

DELTA MOSQUITO & VECTOR CONTROL DISTRICT

Dr. Mustapha Debboun
General Manager

1737 West Houston Avenue * Visalia, California 93291
Phone (559) 732-8606 * (877) 732-8606 * Fax (559)-732-7441

Mir Bear-Johnson
Assistant Manager

Hector Cardenas
Operations Program Manager

www.deltamvcd.org

Crystal Grippin
Scientific Program Manager

Mary Ellen Gomez
Administrative Assistant



Erick Arriaga
Community Education & Outreach Coordinator

Rick Alvarez
Vector Control Supervisor

Paul Harlien
Foreman

DATE: Friday, September 9, 2022

TO: Board of Trustees, Delta Mosquito and Vector Control District (DMVCD)

FROM: Dr. Mustapha Debboun, General Manager

SUBJECT: Regular Meeting of the District's Board of Trustees

TIME: Wednesday, September 14, 2022 at 4:30 p.m.

PLACE: District Boardroom, 1737 West Houston Avenue, Visalia CA, 93291

AGENDA:

1. ROLL CALL

2. PUBLIC FORUM (LIMITED TO THREE MINUTES PER SPEAKER)

- a) Members of the public may comment on any item not on the Agenda that is within the jurisdiction of the Board of Trustees (Board). Under state law, matters presented during public comment cannot be discussed or acted upon by the Board in this meeting.
- b) For items on the Agenda, the public is invited to make comments during the public comment period.
- c) Any person addressing the Board will be limited to a maximum of three (3) minutes. Public comments will be limited to a total of 15 minutes during the public comment period.
- d) If there are more than five (5) persons wishing to comment, then time will be divided equally between all persons wishing to speak, so that everyone has an opportunity to address the Board.

- ACTION** **3. CONSENT CALENDAR**
 a) August Minutes
 b) August Bills (Board Orders #6, #7)
 c) September Payroll (Board Order #8)
 d) September Bills (Board Order #9)
- 4. STAFF REPORT**
 The General Manager will report on items of District operational interest.

- ACTION** **5. DISPOSAL OF SURPLUS VEHICLE**
- The General Manager will request from the Board of Trustees to sell or dispose of an old and non-functional vehicle.

- ACTION** **6. NON-ELECTIVE COMPONENT**
- The Board will set the premium component required for medical health coverage in the Section 125 plan maintained by the District
- 7. REAPPOINTMENTS**
 The General Manager will poll Trustees up for reappointment as to whether they want a letter sent on their behalf to the appointing authority.
- 8. AB1234 AND AB1825 TRAINING REQUIREMENTS**
 The General Manager will remind Trustees of their requirements for Ethics and Harassment training.
- 9. BOARD MEMBER COMMENTS**
 The Board members will have a chance to make any additional comments regarding items within the jurisdiction of the District.
- 10. FUTURE AGENDA ITEMS**
 The Board members will have a chance to add future agenda items if they choose to.
- ACTION** **11. ADJOURNMENT**
 Adjourn meeting of the Board of Trustees to reconvene on Wednesday, October 12, 2022, at 4:30 p.m. in the Delta Mosquito and Vector Control District Boardroom, 1737 W. Houston Ave., Visalia, CA.

Note: Items designated for information are appropriate for Board action if the Board wishes to take action

1. ROLL CALL

2. PUBLIC FORUM

3. CONSENT CALENDAR

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Minutes of the Board of Trustees – Wednesday, August 10, 2022, Start: 4:30 p.m.

1. **Roll Call:**

Present: Greg Gomez, President; Belen Gomez, Secretary; Linda Guttierrez, Larry Roberts, Kevin Caskey, and Rosemary Hellwig

Absent: None

Staff: Dr. Mustapha Debboun, General Manager; Mir Bear-Johnson, Assistant Manager

2. **Public Forum:**

None

3. **Consent Calendar:**

Following discussion, it was moved by Kevin Caskey, seconded by Belen Gomez, and unanimously approved to accept the consent calendar as presented.

4. **Staff Report:**

Dr. Debboun gave an overview of the current field and laboratory operations, specifically discussing the cyclic nature of West Nile virus and issue of the mosquito larvae breeding in corn fields and the extreme hot weather. He also discussed the current staffing of personnel and informed the Board that four members of our staff passed the California Department of Pesticide Regulation (DPR) aircraft pilot certification exam and Drone applications will begin soon. Board members were encouraged to relate the dates and times of events that the District attends in a community education and outreach capacity.

5. **Board of Trustees and General Manager Award of Appreciation:**

Following discussion, it was moved by Larry Roberts, seconded by Rosemary Hellwig, and unanimously approved to establish a new quarterly certificate of recognition given to the recipient of the award that is signed by the Board of Trustees and General Manager

and a perpetual plaque noting the name and quarter of the award recipients posted in the District.

6. 2022-2023 Fiscal Budget Amended

Following discussion, it was moved by Belen Gomez, seconded by Larry Roberts and the Board members unanimously approved the amended 2022/2023 budget as presented.

7. 100-Year Anniversary Celebration Update:

Dr. Debboun updated the Board about the planning and preparation for the upcoming 100-Year Anniversary and Celebration of Delta Mosquito and Vector Control District (DMVCD) that is scheduled on October 8, 2022 at the District from 10:00 am to 2:00 pm.

8. Work From Home Policy Update:

Following discussion, it was moved by Rosemary Hellwig, seconded by Belen Gomez and the Board members unanimously approved the updated Work From Home Policy.

9. Board Member Comments:

Dr. Debboun informed the Board that Michael Cavanagh resigned from the DMVCD's Board of Trustees effective July 26, 2022. The Board members also discussed options on how they can be contacted on the DMVCD website.

10. Future Agenda Items:

There were no future agenda items brought up.

11. Adjournment:

It was moved by Larry Roberts, seconded by Belen Gomez, and the Board unanimously approved to adjourn the meeting of the DMVCD's Board of Trustees at 5:33 p.m.

Dr. Mustapha Debboun, Recording Secretary

CLAIM #	PAYEE	DESCRIPTION	Budget Line Item	AMOUNT
36894	DELTA VECTOR CONTROL DIST - EFTPS	GASB 68 Reports Classic & PEPRA		700.00
		<i>Total Payroll Items</i>		\$700.00
36895	AUTO ZONE	Starter & Safety Switch T13, Air flow sensor/e-brake cable T35, Fan clutch & Starter T15	Auto Supplies	645.11
36896	AWARDS AND SIGNS	(10) Door Decals & (3) Decals for T45	Name/Logo Change	205.34
36897	CENTRAL VALLEY BUSINESS FORMS	General Business Cards	Office Supplies	51.94
36898	CITY OF VISALIA	Utilities	Utilities	117.97
36899	CLINE'S	BizHub c368 Color Copier	Capital - Office Equipment	5,423.92
36900	ESRI	ArcGIS License annual fee	Subscriptions	6,300.00
36901	HOME DEPOT			2,335.13
		3ft cord and microfibers clothes	77.71 Fish Supplies	
		Contact cleaners, 12Volt batteries, insect sticky traps, drill bit, electrical tape	2257.42 Lab Supplies	
36902	LIFE TECHNOLOGIES	Annual Service Agreement	Professional Services	7,740.00
36903	LOWES			1,355.94
		2016 & 2032 batteries, bulbs,	63.28 Building/Yard	
		Silicone grease, O-rings, 5gal bucket & lid, fittings, adapters, bushings	239.18 Fish Supplies	
		Spray paint, PVC, twist nozzle, broom handle, tape measurer, 6v battery	1053.48 Lab Supplies	
36904	ULINE	7ml transfer pipettes	Lab Supplies	106.03
36905	VALLEY INDUSTRIAL MEDICAL GROUP	Pre-employment Physicals (2) seasonal employees	Professional Services	250.00
36906	WEST COAST BIOTECH	Waste Disposal	Lab Supplies	140.00
		TOTAL BILLS		\$24,671.38
		TOTAL BOARD ORDER #6		\$25,371.38

CLAIM #	PAYEE	DESCRIPTION	Budget Line Item	AMOUNT
36907	PAUL RAPER	Vector Control Tech II		1,769.40
36908	PAUL RAPER	Vector Control Tech II (Overtime)		40.09
36909	ADRIAN SIFUENTES	Vector Control Tech II		1,867.51
36910	ADRIAN SIFUENTES	Vector Control Tech II (Overtime)		20.05
36911	ESMERALDA ANDRADE-BEDOLLA	Vector Control Tech I		1,070.54
36912	ZACKERY BARRAGAN	Laboratory Tech I		972.97
36913	CHRISTIAN FLORES	Vector Control Tech I		1,224.84
36914	ALEJANDRA GILL	Laboratory Tech I		1,326.37
36915	REBECCA HARLIEN	Vector Control Tech I		1,078.54
36916	BRYCE HARRIS	Laboratory Tech I		873.55
36917	MERRITT HORNING	Vector Control Tech I		1,070.54
36918	ALYSIA INGRIM	Vector Control Tech I		1,142.01
36919	JUDITH LOPEZ	Vector Control Tech I		570.97
36920	DOLORES MALDONADO	Laboratory Tech I		1,252.98
36921	JAKE MALDONADO	Vector Control Tech I		1,191.82
36922	JUAN PABLO ORTEGA	Laboratory Tech II		1,705.48
36923	BRENDA RODRIGUEZ VIVAR	Laboratory Tech I		777.19
36924	CARLOS RODRIGUEZ	Vector Control Tech II		1,817.55
36925	CARLOS RODRIGUEZ	Vector Control Tech II (Overtime)		66.94
36926	BRYAN RUIZ	Vector Control Tech III (Overtime)		501.56
36927	LISA SALGADO	Vector Control Tech I		1,160.40
36928	RYAN SPRATT	Vector Control Tech I		1,169.34
36929	DAVID TOWNSEND	Vector Control Tech I		1,022.26
36930	KORY WILSON	Vector Control Tech I		1,177.72
36931	DELTA VECTOR CONTROL DIST - EFTPS	Social Security/ Medicare/ Federal Income Tax		6,291.44
36932	DELTA VECTOR CONTROL DIST - EFTPS	State Income Tax		524.33
36933	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Retirement		1,733.70
36934	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Health (Proration)		508.77
		TOTAL PAYROLL		\$33,928.86
36935	CATALINA MURO DELGADILLO	Deposit: Rental of tables, chairs, canopies, portable bathrooms (100 Year Celebration)	Name Logo & Celebration	341.75
36936	CLARKE	BG Catch Bag	Lab Assessment	160.28
36937	COMCAST BUSINESS	Internet	Telephone/Cellphones	337.36
36938	ENTERPRISE FLEET MANAGEMENT	Leased Vehicles	Capital - Vehicles	2,037.12
36939	LINXUP	Fleet GPS	GPS	1,719.14
36940	UC DAVIS	Tableau explorer	Subscriptions	252.00
36941	VALLEY PACIFIC	Fuel	Fuel	6,368.90
		TOTAL BILLS		\$11,216.55
		TOTAL BOARD ORDER #7		\$45,145.41

September Payroll

Board Order No. 8
Consent Calendar Exhibit IV

VOUCHER	PAYEE	DESCRIPTION	Budget Line Item	AMOUNT
36942	DEBBOUN, MUSTAPHA	MANAGER		9,234.37
36943	BEAR-JOHNSON, MIR	ASSISTANT MANAGER		2,542.00
36979	BEAR-JOHNSON, MIR	ASSISTANT MANAGER - Sick Leave Payout		2,022.58
36980	BEAR-JOHNSON, MIR	ASSISTANT MANAGER - Vacation Payout		8,998.01
36944	ALVAREZ, RICK	VECTOR CONTROL SUPERVISOR		5,713.06
36945	ARRIAGA, ERICK	COMMUNITY EDUCATION & OUTREACH COORDINATOR		4,670.92
36946	CARDENAS, HECTOR	OPERATIONS PROGRAM MANAGER		5,900.30
36947	COULTER, KAYLA	ADMINISTRATIVE ANALYST		1,622.28
36948	FERGUSON, BRYAN	VECTOR CONTROL TECHNICIAN III/MECHANIC		5,283.57
36949	GOMEZ, MARY ELLEN	ADMINISTRATIVE ASSISTANT		4,677.21
36950	GRIPPIN, CRYSTAL	SCIENTIFIC PROGRAM MANAGER		6,001.23
36951	HARLIEN, PAUL	FOREMAN		5,521.61
36952	NAKATA, MARK	BIOLOGIST		5,735.84
36953	RUIZ, BRYAN	VECTOR CONTROL TECHNICIAN III		5,719.39
36954	SANCHEZ, MARIO	VECTOR CONTROL TECHNICIAN III/MECHANIC		4,334.85
36955	TROUPIN, ANDREA	BIOLOGIST		5,347.76
36956	VALDIVIAS, JAVIER	BIOLOGIST		5,441.79
		<i>Sub-Total Full-Time Payroll</i>		\$88,766.77
36957	VSP	Vision Plan Premium		553.33
36958	DELTA DENTAL PLAN	Dental Plan Premium		1,579.13
36959	LINCOLN FINANCIAL GROUP	Life/STD & LTD Insurance		1,238.55
36960	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Health Insurance Premium		26,547.13
36961	DELTA VECTOR CONTROL DIST - EFTPS	Social Security/ Medicare/ Federal Income Tax	Employee 71% - District 29%	35,989.76
36962	DELTA VECTOR CONTROL DIST - EFTPS	State Income Tax	Employee 100%	6,318.40
36963	DELTA VECTOR CONTROL DIST - EFTPS	CalPERS Retirement	Employee 40% - District 60%	19,313.79
36964	DELTA VECT CONT DIST	Flex Benefit Plan	Employee 100%	1,174.96
36965	ICMA RETIREMENT TRUST	Deferred Retirement Trust	Employee 77% - District 23%	1,119.31
		<i>Total for Full-Time Payroll Taxes & Benefits</i>		\$ 182,601.13
36966	AT&T	AT&T Long Distance	Telephone/Cellphones	24.87
36967	CENTRAL VALLEY BUSINESS FORMS	Door Hangers	Office Supplies	193.07
36968	DEBBOUN, MUSTAPHA	Per Diem - SOVE	Travel	892.50
36969	EMD NETWORKING SERVICES			3235.17
		VOIP phone system	430.00 Telephone/cellphones	
		Monthly Contract - September	2589.25 Maint Contract	
		5 - UPN user licenses	215.92 Subscriptions	
36970	FRESNO OXYGEN	Dry Ice	Lab Supplies	67.02
36971	GRIPPIN, CRYSTAL	Per Diem - SOVE	Travel	773.50
36972	HARBOR FREIGHT TOOLS	Sewage pump, Extension pole, Lever, Tape measure, Cutoff, Flap disc, Soft shackle, Battery	Building/Yard	256.35
36973	MOMENTUM BROADCASTING	July 2022 Radio Commercial	Advertising	720.00
36974	SO CAL GAS	Utilities	Utilities	39.47
36975	THERMO FISHER	Taqman fast virus	Lab Supplies	1,901.90

September Payroll

Board Order No. 8
Consent Calendar Exhibit IV

VOUCHER	PAYEE	DESCRIPTION		Budget Line Item	AMOUNT
36976	TULARE COUNTY SOLID WASTE	Wood waste		Building/Yard	15.00
36977	US BANK				10,023.15
		Costco-Ice cream, Cookies	35.47	Miscellaneous Expense	
		Adobe Creative Cloud	599.88	Subscriptions	
		Premier Food Safety Corp.	7.95	Lab Supplies	
		Costco - Spoons, Cups, Forks, Coffee, Gatorade	299.25	Office Supplies	
		Costco - Towels, bags, Soap, Clorox wipes	162.91	Janitorial	
		United Airlines - Dr. Debboun ESA	528.08	Travel	
		Air Canada - Dr. Debboun ESA	20.00	Travel	
		Applebee's - Lunch	35.37	Travel	
		King Buffet - Lunch	88.70	Travel	
		Entomological Society membership - Dr. Debboun	355.00	Dues	
		Parts Geek - Tailgate handle	69.70	Auto Supplies	
		Stockwise Auto - HVAC, Blower motor	52.65	Auto Supplies	
		Kato Pharmaceuticals - 35gal fuel caddy	96.99	Operational	
		Walmart - Distilled water, Alcohol, Cotton balls	43.66	Lab Supplies	
		Walmart - Sharpie	9.97	Office Supplies	
		Production Automation - Eyepieces	163.01	Lab Supplies	
		Elitech - (4) Humidity date loggers	156.20	Lab Assessment	
		Houston Feed - Rabbit food	20.60	Lab Assessment	
		Amazon - CO2 monitor	75.84	Lab Assessment	
		John W Hock - Tripod	230.33	Lab Assessment	
		DIGI key - Festo QBS	264.41	Lab Assessment	
		Coleman - (7) 1 gal jugs	68.30	Lab Assessment	
		Aquarium Co-op - ICH X, Water sprite	112.36	Fish Supplies	
		US Chef Store - Sugar, Yeast	146.61	Lab Assessment	
		GNC - Brewer's yeast	105.52	Lab Assessment	
		Amazon - 35pk airstones	56.36	Lab - Assessment	
		Savemart - Dry ice	223.88	Lab Assessment	
		Pentair Aquatic Eco Sys	123.48	Fish Supplies	
		Amazon - Dental Wick, Conical Centrifuge Tubes	71.99	Lab Assessment	
		Amazon - Petg filament, Tripod light stand	226.85	Lab Supplies	
		Hemostat - 100 ml Chicken blood	856.61	Lab Supplies	
		Petco.com - Aquarium Test kit and nets	93.99	Fish Supplies	
		Petco.com - Fish food	12.50	Lab Assessment	
		Dream Host	3.00	Subscriptions	
		John W Hock Co - Collection bottle rotator, Hanging collection set	1718.69	Lab Assessment	
		Filterbuy - Lab Filters	109.63	Building/Yard	
		Indeed - Job Ads	390.00	Advertisements	
		Siptrunk- Efax	280.88	Telephone/Cellphones	
		GoogleSuites	204.00	Subscriptions	
		AMCA - Dr. Debboun, Mir Bear-Johnson, Mark Nakata, Andrea Troupin - 7/1/22-6/30/23 Dues	620.00	Dues	
		Amazon - (3) Aluminum tool boxes	702.78	Auto Supplies	
		Snack Attack Vending - Control Board	124.99	Building/Yard	
		USPS - Letter to Air Commissions	4.76	Office Supplies	
		Mary Ann Liebert Publishing- Dr. Debboun 6 page publication	450.00	Continuing Education	
36978	VESERIS/ES OPCO USA	Altosid pellets wsp 50/pk - 14 cases		Operational	11,179.84
			<i>Total Bills</i>		\$29,321.84
			<i>Total Board Order #8</i>		\$ 211,922.97

4. STAFF REPORT

DELTA MOSQUITO & VECTOR CONTROL **DISTRICT**

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REPORT OF THE MANAGER **AUGUST 2022**

I. Water and Weather

The temperature remained high throughout the month of August. The Delta Mosquito and Vector Control District (DMVCD) Weather Station reported an average high temperature of 99.7°F with an average low of 69.4°F and 0.15 inches of rainfall. The National Oceanic and Atmospheric Administration 1981-2010 seasonal averages for high and low temperatures in August were 93.2°F and 64.9°F respectively, with average rainfall of 0.00 inches.

Water storage at Pine Flat Reservoir decreased to 133,113 acre-feet by the end of August and its inflow decreased to 316 cubic feet per second (CFS) and its release greatly decreased to 923 CFS. The Lake Kaweah Reservoir had less water than the previous month with 15,503 acre-feet on August 31, 2022. Lake Kaweah's inflow decreased, showing 21 CFS and its release decreased to 165 CFS.

II. Narrative

Judith Lopez, a seasonal Technician I joined our team on August 12th, and is working with the Urban Team. She has been assigned to work in zone 15 which is northeast Visalia.

Urban staff have completed the neglected fly-over pool list completing 493 potential neglected pools.

Wide area larviciding (WAL's) continued for August. Staff completed a total of 15 applications for WAL's and treated a total of 750 acres of residential properties targeting the yellow fever mosquito, *Aedes aegypti*.

Field operations received 227 service requests in August which consisted of a vector control technician inspecting the reported property for any standing water that can breed mosquito larvae. During this time, the technician uses an integrated vector management strategy to reduce any mosquito breeding found.

In addition, technicians use this opportunity to educate residents on mosquito breeding prevention, and how to protect themselves from mosquito bites. Field staff completed a total of 4,496 mosquito inspections throughout the District including rural and urban locations. Staff conducted 1,020 larval applications, and continued storm drain operations for August. They treated 10,708 storm drains in relation to streets, parks, commercial complexes, and parking lots. Storm drains are treated using a 30-day residual product, Altosid WSP and inspections are done monthly.

The District completed 14 adult mosquito treatments for August, covering approximately 4,118 acres of urban area. In addition, to the urban applications, the staff treated approximately 3,888 acres in rural locations, i.e., areas of Goshen, Dinuba, Visalia, Peral, Delft Colony, and Ivanhoe.

The Woodlake aerial application was conducted on August 2, 2022 by Blair Air Services. The plane dispensed 120 pounds of Altosid XRG Ultra covering 12 acres.

In collaboration with the Leading Edge Technologies, the District performed its first larviciding mission on August 30 and August 31, 2022 on the northwest area of Visalia. This was a 2-day rural operation that covered 144 treated acres near the residential border of Visalia. The District also conducted an adult mosquito treatment operation on September 1 in the northwest section of Visalia to reduce mosquito abundance and viral transmission.

Due to the 1997 Chevrolet Silverado truck's extreme old age of 25 years, high mileage of 169,626 miles, and the need of extensive repair to the transmission, the General Manager recommends to auction this vehicle on Govdeals.com which is a liquidity service marketplace. The District plans to send this vehicle to auction on September 15 for an 8-day auction ending on September 23. The vehicle will be placed on auction with a starting bid of \$2,300.00 upon Board approval.

Routine mosquito surveillance continued throughout August. A total of 57,016 mosquitoes were collected across 1,629 trap nights. The District-wide average of 35.0 mosquitoes per trap night for August is 53.5% higher than the previous 5-year average of 22.8 and 28.8% higher than the 2021 average of 21.7 mosquitoes per trap night. The top 3 mosquito species trapped in August were *Culex quinquefasciatus* at 71.7%, followed by *Ae. aegypti* at 24.2% and *Cx. tarsalis* at 2.7%. Compared to August of 2021, the top three mosquito species trapped were *Cx. quinquefasciatus* at 71.2%, followed by *Ae. aegypti* at 15.3% and *Cx. tarsalis* at 8.6% of mosquito total abundance.

Mosquito-borne disease testing for West Nile virus (WNV), St. Louis Encephalitis virus (SLEV), and Western Equine Encephalitis virus (WEEV) continued in August. The DMVCD tested 1,015 mosquito samples and 1 bird carcass collected in August, with 355 mosquito samples (34.9% tested positive) and one dead bird positive for WNV. In August of 2021, 594 mosquito samples and 1 dead bird were collected with 120 mosquito samples (20.2% tested positive) and 1 dead bird positive for WNV. So far in 2022, a total of 615 mosquito samples, out of 3,137 samples tested (19.6% tested positive for WNV). At this time last year, 166 mosquito samples out of 1,642 mosquito samples collected (10.1% tested positive for WNV).

There were 6 technician and homeowner mosquitofish requests in August and staff distributed a total of 164 mosquitofish. In August of 2021, there were 20 technician and homeowner mosquitofish requests with a total distribution of 459 mosquitofish. A total of 927 mosquitofish fry were produced in August 2022. In August 2021, 244 fry were produced. Recently, mosquitofish in the outdoor holding tanks died from a mosquitofish disease. The outdoor tanks underwent extensive cleaning and treatment to reduce further death of mosquitofish.

A total of 52 mosquito larvae samples were brought to the laboratory for processing. Susceptible *Cx. quinquefasciatus*, *Cx. tarsalis*, and *Ae. aegypti* colonies were maintained for insecticide resistance testing.

In August 2022, DMVCD attended 8 outreach events, i.e., Visalia Flea Market, Visalia Farmers Market, and Visalia Rawhide baseball games. These events averaged 15-30 residents who were educated on mosquito prevention. Our presence in the District continues to increase and the engagement with the residents has also increased.

A general timeline for the 100-Year Anniversary and Celebration event is as follows:

7:00 am – Most of District vehicles will be moved to the nearby school parking lot. The educational outreach van will shuttle drivers back and forth.

7:30 am - Set up canopies for each display station i.e., laboratory, operations, and education and outreach.

8:30 am - Staff Breakfast

9:00 am - Food setup for guests

10:00 am - Commencement of the 100-Year Anniversary and Celebration event

10:30 am - Facility tours begin and run every 30 minutes.

2:00 pm - Close the gate after the last guest has left.

2:00 pm - Shuttle drivers to pick-up District vehicles from the school parking lot.

2:30 pm - Pick up rental equipment

Promotional items such as pens, drink koozies, drawstring bags, etc. that were ordered for the celebration will be arriving throughout September in time for the 100-Year Anniversary and Celebration event.

Using the Tulare County Library as a resource, we learned from a newspaper article from 1922, the District was established by the Board of Supervisors on September 19, 1922.

There were 222 service requests in August:

2022 Service Request Summary

2022	Fish	Inspection	Mosquito	Source	Other	Total
January	0	0	0	5	0	5
February	2	0	7	7	0	16
March	4	0	7	14	0	25

April	12	0	10	17	0	39
May	15	6	9	23	0	53
June	15	43	28	36	0	122
July	9	29	86	24	1	149
August	9	17	153	48	0	227
Total	66	95	300	174	1	636

III. Vector and Disease Surveillance

Delta MVCD Summaries

Humans: There was one human case of WNV reported by the local public health department for August.

Birds: One dead bird tested positive for WNV in August. In 2022, two dead birds tested positive for WNV out of the eight dead birds tested so far.

Mosquitoes: In August, 355 mosquito samples, i.e., (34.9%) were positive for WNV out of the 1,015 samples tested. A total of 3,137 mosquito samples have been tested with 615, i.e., (19.6%) samples positive for WNV so far in 2022.

State Surveillance:

Humans: 35 human cases of WNV from 12 counties have been reported so far in 2022.

Birds: 113 (11.4%) dead birds from 19 counties have tested positive for WNV. So far, 984 dead birds have been tested in 2022.

Mosquitoes: 2,136 (7.7%) mosquito samples have tested positive for WNV out of 27,682 samples tested in 2022. Additionally, 69 (0.28%) mosquito samples have tested positive for SLEV out of 24,468 mosquito samples tested in 2022.

IV. Expenditures & Revenues – 2022/23

TOTAL BUDGET \$4,833,308.73

EXPENDITURES – July 1, 2022 – August 31, 2022

Salaries	\$961,191.29
Services & Supplies	\$271,099.37
Tax Admin Fee	\$0.00
Capital	\$7461.04
Long Term Debt	\$0.00
TOTAL EXPENDITURES	\$1,239,751.70

REVENUE RECEIVED – July 1, 2022 – August 31, 2022

July	\$1,120.28
August	\$0.00
TOTAL REVENUE TO DATE	\$1,120.28

V. Time Sheet Summary

Month	Available Work Hrs	Sick Hrs Used	Total Hrs Available for Work	Pct. Of Hrs Avail for Work
July	5,880	20.5	5,859.5	99.65
August	6,440	39.5	6,400.5	99.38

The District has a vacation policy that requires 24-hour notice in order to ensure the operational integrity of the workforce. Sick leave for doctor, dentist and/ or family medical necessity also requires advance notice- in so much as it is possible. Illness is unplanned and therefore unscheduled. Attendance records for the current year are shown in the table.

DELTA MOSQUITO & VECTOR CONTROL DISTRICT (DMVCD)

2021/22 AT A GLANCE



100 YEARS OF SERVICE

Delta MVCD was established in September 19, 1922

DMVCD STRATEGY

Protect the Public Health from mosquito bites and vector-borne diseases using Integrated Vector Management (IVM)



TOP 3 MOSQUITO SPECIES COLLECTED

- Culex quinquefasciatus* 75.3%
- Aedes aegypti* 14.34%
- Culex tarsalis* 4.8%

Mosquito Samples Tested

6,189

5 Human West Nile virus Cases

17 Mosquito Species

Mosquito samples contain up to 50 mosquitoes

20 Dead birds tested

7 Birds positive for West Nile virus

MOSQUITO-BREEDING SOURCES

13,487 Catch Basins

2,855 Mosquito Sources

43,369 Source Inspections

1,538 Service Requests

302,457 Mosquitoes Trapped

Total Inspections 136,343

DMVCD DRONE APPLICATION OVER CORNFIELD IN VISALIA



COMMUNITY EDUCATION & OUTREACH

- Events / Presentations 76
- Participants 412
- Radio Spots 80
- Newspaper Ads 8

SCIENTIFIC PUBLICATIONS 10
POSTERS 12



PREVENT THE BITE DAY & NIGHT



Tip
Standing Water Weekly



Toss
Unused Containers



Repel
with EPA-Registered Insect repellents



Summary Report on PrecisionVision 35X UAS Aerial Adulticiding and Larviciding Applications

Delta Mosquito & Vector Control District

August 29th - September 3rd, 2022

DRAFT

Leading Edge Aerial Technologies, Inc.
506 Fentress Blvd. Suite B
Daytona Beach, Florida 32114
www.leaaerialtech.com

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1. Introduction

1.1 Purpose

The purpose of these services was to perform aerial applications with an extended residual larvicide and an ultra-low volume (ULV) adulticide using the PrecisionVision 35X (PV35X) unmanned aerial system (UAS) as part of the integrated mosquito management (IMM) program maintained by the Delta Mosquito & Vector Control District (Delta MVCD). Additional benefits for the district were recurrency training for the PV35X UAS, understanding and deploying Best Management Practices (BMP's) associated with aerial applications, while emphasizing safe and efficient operational procedures of aerial applications with the PV35X UAS.

The aerial applications were targeted in locations that are difficult or impossible to access and treat by traditional methods. To date, 21% of all mosquito pools have tested positive for West Nile virus (WNV) across the district. According to District staff, a vast majority of these WNV positive mosquitoes have come from the targeted areas within the project site.

1.2 Background

Leading Edge Aerial Technologies, Inc. has a rich history in unmanned aircraft systems, aerial applications, evaluating efficacious droplet spectra and BMPs that allow for interpreting the effectiveness of mosquito control activities by ULV, using rotating air sampling systems for droplet collection and bioassay cages for adult mosquitoes (Image 1). Since 2015, Leading Edge has also completed numerous field evaluations for efficacious applications of larvicidal treatments by UAS (both granular and liquid) for mosquito control.

1.3 Schedule

Leading Edge Aerial Technologies, Inc., and Target Specialty Products, represented by Joe Camacho, arrived at the District on August 30, 2022. The following application scheduled was planned for the week:

- Tuesday morning – training and field planning for both larvicide and adulticide applications
 - o Training of district employees on the PV35X UAS
 - o Introduction of aerial adulticide training for district personnel
 - o Installation of PV35X granular application payload
 - o Established teams for adulticide application
- Tuesday afternoon – begin granular larviciding over 85 acres
- Wednesday morning – complete granular larviciding
- Wednesday afternoon – prepare for adulticide applications for Thursday 4:30 am
- Thursday morning
 - o Execute adulticiding applications for Ridgeview and Amazon treatment sites
 - o Process collected bioassay cages, slides containing droplets and flight recordings

1.4 Methods: Larvicide Treatment

An 85-acre location consisting of dense corn crop was treated using Altosid XRG Ultra at 10 lbs./acre. Six capture bins were placed inside the corn to confirm the penetration of granules through the dense corn canopy and effectively depositing into the standing water at ground level. The average number of granules deposited in the six bins was 14, ranging from 8-26 granules. Image 1 shows the bin positioned in the dense canopy. Image 2 shows the granules collected after one application pass in this location. The size of the bins were .0054 acres or 238 sq. ft. This confirms the application rate between 8-12 pounds of product applied per acre. Image 3 shows the treatment site (gold polygon) of the PV35X UAS larviciding application and image 4 shows the flight path recordings.



Image 1: Bin placed within corn to collect granules



Image 2: Altosid granules collected in bin after aerial application



Image 3: Larvicide treatment polygon

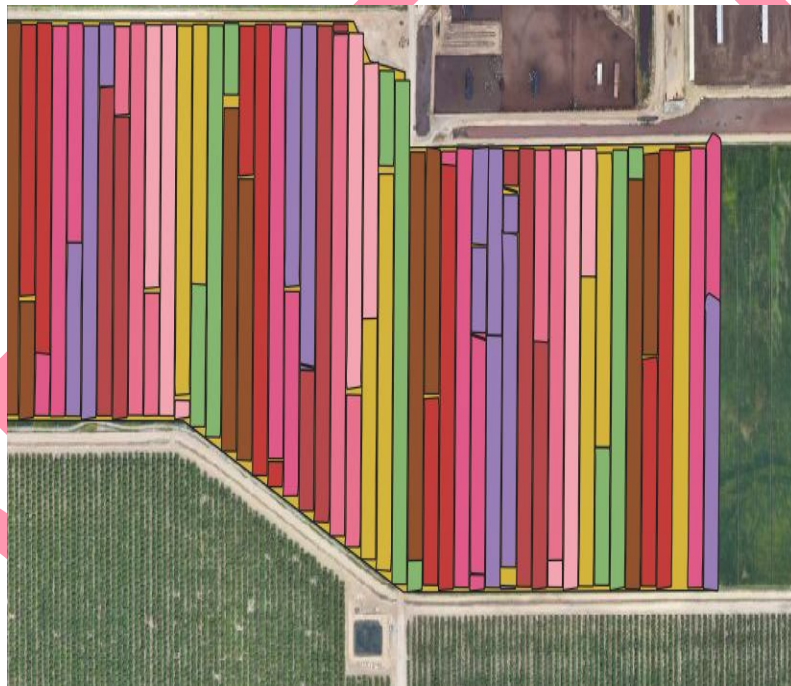


Image 4: Flight recording where Altosid XRG Ultra was applied

1.5 Methods: Adulthood Treatment

For this work, two bioassay field cages were positioned on a horizontal stand, with one cage in the canopy of the corn field and one outside of the canopy whenever possible (image 5). In some instances, both cages were positioned outside of the canopy due to restricted access from irrigation ditches along the corn field. Each cage contained between 20-30 adult mosquitoes. Two control sites were also included, one with two bioassay cages in the field and one with two bioassay cages located back at the district lab.

Positioned at the top of the stand was a Leading Edge air sampler, rotating between 540-580 RPM, collecting droplets applied by the PV35X UAS while it was in flight. These droplets fluxed through the air with the intention of penetrating the adult bioassay field cages (image 6). The cages contained wild caught female *Culex quinquefasciatus* mosquitoes to monitor for adult mosquito mortality. Emulsified into the adulticide was a fluorescent tracer dye. Using the DropVision FL system (image 6), only droplets from the adulticide product would be visualized and counted. In this type of agricultural setting, many “imposter” droplets can be produced and deposited on the slides from other airborne materials. The fluorescent droplets deposited on the sampler slides confirm the presence of the adulticide fluxing through the air. The size, number and density of the droplets will be compared to the percent mortality of the adult mosquitoes, further defining the efficacy of the adulticide application.



Image 5: Field bioassay cages and rotating droplet sampler



Image 6: DropVision fluorescence illuminating droplets from slides from the field

There were two aerial adulticide treatment sites. Ridgeview and Amazon. Image 7 shows the treatment sites. Ridgeview is shown as a green polygon (right), and the Amazon site is shown as a brown polygon. The sites respectively were 160 acres and 82 acres. The first flight was launched 30 minutes prior to official sunrise and completed within 20 minutes (image 8).



Image 7: Aerial adulticide treatment sites

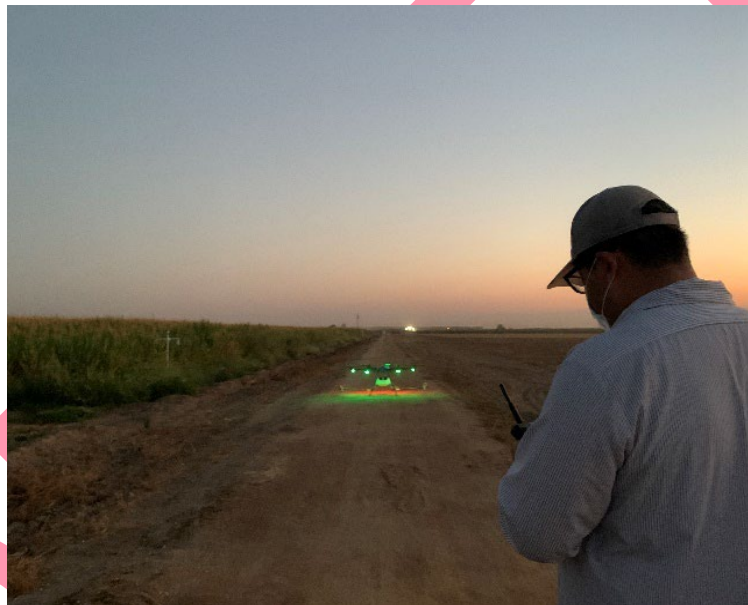


Image 8: Delta's UAS pilot Hector Cardenas prepares for take-off just before sunrise

Images 9 & 10 show the flight recording of the two adulticiding applications. At the Amazon location (image 10), the points instead of swath are displayed, showing that at any point during the flight, the data can be displayed which show the speed, height, spray status, location, date and time, which is captured every second of the flight.

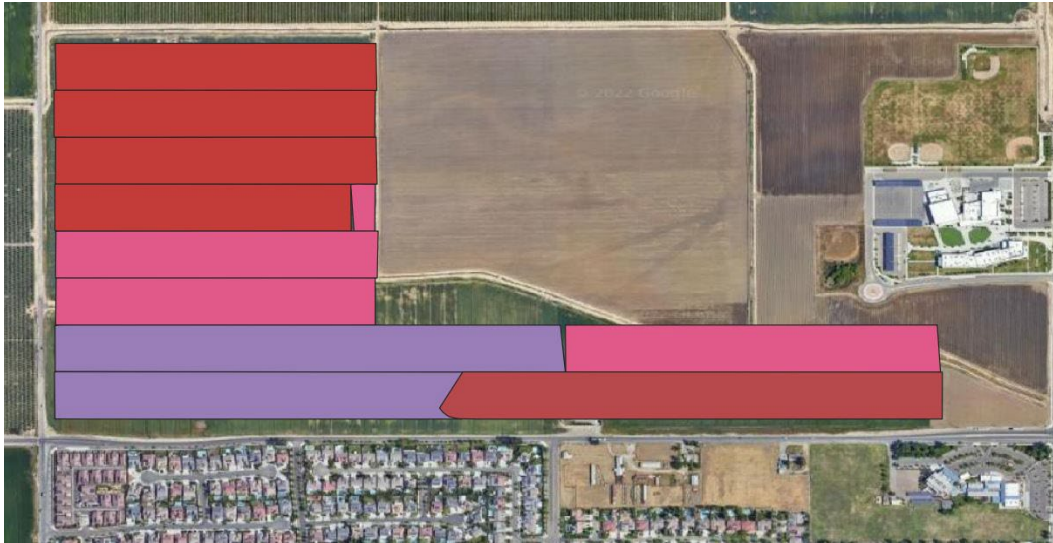


Image 9: Adulticide flight path at Ridgeview

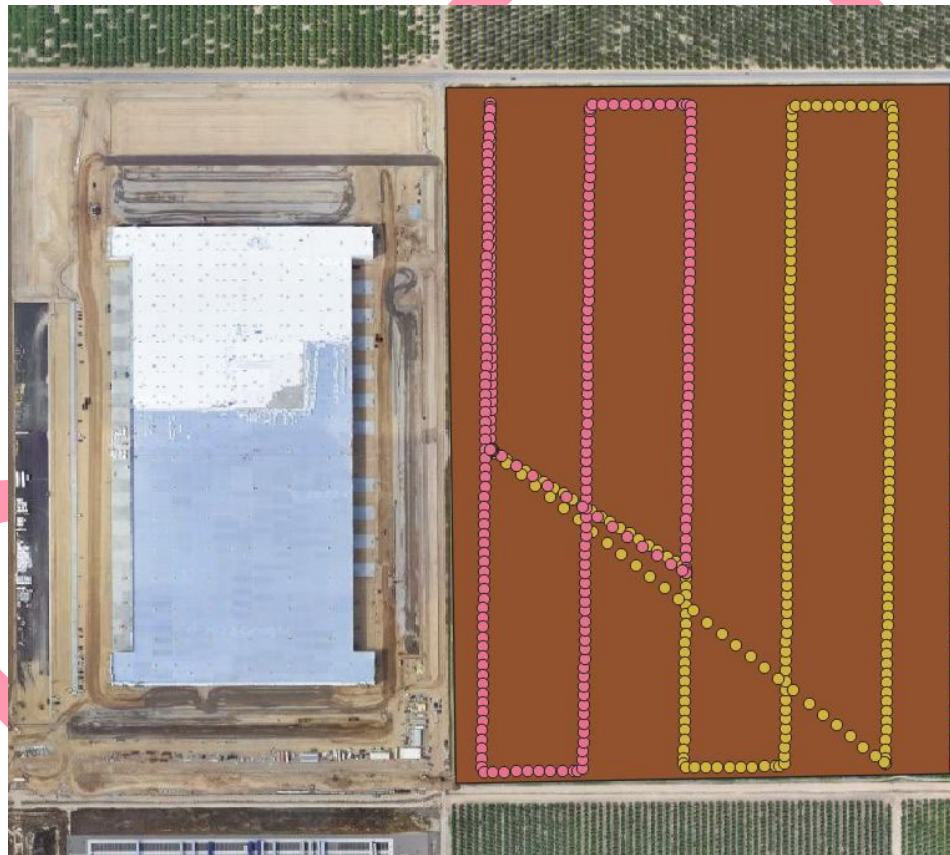


Image 10: Flight path recordings of the adulticide application at Amazon site

Adulticide Results

Bioassay cages resulted in an overall average mortality of 19%. Please refer to section 1.6 for further information regarding the low efficacy results. The District's regular pre- and post adult trap counts will need to be used to determine the effectiveness of the applications.

1.6 Challenges for ULV Applications

- These applications were targeted in locations that are difficult or impossible to survey, access and treat by traditional ground equipment
- Historically and currently, the mosquito species in these locations have tested positive for West Nile virus, a pathogenic mosquito-transmitted arbovirus. *Culex quinquefasciatus*, *Culex tarsalis* and *Culex stigmatosoma* are known to be competent or vectors of this pathogen, posing a high risk to the human population residing near the corn fields. Trap counts reveal much higher than acceptable numbers of all three of these species.
- It is documented that the mosquito species in these locations show significant resistance to adulticides that are commercially available for aerial application. A bottle bioassay was performed by the Delta MVCD on Wednesday, August 29th showing a 40% mortality for etofenprox. Prior bottle bioassay results for Pyronyl 525 oil showed a 60% mortality and was selected for this application instead of etofenprox.
- Meteorological conditions were not optimal for the locations treated. Specifically, wind speeds were light and variable (0-1 mph) for the Ridgeview site (180 acres). Wind conditions for the Amazon treatment site were more favorable, with wind speeds 2-3 mph from the east. **It should be noted that a minimum of 3-4 mph of wind is required for the droplets to penetrate the cages. Unfortunately, the meteorological conditions were not optimal at the time of application for this to occur. Therefore, to assess the final effectiveness of both adulticide and larvicide aerial applications by the PV35X, pre- and post-treatment trap counts will need to be included from the district's adult surveillance efforts. Larval surveillance within the corn fields is physically impractical if not impossible.**

2.0 Mosquito Trap Results TBD (District's trap counts pre- and post-treatment)

2.1

2.2

3.0 Conclusion

Leading Edge Aerial Technologies, Inc. would like to thank the district's Board, General Manager Dr. Mustapha Debboun, Assistant Manager Mir Bear-Johnson, Operations Program Manager Hector Cardenas, Scientific Program Manager Crystal Grippin and all the incredibly talented and dedicated staff at Delta Mosquito & Vector Control District. Many objectives were achieved, specifically and in review:

1. Recurrent training on the complete system operation and deployment of the PrecisionVision 35X UAS for aerial larviciding
2. Recurrent training on the complete system operation and deployment of the PrecisionVision 35X UAS for aerial adulticiding payload system
3. Complete training on the installation, removal, and installation of both the larviciding and adulticiding payload systems
4. Flight training safety for the PrecisionVision 35X
5. Review and recurrent training on the PrecisionVision battery and battery charging system

6. Fundamental and basic training for aerial adulticiding operations
7. Basic training on the DropVision Fluorescence system including field deployment of the collection sampling system and the DropVision Fluorescence system analysis of each collection slide

Operational mosquito control is extremely challenging (please refer to section 1.6 Challenges). With resistance to most mosquito adulticides in the areas surrounding Delta MVCD's operations, in addition to the challenging meteorological conditions, it was expected the efficacy in the bioassay cages would be less than optimal. The district's routine pre- and post-application trap results will have to be used to determine the efficacy of the aerial applications. Continued applications, both larviciding and adulticiding are recommended to reduce significant adult trap counts, ultimate positively impacting the spread of West Nile virus from the mosquito population to the residents in the surrounding neighborhoods.

DRAFT

Mir Bear-Johnson
2436 W Cambridge Ave.
Visalia, CA 93277
m*****@gmail.com

August 26, 2022

Dr. Debboun and Trustees
Delta Mosquito and Vector Control District
1737 W Houston Ave.
Visalia, CA 93291

Dear Dr. Debboun and Trustees:

It has been a pleasure to be able to work at Delta Mosquito and Vector Control District for five years, and I've greatly appreciated the experiences and opportunities that I have had. However, due to a personal desire to be closer to family, I am resigning my role as Assistant Manager and my last day will be September 9, 2022.

I've greatly enjoyed my time here and wish the District the best in the future. I hope that I am leaving the District in a good place and will do my best to ensure that my knowledge is properly conveyed to the staff prior to my departure. Please feel free to contact me, I have included my personal phone number and email address above.

All the best,

A handwritten signature in blue ink, appearing to read 'Mir Bear-Johnson', with a long horizontal flourish extending to the right.

Mir Bear-Johnson

5. DISPOSAL OF SURPLUS VEHICLE

6. NON-ELECTIVE COMPONENT

CalPERS

Retirees

	Min Employer Contribution		RATE	AB 2544	
	Set By		HAS BEEN	# years * 5% * Minimum contribution	formula used
before 2004	Legislature	\$16.00	\$1.00		
2004	Annually	\$32.20	2.61	0.05	
2005		\$48.40	5.03	0.10	
2006		\$64.60	8.26	0.15	
2007		\$80.80	12.30	0.20	16.16
2008		\$97.00	<i>17.15</i>	0.25	\$24.25
2009	CalPers	\$101.00	<i>22.20</i>	0.30	\$30.30
2010	PEMHCA	\$105.00	<i>27.45</i>	0.35	\$36.75
2011	CPI-Med	\$108.00	<i>32.85</i>	0.40	\$43.20
2012	component	\$112.00	<i>38.45</i>	0.45	\$50.40
2013		\$115.00	<i>44.20</i>	0.50	\$57.50
2014		\$119.00	<i>50.15</i>	0.55	\$65.45
2015		\$122.00	<i>56.25</i>	0.60	\$73.20
2016		\$125.00	<i>62.50</i>	0.65	\$81.25
2017		\$128.00	<i>68.90</i>	0.70	\$89.60
2018		\$133.00	<i>75.55</i>	0.75	\$99.75
2019		\$136.00	<i>82.35</i>	0.80	\$108.80
2020		\$139.00	<i>89.30</i>	0.85	\$118.15
2021		\$143.00	<i>96.45</i>	0.90	\$128.70
2022		\$149.00	<i>103.90</i>	0.95	\$141.55
2023		<i>\$152.73</i>	<i>111.54</i>	1.00	<i>\$152.73</i>

this was our
old rate
prior to AB2544

7. REAPPOINTMENTS

Delta MVCD Trustee Terms and Trainings

Name of Trustees	Area	Term End	AB1825 - Due (Harassment Prevention)	AB1234 - Due (Ethics Training)
BELEN GOMEZ	CITY OF WOODLAKE	12/31/2022	2022	2022
GREG GOMEZ	CITY OF FARMERSVILLE	12/31/2023	2023	2023
KEVIN CASKEY	COUNTY AT LARGE	12/31/2022	2022	2022
LARRY ROBERTS	CITY OF DINUBA	12/31/2022	2022	2023
LINDA GUTTIERREZ	COUNTY AT LARGE	12/31/2023	2022	2022
ROSEMARY HELLWIG	CITY OF EXETER	12/31/2023	2022	2022
Vacant*	CITY OF VISALIA	*	*	*

8. AB1234 AND AB1825 TRAINING REQUIREMENTS

Delta MVCD Trustee Terms and Trainings

Name of Trustees	Area	Term End	AB1825 - Due (Harassment Prevention)	AB1234 - Due (Ethics Training)
BELEN GOMEZ	CITY OF WOODLAKE	12/31/2022	2022	2022
GREG GOMEZ	CITY OF FARMERSVILLE	12/31/2023	2023	2023
KEVIN CASKEY	COUNTY AT LARGE	12/31/2022	2022	2022
LARRY ROBERTS	CITY OF DINUBA	12/31/2022	2022	2023
LINDA GUTTIERREZ	COUNTY AT LARGE	12/31/2023	2022	2022
ROSEMARY HELLWIG	CITY OF EXETER	12/31/2023	2022	2022
Vacant*	CITY OF VISALIA	*	*	*

9. BOARD MEMBER COMMENTS

10. FUTURE AGENDA ITEMS

11. ADJOURNMENT