Great Basin Unified
Air Pollution Control District

AB 617 Grant Report
Community Air Protection Program

Final Grant Report for G19-CAPP-11
Fiscal Year 19-20

Report Date: March 25, 2022

Prepared by
Ann Logan

Great Basin Unified Air Pollution Control District
157 Short Street
Bishop, California 93514
(760) 872-8211
(760) 872-6109 Fax
www.gbuapcd.org

1.0 District's AB617 Annual Report

Great Basin Unified Air Pollution Control District's (District) goal for the AB617 Community Air Protection Program is to conduct community-level air quality monitoring, especially in those communities where little or no air quality monitoring has been conducted in the past. The District, though low in population density (2 persons/square mile), nonetheless has concerns that the air pollution impacts to those rural communities need to be evaluated. The AB617 program grant award has provided the resources to address this need. This document constitutes the District's final grant G19-CAPP-11 grant covering work from July 2021 through March 2022. The steps taken during this period while implementing the program are described in detail below.

2.0 Background

In 2018, the District outlined a community monitoring program. The first step in the process of designing the monitoring portion of the community air protection program involved the identification of communities by District staff in which monitoring would be conducted. The next step was the development of a set of criteria that would be used to determine when monitoring would be conducted in a given community. The District developed a ranking system, based on the criteria, to aid in the decision-making process for monitor deployment. The criteria developed by the District to aid in ranking the communities for monitor deployment are as follows:

a) What communities have had little or no monitoring in the surrounding area?
b) What communities have experienced the highest particulate matter (PM) impacts either from windblown dust and/or from wildfires?
c) What communities have expressed concerns about those impacts?
d) What communities have a public space, e.g., school, day-care center, fire station, where a PM monitor could be installed?
e) What communities/public spaces have consistent line power and internet service for the PM monitor?
f) What communities/public spaces are receptive to such an installation?

Since 2018, the District deployed low cost sensors, Purple Air PA-II PM sensors, in 42 locations, although some sites have been decommissioned. Some of these sites include existing District PM monitoring stations to use as quality control check sensors for the community monitoring network.

3.0 Summary of Work Completed and Work in Progress

From July 2021 to March 2022 the following tasks associated with the Community Monitoring program were completed or work was started.

- **Communication and Public Outreach**
  District staff continued to maintain a webpage specific to the Community Air Protection Program and the District's use of low-cost sensors. The page provides an explanation of the purpose and limitations of low-cost sensors. Additionally, it has a link to all sensor data within the District boundaries. The sensor data are used in conjunction with permanent and portable District monitors and other resources for health advisories and in providing real time data to the public. District staff continues to work on a routine basis to ensure this webpage is up to date and that all of the District's sensors are active and reporting data.

- **Sensor Maintenance**
  Several sensors required replacement or maintenance. Issues have ranged from complete failure, to divergence of sensor channels to connection and reporting issues. District staff was responsive to identifying and resolving all issues to ensure the community monitors were active. District staff time included frequent data checks to ensure monitors were operational.

- **Additional Monitoring Locations**
  During the reporting period from July 1, 2021 to March 25, 2022 District staff installed sensors in the following new locations:
    - Shoshone, Inyo County, CA
    - Home Street Middle School, Bishop, Inyo County, CA (public school location)
    - West Bishop, Inyo County, CA (to provide additional data for the communities in west part of town where no monitoring has been conducted)
    - Bishop Paiute Tribe Monitoring Station, Bishop, Inyo County, CA
    - Big Pine, Inyo County, CA

- **Deployable Low-Cost Sensor Unit**
  Work continues to improve, maintain and deploy a self sufficient low cost sensor unit designed with it's own power and communication system. This system can be used in areas that traditional purple airs or EBAM units cannot be deployed due to lack of line power or wifi. The unit will allow us to expand our monitoring capabilities to include additional areas to help inform the public of air quality impacts.

4.0 Program Costs

This document covers the time period from grant execution, July 1, 2021 to March 25, 2022. A grant disbursement request form is being submitted along with this report.

Task	Staff Time Worked (July 1, 2021- March 25, 2022)	Cost
Staff hours (billed at $76.17 per hour for all staff) • Sensor equipment and site maintenance • Data management and analysis • Website Updates/Revisions • Planning Meetings *See Attachment A for details*	110.5	$8,416.79
Additional Expenses (Mounting equipment, installation materials, communication devices and connection, travel) etc. *See Attachment B for details*	n/a	$ 4,443.52
Total Cost Performed by District for this period	--	$12,860.31
Invoiced to CARB	--	**$12,758.00**

Additional details are provided regarding the specifics are provided on following pages.

The G19-CAPP-11 grant has funds for $12,758.00. This will be the first and final disbursement request. Follow disbursement there will be no remaining amount in the grant funds.

Attachment A. AB 617 Grant Funds Tracking

Pay Period	Ann Logan		Kim Mitchell		Chris Lanane		Chris Howard		Travis Powell	
7/1-7/15/21	-	-	-	-	-	-	2.50	190.43	21.00	1,599.57
7/16-7/31/21	-	-	-	-	-	-	-	-	13.00	990.21
8/1-8/15/21	-	-	-	-	-	-	4.50	342.77	-	-
8/16-8/30/21	-	-	-	-	-	-	2.00	152.34	4.00	304.68
9/1-9/15/21	-	-	-	-	-	-	5.00	380.85	-	-
9/16-9/30/21	1.00	76.17	-	-	-	-	6.00	457.02	-	-
10/1-10/15/21	-	-	-	-	-	-	13.50	1,028.30	-	-
10/16-10/31/21	-	-	-	-	-	-	-	-	-	-
11/1-11/15/21	-	-	-	-	-	-	-	-	-	-
11/16-11/30/21	1.00	76.17	-	-	-	-	-	-	-	-
12/1-12/15/21	-	-	-	-	-	-	-	-	-	-
12/16-12/31/21	-	-	-	-	-	-	-	-	-	-
1/1-1/15/22	2.00	152.34	-	-	-	-	-	-	-	-
1/16-1/31/22	5.00	380.85	-	-	-	-	7.00	533.19	-	-
2/1-2/15/22	-	-	-	-	-	-	1.00	76.17	-	-
2/16-2/28/22	4.00	304.68	-	-	-	-	3.00	228.51	-	-
3/1-3/15/22	8.00	609.36	-	-	-	-	-	-	-	-
3/16-3/31/22	5.00	380.85					2.00	152.34		
SUBTOTALS	**26.00**	**1,980.42**	**-**	**-**	**-**	**-**	**46.50**	**3,541.91**	**38.00**	**2,894.46**
TOTAL STAFF HOURS			**110.50**							
TOTAL STAFF COST		**$**	**8,416.79**							

Attachment B. AB 617 Expenses

Date	Amount	Expense	Detail
6/25/2021	$1.23	Communication	Verizon, Raven line, monthly charge
6/25/2021	$38.03	Communication	Verizon, Raven line, monthly charge
6/27/2021	$144.86	Mounting/Installation Hardware	Amazon, connectors, router,voltage regulator
7/1/2021	$30.94	Mounting/Installation Hardware	ACE Hardware, fasteners, silicone
7/8/2021	$11.39	Mounting/Installation Hardware	ACE Hardware, fasteners, washers
7/8/2021	$4.02	Mounting/Installation Hardware	ACE Hardware, nuts
7/12/2021	$29.23	Installation supplies	Amazon, tubing kit, USB cable
8/10/2021	$83.17	Deployable Sensor Unit Materials	Adafruit, cables & other supplies
8/12/2021	$546.17	Deployable Sensor Unit Materials	Solar Panel Store, battery box enclosure, solar panel
8/12/2021	$21.72	Deployable Sensor Unit Materials	Amazon, voltage regulator
8/17/2021	$40.01	Communication	Verizon, Raven line, monthly charge
8/17/2021	$115.00	Deployable Sensor Unit Materials	Adafruit, cables & other supplies
8/19/2021	$62.09	Deployable Sensor Unit Materials	Adafruit, switch
8/19/2021	$40.73	Mounting/Installation Hardware	McMaster-Carr, aluminum sheets
8/24/2021	$23.90	Mounting/Installation Hardware	ACE hardware, steel
8/25/2021	$13.01	Installation supplies	Amazon, connectors
8/27/2021	$129.39	Installation supplies	Digi-key cable, plug, connector
9/17/2021	$40.01	Communication	Verizon, Raven line, monthly charge
9/28/2021	$54.14	Travel- Gas	Travel for deployment
10/5/2021	$2,732.35	Low Cost Sensor Units	PurpleAir, PA-II PO2021/22-15CBH
10/5/2021	$16.92	Installation supplies	Amazon, electrical cable staples (CBH)
10/7/2021	$25.03	Installation supplies	Walmart, marking tags (CBH)
10/17/2021	$40.01	Communication	Verizon, Raven line, monthly charge
11/17/2021	$40.07	Communication	Verizon, Raven line, monthly charge
12/17/2021	$40.03	Communication	Verizon, Raven line, monthly charge
1/7/2022	$40.01	Communication	Verizon, Raven line, monthly charge
2/17/2022	$40.05	Communication	Verizon, Raven line, monthly charge
3/11/2022	$40.01	Communication	Verizon, Raven line, monthly charge
Total	**$4,443.52**		