MAYOR JIM GRAY

LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

ADDENDUM #1

Bid Number: **#48-2016**

Date: April 18, 2016

Subject: West Hickman Wet Weather Storage

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

1. **SPECIFICATIONS**

   A. SPECIFICATION SECTION 00100 – ADVERISEMENT FOR BIDS

   For clarification purposes:

   A mandatory pre-Bid meeting will be held at **10:00 a.m.** local time, **May 10, 2016** at the LFUCG Division of Water Quality, 125 Lisle Industrial Avenue, Suite 180, Lexington, KY 40511. There will be a site visit to West Hickman Wastewater Treatment Plant.

   B. SPECIFICATION SECTION 00300 – INFORMATION AVAILABLE TO BIDDER

   Revise the title of Paragraph 1.27 from "Buy American Provisions" to "American Iron and Steel Provisions".

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Judy Construction Company

ADDRESS: 103 S. Church Street, Cynthiana, KY 41031

SIGNATURE OF BIDDER: _____

Steve Judy

MAYOR JIM GRAY

LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

ADDENDUM #2

Bid Number: **#48-2016**

Date: April 29, 2016

Subject: West Hickman Wet Weather Storage

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

	Questions	Answers
1	I'd appreciate your consideration for listing Midwestern Fabricators as an approved supplier of FRP ductwork. We have a lot of installations throughout KY and even in Lexington. In 2015, we supplied FRP ductwork for the LFUCG Town Branch WWTP Solids Processing Improvements project. I'd also appreciate your consideration for listing KWS as an approved supplier for screw conveyors. We do not have any LFUCG installations but we do have an installation very close in Nicholasville, KY at the Jessamine Creek WWTP.	No new manufacturers or suppliers will be considered during bidding. Or equals products will be evaluated during shop drawings. Any products evaluated during the shop drawing phase which do not meet the specifications will be rejected. The equipment manufacturers identified in the Equipment Manufacturer List are the only equipment manufacturers/suppliers to be considered in the Bid. There are and will be no "or other equals" considered during the bidding phase for these equipment items. The Contractor may select any of the listed manufacturers for each item and must circle the selected manufacturer for each item at the time of the Bid submission.
2	What are the conditions at the 60" plug valve, pressure and flow rate? I believe this valve was originally going to be a 54" PV and I wondered why it was changed.	The 60-inch plug valve will have a maximum flow rate of 80 MGD. The maximum operating pressure on the tank side of the 60-inch plug valve will be 30 PSI. The maximum operating pressure on headworks side of the 60-inch plug valve is 70 PSI.

3	Where is the panelboard directory for "H1B"?	Refer to Addendum 2 Sheet E-4608. It is a 42KAIC, 100 amp MCB, 42 circuit, NEMA-4X Stainless Steel, with one 3-pole 30 amp branch breaker and thirteen 3-pole 20 amp breakers to serve the loads shown on E-2101.
4	What size breaker should be in panelboard "H1A"?	Refer to Addendum 2 Sheet E-4607. H1A is to be a 200 amp main lug only panel. Branch breaker serving H1B is to be 100 amp, not 20 amp as shown.
5	Where is the panelboard directory "H1C"? It is not shown on the single line diagram on sheet E-4603 also.	Refer to Addendum 2 Sheet E-4608. It is a 100 amp MCB, 42KAIC, 42 circuit, NEMA-1, with one 3-pole 80 amp branch breaker, two 3-pole, 40 amps breakers and eleven 3-pole 20 amp breakers to serve the loads shown on E-7111.
6	Where are the 600 Amp A.T.S.'s located on drawing E-1111 that feeds Panels "H1" and "H2"?	Located on the East wall of the main electric room. See Addendum 2 Sheet E-1111.
7	Panelboard directories "L1A", "L2A" and "L1C" on sheet E-4608 are duplicated on sheet E-4609.	"L1A", "L2A", and "L1C" as shown on Sheet E-4609. Refer to Addendum 2 Sheet E-4608 for modifications.
8	On sheets E-4603 and E-4604 there is a Bridge Crane #1 and #2 shown being fed from Panel "H1A"and "H2A". Panel "H1A"s or "H2A" directories do not have a listing for Bridge Crane #1 or #2. Where are Bridge Crane #1 & #2 and is it fed from Panel "H1A"? Is it fed from a Starter or Combination Disconnect/Starter?	Bridge cranes are to be served from H1A and H1B, provide 3-pole 20 amp breaker in each panel for cranes. Cranes come with starters, provide N-4X stainless steel 30 amp disconnects only. See Addendum 2 Sheet E-4608.
9	Is the depiction of a draw out breaker removal crane required for Switchboards "1A & 1B" and "2A & 2B"?	Yes they are required.
10	On sheets E-4603 and E-4604, SWBD-1A and SWBD-2A are shown as 65kaic while SWBD-1B and SWBD-2B are shown as 100kaic. Which is correct?	100KAIC is correct, Refer to Addendum 2 Sheets E-4603 and E-4604.
11	On sheet E-4605, MCC-1A should show section 2A as breaker on the elevation drawings. Also, section 4A should be changed from FVNR to FVR.	Refer to modifications on Addendum 2 Sheet E-4605.

12	On sheet E-4605, MCC-1B shows a VFD in section 2J, but it is not shown in the One Line drawing. Is it required? Also, section 4A should be changed from FVNR to FVR.	2J is to be a blank for future use, 4A is to be FVR, refer to Addendum 2 Sheet E-4605.
13	On sheet E-4605, what are the sizes of the breakers in MCC-1A sections 5E, 5G and 5I? They are not shown in the One Line drawings.	Provide as 20 amp 3-pole, refer to Addendum 2 Sheet E-4605.
14	On sheet E-4605, what are the sizes of the breakers in MCC-1B section 1A and 1I? They are not shown in the One Line drawings.	Provide as 20 amp 3-pole, refer to Addendum 2 Sheet E-4605.
15	Are the 800 HP, 4160V, 3 Phase pump cables intended to run to the VFD's unbroken, or are they to be spliced in a junction box? If spliced, what is the engineer's preference of the M.V. cable?	They are to be spliced. Use MV-105/5KV, copper, copper tape shield, 133%. See Addendum 2.
16	The sump pumps in WWS Pump Station Wet Well are specified in 11312. There is not any entry for controls of these sump pumps in 11312. Sheet E-1103 calls for these pumps to be fed from panels "H1"- 7, 9, 11 and "H2" - 11, 13, 15. I cannot find any starters or control schematics for these 5 HP, 480V, 3 Phase pumps. Please advise.	These pumps are to be served off MCC-1A and MCC-1B and are listed as 7.5HP WWS TANK SUMP PUMP #1 and #2. Change to 5HP, See Addendum 2 Sheet E-4605. They are to have local off remote switch on MCC and SCADA on/off in remote mode with ON/OFF feedback and amp draw to SCADA.
17	On sheet E-4605, there are (2) two sump pumps shown in MCC-1A listed at 3 HP. There are (2) two sump pumps in MCC-1B listed at 3 HP. Where are all of these sump pumps located? MCC-1A (Influent PS Pump #1 Sump and WWS PS Pump #1 Sump). MCC-1B (Influent PS Pump #2 Sump and WWS PS Pump #2 Sump).	Refer to Addendum 2 Sheet E-4605 for updated Load Calculations.
18	The contract documents give us 24 months to build this project. After our initial review, we feel this is 36 month project. Will you consider adding 12 months to the duration of the project?	The Contract Period as specified will stand.
19	Section 00100-4 tells us the contractor will be held liable for any financial penalties incurred by the owner if the project is not complete on time. Is this penalty outside of the detailed liquidated damages?	Yes, the penalty is outside of the liquidated damages.

	If the penalty is outside the liquidated damages, how much will it be per day? Could it be $1,000.00, $5,000.00, $10,000.00 or even higher per day?	West Hickman WWS is a LFUCG Consent Decree project. Following is language from the Consent Decree with respect to stipulated penalties for failure to complete this project on schedule. For each day LFUCG fails to timely complete projects required in Section VII of the Consent Decree (compliance Requirements Relating to Sanitary Sewer System) in accordance with the schedule set forth in the Consent Decree or in an approved compliance program, LFUCG may be assessed stipulated penalties for each such project as follows: Period beyond Completion Date — Penalty per Violation per Day 1-30 days — $1,000.00 31-60 days — $1,500.00 61-120 days — $2,000.00 More than 120 days — $3,000.00 In addition, for the circumstances described below, LFUCG may be assessed stipulated penalties as specified below: (i) For any recurring SSO that occurs at a location identified on Appendix A for which a project has been identified to eliminate the Recurring SSO under a Capital Improvement Project of the Sanitary Sewer System and WWTP Remedial Measures Plan after the SSO elimination

		deadline specified for the location, $1,000 per SSO of less than 5,000 gallons, $2,000 per SSO of 5,000 gallons to 100,000 gallons, $5,000 per SSO of more than 100,000 gallons. **There are no Appendix A SSO's related to this project.** (ii) For wet weather Unpermitted Bypasses at the WWTPs, $3,000 per bypass occurring after the deadline established for eliminating such bypasses under the Sanitary Sewer System and WWTP Remedial Measures Plan. (iii) For any other violation of Section VII of this Decree, $500 per day per violation.
20	Panel "H1" is to feed the Bar Screen Control Panel for Bar Screens #2 & #4. Panel H"2" is to feed the Bar Screen Control Panel for Bar Screens #1 & #3. Per specifications 11330, there are (2) two Control Panels being provided. One for Bar Screens #2 & #4 and one for Bar Screens #1 & #3. On sheet E-4607, Panels "H1" and "H2" have (2) two breakers to feed individual panels. These should be combined into (1) one breaker per panelboard.	See Addendum 2 Sheet E-4607
21	Sheet E-4603 shows 1" Conduit with 3 #6, 1 #10g feeding Bar Screen Control Panel #1/2. Sheet E-4604 shows ¾" Conduit with 3 #10, 1 #10g feeding Bar Screen Control Panel #3/4. Which is correct?	The run is 3#6, 1#10G in 1"C, see Addendum 2 Sheet E-4604.
22	On sheet E-1104, what does the symbol "L within a Square" designate on the Check Valves with a 2 conductor #14 awg T.S.P. going to CP-100?	The "L within a square" designates a Limit Switch, see Addendum 2 Sheet E-0001.
23	Can digital ("CAD") files of the project, specifically those showing the "civil" work be provided to contractors pre-bid? An answer to this question, and the availability of these files (if allowed) should be made as soon as possible allowing early estimating work, since receipt of this information after the pre-	No digital CAD files will be provided during bidding. Digital files will be provided to the Contractor once the project has been awarded.

	bid meeting on 5/10/16, or in a later addendum closer to the bid date makes the information gained probably too late for estimating purposes under the bidding time frame.	

1. DRAWINGS

A. DRAWING C-0602

Replace the sheet C-0602 in the bid set with the attached drawing. No piping changes were made to the drawing. The pavement and buildings did not shown up on the original drawing, this has been corrected with this Addendum.

B. DRAWING E-0001

Replace the sheet E-0001 in the bid set with the attached drawing. See clouded areas for changes.

C. DRAWING E-1103

Replace the sheet E-1103 in the bid set with the attached drawing. See clouded areas for changes.

D. DRAWING E-1111

Replace the sheet E-1111 in the bid set with the attached drawing. See clouded areas for changes.

E. DRAWING E-4603

Replace the sheet E-4603 in the bid set with the attached drawing. See clouded areas for changes.

F. DRAWING E-4604

Replace the sheet E-4604 in the bid set with the attached drawing. See clouded areas for changes.

G. DRAWING E-4605

Replace the sheet E-4605 in the bid set with the attached drawing. See clouded areas for changes.

H. DRAWING E-4607

Replace the sheet E4607 in the bid set with the attached drawing. See clouded areas for changes.

I. DRAWING E-4608

Replace the sheet E-4608 in the bid set with the attached drawing. See clouded areas for changes.

2. SPECIFICATIONS

A. SPECIFICATION SECTION 00300 – INFORMATION AVAILABLE TO BIDDERS

Add the following after Article 1.27:

"1.28 SUBMITTAL OF QUESTIONS

All bidding questions on the project shall be submitted through Lexington – Fayette Urban County Government's economic engine website. No questions shall be submitted directly to the Engineer. The LFUCG economic engineer website is https://lfucg.economicengine.com."

B. SPECIFICATION SECTION 00410 – BID FORM

In Article 1.04 Bid Form, Item No. 3 Allowance: ControlTouch SCADA Integration, insert a unit price of $107,744.00.

Note: An updated Bid Schedule will be provided in a later addendum.

C. SPECIFICATION SECTION 01210 – ALLOWANCES

Replace Article 1.01 (C) (2) with the following:

"2. Control Touch SCADA Integration- $107,744.00"

D. SPECIFICATION SECTION 11295 – INTERIOR PROCESS VALVES

Replace Article 2.03 H with the following:

"H. The valves will be DeZurik (APCO) 6000 Series BMB F1, Golden-Anderson Industries, Inc. Fig. No. 250-DOC, 125# or equal, unless otherwise noted. Valves shall be drilled per ANSI B16.1 250 lb when located on a line with piping greater than 125 psi requirements.

E. SPECIFICATION SECTION 16120 – CONDUCTORS AND CABLES

Add the following after Article 1.02:

"1.03 REFERENCES

"A. The following references shall apply:

1. Association of Edison Illuminating Companies (AEIC):
   a. CS 8, Specification for Extruded Dielectric Shielded Power Cables Rated 5 kV through 46 kV.
2. Institute of Electrical and Electronics Engineers, Inc. (IEEE):
   a. 48, Standard Test Procedures and Requirements for High-Voltage Alternating-Current Cable Terminations 2.5 kV through 765 kV
   b. 386, Separable Insulated Connector Systems for Power Distribution Systems Above 600V.
   c. 404, Standard for Extruded And Laminated Dielectric Shielded Cable Joints Rated 2500 V to 500000 V.
3. National Electrical Manufacturers' Association (NEMA):
   a. CC 1, Electric Power Connectors for Substations.
   b. WC 71, Standard for Nonshielded Cables Rated 2001-5000 Volts for Use in the Distribution of Electric Energy.
   c. WC 74, 5-46 kV Shielded Power Cable for Use in the Transmission and Distribution of Electric Energy."

Add the following after Article 2.01 B:

"C. Conductors above 600 Volts

1. EPR Insulated Cable, Extrusion: Single-pass, triple-tandem, of conductor screen, insulation, and insulation screen.
2. Type: 5 kV and 15 kV, shielded, UL 1072, Type MV-105.
3. Conductors: Copper, concentric lay Class B round stranded in accordance with ASTM B3, ASTM B8, and ASTM B263/B496.
4. Strand Fill: Waterproof strand compound enclosing all conductors.
5. Conductor Screen: Extruded, semiconducting ethylene-propylene rubber in accordance with NEMA WC 71 and AEIC CS 6.
6. Insulation: 133 percent insulation level, ethylene-propylene rubber (EPR), containing no polyethylene in accordance with NEMA WC 71, and AEIC CS 6/8.
7. Insulation Thickness: 115-mil for 5 kV, nominal. 220-mil for 15 kV, nominal.
8. Insulation Screen: Thermosetting, semiconducting ethylene-propylene rubber (EPR), extruded directly over insulation in accordance with NEMA WC 74 and AEIC CS 6/8.
9. Metallic Shield: Uncoated, 5-mil, copper shielding tape, helically applied with 12-1/2 percent minimum overlap.

10. Jacket: Sunlight resistant extruded polyvinyl chloride (PVC) compound applied in accordance with NEMA WC 71 or NEMA WC 74
11. Operating Temperature: 105 degrees C continuous normal operations, 130 degrees C emergency operating conditions, and 250 degrees C short-circuit conditions.
12. Manufacturers:
    a. Okonite Co.
    b. Pirelli Wire and Cable.
    c. General Cable.
    d. Southwire Co.
    e. Kerite

2.03 Accessories for Conductors above 600 Volts

A. There are 2 types of interface systems within the treatment plant (Large and Small). Provide accessories that match interfaces of owner furnished transformers.

B. Elbow Connector Systems:
1. Molded, peroxide-cured, EPDM-insulated, Class 5 kV and 15 kV, 150 kV BIL, 200A, 10,000A rms load-break elbows having copper current-carrying parts in accordance with IEEE 386.
2. Protective Caps: Class 5 kV and 15 kV, 150 kV BIL, 200 amperes, with molded EPDM insulated body.
3. Insulated Standoff Bushings: Class 5 kV and 15 kV, 150 kV BIL, 200 amperes, complete with EPDM rubber body, stainless steel eyebolt with brass pressure foot, and stainless steel base bracket.
4. Bushing Inserts: Class 5 kV and 15 kV, 150 kV BIL, 200A, load-break with EPDM rubber body and all-copper, current-carrying parts.
5. Mounting Plates: Two-way, ASTM A167 stainless steel, complete with universal mounting brackets, grounding lugs and two parking stands.
6. Manufacturers:
    a. Cooper Industries.
    b. Elastimold.

C. Molded Splice Kits:

1. Components necessary to provide insulation, metallic shielding and grounding systems, and overall jacket.
2. Capable of making splices with a current rating equal to, or greater than the cable ampacity, conforming to IEEE 404.
3. Class 5 kV and 15 kV, with compression connector, EPDM molded semiconductive insert, peroxide-cured EPDM insulation, and EPDM molded semiconductive outer shield.
4. Premolded splice shall be rejacketed with a heat shrinkable adhesive-lined sleeve to provide a waterproof seal.
5. Manufacturers:
    a. Elastimold.
    b. Cooper Industries.

D. Heat Shrinkable Splice Kits:

1. Components necessary to provide insulation, metallic shielding and grounding systems, and overall jacket.
2. Capable of making splices with a current rating equal to, or greater than the cable ampacity, conforming to IEEE 404.
3. Class 5 kV and 15 kV, with compression connector, splice insulating and conducting sleeves, stress-relief materials, shielding braid and mesh, and abrasion-resistant heat shrinkable adhesive-lined rejacketing sleeve to provide a waterproof seal.
4. Manufacturers:
   a. Raychem.
   b. 3M Co.

E. Termination Kits:

1. Capable of terminating 5 kV and 15 kV, single-conductor, polymeric-insulated cables plus a shield ground clamp.
2. Capable of producing a termination with a current rating equal to, or greater than, the cable ampacity, meeting Class I requirements of IEEE48.
3. Capable of accommodating any form of cable shielding or construction without the need for special adapters or accessories.
4. Manufacturers:
   a. Raychem.
   b. 3M Co.

F. Bus Connection Insulation:

1. Heat shrinkable tubing, tape, and sheets of flexible cross-linked polymeric material formulated for high dielectric strength.
2. Tape and sheet products to have coating to prevent adhesion to metal surfaces.
3. Manufacturer: Raychem.

G. Cable Lugs:

1. In accordance with NEMA CCI.
2. Rated 5 kV and 15 kV of same material as conductor metal.
3. Manufacturers and Products, Uninsulated Compression Connectors and Terminators:
   a. Burndy; Hydent.
   b. Thomas & Betts; Color-Keyed.
   c. ILSCO.
4. Manufacturers and Products, Uninsulated, Bolted, Two-Way Connectors and Terminators:
   a. Thomas & Betts; Locktite.
   b. ILSCO.

2.04 Source Quality Control

A. Conductors 600 Volts and Below: Test in accordance with UL 44 and UL 854.

B. Conductors Above 600 Volts: Test in accordance with NEMA WC 71 and AEIC CS 6/8 partial discharge level test for EPR insulated cable.

C. Conductors Above 600 Volts: Apply general purpose, flame retardant tape at each end, and at accessible locations wrapped at least six full overlapping turns, covering an area 1-1/2 inches to 2 inches wide.

1. Colors:
   a. Grounded Neutral: White.
   b. Phase A: Brown.
   c. Phase B: Orange.
   d. Phase C: Yellow."

F. SPECIFICATION SECTION APPENDIX E – ALLOWANCES: MANUFACTURER'S PROPOSALS

Add the Sole Source Firm Scope for ControlTouch to Appendix E.

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Judy Construction Company

ADDRESS: 103 S. Church Street, Cynthiana, KY 41031

SIGNATURE OF BIDDER: _____

MAYOR JIM GRAY

LEXINGTON

CHARLES MART N
DIRECTOR
WATER QUALITY

ADDENDUM #3

Bid Number: **#48-2016**

Date: May 9, 2016

Subject: West Hickman Wet Weather Storage

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

	Question	Answer
1	If one misses the mandatory RSVP does that exclude a potential contractor for pursuing a bid on this project?	The Pre-Bid meeting held on May 10, 2016 is mandatory for all General Contractors. In order for a General Contractor to submit a bid on the project to LFUCG, it is mandatory to attend the pre-bid meeting. It is not required for Subcontractors to attend.
2	Generator Specification 16620, Section 2.01 D. - Is Kohler an approved equal?	Per Section 00410 – Bid Form, Article 1.04 – Bid Schedule, Kohler is a listed manufacturer for generators.
3	Generator Specification 16620, 2.05 G. - what amperage is the specified Genset mounted breaker? Since this is a 4160V Genset will a breaker be required or just a connection cabinet?	Connection Cabinet only
4	Generator Specification 16620, Section 2.05 J Is the Kohler DEC6000 digital controller an approved equal?	No manufacturer or product will be evaluated as an approved equal during the bidding process.
5	Generator Specification 16620, section 2.06, A, 21. - Is a fuel cooler required? Will there be a fuel return to day tank or main tank? If so will it be gravity return or pump return.	Day tank is provided in the building. See Specification 15193 and drawings P-7101 and P-7601. Day tank is atmospheric vented, see P-7101 for location.
6	Generator Specification 16620, section 2.08, E - What wattage will be required for the JWH? How many JWH's will be required? Are pump driven circulation type JWH's required?	To be determined by the equipment manufacture to maintain engine at starting temperature with the ambient conditions listed in the specifications.

7	Generator Specification 16620, section 2.11, A - For the 72 Hour, UL142 main fuel tank, is the 72 Hours requirement at 100% load for both units? Who will be supplying the tank? Contractor or Genset manufacturer?	See Specification 15193 for fuel storage tank requirements and P-7601 for tank sizing. The determination what is supplied by who is the responsibility of the contractor.
8	Generator Specification 16620, section 2.11 D – see question 5 above.	Refer to specification 15193 for tank and pipe monitoring requirements.
9	Generator Specification 16620, section 2.11 E - What gallon / run time capacity are the day tanks? Will the day tanks be stand alone or sub-base? Will the supply pumps be on the main tank or day tanks? Will the return be directly into day tank or return to main tank?	Refer to Specification 15193 and Drawings P-7101 and P-7601 for fuel tank configuration.
10	Drawing G-0005, General Note 17 indicates 900 linear feet of chain link fence is to be installed. Please provide applicable specifications and illustrate the location of this fence on the plans.	The chain link fence shall be in accordance with the LFUCG Standard Details located in Appendix A. LFUCG Standard Detail 308 is a standard six foot chain link fence. Install three (3) rows of barb wire as shown on LFUCG Standard Detail 309. Location to be determined by LFUCG in the field.
11	Drawing C-0102 illustrated V-swales and Flat-bottom swales in the area of the storage tanks. Will ECB and/or TRM be required in these locations?	Per sheet G-0005, Earthwork, grading, stabilization paving and drainage Note 20 – "All ditches shall be armored with Erosion Control Blanket, unless otherwise noted on the drawings." Refer to sheet C-2102 for locations in the area of the storage tank where swales are to be armored with TRM or rip-rap. Also, refer to sheet C-1102 for channel armoring around the headworks facility.
12	Drawing G-0003 Permits. Item 2 indicates the Contractor shall obtain and pay cost associated with two LFUCG permits. As the project is located in Jessamine County, will these permits be required?	The Contractor is required to obtain all permits listed on Drawing G-0003 Permits Item 2, except for the LFUCG Land Disturbance Permit and the LFUCG Traffic Engineering Traffic Control or Lane Closure Permit. However, the Contractor will be responsible for obtaining all Jessamine County Permits listed on drawing G-0005 General Note 7. The Contractor must also comply with all requirements of the KYTC Encroachment Permit

		located in Section 00890, regarding lane closure and traffic control.
13	Section 02620, Item 2.01.B.6, indicates Reinforced Concrete Pipe (for storm utility piping) is to have a high-build protective lining on the interior surfaces. Is this correct?	Remove Article 2.01.B.6. Interior Lining – See Addendum 3.
14	Drawing S-8301, Section D, illustrates flowable fill as the backfill material for the proposed bridge. Section 02223, Item 2.01B, states the structure granular backfill for the bridge shall be crushed/uncrushed aggregate. Please clarify the correct backfill material for the bridge.	Backfill material for the proposed bridge shall be flowable fill as indicated on Drawing S-8301, Section D. Section 02223, Article 2.01.B. shall be replaced in the Specifications. See Addendum 3.
15	Section 02223, Item 2.01.C., indicates DGA backfill shall not be used within the 100-year floodplain. Section 02223, Item 3.02.C.3., indicates the backfill for the headworks structure shall be DGA. Please clarify the correct backfill material for the headworks structure that is within the 100-year floodplain.	See Addendum 3. The last sentence of Section 02223 – 2.01.C shall read "DGA backfill shall not be used within the 100-year floodplain if load bearing from structural foundations above". Note that any loadbearing backfill, even around structures, shall be lean concrete in accordance with the Specifications. DGA may be used as a non-structural backfill within the 100-year floodplain.
16	As stated in Section 01400, geotechnical\materials testing is paid for by the Owner. Drawing G-0005, Earthwork Note 9, indicates trench backfill compaction testing is paid for by the Contractor. Please clarify the party responsible for this testing. Additional, Section 02223, item 1.05.A, indicates the Contractor is to provide laboratory testing for fill materials. Please clarify the party responsible for this testing, as well.	Drawing G-0005, Earthwork Note 9 shall be updated to state "Plans and Specifications require that compacted backfill be placed along side of and over all utilities, compaction test as required by specification." Remove the sentence that states "the cost of such compaction shall be borne by the Contractor:" See Addendum 3. The Contractor shall be responsible for providing testing of offsite and on-site fill in accordance with Section 02223 Article 1.05.A.
17	Section 01025, Page 5, Item H, Item 8 is not included on the Bid Form, Page 00410 – 5 (and the numbering sequences there forward do not match).	See Addendum 3.
18	Per the bid documents, paved site restoration work will be measure and paid on a unit-price basis, in accordance with	Per section 01025, Item 18 – Paved Site Restoration: Roadway Shoulders:

	various items shown on Page 00410-5. With regard to Item 18, Roadway shoulders (7,000 LF: While the typical road section 1 and 2 shown on Drawing C-9003 illustrate various shoulder materials (gravel, sod), this bid item does not distinguish between them. Please provide additional bid items to address this issue or provide clarification.	"2. This item includes all material, equipment, labor, hauling, testing and incidentals required for the Contractor to restore the roadway shoulders with gravel as shown on Detail 3/C-9003 – Typical Road Section – Crowned for Existing Granular Base." Item No. 18 – Paved Site Restoration: Roadway Shoulders, shall only be applied to the portion of the roadway with existing gravel base. Details 1 and 2 shown on C-9003 apply to the new portions of roadway to be constructed by the Contractor, and shall be included in the base bid.
19	Section 00600, Page 16, Item 6, indicates $5,000,000 Profession Liability coverage is "as need for design/build" Please confirm this coverage is not required for this project. Additionally, Item 7 indicates $2,000,000/$5,000,000 coverages are required for Contractors Pollution, Asbestos Legal Liability. Please confirm these coverages are not required for this project.	All coverages listed are required.
20	Drawing C-0201 contains a note indicating the 100-year floodplain elevation is 888.6'. The geotechnical report, Page 2 of 36, indicated this elevation is 891.8'. Please clarify the correct elevation.	The correct floodplain elevation is as stated on sheet C-0201 and as indicated on Sheet V-0100.
21	Please provide applicable specifications for the glass block clerestory windows at the Headworks Building, as shown on Sheet A-1222.	No glass block on the clerestory windows will be used, insulated translucent fiberglass sandwich wall panels are specified. See Addendum 3 and Section 08452.
22	Sheets A-1221 and A-1222 refer to split face CMU\Color 1 and ground-face CMU \Color 2 for use at the Headworks Building, the Headworks Electrical Building and the Generator Building, as applicable. There is a considerable price difference between standard colors (gray, charcoal, buff, or chocolate) and non-standard colors. Please provide a bid allowance for the 2 colors of CMU, or confirm what colors need to be provided in our Bid.	See Addendum 3. Colors are to be selected by the Owner for the manufacturer's full range of standard colors.

23	With regard to the 15" HDPE subgrade drainage discharge lines (2) beneath the South Storage tank, and the 15" HDPE and 8" HDPE (2 each) running to daylight from the tank, please provide details for the intended pipe trenches in these configurations (typical sections. Showing trench widths, encasements, backfill materials, geotextiles etc.)	The 8" HDPE perimeter drain is perforated, the 8" HDPE shall be solid wall from the connection point with the 15" HDPE to daylight. The 15" HDPE is solid wall. The 15" HDPE shall be concrete encased underneath the tank. The pipes shall be backfilled in accordance with Appendix A – LFUCG standard details and Specification Section 02225 outside of the tank area. See Addendum 3.
24	On sheet E-9502 detail #6, the ground wire is shown as a #3/0 awg Tinned Copper (Typical) and on sheet E-1001, the ground wire for the Duct banks is shown as #1/0 awg Copper. Which is correct?	#1/0 awg bare copper is correct. See Addendum 3.
25	In Duckbank "C", there is a point where the Fiber Optics Cables is shown crossing a bridge. How are we to cross this area with the Medium Voltage conduit runs?	Sheet E-1001 the line type change to OE for overhead electrical at bridge. Fiber goes on bridge, medium voltage gets strung overhead see detail sheet E-9505.
26	On sheet E-1003, the lighting circuits are shown going to Panels "H1B" and "H1C". The conduit is shown as 2" conduit with 3 #10 awg. Is this correct? Also, on sheet E-4608, the panels do not	2" conduit is correct for ease of future pulls or repairs. Provide 20a 2-pole breaker in H1C and H1B for lights. See Addendum 3.
27	Our insurance agent has reviewed the Contract Documents, and has the following comments/questions on Specification 00600-14, Section 1.05. 1.05.B.2 Indemnification agreement as to Contractor's obligation for loss of use of damaged property conflicts with EJCDC 5.07 waiver of consequential damages. In our view, B.2. should have an exception for damage to the Work itself.	LFUCG will not adopt an association language. It stands by its own language.
28	Our insurance agent has reviewed the Contract Documents, and has the following comments/questions on Specification 00600-14, Section 1.05. 1.05.D.1.d - requires Earthquake and Flood Coverage in Builder's Risk coverage. As written, one interpretation is that this is a requirement for 100% EQ and 100% Flood. Is 100% coverage required?	Yes
29	Our insurance agent has reviewed the Contract Documents, and has the following comments/questions on Specification	Yes

	00600-14. Section 1.05. 1.05.D.2.e. - requires that General Liability coverage include pollution coverage unless Owner deems it not necessary. Does the Owner deem it necessary? There is separate pollution requirement in 1.05.B.7.	
30	On Sheet S-1133, there is a note on the supported slab deck at El. 916.00 that indicates a "Gas Tight Membrane" on the top and bottom side of the floor slab. The note indicates to refer to the specs with no spec section or further description. We performed a word search on all 3 volumes of specs for "gas tight membrane, gas tight and gas" and come up with no results. Nothing in Addendum #1 either. Please advise.	The gas-tight membrane is specified in Section 07271 Modified Bituminous Sheet Air Barriers.

1. DRAWINGS

A. DRAWING SHEET G-0003

Permit note 2, remove from the list of permits "LFUCG Land disturbance Permit" and "LFUCG Traffic Engineering, Traffic Control or Lane Closure Permit".

B. DRAWING SHEET G-0005

Earthwork, grading, stabilization, paving and drainage note 9 shall be replaced with the following:

"9. Plans and Specifications require that compacted backfill be placed along side of and over all utilities, compaction test as required by specification."

C. DRAWING SHEET C-2105

Add the following to the subgrade drainage plan:

- Add callout for 8" HDPE perimeter drain stating "8" perforated HDPE"
- Add callout for 8" HDPE from the 15" connection point to daylight stating "8" solid wall HDPE"
- Add callout for 15" HDPE stating "15" HDPE to be solid wall full length. 15" HDPE to be concrete encased under tank"
- Add note to the sheet which states "Unless otherwise noted, pipes to be backfilled in accordance with Specification Section 02225."

D. DRAWING SHEET D-0002

Bottom middle area of this sheet where the NPW supply is shown for Grit Tanks No. 1 and 2. Upstream of the isolation valve currently shown add another valve symbol (for manual flow control) and a flow

meter symbol.

E. DRAWING SHEET D-1141

Add Note 2 as follows:

2. INSTALL VALVES AND FLOW METER AT THE GRIT TANK FLUIDIZING NPW SUPPLY AS REQUIRED AND SUPPLIED BY GRIT SYSTEM SUPPLIER.

F. DRAWING SHEET A-1222

Replace keynote 29 with the following:

"4" TRANSLUCENT WALL PANEL SYSTEM IN THERMALLY BROKEN FRAME - REFER TO DETAIL 7/S-9504 FOR MASONRY LINTEL (TYP.)"

G. DRAWING SHEET A-1321

Replace Keynote 29 with the following:

"4" TRANSLUCENT WALL PANEL SYSTEM IN THERMALLY BROKEN FRAME - REFER TO DETAIL 7/S-9504 FOR MASONRY LINTEL (TYP.)"

H. DRAWING SHEET A-1121

Add the following sentence to Keynote 24:

"Field Color 1 & 2 shall be selected by Owner from manufacturer's full range of available standard colors."

I. DRAWING SHEET A-1123

Add the following sentence to Keynote 24:

"Field Color 1 & 2 shall be selected by Owner from manufacturer's full range of available standard colors."

J. DRAWING SHEET A-1132

Add the following sentence to Keynote 24:

"Field Color 1 & 2 shall be selected by Owner from manufacturer's full range of available standard colors."

K. DRAWING SHEET A-1221

Add the following sentence to Keynote 24 and 25:

"Field Color 1 & 2 shall be selected by Owner from manufacturer's full range of available standard colors."

L. DRAWING SHEET A-1222

Add the following sentence to Keynote 24 and 25:

"Field Color 1 & 2 shall be selected by Owner from manufacturer's full range of available standard colors."

M. DRAWING SHEET A-1321

Add the following sentence to Keynote 24:

"Field Color 1 & 2 shall be selected by Owner from manufacturer's full range of available standard colors."

N. DRAWING SHEET E-4608

Replace sheet E-4608 with the attached sheet.

O. DRAWING SHEET E-9502

On detail 6/E-9502, replace the note "3/0 tinned copper gnd wire (typ)" with the following:

"1/0 bare copper ground wire (typ.)"

2. SPECIFICATIONS

A. SPECIFICATION SECTION 00300 – INFORMATION AVAILABLE TO BIDDERS

Add the following after Article 1.28:

"1.29 SITE VISIT COORDINATION

All site visits to the West Hickman Wastewater Treatment Plant shall be coordinated with Mark Fischer, Division of Water Quality Project Manager, at mfischer@lexingtonky.gov. No site visits can be conducted without first coordinating with Mark Fischer."

B. SPECIFICATION SECTION 00300 – INFORMATION AVAILABLE TO BIDDERS

Add the following after Article 1.29:

"1.30 DIGITAL FILES

Digital CAD files of the grading only are available through Lynn Planroom. A Terms of Electronic File Transfer form must be signed by the Contractor and provided to Lynn prior to file download. The Terms of Electric File Transfer Form is attached. The cost of a download shall be $20.00."

C. SPECIFICATION SECTION 00410 – BID FORM

In Article 1.04 Bid Form, Item No. 2 Allowance: Eutek HeadCell Grit System, insert a unit price of $925,000.00.

Note: An updated Bid Schedule will be provided in a later addendum.

D. SPECIFICATION SECTION 01025 – MEASUREMENT AND PAYMENT

Article 1.05 – Pay Items, remove section 1.05.A.g. Structural Backfill -DGA, and reletter the following items.

Remove Article 1.05.H. – Item No. 8 – Structural Backfill –DGA. Renumber the following Item No. to match the Bid Form.

Note: A final Measurement and Payment Section will be released in a later addendum.

E. SPECIFICATION SECTION 01025 – MEASUREMENT AND PAYMENT

Article 1.05.R. – Paved Site Restoration: Roadway Shoulders (previously 1.05.S.)

1.05.R.2. The detail shall be 3/C-9003, instead of 3/C-9005.

Note: A final Measurement and Payment Section will be released in a later addendum.

F. SPECIFICATION SECTION 01210 – ALLOWANCES

Replace Article 1.01 (C) (1) with the following:

"1. Eutek Headcell Grit System- $925,000.00"

G. SPECIFICATION SECTION 02223 – STRUCTURAL FILL AND EMBANKMENT

Replace Article 2.01.B. with the following:

"Structural backfill for the bridge shall be flowable fill in accordance with Section 03300 – Cast-in-place."

H. SPECIFICATION SECTION 02223 – STRUCTURAL FILL AND EMBANKMENT

Article 2.01.C., the last sentence of the paragraph should read as follows:

"DGA backfill shall not be used within the 100-year floodplain if load bearing from structural foundations above".

I. SPECIFICATION SECTION 02620 – STORM UTILITY PIPING

Remove Article 2.01. B.6.

J. SPECIFICATION SECTION 11322 – DEGRITTING EQUIPMENT

Page 4, Paragraph 2.02. B. In subparagraphs 1, 2, and 3 Change "...minimum 700 Brinell..." to read "...minimum 650 Brinell...".

Page 12, Paragraph 3.03 E. Add the following sentence to the end of this paragraph:

"Vibration testing required shall be in accordance with the Hydraulics Institute Standards."

Page 14, Grit Washing and Classification Schedule.

Change the Design Flow / Headloss from "400 gpm / 65-inches" to read "400 gpm / 157-inches"

Change the Minimum Flow / Headloss from "350 gpm / 50-inches" to read "350 gpm / 120-inches"

Change the Maximum Flow / Headloss from "550 gpm / 124-inches" to read "550 gpm / 296-inches"

K. SPECIFICATION SECTION APPENDIX C – RMP STANDARD DETAILS

Add the following attached details to Appendix C – RMP Standard Detail:

House lateral for greater than 6' deep sewer in soil
Lateral connections to sanitary trunk sewers in 12-in and larger
Right of way or easement lateral cleanout in non-paved areas and yards
Manhole abandonment detail
Sewer line termination detail active manhole

L. SPECIFICATION SECTION APPENDIX E – ALLOWANCES: MANUFACTURER'S PROPOSALS

Add attached Sole Source Firm Scope for Eutek Grit System (Hydro-International) to Appendix E.

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

MAYOR JIM GRAY

LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

COMPANY NAME: Judy Construction Company

ADDRESS: 103 S. Church Street, Cynthiana, KY 41031

SIGNATURE OF BIDDER: _____

Steve Judy

125 Lisle Industrial Ave Suite 180 Lexington KY 40511 / 859 425 2400 Phone / 859 254 7787 Fax / lexingtonky.gov

MAYOR JIM GRAY

LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

ADDENDUM #4

Bid Number: **#48-2016**

Date: May 13, 2016

Subject: West Hickman Wet Weather Storage

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

Attached is the May 10, 2016 Pre-Bid Meeting Minutes, which includes the two (2) presentations and the sign in sheet.

	Questions	Answers
1	On sheet E-4608, Panelboard "H2B" is shown as being located in Pipe Gallery 115 in a NEMA 4X Stainless Steel Enclosure. Panelboard "H2B" is shown on sheet E-1111 as being located in the Electric Room and should be NEME 1X Enclosed. Also, Panelboard "H2A" on sheet E-4607, is shown as being located in the Pipe Gallery, but it is shown on sheet E-1111 as being in the Electric Room.	Both Panels have been moved to the Electric Room and are to be NEMA 1. See Addendum 4.
2	What is the correct sizes for Transformers "T-2" and "T-3"? They are shown as 75kVA, but each feed breaker is only 50 Amp, 480 Volt and they both feed Panelboards with 100 Amp M.C. Breakers.	Transformers T2 and T3 are to be 30KVA each. See Addendum 4.
3	Spec section 02517 for Hydrants lists (3) different specs for yard hydrants. Which one applies to this project? Is there a standard detail drawing for the yard hydrants showing the depth of bury?	There is one sanitary yard hydrant near the generator building, which is called out on Sheet C-1103. For the remaining yard hydrants, in accordance with specification section 02517 – 2.01A and 2.02A, hydrants shown on the drawings located in grass shall be yard hydrants and hydrants shown on the drawings which are located in the pavement shall be flush style yard hydrants.

		In accordance with section 02517 – 2.02H – hydrants shall have a minimum cover of 3'-0".
4	Plan sheet D-1131/D-1331 shows 24-inch plug valves (Tag P3.1 thru 3.5) coming off the WWS pump discharge. The valve schedule calls these valves out to be 30-inch and to have a stem guide. Please confirm the correct size and the purpose of the stem guide.	The plug valves, tag P3.1 thru P3.5, shall be 24-inch, no stem guide required. See Addendum 4.
5	Plan sheet D-1131 calls for (5) 4-inch air vacuum valves (Tag ARV 1.1 thru 1.5) off the WWS discharge pumps. Specification section 11310 states that these pumps will have 13,900 GPM capability. Provided this capacity and the length of the pump column, a 4-inch valve will not work in this application and it is suggested to increase this valve and the corresponding inlet isolation valve to 6-inch. It is also suggested that the air vacuum valve be fitted with a throttling device to control air exhaust.	ARV's to be 6-inch. See Addendum 4.
6	Plan sheet D-1131 shows (4) 8-inch plug valves (Tag P2.1 thru 2.4) and (4) 8-inch check valves (Tag C.1.1 thru C.1.4) on the IPS small pump discharge. The valve schedule calls for 6-inch. Please confirm the correct size.	Plug valves (P2.1 thru P2.4) shall be 8-inch plug valves. See Addendum 4.
7	Plan sheet D-1131 shows (4) 30-inch plug valves on the pump discharge (Tag P1.1 thru P1.4). The valve schedule calls for these valves to have a stem guide. Please confirm the purpose of the stem guide.	No stem guide required. See Addendum 4.
8	Plan sheet D-1131 shows (4) 4-inch air vacuum valves on the discharge line of the IPS pumps. Plan sheet D-1332 shows the section view of this line. The section view does not show an isolation valve at the air vacuum valve inlet but one is called for in specification 11295, part 2.06. Please confirm if an isolation valve is required at this location. Additionally in regards to this air valve, pump spec in 11310/2.02 states a flow capacity for the pump of 16,250 GPM. Provided this capacity and the length of the pump column, a 4-inch valve will not work in this application and it is	See Addendum 4. Isolation Valve is required.

	suggested that a 6-inch air vacuum valve and corresponding inlet isolation valve be used. It is also suggested that the air vacuum valve be fitted with a throttling device to control air exhaust.	
9	Plan sheet D-1141 and D-1341 show 6-inch plug valves, Tag P6.1 and P6.2, on the grit pump discharge line. The valve schedule calls for chain wheel operators on these valves. Plug valve specification 11295 / part 2.01 / paragraph K states that valves located 6-ft or more above the floor shall be chain wheel operated. Per the scale on D-1341 section R, the valves are 5.25 feet off the floor as measured to the centerline of the valve. Please confirm if chain wheel operators are required at this location.	The 6-inch plug valves (P6.1 and P6.2) shall have a handwheel, no chainwheel required. See Addendum 4.
10	Do valves with electric motor operators that are located 6-ft or more off the operating floor required to have chain wheel operators?	Only manually operated valves are to have chain operators. See Addendum 4.
11	Per the valve schedule on D-9504, plug valve Tag P7.1 thru 7.4 are listed to have a "control package" as shown in the accessories. Please define what is included in the control package.	Valves P7.1 through P7.4 shall have remote position indicator (RPI). Control Package is not required. See Addendum 4.
12	Plan sheet D-1123 shows 4-inch plug valves, Tag P8.1 and P8.2, on the grit washer drain. The valve schedule and schematic on D-0002 shows this valve as 3-inch. Please confirm.	3-inch is the correct size as shown on D-1324 and D-1341.
13	Plan sheet D-2121 shows the 60-inch plug valves at the inlet valve vault. The stems on these valves need stem guides but the closest wall appears to be 5'0" away. A typical stem guide has a max distance of 3'0" from the face of the wall to the center line of the stem. It is the recommendation of the manufacturer that the stem be supported every 8-10 feet. Some type of support will need to be provided here. The same situation exists on plan sheet D-2131 with the 24-inch valve, D-2141 with the 8-inch valves and D-2151 with the 8-inch valves. Both of these installations do not show a wall within 3'0" of the valve	Valve manufacturer shall be responsible for providing stem guide.

	stem. Some type of support will need to be provided here.	
14	Plan sheet D-2151 shows (1) 60-inch flanged coupling adapter with a note saying, "TYP 2". Another 60-inch flanged coupling adapter is not shown. Additionally, section B on D-2151 calls for (2) 8-inch flanged coupling adapters but only (1) is shown in the plan view. Please confirm if these notes are correct.	There is only one (1) 60-inch FCA. There is also only one (1) 8-inch FCA. See Addendum 4.
15	Plan sheet D-4101 / D-4302 shows that the 8-inch valves, tags P15.1 thru P15.4, that these valves are to have extension bonnets (per the note on the page). The valve schedule calls for these valves to have extension stems. If it is intended for these valves to have hand wheel operators at operator level without the use of a floor stand, these valves will need to have extended necks. Please confirm what is needed.	Extension bonnets (necks) are required. Extension stems refers to the operating stem inside the extension bonnet.
16	Plan sheet D-4101 shows plug valve P14.1 as an 8-inch valve. The valve schedule calls this valve out as 6-inch. Please confirm what size is needed and if this valve should have MJ ends for buried service.	Plug valve P14.1 shall be an 8" valve with MJ ends for buried service. See Addendum 4.
17	The valve schedule on plan sheet D-7731 calls for CD-GV2 to be 10-inch size. The schematic on the same page shows a 6-inch reducer prior to this valve. Should this valve be 6-inch?	CD-GV2 shall be 6". See Addendum 4.
18	On sheet E-4606, the feeders between the New Sections "MCC-NGB1" / "MCC-NGA1" and existing Sections "MCC-NG-B" / "MCC-NG-A", respectively are shown as Note #5, 1" C w/4 #6, 1 #10g. The new sections of MCC's are 800A, 400V, 3 Phase, 4 Wire, 65kaic. What is the correct size feeders for the new MCC section? (2 sets 4" C w/3 #500kcmil, 1 # 1/0gnd in each)	2 sets 4" C w/3 #500kcmil, 1 # 1/0gnd in each. See Addendum 4.
19	Section 17311 1.05 describes training to be provided by a factory representative. Is that rep to be from the PLC MFG or Panel Builder and PLC Programmer?	PLC Manufacturer.

20	17350 Gas Monitoring System Drawing I0705 shows the gas system controllers communicating with CP100 via Ethernet. Written specification and I/O list state this to be an analog input. Please clarify which is required.	Basis of design is MSA with hardwired connections. Contractor may alternately bid Sierra Monitoring with Ethernet connection at their option. See revised sheet I-0705 Addendum 4.
21	17350 Gas Monitoring System Drawing E8511 shows the gas detector wired to a terminal box with alarm beacon. I070 show the detector terminated at a controller. Is this to be supplied per drawing I0705 or E8511 ?	Beacon is to be supplied by drawing E-8511 and is hardwired to the main PLC in electrical room if using an MSA system and to the gas control panel if using the Sierra Monitoring system as optional bid.
22	Specification Section 17420 2.01 10 Pump Controller This section describes a Mutlitrode Pump Controller. There is no reference to this in the I drawings or the I/O list. Was this provided in the spec for reference only?	This covers chemical injection pumps which are not being used in this project. Remove 2.01.A.10. See Addendum 4.
23	Specification section 17480 and I/O list provides a guide for the PLC programming to be provided. Appendix D provides a much more in depth narrative. Is the programming to be provided per the 17480 or the Appendix?	All three must be followed. 17480 and the I/O list should reflect what the narrative states, however, if points are missing in 17480 and the I/O list that are necessary to match the narrative functional requirements, they must be included in your proposal.
24	The 60' WWS FM is not listed In the pipe schedule on drawing D-9503. What pipe material is required?	Force main pipe material shall be what is specified in Section 02531 – Sewage Force Mains for the buried piping, and as specified in Section 11290 – Interior Process Piping, inside of the headworks facility.
25	Spec Section 11215 (Booster Pump Station) 2.01 – This section calls for a flexible coupled end suction pump with a class 250 flange. Will a close coupled end	Pumps shall be as listed in the Specifications.

	suction pump with class 150 flanges be acceptable?	
26	Spec Section 11215 (Booster Pump Station) 2.02 – This section calls for ductile iron pipe. Will steel pipe be acceptable?	Ductile iron pipe is required for all interior process piping in accordance with Section 11290.
27	Spec Section 11215 (Booster Pump Station) 2.02 – This section references section 11295. There are a few check valves called out in this section. Which check valve is required in the pump station? Will a pressure sustaining valve be required?	The check valves shall be a Standard Swing Check valve in accordance with Specification Section 11295 – 2.04. A pressure sustaining valve will not be required.
28	Spec Section 11215 (Booster Pump Station) 2.10 – The capsule size is not specified and there are no detail drawings in the plans. Is the capsule size up to the manufacturer?	The capsule size shall be as required by the manufacturer for the equipment listed in Specification 11215. The intent of this specification is for a package station, delivered to site ready for installation and connection of electrical and water.
29	On sheet E-9505, the detail Note #37 calls for #4/0awg Cable, 15kV Underground, EPR, MV-105. Sheet E-1001 in ductbank "C" calls for #500 kcmil awg Cable, 15kV Underground, EPR, MV-105. Sheet E-4601, Note #1, calls for #500 kcmil awg Cable. Which is correct?	500KCMIL, 15KV underground, EPR, MV-105. See Sheet E-9505 issued in Addendum 4.
30	On sheet E-7111, the (2) two Day Tanks have a Note #3 for the feeders to the pump motors. Note #3 is for ¾" Conduit with (6-Strand MM Fiber). This should be changed to Note #5. Note #5 is for ¾" Conduit with 3 #12, 1 #12 ground. (see circuits "H1C" 14, 16, 18 and 20, 22, 24 for reference).	See Sheet E-7111 issued in Addendum 4.
31	On sheet E-4601, the 7500 kVA Transformer on the right side of the page should be labelled "XMFR-M2".	See Sheet E-4601 issued in Addendum 4
32	The Recycle Pump Station Detail #1 on sheet E-3101 has an indicator to see Detail #8 on sheet E-9503. This should be changed to Detail #8 on sheet E-9501.	See Sheet E-3101 issued in Addendum 4
33	On sheet E-21010, for the receptacles at the Panels and Inlet Valve Vault, the sheet note should be labelled 6 instead of 10. There is no Note #10 on the page.	See Sheet E-2101 issued in Addendum 4.
34	The receptacle on the Southeast location in the NEMA 7 area of the Grit Room	See Sheet E-1103 issued in Addendum 4.

	should be labeled as "XP" in lieu of the "G/WP" label on it.	
35	PIPE SCHEDULE : Is there a pipe schedule that indicates what lines are to be FRRP ? The only place we have found so far on the plans that indicates FRRP pipe is on sheet C-0601, in the proposed inlet structures plan detail. Please clarify.	All exterior piping material shall meet the requirements of Section 02531 and 02352. Interior process piping shall meet all requirements of Section 11290. The pipe from existing manhole 1A to proposed manhole A3 shall be FRP as indicated on sheet C-0601.
36	PIPE SCHEDULE : Is there a pipe schedule that indicates what lines are to be PCCP ? Is there any PCCP pipe on this project ?	All exterior piping material shall meet the requirements of Section 02531 and 02352. Interior process piping shall meet all requirements of Section 11290.
37	We found the reinforced concrete pipe specification in section 02620, 2.01, B. We have noted various lines on the plans designated to be RCP. We also found a designation of " RCPP " pipe. We are not sure what type of pipe this is indicating. This is located on sheet D-005 and is shown as " 54 " RCPP – PTE " and " 48 " RCPP – PTE ". Please clarify.	Sheets D-0005 through D-0008 are as-built drawings from previous construction at the facility, as indicated by the note located in the lower right hand corner of each sheet. All piping shown on these sheets is existing. Section 02620 is for storm utility piping. RCP is not Indicated in Section 02531 and 02532 for use in sanitary force mains or gravity lines.
38	Drawing D-9503 is showing a pipe schedule. The upper section of the schedule has – " Buried Piping ", with a numbering for the pipe lines or runs, 401 to 406. We are assuming that is what they represent. We have not been able to locate these numbers on the site or yard piping plans. Please provide information as to where we can find the pipe line reference numbers.	The adjacent column in the pipe schedule shows the general location of the piping. Refer to Sheets D-0002, D-0003. D-4101, D-4102, D-4301, D-4302, D-4303 for the locations of pipes 401 through 406 as outlined in the Pipe Schedule.
39	RAS AND DIVERSION PIPE : Drawing D-0006 is showing a new 42 " STL RAS line coming into the bottom of the channel. It is also showing a new 48 " STL Diversion line coming into the BPR Influent Chamber. We have not found a specification section for steel pipe. We are assuming that this is indicating steel pipe. Is this pipe shown or indicated anywhere in a pipe schedule ? Is there a specification	Sheets D-0005 through D-0008 are as-built drawings from previous construction at the facility, as indicated by the note located in the lower right hand corner of each sheet. All piping shown on these sheets is existing.

	section for these pipe? Please review and clarify these STL lines.	
40	HDPE PIPING : Specification section 02620, 2.1, C, Polyethylene (HDPE) Pipe and Fittings, states in paragraph line 1, that " HDPE pipe may only be used on the Gutter Drain pipe as shown on the plans " . We see that HDPE drain piping is shown on sheet C-2105 at the Proposed Wet Weather Storage Tank. Please clarify.	Refer to Section 02713 for Foundation Drainage for HDPE shown on sheet C-2105.
41	WET WEATHER STORAGE TANK DRYWELL / SPRING BOX DRAINS : We see on drawing C-2015 that there is to be a 15" HDPE drain line extending out to daylight. Is this to be the corrugated HDPE type drain pipe? Looking in the specification section 02620, 2.01, C, it appears to be describing HDPE pressure pipe with DR ratings of 17 and 11 with butt fused joints. The specification section in line – e, is indicating that the pipe is to be provided in standard lengths of at least 12 feet six inches. Pressure rated HDPE pipe is often provided in 20 foot and forty foot lengths. Also pipe with these DR ratings is not made in a 15" diameter. We are not sure this line applies to the HDPE pressure rated pipe. We also found the specification section 02715, 2.01 that essentially describes the same pipe. Should there be another specification that describes the corrugated HDPE piping such as by ADS / Hancor? ADS does make a corrugated pipe in 15" diameter size. Please review and clarify.	The 15-inch HDPE drain pipe from the center of the tank, at the spring boxes to daylight shall be 16-inch HDPE piping. All HDPE piping shown on Sheet C-2105 shall meet specification 02713. The 16-inch (formally 15-inch) pipe shall be solid wall in accordance with section 02715 – 2.01.B.8. See Section 02713 – 2.01.B.5. for length requirements. See Addendum 4.
42	STORM DRAIN CONNECTION : Drawing C-2015 is showing the storm drain connection in detail – 1, in the lower right hand corner of the sheet. From what we have noted on the plan the drain pipe is to be HDPE material. The detail is showing the fittings to be " flanged " . We can provide flange adapters for pressure rated HDPE pipe as they appear to be drawn. We are not sure that this is what is actually applicable in an " under drain " application. We were thinking that the under drain pipe is meant to be a	All HDPE piping shown on Sheet C-2105 shall meet specification 02713, 2.01. The 16-inch (formally 15-inch) pipe shall be solid wall in accordance with section 02715 – 2.01.B.8. There are 4 lines to daylight, two (2) 8-inch HDPE from the perimeter drain, and two (2) 16-inch (formally 15-inch) lines from the two (2) drainage boxes. See Addendum 4.

	corrugated type pipe system. Please review and clarify if flanged joints are required and if the pipe is to be pressure rated HDPE. Also verify the size of the two drain lines extending out to daylight.	
43	FLANGE ADAPTER COUPLINGS : Specification section 11290, 2.05, Couplings and Adapters, B, describes flanged adapters. It also states that the adapter is to have class 125 flanges. In paragraph A, above for sleeve type couplings, it states the couplings will be harnessed for 250 psi. Are the flange adapters also required to be harnessed for 250 psi pressure? Looking at the pipe schedule for the RS and WWS FM, they are to be tested at 70 psi. We would like a clarification as to what rating the couplings and flange adapters should be restrained. We did not find any details or harness tables for rods and accessories. Please review and clarify the harnessing requirements.	See Addendum 4.
44	VENT PIPE: Drawing D-1131 is showing the five WWS Pump Station pumps discharge lines. The 24 " discharge pipe are showing 4 " V – vent lines from the AV sewage air release and SV sewage air release with surge control valves going into the wet well. We have been able to find a pipe designation for these pipe. They appear to be drawn as PVC pipe and fittings. But they may be ductile iron. Please review and clarify these vent lines.	See Addendum 4.
45	VENT PIPE : Drawing D-1131 is showing the five WWS Pump Station pumps discharge lines. The 24 " discharge pipe are showing 4 " V – vent lines from the AV sewage air release and SV sewage air release with surge control valves going into the wet well. The air release valves are shown with isolation valves under them. The valve symbol is for a gate valve. We did not find a gate valve specification in the Interior Process Valves specification section 11295. Please review and clarify that type gate valve is to be used with these air release valves.	See Addendum 4.

46	**VENT PIPE : Drawing D-1131 is showing** the five WWS Pump Station pumps discharge lines. The 24 " discharge pipe are showing 4 " V – vent lines from the AV sewage air release and SV sewage air release with surge control valves going into the wet well. They appear to be drawn as PVC pipe and fittings. If these lines are PVC, we did not find any indication as to what type of flange bolt and gasket set material is to be provided at the flanged joints. Please review and clarify these vent lines and flange bolt and gasket sets.	See Addendum 4.
47	**FLANGE ADAPTERS ON RS LINE :** Drawing D-1131 is showing the submersible pump discharge lines coming up out of the IPS Pump Stations # 1 & 2. The 30 " RS lines pass through the wall and into the pipe gallery area. The plan does not show any type of flange adapter on the pipe passing through the wall sleeve. We have listed other smaller pipe as having grooved ends and listing grooved flange adapters but these only go up to 24 " diameter size. Due to the limited space on each side of the wall sleeve can Ebaa Iron Mega flanges be used? Please review and advise.	See Addendum 4.
48	**PLUG VALVES : The valve schedule** on sheet D-9504 is indicating that the five (5) flanged plug valves marked P.3.1 to .3.5 are to be 30 " dia. and have accessories CW, SG and WG. These five valves are on the WWS pump discharge lines in the pipe gallery. Looking at section – 1/ D-1331 appear to be showing the valves with just hand wheel operators. We measured from the Indicated handwheel down to the grout fill and it measured 5 ' – 8 ". We do not see a need for a stem guide or a chainwheel operator. Please review and clarify.	Stem guide requirement has been removed from valve schedule. See Addendum 4.
49	**PLUG VALVES : The valve schedule** on sheet D-9504 is indicating that the two (2) flanged plug valves marked P.1.1 to .1.2 are to be 30 " dia. and have accessories CW, SG and WG. These two valves are on the IPS pump discharge lines in the pipe	Stem guide requirement has been removed from valve schedule. See Addendum 4.

	gallery, for Pump Station # 2. Looking at section – A/ D-1300, it appears to be showing the valves with just hand wheel operators. We measured from the indicated valve center line down to the grout fill and it measured 3' – 0". We do not see a need for a stem guide or a chainwheel operator. Please review and clarify.	
50	What is the pavement design (thicknesses and materials) for bid item #11, Paved Site Restoration: Bituminous Concrete-Trench Construction Street?	See Sheet C-0401 and C-0402. In accordance with Measurement and Payment – refer to the General Notes. The pavement design will be in accordance with the notes for Bituminous Concrete – Trench Construction Street located on Sheet G-0004.
51	What is the pavement design (thicknesses and materials) for bid item #13, Paved Site Restoration: Bituminous Concrete-Private Parking Lots or Driveways?	See Sheet C-0401 and C-0402. In accordance with Measurement and Payment – refer to the General Notes. The pavement design will be in accordance with the notes for Bituminous Concrete Paving – Private Property Parking Lots or Driveways Street located on Sheet G-0004
52	What is the pavement design surface thickness for bid item #16, Paved Site Restoration: Bituminous Concrete-Asphalt Overlay?	See Sheet C-0401 and C-0402. In accordance with Measurement and Payment – refer to the General Notes. The pavement design will be in accordance with the notes for Bituminous Concrete – Full Width Paving Street located on Sheet G-0004. In accordance with the Measurement and Payment Section, this pay item will only include the bituminous base and surface course placement, at thickness specified in the General Notes. Also, refer to Detail 7/ C-9003.
53	Details 7-C-9003 and 3-C-9003 both show additional DGA (8" per detail 7-C-9003) placed on existing granular base on the access road beneath the asphalt base. Bid item #15 describes the work as being "asphalt only" for this area. Is additional DGA required on the existing granular base on the access road, and if so, how thick? The answer to this question will determine the dimensions and quantities to be	No additional DGA will be required for installation on the existing gravel roadway, only asphalt will be placed on this portion of the roadway in accordance with the Bid Item for Full Width Paving – Asphalt Only, as defined in Section 01025 – Measurement and Payment. See Addendum 4.

	included in bid item #18 for roadway shoulders (bid per LF).	
54	Please provide clarification of the finishes and coatings required for formed concrete surfaces other than slabs and floors. The Bid Documents provide conflicting directive. Section 03350, Article 3.01A defines concrete finishes as Type I (rough), Type II (grout cleaned) and Type III (smooth rubbed) for formed concrete surfaces other than slabs and floors. Section 03350, Article 3.05 provides a concrete finish schedule indicating where the Type I, II and III finishes are required. Note the schedule only lists Type I and Type III finishes; no areas are listed as receiving Type II finishes. Review of Structural Concrete Note F, 1, a) on Sheet S-0001 (Structural General Notes) states: "Formed Surfaces: Exposed to View: Apply Sikagard 550W over grout-cleaned finish surfaces (Non-Traffic) Per Manufacturers Specifications." Review of manufacturers data for Sikagard 550W reveals this is an "elastomeric, crack-bridging, anti-carbonation, acrylic protective coating" Section 09961, Article 3.07 - Protective Coating Systems and Application Schedule, Article A states "Unless otherwise shown or specified, paint surfaces in accordance with the following application schedule. In the event of discrepancies or omissions in the following, request clarification from Engineer before starting work in question". The Application Schedule in Section 09961 lists System 10 - Interior Concrete and Masonry Walls, Non-Immersion, Excluding Floors. System 10 is a two-component	Will be addressed in a subsequent addendum

	water based catalyzed epoxy to be used in the following areas: a) Concrete and concrete block walls, columns and supports b) Concrete ceilings and beams c) Non-corrosive room areas Resulting Question: The differing direction on coatings to be applied to concrete surfaces exposed to view has impact on the concrete surface preparation (finishes) required. Focusing on interior concrete formed surfaces exposed to view (other than slabs and floors), are we to follow the requirements of Structural Concrete Note F, 1, a), the requirements of Section 09961, System 10 or leave as a Type I surface per Section 03350, 3.01A?	
55	Section 03350, 3.05 finish schedule specifically calls for interior exposed ceiling and beams to be smooth rubbed. If we are to apply Sikagard per structural notes or paint per section 09961, is this actually required/necessary?	Will be addressed on a subsequent addendum
56	Section 03350, 3.05 first item references Section 09800 - Special Coatings. We find not such specification in the Bid Documents.	Will be addressed on a subsequent addendum
57	Section 09961, Pg 21, between System No 6 and 6a lists a system for buried concrete (soil side) consisting of 1 or 2 coats (14.0-20.0 MDFT) Coal tar Epoxy over SSPC-SP 13 surface prep. Is it actually the intent to perform SSPC-SP-13 Surface Prep and paint all below grade buried concrete surfaces?	Yes – provide SSPC-SP 13 surface prep. and Coal Tar Epoxy on soil side of buried concrete walls per Section 09961 – 3.07.J. where occupied space is on the opposite side of the wall (i.e. Pipe Gallery, Pump Station, Pump Rm., etc.), and 100% Epoxy Novolac for per System 6a for below grade secondary containment areas. Not required where soil is located at both sides of the wall or at tank foundation walls (i.e., Flume Channels, Grit Tanks, etc.). See Addendum 4.
58	Please confirm that flood and earthquake insurance on the full amount of contract value per addendum 3 is required, this will	Provide insurance as listed in the Contract Documents and Addendum 3, Question and Response 28.

	add in excess of $100,000 to the project cost.	
59	Would you consider adding an item for the riparian buffer seeding?	The riparian buffer, including seeding, will be paid for in the base bid item. The base bid will also include all stream restoration in accordance with the contract documents. Bid item Numbers 8, 9, and 10, which are all the Non-Paved site restoration, will not include the riparian buffer seeding or restoration. Payment for each of these items (Items 8,9, and 10) will be paid for once per acre, when final seeding is complete. Temporary seeding required for Erosion and Sediment Control shall be in the base bid.
60	Who supplies the electrical equipment and includes the money in their bid, the generator AND paralleling switchgear GENSWGR ? THE ELECTRICAL OR GENERAL CONTRACTOR and their associated vendor? Who supplies the equipment and the money in their bid for The MVSWGR? The Electrical or General Contractor and their associated vendor(s)?	This is to be coordinated between the General Contractor and its subcontractors and/or vendors.
61	At the Truck Loading Bay: drawing S-1111 shows "pre-eng galv steel stairs", details on drawing S-1351 shows aluminum. Please advise.	Will be addressed on a subsequent addendum.
62	At the Screening and Grit Handling: drawing S-1122 shows FRP stairs and platforms, drawing S-1123 and details on drawing S-1351 show aluminum. Also, the Manual Bar Screen shown on drawings D-1122 and D-1324 has no details. Please advise.	Will be addressed on a subsequent addendum
63	At the Recycle Pump Station: drawing S-3111 shows a stair and perimeter rail for elevation about 5' above grade; drawing S-3121 shows the Parshall Flume with the same elevation but no stair or rail. Please advise.	Will be addressed on a subsequent addendum
64	At the Splitter Box: drawing S-4111 shows galvanized platform framing and stairs and hot dipped galvanized rail and grating. In	Will be addressed on a subsequent addendum

	the specs: 05500 refers only to aluminum stairs, 05530 refers only to aluminum grating, and 05520 refers only to aluminum pipe handrails and railing systems. Please advise.	
65	As follow to Addendum #3, Item 30: After review of the basis of design product for Section 07271 (Henry Company "Blueskin SA LT"), review of manufacturers literature/details and discussion with the manufacturer technical support we request confirmation this product be installed on top of the slab where it will be subjected to foot traffic	See Addendum 4.
66	Additionally the Truck Loading Bay Foundation Plan Notes (Sht S-1111) contains Note 4 reading "Provide Gas Tight Membrane On Top & Bottom Side of Floor Slab. See Specs". Please confirm the material specified in Section 07271 is to be installed in this area and is suitable for truck traffic.	See Addendum 4.
67	Regarding the wall between the Truck Loading Bay and Screening/Grit Handling - Sht A-1121 Keynote 31 denotes this to be an interior CMU wall which we would typically expect to be smooth face. Legends on S-1111 and S-1123 call for this to be a 12" Split Face CMU. Please clarify if this wall is smooth face or split face.	See Addendum 4. The wall between Truck Load Bay and Screening and Grit Handling shall be 12" masonry smooth face both sides. On the foundation plan legend, remove the word "split-face" from the CMU legend on sheet S-1111 and S-1123. Whether the CMU is smooth or textured is covered by the architectural plans and details.
68	Plug valves P11.1, P12.1 and P12.1 are called to have modulating electric motor operators and "RPI" or remote position indication per the valve schedule. Please clarify what it required with remote position indication.	See Addendum 4
69	Plug valves P7.1 thru P7.1 are called to have open-shut electric motor operators and a Control Package "CP" per the valve schedule. Please clarify what is required/included with the Control Package.	See Addendum 4.
70	Specification 11295, Part 2.17 lists actuator options. Please clarify which actuator options should be included with each specific valve/slide gate.	See Addendum 4.

1. DRAWINGS

A. DRAWING SHEET C-2105

On Detail 1/C-2105, add the following note:

"HDPE pipe shall be joined by means of butt fusion, in accordance with Specification 02713, 2.01.B.4."

B. DRAWING SHEET C-2105

Change the pipe reference on the pipe from the two (2) 48" precast concrete drywell / springboxes to mitered outlet to daylight from "15" SD" to "16" SD".

C. DRAWING SHEET C-2105

On the Drywell / Springbox Section change the callout from "15" HDPE Discharge" to "16" HDPE Discharge."

D. DRAWING SHEET C-2105

Detail 1/ C-2105, change the title of the detail from "8" – 15" STORM DRAIN CONNECTION" to "8" – 16" STORM DRAIN CONNECTION"

E. DRAWING SHEET C-2105

Detail 1/ C-2105, change the tee callout from "8X15 Tee" to "8X16 Tee".

F. DRAWING SHEET C-9003

On Detail 7/C-9003, add the following sentence to note "(2) 4" compacted Lifts of DGA". Sentence to be added:

"DGA lifts not required on existing gravel drive."

G. DRAWING SHEET D-1124

On each of the drain pipes for Screening Compactors No. 1 thru 4 show a 4" plug valve. The connection to the gravity drain system location is relocated as follows: Dimensions are given from the center and face of drain flange on compactor and are approximate. Compactor 1: 65" North and 12" West, Compactor 2: 65" North and 30" West, Compactor 3: 65" South and 30" West, Compactor 4: 65" South and 12" West. Coordinate exact location of drain during installation.

H. DRAWING SHEET D-1131

In the IPS Pump Station change two notes with leaders pointing to the ARV vent piping from "4" V CL. EL. 896.5" to read "6" V CL. EL. 897.90±".

In the WWS Pump Station change the note with leader pointing to the ARV vent piping from "4" V CL. EL. 897.90± (TYP. Of 5)" to read "6" V CL. EL. 897.90± (TYP. Of 5)"

Lower right corner area of the drawing add the following note:

2. 4" AND 6" V PIPE MATERIAL SHALL BE DIP OR STAINLESS STEEL PIPE SCHEDULE 10S WITH FLANGED JOINTS. 1" V PIPE MATERIAL SHALL BE STAINLESS STEEL SCHEDULE 40S WITH NPT THREAD JOINTS.

I. **DRAWING SHEET D-1300**

Change the note with leader pointing to the ARV vent piping from "4" V CL. EL. 896.5" to read "6" V CL. EL. 897.90± ".

J. **DRAWING SHEET D-1331**

Section I. Change the note with leader pointing to the ARV vent piping from "4" V" to read "6" V".

K. **DRAWING SHEET D-1331**

Section I. In the Pipe Gallery just below the first 24" pipe joint inside the building wall write the letters "AFC" to indicate the first joint inside the building is an adapter flange coupling.

L. **DRAWING SHEET D-1332**

Change the note with leader pointing to the ARV vent piping from "4" V CL EL. 896.5± SEE NOTE 1" to read "6" V CL EL. 897.90±, SEE NOTE 1". Show an isolation gate valve under ARV.2.4 and raise the vent pipe to accommodate installation of the valve.

M. **DRAWING SHEET D-1332**

In the Pipe Gallery just below the first 30" pipe joint inside the building wall write the letters "AFC" to indicate the first joint inside the building is an adapter flange coupling.

N. **DRAWING SHEET D-1334**

Left half of sheet in the drawing area above the top discharge elbow of Pump No. 1 on left side, change the note with leader pointing to the ARV vent piping from "4" V (BEYOND) CL. EL 896.5±" to read "6" V (BEYOND) CL. EL. 897.90± ".

Right half of sheet in the drawing area above the top discharge elbows, change the note with leader pointing to the ARV vent piping from "4" V (BEYOND) CL. EL 897.90±" to read "6" V (BEYOND) CL. EL. 897.90±".

O. DRAWING SHEET D-1336

In the Pipe Gallery just below the first 8" pipe joint inside the building wall write the letters "AFC" to indicate the first joint inside the building is an adapter flange coupling.

P. DRAWING SHEET D-1337

In the Pipe Gallery just below the first 8" pipe joint inside the building wall write the letters "AFC" to indicate the first joint inside the building is an adapter flange coupling.

Q. DRAWING SHEET D-2151

Replace plan view note stating "60" x 36" Tee (2 Typ.) with "60" x 36" Tee"

Replace plan view note stating "60" FCA (2 typ)" with "60" FCA"

On section B, there are two notes referring to 8" FCA. Delete the note that is higher on the sheet (pointing to the tee).There is only one (1) 8-inch FCA.

R. DRAWING SHEET D-7731

In the NPW Valve Schedule change the size of CD GV 2 (in the second row from top) from "10"" to be "6"".

S. DRAWING SHEET D-9502

Pressure Gauge Diaphragm with Seal Detail. Change with leader pointing to the small diameter gauge piping from " PIPE MATERIAL SHALL MATCH PROCESS PIPE" to read " PIPE MATERIAL SHALL BE SS SCHEDULE 40S"

Pipe Drain Detail. Add the following notes below the detail:

NOTES:
1. SS PIPE SHALL BE TYPE 304, SCHEDULE 40S WITH THREADED JOINTS

T. DRAWING SHEET D-9504

Replace Sheet D-9504 in the current set with the attached drawing D-9504. See clouded areas for changes.

U. DRAWING SHEET S-1111

Replace Foundation Plan Note 4 with the following "NOT USED".

V. DRAWING SHEET S-1111

On the Foundation Plan Legend, remove the word "split-face" from the CMU legend note.

W. DRAWING SHEET S-1123

On the Foundation Plan Legend, remove the word "split-face" from both CMU legend notes.

X. DRAWING SHEET S-1133

Replace Foundation Plan Note 4 with the following "PROVIDE GAS TIGHT MEMBRANE ON BOTTOM SIDE OF FLOOR FOR SLAB AT ELEVATION 916'. SEE SPECFICATION 07271, ARTICLE: AIR BARRIER."

Y. DRAWING SHEET E-1103

Replace Sheet E-1103 in the current set with the attached drawing. See clouded areas for changes.

Z. DRAWING SHEET E-2101

Replace Sheet E-2101 in the current set with the attached drawing. See clouded areas for changes.

AA. DRAWING SHEET E-3101

Replace Sheet E-3101 in the current set with the attached drawing. See clouded areas for changes.

BB. DRAWING SHEET E-4601

Replace Sheet E-4601 in the current set with the attached drawing. See clouded areas for changes.

CC. DRAWING SHEET E-4603

Replace Sheet E-4603 in the current set with the attached drawing. See clouded areas for changes.

DD. DRAWING SHEET E-4604

Replace Sheet E-4604 in the current set with the attached drawing. See clouded areas for changes.

EE. DRAWING SHEET E-4606

Replace Sheet E-4606 in the current set with the attached drawing. See clouded areas for changes.

FF. DRAWING SHEET E-4607

Replace Sheet E-4607 in the current set with the attached drawing. See clouded areas for changes.

GG. DRAWING SHEET E-4608

Replace Sheet E-4608 in the current set with the attached drawing. See clouded areas for changes.

HH. DRAWING SHEET E-7111

Replace Sheet E-7111 in the current set with the attached drawing. See clouded areas for changes.

II. DRAWING SHEET E-9505

Replace Sheet E-9505 in the current set with the attached drawing. See clouded areas for changes.

JJ. DRAWING SHEET I-0705

Replace Sheet I-0705 in the current set with the attached drawing. See clouded areas for changes.

KK. DRAWING SHEET P-1102

In the Screen and Grit Handling Area move four hub drain outlets that are shown for the screening washer compactor units as indicated below. Dimensions are given from the center and face of drain flange on compactor. The screening washer compactor units are shown directly behind the bar screens. Compactor 1: 65" North and 12" West, Compactor 2: 65" North and 30" West, Compactor 3: 65" South and 30" West, Compactor 4: 65" South and 12" West.

2. SPECIFICATIONS

A. SPECIFICATION SECTION 00410 – BID FORM

In Article 1.04 Bid Form, in the Equipment manufacturer's list, for Flow Control Valves, remove Flomatic from the manufacturer's list.

Note: An updated Bid Schedule will be provided in a later addendum.

B. SPECIFICATION SECTION 01210 – ALLOWANCES

Add the following item after Article 1.03.C.

"D. The Contractor shall issue the Purchase Order for the Eutek Headcell Grit System prior to December 31, 2016 to guarantee the allowance price listed above."

C. SPECIFICATION SECTION 02713 – FOUNDATION DRAINAGE

Replace Article 2.01.B.2. with the following:

"2. HDPE pipes and fittings should have a pressure rating of 200 psi (SDR 9) unless noted otherwise on the Drawings."

D. SPECIFICATION SECTION 09961 – HIGH PERFORMANCE PAINTS AND COATINGS

Add THE FOLLOWING TO Article 3.07.J.::

"1. System not required at tank foundation walls, flume channels, grit tanks and footings."

E. SPECIFICATION SECTION 11215 – BOOSTER PUMP STATION

Replace the last sentence in Article 2.01.A. "The boosted pump shall be controlled manually." With the following:

"The boosted pump shall have a manual Start/Stop with low suction pressure control and high pressure control. The pump shall be designed for dead head service or provided with pressure relief to pump suction to protect the pump."

F. SPECIFICATION SECTION 11215 – BOOSTER PUMP STATION

In Article 2.03.A. change the "NEMA 1 control panel." to "NEMA 4 control panel."

G. SPECIFICATION SECTION 11215 – BOOSTER PUMP STATION

After Article 2.03.K. add the following paragraph:

"L. Provide an adjustable differential pressure switch for suction pressure control. Set points shall be easily adjustable.

H. SPECIFICATION SECTION 11215 – BOOSTER PUMP STATION

After Article 2.10 add the following paragraph:

"2.11 – PRESSURE GAUGES

A. Two pressure gauges, one for influent pressure and one for discharge pressure shall be mounted adjacent to the control pressure switches. These glycerin-filled gauges will be 4 ½" in diameter, graduated in psi. Rated accuracy will be ½% of full scale. Standard features will include fiberglass reinforced polypropylene case, clear acrylic plastic window with fiberglass reinforced polypropylene threaded ring, stainless steel movement, phosphor bronze bourbon tube, silver brazed to socket and tip. Connection will be bottom only with brass ¼" NPT All gauges will be panel mounted off the pipeline and be connected to their respective sensing point."

2.12 - PRESSURE RELIEF VALVE

A. The pressure relief valve shall be size by the manufacturer for head shut off to protect the pump.

B. The valve configuration as shown shall be hydraulically operated, single diaphragm actuated. The valve shall consist of three major components: the body with seat installed, the cover with bearing installed, and the diaphragm assembly. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure. Packing glands and/or stuffing boxes are not permitted and there shall be no pistons operating the main valve or pilot controls. Valve body and cover shall be epoxy coated. The stainless steel seat with integral bearing shall be of the solid, one piece design.

C. The diaphragm assembly shall contain a non-magnetic stainless steel stem of sufficient diameter to withstand high hydraulic pressures. The stem shall be fully guided through its complete stroke by a removable bearing in the valve cover and an integral bearing in the valve seat. No center guides shall be permitted. The stem shall be drilled and tapped in the cover end to receive and affix such accessories as may be deemed necessary.

D. The pilot control system shall include isolation valves and flow clean strainer.

E. The pilot system shall include a closing speed control on all valves.

F. Pilot controlled sensing shall be upstream of the pilot system strainer so accurate control may be maintained if the strainer is partially blocked.

G. The pressure relief pilot shall be a direct-acting, adjustable, spring-loaded, diaphragm valve designed to permit flow when controlling pressure exceeds in the adjustable spring setting. The pilot control is normally held closed by the force of the compression on the spring above the diaphragm and it opens when the pressure acting on the underside of the diaphragm exceeds the spring setting."

I. SPECIFICATION SECTION 11215 – BOOSTER PUMP STATION

Article 2.05.A, change "40 watt fluorescent" to "40 watt LED".

J. SPECIFICATION SECTION 11285 – SLIDE GATES

Page 6, Paragraph 2.05, A. Change the title from "Lost power buffer" to read "Lost power buffer – provide for all motor operated valves"

Page 7, Paragraph 2.05, B. Change the title "Analog Position Transmitter (APT)" to read "Remote Position Indicator (RPI)".

Page 7, Paragraph 2.05, B. 1. Change the title from "Provide a non-contacting, internally..." to read "If noted on Schedule provide a non-contacting, internally..."

Page 7, Paragraph 2.05, D. Change the title from "Relays for Status and Alarms" to read "Relays for Status and Alarms – provide for all motor operated valves"

Page 7, Paragraph 2.05, E. Change the title from "Device Net (DN)" to read "Device Net (DN) – provide for all motor operated valves"

K. SPECIFICATION SECTION 11290 – INTERIOR PROCESS PIPING

Page 5, Paragraph 2.05, B.

Change the first sentence of this paragraph from "Flanged adapters shall have one..." to read "Flexible flanged coupling adapters shall have one..."

Add the following sentence to the end of paragraph 2.05.B.:

Coupling shall be harnessed and designed for 250 psi.

Page 5, Paragraph 2.05, C.

Change the first sentence of this paragraph from "Flexible couplings and flanged adapters shall be..." to read "Flexible couplings and flexible flanged coupling adapters shall be..."

Page 5, Paragraph 2.05, C. 3. After this paragraph insert the following new paragraphs:

"D. Harness tie rods and nuts shall be mild steel meeting the requirements of ASTM A 193, Grade B7, or A 307, Grade B, or equal with American Standard threads. The nuts shall seat on steel plate washers. The rod, washers, and nuts shall be hot-dip galvanized ASTM A 153. The number and diameter of restraint rods shall be as determined by Contractor.

E. Adapter Flange Coupling (AFC): Adapter flange couplings for steel or ductile iron pipe shall be provided where shown on Drawings.

1. The coupling shall be designed to meet the test requirements of ANSI B16.1, 125-pound flanges.

2. The coupling shall be designed to handle a 525 psi hydrostatic test and 175 psi working pressure at temperatures of -20 to 150 degrees Fahrenheit without leaking or requiring additional restraint.

3. The coupling shall consist of a standard flange drilling (ANSI B16.1); a standard mechanical joint material (ANSI A21.11 or AWWA C111); and standard retainer gland construction (AISI 4140 steel setscrews, galvanized with ductile iron body ASTM A 536)

4. Adaptor flanged couplings shall be as manufactured by EBAA Iron Sales, Inc. (Series 2100 Megaflange) or equal."

L. SPECIFICATION SECTION 11295 – INTERIOR PROCESS VALVES

Page 2, Article 2.01.K. Change the sentence from "Valves located 6 feet or...." to read "Manually operated valves located 6 feet or..."

Page 4, Paragraph 2.06, D. Add the following to the end of this paragraph:

> "Each valve shall be provided with a discharge throttling device that is adjustable to provide variable levels of controlled air exhaust and shall open fully upon pump shut down for unrestricted vacuum inlet. Throttling device shall be manufacturer's standard design with cast or ductile iron body."

Page 4, Paragraph 2.07, B. Add the following sentence to the end of this paragraph:

> "Each valve shall be provided with its own resilient seated gate valve to isolate it from the pumped liquid."

Page 5, Paragraph 2.08, A. Add the following sentence to the end of this paragraph:

> "Each valve shall be provided with its own resilient seated gate valve to isolate it from the pumped liquid."

Page 6, Paragraph 2.09, H. After this paragraph insert the following new paragraph:

"2.09.5 RESILENT SEATED GATE VALVES (RGV)

A. Resilient seated gate valves shall be designed for 150 psi working pressure and shall meet the requirements of AWWA Specification C509 or C515 except as otherwise specified herein. Valves shall be cast or ductile iron body, bronze stem, O-ring stem seal, and non-rising stem. The interior and exterior surfaces of the valve body shall be coated with an epoxy coating meeting the requirements of AWWA C550. The bronze or iron or ductile iron wedge shall be fully encapsulated with molded rubber. No bare metal shall be left exposed. The valve shall seal on both sides of the wedge. Gate valves shall have a clear waterway equivalent in area, when fully open, to that of the connecting pipe. Valves shall be made to open when turned to the left, or counterclockwise. The gate valves shall have a hand wheel mounted on non-rising stems. Flanges shall meet the requirements of AWWA C115 (ANSI 21.15).

Page 12, Paragraph 2.17, A. Change the title from "Lost power buffer" to read "Lost power buffer – provide for all motor operated valves"

Page 12, Paragraph 2.17, B. Change the title "Analog Position Transmitter (APT)" to read "Remote Position Indicator (RPI)".

Page 12, Paragraph 2.17, B. 1. Change the title from "A non-contacting, internally..." to read "If noted on Schedule provide a non-contacting, internally..."

Page 12, Paragraph 2.17, D. Change the title from "Relays for Status and Alarms" to read "Relays for Status and Alarms – provide for all motor operated valves"

Page 12, Paragraph 2.17, E. Change the title from "Device Net (DN)" to read "Device Net (DN) – provide for all motor operated valves"

M. SPECIFICATION SECTION 11295 – INTERIOR PROCESS VALVES

Replace Articles 2.11 and 2.12 with the following:

"2.11 PRESSURE-REDUCING VALVE (PRV)

A. Pressure-Reducing Valves (PRVs) shall maintain a preset constant downstream outlet pressure regardless of variations in the flow rate and/or inlet upstream pressure.

B. PRVs may be of either the differential piston-actuated or diaphragm-actuated type. PRVs shall be pilot-controlled, hydraulically operated, and capable of providing outlet pressure of 80 psi under working pressures up to 150 psi at 70° F. The set pressure shall be field-adjustable, from 0% to 110%. The valve shall be operated by line pressure and shall use the pilot system to open, close, or throttle the differential piston main valve.

C. If the valve is of the piston-actuated type, the following requirements apply:

I. The main valve body shall be globe-style, constructed of ductile-iron conforming to ASTM A536 with integral flanges, faced and drilled per ANSI B16.42.

II. The valve shall be full-ported so that when fully open the flow area through the valve is no less than the area of its nominal pipe size.

III. The main valve shall operate on the differential piston principle such that the area on the underside of the piston is no less than the pipe area and the area on the upper surface is greater than that of the underside.

IV. The valve piston shall be fully guided on its outside diameter and all guiding and sealing surfaces shall be bronze, complying with ASTM B21 Bronze specifications.

V. The valve shall be fully capable of operating in any position without the need of springs and shall not incorporate stems, stem guides, or spokes in the waterway. A visual position indicator shall be provided. Throttling shall be achieved via long, stationary vee-ports located downstream of the seat and not by the seat itself.

VI. The main valve shall be serviceable in the line through a single flanged top cover that provides easy access to all components.

VII. The valve shall be coated with NSF-61 certified epoxy on internal surfaces in accordance with the latest revision of AWWA C550

VIII. The pilot system shall be factory pre-piped, installed on the main valve and tested as an assembly.

IX. The system shall incorporate opening and closing speed control valves. Sufficient isolating valves and pipe unions shall be provided to facilitate removal and maintenance of the pilot system without disturbing the main valve.

X. Pilots, controls, piping, and fittings shall be corrosion-resistant copper, bronze, or brass.

XI. Install protective strainers upstream of pressure-reducing valves.

XII. Pressure-reducing valves shall be manufactured by GA Industries or equivalent.

D. If the valve is of the diaphragm-actuated type, the following requirements apply:

I. The main valve shall be self-contained, hydraulically operated, single diaphragm-actuated, and of the globe type. The valve shall consist of three major components: the body, with seat installed; the cover, with bushings installed; and the diaphragm assembly. The diaphragm assembly shall be the only moving part and shall form a sealed chamber above the diaphragm to separate operating pressure from line pressure. Packing glands and/or stuffing boxes are not permitted.

II. No valve chambers shall be allowed between the valve cover and body. The valve body and cover shall be of cast material with no fabrication or welding used in the manufacturing process.

III. The valve shall contain a resilient, synthetic rubber disc, with a rectangular cross-section contained on three and one-half sides by a disc retainer and forming a tight seal against a single removable seat ring. No O-ring type seal (circular, square, or quad type) shall be permitted as the seating surface. The seat plate shall be contoured to permit the smooth transition of flow and hold the seat seal firmly in place.

IV. The spool shall be of sturdy one-piece design capable of withstanding opening and closing shocks. It must have straight sides and a radius at the top to prevent excessive wear of the diaphragm as it flexes across this surface.

V. The diaphragm assembly shall contain a non-magnetic stainless steel stem with sufficient diameter to withstand high hydraulic pressures. It shall be fully guided at both ends by a bearing in the valve cover and an integral bearing in the valve seat. No center guides shall be permitted. The stem shall be drilled and tapped in the cover end to receive and affix such accessories as deemed necessary.

VI. The diaphragm shall be non-wicking, flexible, and shall consist of nylon fabric bonded with synthetic rubber compatible with the operating fluid. The diaphragm must withstand a

Mullins Burst Test of a minimum 600 psi per layer of nylon fabric. It shall be cycle tested 100,000 times to insure longevity. The diaphragm shall be fully supported in the valve body and cover by machined surfaces which support no less than one-half the total surface area of the diaphragm in either the fully opened or fully closed position.

VII. The main valve seat and stem bearing in the valve cover shall be removable. The cover bearing and seat in 6" and smaller sizes shall be threaded into the cover and body. The valve seat in 8" and larger size valves shall be retained by flat head machine screws for ease of maintenance. The lower bearing of the valve stem shall be contained concentrically within the seat and shall be exposed to the flow on all sides to avoid deposits. To insure proper alignment of the valve stem, the valve body and cover shall be machined with a locating lip. Pinning the cover of the valve body shall not be permitted.

VIII. All necessary repairs and/or modifications other than replacement of the main valve body shall be possible without removing the valve from the pipeline.

IX. The pressure-reducing pilot control shall be a direct-acting, adjustable, spring-loaded, normally open diaphragm valve designed to permit flow when controlled pressure is less than the spring setting. The pilot control is held open by the force of the compression on the spring above the diaphragm. It closes when the delivery pressure acting on the underside of the diaphragm exceeds the spring setting. The pilot control shall have an opening speed control and an optional second downstream sensing port which can be used to install a pressure gauge.

2.12 MOTOR-OPERATED FLOW CONTROL VALVE (FCV)

A. The Flow Control Valve (FCV) shall limit flow to the desired rate regardless of changing line pressure. The valve shall be motor-operated, installed with an externally-mounted, multi-turn motor operator that functions to position the valves by means of a rising stem extending through the valve cover. Valves shall be of the globe-body configuration, with internal vee-port construction.

B. The valve may be of either the piston-actuated or diaphragm-actuated type.

C. If the valve is of the piston-actuated type, the following requirements shall apply:

I. The valve shall be of an internal piston design such that the only moving part within the valve is a one-piece piston. The piston shall be guided through its entire stroke and along its entire circumference by a stationary liner installed in the valve. The seat opening of the liner shall be no less than the pipe area. The liner shall include longstroke stationary vee-ports with a total flow area no less than the pipe flow area. The liner shall be designed to provide a non-corrosive, metallic seating surface attached to the valve body.

II. Throttling shall be achieved via long, stationary vee-ports located downstream of the seat and not by the seat itself. The vee-ports shall be located downstream of the seating surfaces in order to direct any cavitation downstream of the seating surfaces.

III. It shall be possible to replace the piston, liner, and body seal through the valve cover.

Sprayed, plated, or coated seating surfaces directly on the valve body are not acceptable.

IV. The valve shall be capable of operating in any position. The flow area throughout the entire valve body shall be no less than the pipeline flow area.

V. The valve body shall be a one-piece casting of ductile iron per ASTM A536 with integral flanges.

VI. The valve shall be furnished with a single cover through which all internal valve components can be inspected, repaired, and/or replaced.

VII. The piston and liner shall be of bronze construction. All other internal valve trim shall be of bronze or stainless steel construction.

VIII. The valve shall be furnished with a renewable seat ring of Buna-N or other suitable resilient material attached to the valve piston for tight closure. All other valve seals shall be of Buna-N or other suitable resilient material.

D. If the valve is of the diaphragm-actuated type, the following requirements shall apply:

I. The main valve shall be self-contained, hydraulically operated, single diaphragm-actuated, and of the globe type. The valve shall consist of three major components: the body, with seat installed; the cover, with bushings installed; and the diaphragm assembly. The diaphragm assembly shall be the only moving part and shall form a sealed chamber above the diaphragm to separate operating pressure from line pressure. Packing glands and/or stuffing boxes are not permitted.

II. No valve chambers shall be allowed between the valve cover and body. The valve body and cover shall be of cast material with no fabrication or welding used in the manufacturing process.

III. The valve shall contain a resilient, synthetic rubber disc, with a rectangular cross-section contained on three and one-half sides by a disc retainer and forming a tight seal against a single removable seat ring. No O-ring type seal (circular, square, or quad type) shall be permitted as the seating surface. The seat plate shall be contoured to permit the smooth transition of flow and hold the seat seal firmly in place.

IV. The spool shall be of sturdy one-piece design capable of withstanding opening and closing shocks. It must have straight sides and a radius at the top to prevent excessive wear of the diaphragm as it flexes across this surface.

V. The diaphragm assembly shall contain a non-magnetic stainless steel stem with sufficient diameter to withstand high hydraulic pressures. It shall be fully guided at both ends by a bearing in the valve cover and an integral bearing in the valve seat. No center guides shall be permitted. The stem shall be drilled and tapped in the cover end to receive and affix such accessories as deemed necessary.

VI. The diaphragm shall be non-wicking, flexible, and shall consist of nylon fabric bonded with

synthetic rubber compatible with the operating fluid. The diaphragm must withstand a Mullins Burst Test of a minimum 600 psi per layer of nylon fabric. It shall be cycle tested 100,000 times to insure longevity. The diaphragm shall be fully supported in the valve body and cover by machined surfaces which support no less than one-half the total surface area of the diaphragm in either the fully opened or fully closed position.

VII. The main valve seat and stem bearing in the valve cover shall be removable. The cover bearing and seat in 6" and smaller sizes shall be threaded into the cover and body. The valve seat in 8" and larger size valves shall be retained by flat head machine screws for ease of maintenance. The lower bearing of the valve stem shall be contained concentrically within the seat and shall be exposed to the flow on all sides to avoid deposits. To insure proper alignment of the valve stem, the valve body and cover shall be machined with a locating lip. Pinning the cover of the valve body shall not be permitted.

VIII. All necessary repairs and/or modifications other than replacement of the main valve body shall be possible without removing the valve from the pipeline."

N. SPECIFICATION SECTION 11295 – INTERIOR PROCESS VALVES

Article 2.15.I., change "The reversing contactor shall be mechanically and electrically interlocked..." to "The reversing contactor shall be electronically operated without contacts and electrically interlocked..."

O. SPECIFICATION SECTION 15010 – GENERAL MECHANICAL PROVISIONS

Page 10, Paragraph 1.05, K. After this paragraph insert the following new paragraphs:

"L. Contractor shall prepare coordination drawings for all wall, roof, and floor penetrations. The drawings shall include sleeve locations. Drawings shall be prepared based on equipment being installed. Drawings shall be coordinated with equipment provided by other sections in the specification including but not limited to: Pumps, Conveyors, Compactors, Sample equipment, Screening Devices, Grit Handling Equipment, HVAC equipment, Odor Control Equipment, Plumbing Fixtures, and Electrical Equipment

M. Contractor shall prepare equipment pad and housekeeping coordination drawings for the approved mechanical and plumbing equipment."

P. SPECIFICATION SECTION 16131 – BOXES

Article 2.02.C., Change "may be sheet metal" to "shall be stainless steel".

Q. SPECIFICATION SECTION 17420 – INSTRUMENTS

Remove Article 2.01.A.10 – Pump Controller. Renumber following articles accordingly.

MAYOR JIM GRAY

LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

Todd Slatin

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Judy Construction Company

ADDRESS: 103 S. Church Street, Cynthiana, KY 41031

SIGNATURE OF BIDDER: _____

Steve Judy

125 Lisle Industrial Ave Suite 180 Lexington KY 40511 / 859 425 2400 Phone 859 254 7787 Fax lexingtonky.gov

MAYOR JIM GRAY

LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

ADDENDUM #5

Bid Number: **#48-2016**

Date: May 19, 2016

Subject: West Hickman Wet Weather Storage

Address inquiries to:
Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following clarifications to the above referenced Bid:

Please see attached Supplemental Guidelines for Sampling and Testing.

Please see attached Interconnection Requirements, Figure 2, SPEC-252-C provided by Kentucky Utilities.

Please see attached for Supplemental information on ADD 5-1, ADD 5-2, and ADD 5-3.

	Questions	Answers
1	SMALL DIAMETER PIPING : We have not found a specification section describing what kind of small diameter pipe, fittings and nipples to be used at the air release valves mounted in the ductile iron piping systems. Do you want stainless steel, black steel, galvanized steel ? Do you want schedule 40 nipples or do you want schedule 80 nipples? Please review and clarify.	See Addendum 4.
2	SMALL DIAMETER PIPING : Drawing D-0502 is showing the detail for " Pressure Gauge Diaphragm with Seal " detail. In one of the callouts for the nipples it states the " pipe material shall match process pipe". In a large diameter ductile iron pipe line, small diameter ductile iron pipe or nipples are not made, as far as we are aware. In ductile iron pipe lines do you want black steel or galvanized steel nipples at pressure gauges ? Please review and clarify	See Addendum 4

3	SMALL DIAMETER STAINLESS STEEL PIPING : Drawing D-9502 is showing a detail for a typical pipe drain. The detail is indicating 2 " S. S. SCH 40 pipe. We have not found a specification section describing stainless steel pipe and fittings for the project. Do you want standard schedule 40 threaded stainless steel nipples ? Do you want class 150 cast threaded fittings ? Do you want grade 304 SS or do you grade 316 SS materials ? Please review and clarify.	See Addendum 4
4	AIR RELEASE VALVE VENT LINES : We have not found any indication as to what material is to be used for the various air release valve vent lines. Can the vent lines be schedule 80 PVC? Please review and clarify	See Addendum 4
5	AIR RELEASE VALVES : Drawing D-1300, section – A, is showing the section view through the IPS Pump Station. Inside the pipe gallery we see the ARV air release valve on top of the 30 " x 12 " flanged tee. It appears by the way the air release valve on top of the outlet flange that there is no isolation valve used. We want to clarify if an isolation valve is to be provided with the ARV valve or not. Please review and clarify.	See Addendum 4
6	STORAGE TANK PIPING : Drawing D-2103 is showing sections A & B through the 60 " DIP Inlet and the 54 " DIP Overflow lines. The bottom 90 bend is drawn and called out to be MJ end fittings. There is a callout in section – A for the MJ bell and gland to serve as a water stop. We do not believe that anyone makes ductile iron MJ fittings over 48" diameter in size. We believe that these size fittings will have to bell end type. Please review and clarify.	All tank inlet and outlet piping elbows shall be flanged fittings. See Addendum 5.
7	Please conform below is allowed for restraint of DI pipe and fittings. 1) TR-FLEX joints or Field-Lok gaskets for push-on joints 2) Megalug for mechanical joints	Refer to Specification 02531- 2.03.H. and Specification 02532 2.01.H. See Addendum 5.

8	Per Spec Section 11210 1.03 B - the pump manufacturer is required to supply the VFD's for the pumps. In drawing E-4606 these appear to be MCC panels. Typically pump manufacturers do not furnish VFD's especially for pumps this small. They also would not typically supply MCC panels. Could you please clarify exactly what is expected of the pump manufacturer in this application.	The VFDs shall be provided by the Electrician. See Addendum 5.
9	Per Spec Section 11210 2.02 A – There are 2 pump applications NPW 1 (2 - 40hp pumps) and NPW 2 (4 - 100hp pumps). D-7136 shows the pumps, but drawing E-4606 only shows NPW 2 pump controls. Are the pump controls labeled 47hp Dilution pumps 1 & 2 mislabeled? Should these be the 40hp NPW 1 pump controls?	Refer to sheet E-4606 released in Addendum 4.
10	Section 11330 requires safety pull cords on the screens and washer / compactors. As fully enclosed equipment this is unusual. How many are required where should these be located on the screen and compactor?	Pull cords are standard equipment and provided according to manufacturer's standard practice.
11	Drawing D1124 requires the platforms around the conveyors and grit equipment to be by the conveyor / grit vendor. This would seemingly result in the facility getting 3 different styles of platforms / handrail. Confirm that these are to be provided by the equipment suppliers.	Platforms and handrail for conveyors and grit equipment are to be provided by the manufacturers as specified.
12	Section G on Drawing D1324 calls for the wall closure plate to be by the conveyor manufacturer. We recommend this be fabricated on site by others after conveyor installation.	Closure plate materials provided by conveyor manufacturer. Installation occurs after the conveyors are installed and will require field adjusting.
13	Please provide applicable details for the proposed yard hydrants. Will an isolation valve be required at each hydrant? Will joint restraint (Meg-A-Lugs, rods, etc.) be required?	Refer to Specifications Section 02517 – 3.01.C. for the connection to the main and Specification Section 02515.
14	Drawings C-1103 and C-9005 illustrate a 4" manual valve for the sump at the fuel tank pad. Drawing C-9005 calls this feature a "Locking Valve". Please confirm the correct valve type for this application.	The 4-inch manual valve shall be a gate valve in accordance with Section 02515. See Addendum 5.

15	Drawing C-2103 illustrates a 6" NPW line running around the perimeter of the South Storage Tank. Are any yard hydrants or other features required on this line?	Per Sheet C-2103, there is a flush hydrant at each of the tank manways, five (5) total. There are also three (3) yard hydrants shown in the grass space between the two tank footprints.
16	On Drawing C-2104, the excavation elevation shown for Point # 233 is 912.74. Is this correct?	The elevation for Point 233 shall be 905.5. See Addendum 5.
17	On Drawing C-9003, Detail 5 indicates "KTC Steel Beam Guardrail with Type I Guardrail End Treatment" is to be installed at the (2) proposed storm sewer pipe extension locations. Is the call for End Treatment Type 1 correct (or is this intended to be Terminal Section No. 1)? Is it the intent to install the correct item on each end of each of the 2 guardrail locations (4 total)?	It is intended to be Terminal Section No. 1. See Addendum 5. The intent is for 4 total locations.
18	Drawing S-2311, Detail A, depicts the location of the Perimeter Drain pipe adjacent to the outside face of the tank foundation slab (center of the pipe @ 135'-6" +\- from the center of the tank, and the invert elevation at 909.50). Drawing C-2105 indicates the 8"SD pipe is located at a distance of 143' from the center of the tank, and the Point Table provides a different set of invert elevations for the pipe. Please confirm which details are correct. Additionally, the tank installation process requires a 15'-wide work road around the perimeter at tank slab subgrade elevation (909.50 +\-), which is not accounted for in the detail on Drawing S-2311. Please review and clarify as warranted.	The perimeter drain shall be installed as shown on Sheet C-2105. See Addendum 5.
19	Section 02373, Item 2.01.B., provide a permanent seeding mix and application rates for the stream buffer, which differs from the information provided on Drawing C-0201. Please confirm which information is correct. Will this Riparian Buffer be considered a "Non-Paved Site Restoration" item, and measured for payment on a unit-price basis?	The permanent seeding mix included Section 02373- stream restoration shall be applied when there is overlap between the Section 02373 permanent mixture and the mixture shown on sheet C-0201. Section 02372 permanent mixture shall be applied within 25 feet of the stream per Section 02373. See Addendum 4 for response to unit price item.

20	With regard to Drawing S-8102 and the proposed bridge: The bridge centerline is shown to be Station 50+35.28 (also shown on Drawing S-8103), while other information indicates the centerline is Station 47+35.28. Please review and clarify the correct station. The "T.WALL EL." information shown in the Bridge Plan at the 6 locations atop the headwalls does not appear to be consistent with other depictions of bridge details in the drawings (pavement cross-slope, roadway profile grades, etc.). Please review and clarify as warranted.	The bridge centerline station on sheets S-8102 and S-8103 shall be updated to read 47+35.28. See Addendum 5.
21	Drawing S-1131 shows manhole rungs in the pump station wet well. Drawing S-1332 shows aluminum ladder. Which is correct?	Aluminum ladder shall be used. See Addendum 5.
22	Drawing S-1311, Detail D, calls for galvanized steel handrail and grating. Can this be aluminum?	See Addendum 5. Aluminum guardrail is acceptable if dissimilar metals are isolated at connection to galvanized steel.
23	Please confirm that all handrail and aluminum covers marked as new on Drawing D-0006 are existing and remain in place.	Sheet D-0006 is an as-built from previous construction which occurred at the facility. Refer to the boxed note on the lower right hand corner.
24	Please provide additional details (section cuts, elevations, etc.) for the Booster Pump Station specified in Section 11251.	See Addendum 4 for further clarification on the Booster Pump Station specification.
28	Section 11313, Article 2.02, Paragraph D states "The one (1) small pump w" Please complete the sentence in a future addenda. We wish to confirm whether Recycle Pump #4 is VFD or starter driven given Keynote #2 on Sheet E-3104 and conflict with Room P8 layout on Sheet E-3103. If Recycle Pump #4 is starter driven, will the Owner require such starter to be furnished by the pump manufacturer as is required for VFD driven pumps?	The small pump will not be VFD driven, it will be starter driven. See Addendum 5. The recycle pump VFD's and starter shall be provided by the Electrician. See Addendum 5.
29	In SECTION 11295 - Interior Process Valves, 2.11 (B) PRESSURE-REDUCING VALVE (PRV) AND 2.12 (F), MOTOR-OPERATED FLOW CONTROL VALVE (FCV)	Provide valves per the Specifications.

	Both the reducing valve specification and motor operated globe valve specification call out ductile iron bodies FF&D 150. Can standard cast iron valves FF&D 125 lb. be used instead? Maximum inlet pressure is only 150 psi and our standard CI body FF&D 125 lb is good to 250 psi working pressure. I also note that the check valve specifications, plug valve specification, air and vacuum specification, and strainer specification all call out cast iron valve bodies rather than ductile iron.	
30	We spoke a while ago with regard to the lack of a spec. for the coping on this job. Coping is often speced. in sections 076200 or 077100. I have attached some standard type info. that is usually requested for coping; FM Approval, ANSI/SPRI ES-1 Testing and 20 year finish warranty.	See Addendum 5.
31	Please reference Section 01210, Article 1.01, Paragraph C. In a future Addenda please confirm the Owner considers Item 1 (Eutek Headcell Grit System) and Item 2 (Control Touch SCADA Integration) to be Defined Allowances subject to the provisions of 01210, Article 1.06. In a future Addenda please confirm the Owner considers Item 3 (Brick for Nitrification Gallery Stair Building) and Item 4 (Miscellaneous Site Improvements) to be Undefined Allowances subject to the provisions of 01210, Article 1.07.	From Section 01210 – 1.01.C. – items 1,2 and 3, the Eutek Headcell Grit System, the Control Touch SCADA Integration, and the Brick Allowance are defined allowances. Item 4 – Miscellaneous Site improvements is an undefined allowance.
32	Please provide the following information for sizing actuators for the Motor Operated Piston Flow Control Valves. *Minimum / Maximum Inlet Pressures: _____/_____ PSI *Outlet System Static Pressure:_____PSI	The Minimum/Maximum pressure for all FCV valves is 50 to 95 PSI. Per drawings D-7731 the flow range is from 0-1200 gpm. Approximate static pressure for each line:

	* Minimum / Normal / Maximum Flow Rates: _____/_____/_____ GPM I have attached a list of the FCV's.	CLDW FVC 1 – 3 PSI FSW FCV 1 – 20 PSI EFW FVC 1 – 8 PSI EFW FCV 2 – 26 PSI EFW FCV 3,4 – 6 PSI SPW FCV 1,2 – 20 PSI
33	RESTRAINED PIPING : We have looked over the specifications and the plans and have not found any indication as to which specific process pipe lines have to be restrained. We looked through all of the profile sheets. We did not find any reference to pipe restraint in the general notes sheets in the plans. The pipe schedule on drawing D-9503 does not mention restrained joints. The schedule also does not list DIP over 48 " . Specification section – 02532, 2.01, H, does describe pipe restraint as being " Field-Lok " restraining gaskets or " TRFLEX" by U.S. Pipe. But there is no indication as to which lines need to be restrained. Please review and provide clarification.	The pipe schedule on Drawings D-9503 states that not all piping is included, "only process related piping as specified in Section 11290." The 60-inch force main shall be restrained in accordance with Section 02531 – 2.03H. See Addendum 5.
34	STORAGE TANK – ELEVATIONS : Drawing D-2103 is showing sections – A & B of the 60 " inlet pipe and the 54 " overflow pipe. Looking at section – A, the inlet pipe center line elevation is indicated to be 902.25'. We scaled the sheet to ¼" = 1' – 0 ". Measuring from the center line of the 90 bend under the slab up to the first flange above the tank floor, it measures 5' – 7 ¾ " . That would make the flange elevation – 907.92 ' . Looking at the finish floor elevation at the perimeter of the tank, it is indicating that the elevation there is 910.00'. That means that the pipe flange is 2 ' – 1 " below the floor level. Is the section drawn to scale? Please review and clarify the elevations of the piping in the storage tank.	The Centerline elevations of the pipes shall be as stated on the Drawings. Flange fittings shall serve as waterstop ring, see Addendum 5.

35	STORAGE TANK – ELEVATIONS : Please review and clarify the elevations on drawing D-2104.	All elevations to be as stated on the drawing, including but not limited to the pipe centerlines and slab elevations. When elevations and scale conflict, elevations shall take precedent.
36	FLANGE ADAPTER COUPLINGS : Do the flange adapter couplings in the storage tank discharge valve vault need to be restrained ? We read the specification section 11290, 2.05, B, and it did not mention any type of restraints. The paragraph A, above for flexible sleeve type couplings indicates that they need to be restrained for 250 psi pressure. Please review and clarify.	Yes, and See Addendum 4.
37	WWS DISCHARGE VALVE VAULT: Drawing D-2131 is showing the 24 " flanged plug valve in the drain line from the storage tank. The valve has an electric motor operator mounted on the top of the vault with a valve operator extension rod extending down to the valve. We did not find any specification description for the extension rod. We also note that the section view of the vault does not show any stem guides or supports for the long extension rod. Is the valve supplier supposed to design the supports for the valve operator extension stem rod ? Please review and clarify.	The valve supplier will be responsible for designing and providing stem guides.
38	NORTH TANK CFO PIPE CAP : Drawing D-2141 is showing the WWS Consecutive Fill Overflow Valve Vault. The pipe stubbed out for the future North Tank is drawn with a 54 " blind flange on the end of the pipe. The blind flange has a callout for a " cap " . The blind flange is attached to some sort of a fitting on the end of the pipe. We are not familiar with the fitting as it is drawn. It appears that this is drawn as a flange by MJ adapter. But MJ fittings are not made larger than 48 ". Please provide a description for this fitting. Please review and clarify so that we will provide the proper fitting at this location.	See Addendum 5.

39	GRAVITY DRAIN IN THE WWS CONSECUTIVE FILL OVERFLOW VALVE VAULT: Drawing D-2141 is showing the 8 " gravity drain line extending out of the valve vault. The drain line has a sleeve type coupling drawn in the line 1' – 6 " away from the flanged tee fitting. The callout for this coupling is FCA, which is for a " flanged " coupling adapter. Please review and clarify if a sleeve type coupling is meant to be in the line or do you want a flange coupling adapter in the line to connect to the flanged tee fitting ? Please review and clarify.	This should be a flexible coupling adapter as called out and connected to the flange of the tee fitting.
40	VALVE VAULT SUMP PIPING : We noticed that in the Discharge Valve Vault and the Consecutive Fill Overflow Valve Vault, there is shown a 3 " PVC sump pipe to be mounted on the wall with a quick disconnect at the hatch opening. Is there to be a pump down in the sump ? Is this just a pipe that extends down into the sump for a portable pump to be connected to it up on top of the vault ? Does there need to be a foot valve on the end of the sump suction pipe ? The section views of the vaults do not show the pipe going into the sump . Please review and clarify this piping .	No pump shall be provided in the sump. The intent is that piping goes into the sump so that a portable pump can be connected if required. Refer to the note on Sheet D-2121 Section A/D-2121 which states that the PVC is to be held 3-inches off the bottom of the sump. No foot valve required.
41	SPECIAL BPR MANHOLE : Drawing D-4101 is showing the new manhole to be constructed around the two existing pipe. The plan view appears to be showing pipe sleeves around the existing pipe. Are you wanting new galvanized wall sleeves and link seals to be provided for the existing pipe ? To get them around the pipe, they would have to be cut in half then installed over the existing pipe. Do you want a water stop material to be applied to the outside of the pipe inside the concrete forms to provide a water stop on these existing pipe. Please clarify how these existing pipe penetrations are to be configured in the new concrete manhole walls.	Pipe sleeve description updated in Section 11290. Pipe sleeve detail updated on sheet D-9501 to call out split sleeves on existing pipes. For Special BPR MH existing pipes shall have split sleeves sealed with inside and outside link seal. See Addendum No. 5.

42	MJ BELL RESTRAINTS : We were wondering if Ebaa Iron maglug type joints restraints are allowed for the ductile iron piping systems. We see in the pipe schedule on sheet DS-9503 that lines 401 to 404 are to be restrained. The megalugs would apply to the MJ fittings only. The pipe will have to be Flex-Ring or Lok-Ring type pipe restrained joints. We see the Megalugs described in the restraints for PVC pipe. Please review and clarify.	Refer to Section 02532 2.01.H. and Section 02531 2.03H.
43	FUTURE PTE STUB OUT : Drawing D-4101 is showing the new Junction Chamber structure. There is one 48 " PTE line stubbed out for a future connection. The callout on the sheet for this pipe states, " install one section of pipe and cap pipe – (pipe stub to future process) " . Is it meant that a full 20 foot length of pipe is to be provided for the future connection ? The pipe as drawn measures approximately 12 feet long. Can the pipe be 12 feet long ? Please review and clarify.	Stub pipe out to length shown. See Addendum 5.
44	TAPPING SLEEVE AND VALVE : Drawing D-7132, note – 1, indicates to provide a 6 " X 6 " tapping sleeve and " tapping " valve. We searched in the specifications and did not find a specification description for these items. Please review and provide specification descriptions for the sleeve and valve.	See Addendum 5.
45	HWRK PIPE LINE : Drawing D-7132 is showing a new HWRK line to be Installed in the pipe gallery. The pipe abbreviations legend indicates that this line is a " new headworks line ". Looking at the existing piping, it appears that this new HWRK line is to tap into the existing FSW – foam spray water line. We want to make sure that we list the correct ductile iron pipe lining for this new pipe line. We are assuming that this line is to be cement lined. Please review and clarify the lining for this new HWRK line.	The headworks piping shall meet specification 11290 – Internal Process Piping inside of the structures and 02351 – Sewage Force Mains for a buried installation.
46	Can MTU Onsite Energy be listed as an approved manufacturer for the Engine Generator Set?	See response to Addendum 2 Question 1.

47	Please provide clarification of the finishes and coatings required for formed concrete surfaces other than slabs and floors. The Bid Documents provide conflicting directive. Section 03350, Article 3.01A defines concrete finishes as Type I (rough), Type II (grout cleaned) and Type III (smooth rubbed) for formed concrete surfaces other than slabs and floors. Section 03350, Article 3.05 provides a concrete finish schedule indicating where the Type I, II and III finishes are required. Note the schedule only lists Type I and Type III finishes; no areas are listed as receiving Type II finishes. Review of Structural Concrete Note F, 1, a) on Sheet S-0001 (Structural General Notes) states: "Formed Surfaces: Exposed to View: Apply Sikagard 550W over grout-cleaned finish surfaces (Non-Traffic) Per Manufacturers Specifications." Review of manufacturers data for Sikagard 550W reveals this is an "elastomeric, crack-bridging, anti-carbonation, acrylic protective coating" Section 09961, Article 3.07 - Protective Coating Systems and Application Schedule, Article A states "Unless otherwise shown or specified, paint surfaces in accordance with the following application schedule. In the event of discrepancies or omissions in the following, request clarification from Engineer before starting work in question". The Application Schedule in Section 09961 lists System 10 - Interior Concrete and Masonry Walls, Non-Immersion, Excluding Floors. System 10 is a two-component water based catalyzed epoxy to be used in the following areas:	Type 1 finish and painted or coated per Specification Section 09961. Remove structural note F.1.a. See Addendum 5.

	a) Concrete and concrete block walls, columns and supports b) Concrete ceilings and beams c) Non-corrosive room areas Resulting Question: The differing direction on coatings to be applied to concrete surfaces exposed to view has impact on the concrete surface preparation (finishes) required. Focusing on interior concrete formed surfaces exposed to view (other than slabs and floors), are we to follow the requirements of Structural Concrete Note F, 1, a), the requirements of Section 09961, System 10 or leave as a Type I surface per Section 03350, 3.01A?	
48	Section 03350, 3.05 finish schedule specifically calls for interior exposed ceiling and beams to be smooth rubbed. If we are to apply Sikagard per structural notes or paint per section 09961, is this actually required/necessary?	The only interior exposed CIP concrete ceilings or beams are in the headworks structure and pipe gallery. These should be type 1 finish and painted or coated per Specification Section 09961.
49	Section 03350, 3.05 first item references Section 09800 - Special Coatings. We find not such specification in the Bid Documents.	See Addendum 5. Reference shall be to Section 09961.
50	At the Truck Loading Bay: drawing S-1111 shows "pre-eng galv steel stairs", details on drawing S-1351 shows aluminum. Please advise.	Stairs shall be galvanized steel. See Addendum 5.
51	At the Screening and Grit Handling: drawing S-1122 shows FRP stairs and platforms, drawing S-1123 and details on drawing S-1351 show aluminum. Also, the Manual Bar Screen shown on drawings D-1122 and D-1324 has no details. Please advise.	Stairs and Landing shall be FRP. A manual bar screen detail has been provided. See Addendum 5.
52	At the Recycle Pump Station: drawing S-3111 shows a stair and perimeter rail for elevation about 5' above grade; drawing S-3121 shows the Parshall Flume with the same elevation but no stair or rail. Please advise.	See Addendum 5 for revised Sheet S-3121.

53	At the Splitter Box: drawing S-4111 shows galvanized platform framing and stairs and hot dipped galvanized rail and grating. In the specs: 05500 refers only to aluminum stairs, 05530 refers only to aluminum grating, and 05520 refers only to aluminum pipe handrails and railing systems. Please advise.	The same design criteria applies to both material types, but refer to Section 05120 for steel material specifications.
54	Regarding the booster pump station, I don't believe I saw a drawing of the station, but then again, I may have missed it. Is there a drawing and if so, could you send me a copy?	A drawing as not provided of the booster pump station, all required items are listed in Section 11215 of the specifications.
55	Section 11215, Part 1.04.D (also mentioned in Section 2.10.C) – calls for the station manufacturer to provide the slab design signed and stamped by a Professional Engineer registered in the Commonwealth of Kentucky. Dakota Pump cannot comply with this requirement. Yes, they could provide the slab design, but they do not have a PE registered in Kentucky. In addition, with so much structural concrete work involved with this project, I would assume the contractors would be including slab calculations for many locations. Subsequently, section 3.02.B reads that the contractor is responsible for the slab design.	Section 1.04.D and 3.02.B. state the Contractor is responsible for the design of the slab in accordance with the specifications.
56	Detail on D-9502 for Pressure Gauges requires pipe saddle on DI per note 2. Please provide spec for pipe saddles.	Spec 11290 updated. See Addendum No. 5
57	Please clarify wall penetration for 54" DIP. it appears the drawings are indicating a sleeve to be used. I do not believe Link-Seal is available for 54" DIP. Will a 54" DIP wall pipe be allowed?	According to manufacturer's data, Link-seal can be provided in larger sizes. Provide sleeve as shown.
58	Spec section 16435 2.09 item I sub 3 Is the battery cabinet required or a floor mounted rack with containment? Typically with wet cells a floor mounted rack with containment is preferred. Is this okay? The battery charger is typically wall mounted and not in a cabinet. Is this okay?	Floor mounted with containment is acceptable. Wall mounted charger is acceptable. See Addendum 5.

59	Spec section 16435 2.10 item C. How many hours are required with the SCADA supplier for coordination? If these hours are exceeded who pays the additional costs associated with field meetings?	This is a bid decision as to how much time you think you need to insure your equipment works and to allow for troubleshooting the complete system not just your equipment. Provide adequate time to do so or ask General Contractor how much time it wants to include. No additional fees will be paid for the time associated with field meetings.
60	Spec section 16435 2.13 Generator Power and Control section and drawing 4602. This shows the Generator controls to be mounted in the same section as the Generator breaker. From a safety standpoint can a separate lineup with all controls and the Master cubicle and Utility transfer controls be supplied? The breaker sections would be a separate lineup at 4160 volt, and 48 volt. Controls would all be low voltage for servicing and any troubleshooting by the plant personnel. Is this acceptable?	This is acceptable.
61	Spec Section 16435 2.13 B refers to LG&E KU Drawing Spec -252-C. This item is not listed on the L G & E website. Will this be published by addendum? Is Testing and certification per IEEE 1547 part of this requirement? If so who is responsible for hiring the 3rd part for this certification? Typically it cannot be the equipment manufacturer.	See attached for Spec-252-C, as provided by Rodney Brock, Kentucky Utilities. General Contract shall hire independent testing contractor to test and certify the system to IEEE 1547. See Addendum 5.
62	Spec 16435 There is no mention of who is required to calculate and supply the circuit breaker fault coordination Study?	That is a question between vendors and General Contractor to coordinate prior to bid.
63	Spec 16435. Will there be an independent 3rd party commissioning company? Who includes this cost? Who is responsible for setting of all the relays per the circuit breaker coordination study?	This is a bid coordination issue between vendors and general contractor to coordinate prior to bid.
64	Spec 16435 section 3.03. 1 person-s days for startup does not seem sufficient. Will there be load banks required for closed transition testing of the utilities and generators without the owner's actual load so all protective features and operations can be thoroughly tested prior to building loads being applied? This requires	This specification section only lists the minimum acceptable days to perform the tests. Each vendor needs to determine how long and under what conditions they need to test the system to show it accepts the required loads, trips at the required settings, hands off to the utility properly, etc.

	multiple days and operation of the protective relay features on all of the system breakers. Typically this can be a 3-4 week process before connecting facility loads.	
65	Spec 16435 Medium Voltage Switchgear. Should GENSWGR and MVSWGR1A and 1B be supplied with the Generator manufacturer for proper coordination of the systems and service responsibility once the system is turned over to the owner?	If not a single point of responsibility, the various providers would need to provide whatever level of coordination time is necessary to insure all systems work properly together.
66	Drawing E 4602 Shows a neutral grounding resistor connected on the Generator. Is this part of the engine generator package? I do not see a specification section on this item. Who supplies this?	This is a bid coordination issue between vendors and general contractor to coordinate prior to bid.
67	Is there a conduit schedule showing quantity and types of cable/conduit required between generators and Switchgear "MVSG-EM?	Refer to Addendum 5 Sheet E-4601.
68	Is there any medium voltage wiring between the generators and Neutral Grounding Resistors?	Refer to Addendum 5 Sheet E-4601.
69	Since the specifications require pump vendors to supply the VFD's does this mean that they should include Motor Control Centers "MCC-NGA1" & "MCC-NGB1" complete since the VFD's are internal to MCC's?	MCC-NGA1 and MCC-NGB1 and associated VFD's are to be provided by the electrician. See Addendum 5.
70	Sheet D-9503, Concrete Pipe Support, shows a hold down strap. The plans do not show the locations on the 54" discharge line. Will hold down straps be required for the 54" WWS FM concrete pipe supports?	Specification Section 11290 – Article 1.03 D requires the Contractor to submit shop drawings on the pipe support system, including type and size of supports, applied wall hanging load at each hanger support location, product data indicating safe hanging loads for each hanger, and details on thrust anchorage and all their locations. Article 1.03 C requires that a Registered Professional Engineer certify the piping support system design. See Addendum No. 5
71	There are numerous instrument shown on the E drawings. Associated with the IPS and NPW system.	Who provides which instrument, float, sensor, meter, gauge, etc. is to be coordinated between the Contractors.

	These instruments are not shown on the I drawings. Nor is there a spec for the shown pressure gauges in the 17000 section. Who is to supply these items ?	The pressure gauges are specified in Section 17420 – 2.01 (4). See Addendum 5 for Pressure Measurements.
72	Specification section 16370 is for Overhead Medium Voltage Power Distribution. Will you supply a spec for the Underground Medium Voltage Power Distribution and Testing?	See Specification 16371 in Addendum 5.
73	YARD HYDRANT : Drawing D-7137 is showing a new 6 " EFW line extending over into the area between Clarifiers 5 to 8. The callout for the yard hydrant indicates that a " 4 – way " yard hydrant is desired at this location. There is no indication as to what size inlet and outlet connections are to be provided. We reviewed the specification section 02517 – Hydrants and it included paragraph 2.01, Yard Hydrants which described a Mudock Model M-200, which is a single outlet yard hydrant. Then there was paragraph 2.02, Flush Style, yard hydrant. The specification section did not describe a " four way " type yard hydrant. We also did not find a detail of a yard hydrant installation. Please review and provide a specification description, manufacturer with model number for this four way yard hydrant. Also provide a detail if one is available.	See Specification 02517 and 02515 for installation requirements for hydrants. See Addendum 5.
74	TAPPING SADDLE AND VALVE : We did not find a specification section describing the type of tapping saddle and valve required for the tie in of the new EFW line shown on sheet D – 7137. Please provide a specification paragraph describing these items.	See Addendum 5.
75	HEADWORKS PUMP STATION LEVEL SENSOR STILLING WELLS: We see the callout for the three level sensor stilling wells in the wet wells of the Headworks pump stations. Reference section – P / D-	See Detail 7 on sheet E-9506. Also, bottom termination elevation for stilling well pipe updated in Addendum No. 5.

	1336. We have not found a detail of the stilling wells. We have not been able to find any indication as to what type of pipe materials is required for the stilling wells. Please review and clarify what pipe materials are to be provided for these stilling wells.	
76	INFLUENT RAW SEWAGE PARSHALL FLUME : We see the Proposed (R2) Parshall Flume structure on the yard piping drawing C-1103. We also found the structural drawing for the flume on drawing S-3121. We have not been able to find a detail of the flume in the process drawings. There is a note – 1 on S-3121 that indicates to coordinate all penetrations and openings with the process drawings prior to construction. We were trying to find out what type of pipe inlet and outlet penetrations to provide. We do not know if they need to be wall pipe or if we can provide wall sleeves and link seals. Please review and clarify.	Refer to Detail on D-9501, Typical Pipe Sleeve Detail. Also refer to Specification Section 11290.
77	Specification Section 13200, Article 3.02.G.3 requires a sliced trowel finish on the tank covercoat. Please confirm if a natural gun/nozzle finish will be acceptable.	Trowel finish shall be provided as required in the specification.
78	Please confirm which prevailing wage determination applies to this project as Davis Bacon and Kentucky Labor Cabinet prevailing wages are provided.	The Contractor is responsible for paying which wage rate is higher for each classification between federal and state wage rates.
79	Drawing D-2102, Detail A calls out the #675 precast concrete overflow as required by manufacturer, however detail 1 specifies 22 are required. Please confirm the tank contractor shall determine the number of precast overflow/skylights required.	Per note on Sheet D-2101, as required by the manufacturer. See Addendum 5.
80	Can you verify if class 150 54" DIP will be acceptable for the buried 54" tank overflow shown in profile "SOUTH TANK CFO" on drawing C-1303. Will restrained joints be required for this line?	54" Gravity pipe to be pressure class 150 psi in accordance with Specification 02532.

81	Per Specification Section 16446, 2.05, 5. 5. The harmonic distortion levels shall be specific to the "Point of Common Coupling" (PCC) as defined in IEEE Standard 519 and indicated on the Drawings. Please advise where on the drawings the Point of Common Coupling is defined to be as this effects the size and type of harmonic equipment that will need to be provided to meet the harmonic suppression spec requirements.	The Point of Common Coupling will be at the last overcurrent device that protects the branch circuit cable ahead of the VFD. See Addendum 5.
82	Please advise if the 54" FCA on drawing D-2141 is required to be restrained?	See Addendum 5.
83	Title: Submerged bolts for DIP flanged joints _____ Spec 2.06 FLANGED JOINTS A., states "All bolts, nuts and studs for flanged pipe in submerged locations shall be 300 series stainless steel." Please clarify grade of stainless steel bolts required for submerged flanged joints. 304SS or 316SS?	See Addendum 5.
84	Sheet C-9002 shows thrust blocks on process pipe. If a restrained joint is being used on the pipe/fittings, is a thrust block still required?	Thrust Blocks shall be required as shown on Sheet C-9002 regardless of piping.
85	Can the on-site rock that is excavated be utilized for the various aggregates and fill materials that are required if it is processed to the necessary gradations?	Per Section 02223 Article 1.05.A.– Contractor must provide laboratory tests and analysis of fill material. This includes gradation analysis. The excavated on-site rock may not be used underneath the tank foundation. For excavated on-site rock to be used a specified aggregate, it must be tested to meet all requirements of the aggregate in accordance with Kentucky Transportation Cabinet Specifications.
86	We have analyzed the schedule for this project and determined that the project will require 36 months to complete. Please re-consider the project duration in the Contract Documents.	See the response to Addendum 2 Question 18. The Contract Period as specified will stand.

87	We request a 2 week bid extension to the project. The additional time will allow us to more accurately surround the scope of work, means and methods, and pricing. Please consider.	Bid Opening will remain as specified in the Contract Documents.
88	Please change Preload's name from 'Preload Incorporated' to 'Preload, LLC' in Section 1.04 B.3 of Specification section 13200.	See Addendum 5.
89	The foundation detail on Sheet S-2311 shows the mud mat turned up to the top of the tank footing outside of the tank. The mud mat will cut off drainage outside of the footing to the perimeter drain. Is this the intent or can the mud mat terminate at an elevation below the perimeter drain?	See Addendum 5.
90	Sec 2.07 of Specification Section 13200 specifies 'the steel shell diaphragm shall be epoxy bonded to the waterstop.' AWWA D110, Type III tank design utilizes a concrete curb in compression on the inside of the tank to bond the waterstop to the wall. Please include an allowance for this method.	Construction in accordance with AWWA D110 Type III shall be acceptable. No additional payment will be made for this construction difference.
91	Sec 3.02 D of Specification Section 13200 is only applicable to AWWA D110, Type II tanks. Please include this note.	Construction in accordance with AWWA D110 Type III shall be acceptable.
92	Please confirm that the final thicknesses, reinforcing and dimensions of dome, walls, and footing will be determined by the Tank Contractor during final detailed design and are not required to conform to dimensions indicated in the drawing package.	The prestressed tank manufacturer will be required to complete a full tank design in accordance with Specification 13200. However, all dimesions shown on drawings shall be minimum allowable.
93	What is the diameter and material for the 3 level sensor stilling wells in IPS 1 &2 and WWS Pump Stations?	See Detail 7 on sheet E-9506, included in Addendum 5.
94	No Hatch sizes are indicated on the Headworks Drawings. Will there be a Hatch Schedule issued by Addendum?	Hatch sizes are indiciated on the structural drawings. Please note, all hatches above pumps shall be coordinated and provided by the pump manufacturers, in accordance with the specifications.
95	No Pressure Gauges are indicated on the Recycle Pump Station Drawings. Are Pressure Gauges required. If so, where and how many?	Yes, see Addendum 5.

96	Neither the WWS Inlet Valve Vault nor the WWS Consecutive Fill Overflow Valve Vault have Equipment removal Hatches. Please confirm that no Equipment Hatches are required.	See Sheet S-2121 and S-2141, both structures have removable top slabs.
97	The following vaults appear to be Confined Spaces. Do they require vents? a. WWS Inlet Valve Vault b. WWS Discharge Vault c. F/M Drain Valve Vault d. Recycle Pump Station Valve Vault	Construct as shown.
98	Is a special lining required for the Grit Piping. I can only find a requirement for either Cement or P-401 lining.	See Specification Section 11290.
99	Flange Bolts and Nuts are specified as "300 Series SS." Please confirm either 304 or 316.	See Addendum 5.
100	Restrained Joints are required on both Ductile and PCCP for the Force Main. Is this also a requirement for the FRPM?	Yes, restrained joints must be provided for all pipe materials as required by the specifications.
101	Referencing "Section 02531 - Sewage Force Mains," we are confused regarding the type of pipe required for the 60" force main. We understand that 60" restrained joint, Protecto 401-lined DI pipe is specified. Are other pipe materials allowed for the 60" force main? If so, please address the following questions: Section 02531 refers to "Fiberglass Reinforced Polymer Mortar Pipe (FRPM)," but no reference is made to restrained joints; is FRPM allowed for the 60" force main without restrained joints? Additionally, "Prestressed Concrete Cylinder Pipe (PCCP)" is also referenced in this section; the second paragraph of Note 2.05. K in Section 02531 refers to a calculation of the restrained joint lengths for this type of pipe; however, in the DIP section, it appears to be implied that "all" DI pipe and fittings shall be restrained. Is PCCP allowed with limited restrained joint lengths, but all DI pipe and fittings shall be restrained? Could the restrained lengths for DIP for this application be calculated using the	Any material listed in Specification Section 02531 is acceptable for the Sewage Force Mains. Per 02531 – 2.03 H. the 60-inch force and all site piping force mains shall be restrained joints and fittings. Entire length of force main to be restrained. See Addendum 5.

	DIPRA "Thrust Restraint Design for Ductile Iron Pipe"?	
102	Referencing Addendum 2 dated 4/29/16, page 7, Note 2. D. - Specifications - - Specification Section 11295-Interior Process Valves, Article 2.03.H is to be replaced with commentary suggesting the use of flanges on these valves "drilled per ANSI B16.1 250 lb when located on a line with piping greater than 125 psi requirements." Standard DI pipe and fitting flanges to which these valves connect are drilled per ANSI B16.1, Class 125 - which are rated at 250 psi. It appears there may be an assumption that a "Class 250" drill pattern is required for piping operating between 125 psi. and 250 psi.; typically the "Class 250" drill pattern is only required where pressures exceed 250 psi.or the flange to which the DI pipe and / or fitting is being attached - for one reason or another - must be drilled per the Class 250 pattern. Please clarify that ANSI B16.1, Class 125 drilled flanges (rated at 250 psi. max.) are acceptable on DI pipe and fittings connecting to these valves.	See Addendum 5.
103	With regard to the Fueling Pad and Containment Area, the drawings depict different details. Please confirm the proper information, those shown on Drawing C-9005, or those shown on Drawings S7111 and S-9502.	S-7111 does not show the containment area around the fuel tank pads. Refer to C-9005 for containment pad.
104	Please provide the monorail size and elevation information for the truck unloading area shown on Drawing D-1300.	See S-1111, S-1124 and detail K on S-1324.
105	Section 03300, Item 3.06.B., the Engineer may prohibit the placement of concrete at any time the air temperature is 40o or lower. Please review this restriction, and amend the specifications to follow standard ACI guidelines when placing concrete	Specification shall stand as written.
106	Please confirm the Owner will be responsible for the costs of electric consumption during the start-up phase of the process equipment.	See Addendum 5.

107	No details have been found in the drawings for the Odor Control Pad. Please provide the applicable information.	The Odor Control Pad shown on C-1104 shall be a 6" slab with #5@12 c/c E.W. max centered in slab over 6" of #57 stone and compacted subgrade with broom finish and chamfered edges. Perimeter bars shall be hooked into a turn down similar to the Equipment Pad detail on 10 / S-9502. Crack control joints shall be placed in the slab on a grid @ 12ft c/c max in each direction. In addition to the slab, the odor control units shown on M-1109 shall be placed on foundations centered on the units and isolated from the slab with a ½" isolation joint around their perimeter. The odor control unit foundations shall be 16ftx16ft, 12" thick with #5@12" c/c E.W. T&B (3" clear cover on bottom and 2" clear cover on top) over 6" of #57 stone and compacted subgrade with broom finish and chamfered edges. The 12" foundations and the 6" slab shall have the same top of concrete elevation.
108	Please provide details for the pad for the gas meter. (The location is shown on Drawing C-1103.)	To be provided by the gas company.
109	Detail 10 on Drawing S-9502 illustrates the Equipment Pad Schedule, which includes a "Condenser Pad". We do not find this feature elsewhere in the plans. Please identify the locations and any other applicable details.	Refer to Sheet M-1401 for location of ACCU-1-1.
110	On the following drawings, there are sump pits, and sump piping with a quick connect, but no sump pump is ever called out, please verify if sump pumps will be required in these areas? (Dwgs. D-2121, D-2131, D-2141, & D-2151)	See Response to Question 40.
111	Please provide a specification section for the fixed aluminum windows as shown on drawing A1221 & A-1222.	See added Section 08520 in Addendum 5.
112	Per the 3300 specification section there are numerous types of concrete described in paragraph 1.01 C (Class A1, Class A2, Class A3, Class A4, Class B, and Class C), however the drawings mention mud mat, lean concrete backfill, lean concrete fill per the bid form and flowable fill (@	Flowable fill is designated in the Specification Section 03300, Item 2.08 as Concrete Class F. All concrete referred to as mud mat, lean concrete backfill or lean concrete fill shall be Concrete Class C.

	bridge area). Please verify which Class of concrete will apply to these descriptions.	
113	Please verify if air release valves will be required (as mentioned in the piping profile views), and if required please provide locations accordingly.	See Note 3 on C-1301 through C-1306.
114	According to the Jessamine County Planning & Zoning Director Chris Woodall, based on the Engineer's Estimate of $70,000,000 the building permit would cost $70,000. Please confirm that this building permit will not be waived.	A Jessamine County Building Permit is required to be obtained by the Contractor and paid for by the Contractor.
115	Is all steel in the fuel tank area to be epoxy coated or just the #4 wall dowels as shown on drawing C-9005?	Only the #4 dowels called out on C-9005 need to be epoxy coated.
116	Section 07543 indicates the TPO roofing is to include 60-mil fabric-backed TPO. The project drawings indicate the TPO is to be 80-mil standard TPO. Please clarify the correct roofing material.	Provide 60-mil fabric-backed TPO roofing membrane as required per Section 07543 TPO Roofing System. See Addendum 5.
117	Section 07415 indicates the basis of design is Firestone UC-6 aluminum, 40-mil. The project drawings indicate the basis is UC-6 steel. Please clarify the correct roofing material.	Provide Firestone UC-6 Aluminum, 40-mil roofing as required per Section 07415. See Addendum 5.
118	Will Firestone UC-500 soffit panels be acceptable for use on the project?	Firestone UC-500 soffit panels are acceptable for use on the project.
119	The General Notes for the TPO roofing indicate R-25 insulation (Note 17) is required. The notes indicate R-30 insulation is required for metal roofing (Note 16 for Headworks and Note 5 for the Generator Building and the Nitrification Building)). Drawings A-7112 and A-7312 illustrate R-38 insulation as the basis of design for the Generator Building. On Drawing A-7321, the wall section illustrates only 3" of rigid insulation. Please clarify the insulation requirements.	Provide R-25 rigid insulation board as indicated on Note 17 at TPO roofing for the Headworks & Headworks Electrical Buildings. Provide R-30 insulation at metal roofing systems (i.e., Admin., Generator, and Nitrification Buildings)– tapered rigid insulation min. thickness as required for R-30 insulation. R-38 insulation is not required on the Generator Building. See Addendum 5.
120	Please provide applicable details for the four transformer pads adjacent to the Headworks Building and the two switchgear pads shown on Drawing E1002. Please confirm the thickness of the turndown shown in Detail 10 on Drawing S-9502.	All transformer pads shall be detailed as "XFMR PAD 1" in detail 10 / S-9502. Refer to 1/S-9503 for details to the equipment pad being constructed on one of these transformer pads. Switch gear pads on E1002 shall be detailed as 6" TYPE 2 equipment pads on S-9502 reinforced with #5@12"

		E.W. O.C. maximum centered in slab and a turn down to 24" below grade. The turndown thickness of all pads in detail 10 / S-9502 is 12".
121	04200 – 2.5) Copper Fabric Flashing is listed in specs. Plans Do Not have details on installation using 12" block??? Most projects require the use of a 4" block with an 8" block to make flashing work correctly. Can "BLOK-FLASH" be used in lieu of 7 oz. copper flashing to prevent the making of 4" & 8" (Ground Faced & Colored) block, which isn't detailed on plans?	"Bloc-Flash" is acceptable and may be used in lieu of the 7 oz. copper fabric flashing. See Addendum 5.
122	Can split face or regular block be made by a local manufacturer, while the ground face blocks are made elsewhere, most likely out of state?	It is acceptable for split-face or regular concrete block to be provided by a local manufacturer while the ground-face is fabricated elsewhere.
123	The Equipment Manufacturer List in the Bid Form identifies Wilo as one of the choices for the WWS Pumps and IPS Pumps. Specification Section 11310, 1.04, A, does not include Wilo as one of the pre-approved manufactures. Please confirm Wilo is an approved manufacturer for these pumps	See Addendum 5.
124	Bid Item # 25 request a deduction for Builders Risk coverage. It will be difficult for the city to provide this needed coverage. It would seem more logical for the bidders to provide a deduction for Professional Liability coverage, which is a duplicate coverage that Tetra Tech is already providing.	See Bid Form included in Addendum 5.
125	It appears the Contractor is responsible for procuring a building permit. Could you direct us to the entity that governs the building permits for this project, or provide an allowance on the bid form for the building permit?	See Sheet G-0005, General Note Number 7
126	Regarding the 60" Force Main; Since the Specification requires a special lining, (Protecto 401) on the Interior of the Ductile Iron Pipe, is a similar corrosion-resistant product required on the Interior of the PCCP? If so, what kind?	Per Specification 02531.

127	Project specification section 16620, section 2.11, A states that the fuel tanks shall be 72hour capacity, but in Addendum # 3, Answer for Question 7 states: " See Specificaton 15193 for fuel storage tank requirements and P-7601 for tank sizing. The determination....." According to Drawing P-7601, the fuel tanks are to be 8,000 gallons, which is less than 72 hour capacity at 100% load. Question: Do the fuel tanks need to be 72 hour rated (which is approx. 13,250 gallons) or 8,000 gallons (per P-7601)?	Tank shall be sized for 8000 gallon capacity as shown on P-7601.See Addendum 5.
128	Spec section 15193 – Above Ground Diesel Storage and Fueling Equipment. State of Michigan requirements for AST are included in this spec section and are mentioned as follows: • Section 15193, 1.02,A.1 MDEQ – STD (Michigan Department of Environmental Quality, Storage Tank Division) • Section 15193, 1.04, A.1 Michigan State Police rules entitled "Storage and Handling of Flammable and Combustible Liquids" • Section 15193, 1.04, A.3 Michigan State Building Code • Section 15193, 1.05, A Owner shall apply for MDEQ plan..... • Section 15193, 2.07, A ...Signage shall comply with MDEQ – STD requirements..... • Section 15193, 3.03, A Test shall be conducted, in presence of Engineer and MDEQ – STD Field Inspector..... • Section 15193, 3.04, A NFPA 30as amended by Michigan State Fire Safety Board....	See Addendum 5.

	Question: Please clarify if State of Michigan AST requirements need to be met for this project.	
129	Spec Section 15193, 2.02,B states.....Tanks shall be of capacities listed on the drawings and be of the cylindrical design. Drawing P-7601 calls out the fuel tanks to be manufactured by Phoenix Products and of the Model EV-8000, which is a rectangular design. + Question: Will the rectangular design per the Phoenix EV-8000 be acceptable?	Yes the Rectangular design of the Phoenix EV-8000 is acceptable. See Addendum 5.
130	RESTRAINED LINES : The pipe schedule on sheet D-9503, Buried Pipe are indicated to have MJ joints and be restrained. This lists the lines numbered 401 to 404. We are assuming that the FM, force main pipe should also be restrained. We will of course use restrained joint pipe and fittings for the NPW water lines. We are wondering about any of the other lines in the project. All of the profile sheets do not indicate pipe materials or if they are to be restrained. Are there any other lines that are to be restrained? Please clarify.	As stated in the Answer to Question 33 in Addendum 5 - The pipe schedule on Drawings D-9503 states that not all piping is included, "only process piping related piping as specified in Section 11290." The 60-inch force main shall be restrained in accordance with Section 02531 – 2.03H. NPW force main to be restrained. See Addendum 5.
131	NPW SITE PIPING : Drawing C-1103 is showing the new 8 " NPW water line extending from existing building over to the new generator building. The line runs along the south side of the generator building to the south west corner. We cannot determine how the line ends. Does the line just stop with a plug ? Please review and clarify what happens at the end of this line.	The line that runs to the south side of the generator building ends at a NPW hydrant, as shown on the drawings.
132	NPW SITE PIPING : Drawing C-1103 is showing the new 8 " NPW water line extending from existing building over to the new generator building. There are several branch lines coming off of the 8 " line going to YH – yard hydrants. The NPW line going to the YH on the west side of the new Headworks Structure is indicated to be 6 " . Are all of the lines going to the YH to be 6 " diameter? The NPW line shown	All NPW lines to be 6-inch, as shown. Contractor shall install reducers as required for connection to hydrants per Specification Section 02517.

	on the east side of the new Junction Chamber & Flow Splitter Box does not have a size indicated. The specification section – 02517, 2.01, indicates that the hydrants have a 2 " inlet. Please review and clarify the size of the NPW line going to all of the yard hydrants.	
133	NPW SITE WATER PIPING : NPW does not appear in the pipe schedule. We found specification section 02505 – Water Piping , which indicates in paragraph 1.01 that it is for Potable Water lines. We do not find a specific section indicating the pipe for the NPW – Non – Potable water pipe and fittings. We were thinking that it would be ductile iron pipe, cement lined, class 350, restrained joint pipe and MJ fittings. Fitting restraints to be megalug type restraints. But then we thought the line could be C900 PVC pipe and ductile iron fittings. But without a pipe schedule or a specification section specifically stating that we can use this, we are not sure. Please review and clarify the pipe materials to be provided for the PW and NPW water lines .	NPW piping shall meet Specification Section 02531 – Sewage force mains.
134	YARD HYDRANT CONNECTIONS : We do not know how you want the 2 " yard hydrants piped. We see the 6 " NPW lines extending up to the yard hydrants. We are listing 8 " and 6 " MJ caps with 2 " npt taps. We have also listed 8 " and 6 " MJ tapped tee fittings. We are not sure what pipe materials to use from the caps to the hydrants. Can we use PVC pipe and fittings or do you want some other material, like galvanized pipe ? Please review and clarify.	NPW piping to be in accordance with Section 02531. See Addendum 5.
135	NPW SITE PIPING : Drawing C-2103 is showing the new 6 " NPW water line extending down to the new storage tank and then encircling approximately three quarters of the tank. We see the one yard hydrant indicated coming off of the 6 " line at the FM – 15 new Inlet Valve Vault. There are the two hydrants near the proposed Non – potable water booster station. Are there any other hydrants or	See the response to Question 15, this addendum.

	possibly hose bibs to be installed along the line ? We do not see any other pipe detailed or noted to come off of the line. Please review and clarify.	
136	PROPOSED NON-POTABLE WATER BOOSTER PUMP STATION : Drawing C-2103 is showing the 6 " NPW water line going to the new storage tank. North of the new tank there is a callout for a " proposed Non-Potable Water Booster Pump Station. We have not been able to find a detail of the pump station. I hope we are not overlooking this plan on a sheet somewhere. See the snap shot we took of the area on the plan sheet. Please clarify what is required for this pump station. Please provide a plan and detail.	See Specification Section 11215 – Booster Pump Station.
137	PVC POTABLE WATER LINE : Drawing C-1103 is showing the new 2 " PW potable water line extending from the connection point over to the new Headworks and generator buildings. We found the PVC pipe specified in section – 02505, Water Piping. 2.02. We did not find a specification description that was for 2 " size fittings and the 2 " PVC pipe. The fitting description that was there, described ductile iron fittings to meet specification paragraph 2.01. This paragraph is for fittings 4 " and larger. While the pipe specification describes PVC push on bell joint pipe, we do not know what type of fittings you required for the pipe. We have listed PVC gasketed ftittings which are class 200, SDR 21 IPS. We are not sure this is what you want. But they do work with the pipe. Please review and clarify the fittings to be used with the 2 " PVC potable water line.	Per Section 02505 – 2.02.B.1, PVC shall conform with ASTM D-2241. Per Section 02505 – 2.02.G., fittings shall be in accordance with Section 02505 – 2.01.
138	PVC POTABLE WATER LINE : Drawing C-1103 is showing the new 2 " PW potable water line extending from the connection point over to the new Headworks and generator buildings. We found the PVC pipe specified in section – 02505, Water Piping, 2.02. Then in paragraph 2.03, it describes restraint devices for PVC pipe. This section describes restraints for 4 "	For Potable Water, only restrained pipe where shown on the Drawings

	and larger pipe. Does the 2 " PVC pipe have to be restrained ? If it does , please advise how you want the pipe and fitting joints restrained.	
139	POTABLE WATER YARD HYDRANT PW-H : Drawing C-1103 is showing the new 2 " PW potable water line extending from the connection point over to the new Headworks and generator buildings. There is a new potable water yard hydrant shown on the west side of the generator building at the corner of the fuel tank pad. We have not found a specification section that describes the 1 " size potable water piping that will be needed to connect to the Woodford S3 sanitary hydrant out in the yard. We are assuming that schedule 40 PVC pipe and fittings will be allowed. Please review and clarify the connecting piping at the sanitary yard hydrant.	See Addendum 5.
140	DOWNSPOUT SHOE : Drawing C-9001 is showing detail – 2 of the downspout connection to the drain pipe. The detail is showing the drain pipe as C.I. pipe. The specifications for the buried pipe in section – 02620, 2.01, C, is indicating that HDPE pipe may only be used on the gutter drain pipe as shown on the plans. The spec. describes the HDPE pipe as being butt fused joints. Are you wanting all of the pipe and fittings shown as C. I. to be changed to be HDPE butt fused pipe and fittings ? Please clarify .	Only the downspout shoe is shown as CI. All gutter piping shall be in accordance with Specification Section 02620. For clarification of 02620, 2.01.C, all piping listed in Specification Section 02620 is acceptable for Gutter Drains.
141	DOWNSPOUT SHOE : Drawing C-9001 is showing detail – 2 of the downspout connection to the drain pipe. The detail is showing the gutter downspout pipe going into a 6 " I.D. C.I. downspout shoe. We did not find a specification description for the cast iron downspout shoe in the gutter and downspout spec. section. We want to make sure the gutter shoe will fit into the 6 " HDPE 45 bend fiting. Please review and clarify this gutter drain piping system.	See Addendum 5.
142	ST – STORM DRAIN PIPE : Drawing C-1103 is showing an 8 " ST line that extends from the south west corner of the generator building over to the south east	See Addendum 5.

	corner of the Headworks Structure. Looking in specification section – 02620 – STORM UTILITY PIPING, there are paragraphs for PVC pipe and HDPE pipe. The paragraph 2.01, A, describes PVC pipe less than 15 " diameter and meeting the standard specs for sewer pipe and fittings , designated D 3034. It goes on to say it should have a SDR or 18. This is for C900 rated pipe. Also PVC DR 18 pipe is not made in a 15 " diameter size. Paragraph d, states that the pipe shall be furnished in lengths of not more than 13 feet. This is describing SDR 35 PVC pipe. DR 18 rated PVC pipe is made in 20 foot lengths. There is not mention of what type of fittings to be used with the DR 18 PVC pipe. Typically ductile iron MJ end fittings are used with C900 DR 18 PVC pipe. There seems to be a mixing of two different pipe specifications in this paragraph. Please clarify what type of pipe is to be used for the roof gutter downspout drain line. Do you want HPDE butt fused pipe, or PVC SDR 35 pipe and fittings or do you want PVC C900 , DR 18 rated pipe with ductile iron MJ fittings?	
143	Should the disconnects for IPS Pumps 1C, 1D, 2C and 2D referenced in key note 25 on E-1103 as being 30Amp be changed to 200Amp?	Yes, See Addendum 5.
144	There is a VFD Cable Section in the specifications. Is VFD Cable required? VFD Cable was not referenced in the Conduit/Wire Schedule.	VFD cable is not required.
145	Are all the stand alone VFD's to be supplied by the Pump Vendors or Electrical Contractor for the following equipment: IPS-1A, IPS-1B, IPS-2A, IPS-2B, WWS#1, WWS#2, WWS#3, WWS#4, WWS#5 and New Recycle Pumps #1, #2, #3 & #4?	VFDs for IPS-1A, IPS-1B, IPS-2A, IPS-2B, WWS#1, WWS#2, WWS#3, WWS#4, WWS#5 To be provided by pump manufacturer. Recycle Pumps #1, #2, #3 & #4 to be provided by the electrician. See Addendum 5.
146	Is there a detail for the mounting of the terminal boxes per Key Note #26 on Drawing E-1103 for the pump power/control cords and floats? Will a	There is not a mounting detail. Provide a vented wireway.

	vented wire way pedestal be required for the terminal boxes and disconnects to mount on between wet well slab and boxes or the use of conduit with seal offs installed?	
147	Can Grounding Conduits/Cable shown on Drawing E-1111 be run in slab?	Yes.
148	Are all conduits between equipment located on drawing E-1111 to be run overhead or can they be run below floor slab in the pipe gallery and penetrate thru slab to bottom of the equipment?	Conduit should be run overhead. Penetrations between the pipe gallery to the electrical room shall be avoided.
149	What type and quantity of wiring is required per Key Note #3 on Drawing E-1111.	Wiring from the pump to the terminal box shall be provided by the pump vendor. Wiring from the terminal box to the pump monitoring panel shall be Belden 7416AS or equivalent.
150	Are the L.O.S. Control Stations shown on Drawing E-4603 for IPS Pumps 1A & 1B required. Control Stations are not shown on Drawing E-4604 for IPS Pumps #2A & 2B. If required where are they to be located?	LOS switches are required. See sheets E-4604 and E1103 revised under Addendum 4.
151	Are Underground Conduits to be installed and capped above grade for the future WWS North Tank and Discharge Vault as shown on drawing E-2101?	Yes.
152	Is the 60Amp 3Pole Breaker referenced in Key Note #5 on Drawing E-1006 existing or need to be added to existing Motor Control Center? If new is this a Allen Bradley MCC? Also could you clarify what key Note #8 on same drawing is for?	Provide new breaker for existing Allen Bradley centerline MCC, per E-1106. Note 8 is not shown or referenced, it is not needed.
153	Is there a Panel Schedule for Panel "SBA"?	In accordance E-1006 and E-4101, provide 100A, 42 space panel with twenty four 20A, single pole breakers and four 20A, three pole breakers. Remaining spaces shall be spare.
154	Is there a Panel Schedule for existing Panel "PNG" that is shown to be replaced on Drawings E-4606 and E-7103?	Replace existing panel and extend existing circuits to replacement panel.
155	On One-Line Drawing E-4606 is transformer T-7 new or existing? If new where is it to be located? If existing are new conduit/wire schedule notes 6 & 7 required?	The transformer is new. Conduit/wire is indicated on sheet E-4606. Install the transformer adjacent to panel NPB.

156	Should the disconnects shown on Drawing E-7111 be Nema 4X instead of Nema 3R as shown?	Yes, Changed to N-4X on plans. See Addendum 5.
157	On Addendum #2 Drawing E-4605 is the Influent PS Pump #1 being fed from Section 1F part of the contract. If yes where is it located?	The pump is located in the southwest corner of IPS pump station #1. See sheet D-1121 for exact location.

1. DRAWINGS

A. DRAWING SHEET C-0401

In two (2) locations, add the following: "TYPICAL BOTH SIDES" to the end of the call out, "CONTRACTOR SHALL EXTEND .... ADD 100 LF GUARDRAIL":

B. DRAWING SHEET C-2104

In the Point Table, replace the elevation of point 233 and 240 with 905.50.

C. DRAWING SHEET C-9003

On Detail 5/ C-9003, replace the call out "KTC STEEL BEAM GUARDRAIL WITH TYPE 1 GUARDRAIL END TREATMENT" with "KTC STEEL BEAM GUARDRAIL WITH GUARDRAIL TERMINAL SECTION NO. 1 IN ACCORDANCE WITH KTC REQUIREMENTS (TYPICAL BOTH SIDES)"

D. DRAWING SHEET C-9005

Section 1/C-9005, replace "PROPOSED 4" MANUAL LOCKING VALVE....." with "PROPOSED 4" MANUAL GATE VALVE....."

Section 2/C-9005, replace note "6" I.D. CI DOWNSPOUT SHOE" with "CAST IRON DOWNSPOUT BOOT WITH 6"x6" or 5"x5" (AS REQUIRED) TOP BELL AND 6" DIAMETER OUTLET, BY J.R. HOE OR APPROVED EQUAL."

E. DRAWING SHEET D-0003

In the Recycle Pump Station Valve Vault, add a pressure gauge on each of the four (4) recycle pump discharge lines, prior to the valves.

F. DRAWING SHEET D-1131

Update this sheet as shown in supplemental sketch ADD 5-2 and ADD 5-3 issued with this Addendum No. 5.

G. DRAWING SHEET D-1331

Section I, Pipe Gallery, underneath the 54" WWS FM. Update the outline of the pipe support shown under the pipe to correspond to the outline of a concrete pipe support. Refer to the Concrete Pipe Support Detail on D-9503 for dimensions. Add note with leader pointing to the support that says "CONCRETE PIPE SUPPORT (TYP)".

H. **DRAWING SHEET D-1336**

At the bottom of the level sensor stilling well change the note that reads "TERMINATE 8'-0" ABOVE SUMP FLOOR" to read "TERMINATE 2'-0" ABOVE SUMP FLOOR".

I. **DRAWING SHEET D-1337**

At the bottom of the level sensor stilling well change the note that reads "TERMINATE 8'-0" ABOVE SUMP FLOOR" to read "TERMINATE 2'-0" ABOVE SUMP FLOOR".

J. **DRAWING SHEET D-2102**

On Section 1/D-2102 in the title of the detail replace "22 REQ." with "QUANTITY AS REQUIRED BY TANK MANUFACTURER."

K. **DRAWING SHEET D-2103**

On Section A/D-2103 and Section B/D-2103 replace the note "MJ SERVES AS WATER STOP RING" with "FLANGED 90 DEGREE ELBOW".

L. **DRAWING SHEET D-2104**

On Section A/D-2104 and Section B/D-2104 replace the note "MJ SERVES AS WATER STOP RING" with "FLANGED 90 DEGREE ELBOW".

M. **DRAWING SHEET D-2121**

On the Inlet Valve Vault Plan and Section A/D-2121, change wall pipe call out to "PE x Flange Wall pipe"

On the Inlet Valve Vault Plan and Section A/D-2121, replace the cap call out that states "54" CAP" to "54" BLIND FLANGE".

N. **DRAWING SHEET D-2141**

On the Inlet Valve Vault Plan and Section A/D-2141, change wall pipe call out to "PE x Flange Wall pipe"

On the Inlet Valve Vault Plan and Section A/D-2121, replace the cap call out that states "60" LOK RING TO FLANGE SPOOL PIECE.....(TEMPORARY)" to "60" BLIND FLANGE".

O. **DRAWING SHEET D-3101**

Add the following note after Note 4 on Section B/D-3101:

"5. INSTALL PRESSURE GAUGES, IN THE VALVE VAULT, ON EACH OF THE FOUR (4) PUMP DISCHARGE LINES PRIOR TO VALVES. PRESSURE GAUGE TO BE INSTALLED IN ACCORDANCE WITH D-9502."

P. DRAWING SHEET D-4101

Junction Chamber compartments (D) and (E). Delete the pipe sleeves shown for the 48" PTE pipes and show plain end by mechanical joint wall pipes instead. Add a note with leader pointing to the mechanical joint end of each wall pipe that says:

RESTRAINED JOINT (TYP OF 2)

48" PTE shown subbed out of compartment (E). Change the note referring to this pipe from "...INSTALL ONE SECTION OF PIPE AND CAP..." to read "...INSTALL ONE SECTION OF PIPE (LENGTH AS SHOW) AND CAP..." In addition add a dimension that shows the length of this pipe to be 10' from the outside face of the chamber wall.

Q. DRAWING SHEET D-9501

Under the Typical Pipe Sleeve in Earth, Liquid Retaining or Gas Tight Walls add the following note:

NOTE: SLEEVES AROUND EXISTING PIPES IN WALLS YET TO BE POURED SHALL BE SPLIT TYPE AND WELDED IN PLACE

R. DRAWING SHEET D-9503

Concrete Pipe Support Detail. Directly under the hold down strap change the note that says "HOLD DOWN STRAP FOR LOCATION SEE PLANS" to read "HOLD DOWN STRAP PROVIDED UNLESS NOTED OTHERWISE"

S. DRAWING SHEET A-1122

On Detail 6/A-1112, add a note that states "5 IN. SQUARE DOWNSPOUT. PREFINSIHED ALUMINUM. TYPICAL"

On Key Note 16, replace the Basis of design Manufacturer to the following:

"BASIS OF DESIGN MANUFACTURER: FIRESTONE BUILDING PRODUCTS, UNA-CLAD UC-6 HD DOUBLE-LOCK STANDING SEAM ROOFING, WITH SRS 0.040 ALUMINUM PANEL WITH CONCEALED CLIP(COLOR AS SELECTED BY OWNER)"

On Key Note 17 – change "...80 MIL" to "...60 MIL"

T. DRAWING SHEET A-1131

On Key Note 17 – change "...80 MIL" to "...60 MIL"

U. DRAWING SHEET A-1132

On Key Note 17 – change "...80 MIL" to "...60 MIL"

V. DRAWING SHEET A-1221

On Key Note 16, replace the Basis of design Manufacturer to the following:

"BASIS OF DESIGN MANUFACTURER: FIRESTONE BUILDING PRODUCTS, UNA-CLAD UC-6 HD DOUBLE-LOCK STANDING SEAM ROOFING, WITH SRS 0.040 ALUMINUM PANEL WITH CONCEALED CLIP(COLOR AS SELECTED BY OWNER)"

W. DRAWING SHEET A-1222

On Key Note 16, replace the Basis of design Manufacturer to the following:

"BASIS OF DESIGN MANUFACTURER: FIRESTONE BUILDING PRODUCTS, UNA-CLAD UC-6 HD DOUBLE-LOCK STANDING SEAM ROOFING, WITH SRS 0.040 ALUMINUM PANEL WITH CONCEALED CLIP(COLOR AS SELECTED BY OWNER)"

X. DRAWING SHEET A-1321

On Key Note 16, replace the Basis of design Manufacturer to the following:

"BASIS OF DESIGN MANUFACTURER: FIRESTONE BUILDING PRODUCTS, UNA-CLAD UC-6 HD DOUBLE-LOCK STANDING SEAM ROOFING, WITH SRS 0.040 ALUMINUM PANEL WITH CONCEALED CLIP(COLOR AS SELECTED BY OWNER)"

On Key Note 17 – change "...80 MIL" to "...60 MIL"

Y. DRAWING SHEET A-1322

On Key Note 16, replace the Basis of design Manufacturer to the following:

"BASIS OF DESIGN MANUFACTURER: FIRESTONE BUILDING PRODUCTS, UNA-CLAD UC-6 HD DOUBLE-LOCK STANDING SEAM ROOFING, WITH SRS 0.040 ALUMINUM PANEL WITH CONCEALED CLIP(COLOR AS SELECTED BY OWNER)"

On Key Note 17 – change "...80 MIL" to "...60 MIL"

Z. DRAWING SHEET A-7112

On the Metal Panel Roofing System Basis of Design, replace "...(R-38)..." with "...(R-30)..."

AA. DRAWING SHEET A-7312

On Detail 3, the Metal Panel Roofing System Basis of Design, replace "...(R-38)..." with "...(R-30)..."

BB. DRAWING SHEET A-7321

On Section 1, on the top call out note, change ..."3" insulation..." to "....insulation (R-30)..."

CC. DRAWING SHEET S-0001

Replace note F.1.a with the following "NOT USED."

DD. DRAWING SHEET S-1131

Replace four (4) notes that state "EMBEDDED LADDER RUNGS" with "ALUMINUM LADDER".

EE. DRAWING SHEET S-1311

Add the following note to the Platform Framing Plan Notes:

"6. Aluminum guardrail is acceptable in lieu of galvanized steel if dissimilar metals are isolated at connection to galvanized steel."

FF. DRAWING SHEET S-1351

On Detail AB/S-1351, change replace call-out "PRE-ENG ALUM. STAIRS AND PLATFORM" with "GALV. STEEL STAIRS AND PLATFORM."

On Detail AD/S-1351, change replace call-out "PRE-ENG ALUM. STAIRS AND PLATFORM" with " "PRE-ENG. FRP STAIRS AND PLATFORM."

GG. DRAWING SHEET S-2311

Replace the Sheet in the current set with the attached Sheet S-2311. See clouded areas for changes.

HH. DRAWING SHEET S-3121

Replace the Sheet in the current set with the attached Sheet S-3121. See clouded areas for changes.

II. DRAWING SHEET S-3124

Add the detail provided on Sheet ADD 5-1 of the Manual Bar Screen to Sheet S-3124.

JJ. DRAWING SHEET S-8102

Replace the Sheet in the current set with the attached Sheet S-8102. See clouded areas for changes.

KK. DRAWING SHEET S-8103

Replace the bridge centerline station with "STA 47+35.28".

LL. DRAWING SHEET S-9502

On Detail 10/S-9502 add the following after note 5:

On Detail 10/S-9502 add the following after note 5:

6. The Odor Control Pad shown on C-1104 shall be a 6" slab with #5@12 c/c E.W. max centered in slab over 6" of #57 stone and compacted subgrade with broom finish and chamfered edges. Perimeter bars shall be hooked into a turn down similar to the Equipment Pad detail on 10 / S-9502. Crack control joints shall be placed in the slab on a grid @ 12ft c/c max in each direction. In addition to the slab, the odor control units shown on M-1109 shall be placed on foundations centered on the units and isolated from the slab with a ½" isolation joint around their perimeter. The odor control unit foundations shall be 16ftx16ft, 12" thick with #5@12" c/c E.W. T&B (3" clear cover on bottom and 2" clear cover on top) over 6" of #57 stone and compacted subgrade with broom finish and chamfered edges. The 12" foundations and the 6" slab shall have the same top of concrete elevation.

"7. Switch gear pads on E-1002 shall be detailed as 6" TYPE 2 equipment pads on S-9502 reinforced with #5@12" E.W. O.C. max centered in slab and a turn down to 24" below grade. The turndown thickness of all pads in detail 10 / S-9502 is 12".

8. All transformer pads shall be detailed as "XFMR PAD 1" in detail 10 / S-9502. Refer to 1/S-9503 for details to the equipment pad being constructed on one of these transformer pads."

MM. DRAWING SHEET E-1103

Replace the Sheet in the current set with the attached Sheet E-1103. See clouded areas for changes.

NN. DRAWING SHEET E-2101

Replace the Sheet in the current set with the attached Sheet E-2101. See clouded areas for changes.

OO. DRAWING SHEET E-3103

Replace the Sheet in the current set with the attached Sheet E-3103. See clouded areas for changes.

PP. DRAWING SHEET E-4601

Replace the Sheet in the current set with the attached Sheet E-4601. See clouded areas for changes.

QQ. DRAWING SHEET E-7103

Replace the Sheet in the current set with the attached Sheet E-7103. See clouded areas for changes.

RR. DRAWING SHEET E-7111

Replace the Sheet in the current set with the attached Sheet E-7111. See clouded areas for changes.

SS. DRAWING SHEET E-9506

Replace the Sheet in the current set with the attached Sheet E-9506. See clouded areas for changes.

TT. DRAWING SHEET P-1601

In the PLUMBIG FIXTURE SCHEDULE change the MODEL for the following items:

"MARK: MODEL
TD-1-1: Z812-HDS
TD-1-2: ZFV806
TD-1-3: ZFV806"

2. SPECIFICATIONS

A. SPECIFICATION SECTION 00410 – BID FORM

In Article 1.04 Bid Form, in the Equipment manufacturer's list, for Prestressed Concrete Tank, add DN Tanks to the manufacturer's list.

See Attached for updated Specification Section 00210 – 1.04 - Bid Schedule.

B. SPECIFICATION SECTION 00820 – WAGE DETERMINATION SCHEDULE

All Wage Rate from Original Bid Set are still current as of 5-17-2016.

C. SPECIFICATION SECTION 01025 – MEASUREMENT AND PAYMENT

See attached for updated Section 01025 Measurement and Payment.

D. SPECIFICATION SECTION 01510 – TEMPORARY UTILITIES

Add the following paragraph after 1.01.E.9.:

"10. CONTRACTOR shall investigate the billing structure before requesting the new service to be energized for facility construction purposes. Once energized, the service shall remain energized. Where a new service is required to provide test power to equipment for performance tests, power will not be paid for by OWNER until construction is 90 percent complete as determined by the payment certificates. In no case shall OWNER begin paying the entire electrical bill until OWNER has beneficial use of the facilities, with the exception of Process Equipment. For process equipment, a thirty-day operating period of the process equipment will be required before acceptance. If equipment performance does not meet the Specifications, corrective measures shall be taken or the equipment shall be removed and replaced with equipment which satisfies

the conditions specified. For pumps, all test procedures shall be in accordance with Hydraulic Institute Standards, certified results of tests shall be submitted. For remaining process equipment, manufacturer's certification of proper operator shall be provided. If equipment is accepted after thirty-day operating period, the Owner will pay all electric cost for the operation period. If the equipment is not accepted the Contractor will be responsible for the costs.

E. **SPECIFICATION SECTION 02505 – WATER PIPING**

Add the following after Article 2.02.B.2.:

"3. PVC Pressure Pipe, less than 2": Polyvinyl chloride plastic pipe shall be ASTM D 1785 Schedule 80 or F441 CPVC, Schedule 80 with solvent weld joints. Fittings shall be ASTM D 2467 Schedule 80 socket type. All socket type connections shall be made with PVC solvent cement complying with ASTM D 2564 PVC solvent cement shall be furnished from the same supplier as the PVC pipe. Provide socket-threaded adapters for connection to threaded appurtenances where required."

F. **SPECIFICATION SECTION 02517 – HYDRANTS**

Add the following AFTER Article 2.03:

"2.04 4-WAY HYDRANTS

A. Four way hydrants shall be installed where described on the Drawing or directed by the Engineer in accordance with the details shown. Hydrants shall have a 4-way main valve opening with 4 hose nozzle attachments. Hydrants shall meet or exceed the requirements of ANSI/AWWA C502 Standard. Hydrant shall be Mueller Super Centurion A455 or equal.

B. Hydrant shall have a main valve opening of 5-1/4" NST. The hydrant shall be compression type, the main valve shall close with pressure. Hydrant must be frost proof.

C. Hydrant shall be constructed ASTM A-126 Cast Iron, with a shoe constructed of ASTM A-536 Cast Iron, and a main valve of rubber.

D. Hydrants shall be rated at 250 psig working pressure and shall be tested at 500-psig hydrostatically.

E. Hydrants shall open by turning left.

F. Hydrant shall have a minimum cover of 3'-0".

Exposed portions of hydrants shall be factory painted with an enamel finish. Color charts shall be furnished with Shop Drawings for color selection by Engineer. Below ground portions have two (2) coats of Fed, Spec TT-V-15F Asphalt Varnish."

G. SPECIFICATION SECTION 02531 – SEWAGE FORCE MAINS

Add the following after Article 2.01.B.:

"C. PVC Pressure Pipe, 3" and Smaller: Polyvinyl chloride plastic pipe shall be ASTM D 1785 Schedule 80 or F441 CPVC, Schedule 80 with solvent weld joints. Fittings shall be ASTM D 2467 Schedule 80 socket type. All socket type connections shall be made with PVC solvent cement complying with ASTM D 2564 PVC solvent cement shall be furnished from the same supplier as the PVC pipe. Provide socket-threaded adapters for connection to threaded appurtenances where required."

Add the following sentence to Article 2.03.H.:

"All site piping force mains shall be restrained joints and fittings."

In Article 2.04.C.2., add the following paragraph:

"All force main joints shall be restrained with FW coupling (by HOBAS), Locked Joints (by Flowtile), or equal."

In Article 2.05.K., delete the second paragraph and replace with the following:

"All site piping force main joints shall be restrained."

H. SPECIFICATION SECTION 02531 – SEWAGE FORCE MAINS

Add the following to the end of the last sentence of paragraph 2.01.H.:

"or "MEGALUG" as produced by EBAA Iron, Inc. or approved equal."

I. SPECIFICATION SECTION 02620 – STORM UTILITY PIPING

Replace Article 2.01.A.1 which state"...(DR 18)..." with "....(DR35)..."

Delete the last sentence of Article 2.01.A.1.a., replace with:

"All pipes shall have a dimension ratio (DR) of maximum 35."

Replace the first sentence of Article 2.01.A.1.d with the following:

"Pipes shall be furnished in lengths of 14 feet or 20 feet."

J. SPECIFICATION SECTION 03350 – CONCRETE FINISHES

Section 3.05 Concrete Finish Schedule, on the first line of the schedule, change "(as noted on the drawings or in Section 09800, Special Coatings)" to "(as noted on Drawings or in Section 09961, High Performance Paints and Coatings)"

K. SPECIFICATION SECTION 04420 – UNIT MASONRY

Replace 2.05 with the following:

"2.05 CONCEALED FLASHING MATERIALS

A. Embeddable Flashing System: Single-Wythe Concrete Unit Drainage System.

1. Product : Subject to compliance with requirements, Provide the following:

   a. Block-Flash: Mortar Net Solutions.

2. Block-Flash Installation: Block-Flash to be installed Above Grade Only. Install per manufacturer's written instructions - CMU cell flashing pans with built-in adjoining bridge made from high-density polypropylene with chemical stabilizers that prevent UV degradation. Flashing pans to have slope design to direct moisture to integrated weep spouts. Build into mortar bed joints to expel moisture (unimpeded by mortar droppings) to the exterior of the CMU walls. Include drainage mats and insect guards."

L. SPECIFICATION SECTION 07700 – ROOF SPECIALTIES AND ACCESSORIES

Add the following after Article 2.03:

"2.04 COPINGS

A. Copings: Manufactured coping system consisting of formed-metal coping cap in section lengths not exceeding 12 feet, concealed anchorage; corner units, end cap units, and concealed splice plates with same finish as coping caps.
   1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
      a. Firestone Building Products Company
      b. Architectural Products Company.
      c. Hickman Company, W. P.
      d. Metal-Era, Inc.
      e. MM Systems Corporation.
   2. Coping-Cap Material: Zinc-coated steel, nominal thickness as required to meet performance requirements.
      a. Finish: Three-coat fluoropolymer.

3. Color: As indicated on drawings.
4. Corners: Factory mitered and soldered.
5. Coping-Cap Attachment Method: Snap-on, fabricated from coping-cap material.
6. Snap-on-Coping Anchor Plates: Concealed, galvanized-steel sheet, 12 inches wide, with integral cleats."

M. SPECIFICATION SECTION 07700 – ROOF SPECIALITIES AND ACCESSORIES

Add the following after Article 3.03:

"3.04 COPING INSTALLATION

A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.
B. Anchor copings to meet performance requirements."

N. SPECIFICATION SECTION 08520 – ALUMINUM WINDOWS

Add attached Specification Section 08520 to the Specifications.

O. SPECIFICATION SECTION 11210 – HORIZONTAL END SUCTION PUMPS

Article 1.03.B., replace the paragraph with the following:

"B. To assure unity of responsibility, the pumps, motors, guide rails and access hatches and other auxiliary equipment, and materials specified in this Section shall be furnished and coordinated by the pump manufacturer (Manufacturer) who shall assume responsibility for the satisfactory operation of the entire pumping system including pumps, motors, and accessories. The electrician will be responsible for providing the VFDs."

P. SPECIFICATION SECTION 11210 – HORIZONTAL END SUCTION PUMPS

Article 2.04.B., replace "The Variable Frequency Drives shall be supplied by the Manufacturer and ....." with "The Variable Frequency Drives shall be supplied by the Electrician and ...."

Q. SPECIFICATION SECTION 11290 – INTERIOR PROCESS PIPING

Page 4, paragraph 2.03, E. Delete this paragraph in its entirety and replace with the following new paragraph:

"E. All pipe wall sleeves shall have the space between the pipe and the sleeve sealed at the inside and outside wall faces on walls exposed to earth or water/sewage, at one face of other walls, and at the top surface of floors and slabs with interlocking link pipe seals. Steel sleeves and wall pipe shall not be painted in areas to be embedded in the

concrete. Under this Section, all loose rust, scale, grease, or oil shall be removed prior to pouring of the concrete. Where watertightness is essential and at other locations where indicated on Drawings, wall castings, and sleeves shall be provided with an intermediate flange located approximately at the center of the wall. Sleeves and castings at the point of manufacture shall be coated on the inside with a universal rust-inhibitive primer 1.5 to 2.0 mils minimum dry thickness."

Page 5, paragraph 2.06, A. Change the second sentence that reads "...submerged locations shall be of 300 Series stainless steel." to read "...submerged locations shall be of 304 stainless steel."

Page 6, paragraph 2.06, C.2. After this paragraph insert the following new paragraphs:

"2.07 SERVICE SADDLES

A Service saddles shall have minimum pressure rating equal to that of the pipe to which it connects but in no case shall it be less than 150 psi. Saddle body shall be made of ductile iron with fused epoxy or nylon coating. Saddle outlet diameter shall be as noted on Drawings and with type of threads as required to mate with service pipe, valve or fixture. Body gasket material shall be NBR rubber or EPDM. Saddle shall have two 304 stainless steel straps with stainless steel hardware. One extra wide 304 stainless steel strap is also acceptable."

R. SPECIFICATION SECTION 11295 – INTERIOR PROCESS PIPING

Specification 11295, Article 2.03 Paragraph H. Change the last sentence from "Valves shall be drilled per ANSI B16.1 250 lb when located on a line with piping greater than 125 psi requirements." To read:

"Valves shall be drilled per ANSI B16.1 class 125 lb standards."

S. SPECIFICATION SECTION 11295 – INTERIOR PROCESS PIPING

Add the following after 2.17:

"2.18 Tapping Sleeve and Tapping Valve

The tapping sleeve and tapping valve shall be capable of installation on an active line without interrupting service. The tapping valve shall be capable of stopping flow on the newly established branch line so as to allow for dry piped connections to the tapping valve after the tap is established. The tapping sleeve and tapping valve should be provided by the same manufacturer to ensure proper fit.

A. Tapping Sleeve, 4" – 12"

1. The tapping sleeve shall be of either ductile iron or stainless steel construction.
2. If the sleeve is of the Ductile Iron type, the following requirements shall apply:
    i. The sleeves shall be of ductile iron type, meeting ASTM A536.
    ii. The sleeves shall be made in two halves which can be assembled and bolted around the main.
    iii. The side flange seals shall be of the O-Ring type of either round, oval, or rectangular cross-section shape.
    iv. All sleeves are to include the end joint accessories and split glands necessary to assemble sleeve to pipe.
    v. Outlet flange dimensions and drilling shall comply with ANSI B16.42, Class 150 at a minimum.
    vi. The sleeve shall comply with NSF-61.
    vii. The sleeve shall be compatible with class 150 DI pipe, at a minimum.
    viii. Each unit shall have a maximum working-pressure rating of at least 250 psi.
    ix. The tapping sleeve shall be Mueller H-615 Mechanical Joint Tapping Sleeve or equivalent.
3. If the sleeve is of the stainless steel type, the following requirements shall apply:
    i. The stainless steel band flange shall be manufactured in compliance with AWWA C228 Class D and ANSI B.16.1 drilling, recessed for tapping valve MSS-SP60.
    ii. Mechanical Joint tapping sleeve outlet shall meet or exceed all material specifications as listed below and be suitable for use with standard mechanical joint by mechanical joint resilient wedge gate valves per ANSI/AWWA C509-94 and be NSF 61 approved.
    iii. The entire fitting shall be stainless steel type 304. The MJ outlet shall be one-piece casting made of stainless steel. The test plug shall be ¾" NPT in compliance with ANSI B2.1 and shall be lubricated or coated to prevent galling. All metal surfaces shall be passivated after fabrication in compliance with ASTM A-380.
    iv. The gasket shall provide a 360-sealing surface of such size and shape to provide an adequate compressive force against the pipe after assembly, to effect a positive seal under the combinations of joint and gasket tolerances. The materials used shall be vulcanized natural or vulcanized synthetic rubber with antioxidant and antiozonant ingredients to resist set after installation. No reclaimed rubber shall be used. A heavy-gauge-type-304-stainless armor plate shall be vulcanized into the gasket to span the lug area.
    v. The lugs shall be welded to the shell. The lug shall have a pass-through-bolt design to avoid alignment problems and allow tightening from either side of the main. Bolts shall not be integrally welded to the sleeve.
    vi. Bolts and nuts shall be type 304 stainless steel.
    vii. Each unit shall have a maximum working-pressure rating of at least 250 psi.
    viii. Each sleeve shall be stenciled, coded, or marked in a satisfactory manner to identify the size. The markings shall be permanent type and water resistant.

ix. The sleeve shall be Mueller H-304 Stainless Steel Tapping Sleeve or equivalent.

B. Tapping Valve, 4" – 12"

1. The valve shall conform to the applicable requirements of AWWA Standard C509.
2. Tapping valves shall be resilient-seat type with bodies and bonnets made of ductile iron for a maximum working pressure of at least 250 psi.
3. The valve shall be UL Listed and FM approved and shall be certified to NSF 61.
4. The valve shall be furnished with a flange-end connection on one end and a mechanical joint end on the opposite end.
5. The flange shall be furnished with an alignment ring conforming to MSS SP-60 to help ensure true alignment of the valve and tapping sleeve.
6. The mechanical joint end shall be furnished in accordance with ANSI/AWWA C153/A21.53 and MSS SP-113 and/or the ANSI/AWWA C111 standard.
7. All tapping valves shall include a minimum 3/8" NPT pipe plug on the bonnet of the valve body to aid in the field testing of the valve.
8. All wedges shall be fully encapsulated with EPDM rubber.
9. All wedges shall be provided with guide covers.
10. All interior and exterior ferrous surfaces shall be protected against corrosion by fusion-bonded epoxy coating.
11. The tapping valve shall be Mueller T-2360 Resilient Wedge Tapping Valve with MJ x FL. ends, or equivalent."

T. SPECIFICATION SECTION 11310 – NON-CLOG SUBMERSIBLE SEWAGE PUMP

Page 2, paragraph 1.04, A. Delete the last sentence and replace with the following:

"WWS pumps shall be manufactured by the Xylem Corporation Flygt Division, Wilo Pump USA LLC. IPS small and large pumps shall be manufactured by the Xylem Corporation Flygt Division, Wilo Pump USA LLC, Sulzer-ABS, KSB."

U. SPECIFICATION SECTION 11313 – NON – CLOG SUBMERSIBLE RECYCLE PUMPS

Article 1.03.B., replace the paragraph with the following:

"B. To assure unity of responsibility, the pumps, motors, guide rails and access hatches and other auxiliary equipment, and materials specified in this Section shall be furnished and coordinated by the pump manufacturer (Manufacturer) who shall assume responsibility for the satisfactory operation of the entire pumping system including pumps, motors, and accessories. The electrician will be responsible for providing the VFDs and starters"

V. SPECIFICATION SECTION 11313 – NON – CLOG SUBMERSIBLE RECYCLE PUMPS

Article 2.04.B., replace "The Variable Frequency Drives shall be supplied by the Manufacturer and ....." with "The Variable Frequency Drives shall be supplied by the Electrician and ...."

W. SPECIFICATION SECTION 11313 – NON – CLOG SUBMERSIBLE RECYCLE PUMPS

Article 2.02.D., replace the last sentence with the following:

"The one (1) small pump will not be require a VFD."

X. SPECIFICATION SECTION 13200 – PRESTRESSED TANK STRUCTURAL FLOOR

Replace paragraph 1.04.B.3.c. with the following "Preload, LCC, Louisville, Kentucky"

After paragraph 1.04.B.3.c.

"d. DN Tanks, Wakefield, Massachusetts."

Y. SPECIFICATION SECTION 15193 – ABOVE GROUND DIESEL STORAGE AND FUELING EQUIPMENT

Replace Article 1.02,A.1 with the following:

"1. AGST – Above Ground Storage Tank"

Replace Article 1.04.A.1. with the following:

"1. Kentucky Fire Marshal – Above Ground Storage Tank (AGST), Permit to Install

Add the following for Article 1.04.A.3. with the following:

"3. Kentucky State Building Code"

Replace Article 1.05.A and 105.B., with the following:

A. Contractor shall obtain permit to install Above Ground Storage Tank (AGST) from the Kentucky State Fire Marshall. Contractor shall be responsible for coordinating all required testing and inspections with the State Fire Marshal, local building officials, and Owner.

B. Contractor shall obtain and pay fees for all permits, approvals, inspections and licenses required, including local fire and building officials inspections where required. Contractor shall submit three copies of all permits, approvals, licenses and inspection

reports to Engineer. Contractor shall assign any licenses required to operate or maintain the systems to Owner."

Replace 2.02.B. with the following:

"B. Tanks shall be of capacities listed on the Drawings and be of rectangular design. All tank openings shall be located on the top of the tank, unless noted otherwise. Tank shall be complete with all required lifting lugs and support saddles/pads for installation on a flat concrete pad. Tank supports/saddle shall have provisions for electrically grounding and anchoring the tank to the concrete pad. Manufacturer shall size anchor bolts and furnish bolts for setting of anchor bolts by Contractor."

Replace 2.03. with the following:

"2.03 NOT USED"

Replace 2.06 with the following:

"2.06 NOT USED"

Replace Article 2.07.A with the following:

"A. Signage: Provide all safety warning signage required. Signage shall comply with State of Kentucky Fire Marshall requirements, and all codes and ordinances."

After Article 2.07.C.7. add the following:

"8. A level device shall also be furnished and installed to provide a local (generator control panel) indication of pre-low fuel tank level and low fuel tank level. The low fuel tank level alarm shall shut down the engine to prevent the fuel level from dropping below the fuel pickup piping in the fuel tank. The pre-low fuel level alarm shall activate when only 6 hours of fuel for full load operation remains in the fuel tank."

After Article 2.07.D. add the following:

"1. Provide underground fuel pipe containment, day tank, and storage tank leak detection with alarms and dry contacts for PLC monitoring."

After Article 2.07.D.1, add the following:

"E. The system shall be equipped with a radiator mounted fuel cooler, which shall remove all heat added to fuel in the recirculation process at a 116°F ambient."

Replace Article 3.03.A with the following:

"A. The fuel oil system shall be tested with air or an inert gas to a minimum of one and one-half times the system operating pressure, but not less than 50 psi. Test shall be conducted, in presence of Engineer and State of Kentucky Fire Marshall Field Inspector (if required), for a minimum of 15 minutes, or until approved by Engineer. Contractor shall notify Engineer and Kentucky State Fire Marshall Field Inspector at least 5 business days prior to piping testing."

Replace Article 3.04.A. with the following:

"A. Aboveground storage tanks shall be tested in accordance with NFPA 30 as adapted by Kentucky State Fire Safety Board rules for Storage and Handling of Flammable and Combustible Liquids."

Z. SPECIFICATION SECTION 15430 – PLUMBING SPECIALTIES

Replace Article 2.10 with the following:

"2.10 TRENCH DRAINS

A. Trench Drain (TD-1-1)

1. Channels shall be 120" long sections, 12" wide and have a 9-1/4" throat. Modular channel sections shall be made of Fiber Reinforced Polymer (FRP). Channels shall have a bolted, flanged connection between channel sections that will not separate during the installation, gaskets available. Channels shall weigh less than 5.5 lbs. per linear foot, have a smooth, 3" radiused self-cleaning bottom with a Manning's coefficient of .009 and 1.04% or neutral 0% built in slope. Provide with 1/4" thick Stainless Steel Frame Assembly conforms to ASTM specification A-240 (type 304) with (12) 4" long concrete anchors per 120". All welds must be performed by a certified welder per ASTM standard AWS D1.6. Channels shall be produced in the U.S.A.

2. Grating: Reinforced Slotted Stainless Steel (type 304) Grate - Class C

3. Drain Connection: Center, 6" bottom

4. Manufacturers: Trench drain shall be ZURN Model Z812-HDS or equal.

B. Trench Drain (TD-1-2, -3)

1. Channels shall be 120" long sections, 6" wide and have a 4" throat. Modular channel sections shall be made of Fiber Reinforced Vinylester or Fiber Reinforced Polymer (FRP). Channels have a bolted, flanged connection between channel sections that will not separate during the installation, gaskets available. Channels shall have a smooth, 1-1/2 radiused self cleaning bottom with a Manning's coefficient of .009 and

0.75% or neutral 0% built in slope. Provide #10 gage thick Heavy-Duty Carbon Steel Frame Assembly conforms to ASTM specification A36. Frames shall mechanically lock into the concrete surround at a maximum spacing of every 20" with 16 concrete anchors per 120". Frames shall have rebar attachment brackets as standard to secure trench in its final location. All welds must be performed by a certified welder per ASTM standard AWS D1.1. Channels shall be produced in the U.S.A.

2. Grating: Provide fiberglass grating, CLASS A rating

3. Nominal exposed trench width: 6" and minimum inside width of 4"

4. Drain Connection: End, 3"

5. Manufacturers: Trench drain shall be ZURN Model ZFV806 or equal."

AA. SPECIFICATION SECTION 16371 – UNDERGROUND ELECTRICAL DISTRIBUTION

Add attached Specification Section 16371 to the Specifications.

BB. SPECIFICATION SECTION 16435 – MEDIUM VOLTAGE SWITCHGEAR

Replace Article 2.09.I.3 with the following:

"3. Cabinet

The battery system including batteries and spill containment shall be supplied in a floor mounted rack with containment. The rack shall be seismic rater per 2006 IBC for the site specific location. The charge may be included in the cabinet or wall mounted."

Add the following to the end of Paragraph 2.13.B., after the sentence "..to Rodney Brock of LG&E KU for approval and provide written letter of acceptance.":

"General Contractor shall hire independent testing contractor to test and verify the system to IEEE 1547."

CC. SPECIFICATION SECTION 16446 – VARIABLE FREQUENCY DRIVES

Article 2.05.B.5 add the following sentence to the end of the paragraph:

"The Point of Common Coupling will be at the last overcurrent device that protects the branch circuit cable ahead of the VFD."

DD. SPECIFICATION SECTION 16620 – PACKAGED ENGINE GENERATOR SYSTEM

In Article 1.11 – Warranty Terms, change the "... period of less than two (2) years or four hundred (400) hours of operation,....." to "... period of less than five (5) years or two thousand five hundred (2,500) hours of operation,...."

In Article 2.02 General Description, in the first sentence change "3,125 sKVA" to "4,081 sKVA"

In Article 2.02 General Description, add the following to the end of the second paragraph:

"Generator shall be capable of 4081 SKVA (Starting KVA) at maximum 20% instantaneous Voltage dip per NEMA MG-1. Sustained voltage dip data or sKVA ratings at other voltage dips shall not be deemed as equal."

In Article 2.03 Engine, add the following sentence to the end of 2.03.A.:

"Engine shall have a minimum displacement of 76 liters and a maximum allowable BMEP of 344 PSI."

In Article 2.0.J., change the control panel call out "..(EMCP 3.3, Digital Control Panel,..." to "....(EMPC 4.2, Digital Control Panel,...."

In Article 2.08.C. change the ambient air temperate listed from "105°F" to "116°F"

In Article 2.08.C., add the following sentence to the end of the paragraph:
"Ambient shall be measured at the cooling air inlet louvers; those system measuring ambient at the radiator fins shall allow for an additional 7°F temperature rise from the engine (123°F at radiator fin)."

Replace Article 2.09.A with the following:

"A. Provide a dual-motor engine starting system complete with battery charger and batteries."

Replace Article 2.11.A. with the following:

"A. Refer to Specification 15193 for fuel storage tank specifications."

Delete Articles 2.11.B through 2.11 G

EE. SPECIFICATION SECTION 17421 – PRESSURE MEASUREMENT

Add the attached Specification Section 17421 – Pressure Measurement to the Specifications.

MAYOR JIM GRAY

LEXINGTON

CHARLES MARTIN
DIRECTOR
WATER QUALITY

Todd Slatin

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: Judy Construction Company

ADDRESS: 103 South Church Street, Cynthiana, KY 41031

SIGNATURE OF BIDDER: _____

Steve Judy