



## **Revised Cost Proposal - VSFB Grade 3 Wastewater Treatment Plant Operator**

Operator & Supporting Costs – July 5, 2022 thru July 3, 2028  
February 28, 2022

### **Introduction**

This document has been prepared at the request of Capt. Scott Vande Vrede USAF, OIC, Requirements and Optimization, Chief Service Contracts, 30<sup>th</sup> Civil Engineer Squadron, VSFB. It provides the cost and scope for the City of Lompoc to provide the contract services of a Grade 3 Wastewater Treatment Plant Operator for a five (5) year period commencing July 5, 2022. The yearly cost increases are based on an agreed upon 4% maximum yearly increase.

The California State Water Resources Control Board (SWRCB) will certify the Grade 3 Wastewater Treatment Plant Operator. The certified Grade 3 Wastewater Treatment Plant Operator is to serve as the Chief Plant Operator (CPO) and provide weekly onsite reviews of the two (2) Extended Aeration Units (EAU) located on Vandenberg SFB.

Table 1 provides the annualized cost for the first year (\$51,361). Four (4) percent maximum increases are shown for years two (2) through (5). Total cost (not to exceed) for the proposed five (5) year period is \$278,187.

The information presented below details the proposed scope of services and associated fees.

### **Description of Extended Aeration Units**

The EAUs consist of two package wastewater treatment plants designated and located as follows:

- Extended Aeration Unit 896 (South VSFB Cantonment Area) treats domestic wastewater generated from facilities in the South Vandenberg SFB cantonment area. EAU 896 consists of a package treatment plant and a series of three wastewater ponds designed to retain, percolate, and evaporate EAU effluent. Wastewater is pumped to EAU 896 by two lift stations through 6-inch to 18-inch diameter clay or cast-iron pipes. EAU 896 has a design capacity of 20,000 gpd. The daily wastewater flow to EAU 896 is currently estimated at 3,000 gpd.
- Extended Aeration Unit 23260 (Vandenberg SFB Tracking Station – VTS) treats domestic wastewater generated at the VTS located on Bishop Road North Vandenberg SFB. Wastewater is gravity fed to EAU 23260 by 6-inch and 8-inch diameter clay pipes. Water processed by the EAU flows to two evaporation/percolation ponds connected in series. The aeration unit has a design capacity of 20,000 gpd. It is estimated to be currently treating 1,500 gpd.

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## Site Visit

A site visit was arranged for the Lompoc Team by Ms. Jessica Carrasco, Chief, Service Contracts, Vandenberg SFB. It was held on 21 December 2020 and consisted of the following City of Lompoc personnel with consultants from Bridge View Resources, LLC (Bridge View):

- Dr. Dong Hyun Chon, Superintendent, Lompoc Regional Wastewater Reclamation Plant (CA SWRCB Grade 5 Certified WWTP Operator)
- Jeff Cooley, Consultant, Bridge View (CA SWRCB Grade 4 Certified WWTP Operator)
- Brad Wilkie, General Supervisor, Finance, City of Lompoc (formerly City of Lompoc Utilities Director)
- Steven Greenberg, Principal, Bridge View

## Supporting Material Provided

Following the site visit, Ms. Carrasco provided these additional supporting documents:

- Performance Work Statement (PWS), 30<sup>th</sup> Civil Engineer Squadron, Vandenberg SFB (17 November 2020). A revised PWS was recently provided by Capt. Vande Vrede dated 22 February 2022.
- Wastewater and Compliance Inventory Summary FY 2018, Section 4: Extended Aeration Units.
- January 2021 Monthly Facility Report for Vandenberg SFB North Base Plant and South Base Plant.

## Proposal Description

Table 1 (attached) provides a summary of the costs associated with this proposed engagement. The cost summary has been prepared in accordance with the 30<sup>th</sup> Civil Engineer Squadron 22 February 2022 Performance Work Statement, and the additional supporting information noted above.

Operations Personnel. The Grade 3 Operator (CPO) is projected to be on site for 5.5 hours/week. One half hour additional time is allocated for transportation between the LRWRP and VSFB, for a total of 6 hours/week, 52 trips/year. The billable rates shown for the City LRWRP are based on their base hourly salary rate, a direct burden rate, and an applied overhead rate. The Grade 3 operator will collect samples for BOD<sub>5</sub>, MLSS, and TSS analysis (one set per month), and return these to the LRWRP laboratory for analysis. The Grade 3 operator will obtain pH, DO, 30-minute settled solids, and air and water temperature at each site (weekly). The proposed hours also include time for onsite communication with the 30th CES/CEOIU staff and preparation of monthly, quarterly and yearly reports.

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Analytical Costs. Analytical costs are based on the analysis reported in the January 2021 Monthly Facility report. This document shows laboratory tests for BOD<sub>5</sub>, MLSS, and TSS; and field tests for pH, DO, 30-minute Settled Solids and air and water temperatures. Laboratory tests will be performed once a month and the field tests will be performed weekly. The laboratory analysis costs are based on using City LRWRP laboratory personnel. Field test costs are included in the cost of the field equipment and the Grade 3 operator onsite time.

Transportation. Transportation costs are based on driving 28 miles on the Base and 24 miles commuting to and from the LRWRP (total 52 miles), using the 2022 Government rate of \$0.585/mile.

Expendable Supplies. This cost is for laboratory glassware, membrane filters, maintenance items, and other miscellaneous expendable items.

Field Equipment. Two items of equipment are needed to conduct the required field tests. These are a portable pH probe and meter and a portable DO probe and meter. Costs for the instruments are based on current costs from Hach® and are apportioned over a four-year period for each unit.

Personnel Clothing. Shirts and field jackets will be provided with City logos to allow for immediate identification. Personal safety gear to be provided includes hard hat with logo, safety glasses, and steel-toed work boots. These items will be provided at no cost to the project.

Direct Project Administration. Direct administration of the project will be provided by the LRWRP Superintendent. This time is estimated at two hours/month.

Base Cost. As shown in Table 1, the Base Cost for providing these services as described for the first 12-month period \$ is 44,662.

City Administrative Cost. An administrative cost of 15% of the Base Cost (\$6,699) has been added to provide for the administrative support Lompoc will provide to this engagement.

## **Summary**

The total fee proposed for the first 12 months of this engagement is \$51,361 with a total fee (not to exceed) for the proposed five (5) year period of \$278,187.

**Table 1**  
**Cost for Providing VSFB with a Grade 3 Wastewater Treatment Plant Operator**

Item	Unit Cost	Frequency	Cost/Year	Comments
<u>Personnel</u> Sr. Plant Operator (CPO)	\$110/hour	6 hrs/week (52 wks/yr)	\$34,320	5.5 hrs on site, 0.5 hrs transportation <sup>1</sup>
<u>Analytical Laboratory Tests</u> (once a month) BOD <sub>5</sub> MLSS TSS	\$130/hour	2.0 hrs/set 1 set/mo	\$3,120	Tests will be performed in LRWRP laboratory; costs include preparation of sample collection bottles for field crew.
<u>Field Tests</u> pH DO SS <sub>30</sub> Temp. <sub>air,water</sub>		Weekly	Included	Costs included in Operator Hourly cost & Field Equipment costs
<u>Transportation</u> <sup>2</sup>	\$0.585/mile	52 miles/ trip weekly	\$1,582	28 miles on site, 24 miles (to/from VSFB)
<u>Expendable supplies</u>	\$20/week	Weekly	\$1,040	Laboratory glassware, membrane filters, maintenance items, etc.
<u>Field Equipment</u> Portable DO meter, with probe	\$2,000	\$500/year	\$500	Hach price – apportioned over 4 yrs
Portable pH meter, with probe	\$2,000	\$500/year	\$500	Hach price – apportioned over 4 yrs
<u>Personal Gear</u> COL Logo'd shirts & Jacket Boots, hard hat, safety glasses				Provided by City of Lompoc at no cost to the engagement
<u>Project Administration</u>	\$150/hour	2 hrs/mo	\$3,600	LRWRP Superintendant
<b>Base Cost</b>			<b>\$44,662</b>	
Lompoc City Adm. Cost	15%		\$6,699	
<b>First Year Cost</b>			<b>\$51,361</b>	
<b>Second Year Cost</b> (4% increase max)			<b>\$53,415</b>	
<b>Third Year Cost</b> (4% increase max)			<b>\$55,552</b>	
<b>Fourth Year Cost</b> (4% increase max)			<b>\$57,774</b>	
<b>Fifth Year Cost</b> (4% increase max)			<b>\$60,085</b>	
<b>Total Maximum – 5 year Cost</b>			<b>\$278,187</b>	

1. Includes time for onsite communication with 30 CES/CEOIU staff and preparation of monthly, quarterly, and annual reports.
2. The mileage rate is initially based on the published IRS Standard Mileage Rate for business; Mileage rates will be based on the then applicable IRS Standard Mileage Rate throughout the term of the agreement.”

## List of Acronyms

SFB	Space Force Base
BOD <sub>5</sub>	5-day Biochemical Oxygen Demand (measurement of the organic concentration of wastewater)
CA	State of California
CPO	Chief Plant Operator
DO	Dissolved Oxygen
EAU	Extended Aeration Unit
gpd	gallons per day
l	liter
LLC	Limited Liability Company
LRWRP	Lompoc Regional Wastewater Reclamation Plant
ml	Milliliter (one liter contains 1000 milliliters)
MLSS	Mixed liquor suspended solids (measurement of the biomass under aeration in a biological wastewater treatment system)
O&M	Operation and Maintenance
pH	Measurement of the acidity or basic nature of a substance (chemically it is the negative logarithm of the hydrogen ion concentration)
PWS	Performance Work Statement
SS <sub>30</sub>	Milliliter of settled solids in a 1.0 liter graduated cylinder after 30 minutes of quiescent settling (i.e., measurement of the settleability of MLSS for clarification after leaving suspension in the aerated biological reactor)
SWRCB	State(CA) Water Resources Control Board
TSS	Total Suspended Solids
VTS	Vandenberg AFB Tracking Station
WWTP	Wastewater Treatment Plant