

4725.4450 WATER-SUPPLY WELL DISTANCES FROM CONTAMINATION.

Subpart 1. **Isolation distances.** A water-supply well must be located where there is optimum surface drainage and at the highest practical elevation. Whenever possible, water-supply wells should not be located down slope or down gradient of a contamination source. A water-supply well must be constructed as far as practical from a contamination source, but no less than the distances in this part.

The isolation distances in this part are minimum distances measured horizontally from the closest part of the upper termination of the water-supply well casing to the closest part of the contamination source, or the vertical projection of the contamination source on the established ground surface, whichever is closer.

Where this chapter establishes a minimum regulatory volume of a liquid, the volume of multiple tanks, each below the minimum, are not additive, unless the tanks are interconnected without backflow protection.

The minimum isolation distances must be maintained between a new well and a source of contamination no longer in use, unless all contaminants have been removed from the source, and visibly contaminated soils have been removed.

A contamination source must not be placed, constructed, or installed any closer to a water-supply well than the distances in this part.

A water-supply well must be no less than:

A. 300 feet from:

(1) the absorption area of a soil dispersal system with an average design flow greater than 10,000 gallons per day;

(2) a landfill or dump containing mixed municipal solid waste from multiple persons, except for a disposal area of household solid waste from a single residence regulated by item E, subitem (20);

(3) a permitted demolition debris landfill, except for a disposal area for construction debris or demolition debris regulated by item E, subitem (19);

(4) a municipal or industrial wastewater rapid infiltration basin;

(5) a municipal wastewater stabilization pond with 500 or more gallons/acre/day of leakage; and

(6) a liquid manure storage basin or lagoon that is unpermitted or noncertified according to chapter 7020;

except that the minimum distance to a sensitive water-supply well is increased for subitems (1) to (6) to 600 feet as provided in subpart 2;

B. 150 feet from:

(1) a tank or container holding:

(a) 25 gallons or more, or 100 pounds or more dry weight, of an agricultural chemical, or an area used to fill or clean agricultural chemical application equipment with these quantities, not protected with safeguards;

(b) 56 gallons or more, or 100 pounds or more dry weight, of a hazardous substance not protected with safeguards; or

(c) 1,100 gallons or more of petroleum not protected with safeguards as specified in chapter 7150 or 7151;

(2) the absorption area of a soil dispersal system serving a facility such as a hospital, nursing home, mortuary, veterinary clinic, health care clinic, or similar facility handling infectious or pathological wastes, except as provided in item A, subitem (1), and except that the minimum distance to a sensitive water-supply well is increased to 300 feet as provided in subpart 2;

(3) a municipal wastewater stabilization pond with less than 500 gallons/acre/day leakage, except that the minimum distance to a sensitive water-supply well is increased to 300 feet as provided in subpart 2;

(4) an industrial wastewater stabilization pond, except that the minimum distance to a sensitive water-supply well is increased to 300 feet as provided in subpart 2;

(5) a municipal or industrial wastewater spray irrigation area, except that the minimum distance to a sensitive water-supply well is increased to 300 feet as provided in subpart 2; and

(6) a liquid manure storage basin or lagoon that does not have a concrete or composite liner, but has an earthen liner that was constructed under a Minnesota Pollution Control Agency permit or is certified according to chapter 7020, except that the minimum distance to a sensitive water-supply well is increased to 300 feet as provided in subpart 2;

C. 100 feet from:

(1) a solid manure storage area not covered by a roof, except that the minimum distance to a sensitive water-supply well is increased to 200 feet as provided in subpart 2;

(2) a safeguarded area used to store agricultural chemicals, or clean or fill agricultural chemical application equipment that is protected with safeguards as defined in parts 1505.3010 to 1505.3150 for bulk pesticides, or with safeguards as specified in standards of the Department of Agriculture for fertilizers under parts 1510.0370 to 1510.0408 and Minnesota Statutes, chapter 18C;

(3) an underground storage tank holding 56 or more gallons, or 100 pounds dry weight, of a hazardous substance, or with more than 1,100 gallons of petroleum, if protected with safeguards as defined in chapter 7150;

(4) an aboveground storage tank with 56 or more gallons, or 100 pounds dry weight, of a hazardous substance, or with more than 1,100 gallons of petroleum, if protected with safeguards as defined in chapter 7151;

(5) a liquid manure storage basin or lagoon with a concrete or composite liner in accordance with chapter 7020, except that the minimum distance to a sensitive water-supply well is increased to 200 feet as provided in subpart 2;

(6) an unroofed animal feedlot holding 300 or more animal units, except that the minimum distance to a sensitive water-supply well is increased to 200 feet as provided in subpart 2;

(7) tanks, vessels, or components of a wastewater treatment unit; and

(8) a pipeline used to transport petroleum or crude oil to a petroleum refinery or distribution center;

D. 75 feet from a cesspool, seepage pit, leaching pit, or dry well, except that the minimum distance to a sensitive water-supply well is increased to 150 feet as provided in subpart 2;

E. 50 feet from:

(1) a safeguarded area used to store agricultural chemicals, or fill or clean agricultural chemical application equipment that is covered with a permanent watertight roof and protected with safeguards as defined in parts 1505.3010 to 1505.3150 for bulk pesticides, or with safeguards as specified in standards of the Department of Agriculture for fertilizers under parts 1510.0370 to 1510.0408 and Minnesota Statutes, chapter 18C;

(2) an animal feedlot holding more than one animal unit, except as provided in item C, subitem (6), and except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(3) a feeding or watering area within a pasture holding more than one animal unit, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(4) an animal or poultry building, including a horse riding arena, holding more than one animal unit, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(5) an interceptor, including a flammable waste or sediment interceptor;

(6) a human grave, mausoleum, or area used to bury more than one animal unit;

(7) the absorption area of a soil dispersal system except as provided in items A, subitem (1), and B, subitem (2), or a privy, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(8) a septic tank, sewage sump except as provided in item G, subitem (1), watertight sewage treatment device except as provided in item C, subitem (7), or watertight sewage holding tank;

(9) a buried storage tank holding between 56 and 1,100 gallons of petroleum;

(10) an unused, unsealed well or boring;

(11) a source of pollution or contamination that may drain into the soil except as provided in this part;

(12) a buried sewer, except as provided in item G, subitem (5), that:

(a) serves as a collector or municipal sewer;

(b) is open-jointed; or

(c) is constructed of materials that do not meet the specifications, methods, and testing protocol in UPC table 701.1 and section 723.0 as incorporated by part 4714.0050;

(13) a floor drain, grate, or trough connected to a buried sewer, except as provided in item G, subitem (5);

(14) a watertight sand filter, peat filter, or constructed wetland;

(15) a storage area for bulk road deicing chemicals, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(16) the buried piping of a bored geothermal heat exchanger or any other closed loop geothermal heat exchanger, except as provided in items F, subitem (1), and H, subitem (2);

(17) a sewage, septage, or sludge, land-spreading area, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(18) buried piping from petroleum, agricultural chemical, or hazardous material storage tanks;

(19) a disposal area for construction debris or demolition debris, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(20) a disposal area for household solid waste from a single residence, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(21) a solid waste transfer station, commercial compost site, or scrap yard;

(22) a disposal area for water treatment backwash, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(23) an industrial cooling water pond, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(24) a gray-water dispersal area, except that the minimum distance to a sensitive water-supply well is increased to 100 feet as provided in subpart 2;

(25) an anhydrous ammonia tank;

(26) an animal rendering plant;

(27) multiple tanks or containers of agricultural chemicals, hazardous materials, or hazardous wastes, for residential retail sale or use, each holding less than 56 gallons or 100 pounds dry weight, where the aggregate volume of the tanks and containers exceeds 56 gallons or 100 pounds dry weight;

(28) a water treatment backwash holding basin, reclaim basin, or surge tank with a direct sewer connection;

(29) a storage area for oil-filled electrical transformers; and

(30) an elevator boring, except as provided in item G, subitem (12);

F. 35 feet from:

(1) the buried piping of a bored geothermal heat exchanger or any other closed loop geothermal heat exchanger that is more than 15 feet below the established ground surface, provided that the geothermal heat exchanger conforms to part 4725.7050, subpart 1; and

(2) the ordinary high water level of a stream, river, pond, stormwater retention pond, or lake as specified in part 4725.4350, subpart 1;

G. 20 feet from:

(1) a sewage sump with a capacity of less than 100 gallons that has been successfully tested according to UPC section 712.0 or 723.0 as incorporated by part 4714.0050 and constructed according to UPC sections 710.8, 710.10, and 710.12 as incorporated by part 4714.0050;

(2) a pit or unfilled space below the established ground surface that is four feet or more in depth, except a basement or building crawl space;

(3) an in-ground swimming pool;

(4) a petroleum storage tank that is not buried, holding between 56 and 1,100 gallons;

(5) a buried sewer serving one building, or two or less single-family residences, constructed of cast iron or plastic pipe according to the material specifications, methods, and testing protocol described in UPC table 701.1 and section 723.0 as incorporated by part 4714.0050 or a floor drain connected to the buried sewer, except for:

(a) a collector or municipal sewer; or

(b) a sewer serving a facility such as a hospital, nursing home, mortuary, veterinary clinic, health care clinic, or similar facility handling infectious or pathological wastes;

- (6) a stormwater drain pipe eight inches or greater in diameter;
- (7) an animal building, feedlot, confinement area, or kennel holding 0.1 to 1.0 animal unit, except that the minimum distance to a sensitive water-supply well is increased to 40 feet as provided in subpart 2;
- (8) a buried nonpressurized water supply cistern or reservoir;
- (9) a gravel pocket or French drain for clear water drainage;
- (10) a portable privy or toilet;
- (11) a water treatment backwash holding basin, reclaim basin, or surge tank, and associated piping, with a backflow protected sewer connection; and
- (12) an elevator boring conforming to part 4725.7250; and

H. ten feet from:

- (1) a frost-proof yard hydrant or discharge of a frost-proof hydrant draining into the soil, a fire hydrant, or a flushing hydrant; and
- (2) the buried piping of a bored geothermal heat exchanger or any other closed loop geothermal heat exchanger that is 15 feet or less below the established ground surface, provided that the geothermal heat exchanger conforms to part 4725.7050, subpart 1.

Subp. 2. **Increased isolation distances for sensitive water-supply wells.** The distances in items A to F are exceptions to the isolation distances in subpart 1. The isolation distances in subpart 1 are doubled between a sensitive water-supply well and a contamination source directly entering the soil. A sensitive water-supply well must be located at least:

A. 600 feet from the absorption area of a soil dispersal system with an average design flow greater than 10,000 gallons per day, a landfill or dump containing mixed municipal solid waste from multiple persons, a permitted demolition debris landfill, a municipal or industrial wastewater rapid infiltration basin, a municipal wastewater stabilization pond with 500 or more gallons/acre/day leakage, or a liquid manure storage basin or lagoon that is unpermitted or noncertified according to chapter 7020;

B. 300 feet from the absorption area of a soil dispersal system serving a facility such as a hospital, nursing home, mortuary, veterinary clinic, health care clinic, or similar facility handling infectious or pathological wastes; a municipal wastewater stabilization pond with less than 500 gallons/acre/day leakage; an industrial wastewater stabilization pond; a municipal or industrial wastewater spray irrigation area; or a liquid manure storage basin or lagoon that does not have a concrete or composite liner, but has an earthen liner that was constructed under a Minnesota Pollution Control Agency permit or is certified according to chapter 7020;

C. 200 feet from a manure storage area, a liquid manure storage basin or lagoon with a concrete or composite liner according to chapter 7020, or an unroofed animal feedlot holding 300 or more animal units;

D. 150 feet from a cesspool, seepage pit, leaching pit, or dry well;

E. 100 feet from an animal feedlot holding more than one animal unit except as provided in item C; an animal or poultry feeding or watering area within a pasture holding more than one animal unit; an animal or poultry building including a horse riding arena holding more than one animal unit; the absorption area of a soil dispersal system; a privy; a storage area for road deicing chemicals; a sewage, septage, sludge, or waste landspreading area; a disposal area for construction or demolition debris; a disposal area for household solid waste from a single residence; a disposal area for water treatment backwash; an industrial cooling water pond; a gray-water dispersal area; or similar contamination source; and

F. 40 feet from an animal building, feedlot, confinement area, or kennel holding 0.1 to 1.0 animal unit.

Subp. 3. **Exception for irrigation well and fertilizer chemigation tank.** An irrigation well used only for nonpotable purposes must be at least 20 feet from a fertilizer chemigation supply tank conforming to the applicable requirements, setbacks, safeguarding, antipollution devices, purging, and posting requirements of parts 1505.2100 to 1505.2800.

Statutory Authority: *MS s 103I.101; 103I.111; 103I.205; 103I.221; 103I.301; 103I.401; 103I.451; 103I.501; 103I.525; 103I.531; 103I.535; 103I.541; 103I.621; 144.05; 144.12; 144.122; 144.383; 157.04; 157.08; 157.09; 157.13*

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