

LCB File No. R063-04

PROPOSED REGULATION OF THE STATE
ENVIRONMENTAL COMMISSION

Petition 2004-15

Explanation- Matter in *italics* is new; matter in brackets ~~[omitted material]~~ is material to be omitted.

Authority: §1, NRS 445A.425

Use of Treated Effluent ~~[for Irrigation]~~

NAC 445A.275 General requirements and restrictions.

1. A person shall not use treated effluent ~~[for irrigation]~~ unless he has:

(a) Submitted to the ~~[division]~~ *Division* and has received the *Division's* approval of ~~[the division]~~ *an effluent management* plan ~~[for the management of effluent]~~; and

(b) Obtained a permit pursuant to NAC 445A.228 to 445A.263, inclusive.

2. A person using treated effluent ~~[for irrigation by flooding or sprinklers]~~ shall use effluent that has received at least secondary treatment. As used in this subsection:

(a) "Secondary treatment" means the ~~[biological oxidization of the]~~ sewage *is treated to* a point where ~~[the sewage]~~ *it* has a 5-day inhibited biochemical oxygen demand concentration of 30 milligrams per liter or less, *a TSS concentration of 30 mg/l, and the pH is between 6 and 9 S.U.*

(b) "Five-day inhibited biochemical oxygen demand" means the amount of dissolved oxygen in milligrams per liter required ~~[during stabilization]~~ *to stabilize* ~~[of]~~ the carbonaceous decomposable organic matter by aerobic bacterial action at 20 degrees centigrade for 5 days.

(c) *"TSS" means the total suspended solids concentration as measured by approved laboratory techniques.*

(d) *"pH" means the negative base ten logarithm of the hydrogen ion concentration.*

(e) "Surface Irrigation" means irrigation by flood or drip irrigation systems.

(f) "C.f.u. or mpn/100 ml" means colony forming units or most probable number per 100 milliliters of the treated effluent

3. Any person using treated effluent ~~for irrigation~~ shall post ~~a~~ *notification signage* ~~notice~~ at the ~~site of irrigation~~ *point of use* warning the general public to avoid contact with the treated effluent.

4. Except as otherwise provided in this subsection a person shall not use treated effluent to irrigate crops for human consumption. A person may use treated effluent for surface irrigation of fruit bearing trees and nut bearing trees.

5. A person using *sprinklers* ~~treated effluent~~ to irrigate ~~by sprinklers~~ with *treated effluent* shall conduct the irrigation in a manner ~~which~~ *that* inhibits the treated effluent *spray* from drifting ~~for carrying outside~~ *beyond the area of use and/or outside* the buffer zone.

6. A person shall not allow treated effluent used in irrigation to run off the site being irrigated.

7. *These regulations are not intended to address residential use of gray water. Such usage is regulated by the local health authority and is covered under NAC 444.837.*

NAC 445A.276 Spray irrigation: Requirements for bacteriological quality and buffer zone limitations.

1. Treated effluent being used for spray irrigation must meet the following requirements for bacteriological quality and buffer zone limitations:

	[Fecal Coliform]			
	[c.f.u. or mpn/100 ml]			
[Reuse Permitted]	[A]	[A(1)]	[B]	[C]
[30-day geometric mean]	[No Limit]	[200]	[23]	[2.2]
[Maximum daily number]	[No Limit]	[400]	[240]	[23]
[Minimum Buffer Zone (Feet)]	[800]	[400]	[100]	[0]

	TOTAL COLIFORM C.F.U. OR MPN/100 ML	FECAL COLIFORM C.F.U. OR MPN/100 ML			
	A	B	C	D	E
30-day geometric mean	2.2	2.2	23	200	No limit
Maximum Daily Number	23	23	240	400	No limit
Buffer Zone (feet)	None	None	100	400	800

2. As used in this section:

(a) Category "A" means irrigation with treated effluent of land used for:

~~[(1) Pasture; or]~~

~~[(2) Other agricultural purposes except growing crops for human consumption, where public access to the site being irrigated is prohibited. Treated effluent being used for activities falling within category A must meet the the requirements for bacteriological quality and buffer zone limitations identified in subsection 1 as applicable to category A or meet the requirements for bacteriological quality and buffer zone limitations identified in subsection 1 as applicable to category A(1).]~~

(1) A cemetery, golf course, greenbelt, park, playground or commercial lawn where public access to the site being irrigated is not controlled and human contact with the treated effluent can reasonably be expected;

(2) Any combination of an activity listed under Category B, C, D, or E and subparagraph (1) of this paragraph.

Treated effluent being used for activities falling within category A must meet the requirements for bacteriological quality limitations identified in subsection 1 as applicable to category A.

(b) Category "B" means irrigation with treated effluent for land used for:

(1) A golf course, cemetery, *park, commercial lawn*, or greenbelt where public access to the site being irrigated is controlled and human contact with the treated effluent *cannot reasonably be expected* ~~[does not]~~ to occur;

~~[(2) An impoundment where all activities are prohibited and human contact does not occur; or]~~

(2) Subsurface irrigation fields or lawns;

(3) Any combination of a use listed *under category* ~~[in paragraph (a)]~~ *C, D, or E* and a use listed in subparagraph (1) *or (2)* of this paragraph

Treated effluent being used for activities falling within category B must meet the requirements for bacteriological quality and buffer zone limitations identified in subsection 1 as applicable to category B.

(c) Category “C” means irrigation with treated effluent of land used for:

(1) A cemetery, ~~[highway median,]~~ greenbelt, ~~[park, playground]~~ or *golfcourse* ~~[residential or commercial lawn]~~ where public access to the site being irrigated is controlled and human contact with the treated effluent ~~[cannot reasonably be expected]~~ does *not occur*;

~~[(2) Impoundments where full body contact with the treated effluent cannot reasonably be expected.]~~

(2) Any combination of an activity listed *under category E or D* ~~[in paragraph (a) or (b)]~~ and an activity listed in subparagraph (1) ~~[(2) or (3)]~~ of this paragraph.

Treated effluent being used for activities falling within category C must meet the requirements for bacteriological quality and buffer zone limitations identified in subsection 1 as applicable to category C.

~~[(d) "C.f.u. or mpn/100 ml" means colony forming units or most probable number per 100 milliliters of the treated effluent.]~~

(d) Category “D” means irrigation with treated effluent of land used for

(1) Agricultural purposes except growing crops for human consumption, where public access to the site being irrigated is prohibited;

(2) Any combination of a use listed under category “E” and a use listed in subparagraphs 1 of this paragraph

Treated effluent being used for activities falling within category D must meet the requirements for bacteriological quality and buffer zone limitations identified in subsection 1 as applicable to category D.

(e) Category “E” means irrigation with treated effluent of land used for

(1) Pasture; or

(2) Other agricultural purposes except growing crops for human consumption, where public access to the site being irrigated is prohibited.

Treated effluent being used for activities falling within category E must meet the requirements for buffer zone limitations identified in subsection 1 as applicable to category E.

~~NAC 445A.277 [Exceptions to requirements for buffer zone and control of public access. A buffer zone and control of public access is not required where treated effluent is used for irrigation of land used for a cemetery, golf course, greenbelt, impoundment where full body contact can reasonably be expected, park, playground or commercial or residential lawn, if the treated effluent:~~

~~—1. Has a total coliform concentration of 2.2, or less, per 100 milliliters of the treated effluent as a 30 day geometric mean; and~~

~~—2. Has a total coliform concentration of 23, or less, per 100 milliliters of the treated effluent as a maximum daily number.]~~

Other Uses of Treated Effluent: Requirements for bacteriological quality and state approval.

1. Treated effluent being used for categories listed in this section must meet the designated bacteriological quality as pertains to NAC 445A.276, subsection 1. The Division may require specific management plans and public notification requirements for each of these additional uses.

2. As used in this section:

a. Reuse Category “A” effluent may be used for the following:

1. Public water features where full body contact with the treated effluent is controlled

2. Any other purpose that is accepted and approved by the Division

3. Any combination of an activity listed in paragraph (b), (c) or (d) and an activity listed in subparagraphs (1) or (2) of this paragraph

b. Reuse Category “B” effluent may be used for the following:

- 1. Street Washing*
- 2. Industrial Cooling processes*
- 3. Structural Fire Control provided local fire department approves of use*
- 4. Impoundments where full body contact with the treated effluent cannot reasonably be expected*
- 5. Any other purpose that is accepted and approved by the Division.*
- 6. Any combination of an activity listed in paragraph (c) or (d.) and an activity listed in subparagraphs (1), (2), (3) or (4) of this paragraph.*

c. Reuse Category “C” effluent may be used for the following

- 1. Nurseries where public access is controlled*
- 2. Wetlands where public access is controlled*
- 3. Aggregate Washwater and concrete mixtures*
- 4. Industrial process water and boiler feed water*
- 5. An impoundment where all activities are prohibited and human contact with the treated effluent does not occur*
- 6. Forrest fire fighting provided local fire department approves*
- 7. Any combination of an activity listed in paragraph (d) and an activity listed in subparagraphs (1), (2), (3), (4), or (5) of this paragraph.*

d. Reuse Category “D” effluent may be used for the following:

- 1. Dust Control*
- 2. Soil Compaction*
- 3. Sewer Flushing*

445A.278 Drip or surface irrigation of landscape: Minimum level of disinfection. The minimum level of disinfection for drip irrigation of landscape and surface irrigation-of landscape with treated effluent in areas where public access is controlled is 200 fecal coliform (*c.f.u. or mpn*) per 100 milliliters of the treated effluent as a 30-day geometric mean and 400 fecal coliform (*c.f.u. or mpn*) per 100 milliliters of the treated effluent as a maximum daily number.

NAC 445A.279 Determining quality of effluent: Storage reservoirs excluded from treatment process. For the purpose of determining the quality of effluent, storage reservoirs do not constitute part of the treatment process.

NAC 445A.280 Waiver or modification of requirements. The director may waive compliance with or modify any requirement of NAC 445A.275 to 445A.280, inclusive, for a specific project of irrigation upon his determination that because of the size, type or location of the project of irrigation, the waiver or modification is consistent with the policy set forth in NRS 445A.305.