

City of San Juan Bautista

ADDENDUM NO. 5 City of San Juan Bautista Sanitary Sewer Force Main to Hollister Project 5-26-2023

The following changes additions and clarifications are hereby made part of the contract documents for the above referenced project and shall be taken into account in the preparation of all proposals and the execution of all work. Work shall conform to the requirements of the original contract documents and addenda wherever they apply.

All bidders shall acknowledge receipt of this addendum via response to the email transmission of this addendum AND on the bid proposal form.

Changes to Bid Documents:

1. The following Questions and Answers are provided:

- a. **Question:** Is the Bid form to be modified in response to any questions?

Response: Yes. See attached revised bid sheet "SECTION 00410, ADDENDUM NO. 5, BID FORM FOR CONSTRUCTION CONTRACT" 11 Pages.

Modification: Use new Addendum No. 5 Bid Form, attached. The bid form changes include 1) two lane overlay paving is in the base bid and the bid item descriptions are updated from the Addendum 4 Bid Form; 2) an allowance for spot pavement repairs to be made as determined in the field with the Construction Manager is added to the base bid; 3) conduit is in the base bid; and 4) deductive bid items are modified to reflect changes to these base bid items. A Deductive Bid Item G was also added for sludge removal.

- b. **Question:** On sheets M100, C024, C025 and C027, the notes at the connections between HDPE flange adapters and ductile iron flanges call for "internal stiffeners". According to my HDPE specialist, insert stiffeners are only for use with mechanical connections to HDPE and if used with HDPE flange adapters will prevent the mating flanges from sealing correctly. Can we eliminate the stiffeners at these connections?

Response: Stiffeners are required and shall be installed as shown in Detail M498 on sheet M007. Conflicts will be resolved during submittal process.

- c. **Question:** Detail C529 on sheet C005 shows what appears to be a mechanical saddle, typically used on PVC or ductile iron mains, for the 2" SCAV connections to the HDPE force main. Connections to HDPE lines are typically made with electrofusion saddles. Are electrofusion saddles acceptable at these locations?

Response: No electrofusion saddles are allowed. All connections shall be made with factory provided tees.

- d. **Question:** At multiple locations in the mechanical drawings such as the sample below in section G on sheet M103, call outs are made to "RESTRAINED FCA", but with no reference to detail M495 on sheet M007. Detail M495 would require additional flanged by plain end spools to tie back to creating additional sources for potential leaks in the future. We typically see products similar to the attached cut sheet used where restrained FCAs are required on ductile iron pipe. This eliminates the additional flanged connection necessary to tie rods back to. Are Romac RFCAs or equal an acceptable alternative where restrained FCAs are called out?

Response: Contactor shall restrain joints at the locations specified on the plans. At the locations where specific RESTRAINED FCA details are not called out, contractor has the option to use FCA vendor and style of their choice as long as it provides necessary restraint and otherwise meets specifications. The provided alternative appears to meet general requirements; however, Contractor shall submit it to the Engineer for review and approval during submittal review process.

- e. **Question:** This is similar questions to the question above regarding restrained FCAs. In section A on sheet M101 at the 8" connection to existing 8" SS a call out is made to

City of San Juan Bautista

ADDENDUM NO. 5 City of San Juan Bautista Sanitary Sewer Force Main to Hollister Project 5-26-2023

"RESTRAINED FC" (flex coupling) with no reference to detail M490 on sheet M006. In this case, there would be no flange to tie the rods back to as shown in detail M490 on the existing sewer line and the rods on the new side an additional flanged connection would be necessary. Split ring restraints similar to those shown in the attached cut sheet are typically used to restrain flex couplings in these applications. Are Romac 611 restraints or an equal an acceptable alternative at this location?

Response: Contactor shall restrain joints at the locations specified on the plans. At the locations where specific RESTRAINED FC details are not called out, contractor has the option to use FC vendor and style of their choice as long as it provides necessary restraint and otherwise meets specifications. The provided alternative appears to meet general requirements; however, Contractor shall submit it to the Engineer for review and approval during submittal review process.

- f. **Question:** I don't see a spec for the electric motor operator (EMO) on the 6" throttling valve at the flush & equalization tanks. Could you provide a specification for the EMO?

Response: Provide a Rotork or Limitorque EMO. See attached Specification 15135 – Electric Operators. EMO and valve shall be factory assembled and tested.

- g. **Question:** Is Franklin Miller an acceptable manufacturer for the influent screen?

Response: Franklin Miller is an acceptable manufacturer subject to meeting the specification requirements and meeting the existing structural conditions for anchorage.

- h. **Question:** 1) Will the Street Zone Asphalt be paid at the Bid Unit Price for Bid Items 22/23/24; 2) if the Street Zone Asphalt is not paid at this unit price, how will this be measured and paid; 3) will the Street Zone thickness for Lucy, Brown, Duncan, Bixby, Freitas and Mitchell be left at 0-inches AC with Contractors to only have the 3-inch overlay asphalt paving in these areas?

Response: 1) The Contractor shall include a Street Zone Asphalt unit price by the ton in the project Schedule of Values. For field observed variations in the Street Zone Asphalt thickness required to match the existing road section (with the overlay) in contrast to the Street Zone Asphalt values provided in the plans, the Schedule of Values shall be used to establish the final payment (cost or credit) for Street Zone Asphalt. Contractor shall include the Street Zone Asphalt thickness and trench section widths provided in the plans in the unit price for installed pipe (whole pipe trench and pipe detail) in the bid. 2) See response to Part 1. 3) No Street Zone Asphalt is required for the noted roadways with the overlay. Per the plan notes, Street Zone Asphalt shall be added if the overlay is removed from the project via a deductive bid item. Provide road sections per plans.

- i. **Question:** What is the maximum flow of water cap from the lagoons that will be allowed to be pumped into the new sewer forced main?

Response: The maximum pump station capacity is just over 1 Mgal/d. Average wastewater flows vary up to 0.3 Mgal/d and the balance of that capacity may be used for water cap flow to the force main, as approved and coordinated with Operations staff. See Addendum No. 4 for more information on sewer flow rates.

- j. **Question:** Will both the upper and lower lagoons stay in service while the sewer force main is being installed?

Response: The pump station and force main must be fully operational before sludge dewatering can occur. Both wastewater ponds must remain in service until the pump station allows for decommissioning of the ponds and sludge removal can begin. See Addendum No. 4 for more information on sludge removal timing.

City of San Juan Bautista

ADDENDUM NO. 5 City of San Juan Bautista Sanitary Sewer Force Main to Hollister Project 5-26-2023

- k. **Question:** Will the contractor be able to isolate one of the lagoons prior to the installation of the forced sewer main?

Response: No, both ponds must remain in service until the pump station and force main are complete and operational.

- l. **Question:** Regarding SECTION 00440 COMPLIANCE STATEMENT. It does not appear that it applies to us. Do we leave it blank/cross out or omit from the bid package completely?

Response: Do not leave this form out of the bid. The City is utilizing funds from the USDA and this is their requirement. If the Compliance Statement does not appear to apply, check the boxes accordingly and submit the statement with the bid. For the initial blank for who the proposed Contract is with, write in the "City of San Juan Bautista".

- m. **Question:** Can the financial statement required as part of SECTION 00451 – QUALIFICATION STATEMENT, be provided separately or after the bid?

Response: Upon receipt of bids and identification of the apparent low bidder, low bidder must provide financial statements in accordance with Specification 00451 within 48 hours.

- n. **Question:** Could you clarify that submittals or statement due in "24 hours from Bid opening" or similar language on submittals or statements applies to working days, not calendar days?

Response: Yes, similar statements referencing maximum timeframes for submittals or statements applies to working days. No submittals are due on weekends or holidays.

2. This addendum (Addendum 5) is the last addendum to be issued prior to Bid Opening. Bidders are welcome to submit questions, however they will not be answered unless it is determined by the City that an extended Bid Opening Date is needed.
3. Bid opening remains on June 2, 2023 at 2:00 pm local time.
4. Attachments:
 - a. Revised Bid Sheet "SECTION 00410, ADDENDUM NO. 5, BID FORM FOR CONSTRUCTION CONTRACT", 11 Pages.
 - b. New Specification "SECTION 15135, ELECTRIC OPERATORS", 6 Pages.

City Contact: Douglas Pike at dpike@mnsengineers.com or (805) 331-3553. Please acknowledge receipt of this Addendum.

End of Addendum 5

SECTION 00410

ADDENDUM NO. 5

BID FORM FOR CONSTRUCTION CONTRACT

SAN JUAN BAUTISTA SANITARY SEWER FORCE MAIN TO HOLLISTER PROJECT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

Don Reynolds, City Manager
City of San Juan Bautista
311 Second Street, PO Box 1420
San Juan Bautista CA 95045

1.02 Section 00100 – Advertisement to Bid.

1.03 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

2.01 The following documents are submitted with and made a condition of this Bid:

- A. Section 00420 – Non Collusion Affidavit To Be Executed By Bidder and Submitted With Bid
- B. Required Bid security, in accordance with Specification Section 00430
- C. Section 00434 – List of Proposed Subcontractors
- D. Section 00436 – List of Proposed Suppliers
- E. Section 00440 – Compliance Statement
- F. Section 00450 – Certification Regarding Debarment
- G. Section 00451 – Certification of Bidder Experience and Qualification
- H. Section 00457 – Contractor's Certificate Regarding Workers' Compensation
- I. Section 00460 – Certification For Contracts, Grants, and Loans

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2.02 The following documents shall be submitted after bid opening:

- A. In evaluating Bidders, Owner may request supplemental information on the qualifications and experience of the subcontractors listed in Section 00434 and equipment manufacturers listed in Section 00436.
- B. The undersigned Bidder understands that a Bidder will be potentially ineligible for an award of Contract unless the Bidder has furnished the required Electrical Subcontractor and System Integrator certifications within three (3) business days after receipt of bids as required in Sections 00452 and 00453, respectively.

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

3.01 *Lump Sum and Unit Prices*

If award is made, the Owner will determine making an award to the lowest responsive, responsible Bidder whose bid complies only with the requirements specified by California Public Contract Code Section 20103.8(a). Accordingly, the Owner will determine the lowest responsive, responsible bid based on the Base Bid Amount.

Additive or deductive bid items will be awarded at the Owner’s discretion and are not part of the Base Bid Amount on which the lowest responsive, responsible Bidder will be determined.

Base Bid Schedule ⁽¹⁾

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	Mobilization	LS	1	\$	\$
2	Demobilization	LS	1	\$	\$
3	Survey Control and Construction Staking	LS	1	\$	\$
4	Sheeting, Shoring and Bracing or equivalent method for the protection of life and limb in trenches and open excavations in conformance with all applicable safety standards	LS	1	\$	\$
5	Excavation Dewatering	LS	1	\$	\$
6	SWPPP Compliance	LS	1	\$	\$
7	Tree Removal (felling, trimming, stump removal, disposal) By 10-inch Breast Height Diameter Tree (exact tree work to be determined in the field)	EA	5	\$	\$
8	Hydroseed	LS	1	\$	\$

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Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
9	Traffic Control	LS	1	\$	\$
10	Geotechnical Report and Final City WWTP Design (Design Build)	LS	1	\$	\$
11	Critical Path Method & Schedule	LS	1	\$	\$
12	As-Built Drawings	LS	1	\$	\$
13	10-inch DR11 IPS HDPE Pipe (SJB WWTP, open cut) ⁽²⁾	FT	213	\$	\$
14	10-inch DR11 IPS HDPE Pipe (Rancho Vista Development, 18-inch Casing) ⁽²⁾	FT	2,215	\$	\$
15	10-inch DR11 IPS HDPE Pipe (San Juan Highway, open cut) ⁽²⁾	FT	1,224	\$	\$
16	10-inch DR11 IPS HDPE Pipe (Prescott Road and San Justo Road, open cut) ⁽²⁾	FT	10,470	\$	\$
17	10-inch DR13.5 IPS HDPE Pipe (Prescott Road and San Justo Road, open cut) ⁽²⁾	FT	1,544	\$	\$
18	10-inch DR13.5 IPS HDPE Pipe (Lucy Brown Lane, Duncan Avenue, Bixby Road, Freitas Road, and Mitchell Road [to end of existing paved section near End of County Road sign], open cut) ⁽²⁾	FT	19,206	\$	\$
19	10-inch DR13.5 IPS HDPE Pipe (shoulder, open cut) ⁽²⁾	FT	4,026	\$	\$
20	10-inch DR13.5 IPS HDPE Pipe (through existing 42-inch casing) ⁽²⁾	FT	227	\$	\$
21	SJB WWTP AC Paving	TON	87	\$	\$
22	San Juan Highway/First Street Two Lane AC Pavement Overlay; (AC curb shall be included in respective HDPE pipe bid item)	TON	725	\$	\$
23	Prescott / San Justo Road Two Lane AC Pavement Overlay	TON	5,184	\$	\$
24	Lucy Brown Lane, Duncan Avenue, Bixby Road, Freitas Road, Mitchell Road Two Lane AC Pavement Overlay	TON	7,576	\$	\$
25	Road Pavement Spot Repair – to be expended as approved in the field by the Engineer. Includes cutting and removal of damaged existing pavement areas, restoration of subgrade and compaction, and AC placement.	Ton	1000	\$	\$
26	Striping (roadway fog lines, centerlines, stop bars, etc.)	LS	1	\$	\$

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Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
27	Prescott Road Canal Pipe Crossing, Station 56+79.85 to 57+86.48 (casing, footings, carrier pipe, appurtenances, etc.) ⁽²⁾	LS	1	\$	\$
28	San Juan Highway Canal Pipe Crossing and Seismic Flexibility, station 25+00.72 to station 25+99.34 (casing, footings, carrier pipe, fittings, appurtenances, etc.) ⁽²⁾	LS	1	\$	\$
29	Manhole Removal & Restoration, including pavement repair (on 18-inch SS - SJB WWTP through intersection of Third St and Lavagnino Dr)	EA	6	\$	\$
30	Manhole Removal & Restoration, including pavement repair (on 18-inch SS - Intersection of Third St and Lavagnino Dr to intersection of Rancho Way and Caetano Place)	EA	3	\$	\$
31	Manhole Removal & Restoration, including pavement repair (on 18-inch SS - Caetano Place)	EA	1	\$	\$
32	Hollister Manhole Restoration and Tie-in	LS	1	\$	\$
33	SJB WWTP Pig Launch Station ⁽²⁾	LS	1	\$	\$
34	San Justo Road / Lucy Brown Road Pig Receiving & Launch Station ⁽²⁾	LS	1	\$	\$
35	Freitas Road Pig Receiving & Launch Station ⁽²⁾	LS	1	\$	\$
36	Conduit and Pull Boxes (future fiber)	LF	34,182	\$	
37	Hollister WWTP Pig Receiving Station (2)	LS	1	\$	\$
38	Primary Pump Station (pumps, discharge piping, FRP basin, valves, davit crane)	LS	1	\$	\$
39	Storage Pump Wet Well Improvements (coating)	LS	1	\$	\$
40	Storage Pump Station (pumps, discharge piping, valves)	LS	1	\$	\$
41	ESB 1 Sump Pump (pump, manhole, piping, valve)	LS	1	\$	\$
42	Screen	LS	1	\$	\$
43	Chemical Feed System	LS	1	\$	\$
44	Throttling Valve and Appurtenances (flow control from storage)	LS	1	\$	\$

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Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
45	Temporary Bypass Piping	LS	1	\$	\$
46	SJB WWTP Yard Piping & Fittings	LS	1	\$	\$
47	SJB WWTP EQ Tank Piping	LS	1	\$	\$
48	SJB WWTP Site Work (grading and paving, etc.)	LS	1	\$	\$
49	Clearing & Grubbing (including small trees and brush)	LS	1	\$	\$
50	Foundation	LS	1	\$	\$
51	Sludge Removal from SJB Ponds	DRY TON	660	\$	\$
52	SJB WWTP Demolition Work	LS	1	\$	\$
53	Standby Generator	LS	1	\$	\$
54	Main Switchboard	LS	1	\$	\$
55	Electrical and Instrumentation for Primary Pumps (includes flow meters, actuators, VFDs, MCC, MSB, transformer, conduit, etc.)	LS	1	\$	\$
56	Electrical and Instrumentation for Storage Pumps and Screen (includes flow meters, actuators, VFDs, MCC, MSB, transformer, conduit, etc.)	LS	1	\$	\$
57	Electrical and Instrumentation for Sump Pump (includes flow meters, actuators, MCC, MSB, transformer, conduit, etc.)	LS	1	\$	\$
58	PLC and Telemetry	LS	1	\$	\$
59	Startup and Testing Including Initial Pigging by Contractor	LS	1	\$	\$
Base Bid Amount (Sum of All Unit Price and Lump Sum Bid Items)					\$
Base Bid in Words					

- (1) Enter all non-specified items from the drawing set and specifications (Volumes 1 and 2) in the most related bid item, such as backfill, aggregate base, paving (unless included in a separate bid item), off-haul and disposal of unwanted materials, specific instrumentation, seismic parameters, etc. The Sum of all Unit Prices and Lump Sum Bid Items shall constitute the entire project, i.e. no non-specified item in the bid form shall be excluded from the total base bid amount.
- (2) Bid item includes all related appurtenances including valves and fittings for a complete installed cost.

Deductive Bid Item A

Additive Bid Item	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
A	Remove AC overlay and fog line striping over one lane (lane without the force main), including associated common project costs for mobilization, demobilization, traffic control, survey staking, SWPPP compliance, etc.	TON	6,779	\$	\$
A	Remaining single lane to pave will require grinding to avoid an elevation difference between the existing lane and new overlay lane. Add necessary 3-inch grind of existing asphalt and subgrade.	SF	372,000	\$	-\$
Total of Deductive Bid Item A					\$

Deductive Bid Item B

Deductive Bid Item	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
B	Remove AC overlay and striping from force main lane, including associated common project costs for mobilization, demobilization, traffic control, survey staking, SWPPP compliance, etc.	TON	6,706	\$	-\$
B	Remove Deductive Bid Item A 3-inch grind	SF	372,000	\$	-\$
B	Add T-Trench pavement repair and associated pavement removal to edge of road (for both the force main and conduit trench)	TON	5,438	\$	\$
Total of Deductive Bid Item B					-\$

Deductive Bid Item C

Deductive Bid Item	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
C	Remove all work related to the existing wet well (leave equipment as is: there will be no new storage pumps; no new screen; no associated electrical work; no wet well improvements)	LS	1	\$	- \$

Deductive Bid Item D

Deductive Bid Item	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
D	Remove all SJB WWTP demolition related work (except the filters and UV disinfection equipment, which must be removed from site to complete new improvements)	LS	1	\$	- \$

Deductive Bid Item E

Deductive Bid Item	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
E	Remove all work related to the sump pump manhole (piping, electrical, site; lose pump to be provided to operations staff)	LS	1	\$	- \$

Deductive Bid Item F

Deductive Bid Item	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
F	Remove conduit & pull boxes and appurtenances at canal 24-inch crossing and 42-inch casing under Highway 156 including associated common project costs for mobilization, demobilization, traffic control, survey staking, dewatering, SWPPP compliance, etc.	LF	34,182	\$	- \$

Deductive Bid Item G

Deductive Bid Item	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
G	Remove Base Bid Item 51 – Sludge Removal from SJB Ponds	DRY TON	660	\$	- \$

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- A. Bidder acknowledges that:
 1. each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor’s overhead and profit for each separately identified item, and
 2. estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER’S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

- 5.01 *Bid Acceptance Period*
 - A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 5.02 *Instructions to Bidders*
 - A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.
- 5.03 *Receipt of Addenda*
 - A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS

- 6.01 *Bidder’s Representations*
 - A. In submitting this Bid, Bidder represents the following:
 1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
 2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.

3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

Address for giving notices:

Bidder's Contact:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Phone: _____

Email: _____

Address: _____

Bidder's Contractor License No.: (if applicable) _____

SECTION 15135

ELECTRIC OPERATORS

PART 1 GENERAL

1.1 DESCRIPTION

The work of this section consists of furnishing and installing motorized electric valve operators.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01300 - Submittals
- B. Section 11010 - General Mechanical Equipment Provisions
- C. Section 15100 - Valves
- D. Division 16 - Electrical

1.3 SUBMITTALS

- A. In accordance with Section 01300.
- B. Submit complete manufacturer catalog information showing dimensions, electrical requirements, operating instructions, etc.
- C. Submit operating torque calculations for each valve size and class. Prove that 1.25 safety factor is used for all operators.
- D. Provide operation and maintenance manuals in accordance with Specification Section 01680.

1.4 QUALITY ASSURANCE

- A. All materials and equipment shall be the latest standard product of a manufacturer regularly engaged in the design and manufacturer for a period of at least five years. Operators

shall be furnished with all necessary accessories for a complete installation. All operators shall be provided by one manufacturer.

- B. The naming of a manufacturer in this specification is not an indication that the manufacturer's standard equipment is acceptable in lieu of the specified component features. Naming is only an indication that the manufacturer may have the capability of engineering and supplying a system as specified.

1.5 WARRANTY

A written supplier's warranty shall be provided for the equipment specified in this section. The warranty for the unit shall be for a minimum period of one (1) years from start-up or 18 months from time of equipment shipment, whichever comes first. Such warranty shall cover all defects or failures of materials or workmanship, which occur as the result of normal operation and service.

1.6 ENVIRONMENT

Actuators shall be suitable for indoor and outdoor use. The actuator shall be capable of functioning in ambient air temperature ranging from -22°F to 158°F. Relative humidity may fluctuate between 10 and 100 percent. All equipment supplied shall be rated for a NEMA Class identified on the drawings.

PART 2 MATERIALS

2.1 ELECTRICAL OPERATORS

- A. General: The electric motor actuator shall include, but not be limited to, the motor, gearing, Solid state non-contacting position encoder, solid state direct acting torque/thrust sensor, declutch lever, and hand wheel as a self-contained unit. Power to the actuator shall be 460V, 3 phase power, unless indicated otherwise in the operator schedule or on the drawings.
- B. Where DC powered actuators are specified to provide fail-safe control of valves or gates, the actuator manufacturer will supply the DC failsafe power package, charger and controls to perform the failsafe function. The actuator and DC control system must come from a single manufacturer to insure failsafe integrity. Third party suppliers will not be acceptable.

The valve actuator motor and all electrical enclosures shall be NEMA 4X, rated for submersion to 21 feet for a minimum of 72 hours. Enclosure shall be double o-ring sealed to prevent moisture ingress. Add-on terminal bungs shall not be acceptable components for double sealing.

The actuator shall be sized to open and close valve no faster than 12-inches per minute.

- C. Battery Pack: where failsafe mode is shown in below operator schedule, provide an electric operation backup battery pack that allows the valve to operate to a safe position for up to 30-seconds; power shall be provided from integral batteries located in an extended version of the terminal cover. Provide sealed lead-acid batteries located in a vented enclosure, 28V, float life 8-years at 20oC, with a charger.
- D. Motor: Electric motors shall be specifically designed for valve and gate actuator service, and shall be totally enclosed, non-ventilated with high starting torque. As a minimum, the electric motor enclosure shall meet NEMA 4X construction. Motors shall be capable of operating through one complete cycle, open-close-open or close-open-close, under the maximum specified operating conditions when voltage to the motor is plus or minus 10 percent of the specified voltage. Motors shall have Class F insulation with Class B temperature rise. Overload protection shall be by means of inherent motor thermal sensors embedded in the windings. Motor shall be 460 VAC.
- E. Power Gearing: The actuator shall use single reduction gearing as required for the application. The primary gear must be a self-locking worm. All gearing shall be hardened alloy steel except for the worm wheel which shall be bronze. All gear shafts shall be mounted in ball or roller bearings.
- F. Lubrication: All actuator gearing and bearings shall be oil lubricated with standard heavy duty oil. Lubricated grease or exotic/synthetic oil is not acceptable. Seals shall be provided at all exit points of the gear case to prevent leakage of lubricant. Critical areas subject to high wear shall be double sealed. Gear case shall have provisions for inspection and re-lubrication without disassembly. Lubricants shall be suitable for year-round service for ambient conditions of minus 20 degrees F. to 150 degrees F.
- G. Stem Nut: The valve actuator shall have a removable stem nut (or drive bushing) of high tensile bronze manganese or other material compatible with the valve stem material.
- H. Handwheel: The actuator shall be equipped with a handwheel for manual operation, so connected that operation by motor shall not cause the handwheel to rotate, and operation by handwheel shall not cause the motor to rotate. The handwheel clutch design shall prevent transmission of the motor torque to the handwheel should power be returned to the motor while the handwheel is in use. A fused motor shall not prevent manual operation. A worn worm gear shall not prevent manual operation. Handwheel shall not share gears with the motor. The handwheel shall require an effort of no more than 60 pounds on the rim for seating or unseating load, or 40 pounds for running load. The handwheel shall have an arrow and the word "Open" indicating required rotation. The handwheel shall operate in the clockwise direction to close. Friction type declutch mechanisms are not acceptable.
- I. Switches:
 - 1. Position sensing shall be accomplished via a non-contacting solid-state device such as a Hall Effect or Optical Encoder. The encoder shall be programmable from

outside the actuator enclosure, and shall incorporate user programmable switch contacts rated at a minimum of 5 amps inductive at 120 VAC. Contacts shall be field convertible from N/O to N/C or reverse, and shall permit verification of switch set point and configuration from outside the actuator enclosure. There shall minimum 4 sets of contacts available for customer use.

2. Torque Switches: Each actuator shall be equipped with a device to constantly measure the torque output in both directions of travel via a pressure sensing Piezo or similar device. The torque sensor shall allow programming of independent set points for opening and closing directions of travel. The torque sensor will interrupt the control circuit in the event a set point is exceeded. The sensor shall be programmable from outside the actuator, and shall permit verification of sensor calibration. Actual torque output shall be available via the actuator's local control display. Mechanical switch mechanisms or linkages will not be acceptable measuring devices.
 3. Electrical Controls Enclosure (Switch Compartment): All controls shall be housed in a separately sealed enclosure so that moisture entering the terminal compartment cannot affect the controls All actuator control inputs shall be opto-isolated to allow for a minimum 2.0 KV surge protection, and to segregate internal from external power sources.
- J. Electrical Controls: All electrical controls shall be supplied integral in the valve actuator switch compartment and shall be pre-mounted and shop-wired to a separately sealed terminal compartment so integral controls are not exposed to the ambient environment at any time, and to facilitate a minimum of field wiring at the time of installation.

Controls shall include but are not be limited to:

1. Reversing Contactor: The control voltage shall be 120 volts, single phase, 60 HZ. Seal-in latching contacts shall be supplied for use in push button circuits. When specified, additional auxiliary contacts (1 N.O. and 1 N.C.) shall be supplied. Starter shall be both electrically and mechanically interlocked. The actuator control circuit shall include a phase correction feature to insure the motor runs in the correct direction regardless of phasing at the terminal block.
2. Control Power Transformer: Transformer shall be designed to transform 460 volts, three-phase, 60 HZ power to 24 VCD secondary power. The transformer shall be complete with a grounded and fused secondary.
3. Local Controls: Each actuator shall be supplied complete with one Local/Stop/Remote toggle switch and one Open/Close momentary switch. Local switches shall not penetrate actuator housing; sealed pushbuttons shall not be acceptable. Remote/Stop/Local switch shall have a provision to be locked in either position with a standard 1/4" padlock.
4. Indication Light(s): Each actuator shall be furnished complete with open-close LED style lights for long life indication of gate position. Lenses shall be red for open and green for close, and clearly indicate mid-travel.

5. Selector Switch: A local-off-remote selector switch function shall be supplied to isolate the incoming process signal control function from the manual push button controls. The selector switch shall be pad lockable in all three positions.
6. Actuator will be equipped with an on board data logger capable of storing date and time stamped operational events as well as torque profiles. Data shall be accessible by non-intrusive means and downloadable to a PC, PDA or Mfgr supplied hand held tool. Said tool shall be capable of uploading data to any desktop PC. Actuator Mfgr will supply both hardware and software with the actuator and provide owners staff suitable training.

K. Operation:

1. Modulating Service:
 - a. Actuator Controller shall be microprocessor based using proportional-derivative algorithm to calculate actuator response.
 - b. Controller shall compare 4 to 20 milliampere direct current analog command signal to analog feed back signal and move actuator accordingly.
 - c. Microprocessor based controller shall control integrally mounted solids state reversing starter.
 - d. The motor operator shall be rated for 1200 starts per hour under modulating service conditions (reference schedule in Section 3.02 below for summary of valve service).
 - e. Actuator shall be fitted with zero backlash internal gearing.
 - f. Control resolution shall be no less than 0.25% accuracy.
 - g. Actuator shall be equipped with Dynamic Braking Function to eliminate position overshoot.
2. Where indicated on the Drawings, provide 4 to 20 milliampere direct current analog output signal for continuous remote monitoring of position.
3. Controller System: Rated for continuous duty.

L. Manufacturer: Rotork IQ; Limitorque MX; or equal.

M. Spare Parts: Supply one lot of recommended spares for each actuator. Minimum spares shall include one fuse for each type, one spare stem nut, one spare motor.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Install per manufacturer's recommendations.
- B. Coordinate the installation of the power operator with the valve supplier. There shall be single source responsibility; the valve supplier shall be responsible for fabrication, coordination and assembly for a complete operating system.

3.2 SCHEDULE

- A. Do not rely on the following to determine number and types of operators required for the project. Additional operators shall be provided as indicated on the drawings.
- B. Abbreviations Relating to Valve or Gate Type:
 - 1. PV = Plug Valve
- C. Abbreviations Relating to Operator Function:
 - 1. MOD = Modulating Service
- D. Operator Schedule:

Tag Number	Equipment Title	Service	Required Signals	Type	Size (in)
MOV-1341	Flush/Equalization Return Valve	Mod	Remote Position Transmitter	PV	6 (see note 1)
	1.	Provide battery pack; fail closed during a power failure.			

END OF SECTION