



## Ohio Administrative Code Rule 3701-29-01 Definitions.

Effective: January 1, 2015

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As used in this chapter:

(A) "AASHTO" mean the American association of state highway and transportation officials.

(B) "Alter" or "Alteration" means the same as division (A) of section 3718.01 of the Revised Code. For the purposes of this chapter, the terms "alter" or "alteration" shall include, but not be limited to a change in the nature of influent waste strength; a change in system components; an expansion of the treatment or dispersal system, and may include a change in the volume of the daily design flow.

(C) "ANSI" means the American national standards institute.

(D) "Approved Leaching Trench Products Utilizing a Non-gravel Fines-Free Distribution System" means products which have received the approval of the director through one of the two processes described in rule 3701-29-13 of the Administrative Code.

(E) "Aquifer" means a consolidated or unconsolidated geologic formation or series of formations that are hydraulically interconnected and that have the ability to receive, store, or transmit water.

(F) "ASTM" means the American society for testing and materials or ASTM international.

(G) "Average Daily Flow" means the actual average flow of sewage through the sewage treatment system in a twenty-four hour period, typically assumed to be sixty per cent of the daily design flow.

(H) "Bedrock" means hard stratum that underlies unconsolidated surface materials or soil.

(I) "Bedroom" means a room that is designed or used as a sleeping room or any room that that could reasonably be used as or finished as a sleeping room as determined by the board of health. The board of health may consider the room's architectural features when making the determination.



(J) "Biochemical oxygen demand, five-day" or "BOD<sub>5</sub>" means the quantitative measure of the amount of oxygen consumed by bacteria while stabilizing, digesting, or treating biodegradable organic matter under aerobic conditions over a five-day incubation period; expressed in milligrams per liter (mg/L).

(K) "Board of health" means the board of health of a city or general health district or the authority having the duties of a board of health in any city as authorized by section 3709.05 of the Revised Code, or the authorized representative of such a board or authority.

(L) "Black water" means the portion of the wastewater stream that originates from toilet fixtures, dishwashers, dish sinks, and food preparation sinks.

(M) "BNQ" means bureau de normalisation du Quebec

(N) "Carbonaceous biochemical oxygen demand" or "CBOD<sub>5</sub>" means an index of the amount of oxygen that will be consumed by the decomposition of organic matter in sewage. The CBOD<sub>5</sub> test is one of the commonly used indicators of waste strength.

(O) "CEN" means European committee for standardization

(P) "Cesspool" means an excavation (deeper than it is wide) which receives sewage and from which the sewage seeps into the surrounding soil through the bottom and openings in the side of the pit.

(Q) "CFU" means the number of bacteria colony forming units, or colonies, or individual bacteria that can be counted or estimated in a membrane filter coliform test.

(R) "Coarse aggregate" means materials that meet AASHTO standard M43 sizes four through fifty-seven and shall be washed with not more than five per cent passing the number two hundred (seventy-five micrometers) sieve as determined by ASTM C117, "Test Method for Material Finer than 75-m (No. 200) Sieve in Mineral Aggregates by Washing" and shall be durable with a hardness of three or greater on the Moh's scale of hardness.



(S) "Component" means an independent portion of the sewage treatment system. Sewage treatment system components include, but are not limited to, septic tanks, approved pretreatment products, tertiary treatment, and soil absorption.

(T) "Composting toilet" means a system designed to store and compost human urine and feces primarily by unsaturated, aerobic microbial digestion to a stable soil-like material called "humus." These systems are commonly designed to accommodate fecal and urinary wastes, toilet paper and small amounts of organic carbonaceous material added to assist their function.

(U) "CSA" or "CAN/CSA" means the Canadian standards association or CSA international.

(V) "Cut bank" means a steep slope formed typically by stream erosion or construction.

(W) "Daily design flow" means the peak estimated volume of sewage for any twenty-four hour period received by a STS used for system design.

(X) "Department of health" means the department of health of the state of Ohio.

(Y) "Designer" means a person who creates plans for the installation, alteration, repair or replacement of a sewage treatment system or a gray water recycling system.

(Z) "Device" means an approved sub-unit of a sewage treatment system component. For example, agitators and blowers are devices in a pretreatment component, and distribution boxes, drop boxes, and lift stations are devices in a soil absorption component.

(AA) "Director of health" means the director of the department of health of the state of Ohio and includes any authorized representative of the director.

(BB) "Distribution" means the process of conveying sewage or effluent to one or more components or devices.

(CC) "Domestic septage" means the liquid or solid material removed from a sewage treatment system, composting or portable toilet, privy, sewage holding tank, holding tanks for campers and



recreational vehicles, or type III marine sanitation device as defined in 33 C.F.R. 159.3. Domestic septage does not include grease removed from a grease trap.

(DD) "Drainage well" or "dry well" means an excavation or structure (deeper than it is wide) which receives liquids and from which the liquid seeps into the surrounding soil through the bottom and openings in the side of the pit.

(EE) "DRAINMOD" means a computer simulation model developed at North Carolina state university, in Raleigh, North Carolina. The model simulates the hydrology of poorly drained, high water table soils on an hour-by-hour, day-by-day basis for long periods of climatological records. The model predicts the effects of drainage and associated water management practices on water table depths, the soil water regime and crop yields.

(FF) "Dwelling" means the place which is occupied by a person or persons as their primary residence or secondary residence that may be seasonal or recreational.

(GG) "Effective size" or " $D_{10}$ " means particle diameter of which ten per cent of the sample is finer by weight as determined by a sieve analysis.

(HH) "Effluent" means liquid flowing out of a STS component or device.

(II) "Engineered drainage system" means a drainage system designed to meet the specifications of paragraph (F) of rule 3701-29-16 of the Administrative Code.

(JJ) "Fecal coliform" means bacteria common to the digestive systems of warm-blooded animals that are cultured in standard tests. Counts of these organisms are typically used to indicate potential contamination from sewage or effluent or to describe a level of needed disinfection.

(KK) "Fill soil" means human-constructed deposits of natural earth material derived from soil that has been moved from its naturally occurring position or place.

(LL) "Fine earth" means soil that can pass a two millimeter sieve.



(MM) "Fine textured soil" means soil with a USDA soil textural class of sandy clay, silty clay or clay.

(NN) "Flood plain" or "special flood hazard area" means the land in the floodplain subject to a one per cent or greater chance of flooding in any given year, otherwise known as the one hundred-year flood plain. Special flood hazard areas are designated by the federal emergency management agency on flood insurance rate maps, flood insurance studies, flood boundary and floodway maps and flood hazard boundary maps as zones A, AE, AH, AO, A1-30, and A99. Special flood hazard areas may also refer to areas that are flood prone and designated from other federal, state, or local sources of data including but not limited to historical flood information reflecting high water marks, previous flood inundation areas, and flood prone soils associated with a watercourse as defined in Chapter 1521. of the Revised Code.

(OO) "Flood way" as defined in Chapter 1521. of the Revised Code means the channel of a river or other watercourse and the adjacent land areas that have been reserved in order to pass the base flood discharge. A floodway is typically determined through a hydraulic and hydrologic engineering analysis such that the cumulative increase in the water surface elevation of the base flood discharge is no more than a designated height. The floodway is an extremely hazardous area, and is usually characterized by, but is not limited to, any of the following: moderate to high velocity flood waters, high potential for debris and projectile impacts, or moderate to high erosion forces.

(PP) "Flow restrictive layer" means a layer above which saturated flow is expected to move primarily laterally, such as:

- (1) A layer that has an infiltrative loading rate of 0 on Table 3 of rule 3701-29-15 of the Administrative Code;
- (2) Fine textured soils composed of primarily smectite or other highly expansive clays with weak to no structure or which have slow to very slow permeability in addition to expansive clays;
- (3) A layer with greater than sixty per cent rock fragment size particles where the spaces between the rock fragments are primarily filled with fine textured soils;



(4) Bedrock that is deemed by the soil evaluator to be relatively impermeable and free of fractures;  
or

(5) Any other layer deemed restrictive by the soil evaluator including but not limited to dense glacial till, dense lacustrine deposits, fragipans, compacted soil, or soil with a consistence stronger than firm or hard that is not well drained.

(QQ) "Gray water" means wastewater discharged from lavatories, bathtubs, showers, clothes washers, and laundry sinks that does not contain food wastes or urine or fecal matter.

(RR) "Gray water recycling systems" or "GWRS" means systems that treat and reuse or recycles back into the environment wastewater discharged from lavatories, bathtubs, showers, clothes washers, and laundry sinks that does not contain food wastes or bodily wastes. For the purposes of this chapter, bodily waste is considered to be human urine or fecal matter.

(SS) "Gravity Distribution" means using the force of gravity to convey effluent to one or more components or devices; gravity distribution to trenches may be parallel or sequential.

(TT) "Ground water" means all water occurring in an aquifer.

(UU) "Hardscape" means any constructed surface area on the landscape of a site such as a driveway, parking area, patio, building slab, or other similar surface area.

(VV) "Highly permeable material" means a layer through which effluent is expected to pass too quickly to provide adequate treatment, such as:

(1) Soils with greater than fifteen per cent rock fragment size particles and a soil texture of: loamy sand, loamy coarse sand, coarse sand, sand, fine sand or very fine sand;

(2) Soils with greater than sixty per cent rock fragment size particles and the spaces between the rock fragments are filled with air, or soils other than fine textured soil; or

(3) Any other layer deemed by the soil evaluator as highly permeable material.



(WW) "Household sewage treatment system" or "HSTS" means any sewage treatment system, or part of such a system, that receives sewage from a single-family, two-family, or three-family dwelling. For the purposes of this chapter structures that are served by a household sewage treatment system shall also include:

(1) A dwelling and related structure, such as a barn or personal garage, when the users of the structure are only the residents of the dwelling, and provided the related structure is not used as a dwelling.

(2) A dwelling with a home business when the nature of the home business is such that it does not produce sewage.

(3) Vacation rental cabins, provided there is a separate HSTS for each cabin.

(4) A bed and breakfast, residential facility, or other residence as described in divisions (B)(2), (B)(4), and (B)(13) of section 3717.42 of the Revised Code.

(5) Group homes occupied by no more than sixteen unrelated individuals, including, but not limited to, a hospice and pediatric respite care facility as defined in rule 3701-19-01 of the Administrative Code, a foster home, group home, group home for children, Indian foster home, residential facility, children's residential center, or residential parenting facility as defined in Chapter 5101:2-1 of the Administrative Code, or a type A home as defined in rule 5101:2-13-02 of the Administrative Code, a residential facility defined in rule 5122-30-03 of the Administrative Code, or a residential facility defined in section 5123.19 of the Revised Code.

(XX) "Hydraulic linear loading rate" or "HLLR" means the volume of effluent applied daily along the landscape contour expressed in gallons per day per linear foot. The HLLR is used to determine the required length of the distribution system parallel to surface contours.

(YY) "Hydraulically connected" means a condition where a highly permeable material is connected to an aquifer and allows free movement of water or effluent under a hydraulic gradient.



(ZZ) "IAPMO" means the international association of plumbing and mechanical officials.

(AAA) "In situ soil" means soil in its naturally deposited location or reclaimed or fill soils that have developed pedogenic features adequate to treat and disperse wastewater.

(BBB) "Incinerating toilets" means self-contained components that reduce non-water-carried human urine and feces to ash and vapor, including the necessary venting, piping, electrical, and/or mechanical devices. The process is fueled by gas, fuel oil, or electricity.

(CCC) "Infiltrative distance" means the distance from the level where the effluent enters the in situ soil to level of the uppermost limiting condition.

(DDD) "Infiltrative surface" means the point or area of application of effluent to the soil or sand fill for purposes of treatment, dispersal, or both.

(EEE) "Inspection" means the on-site evaluation or analysis of the design, installation, and operation of a sewage treatment system.

(FFF) "Installer" means any person who engages in the business of installing or altering or who, as an employee of another, installs or alters any sewage treatment system or gray water recycling system.

(GGG) "Instantaneous loading rate" means volume of effluent discharged from each orifice during a dosing event in a pressurized distribution system measured in gallons per dose per orifice.

(HHH) "Interceptor drain" means a drain designed to intercept the horizontal flow of subsurface water to reduce its impact on a down gradient soil absorption component

(III) "Limiting condition" means a flow restrictive soil layer, bedrock, a water table, seasonal water table, ground water or highly permeable material that limits or precludes the treatment or dispersal of effluent in the soil of a property where a sewage treatment system is located.

(JJJ) "Lot" means a legally recorded parcel of land.



(KKK) "Low pressure distribution" means application of effluent over an infiltrative surface via pressurized orifices and associated devices and parts including pumps, filters, controls, valves, and piping.

(LLL) "Manufacturer" means any person that manufactures sewage treatment systems, or components or devices within a sewage treatment system.

(MMM) "Monitoring" means the activity of verifying performance requirements and may include, but is not limited to, sampling of effluent from, or inspection of a sewage treatment system component. For the purpose of this chapter, monitoring activities shall be conducted by either the board of health or a registered service provider.

(NNN) "NPDES" means national pollutant discharge elimination system.

(OOO) "NRCS" means the natural resources conservation service.

(PPP) "NSF" means national sanitation foundation or NSF international.

(QQQ) "O&M" means operation and maintenance.

(RRR) "Ohio EPA" means Ohio environmental protection agency

(SSS) "Order one soil survey" means a first order soil survey as described in chapter two of the NRCS, soil survey manual.

(TTT) "Owner" means the owner of the sewage treatment system or the property where a proposed sewage treatment system is to be installed.

(UUU) "Parallel Distribution" means pressure or gravity distribution of effluent that proportionally and simultaneously loads multiple sections of a treatment and/or dispersal component.

(VVV) "Perennial stream" means natural waters of the state with a defined stream bed and bank and



constant source of flowing water.

(WWW) "Perimeter drain" means a subsurface drain installed around a soil absorption component that is designed to enhance drainage of the area. A perimeter drain does not uniformly lower the seasonal water table beneath a soil absorption area to increase the vertical separation distance.

(XXX) "Person" includes an individual, corporation, business trust, estate, trust, partnership, and association as set forth in section 1.59 of the Revised Code and also includes any state, any political subdivision of a state, and any department, division, board, commission, agency, or instrumentality of a state or political subdivision.

(YYY) "Portable toilet" means a waterless toilet with a tank that typically contains a chemical to limit decomposition of non-water-carried human excreta during storage prior to pumping.

(ZZZ) "Pretreatment components" means manufactured or built components of a STS that are designed to reduce contaminants, nutrients, or biological agents from sewage to produce a higher quality effluent. For the purposes of this chapter pretreatment component does not include a septic tank, but does include products designed to be placed within an existing septic tank.

(AAAA) "Privy" means a self-contained waterless toilet used for disposal of non-water-carried human excreta that consists of a shelter built above an approved tank installed in the ground into which human excreta is deposited.

(BBBB) "Repair" means act of fixing or replacing substandard or damaged devices to restore a sewage treatment system or component to proper working condition, and does not require a permit.

(CCCC) "Replacement" means the installation of a new sewage treatment system to replace an existing system. For the purposes of this chapter, the replacement or relocation of a soil absorption component or the treatment component providing the majority of the treatment shall be considered a replacement. For the purposes of this chapter the addition of a treatment component to a discharging system not currently under a NPDES permit shall be considered a replacement.

(DDDD) "Replacement area" means an area identified and set aside during the development of a site



that is sufficient for the installation of a replacement STS.

(EEEE) "Responsible management entity" means a person other than the owner of the property served by the STS that has assumed the managerial, financial, and technical responsibilities of the STS to ensure the long-term, operation in accordance with this chapter, including but not limited to water and sewer districts, government entities, and utility or private management companies.

(FFFF) "Rock fragments" means unattached pieces of geologic or pedogenic material, two millimeters in diameter or larger that are strongly cemented or more resistant to rupture.

(GGGG) "Safety hazard" means the presence of conditions that, if left uncontrolled, can result in (present a risk of) bodily harm or death including, but not limited to: unsecured electrical devices or wiring; collapsed, deteriorated, or cracked devices or components; collapsed, deteriorated, cracked, missing or unsecured device or component covers; and unsecured, open excavations.

(HHHH) "Sanitary sewerage system" means pipelines or conduits, pumping stations, force mains, and all other constructions, devices, appurtenances, and facilities that convey sewage to a central sewage treatment plant and that are required to obtain a permit under Chapter 6111. of the Revised Code.

(IIII) "Seasonal water table" means soil that has water seasonally occupying one hundred per cent of the void spaces indicated by greater than or equal to five per cent redoximorphic depletions with soil colors of two chroma or less that is not hydraulically connected to an aquifer.

(JJJJ) "Septage hauler" means any person who engages in the collection, transportation, disposal, and/or land application of domestic septage. A septage hauler may also evaluate and report on the condition of any tank they are pumping.

(KKKK) "Septic tank" means a water-tight, covered receptacle for treatment of sewage that receives the discharge of sewage from a building, separates settleable and floating solids from the liquid, digests organic matter by anaerobic bacterial action, stores digested solids through a period of detention, allows clarified liquids to discharge for additional treatment and final dispersal, and attenuates flows.



(LLLL) "Sequential distribution" means distribution method in which effluent is loaded into one trench and fills it to a predetermined level before passing through a relief line or device to the succeeding trench; the effluent does not pass through the distribution media of the preceding trench before it enters succeeding trenches.

(MMMM) "Serial distribution" means distribution method in which effluent is loaded into one trench and fills it to a predetermined level before passing through a relief line or device to the succeeding trench; effluent passes through the distribution media before entering succeeding trenches which may be connected to provide a single uninterrupted flow path.

(NNNN) "Service and maintenance" means all routine or periodic action taken to assure that an existing sewage treatment system operates as it was intended including the in-place correction, cleaning, or replacement of damaged or worn out devices with approved devices. Service and maintenance shall include the replacement of mechanical devices such as agitators, compressors, and pumps; replacement of broken device lids, risers, and baffles; the installation or cleaning of an outlet filter; the pumping of a sewage treatment system component by a registered septage hauler; and all other actions not defined as an alteration or replacement, as determined by the board of health.

(OOOO) "Service provider" means any person who services, monitors, evaluates or samples, but does not install or alter, sewage treatment systems or gray water recycling systems. For the purpose of this chapter, service provider shall include a homeowner servicing his own system to meet the requirement of a service contract for product approval or demonstration of maintenance for an O&M program established in accordance with rule 3701-29-19 of the Administrative Code.

(PPPP) "Sewage" means liquid waste containing animal or vegetable matter in suspension or solution that originates from humans and human activities. Sewage includes liquids containing household chemicals in solution commonly discharged from a residence or from commercial, institutional, or other similar facilities.

(QQQQ) "Sewage treatment system" or "STS" means a household sewage treatment system, a small flow on-site sewage treatment system, or both, as applicable.



(RRRR) "Small flow on-site sewage treatment system" or "SFOSTS" means a system, other than a household sewage treatment system that treats not more than one thousand gallons of sewage per day and that does not require a national pollutant discharge elimination system permit issued under section 6111.03 of the Revised Code or an injection well drilling or operating permit issued under section 6111.043 of the Revised Code. For the purposes of this chapter, structures that are served by a small flow on-site sewage treatment system shall also include:

(1) More than one dwelling or arrangements such as a dwelling and a detached garage with living space.

(2) More than one vacation rental cabin.

(3) A dwelling and related structure, such as a barn or personal garage, when the structure is used by persons other than, or in addition to the residents of the dwelling.

(4) A dwelling with a home business when the nature of the home business is such that it produces sewage, including but not limited to, home businesses that provide a public restroom for use by nonresidents.

(SSSS) "Soil" means the naturally occurring pedogenically developed and undeveloped regolith overlying bedrock.

(TTTT) "Soil depth credit" means the use of the design mechanisms of elevation, pretreatment, and/or distribution as substitutes for all or a portion of the required in situ soil treatment to compensate for insufficient vertical separation distance within the infiltrative distance.

(UUUU) "Soil evaluator" means a person who conducts an evaluation of the soil for the purpose of siting and designing an STS.

(VVVV) "Soil infiltration loading rate" or "SILR" means the daily volume of effluent applied per unit area of in situ soil expressed in gallons per day per square foot. The "soil infiltration loading rate" may also be referred to as the basal loading rate or the infiltration loading rate. The soil infiltration loading rate determines the minimum square footage of the soil absorption area.



(WWWW) "Soil texture" means the USDA description of soil based on the relative proportion of sand, silt and clay in the soil.

(XXXX) "Subdivision" means that which is defined by section 711.001 of the Revised Code.

(YYYY) "Surge capacity" means the tank capacity located between the reserve capacity and maximum drawdown point.

(ZZZZ) "TAC" means the sewage treatment systems technical advisory committee established in section 3718.03 of the Revised Code.

(AAAAA) "Tank capacity" means the storage capacity of a sewage tank or tanks.

(BBBBB) "Timed dosing" means delivery of discrete volumes of effluent at prescribed time intervals.

(CCCCC) "Topsoil" means the upper most part of the soil commonly referred to as the plow layer, the A layer, the A horizon, or its equivalent in uncultivated soils.

(DDDDD) "Total suspended solids" or "TSS" means the dispersed particulate matter in a sewage sample that may be retained by a filter medium. Suspended solids may include both settleable and unsetttable solids of both inorganic and organic origin.

(EEEE) "Treatment train" means an approved combination of treatment processes and components that are combined together in sequence to treat sewage to a specified effluent quality standard.

(FFFFF) "UIC" means underground injection control and relates to the Ohio EPA underground injection control program authorized by sections 6111.043 and 6111.044 of the Revised Code.

(GGGGG) "UL" means underwriters laboratories incorporated.

(HHHHH) "Uniformity coefficient" or "UC" means a ratio of the uniformity of a mixture of sand



particles calculated by dividing the size of the opening where sixty per cent of a sample passes by the size of the opening where ten per cent of a sample passes on a weight basis. The higher the UC, the less uniform the sand.

(IIII) "Update" means changing any discharging HSTS that was installed prior to January 1, 2007 that uses a system/manufacturer model that has been approved by the director to meet the conditions of the general household NPDES permit issued by Ohio EPA absent post aeration, disinfection, and/or sampling mechanisms and can be updated to be an identical system to such approved by the director by installing these additional components.

(JJJJ) "USDA" means the United States department of agriculture.

(KKKKK) "USEPA" means the United States environmental protection agency.

(LLLLL) "Vertical separation distance" or "VSD" means the distance from the level of the infiltrative surface of the distribution system of a soil absorption system, or component thereof, to the level of a limiting condition in the soil.

(MMMMM) "Water table" means the surface of the saturated zone below which all interconnected voids are filled with water and at which the pressure is atmospheric.

(NNNNN) "Waters of the state" means that which is defined in division (H) of section 6111.01 of the Revised Code as all streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, irrigation systems, drainage systems, and other bodies or accumulations of water, surface and underground, natural or artificial, regardless of the depth of the strata in which underground water is located, that are situated wholly or partly within, or border upon, this state, or are within its jurisdiction, except those private waters that do not combine or effect a junction with natural surface or underground waters.