



City of Ketchum

April 5, 2021

Mayor Bradshaw and City Councilors
City of Ketchum
Ketchum, Idaho

Mayor Bradshaw and City Councilors:

Recommendation to Approve Purchase Order 20605 With Rubicon Environmental Services, LLC for Aeration Basin Diffuser Cleaning

Recommendation and Summary

Staff is recommending the council approve Purchase Order 20605 with Rubicon Environmental Services and adopt the following motion:

"I move to approve Purchase Order 20605 with Rubicon Environmental Services, LLC for aeration basin diffuser cleaning in the amount of \$6,925.00."

The reasons for the recommendation are as follows:

- Aeration basin diffuser cleaning is necessary to prevent diffuser fouling and maintain optimum performance of the aeration system.
- This is a regularly scheduled maintenance item that is done every other year.
- Clean diffusers are more process efficient.

Introduction and History

Ketchum's wastewater treatment plant uses an activated sludge extended aeration process which requires a large volume of air. The air is pumped through many ceramic disc diffusers creating bubbles that add oxygen to the wastewater. Over time, the fine pores in the ceramic discs become clogged and reduce the amount of air being added to the water as well as increasing the pressure needed to pump the air. Routine cleaning of the diffusers keeps them functioning in a close-to-new status and reduces the need to replace them as often due to clogging.

Analysis

The diffuser cleaning process requires equipment and chemicals that need to be handled by trained professionals. Rubicon Environmental Services has performed the diffuser cleaning for us in the past and has done a thorough and professional job. They perform the work according to the equipment manufacturer's recommended procedures.

Sustainability

The recommended action will further the goals of the 2020 Ketchum Sustainability Action Plan in the following ways:

- Aeration equipment in the treatment process uses approximately 40% of the total energy at the wastewater treatment plant. Keeping diffusers clean helps this energy intensive part of the process work as energy efficiently as possible.

Financial Impact

Funds for this project were budgeted for in the Professional Services line item of the Wastewater Expenditures Budget.

Attachments:

Purchase Order 20605

Rubicon Environmental Services Quotation #21-2920R1



City of Ketchum
City Hall

Purchase Order

Number: 20605
Date: 3/12/2021

Vendor: Rubicon Environmental Services, LLC
189 N. Lapham Street
Oconomowoc, WI 53066

Quote Ref: Quotation #21-2920R1

Quantity	Item # / SKU	Description	Item Cost	Total Cost
1		Ceramic Diffuser Gas Cleaning	6,925.00	6,925.00
Total				6,925.00

The City of Ketchum is a tax-exempt political subdivision of the State of Idaho.

Please confirm acceptance of this City of Ketchum Purchase Order with Mick Mummert, Wastewater Dept. Supervisor, at mmummert@ketchumidaho.org or (208) 726-7825.

Please Perform Above Listed Services at:

City of Ketchum WWTP
110 River Ranch Rd
Ketchum, ID 83340

Billing Address:

City of Ketchum
P.O. Box 2315
Ketchum, ID 83340

Order Submitted By:

Neil Bradshaw - Mayor

RUBICON ENVIRONMENTAL SERVICES, LLC
189 N. LAPHAM STREET
OCONOMOWOC, WI 53066
Phone: 920-988-7756 Email: markraether@rubiconenviro.net

Date: March 11, 2021

Site: Sun Valley WWTF – Ketchum, ID

Service: Ceramic Diffuser Gas Cleaning - Quotation #21-2920R1

Scope of Services - One trip for 2 Aeration Basins (One Trip Required)

The following is a list of materials and services proposed for one trip to gas clean the ceramic disc diffusers in two (2) Aeration Basins at the Sun Valley WWTF site. There are a total of six (6) Fine Bubble Aeration Grids within the two (2) Basins requiring one (1) trip. The Aeration Grids have approximately 410 to 160 diffusers each; the total number of ceramic diffusers to be cleaned is approximately 1,720.

- All necessary tools for cylinder connection, gas cleaning operation and system dismantling at completion. The Gas Feed Panel and accessories will be furnished by Rubicon Environmental Services.
- Two service technicians for one day to 1) set up the system, 2) leak check the system, 3) perform the gas cleaning, 4) purge the system of HCL gas and 5) shut down and dismantle all parts of the gas cleaning system.
- All necessary safety equipment, “warning signs” and posters to notify facility personnel of the fact that HCL is on site and the gas cleaning process is proceeding.
- Field Service Report detailing the DWP (diffuser wet pressure) before and after cleaning. This Report will also include all applicable notes and comments necessary for a comprehensive discussion of the effectiveness of the gas cleaning.

Needed Gas for Gas Cleaning Service – 2 Aeration Basins Total

- Two (2) 60 lb. cylinders of Anhydrous Technical Grade Hydrogen Chloride Gas (each cylinder has a gross weight of approximately 200 lbs.).
- One (1) 100 lb. cylinder of Nitrogen Gas (pressure testing and purging of the system).

Notes:

1. The quantity of HCL gas is an estimate based on 1) previous experience gas cleaning at similar site and 2) discussions with plant personnel regarding the diffuser fouling history at the Ketchum, ID site.
2. Plant personnel will cooperate in providing additional air to the aeration grid being cleaned if needed. The gas cleaning is most effective with an air rate of greater than 3 SCFM per diffuser. Other areas of cooperation will also be requested and anticipated.
3. Plant personnel’s help with unloading and loading of the gas cylinders is anticipated as part of this quotation. RES will be responsible for shipping the gas cylinders to the site and shipping the empty gas cylinders back.
4. The labor, materials and trip expenses within this quotation is a firm price and will not be billed at actual cost.
5. The gas feed fittings for each Grid have been installed by plant personnel and any modifications necessary for the gas cleaning to be performed will be by plant personnel.
6. The payment terms of this quotation are “net 30 days”.
7. This quote is valid for 18 months.

Services Fee:

One Service Expert & one technician on site – One (1) Trip (1 day). **\$2,100.00**

Gas & Shipping Costs:

Two (2) 60 lb. Cylinders of Anhydrous HCL Gas (Total). **\$2,850.00**

One (1) 100 lb. Cylinders of Nitrogen Gas (Total). **\$75.00**

Estimated Site Expenses (1 Trip Required):

Travel expenses & Miscellaneous **\$1,900.00**

TOTAL LUMP SUM QUOTE = \$6,925.00

All work will be preformed per Sanitaire’s recommended procedures for the Sanitaire Gas Cleaning Process. These “procedures” are stated within the Sanitaire Gas Cleaning Manual.

Respectfully submitted,

Mark Raether, P.E.
Rubicon Environmental Services, LLC