

**3701-29-17 Gray water recycling systems and alternative toilets.**

- (A) Gray water recycling systems shall include type 1, type 2, type 3 and type 4 systems as described in paragraphs (E), (F), and (G) of this rule and may receive gray water generated from a building or dwelling.
- (B) A board of health may issue a permit for the design and installation of a type 1 GWRS. Except for gray water systems installed for campgrounds under Chapter 3729. of the Revised Code, a board of health shall issue a permit in compliance with rule 3701-29-09 of the Administrative Code for type 2, 3 and 4 GWRS. When a GWRS is proposed at the same time as a new or replacement STS, both systems shall be authorized under the same permit. Designs for GWRS shall meet the requirements of rule 3701-29-10 of the Administrative Code as applicable.
- (C) The definition of public health nuisance in section 3718.011 of the Revised Code shall apply to GWRS.
- (D) GWRS shall meet the following requirements:
  - (1) Gray water discharged to all GWRS shall only consist of domestic type flows having the consistency and strength typical of gray water from domestic households. The source of gray water may include water from bathing, showering, washing clothes or laundry sinks. Gray water shall not contain water used to wash diapers, or other materials soiled with human excreta or infectious materials, or wastewater that has come in contact with toilet waste, toxic substances, cleaning chemicals other than soap, water softener backwash or any other hazardous household products;
  - (2) Design flows to GWRS shall be determined based on the flow rate of the fixture(s) or the discharge volume from the appliance(s) intended for discharge to the system;
  - (3) The isolation distance requirements of paragraph (G)(3) of rule 3701-29-06 of the Administrative Code;
  - (4) Shall be used and contained within the property boundary of the building it originates from unless a legally recorded easement permits access to and application on another property;
  - (5) Type 1, 2, or 4 GWRS shall include a readily accessible diversion valve in the sewage line from the dwelling or building so all the gray water can be directed into the STS or the approved public sewer system when necessary. The diversion valve must be visibly labeled;
  - (6) All pipes conveying gray water must be labeled with the following words in capital letters: "Caution: Non-potable water, do not drink" or the pipe shall be purple or purple striped in color;
  - (7) If a type 1, 2 or 4 GWRS fails or is suspected of failing, the owner shall immediately divert the gray water to the approved public sewer system or STS serving the dwelling or structure;

- (8) The gray water system owner shall maintain a record of the GWRS that includes the location of the system, identifies the fixture(s) that are the source of the gray water, describes the system design and maintenance requirements, and includes the calculation of the total minimum irrigation area required;
  - (9) The system owner shall ensure that the GWRS is properly operated and maintained; and
  - (10) Except for type 3 GWRS, no reduction in the design and sizing of the STS shall be permitted when using a GWRS. All other sewage from a dwelling or structure shall be discharged to an approved STS or sanitary sewer.
- (E) Type 1 and type 2 GWRS shall meet the following requirements:
- (1) Type 1 and type 2 GWRS shall only be used for subsurface irrigation during the normal growing season in Ohio as described in this paragraph and may be used for subsurface irrigation of gardens, lawns and landscape plants, and food crops except root crops or crops that have edible portions that contact the gray water. Gray water shall be applied no less than twenty-five feet from food crops with exposed edible portions;
  - (2) A type 1 GWRS shall discharge no more than sixty gallons per day. A type 2 GWRS shall discharge greater than sixty gallons per day but no more than one-thousand gallons per day;
  - (3) Shall use durable piping, tubing, or flexible hoses to disperse the water below the surface of the ground by gravity. During or after dispersal to the soil, gray water shall not surface in any way, including through ponding or runoff, and must remain below the surface of the ground to prevent contact with people and animals;
  - (4) Shall be covered by a minimum of four inches of appropriate material which may include suitable soil or other material such as mulch, humus, or compost. If material other than suitable soil is used, the irrigation field cover must be augmented periodically as needed to maintain adequate cover during the growing season;
  - (5) For type 1 GWRS, the system owner may direct gray water to separate irrigation fields as long as the total flow of gray water to all fields combined does not exceed sixty gallons per day;
  - (6) For a type 1 GWRS, the total minimum irrigation area available to receive the gray water must be adequate based on the soil infiltration rate, the evapotranspiration rate, and the water requirements of the plants or area being irrigated. A type 2 GWRS system shall require a soil evaluation as specified in rule 3701-29-07 of the Administrative Code to determine the soil infiltration loading rate and the presence of limiting conditions. A type 2 GWRS shall require a design that determines the total irrigation area based on the daily design flow of the system, irrigation rates that are dependent on the plant use, evapotranspiration rates, soil infiltration rates, and hydraulic linear loading rates as applicable;
  - (7) Shall be located in suitable soil that is not saturated during the growing season, and where at least twelve inches of vertical separation distance is maintained above the limiting conditions listed in paragraph (E) of rule 3701-29-15 of the

Administrative Code;

- (8) Shall not be applied to slopes exceeding twenty per cent or discharged to frozen or saturated soils; and
- (9) No gray water may be held in a tank or holding structure more than twenty-four hours.

(F) Type 3 GWRS shall meet the following requirements:

- (1) A soil evaluation shall be completed to determine the soil infiltration loading rate and the presence of limiting conditions;
- (2) The column specifying pretreated effluent in table 3 of rule 3701-29-15 of the Administrative Code shall be used to determine the soil infiltration loading rate, and shall be provided a twelve inch soil depth credit for meeting the vertical separation distance specified in rule 3701-29-15 of the Administrative Code;
- (3) A type 3 GWRS shall be designed in accordance with rule 3701-29-15 of the Administrative Code and appendix A to rule 3701-29-15 of the Administrative Code;
- (4) A type 3 GWRS may be designed for continual use and shall not exceed a daily design flow of one thousand gallons per day;
- (5) Tanks used with type 3 GWRS must be structurally sound and watertight; and
- (6) Hand-carried gray water may be poured into a gray water disposal sump that is connected to the soil absorption component of the system. The gray water disposal sump must include a receiving chamber with a screen. Hand-carried gray water may also be poured into a structure fitted to the top opening of a septic tank provided the structure connection to the septic tank is sealed and watertight.

(G) Type 4 GWRS shall meet the following requirements:

- (1) A type 4 GWRS may be used for surface and subsurface irrigation of gardens, lawns and landscape plants, food crops, green roofs and living walls during the normal growing season in Ohio or as applicable for the irrigation application. When surface irrigation of gray water is used, signs shall be posted to notify the public and personnel within the use area that the water used is gray water and is not safe for drinking;
- (2) The system shall include a pretreatment component or treatment train that meets NSF/ANSI Standard 350 treatment level R or C as appropriate for the design and gray water source or equivalent that is approved by the director and in compliance with rule 3701-29-13 of the Administrative Code;
- (3) Durable piping, tubing, or flexible hoses to disperse the water at or below the surface of the ground by gravity or low pressure distribution shall be used. During or after dispersal to the soil, gray water shall not pond or runoff;
- (4) A subsurface type 4 GWRS shall be covered by a minimum of four inches of appropriate material which may include suitable soil or other material such as mulch, humus, or compost. If material other than suitable soil is used, the

irrigation field cover must be augmented periodically as needed to maintain adequate cover during the growing season;

- (5) A type 4 GWRS shall discharge greater than sixty gallons per day but no more than one thousand gallons per day. Gray water may be stored for more than twenty-four hours with pretreatment;
  - (6) A soil evaluation as specified in rule 3701-29-07 of the Administrative Code shall be required to determine the soil infiltration loading rate and the presence of limiting conditions as applicable;
  - (7) A type 4 GWRS shall require a design that determines the total irrigation area based on the daily design flow of the system, irrigation rates that are dependent on the plant use, evapotranspiration rates, soil infiltration rates, and hydraulic linear loading rates as applicable;
  - (8) A type 4 GWRS shall be located in suitable soil that is not saturated during the growing season, and where at least twelve inches of vertical separation distance is maintained above the limiting conditions listed in paragraph (E) of rule 3701-29-15 of the Administrative Code;
  - (9) A type 4 GWRS shall not be applied to slopes exceeding twenty per cent or discharged to frozen or saturated soils; and
  - (10) Except for tank size, tanks, pumps and controls required as part of a type 4 GWRS design must comply with the requirements of rule 3701-29-12 of the Administrative Code. Tank sizing shall be determined based on the design and proposed irrigation rates of the system.
- (H) Composting and incinerating toilets are STS components and may be used for the disposal and treatment of toilet waste including human excreta and urine.
- (I) A STS that uses composting or incinerating toilets for disposal and treatment of toilet waste must discharge all other sewage from the dwelling or building including but not limited to water from kitchen sinks, dishwashers, clothes washing, bathing or showering, bathroom or laundry sinks to a STS.
- (J) A STS using composting or incinerating toilets for disposal and treatment of all toilet waste in the dwelling may reduce the daily design flow to the STS by up to twenty-five per cent as determined by the designer, homeowner and the board of health.
- (K) Composting toilets used as part of a STS must be certified to ANSI/NSF Standard 41 and are authorized for use. A manufacturer of a composting toilet that is not certified to ANSI/NSF Standard 41 who seeks approval for use in the state must submit an application in accordance with the requirements of section 3718.04 of the Revised Code and obtain approval for use from the director of health.
- (L) Incinerating toilets used as part of a STS must be certified to NSF Protocol P157 and are authorized for use. A manufacturer of a incinerating toilet that is not certified to NSF Protocol P157 who seeks approval for use in the state must submit an application in accordance with the requirements of section 3718.04 of the Revised Code and obtain approval for use from the director of health. Electrical connections for incinerating toilets must comply with the requirements of the national electric code.

- (M) All plumbing connecting a composting or incinerating toilet to the building sewer must comply with the Ohio plumbing code or applicable local building codes and requirements.
- (N) Composting or incinerating toilets authorized for use under paragraph (K) or (L) of this rule shall be installed and vented in accordance with the manufacturer's specifications or as authorized by the director's approval.
- (O) Liquid and solid materials removed from a composting toilet shall be disposed of as septage in accordance with rule 3701-29-20 of the Administrative Code. Dry incinerated waste material from an incinerating toilet shall be disposed of at a solid waste landfill permitted by Ohio EPA.

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CERTIFIED ELECTRONICALLY

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Certification

09/29/2014

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Date

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