SPANISH FORK & MAPLETON WRF

Bid Clarification #2

1. Bid Date has been adjusted to: August 30, 2022, 3:00 pm. Supporting documents from Bidding Electrical Contractors, Process Piping Contractors and Structural Concrete Contractors due August 31, 2022 at or before 3:00 pm.
2. A deadline of 3:00 pm, August 16, 2022 for all questions has been established. All responses to these questions will be published in a bid clarification.
3. Clarification Contains,
    a. Responses to Submitted Questions
    b. Modified Structural Drawings
    c. Modified Site Civil Drawings
    d. Modified Architectural Schedules
    e. Modified Electrical Drawings
    f. Modified HVAC/Mechanical Drawings
    g. Misc Modifications to Tech Specs and Pipe Schedule
        i. 05 32 00 Steel Roof Decking
        ii. 32 31 19 Ornamental Vertical Pivot Gate
        iii. 40 06 00 Pipe and Fittings
        iv. 40 91 00 Process Control and Instrumentation Systems
        v. 40 95 10 PLC Based Control System Hardware
        vi. 41 70 10 Activated Carbon Odor Control System
        vii. 43 24 15 Axial Flow Pumps
        viii. 43 25 08 Submersible Solids-Handling Pumps for Waste Activated Sludge
        ix. 43 25 20 Headworks Booster Pump Skid
        x. 43 52 07 Davit Cranes
        xi. 32 84 23 Irrigation
        xii. 32 94 23 Planting
    h. Modifications to Process Mech Design

Please acknowledge this clarification on your bid proposal.

If you have any questions or wish to discuss further, please give me a call or send an e-mail.

Val Martin
Project Manager

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RFI #7

1. Sheet 05 CU 101 shows a purple 24" SD pipe without a material call out. Is all or part of this pipe to be provided under this contract? (manhole will be provided per note 46)

This pipe is existing and is not to be provided under this contract. This will be clarified in the 100% design drawings.

2. For the construction drawings please denote a change of material type with a material change flag for clarity. See 05 CU 101 (see notes 40,47)

This will be clarified in the 100% design drawings.

3. Civil sheet keynotes do not all seem to apply to the page where they appear, for clarity please remove (or indicate) notes that do not apply from each page. (IE Sheet 05 CU 101 note4 calls for a fire hydrant but the location cannot be found on this page, please indicate the correct location for this hydrant- -Especially since keynotes are used for more than one location they should only appear on pages where the note applies)

We will consider this request for the 100% design drawings.

4. Cathodic protection of underground ferrous systems is not shown. Will cathodic protection be required, please specify. (Specification 21 11 13, page 14, note 3.3E indicates anodes will be provided on buried service valves on non-ferrous systems, please provide a specification and an installation detail.)

DI pipe and fittings will need to be polywrapped, but full cathodic protection is not required. That said, the City would like to see an optional adder for cathodic protection as part of the GMP deliverable so they can make a final decision regarding CP.

5 The specifications call for both rubber adjustable seals and self-adjusting UHMWPE seals. (Ref. spec. sections 2.2-D-3, 2.2-D-5 and 2.6. Because of the significant different in price (and quality), having both in the same specification will essentially eliminate the suppliers that provide self-adjusting UHMWPE designs (by way of price). All suppliers listed have some version of a self-adjusting UHMWPE seal (superior to a rubber seal) and many manufacturers no longer provide the rubber seals due to the quality issues. Only one or two manufacturers listed will still offer the adjustable rubber seals. If the rubber seals are acceptable to the owner then it is understood, however most plants do not allow the rubber seals primarily due to the quality, short life span and operational issues.

UHMWPE is designed for ½ the leakage rate of AWWA C561 (.05 gpm), is more durable, is breakaway and the operation has a friction factor of .2 (compared to rubber with a breakaway of about 1 and travel at about .7). There are no glued joints, less UV impact and has a greater range of chemical resistance. The self-adjusting, UHMWPE design has now become the industry standard due to these advantages in addition to eliminate the need to shut off or bypass the flow for isolating the gate to make adjustments.

For these reasons, we ask that any reference to rubber and adjustable seals be removed from this specification in order to provide the industry standard and superior gate design.

The design will be based on UHMWPE ONLY. The design documents will be updated to eliminate the J-bulb option for gate seals.

6 Does the city have a Fire Alarm service, manufacturer, or contractor they use?

6A Same with security.

The Owner does not have a dedicated fire alarm or security.

7 Are the two chemical pull boxes found on page 340 of 350 required to be coated with chemical resistant coatings? Other projects have required them to be coated.

Yes, the chemical pull boxes are to be coated. The chemical piping is part of the liquid alum system. Per the coating schedule in Section 09 96 00.3.22 Coating System Schedule Concrete Surfaces of Chemical Secondary Containment, these should be System 211.

RFI #11

On sheet 20-S-411 keynote 9 indicates the supports under the grating on the splitter box to be W10X26 stainless steel beams, however the sectional view on 20-S-501 indicates the framing as aluminum.

Can you please clarify this?

Framing will be aluminum - see revised drawing. 20-S-411

RFI#12

On sheet 05-E-601 it calls for 4–350kcmil wires and 1–3/0 ground to be placed in each conduit between transformer 10-XFMR-01 and Main Disconnect 10-DISC-01. The one-line drawing lists that the Main disconnect and MCC are 3-wire. Is there a need for the 3/0 ground wire as the grounded conductor will be generated in the Main Disconnect?

The ground wire is not required between the transformer and disconnect switch. This will be revised in the 100% Design drawings.

2. Conduit 10-P-01A Calls for 4-350kcmil conductors. Conduits 10-P-01B thru D call for 3-350kcmil conductors as they are parallel runs with each other, which is correct?

10-P-01A should be 3 conductors not 4. This will be revised in the 100% Design drawings.

3. On sheet 05-E-601 it calls for 4–500kcmil wires and 1–250kcmil ground to be placed in each conduit between transformer 35-XFMR-01 and Main Disconnect 35-DISC-01. The one-line drawing lists that the Main disconnect and MCC are 3-wire. Is there a need for the 250kcmil ground wire as the grounded conductor will be generated in the Main Disconnect?

The ground wire is not required between the transformer and disconnect switch. This will be revised in the 100% Design drawings.

4.On sheet 05-E-601 conduit 35-P-01A thru 01F calls for 34-500kcmil conductors. Should it be 3 or 4?

It should be 3#500kcmil not 34. This will be revised in the 100% Design drawings.

5. On sheet 05-E-601 it calls for 4–500kcmil wires and 1–4/0 ground to be placed in each conduit between transformer 35-XFMR-02 and Main Disconnect 35-DISC-02. The one-line drawing lists that the Main disconnect and MCC are 3-wire. Is there a need for the 4/0 ground wire as the grounded conductor will be generated in the Main Disconnect?

The ground wire is not required between the transformer and disconnect switch. This will be revised in the 100% Design drawings.

6. On sheet 05-E-601 it calls for 4–350kcmil wires and 1–1/0 ground to be placed in each conduit between transformer 50-XFMR-01 and Main Disconnect 50-DISC-02. The one-line drawing lists that the Main disconnect and MCC are 3-wire. Is there a need for the 1/0 ground wire as the grounded conductor will be generated in the Main Disconnect?

The ground wire is not required between the transformer and disconnect switch. This will be revised in the 100% Design drawings.

7. On Sheet 05-E-001 it calls for a 600amp disconnect to feed the generator switchgear panel. The feeder conductors are 1 set of 350kcmil feeding that breaker. 350kcmil wire is listed at 310 Amps. Panel 05-LP-01 is rated at 600-amp buss and 400-amp trip unit. Should there be 2 runs of 350kcmil run for this panel?

There should be 2 conduits from the transformer to the disconnect and 2 from the disconnect to the panelboard. These should be 3" w/ 3-350KCMIL from the transformer to the disconnect and 3" w/ 3-350KCMIL & 1#4 gnd from the disconnect to the panelboard. This will be revised in the 100% Design drawings.

8. On Sheet 50-E-407 it shows a disconnect for the 50-EF-3 but on the one line it does not show it.

The disconnect for EF-03 is not necessary. This will be revised in the 100% Design drawings.

On Sheet 50-E-403 it does not show the 50-UH-02 but it does show it in the structure drawing.

50-UH-02 should be shown in the same location is indicated on drawing 50-M-101 and will be added to drawing. This will be revised in the 100% Design drawings.

RFI #16

1. On sheet 10-P-101: There is a Trench Drain (TD_1) shown but it is not included on sheet 10-P-601 Headworks plumbing fixture schedule. is this trench drain poured in place by the GC? Or do we need to account for it as a TD-1 fixture that is included in the MRB Support Bld. Schedule (Sheet 35-P601) see attached PDF.

This trench drain should have been included in the 10-P-601 Plumbing Fixture Schedule. It shall be the same as the trench drain shown on 35-P-101. This will be clarified in the 100% design drawings

2. There are pipe annotations throughout the drawings that do not reference the specifications, any piping schedule or matrix that is included in the bid documents. See attached PDF for examples

   These pipe annotations will be clarified in the 100% design drawings.

3. The gas line in the headworks building is noted "SS0?" does this denote Stainless steel piping? If so, can a specification be made available? Please advise.

   These shall be SS02 (316 stainless steel 10 ga). This typo will be corrected in the 100% design drawings.

4. There are multiple "PV" notes on the Sanitary and rainwater drainage systems, IE: PV02-PV07- PV08. The plumbing specifications call for both of these systems to be standard weight DWV schedule 40 solid core PVC ASTM F 1488 piping (unless located in air plenums). Is there a delineation between PV07 & PV08? Please advise.

   All roof drain (RWO & RWL) and sanitary sewer (SAN) except in air plenums and penetrating the roof is to be PV08 (PVC Sch 40 DWV). The difference is that PV08 show to be DWV pipe where PV07 does not. PV02 (CPVC Sch 80) is only to be used for domestic water in the MBR Support Chemical Storage Room and for water heater vents (shown in the details and M-sheets). These will be clarified in the 100% design drawings.

RFI #17

1.From the meeting notes, #3 comment from Tom Copper with Spanish Fork Power & Light talks about decorative streetlights along 200 East. Is there a drawing showing the quantity of light poles and locations so the contractor can provide the items we are responsible for per the note?

The lights and conduits have been added to the revised area 05 plans. Reference subsequent RFI for updated electrical drawings.

2. Spec section 26 05 43 3.2 A.6 states “Accomplish changes in direction of the duct envelope by more than 10 degrees horizontally or vertically by using bends with a minimum radius 24 times the duct diameter.” Is this referring to field bends using Sch. 40 PVC bent in the field or are these bends required to be made using factory GRC or PVC CTD GRC 90 degree elbows?

This is referring to field bends not factory elbows.

3. Spec section 26 05 43 3.2 A.8 states “Provie select backfill or sand for the trench.” Is this requirement for the entire depth of the ductbank trench or just around the conduits? Can we use select backfill or sand for backfill around the conduits and then use native soil for the remainder of backfill in the trench.

Select backfill or sand is to be provided around the conduits and at least 6" below, on both sides, and above the top most layer of conduits. The backfill above this area can be native soil per the Design Contract.

Please confirm that the ductbanks do not need to be concrete encased.

Duct banks do not need to be concrete encased.

The drawings and specifications require that we match the existing gear in Area 70 for the new work that needs to be done in this area. Please provide information of existing gear so that we can quote the appropriate gear to match, i.e. manufacturer, part numbers etc.

VFD is an ABB ACS880 series provided by QES. The CM/GC to provide any additional information as they are the contractor on that work as well.

Please confirm that the location of the Existing Plant Fiber Panel that the (2) fiber optic conduits 05-S-01A & 05-S-01B shown coming from MBR BLDG Fiber Panel 35-FPP-1 on drawing 05-E-602 is next to the exiting Utility Switch SG169 shown on drawing 05-E-104.

The city will install the main fiber trunk lines from off site to the network cabinet in the MBR support building. Conduits 05-S-01A and 05-S-01B will be changed to "2" Conduit Only". This will be revised in the 100% Design drawings.

7. Drawing 10-I-609, sheet keynote 13 states “Solenoid valve to be equipped with manual override via HOA.” This keynote is also located inside the dashed lines of the Fine Screen Skid. Will the electrical contractor be required to provide and install a separate HOA for this application or will it come installed on the vendor furnished skid?

The solenoid control is a vendor furnished item within the vendor control panel. No separate HOA LCS is required. Reference Sheet 10-I-609 Fine Drum Screen VCP (10-VCP-xxxx) for hand switch operation. This will be clarified in the 100% Design drawings.

RFI #18

The A drawings call out heat trace for the roof drains for the Headworks Bld, MBR Support Bld. And the UV Bld. and state to "refer to electrical drawings for more information." There does not appear to be any circuits for this heat trace or any additional information in the electrical drawings. Please clarify.

Roof drains will not be heat traced.

2. The D drawings call for heat trace of all exposed piping at the Odor Control Area of the Headworks and there are two circuits designated for this shown in the electrical drawings. The D drawings for the BNR and MBR process areas call for heat trace for all above grade UW piping. The electrical conduit development plans indicate two circuits for heat trace receptacles fed from panel 35-LP-01. Are these heat trace circuits to be circuits #24 and #26? Please clarify.

Only one circuit is required for heat trace at the odor control. The second circuit will be removed. Heat trace of UW lines at the MBR and BNR facilities has been removed. This will be clarified in the 100% design drawings.

3 Is there any other heat trace required either for process piping or for gutters of buildings? Please clarify.

There will be a short run of heat tracing for some exposed chemical piping at the MBR basins. No additional heat trace is anticipated in the design. This will be revised in the 100% design drawings.

RFI #20

Section 40 91 02 requires mag meters to have stainless steel flanges. Suppliers feel that CS flanges are adequate for this application and will save some cost. Are the SS flanges necessary?

The recommendation is SS flanges as a design standard, but CS flanges can be considered for instruments located indoors, NOT in hazardous or below grade locations, and NOT subject to chemical splash. Please provide break-out cost to compare SS vs CS flanges for mag meters. This can be a selection item for the Owner.

RFI #22

1. Bid clarification #1 indicates that the design approach is based on hot dipped galvanized steel for all joists, not painted steel. However, the finish schedule in the architectural section of the drawings indicated that the decking and joists ceilings in all the buildings are to be painted P-3 and P-5. I am still confused. Are the joists and decking required to be finished painted per the finish schedule or, since they are galvanized they are to be left exposed?

The design approach remains unchanged (i.e., hot dipped galvanized for steel joists and decking). The architectural schedules have been revised to eliminate the conflicting information.

2. Bid clarification #1 indicates that the curb height could be identified in Section 3 on Sheet 35-S-502. The drawing I have only indicates that the curb height varies. I did look in the mech drawings but I had to scale to get the height. It would be useful if top of wall was indicated on drawing 35-S-401.

   The curb heights are 6-inches at the sodium hypochlorite containment and 14-inches at the citric acid containment. Additional clarification can be provided in the 100% Design drawings.

3. Bid clarification # 1 indicates that system 213 be used in the liquid alum floor area only. I would like clarification that the liquid alum floor area is all the floor area in the chemical room with the exception of the curbed containment areas for citric acid, and sodium hypochlorite. This would be the majority of the floor in front of the O/H door and on both sides of the floor drains.

   Correct, System 213 is to be used on all the floor area except within the curbed containment areas for citric acid and sodium hypochlorite. This is the liquid alum spill area. A fork lift will be used to replace sodium hypochlorite totes. This floor coating system must be capable of the high loading traffic.

4. The chemical fill area was excluded from being coated in bid clarification #1. This does not make sense, since the probability of spills are highest while connecting to fill the alum and citric acid tanks. On other projects those areas were protected. The cost to protect those areas are minimal.

   The chemical fill containment boxes shall also be coated. This will be clarified in the 100% Design drawings.

RFI #23 Structural Design Progression – Please See Attached

RFI #24 Site Civil & Site Utilities Progression – Please See Attached

RFI #25 Architectural Schedule Updates – Please See Attached

RFI #26 Revised Electrical Drawings – Please See Attached

RFI #27 HVAC/Mech Design Progression – Please See Attached

RFI #28 I&C Design Progression – Please See Attached

RFI #29 Tech Specs and Pipe Schedule Progression – Please See Attached

RFI #30 Process Mechanical Progression – Please See Attached