



SAN MATEO COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

**NORTH AND WEST COUNTY MOSQUITO AND DISEASE CONTROL
ASSESSMENT DISTRICT**

FINAL ENGINEER'S REPORT

JUNE, 2018

PURSUANT TO THE GOVERNMENT CODE, HEALTH AND SAFETY CODE AND ARTICLE
XIIID OF THE CALIFORNIA CONSTITUTION

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SAN MATEO COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT

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INTRODUCTION

OVERVIEW

The mosquito control program in San Mateo County is one of the oldest in the United States. In 1904, mosquitoes were breeding in diked reclaimed salt marshes along the San Francisco Bay and were biting residents, which affected the use and enjoyment of the land. These areas were uninhabitable without direct mosquito control efforts. Before 1904, various attempts were made to mitigate these pests, but at the time, efficient and effective control methods and approaches had not yet been developed. The funds collected by private subscription were insufficient to support required control.

A physical control plan was developed which included ditching, repair of existing dikes and tide gates, and filling of low areas. The funding for these physical control measures dwindled over time and several levees had broken, making mosquitos unbearably abundant. For example, the Peninsula Hotel, a famous resort in San Mateo, was closed in mid-season, and property values dropped to such an extent that action became necessary. An early iteration of the San Mateo County Mosquito and Vector Control District ("District") formed in 1913 to address these issues and has been providing mosquito (and vector) control for more than a century, in the form of various governmental entities.

Initially, the District's service area was not county-wide and served only about one third of the geographic area of the County. In the early 2000s, West Nile Virus had spread and there were several cases of West Nile Virus among County residents. Following a San Mateo County Health Services Agency report, a 2002-2003 Grand Jury Report recommended that to combat the threat of further cases of the disease, and to provide for sufficient monitoring, surveillance, treatment and public information, that the District be permitted to expand its programs throughout the entire county.

In 2003, the District proposed to increase its service area by annexing the then un-served portions of northern and western San Mateo County. Previously, neither the District, nor any other public agency, provided mosquito control and vector-borne disease protection and prevention services in the northern and western areas of San Mateo County that were outside of the District's then-current (pre-2003) jurisdictional boundaries. In other words, the "baseline" level of services in northern and western San Mateo County was essentially zero.

The Local Agency Formation Commission approved the District's application to annex the remainder of the County. However, this annexation was conditioned on a benefit assessment being levied in the newly annexed area that approximated the revenues in the original boundaries. Accordingly, the District executed a Proposition 218-compliant mailed balloting in the winter of 2003. A tabulation of the returned ballots, weighted by their proposed assessment showed 65% support. Hence, the assessment district was formed and the annexation completed. This report defines the benefit assessment district that provides funding for the services in the North and West areas ("Annexation Area") of San Mateo County.

As used within this Report, the following terms are defined:

“Vector” means any animal capable of transmitting the causative agent of human disease or capable of producing human discomfort or injury, including, but not limited to, mosquitoes, flies, mites, ticks, other arthropods, and small mammals and other vertebrates. (Health and Safety Code Section 2002(k).)

“Vector Control” shall mean any system of public improvements or services that is intended to provide for the surveillance, prevention, abatement, and control of vectors as defined in subdivision (k) of Section 2002 of the Health and Safety Code and a pest as defined in Section 5006 of the Food and Agricultural Code. (Government Code Section 53750(m).) The following is an outline of the primary components of the District’s Integrated Mosquito and Vector Management Program that are provided within the current boundaries and the Annexation Area:

- Surveillance
- Physical Control
- Vegetation Management
- Biological Control
- Chemical Control
- Other Nonchemical Control/Trapping
- Public Education

The District operates under the Mosquito Abatement and Vector Control District Law of the State of California law (“Enabling Act”). Following are excerpts from the Enabling Act, codified in the Health and Safety Code, Section 2000, *et. seq* which serve to summarize the State Legislature’s findings and intent with regard to mosquito abatement and other vector control services:

2001. (a) *The Legislature finds and declares all of the following:*

(1) *California's climate and topography support a wide diversity of biological organisms.*

(2) *Most of these organisms are beneficial, but some are vectors of human disease pathogens or directly cause other human diseases such as hypersensitivity, envenomization, and secondary infections.*

(3) *Some of these diseases, such as mosquito borne viral encephalitis, can be fatal, especially in children and older individuals.*

(4) *California's connections to the wider national and international economies increase the transport of vectors and pathogens.*

(5) *Invasions of the United States by vectors such as the Asian tiger mosquito and by pathogens such as the West Nile virus underscore the vulnerability of humans to uncontrolled vectors and pathogens.*

(b) *The Legislature further finds and declares:*

(1) *Individual protection against the vector borne diseases is only partially effective.*

(2) *Adequate protection of human health against vector borne diseases is best achieved by organized public programs.*

(3) *The protection of Californians and their communities against the discomforts and economic effects of vector borne diseases is an essential public service that is vital to public health, safety, and welfare.*

(4) *Since 1915, mosquito abatement and vector control districts have protected Californians and their communities against the threats of vectorborne diseases.*

(c) *In enacting this chapter, it is the intent of the Legislature to create and continue a broad statutory authority for a class of special districts with the power to conduct effective programs for the surveillance, prevention, abatement, and control of mosquitoes and other vectors.*

(d) *It is also the intent of the Legislature that mosquito abatement and vector control districts cooperate with other public agencies to protect the public health, safety, and welfare. Further, the Legislature encourages local communities and local officials to adapt the powers and procedures provided by this chapter to meet the diversity of their own local circumstances and responsibilities.*

This Engineer's Report ("Report") was prepared to determine the benefits received by property within the Annexation Area from the services by the District, and apportion the assessment to lots and parcels within the Annexation Area based on the relative benefit for each lot or parcel.

This Engineer's Report incorporates and is intended to be consistent with the benefit determinations, assessment apportion methodology and other provisions established by Resolution No. M-006-04 passed on October 8, 2003 and the other documents and reports that established the Assessment District.

LEGAL ANALYSIS

PROPOSITION 218

This assessment was formed consistent with Proposition 218, The Right to Vote on Taxes Act, which was approved by the voters of California on November 6, 1996, and is now Article XIII C and XIII D of the California Constitution. Proposition 218 provides for benefit assessments to be levied to fund the cost of providing services, improvements, as well as maintenance and operation expenses to a public improvement which benefits the assessed property.

Proposition 218 describes a number of substantive and procedural requirements that must be satisfied to levy assessments.

When Proposition 218 was initially approved in 1996, it allowed for certain types of assessments to be “grandfathered” in, and these were exempted from the property-owner balloting requirement. Specifically, Article XIII D of the California Constitution provides:

Sec. 5. Effective Date...Beginning July 1, 1997, all existing, new, or increased assessments shall comply with this article. Notwithstanding the foregoing, the following assessments existing on the effective date of this article shall be exempt from the procedures and approval process set forth in Section 4:

(a) Any assessment imposed exclusively to finance the capital costs or maintenance and operation expenses for sidewalks, streets, sewers, water, flood control, drainage systems or vector control...

Vector control was specifically “grandfathered in,” underscoring the fact that the drafters of Proposition 218 - and the voters who approved it - were satisfied that funding for vector control is an appropriate use of benefit assessments, and therefore confers special benefit to property.

Over the years, case law has helped define and shape the application of Proposition 218. The following is a summary of relevant case law.

SILICON VALLEY TAXPAYERS ASSOCIATION, INC. V SANTA CLARA COUNTY OPEN SPACE AUTHORITY

In July of 2008, the California Supreme Court issued its ruling on the Silicon Valley Taxpayers Association, Inc. v. Santa Clara County Open Space Authority (“SVTA vs. SCCOSA”). This ruling is the most significant court case in further legally clarifying the substantive assessment requirements of Proposition 218. Several of the most important elements of the ruling included further emphasis that:

- Benefit assessments are for special benefits to property, not general benefits¹
- The services and/or improvements funded by assessments must be clearly defined
- Special benefits are directly received by and provide a direct advantage to property in the assessment district

This Engineer's Report, and the process used to establish this assessment are consistent with the SVTA vs. SCCOSA decision.

DAHMS V. DOWNTOWN POMONA PROPERTY

On June 8, 2009, the 4th Court of Appeal amended its original opinion upholding a benefit assessment for property in the downtown area of the City of Pomona. On July 22, 2009, the California Supreme Court denied review. On this date, Dahms became good law and binding precedent for assessments. In Dahms the court upheld an assessment that was 100% special benefit on the rationale that the services and improvements funded by the assessments were directly provided to property in the assessment district.

BONANDER V. TOWN OF TIBURON

In the December 31, 2009, the 1st District Court of Appeal overturned a benefit assessment approved by property owners to pay for placing overhead utility lines underground in an area of the Town of Tiburon. The Court invalidated the assessments on the grounds that the assessments had been apportioned to assessed property based on in part on relative costs within sub-areas of the assessment district instead of proportional special benefits.

BEUTZ V. COUNTY OF RIVERSIDE

On May 26, 2010 the 4th District Court of Appeals issued a decision on the Steven Beutz v. County of Riverside ("Beutz") appeal. This decision overturned an assessment for park maintenance in Wildomar, California, primarily because the general benefits associated with improvements and services was not explicitly calculated, quantified, and separated from the special benefits.

GOLDEN HILL NEIGHBORHOOD ASSOCIATION V. CITY OF SAN DIEGO

On September 22, 2011, the San Diego Court of Appeal issued a decision on the Golden Hill Neighborhood Association v. City of San Diego appeal. This decision overturned an assessment for street and landscaping maintenance in the Greater Golden Hill neighborhood of San Diego, California. The court described two primary reasons for its decision. First, like in Beutz, the court found the general benefits associated with services were not explicitly calculated, quantified, and separated from the special benefits. Second, the court found that the City had failed to record the basis for the assessment on its own parcels.

¹ Article XIII D, § 2, subdivision (d) of the California Constitution states defines "district" as "an area determined by an agency to contain all parcels which will receive a special benefit from the proposed public improvement or property-related service."

GENERAL DESCRIPTION OF THE DISTRICT AND SERVICES

ABOUT THE DISTRICT

The San Mateo County Mosquito and Vector Control District is an independent special district (not part of the County or any city) that controls and monitors physical property for disease-carrying insects such as mosquitoes and ticks, and other harmful pests such as yellow jackets. In addition, the District regularly tests for diseases carried by insects and small mammals and educates the public about how to protect themselves from diseases transmitted by insects and small mammals. The District also distributes printed material and brochures that describe what citizens can do to keep their homes and property free of rats, yellow jackets, mosquitoes, and other pests.

The first mosquito abatement district in San Mateo County was formed in 1913. Prior to the formation of this abatement district, high numbers of salt marsh mosquitoes were a significant problem in the County, and many areas in the County were considered to be nearly unlivable. The San Mateo County Mosquito and Vector Control District was formed in 1953 when the two original districts in the County merged. In 2003, the District annexed the cities of Brisbane, Colma, Daly City, South San Francisco and most parcels in San Bruno; and communities located west of I-280 such as Ano Nuevo, Half Moon Bay, El Granada, and Pacifica, and other unincorporated areas in San Mateo County generally located west of Interstate 280 (the "North and West County Areas"). In order to provide adequate service levels to the now annexed areas, the District looked to a benefit assessment funding source. The assessment was authorized by an assessment ballot proceeding conducted in 2003 and approved by a majority of the weighted ballots returned by property owners. These assessments were first levied by the Board of Trustees of the San Mateo County Mosquito and Vector Control District by Resolution No. M-006-04 passed on October 8, 2003. Today, the District is responsible for providing service to the entire county. In 2008, the District changed its name to the San Mateo County Mosquito and Vector Control District to reflect the fact that it would begin providing some additional vector control responsibilities formerly handled by San Mateo County Environmental Health Department.

The District is overseen by a Board of Trustees. The Board of Trustees oversees District funding, they establish district policies and procedures, and administer basic governance. The District is currently primarily funded in two ways. First Ad Valorem taxes and a special Mosquito Control Tax paid by properties within the original District boundaries. Second, the previously mentioned benefit assessment funds services in the North and West County areas.

INTRODUCTION TO SERVICES

Following is a description of the Services and level of service, for the Annexation Areas. As previously noted, there was previously no regular mosquito control services provided in the Annexation Areas. These Services are over and above the previous zero-level baseline level of service. The formula below describes the relationship between the final level of service, the previous baseline level of service, and the enhanced level of service funded by the assessment.

Final Level of Service	=	Baseline Level of Service	+	Enhanced Level of Service
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In this case, prior to 2003, the baseline level of service was zero, and the final current level of service is precisely the enhanced level of service funded by the assessment.

SUMMARY OF SERVICES

The services provided within the Annexation Area are provided at generally the same service level as provided within the original District.

The assessment provides funding for projects and programs for the District's Integrated Mosquito and Vector Control Management Program (IMVMP), which is comprised of surveillance, physical control, vegetation management, biological control, chemical control and other nonchemical control/trapping designed to prevent, abate, control mosquitos and vectors. Such IMVMP projects and programs include, but are not limited to, source reduction, larvicide and adulticide applications, disease monitoring, public education, reporting, accountability, research and interagency cooperative activities (collectively "Services"). The cost of these services also includes capital costs comprised of equipment, capital improvements and facilities necessary and incidental to vector control programs and the ongoing operations and maintenance expenses associated with the capital facilities.

The following is an illustrative list of some of the Services provided by the District:

- Response, typically within 24 hours, to requests for service related to mosquito problems, as well as nesting yellow jackets, rats and other pestiferous or disease carrying organisms.
- Control of mosquito larvae in catch basins, ditches, drain lines, vaults, wastewater treatment plants, under buildings, residences, horse troughs, freshwater marshes, salt marshes, creeks and other sources.
- Survey and data analysis of mosquito larvae populations to assess public health risks and allocate control efforts.
- Monitor of mosquito populations using carbon dioxide baited traps, New Jersey light traps, and Reiter Gravid traps.

- Use a new mosquito trapping program to capture *Aedes aegypti*. Those new traps include Ovi-cup and Autocidal Gravid Ovitrap (AGO) traps.
- Test and monitor for diseases carried and transmitted by mosquitoes and other arthropods, such as West Nile Virus, Encephalitis, Malaria, and Dog Heartworm.
- Deployment of sentinel chicken flocks (San Mateo, Woodside and East Palo Alto), virus tested mosquito pools, and blood analytical studies for State and local agencies.
- Survey and identification of ticks in parks, trails, and other locations frequented by the public.
- Test and monitor for diseases carried and transmitted by ticks such as, Ehrlichiosis, Rocky Mountain Spotted Fever, and Babesiosis.
- Management and control of ground nesting stinging insects including yellow jackets, Africanized honey bees and wasps.
- Monitor and/or control of other nuisance and potentially hazardous organisms and vectors such as ticks, mites, and fleas. (Only vectors found outside of structures will be monitored and controlled.)
- Educate residents about the risks of diseases carried by insects and small mammals and how to better protect themselves and their pets through a dedicated Public Health Education and Outreach Officer.
- Test for Hanta Virus, Arenavirus, Plague and other diseases carried by small mammal populations.
- Monitor new and emerging vectors such as the Asian tiger mosquito at entry points.
- Eliminate and monitor for a new significant vector, *Aedes aegypti*, an invasive species which was uncovered in Menlo Park in 2013 and has been under control since Summer 2015. It was last detected August 13, 2015.
- Enhance testing capability with the incorporation of RT-PCR laboratory equipment and other technology to test for and control of new and emerging pathogens such as West Nile Virus
- Surveillance of rats and other rodents and use of rate baiting programs for control purposes.

INTRODUCTION TO SURVEILLANCE AND MONITORING

Mosquitoes and other vectors most often breed in areas of standing water including catch basins, vaults, wastewater treatment plants, water under buildings, horse troughs, pools, ponds, artificial containers gutters, flood control devices, freshwater and saltwater marshes and wetlands as well as organic waste and debris.

Prior to the annexation in 2003, the District had no obligation to respond to service requests outside of its original boundaries, (except for in Daly City, which was served on mutually approved contract.) Today, the District performs surveillance of adult mosquitoes in order to uncover new sites of larval development, as well as to determine allocation of control efforts, level of public health risk, population densities, and species composition. The District primarily uses New Jersey light traps, Reiter Gravid traps and Carbon Dioxide traps for this surveillance. In 2001, the District identified two new mosquito species to the San Mateo area: the Asian Tiger Mosquito *Aedes albopictus* and the *Coquillettidia perturbans*. In 2013 and 2014, the District discovered a new mosquito species in Menlo Park: the Yellow Fever Mosquito, *Aedes aegypti*. The Yellow Fever Mosquito is a very invasive mosquito posing a serious health risk with the ability to transmit Dengue fever, Chikungunya and Zika virus.

- Additionally, the District monitors vector-borne diseases in efforts to prevent human cases. Four common mosquito-borne viruses occur in California: Western Equine Encephalitis, St. Louis encephalitis, and California Encephalitis and West Nile virus. All four are carried in birds and can be transferred to horses or humans through the bite of an infected mosquito. Zika virus disease is also caused by a virus transmitted primarily by *Aedes aegypti* mosquitoes. The Zika virus has been linked to unusually small heads and brain damage in newborns — called microcephaly — in children born to infected mothers, as well as blindness, deafness, seizures and other congenital defects. There is no specific cure or vaccine for these diseases so the District regularly monitors flocks (3) of sentinel chickens for viruses. Malaria, Lyme disease, raccoon roundworms and small mammal-borne diseases such as plague, Hantavirus and arenavirus are also monitored.

Surveillance is conducted in a manner based upon equal spread of resources throughout the Annexation Area, focusing on areas of likely sources and based on population distribution and abundance data. Treatment strategies are based upon the results of the surveillance programs, and are specifically designed for individual areas.

LARVAL MOSQUITO SURVEILLANCE PROGRAM

The District will identify any insect submitted by residents in the Annexed Areas. Laboratory staff will identify the insect and provide information on its biology, public health significance, and control.

All breeding sites located in the Annexation Area have been added to a computerized database of sources and placed on a schedule to be checked regularly and treated as needed. The computerized database software MapVision, allows the district to keep records

of all service requests, the nature of these calls, location of treatment sites, testing sites and trap locations, etc.

Residents can call the District when experiencing problems with mosquitoes and other vectors. A vector control technician ordinarily will make a service call within 24 hours. Thereafter the technician will determine if the concern is potentially the vector of West Nile Virus or other mosquito and vector borne diseases, and if so, survey and treat the source.

ADULT MOSQUITO SURVEILLANCE PROGRAM

Laboratory and operational personnel will monitor populations to assess the level of public health risk and effectiveness of control measures.

Carbon dioxide traps will be deployed in the Annexed Areas usually every two to three weeks, or more often if needed. Traps are collected the following day; their contents are identified and counted. This information is maintained in a computerized database and used to track long-term trends in mosquito density.

Laboratory personnel will monitor abnormal spring rainfall patterns and preexisting sources. These are early seasonal environmental precursors for adult mosquito populations.

WEST NILE VIRUS SURVEILLANCE PROGRAM

The District maintains chickens in San Mateo, Woodside and East Palo Alto to detect the presence of West Nile Virus and other Encephalitis viruses.

The District collects adult mosquitoes and historically submitted them to laboratories at the University of California at Davis to test for West Nile and other Encephalitis viruses. Over the years, the District has upgraded its laboratory equipment (including a RT-PCR) so most genetic testing can be done in house. Laboratory staff will collect mosquitoes from the Annexation Area using specialized traps for this purpose. Mosquitoes must be collected alive, anesthetized, identified, and tested the same day.

The District participates in a statewide program to collect and test dead wild birds for West Nile Virus. Dead birds are picked up within 24 hours, packaged, and up until 2014, they were sent to the State Health Department for testing. The District's laboratory equipment now allows for in-house genetic testing of dead wild birds. The District, County Health, County Environmental Health, and/or Peninsula Humane Society will pick up the dead birds. Those birds will be tested by the District.

INTRODUCTION TO TREATMENT AND CONTROL

Strategically, the District addresses vectors through a comprehensive approach, which is based upon effective prevention of vectors. The District controls mosquitoes and other vectors through a program of integrated mosquito and vector management (IMVMP). This program focuses on controlling mosquitoes in their larval stage and preventing problems

before the mosquito larvae develop into flying adults which have the ability to transmit diseases. Larval control has many benefits:

Less toxic: Often, mosquitofish and other environmentally safe approaches can be used. When needed, the bacterial agents or pesticides used to control the larval stage are much less toxic to the environment than those used in the past and are highly specific to mosquitoes.

Less pesticides: The bacterial agents or pesticides are applied to a smaller area than would be required for treatment of adult mosquitoes.

Less disease: Targeting immature mosquitoes kills them before adults emerge and are capable of transmitting disease.

The end result is a program that protects public health, is more cost effective than other methods, and has low impact on the environment. Currently, the District uses a number of biorational materials to control mosquito larvae. These materials have been shown to have minimal effects on non-target species and are regulated by the US EPA and the California Department of Pesticide Regulation. They are approved for use in aquatic habitats.

CITIZENS' REVIEW OF ENVIRONMENTAL SAFETY OF TREATMENT AND CONTROL APPROACHES

The District will hold annual community outreach (local community fairs and an Open House in April) to review the environmental safety of its treatment and control approaches and all District services. These outreach opportunities will be open to all property owners and members of the public and the Open House will be announced with a public notice prior to the programs. At the community outreach opportunities, the public will have the opportunity to review and respond to:

- the treatment and control approach used by the District;
- the environmental issues with each control approach;
- the mosquito and disease issues in their community; and
- other services or programs either currently provided or desired.

Any recommendations or comments from the public will be addressed by the District and will be provided to the Board of Trustees of the District for response or action as appropriate.

Furthermore, all products used by the District to treat or control mosquitoes and other vectors must be reviewed and approved by the San Mateo County Agricultural Commissioner to ensure they do not harm the environment.

LARVAL MOSQUITO CONTROL PROGRAM

Catch basins and storm drain systems are the largest sources of northern house mosquitoes in San Mateo County. These mosquitoes are an efficient vector of West Nile Virus and

therefore a serious public health concern. To control the larval stage of the northern house mosquito in the Annexation Area, catch basins would be inspected and those considered breeding sites treated with biorational pesticides.

The underground chambers housing equipment for utilities, sewers and water systems also hold water and are a significant breeding site for the northern house mosquitoes, *Culex Pipien*. These chambers, if found breeding mosquitoes, will be treated with biorational pesticides.

The California Department of Public Health and San Mateo County Mosquito and Vector Control District will monitor pesticide resistance levels and determine the efficacy of available larvicides for local mosquito populations.

Mosquito fish are also used to control mosquito larvae in standing pools of water and are made available by the District for residents to use in their backyard ornamental ponds.

ADULT MOSQUITO CONTROL PROGRAM

In the event of virus detection or human cases of diseases transmitted by mosquitoes or other vectors in major metropolitan areas, the District may institute widespread application of adulticiding materials to interrupt the transmission cycle. In addition, an expanded and intensified larviciding program may be instituted to further reduce the adult populations of vector species. The University of California at Davis and San Mateo County Mosquito and Vector Control District will monitor pesticide resistance levels and determine the efficacy of available adulticide for local mosquito populations.

Any additional descriptions and plans for the services will be filed with the District Manager of the San Mateo County Mosquito and Vector Control District, and are incorporated herein by reference.

SERVICE REQUESTS

Prior to the annexation in 2003, the District did not respond to service requests outside of its original boundaries. When the assessment was approved, the District began responding to service requests within the Annexation Area, at the same level of service as the existing District jurisdiction. Any property owner, business or resident in the Annexation Area can contact the District to request vector control related service or inspection and a District field technician responds promptly to the particular property to evaluate the property and situation and to perform appropriate surveillance and control services. The District responds to all service requests in a timely manner, regardless of location, within San Mateo County.

Upon request, the District provides specific services directly to individual properties regarding non-mosquitoes vectors (rats, yellow jackets, and other pests) including education and eradication strategies. For yellow jackets specifically, the District only provides service for ground nesting yellowjackets. Aerial nesting yellowjackets and wasps are beneficial insects (wasps eat live insects); therefore, they are not considered a nuisance and do not

warrant control . Bees generally are considered non aggressive towards humans unless their nest is disturbed. At the time a nest is detected on the property the property owner can notify the district and request a nest removal. Upon requests, if rats and, or mice, are detected on the property The technician will conduct an inspection of the exterior of your home and your property and make recommendations for rodent exclusion and control measures, as well as what you can do to make your yard less attractive to rats and mice.

ASSESSMENT STATEMENT

WHEREAS, on October 8, 2003 the Board of Trustees of the San Mateo County Mosquito & Vector Control District, pursuant to the provisions of the California Health and Safety Code Section 2291.2, adopted its Resolution No. M-006-04 for the proposed improvements and changes in existing public improvements, more particularly therein described;

WHEREAS, the Board of Trustees held a Public Hearing on December 17, 2003 and approved an Engineer's Report presenting a diagram and an assessment of the estimated benefit of the services and improvements upon all assessable parcels within the assessable area;

WHEREAS, the Board of Trustees desires to amend said Engineer's Report;

WHEREAS, the Board contracted with the undersigned Engineer of Work to prepare and file a report presenting an estimate of costs of Services, a diagram for an assessment district and an assessment of the estimated costs of Services, and the special benefit conferred thereby, upon all assessable parcels within the North and West County Mosquito and Disease Control Assessment District;

NOW, THEREFORE, the undersigned, by virtue of the power vested in me under Article XIID of the California Constitution, the Government Code and the Health and Safety Code and the order of the Board of said San Mateo County Mosquito and Vector Control District, hereby make the following determination of an assessment to cover the portion of the estimated cost of said Services, and the costs and expenses incidental thereto to be paid by the North and West County Mosquito and Disease Control Assessment District.

The amount to be paid for said services and improvements and the expenses incidental thereto, to be paid by the San Mateo County Mosquito and Vector Control District for the fiscal year 2018-19 is generally as follows:

TABLE 1 COST SUMMARY FOR FY 2018-19

Vector & Disease Control Services	\$1,379,652
Capital Facilities	\$191,790
Incidentals	\$134,335
TOTAL BUDGET	\$1,705,776
Less:	
District Contribution	(\$81,654)
Net Amount To Assessments	\$1,624,122

An Assessment Diagram is hereto attached and made a part hereof showing the exterior boundaries of said District. The distinctive number of each parcel or lot of land in the said District is its Assessor Parcel Number appearing on the Assessment Roll.

I do hereby determine and apportion said net amount of the cost and expenses of said Services, including the costs and expenses incidental thereto, upon the parcels and lots of land within said North and West County Mosquito and Disease Control Assessment District, in accordance with the special benefits to be received by each parcel or lot, from the Services, and more particularly set forth in the Cost Estimate hereto attached and by reference made a part hereof.

Said assessment determination is made upon the parcels or lots of land within said District in proportion to the special benefits to be received by said parcels or lots of land, from said Services.

The assessment is subject to an annual adjustment tied to the Consumer Price Index for the San Francisco Bay Area as of December of each succeeding year (the CPI), with a maximum annual adjustment of up to 3% plus any other CPI adjustments for prior years that have not been levied. The assessment may be levied annually and may be adjusted by the maximum annual adjustment without any additional assessment ballot proceeding. (In the event that the Board opts not to adjust the assessment rate by the full annual change in the CPI, any percentage change in excess of that levied can be cumulatively reserved and can be added to the annual change in the CPI in subsequent years. The rate remained static at \$17.26 for 2011-12, 2012-13, 2013-14, 2014-15, 2015-16 and 2016-17, so the District accumulated 18.37% of "banked" CPI. For 2017-18, the assessment rate was adjusted by 5.15% to \$18.15 in Zone A and \$17.81 in Zone B. For 2018-19 the assessment rate was adjusted by the annual CPI of 2.94% resulting in a rate of \$18.68 in Zone A and \$18.33 in

Zone B (The District still has an additional 13.22% in reserve that it may apply in future years.)

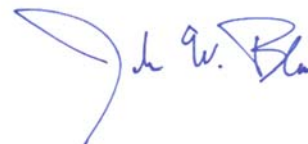
The District may finance the cost of acquiring or constructing capital facilities over time and pledge a portion of assessment revenues received in any fiscal year towards the repayment of the principal amount of such borrowed funds together with interest over the repayment period.

Each parcel or lot of land is described in the Assessment Roll by reference to its parcel number as shown on the Assessor's Maps of the County of San Mateo for the fiscal year 2018-19. For a more particular description of said property, reference is hereby made to the deeds and maps on file and of record in the office of the County Recorder of the County of San Mateo.

I hereby place opposite the Assessor Parcel Number for each parcel or lot within the Assessment Roll, the proposed amount of the assessment for the fiscal year 2018-19 for each parcel or lot of land within the said North and West County Mosquito and Disease Control Assessment District.

June 6, 2018

Engineer of Work



By _____
John W. Bliss, License No. C052091



ESTIMATE OF COST

TABLE 2 - BUDGET

SAN MATEO COUNTY MOSQUITO AND VECTOR CONTROL DISTRICT			
Mosquito and Disease Control District			
Estimate of Cost			
Fiscal Year 2018-19			
			Total Budget
Vector Control Services and Related Expenditures			
Salaries and Wages			\$695,472
Employee Benefits			\$309,143
Supplies and Services			\$375,036
Capital Outlay			
Including capital improvements and facilities and equipment ¹			\$191,790
Total Services and Operation			\$1,571,441
Less:			
Contributions from District and Other Sources			(\$81,654)
Net Cost of Vector Control, Capital Facilities, Operation			\$1,489,787
Incidental Costs			
County Collection and Levy Administration			\$134,335
Subtotal			\$134,335
Total Vector Control Services and Incidental Expenses			\$1,624,122
(Net Amount to be Assessed)			
Budget Allocation to Property			
	Total SFE Units	Assessment per SFE	Total Assessment ²
Zone A	84,693	\$18.68	\$1,582,065
Zone B	2,294	\$18.33	\$42,060
Total			\$1,624,122

Notes:

1. Includes contribution to District Headquarters in Burlingame as well as costs associated with Redwood City facility. Primary financing obligations for Burlingame headquarters are substantially satisfied. This capital outlay is a partial component of the overall district's capital outlay.
2. All assessments are rounded to lower even penny. Therefore, the budget amount may slightly differ from the assessment rate.

METHOD OF ASSESSMENT

This section of the Report includes an explanation of the benefits to be derived from the services provided to the District, and the methodology used to apportion the total assessment to properties within the North and West County Mosquito and Disease Control Assessment District.

The North and West County Mosquito and Disease Control Assessment District consists of all assessor parcels within the boundaries of the Annexation Area as defined by the approved boundary description for such District (boundary is coterminous with San Mateo County).

The method used for apportioning the assessment is based upon the proportional special benefits to be derived by the properties in the Annexation Area over and above general benefits conferred on real property in the assessment area or to the public at large. Special benefit is calculated for each parcel in the Annexation Area.

1. Identification of total benefit to the properties derived from the Services
2. Calculation of the proportion of these benefits that are special vs. general
3. Determination of the relative special benefit within different areas within the Annexation Area
4. Determination of the relative special benefit per property type and property characteristic
5. Calculation of the specific assessment for each individual parcel based upon special vs. general benefit; location, property type and property characteristics,

DISCUSSION OF TOTAL BENEFIT

Overview

In summary, the assessments can only be levied based on the special benefit to property. This special benefit is that benefit received by property over and above any general benefits from the Services. With reference to the engineering requirements for property related assessments, under Proposition 218 an engineer must determine and prepare a report evaluating the amount of special benefit received by property within the Annexation Area as a result of the improvements or services provided by a local agency. That special benefit is to be determined in relation to the total cost to that local entity of providing the service and/or improvements.

Proposition 218 Stipulates Vector Control as a Traditional Purpose Use of Assessments

It should also be noted that Proposition 218 includes a requirement that existing assessments in effect upon its effective date were required to be confirmed by either a majority vote of registered voters in the assessment area, or by weighted majority property owner approval using the new ballot proceeding requirements. However, certain assessments were excluded from these voter approval requirements. Of note is that in

California Constitution Article XIID Section 5(a) this special exemption was granted to assessments for sidewalks, streets, sewers, water, flood control, drainage systems and vector control. The Howard Jarvis Taxpayers Association explained this exemption in their Statement of Drafter's Intent:

*"This is the "traditional purposes" exception. These existing assessments do not need property owner approval to continue. However, future assessments for these traditional purposes are covered."*²

Therefore, the drafters of Proposition 218 acknowledged that vector control assessments were a "traditional" and therefore acknowledged and accepted use.

California Legislature Stipulates Vector Control can be Funded by Assessments

The Legislature also made a specific determination after Proposition 218 was enacted that vector control services constitute a proper subject for special assessment. Health and Safety Code section 2082, which was signed into law in 2002, provides that a district may levy special assessments consistent with the requirements of Article XIID of the California Constitution to finance vector control projects and programs. The intent of the Legislature to allow and authorize benefit assessments for vector control services after Proposition 218 is shown in the Assembly and Senate analysis the Mosquito Abatement and Vector Control District Law where it states that the law:

*Allows special benefit assessments to finance vector control projects and programs, consistent with Proposition 218.*³

Therefore, the State Legislature agreed unanimously that vector control services are a valuable and important public service that can be funded by benefit assessments. To be funded by assessments, vector control services must confer special benefit to property.

Vector Control in the Assessment District Satisfies the "Over and Above" Requirement

Proposition 218, as described in Article XIID of the California Constitution has confirmed that properties subject to assessments must:

"... receive a special benefit over and above the benefits conferred on the public at large..."

Mosquito Control in California began in a large part by control efforts in the cities of San Mateo, Burlingame and Hillsborough. These areas became uninhabitable without direct control efforts beyond those needed and provided throughout much of the state. Although

² Howard Jarvis Taxpayers Association, "Statement of Drafter's Intent", January 1997.

³ Senate Bill 1588, Mosquito Abatement and Vector Control District Law, Legislative bill analysis

early control methods were basic and crude, including oiling, ditching, draining and constructing levees throughout the bayside saltwater and freshwater marshes, they were absolutely necessary to those living in the District. In his, "Report on Mosquito Control in the Vicinity of San Mateo County 1904-1915," University of California Researcher Harold E. Woodworth explained:

"That year several of the levees had broken, due to lack of proper care, and mosquito were so thick that life was unbearable"

and

"Livery stables would not let their horse go to the station because of mosquitos collected under the roofs. People who had to go out to the marsh wore hats, tied ropes or strings around their wrists and ankles. In the middle of the summer, the mosquitoes migrated in to town in a dark cloud for three days. Everyone who was not held in one way or another left town."

In other words, mosquito control over and above that generally available in California is necessary, as discovered over 100 years ago, within the District.

Vector Control is a Direct Special Benefit to Property, Not a General Benefit

The District provides services that are direct special benefit to properties within the Annexation Area.

Mosquito control is narrowly applied based upon very local, property based attributes. First, mosquito populations and associated diseases are closely monitored based upon a rigorous surveillance program which includes mosquito traps located throughout the Annexation Area. Second, in Zone 1 and 2 alone, District staff react to about 700 mosquito-associated service requests per year from local property owners and travel to evaluate specific local situation. Based upon information acquired through the surveillance program and service requests, District staff develop and implement specific "surgical" control strategies on specific parcels. The District does not engage in widespread, general control unsupported by localized analysis and evaluation. The District does, however, make house calls and works directly with property owners to address mosquito issues specific to their unique property and land use.

Also, the District provides specific services directly to individual properties regarding non-mosquitoes vectors (rats, yellow jackets, and other pests) including education and eradication strategies.

MOSQUITO AND VECTOR CONTROL IS A SPECIAL BENEFIT TO PROPERTIES

As described below, this Engineer's Report concludes that mosquito and vector control is a special benefit that provides direct advantages to property in the Annexation Area. For

example, the assessment provides for 1) surveillance throughout the Annexation Area to measure and track the levels and sources of mosquitoes and other vectors impacting property in the area and the people who live and work on the property, 2) mosquito and mosquito source control, treatment and abatement throughout the Annexation Area such that all property in the area benefits from a comparable reduction of mosquito levels, 3) monitoring throughout the Annexation Area to evaluate the effectiveness of District treatment and control and to ensure that all properties are receiving the equivalent level of mosquito and vector reduction benefits within their zone, and 4) the properties in the Annexation Area are eligible for service requests which result in District staff directly visiting, inspecting and treating property. Moreover, the Services funded by the Assessments reduce the level of mosquitoes and vectors arriving at and negatively impacting properties within the Annexation Area.

The benefit factors below, when applied to property in the Annexation Area, confer special benefits to property and ultimately improve the safety, utility, functionality and usability of property in the Annexation Area. These are special benefits to property in the Annexation Area in much the same way that storm drainage, sewer service, water service, sidewalks and paved streets enhance the utility and functionality of each parcel of property served by these improvements, providing them with more utility of use and making them safer and more usable for occupants.

The following section, Benefit Factors, describes how the Services specially benefit properties in the Annexation Area. These benefits are particular and distinct from its effect on property in general or the public at large.

BENEFIT FACTORS

In order to allocate the assessments, the Engineer identified the types of special benefit arising from the Services and that are provided to property within the Annexation Area. These types of special benefit are as follows:

REDUCED MOSQUITO AND VECTOR POPULATIONS ON PROPERTY AND AS A RESULT, ENHANCED DESIRABILITY, UTILITY, USABILITY AND FUNCTIONALITY OF PROPERTY IN THE ANNEXATION AREA.

The assessments provide services for the control and abatement of nuisance and disease-carrying mosquitoes and other vectors. These Services materially reduce the number of vectors on properties throughout the Annexation Area. The lower mosquito and vector populations on property in the Annexation Area are a direct advantage to property and serve to increase the desirability and "usability" of property. Clearly, properties are more desirable and usable in areas with lower mosquito and vector populations and with a reduced risk of vector-borne disease. This is a special benefit to residential, commercial, agricultural, industrial and other types of properties because all such properties directly benefit from reduced mosquito and vector populations and properties with lower vector populations are more usable, functional and desirable.

Excessive mosquitoes and other vectors in the area can materially diminish the utility and usability of property. For example, prior to the commencement of mosquito control and

abatement services, properties in many areas in the California were considered to be nearly uninhabitable during the times of year when the mosquito populations were high.⁴ The prevention or reduction of such diminished utility and usability of property caused by mosquitoes is a clear and direct advantage and special benefit to property in the Annexation Area.

The State Legislature made the following finding on this issue:

*"Excess numbers of mosquitoes and other vectors spread diseases of humans, livestock, and wildlife, reduce enjoyment of outdoor living spaces, both public and private, reduce property values, hinder outdoor work, reduce livestock productivity; and mosquitoes and other vectors can disperse or be transported long distances from their sources and are, therefore, a health risk and a public nuisance; and professional mosquito and vector control based on scientific research has made great advances in reducing mosquito and vector populations and the diseases they transmit."*⁵

Mosquitoes and other vectors emerge from sources throughout the Annexation Area, and with an average flight range of two miles, mosquitoes from known sources can reach all properties in the Annexation Area. These sources include standing water in rural areas, such as marshes, pools, wetlands, ponds, drainage ditches, drainage systems, tree holes and other removable sources such as old tires and containers. The sources of mosquitoes also include numerous locations throughout the urban areas in the Annexation Area. These sources include underground drainage systems, containers, unattended swimming pools, leaks in water pipes, tree holes, flower cups in cemeteries, ornamental ponds, over-watered landscaping and lawns and many other sources. By controlling mosquitoes at known and new sources, the Services materially reduce mosquito populations on property throughout the Annexation Area.

A recently increasing source of mosquitoes is unattended swimming pools:

⁴ Prior to the commencement of modern mosquito control services, areas in the State of California such as the San Mateo Peninsula, Napa County and areas in Marin and Sonoma Counties had such high mosquito populations that they were considered to be nearly unlivable during certain times of the year and were largely used for part-time vacation cottages that were occupied primarily during the months when the natural mosquito populations were lower.

⁵ Assembly Concurrent Resolution 52, chaptered April 1, 2003

“Anthropogenic landscape change historically has facilitated outbreaks of pathogens amplified by peridomestic vectors such as Cx. pipiens complex mosquitoes and associated commensals such as house sparrows. The recent widespread downturn in the housing market and increase in adjustable rate mortgages have combined to force a dramatic increase in home foreclosures and abandoned homes and produced urban landscapes dotted with an expanded number of new mosquito habitats. These new larval habitats may have contributed to the unexpected early season increase in WNV cases in Bakersfield during 2007 and subsequently have enabled invasion of urban areas by the highly competent rural vector Cx. tarsalis. These factors can increase the spectrum of competent avian hosts, the efficiency of enzootic amplification, and the risk for urban epidemics.”⁶

As noted above, the District’s IMVMP involves procedures to address swimming pools and other sources of mosquitos to prevent and avoid mosquitos from becoming adults and stinging humans and animals. The reliability of this service has enabled property owners throughout the Annexation Area to use and make full enjoyment of their property year-round in a way that was historically not possible without the service.

INCREASED SAFETY OF PROPERTY IN THE ANNEXATION AREA.

The assessment funds year-round proactive Services to control and abate mosquitoes and other vectors that otherwise would occupy properties throughout the Annexation Area. Mosquitoes and other vectors are transmitters of diseases, so the reduction of mosquito populations makes property in the Annexation Area safer for use and enjoyment. In absence of the assessment, these Services would not be provided, so the Services funded by the assessment make properties in the Annexation Area safer, which is a distinct special benefit to property in the Annexation Area.⁷ This is not a general benefit to property in the Annexation Area or the public at large because the Services are tangible mosquito and disease control services that are provided directly to the properties in the Annexation Area and the Services are over and above what otherwise would be provided by the District or any other agency.

This finding was confirmed in 2003 by the State Legislature:

⁶ Riesen William K. (2008). Delinquent Mortgages, Neglected Swimming Pools, and West Nile Virus, California. Emerging Infectious Diseases. Vol. 14(11).

⁷ . By reducing the risk of disease and increasing the safety of property, the proposed Services will materially increase the usefulness and desirability of certain properties in the Unprotected Areas.

“Mosquitoes and other vectors, including but not limited to, ticks, Africanized honey bees, rats, fleas, and flies, continue to be a source of human suffering, illness, death, and a public nuisance in California and around the world. Adequately funded mosquito and vector control, monitoring and public awareness programs are the best way to prevent outbreaks of West Nile Virus and other diseases borne by mosquitoes and other vectors.”⁸

Also, the Legislature, in Health and Safety Code Section 2001, finds that:

“The protection of Californians and their communities against the discomforts and economic effects of vectorborne diseases is an essential public service that is vital to public health, safety, and welfare.”

BENEFIT FINDING

In summary, the special benefits described in this Report and the expansion and provision of Services to the Annexation Area directly benefits and protects the real properties in the Annexation Area in excess of the assessments for these properties. Therefore, the assessment engineer finds that the cumulative special benefits to property from the Services are reasonably equal to or greater than the assessment of \$18.15 per benefit unit.

GENERAL VS. SPECIAL BENEFIT

Article XIII C of the California Constitution requires any local agency proposing to increase or impose a benefit assessment to “separate the general benefits from the special benefits conferred on a parcel.” The rationale for separating special and general benefits is to ensure that property owners subject to the benefit assessment are not paying for general benefits. The assessment can fund the special benefits to property in the Annexation Area but cannot fund any general benefits. Accordingly, a separate estimate of the special and general benefit is given in this section.

In other words:

Total Benefit	=	General Benefit	+	Special Benefit
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There is no widely-accepted or statutory formula for general benefit from vector control services. General benefits are benefits from improvements or services that are not special in nature, are not “particular and distinct” and are not “over and above” benefits received by

⁸ Assembly Concurrent Resolution 52, chaptered April 1, 2003

other properties. General benefits are conferred to properties located “in the district,¹⁷” but outside the narrowly-drawn Assessment District and to “the public at large.” SVTA vs. SCCOSA provides some clarification by indicating that general benefits provide “an indirect, derivative advantage” and are not necessarily proximate to the improvements and services funded by the assessments.

A formula to estimate the general benefit is listed below:

General Benefit	=	Benefit to real property outside of improvement district	+	Benefit to real property inside of improvement district	+	Benefit to public at large
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Special benefit, on the other hand, is defined in the state constitution as “a particular and distinct benefit over and above general benefits conferred on real property located in the district or to the public at large.” The SVTA v. SCCOSA decision indicates that a special benefit is conferred to a property if it “receives a direct advantage from the improvement (e.g., proximity to a park).” In this assessment, the overwhelming proportion of the benefits conferred to property is special, since the advantages from the mosquito and disease protection funded by the Assessments are directly received by the properties in the Assessment District and are only minimally received by property outside the Assessment District or the public at large.

Proposition 218 twice uses the phrase “over and above” general benefits in describing special benefit. (Art. XIII D, sections 2(i) & 4(f).) Significantly, with the assessment, there were previously no mosquito related services being provided to the Annexation Area by any federal, state or local government agency. Consequently, there were previously no mosquito control related general benefits being provided to the Service Area and any new

¹⁷ SVTA vs. SCCOSA explains as follows:

OSA observes that Proposition 218’s definition of “special benefit” presents a paradox when considered with its definition of “district.” Section 2, subdivision (i) defines a “special benefit” as “a particular and distinct benefit over and above general benefits conferred on real property located in the district or to the public at large.” (Art. XIII D, § 2, subd. (i), italics added.) Section 2, subdivision (d) defines “district” as “an area determined by an agency to contain all parcels which will receive a special benefit from a proposed public improvement or property-related service.” (Art. XIII D, § 2, subd. (d), italics added.) In a well-drawn district — limited to only parcels receiving special benefits from the improvement — every parcel within that district receives a shared special benefit. Under section 2, subdivision (i), these benefits can be construed as being general benefits since they are not “particular and distinct” and are not “over and above” the benefits received by other properties “located in the district.”

We do not believe that the voters intended to invalidate an assessment district that is narrowly drawn to include only properties directly benefiting from an improvement. Indeed, the ballot materials reflect otherwise. Thus, if an assessment district is narrowly drawn, the fact that a benefit is conferred throughout the district does not make it general rather than special.

and extended service provided by the District is over and above this zero baseline. Arguably, all of the Services funded by the assessment therefore would be a special benefit because the Services would particularly and distinctly benefit and protect the Service Area over and above the baseline benefits and service of zero.

Nevertheless, arguably some of the Services would benefit the public at large and properties outside the Annexation Area. In this report, the general benefit is conservatively estimated and described, and then budgeted so that it is funded by sources other than the assessment.

(In the 2009 Dahms case, the court upheld an assessment that was 100% special benefit on the rationale that the services funded by the assessments were directly provided to property in the assessment district. Similar to the assessments in Pomona that were validated by Dahms, the Assessments described in this Engineer's Report fund mosquito, vector and disease control services directly provided to property in the Annexation Area. Moreover, as noted in this Report, the Services directly reduce mosquito and vector populations on all property in the Annexation Area. Therefore, Dahms establishes a basis for minimal or zero general benefits from the Assessments. However, in this report, out of an abundance of caution, the general benefit is more conservatively estimated and described, and then budgeted so that it is funded by sources other than the assessment.)

CALCULATING GENERAL BENEFIT

Consistent with footnote 8 of SVTA v. SCCOSA, and for the reasons described above, the District has determined that all parcels in the Annexation Area receive a shared direct advantage and special benefit from the Services. The Services directly and particularly serve and benefit each parcel, and are not a mere indirect, derivative advantage. As explained above, Proposition 218 relies on the concept of "over and above" in distinguishing special benefits from general benefits. As applied to an assessment proceeding concurrent with the annexation of new territory and extension of services to that territory, this concept means that the baseline general benefits are zero and that all vector control services, which provide direct advantage to property in the Annexation Area, are over and above the zero baseline and therefore are special.

Nevertheless, the Services may provide a degree of general benefit, in addition to the predominant special benefit. This section provides a conservative measure of the general benefits from the assessments.

BENEFIT TO PROPERTY OUTSIDE THE DISTRICT

Properties within the Assessment District receive almost all of the special benefits from the Services because the Services funded by the Assessments are provided directly to protect property within the Assessment District from mosquitoes and vector-borne disease. However, properties adjacent to, but just outside of, the boundaries may receive some benefit from the Services in the form of reduced mosquito populations on property outside the Annexation Area. Since this benefit is conferred to properties outside the district boundaries, it contributes to the overall general benefit calculation and are not funded by the assessment.

A measure of this general benefit is the proportion of Services that affect properties outside of the Annexation Area. Each year, the District provides some of its Services in areas near the boundaries of the Annexation Area. By abating mosquito populations near the borders of the Annexation Area, the Services provide benefits in the form of reduced mosquito populations and reduced risk of disease transmission to properties just outside the Annexation Area – in this case including portions of San Francisco County, Santa Clara County and the original district. If mosquitoes were not controlled inside the Annexation Area, more of them would fly from the Annexation Area. Therefore, control of mosquitoes within the Annexation Area provides some benefit to properties outside the Annexation Area but within the normal flight range of mosquitoes, in the form of reduced mosquito populations and reduced vector-borne disease transmission. This is a measure of the general benefits to property outside the Annexation Area because this is a benefit from the Services that is not specially conferred upon property in the Annexation Area.

The mosquito potential outside the Annexation Area is based on studies of mosquito dispersion concentrations. Mosquitoes can travel up to two miles, on average, so this destination range is used – however, the concentration of mosquito population decays rapidly with increased distance. Based on studies of mosquito destinations, relative to parcels in the Annexation Area average concentration of mosquitoes from the Annexation Area on properties within two miles of the Annexation Area is calculated to be 6%.¹⁸ In other words, only the average effective concentration of an overall mosquito population is 6% within the evaluated 2 mile wide perimeter, just outside the Annexation Area.

Criteria:

Mosquitoes may fly up to 2 miles from their breeding source.

100,320 parcels within 2 miles of, but outside of the District, may receive some mosquito and disease protection benefit

6% portion of relative benefit that is received

85,403 Parcels in the Assessment District

Calculations:

Total Benefit = 100,320 parcels * 6% = 6,019 parcels equivalents

Percentage of overall parcel equivalents = $6,019 / (6,019 + 100,320) = 5.6\%$

Note: This parcel count reflects District parcel counts at the time of the 2003 balloting.

¹⁸ Tietze, Noor S., Stephenson, Mike F., Sidhom, Nader T. and Binding, Paul L., "Mark-Recapture of *Culex Erythrothorax* in Santa Cruz County, California", Journal of the American Mosquito Control Association, 19(2):134-138, 2003.

This relative vector population reduction factor within the destination range is combined with the number of parcels outside the Annexation Area and within the destination range to measure this general benefit and is calculated as follows:

Therefore, for the overall benefits provided by the Services to the Annexation Area, it is determined that 5.6% of the benefits would be received by the parcels within two miles of the Annexation Area boundaries. The engineer has rounded 5.6% up to 7.0% in order to add additional conservatism.

BENEFIT TO PROPERTY *INSIDE* THE DISTRICT THAT IS *INDIRECT AND DERIVATIVE*

The “indirect and derivative” benefit includes general benefit to the properties within the Annexation Area, is particularly difficult to calculate. This benefit includes general benefit to properties within the District that is general in nature and cannot be reasonably associated with individual properties (as described in SVTA vs. SCCOSA). As explained above, all benefit within the Annexation Area is special because the mosquito and disease control services in the Annexation Area would provide direct service and protection that is clearly “over and above” and “particular and distinct” when compared with the lack of such protection under pre-annexation conditions. Further the properties are within the Assessment District boundaries and this Engineer’s Report demonstrates the direct benefits received by individual properties from mosquito and disease control services.

In determining the Annexation Area boundaries, the District was careful to limit it to an area of parcels that directly receive the Services. All parcels directly benefit from the surveillance, monitoring and treatment that are provided on an equivalent basis throughout each zone in the Annexation Area in order to maintain the optimal level of protection against mosquitoes and reduced mosquito populations throughout the area. The surveillance and monitoring sites are spread on a balanced basis throughout the area. Mosquito control and treatment are provided as needed throughout the area based on the surveillance and monitoring results. The shared special benefit - reduced mosquito levels and reduced presence of vector-borne diseases - are received on an equivalent basis by all parcels in the Annexation Area. Furthermore, all parcels in the Assessment District directly benefit from the ability to request service from the District and to have a District field technician promptly respond directly to the parcel and address the owner’s or resident’s service need. The SVTA vs. SCCOSA decision indicates that the fact that a benefit is conferred throughout the assessment district area does not make the benefit general rather than special, so long as the assessment district is narrowly drawn and limited to the parcels directly receiving shared special benefits from the service. This concept is particularly applicable in situations involving a landowner-approved assessment-funded extension of a local government service to benefit lands previously not receiving that particular service.

It could be argued that certain activities provide general benefits within the Annexation Area. For example, if the District provided funding to mosquito research in West Africa, or helped fund a Countywide mailer on various public health goals that did not have a direct benefit to Annexation Area parcels, that could be considered a general benefit to properties within the Annexation Area. The District does not perform any such tasks.

The District therefore concludes that, other than the small general benefit to properties outside the Assessment District (discussed above) and to the public at large (discussed below), all of the benefits of the Services to the parcels within the Assessment District are special benefits and it is not possible or appropriate to separate any "indirect and derivative" general benefits from the benefits conferred on parcels in the Annexation Area.

BENEFIT TO THE PUBLIC AT LARGE

With the type and scope of Services provided to the Annexation Area, it is very difficult to calculate and quantify the scope of the general benefit conferred on the public at large. Because the Services directly serve and benefit all of the property in the Annexation Area, any general benefit conferred on the public at large would be incidental to the specific benefit. Nevertheless, there would be some indirect general benefit to the public at large.

The public at large uses the public highways and other regional facilities, and when traveling in and through the Annexation Area they benefit from the Services. A fair and appropriate measure of the general benefit to the public at large therefore is the amount of highway and other regional facilities area within the Annexation Area relative to the overall land area. An analysis of maps of the Annexation Area shows that approximately 1% of the land area in the Annexation Area is covered by highways and other regional facilities. This 1% therefore is a fair and appropriate measure of the general benefit to the public at large within the Annexation Area.

SUMMARY OF GENERAL BENEFITS

Using a sum of the measures of general benefit for the public at large and land outside the Annexation Area, we find that approximately 8.0% of the benefits conferred by the Mosquito and Disease Control Assessment may be general in nature and should be funded by sources other than the assessment.

General Benefit Calculation

7.0%	(Outside the Assessment District)
+ 0.0%	(Property within the Assessment District)
+ 1.0%	(Public at Large)
= 8.0%	(Total General Benefit)

The North and West County Mosquito and Disease Control Assessment District's total budget for mosquito and vector abatement, disease control, and capital improvement is \$1,571,441. Of this total budget amount, the District will contribute at least 8% (\$127,500) of the total budget from sources other than the Assessment District. This contribution shall fund any general benefits from the North and West County Mosquito and Disease Control

Assessment District's Services. Such contribution exceeds the estimated general benefits from the assessments.

METHOD OF ASSESSMENT

Proposition 218, as described in Article XIID of the California Constitution has confirmed that assessments must be based on the special benefit to property:

"No assessment shall be imposed on any parcel which exceeds the reasonable cost of the proportional special benefit conferred on that parcel."

As previously discussed, the assessments fund comprehensive, year-round mosquito control and disease surveillance and control Services that clearly confer special benefits to properties in the Annexation Area. These benefits can partially be measured by the property owners, guests, employees, tenants, pets and animals who enjoy a more habitable, safer and more desirable place to live, work or visit. As noted, these benefits ultimately flow to the underlying property.

In apportioning assessments to determine the relative special benefit for each property it is necessary to determine the relative benefit received by each property in relation to a single family home, or, in other words, on the basis of Single Family Equivalents (SFE). This SFE methodology is commonly used to distribute assessments in proportion to estimated special benefit and is generally recognized as providing the basis for a fair and appropriate distribution of assessments. For the purposes of this Engineer's Report, all properties are designated a SFE value, which is each property's relative benefit in relation to a single family home on an average sized residential parcel. The "benchmark" property is the single family detached dwelling which is one Single Family Equivalent or one SFE.

In the process of determining the appropriate method of assessment, the Engineer considered various alternatives. For example, a fixed assessment amount per parcel for all residential improved property was considered but was determined to be inappropriate because agricultural lands, commercial property and other property also receive benefits from the assessments for the reasons described above. Likewise, an assessment exclusively for agricultural land was considered because the sources of mosquitoes and vectors are generally located on such property. However, other types of property, such as residential and commercial, also receive the special benefit factors listed above from reduced mosquito and vector populations that would otherwise fly or migrate to these properties and/or to the inhabited community areas. Furthermore, residential properties can and do generate their own populations of mosquito and vector organisms as described above.

A fixed or flat assessment was deemed to be inappropriate because larger properties receive a higher degree of benefit than other similarly used properties that are significantly smaller. (For two properties used for commercial purposes, there is clearly a higher benefit provided to a property that covers several acres in comparison to a smaller commercial property that is on a 0.25 acre site because the larger property generally has a larger coverage area and

higher usage by employees, customers, tourists and guests that would benefit from reduced mosquito and vector populations as well as the reduced threat from diseases carried by mosquitoes and other vectors. This benefit ultimately flows to the property.) Larger parcels, therefore, receive an increased benefit from the assessments.

Therefore, the Engineer determined that the appropriate method of assessment should be based on the type and potential use of property, the relative size of the property and its location. This method is further described below.

ZONES OF BENEFIT

The boundaries of the Annexation Areas have been carefully drawn to include the properties in the Annexation Area that would materially benefit from the Services. Such parcels are in areas with a material population of people, pets and livestock on the property. The current and future population of property is a conduit of benefit to property because people, pets and livestock are ultimately affected by mosquitoes and vector-borne diseases and the special benefit factors of desirability, utility, usability, livability and marketability are ultimately determined by the population and usage potential of property. The boundaries of the assessment areas have been narrowly drawn to include only properties that specially benefit from the mosquito control services.

The Silicon Valley Taxpayers Association, Inc. v. Santa Clara County Open Space Authority decision indicates:

In a well-drawn district — limited to only parcels receiving special benefits from the improvement — every parcel within that district receives a shared special benefit. Under section 2, subdivision (i), these benefits can be construed as being general benefits since they are not “particular and distinct” and are not “over and above” the benefits received by other properties “located in the district.”

We do not believe that the voters intended to invalidate an assessment district that is narrowly drawn to include only properties directly benefitting from an improvement. Indeed, the ballot materials reflect otherwise. Thus, if an assessment district is narrowly drawn, the fact that a benefit is conferred throughout the district does not make it general rather than special. In that circumstance, the characterization of a benefit may depend on whether the parcel receives a direct advantage from the improvement (e.g., proximity to park) or receives an indirect, derivative advantage resulting from the overall public benefits of the improvement (e.g., general enhancement of the district’s property values).

In the assessment, the advantage that each parcel receives from the mosquito control services is direct, and the boundaries are narrowly drawn to include only parcels that benefit from the assessment. Therefore, the even spread of assessment throughout the narrowly drawn district is indeed consistent with the Silicon Valley Taxpayers Association, Inc. v. Santa Clara County Open Space Authority decision.

Within the Annexation Area, zones of benefit are not justified or needed because the Services are provided relatively evenly across the entire area and for all parcels within the assessment areas' boundaries, and the surveillance, monitoring and treatment are applied in such a manner as to attain a relatively even level of mosquito control throughout the area.

However, in efforts to continue to enforce the most conservative interpretation of Article XIII D of the state constitution, in 2017, the District completed an analysis of service levels throughout the District boundaries. In particular, the District evaluated service levels in regards to its core services including surveillance, larviciding and service requests; and confirmed that service levels and benefits are essentially equivalent across all parcels (except as noted below and described as Zone B). Regarding service requests, the District will respond to any parcel located within the District, regardless of how remote, and provide mosquito control services appropriate to the situation. While conducting the evaluation, it did find that in Zones A and B (in this case, "Zones" as they are known for internal District purposes) the District responds to an average of over 700 service calls per year. Also as part of their integrated vector management (IVM) program, in Zones A and B the District conducts over 1,000 site treatments per year. Larvicide applications generally are applied throughout the District.

The District's evaluation showed that some mountainous areas of the District located in rural mountainous San Mateo County do not receive the same service level for District surveillance services. These areas are described as Zone B, and are indicated in the Assessment Diagram.

The District uses mosquito traps to collect and then quantify species, quantities, concentrations, viral loads, etc. of mosquitoes. The selection of the locations of these traps requires a multi-attribute evaluation, with trap locations changing seasonally and when high concentrations of mosquitoes are identified. The District places mosquito traps at 2 mile radii, primarily throughout the more populated areas of the County, as part of this routine adult trapping program. In Zones A and B specifically, the District places an annual average of about 120 traps each with 4 testing cups locate inside. Zone B parcels largely fall outside of the 2 mile radii of these routine adult mosquito traps and they do not typically receive the same level of routine surveillance as compared to the areas outside Zone B.

The Zone B parcels therefore will be subject to a reduced assessment, commensurate with the different benefit level. (If in the future, the routine adult mosquito trapping service is extended into part or all of Zone B, the Zone B boundaries will be modified accordingly.)

The District analyzed its overall level of effort and determined that 1.85% of its resources is allocated to routine adult mosquito trapping. Therefore, Zone B Parcels will be subjected to a 1.85% assessment reduction."

ASSESSMENT APPORTIONMENT

The special benefits derived from the North and West County Mosquito and Disease Control Assessment District are conferred on property and are not based on a specific property

owner's occupancy of property or the property owner's demographic status such as age or number of dependents. However, it is ultimately people who do or could use the property and who enjoy the special benefits described above. Therefore, the opportunity to use and enjoy the region within the Annexation Area without the excessive nuisance, diminished "livability" or the potential health hazards brought by mosquitoes, vectors, and the diseases they carry is a special benefit to properties in the Annexation Area. This benefit is related to the number of people who potentially live on, work at, visit or otherwise use the property because people ultimately determine the value of the benefits by choosing to live, work and/or recreate in the area, and by choosing to purchase property in the area.

RESIDENTIAL PROPERTIES

All improved residential properties that represent a single residential dwelling unit are assigned one Single Family Equivalent or 1.0 SFE. Traditional houses, zero-lot line houses, and townhomes are included in this category.

Properties with more than one residential unit are designated as multi-family residential properties. These properties, along with condominiums, benefit from the services and improvements in proportion to the number of dwelling units that occupy each property, the average number of people who reside in each property, and the average size of each property in relation to a single family home in San Mateo County. This Report analyzed San Mateo County population density factors from the 2000 US Census as well as average dwelling unit size for each property type. After determining the Population Density Factor and Square Footage Factor for each property type, an SFE rate is generated for each residential property structure, as indicated in Table 3 below.

The SFE factor of 0.32 per dwelling unit for multifamily residential properties applies to such properties with 20 or fewer units. Properties in excess of 20 units typically offer on-site management, monitoring and other control services that tend to offset some of the benefits provided by the mosquito abatement district. Therefore, the benefit for properties in excess of 20 units is determined to be 0.32 SFE per unit for the first 20 units and 0.10 SFE per each additional unit in excess of 20 dwelling units.

TABLE 3 RESIDENTIAL ASSESSMENT FACTORS

	<i>Total Population</i>	<i>Occupied Households</i>	<i>Persons per Household</i>	<i>Pop. Density Equivalent</i>	<i>SqFt Factor</i>	<i>Proposed Rate</i>
Single Family Res	444,691	147,465	3.02	1.00		1.00
Condominium	64,797	22,179	2.92	0.97	0.70	0.68
Multi-Family Resic	180,497	81,209	2.22	0.74	0.43	0.32
Mobile Home on S	6,108	2,851	2.14	0.71	0.30	0.21

Source: 2000 Census, San Mateo County and property dwelling size information from the San Mateo County Assessor

COMMERCIAL/INDUSTRIAL PROPERTIES

The commercial and industrial properties are generally open and operated for more limited times, relative to residential properties. Therefore, the relative hours of operation can be used as a measure of benefits, since residents and employees also provide a measure of the relative benefit to property. Since commercial and industrial properties are typically open and occupied by employees approximately one-half the time of residential properties, it is reasonable to assume that commercial land uses receive one-half of the special benefit on a land area basis relative to single family residential property.

The average size of a single family home with 1.0 SFE factor in San Mateo County is 0.20 acres. Therefore, a commercial property with 0.20 acres receives one-half the relative benefit, or a 0.50 SFE factor.

The SFE values for various commercial and industrial land uses are further defined by using average employee densities because the special benefit factors described previously are also related to the average number of people who work at commercial/industrial properties.

To determine employee density factors, this Report utilizes the findings from the San Diego Association of Governments Traffic Generators Study (the "SANDAG Study") because these findings were approved by the State Legislature which determined the SANDAG Study to be a good representation of the average number of employees per acre of land area for commercial and industrial properties. As determined by the SANDAG Study, the average number of employees per acre for commercial and industrial property is 24. As presented in Table 4, the SFE factors for other types of businesses are determined relative to their typical employee density in relation to the average of 24 employees per acre of commercial property.

Commercial and industrial properties in excess of 5 acres generally involve uses that are more land intensive relative to building areas and number of employees (lower coverage ratios). As a result, the benefit factors for commercial and industrial property land area in excess of 5 acres is determined to be the SFE rate per fifth acre for the first 5 acres and the relevant SFE rate per each additional acre over 5 acres. Institutional properties that are used for residential, commercial or industrial purposes are also assessed at the appropriate residential, commercial or industrial rate.

Table 4 below lists the benefit assessment factors for business properties.

TABLE 4 COMMERCIAL/INDUSTRIAL BENEFIT ASSESSMENT FACTORS

<i>Type of Commercial/Industrial Land Use</i>	<i>Average Employees Per Acre ¹</i>	<i>SFE Units per Fraction Acre ²</i>	<i>SFE Units per Acre After 5</i>
Commercial	24	0.500	0.500
Office	68	1.420	1.420
Shopping Center	24	0.500	0.500
Industrial	24	0.500	0.500
Self Storage or Parking Lot	1	0.021	
Golf Course	0.80	0.033	
Cemeteries	0.10	0.004	
Agriculture	0.05	0.002	

* SFE rate shown is for the first 5 acres of parcel size. Additional acreage is benefited at the rate

1. Source: San Diego Association of Governments Traffic Generators Study.

2. The SFE factors for commercial and industrial parcels indicated above are applied to each fifth acre of land area or portion thereof. (Therefore, the minimum assessment for any assessable parcel in these categories is the SFE Units listed herein.)

VACANT PROPERTIES

The benefit to vacant properties is determined to be proportional to the corresponding benefits for similar type developed properties. However, vacant properties are assessed at a lower rate due to the lack of active benefits. A measure of the benefits accruing to the underlying land is the average value of land in relation to improvements for developed property. An analysis was conducted by the Engineer of the assessed valuation data from the County of San Mateo found that 50% of the assessed value of improved properties is classified as land value. It is reasonable to assume, therefore, that approximately 50% of the benefits are related to the underlying land and 50% are related to the day-to-day use of the property. Using this ratio, the SFE factor for vacant parcels is 0.50 per parcel.

OTHER PROPERTIES

Article XIID stipulates that publicly owned properties must be assessed unless there is clear and convincing evidence that those properties receive no special benefit from the assessment. All properties that are specially benefited are assessed. Public right-of-way parcels, well, reservoir or other water rights parcels that cannot be developed into other improved uses, limited access open space parcels, watershed parcels and common area parcels typically do not generate employees, residents, customers or guests. Moreover, many of these parcels have limited economic value and, therefore, do not benefit from specific enhancement of property value. Such parcels are, therefore, not specially benefited and are not assessed.

Other publicly owned property that is used for purposes similar to private residential, commercial, industrial or institutional uses is benefited and assessed at the same rate as such privately owned property.

Church parcels and property used for educational purposes typically generate employees on a less consistent basis than other non-residential parcels. Many of these parcels also provide some degree of on-site amenities that serve to offset some of the benefits from the San Mateo County Mosquito and Vector Control District. In addition, the District maintains reciprocal use arrangements with many educational properties that allow for the public, recreational use of these properties. Such public use tends to reduce the use and wear of District facilities. Therefore, these parcels receive minimal benefit and are assessed an SFE factor of 1.

APPEALS AND INTERPRETATION

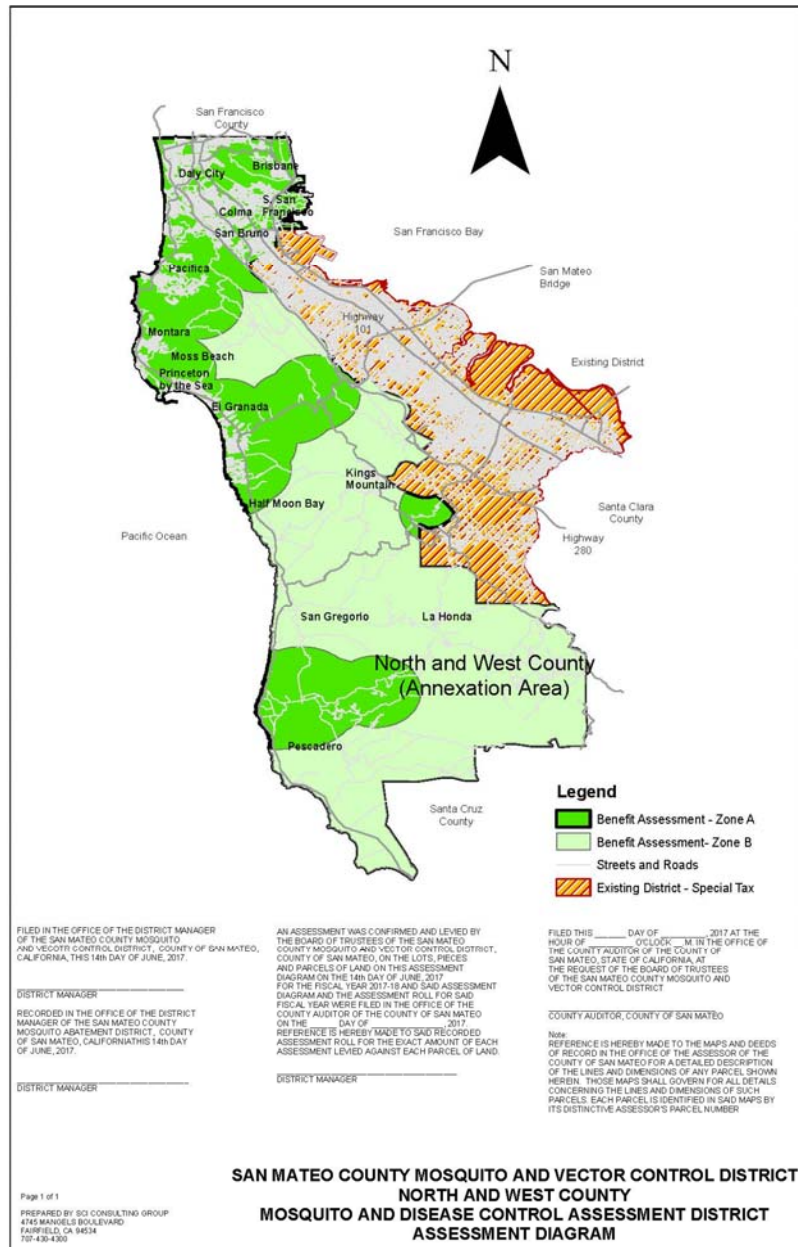
Any property owner who feels that the assessment levied on the subject property is in error as a result of incorrect information being used to apply the foregoing method of assessment, may file a written appeal with the District Manager of the San Mateo County Mosquito and Vector Control District or his or her designee. Any such appeal is limited to correction of an assessment during the then current Fiscal Year or, if before July 1, the upcoming fiscal year. Upon the filing of any such appeal, the District Manager or his or her designee will promptly review the appeal and any information provided by the property owner. If the District Manager or his or her designee finds that the assessment should be modified, the appropriate changes shall be made to the assessment roll. If any such changes are approved after the assessment roll has been filed with the County of San Mateo for collection, the District Manager or his or her designee is authorized to refund to the property owner the amount of any approved reduction. Any dispute over the decision of the District Manager, or his or her designee, shall be referred to the Board. The decision of the Board shall be final.

DURATION OF ASSESSMENT

It is proposed that the Assessment be levied for fiscal year 2018-19 and every year thereafter, so long as mosquitoes remain in existence and the San Mateo County Mosquito and Vector Control District requires funding from the Assessment for its Services in the Annexation Area. As noted previously, if the Assessment and the duration of the Assessment are approved by property owners in an assessment ballot proceeding, the Assessment can be levied annually after the San Mateo County Mosquito and Vector Control District Board of Trustees approves an annually updated Engineer's Report, budget for the Assessment, Services to be provided, and other specifics of the Assessment. In addition, the District Board of Trustees must hold an annual public hearing to continue the Assessment.

ASSESSMENT DIAGRAM

The North and West County Mosquito and Disease Control Assessment District include all properties within the boundaries of the Annexation Area. The boundaries of the North and West County Mosquito and Disease Control Assessment District are displayed on the following Assessment Diagram. Zone A parcels are shown in dark green and Zone B parcels are shown in light green.



ASSESSMENT ROLL

Reference is hereby made to the Assessment Roll in and for said assessment proceedings on file in the office of the District Manager of the District, as said Assessment Roll is too voluminous to be bound with this Engineer's Report.