

City of Fayetteville Staff Review Form

2015-0043

Legistar File ID

2/17/2015

City Council Meeting Date - Agenda Item Only
N/A for Non-Agenda Item

Jim Beavers

1/23/2015

Utilities Director /
Utilities Department

Submitted By

Submitted Date

Division / Department

Action Recommendation:

City Administration recommends approval of a bid waiver and approval of a contract with Instrument and Supply, Hot Springs, Arkansas to purchase two water booster pumps and one VFD in the estimated amount of \$40,948.00 plus \$3,992.43 sales tax. The total estimated amount is \$44,940.43.

Budget Impact:

5400.5600.5808.00	Water/Sewer																														
Account Number	Fund																														
10005.1	South Mtn Pump Station Repair & Replace																														
Project Number	Project Title																														
<table border="0" style="width: 100%;"> <tr> <td style="width: 15%;">Budgeted Item?</td> <td style="width: 15%;"><u>Yes</u></td> <td style="width: 30%;">Current Budget</td> <td style="width: 10%; text-align: right;">\$</td> <td style="width: 30%; text-align: right;">73,596.00</td> </tr> <tr> <td></td> <td></td> <td>Funds Obligated</td> <td style="text-align: right;">\$</td> <td style="text-align: right;">-</td> </tr> <tr> <td></td> <td></td> <td>Current Balance</td> <td style="text-align: right;">\$</td> <td style="text-align: right;">73,596.00</td> </tr> </table>	Budgeted Item?	<u>Yes</u>	Current Budget	\$	73,596.00			Funds Obligated	\$	-			Current Balance	\$	73,596.00	<table border="0" style="width: 100%;"> <tr> <td style="width: 15%;"></td> <td style="width: 15%;"></td> <td style="width: 30%;">Item Cost</td> <td style="width: 10%; text-align: right;">\$</td> <td style="width: 30%; text-align: right;">44,940.43</td> </tr> <tr> <td>Does item have a cost?</td> <td><u>Yes</u></td> <td>Budget Adjustment</td> <td></td> <td></td> </tr> <tr> <td>Budget Adjustment Attached?</td> <td><u>No</u></td> <td>Remaining Budget</td> <td style="text-align: right;">\$</td> <td style="text-align: right;">28,655.57</td> </tr> </table>			Item Cost	\$	44,940.43	Does item have a cost?	<u>Yes</u>	Budget Adjustment			Budget Adjustment Attached?	<u>No</u>	Remaining Budget	\$	28,655.57
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Budget Adjustment Attached?	<u>No</u>	Remaining Budget	\$	28,655.57																											

V20140710

Previous Ordinance or Resolution # _____

Original Contract Number: _____

Approval Date: _____

Comments:



MEETING OF FEBRUARY 17, 2015

TO: Mayor Jordan and City Council Members

THRU: Don Marr, Chief of Staff
Tim Nyander, Utility Director
Water and Sewer Committee

FROM: Jim Beavers, P.E. Utilities Engineer

DATE: January 23, 2015

SUBJECT: Approval of a bid waiver and approval of a contract with Instrument and Supply, Hot Springs, Arkansas for two water booster pumps and one VFD in the amount of \$44,940.43.

RECOMMENDATION:

City Administration recommends approval of a bid waiver and approval of a contract with Instrument and Supply, Hot Springs, Arkansas to purchase two Pentair Fairbanks Nijhuis booster pumps and one VFD in the estimated amount of \$40,948.00 plus \$3,992.43 sales tax. The total estimated amount is \$44,940.43.

BACKGROUND:

The project consists of replacing and upgrading two pumps and motors and one variable frequency drives and electrical systems for the South Mountain water pump station on 24th Street. The pump station has been in service for over 30 years with no upgrades. The variable frequency drive is obsolete, the electrical systems are out of date, and the older pumps and motors have exceeded their useful life. Two of the four existing pumps and three VFD's have been replaced in 2012 with Pentair Fairbanks Nijhuis pumps and appurtenances.

At this time the remaining two pumps will be replaced and the fourth VFD added. Utilities requests to use Pentair Fairbanks Nijhuis pumps for standardization, interchangeable replacement parts and to reduce warehouse and maintenance costs.

DISCUSSION:

The bid waiver will permit all pumps in the booster station to be Pentair Fairbanks Nijhuis (previously Pentair Fairbanks Morse)

Instrument and Supply of Hot Springs, Arkansas has a written agreement with Pentair to be the sole supplier of Pentair Fairbanks Nijhuis pumps in Arkansas. Thus it is not practical or feasible to bid these two pumps and require Pentair Fairbanks Nijhuis.

The proposed prices were reviewed by the Utility. The installation will be by City and CH2M HILL forces.

BUDGET/STAFF IMPACT:

Budgeted funds are available in the South Mountain Pump Station Repair & Replacement project.

ATTACHMENTS:

1. Staff Review Form
2. Purchase Order Request
3. Bid waiver
4. Contract
5. South Mountain Pump Specs
6. Instrument and Supply Quote

City of Fayetteville - Purchase Order Request (PO)

(Not a Purchase Order)

All PO Requests shall be scanned to the Purchasing e-mail: Purchasing@fayetteville-ar.gov.
Purchase shall not be made until an actual PO has been issued.

Requisition No.:	Date: 1/20/2015
P.O Number:	

Vendor #: 52260	Vendor Name: Instrument & Supply, Inc.	Mail <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Legistar#: 2015-0043
Address: P.O. Box 1679		FOB Point:	Expected Delivery Date:
City: Hot Springs	State: AR	Zip Code: 71902 Ship to code: Fay	
Requester: Cheryl Partain		Requester's Employee #: 2548	Extension: 8224

Item	Description	Quantity	Unit of Issue	Unit Cost	Extended Cost	Account Number	Project.Sub#	Inventory #	Fixed Asset #
1	South Mountain Pump Station Repair-- New PENTAIR 2.5" 1823B Pump	2	EA	16,054.00	\$32,108.00	5400.5600.5808.00	10005.1		
2	South Mountain Pump Station Repair-- New 75 HP VFD	1	EA	8,840.00	\$8,840.00	5400.5600.5808.00	10005.1		
3					\$0.00				
4					\$0.00				
5					\$0.00				
6					\$0.00				
7					\$0.00				
8					\$0.00				
9					\$0.00				
10					\$0.00				
*	Shipping/Handling		Lot		\$0.00				

Special Instructions:	Subtotal: <u> \$40,948.00</u> Tax: <u> \$3,992.43</u> Total: <u> \$44,940.43</u>
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Approvals:

Mayor: _____	Department Director: _____	Purchasing Manager: _____
Chief Financial Officer: _____	Budget Director: _____	IT Director: _____
Dispatch Manager: _____	Utilities Manager: _____	Other: _____

SECTION 0500

**AGREEMENT BETWEEN
CITY OF FAYETTEVILLE AND INSTRUMENT & SUPPLY, INC.**

THIS AGREEMENT is dated as of the _____ day of _____ in the year 2015 by and between the **CITY OF FAYETTEVILLE** and **INSTRUMENT & SUPPLY, INC.**

1. If the proposed bid waiver has been approved by the Fayetteville City Council then **INSTRUMENT & SUPPLY, INC** shall commence and complete all Work as specified or indicated in the Invitation to Quote, Technical Specifications and this Agreement. The **WORK** is generally described as follows:

Instrument & Supply shall furnish, F.O.B. Water & Sewer at 2435 S. Industrial Dr., Fayetteville, AR 72701

ITEM:	DESCRIPTION:	QUANTITY:	*PRICE EACH:	*TOTAL PRICE
1	PENTAIR 1823B 2.5" horizontal split case Pumps and motors as specified	2	\$16,054.00	\$32,108.00
2	Variable Frequency Drive (VFD) as specified	1	\$8,840.00	\$8,840.00

Sales tax is additional to the above quoted prices.

2. The **CITY OF FAYETTEVILLE** shall pay **INSTRUMENT & SUPPLY, INC.** in the manner and at such times as set forth in the Invitation to Quote.
3. This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators, successors, and assigns.
4. The term **CONTRACT DOCUMENTS** shall mean and include the following:
 - 5.1 Invitation to Quote.
 - 5.2 Technical Specifications included within the Invitation to Quote and/or attached thereto.
 - 5.3 Agreement Between City of Fayetteville and Instrument & Supply, Inc.
5. **MISCELLANEOUS**
 - 5.1. No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of

the party sought to be bound; and, specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

- 5.2. City of Fayetteville and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- 5.3. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken and all remaining provisions shall continue to be valid and binding upon stricken provision or part thereof with a valid and enforceable provision that comes as close as possible expressing the intention of the stricken provision.
- 5.4. Changes, modifications, or amendments in scope, price or fees to this contract shall not be allowed without a prior formal contract amendment approved by the Mayor and the City Council **in advance** of the change in scope, cost or fees.
- 5.5. **Freedom of Information Act.** City of Fayetteville contracts and documents prepared while performing city contractual work are subject to the Arkansas Freedom of Information Act. If a Freedom of Information Act request is presented to the City of Fayetteville, Contractor will do everything possible to provide the documents in a prompt and timely manner as prescribed in the Arkansas Freedom of Information Act (A.C.A. §25-19-101 et. seq.). Only legally authorized photocopying costs pursuant to the FOIA may be assessed for this compliance.
- 5.6. This contract must be interpreted under Arkansas Law.

IN WITNESS WHEREOF, CITY OF FAYETTEVILLE and INSTRUMENT & SUPPLY, INC. have signed this Agreement in triplicate. One counterpart each has been delivered to City of Fayetteville, Engineer, and Contractor. All portions of the Contract Documents have been signed, initialed, or identified by City of Fayetteville and Contractor or identified by Engineer on their behalf.

OWNER

CONTRACTOR

CITY OF FAYETTEVILLE

INSTRUMENT & SUPPLY, INC.

BY _____
Signature

BY 
Signature
Chris Enloe

Mayor Lioneld Jordan

Printed Name & Title

[CORPORATE SEAL]

ATTEST _____
Signature

Printed Name & Title

Address for giving notices:

113 W. Mountain
Fayetteville, AR 72701

Chris Enloe, Vice President

Printed Name & Title

[CORPORATE SEAL]

ATTEST Renee Howerton
Signature

Renee Howerton, Sales Secretary

Printed Name & Title

Address for giving notices:

141 Technic Circle

Hot Springs, AR 71901

END OF SECTION 0500



City of Fayetteville, Arkansas
Purchasing Division - Room 306
113 W. Mountain
Fayetteville, AR 72701
Phone: 479.575.8220
TDD (Telecommunication Device for the Deaf): 479.521.1316

INVITATION TO QUOTE: PROPOSED BID WAIVER will be requested from the Fayetteville, City Council for Instrument & Supply, Inc. The PROPOSED BID WAIVER is not official or approved until subsequently approved by the Fayetteville City Council.

Two PENTAIR 1823 pumps and one VFD as further described in the attached technical specifications.

PURCHASING AGENT: Andrea Foren, CPPB, CPPO

UTILITIES ENGINEER: Jim Beavers, P.E.

The quote shall be submitted in a accordance with the attached City of Fayetteville specifications and bid documents attached hereto. The potential supplier is required to fill in every blank and shall supply all information requested; failure to do so may be used as basis of rejection.

A request for a Bid Waiver will be considered by the Fayetteville City Council. The Bid Waiver is not guaranteed. The potential supplier (Instrument & Supply, Inc.) shall not proceed to supply the equipment described herein unless and until Instrument and Supply receive an Agreement executed by the Mayor, City of Fayetteville.

“Bid” and “Quote” may be used interchangeably with in this specific document for a proposed Bid Waiver.

The undersigned hereby offers to furnish & deliver the articles or services as specified, at the prices & terms stated herein, and in strict accordance with the specifications and general conditions of bidding, all of which are made a part of this offer. This offer is not subject to withdrawal unless upon mutual written agreement by the Proposer/Bidder and City Purchasing Manager.

Name of Firm: Instrument & Supply, Inc.

Purchase Order/Payments shall be issued to this name

Contact Person: Chris Enloe Title: Vice President of Operations

Email: cenloe@isiequip.com Phone: 501-262-3282

Business Address: P.O. Box 1679 City: Hot Springs State: Arkansas Zip Code: 71902

DATE REQUIRED AS A COMPLETE UNIT: 120 days from Date of Order

*NAME OF BIDDER: Instrument & Supply, Inc.

*GUARANTEED DELIVERY DATE: 120 days from date of order

By: Instrument & Supply, Inc.

Printed name: Chris Enloe

Authorized signature



Date: January 20, 2015

F.O.B. Water & Sewer at 2435 S. Industrial Dr., Fayetteville, AR 72701

ITEM:	DESCRIPTION:	QUANTITY:	*PRICE EACH:	*TOTAL PRICE
1	PENTAIR 1823B 2.5" horizontal split case Pumps, motors as specified	2	\$16,054.00	\$32,108.00
2	Variable Frequency Drive (VFD) as specified	1	\$8,840.00	\$8,840.00

TOTAL QUOTE / BID PRICE: \$40,948.00 plus sales tax

Sales tax is estimated at 9.75% = \$3,992.43

Total price is estimate at \$44,940.43

THIS QUOTE/BID FORM CONTINUES ON THE NEXT PAGE.

EXECUTION OF QUOTE/BID (and/or Bid Waiver if approved):

Bidders are requested to indicate by check mark or "Yes/No" on each line of the Technical Specifications the compliance of the item bid. Actual specification of any deficient item must be noted on the bid sheet or separate attachment. If specifications of item bid differ from provided literature, deviation must be documented and certified by the manufacturer as a regular production option.

Upon signing this Bid, the bidder certifies that:

1. He/she has read and agrees to the requirements set forth in this proposal, including specifications, terms, standard conditions, and any pertinent information regarding the articles being bid on.
2. Unless otherwise noted and explained, the unit bid and listed meets or exceeds all of these requirements as specified by The City of Fayetteville.
3. The Bidder can and will comply with all specifications and requirements for delivery, documentation and support as specified herein.

Unsigned bids will be rejected. Items marked * are mandatory for consideration.

Name of Firm: Instrument & Supply, Inc.

Purchase Order/Payments shall be issued to this name

Contact Person: Chris Enloe Title: Vice President of Operations

Email: cenloe@isiequip.com Phone: 501-262-3282

Business Address: P.O. Box 1679 City: Hot Springs State: Arkansas Zip Code: 71902

DATE REQUIRED AS A COMPLETE UNIT: 120 days from Date of Order

*NAME OF BIDDER: Instrument & Supply, Inc.

*GUARANTEED DELIVERY DATE: 120 days from date or order

By: Instrument & Supply, Inc.

Printed name: Chris Enloe

Authorized signature



Date January 20, 2015

1. SUBMISSION OF BID & BID EVALUATION:

- a. Bids will be reviewed following the stated deadline, if shown on the cover sheet of this document.
- b. Bidders shall submit bids based on documentation published by the City of Fayetteville.
- c. The City will not be responsible for misdirected bids. Vendor should call the Purchasing Office at 479.575.8220 to ensure correct receipt of bidding documents prior to opening time and date listed on the bid form.
- d. Bidders shall have experience in providing products and/or services of the same or similar nature.
- e. Bidder is advised that exceptions to any of the terms contained in this bid shall be identified in its response to the bid. Failure to do so may lead the City to declare any such term non-negotiable. Proposer's desire to take exception to a non-negotiable term will not disqualify it from consideration for award.
- f. Local time is defined as the time in Fayetteville, Arkansas on the due date of the deadline. Bids shall be received before the local time as shown by the atomic clock located in the Purchasing Division Office.
- g. Bids will be evaluated and awarded based on the best interest of the City of Fayetteville. The City reserves the right to award bids in their entirety, none, or by line item.
- h. Bids will be evaluated and awarded based on the best interest of the City of Fayetteville. The City reserves the right to award bids in their entirety, none, or by line item.

2. WRITTEN REQUESTS FOR INTERPRETATIONS OR CLARIFICATION:

No oral interpretations will be made to any firms as to the meaning of specifications or any other contract documents. All questions pertaining to the terms and conditions or scope of work of this bid must be sent in writing via e-mail to the Purchasing Agent. Responses to questions may be handled as an addendum if the response would provide clarification to the requirements of the bid. All such addenda shall become part of the contract documents. The City will not be responsible for any other explanation or interpretation of the proposed bid made or given prior to the award of the contract.

3. DESCRIPTION OF SUPPLIES AND SERVICES:

Any reference to a particular brand or manufacturer is done in an effort to establish an acceptable level of quality for this project. The City of Fayetteville reserves the right to accept or reject any requested equal.

4. RIGHTS OF CITY OF FAYETTEVILLE BID PROCESS:

- a. In addition to all other rights of the City of Fayetteville, under state law, the City specifically reserves the following. The City of Fayetteville reserves the right to select the bid that it believes will serve the best interest of the City.
- b. The City of Fayetteville reserves the right to accept or reject any or all bids.
- c. The City of Fayetteville reserves the right to cancel the entire bid.
- d. The City of Fayetteville reserves the right to remedy or waive technical or immaterial errors in the invitation to bid or in bids submitted.
- e. The City of Fayetteville reserves the right to request any necessary clarifications, additional information, or data without changing the terms of the bid.

5. COSTS INCURRED BY BIDDERS:

All expenses involved with the preparation and submission of bids to the City, or any work performed in connection therewith, shall be borne solely by the bidder(s). No payment will be made for any responses received, or for any other effort required of, or made by, the bidder(s) prior to contract commencement.

6. CONFLICT OF INTEREST:

- a. The bidder represents that it presently has no interest and shall acquire no interest, either direct or indirect, which would conflict in any manner with the performance or services required hereunder, as provided in City of Fayetteville Code Section 34.26 titled "Authority of City Employee to Contract with the City".

- b. All bidders shall promptly notify Andrea Foren, City Purchasing Agent, in writing, of all potential conflicts of interest for any prospective business association, interest, or other circumstance which may influence or appear to influence the bidder's judgment or quality of services being provided. Such written notification shall identify the respective business association, interest or circumstance, the nature of which the bidder may undertake and request an opinion to the City as to whether the association, interest or circumstance would, in the opinion of the City, constitute a conflict of interest if entered into by the bidder. The City agrees to communicate with the bidder its opinion via e-mail or first-class mail within thirty days of receipt of notification.

7. **WITHDRAWAL OF PROPOSAL:**

A bid may be withdrawn prior to the time set for the bid submittal, based on a written request from an authorized representative of the firm; however, a bid shall not be withdrawn after the time set for the bid unless approved by the Purchasing Division.

8. **LATE PROPOSAL OR MODIFICATIONS:**

Bid modifications received after the time set for the bid submittal shall not be considered. Modifications in writing received prior to the deadline will be accepted. The City will not be responsible for misdirected bids. Bidders should call the Purchasing Division at (479) 575-8220 to verify receipt of their submittal documents prior to opening time and date listed.

9. **LOCAL, STATE, AND FEDERAL COMPLIANCE REQUIREMENTS:**

- a. The laws of the State of Arkansas apply to any purchase made under this bid. Bidders shall comply with all local, state, and federal directives, orders and laws as applicable to this proposal and subsequent contract(s) including but not limited to Equal Employment Opportunity (EEO), Disadvantaged Business Enterprises (DBE), & OSHA as applicable to this contract.
- b. Pursuant to Arkansas Code Annotated §2-9-203 the City of Fayetteville encourages all *qualified* small, minority and women's business enterprises to bid on and receive contracts for goods, services, and construction. Also, City of Fayetteville encourages all general contractors to subcontract portions of their contract to *qualified* small, minority and women's business enterprises.

10. **PROVISION FOR OTHER AGENCIES:** N/A

11. **COLLUSION:**

The Proposer, by affixing his or her signature to this proposal, agrees to the following: "bidder certifies that his or her bid is made without previous understanding, agreement, or connection with any person, firm or corporation making a proposal for the same item(s) and/or services and is in all respects fair, without outside control, collusion, fraud, or otherwise illegal action."

12. **RIGHT TO AUDIT, FOIA, AND JURISDICTION:**

- a. The City of Fayetteville reserves the privilege of auditing a vendor's records as such records relate to purchases between the City and said vendor.
- b. Freedom of Information Act: City contracts and documents prepared while performing City contractual work are subject to the Arkansas Freedom of Information Act. If a Freedom of Information Act request is presented to the City of Fayetteville, the (Contractor) will do everything possible to provide the documents in a prompt and timely manner as prescribed in the Arkansas Freedom of Information Act (AC.A §25-19-101 et seq.). Only legally authorized photocopying costs pursuant to the FOIA may be assessed for this compliance.
- c. Legal jurisdiction to resolve any disputes shall be in Washington County, Arkansas with Arkansas law applying to the case.

13. **CITY INDEMNIFICATION:**

The successful bidder(s) agrees to indemnify the City and hold it harmless from and against any and all claims, liability, loss, damage or expense, including but not limited to counsel fees, arising from or by reason of any actual or claimed trademark, patent or copyright infringement or litigation based thereon, with respect to the goods or any part thereof covered by this order, and such obligation shall survive acceptance of the goods and payment thereof by the City.

14. **VARIANCE FROM STANDARD TERMS & CONDITIONS:**

All standard terms and conditions stated in this request for bid apply to this contract except as specifically stated in the subsequent sections of this document, which take precedence, and should be fully understood by bidders prior to submitting a proposal on this requirement.

15. **ADA REQUIREMENT FOR PUBLIC NOTICES & TRANSLATION:**

Persons with disabilities requiring reasonable accommodation to participate in this proceeding/event, should call 479.521.1316 (telecommunications device for the deaf), not later than seven days prior to the deadline. Persons needing translation of this document shall contact the City of Fayetteville, Purchasing Division, immediately.

16. **PROCUREMENT POLICY FOR RECYCLED MATERIALS:**

The City of Fayetteville wishes to encourage its bidders to use recycled products in fulfilling contractual obligations to the City and that such practices will serve as a model for other public entities and private sector companies.

17. **PAYMENTS AND INVOICING:**

The bidder must specify in their bid the exact company name and address which must be the same as invoices submitted for payment as a result of award of this bid. Further, the successful bidder is responsible for immediately notifying the Purchasing Division of any company name change, which would cause invoicing to change from the name used at the time of the original bid. Payment will be made within thirty days of invoice received. The City of Fayetteville is very credit worthy and will not pay any interest, fees, or penalty for untimely payments. **Payments can be processed through bidder's acceptance of Visa at no additional costs to the City for expedited payment processing.** The City will not agree to any nonrefundable deposit or retainer that would remain property of the bidder even if the hourly work actually performed by the bidder would not justify such fee.

The City will pay the awarded bidder based on unit prices provided on invoicing. Progress payments will be made after approval and acceptance of work and submission of invoice. Payments will be made within 30 days of accepted invoice.

18. **CANCELLATION:**

- a. The City reserves the right to cancel this contract without cause by giving thirty (30) days prior notice to the Contractor in writing of the intention to cancel or with cause if at any time the Contractor fails to fulfill or abide by any of the terms or conditions specified.
- b. Failure of the contractor to comply with any of the provisions of the contract shall be considered a material breach of contract and shall be cause for immediate termination of the contract at the discretion of the City of Fayetteville.
- c. In addition to all other legal remedies available to the City of Fayetteville, the City reserves the right to cancel and obtain from another source, any items and/or services which have not been delivered within the period of time from the date of order as determined by the City of Fayetteville.
- d. In the event sufficient budgeted funds are not available for a new fiscal period, the City shall notify the vendor of such occurrence and contract shall terminate of the last day of the current fiscal period without penalty or expense to the City.

19. **ASSIGNMENT, SUBCONTRACTING, CORPORATE ACQUISITIONS AND/OR MERGERS:**

- a. The Contractor shall perform this contract. No assignment of subcontracting shall be allowed without prior written consent of the City. If a bidder intends to subcontract a portion of this work, the bidder shall disclose such intent in the bid submitted as a result of this bid.
- b. In the event of a corporate acquisition and/or merger, the Contractor shall provide written notice to the City within thirty (30) calendar days of Contractor's notice of such action or upon the occurrence of said action, whichever occurs first. The right to terminate this contract, which shall not be unreasonably exercised by the City, shall include, but not be limited to, instances in which a corporate acquisition and/or merger represent a conflict of interest or are contrary to any local, state, or federal laws. Action by the City awarding a proposal to a firm that has disclosed its intent to assign or subcontract in its response to the bid, without exception shall constitute approval for purpose of this Agreement.

20. **NON-EXCLUSIVE CONTRACT:**

Award of this bid shall impose no obligation on the City to utilize the vendor for all work of this type, which may develop during the contract period. This is not an exclusive contract. The City specifically reserves the right to concurrently contract with other companies for similar work if it deems such an action to be in the City's best interest. In the case of multiple-term contracts, this provision shall apply separately to each item.

21. **LOBBYING:**

Lobbying of selection committee members, City of Fayetteville employees, or elected officials regarding request for proposals, request for qualifications, bids or contracts, during the impendency of bid protest, by the bidder/proposer/protestor or any member of the bidder's/proposer's/protestor's staff, and agent of the bidder/proposer/protestor, or any person employed by any legal entity affiliated with or representing an organization that is responding to the request for proposal, request for qualification, bid or contract, or has a pending bid protest is strictly prohibited either upon advertisement or on a date established by the City of Fayetteville and shall be prohibited until either an award is final or the protest is finally resolved by the City of Fayetteville; provided, however, nothing herein shall prohibit a prospective/bidder/proposer from contacting the Purchasing Division to address situations such as clarification and/or questions related to the procurement process. For purposes of this provision lobbying activities shall include but not be limited to, influencing or attempting to influence action or non-action in connection with any request for proposal, request for qualification, bid or contract through direct or indirect oral or written communication or an attempt to obtain goodwill of persons and/or entities specified in this provision. Such actions may cause any request for proposal, request for qualification, bid or contract to be rejected.

22. **ADDITIONAL REQUIREMENTS:**

The City reserves the right to request additional services relating to this bid from the bidder. When approved by the City as an amendment to the contract and authorized in writing prior to work, the Contractor shall provide such additional requirements as may become necessary.

23. **ADD OR DELETE LOCATIONS OR SERVICES:**

The City reserves the right to unilaterally add or delete locations and/or services, either collectively or individually, at the City's sole option, at any time after award has been made as may be deemed necessary or in the best interests of the City. In such case, the Contractor(s) will be required to provide services to this contract in accordance with the terms, conditions, and specifications.

24. **INTEGRITY OF BID DOCUMENTS:**

Bidders shall use the original bid form(s) provided by the Purchasing Division and enter information only in the spaces where a response is requested. Bidders may use an attachment as an addendum to the bid form(s) if sufficient space is not available on the original form for the bidder to enter a complete response. **Any modifications or alterations to the original documents by the bidder, whether intentional or otherwise, will constitute grounds for rejection of such response.** Any such modifications or alterations a bidder wishes to propose shall be clearly stated in the bidder's response and presented in the form of an addendum to the original bid documents.

25. **CERTIFICATE OF INSURANCE:**

The successful bidder shall provide a Certificate of Insurance in accordance with specifications listed in this request for proposal, prior to commencement of any work. Such certificate shall list the City of Fayetteville as an additional insured. Insurance shall remain valid, when applicable, throughout project completion.

This bid is considered a public improvement bid. Public improvement bids with a total of \$20,000 or more shall submit certificates of insurance within 10 days of notice of notice to proceed, after City Council approval. Certificates of insurance are to be addressed to the City of Fayetteville, showing that the contractor carries the following insurance which shall be maintained throughout the term of the bid. Any work sublet, the contractor shall require the subcontractor similarly to provide the same insurance coverage. In case any employee engaged in work on the project is not protected under Workers' Compensation, the Contractor shall provide, and shall cause each subcontractor to provide, adequate employer's liability insurance for the protection of such of his employees as are not otherwise protected.

Workers' Compensation: Statutory

Comprehensive General & Automotive Liability: Amount: \$250,000 each person, 500,000 Aggregate

Property Damage Liability: \$100,000 Aggregate

26. **OTHER GENERAL CONDITIONS:**

- a) Bidder is presumed to be familiar with all federal, state, and city laws, ordinances, and regulations which in any manner affect those engaged or employed in the Work, or the materials or equipment used, or that in any way affect the Work and shall in all respects comply with said laws, ordinances, and regulations. No claim of misunderstanding or ignorance on the part of Bidder or Proposer will in any way serve to modify the provisions of the contract. No representations shall be binding unless embodied in the contract.
- b) Prices shall include all labor, materials, overhead, profit, insurance, shipping, freight, etc., to cover the products and services presented. **Sales tax shall NOT be included in the bid price.** Applicable Arkansas sales tax laws will apply to this bid but not be considered for the bid evaluation process. The City is not a sales tax exempt entity.
- c) Each bidder should state the anticipated number of days from the date of receipt of an order for delivery of services to the City of Fayetteville.
- d) Bidder's must provide the City with their bids signed by an employee having legal authority to submit bids on behalf of the bidder. The entire cost of preparing and providing responses shall be borne by the bidder.
- e) The City reserves the right to request any additional information it deems necessary from any or all bidders after the submission deadline.
- f) The request for bid is not to be construed as an offer, a contract, or a commitment of any kind; nor does it commit the City to pay for any costs incurred by bidder in preparation. It shall be clearly understood that any costs incurred by the Proposer in responding to this request for proposal is at the bidder's own risk and expense as a cost of doing business. The City of Fayetteville shall not be liable for reimbursement to the Proposer for any expense so incurred, regardless of whether or not the proposal is accepted.
- g) If products, components, or services other than those described in this bid document are proposed, the bidder must include complete descriptive literature for each. All requests for additional information must be received within five working days following the request.
- h) **NOTE: Any uncertainties shall be brought to the attention to Andrea Foren immediately via telephone (479.575.8220) or e-mail (aforen@ci.fayetteville.ar.us). It is the intent and goal of the City of Fayetteville Purchasing Division to provide documents providing a clear and accurate understanding of the scope of work to be completed and/or goods to be provided. We encourage all interested parties to ask questions to enable all bidders to be on equal bidding terms.**
- i) Any inquiries or requests for explanation in regard to the City's requirements should be made promptly to Andrea Foren, City of Fayetteville, Purchasing Agent via e-mail (aforen@ci.fayetteville.ar.us) or telephone (479.575.8220). No oral interpretation or clarifications will be given as to the meaning of any part of this request for proposal. All questions, clarifications, and requests, together with answers, if any, will be provided to all firms via written addendum. Names of firms submitting any questions, clarifications, or requests will not be disclosed until after a contract is in place.
- j) Any information provided herein is intended to assist the bidder in the preparation of proposals necessary to properly respond to this bid. The bid is designed to provide qualified Proposers with sufficient basic information to submit proposals meeting minimum specifications and/or test requirements, but is not intended to limit a bid's content or to exclude any relevant or essential data.
- k) Bidders irrevocably consent that any legal action or proceeding against it under, arising out of, or in any manner relating to this bid, or any contract entered related thereto, shall be governed by Arkansas law without regard to conflicts of law principles. Proposer hereby expressly and irrevocably waives any claim or defense in any action or proceeding based on any alleged lack of jurisdiction or improper venue or any similar basis.
- k) The successful bidder shall not assign the whole or any part of this Contract or any monies due or to become due hereunder without written consent of City of Fayetteville. In case the successful bidder assigns all or any part of any

monies due or to become due under this Contract, the Instrument of assignment shall contain a clause substantially to the effect that it is agreed that the right of the assignee in and to any monies due or to become due to the successful bidder shall be subject to prior liens of all persons, firms and corporations for services rendered or materials supplied for the performance of the services called for in this Contract.

- l) The successful bidder's attention is directed to the fact that all applicable Federal and State laws, municipal ordinances, and the rules and regulations of all authorities having jurisdiction over the services shall apply to the contract throughout, and they will be deemed to be included in the contract as though written out in full herein. The successful bidder shall keep himself/herself fully informed of all laws, ordinances and regulations of the Federal, State, and municipal governments or authorities in any manner affecting those engaged or employed in providing these services or in any way affecting the conduct of the services and of all orders and decrees of bodies or tribunals having any jurisdiction or authority over same. If any discrepancy or inconsistency should be discovered in the Contract Documents or in the specifications herein referred to, in relation to any such law, ordinance, regulation, order or decree, s/he shall herewith report the same in writing to City of Fayetteville.

27. **INVOICING:** All invoices shall be presented to the City with the minimum information listed below.

- a. City Department that ordered the materials or services
- b. Order Date
- c. Delivery date or the date of service
- d. Name of the City Employee that requested or picked up the goods, materials, or service
- e. Bid Number that applies to the purchase and invoice. Amounts in the bid shall match invoicing.

28. **ADDITIONAL INFORMATION PROVIDED AND REQUIRED FOR THIS BID:** The following attachments are hereby included and are made part of the requirements for this bid package. Pricing shall be inclusive of the entire bid package, inclusive of these attachments:

Technical Specifications: Horizontal Split Case Pumping System

HORIZONTAL SPLIT CASE PUMPING SYSTEM SPECIFICATIONS

PART 1 - GENERAL

- 1.01. This specification includes the supply of two (2) horizontal split case pump and motor. Pumps shall have a maximum 3" diameter suction and 2-1/2" diameter discharge. Each unit shall be furnished with a pump, driver, and base with coupling guard. Pumps are to be connected to drivers by suitably sized flexible couplings.

Pumps shall be PENTAIR 2-1/2" 1823B (FAIRBANKS NIJHUIS)

1.02 QUALITY ASSURANCE

- A. All pumping equipment furnished under this Section shall be of a design and manufacture that has been used in similar applications, and it shall be demonstrated to the satisfaction of the City of Fayetteville that the quality is equal to equipment made by that manufacturer specifically named herein.
- B. Unit responsibility. Pumps, complete with motor, coupling, necessary guards, and all other specified accessories and appurtenances shall be furnished by the pump system supplier to insure compatibility and integrity of the individual components, and provide the specified warranty for all components.
- C. Pumps are to be engineered and manufactured under a written Quality Assurance program. The Quality Assurance program is to be in effect for at least ten years, to

include a written record of periodic internal and external audits to confirm compliance with such program.

- E. Pump(s) are to be engineered and manufactured under the certification of ISO-9001:2000.

1.03 PERFORMANCE

- A. The pump(s) shall be designed for continuous operation and will be operated continuously under normal service.
- B. PERFORMANCE AND OPERATIONAL CRITERIA

	Flow (GPM)	TDH (ft.)	Min. Efficiency (%)	Max. Pump Speed (RPM)
Operating Pt. 1	160	230	48	3550
Operating Pt. 2	320	206	64	3550
Operating Pt. 2	400	180	65	3550

- C. Net positive suction head available at the centerline of the pump impeller is 75 psi.
- D. The maximum shutoff head allowed is 234 ft.
- E. Maximum solids passage through the impeller is 0.375 inches.
- F. Liquid pumped is potable water with a maximum temperature of 110 degF.
- G. Maximum motor horsepower allowed is 30 HP, and shall be non-overloading through the entire operating range of the application.
- H. Minimum stable flow shall be 80 GPM.

PART 2 - PRODUCTS

2.01 PUMPS

A. Manufacturers

- 1. Pumps shall be PENTAIR the product of Fairbanks NIJHUIS Morse Pump, model 1823B.
- 2. Alternates or substitutions shall not be approved.

B. Design

1. Rotation

The pump will be clockwise rotation when viewed from the driver end looking at the pump.

2. Impeller

- a. The bronze impeller shall be of the enclosed type, double suction, Francis vane design, to minimize inlet losses and accommodate high suction lifts.
- b. Impeller shall be hydraulically and statically balanced to reduce bearing loading.
- c. Impellers shall be precision cast in one piece with smooth flow contours to promote maximum efficiency.
- d. Impellers shall be fixed axially along the shaft by shaft sleeves and sleeve nuts, and secured to the shaft through a precision fit and full-length key.
- e. The impeller hub shall have sufficient metal thickness to allow machining for installation of impeller wear rings.

3. Casing
 - a. The casing shall be made of close-grained cast iron conforming to ASTM A48 CL30 suitable for 250 PSI working pressure when 150 lb. ANSI discharge flange is used.
 - b. Casing shall withstand a minimum 375 PSI hydrostatic test.
 - c. Casing shall consist of upper and lower half castings containing the volute and suction passages, and removable bearing housings that are doweled and securely bolted to the lower half casing. Inboard and outboard bearing housings shall be replaceable without the need for field alignment.
 - d. Casing shall be axially split along the horizontal shaft centerline with flat-faced suction and discharge flanges and mounting feet cast integral with the lower half casing.
 - e. Casing shall be lined-bored to assure concentricity and angular alignment.
 - f. The upper and lower half casings shall be single volute doweled to permit easy removal and accurate replacement of the upper half for inspection and maintenance. The upper half casing shall be completely removable without disturbing the suction or discharge piping connections.
 - g. Suction and discharge connections shall be sized to reduce hydraulic friction losses and to reduce turbulence and pipe noise. All suction and discharge flanges shall be designed for straight through nut-and-bolt flange connections. Suction flange shall be 125# ANSI drilling and the discharge flange 125# ANSI drilling.
 - h. Upper half casing shall have a drilled and tapped connection at the highest point on the casing for the purpose of pump priming and/or air release. Lower half casing shall be drilled and tapped to allow for drainage piping.
4. Wear Rings
 - a. Wear rings shall be provided on both the impeller and casing so that clearances can be maintained throughout the life of the rings and minimize recirculation.
 - b. Impeller wear rings shall be of the annular type.
 - c. Casing wear rings shall be of the annular type pinned at the parting flange of the casing to prevent rotation.
 - d. Wear rings shall be bronze.
5. Bearings
 - a. Bearings shall be single row and deep groove ball type selected to carry radial and thrust loads.
 - b. Interchangeable inboard and outboard bearings shall be press fit and positioned onto ground journals on both ends of an accurately machined shaft.
 - c. Bearing housings shall be doweled and accurately positioned onto the bearing shoulders located on the lower half casing to ensure accurate alignment.
 - d. Bearings shall be grease lubricated, however, pump and bearing construction shall be such that a change to oil lubrication can be made in the field, using the same bearings.
 - e. Bearings shall be designed for an L10 life of 100,000 hours per ABMA at best efficiency point.
6. Shaft
 - a. The pump shaft shall be manufactured of high quality heat treated 416SS of sufficient diameter to allow no greater than 0.003" maximum deflection as measured at the sealing box for all normal performance conditions on the curve.

- b. Shaft shall be manufactured to meet stiff shaft construction with a critical speed at least 25% in excess of operating speed, in order to prevent vibration and fatigue.
 - c. Shaft shall be accurately machined along its entire length. A keyway shall be machined at the coupling end. No threads shall be machined adjacent to the impeller.
7. Sealing Box
- a. The shaft seals shall be mechanical seals with a stationary seal positioned against a rotating seal. Shaft seals will be carbon faced, and will be furnished with 316SS shaft sleeves. Shaft seals shall be non-proprietary, and shall be available locally. Seals shall be John Crane Type 21, or pre-approved equal.
 - b. External piping complete with snubber valves shall be installed from the casing to each sealing box to circulate sealing water.
8. Baseplate, Coupling and Guard
- a. A fabricated steel base for pump and drive is to be supplied. Base shall be designed to resist torsional movement and support the combined weight of both pump and driver.
 - b. After leveling and alignment, the base shall be grouted and completely filled with a non-shrinking grout.
 - c. A flexible coupling and an enclosed type coupling guard shall be provided.
9. Coatings
- a. Pump, motor, and baseplate shall be coated with one (1) coat of Tnemec, Hi-Build Epoxy, Series 66, epoxy paint to 4.0 to 6.0 mils DMT. Paint color shall be selected by the City of Fayetteville (True Blue/Safety).
10. Testing
- a. The pump manufacturer shall perform non-witnessed hydraulic testing of pumps prior to shipment.
11. Quality Control
- Pumps shall be manufactured by companies whose management system is registered to ISO 9001:2000.

2.02 MOTORS

A. Operating Conditions

Motors shall be rated for a maximum of 30 horsepower at 3600 RPM, and for use with 480 volts, 60 Hertz, 3 phase power.

B. Manufacturers

Motors shall be the product of Baldor, GE, or WEG, or equal, and shall be furnished by the pump manufacturer.

C. Design

- 1. The pump will be furnished with 286TS motor frame as NEMA designates for polyphase, squirrel-cage, design B, horizontal motors.
- 2. The motor enclosure shall be type TEFC, totally enclosed fan-cooled.
- 3. The motor insulation system shall be Class F, and shall be suitable for use with a variable frequency drive.
- 4. Motor service factor shall be 1.15.
- 5. Motors shall be rated for continuous duty at 40 degrees C.
- 6. Motors shall be premium efficiency and shall be minimum 91.0% efficient.
- 7. Bearings shall be sealed, ball bearing type, and shall be lubricated with grease. Zirk type service fittings shall be provided on the drive and opposite ends for maintenance.

8. Motors shall be self-supporting type and shall be foot mounted to the pump base plate by the pump manufacturer.
9. The motor will be factory tested by the motor manufacturer prior to shipment to the pump manufacturer.

2.03 VARIABLE FREQUENCY DRIVES (VFD's)

A. General

One additional VFD's shall be provided to match the existing three 75 HP VFD's previously delivered to the City of Fayetteville.

B. Manufacturers

VFD's shall be a standard product of ABB (ACS550-U1-097A-4), and shall be provided by the pumping system supplier.

C. Construction

1. VFD's shall be UL Plenum rated.
2. All heat sink fans shall be accessible from the front with removal of the VFD power converter, and will be controlled by an internal temperature sensor.
3. The VFD enclosure shall be NEMA Type 1 with bottom mounted conduit entrances.
4. The VFD shall be designed to operate in ambient temperatures from 14 to 120degF, and relative humidity of 95% non-condensing.
5. The VFD will have removable terminal connection strips for all logic and analog inputs and outputs in the power converter.
6. The VFD shall be furnished with a 4-20mA input for a speed reference.
7. The VFD will accept two (2) dry contacts inputs for emergency stop and run/stop command.
8. The VFD will provide a three (3) relay form A outputs for VFD fault, VFD running, and loss of speed reference.
9. The VFD shall have a keypad display shall be provided for viewing and modification of VFD parameters and diagnostics. The display shall have password protection capability.

D. Operation

1. VFD's shall be sized to operate a variable torque load at a speed range from 1.0Hz to 72Hz.
2. The VFD shall be designed to operate a 75HP motor on +/- 480 volts, 3 phase, 60 hertz incoming power.
3. The overtorque rating shall be 110% for 1 minute.

E. Protection

1. The AC drive shall be rated for UL minimum short circuit currents per given horsepower rating.
2. The AC Drive shall be protected against short circuits, between output phases and to ground.
3. The AC Drive shall have under-voltage power-loss ride through performance per the SEMI F-47 voltage ride through standard and certified by a third party.

PART 3 - EXECUTION

3.01 Post-production

- A. All installation will be provided by the City of Fayetteville. The Pumping System Supplier will provide one (1) day of installation guidance.
- B. After installation of all components is complete, City of Fayetteville will notify Pumping system Supplier for startup. Pumping system supplier will provide one (1) day of Start-up. If additional days are needed, they will be billed to the City of Fayetteville at the Suppliers standard field rate.
- C. After Startup is complete, Pumping System Supplier will provide two (2) printed sets of operation and maintenance manuals and one (1) digital copy in .pdf format.

3.02 Warranty

- A. Pumping System Supplier shall provide 24 months non-prorated warranty after delivery of equipment has been made.

3.03 Payment

- A. City of Fayetteville will pay for equipment once as it arrives at the City of Fayetteville's jobsite. The City of Fayetteville will retain 10% of each invoice for retainage. The City of Fayetteville will release the remaining 10% retainage within thirty (30) days after system has been deemed substantially complete by the City of Fayetteville.

END OF SECTION

This page does not count towards page limitations set forth in this request for proposal or bid. Proposer must disclose any possible conflict of interest with the City of Fayetteville, including, but not limited to, any relationship with any City of Fayetteville employee. Your response must disclose if a known relationship exists between any principal or employee of your firm and any City of Fayetteville employee or elected City of Fayetteville official.

If, to your knowledge, no relationship exists, this should also be stated in your response. Failure to disclose such a relationship may result in cancellation of a purchase and/or contract as a result of your response. This form must be completed and returned in order for your bid/proposal to be eligible for consideration.

PLEASE CHECK ONE OF THE FOLLOWING TWO OPTIONS, AS IT APPROPRIATELY APPLIES TO YOUR FIRM:

XX 1. No Known Relationship Exists

_____ 2. Relationship exists (Please explain)

PLEASE FILL OUT THE SECTION BELOW AND SUBMIT THIS FORM WITH YOUR BID OR PROPOSAL:

- 1.) I, as an officer of this organization, or per the attached letter of authorization, am duly authorized to certify the information provided herein are accurate and true; and
- 2.) My organization shall comply with all State and Federal Equal Opportunity and Non-Discrimination requirements and conditions of employment.



Signature:

Date: January 20, 2015



January 9, 2015

To: Mr. Jim Beavers, PE
City of Fayetteville, AR
113 W. Mountain Dr.
Fayetteville, AR 72701

Quote 0115-06-0901

RE: South Mountain Pump Station

Dear Mr. Beavers,

As I understand it, the City of Fayetteville would like to purchase two Fairbanks 1823B pumps with 30HP motors and one ABB 75HP VFD. I have provided pricing for these items below for your review:

SCOPE OF QUOTATION

INSTRUMENT & SUPPLY, INC. IS PLEASED TO OFFER THE FOLLOWING ITEMS:

New 2.5" 1823B Pump Price: \$16,054.00 x 2 =	\$32,108.00
New 75HP VFD Price:	<u>\$ 8,840.00</u>
Total New Equipment	\$40,948.00

Freight to Fayetteville and one day of startup is included. Taxes, offloading, installation are not included.

If you have any questions, please do not hesitate to contact me at the office number above, at the following cell phone number 501-622-0479, or email me at cenloe@isiequip.com . May God bless you all in your endeavors.

Yours truly,

Chris Enloe

VP-Operations

P. O. Box 1679, Hot Springs, AR 71902
Phone: 501-262-3282 Fax: 501-262-4847

HORIZONTAL SPLIT CASE PUMPING SYSTEM SPECIFICATIONS

PART 1 - GENERAL

1.01. This specification includes the supply of two (2) horizontal split case pump and motor. Pumps shall have a maximum 3” diameter suction and 2-1/2 diameter discharge. Each unit shall be furnished with a pump, driver, and base with coupling guard. Pumps are to be connected to drivers by suitably sized flexible couplings.

Pumps shall be PENTAIR 2-1/2” 1823B (FAIRBANKS NIJHUIS)

1.02 QUALITY ASSURANCE

- A. All pumping equipment furnished under this Section shall be of a design and manufacture that has been used in similar applications, and it shall be demonstrated to the satisfaction of the City of Fayetteville that the quality is equal to equipment made by that manufacturer specifically named herein.
- B. Unit responsibility. Pumps, complete with motor, coupling, necessary guards, and all other specified accessories and appurtenances shall be furnished by the pump system supplier to insure compatibility and integrity of the individual components, and provide the specified warranty for all components.
- C. Pumps are to be engineered and manufactured under a written Quality Assurance program. The Quality Assurance program is to be in effect for at least ten years, to include a written record of periodic internal and external audits to confirm compliance with such program.
- E. Pump(s) are to be engineered and manufactured under the certification of ISO-9001:2000.

1.03 PERFORMANCE

- A. The pump(s) shall be designed for continuous operation and will be operated continuously under normal service.
- B. PERFORMANCE AND OPERATIONAL CRITERIA

	Flow (GPM)	TDH (ft.)	Min. Efficiency (%)	Max. Pump Speed (RPM)
Operating Pt. 1	160	230	48	3550
Operating Pt. 2	320	206	64	3550
Operating Pt. 2	400	180	65	3550

- C. Net positive suction head available at the centerline of the pump impeller is 75 psi.
- D. The maximum shutoff head allowed is 234 ft.
- E. Maximum solids passage through the impeller is 0.375 inches.
- F. Liquid pumped is potable water with a maximum temperature of 110 degF.

- G. Maximum motor horsepower allowed is 30 HP, and shall be non-overloading through the entire operating range of the application.
- H. Minimum stable flow shall be 80 GPM.

PART 2 - PRODUCTS

2.01 PUMPS

A. Manufacturers

- 1. Pumps shall be PENTAIR the product of Fairbanks NIJHUIS Morse Pump, model 1823B.
- 2. Alternates or substitutions shall not be approved.

B. Design

1. Rotation

The pump will be clockwise rotation when viewed from the driver end looking at the pump.

2. Impeller

- a. The bronze impeller shall be of the enclosed type, double suction, Francis vane design, to minimize inlet losses and accommodate high suction lifts.
- b. Impeller shall be hydraulically and statically balanced to reduce bearing loading.
- c. Impellers shall be precision cast in one piece with smooth flow contours to promote maximum efficiency.
- d. Impellers shall be fixed axially along the shaft by shaft sleeves and sleeve nuts, and secured to the shaft through a precision fit and full-length key.
- e. The impeller hub shall have sufficient metal thickness to allow machining for installation of impeller wear rings.

3. Casing

- a. The casing shall be made of close-grained cast iron conforming to ASTM A48 CL30 suitable for 250 PSI working pressure when 150 lb. ANSI discharge flange is used.
- b. Casing shall withstand a minimum 375 PSI hydrostatic test.
- c. Casing shall consist of upper and lower half castings containing the volute and suction passages, and removable bearing housings that are doweled and securely bolted to the lower half casing. Inboard and outboard bearing housings shall be replaceable without the need for field alignment.
- d. Casing shall be axially split along the horizontal shaft centerline with flat-faced suction and discharge flanges and mounting feet cast integral with the lower half casing.
- e. Casing shall be lined-bored to assure concentricity and angular alignment.
- f. The upper and lower half casings shall be single volute doweled to permit easy removal and accurate replacement of the upper half for inspection and maintenance. The upper half casing shall be completely removable without disturbing the suction or discharge piping connections.
- g. Suction and discharge connections shall be sized to reduce hydraulic friction losses and to reduce turbulence and pipe noise. All suction and

discharge flanges shall be designed for straight through nut-and-bolt flange connections. Suction flange shall be 125# ANSI drilling and the discharge flange 125# ANSI drilling.

- h. Upper half casing shall have a drilled and tapped connection at the highest point on the casing for the purpose of pump priming and/or air release. Lower half casing shall be drilled and tapped to allow for drainage piping.

4. Wear Rings

- a. Wear rings shall be provided on both the impeller and casing so that clearances can be maintained throughout the life of the rings and minimize recirculation.
- b. Impeller wear rings shall be of the annular type.
- c. Casing wear rings shall be of the annular type pinned at the parting flange of the casing to prevent rotation.
- d. Wear rings shall be bronze.

5. Bearings

- a. Bearings shall be single row and deep groove ball type selected to carry radial and thrust loads.
- b. Interchangeable inboard and outboard bearings shall be press fit and positioned onto ground journals on both ends of an accurately machined shaft.
- c. Bearing housings shall be doweled and accurately positioned onto the bearing shoulders located on the lower half casing to ensure accurate alignment.
- d. Bearings shall be grease lubricated, however, pump and bearing construction shall be such that a change to oil lubrication can be made in the field, using the same bearings.
- e. Bearings shall be designed for an L10 life of 100,000 hours per ABMA at best efficiency point.

6. Shaft

- a. The pump shaft shall be manufactured of high quality heat treated 416SS of sufficient diameter to allow no greater than 0.003" maximum deflection as measured at the sealing box for all normal performance conditions on the curve.
- b. Shaft shall be manufactured to meet stiff shaft construction with a critical speed at least 25% in excess of operating speed, in order to prevent vibration and fatigue.
- c. Shaft shall be accurately machined along its entire length. A keyway shall be machined at the coupling end. No threads shall be machined adjacent to the impeller.

7. Sealing Box

- a. The shaft seals shall be mechanical seals with a stationary seal positioned against a rotating seal. Shaft seals will be carbon faced, and will be furnished with 316SS shaft sleeves. Shaft seals shall be non-proprietary, and shall be available locally. Seals shall be John Crane Type 21, or pre-approved equal.

- b. External piping complete with snubber valves shall be installed from the casing to each sealing box to circulate sealing water.
8. Baseplate, Coupling and Guard
 - a. A fabricated steel base for pump and drive is to be supplied. Base shall be designed to resist torsional movement and support the combined weight of both pump and driver.
 - b. After leveling and alignment, the base shall be grouted and completely filled with a non-shrinking grout.
 - c. A flexible coupling and an enclosed type coupling guard shall be provided.
9. Coatings
 - a. Pump, motor, and baseplate shall be coated with one (1) coat of Tnemec, Hi-Build Epoxy, Series 66, epoxy paint to 4.0 to 6.0 mils DMT. Paint color shall be selected by the City of Fayetteville (True Blue/Safety).
10. Testing
 - a. The pump manufacturer shall perform non-witnessed hydraulic testing of pumps prior to shipment.
11. Quality Control

Pumps shall be manufactured by companies whose management system is registered to ISO 9001:2000.

2.02 MOTORS

A. Operating Conditions

Motors shall be rated for a maximum of 30 horsepower at 3600 RPM, and for use with 480 volts, 60 Hertz, 3 phase power.

B. Manufacturers

Motors shall be the product of Baldor, GE, or WEG, or equal, and shall be furnished by the pump manufacturer.

C. Design

1. The pump will be furnished with 286TS motor frame as NEMA designates for polyphase, squirrel-cage, design B, horizontal motors.
2. The motor enclosure shall be type TEFC, totally enclosed fan-cooled.
3. The motor insulation system shall be Class F, and shall be suitable for use with a variable frequency drive.
4. Motor service factor shall be 1.15.
5. Motors shall be rated for continuous duty at 40 degrees C.
6. Motors shall be premium efficiency and shall be minimum 91.0% efficient.
7. Bearings shall be sealed, ball bearing type, and shall be lubricated with grease. Zirk type service fittings shall be provided on the drive and opposite ends for maintenance.
8. Motors shall be self-supporting type and shall be foot mounted to the pump base plate by the pump manufacturer.
9. The motor will be factory tested by the motor manufacturer prior to shipment to the pump manufacturer.

2.03 VARIABLE FREQUENCY DRIVES (VFD's)

A. General

One additional VFD's shall be provided to match the existing three 75 HP VFD's previously delivered to the City of Fayetteville.

B. Manufacturers

VFD's shall be a standard product of ABB (ACS550-U1-097A-4), and shall be provided by the pumping system supplier.

C. Construction

1. VFD's shall be UL Plenum rated.
2. All heat sink fans shall be accessible from the front with removal of the VFD power converter, and will be controlled by an internal temperature sensor.
3. The VFD enclosure shall be NEMA Type 1 with bottom mounted conduit entrances.
4. The VFD shall be designed to operate in ambient temperatures from 14 to 120degF, and relative humidity of 95% non-condensing.
5. The VFD will have removable terminal connection strips for all logic and analog inputs and outputs in the power converter.
6. The VFD shall be furnished with a 4-20mADC input for a speed reference.
7. The VFD will accept two (2) dry contacts inputs for emergency stop and run/stop command.
8. The VFD will provide a three (3) relay form A outputs for VFD fault, VFD running, and loss of speed reference.
9. The VFD shall have a keypad display shall be provided for viewing and modification of VFD parameters and diagnostics. The display shall have password protection capability.

D. Operation

1. VFD's shall be sized to operate a variable torque load at a speed range from 1.0Hz to 72Hz.
2. The VFD shall be designed to operate a 75HP motor on +/- 480 volts, 3 phase, 60 hertz incoming power.
3. The overtorque rating shall be 110% for 1 minute.

E. Protection

1. The AC drive shall be rated for UL minimum short circuit currents per given horsepower rating.
2. The AC Drive shall be protected against short circuits, between output phases and to ground.
3. The AC Drive shall have under-voltage power-loss ride through performance per the SEMI F-47 voltage ride through standard and certified by a third party.

PART 3 - EXECUTION

3.01 Post-production

- A. All installation will be provided by the City of Fayetteville. The Pumping System Supplier will provide one (1) day of installation guidance.
- B. After installation of all components is complete, City of Fayetteville will notify Pumping system Supplier for startup. Pumping system supplier will provide one (1) day of Start-up. If additional days are needed, they will be billed to the City of Fayetteville at the Suppliers standard field rate.
- C. After Startup is complete, Pumping System Supplier will provide two (2) printed sets of operation and maintenance manuals and one (1) digital copy in .pdf format.

3.02 Warranty

- A. Pumping System Supplier shall provide 24 months non-prorated warranty after delivery of equipment has been made.

3.03 Payment

- A. City of Fayetteville will pay for equipment once as it arrives at the City of Fayetteville's jobsite. The City of Fayetteville will retain 10% of each invoice for retainage. The City of Fayetteville will release the remaining 10% retainage within thirty (30) days after system has been deemed substantially complete by the City of Fayetteville.

END OF SECTION