

A. Applicant Information

Please complete the fields below; place an 'X' in check boxes.

1. Jurisdiction Type	<input checked="" type="checkbox"/> City/Town	<input type="checkbox"/> County	<input type="checkbox"/> Other	
2. Jurisdiction Name	City of Hattiesburg			
3. County	Forrest/Lamar			
4. Applicant Name	Jennifer Shows			
5. Applicant Title	Grant Coordinator			
6. Applicant Email	jshows@hattiesburgms.com			
7. Applicant Phone	601-545-4544			

8. Please enter a brief overview of jurisdiction's current mosquito control efforts. If no current efforts are being undertaken, please say "No current mosquito control efforts."

The City of Hattiesburg's Mosquito Control Program is responsible for administering and implementing mosquito control activities within the city limits. The Mosquito Control Program operates out of the Public Works Department, Health Division. The City of Hattiesburg utilizes the concept of Integrated Pest Management for mosquito control. The Mosquito Control Program operates with 6 employees who are full-time in other capacities with the Public Works Department. In addition to mosquito control, the Health Division of the Public Works Department cuts grass, cleans ditches, performs demolition, sprays herbicides, picks up leaves, moves standing water, and picks up litter. While working in the Mosquito Control Program, these 6 employees work overtime. Each employee works overtime either in the morning or at night conducting mosquito control activities. All 6 employees combined work a total of 30 hours overtime each week on mosquito control activities. The City of Hattiesburg's Mosquito Control Program is seasonal and operates April through November. The Mosquito Control Program performs chemical control through fogging and larvicide; source reduction through collecting tires, removing debris and removing standing water from ditches; active monitoring of areas with abandoned pools and reporting violations to code enforcement, as well as responding to the public's complaints of mosquitoes. The spraying schedule is composed of morning and evening crews. The City of Hattiesburg is divided into Wards 1-5 and those Wards are split in two for spraying purposes. The morning crew sprays the top half of the Ward, while the evening crew sprays the bottom half of the ward. Four Trucks have water-based spray, and one truck has oil-based spray. The oil-based truck rotates from Ward to Ward each day on each shift.

9. Mosquito Control Program	<input type="checkbox"/> Year-round	<input checked="" type="checkbox"/> Seasonal
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B. Problem Statement

Review the Problem Statement below. In a short paragraph, articulate the Problem Statement's applicability and special considerations to your jurisdiction.

West Nile virus is the leading cause of domestically-acquired mosquito-borne disease in the United States. Several other domestic mosquito-borne viruses also cause seasonal outbreaks and sporadic disease, such as eastern equine encephalitis and La Crosse. Other exotic arboviruses are threats for introduction into the U.S. (for example, chikungunya, yellow fever, Japanese encephalitis, and Zika viruses). Different mosquito vectors, viruses, animal hosts, and environmental factors contribute to variations in geographic distribution, disease incidence, clinical manifestations, and outcomes.

The public health infrastructure for addressing mosquito-borne diseases in some Mississippi jurisdictions is inadequate for a variety of reasons, including insufficient funding, equipment, supplies, and staffing of trained personnel.

The City of Hattiesburg's public health infrastructure is inadequate to effectively fight mosquitoes due to insufficient funding. The current City of Hattiesburg Mosquito Control Program does not have a dedicated budget. Insecticides are purchased out of the chemical budget line item. As far as a personnel budget for mosquito control, the City of Hattiesburg pays full-time Public Works Employees overtime to administer mosquito control activities. The City of Hattiesburg would like to have a mosquito control division that is devoted to mosquito-related endeavors; however, there is no funding for such a division. The City of Hattiesburg is at capacity with its current spraying schedule of morning and night. Additional funding would allow employees to receive further training and education, and purchase advanced technology in surveillance as well as equipment. This funding from MSDH will also allow for the City of Hattiesburg to implement its own surveillance activities. The success of the current City of Hattiesburg Mosquito Control Program depends on budget funding to provide maintenance to mosquito equipment and vehicles, purchase materials, and provide overtime compensation to employees who operate mosquito equipment after hours. With the price of mosquito chemicals increasing and officials continuing to decrease budget funding, additional funding is integral to combat mosquito-borne diseases.

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C. Current Budget

Enter the average dollar amount under Annual Budget that is allotted for your jurisdiction's mosquito control program. Enter the Personnel Budget as a separate line item from your Overall Budget. In the white space under the item, provide any comments you might have (optional).

Category	Annual Budget
Overall Budget (Excluding Personnel)	\$ 29,264
<p>The City of Hattiesburg, Public Works Department, Health Division, has a chemical budget, not solely a mosquito control budget. The total amount spent on chemicals in FY 2018 was \$29,264.15.</p>	
Personnel	\$129,906
<p>The Personnel Budget is comprised of 6 employees who, combined, work a total of 30 hours of overtime each week in order to perform mosquito control efforts. Employees either work overtime in the morning or evening, depending on what shift they are working. Mosquito control is performed April-November, or 35 weeks per year.</p>	
Total	\$159,170

D. Current Capacity

Please indicate under Quantity the number or amount of items currently owned. In the white space under the item, please provide a brief description.

Category	Qty
Equipment	
Hand-carry ULV sprayer	
Hand-carry thermal fogger	
Backpack ULV sprayer	2
Backpack thermal fogger	
Truck-mounted or trailer-mounted ULV sprayer	5
Other-type vehicle mounted ULV sprayer	
GPS Navigation for Mosquito Control	
Residual Sprayer or granular/liquid larvicide applicator	
Powered backpack (sprayer/duster for liquid and granular applications)	
Pump-type	
Hose-end	
Vehicle-mounted or trailer-mounted (e.g., liquid power gun)	
Mosquito traps	
BG Sentinel trap	
Gravid trap	
CDC light trap	
EVS trap	
Fay-Prince trap	
Wilton trap	
Autocidal gravid ovitrap	
Little Black Jar (LBJ) trap	
Other	
Other	
Adulticide	
Permanone 30-30, Synthetic pyrethroid (30% permethrin, 30% PBO)	1
Aqua Perm-X UL 30-30 mixed with water	4

D. Current Capacity	
Please indicate under Quantity the number or amount of items currently owned. In the white space under the item, please provide a brief description.	
Category	Qty
Larvicide	
Altosid XR and 4 star briquets	2
Equipment calibration and maintenance	
Oil-based equipment calibration 10 oz. per minute and water-based equipment calibration 10 oz. per minute. Equipment is inspected daily before each spraying cycle.	Daily
Educational Outreach	
Source Reduction	
Collecting tires, cleaning ditches of standing water, debris removal	Daily
Surveillance	
Health Department	As Needed
Contracts (Aerial, Ground, Etc.)	
N/A	

E. Current Staff

Please list all staff associated with mosquito control, with their titles, brief description of their role with mosquitoes, whether they personally perform mosquito control, whether they have their Category 8 Pesticide Applicator's License, and whether they are Full or Part Time.

#	Name	Title	Role with Mosquitoes	MMVCA Member	Performs Mosquito Control	Cat. 8 License	FT/PT
1	Keith Parks	Division Manager	Manager	N	N	N	PT
2	Tim Bass	Crew Worker	Sprayer	N	Y	N	PT
3	Charles Page	Foreman	Sprayer	N	Y	Y	PT
4	Claude Knight	Equipment Operator	Sprayer	N	Y	N	PT
5	Derrick Richmond	Mechanic	Sprayer	N	Y	N	PT
6	Teresa Evans-Williams	Administrative Assistant	Sprayer	N	Y	N	PT
7	Dwight Temple	Crew Worker	Sprayer	N	Y	N	PT
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F. Work Plan

For each activity, provide detailed descriptions and timelines for each grant strategy. Discuss your jurisdiction's ability to conduct the work (capacity) and include performance measures. A performance measure is a *quantifiable* indicator used to assess how well an organization is achieving its desired objectives. Place an 'X' in the Check Box if the activity will be performed.

Subactivity		Check Box	Work Plan Narrative
Strategy 1: Develop and implement vector control capacity			
Activity 1. Mosquito Control Staffing			
1	Ensure that all staff are appropriately trained and certified or licensed. Seek a Category 8 Public Health Pest Control certification and keep current every three years.	X	The COH Public Works Department will send three (3) people to Category 8 training in March 2019.
Activity 2. Public Education			
1	Institute a public education program emphasizing personal responsibility, ways in which people can prevent mosquito breeding, and how they can reduce the risk of being bitten by observing personal protection measures.	X	Hold public meetings by Ward of the City or by neighborhood association on source reduction and breeding. Have examples at meeting of source reduction. Assess performance through a follow-up meeting or by going door-to-door. Activity will be conducted October 2018 - July 2019.
2	Institute community cleanup programs to eliminate larval habitats from backyards, commercial sites and abandoned premises.	X	Deliberate with president of neighborhood associations to launch community cleanup days for source reduction through removal of abandoned properties and placing larvicide into abandoned pools of water. Assess performance through conducting trapping activities. Conduct two assessments of mosquito trappings to see if the number of mosquitoes has decreased. Activity will be conducted October 2018 - July 2019.
Activity 3. Participate in DHEC Mosquito-Borne Disease Surveillance and <i>Aedes aegypti</i> and <i>Aedes albopictus</i> mapping program			
1	Submit mosquitoes for virus testing to MSDH PHL. (Mandatory)	X	COH Public Works Department submits mosquitoes for virus testing to MSDH. Assess effectiveness by looking at the mosquito ratio at one point in time and then a second point in time. Activity will be conducted April 2019 - July 2019.
2	Conduct mosquito surveillance activities to assess presence/absence of <i>Aedes aegypti</i> and <i>Aedes albopictus</i> mosquitoes. Report weekly written trapping data to the MSDH PHL. (Mandatory)	X	COH Public Works Department conducts trapping of mosquitoes. Focus on a certain geographical area by placing traps there. Count the mosquitoes that are trapped. Spray in that area for 2-3 weeks and conduct trapping activities again to test for effectiveness. Activity will be conducted April 2019 - July 2019.

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Subactivity		Check Box	Work Plan Narrative
Activity 4. Mosquito Control			
1	Clearly define a statement of services or deliverables for the following three actions. Each of these needs to be discussed in terms of: (1) <i>Actions</i> to be performed; (2) <i>Area</i> to be covered; and (3) <i>Resources</i> [equipment, vehicles, staff, insecticides, etc.] that will be provided. Explain your jurisdiction's ability to obtain financial support for mosquito control activities OR demonstrate sustainability of a mosquito control program without continued financial support, whether operated for nuisance control or to protect the public's health. Local taxes and fees are common sources for funding programs.		
	Source Reduction (Environmental Sanitation) and Education. Remove and dispose of water-holding containers that may allow mosquito larvae and pupae to develop. Disseminate educational materials as appropriate for the type of housing and areas where containers may be found. Explain timing and repetitiveness of inspections.	X	The City of Hattiesburg already participates in Source Reduction and Education through the removal and disposal of water-holding containers. Wards 1-5 are the areas covered. The 6 paid staff of the Mosquito Control Program complete these tasks. Financial support of mosquito control activities comes from local taxes and fees. Activity will be conducted June 2018 - July 2019.
	Door-to-Door Home Visits.	X	The City of Hattiesburg already participates in door-to-door home visits in Wards 1-5. The 6 paid staff of the Mosquito Control conduct the visits. Financial support of mosquito control activities comes from local taxes and fees. Activity will be conducted June 2018 - July 2019.
	Larvicides or Pupicides. Use chemicals or biological agents to kill or prevent development of mosquito immature stages.	X	The City of Hattiesburg already participates in using larvicides to kill and/or prevent the development of mosquitoes in Wards 1-5. The 6 paid staff of the Mosquito Control Program conduct this task with insecticides, equipment, and vehicles. Financial support of mosquito control activities comes from local taxes and fees. Activity will be conducted June 2018 - July 2019.
	Adulticides. Use chemicals or biological agents to kill or prevent development of mosquito adult stages.	X	The City of Hattiesburg already participates in using adulticides to kill and/or prevent the development of mosquitoes in Wards 1-5. The 6 paid staff of the Mosquito Control Program conduct this task with insecticides, equipment, and vehicles. Financial support of mosquito control activities comes from local taxes and fees. Activity will be conducted June 2018 - July 2019.
2	Institute basic mosquito population monitoring to define the problem and determine the effectiveness of mosquito control. Report weekly written trapping data to the MSDH PHL. (Mandatory)	X	Assess performance of mosquito control population control methods through conducting mosquito trapping activities. Conduct two assessments of mosquito trappings to see if the number of mosquitoes has decreased. Activity will be conducted April 2019 - July 2019.

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Subactivity		Check Box	Work Plan Narrative
3	Properly store, maintain, and calibrate mosquito control equipment.	X	The City of Hattiesburg Public Works Department ensures that the mosquito control equipment is properly stored and maintained. Mosquito control equipment is properly calibrated before spraying begins each April. If the chemicals do not work, the equipment will be recalibrated. Activity will be conducted June 2018 - July 2019.
4	Adhere to Mosquito Control Best Practices as defined by the AMCA: American Mosquito Control Association. Best Management Practices for Integrated Mosquito Management 2009. Available at goo.gl/78TPrX		
5	Ensure the willingness of your jurisdiction to enter into a mutual aid agreement with a neighboring jurisdiction to share resources for mosquito control and how that sharing might occur.		The City of Hattiesburg does not have the resources to enter into a mutual aid agreement with a neighboring jurisdiction for mosquito control.

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Subactivity		Check Box	Work Plan Narrative
Strategy 2: Develop a mosquito-borne disease response plan.			
Activity 1: Preparedness - vector present or possible in the jurisdiction			
1	Appoint a representative to coordinate mosquito-borne disease response efforts for your jurisdiction and serve as your designated Point of Contact (POC) to DHEC.	X	The City of Hattiesburg Public Works Department will appoint an individual to become certified in Category 8 Public Health Pest Control and become a member of the MMCVA. This individual will serve as the designated Point of Contact to DHEC. Activity will be conducted October 2018 - July 2019.
2	Review and assess your local mosquito control capacity and capability. If you do not currently have a vector control program, consider establishing a mutual aid agreement for mosquito control services with a neighboring jurisdiction.		
3	Review (or develop as needed) a vector-borne disease preparedness and response plan, and tailor as appropriate for Zika.	X	The current vector-borne disease preparedness and response plan can be tailored to responding to Zika and West Nile. When the Public Works Department receives notification from either the State Health Department or the Forrest County Health Department regarding a vector-borne disease, a map of the 10-block radius of the infected area is sent. The Public Works Department sprays this area for 1.5 hours every morning and evening for at least one week. Then COH Public Works Department performs trapping activities to see if anything else turns up and submits mosquitoes to MSDH for testing. If something else turns up, the whole process is completed again. Activity will be conducted October 2018 - July 2019.
4	Ensure coordination with state public health officials so vector control and human surveillance activities can be linked.	X	COH Public Works Department collaborates with MSDH on vector control and human surveillance activities as the above work plan outlines. MSDH trains COH on surveillance activities. COH Public Works collaborates with COH GIS Division on creating and implementing a GIS System to monitor major sources of larval adult mosquitoes and document areas where control measures have been implemented. Activity will be conducted October 2018 - July 2019, with the majority of activities taking place April 2019 - July 2019.
5	Initiate a public awareness campaign, with primary messaging focusing on personal protection against mosquitoes (e.g., "fight the bite") and residential source reduction (e.g., "tip 'n toss").	X	Raise awareness of mosquito preparedness through neighborhood meetings, school outreach activities, and by having booths at community events such as Hub Fest, Earth Day, Right Way to Throw Away, and Night Out Against Crime. Assess the effectiveness through follow-up meetings. Activity will take place October 2018 - July 2019.

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Subactivity		Check Box	Work Plan Narrative
6	Plan preparedness and mitigation activities to reduce the likelihood of transmission from mosquitoes, including: reduce habitat/potential breeding sites, initiate community clean-up efforts, initiate public information campaigns encouraging yard clean up, use of insecticides, encourage placement of window screens etc.	X	Conduct source reduction activities, spray, conduct door-to-door education and awareness, collect tires daily, pick up debris and anything that can hold water daily, and wipe out ditches that hold water daily. Activity will be conducted April 2019 - July 2019.
7	Review and, as necessary, conduct mosquito surveillance activities to assess presence of <i>Aedes aegypti</i> and <i>Aedes albopictus</i> mosquitoes.		

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Subactivity		Check Box	Work Plan Narrative
Activity 2: Suspected/Confirmed Travel-Associated Case - Mosquito Season - travel-related or sexually transmitted cases			
1	Enact the county's established notification process for a confirmed case of mosquito-borne virus and formulate a plan of action/response. Upon Notification from MSDH, activate response activities to be performed once a travel case has been identified.	X	An email is sent from the Forrest County Health Department or MSDH regarding a mosquito-borne virus along with a map of the 10-block radius of the infected area. The Public Works Department sprays this area for 1.5 hours every morning and evening for at least a week. Then the COH Public Works Department performs trapping activities to see if anything else turns up and sends mosquitoes for testing to MSDH. If something else turns up, the whole process is completed again. Activity will take place April 2019 - July 2019, if needed.
2	To perform public health education within a defined radius surrounding a case.	X	Hold neighborhood meeting in the area with the case as public education, not stating that the case was in that neighborhood. Activity will take place April 2019 - July 2019, if needed.
3	To perform adulticiding within a defined radius surrounding a case.	X	The Public Works Department sprays this area for 1.5 hours every morning and evening for at least a week. COH Public Works Department performs trapping activities to see if anything else turns up and sends mosquitos for testing to MSDH. If something else turns up, the whole process is completed again. Activity will take place April 2019 - July 2019, if needed.
4	To perform larval control activities within a defined radius surrounding a case.	X	Larvicide tablets are thrown into standing water. The tablets last 30-60 days. Effectiveness is tested by returning to the area and seeing if mosquitos are still there. Activity will take place April 2019 - July 2019, if needed.
Activity 3. Confirmed Local Transmission: single, locally acquired case, or cases clustered in a single household occurring <2 weeks apart; <u>OR</u> Confirmed Multiperson Local Transmission: virus illnesses with onsets occurring ≥2 weeks apart but within an approximately 1 mile (1.5 km) diameter			
1	In conjunction with MSDH, perform the same basic elements of response as in Activity 2 with travel-related cases, but increase the intensity of intervention and scale of resources that are committed.	X	An email is sent from the Forrest County Health Department or MSDH regarding a mosquito-borne virus along with a map of the 10-block radius of the infected area. The Public Works Department sprays this area for 1.5 hours every morning and evening for at least a week. The COH Public Works Department performs trapping activities to see if anything else turns up and sends mosquitoes to MSDH for testing. If something else turns up, the whole process is completed again. Activity will take place April 2019 - July 2019, if needed.

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Subactivity		Check Box	Work Plan Narrative
Strategy 3. Develop a program for insecticide resistance monitoring and management. Insecticide resistance has been demonstrated in almost every class of insecticide. Insecticide resistance, which is an inheritable trait, usually leads to significant reduction in the susceptibility of insect populations which renders insecticide treatments ineffective.			
Activity 1: Include basic insecticide resistance-management techniques:			
1	Utilize physical control/source reduction and biological control methodologies to the maximum extent practicable.	X	The City of Hattiesburg Mosquito Control Program will utilize physical control/source reduction through collecting debris and removing tires. Activity will be conducted June 2018 - July 2019.
2	Avoid the use of the same class of chemical against both immature and adult mosquitoes.		
3	Apply pesticide at the rate recommended on the label. Do not underdose.	X	The City of Hattiesburg Mosquito Control Program applies pesticide at the rate recommended on the label of the chemicals. Activity will take place April 2019 - July 2019.
4	Utilize a different chemical class at the beginning and end of treatment season.		
5	Assess susceptibility at the beginning and sometime during the mosquito season.	X	COH Public Works Department conducts trapping of mosquitoes in areas of the City. Focus on a certain geographical area by placing traps there. Count the mosquitoes that are trapped. Spray in that area for 2-3 weeks and conduct trapping activities again to test for effectiveness. Activity will take place April 2019 - July 2019.
Activity 2: Participate in insecticide resistance studies			
1	Either alone or in conjunction with MSDH, participate in insecticide resistance studies. Bioassays are used to monitor insecticide resistance in mosquitoes. The CDC bottle bioassay determines if a particular formulation (combination of the active ingredient in the insecticide and inactive ingredients) is able to kill a mosquito, at a specific location at a given time. Insecticide selection must be based on resistance testing results. https://goo.gl/EdfDZs	X	The City of Hattiesburg's Mosquito Control Program will participate in insecticide resistance studies in conjunction with MSDH. The City of Hattiesburg's Mosquito Control is very limited in terms of funding and staff but with the support of the MSDH, the City would be able to participate. Activity will take place April 2019 - July 2019.

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G. Budget Request

Use the budget spreadsheet to request items for which you would like to receive funds. If you are requesting items that are different from the suggested listed values, list your requested items under 'Other'. All items have to be approved by MSDH prior to purchase.

Item	Budget Justification	Qty	\$/Unit	Total \$
SURVEILLANCE				
BG Sentinel 2 Mosquito Trap (Mandatory Ask)	The BG-Sentinel 2 trap is especially attractive for the <i>Aedes aegypti</i> mosquito, the <i>Aedes albopictus</i> mosquito, the <i>Culex quinquefasciatus</i> mosquito, and selected other species. (You must ask for this item and its accessories.)	0	\$223	\$0
DC Battery Pack, with charger (12 V/14 AmpHr)	Battery pack for BG Sentinel 2 Mosquito Trap	0	\$170	\$0
Human Skin Non-Toxic, Chemical Lure	Used in combination with the BG Sentinel 2 trap, a dispenser which releases a combination of mosquito attractants that are also found on human skin (ammonia, lactic acid, and caproic acid)	0	\$32	\$0
Octenol Lure, 2 grams	Used in combination with the BG Sentinel 2 trap, a lure containing the mosquito attractant octenol, which is also found on human skin	0	\$10	\$0
#1012 New Standard Miniature Light Trap, 6 VDC. (Mandatory Ask)	Portable sampling device for mosquitoes.	4	\$151	\$604
#1712 CDC Gravid Trap, 6 VDC. (Mandatory Ask)	Used for trapping mosquitoes with vector borne diseases.	5	\$95	\$475
#2.30 Sealed, Gelled-Electrolyte Battery, 6 V, 10 Amp Hrs. (Mandatory Ask)	Battery used in light traps.	10	\$29	\$290
#2.88.6 Automatic charger for two 6 V batteries, input of 110 AC, 50/60Hz. (Mandatory Ask)	Used to recharge batteries.	5	\$225	\$1,125
#2.90.6 Automatic charger for one 6 V battery, input of 110 AC, 50/60Hz. (Mandatory Ask)	Used to recharge batteries.	0	\$123	\$0
MOSQUITO CONTROL				
Truck-Mounted ULV Fogger: London Foggers Model 18-20 High Output ULV Aerosol Generator	A truck-mounted ULV fogger is needed for the application of mosquito adulticides for up to 150 feet away and can be used when the area to be treated is too large to treat by hand or permission has not been given to enter private land.	2	\$9,180	\$18,360
Orion System for use with Model 18-20 ULV Fogger (GPS Navigation)	The Orion System includes GPS, tracking, monitoring, and recording features for adulticide applications.	0	\$7,555	\$0
ArroGun Bullet 4-Cycle Hand Carry ULV Fogger	A hand-held ULV fogger is needed for close-range application of mosquito adulticides. Adult activity of <i>Aedes aegypti</i> and <i>Aedes albopictus</i> mosquitoes coincides with the times of highest vehicular traffic in their urban environments and unstable atmospheric conditions, often making aerial or truck adulticiding both impractical and ineffective. Localized spot treatments are sometimes the only effective adulticiding method, especially if the target zone is more than 150 feet away.	2	\$1,539	\$3,078

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Item	Budget Justification	Qty	\$/Unit	Total \$
Stihl SR 450 backpack sprayer/duster for barrier spraying and granular applications	The Stihl SR 450 backpack sprayer is a powerful sprayer/duster that easily converts from liquid to granular applications. This equipment will be ideal for barrier spraying with Tau-fluvalinate, deltamethrin, or bifenthrin or larviciding with an aqueous suspension of <i>Bti</i> or with a granular formulation of s-methoprene.	2	\$756	\$1,512
Curtis DynaFog Blackhawk Electric Start Thermal Aerosol-Fog Petroleum-Based, Resonant Pulse Principle	The Blackhawk thermal fogger can be hand-held or vehicle-mounted. Thermal fogging allows for smaller droplets that stay elevated longer. The cloud allows for better coverage because of its visibility while it travels. The thermal fogger can be used to spray mosquito adulticides or aqueous suspensions of <i>Bti</i> larvicides.	0	\$1,917	\$0
INSECTICIDES				
Permanone 30-30, Synthetic pyrethroid (30% permethrin, 30% PBO), 55-gal	Mosquito adulticide	4	\$4,908	\$19,632
Duet, Synthetic Pyrethroid (1% prallethrin, 5% sumithrin, 5% PBO), 30 gal	Mosquito adulticide	0	\$5,874	\$0
Scourge, Synthetic Pyrethroid (4.14% permethrin, 12.42% PBO), 5-gal	Mosquito adulticide	0	\$593	\$0
Mavrick Perimeter, Barrier Spray (22.3% Tau-fluvalinate), 12 x 8 oz/cs	Mosquito adulticide - barrier spray	0	\$377	\$0
Suspend Polyzone, Barrier Spray (4.75% deltamethrin), 4 x 1 gal/cs	Mosquito adulticide - barrier spray	0	\$1,119	\$0
Wisdom TC, Barrier Spray (% bifenthrin), 4 x 1 gal/cs	Mosquito adulticide - barrier spray	0	\$188	\$0
VectoBac 12AS (11.61% <i>Bti</i>) Aqueous Suspension Larvicide, 24 x 1 lb/cs	Aqueous suspension larvicide for large treatment areas	20	\$34	\$680
VectoMax FG (2.7% Bspha+ 4.5% <i>Bti</i>) Fine Granule Larvicide, 24 x 1 lb/cs	Fine granule larvicide	0	\$9	\$0

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Item	Budget Justification	Qty	\$/Unit	Total \$
TRAINING				
Pesticide Applicator Core Training Manual - Applying Pesticides Correctly	Study manual for a MS Pest Control Applicator's license	3	\$30	\$90
Supplemental Training Manual - Public Health Pest Control	Study manual for MS Category 8 Public Health Pesticide Applications Certification	3	\$30	\$90
CONTRACT WORK				
Hire a certified, licensed contractor to perform mosquito control in response to an arbovirus-positive human case.	Contractor will perform adulticiding for at least 2 weeks, with spraying missions occurring intermittently according to pesticide label instructions, within a minimum 165-yard radius. Contractor also will provide a barrier spray according to the pesticide label instructions.	0	\$616	\$0
OTHER				
Please enter description, quantities, and cost for any additional items, along with a justification for why the item is needed.				
Item	Budget Justification	Qty	\$/Unit	Total \$
Personnel	Break City into treatment areas and provide GIS maps	0	\$35,615	\$ -
	Set CDC & Gravid traps at fixed locations throughout the city (Trap for 28 consecutive weeks)			\$ -
	Speciate CDC mosquitoes & submit <i>Culex</i> from gravid traps to MSDH for WNV testing			\$ -
	Set BG Sentinels in different places around town to monitor <i>Aedes</i> populations and for presence of <i>Aedes aegypti</i>			\$ -
	Collect <i>Culex</i> egg rafts for bottle bioassay testing and send to MSDH			\$ -
	Provide city and MSDH with monthly reports/maps on all surveillance data			\$ -
				\$ -
				\$ -
Total				\$ 45,936