

COUNTY OF ROCKLAND
Department of General Services
Purchasing Division

Contract Award Notification

Title: **Struvite Removal Services**

Contract Period: July 28, 2020 through July 27, 2021 with 4 one-year options,
Extend through July 27, 2022 with 3 one-year options

Original Date of Issue: July 28, 2020

Date of Revision: **June 23, 2021**

BID No: **RFB-RC-2020-054**

Catalog: **Wastewater Treatment**

PRC: 2020004804

Authorized Users: County Agencies, All Political Subdivisions

Address Inquires To:

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Title: Assistant Director of Purchasing
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Description

This contract is to remove struvite from existing underground pipes.

Contract #	Vendor Number	Contractor & Address	Telephone No.
Bid 20-054	0000026535	Grignard Company 505 Capobianco Plaza Rahway, NJ 07065 Contact: Steven Wikoff/ Namrato Parikh bids@grignard.com/ sales@grignard.com/ accounting@grignard.com	732-340-1111/ 732-956-4690 FAX: 732-340-0111

STRUVITE REMOVAL SERVICES

COUNTY OF ROCKLAND
 DGS – PURCHASING DEPARTMENT
 BLDG. A, 6TH FLOOR, 50 SANATORIUM ROAD
 POMONA, NY 10970
 TELEPHONE NO.: 845-364-3820
 FAX NO.: 845-364-3809

VENDOR:
 Griganrd Company

LINE NO.	DESCRIPTION	ITEM NUMBER	EST. QTY.	UNIT	UNIT PRICE	EXTENDED PRICE	MANDATORY - PROVIDE MFG. AND PRODUCT CODE OF REMOVAL AGENT TO BE USED
1	Provide pricing per L/F of 6" diameter pipe. Pricing to include all labor, supervision, equipment, material and chemical to perform struvite removal as specified	96895000004	500	L/F	\$143.54	\$71,770.00	INGCSVWWXSTRORTT01 INGCSVWWXSTSOATT01
2	Provide pricing per L/F of 8" diameter pipe. Pricing to include all labor, supervision, equipment, material and chemical to perform struvite removal as specified	96895000005	80	L/F	\$257.54	\$20,603.20	INGCSVWWXSTRORTT01 INGCSVWWXSTSOATT01
3	TOTAL PRICE					\$92,373.20	

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PURCHASES BY OTHER

LOCAL GOVERNMENTS, SCHOOL DISTRICTS, AND NON PROFIT AGENCIES

As per the New York State General Municipal Law, all political subdivisions of New York State are allowed to make purchases through the resulting contract(s). As per Rockland County Procurement Policy, Non Profit Agencies approved to participate in New York State's Contract Extension Program are authorized to make purchases through the resulting contract(s).

1. The County of Rockland shall make all contract award information available to other political subdivisions and non profit agencies through our website: www.rcpurchasing.com
2. Any other political subdivision or Rockland County non profit agency will issue purchase orders directly to vendors within the specified contract period referencing the County's contract and shall be liable for any payments due on such purchase orders; and shall accept sole responsibility for any payment due.
3. All purchases shall be subject to audit and inspection by the other political subdivisions and Rockland County non-profit agencies for which the purchase was made.
4. No officer, board or agency of a county, town, village, or school district shall make any purchase through the County when bids have been received for such purchase by such officer, board or agency, unless such purchase may be made upon the same terms, conditions and specifications at a lower price through the County.
5. All Bidders shall be on notice that as a condition of the award of a County contract, the successful bidder shall accept the award of a similar contract with any other political subdivision in New York State and Rockland County non-profit agencies authorized to use New York State's contracts, if called upon to do so. A listing of approved Rockland County non-profit agencies is available on the Purchasing Division's website at www.rcpurchasing.com. The County, however, will not be responsible for any debts incurred by the participants pursuant to this or any other agreement.
6. Necessary deviations from the County's specifications in the award of a participant contract, whether such deviations relate to quantities, or delivery points shall be resolved between the successful bidder and the other political subdivisions and Rockland County non profit agencies.

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SPECIFICATIONS

1. SCOPE OF WORK

Contractor shall provide all labor, supervision, equipment, material and chemical to remove struvite from existing underground pipes using chemical injection process. Contractor shall utilize Struicide O Remove agent Mfg. by Grignard or approved equal.

Contractor shall provide inspection before and after treatment. Contractor shall submit documentation video/photos to the RCSD#1 showing that a minimum of 90% of the struvite has been removed.

FIELD DEMONSTRATION - At the RCSD#1 wastewater treatment plant in Orangeburg, NY, the apparent low bidder shall perform a field demonstration initially at their expense utilizing representative equipment on piping that has a minimum of 50% accumulated mineral blockage. If the field demonstration is successful, the apparent low bidder may be awarded and paid under the contract for this work. If the field demonstration is unsuccessful, the apparent low bidder will be responsible for all of the costs associated with the field demonstration. The County reserves the right to move to award to the next lowest responsible responsive bidder whose field demonstration meets the criteria for removal. The contractor shall commence the field demonstration within five (5) business days from date of request. Field Demonstration shall be performed on 6" piping.

Contractor is responsible for satisfactory removal of struvite from pipes assigned to be cleaned.

Disposal of used chemical and struvite once removal process is completed is responsibility of contractor

Removal of any unused chemical is the responsibility of the contractor

Bidder shall furnish a 16 section Globally Harmonized System (GHS) compliant Safety Data Sheet (SDS) as part of their bid submission and with each delivery. The SDS shall be reviewed by the District's Health and Safety Department for review for approval. The pH of the product shall comply with the physical properties stated in Table 1.

Bidder shall provide a minimum of at least three (3) documented successful cleaning operations at representative Wastewater Treatment Plants (WWTP). (see Certification of Experience Form).

The removal chemical shall not damage the equipment which has mineral buildup including but not limited to piping (metal, glass, PVC), valves, gaskets, centrifuges, pumps, heat exchangers, and dewatering equipment.

The Solutions shall be free rinsing and dilutable with city water. Solutions shall not cause out-gassing.

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Removal Chemical offered must be approved prior to injection. Removal chemical offered shall meet or exceed the specifications outlined in this solicitation. Laboratory analysis of chemical is required to be provided by contractor to demonstrate the following:

Chemical will not damage existing pipes

Chemical will not disturb biological process

Contractor will provide a schedule of work for each pipe assigned including a start and completion date prior to beginning work. Contractor will be responsible financially for any delays due to not meeting agreed deadlines.

Pipes to be cleaned are as follows, quantities are estimated and may be more or less depending on the need and requirements of the Rockland County Sewer District #1:

6 inch pipe approx. 417 feet

6 inch pipe approx. 20 feet

6 inch pipe approx. 40 feet

8 inch pipe approx. 70 feet.

PRICING

Contractor shall provide pricing per L/F of pipe to be serviced in accordance with the proposal pages.

SITE DAMAGE

Any damage to buildings, equipment, utilities, finished surfaces, or the property of the County of Rockland resulting from the performance of this contract shall be repaired by the Contractor at the Contractor's expense at no cost to the County of Rockland. Completed repairs shall be accepted and approved by the authorized representative of the County of Rockland.

In the event of a chemical spill and potential environmental impact of chemicals used by contractor, clean up and remediation is the responsibility of contractor.

BRAND NAME

The use of a brand name is for the purpose of describing a standard of quality, performance, and characteristics desired and is not intended to limit or restrict competition.

EQUIVALENT OR APPROVED EQUAL

- a. If submitting an alternate or approved equal removal agent, bidder shall submit two (2) copies of brochures, specifications and any other pertinent information, with the bid. This information should be attached directly behind the detailed specifications.
- b. In the event that an alternate is bid, the County of Rockland reserves the right to request a demonstration of the specific product bid. Failure to furnish the demonstration would render the bid for that item as non-responsive.

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2. CONTRACT PRICE ADJUSTMENTS UPON RENEWAL

The proposed rates shall remain firm through the first contract period with no price adjustments allowed. If the County exercises any of the option years of the contract, Contractors may submit a request for adjustment on the yearly anniversary date of the contract. Any request for price adjustment(s) shall be submitted thirty (30) days in advance of the anniversary date in writing to the Director of Purchasing. Any and all price adjustments shall be limited to the percentage increase in PPI Index Chemical Mfg. - PCU325---325 for the preceding Twelve (12) months. The County reserves the right to reject any request for price increase deemed excessive.

3. REMOVAL CHEMICAL SPECIFICATIONS AND REQUIREMENTS

- a. Removal Chemical shall be organomodified non-hazardous mineral removing agent (Removal Solution).
- b. The Solution utilized shall be a single component system for the removal of struvite – vivianite – limestone and various other forms of mineral buildup in various systems including pipes, dewatering equipment, anaerobic sludge digestion facilities and other process equipment when dosed at the appropriate level to the sludge and centrate systems.
- c. The solution shall be compatible with all equipment utilized during the treatment process including but not limited to steel, aluminum, HDPE, PVC, pipe and tank coatings, gaskets. This specification outlines the requirements that must be met by the Preventative Solution, for use on all equipment owned and operated by the Authority including, but not limited to dewatering equipment, piping, valves, pumps, mixers, centrifuges, heat exchangers, and anaerobic digesters.
- d. The solution must meet the technical specifications detailed in this specification and have results verified by an approved independent third-party verification laboratory for product characteristics as defined in this specification.
- e. **CHEMICAL AND PHYSICAL PROPERTIES REQUIREMENTS FOR REMOVAL SOLUTION**

The Removal Solution shall effectively remove struvite at a 1:3 w/w or 1:4 w/w basis when utilized with agitation provided by circulation or soak processes. Demonstrating the Removal Solution's performance – testing must indicate on a site-specific struvite or mineral sample performance of 2x that of ferric chloride on a 1:4w/w in 6 hours and an overall dissolving capability on a 1:4 w/w basis >95% effectiveness.

Chemical Composition – All vendors must supply to the wastewater treatment facility, the nominal composition and material inspection criteria of the Removal Solution products to be tested. The material inspection criteria will be required with each delivery and recorded in the Certificate of Analysis (COA).

The Removal Solution will not contain the use of free alkali, amines, amides, silicates, inorganic acids – hydrochloric, hydrofluoric acid, phosphoric acid, or sulfuric acid, phenols, cresylic type acids or their salts,

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EDTA, chromates and their salts, chlorine, sulfate, magnesium, calcium salts, and butyls. The products should contain no mineral seal oils or petroleum distillates. The concentration of elemental phosphorus and nitrilotriacetic acid are limited to 0.05% in accordance with local, state and federal regulations. No filler ingredients will be utilized in the formulation, such as sodium chloride or sugars. In addition, the formulation may not contain any watch list or restricted substances per Federal (EPA), State and Local regulations. The product must be readily biodegradable and contain no abrasives. The Removal Solution will be considered noncorrosive (Skin Category 1) by having a pH above 2 and less than 11.5 per OSHA 1910.1200.

The Removal Solution shall be furnished in liquid form which is completely miscible with the county water supply.

The Removal Solution shall not emit offensive odor or harmful or irritating vapors when used at temperatures ranging from 30°F to 212°F.

f. REMOVAL SOLUTION PRODUCT QUALIFICATION

The proposed product must meet both the laboratory testing for required technical characteristics and performance as well as a field demonstration utilizing representative equipment on piping that has a minimum of 50% accumulated mineral blockage at the Authority.

The product is required to be manufactured at a location meeting the requirements of the Manufacturer Qualifications.

The Removal Solution must be non-toxic and non-hazardous. The product must be stable in storage for a period of not less than 2 years as certified by the manufacturer when stored in conditions from 28°F to 105°F. The chemical and physical property tests listed in Table 1 are required and shall be performed by an approved independent laboratory.

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STRUVITE REMOVAL SERVICES**RFB-RC-2020-054****Table 1. Chemical and Physical Property Test Requirements for Removal Solution**

Parameter	Test Method	Requirements
Visual (as received)	Visually inspect 100ml product in 200ml beaker	Clear, homogenous solution
Odor –Neat (as received)	Open sealed container. Waft / sniff for offensive odor.	No Obtrusive odor
Odor –during application	Note 1	No Obtrusive odor or off-gassing
Specific Gravity (as received)	ASTM D891-09	1.09 – 1.12
Flash point, as received	ASTM D93	No flash observed to 212 F
pH, (as received)	ASTM E70	>2.0
pH, 1:1000	ASTM E70 diluted with DI Water	>3.0
Accelerated storage stability, (as received)	Note 2	No layering, separation or precipitation after 3 freeze-thaw cycles from 20°F to 105°F
Heat Stability (as received)	Note 3	No layering, separation or precipitation
Cold Stability (as received)	Note 3	No layering, separation or precipitation
Freeze point (as received)	ASTM D1177	< 27F
Pour Point (as received)	ASTM D97-93	< 23F
Sudsing Test, (10% v/v)	Note 4	Foam Level (10%v/v) Immediate - >25 mls After 3 minutes > 20 mls After 5 minutes < = 20 mls
Insoluble Matter (as received)	Note 5	Concentrate < 0.1%
Effect on PVC, 48 hours (as received)	White PVC immersed halfway in fluid at 100F for 48 hours	No degradation or discoloring of immersed portion after exposure
Effect on Neoprene O-rings 24 hours @ 100F, as received	Note 6	No degradation or swelling compared to control sample

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Parameter	Test Method	Requirements
Effect on HNBR O-rings 24 hours @100F, as received	Note 6	No degradation or swelling compared to control sample
Effect on Viton O-rings 24 hours @100F, as received	Note 6	No degradation or swelling compared to control sample
Foam Properties, (tested using a 10% v/v solution with distilled water)	D1173	1 minutes > 12 cm 3 minutes ≤ 5 cm 5 minutes ≤ 1cm
Non-Volatile Matter as received	ASTM D800, determined from volatile content at 105C	>20%

Note 1:

Combine 50g of struvite with 200g of mineral Removal Solution in covered beaker. Mix for 20 minutes, remove cover and waft/sniff for any odors. No obtrusive odors.

Note 2:

Place a 50ml portion of thoroughly mixed Removal Solution, as received, in each of three (3) stoppered 100 ml graduated cylinders. Put all three samples in a low temperature environment @ $20 \pm 2^{\circ}\text{F}$ ($2 \pm 1^{\circ}\text{C}$) for 30 min. Remove cylinders; allow them to return to room temperature.

Then place all three samples in a hot environment @ $105 \pm 2^{\circ}\text{F}$ ($44 \pm 1^{\circ}\text{C}$) for 30 min; allow to air cool to room temperature. Repeat this freeze-thaw cycle two more times. Record all visible changes including layering, separation and precipitation.

Note 3:

Heat Stability: Fifty (50) ml of the concentrated Removal Solution shall be placed in a 50 ml graduate mixing cylinder, the cylinder shall be stoppered. The cylinder shall be placed in a 60°C $\pm 2^{\circ}\text{C}$ ($140^{\circ}\text{F} \pm 3^{\circ}\text{F}$) water bath and maintained at that temperature for six (6) hours. The water bath shall be sufficient depth to cover at least 30 ml of the Removal Solution. At the end of the test period, no separation or layering of the Removal Solution shall be evident.

Cold Stability: Fifty (50) ml of the concentrated Removal Solution shall be placed in a 50 ml graduated cylinder, the cylinder shall be stoppered and cooled to a $-18^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ($0^{\circ}\text{F} - 9^{\circ}\text{F}$). This temperature shall be maintained for one (1) hour. The Removal Solution shall then be allowed to return to room

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temperature (75°F – 80°F). At the end of this test period, no separation, precipitation or layering of the Removal Solution will be evident.

Note 4:

Test Removal Solution as received. Place 45 ml of DI Water in graduated cylinder. Add 5ml concentrated Removal Solution and conduct 30 pivotal movements in 30 seconds. Read foam level immediately, at 3 minutes, and 5-minute intervals.

Note 5:

Insoluble Matter: The concentrated Removal Solution shall be thoroughly agitated and a 200 mg test sample withdrawn. The insoluble matter shall be collected with the aid of a vacuum filtering apparatus consisting of a water tap filter pump, a 2,000 ml Erlenmeyer flask, a size 4 (126-millimeter (mm)) Whatman No. 5 filter paper, or its equivalent. The filter paper shall be dried at 60°C (140°F) for 30 minutes in a gravity convection oven, cooled for three (3) minutes in a desiccator and weighed to the nearest 0.1 mg. The filter paper shall be laced in the Buchner funnel so that its circumference coincides with the circumference of the funnel. The vacuum shall be weighed to the nearest .1 mg then filtered. The sides of the beaker, which contained the test sample shall be rinsed with 25 cc of distilled water from a wash bottle and the rinse transferred to the funnel, ensuring that any remaining insoluble matter is completely transferred with the rinse. When all the initial liquid and the rinse have been transferred through the filter, the sides of the funnel shall be washed with 25 cc of distilled water from a wash bottle and the rinse allowed to filter. The vacuum on the flask shall be relieved and the filter paper removed from the funnel. The filter paper shall be dried for one (1) hour at 60°C (140°F) in a gravity convection oven, cooled for three (3) minutes in a desiccator, and weighed to the nearest 0.1 mg. The percent insoluble shall be calculated as follows:

Final filter paper weight – initial filter paper weight x 100 = % insoluble Weight of Sample

Care should be exercised throughout the final drying and weighing cycles to maintain the flat surface of the filter paper in a horizontal position in order that none of the insoluble matter will be lost. Insoluble matter determinations shall be made on a minimum of two samples. The average of these samples must be less than 0.1%.

Note 6:

Immerse (3) neoprene O ring, HNBR O ring and Viton O ring specimens in a 200ml concentrated Removal Solution, as received, in a 250 ml beaker for 24 hr. @ 100 F, and immerse another (3) neoprene O ring, HBNR O ring and Viton O ring specimens in distilled water in same way as a control. The test conforms if no degradation of or swelling of the specimens is evident as compared to the distilled water control.

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g. MANUFACTURER QUALIFICATION FOR SOLUTION

The manufacturer shall be properly registered ISO-9001 organization. If the manufacturer is not ISO-9001 certified, they are required to be ISO-9001 or ANSI/ASQ C1-1985 compliant. At time of bid, the proposed manufacturer shall provide a copy of its Quality Control system for review to assure the Preventative Solution is produced within specification.

h. SERVICE REQUIREMENTS

A qualified representative, from the manufacturer of the solution, may visit the District's WWTP to assess the site conditions for the use of the solutions.

Upon request of an authorized RCSD#1 representative, the manufacturer (contractor) will conduct an Environmental Health & Safety presentation at the District's WWTP to the people that will be utilizing the material and answer any questions raised regarding the Preventative Solution and best practices to achieve optimum efficiency.

At the request of the District and at no additional cost, the manufacturer (contractor) shall render chemical and technical consulting service to the District.

i. QUALIFICATION PROCESS

In the procurement of products requiring pre-qualification, the District will reject bids for products that have not been subjected to the required laboratory tests contained in this specification and successful field demonstration.

Failure to supply the required information in this or any other Section will be deemed sufficient cause for rejection of bid. The steps required for qualification are as follows:

The Bidder shall be fully responsible for providing the qualification laboratory tests to the District. The Bidder / Contractor must utilize a qualified independent commercial laboratory such as SMI Inc., 12219 SW 131 Ave., Miami, FL 33186-6401- Phone 305-971-7047 to conduct the qualification testing.

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Manufacturers of the qualified Solutions are required to present a documented quality assurance program which is acceptable to the Authority. The documented quality system must meet or exceed the requirements of American Standard ANSI/ASQ C1-1985 or ISO 9001.

Distributor / Supplier quality program. In addition to the Manufacturer's documented quality control program, Distributors are required to maintain a quality program acceptable to the Authority. Distributors are fully responsible for the quality of the materials and must actively take precautions by working with the manufacturer to guarantee the quality of the product.

4. AWARD

This contract shall be awarded to the lowest responsible responsive bidder meeting the stated requirements.

FIELD DEMONSTRATION - At the RCSD#1 wastewater treatment plant in Orangeburg, NY, the apparent low bidder shall perform a field demonstration initially at their expense utilizing representative equipment on piping that has a minimum of 50% accumulated mineral blockage. If the field demonstration is successful, the apparent low bidder may be awarded and paid under the contract for this work. If the field demonstration is unsuccessful, the apparent low bidder will be responsible for all of the costs associated with the field demonstration. The County reserves the right to move to award to the next lowest responsible responsive bidder whose field demonstration meets the criteria for removal. The contractor shall commence the field demonstration within five (5) business days from date of request. Field Demonstration shall be performed on 6" piping.

In an effort to expedite the award of this contract, bidders may submit, with their bid, a valid Certificate of Liability (see sample Certificate for coverage and limits required and sample language for naming the County of Rockland as additionally insured), valid NYS Wkr's Compensation and NYS Disability Certificates or Attestation of Exemption.