

# **Town of Bolton Department of Public Works**

12 Forbush Mill Road – Bolton, MA 01740 Phone - (978) 779-6402 Fax – (978) 779-0301 dpw@townofbolton.com

# **INVITATION FOR BIDS**

# INSTALLATION OF TRANSFER AND MIXER PUMPS AND HARDWARE

The Town of Bolton is accepting sealed bids for the installation of two (2) Sulzer/ABS transfer pumps and hardware and four (4) Sulzer/ABS mixer pumps and hardware. This contract is for replacement of existing pumps and hardware for the Town of Bolton sewage treatment plant. Bid packages and equipment specifications may be obtained at the Town of Bolton DPW – 12 Forbush Mill Road – Bolton, MA between the hours of 9AM and 3PM Monday through Thursday beginning on February 15, 2017. Bid packages may also be emailed by contacting dpw@townofbolton.com. Weather permitting, a site visit will be held February 22, 2017 at 1:30 PM to prospective bidders at the sewage treatment plant in the field behind Florence Sawyer School, 100 Mechanic Street, Bolton, MA. All bids shall be clearly marked "BID FOR PUMP AND HARDWARE INSTALLATION" in sealed envelopes and will be received by Donald Lowe – Town Administrator – 663 Main Street - Bolton, MA 01740 until 11:00AM on March 8, 2017. They will be publicly opened and read at that time. The awarding authority is the Town of Bolton Board of Selectmen/Town Administrator.

The contract for this bid will be awarded to the lowest responsible, responsive and eligible bidder. The Town of Bolton reserves the right to reject any or all bids in the best interest of the Town. Please call the Bolton DPW at 978 779-6402 or email us at <u>dpw@townofbolton.com</u> for further information.

# **Description**:

The installation of a new sewage treatment plant at the Emerson School will require the following.

- Provide two (2) transfer pumps and four (4) mixers.
- Remove two (2) transfer pumps and remove ABS pumps and rails.
- Install new HBS upgraded transfer pumps rail package motor starters and overheads.
- Remove four (4) failed mixers and rail system.
- Install new upgraded ABS mixers, rail system, motor, motor starters and over heads.

# Contractor Responsibilities:

The Contractor is responsible for utilizing an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary craft and who are completely familiar with the specified requirements and the methods necessary for proper performance of the work of these pumps and mixers. In addition, the following must also be provided by the Contractor:

- Pumping of tanks
- Truck on site to haul waste water
- Ventilation of tanks

- Safety equipment
- Safety personnel on site

# Specification for Denitrification Pumps and Transfer Pumps:

# **GENERAL**

Furnish and install two (2) wet pit submersible pumps as manufactured by Sulzer/ABS and distributed by Carlsen Systems, LLC, Woodbridge, CT (203) 663-1314. Pumps shall be Sulzer/ABS Model XFP 80C-VX PE22/4, 3 HP, 1800 RPM.

# PUMP DESIGN

The heavy duty submersible wastewater pump(s) shall be capable of handling raw unscreened sewage, storm water, and other similar solids-laden fluids without clogging. The pump shall be driven by a Premium Efficiency motor, providing the highest levels of operational reliability and energy efficiency.

# **GUIDE RAIL BASE ASSEMBLY**

There shall be no need for personnel to enter the wet well to remove or reinstall the pump(s). In a wet pit installation, the discharge base elbow assembly shall be permanently installed in the wet well and connected to the discharge piping. In order to prevent binding or separation of the pump from the guide rail system, the pump(s) shall connect to the guide rail base automatically and firmly, guided by one (1) 2" Sch. 40 guide pipe extending from the base elbow to the top of the wet well. Systems using guide cable in lieu of rigid guide bars or pipes shall not be considered acceptable. The sliding guide bracket shall be a separate part of the pumping unit, capable of being attached to standard 4 inch ANSI class 125 or metric DN100 pump flanges, so that the pump mounting is nonproprietary, and any pump with a standard discharge flange can be mounted on the base assembly. Base or bracket assemblies with proprietary or non-standard flange dimensions shall not be considered acceptable.

A field replaceable Nitrile (Buna-N) rubber profile gasket or O-ring shall accomplish positive sealing of the pump flange/guide rail bracket to the discharge elbow. Base assemblies which rely solely on metal-to-metal contact between the pump flange and discharge base elbow as a means of sealing are inherently leak prone, and shall not be considered equal. No portion of the pump shall bear directly on the floor of the sump.

#### PUMP CONSTRUCTION

Major pump components shall be of gray cast iron, EN-GJL-250 (ASTM A-48, Class 35B) with smooth surfaces devoid of porosity or other irregularities. All exposed fasteners shall be stainless steel 1.4401 (AISI type 316) construction. All metal surfaces coming into contact with the pumped media (other than the stainless steel components) shall be protected by a factory applied spray coating of zinc phosphate primer followed by a high solids two part epoxy paint finish on the exterior of the pump. The pump shall be equipped with an open lifting hoop suitable for attachment of standard chain fittings, or for hooking from the wet well surface. The hoop shall be stainless steel 1.4401 (AISI 316), and shall be rated to lift a minimum of four times the pump weight.

Sealing design for the pump/motor assembly shall incorporate machined surfaces fitted with Nitrile (Buna-N) rubber O-rings. Sealing will be the result of controlled compression of rubber O-rings in two planes of the sealing interface. Housing interfaces shall meet with metal to metal contact between machined surfaces, and sealing shall be accomplished without requiring a specific torque on the securing fasteners. Rectangular cross-sectioned gaskets requiring specific torque limits to achieve compression shall not be considered equal. No secondary sealing compounds shall be required or used.

**Impeller:** The ABS Vortex impeller shall be of gray cast iron, EN-GJL-250 (ASTM A-48, Class 35B). The impeller shall be an open six vane design with minimum solids passage size of 3 inches. The impeller shall be capable of passing a minimum of 3-inch diameter spherical solids as are commonly found in waste water. The impeller shall have a slip fit onto the motor shaft and drive key, and shall be securely fastened to the shaft by a stainless steel bolt which is mechanically prevented from loosening by a positively engaged ratcheting washer assembly. The head of the impeller bolt shall be effectively recessed within the impeller bore to prevent disruption of the flow stream and loss of hydraulic efficiency. The impeller shall be dynamically balanced to the ISO 10816 standard to provide smooth vibration free operation. Impeller designs which do not have 3-inch solids passage size, those that rely on retractable impeller designs to pass 3 inch solids, or those that rely on fins or pins protruding into the suction path to assist in the handling of fibrous material shall not be considered equal.

**Pump Volute:** The pump volute shall be single piece gray cast iron, EN-GJL-250 (ASTM A-48, Class 35B) non- concentric design with centerline discharge. Passages shall be smooth and large enough to pass any solids that may enter the impeller. Discharge size shall be as specified on the pump performance curve. The discharge flange design shall permit attachment to standard ANSI or metric flanges/appurtenances. The discharge flange shall be slotted to accept 3-inch ANSI class 125 flanged fittings. Proprietary or non-standard flange dimensions shall not be considered acceptable. The minimum working pressure of the volute and pump assembly shall be 10 bar (145 psi).

# PREMIUM EFFICIENCY MOTOR

The Premium Efficiency motor shall meet efficiency standards in accordance with IEC 60034-30, level IE3 and NEMA Premium. Motor rating tests shall be conducted in accordance with IEC 60034-1-2 requirements and shall be certified accurate and correct by a third party certifying agency. A certificate shall be available upon request.

The Premium Efficiency motor shall be housed in a watertight gray cast iron, EN-GJL-250 (ASTM A-48, Class 35B) enclosure capable of continuous submerged operation underwater to a depth of 20 meters (65 feet), and shall have an IP68 protection rating. The motor shall be of the squirrel-cage induction design, NEMA type B, Premium Efficiency. The copper stator windings shall be insulated with moisture resistant Class H insulation materials, rated for 180<sup>o</sup>C (356<sup>o</sup>F). The stator shall be press fitted into the stator housing. The use of bolts, pins or other fastening devices requiring penetration of the stator housing is unacceptable. The rotor bars and short circuit rings shall be made of cast aluminum.

The motor shall be designed for continuous duty. The maximum continuous temperature of the pumped liquid shall be 40°C (104°F), and intermittently up to 50°C (122°F). The motor shall be capable of handling up to 12 evenly spaced starts per hour without overheating. The service factor (as defined by the NEMA MG1 standard) shall be 1.3. The motor shall have a voltage tolerance of +/-10% from nominal, and a phase-to-phase voltage imbalance tolerance of 1%. The motor shall be FM and CSA approved for use in NEC Class I, Division I, Groups C & D hazardous locations. The surface temperature rating shall be T3C. The motor shall have a NEMA Class A temperature rise for submerged service, providing cool operation under all operating conditions.

**Thermal Protection:** Each phase of the motor shall contain a normally closed bi-metallic temperature monitor switch imbedded in the motor windings. These thermal switches shall be connected in series and set to open at 140<sup>o</sup>C +/- 5<sup>o</sup>C (284<sup>o</sup>F). They shall be connected to the control panel, and used in conjunction with, and supplemental to, external motor overload protection.

Mechanical Seals: Each pump shall be equipped with a tandem mechanical shaft seal system consisting of two totally independent seal assemblies. The seals shall operate in a lubricant reservoir that hydro-dynamically 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 industrial duty silicon-carbide seal ring and one rotating industrial duty silicon-carbide seal ring. The stationary ring of the primary seal shall be installed in a seal holding plate of gray cast iron EN-GJL-250 (ASTM A-48, Class 35B). The seal holding plate shall be equipped with swirl disruption ribs to prevent abrasive material from prematurely wearing the seal plate. The upper, secondary seal unit, located between the lubricant chamber and motor housing, shall contain one stationary industrial duty silicon-carbide seal ring, and one rotating one rotating industrial duty silicon-carbide seal ring. Each seal interface shall be held in contact by its own spring system. The seals shall not require routine maintenance, or adjustment, and shall not be dependent on the direction of rotation for proper sealing. Each pump shall be provided with a lubricant chamber for the shaft sealing system which shall provide superior heat transfer and maximum seal cooling. The lubricant chamber shall be designed to prevent overfilling, and to provide lubricant expansion capacity. The drain and inspection plug shall have a positive anti-leak seal, and shall be easily accessible from the outside of the pump. The seal system shall not rely upon the pumped media for lubrication and shall not be damaged when the pump is run dry. Lubricant in the chamber shall be environmentally safe non-toxic material.

**Mechanical Seal Protection System:** The primary mechanical seal shall be protected from interference by particles in the wastewater, including fibrous materials, by an active Seal Protection System integrated into the impeller. The back side of the impeller shall be equipped with a sinusoidal cutting ring, forming a close clearance cutting system with the lower submersible motor housing or seal plate. This sinusoidal cutting ring shall spin with the pump impeller providing a minimum of 75 shearing actions per pump revolution. Large particles or fibrous material which attempt to lodge behind the impeller, or wrap around the mechanical seal shall be effectively sheared by the active cutting system into particles small enough the prevent interference with the mechanical seal. The Seal Protection System shall operate whenever the pump operates, and shall not require adjustment or maintenance in order to function. Submersible pump designs that do not incorporate an active cutting system to protect the primary mechanical seal shall not be considered acceptable for wastewater service.

**Seal Failure Early Warning System:** The integrity of the mechanical seal system shall be continuously monitored during pump operation and standby time. An electrical probe shall be provided in a sensing chamber positioned between the primary and secondary mechanical seals for detecting the presence of water contamination within the chamber. The sensing chamber shall be filled with environmentally safe non-toxic oil. A solid-state relay mounted in the pump control panel or in a separate enclosure shall send a low voltage, low amperage signal to the probe, continuously monitoring the conductivity of the liquid in the sensing chamber. If sufficient water enters the sensing chamber through the primary mechanical seal, the probe shall sense the increase in conductivity and signal the solid state relay in the control panel. This system shall provide an early warning of mechanical seal leakage, thereby preventing damage to the submersible pump, and allowing scheduled rather than emergency maintenance. Systems utilizing float switches or any other monitoring devices located in the stator housing rather than in a sensing chamber between the mechanical seals are not considered to be early warning systems, and shall not be considered equal.

**Shaft:** The pump shaft and motor shaft shall be an integral, one piece unit adequately designed to meet the maximum torque required at any normal start-up condition or operating point in the system. The shaft shall have a full shutoff head design safety factor of 1.7, and the maximum shaft deflection shall not exceed .05 mm (.002 inch) at the lower seal during normal pump operation. Each shaft shall be stainless steel 1.4021 (AISI 420) material, and shall have a polished finish with accurately machined shoulders to accommodate bearings, seals and impeller. Carbon steel, chrome plated, or multi piece welded shafts shall not be considered adequate or equal.

**Bearings:** Each pump shaft shall rotate on high quality permanently lubricated, greased bearings. The upper bearing shall be a deep grooved ball bearing and the lower bearings shall be a heavy duty double row angular contact ball bearing. Bearings shall be of sufficient size and properly spaced to transfer all radial and axial loads to the pump housing and minimize shaft deflection. L-10 bearing life shall be a minimum of 50,000 hours at flows ranging from ½ of BEP flow to 1½ times BEP flow (BEP is best efficiency point). The bearings shall be manufactured by a major internationally known manufacturer of high quality bearings, and shall be stamped with the manufacturer's name and size designation on the race. Generic or unbranded bearings from other than major bearing manufacturers shall not be considered acceptable.

**Power Cable:** The power cables shall be sized according to NEC and CSA standards and shall be of sufficient length to reach the junction box without requiring splices. The outer jacket of the cable shall be oil and water resistant, and shall be capable of continuous submerged operation underwater to a depth of 65 feet.

**Cable Entry System:** The cable entry system shall consist of a submersible plug assembly which allows the cable be easily disconnected from the pump for service or replacement. Cable sealing shall be accomplished by a Nitrile compression grommet with both cylindrical and conical sealing surfaces, flanked by a stainless steel washer and an integrated strain relief. A brass (C3604) compression nut shall be threaded into to the cast iron EN-GJL-250 (ASTM A-48, Class 35B) cable plug housing, compressing the grommet ID to the cable while the grommet OD seals against the bore of the cable entry housing. Cable conductors shall be terminated in copper pin connectors that are separated and retained by a circular pin retainer fabricated from high dielectric strength Polyamid (30% GF). Each pin shall pass through its own hole in the pin retainer, maintaining perfect alignment with the mating pins in the motor body. The corresponding motor body pin assembly shall be manufactured from high dielectric strength Polyamid (30% GF), with copper connector pins. The pin assembly shall be sealed with an O-ring to prevent water entry into the motor, and retained in the motor housing bore via a retaining ring. Attachment of the plug assembly to the motor shall engage the corresponding copper pins, creating a complete circuit between the motor and cable. The plug assembly shall be fastened with stainless steel fasteners, and shall be sealed by an O-ring.

The cable plug and sealed entry system as part of the motor shall be FM and CSA approved for use in NEC Class I, Division I, Groups C & D hazardous locations. The system shall be anti-wicking by design, and shall prevent any water that enters the cable through damage to the jacket from entering the motor. Cable entry designs which utilize potting compounds to provide a watertight seal, or those which do not allow the cable to be easily changed in the field shall not be considered equal.

# **Specification for Anoxic Mixer:**

#### **GENERAL**

Four (4) Submersible mixers as manufactured by Sulzer/ABS and distributed by Carlsen Systems, LLC, Woodbridge, CT (203) 663-1314. Mixer shall be Sulzer/ABS Model XRW 2121 PA18/4 EC, 2.4 HP, 1800 RPM, 480/3/60.

Each mixer shall be equipped with a submersible electric motor that is an integral part of the mixing unit. The mixer motor shall be equipped with 32 FT of power and control cable sized in accordance with NEC standards.

#### DESIGN

The mixer(s) shall be able to be easily raised, lowered and removed for inspection or service without the need for personnel to enter the mixing vessel. The entire weight of the mixer unit shall be guided by a single cast slide bracket that is an integral part of the mixer and must be able to handle all forces created by the mixer. The mixer and power cable shall be capable of continuous submergence under water without loss of watertight integrity to a depth of 65 feet.

#### **CONSTRUCTION**

Each mixer shall be of the close-coupled, submersible type design. All components of the mixer, including the motor shall be capable of continuous underwater operation while the mixer propeller is completely submerged. All exposed hardware shall be 316 stainless steel. All surfaces coming into contact with the mixing liquid other than stainless steel shall be protected by two-part epoxy paint.

# Propeller

The propeller shall be constructed of 329 stainless steel. The propeller shall be self-cleaning, backward curved design that prevents material buildup on the blades. Each propeller shall be dynamically balanced so its imbalance is less than ISO 1940 G6.3 tolerances preventing excessive vibration or other unsatisfactory characteristics when the mixer is operating. The propeller shall be capable of handling solids, fibrous materials, sludge and other matter normally found in sewage, water, wastewater, etc. applications.

#### **Cable Entry**

The cable entry shall be an integral part of the upper lid. The cable entry shall be comprised of a single cylindrical elastomer grommet flanked by stainless steel sealing washers designed with a close tolerance fit against the cable outside diameter and the entry inside diameter. This will provide a leak proof, watertight seal at the cable entrance without the need for specific torque requirements. The connection chamber and motor compartment shall be isolated from each other. Isolation and sealing shall be accomplished through the use of O-rings and compression grommets, providing a watertight seal. Electrical connections between the mixer cable and the motor leads shall be made via a post type terminal board located in the connection chamber.

#### <u>Shaft</u>

The propeller and motor shaft shall be an integral unit. The shaft shall be 420 stainless steel and designed to resist the maximum forces generated by the mixer. The mixer shaft shall have machined shoulders to permit exact bearing, seal and propeller placement.

#### **Shaft Seals**

The mixer shall be provided with a double seal system consisting of a mechanical seal on the outer side and a radial shaft seal on the inner side, each working independently of the other. The seals shall require neither routine maintenance nor adjustment and shall not be damaged when the mixer is run dry or run in reverse rotation. The seals shall not rely on the mixing liquid as a lubricant.

The mixer shall include a sinusoidal shaped seal protection system to prevent stringy or fibrous material from collecting around the outer mechanical seal.

#### **Oil Chamber**

The oil chamber located between the outer and inner seals shall hold a sufficient quantity of oil to provide lubrication and cooling for the shaft seals. The oil shall also act as a sensing medium for the seal monitoring system to detect the presence of moisture.

#### **Bearings**

The mixer shall rotate on two (2) permanently lubricated bearings. Bearings shall be of single row, deep

grooved design and sized to transfer all radial and axial loads to the mixer housing and minimize shaft deflection for increased bearing and seal life. Bearings shall not require a pre-load and be maintenance free with a minimum L-10 bearing life of 100,000 hours at design conditions.

# **Elastomers**

All mating part surfaces of the mixer shall be machined and fitted with static O-rings providing watertight sealing. Mating surfaces shall be designed to provide watertight seals when metal to metal contact is made resulting in controlled compression of the O-rings without special torque requirements. No secondary sealing compounds, rectangular gaskets, elliptical O-rings, grease or other devices shall be used.

# MOTOR

The motor shall be of the squirrel-cage, induction, shell type NEMA B design, housed in an air filled watertight chamber. Stator windings and leads shall be insulated with moisture resistant Class H insulation which will resist a temperature of 155° C (311°F). The motor shall be designed for continuous duty, capable of sustaining (15) evenly spaced starts per hour. The rotor bars and short circuit rings shall be constructed of aluminum.

# **Thermal Protection**

Each motor shall contain a set of three bi-metallic temperature monitors in the stator windings; one in each phase. The monitors shall be connected in series and coupled to the contactor in the control panel to provide over temperature shutdown of the motor. The temperature setting shall be  $140^{\circ}C \pm 5^{\circ}C$  (284°F± 9°F). The temperature monitors shall automatically reset once the stator temperature returns to normal.

# Seal Failure Warning System

An electrical probe shall be provided in the oil chamber to detect the presence of water in the oil. This probe shall be provided for both standard and explosion proof mixers. A solid-state device mounted in the mixer control panel or in a separate enclosure shall send a low voltage, low amperage signal to the probe. If water enters the oil chamber, the probe shall signal the solid state relay in the control panel. The relay shall then energize a warning light on the control panel, or cause the mixer to be shut down. Float switches, dual probes, or any other monitoring devices located in the stator housing are not considered to be early warning systems, and shall not be considered equal.

# **GUIDE MAST SYSTEM**

The mixer shall slide on a 2"x2" square mast of 316 SS. The upper mast bracket and lower mast bracket shall also be 316 SS. The guide mast system shall be specifically designed to handle all loads produced by the mixer and shall allow for 1500 horizontal adjustment in 150 increments for performance optimization. The guide mast system shall provide easy installation and removal without emptying the tank contents or entering the tank.

# Installation:

Install the items of this Section in strict accordance with the manufactures printed installation instructions.

# **Inspections and Testing:**

After the pumps have been completely installed, the CONTRACTOR, under the direction of the manufacturer's factory technician, shall conduct in the presence of the ENGINEER, such tests as are necessary to ensure that pump discharge conforms to the Specifications.

If the pump performance does not meet the Specifications, corrective measures shall be taken by the CONTRACTOR, or pumps shall be removed and replaced with pumps which satisfy the conditions specified.

The CONTRACTOR shall demonstrate the portable hoist system and the dual rail lift mechanism by hoisting each pump out and reinstalling them. All demonstrations shall be witnessed by the ENGINEER.

# TO BE RETURNED WITH BID

<u>PROPOSAL</u> To the Town of Bolton, herein called the Owner, acting through its Department of Public Works, for the purchase of <u>PUMP AND HARDWARE INSTALLATION</u>, as required by the Town of Bolton, for the Department of Public Works.

Bidders' attention is called to Chapter 268A of the Massachusetts General Laws. In connection with this statute, bidder is requested to submit the following information and any other information deemed necessary by the bidder. All of the following information regarding the Bidder must be completed.

Please indicate business type by placing an "X" next to the appropriate category:

Corporation	Partnership		Proprietorship	
If a Corpora	ation			
Full Legal Name				
State of Inc	orporation			
If a Partner	ship			
Full Legal N	lame			
If a Proprie				
	aco of Rusinoss			
Place of Bu	siness in Massachusetts			
Business M	ailing Address			
Telephone	Number		Ext	t
Cell Phone				
Email Addr	ess			
Qualified to	o do business in Massachuse	tts	YES	NO

Give full names and titles of all the persons and parties interested in foregoing proposals. (Note: give first and last names in full; in cases of corporations, give names of President, Treasurer and Manager, and in case of partnerships give names of the individual partners.)

Name	Title

A foreign corporation is required to submit its certification of corporation from the Massachusetts State

Secretary's Office, as required by chapter 181 of the Massachusetts General Laws.

# TO BE RETURNED WITH BID

## **Certificate of Non-Collusion**

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature of individual submitting bid or proposal

Name of business

#### **Tax Compliance Certification**

Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support.

Signature of person submitting bid or proposal

Name of business

**Complementary Content** 

**Requirements Guide** 

# TO BE RETURNED WITH BID

Proposal – <u>PUMP AND HARDWARE INSTALLATION</u>. If this proposal shall be accepted by the Owner, and the undersigned shall fail to contract as aforesaid within ten (10) days (not including Sunday or a legal Holiday) from the Owner to him, according to the address given herewith, that the contract is ready for signature, The Owner may by option determine that the bidder has abandoned the contract and thereupon the proposal (if required) shall become the property of the Owner as liquidated damages.

Pursuant to M.G.L. Ch. 62C Sec. 49A, I/we certify under the penalties of perjury that to the best of my/our knowledge and belief, I/we have filed all state tax returns and paid all state taxes required under law.

The undersigned certifies under penalties of perjury that this bid is made in good faith and is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this section the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned certifies that no official or employee of the Town of Bolton is pecuniary interested in this proposal or in the contract which the bidder offers to execute or in expected profits to arise there from.

The undersigned as bidder declares that the only parties interested in this proposal as principals are named herein; that the bidder has carefully examined the specifications therein referred to; and they propose and agree that if this proposal is accepted they will contract with the Owner in accordance with the specifications, to provide all necessary work to be done and also furnish all the materials specified in the manner and time prescribed and according to the requirements as set forth; and that they will take in full payment the following sum(s) to wit;

Social Security Number or Federal Identification Number	Type Name of Person Signing Bid
Date	Signature
	Title
Company Name	Street Address
	City, State, Zip