

EXHIBIT 1
LAKE HAVASU CITY SERVICES CONTRACT
CONTRACT NO.: 19-3173
STATEMENT OF SERVICES

I. Odor Management Control Program

Contractor shall be responsible for providing the City with a comprehensive liquid odor management control program utilizing a calcium nitrate chemical treatment solution, or calcium hydroxide chemical treatment solution. The program may include, but not limited to: analysis, design, liquid chemicals, controls (measurement and injection), documentation, installation (labor, transportation, per diem, taxes) and post installation support (on-going maintenance, engineering, sampling, testing, training), including all associated components, equipment, hardware, materials, programming, storage tanks and software, if applicable. The goal of the program is to provide the lowest overall cost to City, while meeting odor management control objectives set by the City's Public Works, Wastewater Division. Program components shall be delivered F.O.B. Lake Havasu City, Arizona to the following lift stations throughout the City: Bombay, Queen's Bay, Hagen/Sweetwater, London Bridge Road, North Palo Verde, Port Drive and North Centre locations. The City reserves the right to add additional lift stations throughout the term of this Contract.

The dosing/injection system shall provide bulk storage tanks for calcium nitrate or calcium hydroxide and metering of the chemical treatment solution from the storage tanks to the wastewater collection system. The system shall contain controls (injection and measurement) as necessary to facilitate 24 point variations in feed rates over 24-hr period from the locally installed equipment control system and across the internet via cellular modem.

The calcium nitrate treatment solution shall facilitate and enhance the inherent ability of the facultative bacteria normally present in the wastewater environment to metabolize hydrogen sulfide and other odor-causing, reduced sulfur containing compounds. The calcium nitrate solution shall also provide a chemically-bound oxygen source for bacteria to utilize in the natural removal process of carbonaceous material in denitrification. This nitrate-oxygen shall be applied via pH neutral calcium nitrate salts. The material shall be chemically stable at the ambient temperature range (0- 128 degrees F) in Lake Havasu City. The material shall be ammonia free to prevent additional ammonia loading on the treatment facility.

The calcium hydroxide solution shall capitalize on the equilibrium relationship between the ionic sulfide species, dissolved hydrogen sulfide gas, and pH. The treatment approach shall be characterized by elevating the pH of the wastewater stream to drive the sulfide existing in solution to the non-volatile ionic forms. The calcium hydroxide solution shall be free flowing when well mixed showing viscosity <cps 500. The calcium hydroxide solution shall be free of metals known to contribute to the formation of struvite in wastewater unit treatment processes. The calcium hydroxide solution shall have a solubility in water no less than 1.5 g/L allowing for rapid dissolution and minimizing accumulation.

A. Dosing/injection Equipment

The dosing/injection equipment shall have the capability to minimize chemical use for the defined goals of the program.

1. The dosing/injection system shall be complete with all components including the metering pumps contained in a single control panel and constructed to be free standing.
2. The controls shall include at a minimum:
 - a. On/Off/Automatic hand switch.
 - b. A pump run and fault light indicator.
 - c. A PLC based controller that has at minimum:
 - i.. A user friendly HMI.
 - ii. 24 discrete 1 hour set-points.
 - iii. A global adjustment factor.

- iv. Capable of adjustment for each of the days of the week.
 - v. A level monitor and readout.
 - vi. Outer Tank leak detection Alarm.
 - vii. A wireless remote connection to the internet.
3. The internet connection shall be a virtual control system that provides all inputs and outputs, alarms, and capabilities, as if the user is standing on location.
 4. The Control Section and Pump shall be modular such that the complete control unit and the pumps can be removed with quick connect keyed control wire connections, physical AC plugs and, on the liquid side, quick connect fittings. The purpose is to allow a quick change-out of the components for minimum down-time.

B. Remote Hydrogen Sulfide Monitoring

The manufacturer shall provide VaporLink® monitor(s), H₂S monitors, or a City approved equivalent, (herein "Monitor") for continuous remote monitoring of atmospheric H₂S concentrations at specified control point(s). Continuous atmospheric H₂S data will be made accessible through a customer accessible website, which can be viewed through any device with an internet connection. The Monitor shall also provide instantaneous alarms should the H₂S concentration exceed a high level or average alarm set point.

C. Bulk Storage Tanks

The bulk storage tanks shall be double wall industrial grade and constructed of polyethylene with a minimum specific gravity rating of 1.65. There will be no penetrations in the inner tank on the side wall. The tank will have 2" fill line with a lockable cam-lock connection. The tank will have a 3" vent on the top.

D. Metering Pumps

The metering pumps shall be designed for the ambient temperature conditions of the location. They shall have the following properties:

1. The pumps shall be adjustable by a variable speed drive system.
2. The pumps shall have a range of dose rates from 0.2 gph to the maximum output of the pump.
3. The pumps shall have a suction lift of 20 feet of water column.
4. The dose rates shall be within 0.5% from when the tank is full and when it is at low operating level.

E. Treatment Solution

The calcium nitrate treatment solution shall have the following properties:

1. The solution shall contain 3.5 lbs/gallon of nitrate-oxygen.
2. The solution shall be free of debris and any other contaminants.
3. The solution shall not crystallize at the locations ambient temperatures.
4. The pH shall not be less than 4 or greater than 7.5
5. The weight shall be 12.34 lbs/gallon.
6. The product shall contain no ammonia.
7. A certificate of analysis must be provided with each delivery.

The calcium hydroxide treatment solution shall have the following properties:

1. The solution shall contain minimum 42% lime solids.
2. The solution shall have a viscosity <500 cps.
3. The solution weight shall be 10.90-11.40 lbs/gallon.
4. The solution shall be free of metals that contribute to the formation of struvite.
5. The solution shall have a solubility in water no less than 1.5 g/l.
6. The solution shall pass 99% of solids through a 200 mesh wet sieve.

F. Services

The Contractor shall provide all necessary manpower to maintain the dosing systems and the odor control goals as defined by City. These include:

1. A service visit by a qualified technician at each dosing site bi-monthly to ensure proper operation. All wear parts shall be replaced on a scheduled basis as recommended by the equipment manufacturers.
2. Sample and monitoring manageable levels for H₂S /temperature/sulfide/pH and nitrate residual to be conducted twice a month at the various locations at the discretion of the City's Public Works, Wastewater Division.
3. A report will be issued with the mechanical and/or sampling data the week following the maintenance visit.
4. A qualified Engineer or Technical Representative will physically meet with the City staff on a monthly basis to review the data, make recommendations, and discuss any problems.

G. Site Information

The following table contains the information for each of the sites that require odor control under this program. Contractor must provide all double-walled tanks, dosing/injection equipment, and services to allow the City to obtain the following goals:

Feed Site Location	Wastewater Flow* MGD	Minimum Tank Size (Gallons)	Control Point Location	Liquid Dissolved Sulfide Goal at Control Point # (mg/l)
Queen's Bay	0.2	2,000	London Bridge Rd. P.S.	1.0
Sweetwater	1.0	4,000	Bombay P.S.	3.0
London Bridge Road	1.0	3,000 low profile	Bombay P.S.	3.0
North Palo Verde	0.08	3(ea) 150 low profile	Bombay P.S.	3.0
Port Drive	0.05	3,000	London Bridge Rd. P.S.	1.0

The following table contains the information for each of the sites where the tank or dosing system is owned by the City and the Contractor provided treatment solution and services:

Feed Site Location	Wastewater Flow* MGD	Tank Size (Gallons)	Control Point Location	Liquid Dissolved Sulfide Goal at Control Point # (mg/l)
Bombay	1.5	6,000	Influent P.S.	3.0
North Centre	0.35	2,000	Influent P.S.	3.0

*Wastewater flows are approximate

#Control point goals are influenced by multiple lift station contributions.

II. Price Schedule

