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WASHOE COUNTY DISTRICT HEALTH DEPARTMENT

District Board Of Health Regulations Governing The
Prevention Of Vector-Borne Diseases

APPROVED BY THE WASHOE COUNTY DISTRICT BOARD OF HEALTH ON MAY 22, 2003

FILED WITH THE WASHOE COUNTY CLERK'S OFFICE ON OCTOBER 2, 2003

Resolution

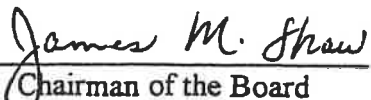
Regulations Governing The Prevention Of Vector-Borne Diseases

Whereas, the Washoe County District Board of Health has been established pursuant to ***NRS 439.370 et seq.*** and vested thereby with jurisdiction over all public health matters within the geographic boundaries of Washoe County, Nevada; and

Whereas, ***NRS 439.410 3a, 3d***, permits local authorities to adopt, amend, and enforce reasonable rules and regulations consistent with law, to prevent and control nuisances, and thereby promote the public health;

Whereas, the Health Officer shall have authority to order the abatement or removal of any nuisance detrimental to the public health in accordance with the laws relating to such matters. (***NRS 439.490***), and

Now, Therefore, Be It Resolved that the Washoe County District Board of Health does hereby adopt the following regulations governing the prevention of vector-borne diseases within the Washoe County Health District; and the Washoe County District Board of Health does hereby request approval of said regulations by the Nevada State Board by Chapter 439 of the Nevada Revised Statutes.


Chairman of the Board
Washoe County District Health


District Health Officer

Adopted Unanimously May 22nd. 2003

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General Provisions

The purpose of this document is to establish regulations and to provide information to help professionals in public health, planning, and other disciplines who are involved in the preparation and planning or review of project reports. Project reports provide information on the purpose, feasibility, physical aspects, and / or impacts of proposed undertakings. Such reports, provide an opportunity for public awareness and scrutiny of a proposed projects' impacts. Protection of the public health requires that full advantage be taken of this opportunity. Vector-borne disease professionals are concerned about potential vector conditions and diseases affecting people within the District Health Department's jurisdictions. This awareness and the programs' expertise on specific vector-borne disease concerns, places on them the responsibility for reviewing reports of proposed projects and for requiring, if necessary, that certain vector-borne disease prevention standards be met. There are two principle types of potential impacts concerning vector-borne diseases that must be addressed when reviewing a project report. These are: 1.) those projects that may create a favorable condition or habitat for vectors, e.g. water projects that may produce mosquitoes, and 2.) those that may be impacted by an existing vector population or disease potential, e.g. subdivisions in rural areas. Either or both of these may be of concern in the review of a proposed project. Managing or reducing the potential for the production of mosquito breeding for example, is the responsibility of the Vector-Borne Diseases Program of the District Health Department, and the information provided in this document is intended to help its readers achieve goals of source reduction or elimination. These regulations represent standards required for the prevention of vector-borne diseases in land and water development. These standards have been developed to mitigate the impact and severity of effect on human populations. Furthermore, these standards will form the basis from which conditions will be sought during the preparation and review of project reports and environmental documents. This will assure that local vector potentials or concerns are addressed and that all ordinances are complied with while remaining in compliance with the provisions of the Federal Clean Water Act. The review process shall be conducted without delay in a timely manner, while encouraging flexibility of design to meet the standards set forth in this document.

010. DEFINITIONS

As used in this regulation, unless the context otherwise requires, the words and terms described in Sections 010.001 through 010.028 inclusive, have the meanings ascribed to them in those sections.

010.002

"Approved", means approved in writing by the Health Authority.

010.003

"Basic Fee", shall mean the fee / charge for one acre.

010.004

"CC&Rs", shall mean the covenants, conditions, and restrictions adopted for a project.

010.005

"District Board" defined. "District Board or Board" means the Washoe County District Board of Health.

010.006

"Department" defined. "Department" means the Washoe County District Health Department.

010.008

"District Health Officer" means the person appointed by the District Board to administer activities of the Washoe County District Health Department within the Health District pursuant to the authority of State and local health laws and regulations.

010.009

Enabling Statutes. These regulations are adopted pursuant to *NRS 439.370*, *NRS 439.490*, and *NRS 439.410 3a*, and *3d*

010.010

"Health Authority" defined. "Health Authority" means the Washoe County District Health Department and its employees.

010.012

"Health District" means the Washoe County District Health Department created pursuant to Chapter 439 of the Nevada Revised Statutes.

010.013

May is permissive (see Shall).

010.014

"Mosquitoes" defined. "Mosquitoes" means insects belonging to the family *Culicidae*. Mosquitoes are vectors of diseases such as malaria and encephalitis viruses including West Nile Virus, St. Louis Encephalitis, and Western Equine Encephalomyelitis. In addition, they also cause great discomfort and misery by their bites.

010.016

"Midges" defined. "Midges" means insects belong to the order Diptera. Midges can arise in populations causing a nuisance and can also cause serious allergic reactions.

010.017

"Plan" defined. "Plan" has the meaning ascribed in *NRS 278A.060*.

010.018

"Project Reports" defined. "Project Reports" means any initial studies, environmental assessments and related reports, proposals, or documents intended to set forth plans for the use or development of land or water resources and may include other planning documents.

010.020

"Public Health Hazard" includes any condition that may injure or endanger the safety or health of any person.

010.022

"Public Nuisances" defined. "Public Nuisances" have the meanings ascribed in *NRS 202.450, 1, 3a*.

010.023

Shall is mandatory (see May).

010.024

"Vector" defined. "Vector" as used in this article, 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, other insects, ticks, mites, and rats.

010.026

"Vector-Borne Disease" defined. "Vector-Borne Disease" means the etiologic agent of disease or abnormal condition that impairs the normal state of living that is transmitted from one animal to another.

010.028

"Vector-Borne Diseases Program" defined. "Vector-Borne Diseases Program" is a subdivision of the Environmental Health Services Division of the Washoe County District Health Department. The Vector-Borne Diseases Program provides community-wide service in the field of zoonotic and vector-borne diseases. These are diseases found in animals that can be transmitted to humans. Included are such diseases as plague, hantavirus, anthrax, mosquito-borne encephalitis, tick-borne diseases and rabies.

030. VECTOR-BORNE DISEASE DEVELOPMENT PLAN REVIEW PERMITTING - PROCEDURES

030.001

In order to provide an expeditious method for processing a plan or project report and to avoid delay and uncertainty it is hereby declared to be in the public interest

that all procedures with respect to the approval or disapproval of a plan or project report must be consistent with the provisions set out in sections 030.001 to 030.010, inclusive.

030.002

A plan or project report package must be filed for tentative approval by or on behalf of the landowner.

030.003

The plan or project report package submitted may include a tentative map or subdivision map and shall include a grading map. Tentative or subdivision map approval may not be granted until the map has been submitted for review and comment. Additionally, requests to review project reports as authorized by the city or county may require that a special use permit, variance and or limited advisory review, be submitted.

030.005

After review, the plan or project report may be granted tentative approval, granted tentative approval subject to specified conditions not included in the plan as submitted, or denied approval. The grant or denial of tentative approval must set forth the reasons for the grant or for the denial with or without conditions.

030.006

A plan or project report submitted for final approval or denial, must include a final map, including conditions, as were set forth in the in the tentative approval.

030.007

A plan which has been given final approval by the Health Authority shall be certified and recorded in accordance with *NRS 278A.570*.

030.008

A decision to grant or deny approval of a plan or project report may be appealed for review before the District Board. The results of the District Board review shall serve as a final administrative decision.

030.010

A fee shall be charged for the review of project reports or plans in accordance with the current fee schedule adopted by the District Board. The property owner shall be ultimately responsible for submitting the appropriate fees prior to final approval of the project report.

**040. STANDARDS FOR VECTOR-BORNE DISEASE PREVENTION
IN PROPOSED DEVELOPMENTS**

040.010**Design criteria****040.011**

All ground surfaces shall be graded to drain into street gutters or storm drains to avoid ponding. Landscaped areas consisting of impermeable soils should be designed to prevent excessive summer run off.

040.012

All drainage shall flow into approved natural drains, flood control channels, or pipelines, or into storage basins designed to hold water for short periods of time.

040.013

Street gutter drop inlets and storm drains may provide sediment or trash collection devices that can keep the system open and operative. Drop inlets should also be designed to have no freestanding water, such as by low point out fall or use of a rock fill to a level slightly, above the outlet opening.

040.014

Subsurface utility vaults should not be used where high groundwater exists or where excessive surface water may enter enclosures.

040.015

Bottoms of subsurface utility vaults shall be self-draining such as by gravel fill or connection to a storm drain to prevent sprinkler or rain water from collecting. Tops of the vaults shall be enclosed to prevent entry of flying insects.

040.020**Flood Control Channels and Main Drains****040.021**

If man made channels are to be lined with concrete or other suitable materials, channels shall be graded to prevent ponded areas.

040.022

Where concrete lining is not feasible, a comprehensive maintenance program over and above that required for lined channels should be provided to maintain weed-free low flow channels and proper grades.

040.023

Low flow channels, preferable "V" type, shall be provided within flood control facilities to concentrate and drain summer nuisance water flows.

040.024

Subsidence of large structures shall be anticipated and allowances made for future correction to invert elevations.

040.025

The Vector-Borne Diseases Program shall be consulted when proposed flood control or drainage facilities including detention or retention basins impact on its statutory responsibilities.

040.030

Reservoirs, Recreational Lakes, and Ponds

040.031

Reservoirs, recreational lakes, or other below ground-level water basins near populated areas, shall have a minimum of 3:1 side slopes, have banks lined to two feet below the water line with suitable materials such as rip rap, concrete, or clay, and have banks maintained to ensure permanent weed prevention. The Army Corp of Engineers may be consulted for coordination of proposed mitigation plans, applicant mitigation proposals, on mitigation projects for insect impacts under the regulatory program pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. The Truckee Meadows Regional Stormwater Quality Management Program Construction Site Best Management Practices Handbook shall also be utilized to provide for the prevention of pollution from stormwaters.

040.032

Ponds with raised embankments for storage of water or wastewater shall be lined with rip rap, concrete, or clay, or, if soil characteristics permit, have steep interior side slopes that will prevent emergent vegetation.

040.033

Water or wastewater impoundments may be any shape but should not contain small coves or shore irregularities where debris can accumulate.

040.034

Raised embankments shall have a levee road with a minimum width of ten feet and be adequately constructed to support maintenance vehicles.

040.035

Ponds and other man-made water impoundments shall be designed with graded bottoms and 3:1 side slopes so that all water can be removed by gravity or pumping for maintenance purposes.

040.036

Agricultural wastewater ponds used primarily for disposal of wash water from animal confinement areas (dairies, feedlots, etc.) shall contain presumps or solids

separators designed to adequately prevent most organic solids from reaching the impoundments.

040.037

Wastewater evaporation and infiltration systems shall have a minimum of one additional cell over and above the system's requirements in order to facilitate periodic draining, drying, cleaning, disking, and repair of other cells.

040.038

The use of reclaimed wastewater for irrigation, groundwater recharge, or other permitted uses shall be pursued to the extent that such use is an efficient use of water resources and prevent standing water.

040.040

Fresh Water Marsh

040.041

Marsh or other wetland restoration or fish and wildlife enhancement projects should provide for deeper ponds to serve as refuge for larvivorous fish, and ditches connecting these refuges for fish access when water levels rise or recede.

040.042

Shallow edged pond margins should be avoided.

040.043

Roadways of sufficient integrity shall be constructed to allow year round access to marsh lands for inspection or treatment vehicles to have access.

040.044

An easement for Vector-Borne Diseases staff access may be necessary to allow unimpeded inspection and treatment. In some areas, aerial avigation agreements may be required to indenture an easement.

040.050

Agriculture

040.051

Land grades, dictated by soil permeability and crop requirements, generally should have sufficient fall to prevent midfield ponding, especially in soils with high clay content.

040.052

Graded ditches shall be provided at low end of fields for drainage and proper management of tail water.

040.053

Tail water return systems or the capability to utilize tail water in other fields shall be incorporated, provided that the water quality is suitable for reuse in crop irrigation.

040.054

Irrigation ditches and pipelines shall contain means for draining after irrigation to prevent creation of breeding habitats within these facilities.

040.055

Projects for the disposal of wastewater on land shall contain provisions for land grading, rotating parcels, and drying and disking to prevent excessive weed growth and algae mats.

040.056

Projects calling for wastewater application to crops shall provide for adequate preparation of land, proper irrigation facilities, rotation of parcels, and strict water management.

040.057

Dairies, feedlots, and other mass animal confinement operations shall require sloped loafing and feeding corrals and drainage designed to remove water from all confinement areas, and to prevent standing water.

040.060**Operation and Maintenance Criteria****040.062**

Flood control channels, canals, siphons, detention basins, etc., should be constructed and maintained in such a way that small nuisance water flows are not blocked by sand, silt, vegetation, or debris.

040.063

Water conveyance and storage systems shall include provisions for prompt attention to facility leakage and seepage creation and to prevent creation of water-logged areas.

040.064

Nonsewered, nonhazardous amounts of water from commercial or in industrial uses shall be adequately contained and disposed of to prevent ponding or the creation of conditions suitable for mosquito and / or midge breeding

040.065

Lakes, freshwater ponds, may be stocked with appropriate fish types that will prey on mosquito and midge larvae

040.066

Wastewater ponds should be kept free of debris, algae blooms, floating organic materials, and vegetation at waters edge.

040.069

Dairies, feedlots, and other mass animal confinement areas shall include programs for periodic solid waste removal to prevent odors, flies, and other vectors.

040.070

Mosquito prevention design requirements for project developments shall be considered in conjunction with the Vector-Borne Diseases Program.

040.071

Mosquito control costs directly attributed to noncompliance of the regulations governing the prevention of vector-borne diseases shall be borne by a project developer and or the property owner until the situation is corrected.

040.080**Terrestrial Vector and Rodent Prevention****040.081**

Engineering review shall take into consideration the compatibility of developments when a potential for vector production exists and shall meet vector prevention requirements of the District Health Department.

040.082

Request for land use and zoning variances that may impact vector species production shall be reviewed by staff of the Vector-Borne Diseases Program and their recommendations shall be part of the condition for approval of the variance.

040.083

Underground utility service is recommended since it prevents roof rat access to buildings which otherwise occurs via service wires and cables, but must be constructed in such a manner as to prevent mosquito breeding.

040.084

In areas where sewer rat infestation is a problem, installation of sewer line gates or other devices designed to check upstream travel of rodents shall be considered.

040.085

It shall be the primary responsibility of a property owner or occupant operating an animal confinement facility to comply with standard operation, maintenance, and sanitation practices as required by local ordinance.

050. APPLICATION FOR VARIANCE

050.005

Any person who can not comply with these regulations may apply to the Environmental committee of the District Board of Health for a variance to the regulations.

050.010

The Variance Application must:

1. Include the non-refundable fee set by the District Board of Health,
2. Specify all the sections of these regulations for which a variance is requested and,
3. Have information required to enable the staff and hearing board members to consider adequately the request.

050.015

A request for a variance to the requirements of these regulations must be made in writing and a brief statement of the reason for requesting the variance and the section of the regulations include:

1. Section to be varied,
2. The location or proposed location of the property by public survey, and
3. The name and address of the property owner,
4. The street address, if there is no street address, a description of the location of the site, including but not limited to, common landmarks and cross-streets near the proposed site.
5. The county assessor's parcel number,
6. A brief description of the proposed design,
7. Any other information required pursuant to the provisions of this chapter.

060. UNLAWFUL ACTS AND PENALTIES

060.005

Any person who violates any provision of these regulations is guilty of a misdemeanor.

070. CIRCUMVENTION AND INTREPRETATION

070.005

Nothing contained herein shall be interpreted to circumvent these regulations to make them less effective.

070.010

If more than one (1) interpretation exists for a regulation, the more restrictive interpretation shall be followed.

080. SEVERABILITY

08.005

If any provision of these regulations or any application thereof to any person, thing, or circumstances shall be held invalid in a court of competent jurisdiction, such invalidity shall not affect the remaining provisions or applications to the extent that they can be given effect.

ILLUSTRATIONS

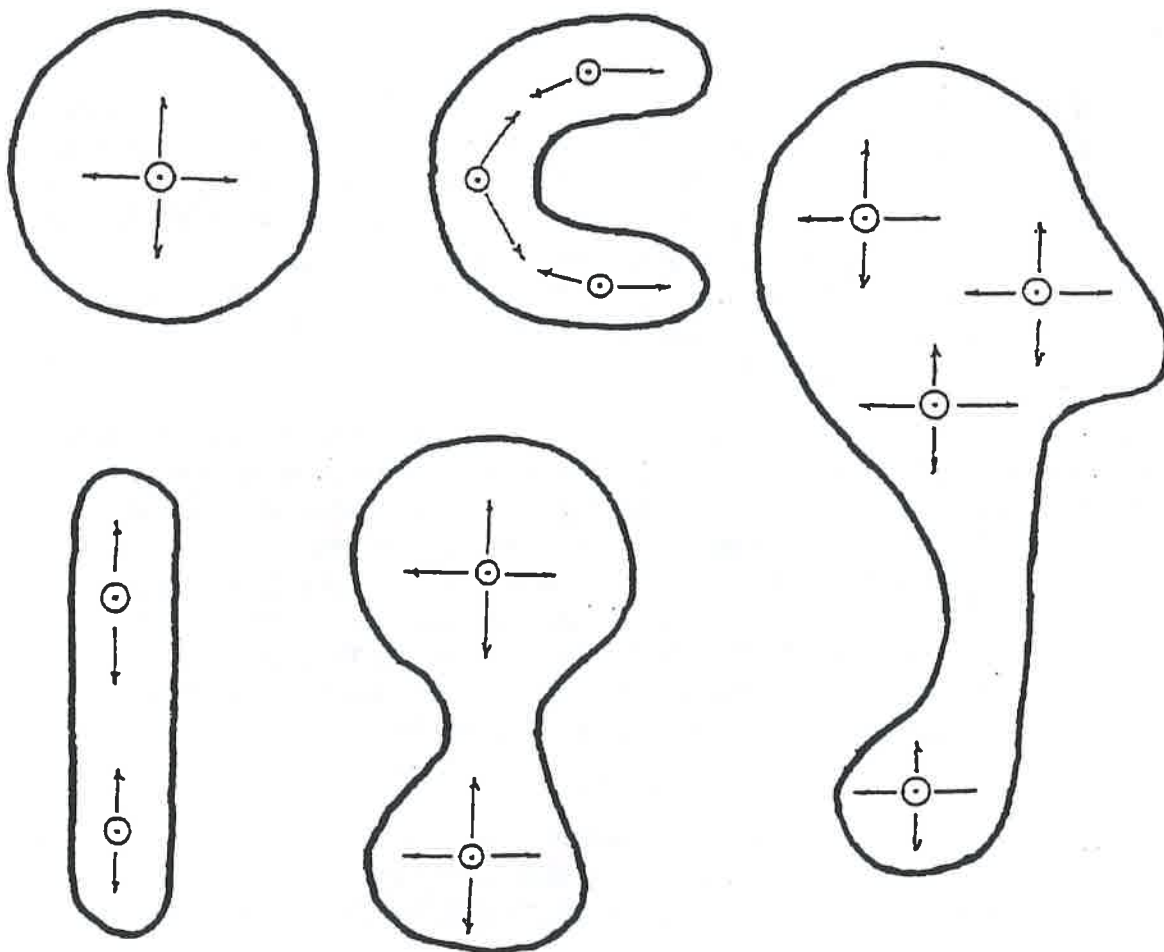
PLACEMENT

Regardless of the type of system, strategic placement of the aerators or diffusers is critical to insure the success of the aeration system. The size and shape of the lake or pond has a bearing on the size, number, and placement of the aerators.

Location of the aerators may, to some extent, be dictated by the proximity of the electrical power source. It is important from an operational standpoint to place aerators or diffusers as close to the control center or compressor. The further the aerators or diffusers are from the control center or compressor, the less energy they receive and the less efficient they will operate.

Assuming that power is readily available, the aerators should be strategically placed so that there is uniform circulation and aeration throughout the entire pond. It is always sound practice to break the horsepower requirement down into several smaller units which can be placed evenly in the basin. Many ponds have coves or inlets where the water may be still or stagnant. Aerators should be placed in those areas.

Should budgetary or power constraints restrict the number of aerators, placement becomes even more important. Place the aerator near the irrigation intake to insure trouble free operation of the irrigation system. Often algae and debris are blown to the windward side of the pond. Place the aerator there. It is always safe to place the aerator in the trouble spots of the pond.



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stated that Staff does work in conjunction with the developers and engineers to address any concerns; that there have been instances when the engineer of the project has improved upon Staff's recommendations.

Mr. Salerno stated that he understands Mr. Lynch's concerns; however, vector-borne disease control related-issues have been an issue of discussion and concern for years. Mr. Salerno advised that the demands for vector-control services continually increase resulting in the necessity of augmenting the budget annually; therefore, he does support the adoption of the proposed Regulations.

MOTION: Mr. Salerno moved and it was seconded by Dr. Humphreys that the Washoe County District Board of Health Regulations Governing the Prevention of Vector-borne Disease be approved and adopted as outlined.

Motion was carried unanimously.

- c) Proposed Changes to the Department's Schedule of Service Charges and Permit Fees to Add Vector-borne Fees as Referenced in the Washoe County District Board of Health Regulations Governing Vector-borne Diseases, Including Grading Plan Review Services Fee; Limited Advisory Review Services Fee; Final Map Review Services Fee; Subdivision On-Site Variance Request Review Services Fee; Special Use Permit Fee; Parcel Map Review – Sewer Available/Not Available Services Fee; Subdivision Review – Tentative Map, Amended or Lapsed Service Fee; Review & Amended Plan Review Services Fee; Mobile Home & Recreational Vehicle Park Plan Review Services Fee

Ms. Eileen Coulombe, Director, Administrative Health Services, advised that the Board members have been provided with a copy of the proposed amendment to the Department's Schedule of Service Charges and Permit Fees, incorporating the various fees associated with the approval and adoption of the Washoe County Regulations Governing Vector-borne Diseases. Ms. Coulombe reviewed each of the individual proposed fees, as outlined in the memo dated May 15, 2003, addressed to the District Board of Health (a copy of which was placed on file for the record). Ms. Coulombe advised that the methodology utilized in calculating the proposed fees is the same utilized to calculate the existing fees within the fee schedule; that the Board members have been provided with a copy of the calculation for each of the proposed fees.

Ms. Coulombe stated that the proposed Regulations must also be reviewed and approved by the State Board of Health; that the proposed fees will become effective upon that approval of the Regulations by the State. In response to Mr. Shaw regarding the proposed fees, Ms. Coulombe