



CITY OF HOUSTON

INVITATION TO BID

Issued: November 16, 2012

Bid Opening:

Sealed bids, in duplicate, will be received by the City Secretary of the City of Houston, in the City Hall Annex, Public Level, 900 Bagby, Houston, Texas 77002, until 10:30 a.m. Thursday, **December 13, 2012** and all bids will be opened and publicly read in the City Council Chamber, City Hall Annex, Public Level, 900 Bagby at 11:00 a.m. on that date for the purchase of:

**PURCHASE OF SUBMERSIBLE PUMPS
FOR THE PUBLIC WORKS & ENGINEERING DEPARTMENT
INVITATION TO BID No. S50-N24408
NIGP-730-64/720-73**

Buyer:

Questions regarding this solicitation package should be addressed to **Art Lopez** at **832-393-8731**, or e-mail to **arturo.lopez@houstontx.gov**.

Bidding forms, specifications and all necessary information should be downloaded from the Internet at **http://purchasing.houstontx.gov**. By registering and downloading this solicitation document, all updates to this solicitation document will be automatically forwarded via e-mail to all registered bidders. This information may also be obtained from the Supplier Assistance Desk, Strategic Purchasing Division, 901 Bagby, Concourse Level, Houston, Texas 77002.

Electronic Bidding:

In order to submit a bid for the items associated with this procurement, you must fill in the pricing information on the "PLACE BID" page.

Pre-Bid Conference:

A Pre-Bid Conference will be held for all Prospective Bidders in the Strategic Purchasing Division, **Conference Room No.1, City Hall, 901 Bagby, at 10:00 AM, on Wednesday, November 28, 2012.**

All Prospective Bidders are urged to be present. It is the bidder's responsibility to ensure they have secured and thoroughly reviewed the solicitation documents prior to the Pre-Bid Conference. Any revisions to be incorporated into this solicitation document arising from discussions before, during and subsequent to the Pre-Bid Conference will be confirmed in writing by Letter(s) of Clarification prior to the bid due date. Verbal responses will not otherwise alter the specifications, terms and conditions as stated herein.

The place of the bid opening may be transferred in accordance with Paragraph (b), (5) of Section 15-3 of the Code of Ordinances, Houston, Texas. The bid opening meeting may be rescheduled in accordance with Paragraph (b), (6) of said Section 15-3.

The City reserves the right to reject any or all bids or to accept any bid or combination of bids deemed advantageous to it.

City Employees are prohibited from bidding on this solicitation in accordance with the Code of Ordinances, Section 15 - 1.

***CONTENTS:**

SECTION A: OFFER
SECTION B: SCOPE OF WORK/SPECIFICATIONS
SECTION C: GENERAL TERMS & CONDITIONS

***NOTE 1: Actual page numbers for each Section may change when the solicitation document is downloaded from the Internet or because of Letters of Clarification. Therefore, Bidders must read the bid document in its entirety and comply with all the requirements set forth therein.**

***NOTE 2: To be considered for award, please submit the electronic bid form and the forms listed in Section A, including the official signature page, which must be signed by a company official authorized to bind the company.**

**SECTION A
OFFICIAL BID FORM**



FORMAL ONE-TIME BID

**PURCHASE OF SUBMERSIBLE PUMPS
FOR THE PUBLIC WORKS & ENGINEERING DEPARTMENT
BID INVITATION No. S50-N24408
NIGP-720-64/720-73**

To The Honorable Mayor
and City Council Members
of the City of Houston, Texas (the "City"):

The undersigned hereby offers to **furnish and deliver submersible pumps for the Public Works and Engineering Department**, prepaid F.O.B. destination point Houston, Texas, the item(s) listed on the **electronic bid form** and on individual Purchase Orders, in accordance with the price(s) bid and other conditions shown herein, and in accordance with the City's Specifications and General Terms & Conditions and/or samples/drawings provided herein. When issued by the City of Houston, Letters of Clarification shall automatically become part of this bid document and shall supersede any previous specifications or provisions in conflict with Letters of Clarification. It is the responsibility of the bidder to ensure that it has obtained all such letters. By submitting a bid on this project, bidder shall be deemed to have received all Letters of Clarification and to have incorporated them into the bid.

The City may accept this bid offer by issuance of a Notice of Award Letter and/or a Purchase Order at any time on or before the 120th day following the day this Official Bid Form is opened by the City. This offer shall be irrevocable for 120 days after bid opening or for 90 days after City Council awards the bid, whichever comes last, but this period may be extended by written agreement of the parties.

The City reserves the right to INCREASE quantities during the twelve-month (12) period following the issuance of the first purchase order subject to agreement in writing by the Contractor to honor the same bid price.

The City reserves the option, after bids are opened, to adjust the quantities listed on the electronic bid form upward or downward, subject to the availability of funds, and/or make award (s) on a line item basis.

SECTION A

Documents/forms must be downloaded from the City's Website:

<https://purchasing.houstontx.gov>

http://purchasing.houstontx.gov/solicitation_forms.htm

Additional Required Forms to be Included with this Bid:

In addition to the Electronic Bid Form and the Official Signature Page, the Forms listed in Table 1 **must be completed and submitted to the Office of the City Secretary on or before the date and time the bid is due.** When submitting bids via UPS/FedEx, etc. please label it with the name: Office of the City Secretary, City Hall Annex, Public Level, 900 Bagby, Houston, Texas 77002, along with the bid/proposal number:

TABLE 1 - REQUIRED FORMS
Affidavit of Ownership.doc
Fair Campaign Ordinance.doc
Statement of Residency.doc
Conflict of Interest Questionnaire.doc
Contractor's Questionnaire

Table 2 lists other documents and forms that should be viewed/downloaded from the City's website, but are not required to be submitted with the bid. **The City will request these forms, as applicable, to be completed and submitted to the City by the recommended/successful bidder:**

TABLE 2 - DOCUMENTS & FORMS
Drug Forms.doc
EEOC.doc
Formal Instructions for Bid Terms.doc
M/WBE.doc
Sample Insurance Over \$50,000/ Insurance Endorsements
Insurance Endorsements

Questions concerning this Bid should be submitted in writing to: City of Houston, Strategic Purchasing Division, 901 Bagby, Suite B400, Houston, TX 77002, Attn: Art Lopez or via fax: 832-393-8759 or via email (preferred method) to **"arturo.lopez@houstontx.gov"** no later than **4:00 PM, Monday, December 3, 2012.**

CONTRACTOR REFERENCES

In order to receive bid award consideration, the bidder must be able to demonstrate that it has provided, as a prime Contractor, products or services that are similar to those offered on the electronic bid form to governmental agencies or other entities of similar size/scope. The references should be listed in the space provided below. Please attach additional pages as necessary. If references are not included with the bid, the bidder shall be required to provide such references to the City of Houston within five working days from receipt of a written request from the City of Houston to do so. **Bidder's capability and experience shall be a factor in determining the Contractor's responsibility.** The City of Houston reserves the right to determine if such products or services are appropriately similar to those offered.

1. Entity Name: _____
Address: _____
City & State: _____
Name & Phone Number of Contact: _____

2. Entity Name: _____
Address: _____
City & State: _____
Name & Phone Number of Contact: _____

3. Entity Name: _____
Address: _____
City & State: _____
Name & Phone Number of Contact: _____

4. Entity Name: _____
Address: _____
City & State: _____
Name & Phone Number of Contact: _____

5. Entity Name: _____
Address: _____
City & State: _____
Name & Phone Number of Contact: _____

SITE INSPECTION

The City of Houston reserves the right to inspect the Bidder's current place of business to evaluate equipment condition and capabilities, staff experience, training and capabilities, and storage capabilities as they relate to the performance of this contract.

QUALITY AND WORKMANSHIP

The Bidder must be able to demonstrate upon request that it has satisfactorily performed services similar to the services specified herein. The Bidder will provide records of warranty and repair services upon request by City. The City of Houston shall be the sole judge as to whether the services performed are similar to the scope of services contained herein and whether the Bidder is capable of performing such services.

PROTEST

A protest shall comply with and be resolved, according to the City of Houston Procurement Manual http://purchasing.houstontx.gov/docs/Procurement_Manual.pdf and rules adopted thereunder. Protests shall be submitted in writing and filed with both, the City Attorney and the Solicitation contact person. A pre-award protest of the ITB shall be received five (5) days prior to the solicitation due date and a post-award protest shall be filed within five (5) days after City Council approval of the contract award.

A protest shall include the following:

- The name, address, e-mail, and telephone number of the protester;
- The signature of the protester or its representative who has the delegated authority to legally bind its company;
- Identification of the ITB description and the ITB or contract number;
- A detailed written statement of the legal and factual grounds of the protest, including copies of relevant documents, etc.; and
- The desired form of relief or outcome, which the protester is seeking

LOBBYING AND OTHER FORMS OF INFLUENCE PROHIBITED

Neither Bidder(s) nor any person acting on Bidder(s)'s behalf shall attempt to influence the outcome of the award by the offer, presentation or promise of gratuities, favors, or anything of value to any appointed or elected official or employee of the City of Houston, their families or staff members. All inquiries regarding the solicitation are to be directed to the designated City Buyer identified on the first page of the solicitation. Upon issuance of the solicitation through the pre-award phase and up to the award, aside from Bidder's formal response to the solicitation, communications publicly made during the official pre-bid conference, written requests for clarification during the period officially designated for such purpose by the City Buyer, neither Bidder(s) nor persons acting on their behalf shall communicate with any appointed or elected official or employee of the City of Houston, their families or staff through written or oral means in an attempt to persuade or influence the outcome of the award or to obtain or deliver information intended to or which could reasonably result in an advantage to any Bidder. However, nothing in this paragraph shall prevent Bidder from making public statements to the City Council body convened for a regularly scheduled session after the official selection has been made and placed on the City Council agenda for action.

HIRE HOUSTON FIRST:

Designation as a City Business or Local Business

To be designated as a City or Local Business for the purposes of the Hire Houston First Program, as set out in Article XI of Chapter 15 of the Houston City Code, a bidder or proposer must submit the **Hire Houston First Application and Affidavit (“HHF Affidavit”)** to the Director of the Mayor’s Office of Business Opportunities and receive notice that the submission has been approved prior to award of a contract. Bidders are encouraged to secure a designation prior to submission of a bid or proposal if at all possible.

Download the HHF Affidavit from the Office of Business Opportunities Webpage at the City of Houston e-Government Website at the following location:

<http://www.houstontx.gov/hbsc/hirehoustonfirstaffidavit.pdf>

Award of a Procurement of \$100,000 or More for Purchase of Goods:

THE CITY WILL AWARD THIS PROCUREMENT TO A “CITY BUSINESS,” AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES (“THE CODE”)

- IF THE BID OF THE CITY BUSINESS IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 3% OF THE LOWEST BID RECEIVED, AND
- UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.

IF THERE IS NO BID OF A CITY BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER.

Award of Procurement under \$100,000 for Purchase of Goods:

THE CITY WILL AWARD THIS PROCUREMENT TO A ” CITY BUSINESS,” AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES (“THE CODE”)

- IF THE BID OF THE CITY BUSINESS IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 5% OF THE LOWEST BID RECEIVED, AND
- UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.

IF THERE IS NO BID OF A CITY BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER

Award of Procurement that may be More or Less than \$100,000 for Purchase of Goods:

THE CITY WILL AWARD THIS PROCUREMENT TO A ” CITY BUSINESS,” AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES (“THE CODE”)

- IF THE BID OF THE CITY BUSINESS IS LESS THAN \$100,000 AND IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 5% OF THE LOWEST BID RECEIVED, OR
- IF THE BID OF THE CITY BUSINESS IS MORE THAN \$100,000 AND IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 3% OF THE LOWEST BID RECEIVED, AND

- UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.

IF THERE IS NO BID OF A CITY BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER.

Award of Procurement of \$100,000 or More for Purchase of Non-Professional Services , Including Construction Services:

THE CITY WILL AWARD THIS PROCUREMENT TO A " CITY BUSINESS," AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES ("THE CODE")

- IF THE BID OF THE LOCAL BUSINESS IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 3% OF THE LOWEST BID RECEIVED, AND
- UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.

IF THERE IS NO BID OF A LOCAL BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER

Award of Procurement under \$100,000 Purchase of Non-Professional Services Including Construction Services:

THE CITY WILL AWARD THIS PROCUREMENT TO A "LOCAL BUSINESS," AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES

- IF THE BID OF THE CITY BUSINESS IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 5% OF THE LOWEST BID RECEIVED, AND
- UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED N SECTION 15-181 OF THE CODE.

IF THERE IS NO BID OF A LOCAL BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER

Award of Procurement that may be More or Less than \$100,000 for Purchase of Non-Professional Services, Including Construction Services:

THE CITY WILL AWARD THIS PROCUREMENT TO A " LOCAL BUSINESS," AS THAT TERM IS DEFINED IN SECTION 15-176 OF THE CITY OF HOUSTON CODE OF ORDINANCES ("THE CODE")

- IF THE BID OF THE LOCAL BUSINESS IS LESS THAN \$100,000 AND IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 5% OF THE LOWEST BID RECEIVED, OR
- IF THE BID OF THE LOCAL BUSINESS IS MORE THAN \$100,000 AND IS THE LOWEST RESPONSIBLE BID OR IS WITHIN 3% OF THE LOWEST BID RECEIVED, AND
- UNLESS THE USER DEPARTMENT DETERMINES THAT SUCH AN AWARD WOULD UNDULY INTERFERE WITH CONTRACT NEEDS, AS PROVIDED IN SECTION 15-181 OF THE CODE.

IF THERE IS NO BID OF A LOCAL BUSINESS THAT MEETS THESE CRITERIA, THE CITY WILL AWARD THE PROCUREMENT TO THE LOWEST RESPONSIBLE BIDDER

SECTION B
SPECIFICATIONS

PART I

GENERAL SPECIFICATIONS

1.0 BIDDING AND AWARD:

- 1.1 The City may accept this bid offer by issuance of a Notice of Award Letter and/or a Purchase Order at any time on or before the 120th day following the day the Official Bid Form is opened by the City. This offer shall be irrevocable for 120 days after bid opening or for 90 days after City Council awards the bid, whichever comes last, but this period may be extended by written agreement of the parties.
- 1.2 Prices bid shall remain firm through delivery and shall not be subject to increases (or supplemented on the Contractor's invoice(s) for payment).
- 1.3 The City reserves the option to adjust the quantities listed on the City's Official Bid Form upward or downward, subject to the availability of funds, and/or make award on a line item basis. Therefore, the City shall not be liable for any contractual agreements/obligations the Bidder enters into based on the City purchasing all the quantities specified herein.
- 1.4 The City reserves the right to INCREASE quantities during the twelve-month period following the issuance of the first purchase order subject to agreement in writing by the Contractor to honor its original unit bid price.

2.0 APPLICABLE SPECIFICATIONS:

- 2.1 "Notice to Bidders", the "Official Bid Forms", the "General Specifications", the "Technical Specifications", the "General Terms and Conditions" and other specifications that may be included herewith and the purchase orders which refer to these specifications.

3.0 TECHNICAL LITERATURE:

- 3.1 To evaluate the bids, the user department and the City purchasing staff may require product literature/specification sheets. Technical literature may be provided with the bid submittal but is not required. However, the City reserves the right to request literature or clarifications, as needed, after bid submittal.
- 3.2 If required, the Bidder must submit a minimum of TWO SETS of the requested catalogue information, descriptive literature specifications and/or (if applicable) engineering drawings that completely identify the items bid. Bidder(s) shall furnish the requested literature within seven (7) calendar days after the receipt of the City's written request. FAILURE ON BIDDER'S PART TO FURNISH THE REQUESTED TECHNICAL DATA IN THE TIME LIMIT GIVEN MAY BE CAUSE FOR REJECTION OF THE BID.

4.0 WARRANTY:

- 4.1 A minimum twelve (12) month warranty on both materials and workmanship shall be provided. The warranty period shall commence the date the City officially accepts the completed item(s). When extended warranties are available as standard, they shall be included as a part of the bid for the benefit of the City. Any and all documents necessary to effect warranty shall be properly applied for and submitted by the Bidder.

4.2 Additional warranties required are listed in the Technical Specifications for each item.

4.3 With respect to any goods, materials, equipment, supplies and parts furnished by it, the Contractor warrants:

- That all items are new and free of defects in title, design, material and workmanship.
- That each item meets or exceeds the manufacturer's specifications and requirements for the equipment structure, or other improvement in which the item is installed and conforms in all respects to the terms of the City Purchase Order and Specifications.
- That each replacement item is new, in accordance with original equipment
- Manufacturer's specifications are of a quality of at least as good as the quality of the item that it replaces (when the replaced item was new).
- That no item or its use infringes any patent, copyright or proprietary right.

4.4 The Contractor's product shall be supported by an authorized service facility that can provide warranty repair, service and maintenance work within 24 hours from notification by the City.

4.5 Any warranty work shall be completed without cost to the City. The Contractor shall be responsible for all shipping and/or freight expense from the City's designated location to the Contractor's facility for all warranty repair and/or maintenance and return to the City's designated location.

5.0 DELIVERY/INSPECTION:

5.1 The item(s) specified above, with delivery tickets and/or other required documents shall be delivered FOB Destination, to the location(s) shown on the purchase order(s) **within the delivery time(s) as listed in the Technical Specifications** after receipt of City of Houston Purchase Order.

5.2 The Contractor shall notify the City Contact listed in the "Ship To" section of the purchase order not less than three (3) days prior to expected delivery/arrival to permit inspection scheduling. The City's contact person shall advise the Contractor as to the date, time and location of authorized delivery/location. An authorized representative of the Contractor shall supervise delivery to the City. The City will not assume any liability for equipment delivered to an unauthorized location.

5.3 Documentation at time of Delivery:

The Contractor shall provide the following documentation **per purchase order** upon delivery:

- Copy of purchase order(s) and original invoice(s).
- Warranty policy (ies) and/or certifications as may be required in the Specifications.
- Parts, service, operators and maintenance manual(s) as may be required in the Technical Specifications.

6.0 SHIPPING TERMS:

6.1 Prices shall be prepaid F.O.B. Destination to the delivery locations, Houston, TX, as indicated on individual City of Houston purchase orders. The Contractor shall retain title and control of all goods until they are delivered and the contract of coverage has been completed. All risk of transportation and all related charges shall be the responsibility of the Contractor. All claims for visible or concealed damage shall be filed by the Contractor. The City will notify the Contractor promptly of any damaged goods and shall assist the Contractor in arranging for inspection.

7.0 RESOLUTION OF LATE DELIVERY FOR EQUIPMENT:

7.1 Time is of the essence in this Contract and accordingly all time limits shall be strictly construed and rigidly enforced. The work shall be furnished and fully completed within the delivery time specified in the Bid Proposal and Purchase Order to be furnished to the Contractor by the City. In the event that the work or any portions thereof shall remain uncompleted after expiration of the specified time,

the Contractor shall furnish to the City a like number of comparable equipment for the City's use until such time as the ordered equipment are delivered. The equipment shall be furnished to the City with insurance to cover the use of this equipment by City personnel and in pursuit of the City's business. Should the Contractor not furnish such specified equipment during the late delivery period, the City retains the right to lease such equipment from a equipment leasing firm and the Contractor agrees and authorizes the City to deduct all such costs associated with such leases from the amounts due and owing to the Contractor under the Purchase Order. The City may avail itself of other remedies that may be available to it in law or equity as to any other event of default

- 7.2 The Contractor will not be liable for delays in performing its obligations to the extent such delays are caused by unforeseeable conditions that are beyond the Contractor's reasonable control and directly interfere with performance, and are without the Contractor's fault or negligence (force majeure). However, the Contractor shall provide written notice to the City of the cause and extent of an **excusable delay** requesting a time extension equal to the estimated duration thereof. Upon cessation of the event causing the delay, the Contractor shall provide written notice to the City of the actual delay incurred. Determination of force majeure shall rest solely with the City Purchasing Agent and the receiving department.

8.0 CONFLICT IN TERMS:

- 8.1 Should there be any conflict between the General Specifications and the Technical Specifications, the Technical Specifications shall prevail.

SECTION B

PART II

SCOPE OF WORK

1.0 General:

- 1.1 The Contractor shall be required to furnish all labor, supervision, transportation, permits, tools, consumables, safety equipment, testing and testing equipment to furnish twenty, portable, non-potable submersible pumps, three non-potable submersible pumps and two backwash submersible pumps, in strict accordance with City of Houston specifications included herein.
- 1.2 This procurement project consists of the purchase of twenty portable, non-potable submersible pumps with hard metal impellers for various Wastewater Operations Facilities, two non-potable submersible pumps for the wet well at Lift Station No. 250 at Keegan's Bayou Wastewater Treatment Plant located at 9401 White Chapel Lane, Houston, TX 77051, two non-potable backwash submersible pumps for the Southwest Wastewater Treatment Plant: Facility #190 located at, 4211 Beechnut Ave., Houston, Texas 77096, and one non-potable submersible pump for Water Control and Improvement District # 111 Wastewater Treatment Plant: Facility #279 located at, 10601 Huntington Point Drive, Houston, Texas 77099.
- 1.3 Delivery Instructions:
 - 1.3.1 The assembled pumps shall be delivered to the City of Houston, Public Works and Engineering Department, Wastewater Operation Branch, Cullen Maintenance Facility located at 7440 Cullen Blvd. Houston, TX 77051 with sufficient capabilities of delivery vehicle to suitably off-load the assembled unit.
 - 1.3.2 The assembled unit shall be packaged to prevent any damage to the unit during travel and off-loading.
 - 1.3.3 The delivery company must coordinate with the appropriate City of Houston Staff to ensure the unit is off-loaded safely in the appropriate place and manner desired by the City of Houston.
 - 1.3.4 Final Delivery details should also be coordinated with Mr. Gurdip Hyare, Managing Engineer, Plant Operations, Wastewater Operations Branch, 2525 S/Sgt. Macario Garcia, Houston, Texas 77020 (69th St WWTP, Phone No. 832-395-5459).
- 1.4 General Specifications:
 - 1.4.1 The pumps described shall be new, unused and of the current year's production. The style of pump being bid must be in production for a minimum of 5 years. (Include users list) The pumps shall be of the latest design and in current production completely serviced, ready for work and shall include all standard and optional equipment as specified herein.
 - 1.4.2 The Contractor must have a fully stocked parts and service facility within 50 miles of the City of Houston Texas.. The City shall have the right to inspect the office and shall be the sole judge of its adequacy to fulfill this requirement.
 - 1.4.3 *The Contractor shall be required to deliver the complete pump, including the falk coupling, nord gear and baseplate if required.*

2.0 Warranty:

- 2.1 The Contractor shall warranty the submersible pumps and associated equipment for a period of

one year. The warranty shall include all parts, labor, material and transportation cost associated either performing the warranty repairs on site or at the contractors facility. The warranty shall begin subsequent to certification and acceptance of the equipment by the City.

- 2.2 The Contractor shall furnish to the City an Operation & Maintenance (O & M) Manual and any applicable literature and/or viable information associated with the equipment.

TECHNICAL SPECIFICATIONS

1.0 Equipment:

LINE ITEM NO. 1 **PUMP AND MOTOR, NON-POTABLE SUBMERSIBLE**

Make: FLYGT

Model: Model No. CP-3531 **Or City Approved Equal**

1.1 Summary of Requirement:

1.1.1 The Contractor shall be required to provide the pump(s) and all fittings, parts and modifications required for, FLYGT, Model No. CP 3531, or City approved equal for Keegan's Bayou Wastewater Treatment Plant, Facility No. 250 located at, 9401 White Chapel Lane, Houston, Texas 77074.

1.1.2 The pump shall be rated for wastewater applications.

1.1.3 The pump shall be rated at 215 HP, 460 Volt, 3 Phase, 60 Hertz, 11000 GPM @ 42 ft of Head, with 80' of power cable and 1 pilot cable.

1.2 Pump Specifications:

1.2.1 Performance:

1.2.1.1 Pump shall pump at least 11000 gpm at 42 feet of head (water).

1.2.1.2 Shut off head shall be at least 94 feet of water.

1.2.1.3 Pump hydraulic efficiency at best efficiency point shall be 70% or greater.

1.2.1.4 Pump shall operate in the range of 600-720 RPM.

1.2.2 Pump:

1.2.2.1 Pump shall be constructed of metal capable of withstanding full submersion in corrosive environments and conditions as typically experienced in a wastewater lift station.

1.2.2.2 Pump seals shall be tungsten carbide, silicon carbide, or City of Houston approved equivalent.

1.2.2.3 Pump Impeller shall be manufactured from a corrosion resistant material and coated with a corrosive resistant coating to prolong life and reduce wear.

1.2.2.4 Pump Impeller shall be dynamically balanced.

1.2.2.5 Pump shall be able to pass a minimum of a 4 inch spherical solid.

1.2.2.6 Pump shall be equipped with mounting brackets to allow connection onto existing pump mounts.

1.2.3 Motor:

1.2.3.1 The motor shall comply with National Electrical Manufacturers Association (NEMA) standard MG-1.

- 1.2.3.2 The motor shall be 3-phase, 60-hertz, 460 volt, rated for continuous duty in at least 40° C fluid.
- 1.2.3.3 The motor windings shall be insulated with at least Class F insulation.
- 1.2.3.4 The motor temperature measuring devices shall be imbedded in the windings to monitor temperature as an input to motor overload protection.
- 1.2.3.5 The combined service factor (combined effect of voltage, frequency, and specific gravity effects) shall be a minimum of 1.15.
- 1.2.3.6 The motor shall have NEMA PREMIUM electrical efficiency or equivalent.
- 1.2.3.7 The voltage tolerance shall be at least plus or minus 10%.
- 1.2.3.8 The power cable shall be sized according to the National Electrical Code (NEC) standards and shall be at least 80 feet long.
- 1.2.3.9 The motor and cable shall be capable of withstanding continuous submergence at 50 feet without loss of integrity.
- 1.2.3.10 The motor horsepower shall be 215 hp or greater so the motor will not overload throughout the entire range of pump performance from shutoff through run-out.
- 1.2.3.11 The motor and pump shall be on the same shaft.
- 1.2.3.12 The motor shall be fully compatible and be able to function as intended when connected to the existing switchgear for any of the wet well pumps of equivalent HP.

1.2.4 Operation and Maintenance Manuals, Drawings, Training, and Follow-up:

- 1.2.4.1 The Manufacturer or Vendor to supply four copies of O & M Manuals.
- 1.2.4.2 The Contractor shall be required to provide training of required preventive maintenance (PM) of equipment, if needed.
- 1.2.4.3 The Contractor shall be required to be available for questions or follow-ups of equipment training for **90 calendar days** after acceptance of equipment.

2.0 Deliveries / Performance Time:

- 2.1 The contractor/supplier shall be required to deliver the specific pump(s) to the City of Houston no later than **98 Calendar days** after receipt of the City of Houston Purchase Order.

1.0 Equipment:

LINE ITEM NO. 2 **PUMP AND MOTOR, NON-POTABLE SUBMERSIBLE**

Make: FLYGT

Model: Model No. NP-3153 **Or City Approved Equal**

1.1 Summary of Requirement:

1.1.1 The Contractor shall be required to provide the pump(s) and all fittings, parts and modifications required for, FLYGT, Model No., NP-3153 or City approved equal for the Water Control and Improvement District No. 111 Wastewater Treatment Plant, Facility No. 279 located at, 10601 Huntington Point Drive, Houston, Texas 77099.

1.1.2 The pump shall be rated for wastewater applications.

1.1.3 The pump shall be rated at 15 HP, 460 Volt, 3 Phase, 60 Hertz, 1155 RPM, explosion-proof Motor, Impeller No. 624 with 50' of power cable, 10" discharge.

1.2 Pump Specifications:

1.2.1 Cable Entry:

1.2.1.1 The cable entrance shall be designed to incorporate both a seal and a strain relief function.

1.2.2 Cooling System:

1.2.2.1 The surrounding cooling system liquid shall cool the pump. The pump shall be provided with an internal closed cooling system and the coolant shall be circulated around the stator housing by an integrated pump.

1.2.3 Seal Wear Protection:

1.2.3.1 The pump shall have a patented design to protect the outer seal of abrasive particles from the seal chamber.

1.2.4 Monitoring:

1.2.4.1 The pump shall have thermal sensors embedded in the stator windings to prevent overheating. The pump's inspection chamber shall be equipped with a leakage sensor.

1.2.5 Long Life Bearings:

1.2.5.1 The bearings in the pump shall be designed to provide a minimum 50,000 hour service life.

1.2.6 Inspection Chamber:

1.2.6.1 The pump shall have a separate inspection chamber, below the bearings, to increase operational reliability and a built-in sensor to give an early alert of any fluid build-up.

1.2.7 Manufacturer:

1.2.7.1 The supplier shall be a pump company which also specializes in repairs and installation of pumps.

1.2.8 Operation and Maintenance Manuals, Drawings, Training, and Follow-up:

1.2.8.1 The Contractor shall be required to supply four copies of O & M Manuals.

1.2.8.2 The Contractor shall be required to give training of required PM of Equipment, if needed.

1.2.8.3 The Contractor shall be available for questions or follow-ups of equipment training for the first three months of purchase.

2.0 Deliveries / Performance Time:

2.1 The contractor/supplier shall be required to deliver the specific pump(s) to the City of Houston no later than **70 Calendar days** after receipt of the City of Houston Purchase Order.

1.0 Equipment:

LINE ITEM NO. 3 **PUMP, BACKWASH SUBMERSIBLE**

Make: FLYGT

Model: Model No. LL-3531 **Or City Approved Equal**

1.1 Summary of Requirement:

1.1.1 The Contractor shall be required to provide the pump(s) and all fittings, parts and modifications required for, FLYGT, Model No., LL-3531 or City approved equal for the Southwest Wastewater Treatment Plant, Facility No. 190 located at, 4211 Beechnut Ave., Houston, Texas 77096.

1.1.2 The pump shall be rated for wastewater applications.

1.1.3 The pump shall be rated at 250HP, 14,500 GPM @ 41 ft. total dynamic head (TDH) pump or equal, as interpreted by the City. The Contractor shall be required to provide a written explanation on each deviation or substitution. A blanket statement that equipment proposed will meet all requirements will not be sufficient to establish equivalence.

1.2 Pump Specifications:

1.3 Design Requirements:

1.3.1 The submersible pump specified in this section will be used to pump treated wastewater effluent.

1.3.2 Operating flow chart:

OPERATING FLOW (Required)	14,500 GPM @ 41ft. TDH
MAXIMUM DUTY POINT	18,7000 GPM AT 24.5 ft. TDH
SECOND DUTY POINT	1,800 GPM AT 70 ft TDH
RATING	60 HZ 250 HP
Cable	65 ft

PUMP TO BE INSTALLED TO UTILIZE AN EXISTING DISCHARGE COLUMN, REQUIRED TO FIT AN EXISTING LOCKING MECHANISM AND NO STRUCTURE MODIFICATION

1.3.2.1 Protection-All stators shall incorporate three thermal switches, connected in series, to provide over temperature protection of the motor winding. Should high temperature occur, the thermal switches shall open, stop the motor and activate an alarm. The stator shall also include one PT-100 type temperature probe to provide for monitoring of the stator temperature

A lower bearing temperature sensor shall be provided. The sensor shall directly contact the outer race of the thrust bearing providing for accurate temperature monitoring.

Two leakage sensors shall be provided to detect water intrusion into the stator chamber and junction chamber. A Float Leakage Sensor (FLS), a small float switch, shall be used to detect the presence of water in either the stator chamber or junction chamber. When activated, the FLS will stop the motor and activate an alarm. USE OF VOLTAGE

SENSITIVE SOLID STATE SENSORS SHALL NOT BE ALLOWED.

The solid-state pump memory unit, three thermal switches, two FLS switches, PT-100 stator temperature monitor and the lower bearing PT-100 temperature monitor shall all be connected to a MAS (Monitoring and Status) monitoring unit. The MAS shall be designed to be mounted in the control panel and shall come with an Operator Panel that is dead-front panel mounted. The Operator Panel shall have soft-touch operator keys and provide local indication of the status of the alarms within the connected pump unit by means of an LCD screen read-out. Local MAS system change shall be made by use of the soft-touch keypad or local connection by means of a laptop computer. Remote indication of pump unit status shall be possible with connection to customer PLC or via LAN.

- 1.3.2.2 The pump shaft shall rotate on three grease-lubricated bearings. The upper bearing, provided for radial forces, shall be a single roller bearing. The two lower bearings shall consist of at least one roller bearing for radial forces and one angular contact ball bearing for axial thrust. The minimum L_{10} bearing life shall be 100,000 hours at any point along the usable portion of the pump curve at maximum product speed. The lower bearing housing shall include an independent thermal sensor to monitor the bearing temperature. The sensor shall be in direct contact with the outer race of the thrust bearing. If a high temperature occurs, the sensor shall activate an alarm and shut the pump down.
- 1.3.2.3 The pilot cable shall be designed specifically for use with submersible pumps and shall be type SUBCAB (Submersible Cable). The cable shall be multi-conductor type with stainless steel braided shielding, a chlorinated polyethylene rubber outer jacket and tinned copper conductors insulated with ethylene-propylene rubber. The conductors shall be arranged in twisted pairs. The cable shall be rated for 600 Volts and 90°C (194°F) with a 40°C (104°F) ambient temperature and shall be approved by the Factory Mutual (FM). The cable length shall be adequate to reach the junction box without the need for splices.

2.1 Contractor Services:

- 2.1.1 The Contractor shall be required to provide the services of a competent factory representative to do the following:
 - 2.1.1.1 Inspect the system prior to delivery, supervise the City of Houston start up and testing of the system, and certify the system has been properly furnished and is ready for operation.
 - 2.1.1.2 Instruct the City's operating personnel in the proper operation and maintenance of the system for a period of not less than one half day.
 - 2.1.1.3 Provide assistance to questions or follow-up training for the first 3 months after pump acceptance.

2.2 Tools and Spare Parts:

- 2.2.1 The Contractor shall be required to provide three Kellems Grips sized for each cable with the pump .
- 2.2.2 The Contractor shall be required to provide an Operations and Maintenance Manual.

3.0 Deliveries / Performance Time:

- 3.1 The contractor/supplier shall be required to deliver the specific pump(s) to the City of Houston no later than **175 Calendar days** after receipt of the City of Houston Purchase Order.

1.0 Equipment:

LINE ITEM NO. 4 **PUMP, PORTABLE NON-POTABLE SUBMERSIBLE**
Make: FLYGT
Model: Model No. NS-3153X **Or City Approved Equal**

1.1 Summary of Requirement:

- 1.1.1 The Contractor shall be required to provide the pump(s) and all fittings, parts and modifications required for, FLYGT, Model No., NS-3153X, with hard-metal impeller specifications or City approved equal for various Wastewater Operations Facilities.
- 1.1.2 The pump shall be rated for wastewater applications.
- 1.1.3 The pump shall be rated at 434 Impeller, 6 inch 20 HP submersible **Explosion-Proof** electric motor, connected for operation on 230 / 460 volts, 3 phase, 60 hertz, 4 wire service, with 50 feet of submersible cable (SUBCAB) suitable for submersible pump applications. The power cable shall be sized according to NEC and the Insulated Cable Engineers Association (ICEA) standards and have a Mine Safety and Health Administration (P-MSHA) approval . The pump voltage shall be changeable from 230 to 460 volts by a simple wiring change. The control shall be wired for both 230 and 460 volts.

1.2 Pump Specifications:

1.2.1 Pump Design Configuration:

- 1.2.1.1 The pump shall be supplied with a 6 inch discharge flange connected to an elbow with 6 inch male NPT threads. The pump shall be capable of delivering 1034 GPM at 48 ft. TDH at 79 % efficiency. The pump shall be capable of operating at additional points on the same curve 1783 GPM at 20 feet total head and 500 GPM at 63 feet total head. Shut off head shall be 83 feet (minimum). The pumps shall be portable and capable of operating complete non submerged.

1.2.2 Pump Construction:

- 1.2.2.1 All major pump components shall be of grey cast iron, ASTM A-48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. All exposed nuts or bolts shall be American Iron and Steel Institute (AISI) type 304 stainless steel construction. All metal surfaces coming into contact with the pumpage, other than stainless steel or brass, shall be protected by a factory applied spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.
- 1.2.2.2 The sealing design shall incorporate metal-to-metal contact between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with Nitrile or Viton rubber O-rings. Fittings will be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides without the requirement of a specific torque limit.
- 1.2.2.3 The rectangular cross sectioned gaskets requiring specific torque limits to achieve compression shall not be considered as adequate or equal. No secondary sealing compounds, elliptical O-rings, grease or other devices shall be used.

1.2.3 Cooling System:

- 1.2.3.1 Each unit shall be provided with an integral motor cooling system. A motor cooling jacket shall encircle the stator housing, providing for dissipation of motor heat regardless of the type of pump installation. An impeller, integral to the cooling system and driven by the pump shaft, shall provide the necessary circulation of the cooling liquid through the jacket. The cooling liquid shall pass about the stator housing in the closed loop system in turbulent flow providing for superior heat transfer. The cooling system shall have one fill port and one drain port integral to the cooling jacket. The cooling system shall provide for continuous pump operation in liquid or ambient temperatures of up to 104°F. (40°C.). Operational restrictions at temperatures below 104°F are not acceptable. Fans, blowers or auxiliary cooling systems that are mounted external to the pump motor are not acceptable.

1.2.4 Cable Entry Seal:

- 1.2.4.1 The cable entry seal design shall preclude specific torque requirements to insure a watertight and submersible seal. The cable entry shall consist of dual cylindrical elastomer grommets, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter. The grommets shall be compressed by the cable entry unit, thus providing a strain relief function. The assembly shall provide ease of changing the cable when necessary using the same entry seal. The cable entry junction chamber and motor shall be sealed from each other, which shall isolate the stator housing from foreign material gaining access through the pump top. Epoxies, silicones, or other secondary sealing systems shall not be considered equal.

1.2.5 Motor:

- 1.2.5.1 The pump motor shall be a NEMA B design, induction type with a squirrel cage rotor, shell type design, housed in an air filled, watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation rated for 180°C (356°F). The stator shall be insulated by the trickle impregnation method using Class H monomer-free polyester resin resulting in a winding fill factor of at least 95%. The motor shall be inverter duty rated in accordance with NEMA MG1, Part 31. The stator shall be heat-shrink fitted into the cast iron stator housing. The use of multiple step dip and bake-type stator insulation process is not acceptable. The use of pins, bolts, screws or other fastening devices used to locate or hold the stator and that penetrate the stator housing are not acceptable. The motor shall be designed for continuous duty while handling pumped media of up to 104°F. The motor shall be capable of no less than 15 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of aluminum. Three thermal switches shall be embedded in the stator end coils, one per phase winding, to monitor the stator temperature. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the motor control panel.
- 1.2.5.2 The junction chamber shall be sealed off from the stator housing and shall contain a terminal board for connection of power and pilot sensor cables using threaded compression type terminals. The use of wire nuts or crimp-type connectors is not acceptable. The motor and the pump shall be produced by the same manufacturer.

- 1.2.5.3 The motor service factor (combined effect of voltage, frequency and specific gravity) shall be 1.15. The motor shall have a voltage tolerance of +/- 10%. The motor shall be designed for continuous operation in up to a 40°C. ambient and shall have a NEMA Class B maximum operating temperature rise of 80° C. A motor performance chart shall be provided upon request exhibiting curves for motor torque, current, power factor, input/output kW and efficiency. The chart shall also include data on motor starting and no-load characteristics.
- 1.2.5.4 The motor horsepower shall be sufficient so that the pump is non-overloading throughout its entire performance curve, from shut-off to run-out. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet or greater.

1.2.6 Bearings:

- 1.2.6.1 The integral pump/motor shaft shall rotate on two bearings. The motor bearings shall be sealed and permanently grease lubricated with high temperature grease. The upper motor bearing shall be a single ball type bearing to handle radial loads. The lower bearing shall be a two row angular contact ball bearing to handle the thrust and radial forces. The minimum L₁₀ bearing life shall be 50,000 hours at any usable portion of the pump curve.

1.2.7 Mechanical Seals:

- 1.2.7.1 Each pump shall be provided with a positively driven dual, tandem mechanical shaft seal system consisting of two seal sets, each having an independent spring. The lower primary seal, located between the pump and seal chamber, shall contain one stationary and one positively driven rotating corrosion resistant tungsten-carbide ring. The upper secondary seal, located between the seal chamber and the seal inspection chamber, shall contain one stationary and one positively driven rotating corrosion resistant tungsten-carbide seal ring. All seal rings shall be individual solid sintered rings. Each seal interface shall be held in place by its own spring system. The seals shall not depend upon direction of rotation for sealing. Mounting of the lower seal on the impeller hub is not acceptable. Shaft seals without positively driven rotating members or conventional double mechanical seals containing either a common single or double spring acting between the upper and lower seal faces are not acceptable. The seal springs shall be isolated from the pumped media to prevent materials from packing around them, limiting their performance.
- 1.2.7.2 Each pump shall be provided with a lubricant chamber for the shaft sealing system. The lubricant chamber shall be designed to prevent overfilling and shall provide capacity for lubricant expansion. The seal lubricant chamber shall have one drain and one inspection plug that are accessible from the exterior of the motor unit. The seal system shall not rely upon the pumped media for lubrication.
- 1.2.7.3 The area about the exterior of the lower mechanical seal in the cast iron housing shall have cast in an integral concentric spiral groove. This groove shall protect the seals by causing abrasive particulate entering the seal cavity to be forced out away from the seal due to centrifugal action.
- 1.2.7.4 A separate seal leakage chamber shall be provided so that any leakage that may occur past the upper, secondary mechanical seal will be captured prior to entry into the motor stator housing. Such seal leakage shall not contaminate the

motor lower bearing. The leakage chamber shall be equipped with a float type switch that will signal if the chamber should reach 50% capacity.

1.2.8 Pump Shaft:

1.2.8.1 The pump and motor shaft shall be a single piece unit. The pump shaft is an extension of the motor shaft. Shafts using mechanical couplings shall not be acceptable. The shaft shall be stainless steel – ASTM A479 S43100-T. Shaft sleeves will not be acceptable.

1.2.9 Impellers:

1.2.9.1 High-chrome iron - The impeller shall be of ASTM A 532 (Alloy III A) , 25% chrome cast iron, dynamically balanced, semi-open, multi-vane, back swept, screw-shaped, non-clog design. The impeller leading edges shall be mechanically self-cleaned automatically upon each rotation as they pass across a spiral groove located on the volute suction. The screw-shaped leading edges of the impeller shall be capable of handling solids, fibrous materials, heavy sludge and other matter normally found in wastewater. The screw shape of the impeller inlet shall provide an inducing effect for the handling of up to 7% sludge and rag-laden wastewater. The impeller to volute clearance shall be readily adjustable by the means of a single trim screw. The Impeller shall be locked to the shaft and held by an impeller bolt.

1.2.10 Volute/Suction Cover:

1.2.10.1 The pump volute shall be a single piece gray cast iron, ASTM A-48, Class 35B, non-concentric design with smooth passages of sufficient size to pass any solids that may enter the impeller. Minimum inlet and discharge size shall be as specified. The volute shall have a replaceable volute insert ring containing spiral-shaped, sharp-edged groove(s). The spiral groove(s) shall provide the relief path and sharp edge(s) across which each impeller vane leading edge shall cross during rotation so to remain unobstructed. The internal volute bottom shall provide effective sealing between the multi-vane semi-open impeller and the volute. The insert ring shall be cast of (ASTM A 532 (Alloy III A), 25% chrome cast iron).

1.2.11 Protection:

1.2.11.1 Each pump motor stator shall incorporate three thermal switches, one per stator phase winding and be connected in series, to monitor the temperature of the motor. Should the thermal switches open, the motor shall stop and activate an alarm.

1.2.12 Control General:

1.2.12.1 A dual voltage simplex submersible float operated control system as described below shall be supplied for portable submersible pump operation. The system shall be operate on 230 or 460 volts AC. The customer can change voltage by simply wiring the correct voltage to the labeled 230 or 460 incoming power terminals. The 230 and 460 volt pump circuit breakers will be mechanically interlocked to prevent both systems, being energized at the same time. The system shall be designed for pump operation of up to 20 horsepower. The control system shall be approved by an approved testing laboratory and shall be identified with the appropriate markings as required by the testing laboratory.

1.2.13 Safety:

- 1.2.13.1 The Contractor shall be required to provide a ground cable monitor. The ground cable monitor shall continually check the integrity of the pumps ground wire by measuring the resistance between the pump ground conductor and a ground check conductor included in the pump cable.

1.2.14 Mechanical:

- 1.2.14.1 The pump control system shall be supplied in a NEMA 4X-stainless steel enclosure. The enclosure shall be supplied with a continuous stainless steel hinge, stainless steel latches and padlock hasp. An aluminum dead front shall be installed with an aircraft type hinge. The door shall be provided with a break around the perimeter to provide rigidity. The dead front door shall open a minimum of 120 degrees to allow for ease of maintenance of the internal equipment.
- 1.2.14.2 The back panel shall be manufactured from aluminum. All devices shall be installed utilizing machine screws and the mounting holes shall be threaded. Use of sheet metal screws is prohibited. All operational devices shall be mounted on the dead-front inner door.

1.2.15 Electrical:

- 1.2.15.1 The pump control shall have two sets of incoming power terminals, one labeled 230 Volts and the second labeled 460 Volts.
- 1.2.15.2 A pump disconnect sized for the amp draw on the pump shall be supplied. The breaker shall be operational without entering the control system. The device shall be rated at a minimum of 10,000 amps interrupting capacity at 230 VAC and 18,000 amps at 480 VAC. A ground fault control circuit breaker shall be provided for the voltages supplied to the float level sensors. The breaker shall provide CLASS A ground fault protection and shall trip at a fault current of 6 milli-amperes or more.
- 1.2.15.3 All control wiring shall be 18 gauge, UL 1015, wire. Color coded wiring shall be used. All components shall be identified with engraved legends on the subpanel. Power wiring shall be thermoplastic high heat resistant nylon coated (THHN) or equal sized for the amp draw of the pumps.
- 1.2.15.4 An International Electrotechnical Commission (IEC) contactor with properly sized bi-metallic overloads shall be supplied. The contactor shall be sized for the amp draw of the pump motor. An oversized contactor shall be supplied if the rated current is within 15% of the maximum amp draw rating of the pump. The oversized unit is required to provide the required reliability of the system. Overloads shall be sized for the full load amp draw of the pumps at the power characteristics specified.
- 1.2.15.5 Pump motor protection shall be supplied as specified by the pump manufacturer. The protection shall shut down the motor for any out of tolerance condition and shall not allow restart until the condition is corrected. An automatic reset as determined by the pump manufacturer shall be required.
- 1.2.15.6 A toggle switch Hand-Off-Auto (HOA) switch rated for 5 amps minimum shall be

supplied for the operation of the pump motor. The device shall be mounted on the dead front door. The HOA switch shall allow operation of the pumps without the level sensors being activated. Pump protection devices shall not be bypassed in the hand position.

1.2.16 Operation:

- 1.2.16.1 As the wet well level rises, the pump shall have an “off” float switch to determine the off level of the pump. As the level continues to rise, a second float switch shall turn the pump on and pump the system down to the off level.
- 1.2.16.2 An HOA switch shall be provided to allow manual operation of the pump without the floats being activated.
- 1.2.16.3 All relay shall be plug-in with contacts rated at 10 amps at 120 VAC.
- 1.2.16.4 All electrical cables entering or exiting the control shall be through the bottom of the control.
- 1.2.16.5 All electrical cables entering or exiting the control shall be sealed with a straight, non-metallic, grommet type, conduit seal and strain relief fitting.
- 1.2.16.6 The control shall be supplied with a 5 foot power supply cable made of submersible cable. The power cable shall be sized according to the NEC and ICEA standards and have P-MSHA Approval.

2.0 Deliveries / Performance Time:

- 2.1 The contractor/supplier shall be required to deliver the specific pump(s) to the City of Houston no later than **120 Calendar days** after receipt of the City of Houston Purchase Order.

1.0 Equipment:

LINE ITEM NO. 5 **PUMP, PORTABLE NON-POTABLE SUBMERSIBLE**

Make: FLYGT

Model: Model No. NS-3127X **Or City Approved Equal**

1.1 Summary of Requirement:

1.1.1 The Contractor shall be required to provide the pump(s) and all fittings, parts and modifications required for, FLYGT, Model No., NS-3127X, with hard-metal impeller specifications or City approved equal for various Wastewater Operations Facilities.

1.1.2 The pump shall be rated for wastewater applications.

1.1.3 The pump shall be rated at 438 Impeller, 4 inch, 10 HP submersible **Explosion-Proof** electric motor, connected for operation on 230 / 460 volts, 3 phase, 60 hertz, 4 wire service, with 50 feet of submersible cable (SUBCAB) suitable for submersible pump applications. The power cable shall be sized according to NEC and Insulated Cable Engineers Association (ICEA) standards and have P-MSHA Approval. The pump voltage shall be changeable from 230 to 460 volts, by a simple wiring change. The control shall be wired for both 230 and 460 volts.

1.2 Pump Specifications:

1.2.1 Pump Design Configuration:

1.2.1.1 The pump shall be supplied with a 4 inch discharge flange connected to an elbow with male 4 inch NPT threads. The pump shall be capable of delivering 656 GPM at 40 ft. TDH at 74 % efficiency. The pump shall be capable of operating at additional points on the same curve 1124 GPM at 20 feet total head and 200 GPM at 60 feet total head. Shut off head shall be 71 feet (minimum). The pump shall be portable and capable of operating complete non submerged.

1.2.2 Pump Construction:

1.2.2.1 Major pump components shall be of grey cast iron, ASTM A-48, Class 35B, with smooth surfaces devoid of blow holes or other irregularities. All exposed nuts or bolts shall be AISI type 304 stainless steel construction. All metal surfaces coming into contact with the pumpage, other than stainless steel or brass, shall be protected by a factory applied spray coating of acrylic dispersion zinc phosphate primer with a polyester resin paint finish on the exterior of the pump.

1.2.2.2 The sealing design shall incorporate metal-to-metal contact between machined surfaces. Critical mating surfaces where watertight sealing is required shall be machined and fitted with Nitrile or Viton rubber O-rings. Fittings shall be the result of controlled compression of rubber O-rings in two planes and O-ring contact of four sides without the requirement of a specific torque limit.

1.2.2.3 The rectangular cross sectioned gaskets requiring specific torque limits to achieve compression shall not be considered. *Secondary sealing compounds, elliptical O-rings, grease or other devices are not acceptable.*

1.2.3 Cooling System:

- 1.2.3.1 The motor shall be sufficiently cooled by the surrounding environment or pumped media.

1.2.4 Cable Entry Seal:

- 1.2.4.1 The cable entry seal design shall preclude specific torque requirements to insure a watertight and submersible seal. The cable entry shall consist of a single cylindrical elastomer grommet, flanked by washers, all having a close tolerance fit against the cable outside diameter and the entry inside diameter and compressed by the body containing a strain relief function, separate from the function of sealing the cable. The assembly shall provide ease of changing the cable when necessary using the same entry seal. The cable entry shall have conduit threads to allow the City to add flexible conduit or cable sheathing when needed. The cable entry junction chamber and motor shall be separated by a stator lead sealing gland or terminal board, which shall isolate the interior from foreign material gaining access through the pump top. *Epoxies, silicones, or other secondary sealing systems are not acceptable.*

1.2.5 Motor:

- 1.2.5.1 The pump motor shall be a NEMA B design, induction type with a squirrel cage rotor, shell type design, housed in an air filled, watertight chamber. The stator windings shall be insulated with moisture resistant Class H insulation rated for 180°C (356°F). The stator shall be insulated by the trickle impregnation method using Class H monomer-free polyester resin resulting in a winding fill factor of at least 95%. The motor shall be inverter duty rated in accordance with NEMA MG1, Part 31. The stator shall be heat-shrink fitted into the cast iron stator housing. *Use of multiple step dip and bake-type stator insulation process is not acceptable. Use of bolts, pins or other fastening devices requiring penetration of the stator housing is not acceptable.* The motor shall be designed for continuous duty handling pumped media of 40°C (104°F) and capable of no less than 15 evenly spaced starts per hour. The rotor bars and short circuit rings shall be made of cast aluminum. Thermal switches set to open at 125°C (260°F) shall be embedded in the stator end coils to monitor the temperature of each phase winding. The thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to the control panel. The junction chamber containing the terminal board, shall be hermetically sealed from the motor by an elastomer compression seal. Connection between the cable conductors and stator leads shall be made with threaded compression type binding posts permanently affixed to a terminal board. The motor and the pump shall be produced by the same manufacturer.
- 1.2.5.2 The combined service factor (combined effect of voltage, frequency and specific gravity) shall be a minimum of **1.15**. The motor shall have a voltage tolerance of plus or minus 10%. The motor shall be designed for operation up to 40°C (104°F) ambient and with a temperature rise not to exceed 80°C. A performance chart shall be provided upon request showing curves for torque, current, power factor, input/output kW and efficiency. The chart shall also include data on starting and no-load characteristics.
- 1.2.5.3 The power cable shall be sized according to the NEC and ICEA standards and shall be of sufficient length to reach the junction box without the need of any splices. The outer jacket of the cable shall be oil resistant chlorinated polyethylene rubber. The motor and cable shall be capable of continuous submergence underwater without loss of watertight integrity to a depth of 65 feet

or greater.

- 1.2.5.4 The motor horsepower shall be adequate so that the pump is non-overloading throughout the entire pump performance curve from shut-off through run-out.

1.2.6 Bearings:

- 1.2.6.1 The pump shaft shall rotate on two bearings. The motor bearings shall be permanently grease lubricated. The upper bearing shall be a single deep groove ball bearing. The lower bearing shall be a two row angular contact bearing to compensate for axial thrust and radial forces. *Single row lower bearings are not acceptable.*

1.2.7 Mechanical Seal:

- 1.2.7.1 Each pump shall be provided with a tandem mechanical shaft seal system consisting of two totally independent seal assemblies. The seals shall operate in an lubricant reservoir that hydrodynamically lubricates the lapped seal faces at a constant rate. The lower, primary seal unit, located between the pump and the lubricant chamber, shall contain one stationary and one positively driven rotating, corrosion resistant tungsten-carbide ring. The upper, secondary seal unit, located between the lubricant chamber and the motor housing, shall contain one stationary and one positively driven rotating, corrosion resistant tungsten-carbide seal ring. Each seal interface shall be held in contact by its own spring system. The seals shall require neither maintenance nor adjustment nor depend on direction of rotation for sealing. The position of both mechanical seals shall depend on the shaft. For special applications, other seal face materials shall be available. *Mounting of the lower mechanical seal on the impeller hub is not acceptable.*
- 1.2.7.2 The following seal types shall not be considered acceptable nor equal to the dual independent seal specified: Shaft seals without positively driven rotating members, or conventional double mechanical seals containing either a common single or double spring acting between the upper and lower seal faces and systems requiring a pressure differential to offset pressure and to effect sealing.
- 1.2.7.3 Each pump shall be provided with an lubricant chamber for the shaft sealing system. The lubricant chamber shall be designed to prevent overfilling and to provide lubricant expansion capacity. The drain and inspection plug, with positive anti-leak seal shall be easily accessible from the outside. The seal system shall not rely upon the pumped media for lubrication. The motor shall be able to operate dry without damage while pumping under load.
- 1.2.7.4 Seal lubricant shall be FDA Approved, nontoxic.

1.2.8 Pump Shaft:

- 1.2.8.1 Pump and motor shaft shall be the same unit. The pump shaft shall be an extension of the motor shaft. Couplings shall not be acceptable. The shaft shall be stainless steel – American Society for Testing and Materials (ASTM) A479 S43100-T. *The use of stainless steel sleeves will not be considered equal to stainless steel shafts.*

1.2.9 Impeller:

- 1.2.9.1 The impeller shall be of (Hard cast iron, ASTM A-532 (Alloy III A) 25% chrome cast iron) dynamically balanced, semi-open, multi-vane, back swept, screw-shaped, non-clog design. The impeller leading edges shall be mechanically self-cleaned automatically upon each rotation as they pass across a spiral groove located on the volute suction. The screw-shaped leading edges of the gray iron impeller shall be hardened to Rc 45 and shall be capable of handling solids, fibrous materials, heavy sludge and other matter normally found in wastewater. The screw shape of the impeller inlet shall provide an inducing effect for the handling of up to 5% sludge and rag-laden wastewater. The impeller to volute clearance shall be readily adjustable by the means of a single trim screw. The impeller shall be locked to the shaft, held by an impeller bolt and shall be coated with alkyd resin primer.

1.2.10 Volute/Suction Cover:

- 1.2.10.1 The pump volute shall be a single piece gray cast iron, ASTM A-48, Class 35B, non-concentric design with smooth passages of sufficient size to pass any solids that may enter the impeller. Minimum inlet and discharge size shall be as specified. The volute shall have a replaceable suction cover insert ring in which are cast spiral-shaped, sharp-edged groove(s). The spiral groove(s) shall provide trash release pathways and sharp edge(s) across which each impeller vane leading edge shall cross during rotation so to remain unobstructed. The insert ring shall be cast of (Hard cast iron, ASTM A-532 (Alloy III A) 25% chrome cast iron).

1.2.11 Protection:

- 1.2.11.1 All stators shall incorporate thermal switches in series to monitor the temperature of each phase winding. The thermal switches shall open at 125°C (260°F), stop the motor.

1.2.12 Modifications:

- 1.2.12.1 The pump shall have explosion-proof Pumps.

1.2.13 Control General:

- 1.2.13.1 The pump shall be supplied with a dual voltage simplex submersible float operated control system for portable submersible pump operation. The system shall be operate on 230 or 460 volts AC. The voltage shall be able to be changed by simply bringing the correct voltage to the correctly labeled 230 or 460 incoming power terminals. The 230 and 460 volt pump circuit breakers will be mechanically interlocked to prevent both systems, being energized at the same time. The system shall be designed for pump operation up to 10 horsepower. The control system shall be approved by an approved testing laboratory and shall be identified with the appropriate markings as required by the testing laboratory.

1.2.14 Safety:

- 1.2.14.1 The pump shall be supplied with a ground cable monitor. The ground cable monitor will continually check the integrity of the pumps ground wire by measuring the resistance between the pump ground conductor and a ground check conductor included in the pump cable.

1.2.15 Mechanical:

- 1.2.15.1 The pump control system shall be supplied in a NEMA 4X-stainless steel enclosure. The enclosure shall be supplied with a continuous stainless steel hinge, stainless steel latches and padlock hasp. An aluminum dead front shall be installed with an aircraft type hinge. The door shall be provided with a break around the perimeter to provide rigidity. The dead front door shall open a minimum of 120 degrees to allow for ease of maintenance of the internal equipment.
- 1.2.15.2 The back panel shall be manufactured from aluminum. All devices shall be installed utilizing machine screws and the mounting holes shall be threaded. *Use of sheet metal screws is not acceptable.*
- 1.2.15.3 All operational devices shall be mounted on the dead-front inner door.

1.2.16 Electrical:

- 1.2.16.1 The control shall have two sets of incoming power terminals, one labeled 230 Volts and the second labeled 460 Volts.
- 1.2.16.2 The pump shall have an electrical disconnect sized for the amp draw on the pump. The breaker shall be operational without entering the control system. The device shall be rated at a minimum of 10,000 amps interrupting capacity at 230 VAC and 18,000 amps at 480 VAC.
- 1.2.16.3 The pump shall have a ground fault control circuit breaker for the voltages supplied to the float level sensors. The breaker shall provide CLASS A ground fault protection and shall trip at a fault current of 6 milli-amperes or more.
- 1.2.16.4 All control wiring shall be 18 gauge, UL 1015, wire. Color coded wiring shall be used. All components shall be identified with engraved legends on the subpanel. Power wiring shall be Thermoplastic High Heat-resistant Nylon-coated (THHN) or equal sized for the amp draw of the pumps.
- 1.2.16.5 The pump shall have an IEC contactor with properly sized bi-metallic overloads. The contactor shall be sized for the amp draw of the pump motor. An oversized contactor shall be provided if the rated current is within 15% of the maximum amp draw rating of the pump.
- 1.2.16.6 Pump motor protection shall be provided as specified by the pump manufacturer. The protection shall shut down the motor for any out of tolerance condition and shall not allow restart until the condition is corrected. Automatic reset as determined by the pump manufacturer shall be allowed.
- 1.2.16.7 The pump motor shall have a toggle switch HOA switch rated for 5 amps minimum for the operation of the pump motor. The device shall be mounted on the dead front door. The HOA switch shall allow operation of the pumps without the level sensors being activated. Pump protection devices shall not be bypassed in the hand position.

1.2.17 Operation:

- 1.2.17.1 The pump shall have an “off” float switch to determine the off level of the pump, as the wet well level rises. As the level continues to rise, a second float switch shall turn the pump on and pump the system down to the off level.
- 1.2.17.2 An HOA switch shall be provided to allow manual operation of the pump without the floats being activated.
- 1.2.17.3 All relay switches shall be plug-in with contacts rated at 10 amps at 120 VAC.
- 1.2.17.3 All electrical cables entering or exiting the control shall be through the bottom.
- 1.2.17.4 All electrical cables entering or exiting the control shall be sealed with a straight, non-metallic, grommet type, conduit seal and strain relief fitting.
- 1.2.17.5 The control shall be supplied with a 5 foot power submersible supply cable. The power cable shall be sized according to the NEC and ICEA standards and have P-MSHA Approval.

2.0 Deliveries / Performance Time:

- 2.1 The contractor/supplier shall be required to deliver the specific pump(s) to the City of Houston no later than **120 Calendar days** after receipt of the City of Houston Purchase Order.

END OF SECTION

SECTION C

GENERAL TERMS AND CONDITIONS

1.0 COMPETITIVE BIDDING:

- 1.1 It is the intent of the City of Houston to solicit the lowest and best responsible bid or price under competitive conditions. All materials and/or equipment shall be new unless stated otherwise. Prospective bidders are advised that the specifications within this bid invitation are not to be considered restricted to any referenced manufacturer.

2.0 AWARD:

- 2.1 The City reserves the right to consider and make awards of bids on articles of similar nature that will in all respects serve the purpose for which the purchase is being made. The City reserves the right to be the sole judge as to whether such articles will serve the purpose.
- 2.2 Unless otherwise specified, the City reserves the right to accept or reject in whole or in part any bid submitted or to waive any informalities that are in the best interests of the City.

3.0 CONDITIONS PART OF BID:

- 3.1 In the event of any conflict, the terms and provisions incorporated in the bid specifications shall control over the terms and provisions of the General Terms & Conditions for any or all purposes. Otherwise, all the terms and provisions appearing within the General Terms & Conditions shall be given full effect and shall be construed in harmony to the maximum extent by the parties hereto.
- 3.2 The failure of the City to insist, in any one or more instances, upon performance of any of the terms, covenants or conditions of this Contract, General Terms & Conditions or Specifications shall not be construed as a waiver or relinquishment of the future performance of such term, covenant or condition by the City, but the obligation of the Contractor with respect to such future performance shall continue in full force and effect.

4.0 SILENCE OF SPECIFICATIONS:

- 4.1 The apparent silence of these specifications as to any detail or the apparent omission from them of a detailed description concerning any point shall be regarded as meaning that only the best commercial practice shall prevail and only materials and workmanship of first quality are acceptable. All interpretations of these specifications shall be made upon the basis of this statement.

5.0 SPECIFIED EQUIPMENT OR EQUIVALENT:

- 5.1 Wherever in the specifications any materials or processes are indicated or specified by patent of proprietary name and/or by name of manufacturer, such specifications shall be deemed to be used for the purpose of facilitating descriptions of the performance, materials and/or processes desired and shall be deemed to be followed by the words, "or equivalent", if not so stated in the specifications herein.
- 5.2 The burden of proof shall rest with the bidder, in the course of a technical evaluation, to prove that the proposed item(s) are equivalent to the performance, materials, processes, or articles specified. DETERMINATION AS TO WHETHER THE ITEM (S) BID IS (ARE) EQUIVALENT TO THOSE SPECIFIED SHALL REST SOLELY WITH THE CITY PURCHASING AGENT AND THE

RECEIVING DEPARTMENT.

6.0 BRAND NAME OR TRADE NAME:

6.1 Any manufacturer's names, trade names, brand names, or catalog numbers used in the specifications are for the purpose of describing and establishing the general quality level, design and performance desired. Such references are not intended to limit or restrict bidding by other Contractors/Suppliers, but are intended to approximate the quality design or performance that is desired. Any bid that proposes like quality, design or performance, will be considered. Equivalent products will be considered, provided a complete description and product literature is provided. Unless a specific exception is made, the assumption will be that the item bid is exactly as specified on the Invitation to Bid.

7.0 PATENTS:

7.1 The Contractor agrees to indemnify and save harmless the city, its agents, employees, officers, and legal representatives from all suits and actions of every nature and description brought against them or any of them, for or on account of the use of patented appliances, products or processes, and it shall pay all royalties and charges which are legal and equitable. Evidence of such payment or satisfaction shall be submitted, upon request of the City Purchasing Agent, as a necessary requirement in connection with the final estimate for payment in which such patented appliance, products or processes are used.

8.0 TERMINATION OF AGREEMENT:

8.1 By the City for Convenience:

8.1.1 The City Purchasing Agent may terminate this Contract at any time upon 30-calendar days notice in writing to the Contractor. Upon receipt of such notice, the Contractor shall, unless the notice directs otherwise, discontinue all services in connection with the performance of the contract and shall proceed to cancel promptly all existing orders and contracts insofar as such orders and contracts are chargeable to this Contract. As soon as practicable after the receipt of notice of termination, the Contractor shall submit a statement to the appropriate department(s) showing in detail the services performed or items delivered under this Contract to date of termination. The City agrees to compensate the Contractor for that portion of the prescribed charges for which the services were actually performed or items delivered under this contract and not previously paid.

8.2 By the City for Default by the Contractor:

8.2.1 In the event that the materials and/or services furnished by the Contractor do not conform to the standard set forth herein, or if the deliveries and servicing of this contract do not conform to the requirements detailed herein, the City through a written notice from the City Purchasing Agent to the Contractor describing such default may as its options:

- (1) Terminate the contract for default and the City shall have no further obligation under the Contract.
- (2) Allow the Contractor to cure default within a reasonable time as specified in the notice. The City, at its sole option, may extend the proposed date of termination to a later date. If prior to the proposed date of termination, the Contractor cures such default to the City's satisfaction, then the proposed termination shall be ineffective. If the Contractor fails to cure such default prior to the propose date of termination, then the City may terminate its performance under this contract as of such date and

have no further obligation under the contract.

8.2.2 In the event of failure to deliver any or all of the items or to perform required services, the City may cover its loss by reasonably procuring from another source the items not delivered or the services not performed. The Contractor shall be responsible for and shall pay to the City immediately upon demand the difference in price between that offered by the Contractor and that which the City was forced to pay for covering the Contractor's failure to deliver or perform services.

8.3 By the Contractor for Default by City:

8.3.1 Default by the City shall occur if the City fails to perform or observe the terms and conditions of this Contract required to be performed or observed by the City, and the Contractor gives notice in writing to the City within 30 calendar days of the act or omission claimed by the Contractor to constitute default on the part of the City.

8.3.2 Upon receipt of such notice in writing from the Contractor, however, the City shall have 30 calendar days to cure such default. The Contractor, at its sole option, may extend the proposed date of termination to a later date.

8.3.3 If City cures such default prior to the proposed date of termination, the proposed termination shall be ineffective. If the City fails to cure such default prior to the proposed date of termination, then the Contractor may terminate its performance under this contract as of such date

9.0 SUCCESSORS & ASSIGNS:

9.1 The Contractor may not assign this contract or dispose of substantially all of its assets without the written consent of the City Purchasing Agent. The Contractor's failure to obtain such consent shall be an event of default, authorizing the City Purchasing Agent to terminate this contract according to its terms.

10. RELEASE:

10.1 THE CONTRACTOR AGREES TO AND SHALL RELEASE THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") FROM ALL LIABILITY FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT, EVEN IF THE INJURY, DEATH, DAMAGE, OR LOSS IS CAUSED BY THE CITY'S SOLE OR CONCURRENT NEGLIGENCE AND/OR THE CITY'S STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY.

11.0 INDEMNIFICATION:

11.1 THE CONTRACTOR AGREES TO AND SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY, ITS AGENTS, EMPLOYEES, OFFICERS, AND LEGAL REPRESENTATIVES (COLLECTIVELY THE "CITY") HARMLESS FOR ALL CLAIMS, CAUSES OF ACTION, LIABILITIES, FINES, AND EXPENSES (INCLUDING, WITHOUT LIMITATION, ATTORNEYS' FEES, COURT COSTS, AND ALL OTHER DEFENSE COSTS AND INTEREST) FOR INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY SUSTAINED IN CONNECTION WITH OR INCIDENTAL TO PERFORMANCE UNDER THIS AGREEMENT INCLUDING, WITHOUT LIMITATION, THOSE CAUSED BY:

(1) THE CONTRACTOR'S AND/OR ITS AGENTS', EMPLOYEES', OFFICERS', DIRECTORS', CONTRACTORS', OR SUBCONTRACTORS' (COLLECTIVELY IN

NUMBERED PARAGRAPHS 1-3, "THE CONTRACTOR") ACTUAL OR ALLEGED NEGLIGENCE OR INTENTIONAL ACTS OR OMISSIONS;

- (2) THE CITY'S AND THE CONTRACTOR'S ACTUAL OR ALLEGED CONCURRENT NEGLIGENCE, WHETHER THE CONTRACTOR IS IMMUNE FROM LIABILITY OR NOT; AND**
- (3) THE CITY'S AND THE CONTRACTOR'S ACTUAL OR ALLEGED STRICT PRODUCTS LIABILITY OR STRICT STATUTORY LIABILITY, WHETHER THE CONTRACTOR IS IMMUNE FROM LIABILITY OR NOT.**

11.2 THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE CITY HARMLESS DURING THE TERM OF THIS AGREEMENT AND FOR FOUR YEARS AFTER THE AGREEMENT TERMINATES. THE CONTRACTOR'S INDEMNIFICATION IS LIMITED TO \$500,000 PER OCCURRENCE. THE CONTRACTOR SHALL NOT INDEMNIFY THE CITY FOR THE CITY'S SOLE NEGLIGENCE.

11.3 INDEMNIFICATION PROCEDURES:

11.3.1 Notice of Claims. If the City or the Contractor receives notice of any claim or circumstances which could give rise to an indemnified loss, the receiving party shall give written notice to the other party within 10 days. The notice must include the following:

- (a) a description of the indemnification event in reasonable detail,
- (b) the basis on which indemnification may be due, and
- (c) the anticipated amount of the indemnified loss.

11.3.2 This notice does not stop or prevent the City from later asserting a different basis for indemnification or a different amount of indemnified loss than that indicated in the initial notice. If the City does not provide this notice within the 10 day period, it does not waive any right to indemnification except to the extent that the Contractor is prejudiced, suffers loss, or incurs expense because of the delay.

11.3.3 Defense of Claims.

- (a) **Assumption of Defense.** The Contractor may assume the defense of the claim at its own expense with counsel chosen by it that is reasonably satisfactory to the City. The Contractor shall then control the defense and any negotiations to settle the claim. Within 10 days after receiving written notice of the indemnification request, the Contractor must advise the City as to whether or not it will defend the claim. If the Contractor does not assume the defense, the City shall assume and control the defense, and all defense expenses constitute an indemnification loss.
- (b) **Continued Participation.** If the Contractor elects to defend the claim, the City may retain separate counsel to participate in (but not control) the defense and to participate in (but not control) any settlement negotiations. The Contractor may settle the claim without the consent or agreement of the City, unless it (i) would result in injunctive relief or other equitable remedies or otherwise require the City to comply with restrictions or limitations that adversely affect the City, (ii) would require the City to pay amounts that Contractor does not fund in full, (iii) would not result in the City's full and complete release from all liability to the plaintiffs or claimants who are parties to or otherwise bound by the settlement.

12.0 INSURANCE:

12.1 Contractor shall maintain in effect certain insurance coverage and shall furnish certificates of insurance, in duplicate form, before beginning its performance under this Agreement/purchase order. All policies except Professional Liability and Workers' Compensation must name the City as an additional insured. The issuer of any policy (1) shall have a Certificate of Authority to transact insurance business in Texas or (2) shall be an eligible non-admitted insurer in the State of Texas and have a Best's rating of at least B+ and a Best's Financial Size Category of Class VI or better, according to the most current edition Best's Key Rating Guide. Contractor shall maintain the following insurance coverage's in the following amounts:

12.1.1 Commercial General Liability insurance including Contractual Liability insurance: \$500,000 per occurrence; \$1,000,000 aggregate

12.1.2 Workers' Compensation including Broad Form All States endorsement: Statutory amount

12.1.3 Automobile Liability insurance
\$1,000,000 combined single limit per occurrence
Defense costs are excluded from the face amount of the policy.
Aggregate Limits are per 12-month policy period unless otherwise indicated.

12.1.4 Employer's Liability
Bodily injury by accident \$100,000 (each accident)
Bodily injury by disease \$100,000 (policy limit)
Bodily injury by disease \$100,000 (each employee)

12.2 All insurance policies must require on their face, or by endorsement, that the insurance carrier waives any rights of subrogation against the City, Contractor shall give written notice to the Director if any of its insurance policies are cancelled, materially changed or non-renewed. Within the 30 day period, Contractor shall provide other suitable policies in lieu of those about to be canceled, materially changed, or non-renewed so as to maintain in effect the required coverage. If Contractor does not comply with this requirement, the Director, at his/her or sole discretion, may:

12.2.1 Immediately suspend Contractor from any further performance under this Agreement/purchase order and begin procedures to terminate for default, or

12.2.2 Purchase the required insurance with City funds and deduct the cost of the premiums from amounts due to Contractor under this contract/purchase order.

12.2.3 All certificates of insurance submitted by Contractor shall be accompanied by endorsements for additional insured coverage in favor of the City for Commercial General Liability and Automobile Liability policies; and waivers of subrogation in favor of the City for Commercial General Liability, Automobile Liability, and Worker's Compensation/Employers' Liability policies. For a list of pre-approved endorsement, forms see <http://purchasing.houstontx.gov/forms.shtml>. The Director will consider all other forms on a case-by-case basis.

INSURANCE IS NOT REQUIRED IF ITEM IS DROP-SHIPPED BY MANUFACTURER OR IS DELIVERED BY COMMON CARRIER.

13.0 MINORITY AND WOMEN BUSINESS ENTERPRISES:

13.1 These provisions apply to goal-oriented contracts. A goal oriented contract means any contract awarded for the supply of goods or non-professional services of approximately \$100,000.00 for which competitive bids are required by law and which the City Purchasing Agent has determined to have City of Houston Certified MWBE subcontracting potential.

- 13.2 The Contractor agrees to comply with the City's Minority and Women Business Enterprise programs as set out in Chapter 15, Article V of the City of Houston Code of Ordinances insofar as such programs apply to this Contract. The Contractor further agrees that it will make good faith efforts to award subcontracts or supply agreements in at least 3% of the value of this Contract to Minority and Women-owned Business Enterprises certified by the City's Office of Business Opportunity. In addition, the Contractor acknowledges that it has reviewed the requirements for good faith efforts that are on file with the City's Office of Business Opportunity, is familiar with such requirements, and will comply with them.
- 13.3 The Contractor shall require written subcontracts with all MWBE subcontractors and suppliers, which must contain the terms, set out in the documents attached herein. If the Contractor is an individual person (as distinguished from a corporation, partnership, or other legal entity), and the amount of the subcontract is \$50,000 or less, then the subcontract must also be signed by the attorneys of the respective parties.
- 13.4 Refer to the "City of Houston Goal-Oriented Minority and Women Business Enterprises Contract Provisions" attachment, which is incorporated in the specifications herein by this reference for all purposes, for more detailed information on this requirement.

The above-mentioned goal will apply to *Item Nos. (1, 2, 3, 4 & 5)*.

14.0 REJECTIONS:

- 14.1 Articles not in accordance with samples and specifications must be removed by the Contractor and at its expense. All disputes concerning quality of supplies delivered under this offer will be determined by the City Purchasing Agent or designated representative.
- 14.2 All articles enumerated in the offer shall be subject to inspection on delivery by an officer designated for the purpose and if found inferior to the quality called for, or not equal in value to the Department's samples, or deficient in weight, measurements, workmanship or otherwise, this fact shall be certified to the City Purchasing Agent who shall have the right to reject the whole or any part of the same.

15.0 INVOICING:

- 15.1 In order to expedite payments all invoices must be submitted in triplicate, itemized as to quantity, part and/or model number, description in the same order and form as in the City of Houston Purchase Order. Variations will only delay payment. In addition, invoices must show the name of the Department, Division or Section to which the merchandise was delivered, and the City of Houston Purchase Order Number.
- 15.2 All delivery tickets must have a description of the item delivered.
- 15.3 Mail invoices to the Accounts Payable Section of the Department and to the address, as noted on individual purchase orders.
- 15.4 Delivery tickets and packing slips will contain the same information as the invoice.
- 15.5 All packing slips and delivery tickets must be signed by the receiving employee with their City Employee Number and must be signed by the Contractor's Representative.

16.0 TAXES:

- 16.1 The City is exempt from the Federal Excise and Transportation Tax, and the limited Sales and Use Tax. Unless the Bid Form or Specifications specifically indicate otherwise, the bid price must be net exclusive of above-mentioned taxes. A Contractor desiring refunds of, or exemptions from, taxes paid on merchandise accepted by the City, must submit the proper forms, and the City Purchasing

Agent, if satisfied as to the facts, may approve or issue the necessary certificates.

17.0 PAYMENT:

17.1 Payment is due thirty (30) days after the City has approved the invoice or after the City has accepted the equipment and all required documents, whichever occurs later. Invoices received that do not agree with the provisions set forth herein shall be returned for correction and will result in payment being delayed.

17.2 PAYMENT OF SUBCONTRACTORS:

17.2.1 The Contractor shall make time payments to all persons and entities supplying labor, materials or equipment for the performance of this Contract. The Contractor agrees to protect, defend, and indemnify the City from any claims or liability arising out of the Contractor's failure to make such payments. (Disputes relating to payment of MWBE subcontractors shall be submitted to arbitration in the same manner as any other disputes under the MWBE subcontract. Failure of the Contractor/ Supplier to comply with the decisions of the arbitrator may be deemed, at the sole discretion of the City, a material breach leading to termination of this Contract.)

18.0 INSPECTIONS AND AUDITS:

18.1 The City reserves all rights to review all payments made to the Contractors by auditing at a later date. Subject to such audit, any overpayments may be recovered from the Contractor.

18.2 City representatives may have the right to perform, or have performed, (1) audits of the Contractor's books and records, and (2) inspections of all places where work is undertaken in connection with this Agreement. The Contractor shall keep its books and records available for this purpose for at least four years after this Agreement terminates. This provision does not affect the applicable statute of limitations.

18.3 City representatives have the right to examine the books of all subcontractors and/or suppliers supplying goods and/or services under the contract insofar as those books and records relate to performance under the prime contract.

19.0 CITY OF HOUSTON FAIR CAMPAIGN ORDINANCE:

19.1 The City of Houston Fair Campaign Ordinance makes it unlawful for a Contractor to offer any contribution to a candidate for City elective office (including elected officers and officers-elect). All respondents to this invitation to bid must comply with Houston Code of Ordinances Chapter 18 as amended relating to the contribution and solicitation of funds for election campaigns. Provisions of this ordinance are provided in part in the paragraphs that follow. Complete copies may be obtained from the office of the City Secretary.

19.2 Candidates for city office may neither solicit nor receive contributions except during a period commencing 270 calendar days prior to an election date for which a person is a candidate for such office and ending 90 calendar days after the election date, including run off elections if such candidate is on the ballot.

19.3 Further, it shall be unlawful either for any person who submits a bid or proposal to contribute or offer any contribution to a candidate or for any candidate to solicit or accept any contribution from such person for a period commencing at the time of posting of the City Council Meeting Agenda including an item for the award of the Contract and ending upon the 30th day after the award of the Contract by City Council.

19.4 For the purposes of this Ordinance, a **Contract** is defined as each Contract having a value in excess of \$30,000 that is let by the City for professional services, personal services, or other goods

or services of any other nature whether the Contract is awarded on a negotiated basis, request for proposal basis, competitive proposal basis or formal sealed competitive bids. The term **Contractor** includes proprietors of proprietorships, partners having an equity interest of 10% or more of partnerships, (including limited liability partnerships and companies), all officers and directors of corporations (including limited liability corporations), and all holders of 10% or more of the outstanding shares of corporations.

- 19.5 **A STATEMENT DISCLOSING THE NAMES AND BUSINESS ADDRESSES EACH OF THOSE PERSONS WILL BE REQUIRED TO BE SUBMITTED WITH EACH BID OR PROPOSAL FOR A CITY CONTRACT.** Completion of the attached form entitled "**Contractor Submission List**" will satisfy this requirement. Failure to provide this information may be just cause for rejection of your bid or proposal.

20.0 CITY OF HOUSTON CONTRACTOR OWNERSHIP DISCLOSURE ORDINANCE:

- 20.1 City Council requires knowledge of the identities of the owners of entities seeking to contract with the City in order to review their indebtedness to the City and other qualifying governmental entities prior to entering into contracts. Therefore, all respondents to this invitation to bid must comply with Houston Code of Ordinances Chapter 15, as amended (Sections 15-122 through 15-126) relating to the disclosure of owners of entities bidding on, proposing for or receiving City contracts. Provisions of this ordinance are provided in part in the paragraphs that follow. Complete copies may be obtained from the office of the City Secretary.
- 20.2 Contracting entity means a sole proprietorship, corporation, non-profit corporation, partnership, joint venture, limited liability company, or other entity that seeks to enter into a contract requiring approval by the Council but excluding governmental entities.
- 20.3 A contracting entity must submit at the time of its bid or proposal, an affidavit listing the full names and the business and residence addresses of all persons owning 5% or more of a contracting entity or, where a contracting entity is a non-profit corporation, the full names and the business and residence addresses of all officers of the non-profit corporation.
- 20.4 Completion of the "**Affidavit of Ownership or Control**", included herein, and submitted with the Official Bid or Proposal Form will satisfy this requirement. Failure to provide this information with your bid or proposal may be just cause for rejection of your bid or proposal.

21.0 CHANGE ORDERS:

- 21.1 At any time during the Agreement Term, the City Purchasing Agent, or designated representative, may issue a change order to increase or decrease the scope of services, or change plans and specifications, as may be necessary to accomplish the general purposes of this Agreement. The Contractor shall furnish the services or deliverables in the change order in accordance with the requirements of this Agreement plus any special provisions, specifications, or special instructions issued to execute the additional work.
- 21.2 The Contractor shall not make any changes to the specifications or drawings contained herein without written authorization from the City Purchasing Agent or designated representative. The City may refuse to accept all or part of the work performed or equipment/supplies delivered if changes are made to the specifications or drawings without the written authorization of the City Purchasing Agent or designated representative. The City shall not be responsible for costs incurred by the Contractor on unauthorized change orders.
- 21.3 Documentation acceptable to the City Purchasing Agent as evidence of the Contractor's change(s) shall reference the City's bid specification by section(s) and page number(s). A letter with supporting documentation of the requested change(s) shall be submitted to the City

Purchasing Agent, and the City Purchasing Agent must approve any requested changes PRIOR TO ANY CHANGES BEING PERFORMED. The face of the envelope containing this letter shall clearly state, "CHANGE ORDER REQUEST" and THE NUMBER OF THE BID INVITATION AND THE NUMBER(S) OF THE PURCHASE ORDER(S) referenced. Failure to provide clear and concise evidence as stated above and in the format requested will result in denial until the Contractor complies with these provisions. Documentation shall be mailed to:

City Purchasing Agent
City of Houston, Administration & Regulatory Affairs Department
Strategic Purchasing Division
P. O. Box 1562
Houston, TX 77251-1562

- 21.4 The City Purchasing Agent, or designated representative, may issue change orders, subject to the following limitations:
- 21.4.1 City Council expressly authorizes the City Purchasing Agent to approve change orders of **\$50,000** or less. A change order of more than **\$50,000** over the approved contract amount must be approved by City Council.
 - 21.4.2 The total of all change orders issued under this section may not increase the Original Agreement amount by more than 25%.
 - 21.4.3 For any items described in a change order that the Contractor is otherwise required to provide under the Original Agreement, the City shall not pay additional money to the Contractor.