BID 15-05
CENTRIFUGE DEWATERING SYSTEM PROJECT

CENTRIFUGE PROJECT

GENERAL CONDITIONS

1.01 CONTRACT DOCUMENTS

The contract Documents consist of the Instructions to Bidders, General Conditions, Special Conditions, Specifications, Bid Proposal, Plans and all modifications thereof incorporated into any of the documents before the proper execution of the bonds and of the attached and of the Agreement, all of which are attached and are part of the contract following execution of the agreement by an authorized representative of the City and Contractor. The Contract Documents are complementary and what is called for by any one is as binding as if called for by all.

1.02 DRAWINGS AND SPECIFICATIONS

There will be no drawings furnished.

1.03 EXCEPTIONS TO PLANS AND SPECIFICATIONS

Exceptions and inconsistencies in Plans and Specifications shall be brought to the attention of the Purchasing Director, promptly before the bid date. Unless the Purchasing Director receives notice before the bid opening, it shall be assumed that all contract documents are acceptable as written and that the successful bidder will complete the project satisfactorily in the scheduled time period, for the amount bid having examined the plans, specifications, other contract documents, and the site of proposed work; and being familiar with all the conditions surrounding the construction of the proposed project, including the availability of materials and labor.

1.04 VERIFICATION OF MEASUREMENTS

It is the Contractor's responsibility to verify all measurements and quantities before ordering materials. Significant deviations from those on the plans shall be reported to the Purchasing Director on a timely basis.

1.05 SCOPE OF WORK/TIMING OF CONSTRUCTION

The Plans and Specifications provide for construction of the **CENTRIFUGE DEWATERING SYSTEM PROJECT** for the City of Kingsville. It is the responsibility of the Contractor to provide all work, materials, labor, equipment, tools and supervision to fully complete the project in the construction period specified, in accordance with the Specifications, Drawings, and other Contract Documents. Completion of the project in a timely manner is very important to the normal operations of the City.

1.06 NOTICE OF AWARD AND NOTICE TO PROCEED

Successful bidders will be informed by phone or e-mail by the Purchasing Director of acceptance of the Bid Proposal. In turn, Contractor shall obtain bonds duly executed by a corporate surety(ies) attorney and deliver these along with three (3) signed originals of the Agreement (Contract) to the Purchasing Director within ten (10) days following Notice of Award. An original copy and two (2) duplicates bearing original signatures of these documents are required.

After acceptance of the bonds and execution of the Contract by the appropriate City Official(s), Contractor will be informed by letter of the date that construction can begin in the written Notice to Proceed issued by the City Engineer.

Contractor shall begin work within fourteen (14) calendar days of the date specified in the Notice to Proceed and diligently pursue completion of the project within the required time. The Contractor will be responsible to schedule his work and receipt of materials in order that the project is fully completed within the period specified on the Agreement.

1.07 TIME OF COMPLETION

The Contractor shall complete the project within the number of days required by the special Conditions, counted from the date specified on the Notice to Proceed. Allowances for weather days will be permitted upon approval of the City. Contractor shall be responsible for analyzing inclement weather schedule and forecasting a suitable work schedule.

1.08 DELAYS AND EXTENSION OF TIME

Contractor may be granted an extension of time because of inclement weather, changes in scope of work, or other causes beyond reasonable expectation of the Contractor.

Claims for an extension(s) of time shall be submitted in writing to the Purchasing Director within ten (10) days after the occurrence of the event that results in a request for a delay.

1.09 SATISFACTORY COMPLETION

At completion of work, Contractor shall notify the City Engineer who will schedule an inspection of the work and make a written list of any items of work that do not meet the Specifications or are unsatisfactory in quality, quantity or appearance. Contractor shall make all corrections on this list before applying for final payment. It shall be agreed that the purpose of this project is to construct a complete project and that omission of incidental items that might be necessary for a complete project will be provided and installed by the Contractor before the final payment is approved.

1.10 CITY REPRESENTATIVE

The City Representative is Mr. David Mason, Director of Purchasing and Technology. His office phone number is (361) 595-8025.

1.11 CONTRACT PAYMENTS

If requested by the contractor, the City will make one (1) progress payment per thirty (30) day periods during the construction work for work in place and for materials stored on site at that time. A 10% retainage will be withheld pending satisfactory final completion of the project and certification by City Representative. Contractor may make application for payment by the procedure described herein. **Failure to provide this documentation within ninety (90) calendar days of final acceptance of the project will result in the contractor forfeiting the entire 10% retainage payment of the contract.**

In order to apply for payment, Contractor shall submit an itemized invoice to the Purchasing Director. Note that it normally takes from three (3) to four (4) weeks to receive payment following receipt of the Application for Payment. All payments will be subject to the Purchasing Director approval.

1.12 CHANGE ORDER ADMINISTRATION

Request for extra or modified work initiated on behalf of the City or Contractor shall be presented in three (3) originals to the City Engineer. Proposals shall include itemized costs for the proposed work. Proposals shall include itemized costs along with any time extension required to complete the work. **Work authorized by a change order shall not commence before the change order is signed by the Contractor, the City Engineer and the Purchasing Director**.

1.13 WARRANTY

Contractor shall warrant all workmanship and furnished materials to be free from defects and remain in perfect condition for two (2) years following the date of acceptance or final completion, whichever is later. Losses and damages resulting from negligence by City or vandalism shall not be covered under this warranty. Signing of the contract shall constitute Contractor's acceptance of this warranty provision.

1.14 INSURANCE

The Contractor will be required to submit proof of insurance to the City Representative as follows:

1. Workers' Compensation: Statutory
2. Employer's Liability: $100,000 each occurrence
3. Comprehensive General Liability:

Bodily Injury	$500,000 each occurrence
	$500,000 aggregate
Property Damage	$500,000 each occurrence
	$500,000 aggregate

4. Comprehensive Automobile Liability:

Bodily Injury	$500,000 each person
	$500,000 aggregate
Property Damage	$500,000 each occurrence
	$500,000 aggregate

Certificates of all insurance and a statement from the insurance company(ies) stating that such insurance will not be canceled or, will not materially change until a written notice is issued at least ten (10) days prior, shall be submitted before work begins.

1.15 HOLD HARMLESS CLAUSE

Except for loss or damage caused solely by the negligence of the City, established by clear and convincing evidence thereof, the contractor shall save and hold the City harmless from and against all liability, claims and demands for personal injuries, including death, or property loss or damage to anyone (including contractor, subcontractors, third parties, and employees of such parties), arising out of or in any manner connected with or related to the performance of this contract, even if such loss or damage is due in part to the City's negligence; and the Contractor shall, at its own expense, pay all charges of attorneys and all costs and other expenses arising therefrom.

1.16 LAWS TO BE OBSERVED AND WORK STANDARD

Contractor shall familiarize himself/herself with, and at all times comply with Federal, State and Local laws, ordinances, and regulations that affect the conduct of the work. The installation of materials shall be in accordance with the plans and specifications, and if a conflict arises between these then it should be brought immediately to the attention of the City Engineer. In any event, such a conflict shall not invalidate the other portions of the contract or other requirements of the contract documents on the part of the City or Contractor.

Items of work that are required but not specifically drawn or specified shall be completed in a workmanlike manner and be consistent with standard construction practice at the time of installation. In cases of conflict, a sufficient test for work quality will be that the installed work meets, or exceeds the standards set by the International Building Code or other recognized agency.

1.17 SAFETY

The Contractor shall be responsible for initiating, maintaining, and supervising a safety program during the construction phase. The Contractor's Superintendent or Supervisor shall be considered responsible for safety on the job site. The Contractor shall take precautions for the safety and protection of:

a. Employees, the City, and Citizens.
b. All work and materials to be incorporated in the job, whether in use or storage on the job site, or off.
c. All other property on or adjacent to the job site.
d. Proper warning, barricading and traffic control and/or signs, when applicable.

The Contractor shall provide sufficient, safe and proper facilities at all reasonable times for the observation and/or inspection of the work by the City of Kingsville Representative and any other City Representative who may make periodic visits to the site to inspect the progress and quality of the work and to determine if the work is proceeding in accordance with the specifications. The Contractor shall comply with all applicable laws, ordinances and regulations.

1.18 STATE AND LOCAL TAXES/BUILDING PERMIT

All prices quoted for this project shall include taxes, permits, and fees required to complete the project. The Contractor shall comply with all applicable requirements of the State of Texas during construction. The project is tax exempt and the contractor should request a tax-exempt certificate from the City Purchasing Department prior to purchasing any materials. No permits are required for this project.

1.19 PARKING

Contractor's employees may park their vehicles near the construction site in areas designated by the City Representative. These areas will be identified by the City Engineer. Contractor must become familiar with parking requirements of the City of Kingsville.

1.20 SUPERINTENDENT

The Contractor shall maintain a competent, responsible, fluent English or English bilingual superintendent on the job site to provide guidance during the work in progress. The superintendent shall represent the Contractor in his absence, and all directives given him by the City Engineer shall be as binding as if given to the Contractor.

1.21 WORKERS OF GOOD CHARACTER

Contractor shall insure employment by him/her and by associated Subcontractors of persons of good character and shall insure that all behave in a manner consistent with recognized adult behavior while working on this Project. In addition, the Contractor shall instruct and/or convey to all such employees that any display of bad manners or sloppy dress deemed objectionable to the City Engineer, or to visitors on the site, will not be tolerated.

1.22 SUBCONTRACTOR LIST/RESPONSIBILITY

Contractor shall furnish a listing of all subcontractors who will be involved in the project prior to beginning work on the project. Should a subcontractor consistently fail to perform satisfactorily, it shall be the Contractor's responsibility to remove the subcontractor and correct any substandard work at no additional cost to the City.

1.23 MATERIAL STORAGE/SECURITY

The Contractor and subcontractors shall maintain such office and storage facilities on the site as may be necessary for the proper conduct of the work. These shall be located so as to cause no interference with any work to be performed on the site. The City Representative shall be consulted with regard to locations.

Contractor shall confine storage of materials to those areas designated by the City. The Contractor shall properly secure the construction area and material storage site in order to protect his/her work, tools, and all materials (including City's) from unauthorized access and vandalism.

1.24 CLEANUP/EXCESS MATERIALS/DEBRIS CONTROL

Regular cleanup by the Contractor shall be an integral part of the work. Debris and spoils shall be neatly stockpiled and hauled from the job site in a timely manner. Proper measures shall be taken to prevent debris from being carried and/or blown out of the construction area. Aggregates, fuels, liquids, and tools shall be protected from environmental forces so as to protect personnel and property in and around the work site. The Contractor shall be responsible for disposal of construction debris and trash. Hazardous material shall be the property of the Contractor for removal and disposal in accordance with TCEQ regulations. Any provisions for showering or clean-up must be provided by the Contractor. All excess materials and construction debris shall become property of the Contractor for disposal at a location approved by the City Engineer. The Contractor will remove all debris and broom clean the work site at completion of the project.

1.25 OWNERSHIP OF EXCESS DEMOLITION MATERIALS

Materials and/or equipment that are removed during the demolition process and not scheduled for re-use in the Plans are the property of the City. Thus the City reserves the right to take possession and make use of these in other ways. A listing of those materials to be retained will be provided to Contractor's superintendent at the beginning of construction work. These items shall be carefully removed during demolition and turned over to the City at a mutually agreeable location near the work site.

SPECIFICATIONS

CENTRIFUGE DEWATERING EQUIPMENT

(MODEL CS18-4 TRAILER MOUNTED SYSTEM)

TRAILER MOUNTED 30" DIAMETER CENTRIFUGE DEWATERING SYSTEM

PART 1 - GENERAL

1.01 Scope:

1. One complete factory assembled skid-mounted centrifuge sludge dewatering system mounted aboard a trailer consisting of the following:
   a. Equipment skid of epoxy coated fabricated steel forms and shapes
   b Trailer for transport of the Skid Mounted System
   c. One high-solids, solid bowl horizontal continuous feed scroll type centrifuge
   d One progressive cavity solids feed pump
   e. One centrifuge drive motor
   f One centrifuge back drive
   g. One inline sludge grinder
   h. One emulsion polymer blender and feed system
   i. Piping connectors for feed, centrate and water supply
   j One magnetic sludge flow meter
   k. One cake discharge screw conveyor
   l. All interconnecting piping
   m. All Interconnecting electrical conduit
   n. Free-standing control panel with PLC based controls for interfacing with main treatment plant operation and SCADA system
   o. **Preference shall be given to USA manufacturers.**
2. Provide factory testing and test report prior to shipment
3. Provide onsite technical services for equipment startup, performance testing and operator training
4. Operation and maintenance manuals

1.02 QUALITY ASSURANCE

A. Acceptable Manufacturers: All selected approved equipment shall be furnished by the manufacturer of the sludge dewatering unit; however all equipment need not be manufactured by a single manufacturer. The manufacturer shall have at least 5 separate installations of similar sized skid mount systems running within the US. Those companies that do not meet the minimum number of installations shall provide a spare rotating assembly (bowl and scroll) as part of their bid. The following manufacturers have been proven to supply the above mentioned skid mounted dewatering systems and have been determined to be acceptable subject to full compliance with the specifications and flow conditions.

   1. Centrisys

2. Or Pre-approve Equal

B. Reference Standards: Comply with the latest edition of the applicable codes and regulations, including the following:
   1. American Society of Mechanical Engineers (ASME)
   2. American Gear Manufacturers Association (AGMA)
   3. National Electrical Manufacturers Associations (NEMA)
   4. American Society for Testing and Materials (ASTM)
   5. American National Standard Institute (ANSI)
   6. American Institute of Steel Construction (AISC)
   7. American Welding Society (AWS)

1.03 Submittals

A. Shop Drawings and Product Data:
   1. Submit complete fabrication, assembly, foundation and installation Drawings together with power drive assembly and instrumentation descriptions and diagrams with additional details as follows:
      a. Detailed drawings and descriptions of all items of equipment, including centrifuge control panels, showing all dimensions, parts, constructed details, and materials of construction.
      b. Drive motor, control panel and layout of control panel face showing all pushbuttons, switches, instruments, indicating lights, etc.
      c. Complete secondary drive system equipment and operating description as applicable
      d. Complete motor rating including all nameplate data; guaranteed minimum rated efficiency and speed torque curves.
      e. Complete system schematic (elementary) wiring diagrams, including, but not limited to, the following:
         1) Complete system interconnection diagrams between power supply, control panel, drive motor(s), and all related components or controls external to the system, including wire numbers and terminal board point identification. Diagrams shall be in accordance with NEMA ICS 1.
         2) One-line diagram of 460-volt system, including component ratings.
         3) Descriptive literature for all control devices such as relays, timers, etc.
      f. Calculated ABMA L-10 bearing life and type of lubrication recommended for all equipment
      g. Information on field and installation requirements, including mounting and access requirements and total weight of each component and each complete assembly.
      h. A detailed description of the instrumentation and control system proposed, including a list of all centrifuge functions monitored, controlled and alarmed.
      i. Control panel front and sub panels and component layout.
      j. Panel control and power wiring diagrams, including all connections to external devices.
      k. Electric motor control schematics.
      l. List of spare parts to be furnished.
      m. Statement for machine warranties
      n. For skid, indicate profiles, sizes, spacing and locations of structural members,

connections, attachments, fasteners, cambers, loads and any special details.

o. For skid, indicate welded connections using standard AWS welding symbols

B. Submit Operation and Maintenance Manuals:

1. Manuals to include specific instructions for receiving, offloading and installing skid-mounted equipment and accessories. Manuals to include; assembly drawings and instructions; wiring diagrams; repair and service information; proper decommissioning and storage of equipment; trouble shooting and a full list of parts.

C. Warranty:

1. Provide mechanical warranty for replacement of all defective parts and equipment for a period of 12 months after startup and acceptance of equipment and optional extended two and three year warranties.

PART 2 - PRODUCTS

2.01 DESIGN AND PERFORMANCE:

A. The fully factory assembled, centrifuge skid dewatering system to dewater a MBR processed wastewater sludge producing a semi-dry solid based upon the following conditions of service:

Minimum daily flow (24 hrs)		144,400 gallons @ 100 GPM
Feed solids concentration	1 to 2	percent

B. Dewatered solids: The centrifuge shall meet the performance criteria specified below:

Parameter	Units	Performance Criteria
Hours of operation	hrs/day	Minimum 8
Maximum design flow rate**	gpm	100
**(sludge feed excluding polymer solution)		
Minimum dewatered solids concentration	%	20%
Minimum solids capture	%	97
Total Installed HP of Centrifuge System	hp	47.5 hp maximum

2.02 SKID-MOUNTED EQUIPMENT DESCRIPTION

A. Skid-mounted, Fully Factory Assembled Centrifuge Dewatering System

1. Equipment Skid: Epoxy Coated carbon steel shapes and components.
2. Centrifuge and equipment shall be mounted aboard a single skid with all connections between components pre-wired and pre-piped. The stand which supports the centrifuge shall not be used for support of any other component other than the centrifuge itself. The ancillary components are to be mounted aboard the skid structure independent of the centrifuge stand. The complete skid mounted centrifuge dewatering system will contain all components for a completely self contained dewatering system. Skid shall maintain spill containment with fully integrated drip

pan.

3. Skid system after installation shall be no wider than 88” with catwalks for access on both sides of the centrifuge installed and within the 88” overall width.

B. Equipment to Include:
1. High solids horizontal bowl centrifuge
2. Sludge feed pump VFD’s & Interlocks
3. Centrifuge drive motor
4. Hydraulic back drive
5. Dewatered cake screw conveyor system
6. Magnetic sludge flow meter
7. Polymer feed system
8. Centralized manifold for liquid connection
9. OSHA Approved Catwalk structure with two ladder access points to centrifuge
10. Control panel
11. Mounted on a portable trailer

C. High Solids Centrifuge:
1. Bowl constructed of centrifugally cast A890 Duplex Stainless Steel.
2. Capable of operating at a minimum G force of 3000
3. Minimum Sizing:
   - Bowl internal diameter of 18”
   - Bowl internal length of 72”
   - Bowl cylinder section length of 50”

   ** Manufacturers not meeting the above minimum sizing shall bid their next larger model that meets the minimum skid mounted installation requirements.**

4. Bowl manufactured by centrifugal casting from duplex stainless steel with minimum tensile strength of 100,000 psi; bowls statically cast or fabricated shall not be acceptable.
5. Liquid pool depth adjustment with single set (4) of plate dams of 304 stainless steel
6. Bowl wall to be protected by replaceable longitudinal wear strips; bowls with grooves shall not be acceptable.
7. Solids discharge ports to be lined with field replaceable tungsten carbide inserts
8. Solids feed through 2-inch 316L stainless steel feed pipe
9. All contact surfaces protected from abrasion by fused tungsten carbide
10. Machines shall be designed with inline mounted main drive motors. Side mounted main drive motors shall not be acceptable due to the maximum allowable width of the skid of 88” with the installed catwalks on both sides of the centrifuge.

D. Scroll Conveyor:
1. Horizontal cylindrical conical scroll conveyor with helical flights
2. Conveyor to be supported by grease lubricated cylindrical roller bearings and grease lubricated angular anti-thrust bearing

3. Conveyor hub of centrifugally cast duplex stainless steel
4. Provide conveyor bearings with external seals for external grease lubrication
5. Conveyor feed compartment of 316L stainless steel
6. Compartment protected with flame applied and fused nickel-chrome-boron alloy with tungsten carbide particles
7. Field replaceable feed nozzles with tungsten carbide coating
8. Provide field replaceable tungsten tiles on edge and face surfaces
9. Tungsten carbide surfacing to be guaranteed for 15,000 hours of operation
10. Furnish rubber boot to connect to solids conveyor.

E. Casing and Frame:
1. Protective casings fabricated from 316 stainless steel in two sections (upper and lower) with hub seals to prevent leakage
2. Top casing, one piece design, hinged and openable to expose bowl for maintenance
3. Provide unit with lifting hooks
4. Frame fabricated of carbon steel members with fusion bonded epoxy finish
5. All wetted parts to be 316 stainless steel suitably isolated from carbon steel components
6. Pedestal supports provided with vibration isolators placed on machined surfaces of all support locations
7. Pedestal provided with mechanical connection for solids feed, water supply and centrate discharge piping
8. Furnish flexible connectors to solids discharge screw conveyor
9. Provide lifting hooks on pedestal
10. Provide soundproof panel system to limit noise to 88 dBA within 3 feet of equipment

F. Bearings:
1. Main bearings of pillow block, ball type design
2. Minimum service L-10 life of 100,000 hours
3. Lubricated by automatic oil lubrication system; grease lubricated units shall not be acceptable.

G. Main Drive Motor
1. The main drive motor shall be designed, manufactured and tested in accordance with the latest NEMA, IEEE and ANSI standards and have the following characteristics:
   a. Type: Squirrel-cage, single-speed
   b. Horsepower: 40 hp maximum
   c. Synchronous Speed: 3600 rpm
   d. Service Factor: 1.15
   e. NEMA Design: B
   f. Insulation Class: F or H
   g. Code Letter: G
   h. Voltage: 460 volts
   i. Phase: 3-phase
   j. Ambient Temperature Rating: 40 degrees C
   k. Maximum Temperature Rating: 120 degrees C

l.	Mounting:	Horizontal
m.	Enclosure:	TEFC
n.	Duty Cycle:	Continuous
o.	Starting Method:	VFD
p.	Bearing Life:	100,000 hrs. as defined by AFBMA B-10 Standards
q.	Full Load Capacity:	Not less than 94 percent power factor of 0.88
r.	Sound Level:	Maximum 88 dBA at 3 feet from outside the soundproof panels

2. Provide with a thermal protection system

H. Hydraulic Back Drive System:

1. Provide Viscotherm hydraulic scroll drive to maintain minimum torque of 8,800 Nm; gear drives with cyclo or planetary gears shall not be acceptable.
2. Driven 1800 rpm, 460 Volt electric motor, 7.5 hp maximum.
3. Hydraulic unit to be water cooled. Provide solenoid on cooling water to be initiated on equipment startup and prevent startup in absence of cooling water supply
4. Unit capable of automatic or manual operation
5. Manual mode to permit operation of specific adjustable scroll differential speed with internal torque allowed to vary up to maximum shaft torque
6. Automatic mode will cause maintenance of a preset torque as influent solids content changes
7. Hydraulic unit to automatically vary scroll speed to react to changes in feed solids concentrations
8. Maximum torque input and rate of change differential of scroll to be adjustable
9. Provide with automatic shutdown if excessive torque is detected with two (2) sets of contacts
10. Configure unit to cause solids feed pump to shutdown when torque setting is exceeded and restart automatically when condition returns to normal
11. Provide automatic shutdown of feed pump and centrifuge when torque value approaches limit of drive. Restarting equipment to be manually initiated.
12. Drive shall be mounted outboard of centrifuge main bearings to allow exchange without main bearing displacement.

I. Dewatered Solids Conveyor:

1. Furnish screw conveyor system with skid-mounted dewatering system. 12 " nominal screw diameter.
2. Shaftless Conveyor shall be fixed below centrifuge to collect solids from centrifuge and shall be installed with a reversing starter that is controlled by centrifuge torque to allow direction change during startup for handling of wet material during startup and flushing.
3. Conveyor shall convey solids at a 30^{o} angle from the centrifuge and discharge into a collection bin.
4. Minimum 20 feet in length and self supporting with stainless steel legs.
5. Minimum capacity 2500 pounds per hour
6. Trough and chute: Stainless steel, 1/8 inch thick minimum
7. Trough cover: Stainless steel, 12 gage minimum
8. Spiral flights: 12" Diameter Cold-formed, carbon-based micro alloy steel, spring

steel, Brinell hardness: 250 minimum. Thickness: 3/8 inch minimum
9. Wear liner: Ultra high-molecular weight polyethylene, 3/8 inch minimum thickness
10. Fasteners: Type 316 stainless steel
11. Drive shaft: AIS11045
12. Finish paint: Provide fusion bonded epoxy, minimum thickness of 10 mils
13. Conveyor Drives: Conveyor shall be direction reversible 3Hp TEFC, 460V, 3Ø, 60 Hz constant speed motor with gear box running at 30 rpm.
14. Shaft: Minimum 2 inch diameter welded to spiral with sealed housing at tail bearing
15. Trough to be equipped with filling chute at loading end
16. Provide discharge chute
17. Solids conveyor controls: Provide hand/off/automatic switch within NEMA 4 centrifuge control panel and integrated with centrifuge PLC
18. Furnish conveyor with motion failure alarm connected to PLC with run confirmation signal displayed on centrifuge control panel
19. Conveyor manufacturers: Thomas or approved equal

J. Sludge Flow Meter:
1. Furnish flow meter with skid-mounted mobile trailer dewatering system.
2. Magnetic style
3. Readout & Totalizer at Flow Meter & Centrifuge Control Panel
4. Accuracy requirements: Flow within + or - 0.5 percent of actual flow rate for 1-100 percent full scale where velocity is between 1.0 and 30 feet per second
5. Materials compatible with aerobically digested wastewater feed sludge
6. Housed in NEMA 4X SS enclosure
7. Calibrated to standards traceable to NIST
7. Manufacturer shall be Endress and Hauser or approved equal

K. Polymer Feed System
1. Furnish emulsion polymer blending system with skid-mounted mobile trailer dewatering system.
2. System shall have the ability to operate through both hydrodynamic and / or mechanical type mixing, polymer dilution/feed unit capable of automatically metering, diluting, activating and feeding a liquid polymer with water.
3. Furnish with a diaphragm pump for metering neat polymer to the mixing chamber.
4. Pump to be rated for 10 gph.
5. Dilution water control by rotameter with electric solenoid for on/off control valve.
6. Dilution water system capacity to be 20 gpm minimum.
7. Polymer blending system to be MZ5623 or approved equal model sized as required.

L. Sludge Feed Pump:
1. Furnish sludge feed pump with skid-mounted mobile trailer dewatering system
2. Designed to pump 2-5 percent aerobically digested sludge
3. Progressive cavity type
4. Variable speed operation, VFD controlled from centrifuge control enclosure
5. Capacity range: 50 to 100 gpm
6. Body: Case iron ASTM A48 class 35

7. Rotor: 316 stainless steel
8. Stator: Rubber bonded to 316L steel tube with run dry protection
9. Base: Cast or fabricated steel
10. Seal: Mechanical
11. Speed reducing units: Gear driven, belt drives not permitted
12. Motor: Baldor TEFC 460V, 60 Hz, 3Ø, 5 hp or manufacturers standard as required to deliver the flow rates specified.
13. Control: Feed pump control from PLC & VFD integrated into centrifuge control panel
14. Feed pump to be manufactured by MZ5624 or approved equal

M. Sludge Grinder:
1. Furnish sludge grinder with skid-mounted mobile trailer dewatering system.
2. Cantilevered two-shaft design and capable of continuous operation processing wet or dry
3. Body: ASTM A536:60-40-18 ductile iron
4. Top cover: ASTM A48:40B cast iron
5. Drive and driven shafts: AISI 4140 heat treated hexagon steel, minimum tensile strength of 149,000 psi, minimum diameter 2-1/2 inches, set back at a minimum angle of 25º from vertical towards the flow with trash trap mounted below
6. Gear Reducer: Oil filled helical type with 29:1 reduction ratio and "Heavy Shock" load classification.
7. Cutters and Spacers: AISI 4140 heat treated alloy steel through-hardened to a minimum of HRC 46-50, minimum diameter of 5.9 inches, minimum force of 435 lbs per HP continuously and 1430 lbs per HP at momentary load peaks at the tooth tip.
8. Bearings and Seals: Sealed oversized Conrad type ball bearings protected by a combination of tortuous path device and end face mechanical seals rated at 90 PSI continuous duty, face materials to be tungsten carbide.
9. Motor: TEFC 4-pole 460V, 60 Hz, 3Ø, 2-3 hp, minimum 1000 in-lbs continuous running torque per hp, minimum 3300 in-lbs momentary peak running torque per hp.
10. Control: Grinder control integrated into centrifuge control panel.
11. Grinder to be manufactured by MZ5638 or approved equal

N. Trailer Shall have the following specifications:
1. Dual Wheel Tandem Axle Assembly
2. Eight (8) wheels 235/85R – 16 radials
   a. One Piece wheel
   b. Slipper Style Spring Suspension
   c. Oil Bath Hubs
3. Electric Brakes
4. Two speed landing gear with foot pad – 50,000 lifting capacity
5. Four (4) independently operated manual leveling jacks.
6. 48 ton Adjustable Towing Ring – Pintle Style
7. 2" Oak Decking aboard entire trailer
8. 4'x6'x6' tool and spare parts box.
9. Mud Flaps
10. Side Pockets on 24" centers with 3/8" x 2" steel rub rail

11. Hi Yield Steel
12. Sealed Vapor Proof Lighting System
13. Minimum platform carrying capacity – 10 tons.
14. All surfaces to be cleaned, brushed, and then coated with Sherwin Williams KEM 400 industrial oxide primer and KEM 400 enamel.

2.03 INSTRUMENTATION AND CONTROLS

A. Scope: Furnish complete instrumentation and control system to operate all skid mounted equipment listed in section 2.02 B of these Specifications.

B. Free Standing Centrifuge Control Panel: Provide one free standing, skid-mounted control panel in NEMA 4X stainless steel enclosure with following features:
   1. Enclosure: NEMA 4X SS.
   2. Through-the-door main disconnect, lockable to off position
   3. Variable frequency drive for bowl and scroll motors
   4. Power supply: 480V, 3Ø, 60 Hz, 100 amps, with transformer to operate auxiliary components.
   5. Programmable logic controller, Allan-Bradley 5/05
   6. Control relays
   7. Interconnection terminal points
   8. Provide door-mounted equipment as follows:
      a. Illuminated selector switch
      b. Mushroom head emergency stop switch
      c. NEMA 4X rated color touch screen Operator Interface Terminal (OIT), Panelview 600
   9. Interior light, with separate on/off switch
   10. Interior wattage strip heater, thermostat controlled
   11. Interior 120V/20A duplex receptacle (on a dedicated 20A c

C. Operator Interface Panel Functions.
   1. System control power (shall be hardwired pushbutton)
   2. Auto sequence
   3. Clean in place sequence
   4. Centrifuge drives
   5. Washwater solenoid valve
   6. Polymer system
   7. Solids feed pump
   8. Inline Sludge Grinder
   9. Sleep mode
   10. Pause mode
   11. Cake conveyors
   12. Alarm control

D. Operator Interface Terminal Status Indication of the Following:

Item	Indication

1.	System Control Power	“On”
2.	Auto Start	“Starting in Auto”
3.	Auto Stop	“Stopping in Auto”
4.	CIP (Clean in Place)	“Running in CIP”
5.	Centrifuge	“Running”
6.	Washwater Solenoid	“Open”
7.	Polymer System	“Running”
8.	Sludge Feed Pump	“Running”
9.	Cake Conveyor System	“Running”

E. Alarms

1.	Emergency Stop	“Fault”
2.	Bowl Drive VFD	“Fault”
3.	Bowl Drive Motor Temperature	“Fault”
4.	Back Drive	“Fault”
5.	Back Drive Motor Temperature	“Fault”
6.	Back Drive High Torque	“Fault”
7.	Back Drive High-High Torque	“Fault”
8.	Bearing Temperature High	“Fault”
9.	Bearing Temperature High-High	“Fault”
10.	High Vibration	“Fault”
11.	High-High Vibration	“Fault”
12.	Low Relative Speed	“Fault”
13.	Polymer System	“Fault”
14.	Sludge Feed Pump	“Fault”
15.	Cake Conveying System	“Fault”

F. Operator Interface Terminal indication of the following analog process variables

	Item	Indication
1.	Bowl Speed	“RPM”
2.	Scroll Speed	“RPM”
3.	Back drive Torque	“Percent”
4.	Relative Speed	“RPM”
5.	Vibration	“In/Sec”
6.	Polymer Feed	“GPM”
7.	Solids Feed	“GPM”
8.	Bearing Temperature	“DEG”

G. Operator Interface Terminal Speed Control for the following:

1. Bowl Speed
2. Scroll Relative Speed (PI Manual)
3. Scroll Torque (PI Auto)
4. Polymer System
5. Sludge Feed Pump

6. O&M Manuals on Help Menu

2.04 CENTRIFUGE EQUIPMENT INTERFACE REQUIREMENTS

A. Electrical Instrumentation and Control Systems to Satisfy the Following Interface Requirements:
   1. Centrifuge Control Panel. Power input 460 VAC, 3 Phase, 60 Hz, 200 amps
   2. Power output to centrifuge drive motors:
      a. Bowl drive motor
      b. Scroll drive motor
   3. PLC dry contact Inputs/Outputs:
      a. Bowl drive run command (includes E-Stop)
      b. Bowl drive run confirm
      c. Bowl drive VFD fault
      d. Back drive run confirm
      e. Back drive fault
      f. Bowl drive motor thermostat
      g. Scroll drive motor thermostat
      h. Emergency Stop
   4. PLC Analog Inputs/Outputs: (4-20 mADC Signal)
      a. Bowl drive speed reference
      b. Back drive speed reference
      c. Bowl drive speed feedback
      d. Bowl drive load feedback
      e. Back drive speed feedback
      f. Back drive torque feedback
   5. Control Power Transformer:
      a. 120 VAC, 1 phase, 60 Hz, 10 amps –24 Volt
   6. Inputs from centrifuge motors: (dry contact)
      a. Bowl drive motor thermostat
      b. Scroll drive motor thermostat
   7. Inputs from machine junction box: (dry contact)
      a. Scroll drive high-high torque limit switch
   8. Inputs from ancillary equipment: (dry contact)
      a. Polymer pump run confirm
      b. Polymer pump fault
      c. Sludge pump run confirm
      d. Sludge pump fault
      e. Inline sludge grinder confirm
      f. Inline sludge grinder fault
      g. Cake conveyor system run confirm
      h. Cake conveyor system fault
   9. Inputs from machine junction box: (4-20 MADC Signal)
      a. Centrifuge vibration
      b. Drive end bearing temperature
      c. Feed end bearing temperature
   10. Inputs from ancillary equipment: (4-20 MADC Signal)

a. Polymer pump flow (or speed)
b. Solids pump flow (or speed)

11. Outputs to field mounted devices:
    a. 120 VAC wash water solenoid power (open command)

12. Outputs to ancillary equipment: (dry contact)
    a. Polymer pump run command (includes E-Stop)
    b. Solids pump run command (includes E-Stop)
    c. Grinder run command (includes E-Stop)
    d. Cake conveyor run command (includes E-Stop)
13. Outputs to ancillary equipment (4-20 MADC Signal)
    a. Polymer pump speed reference
    b. Solids pump speed reference
    c. Grinder speed reference

2.05 DESCRIPTION OF OPERATIONAL SYSTEM

A. General Requirements:

1. The dewatering system shall be capable of the following operational characteristics as described below:
    a. Emergency stops to de-energize the master control relay to interrupt all run commands for immediate shutdown
    b. To restart system, the emergency stop must be manually reset

2. Starting/Stopping Modes:
    a. On the “Main” screen the system operating mode shall be selected by touching one of the mode select touch zones. All equipment must be stopped to change modes which will be indicated by the mode select enabled indicator.
    b. Manual mode - In this mode system components shall be started with their respective start pushbuttons, which shall be accessed by touching the manual control touch zone that displays the “Manual Control” screen. Emergency stop shall always stop all equipment. This mode of operation shall be provided for maintenance purposes only.
    c. Auto Shutdown Mode - In this mode, shutdown shall be controlled from the /auto stop pushbuttons. At any time while in the Auto mode the operator shall be able to begin a shutdown. After a start-up has been completed the operator shall be capable of entering a shutdown time on the “Sleep Mode” screen to end a process run. At the end of the run time the control system shall automatically begin a shutdown and cleaning cycle. The OIT shall display all automatic conditions and allow control of all time settings.
    d. The Auto Start cycle shall initiate the following sequence of start-up events:
        1) Centrifuge feed tank agitator energized for preset time delay (1-60 seconds) prior to start of centrifuge bowl drive
        2) Solids inlet control valve opens and closes to maintain feed tank in preset deadband level
        3) Centrifuge bowl drive starts (instantly)
        4) Centrifuge back drive starts (3 second delay from bowl starting; sequence may be reversed depending upon manufacturer)

5) Polymer system starts (once bowl and back drive come to speed)
6) Solids feed pump and grinder starts operator adjustable time delay from polymer starting; time delay between starting of polymer pump and sludge pump shall be set on “Setup 2" screen)
7) Conveyor starts (when back drive torque reaches operator adjustable percentage set point; Torque setting for conveyor shall be set on “Setup 2" screen)
8) The Centrifuge control p

e. While Auto start is in progress the Auto start indicator light shall flash “STARTING IN AUTO”. After start-up is complete the indicator light shall stay on steady “RUNNING IN AUTO”

f. The Auto Stop cycle shall initiate the following sequence of shut-down events:
1) Solids feed pump stops (instantly)
2) Grinder stops (instantly)
3) Polymer system stops (instantly)
4) Centrifuge goes to relative speed control
5) Centrifuge goes to auto stop preset speed #1 (at normal deceleration ramp)
6) Washwater valve opens (once centrifuge is at preset speed #1)
7) Centrifuge remains at this preset speed #1 (duration as set on “Setup 2" screen)
8) Centrifuge goes to auto stop preset speed #2 (at normal deceleration ramp)
9) Centrifuge remains at this preset speed #2 (duration as set on “Setup 2" screen)
10) Centrifuge stops (at normal deceleration ramp)
11) Washwater valve closes (at bowl speed set on “Setup 2" screen)
12) The conveyor will stop once the purge cycle times out
13) CIP will be initiated

g. Auto stop indicator light shall flash “STOPPING IN AUTO” while in progress and go instead “STOPPED IN AUTO” when complete.

3. CIP mode: Clean in place (CIP). In this mode, startup and shutdown shall be controlled from the CIP start/stop pushbuttons. Operating the CIP start pushbutton or an auto stop shall initiate a CIP cycle as described below.
a. Centrifuge bowl drive starts (instantly)
b. Centrifuge back drive starts (3 second delay from bowl run confirm; sequence may vary depending upon manufacturer)
c. Washwater valve opens (once bowl and scroll come to speed)
d. The duration and speeds for the CIP cycle are set on “Setup 2" screen. Operating the CIP Stop pushbutton will initiate the following sequence of events:
1) Washwater valve closes (instantly)
2) Stop centrifuge (at normal deceleration ramp)

4. Purge/Resume Mode: The pause function adjustable up to 60 minutes shall deactivate the feed solids and polymer flow while keeping the centrifuge up to speed. Once an empty storage container is in place, the resume function shall reactivate the feed solids, polymer flow and conveyors.

5. Operating Mode:
a. Torque/relative speed control: Centrifuge to be operable in two different control modes, torque control (PI Auto) or relative speed control (PI manual). The active

control mode to be indicated below the centrifuge graphic on the main screen. To access control mode selection and setpoint entry, the centrifuge graphic shall be touched displaying the Torque control screen. The control mode shall be selected by touching either the Auto or Manual touch zones. Touching the numeric display of the current setpoint, shall bring up a numeric entry keypad from which the setpoint shall be entered. The setpoint range shall be from 0 to 100 percent for Torque setpoint and 0 to XX for relative speed setpoint. Torque setpoint may be limited on the Torque Control Setup screen. Relative speed maximum shall be limited on “Setup 1" screen.

b. Feed control: Touching either pump graphic shall access the speed/flow setpoints for the polymer and solids pumps. The “Polymer and Solids Setup” screen shall be displayed. Touching the numeric display below the word setpoint shall bring up a numeric entry keypad. The setpoint range shall be 0 to 100 percent.

c. Centrifuge Feed Tank Level Control: Provide outputs for opening and closing the solids inlet control valve (CV901) to maintain the centrifuge feed tank within desired deadband level.

6. The control system shall provide a minimum of six preset operational settings. Each of these settings shall have established process parameter setpoints for bowl speed, scroll torque, polymer and solids flow. Setpoints shall be adjustable and maintained on a secured setup screen on the OIT.

2.06 ALARMS

A. General Description:

1. Alarm conditions to be indicated with red background on the alarm screen and initiate alarm horn to sound and beacon to flash. Alarm indicator illuminated as long as condition is still in fault condition. Operating acknowledge pushbutton to silence horn and cause indicator to flash only if condition has been cleared. Reset button to clear the alarm indicator and allow system startup. Normal alarm condition to be indicated in green.
2. System Shutdown:
   a. The following conditions will shutdown the complete system in auto, manual or CIP:
      1) Emergency stop
      2) Bowl drive VFD fault
      3) Bowl motor high temperature
      4) Back drive fault
      5) Back drive high temperature
      6) Bearing temperature high-high
      7) Back drive high-high torque
      8) High-High vibration

3. Polymer and Solids Feed Pump Shutdown:
   a. The following conditions will shutdown the polymer and solids feed in auto mode:
      1) High vibration
      2) Back drive high torque

3) Polymer system fail
4) Solids pump system fail
5) Conveyor system fail

4. Vibration and Torque Shutdown:
   a. High vibration or high torque to initiate a pause and flush sequence
   b. Duration of the flush time to be operator adjustable
   c. Feed to the centrifuge shall automatically resume when vibration or high torque conditions are cleared
   d. Auto stop sequence to be initiated if three high vibration or high torque alarms occur within a ten-minute time limit
   e. Alarm set-points to be set on “Setup 3" screen

2.07 PAINTING

A. Shop and field painting to be manufacturers standard except where indicated otherwise in specifications

B. Do not paint the 304SS skid members

2.08 SPARE PARTS

A. The following spare parts shall be furnished with the centrifuges and back drive systems:
   1. One (1) set - bearings and seals
   2. One (1) set - o-rings and seals
   3. One (1) set - matched drive belts
   4. One (1) year supply of lubricants
   5. One (1) year supply of filters
   6. One (1) spare programmed memory card for PLC
   7. One (1) each spare analog input, analog output, discrete input and discrete output card
   8. One (1) set - stator and spare parts recommended for progressing cavity feed pump
   9. One (1) set - liquid end replacement kit for polymer feed pump

2.09 SPECIAL TOOLS

A. One set of the following tools will be furnished
   1. Set wrenches
   2. Bowl lifter
   3. Bearing puller

PART 3 - EXECUTION

3.01 FACTORY TEST

A. Supplier to conduct in-factory functional testing of assembled unit

B. Supplier to submit protocol for factory test for owner review

C. Supplier to submit factory test results report for review by Owner prior to shipment of the assembled unit to the jobsite

D. Test shall include the following at the minimum.
   1. Power skid unit with 480VAC, 60Hz, 3 phase power
   2. Test rotation of all motors and drive units
   1. Simulate operation conditions and modes to confirm function
   4. Simulate all alarm input conditions to verify appropriate alarm indication and shutdown functions

E. Witnessed Testing
   1. Supplier to provide four weeks advance notice to Owner of factory test
   2. Supplier to allow Owner, at Owners option and cost, to visit suppliers factory test

3.02 DELIVERY OF EQUIPMENT

A. Equipment shall be delivered to the North WWTP in Kingsville Texas.
Location is 2801 E. Santa Gertrudis
Kingsville, TX 78363

3.03 INSTALLATION

A. The centrifuge system Manufacturer's representative to calibrate the equipment with the Owner's operator present after installation prior to startup.

3.04 DURING INSTALLATION BY CONTRACTOR

A. Provide general assistance regarding handling, assembly and installation requirements for complete installation by Owner

3.05 FIELD QUALITY CONTROL

A. Service:
   1. Qualified service personnel must be available on a 24 hours a day basis
   2. The personnel must be completely familiar with the items supplied so as to return inoperative equipment to service in the shortest possible time
   3. The pre-qualification information is to include the following:

a. Name, educational background and years of service experience for all service personnel

B. Tests:
1. Field testing and checking of installation to be approved by Manufacturer's field representative
2. Test under full load conditions
3. Verify that all control system functions, including alarms, perform as specified
4. Any spare parts furnished as specified but used during startup must be replaced prior to final acceptance
5. Manufacturers field representative to perform field test

C. Manufacturers Field Services
1. Qualified factory-trained representative to provide startup and operator training services. Representative to be available within two (2) weeks of request for services. Representative to provide following services:
   a. Equipment installation review and certification of proper installation: Provide one (1) trip; minimum of eight (8) hours onsite for initial visit to checkout installation and verify that centrifuge system is ready to operate
   b. Startup and operator training: Provide one (1) trip of minimum two (2), 8-hour days to provide classroom training of operating personnel in the operation of centrifuge system and to provide "hands-on" training for operation of equipment
   c. Six (6) month performance review and post startup training: One (1) trip of 8-hours minimum to make operating adjustments and provide additional instruction to Owners personnel within 6 months after final acceptance of equipment

END

CONTRACT

THIS AGREEMENT made this _____ day of _____ , 2015 by and between _____ hereinafter called the CONTRACTOR, and the City of Kingsville, hereinafter called the OWNER or CITY.

WITNESSETH, that the Contractor and Owner for the consideration hereinafter named agree as follows:

Article 1 - Scope of Work: The Contractor shall furnish all the materials and perform all the work called for in the Contract Documents and described in the Specifications entitled:

BID NO 15-05 CENTRIFUGE DEWATERING SYSTEM PROJECT

Article 2 - Time of Completion: The Contractor shall begin work at the job site within fourteen (14) days after the date of the Notice to Proceed issued by the Owner's Representative. The work to be performed under this contract shall be completed in ninety (90) consecutive calendar days plus any extended days approved by the Owner's Representative in accordance with the Specifications. For each calendar day that any work is not completed after the expiration of the time, as calculated fourteen (14) days from the date of the Notice to Proceed plus consecutive calendar days stated above plus approved extended days, the sum of Two Hundred Dollars ($200.00), per calendar day, will be deducted from the money due or to become due the Contractor, not as a penalty, but as liquidated damages and added for administration.

Article 3 - The Contract Sum: The Owner shall pay for the performance of the Contract, subject to additions and deductions provided therein, the sum of [**$**_____].

Article 4 - Partial Payment: Owner shall make progress payments as approved by the Owner's Representative in accordance with the General Conditions.

Article 5 - Acceptance and Final Payment: Final payment shall be due on acceptance of the work, provided the Contract has been completed as provided in the General Conditions.

Before issuance of the final payment, the contractor shall submit evidence, satisfactory to the City of Kingsville that all payrolls, material bills, subcontractors and other indebtedness connected with the work have been paid in full. **Failure to provide this documentation within ninety (90) calendar days of final acceptance of the project will result in the contractor forfeiting the entire 10% retainage payment of the contract.**

Article 6 - The Contract Documents: The Specifications, the Proposal, the Instructions to Bidders and the Drawings, together with this Agreement, form the Contract Documents and they are as fully a part of the Contract Documents as if hereto attached or herein repeated.

IN WITNESS WHEREOF, the parties to these present have executed this Contract in the year and day first above mentioned.

CITY OF KINGSVILLE
OWNER

By: _____

Title: _____

_____
CONTRACTOR

_____
(Signature)

_____
Printed or Typed Name

_____
Title

_____
Mailing Address

_____
City, State & Zip

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INVITATION TO BID

Sealed Bids marked **"Bid No. 15-05 Centrifuge Dewatering System Project "** will be received at the Purchasing Department, City Hall, Kingsville, Texas until 1:30 P.M. on Wednesday February 25, 2015. Immediately thereafter the bid proposals will be publicly opened and read aloud in the Robert H. Alcorn Commission Room**.** The project involves the labor, material, supervision, equipment, tools, and all the incidentals required to complete the entire project as per specifications.

Prospective bidders must read the Instructions to Bidders, Contract Documents, and Detailed Specifications. Detailed plan and specifications are available online at www.cityofkingsville.com.

The successful bidder will be required to enter into a contract for the performance of the work for the price quoted on the Proposal and will provide evidence of current Personal Injury, Property Liability, Worker's Compensation, and any other applicable insurance.

The Contractor will also be required to submit a Reference and Qualifications statement, if the Contractor has not performed a similar project for the City of Kingsville in the last three (3) years.

The bid will be awarded to the lowest responsible bidder whose bid is determined to be the most advantageous to the City, its officers, employees, and agents. Price, in accordance with law, will not be the sole evaluation factor. Misrepresentation, whether substantial or otherwise, at any stage of the bidding and award process, shall be considered in this and all future bids in determining whether or not a bid is "responsible".

THE CITY, IN ACCORDANCE WITH LAW, RESERVES THE RIGHT TO REJECT ANY AND ALL BIDS. The City shall be the sole judge of "responsible" and "advantageous" and this determination shall be final except in cases of a clear definitive showing that such determination is arbitrary, capricious, and unreasonable.

D. Mason

David Mason
Purchasing & Technology Director

CENTRIFUGE DEWATERING SYSTEM PROJECT

INSTRUCTIONS TO BIDDERS

1.0 RECEIPT OF PROPOSALS

1.1 Proposals will be received at the time, place and under conditions set forth in the published Invitation to Bidders.

1.2 Bidding documents are obtainable from the City under conditions set forth in the Invitation to Bidders.

2.0 DISCREPANCIES AND INTERPRETATIONS

2.1 Notify the Purchasing Department in writing, at least five (5) working days prior to the scheduled bid opening date, if discrepancies, ambiguities or omissions are found in the bidding documents, or if further information or interpretation is desired.

2.2 Answers will be given in writing to all bidders in addenda form. All provisions and requirements of such addenda will supersede or modify affected portions of the bidding documents. All addenda will be incorporated in and bound with the Contract Documents. No other explanation or interpretation will be considered binding. The contractor shall acknowledge receipt of addenda(s) by a signed statement included in the bid proposal.

3.0 SUBMITTAL PROCEDURE

3.1 Submit the Proposal in a large sealed envelope, marked **"Bid No. 15-05 Centrifuge Dewatering System Project "**.

3.2 A smaller envelope shall be affixed to the outside of the larger envelope and contain the following documents.

- Qualifications Statement
- Addenda(s) Receipt Acknowledgement

3.3 Provide complete bidder identification on the outside of the large envelope.

3.4 If the Proposal is submitted by mail, place the smaller envelope inside a larger envelope. Delivery of the Proposal prior to the advertised time and the place set for the bid opening is the responsibility of the bidder.

4.0 PROPOSAL

4.1 The Proposal shall be based on conditions at the project site, the bidding documents and addenda issued.

4.2 The Proposal shall be authoritatively executed and submitted on the Proposal form furnished by the Owner.

4.3 Proposals showing omissions, alterations, conditions, or carrying riders or qualifications which modify the Proposal form shall be rejected as irregular.

4.4 Proposals must be submitted in a single copy. Utilize a copy of the blank proposal form included in the bidding documents for submission. If two or more Proposals are submitted by a bidder, either in one envelope or in separate envelopes, then such Proposals may be subject to rejection.

4.5 Proposals received after the advertised time for the bid opening will be ineligible and will be returned unopened.

4.6 The City of Kingsville reserves the right to reject any or all Proposals.

5.0 QUALIFICATIONS OF BIDDER

5.1 Bidders shall submit with their bid, a list of at least three (3) jobs of the same type and scope as described in the invitation for bids that they have completed within the last three (3) years. This list should include the name, contract person, and telephone number for whom the prior work was performed. Utilize a copy of the Reference and Qualifications Statement form included with these bidding documents.

5.2 The Owner may make such investigations as necessary to determine the ability of the bidder to perform the work, and the bidder shall furnish any requested information and data including an audited financial statement. The Owner reserves the right to reject any Proposal if the evidence submitted by, or investigation of, such bidder fails to satisfy the Owner that such bidder is properly qualified to complete the work.

5.3 Each bidder submitting a Proposal shall be prepared to furnish the firm's State Comptroller Vendor Identification Number, or the date on which an application was

submitted. Contract payments to the successful bidder are contingent on submittal of this identification number.

5.4 Corporate bidders shall submit a State Comptroller "Certificate of Good Standing" with the Proposal, as issued by the Texas State Comptroller (512) 463-2605.

6.0 SITE INVESTIGATION

6.1 It is the responsibility of each bidder to examine the project site, existing improvements and adjacent property and be familiar with existing conditions before submission of the Proposal. Interested bidders shall arrange for a project site visit by contacting the Engineering Department at (361) 595-8007.

6.2 After investigating the project site and comparing the Pictures, Drawings, and Specifications with the existing conditions, the bidder should immediately notify the City Engineer, in accordance with paragraph 2.0, of any conditions for which requirements are not clear, or about which there is any question regarding the extent of the work involved.

6.3 Should the successful bidder fail to make the required investigation and should a question arise later as to the extent of the work involved in any particular case, then the decision shall be made by the Owner after recommendations by the City Engineer as to proper interpretation of the Contract Documents.

6.4 Any Contractor with intentions of submitting a bid shall become fully aware of all requirements of the work including site security, access, and parking requirements by the residents located within the project.

7.0 CONTRACT AWARD

7.1 The owner agrees that should the contract be awarded, it will be awarded to the lowest responsible bidder and the award will be made within sixty (60) days of the bid opening date, unless otherwise stated in the Proposal.

7.2 Immediately following action by the City Commission, the successful bidder will be notified of the award in writing.

7.3 The Owner reserves the right to accept or reject any or all bids and options or to accept any combination of options considered advantageous.

CITY OF KINGSVILLE

BID FORM

Bid Form from _____ a
(Corporation/Partnership/Individual) doing business as _____.

The undersigned, as bidder, declares that the only person or parties interested in this Proposal as principals are those named herein; that this Proposal is made, without collusion with any other person, form or corporation; that he/she has carefully examined the form of Contract, Instructions to Bidders, Specifications, and the Drawings therein referred to and that he has carefully examined the locations, conditions and the classes of materials of the proposed work; and agrees that he/she will provide all the necessary machinery, tools, apparatus and other means of construction and will do all the work and furnish all the materials called for in the Contract Documents in the manner therein prescribed, for the prices quoted below.

It is understood that the funds for payment of the work contemplated by this proposal are to be derived from an appropriation heretofore made or to be made by the City of Kingsville and that payments on the Contract will be by bank checks.

If a Bidder's Bond is furnished, and not a Certified or Cashier's Check, it is understood that the bond will be executed on the Bid Bond form enclosed herein. Failure to do so will constitute an irregular bid, which will be rejected. Use of Surety Company's Bid Bond form will NOT be acceptable.

Addenda No._____ Received by _____ Date _____

Addenda No._____ Received by _____ Date _____

Addenda No._____ Received by _____ Date _____

Addenda No._____ Received by _____ Date _____

Bid Item, "Bid No. 15-05 Centrifuge Dewatering System Project" including supervision, equipment, tools, and other incidental related work required to construct and complete the work in accordance with the drawings and specifications, as prepared by the City of Kingsville, plans dated January 29, 2015 for a price of:

$_____
Total Project Price - words

$_____
Total Project Price - figures

$_____
One Year Extended Warranty (Total of Two Years)

$_____
Two Year Extended Warranty (Total of Three Years)

The work to be completed in ninety (90) consecutive calendar days after the notice to proceed has been issued by the City's Representative.

In submitting this bid, it is understood that the right is reserved by the City of Kingsville to reject any and all bids. *The City of Kingsville also reserves the right to award the bid on any or all individual bid items.* If written notice of the acceptance of this bid is mailed or delivered to the undersigned before this bid is withdrawn, the undersigned agrees to execute and deliver a contract in the prescribed form and furnish the required bond within ten (10) days after the contract is presented to him/her for signature.

BY SUBMITTING A BID, THE BIDDER AGREES TO ABIDE BY ALL OF THE TERMS AND CONDITIONS OF THE "INVITATION TO BID", GENERAL CONDITIONS, SPECIAL CONDITIONS AND SPECIFICATIONS.

I certify that the above **"Bid No. 15-05 Centrifuge Dewatering System Project"** will meet or exceed all of the minimum specifications and conditions set forth by the City of Kingsville, Texas.

DATED THIS _____DAY OF _____, 2015.

_____
Bidding Firm

_____
_____
_____
(___) _____
Telephone

_____
By:

January 29, 2015 Bid No. 15-05

REFERENCE AND QUALIFICATIONS STATEMENT

All questions must be answered and the data given must be clear and comprehensive, additional information may be provided on separate attached sheets. This form must be complete with the most recent similar type projects within the past three years and other current information.

Project Owner: _____

Owner Address: _____

Owner Phone: _____

Date Completed: _____ Total Cost: _____

Project Owner: _____

Owner Address: _____

Owner Phone: _____

Date Completed: _____ Total Cost: _____

Project Owner: _____

Owner Address: _____

Owner Phone: _____

Date Completed: _____ Total Cost: _____

Contracts in Progress:

Owner Expected Completion Date Amount

_____

_____

_____

Name of Bank Reference: _____

Name of Bank Officer: _____ Phone: _____