

**Rules and Regulations**  
**Equus Beds Groundwater Management District No. 2**  
**Division of Water Resources**  
**Kansas Department of Agriculture**  
**December 10, 2004**

**K.A.R. 5-22-1. Definitions.** As used in article 22 of these regulations, by the Equus Beds groundwater management district no. 2 in the implementation of the groundwater management district act and by the division of water resources in the administration of the Kansas water appropriation act, the following terms shall have the meanings ascribed to them in this regulation, unless the context clearly requires otherwise.

(a) “Above-baseflow stage” means streamflow that is in response to a significant runoff event during which period the water-level elevation of the stream is greater than the elevation of the adjacent water table.

(b) “Aquifer” means any geologic formation capable of yielding water in sufficient quantities that it can be diverted for beneficial use.

(c) “Aquifer storage” means the act of storing water in the unsaturated portion of an aquifer by artificial recharge for subsequent diversion and beneficial use.

(d) “Aquifer storage and recovery system” means a physical infrastructure that meets the following conditions:

- (1) Is constructed and operated for artificial recharge, storage, and recovery of source water; and
- (2) Consists of apparatus for diversion, treatment, recharge, storage, extraction, and distribution.

(e) “Area of consideration” means the two-mile-radius circle whose center is the location of the proposed point of diversion. The area of consideration equals 8,042 acres minus the area of the circle that meets the following conditions:

- (1) Is outside the district boundary;
- (2) Is inside an intensive groundwater use control area with a declining water table; and
- (3) Is in an area where the bedrock is not overlain by an aquifer.

(f) “Artificial recharge” means the use of source water to artificially replenish the water supply in an aquifer.

(g) “Bank storage” means water absorbed by and temporarily stored in the banks and bed of a stream during above-baseflow stage.

(h) “Bank storage well” means a well used to divert or withdraw water from bank storage.

(i) "Baseflow" means groundwater that seeps, flows, or is otherwise naturally discharged from an aquifer into a stream.

(j) "Baseflow allocation" means the annual quantity of water assigned to a baseflow node expressed in acre-feet per calendar year. The natural discharge to the stream shall be assumed to be equivalent to the rate of flow in the stream that is equaled or exceeded 90 percent of the time.

(k) "Baseflow node" means an artificial point located in the channel of a watercourse for the purpose of allocating a proportional amount of the baseflow.

(l) "Basin storage area" means the portion of the aquifer's unsaturated zone used for aquifer storage that has defined horizontal boundaries and is delimited by the highest and lowest index water levels.

(m) "Basin storage loss" means that portion of artificial recharge naturally flowing or discharging from the basin storage area.

(n) "Battery of wells" means either of the following:

(1) A group of two or more wells that meets the following conditions:

- (A) Withdraws water from the same local source of supply;
- (B) Is connected to a common pump by a manifold or piping; and
- (C) Supplies water to a common distribution system; or

(2) a group of not more than four wells that meets the following conditions:

- (A) Withdraws water from the same local source of supply;
- (B) Is located within a 300-foot-radius circle of the geographic center of the battery of wells;
- (C) Supplies water to a common distribution system;
- (D) Does not exceed a combined capacity of 800 gallons per minute; and
- (E) Has an individual pump installed in each well with a maximum capacity of 400 gallons per minute.

A battery of wells shall be considered to be one point of diversion.

(o) "Board" means the board of directors constituting the governing body of the Equus Beds groundwater management district no. 2.

(p) "Completed substantially as shown on aerial photograph, topographic map, or plat" means within 300 feet of the location as shown on the aerial photograph, topographic map, or plat accompanying the application.

(q) "Confined aquifer" means either of the following:

- (1) An aquifer overlain and underlain by impermeable layers; or
- (2) An aquifer in which the groundwater is under pressure greater than atmospheric pressure and will rise in a well above the elevation at which groundwater is first encountered.

(r) "Conjunctive use" means the management of the aquifer to achieve safe yield and the operation of the aquifer in coordination with a surface water system to enhance the use of the total water supply availability, in accordance with the provisions of the Kansas water appropriation act.

(s) "Consumptive use" means gross diversion minus the following:

(1) Waste of water; and

(2) Return flows to the source of water supply by at least one of the following:

(A) Through the surface water runoff that is not waste; and

(B) By deep percolation.

(t) "District" means the Equus Beds groundwater management district no. 2.

(u) "Free-water surface" means water that is exposed to the atmosphere, including lakes, ponds, and pits that intercept the water table.

(v) "Geographic center" means either of the following:

(1) The arithmetic mean of the northing and westing coordinates or measurements for each well in a battery of wells; or

(2) The apparent center of a groundwater pit.

(w) "Groundwater" means water below the surface of the earth.

(x) "Groundwater pit" means an excavation in the earth that meets all of the following criteria:

(1) Exposes the current or historic groundwater table;

(2) Has caused, or will likely cause, annual evaporation of groundwater; and

(3) Has a perimeter equal to or greater than the depth of the excavation.

(y) "Index water level" means water-level elevations established spatially throughout a basin storage area to be used to represent the maximum volume of a basin storage area and the volume of stored water available for recovery, based upon accounting methodology and the conditions of the permit.

(z) "Non-consumptive use" means the beneficial use of water in which essentially all of the water diverted from the source of supply is returned to the source of supply.

(aa) "Person" means a natural person, a partnership, an organization, a corporation, a municipality, and any agency of the state or federal government.

(bb) "Point of diversion" means the point at which water is diverted or withdrawn from a source of water supply.

(cc) "Primary well" means a well equipped with a flowmeter for which a standby well is available.

(dd) "Recharge" means the natural infiltration of surface water or rainfall into an aquifer from its catchment area.

(ee) "Recharge credit" means the quantity of water that is stored in a basin storage area and that is available for subsequent appropriation for beneficial use by the operator of the aquifer storage and recovery system.

(ff) "Safe yield" means the total quantity of groundwater meeting the following conditions:

- (1) Can be artificially withdrawn from an aquifer; and
- (2) Naturally discharges to a stream without exceeding the aquifer recharge value for the area of consideration and without impairing the water rights diverting from the aquifer.

(gg) "Standby well" means a well that meets the following conditions:

(1) Is used to provide water for any of the following:

(A) Fire protection;

(B) Emergency purposes; or

(C) Any period during which the primary well has mechanical failure, maintenance, or power failure;

(2) Is maintained in good operating condition;

(3) Withdraws water from the same source of supply as the primary well;

(4) Is located within 300 feet of the primary well;

(5) Is limited to the same rate and quantity authorized by the primary well's appropriation or vested right;

(6) Is equipped with a flowmeter; and

(7) Is operated only when water is temporarily unavailable from the primary well or wells, except when water is needed for fire protection or a similar type of emergency.

(hh) "Stream" means any watercourse that has a well-defined bed and well-defined banks, and that flows continuously during the calendar year, except during periods of drought.

(ii) "Surface water" means water in creeks, rivers, or other watercourses, and in reservoirs, lakes, and ponds. This term shall not include water in groundwater pits.

(jj) "Thermal exchange" means the use of water for climate control in a non-domestic building and in a manner that is essentially non-consumptive to the source of supply.

(kk) "Unconfined aquifer" means an aquifer with a water table at atmospheric pressure.

(ll) "Waste of water" means any act or omission that causes any of the following:

- (1) The diversion or withdrawal of water from a source of supply that is not used or reapplied to a beneficial use on or in connection with the place of use authorized by a vested right, an appropriation right, or an approval of application for a permit to appropriate water for beneficial use;

- (2) The unreasonable deterioration of the quality of water in any source of supply, thereby causing impairment of a person's right to the use of water;
- (3) The escaping and draining of water intended for irrigation use from the authorized place of use; or
- (4) The application of water to an authorized beneficial use in excess of the needs for this use.

(mm) "Water balance" means the method of determining the amount of water in storage in a basin storage area by accounting for inflow to, outflow from, and changes in storage in that basin storage area.

(nn) "Water table" means the top or surface of an unconfined or confined aquifer at which the pore water pressure is atmospheric.

(oo) "Well" means any excavation that is drilled, cored, bored, washed, driven, dug, or otherwise constructed if the intended use of the excavation is for the acquisition, diversion, or artificial recharge of groundwater. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective May 1, 1979; amended Oct. 15, 1990; amended March 7, 1994; amended Nov. 12, 2004.)

**K.A.R. 5-22-2. Well spacing requirements.** (a) Except as specified in subsections (d) and (e), the minimum spacing of all non-domestic and non-temporary wells described in an application for permit to appropriate water for beneficial use, an application for a term permit, or application to change the point of diversion shall be the following:

- (1) 1,320 feet from all non-domestic wells, groundwater pits, and baseflow nodes; and
- (2) 660 feet from all domestic wells.

(b) The minimum spacing interval from the geographic center of a battery of wells to each nondomestic well, groundwater pit, and baseflow node shall be 1,620 feet. The minimum spacing interval from the geographic center of a battery of wells to each domestic well shall be 960 feet.

(c) The minimum spacing interval from the edge of a groundwater pit to each nondomestic well, the edge of any other groundwater pit, and baseflow node shall be 1,320 feet and 330 feet to a domestic well.

(d)(1) In the areas described in the following table, the requirements specified in paragraphs (2), (3), and (4) of this subsection shall apply:

<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>County</b>
23 South	6 West	31, 32 and 33	Reno
23 South	7 West	31 through 36	Reno
24 South	6 West	4 through 9, and 13 through 36	Reno
24 South	7 West	1 through 36	Reno

<b>Township</b>	<b>Range</b>	<b>Section</b>	<b>County</b>
25 South	5 West	30 and 31	Reno
25 South	6 West	1 through 36	Reno
25 South	7 West	1 through 36	Reno
26 South	5 West	6, 7, and 8; 17 through 21; and 27 through 35	Reno
26 South	6 West	1 through 36	Reno
26 South	7 West	1 through 36	Reno

(2) The minimum spacing of all non-domestic and non-temporary wells with an authorized rate of diversion of 401 gallons per minute or more, as described in an application for permit to appropriate water for beneficial use, term permit, or application to change the point of diversion, shall be the following:

- (A) 2,640 feet from all other non-domestic wells, groundwater pits, and baseflow nodes; and
- (B) 660 feet from all domestic wells.

(3) The minimum spacing of a battery of wells with a total authorized rate of diversion of 401 gallons per minute or more, as described in an application for permit to appropriate water for beneficial use, term permit, or application to change the point of diversion shall be the following:

- (A) 2,940 feet from all non-domestic wells, groundwater pits, and baseflow nodes; and
- (B) 960 feet from all domestic wells.

(4) The minimum spacing interval from the edge of a groundwater pit to each non-domestic well, the edge of any other groundwater pit, and baseflow node shall be 1,320 feet.

The minimum spacing interval from the edge of a groundwater pit to a domestic well shall be 330 feet.

(e) The following types of wells shall not be subject to this well-spacing regulation:

- (1) A standby well;
- (2) A bank storage well;
- (3) A well authorized pursuant to the approval of an application to change the point of diversion that meets both of the following conditions:
  - (A) The number of wells comprising the point of diversion remains unchanged; and
  - (B) Each point of diversion is proposed to be relocated 300 feet or less from the currently authorized location;
- (4) The minimum spacing interval of non-domestic wells to domestic wells, if the domestic well owner has granted written permission to reduce the spacing interval; and
- (5) The minimum spacing interval of groundwater pits to non-domestic, non-temporary, or domestic wells, if the well owner has granted written permission to reduce the spacing interval. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective May 1, 1979; amended Oct. 15, 1990; amended March 7, 1994; amended Jan. 10, 2003.)

**K.A.R. 5-22-3. Waste of water.** It shall be a violation of these rules and regulations for any person, private corporation, public corporation, municipality, company, institution, township, county, state agency or federal agency to waste water as defined in these regulations. (Authorized by K.S.A. 1978 Supp. 82a-1028(o); effective May 1, 1979.)

**K.A.R. 5-22-4. Metering.** (a) Each water flowmeter, gauge, or other measuring device required by the district shall meet the minimum specifications adopted by the chief engineer by regulation.

(b) The owner of the water right or approval of application shall perform the following:

(1) Ensure that the water flowmeter is properly installed in accordance with the specifications adopted by the chief engineer by regulation;

(2) Maintain the water flowmeter in satisfactory working condition whenever the diversion works can reasonably be expected to operate; and

(3) Ensure that the water flowmeter measures all of the discharge from the diversion works and does not measure any other discharge, including tailwater and sewage lagoon effluent.

(Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective May 1, 1979; amended Oct. 15, 1990; amended Jan. 10, 2003.)

**K.A.R. 5-22-4a. Water flowmeter requirement.** Each non-domestic, non-temporary well meeting any of the following conditions shall be equipped with a water flowmeter that meets or exceeds the requirements of K.A.R. 5-22-4:

(a) A well operated under the authority of an approval of application issued on or after September 1, 1987;

(b) a well operated under the approval of an application for change in the place of use, the point of diversion, or the use made of the water, or any combination of these, filed after September 1, 1987;

(c) A well that meets the standards for being a standby well as set forth in K.A.R. 5-22-1;

(d) A well for which a certificate of appropriation was issued on or after July 1, 1995; or

(e) A well for which the board determines it is necessary to have a water flowmeter to ensure any of the following:

(1) The accuracy of reported water use;

(2) Compliance with the terms, conditions, and limitations of the water right, approval of application, or approval of change; or

(3) Non-impairment of other water rights. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective Jan. 10, 2003.)

**K.A.R. 5-22-4b. Water flowmeter maintenance.** (a) If a water flowmeter required by the district is ever out of compliance, the owner shall promptly repair or replace the water flowmeter, or correct any problems with the installation.

(b) A water flowmeter shall be considered to be out of compliance if any of the following conditions is met:

(1) The water flowmeter registers less than 94 percent or more than 106 percent of the actual volume of water passing the water flowmeter. If necessary, this determination may be made by a field test conducted or approved by the chief engineer.

(2) The seal placed on the totalizer by the manufacturer or the manufacturer's authorized representative has been broken, or the totalizer value has been reset or altered without the authorization of the manufacturer, an authorized representative of the manufacturer, or the chief engineer.

(3) A seal placed on the water flowmeter or totalizer by the chief engineer has been broken.

(4) The water flowmeter register is not clearly visible or is unreadable for any reason.

(5) There is not full pipe flow through the water flowmeter.

(6) The flow-straightening vanes have not been properly designed, manufactured, and installed.

(7) The water flowmeter is not calibrated for the nominal size of the pipe in which the flowmeter is installed.

(8) The water flowmeter is not installed in accordance with the manufacturer's installation specifications. However, five diameters of straight pipe above the water flowmeter sensor and two diameters below the water flowmeter sensor shall be deemed the minimum required spacing, regardless of the manufacturer's installation specifications.

(9) A water flowmeter is installed at a location where the flowmeter does not measure all of the water diverted from the source of supply. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

**K.A.R. 5-22-4c. Water flowmeter testing by a non-district person.** If a water right owner desires to have a water flowmeter flow rate test performed by a person other than district staff to comply with any requirement of the district, that person may be approved by the board to perform a water flowmeter flow rate test if the person demonstrates to the district both of the following:

(a) The person has the training, skills, and experience necessary to properly conduct the test.

(b) The person has the appropriate water flowmeter to perform the test, and the water flowmeter has been tested for accuracy with water flowmeter test equipment that has been found to be accurate using standards traceable to the national institute of standards and technology (NIST). The equipment shall have been tested and found to be accurate within 12 months of performing the water flowmeter test. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

**K.A.R. 5-22-4d. Water flowmeter installation procedures.** (a) If installation of a water flowmeter is required by the board, the owner of the approval of application or the water right shall be notified of the requirement in writing.

(b) A water flowmeter shall be installed on a new or replacement point of diversion within 30 days after the point of diversion is operational, or before the diversion of water, whichever occurs first.

(c) A water flowmeter shall be installed on an existing point of diversion within 30 days of the issuance of the water flowmeter order by the district, or before the diversion of water, whichever occurs first.

(d) An extension of time to install the water flowmeter may be granted by the board if a request for an extension of time is filed with the district before the expiration of the time to install the water flowmeter and one of the following conditions is met:

(1) The water right owner has a contract with a vendor to install a water flowmeter, but the vendor cannot complete the installation within the time allowed.

(2) Weather, site conditions, or other conditions beyond the control of the owner prevent the water flowmeter from being installed within the time allowed.

(3) The owner demonstrates any other reason constituting good cause why the water flowmeter cannot be installed within the time allowed and that granting of an extension of time will not be adverse to the public interest.

(e) The water right owner shall notify the district within 30 days after the required water flowmeter is installed. The notification shall be submitted on a form prescribed by the district.

(f) An inspection of the water flowmeter installation may be made by the district to determine if the water flowmeter has been properly installed in accordance with the requirements of K.A.R. 5-22-4, K.A.R. 5-22-4a, and K.A.R. 5-22-4b.

(g) If an inspection is made by the district, the owner shall be notified by the district of the results of the inspection in writing. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

**K.A.R. 5-22-5. Revoked.** (Authorized by K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(n); effective May 1, 1980; amended October 15, 1990; revoked Jan. 10, 2003.)

**K.A.R. 5-22-6. Noncompliance; penalties; appeal procedures.** (a) Any person may file with the board a written or verbal complaint that someone is allegedly violating any regulation of the district, any provision of the Kansas water appropriation act, or a term, condition, or limitation of an approval of application or a water right.

(b) The alleged violation shall be investigated by the district staff.

(c) A written report of the investigation shall be prepared by the district staff.

(d) If the investigation determines that a violation of a regulation of the district has occurred, an order shall be issued by the board or its designee. The order shall specify the following:

- (1) What the violation of the regulation is;
- (2) What actions are necessary to correct the violation;
- (3) What a reasonable time is for correcting the violation. Extensions of time to correct a violation may be granted by the board if good cause is shown by the violator or owner;
- (4) That the order will become effective immediately; and
- (5) That a hearing may be requested within 15 days of the issuance of the order. The request for a hearing may include a request for a stay of the order. If the person shows good cause why a stay should be granted, a stay may be granted by the board.

(e) The owner or owners of the approval of application or water right, as shown in the records of the district, shall initially be notified of the violation verbally, in writing, or by other means. Regardless of the means of initial notification, a copy of the order shall also be served by delivering a copy of the order in person or by restricted mail.

(f) The record of the complaint, the investigation, and the notice of violation shall be made a part of the official records of the district.

(g) If the violation is corrected by the deadline specified by the board, the violator shall notify the district staff. An inspection shall be conducted by the district staff to determine if the violation has been corrected. If the violation has been corrected, the diversion of water may continue within the terms, conditions, and limitations of the approval of application or water right.

(h) If the violation is not corrected by the deadline specified by the board, an order requiring that unauthorized or illegal diversion of water cease until the violation is corrected shall be issued by the district.

(i) If the violator ceases diversion of water and then corrects the violation, the violator shall notify the district when the violation is corrected. The diversion works and the authorized place of use, as appropriate, shall be inspected by the district staff to determine whether the violation has been corrected. If the board determines that the violation has been corrected, the order prohibiting the diversion of water shall be rescinded by the board. When the owner or violator receives notice from the district that the order prohibiting the diversion of water has been rescinded, the diversion of water may recommence.

(j) If the violator performs any act described in subsection (a), any of the following actions may be taken by the board:

- (1) If applicable, bring an injunctive action to enforce the order of the district;
- (2) If applicable, request enforcement assistance from the chief engineer;
- (3) If applicable, request that criminal proceedings be brought pursuant to K.S.A. 82a-728, and amendments thereto;

(4) If applicable, request that the county attorney or district attorney initiate injunctive remedies pursuant to K.S.A. 68-184, and amendments thereto, to prevent the occurrence of a nuisance;

(5) Enter into a consent order with the violator specifying the remedial actions that shall be taken by the violator;

(6) Require the installation of a water flowmeter;

(7) Take any other legally permissible enforcement action; or

(8) Any combination of the actions specified in paragraphs (j)(1) through (7).

(k) After the violator has been issued an order as specified in subsection (d), the violator, or anyone whose legal rights, duties, privileges, immunities, or other legal interests could be affected by the order, may appeal the order to the board. The appeal shall be filed within 15 days of the issuance of the order.

(l) The appeal petition shall state the basis for the appeal and shall be accompanied by documentation supporting the appeal.

(m) During the appeal, any relevant information or data may be considered by the board, including relevant data and information submitted by any person whose legal rights, duties, privileges, immunities, or other legal interests could be affected by the order.

(n) After consideration of the appeal, one of the following actions shall be taken by the board:

(1) Remand the matter to the district staff with instructions for additional investigation; or

(2) Notify the violator and the chief engineer of the board's final decision. The violator and all other parties shall be notified of the board's decision by certified mail.

(o)(1) Within 15 days after the service of the board's decision on the violator and any other affected party, the violator or any other affected party may file with the board a written request for reconsideration, which shall state the specific grounds for the request for reconsideration. The petition for reconsideration shall be deemed denied if not acted on by the board within 30 days.

(2) If the request for reconsideration is granted by the board, an administrative hearing shall be held by the board within 30 days of the date on which the request is filed with the board. After the hearing, the board may affirm, reverse all or part of, or modify the order of the board. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective May 1, 1980; amended Dec. 10, 2004.)

**K.A.R. 5-22-7. Safe yield.** (a) Except as set forth in subsection (b), the approval of each application for a change in the point of diversion, term permit, and permit to appropriate water for beneficial use shall be subject to the following requirements:

(1) The sum of prior appropriations, including the proposed application, vested rights, appropriation rights, term permits and earlier priority applications and baseflow nodes, shall not exceed the allowable safe-yield amount for the area of consideration. The non-consumptive use of groundwater previously authorized by the chief engineer shall be excluded from the sum of prior appropriations.

(2) The quantity authorized on all prior permits, certificates, and vested rights, the quantity requested on prior applications, and the quantities allocated to baseflow nodes shall be used to calculate the sum of prior appropriations and baseflow allocations.

(3) All conditions and limitation clauses listed on all prior appropriations and applications in the area of consideration shall be considered in effect.

(4) The baseflow allocation for baseflow nodes shall be calculated using the formula  $Q_a = T/N$  where:

(A)  $Q_a$  is the baseflow allocation per baseflow node in acre-feet per year;

(B)  $T$  is the total baseflow allocation for a reach of a stream in acre-feet per calendar year.  $T$  is the average of the 12 calendar months' daily flow values in cubic feet per second that were equaled or exceeded 90 percent of the time during a specifically designated hydrologically significant period of record, times a factor of 724; and

(C)  $N$  is the number of baseflow nodes established on a stream or reach of a stream. Nodes are located at the upstream end of the watercourse reach and thereafter at the intersection of the channel of a watercourse and an arc of a 1,320-foot-radius circle whose center is located on the previously established baseflow node.

(5) The allowable safe-yield amount shall be calculated using the formula  $S = A \times K$  where:

(A)  $S$  is the allowable safe-yield amount in acre-feet per year;

(B)  $A$  is the area of consideration; and

(C)  $K$  is an aquifer recharge value in feet. Everywhere in the district, except in McPherson County,  $K$  is equal to 0.5 feet per year. In McPherson County,  $K$  is a constant equaling 0.25 feet per year.  $K$  is calculated by multiplying the recharge percentage, which is 10 percent in McPherson County and 20 percent for the rest of the district, times the average annual precipitation of 2.5 feet per year.

(6) When evaluating an application for a change in the point of diversion, each application with a priority earlier than the priority established by the filing of the application of change shall be included in the safe-yield analysis.

(7) If the perimeter of the area under consideration intersects a group of wells authorized under prior applications, permits, certificates, or vested rights, a reasonable quantity of water shall be assigned to each well based upon the best available information.

(b) The following shall not be subject to this regulation:

(1) An application to appropriate groundwater in an area not closed by regulation or intensive groundwater use control area order by the chief engineer to new non-domestic, non-temporary permits and term permits for five or fewer years, if all of the following conditions are met:

(A) The annual quantity of water requested in the application does not exceed 15 acre-feet;

- (B) The sum of the annual quantity of water requested in the application and the total annual quantities of water authorized by prior approvals of applications allowed because of an exemption pursuant to this regulation does not exceed 45 acre-feet in a two-mile-radius circle surrounding the proposed point of diversion;
- (C) The approval of the application does not authorize an additional quantity of water out of an existing authorized point of diversion with a non-domestic approval of application or water right that would then authorize a total combined annual quantity of water from that point of diversion in excess of 15 acre-feet;
- (D) The application complies with the well spacing criteria in K.A.R. 5-22-2; and
- (E) The application complies with all other applicable regulations in effect when the application is filed;
- (2) An application for a non-consumptive use of groundwater;
- (3) An application for change in point of diversion, if the diversion works were completed:
  - (A) 300 feet or less from the originally authorized point of diversion;
  - (B) Within 150 feet of the location approved by the chief engineer; and
  - (C) A notice of completion was timely filed with the chief engineer under the original approval of application;
- (4) An application requesting only an additional rate of diversion on an existing well, if the approval of the application:
  - (A) Is limited to the maximum annual quantity of water authorized by a prior certified, vested, or appropriation right; and
  - (B) Contains both of the following conditions:
    - (i) The approved application for additional rate shall be dismissed if the prior certified, vested, or appropriation right is dismissed and terminated; and
    - (ii) The approved or certified maximum annual quantity of water shall be reduced in an amount equal to any subsequent reduction in the maximum annual quantity of water authorized by the prior certified, vested, or appropriation right;
- (5) An application for a standby well;
- (6) An application for a bank storage well only to the extent that the bank storage well is withdrawing bank storage water; and
- (7) An application for an aquifer storage and recovery well. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective May 1, 1983; amended Oct. 15, 1990; amended March 7, 1994; amended Nov. 12, 2004.)

**K.A.R. 5-22-8. Change applications.** (a) Except as set forth in subsection (d), the approval of each application for a change in point of diversion for a vested right, appropriation right, permit, term permit, or an application to appropriate groundwater shall be subject to the following requirements:

- (1) The maximum distance a replacement well can be located from the originally authorized location shall be 2,640 feet.
- (2) A replacement well located more than 300 feet from the currently authorized location shall comply with the provisions of K.A.R. 5-22-2.

(3) An application for a change in point of diversion shall be accompanied by either a completed abandoned-well or inactive-well agreement if the original well will no longer be authorized by any other vested right, appropriation right, approval of application, or term permit and the well has not been properly physically adapted for, and actually used for, domestic use. The completed agreement shall be submitted by the applicant with the application for a change in point of diversion on a form prescribed by the district.

(4) Each point of diversion described in the application shall be equipped with a water flowmeter that meets or exceeds the criteria of K.A.R. 5-22-4, K.A.R. 5-22-4a, K.A.R. 5-22-4b, and K.A.R. 5-22-4d.

(b) The approval of each application for a change in place of use or the use made of water for a vested right, appropriation right, approval of application, and term permit shall have a condition that a water flowmeter that meets or exceeds the requirements of K.A.R. 5-22-4, K.A.R. 5-22-4a, K.A.R. 5-22-4b, and K.A.R. 5-22-4d be installed on each point of diversion described in the application.

(c) Except as specified in subsection (d), each approval of application for a change in place of use for irrigation purposes shall be subject to the following requirements:

(1) If the time to perfect the water right has expired, the water right shall be certified before the change application may be approved.

(2) The approval of the application for change in place of use shall not authorize an increase in the size of the authorized place of use in excess of the limits specified in K.A.R. 5-5-11(b).

(d) An application for change in place of use for irrigation purposes filed only for the purpose of creating an identical place of use with another water right or rights shall not be subject to subsection (c) if all of the following conditions are met:

(1) There is not a net increase in the number of authorized acres.

(2) Each water right involved in the proposed identical overlap in place of use is certified by the chief engineer before processing the change application if approval of the change application would authorize an increase in base acreage as defined in K.A.R. 5-5-11(a).

(3) The total quantity authorized by all existing water rights and all permits involved is reasonable to irrigate the land authorized after the change in place of use is approved. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Oct. 15, 1990; amended March 7, 1994; amended Nov. 12, 2004.)

**K.A.R. 5-22-9. Exceptions.** Each recommendation timely submitted by the district concerning an exemption from, or waiver to, a regulation adopted by the chief engineer shall be considered by the chief engineer. An exception to these regulations may be granted by the chief engineer if the applicant demonstrates that the exception will neither impair a use under an existing right nor prejudicially affect the public interest. (Authorized by K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Oct. 15, 1990; amended Nov. 12, 2004)

**K.A.R. 5-22-10. Aquifer storage and recovery system: data reporting requirements.**

(a) Each person operating an aquifer storage and recovery system of which all or part of is within

the boundaries of the district shall file an annual report with the district no later than June 1 for the previous calendar year. The report shall contain the water balance in the basin storage area and, in addition to the information required by K.A.R. 5-12-2, information about the following, as specified:

(1) Source water:

(A) The type;

(B) The quantity of water available;

(C) The quantity of water surface water and bank storage water diverted;

(D) The basin storage loss; and

(E) The chemical, physical, radiological, and biological quality for each type of source water diverted;

(2) Aquifer storage:

(A) The artificial recharge techniques used;

(B) The quantity of source water recharged by each technique used;

(C) The total quantity of source water stored in the basin storage area; and

(D) The chemical, physical, radiological, and biological quality for each type of water stored;

(3) Recovery of stored water:

(A) A monthly and annual summary of recharge credits withdrawn from each recovery well; and

(B) The chemical, physical, radiological, and biological quality of the water recovered; and

(4) Hydrologic conditions:

(A) The quarterly index water levels;

(B) The key groundwater quality parameters;

(C) The monthly and annual precipitation quantities;

(D) The annual groundwater withdrawals from all wells except domestic wells;

(E) The annual streamflow, including baseflows and above-baseflow stage;

(F) A summary of the conjunctive use amounts; and

(G) The water supply and demand forecast for the next three years.

(b) The operator of the aquifer storage and recovery system shall furnish the district with whatever analyses, data, and other supporting documentation are necessary to understand and verify the report.

(c) The board shall review the report and submit its findings and recommendations to the chief engineer regarding the report no later than September 1 of the calendar year in which the report is required to be filed. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Dec 10, 2004.)

**K.A.R. 5-22-12. Application processing requirements and procedures.** (a) Except as provided in subsection (c), each application for any of the following shall be subject to the requirements and procedures in subsection (b):

(1) Appropriate water for beneficial use;

(2) Change the point of diversion, the use made of water, the place of use, or any combination of these; or

(3) Obtain a term permit.

(b)(1) Before final action is taken on an application, a copy of the application shall be submitted by the chief engineer to the district for review and recommendation.

(2) The district staff shall conduct a review of the proposed application. The district staff's recommendation to the chief engineer shall be consistent with the provisions of the Kansas water appropriation act, the groundwater management district act, and the regulations adopted by the chief engineer pursuant to those acts.

(3) Within 15 working days after the date the chief engineer submits the application to the district for review, or any extension of time approved by the chief engineer, the district staff shall submit to the chief engineer its findings and recommendation for approval, denial, or modification of the application and shall specify the basis for the recommendation. At the same time the district submits its recommendation to the chief engineer, the recommendation shall also be served on the applicant and any other parties to the proceedings.

(4) A district staff's findings and recommendation concerning an application may be appealed to the board by the applicant or anyone whose legal rights, duties, privileges, immunities, or other legal interests may be affected by approval, denial, or modification of the application.

(5) The petition for review by the board shall be filed by the party appealing the recommendation with the board within 30 days after the date of the letter sending the findings and recommendations by the staff of the district to the applicant or other party. The petition shall state the basis for the appeal and shall be accompanied by documentation supporting the appeal.

(6) During the appeal, any relevant information or data may be considered by the board, including relevant data and information submitted by a person whose legal rights, duties, privileges, immunities, or other legal interests may be affected by approval, denial, or modification of the application.

(7) After consideration of the appeal, one of the following actions shall be taken by the board:  
(A) Remanding the matter to the district staff with instructions for additional investigation; or  
(B) Notifying the applicant and the chief engineer of the board's final recommendation. The applicant and all other parties shall be notified of the board's decision by certified mail.

(8) Within 15 days after the service of the board's decision on the applicant and any other party, the applicant or any other party may file with the board a written request for reconsideration, which shall state the specific grounds for the request for reconsideration. The petition for reconsideration shall be deemed denied if not acted on by the board within 30 days.

(c) The following shall not be subject to this regulation:

(1) The domestic use of water;

(2) An application for a temporary permit; and

(3) An application to change the point of diversion if both of the following conditions are met:

(A) The point of diversion is proposed to be moved less than 300 feet; and

(B) The point of diversion is not a battery. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective Jan. 10, 2003.)

**K.A.R. 5-22-13. Potential net evaporation.** (a) The map titled “annual potential net evaporation in inches for Equus Beds groundwater management district no. 2 (annual average evaporation minus annual normal precipitation),” prepared by the district and dated June 11, 2002, is hereby adopted by reference for the purpose of determining potential net evaporation from a free-water surface within the district.

(b) The values on the map shall be used in all situations in which the determination of potential net evaporation from a free-water surface is necessary, including the following:

- (1) Computing the annual amount of evaporation that will be caused by exposing the groundwater table;
- (2) Calculating the quantity of surface water that is reasonably expected to be replaced with groundwater pumped under an approval of application or water right;
- (3) Calculating the average annual evaporation from groundwater that will be used to determine annual water use; and
- (4) Determining the maximum annual quantity of water that is perfected pursuant to K.S.A. 82a-714, and amendments thereto.

(c) The values shown on the map shall be used unless the applicant provides, or the chief engineer or the district has available, better or more site-specific data concerning potential net evaporation. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Dec. 10, 2004.)

**K.A.R. 5-22-14. Maximum reasonable quantity for beneficial use.** (a) The maximum annual quantity of water deemed reasonable for irrigation use shall be the following:

- (1) 1.3 acre-feet per acre in Harvey, McPherson, and Sedgwick counties; and
- (2) 1.4 acre-feet per acre in Reno County.

(b) The following quantities shall be used to determine the maximum annual quantity of water deemed reasonable for non-domestic livestock and poultry use:

Livestock or Poultry	Drinking Water (gallons per day)	Units
Cattle, Beef	15	Per head
Cattle, Dairy	35	Per head
Swine		Per head
Finishing	5	
Nursery	1	
Sow and Litter	8	
Gestating Sow	6	
Sheep	2	Per head
Horses	12	Per head
Poultry		
Chickens	9	100 Layers
Turkeys	30	100 Turkeys
Calves (750 pounds or less)	10	Per head
Goats	9	Per head

(c) The maximum reasonable quantity of water that may be approved for non-domestic livestock and poultry use for applications approved on or after the effective date of this regulation shall be limited as specified in subsection (b), unless the applicant demonstrates with adequate supporting information that the quantity of water and rate of diversion requested meet the following conditions:

- (1) Are reasonable for the intended use;
- (2) Are not wasteful; and
- (3) Will not otherwise prejudicially and unreasonably affect the public interest.

(d) For all other types of non-domestic livestock, poultry, birds, and animals, the maximum quantity of water approved for beneficial use shall be reasonable. The applicant shall justify the quantity of water requested with information on peer water use, the historical measured usage, a professional recommendation, or any other relevant information.

(e) Each applicant who seeks to appropriate water for industrial use shall submit information to demonstrate that the annual quantity of water requested is reasonable for that particular type of industrial use. The information submitted shall include the quantity of water reasonable for that type of industrial use based on current industry standards and a use of technology that is economically and technically feasible for that industry at that location.

(f) Unless the applicant demonstrates a projected deviation from actual population trends, a reasonable annual quantity of water for municipal use shall not exceed the lesser of either of the following:

- (1) 200 gallons per capita per day; or
- (2) 110 percent of the last three years' average per capita per day usage, excluding industries that use over 200,000 gallons per year, times 365 days per year, times the projected population for the twentieth year after the application is filed, plus reasonable projected water use for industries that use over 200,000 gallons per year. Population projections shall be made using one of the following:
  - (A) Accepted statistical methods using historic population trends for the applicant; or
  - (B) Data from the U.S. census bureau, Kansas water office population projections, or the Kansas census bureau. Projected deviations from historic population trends shall be justified by the applicant.

(g) The maximum annual quantity of water deemed reasonable to be provided from a well to a pond, lake, or reservoir that does not expose the current or historical water table shall be calculated using the formula  $Q_c = [(E+S)/12] \times A_{sw} + F$  where:

- (1)  $Q_c$  is the maximum quantity of water use in acre-feet;
- (2)  $E$  is the potential net evaporation in inches per year;
- (3)  $S$  is the seepage loss based on soil and subsoil in inches per year;
- (4)  $A_{sw}$  is the surface area of the pond in acres as measured at the elevation of the lowest uncontrolled spillway; and
- (5)  $F$  is the quantity of water in acre-feet necessary to fill the pond initially.

(h) The maximum annual quantity of water deemed reasonable to replace the evaporation from a groundwater pit shall be calculated using the formula  $Q_c = (E/12) \times A_{wt}$  where:

- (1)  $Q_c$  is the maximum annual quantity of evaporation of groundwater from the pit in acre-feet;
- (2) E is the potential net evaporation in inches per year; and
- (3)  $A_{wt}$  is the area of the water table exposed in the groundwater pit expressed in acres. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Dec. 10, 2004.)

**K.A.R. 5-22-15. Limitations on the use of fresh groundwater.** (a) Fresh groundwater shall not be used for any of the following purposes, unless the applicant demonstrates before approval of the application that the use of other waters is not technologically or economically feasible:

- (1) The enhanced recovery of oil or gas;
- (2) Solution mining;
- (3) The construction of storage caverns in subsurface salt deposits;
- (4) The displacement and extraction of hydrocarbons from subsurface storage;
- (5) Any use that is not a beneficial use, as defined in K.A.R. 5-1-1; and
- (6) Any use that is not in the public interest.

(b) "Other waters" shall include the following:

- (1) Water having a chloride content of more than 500 milligrams per liter (mg/l);
- (2) Water that is otherwise contaminated so that it is not drinkable;
- (3) Renewable surface water; and
- (4) Water that is being reclaimed, recycled, or reused. (Authorized by K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 82a-706a, K.S.A. 2003 Supp. 82a-711, and K.S.A. 2003 Supp. 82a-1028; effective Dec. 10, 2004.)

**K.A.R. 5-22-17. Bank storage wells.** (a) Each applicant for one or more bank storage wells shall demonstrate all of the following:

(1) The hydraulic connection from the streambed and banks to each bank storage well screen is sufficient to transmit bank storage water from the bed and banks of the stream to each bank storage well screen at a rate sufficient to sustain the authorized rate of diversion of the well or wells.

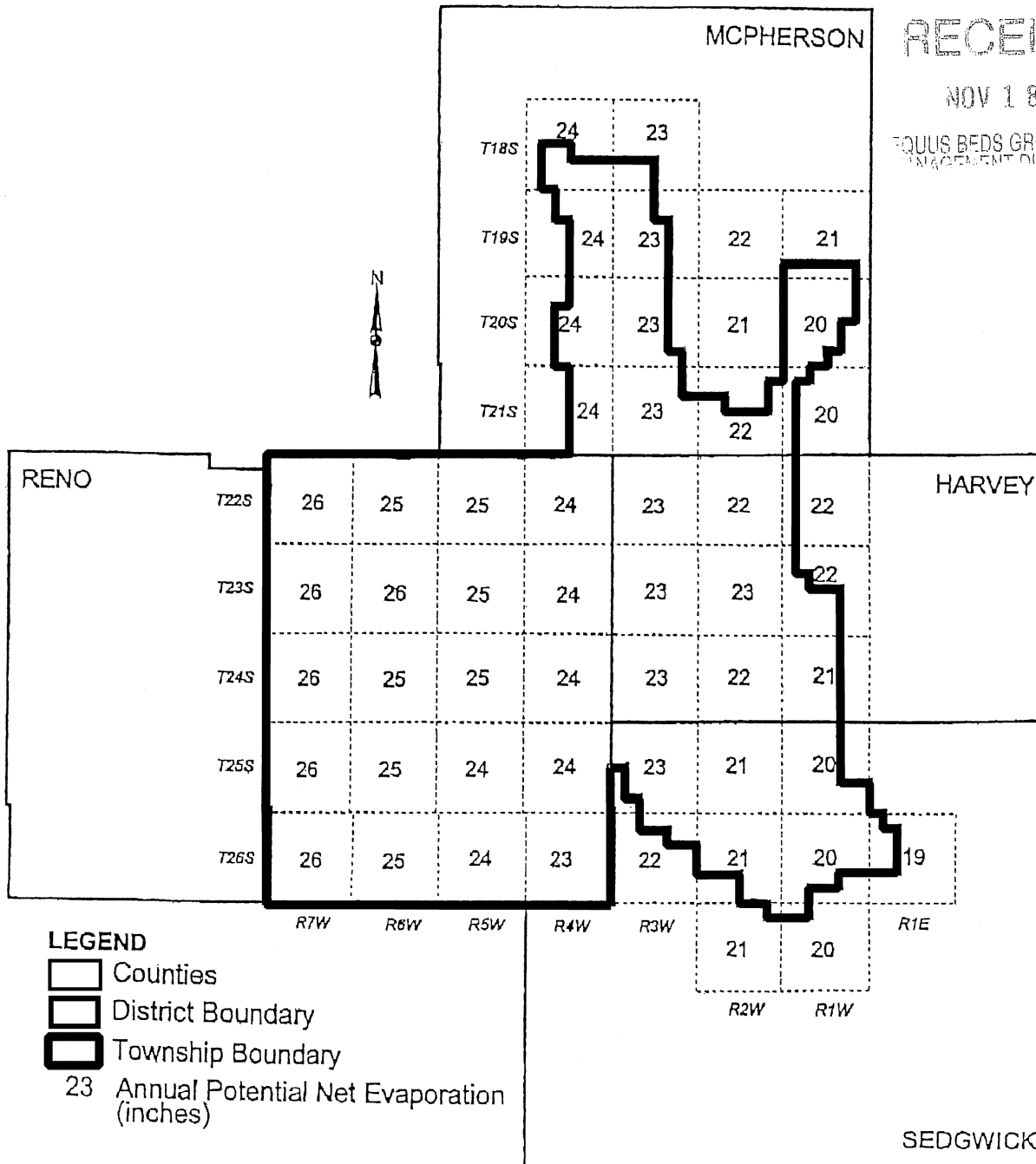
(2) Within seven days after the pumping of all bank storage wells has ceased, the water level in each bank storage well, or a monitoring well located within 100 feet of that bank storage well, will recover to an elevation equal to or greater than the water level elevation immediately before the bank storage well began to pump, adjusted for any regional groundwater level changes not caused by the pumping of the bank storage well.

(3) The naturally occurring and artificially induced rate of infiltration from the bed and banks of the stream when bank storage is occurring will be sufficient to meet the following conditions:

- (A) Equal or exceed the authorized rate of diversion of all of the bank storage wells;
- (B) Prevent impairment caused by all bank storage wells; and
- (C) Prevent groundwater mining caused by all bank storage wells.

(b) If an application for a bank storage well is approved by the chief engineer, the applicant shall install one or more water-level measurement tubes at locations that will allow adequate monitoring of groundwater quality and groundwater levels within the area where the annual cone of depression of the bank storage well or wells could be greater than 0.5 feet. Each water-level measurement tube shall be constructed and maintained in accordance with K.A.R. 5-6-13. (Authorized by K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

### Annual Potential Net Evaporation in Inches for Equus Beds Groundwater Management District No. 2 (Annual Average Evaporation Minus Annual Normal Precipitation)



Data Sources: Kansas Department of Agriculture, Division of Water Resources, K.A.R. 5-6-3.  
NOAA Technical Report NWS 33

Prepared By: Equus Beds Groundwater Management District No. 2, June 11, 2002

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