



GUAM WATERWORKS AUTHORITY

Design and Construction of the Umatac-Merizo Wastewater Treatment Plant Upgrade
 GWA Project No. S17-002-BND
 IFB-03-ENG-2017

Step 2 - RFI Response No. 5A to Contractor Inquiries

This Addendum and/or Response to Request for Information (RFI) is issued to modify the previously issued bid documents and/or given for informational purposes and to the extent the responses below modify the bid documents, please treat them as an amendment to the Bid. The following responses are in response to RFIs received.

REFERENCE	QUESTION/INQUIRY AS SUBMITTED:	GWA RESPONSE:
Questions from March 23, 2017		
1	<p>Bid Forms BF-1 to BF-3</p> <ol style="list-style-type: none"> BF-1 Base Bid Form page 9 item 4 – please confirm if our understanding is correct that the value to be filled into item no. 4 will be the sub-total cost of items 4.1 through 4.18 BF-1 Base Bid Form page 10 - Please advise if a sub-total value will be provided after item no. 4.18. If it is please provide additional line item no. BF-1 Base Bid Form item no. BA1 – Please advise what value will be filled into this line item <p>Table BF-3 Bid Alternates page 11 – Please provide bid item no. for Storage Tank (welded stainless steel)</p>	<p>See Addendum No. 5 Appendix A for revised Bid Forms.</p>
2	<p>Drawing C211</p> <p>Call out “Repair existing concrete berm liner deficiencies” – Please advise extent of work required.</p>	<p>See Question 2 from Response to RFI No. 3 (Assume 10% of the liner area required repair)</p>
Questions from April 13, 2017		

REFERENCE	QUESTION/INQUIRY AS SUBMITTED:	GWA RESPONSE:
3	<p>The RFP documents state that the overland flow storage tank is to be a covered prestressed concrete tank. The Conceptual Documents specify the tank to be an AWWA D110, Type 1, strand wound prestressed concrete tank.</p> <p>Will GWA allow an AWWA D110, Type 2, Type 3, or Type 4 prestressed concrete tank? Please advise.</p>	<p>No. The conceptual documents specify Type 1 only.</p>
4	<p>It was mentioned during the pre-bid meeting dated March 16, 2017 that disposal of existing stockpile of sludge will be incorporated in the project and sampling and testing will be required prior to disposal and test result must be acceptable for landfill receipt.</p> <ol style="list-style-type: none"> 1. Please confirm if the sampling and testing requirement as mentioned above still to be enforced. If testing will be required please provide the governments landfill disposal criteria for waste water treatment plant sludge. 2. In the event that the test result will not meet the government landfill disposal criteria, please advise how the contractor will proceed with the disposal work. 	<ol style="list-style-type: none"> 1. Landfill disposal criteria and required testing shall be determined by design-builder. Bidders can contact the landfill for details of the testing requirements. 2. For the purposes of the price-submittal for Step 2 of this RFP, bidders shall assume sludge test results will meet the landfill's disposal criteria.
<p>Questions from April 19, 2017</p>		
5	<p>Please provide the following information:</p> <ol style="list-style-type: none"> a. Type of sludge that will be processed and the throughput required. b. Average Consistency of the sludge to be dewatered, % total solids. c. Required sludge flow rate. d. Volume of dry solids per hour. e. Approximate solids content of sludge and the dryness required of the end product. 	<ol style="list-style-type: none"> a. System shall be designed for dredged or pumped lagoon sludge from this and other GWA WWTPs. b. Bidders may assume the dredged sludge contains approximately 4 percent total solids, which is fairly typical for lagoon sludge. c. A 1-meter belt filter press is specified. Bidders shall assume that the system is operated at the maximum hydraulic or solids loading rate. d. Bidders can do the math. e. Bidders shall assume that the equipment and chemical feed system is operated to maximize the technology's potential. The dewatered cake shall pass the paint filter test prior to landfill disposal.

Questions from April 19, 2017

6	Overland Treatment System	<p>We are evaluating the Overland treatment area and would appreciate receiving the effluent irrigation calculation methodology and assumptions used in determining the hydraulic loading rate. It would be helpful to obtain the actual formula and values used in the methodology. How many acres of overland treatment area were used in the calculation?</p>	<p>For the conceptual design we assumed 105 foot long terraces, and total terrace width is 3,420 feet. A total of 8.24 acres of terraces, plus area for ditches, etc.</p> <p>Three scenarios were developed to determine the required flow rate from the tank to the terraces, as described in our "Step 2 – RFI Response No. 4 to Contractor Inquiries". A maximum application cycle of 12 hours wet/12 hours dry per day was selected to maximize nitrification per overland flow guidance documents. The maximum flow rate of the three scenarios (1,433 gpm) was allocated amongst the conceptual terraces in proportion to their respective widths. The specified unit application rate (0.84 gpm/ft of terrace width) was then derived.</p>
7	Overland Treatment System Distribution	<p>Please provide clarity on the requirement for distribution pipe anchoring. Is the detail provided in the Conceptual Documents adequate to protect piping from vertical movement? In the event of a typhoon, what is to prevent the distribution pipes being lifted upward and the piping destroyed. Please provide a new foundation and distribution piping anchoring detail addressing this question.</p>	<p>The documents are conceptual in nature and may not reflect a final design. The designer-builder shall design a system that meets wind load and seismic requirements.</p>
8	New Lagoon Effluent Pump Station	<p>The influent pump station is proposed to be rehabilitated, but the effluent pump station is proposed to be replaced. Are alternative options allowed for the replacement of the existing effluent pump station?</p>	<p>For the purposes of the price-submittal for Step 2 of this RFP, the design-builder shall assume a new effluent pump station will be built. The selected designer-builder may propose value-added alternatives in the value engineering session after the NTP is issued.</p>

9		Will bids that deviate from the Conceptual Documents Design be accepted as a responsive bid?	No. Guam procurement laws require that all bidders provide a bid-price for the project presented in the Conceptual Documents. The selected designer-builder may propose value-added alternatives in the value engineering session after the NTP is issued.
10		Would GWA consider switching the selection from a low-bid format to a best value approach? A best value selection would allow GWA to consider alternative approaches that could save budget and/or provide a better end product from each team upfront and to select the best combination of technical merit and cost for GWA.	No. This procurement is being conducted in accordance with Guam procurement rules, which do not allow best value selection for design-build contracts.
11		Is odor control required for the New Headworks facility? The P&ID doesn't indicate such.	The conceptual documents do not include odor control at the New Headworks facility.
12		What assurances are there that the overland flow system will be maintained (grass cutting and discing of the terraces)? As it stands, the grass is extremely long and it is our understanding that discing as a regular maintenance practice has not occurred. Without this minimal maintenance, it is likely that the system could fail and you could have dry weather discharges to the river.	Bidders shall assume that GWA will maintain the system.
13		Can you verify that the area up to the property line is available for modification/regrading if an alternative, more economical means of achieving the overland disposal is available?	The lot is entirely owned by the Government of Guam and is available for treatment plant modifications. However, there may be natural limitations to the physical expansion of the processes (steep drop-off, riverbed, wetlands, etc.). Bids shall be based on the conceptual documents. The selected designer-builder may propose value-added alternatives in the value engineering session after the NTP is issued.

<p>14</p>	<p>Please reconcile the elevations associated with the lagoon. Drawing C212 shows a normal water elevation of 22.5 and top of dike/bank elevation of 25.5. This is generally consistent with the as-built drawings. However, the recently released topo shows the elevation around the lagoon to be closer to 23+/- . Is it the intention of the RFP docs to raise the top of dike/bank elevation to 25.5? Also the bottom edge of the concrete slope protection that was indicated on as-built drawings C-33, was exposed during the site visit. It's possible that the lagoon was being operated at a lower level than normal, but the topo shows the top and bottom of the concrete slope protection to range from approximately 19.3 to approximately 22.0. The as-built drawings are based on horizontal control Guam Geodetic Triangulation Network 1963 and vertical control base of mean lower low water datum. The RFP docs are based on horizontal control of 1993 Guam Geodetic Network Coordinates and Monuments and vertical control on Mean Sea Level Datum, Benchmark GGN 2012, and Elevation 628.94'. Please confirm that the elevations shown in the hydraulic profile and the various sections are in fact consistent with the AutoCAD topo file.</p>	<p>The design-builder shall provide a new survey of the site, per Conceptual Documents Volume 1, Section 7.3.1. The intention of the conceptual design is to raise the dike/bank elevations back to the original design of approximately 3-ft above the normal water level. The design-builder shall assume the concrete slope protection was built per as-built. While the <i>intent</i> of the hydraulic profile and various sections was to imitate the as-built design, <i>all</i> Volume 2 Conceptual Drawings are <i>conceptual</i> only. Design-builder shall survey the site, revise elevations, and provide final design.</p>
<p>15</p>	<p>We realize that the overland flow layout shown on C231 is conceptual. To our team it appears that the layout for terrace S-3 is pretty close to ideal, and that that those shown for terraces N-4 and N-5 are poor. Are the layouts for N-4 and N-5 even acceptable given the significant variation in slope length within the individual terrace? What was the design intent to account for different application rates as the slope length changes within a site?</p>	<p>Yes, we agree that the conceptual layout for S-3 is pretty close to ideal. We acknowledge that the conceptual layout shown for N-4 and N-5 may not meet the specified requirements. On those terraces the distribution pipes are drawn as extending beyond the collection ditch and into areas that do not provide the specified minimum terrace length. The designer-builder will be required to develop a final design that meets the specified requirements.</p> <p>In the case of N-4 and N-5 the site geometry and grade may not provide terraces as shown on C231. It may be necessary to move the location of the access road south and expand the south terraces to the south.</p>

16	<p>The overland treatment loading rate is 0.84 gpm/foot of terrace assuming a 100' slope. How does this vary as slope length varies? For example, what is the loading rate for an 80-foot slope?</p>	<p>The conceptual documents specify that the terrace downslope length slope shall not be less than 100-feet. The hydraulic loading rate is not dependent on the downslope length; a 120-foot-long terrace will be loaded at the same rate as a 100-foot-long terrace. The overall hydraulic application rate to an individual terrace is a function of the terrace width. For example, the flow to a terrace that is 300 feet wide would be 300 x 0.84 = 252 gpm. A narrower terrace that is only 100 feet wide would be loaded at 100 x 0.84 = 184 gpm.</p>
17	<p>We are assuming that the slope length is measured from the face of the distribution pipe to the lip of the concrete ditch. Is this correct?</p>	<p>Yes, to the upslope lip of the concrete ditch. The ditch is not to be included in the terrace slope length.</p>
18	<p>In reviewing Sheet C231, it does not appear that 3420 s.f. is available within the existing overland flow area. Can the area to the right of the S terraces be cleared and graded if necessary; especially the area right of S-4 and S-5?</p>	<p>Bidders shall assume that suitable area is available to the right of the S terraces (S-1 through S-5) for bidding purposes. It is not known if suitable area is available to the right of S-4 and S-5.</p>
19	<p>Item 3 in Response 4 talks about the operating the butterfly valve to trim the head and/or flow. Obtaining the proper flow to each terrace will be critical as they are at different elevations and lengths. Shouldn't a meter be installed either upstream or downstream of the butterfly valve as an operational aid and to record the actual discharge volume? The current design relies on operator judgment.</p>	<p>The conceptual design is a low-head perforated pipe distribution system that relies on the orifice plates and butterfly valve setting to provide equal standpipe head at each terrace to deliver a uniform application rate to all terraces, regardless of their width. This requires less operator judgement than individual flow meters, because the flow rate to each terrace will be depend on the terrace width.</p> <p>The selected designer-builder may propose value-added alternatives in the value engineering session after the NTP is issued.</p>
20	<p>Table 6-12 states the distribution pipe which averages 342 feet long be placed within a tolerance of 1" +/- . How will this be maintained throughout the life of the project? Is it the design intent to make the distribution pipe adjustable for the future? If so, please provide a design detail.</p>	<p>Designer-builder shall construct the pipeline to the specified tolerance. Bidders shall assume that GWA maintains the system.</p>

21	What is the height and diameter of the distribution standpipe, or what criteria should be used in sizing the standpipe?	See detail A, drawing C232 for sizing criteria to be used for bidding purposes.
22	There are approximately 2800 holes, 1/4" in diameter to be drilled in the distribution pipe. How will they be regularly cleaned?	Bidders shall assume that GWA maintains the system. The selected designer-builder may propose value-added alternatives for consideration in the value engineering session after the NTP is issued.
23	Addendum 4 requires the set aside for a chemical addition system at the new headworks. What are the proposed chemicals that would be used at this location?	In the future it may be necessary for GWA to add alum or another chemical (to be determined) to the lagoon influent reduce effluent phosphorus concentrations.
24	Since the UV disinfection system has been moved to treat the aerated lagoon effluent rather than the overland flow treated effluent, it is essential that lagoon effluent water quality information be provided for the equipment vendors to review. Please provide all available lagoon effluent data for at least the last 5 years, and associated influent flow data.	See attached data from October 2012 through September 2016. NOTE: Lagoon effluent quality samples were only collected on weeks when the lagoon overflowed. In addition, the upgraded plant will include new headworks and upgrades to the aerated lagoon.
25	Please confirm that the Wedeco Duron system has an automatic chemical cleaning system. Wedeco website reflects only a mechanical cleaning system.	Bidders should contact Wedeco directly with this question. GWA desires to implement the specified Wedeco system for O&M standardization purposes. The specified system was recently installed at the new Agat-Santa Rita WWTP.
26	Please confirm the flow capacity of the Recirculation pumps. Is it 300 gpm as stated in Table 6-13 or 1.7 MGD as called out in Part 5?	The recirculation pump shall deliver 300 gpm. See Addendum No. 5.
27	Can the required strainer be located at the lagoon effluent site?	No. Recirculation flow could contain debris that must be removed prior to the terrace distribution system. The selected designer-builder may propose value-added alternatives for consideration in the value engineering session after the NTP is issued.
Questions from April 19, 2017		
28	Bid Form	See Addendum No. 5.
	If all items on the bid form are added, the total will be more than the actual cost (certain line items are sums of subitems). Please advise and/or revise form.	

Bidders are also notified to visit GWA website: www.guamwaterworks.org to ensure that addenda to the bid, answers to questions, and reminders are communicated to all bidders throughout the solicitation process.



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General Manager

Attachment(s):
- Lagoon Effluent Data Sheets

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