

1 H.375

2 Introduced by Representative Zagar of Barnard

3 Referred to Committee on

4 Date:

5 Subject: Conservation and development; potable water supply and wastewater
6 systems; ecological toilets; greywater systems

7 Statement of purpose of bill as introduced: This bill proposes to establish
8 standards for the use of ecological toilets, such as composting toilets, urine
9 diverting dry toilets, incinerating toilets, or lined pit latrines. The bill also
10 would require the Secretary of Natural Resources to adopt a general permit to
11 authorize the use of greywater systems in the State.

12 An act relating to the permitting of ecological toilets and greywater systems

13 It is hereby enacted by the General Assembly of the State of Vermont:

14 Sec. 1. 10 V.S.A. § 1971 is amended to read:

15 § 1971. PURPOSE

16 It is the purpose of this chapter to:

17 (1) establish a comprehensive program to regulate the construction,

18 replacement, modification, and operation of potable water supplies and

19 wastewater systems in the ~~state~~ State in order to protect human health and the

1 environment, including potable water supplies, surface water, and
2 groundwater;

3 (2) eliminate duplicative or unnecessary permitting requirements
4 through the consolidation of existing authorities and, where appropriate, the
5 use of permits by rule;

6 (3) ~~allow~~ encourage the use of alternative, innovative, and experimental
7 technologies for the treatment and disposal of wastewater in the appropriate
8 circumstances, including:

9 (A) dry toilet technologies and associated secondary treatment
10 systems designed for the collection, treatment, and beneficial reuse of human
11 excrement in a manner consistent with the protection of public health and
12 safety and the quality of the waters of the State; and

13 (B) the appropriate reuse of greywater for beneficial use;

14 (4) protect the investment of homeowners through a flexible remediation
15 process for failed potable water supplies and wastewater systems;

16 (5) increase reliance on and the accountability of the private sector for
17 the design and installation of potable water supplies and wastewater systems,
18 through licensing and enforcement; and

19 (6) allow delegation of the permitting program created by this chapter to
20 municipalities demonstrating the capacity to administer the chapter.

1 Sec. 2. 10 V.S.A. § 1972 is amended to read:

2 § 1972. DEFINITIONS

3 ~~For the purposes of~~ As used in this chapter:

4 (1) “Agency” means the ~~agency of natural resources~~ Agency of Natural
5 Resources.

6 (2) “Building or structure” means a building or structure whose use or
7 useful occupancy requires the construction or modification of a potable water
8 supply or wastewater system.

9 * * *

10 (6) “Potable water supply” means the source, treatment, and conveyance
11 equipment used to provide water used or intended to be used for human
12 consumption, including drinking, washing, bathing, the preparation of food, or
13 laundering. This definition does not include any internal piping or plumbing,
14 except for mechanical systems, such as pump stations and storage tanks or
15 lavatories, that are located inside a building or structure and that are integral to
16 the operation of a potable water system. This definition also does not include a
17 potable water supply that is subject to regulation under chapter 56 of this title.

18 * * *

19 (8) “Secretary” means the ~~secretary of the agency of natural resources~~
20 Secretary of Natural Resources or a duly authorized representative of the
21 ~~secretary~~ Secretary. A duly authorized representative of the ~~secretary~~

1 Secretary includes a municipality that has requested delegation, in writing, and
2 has been delegated the authority to implement provisions of this chapter in lieu
3 of the ~~secretary~~ Secretary.

4 * * *

5 (10) “Wastewater system” means any piping, pumping, treatment, or
6 disposal system used for the conveyance and treatment of sanitary waste or
7 used water, including, ~~but not limited to,~~ carriage water, shower and wash
8 water, and process wastewater. This definition does not include any internal
9 piping or plumbing, except for mechanical systems, such as pump stations and
10 storage tanks or toilets, that are located inside a building or structure and that
11 are integral to the operation of a wastewater system. This definition also does
12 not include wastewater systems that are used exclusively for the treatment and
13 disposal of animal manure. In this chapter, “wastewater system” refers to a
14 soil-based disposal system of less than 6,500 gallons per day, or a sewerage
15 connection of any size.

16 (11) “Composting toilet” means an ultra-low-flow or waterless toilet
17 system designed to collect human excrement in the toilet itself or within a
18 secondary storage and treatment system so that the human excrement may be
19 composted to a stable soil-like material called “humus” primarily by utilizing
20 unsaturated, aerobic microbial digestion. These systems are commonly

1 designed to accommodate human excrement, toilet paper, and small amounts
2 of organic carbonaceous material.

3 (12) “Ecological toilet” means a composting toilet, urine diverting dry
4 toilet, incinerating toilet, or line pit latrine.

5 (13) “Ecological Toilet Best Practices Management Plan” or
6 “ETBPMP” means a formal document prepared by all owners of ecological
7 toilets using a written or digital form supplied by the Agency of Natural
8 Resources that details: the make and model of the ecological toilet in use or,
9 for homebuilt ecological toilets, the individual components and method of
10 construction for each toilet; a description of the installation of each individual
11 ecological toilet; a description of the proper functioning of each individual
12 ecological toilet; and the method utilized to dispose of the byproduct of each
13 individual ecological toilet. An owner of an ecological toilet shall file with the
14 Agency of Natural Resources a separate ETBPMP form for each ecological
15 toilet owned by that person.

16 (14) “Greywater” means the wastewater or washwater collected from
17 normal domestic activities such as bathing, clothes washing, food preparation,
18 and cleaning. “Greywater” shall not mean wastewater from flush toilets and
19 liquids generated by an ecological toilet.

20 (15) “Greywater Best Practices Management Plan” or “GBPMP” means
21 a formal document prepared by the owner of a piped greywater system using a

1 written or digital form supplied by the Agency of Natural Resources that
2 details: the design and construction of the greywater system; and the plan for
3 managing the greywater system. An owner of a greywater system shall file
4 with the Agency of Natural Resources a separate form for each greywater
5 system owned by that person.

6 (16) "Human excrement" means human urine and feces.

7 (17) "Incinerating toilet" means an on-site sanitation system consisting
8 of a self-contained unit that reduces non-water-carried human excrement to ash
9 and evaporates the liquid portion. Human excrement and wiping materials are
10 deposited directly into a combustion chamber where they are incinerated. The
11 process is fueled by liquefied petroleum gas, natural gas, fuel oil, or electricity.

12 (18) "Lined Pit Latrine" means a waterless decentralized sanitation
13 system that:

14 (A) incorporates a built structure enclosing a toilet above a watertight
15 storage chamber for human excrement and wiping materials;

16 (B) requires the removal services of a certified septage hauler; and

17 (C) requires the off-site treatment and disposal for fecal sludge
18 generated.

19 (19) "Urine diverting dry toilet" means a waterless toilet system
20 designed to allow for the separate collection of urine and feces. These systems

1 are designed to dehydrate feces while allowing for the separate collection of
2 urine.

3 (20) “World Health Organization Guidelines for the Safe Use of
4 Wastewater, Excreta and Greywater” means a regularly updated multi-volume
5 document prepared for and endorsed by the World Health Organization
6 (WHO) that details:

7 (A) the proper methods and practices related to the use of dry toilets
8 and the safe management and, if applicable, reuse of their byproduct; and

9 (B) the proper methods and practices related to the collection and
10 reuse of greywater.

11 Sec. 3. 10 V.S.A. § 1978 is amended to read:

12 § 1978. RULES

13 (a) The Secretary shall adopt rules, in accordance with 3 V.S.A. chapter 25,
14 necessary for the administration of this chapter. These rules shall include, ~~but~~
15 ~~are not limited to,~~ the following:

16 * * *

17 (9) ~~provisions~~ Provisions allowing the use of a variety of alternative or
18 innovative technologies, including intermittent sand filters, recirculating sand
19 filters, ecological toilets, waterless toilets, and greywater disposal and dispersal
20 systems, reuse of greywater, and constructed wetlands, that provide an
21 adequate degree of protection of human health and the environment. When

1 alternative or innovative technologies are approved for general use, the rules
2 shall not require either a bond or the immediate construction of a duplicate
3 wastewater system for those alternative or innovative technologies;

4 * * *

5 (15) Provisions for the prohibition of an unlined pit latrine and any other
6 form of dry toilet that relies on an unlined subsurface or subgrade vault.

7 * * *

8 Sec. 4. 10 V.S.A. § 1981 is added to read:

9 § 1981. ECOLOGICAL TOILETS

10 (a) The Secretary of Natural Resources shall approve the following types of
11 ecological toilets for use in the State of Vermont: the composting toilet, the
12 urine diverting dry toilet, the incinerating toilet, and the lined pit latrine.

13 (b)(1) The Secretary of Natural Resources shall allow the use of ecological
14 toilets in all rural, peri-urban, and urban buildings in conjunction with or
15 entirely in place of conventional water-carried toilets whether or not existing
16 centralized or decentralized sanitation service exists, contingent upon the
17 existence and proper execution of a relevant ETBPMP for the management of
18 the toilet byproduct.

19 (2) If an ecological toilet is used in conjunction with an on-site or
20 centralized reuse scheme, then the owner or operator of the toilet shall at
21 minimum adhere to the practices detailed in the most current edition of the

1 World Health Organization Guidelines for the Safe Use of Wastewater,
2 Excreta and Greywater.

3 (c) The Secretary shall not require a permit under this chapter for the
4 installation of an ecological toilet in an existing building or structure when no
5 alteration of the existing sanitation system is proposed, provided that the owner
6 of the ecological toilet shall file either a written or a digital ETBPMP with the
7 Agency of Natural Resources and shall adhere to the requirements of the
8 ETBPMP when self-managing the byproduct of the toilet. The owner of the
9 toilet shall prominently display the ETBPMP in the bathroom where the toilet
10 is located for as long as the toilet is installed. In addition, the toilet owner shall
11 provide all users of the toilet with graphical and written instructions detailing
12 the proper use of the toilet.

13 (d) All byproducts removed from an ecological toilet shall be considered to
14 be pathogenic and, in the absence of a reuse scheme, shall be disposed of at a
15 certified landfill or by a certified septage hauler.

16 (e) The Secretary of Natural Resources shall approve lined pit latrines only
17 for use in a rural location that is:

18 (1) served by an improved and maintained road;

19 (2) not located in a flood plain or any area directly impacted by a
20 100-year flood;

21 (3) located more than 400 feet from a water of the State; and

1 (4) not located where the historic water table exists higher than 20 feet
2 below grade.

3 (f) A person using an ecological toilet shall comply with the requirements
4 of this chapter and rules adopted under this chapter for potable water supplies
5 and interior plumbing. If interior plumbing is used in a building or structure
6 with an ecological toilet, the Secretary shall require the owner of the building
7 or structure to utilize a greywater disposal system for the building.

8 Sec. 5. 10 V.S.A. § 1982 is added to read:

9 § 1982. GREYWATER DISPOSAL SYSTEMS

10 (a)(1) The Secretary shall approve the use of a piped greywater disposal
11 system in the State if, at a minimum, the system complies with the following
12 requirements:

13 (A) the system is equipped with a diverter, which is a manual valve
14 for directing the flow of greywater between either the on-site greywater
15 dispersal system or the municipal sewer or, if applicable, a septic system;

16 (B) the system has dedicated plumbing for directing greywater into
17 the greywater system;

18 (C) the system is equipped with a surge tank to prevent large volume
19 flows of greywater from overwhelming the irrigation system;

20 (D) the system employs some means, such as a screen or filter, for
21 removing solids, oils, and grease from the greywater; and

1 (E) the system has a subgrade irrigation system consisting of
2 perforated pipes or soaker hoses through which the greywater passes
3 immediately prior to being released into the environment.

4 (2) Systems may also include a dedicated pump for delivering greywater
5 from the surge tank to the subgrade irrigation system.

6 (b)(1) The Secretary of Natural Resources shall adopt a Reclaimed Water
7 General Permit that authorizes the use of at least three major types of
8 greywater systems, to be known as Type 1, Type 2, and Type 3 systems.

9 (2) Under a Type 1 Reclaimed Water General Permit, the Secretary shall
10 allow private residential direct reuse of greywater for a flow of less than
11 400 gallons per day.

12 (3) Under a Type 2 Reclaimed Water General Permit, the Secretary shall
13 allow direct reuse of greywater for a flow of 400 to 3,000 gallons per day.

14 (4) Under a Type 3 Reclaimed Water General Permit, the Secretary shall
15 allow the direct reuse of greywater for a flow of over 3,000 gallons per day.

16 (5) For each general permit, the Secretary shall establish the criteria and
17 conditions for installation and use of a greywater system covered by the
18 general permit, including conditions regarding:

19 (A) prevention of human contact with greywater and soil irrigated
20 by greywater;

1 (B) limiting the authorized use of greywater originating from a
2 building or structure to uses contained within the property boundary from
3 which the greywater originates;

4 (C) surface application of greywater, and limitations on irrigation of
5 food plants, except for fruit and nut trees that do not have an edible portion that
6 comes in direct contact with greywater;

7 (D) the composition of the greywater;

8 (E) the application of greywater in a manner to minimize standing
9 water on the surface; and

10 (F) any other conditions the Secretary requires to protect public
11 health, safety, and the environment.

12 (c) The Secretary shall prohibit the following

13 (1) greywater use for purposes other than irrigation; and

14 (2) spray irrigation of greywater.

15 (d) Towns, cities, or counties may further limit the use of greywater by
16 ordinance adopted under 24 V.S.A. § 2291.

17 Sec. 6. 24 V.S.A. § 2291 is amended to read:

18 § 2291. ENUMERATION OF POWERS

19 For the purpose of promoting the public health, safety, welfare, and
20 convenience, a town, city, or incorporated village shall have the following
21 powers:

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* * *

2

(28) To limit the use of greywater systems authored under 10 V.S.A.

3

chapter 64 within the boundaries of the municipality.

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Sec. 7. EFFECTIVE DATE

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This act shall take effect on July 1, 2015.