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October 2, 2006

Memo to : Mr. Dave Wagner
Mr. Philip Ciesielski

RE : Lawrence Pump Station #48
Guaranteed Maximum Price Development / Initial Design and Value Engineering
Cost Memo

Development-

After a detailed evaluation of numerous qualification packages submitted to the City, CAS Construction was selected by the City as the design/build contractor for the Pump Station #48 project. Starting May 17, 2006, weekly meetings (at a minimum) have been held with our Engineers, City Staff and the Property Acquisition Team. At these meetings, decisions were made regarding all aspects of the project for expectations and details allowing preliminary design to proceed to support the schedule for the Guaranteed Maximum Price (GMP) development. The initial GMP was developed and presented on August 22, 2006. Since that date, the design has proceeded, key decisions have been made by City Staff, and thorough reviews have been made of the scope and pricing components for the project. Numerous alternates and value engineering ideas have been priced, considered, and decisions have been made to achieve this final GMP. Items that were either risk elements or future considerations were placed into allowances, that have the potential to ultimately save costs for the City.

The Preliminary Design Memorandum has been completed and is dated September 19, 2006. The GMP in support of that memo is as follows:

Base Price -	\$ 8,399,469.00
Allowances -	\$ 822,519.00
Engineering -	\$ 572 ,000.00
<u>Subtotal</u>	<u>\$9,793,988 .00</u>
Unforeseen Items / Contingency	\$ 100,000.00
<u>Grand Total / Contract Value</u>	<u>\$ 9,893,988.00</u>

For detail of the costs and the analysis for market value, this project can be divided into three major components:

1. Construction Costs
2. Allowances
3. Engineering Fees

Construction Costs -

As a part of the qualifications package submitted for this project, the qualifications of three (3) major subcontractors were included. These subcontractors brought great design/build experience to the team as well as expertise in the work that was required to be accomplished. Subcontractors that were submitted were RD Johnson (interceptor line work), Wildcat Construction (force main line work) and Huxtable (electrical and HVAC). Their knowledge of the Lawrence area and understanding of the site conditions allowed for risks to be identified quickly and reduced the overall project costs for the unknowns. All three companies have completed work for the City in the past. Their thorough understanding of the expectations for quality and performance, from both the City and from CAS, assure that they will be met. Their relationships with local subcontractors and suppliers, their experience of working with the City and with CAS, their respective expertise with similar work and with design/build, gives this true market value. These subcontractors provided itemized estimate breakdowns that were reviewed in detail and revised based upon past project comparisons and current material pricing. On major material components such as piping, precast, valves, and coatings, we asked for independent proposals to verify material pricing. The combined totals for these subcontractors represented 52% of the total GMP amount. Of this percent, 66% was competitively bid for items such as concrete, piping, manholes, electrical components and HVAC equipment.

The remaining area of work to be accomplished is the pump station. Construction of the pump station will require a deep excavation that will be approximately 30 feet below the existing water table according to geotechnical data obtained at the site. This deep excavation will require the use of sheet piling and waler systems as well as dewatering systems that will need to be in place prior to starting construction. Nearly 5% of the entire construction cost or 15% of the pump station cost is attributable to getting the excavation prepared.

Numerous proposal packages were sent for competitive bids. Of the total cost for the pump station portion of the project, 48% of the equipment, materials and/ or installation of materials were sent out for competitive bid. This percentage includes the excavation preparation costs. Fixed cost items such as bonds, insurance, and general conditions account for 18%. Competitive bid and fixed costs account for 66% of the total for the pump station portion of the project. Remaining percentages account then for labor on self perform work, labor burden and construction equipment necessary to complete the project.

The only major equipment as a part of the pump station are the pumps. Competitive packages were offered and presented by three manufacturers. Several rounds of bidding were held to assure that packages proposed were of equal scope. The second place proposer was recommended by the design/builder because they were considered best value. The recommended supplier has a large inventory of similar size installations and has a superb history of service locally.

For the total of the project, 58% of the GMP was competitively bid. Fixed cost items such as bonds, insurance, and general conditions account for 18% of this project. Competitive bid and fixed costs then account for 74% of the total project. Remaining percentages account for labor, labor burden and construction equipment necessary to complete the project.

Allowances-

Allowances are items carried within the GMP to provide coverage for costs that are not yet fully defined or that are risk elements that costs may have to be included in estimates for items that may not occur. Rather than carry these costs in the estimates, they have been agreed upon to be carried as allowance items. Costs in these areas will not be released without a decision by the City. Costs in excess of these amounts will be paid by the City. Costs less than the amounts listed will be returned to the City by deductive change order. Any costs associated with these allowances shall be at actual cost without markup. Design costs will be at billable rates and passed through with no additional markup. An amount was placed into contingency equal to about 1% of the total contract value and is to be utilized for unforeseen items or changes in scope as directed by the City. There are currently seventeen (17) different items within the allowance list (see Attachment A – “Price Proposal” for detail listing). Several of these items are decisions that can be made during the course of construction to potentially reduce costs.

<u>Total Allowance Value</u>	<u>\$822,519.00</u>
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The Allowances represent 8.3% of the total contract value and can provide some savings for the City by the end of the contract.

An amount was placed into contingency equal to about 1% of the total contract value and is to be utilized for unforeseen items or changes in scope as directed by the City.

<u>Contingency Value</u>	<u>\$100,000.00</u>
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<u>Total of Contingency and Allowance Items</u>	<u>\$ 922,519.00</u>
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This represents 9.3% of the contract value.

Engineering Fees-

The engineering fees carried as a part of the final GMP are just a portion of the total engineering fee necessary to complete this project. Given the current estimate of the total City direct costs, combined with the GMP amount, the total engineering fee represents 9.7% of the total project cost. The total engineering percentage was all encompassing support for property acquisition, geotechnical data, preliminary design, final design and construction administration.

This percentage is below the national average for this type of work and based upon our past design/build experience, this percentage is below the average regional percentages for design/build work of this type.

Michael Hafling, P.E.
Sr. Vice President
CAS Construction, Inc.

Price Proposal

City of Lawrence
Pump Station #48

Base Price- **\$8,399,469.00**

Allowances* –

(scope of the allowances are as described in the Work Description)

1. Dewatering	\$205,400.00
2. Civil Testing	\$ 25,000.00
3. Repair & Maintain Roads	\$ 20,000.00
4. Remediation / Landscaping	\$ 20,000.00
5. Winter Conditions / Work Disruption	\$ 60,000.00
6. Permanent Power Routing	\$100,000.00
7. Haul Excess Dirt	\$ 37,000.00
8. Options for Kasold	\$ 25,500.00
9. Discharge/Tie-in Structure	\$100,000.00
10. Additional boring	\$ 21,225.00
11. Video inspection	\$ 23,000.00
12. Chemical Feed Pump	\$ 20,000.00
13. Sluice Gates	\$ 5,318.00
14. Pigging facilities	\$ 40,000.00
15. Large diameter manholes	\$ 15,000.00
16. Flow Monitor Manhole	\$ 5,000.00
17. PVC Pipe / SDR 35 to SDR 26	\$100,076.00

Total Allowances : ***\$ 822,519.00***

Subtotal **\$ 9,221,988.00**

Engineering ***\$ 572,000.00***

Subtotal **\$ 9,793,988.00**

Unforeseen Items / Contingency** ***\$ 100,000.00***

Grand Total / Contract Value **\$ 9,893,988.00**

* - Allowances are items carried within the GMP to provide coverage for costs that are not yet fully defined. Costs in these areas will not be released without a decision by the Owner. Costs in excess of these amounts will be paid by the Owner. Costs less than the amounts listed will be returned to the Owner by deductive change order to the Owner.

** - Contingency amount for unforeseen items in scope or changes to the contract scope not defined in the proposal. Charges against this account will not be made without approval of the Owner.