



ATTACHMENT 2

ARCADIS RMA., Inc.
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Village of Wellington
12300 W Forest Hill Blvd.
Wellington, FL 33414

Attn: William Riebe, P.E., Village Engineer
Subject: WTP – Rehabilitation Project

WATER RESOURCES

Dear Mr. Riebe:

Date:
March 27, 2014

Enclosed are three copies of the Work Authorization covering design, bid and permitting services for the referenced project. As discussed, we have included some additional support documentation, as follows.

Contact:
William D. Reese, PE

Phone:
561-697-7069

Email:
william.reese@arcadis-us.com

Our ref:

Florida License Numbers

Engineering
EB00004757

1. **UPDATED CONSTRUCTION COST ESTIMATE** – The cost estimate now includes the 24-inch FRP raw water main replacement. As discussed, we have also reduced the allocated amount for Trains 1-4 rehabilitation to reflect just re-membraning to increase the recovery percentage. We believe the full amount including contingency, should be budgeted for this project (due mostly to the nature of rehab and demolition type work where unanticipated items are encountered with higher frequency than normal). For purposes of determining compensation we have not anticipated usage of the full contingency and, instead, based it upon use of 50% of the contingency (8% of \$10,100,000).
- 172 2. **SHEET COUNT ANALYSIS** – The total sheet count estimate for this project has a higher than normal contribution for E&I work. We believe this is reasonable given the nature of the work contemplated. The total sheet estimate is ~~179~~ 172. Based on the compensation proposed for engineering services this reflects a cost of approximately \$4,580/sheet. We believe, and hope you agree, this is a very competitive number for retrofit work of this nature. 3,936
3. **HOURLY BREAKDOWN** – As requested, we have also prepared an hourly estimate for the work. We believe the time estimate for each task is within, or better than, industry standards (again based on the number of sheets and the complex nature of the work).

Imagine the result

APR 02 2014

EMERGENCY

Thank you for this opportunity for consideration on this important project. We look forward to a successful project.

Very truly yours,

ARCADIS RMA., Inc.

A handwritten signature in blue ink, appearing to read "W. Reese", is written over a faint, circular blue stamp or watermark.

William D. Reese, PE
Vice President

encls.

VILLAGE OF WELLINGTON

UTILITY ENGINEERING SERVICES WORK AUTHORIZATION

WTP – Development and Rehabilitation

This Work Authorization authorizes Arcadis RMA, Inc. to perform the work set forth herein and is issued pursuant to the “Agreement for Consulting Services between Wellington, herein after referred to as ‘Owner’ and Reese Macon Associates, Inc. (DBA Arcadis RMA, Inc.), herein after referred to as ‘Engineer’, dated October 11, 2011 (Agreement). All terms and conditions of said agreement shall be applicable to this Work Authorization.

SCOPE

The Engineer prepared a Master Plan with associated report in June, 2013 for the development and rehabilitation of the Water Treatment Plant (WTP). The report was updated in August, 2013 to integrate review comments. This project authorizes the design and permitting of facilities recommended within the report (including the review comments). The project also includes the replacement of a 24-inch FRP raw water main from the plant to Well R4 with C-905 PVC (which was not addressed in the report). The following specific elements will be contained within the project.

1. Add High Service Pump 13 (in RO #2) w/VFD.
2. Add High Service Pumps 14, 15 & 16 (in old HS Bldg).
3. Rehabilitation of old HS Bldg (including windows, doors, painting, new air conditioned MCC Room, shelving in storage room).
4. Relocate or replace existing electrical and instrumentation equipment in old HS Pump Room into new MCC Room in the same building to the extent practical.
5. Removal of G1, G2 and HS Pumps 1-10 (including piping/valving).
6. Replace RO #1 trench piping supports and larger diameter PVC piping.
7. Repaint RO #1 Building interior.
8. Reconfigure RO #1 Cleaning Headers.
9. Modify Trains 1-4 to expand capacity without replacing HPP. The target is 1.1 MGD/train. It is noted that this effort will be limited to the replacement of membranes into the existing pressure vessel and suitable software adjustments.
10. Replace Train 1-4 HPP motors with 480 volt inverter duty motors.
11. Install Train 7 including HPP and piping/valving (maintain ultimate design rate of 1.8 MGD but equip at a rate that does not exceed degasifier/scrubber capacity).
12. Provide metering/valving to automate RO #1 & RO #2/LS Blend.
13. Automate four of the NaOCl feed points.
14. Modify the NaOCl dilution equipment to facilitate dilution to 6% and remove the NaOCl tanks.
- ~~15. Replace the H_2SiF_6 bulk tank, demolish/replace the temporary wood frame pump building and replace with a CBS/permanent building.~~
16. Recondition the NH_3 feed equipment and add a new feed point in Clearwell 4.
- ~~17. Provide aluminum roof/supports and FRP screening at Filters 6-11. Provide lighting under roof.~~
18. Remove older style yard lighting stanchions and replace with LED. Replace fixtures on newer lighting masts where possible with LED fixtures.
19. Provide a new day tank (or recondition the existing one) for G3 and replace the existing fuel tank with one to match the bulk system used for G4. This will be limited by wellfield/zone criteria.

20. Provide a decant lift station for the lime sludge lagoons and containment walls at the sludge holding area.
21. Upgrade and consolidate (to the extent practical) the control system for the facility. This will include elimination of the existing GE Fanuc system on the plant site.
22. Provide new operator facility building. (approx. 1,000 ft²).
- ~~23. Replace the existing 24-inch FRP raw water main serving RO1 & RO2 with C905 PVC. The alignment will be generally parallel to the existing main but may be on the south side of the C-14 canal.~~

Phase I – Design, Permit, Bid

Work to be performed in this phase by the Engineer includes services to design, permit and bid the modifications and upgrades recommended in the WTP Development and Rehabilitation Master Plan June, 2013 & August, 2013. The specific tasks to be performed are as follows.

1. Prepare ^{30% AND} 60% detailed plans and outline specifications and submit to the Owner for review.
2. Prepare an updated construction cost estimate.
3. Meet with the Owner to review comments.
4. Integrate Owner's comments into documents and prepare 100% complete plans, specifications and bidding documents.
5. Prepare a final construction cost estimate.
6. Submit 100% documents to Owner, meet to review Owner comments and integrate final changes, if any.
7. Deliver final documents for the project to the Owner. The documents will be in electronic format (plans – AutoCAD, specifications – WORD).
8. Submit PBCHD permit documents and act as the Owner's liaison with the agency during the permitting process.
9. Assist the Owner with securing bids, evaluate the bids and make a recommendation of award.

10. CONCEPTUAL PLANS REQUIRED FOR OPERATOR FACILITY.

Phase II – Construction Services (Work under this phase is not approved under this authorization. At the Owner's discretion, it may be approved at a later date).

Work performed during this phase will commence upon Notice of Award and conclude at final completion of the construction contract. The following specific tasks will be performed by the Engineer.

1. Administer the construction contract including performance of all 'Engineer' duties as set forth in the construction contract.
2. Conduct periodic site visits to confirm compliance with the construction contract.
3. Provide a resident project representative (inspector). This is generally anticipated to require full-time presence during the majority of the project.
4. Schedule and conduct the Preconstruction Conference.
5. Prepare and issue minutes for all construction meetings.
6. Review and approve the project schedule.
7. Review and approve the Schedule of Values.
8. Review and approve Shop Drawings.
9. Conduct Progress Meetings every other week.
10. Review Pay Requests and make recommendation for payment.
11. Confirm presence of Stored Materials.

12. Prepare record drawings based on Contractor supplied documentation and provide to Owner.
13. Monitor all concrete pours and review all testing lab reports.
14. Witness all pressure tests.
15. Witness all equipment performance tests.
16. Review all O&M Manuals for satisfaction of specification requirements.
17. Respond to Contractor's RFI's.
18. Prepare Field Orders as appropriate.
19. Evaluate change order requests, make recommendation for processing and prepare documentation as appropriate.
20. Review all startup reports for satisfaction of specification requirements.
21. Review and approve all operational reports and SCADA screens.
22. Provide the Owner with a final set of approved shop drawings.
23. Prepare a final punchlist.
24. Sign off on all punchlist items.
25. Certify the project completion to the agencies.
26. Provide an Operating Protocol for the LS Plant, RO Plants and Well Systems.

COMPENSATION

The Engineer shall be paid for services provided on a lump sum as follows.

Phase I – ~~\$845,000~~ **\$677,000**

Phase II – to be separately authorized at a later date subject to agreement by the Owner and Engineer.

The Owner shall be invoiced and payment shall be made monthly based on the percentage of the total work task completed each month. Compensation as set forth above is based upon the following assumptions.

1. It is assumed that RO #1 reconditioning will not require higher horsepower pumps, the addition of new equipment or a replacement degasification or scrubber system. It is further assumed RO #2 expansion will not require additional degasification, scrubbing or transfer pumps.
2. Replacement of high service pumps will entail provision of temporary pumping during construction.
3. Electrical upgrades will involve elimination of generators G1 and G2.
4. Upgrades/modifications to Plant #3 softener or filtering system are not contemplated in this project.
5. The Owner will make available accurate as-built information concerning the existing facility relevant to the Consultant in the preparation of his work product and as requested.
6. The Owner will pay all applicable permit fees directly to the applicable agency.
7. Depending on specifics, geotechnical work may be required to facilitate design. If necessary, the Engineer will secure quotations for such services and coordinate the work. The Owner will pay for such services directly to the provider.
8. The Engineer will provide survey work as required for the design. Survey required for necessary property acquisition, if any, is not included. The Owner will perform any required excavations so vertical control can be performed, if necessary, for the design.
9. The construction contract will be developed using standard EJCDC documents as modified by the Owner.

10. The construction period for the primary project is estimated to be 22 months to substantial completion. Construction will progress with 'normal' construction issues and delays and the occurrence of all site activities on a normal 40 hour work week. It is acknowledged that certain shutdowns, tie-ins, etc., may occur outside normal working hours. To the extent the construction period extends beyond the period above as a result of Owner requested changes or the failure of the Contractor to achieve timely completion, the Engineer shall be reimbursed for associated costs, subject to agreement by the Owner. Any such agreement shall be in advance of performance of associated work.
11. The Owner will print and distribute all plans and specifications for bidding.
- ~~12. The raw water main design services does not include services related to property acquisition.~~
13. Any asbestos or lead paint testing/reports/services required pursuant to demolition work will be coordinated by Engineer but paid directly to vendor by Owner.
- ~~14. The raw water piping from the plant to Well R4 will be designed, permitted and bid as a stand-alone project.~~
15. The main project design will be configured to incorporate several additive alternate bid items based on a priority of importance schedule to be provided by the Owner at the commencement of the project.

TIME OF PERFORMANCE

The Engineer will complete the work set forth herein within the times indicated below after receipt of an executed Work Authorization and Purchase Order, exclusive of delays beyond the control of the Engineer.

Phase I – 10 months (subject to Owner review and permitting)

Phase II – 24 months (subject to construction schedule)

~~It is acknowledged that the Phase I services related to the replacement raw water pipeline to Well R4 will be performed as a separate project. Phase I services for this pipeline are estimated to take 5 weeks including survey, design and submittal for permitting.~~

ACCEPTED BY:

Village of Wellington

Arcadis RMA, Inc.

William Riebe, P.E., Village Engineer



William D. Reese, P.E., Vice President

Date: _____

Date: 3/27/14