

VILLAGE OF HOFFMAN ESTATES

BID DOCUMENTS

Sanitary Sewage Grinder with Mounting Frame and Controller

BID OPENING DATE: January 15, 2015

BID OPENING TIME: 10:30 a.m., Local Time

BID DEPOSIT: Bid Bond for 5% of total bid amount

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To Prospective Bidder:

On behalf of the citizens of the Village of Hoffman Estates, I want to extend my thanks for your interest in becoming a part of our bid process.

I call your special attention to the Instructions to Bidders section of the attached bid documents. Please be sure that you read thoroughly and fully understand these instructions prior to the preparation of your bid. Note that the instructions call for no deviation from the bid specifications except for those deviations which are listed as such on the vendor's bid detail sheet and which are expressly approved as part of the Village's acceptance of the bid.

All of the equipment described in the bid notice and specified herewith must meet the performance required for heavy duty municipal, utility, or construction type usage. Unless denoted "No Substitution", the Village minimum required specifications may be exceeded. Remember, however, to list all deviations and provide a description of the upgraded item in the proper space provided. Final bid acceptance will be based upon that equipment which is deemed most favorable to the interests of the Village after all bids have been examined and canvassed. Remember, minimum specifications requirements must be met or exceeded.

We encourage you to participate in our bid process and will be happy to answer any questions you may have regarding the accompanying documents. Thank you for your effort time, be competitive, and good luck.

Questions with regards to specifications should be directed to Haileng Xiao, Water & Sewer Superintendent at (847) 490-6800.

Sincerely,

Joseph Nebel
Director of Public Works

NOTICE TO BID

VILLAGE OF HOFFMAN ESTATES
Hoffman Estates, IL 60169

The Village of Hoffman Estates Department of Public Works is soliciting bids for **“Sanitary Sewage Grinder with Mounting Frame and Controller ”**.

Sealed bids will be received by the Office of the Village Clerk, 1900 Hassell Road, Hoffman Estates, Illinois, 60169, (Municipal Building) until 10:30 a.m., local time, January 15, 2015, at which time they will be publicly opened and read aloud. It is the responsibility of the bidder to meet the specified opening time; and any bid not so received will be returned unopened. Bids must be identified as such on the outside of the sealed envelope. This can be done by label as may be provided by the agency or by marking the envelope "SEALED BID" and with the following information: Company's name, address, item bid, date, and time of opening.

Specifications and complete bid documents may be obtained from the Office of the Village Clerk. Further information regarding this bid may be obtained by contacting Haileng Xiao, Water/Sewer Superintendent at (847) 490-6800.

The Village of Hoffman Estates reserves the right to waive any/all informality, or to reject any/all bids and/or parts thereof; and to accept that bid which it deems most favorable to Hoffman Estates after all bids have been examined and canvassed.

By the Order of the Mayor and Board of Trustees of the Village of Hoffman Estates.

(date)

Bev Romanoff, Village Clerk

TO BE PUBLISHED ON _____ PADDOCK PUBLICATIONS

Note: THIS FORM MUST BE NOTARIZED

RETURN WITH BID

VILLAGE OF HOFFMAN ESTATES
BID CERTIFICATION FORM

RE: CERTIFICATION OF BIDDER, COMPLIANCE WITH THE ILLINOIS CRIMINAL CODE.

I, We hereby certify that _____
(Name of Bidder)

by bidding on this contract, no action has occurred that would result in a violation of 720 1LCS 5/33E, Public Contracts of the Illinois Criminal Code.

Signed: _____

Attest: _____
Notary Public

Name/Title: _____
(Please Print)

Commission expiry: _____

Date: _____

Date: _____

BIDDER FIRM NAME: _____

Return with Bid

REFERENCES

BIDDER NOTE: Bidder shall provide as many customer references as possible for work/equipment **IDENTICAL** to that which bidder has proposed within this call for bids.

MANDATORY INFORMATION

BUSINESS: _____
ADDRESS: _____
CONTACT PERSON: _____
PHONE NUMBER: _____
APPROXIMATE DATE: _____

BUSINESS: _____
ADDRESS: _____
CONTACT PERSON: _____
PHONE NUMBER: _____
APPROXIMATE DATE: _____

BUSINESS: _____
ADDRESS: _____
CONTACT PERSON: _____
PHONE NUMBER: _____
APPROXIMATE DATE: _____

BUSINESS: _____
ADDRESS: _____
CONTACT PERSON: _____
PHONE NUMBER: _____
APPROXIMATE DATE: _____

SUBSTANCE ABUSE PREVENTION PROGRAM

CERTIFICATE

The undersigned, upon being first duly sworn, hereby certifies to the (Client) _____
_____ that
(Contractor) has in place a written Substance Abuse Prevention Program that meets or exceeds the requirements of the State of Illinois P.A. 095-0635, or has a collective bargaining agreement in effect dealing with the subject matter of P.A. 095-0635. The Contractor and Subcontractors will file a copy of the Substance Abuse Prevention Program, or collective bargaining agreement, with the Client prior to any work being conducted on the project.

By: _____
(Name of Contractor)

(Title)

Subscribed and sworn to before me
this _____ day of _____, 20____. My Commission Expires:

Notary Public

SEAL

**VILLAGE OF HOFFMAN ESTATES
DEPARTMENT OF PUBLIC WORKS**

PROPOSAL FORM

**Purchase of a Sanitary Sewage Grinder with Wall Mounted Frame and an
Above Ground Controller**

- Grinder shall be capable of processing 5.76 MGD (908.5 m³/h).
- Grinder Controller to utilize a remote (above ground) location.
- Vendor to list the cost of a manufacturer certified exchange program including associated warranty, for a rebuilt grinder of the same make and model unit that meets the same specifications as a new unit.
- Warranty period and coverages to be supplied.
- List delivery time after drawing approval.
- Provide name of local service representative.

Contact information for local service representative _____

Total Cost of a Rebuilt Grinder under an Exchange Program \$ _____

Delivery Time after Drawing Approval _____ Calendar Days

Warranty Period _____

Total Cost of a Sanitary Sewage Grinder With Mounting Frame and Controller, Including Shipping: \$ _____

Company: _____

Bidder's Name (print): _____

Title: _____

Address: _____

Telephone: _____ Fax: _____

Signature: _____ Date: _____

**VILLAGE OF HOFFMAN ESTATES
DEPARTMENT OF PUBLIC WORKS
INSTRUCTIONS TO BIDDERS**

The general rules and conditions, which follow apply to all bids requested and accepted by the Village of Hoffman Estates unless otherwise specified. Bidders or their authorized representatives are expected to fully inform themselves as to the conditions, requirements, and specifications before submitting bids. Failure to do so will be at the bidder's own risk. Submitting of a bid is assumption that vendor has familiarized himself with all conditions and intends to comply with them unless noted otherwise.

1. FORMS

Bid forms are furnished. All bids must be submitted on the forms provided, complete and intact, properly signed in ink in the proper spaces, and submitted in a sealed envelope. All bids must be delivered to the Village Clerk, 1900 Hassell Road, Hoffman Estates, Illinois, 60169, prior to the bid opening date and time.

Bids must be identified as such on the outside of the sealed envelope. This can be done by label as may be provided by the agency, or by marking the envelope "**SEALED BID**" and with the following information: Company's name, address, item bid, date and time of opening.

2. ALTERNATE MULTIPLE BIDS/SPECIFICATIONS

The specifications describe the supplies and/or service which the Village feels are necessary to meet the performance requirements of the Village. It is not the desire or the intent to eliminate or exclude any bidder from bidding because of minor deviations, alternates, or changes.

Bidders desiring to bid on items which deviate from these specifications, but which they believe are equivalent, are requested to submit alternate bids. However, **ALTERNATE BIDS MUST BE CLEARLY INDICATED AS SUCH, AND DEVIATIONS FROM THE APPLICABLE SPECIFICATIONS PLAINLY NOTED.** The bid must be accompanied by complete specifications for the items offered. Any questions regarding the specifications, drawings, etc., shall be referred to that individual so referenced in the Specification section. **Vendors wishing to submit a secondary bid must submit it as an alternate bid. Only one bid per envelope.**

The Village shall be the sole and final judge unequivocally as to whether any substitute is of equivalent or better quality. This decision is final and will not be subject to recourse by any person, firm or corporation.

3. RECEIVING OF BIDS

Bids received prior to the time of opening will be securely kept, unopened. The Village Clerk, whose duty it is to open them, will decide when the specified time has arrived, and no bid received thereafter will be considered. No responsibility will be attached to the Village Clerk or the Village for the premature or nonopening of a bid not properly addressed and identified, except as otherwise provided by law.

LATE BIDS

Bids arriving after the specified time, whether sent by mail, courier, or in person, **will not be accepted.** These bids will either be refused or returned unopened. It is the bidder's responsibility for timely delivery regardless of the methods used. Mailed bids which are delivered after the specified hour will not be accepted regardless of post marked time on the envelope.

4. BIDS BY FAX

Bids must be submitted on the original forms provided by the Village completely intact as issued. Facsimile machine transmitted bids **will not be accepted**, nor will the Village transmit bid documents to prospective bidders by way of a facsimile machine.

5. ERROR IN BIDS

When an error is made in extending total prices, the unit bid price will govern. Otherwise, the bidder is not relieved from errors in bid preparation. Erasures in bids must be explained over signature of bidder.

6. WITHDRAWAL OF BIDS

A written request for the withdrawal of a bid or any part thereof may be granted if the request is received by the Village Clerk prior to the specified time of opening. After the opening, the bidder cannot withdraw or cancel his bid for a period of sixty (60) calendar days, or such longer time as stated in the bid documents.

7. CONSIDERATION OF BID

No bid will be accepted from or contract awarded to any person, firm or corporation that is in arrears or is in default to the Village upon any debt or contract, or that is a defaulter, as surety or otherwise, upon any obligation to the Village or had failed to perform faithfully any previous contract with the Village.

The bidder, if requested, shall present, within 48 hours, evidence satisfactory to the Village of performance ability and possession of necessary facilities, pecuniary resources and adequate insurance to comply with the terms of these specifications and contract documents.

8. PRICES

Unit prices shall be shown for each unit on which there is a bid, and shall include all equipment fuel charges, packing, crating, freight, and shipping charges, and cost of unloading at the destination unless otherwise stated in the bid.

Unit prices shall not include any local, state, or federal taxes. The Village is exempt, by law, from paying State and Village Retailer's Occupation Tax, State Service Occupation Use Tax, and Federal Excise Tax. The Village will supply the successful bidder with its tax exemption number.

Cash discounts will not be considered in determining overall price, but may be used in an overall evaluation.

9. AWARD OR REJECTION

The Village reserves the right to reject and/or award any and all bids or parts thereof and to waive formalities and technicalities according to the best interests of the Village. Any bid submitted will be binding for sixty (60) days subsequent to the date of the bid opening.

Bidders shall make all investigations necessary to thoroughly inform themselves regarding the supplies and/or service to be furnished in accordance with the bid. No plea of ignorance by the bidder of conditions that exist or that may hereafter exist as a result of failure or omission on the part of the bidder to make the necessary examinations and investigations will be accepted as a basis for varying the requirements of the Village of the compensation to the bidder.

ANY EXCEPTIONS NOT TAKEN BY THE BIDDER SHALL BE ASSUMED BY THE VILLAGE TO BE INCLUDED.

A contract will be awarded to the lowest responsible bidder complying with the conditions of the contract documents only when it is in the best interest of the Village to accept the bid. The Village shall be the sole judge of compliance with the specifications and reserves the right to accept or reject any and/or all bids or parts thereof.

10. PAYMENT

Payment will be made within thirty (30) days after acceptance of the equipment or services by the Village agent, and Bidder's compliance with all stipulations relating to the bid/contract.

11. REQUIREMENTS OF BIDDER

The successful bidder shall, within ten (10) days after notification of the award: a) enter into a contract in writing with the Village covering all matters and things as are set forth in the specifications and his bid; b) carry insurance acceptable to the Village, covering public liability, property damage and workmen's compensation.

12. COMPLIANCE WITH ALL LAWS

All work under the contract must be executed in accordance with all applicable federal, state and local laws, ordinances, rules and regulations.

13. CONTRACT ALTERATIONS

No amendment of a contract shall be valid unless made in writing and signed by the Village Manager or his authorized agent.

14. NOTICES

All notices required by the contract shall be given in writing.

15. NONASSIGNABILITY

The Contractor shall not assign the contract, or any part thereof, to any other person, firm or corporation without the previous written consent of the Village Manager or his authorized agent. Such assignment shall not relieve the contractor from his obligations, or change the terms of the contract.

16. INDEMNITY

The Contractor shall indemnify and save harmless the Village, its officers and employees from any and all liability, losses or damages, including attorney's fees and costs of defense, the Village may suffer as a result of claims, demands, suits, actions or proceedings of any kind or nature, including worker's compensation claims, in any way resulting from or arising out of the operations of contractor under this contract, including operations of subcontractors; and the contractor shall, at his own expense, appear, defend and pay all fees of attorneys and all costs and other expenses arising therefrom or incurred in connection therewith; and, if any judgments shall be rendered against the Village in any such action, the contractor shall, at his own expense, satisfy and discharge same. The Contractor expressly understands and agrees that any performance bond or insurance protection required by the contract, or otherwise provided by contractor, shall in no way limit the responsibility to indemnify, keep and save harmless, and defend the Village as herein provided.

17. EQUAL EMPLOYMENT OPPORTUNITY

During the performance of the contract and/or supplying of materials, equipment and supplies, bidder must be in full compliance with all provisions of the Acts of the General Assembly of the State of Illinois relating to employment, including equal opportunity requirements.

18. REQUIRED INSURANCE

In submission of a bid, the bidder is certifying that he has all insurance coverages required by law or would normally be expected for bidder's type of business. In addition, the bidder is certifying that he has at least the following insurance coverages:

<u>Type of Insurance</u>	<u>Liability Limits</u>	
	<u>Occurrence</u>	<u>Aggregate</u>
GENERAL LIABILITY		
Bodily Injury	\$1,000,000	\$3,000,000
Property Damage	1,000,000	3,000,000
Contractual Insurance- Broad Form	1,000,000	3,000,000
AUTOMOBILE LIABILITY		
Bodily Injury	\$1,000,000	\$1,000,000
Property Damage	1,000,000	1,000,000

This insurance must include non-owned, hired, or rented vehicles, as well as owned vehicles.

**WORKMEN'S COMPENSATION &
OCCUPATIONAL DISEASES:**

Employers Liability Coverage:

Statutory for Illinois
\$1,000,000 per accident

NOTE: The specifications may require higher limits or additional types of insurance coverages than shown above and the contractor will be required to furnish a certificate of proof of insurance coverages.

The bidder further agrees to indemnify the Village and save it "harmless" against and from all loss, damage, expense, liability or claim of liability arising out of the performance of the contractor, any subcontractors or his employees in connection with the contract. Contractors and subcontractors are to grant the Village an "additionally insured" status on all applicable insurance policies and provide the Village with original endorsements affecting coverage required by this clause. Said policies will not be canceled unless the Village is provided a thirty (30) day written notice. Any deductibles or self-insured retentions must be declared to and approved by the Village. At the option of the Village, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Village or the Contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses. Nothing contained in the insurance requirement shall be construed as limiting the extent of the contractor's responsibilities for payment of damages resulting from his operations under this agreement.

19. BID PERFORMANCE DEPOSIT

When it is required, it will be so stated elsewhere within this bid package along with the amount required. In all cases where a deposit is required it must accompany the bid. The deposit is to be in the form of a bid bond in the amount of 5% of the bid.

20. ACCEPTANCE

After the acceptance and award of the bid, and upon receipt of a written purchase order executed by the proper officials of the Village, this instruction to bidders, and all other portions of the bid documents, including the specifications, will constitute part of the legal contract between the Village of Hoffman Estates and the successful bidder.

21. DEFAULT

The Village may terminate a contract by written notice of default to the contractor if:

- a. The contractor fails to make delivery of the materials or perform the services within the time specified in the proposal, or
- b. fails to make progress so as to endanger performance of the contract, or
- c. fails to provide or maintain in full force and effect, the liability and indemnification coverages or performance bond as is required.

If the Village terminates the contract, the Village may procure supplies or services similar to those so terminated, and the Contractor shall be liable to the Village for any excess costs for similar supplies and services, unless the Contractor provides acceptable evidence that failure to perform the contract was due to causes beyond the control and without the fault or negligence of the Contractor.

22. SPECIAL CONDITIONS

Wherever special conditions/requirements are written into the Specifications or Special Provisions which are in conflict with conditions stated in these Instructions to Bidders, the conditions stated in the Specifications or Special Provisions/Requirement shall take precedence.

23. PERMITS AND LICENSES

The successful bidder shall obtain, at their own expense, all permits and licenses which may be required to complete the contract (where applicable).

24. GENERAL GUARANTY

Neither the final certificate of payment nor any provision in the contract nor partial or entire use of the equipment embraced in this contract by the Village or the Public shall constitute an acceptance of work not done in accordance with the contract, or relieve the Contractor of liability in respect to any express warranties or responsibility for failure to comply with the terms of those Contract Documents.

It is expressly agreed by the parties hereto that in the event any defects or imperfections in the materials or workmanship to be furnished by the Contractor herein appear within the period of one year from the date of completion of all the work mentioned herein and acceptance thereof by the Village of Hoffman Estates, the Contractor will, upon notice from the said Village (which notice may be given by letter to said Contractor to the business address of the Contractor shown in the Proposal), repair and make good at his own cost any such defects or imperfections and replace any defective or imperfect materials or workmanship with other materials or workmanship satisfactory to said Village, and furnish all such new materials and labor as may be necessary to do so; and in the event of the failure, refusal or delay of said workmanship or materials said Village may do so or have same done by others, and said Contractor and surety or sureties on his bond given for the faithful performance of this contract shall be liable to the Village of Hoffman Estates for all damages and expenses occasioned by such failure, refusal or delay.

25. MINIMUM WAGES

All laborers and mechanics employed by Contractors and Subcontractors on construction work for this project shall be paid wages at rates no less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), and shall receive overtime compensation in accordance with and subject to the provisions of the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333), and the Contractors and Subcontractors shall comply with all regulations issued pursuant to these Acts and with other applicable Federal laws and regulations pertaining to labor standards. The Secretary of Labor has, with respect to the labor standards specified in this Section, the 1950 (5 U.S.C. 133z-15) and Section 2 of the Act of June 13, 1934, as amended (40 U.S.C. 276c).

Not less than the prevailing wage shall be paid for labor on the work to be done as required by law.

26. BIDDER'S QUALIFICATIONS

All bidders must submit the following information on or before the time at which the Proposal is required to be submitted:

1. The location and description of the Bidder's permanent place of business.
2. Evidence of ability to provide an efficient and adequate plant for executing the work.
3. List of similar projects carried out by the Bidder.
4. List of projects the Bidder presently has under contract.
5. Any additional evidence tending to show that the bidder is adequately prepared to fulfill the contract.

27. BID CERTIFICATION FORM

All bid submittals must include a signed Bid Certification form (copy included in document) certifying that bidder is in compliance with Section 33E-3 or 33E-4 of the Illinois Criminal Code of 1961 regarding Bid Rigging/Rotating.

Illinois State Law Article 33E-3 and 33E-4 states it is unlawful to participate in bid rigging and/or rotating. State law further states it is unlawful to award a contract to any individual or entity that is delinquent in the payment of any tax administered by the Department of Revenue unless the individual or entity is contesting the amount and/or liability through proper procedures.

Therefore, all bidders must certify that they are not barred from bidding on the contract as a result of a violation of State Law 33E-3 and 33E-4, prohibiting bid rigging and/or rotation, and that the bidder is not delinquent in the payment of any tax, unless it is contested in accordance with the procedures established by the appropriate revenue act. IT IS NECESSARY THAT THIS BE DONE UNDER OATH; THEREFORE, THE FORM INCLUDED WITH BID SUBMITTAL SHEETS MUST BE NOTARIZED.

28. DEVIATIONS

Unless denoted "No Substitution", the Villages minimum required specifications may be exceeded. However, vendors must list all specification deviations and provide a description and/or catalog sheet that fully describes that which they propose to furnish, in lieu of that specified! Final bid acceptance shall be based upon that bid deemed most favorable to the interests of the Village after all bids have been examined and canvassed.

Sanitary Sewage Grinder with Mounting Frame and Controller Specifications

ELECTRIC GRINDER WITH ROTATING SCREEN DRUMS

PART 1 GENERAL

1.1 SUMMARY

- A. This section of the specification describes the grinder and controller. The grinder shall be installed on a wall mounted frame with rails bolted to a concrete wall where a 30" diameter influent pipe enters the lift station chamber. The controller shall be mounted above ground near the access hatch. The equipment shall be installed as shown on the plans, as recommended by the supplier, and in compliance with all OSHA, local, state and federal codes and regulations.
- B. All stainless steel will be 304 unless noted.

1.2 REFERENCES

- A. The grinder shall, as applicable, meet the requirements of the following industry standards:
 - 1. American Society for Testing and Materials (ASTM) A36: Carbon Steel Plate
 - 2. American Society for Testing and Materials (ASTM) A536-84: Ferritic Ductile Iron Castings
 - 3. American Society for Testing and Materials (ASTM) A48-83: Grey Iron Casting
 - 4. American Society for Testing and Materials (ASTM) A693 Type 17-4 PH Stainless Steel
 - 5. American Society for Testing and Materials (ASTM) A743 Stainless Steel Casting
 - 6. American Iron and Steel Institute (AISI) 303 Stainless Steel
 - 7. American Iron and Steel Institute (AISI) 304 Stainless Steel
 - 8. American Iron and Steel Institute (AISI) 316 Stainless Steel
 - 9. American Iron and Steel Institute (AISI) 4130 Heat Treated Alloy Steel
 - 10. American Iron and Steel Institute (AISI) 4140 Heat Treated Alloy Steel
 - 11. American Iron and Steel Institute (AISI) 8620 Heat Treated Alloy Steel
 - 12. American Iron and Steel Institute (AISI) 17-4 Stainless Steel
 - 13. Society of Automotive Engineers (SAE) 660 Bearing Bronze
- B. The controller shall, as applicable, meet the requirements of the following Regulatory Agencies:
 - 1. National Electrical Manufacturer's Association (NEMA) Standards
 - 2. National Electric Code (NEC)
 - 3. Underwriters Laboratory (UL and cUL)
 - 4. International Electrotechnical Commission (IEC)

1.3 DOCUMENTS

A. Submittals

Supplier shall submit six (6) sets of submittals. Submittals shall include equipment descriptions, functional descriptions, dimensional and assembly drawings, catalog data, and job specific drawings.

B. Operation and Maintenance Manuals.

The supplier shall provide three (3) Operation & Maintenance manuals. An electronic version shall be supplied to create additional copies. The manuals shall include equipment descriptions, operating instructions, drawings, troubleshooting techniques, a recommended schedule, and the recommended lubricants.

1.4 QUALITY ASSURANCE

A. Identification

1. Equipment shall be identified with a corrosion resistant nameplate affixed in a conspicuous location.
2. Nameplate information shall include manufacturer's name and address, equipment model number, and serial number.

B. Manufacturer

1. Supplier shall have a minimum 30 years experience as a manufacturer of municipal waste water equipment and a minimum 1,000 prior installations of similar equipment.
2. Supplier shall provide a list of reference sites for similar equipment for verification by the Engineer or Owner's Representative.
3. Supplier shall conduct factory testing and verification of equipment prior to shipment.
4. Supplier shall have factory owned service centers.

C. Installation & Start-up

1. Supplier shall provide services of a factory trained representative to check installation and review start-up of equipment and controls.
2. Supplier Representative shall inspect and approve site installation and supervise a review of the operation of the equipment.
3. Supplier Representative shall provide training on operation and maintenance requirements of the equipment.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Packaging

1. Containers or skids shall be constructed for normal shipping, handling, and storage.
2. Containers shall provide adequate protection for the equipment in a dry indoor environment between +40° F (+4.5° C) and +100° F (+37.8° C).

1.6 WARRANTY

Manufacturer's standard 12-month limited warranty shall be provided on equipment.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Grinder and controller shall be in accordance with these specification and plans and shall be supplied by one of the following manufacturers:
1. JWC Environmental, 290 Paularino Ave, Costa Mesa, CA 92626; Tel: 800-331-2277
www.jwce.com
Channel Monster Model CDD3210-XDS2.0.
JWC Environmental Model PC2200 Controller and PC10 Remote.
 2. Franklin Miller, Inc., 60 Okner Parkway, Livingston, NJ 07039; Tel: 973-535-9200
www.franklinmiller.com
Taskmaster Model TM8540D.
Franklin Miller S260 Control System.
 3. Approved equal.
- B. Manufacturers requesting to be selected as an approved equal shall submit certified documentation including installation lists with phone numbers, equipment drawings, flow performance curves, electrical schematics and cut sheets, O&M draft showing compliance with these specifications a minimum of ten (10) days prior to bid opening. Selected equipment manufacturers shall be added to the list of approved manufacturers.
- C. Selected approved equal manufacturers shall conduct an onsite test within ten (10) days of installation demonstrating compliance with all areas of this specification.

2.2 GRINDER

A. General

Grinder shall reduce or shred influent solids for protection of downstream equipment. Grinder shall be two shafted design consisting of individual cutters and spacers, with cutters on drive and driven shafts of equal diameter. The grinder shall have two rotating screen drums that shall collect solids too large to pass through the screen drums and direct them to the cutters for solids reduction. Grinder shall have a single motor and speed reducer to drive both the cutters and each screen drum.

B. Components

1. Cutters and Spacers
 - a. Cutting stack shall be a nominal height of 32-inches (812.8 mm).
 - b. Cutter shall be an individual disk constructed of AISI 8620 alloy steel surface ground to thickness of .438-inches $+.000/-0.001$ (11.1 mm $+.000/-0.003$).
 - c. Cutters shall be heat treated to produce a hardness of 60-65 Rockwell C.
 - d. Cutters shall have 7 cam shaped teeth. Tooth height shall not be greater than ½-inch (13 mm) above the root diameter of the cutter. OD shall be 4.71-inches (120 mm).
 - e. Spacers shall be an individual disk constructed of AISI 8620 alloy steel surface ground to a thickness of .446-inches $+.001/-0.000$ (11.3 mm $+.003/-0.000$).
 - f. Spacers shall have a hardness of 34-38 Rockwell C.
 - g. Spacers shall have a smooth outside diameter with no tooth profiles.

2. Shafts
 - a. Shafts shall be constructed from AISI 4140 alloy steel with a minimum tensile strength of 170,000 PSI (1,172 kPA).
 - b. Shafts shall be measure a nominal 2-inches (51 mm) across flats of hex.
 - c. Shafts shall be hardened to 38-42 Rockwell C.
3. Intermediate Shaft Collars with Vertical Support Structure
 - a. Intermediate shaft collars shall be constructed of ASTM A743 stainless steel, AISI 17-4 stainless steel and SAE 660 bearing bronze.
 - b. Shaft collars shall be lubricated with high temperature marine grade grease at the factory.
 - c. Grease fittings on the shaft collars shall be provided for periodic maintenance.
 - d. Intermediate shaft collars shall provide radial support to the shafts during severe grinding demands.
 - e. Vertical support structure shall be constructed of stainless steel.
 - f. Vertical support structure shall have brackets to locate and secure intermediate shaft collars within the cutter stack.
 - g. Vertical support structure shall have a shape that coincides with the radial profile of the cutters to allow for a close interface.
 - h. Vertical support structure shall have adjustable brackets for mounting to the top and bottom end housings.
 - j. Intermediate shaft collars and vertical support structures shall only be supplied on cutter stacks of 32-inches (813mm) and taller.
4. Seal Cartridges
 - a. Seal cartridges shall be rated to a maximum of 90 PSI (620 kPA).
 - b. Seal cartridges shall not require flushing.
 - c. Dynamic and rotating seal faces shall be constructed of tungsten carbide with 6% nickel binder.
 - d. O-rings shall be constructed of Buna-N (Nitrile).
 - e. Radial and axial loads shall be borne by sealed, oversized, deep-groove ball bearings.
5. Housings and Covers
 - a. End housings and top cover shall be constructed of ASTM A536-84 ductile iron.
 - b. End housings shall have integral bushing deflector to guide solids from seal cartridges.
 - c. Bottom cover shall be constructed of ASTM A-36 rolled steel.
6. Side Rails
 - a. Side rails shall be constructed of ASTM A536-84 ductile iron.
 - b. Side rails shall have a UHMW sealing strip for creating an adjustable interface between the side rail and the rotating drum.

- c. Side rail shall have integral guide slot for installing into framework.

7. Coil Screen Drums

- a. Coil screen drums shall be constructed of helical wound ½-inch (13 mm) diameter stainless steel with ½-inch (13 mm) spacing between coils.
- b. Coil screen drums shall have vertical supports, center ring supports, end flanges, and stub shafts to properly support the coils.
- c. Coil screen drums shall have no shaft in center of drum.
- d. Coil screen drums shall be electropolished.

Optional Perforated Screen Drum

- a. Perforated screen drum shall be constructed of 11 gauge (.120") stainless steel with 1/4-inch (6 mm) diameter holes on a 3/8-inch (9.5 mm) stagger.
- b. Perforated screen drum shall have center ring supports, end flanges, and stub shafts to properly support the perforated screen.
- c. Perforated screen drum shall have no shaft in center of drum.
- d. Perforated screen drum shall be electropolished.

8. Speed Reducer

- a. Reducer shall be manufactured by Sumitomo Machinery Corporation of America or approved equal.
- b. Reducer shall be internal planetary mechanism with trochoidal curved tooth profile.
- c. Reducer shall be a vertically mounted with 29:1 single reduction.
- d. Reducer shall be grease lubricated.

9. Motor

- a. Motor shall be 5 hp (3.7 kW), XPNV, 1725 rpm, 460 volt, 3 phase, 60 Hz
- b. Motor shall be U.L. rated NEMA 6P, Class I, Div. I Groups C&D, Class II Div. II, Groups F&G, Class III Div. I and TEFC Explosion Proof Design.
- c. Motor shall have additional rating of 7 consecutive days of submergence at a maximum depth of 30 feet (9 m).
- d. Motor shall not utilize fan cooling at any time during operation.
- e. Motor shall utilize ceramic shaft seal requiring no oil lubrication.
- f. Motor shall have a minimum service factor of 1.15, 91% minimum efficiency factor at full load, minimum 76% power factor at full load, and be supplied with a minimum 40 ft. of power cable.

C. Performance

- 1. Grinder shall be capable of processing 5.76 MGD (908.5 m³/h).
- 2. Grinder shall provide a minimum peak shaft torque of 3,981 lb-in/hp (603 Nm/kW).
- 3. Grinder shall provide a minimum peak force at cutter tip of 1,717 lb_f/hp (10,240 N/ kW).

2.2.1 FRAME AND SUPPORTS

A. General

Frame and/or supports shall provide a method for securing the grinder in an open channel or wet well. The frame shall allow installation or removal without any disassembly of the frame or grinder.

B. Components

1. Frame and/or supports shall be constructed of stainless steel.
2. Frame shall provide proper support and interface to prevent unwanted bypass.
3. Frame shall utilize guides that insert into the side rail slots to properly position and locate grinder.

2.3 CONTROLLER

A. General

Controller shall provide control of the grinder and screen drums and be designed to control one (1) 5 hp (3.7 kW), 460 volts, 3 phase, 60 Hz. The controller shall have indicator lights, switches and other control devices.

B. Components

1. Enclosures
 - a. Enclosure shall be fiberglass reinforced polyester NEMA 4X.
 - b. Enclosure shall house the control devices, motor starter, and PLC.
2. Grinder ON-OFF/RESET-REMOTE three-position 22mm type, NEMA 4X selector switch
 - a. In the OFF/RESET position, the grinder shall not run.
 - b. In the ON position, the grinder shall run continuously.
 - c. In the REMOTE position, the grinder shall start and stop as controlled by an external device.
 - d. Selector switch shall be the only method for resetting the controller after a failure.
3. Pilot Lights
 - a. Lights shall be LED type 22 mm, rated NEMA 4X.
 - b. Lights shall indicate POWER ON, RUN, and FAIL.
4. Programmable Logic Controller (PLC)
 - a. PLC shall be manufactured by Allen-Bradley.
 - b. PLC shall have a minimum of 16K of memory.
5. Motor Starter
 - a. Starter shall be a full-voltage reversing type with 120 volt operating coil.
 - b. Overload relays shall be adjustable and sized to full load amperes (FLA) of the motor.
6. Control Transformer

- a. Control transformer shall be minimum 130 VA.
- b. Control transformer primary and secondary shall be fused for over current protection.

7. Current Transducer

- a. Current transducer shall be manufactured by Veris Industries.
- b. Current transducer shall have adjustable set point from 1-135A with 200ms or less response time.

C. Performance

1. When a grinder jam condition occurs, the controller shall stop the grinder and reverse the grinder rotation to clear the obstruction. If the jam is cleared, the controller shall return the grinder to normal operation. If three (3) reverses occur within a 30 second interval, the controller shall stop the grinder motor and activate the grinder FAIL indicator and relay.
2. When a power failure occurs while the grinder is operating, the grinder will resume operation once power is restored.
3. When a power failure occurs while the grinder is in a fail condition, once power is restored the fail indicator shall reactivate and remain until reset.
3. Reset of the grinder and shall be accomplished from the controller only.

2.3.1 REMOTE (HAZARDOUS LOCATION)

A. General

Remote enclosure shall provide localized ON and OFF for the grinder in a hazardous location.

B. Components

1. Enclosure (Remote)
 - a. Enclosure shall be cast aluminum NEMA 7 rated.
 - b. Enclosure shall house ON-OFF switch.
2. Grinder ON-OFF two position explosion proof rated selector switch.
 - a. In the OFF position, the grinder shall not run.
 - b. In the ON position, the grinder shall run if main controller is in ON position.
 - c. In the ON position, the grinder will not run if main controller is in OFF position

PART 3 EXECUTION

3.1 INSTALLATION

Grinder(s) and controller(s) shall be installed in accordance with supplier's installation instructions, and in accordance with all OSHA, local, state, and federal codes and regulations.

3.2 TESTING

Test of grinder(s) shall demonstrate correct alignment, smooth operation. Test period shall demonstrate simulated jam conditions for both grinder and screen drums.

3.3 TRAINING

A field training course shall be provided for operation and supervisory staff members. Field instruction shall cover items for successful operation contained in the operation & maintenance manuals.

Special Provisions

All Inclusive Bid Sum

The bid sum shall include everything specified and/or otherwise required in order to complete the project in its entirety. Sum of base bid and shipping as listed in the scope of work are required to receive consideration. No claim for additionally required materials and/or labor shall be honored by the Village what-so-ever.

Bid Security Deposit Requirements

Bid Bond for 5% of (purchased) bid amount is required

VENDOR LIST

SEWAGE GRINDER PURCHASE

Date mailed: _____

<p>Peterson and Matz, Inc. 2250 Point Boulevard, Suite 300 Elgin, IL. 60123 (847) 844-4405 (847) 844-4409 Fax Attn: Dale W. Storm</p>	<p>Drydon Equipment, Inc. 2445 Westfield Drive, Suite 100 Elgin, IL. 60124-7840 (224) 629-4060 (224) 629-4061 Fax Attn: Michael G. Dunn</p>