Mr. Clece Aurelus, PE
Engineering Manager ECSD
City of Hollywood – Department of Public Utilities
1621 North 14th Avenue
Hollywood, FL 33022

Arcadis U.S., Inc.
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Plantation
Florida 33324
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Subject:
Aeration Building Pump Station (AB PS) Rehabilitation (Project No.: 19-4253)

Water South

Dear Mr. Aurelus:

In accordance with your request for professional services to provide for the installation of additional high service pumpage in the Aeration Building at the City of Hollywood's (City) Water Treatment Plant (WTP), Arcadis U.S., Inc. (Arcadis) is pleased to provide you with this Work Order proposal for the preparation of a Basis of Design Memorandum, Construction Documents, and Bidding support services.

This Work Order proposal covers services outlined in Article 2.2 (Pre-Design), Articles 2.3 (Engineering Design Phase), and 2.4 (Bidding) of the Professional Services Agreement (PSA) (Number 17-1324) executed by and between the City and Arcadis on November 11, 2017. Services related to 2.5 (Construction Phase) are excluded from this Scope of Work; a separate scope and budget Work Order proposal will be provided to the City prior to the completion of the Bidding support services for review and approval.

Date:
December 5, 2019

Contact:
Leah Richter, PE

Phone:
954 599 7368

Email:
Leah.Richter@arcadis.com

Our ref:
00361334.0001

Florida License Numbers

Engineering
7917

Geology
GB564

Surveying
LB7062

PROJECT DESCRIPTION

The City has decided to rehabilitate the Aeration Building Pump Station (AB PS) Rehabilitation by installing two (2) new high service pumps that will increase the reliability for the delivery of finished water to the water distribution system. The project shall be referred to as the AB HSPS Rehabilitation (the Project). The hydraulic design parameters of the Project shall follow the basis of design of the High Service Pump Station (HSPS) at the WTP provided in the HSPS – Upgrades Project, by adding these two (2) new variable speed (v/s) pumps to the high service pumpage line-up at the City's WTP.

The design shall consist of the following:

1. Install two (2) new variable speed (v/s) pumps in the Aeration Building.

2. The ventilation will be forced draft and sized for two pumps, using the existing window openings for fans and louvers.
3. The north walkthrough door and south roll-up door shall be replaced.
4. The elevation of the floor inside the AB HSPS will be raised approximately 6-inches above the existing parking lot to prevent rainwater from entering the Aeration Building.
5. Replace the walkthrough doors in the HSPS pump room.
6. Install the electrical system to power the two pumps with VFD's and bypasses.
7. Install PLC with touch screen, to view Aeration Building Pumping system only. Provide enough I/O to mimic WTP HSPS instrumentation configuration. Communication to SCADA via fiber.
8. One pump will be connected to WTP HSPS power distribution (including standby power) and the other pump connected to Sodium Hypo Building power service, which currently does not have standby power other than a portable connection.
9. Provide portable standby power connections for each pump. Utilize existing equipment as possible.
10. Add pressure transmitter for standalone process variable.

SCOPE OF WORK

Arcadis shall provide the engineering design services necessary for the modifications to provide an intermediate design for review and permitting, final design, bidding, and a recommendation for award for the installation of a new high service pump in the Aeration Building.

TASK 1 – 70% (INTERMEDIATE) DESIGN

Task 1.1 Kick-off Meeting

Arcadis shall prepare for and attend a project kickoff meeting to review expectations for the project, information/data needed, and project schedule and coordination requirements.

Deliverables:
The following deliverable will be provided under this task:

- Meeting agenda and minutes.

Task 1.2 Basis of Design Technical Memorandum and Plans

Arcadis shall provide a Basis of Design technical memorandum and plans for review by the City and for permit applications, that accounts for the following:

- Brief description on project background and scope of work.
- Hydraulic analysis to determine the overall high service pump operations be adding two constant speed pumps parallel to the six (6) existing variable speed pumps at HSPS. This analysis will be utilized to revise the controls for the existing variable speed pumps.
- Analysis that addresses the ventilation, electrical, and instrumentation aspects of the Project.
- Plans that show the hydraulic, ventilation, electrical, and instrumentation aspects of the Project.

- Preliminary construction cost estimate (Class 3 – Used for Budget authorization or control. Expected accuracy ranges from -10% to + 40%)
- Quality assurance and quality control activities of Basis of Design technical memorandum.

Deliverables:
The following deliverable will be provided under this task:

- Basis of Design technical memorandum and 70% Design Plans submitted to the City electronically.

Task 1.3 Pre-application Meeting with SED FDEP

Arcadis shall prepare for and attend a Pre-application Meeting with SED FDEP to review the design concepts, permitting expectations and requirements for the project. The City is encouraged to attend this meeting.

Deliverables:
The following deliverable will be provided under this task:

- Meeting minutes submitted to the City electronically.

TASK 2 – 100% (FINAL) DESIGN

Task 2.1 Intermediate Design Review Meeting

Arcadis shall prepare for and attend a design review meeting to review comments and requested revisions provided by the City from the deliverable made in Task 1.

Deliverables:
The following deliverable will be provided under this task:

- Meeting minutes submitted to the City electronically.

Task 2.2 Detailed Design Plans and Project Manual
Arcadis shall provide in a final design of the Project, that includes the following:

- Final Plans that address comments provided by the City, the Southeast District of the Florida Department of Environmental Protection (SED FDEP) and the City's Building Department.
- Project Manual that consists of the City's latest Invitation to Bid highlighted for the information needed from the City for this Project, the City's latest Construction Contract Document, and the Technical Specifications for the Project.
- Preliminary construction cost estimate (Class 2 – Used for Bid evaluation. Expected accuracy ranges from -5% to + 20%)
- Quality assurance and quality control activities of the Plans, Project Manual, and EOPCC.

Deliverables:
The following deliverable will be provided under this task:

- Final Basis of Design technical memorandum and 100% Design Plans submitted to the City electronically.

TASK 3 – PERMITTING SERVICES

Arcadis shall prepare the permit applications and corresponding supporting documentation and obtain applicable signatures utilizing the 70% Design Plans provided in Task 1.2 and following the review meeting described in Task 2.1.

In-person meetings with permitting agencies are not anticipated nor included in this scope of work, besides the meeting with SED FDEP provided in Task 1. Correspondence with all permitting agencies will be done via email or phone call. Phone call discussions will be documented for future reference in an email.

It is anticipated that permits will be required from the following agencies:

- Florida Department of Environmental Protection (SED FDEP) utilizing application FAC 62-555.900
- Hollywood Building Department – Pre-construction Application

Development of the permit packages consists of the following information and activities:

- Submit drawings (signed and sealed by Florida Registered Professional Engineer).
- Provide required supplemental information to support permit request.
- Complete permit applications for each agency to be signed and sealed by the design engineer.
- Prepare tracking sheet with indication of dates of submittal of each application and approval or comments from the corresponding agency.
- Arcadis will respond to one (1) Request for Additional Information (RAI) for each permitting agency and incorporate revisions requested by the permitting agencies and re-submit information.

The City shall be responsible for paying all permit application fees.

TASK 4 – BIDDING SERVICES

Task 4.1 Pre-Bid Meeting

Arcadis shall participate in one (1) pre-bid meeting in conjunction with City staff. The City's purchasing department will lead the pre-bid conference. Arcadis shall attend one (1) pre-bid meeting and site visit.

Task 4.2 Bid Clarification/Addenda

Arcadis shall respond to technical questions and Request for Information (RFIs) received from potential bidders by preparing addendum documents to be issued by the City. A maximum of three (3) addenda requiring a technical response covering the RFIs received during the bid phase will be provided.

Task 4.3 Contract Awards

City shall open bids, prepare bid tabulation, and provide Arcadis with bid tabulation and bid responses received. Arcadis shall assist City in evaluating bids, conduct reference checks, and prepare a written award recommendation.

Task 4.4 Conformed Documents

Consultant shall prepare conformed drawings and specifications that incorporate technical addenda.

Deliverables:

- Up to three (3) addenda requiring a technical response covering the RFIs received during the bid phase submitted electronically to the City.
- Bid evaluation and written award recommendation submitted electronically to the City.
- A maximum of three (3) hard copies of the conformed (24” x 36” size format) design drawings and two (2) bounded technical specifications. Electronic files including AutoCAD files, pdfs and Word documents to be provided to the City.

SCHEDULE

Arcadis estimates that the Bidding of the Aeration Building Mechanical Rehabilitation will be completed by June 2020, depending on the issuance of the Authorization to Proceed (ATP) for these services. Estimates for completion of key milestones are as follows:

Project Milestones	Estimated Duration to Completion from ATP
TASK 1 – 70% (INTERMEDIATE) DESIGN	6 weeks
TASK 2 – 100% (FINAL) DESIGN	12 weeks
TASK 3 – PERMITTING SERVICES	24 weeks
TASK 4 – BIDDING SERVICES [1]	36 weeks

[1] Task 4 includes 8 weeks for Purchasing to issue Invitation to Bid.

BUDGET AND INVOICING

The proposed lump sum fee for the Project is $130,306.80. This lump sum fee has been prepared in accordance with the terms and conditions of the Agreement between the City and Arcadis. A detailed breakdown of this lump sum fee is enclosed as Attachment – A. The task breakdown for the lump sum fee is as follows:

Task	Fee
TASK 1 – 70% (INTERMEDIATE) DESIGN	$50,707.60
TASK 2 – 100% (FINAL) DESIGN	$54,378.00
TASK 3 – PERMITTING SERVICES	$ 9,570.00
TASK 4 – BIDDING SERVICES	$14,997.80
Total	$130,306.80

Arcadis is excited about this opportunity to provide the engineering design and bidding services for this Project. Should you have any questions regarding this work order proposal, please do not hesitate to contact me.

Sincerely,

Arcadis U.S., Inc.

Leah Richter, P.E.
Vice President

Copies:
Plantation Files (Arcadis)

Enclosures:

1 Attachment A - Detailed Lump Sum Fee Breakdown

		Labor Category	Contract Labor Category	Hours	Billing Rate ($ / hr)	Cost		Fee / Task	Total Fee
									$ 130,306.80
							Arcadis Labor	$ 100,015.00	
							Subconsultant (McKim & Creed) Costs	$ 30,148.80	
							Other Direct Expenses	$ 143.00	
							Contingency		
1	**70% (INTERMEDIATE) Design**							$ 50,707.60	
	Labor Subtotal						$ 44,200.00		
	Brian Duane	Principal Engineer	Chief Engineer	8	$ 260.00	$ 2,080.00			
	Vincent Vitale, PE	Lead Engineer (HVAC)	Senior Associate	13	$ 220.00	$ 2,860.00			
	Errol Dawkins, PE	Lead Engineer (Arch)	Principal Engineer 1	8	$ 220.00	$ 1,760.00			
	Chris Barlow, PE	Project Manager	Senior Associate	48	$ 200.00	$ 9,600.00			
	Denise Martins, PE	Staff Engineer (Arch)	Project Engineer 4	16	$ 160.00	$ 2,560.00			
	Judy Ford	Project Assistant	Chief Technican	8	$ 150.00	$ 1,200.00			
	Sopeark Chhea, PE	Staff Engineer (HVAC)	Project Engineer 2	59	$ 130.00	$ 7,670.00			
	Lia Dombroski	Staff Engineer	Project Engineer 2	88	$ 130.00	$ 11,440.00			
	Andrea Guzman	Senior CADD Technician	Senior Technician	42	$ 115.00	$ 4,830.00			
	Seul (Kevin) Chung	Billing Specialist	Administrative 3	2	$ 100.00	$ 200.00			
	Subcontractor Labor Subtotal						$ 6,507.60		
	McKim & Creed	Electrical / I&C				$ 6,507.60			
2	**100% (FINAL) Design**							$ 54,378.00	
	Labor Subtotal						$ 32,785.00		
	Brian Duane	Principal Engineer (QC)	Chief Engineer	8	$ 260.00	$ 2,080.00			
	Jim Callahan	Principal Engineer (HVAC)	Chief Engineer	2	$ 260.00	$ 520.00			
	Housam Hobi, PE	Lead Engineer/Technical Expert	Principal Engineer 1	2	$ 220.00	$ 440.00			
	Vincent Vitale, PE	Lead Engineer (HVAC)	Senior Associate	6	$ 220.00	$ 1,320.00			
	Errol Dawkins, PE	Lead Engineer (Arch)	Principal Engineer 1	10	$ 220.00	$ 2,200.00			
	Chris Barlow, PE	Project Manager	Senior Associate	33	$ 200.00	$ 6,600.00			
	Denise Martins, PE	Staff Engineer (Arch)	Project Engineer 4	30	$ 160.00	$ 4,800.00			
	Judy Ford	Project Assistant	Chief Technican	6	$ 150.00	$ 900.00			
	Sopeark Chhea, PE	Staff Engineer (HVAC)	Project Engineer 2	24	$ 130.00	$ 3,120.00			
	Lia Dombroski	Staff Engineer	Project Engineer 2	64	$ 130.00	$ 8,320.00			
	Shantanu Dandane	Engineer	Project Engineer 1	8	$ 115.00	$ 920.00			
	Andrea Guzman	Senior CADD Technician	Senior Technician	11	$ 115.00	$ 1,265.00			
	Seul (Kevin) Chung	Billing Specialist	Administrative 3	3	$ 100.00	$ 300.00			
	Subcontractor Labor Subtotal						$ 21,593.00		
	McKim & Creed	Electrical / I&C				$ 21,593.00			
3	**Permitting Services**							$ 9,570.00	
	Labor Subtotal						$ 9,570.00		
	Chris Barlow, PE	Project Manager	Senior Associate	18	$ 200.00	$ 3,600.00			
	Judy Ford	Project Assistant	Chief Technican	1	$ 150.00	$ 150.00			
	Lia Dombroski	Staff Engineer	Project Engineer 2	44	$ 130.00	$ 5,720.00			
	Seul (Kevin) Chung	Billing Specialist	Administrative 3	1	$ 100.00	$ 100.00			
	Subcontractor Labor Subtotal						$ 510.40		
	McKim & Creed	Electrical / I&C				$ 510.40			
	Other Direct Expenses						$ 143.00		
	Miscellaneous Expenses	(reproduction and shipping)		1	$ 143.00	$ 143.00			
4	**Bidding Services**							$ 14,997.80	
	Labor Subtotal						$ 13,460.00		
	Chris Barlow, PE	Project Manager	Senior Associate	32	$ 200.00	$ 6,400.00			
	Judy Ford	Project Assistant	Chief Technican	2	$ 150.00	$ 300.00			
	Lia Dombroski	Staff Engineer	Project Engineer 2	52	$ 130.00	$ 6,760.00			
	Subcontractor Labor Subtotal						$ 1,537.80		
	McKim & Creed	Electrical / I&C				$ 1,537.80			