding agencies, City Council and the City Attorney.

If you have any questions concerning the Bid Tabulation for Contract S12-01, please do not hesitate to call.

Sincerely,



Robert G. Threadgill, Jr., P.E.
Design Engineer

Enclosures

cc: Ms. Sally Oglesby - City
Ms. Karla Nicodemus - CDBG
Mr. Evan Sanders - CDP
File 3671-04A

CROSSVILLE UV COMPARISON

| | | |
|------------------------------|---|--|
| | <p>Cost of equipment provided by Trojan in email dated September 19, 2012</p> <p>TROJAN</p> <p>System uses high intensity lamps lamps have a rated life of 12,000 hours each Ballast have a warranty of 5 years each 2 trains are provided with 66 lamps & ballast in each each train capacity 7.5 MGD 2 trains operating capable of peak flow of 15.0 MGD</p> <p>Assumptions Average Design flow of 3.0 MGD, thus each train operated 3.5 days per week each train will be operated 4380 hours per year lamps will be replaced every 2.7 years or twice in 5 year period all ballast will be replaced once every 7.5 years quartz sleeves are replaced once every 10 years</p> | <p>Cost of equipment provided by Enaqua in email dated March 2012 and confirmed on September 20, 2012</p> <p>ENAJUA</p> <p>System uses low intensity lamps lamps have a rated life of 12,000 hours each Ballast have a warranty of 5 years each 2 trains are provided with 132 lamps & ballast in each each train capacity 7.5 MGD 2 trains operating capable of peak flow of 15.0 MGD</p> |
| Replacement Lamps | (\$228 per lamp x 132 lamps)/2.7 yr = \$11,147 / yr | (\$75 per lamp x 234 lamps)/2.7 yr = \$6,500 / yr |
| Ballast | (\$528/ballast/lamp x 132 lamps)/ 7.5 yrs = \$9,292 / yr | (\$150/ballast/lamp x 264 lamps)/ 7.5 yrs = \$5,280 / yr |
| Sleeves | (\$72/sleeve x 132 sleeves)/ 10 yrs = \$950/yr | Not Applicable |
| Power Costs | Comparable | Comparable |
| TOTAL ANNUAL OPERATING COSTS | \$21,389 / YR | \$11,780 / YR Cost Savings per year - \$9609 |

J. S. HAREN COMPANY

September 24, 2012

Mr. Bob Threadgill
GRW Engineers
404 BNA Drive, Suite 201
Nashville, TN 37217
Email: bthreadgill@GRWInc.com

Dear Mr. Threadgill,

Our proposal for the Crossville Wastewater Treatment Plant UV Project was based upon the Trojan disinfection units. We understand after review, it has been determined that the Enaqua UV System is preferred. Unfortunately, due to the added cost of the Enaqua system we are unable to accept the project as our proposal was only good for use of a Trojan system. We apologize for any inconveniences this may have caused.

We need to withdraw our bid and ask that the city consider it nonresponsive. We appreciate the opportunity to have quoted the project and hope that we may be of service to the City of Crossville and GRW Engineers in the future.

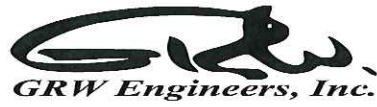
Sincerely,

J.S. HAREN COMPANY



J. S. Haren

JSH/hh



| City of Crossville Crossville, Tennessee GRW Engineers Project No. 3671-04 - Phase II - UV Contract S12-01: WWTP IMPROVEMENTS | | | J. S. Haren Company 1175 Highway 11 North Athens, TN 37303 | | Southern Constructors, Inc. 1150 Maryville Pike Knoxville, TN 37920 | | W & O Construction 150 Construction Drive Livingston, TN 38570 | | J Cumby Construction, Inc. 425 E. Broad Street, Ste. C Cookeville, TN 38501 | | Cumberland Valley Constr. 1308 Baptist World Center Dr. Nashville, TN 37207 | | Gilispie Const. Enter. Inc. 157 Gilispie Road McMinnville, TN 37110 | |
|--|----------------------|---|--|--------------|---|--------------|--|--------------|---|--------------|---|--------------|---|--------------|
| Item | Approximate Quantity | Description | Unit Price | Total Price | Unit Price | Total Price | Unit Price | Total Price | Unit Price | Total Price | Unit Price | Total Price | Unit Price | Total Price |
| 1 | 1 LS | Bidder agrees to perform all the work described in the Contract Documents for the following lump sum: | Bid withdrawn | | | | | | | | | | | |
| | | | | \$564,000.00 | | \$608,500.00 | | \$667,000.00 | | \$671,000.00 | | \$712,000.00 | | \$737,800.00 |
| Deductive Alternate 1 | | | | | | | | | | | | | | |
| | | Deduct the proposed two (2) electric valve operators on the UV influent valves. If these automatic operators are removed, replace them with manual wheeled valve operators. | | \$9,000.00 | | \$7,000.00 | | \$7,500.00 | | \$8,500.00 | | \$6,400.00 | | \$6,400.00 |
| Deductive Alternate 2 | | | | \$62,000.00 | | \$45,000.00 | | \$50,000.00 | | \$46,000.00 | | \$30,000.00 | | \$45,500.00 |
| | | Deduct the proposed aluminum covers on the modified chlorine contact chamber prior to the UV disinfection units. | | | | | | | | | | | | |
| | | ORIGINAL TOTAL BID PRICE: | | \$564,000.00 | | \$608,500.00 | | \$667,000.00 | | \$671,000.00 | | \$712,000.00 | | \$737,800.00 |
| | | TOTAL DEDUCTIVE ALTERNATES: | | \$71,000.00 | | \$52,000.00 | | \$57,500.00 | | \$54,500.00 | | \$36,400.00 | | \$51,900.00 |
| | | TOTAL REVISED BID PRICE: | | \$493,000.00 | | \$556,500.00 | | \$609,500.00 | | \$616,500.00 | | \$675,600.00 | | \$685,900.00 |
| ADJUSTMENT ITEMS (to cover authorized changes in the scope of the lump sum work). | | | | | | | | | | | | | | |
| 5.03 | | | | | | | | | | | | | | |
| 1 | 50 C.Y. | Unclassified excavation 0 to 5 feet deep | \$5.00 | \$250.00 | \$7.00 | \$350.00 | \$20.00 | \$1,000.00 | \$15.00 | \$750.00 | \$10.00 | \$500.00 | \$15.00 | \$750.00 |
| 2 | 50 C.Y. | Unclassified excavation below 5-12 feet deep | \$10.00 | \$500.00 | \$10.00 | \$500.00 | \$20.00 | \$1,000.00 | \$30.00 | \$1,500.00 | \$15.00 | \$750.00 | \$25.00 | \$1,250.00 |
| 3 | 30 C.Y. | Rock Excavation all depths | \$100.00 | \$3,000.00 | \$150.00 | \$4,500.00 | \$100.00 | \$3,000.00 | \$100.00 | \$3,000.00 | \$50.00 | \$1,500.00 | \$200.00 | \$6,000.00 |
| 4 | 20 C.Y. | Class "A" Concrete for slabs or footings, complete, not including reinforcing steel or excavation | \$200.00 | \$4,000.00 | \$250.00 | \$5,000.00 | \$200.00 | \$4,000.00 | \$150.00 | \$3,000.00 | \$200.00 | \$4,000.00 | \$450.00 | \$9,000.00 |
| 5 | 20 C.Y. | Class "A" Concrete for piers or walls, complete, not including reinforcing steel or excavation | \$300.00 | \$6,000.00 | \$400.00 | \$8,000.00 | \$600.00 | \$12,000.00 | \$225.00 | \$4,500.00 | \$300.00 | \$6,000.00 | \$600.00 | \$12,000.00 |
| 6 | 20 C.Y. | Class "C" Concrete | \$110.00 | \$2,200.00 | \$200.00 | \$4,000.00 | \$125.00 | \$2,500.00 | \$100.00 | \$2,000.00 | \$125.00 | \$2,500.00 | \$250.00 | \$5,000.00 |
| 7 | 500 lbs. | Reinforcing Steel | \$1.00 | \$500.00 | \$1.00 | \$500.00 | \$1.00 | \$500.00 | \$1.00 | \$500.00 | \$1.00 | \$500.00 | \$1.50 | \$750.00 |
| 8 | 50 C.Y. | Compacted Crushed Stone as specified | \$50.00 | \$2,500.00 | \$35.00 | \$1,750.00 | \$32.00 | \$1,600.00 | \$30.00 | \$1,500.00 | \$25.00 | \$1,250.00 | \$30.00 | \$1,500.00 |
| 9 | 500 lbs. | Cast or Ductile Iron Pipe or Fittings | \$4.00 | \$2,000.00 | \$3.00 | \$1,500.00 | \$2.00 | \$1,000.00 | \$1.50 | \$750.00 | \$6.00 | \$3,000.00 | \$4.00 | \$2,000.00 |
| 10 | 50 L.F. | Aluminum Pipe Handrails | \$40.00 | \$2,000.00 | \$40.00 | \$2,000.00 | \$45.00 | \$2,250.00 | \$75.00 | \$3,750.00 | \$50.00 | \$2,500.00 | \$100.00 | \$5,000.00 |
| TOTAL ADJUSTMENT ITEMS 1 through 10 | | | | \$22,950.00 | | \$28,100.00 | | \$28,850.00 | | \$21,250.00 | | \$22,500.00 | | \$43,250.00 |

I do hereby certify that the above is a true and correct copy of the bids received.

Robert G. Threadgill, Jr.

Robert G. Threadgill, Jr., P.E.
TN License No. 12645
GRW Engineers, Inc.



Low Responsive Bid

