

Mr. Danny Briggs
Project Manager
City of Greensboro
Water Resources Department
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Greensboro, NC 27406

Arcadis G&M of North Carolina,
Inc.
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Subject:
Greensboro, North Carolina
Mitchell WTP: Major Electrical / High Service Pumping / Parts Warehouse
PROPOSAL FOR ENGINEERING SERVICES

WATER

Date:
March 13, 2019

Dear Mr. Briggs:

Contact:
Dennis Kachmarsky

Arcadis G&M of North Carolina (Arcadis) has recently completed engineering design services under the above referenced City Contract for the Mitchell WTP: Major Electrical / High Service Pumping / Parts Warehouse project. This current contract does not include construction administration and resident project representation services which are required for project execution through construction. Additionally, the City has requested that SCADA programming services be included.

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To provide these necessary engineering services, Arcadis is pleased to submit this proposal for City consideration. The proposal is outlined to present: PROJECT CONSIDERATIONS; SCOPE OF SERVICES; SCHEDULE; FEE PROPOSAL; AND CITY RESPONSIBILITIES.

ARCADIS G&M of North Carolina, Inc.

NC Engineering License # C-1869
NC Surveying License # C-1869

PROJECT CONSIDERATIONS

This project includes the following three major elements:

- Major Electrical Improvements;
- High Service Pumping Improvements; and,
- Parts Warehouse Improvements.

These project improvements are titled “Volume I” work and have been designed by Arcadis. Additionally, the Filter Backwash Pumps Replacement project titled “Volume II” work as designed by CDM Smith has been incorporated into this project for implementation as one, single construction contract. Specific construction administrative and resident project representation (RPR) services for Arcadis and CDM Smith have been established by the City. However, Arcadis will provide overall administrative services as defined in our Scope of Services.

The construction phase is anticipated to require a 2-year period.

In addition to construction administration, RPR and SCADA programming services, this proposal includes other engineering services as requested by the City.

To maintain a consistent team for continuity from design through construction, Arcadis plans to utilize CRITEK Engineering Group and Shermin Ata, Architect, PLLC for MWBE participation.

SCOPE OF SERVICES

Arcadis’ scope of engineering services follows.

Task A: Construction Administration

The following assumes a 24-month construction period and Arcadis serving in the lead-consultant roll.

The Arcadis expanded scope outlined above is intended to serve the City in our role as we understand it as lead consultant. It is understood that CDM Smith will continue to be the “Engineer-of-Record” for their design and therefore responsible to review and approve shop drawings, evaluate and provide direction on any changes to their design; evaluate substitute or “or equal” materials or equipment for their work; start-up and approve their constructed project; and, prepare record documents related to their work.

- A.1 Provide overall project management over the construction phase including project planning; budget and schedule oversight; arrange and manage all meetings; management of sub-consultant team; monitoring of MWBE goal conformance; and administration of the engineering agreement.
- A.2 Serve as lead consultant and clearing house for contractor communications, including those related to CDM Smith’s work.
- A.3 Serve as coordinator and communication link of CDM Smith to the Contractor.
- A.4 Track, manage and coordinate construction data, as it relates to CDM Smith’s work.
- A.5 In concert with the RPR’s assigned to the project, review and approve contractor pay requests for CDM Smith’s work.

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- A.6 Attend Pre-Construction Meeting and monthly Progress Meetings (24 anticipated) throughout the construction phase.
- A.7 Provide the City with monthly project status reports and reports from periodic progress meetings.
- A.8 Make routine visits to the site throughout the anticipated twenty-four (24) month construction period and observe construction to determine in general if Contractor's work is proceeding in accordance with the Contract Documents. Arcadis will communicate with the City any construction related deficiencies in the work or deviations from the contract documents when observed and make recommendations for addressing. Arcadis will not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct or have control over Contractor's work, nor will Arcadis have authority over or responsibility for the means, methods, techniques, sequences or procedures of construction selected by Contractor, for safety precautions and programs incident to Contractor's work, or for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the Work. Accordingly, Arcadis neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its Work in accordance with the Contract Documents.
- A.9 Weekly site visits by our Senior Electrical Engineer.
- A.10 Review and respond to shop drawing and other submittals from Contractor.
- A.11 Review partial and final pay applications and provide recommendations based on a review of work progress by our resident project representative.
- A.12 Assist the City in issuing clarifications and interpretations of the Contract Documents and Field Orders authorizing minor variations from the requirements of the Contract Documents as necessary.
- A.13 Assist with resolving construction-related issues and conflicts as requested.
- A.14 Recommend Change Orders and Work Change Directives to City as appropriate, and prepare Change Orders and Work Change Directives.
- A.15 Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor as allowed by the Contract Documents.
- A.16 Attend required shop witness testing for high service pumps and VFD's.
- A.17 Coordination with Duke Energy.
- A.18 Recommend special inspections or tests of Contractor's work when deemed appropriate. Review all certificates of inspections, tests, and approvals required by Laws and Regulations or the Contract Documents as requested. Arcadis' review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections,

tests, or approvals comply with the requirements of the Contract Documents. Arcadis shall be entitled to rely on the results of such tests.

- A.19 Attend and document start-up of equipment and systems.
- A.20 Perform a final review of the construction to determine if the completed Work of the Contractor is acceptable so that Arcadis may confirm the City's recommendation for final payment to the Contractor. Provide a notice that the Work is acceptable to the best of Arcadis' knowledge, information and belief and based on the extent of the services performed and furnished by Arcadis under this Agreement.
- A.21 Provide substantial completion and final completion documentation and other milestone or close-out documentation as requested.
- A.22 Prepare and furnish digital (.pdf and .dwg) files and hardcopy Record Drawings (three paper copies) showing appropriate record information based on Project annotated record documents received from Contractor.

Task B: Resident Project Representative Services During Construction

Arcadis will provide a full-time, senior Resident Project Representative (RPR) on an average of 32 hours / week and a Special Inspector for an average of 16 hours / week for a 20-month period. For construction observation services during construction, Arcadis intends to utilize the services of CRITEK Engineering Group for RPR services for the scope of services defined in their February 28, 2019 letter proposal to Arcadis. The RPR will:

- B.1 Review the progress schedule, schedule of Shop Drawing and sample submittals, and schedule of values prepared by the Contractor and consult with Arcadis and the City concerning acceptability.
- B.2 Attend meetings with the Contractor, such as preconstruction conferences, progress meetings, job conferences, and other project related meetings.
- B.3 Serve as Arcadis' liaison with the Contractor, working principally through the Contractor's superintendent and assist in understanding the intent of the Project Contract Documents; and assist Arcadis in serving as the City's liaison with the Contractor when the Contractor's operations affect the City's on-site operations. Assist in obtaining from the City additional details or information, when required for proper execution of the work.
- B.4 Advise Arcadis and the Contractor of the commencement of any work requiring a Shop Drawing or sample if the submittal has not been processed by the City.
- B.5 Review Work as follows:
 - a. Conduct on-site observations of the work in progress to assist Arcadis in determining if the work is in general proceeding in accordance with the Contract Documents.

- b. Report to Arcadis whenever the RPR believes that any work will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged or does not meet the requirements of any inspection, test, or approval required to be made; and advise Arcadis of work that the RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
 - c. Verify that tests, equipment, and systems startups and operating and maintenance training are conducted in the presence of appropriate personnel, and that the Contractor maintains adequate records thereof; observe, record and report to Arcadis appropriate details relative to the test procedures and startups.
 - d. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Arcadis.
- B.6 Report to Arcadis when clarifications and interpretations of the Contract Documents are needed and transmit to the Contractor clarifications and interpretations as issued by Arcadis.
- B.7 Consider and evaluate the Contractor's suggestions for modifications in Drawings or Specifications and report them, with recommendations, to Arcadis.
- B.8 Maintain records and prepare reports as follows:
- a. Maintain orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions of original Contract Documents including all work change directives, addenda, change orders, field orders, additional Drawings issued subsequent to the execution of the Contract, Arcadis' clarifications and interpretations of the Contract Documents, progress reports, Shop Drawing submittals received from and delivered to Contractor and other Project-related documents.
 - b. When on site prepare a daily report recording Contractor hours on the job site, weather conditions, data relative to questions of work change directives, change orders or changed conditions, list of job site visitors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures; and send copies to Arcadis and City.
 - c. Record names, addresses and telephone numbers of all Contractors, subcontractors, major suppliers of materials and equipment, City staff involved in the construction, and other service companies involved in the construction.
 - d. Furnish Arcadis periodic reports and photographs as required of progress of the work and of the Contractor's compliance with the progress schedule and the schedule of Shop Drawing and sample submittals.
 - e. Consult with Arcadis in advance of scheduled major tests, inspections or start of important phases of the work.

- f. Report immediately to Arcadis and the City upon the occurrence of any known accident or safety violation.
- B.9 Review applications for payment with the Contractor for compliance with the established procedure for their submission and forward them with recommendations to Arcadis, noting particularly the relationship of the payment requested to the work completed and materials and equipment delivered at the site.
- B.10 During the course of the work, verify that certificates, maintenance and operation manuals and other data required to be assembled and furnished by the Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to Arcadis for review and forwarding to the City prior to final payment for the work.
- B.11 Provide the following Contract Completion Services:
 - a. Before the City issues a Certificate of Substantial Completion, submit to Arcadis and City a list of observed items requiring completion or correction.
 - b. Conduct a final inspection in the company of Arcadis, the City, and the Contractor and prepare a final list of items to be completed or corrected.
 - c. Observe that all items on the final list have been completed or corrected and make recommendations to Arcadis and the City concerning acceptance and issuance of the Notice of Acceptability of the Work.
- B.12 The Resident Project Representative's Limitations of Authority are as listed below. The Resident Project Representative:
 - a. Shall not authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items), unless authorized by Arcadis or the City.
 - b. Shall not exceed limitations of Arcadis' authority as set forth in this agreement or the Contract Documents.
 - c. Shall not undertake any of the responsibilities of the Contractor, Subcontractors, Suppliers or Contractor's superintendent.
 - d. Shall not advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents, or assume any control over any aspect of safety precautions and programs incident to Contractor's work.
 - e. Shall not advise on, issue directions regarding, or assume control over safety precautions and programs in connection with the work.
 - f. Shall not accept Shop Drawing or sample submittals from anyone other than the Contractor.
 - g. Shall not authorize the City to occupy the Project in whole or in part.

- h. Shall not participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by Arcadis.

Task C: Bidding Phase

- C.1 Manage a Pre-Bid Conference, including presentation and follow-up.
- C.2 Prepare and assist with addenda, as necessary, to clarify the design.
- C.3 Respond to questions and inquiries during the bidding phase from contractors and vendors.
- C.4 Respond to questions and provide information to the City's MWBE office to assist in their review.
- C.5 Attend the bid openings.

Task D: Design Services

- D.1 Provide design services as may be required during construction of the project or as may be requested by the City.

Task E: Additional Services Reserve

- E.1 For a large and more complex project such as this, undoubtedly there will be issues that arise which are unforeseen that will require additional engineering services. These could be associated with unusual construction administrative items or extension of time for RPR services, among other reasons. This Additional Services Reserve is intended to maintain project delivery to address these unanticipated issues.

Task F: SCADA Programming Services

- F.1 Arcadis will retain CITI, LLC, Systems Integrator, to provide and perform required SCADA programming for both Volume I and Volume II work. CITI is a preferred consultant for water and wastewater systems programming. Their scope of services is defined in their January 9, 2019 letter proposal to Arcadis.

SCHEDULE

Arcadis anticipates the bidding phase and construction contract award phases to be completed in calendar year 2019. Construction is therefore expected to run from July, 2019 through June, 2021.

FEE PROPOSAL

Arcadis proposes to provide the outlined engineering services on a cost reimbursement (time and materials) fee basis with a 3.2 multiplier on direct labor, plus expenses at a 1.0 multiplier plus sub-consultants at a 1.05 multiplier for a total estimated fee of \$2,300,000; recognizing that absolute determination of fees for a construction phase project is difficult. The contract maximum fee will not be

exceeded without prior authorization by the City. Services requested beyond the twenty-four (24) month construction period shall be considered eligible for additional fees.

Reimbursable expenses are described as follows:

1. Mileage and associated travel costs for employees working on the project at current IRS-approved rate per mile, or reimbursement of hotel and rental car rates for staff traveling from other offices.
2. Reproduction of project-related materials by outside vendors.
3. Postage and shipping charges associated with the project.
4. Subcontractor costs limited to mileage and associated travel costs, reproduction, postage and shipping associated with the project.

The Total Fee Proposal is allocated as follows.

	Total	Arcadis	CRITEK (MBE)	CITI, LLC	Shermin Ata (WBE)
Task A. Construction Administration	\$1,375,000	\$1,357,500	–	–	\$ 17,500
Task B. Resident Project Representation	\$617,200	–	\$617,200	–	–
Task C. Bidding Phase	\$ 20,000	\$ 20,000	–	–	–
Task D. Design Services	\$ 43,000	\$43,000	–	–	–
Task E. Additional Services Reserve	\$ 98,800	\$98,800	–	–	–
Task F. SCADA Programming	\$146,000			\$146,000	
Totals	\$2,300,000	\$1,519,300	\$617,200	\$146,000	\$ 17,500
MBE %	26.8%				
WBE %	0.8%				

RESPONSIBILITIES OF THE CITY

It is our understanding the City will be responsible for the following.

1. Attend project meetings including, but not limited to Pre-Construction Conference, construction progress meetings, and Substantial Completion and Final Payment inspections.
2. Provide payment for independent testing services as needed.
3. Provide payment for permits, licenses, and inspection fees as needed for the Work to be approved by regulatory agencies.
4. Arrange safe access onto public and private property for Arcadis to perform the scope of services.
5. Provide, as required for project, accounting, financial, insurance, or legal advisory services to address issues that the City requires, the Contractor raises, or Arcadis reasonably requests and City concurs with such requests.
6. Advise Arcadis of associated project issues as they arise, such as changes in scope, schedule, or budget.

Mr. Danny Briggs
Mitchell Major Electrical – CA & RPR
March 13, 2019

7. Give prompt notice to Arcadis when City becomes aware of any environmental condition (hazardous or otherwise), or other developments that affect scope or schedule of the construction Work or services provided by Arcadis.

We look forward to continuing to serve the City on this important project. If this proposal meets your approval, please prepare a Supplemental Agreement to our existing On-Call Engineering Services Agreement for execution. If you have any questions, please feel free to contact me.

Sincerely,

Arcadis G&M of North Carolina, Inc.



Dennis J. Kachmarsky, PE
Project Manager, Vice-President

Copies:

Jay Guffey, PE, City of Greensboro
Julie Taylor, PE, Arcadis
David Hamilton, PE, Arcadis

This proposal and its contents shall not be duplicated, used or disclosed — in whole or in part — for any purpose other than to evaluate the proposal. This proposal is not intended to be binding or form the terms of a contract. The scope and price of this proposal will be superseded by the contract. If this proposal is accepted and a contract is awarded to Arcadis as a result of — or in connection with — the submission of this proposal, Arcadis and/or the client shall have the right to make appropriate revisions of its terms, including scope and price, for purposes of the contract. Further, client shall have the right to duplicate, use or disclose the data contained in this proposal only to the extent provided in the resulting contract.