

LEWIS AND CLARK NATURAL RESOURCES DISTRICT MANAGEMENT AREA RULES AND REGULATIONS FOR GROUNDWATER QUANTITY MANAGEMENT AREAS

TABLE OF CONTENTS

CHAPTER 1 – Authority and Purpose for Issuing These Rules and Regulations.....	2
CHAPTER 2 – Effective Date of These Rules and Regulations.....	2
CHAPTER 3 – Definitions Applying to These Rules and Regulations.....	2
CHAPTER 4 – Groundwater Quantity Management Area, Options and Means Authorized.....	7
CHAPTER 5 – Irrigated Acre Expansion Permits and Water Well Permits.....	9
CHAPTER 6 – Request for Variance.....	20
CHAPTER 7 – Enforcement of Rules and Regulations	22
CHAPTER 8 – Level I Groundwater Quantity Management Area Determination and Requirements.....	23
CHAPTER 9 – Level II Groundwater Quantity Management Area Determination and Requirements.....	23
CHAPTER 10 – Level III Groundwater Quantity Management Area Determination and Requirements.....	26
CHAPTER 11 – Groundwater Transfer.....	27
CHAPTER 12 – Certification of Groundwater Use Acres and Water Well Use Reporting.....	28
CHAPTER 13 – Water Measurement and Flow Meter Requirements.....	31
CHAPTER 14 – Annual Groundwater Use Reports.....	33
CHAPTER 15 – Allocation to Agricultural Users	34
CHAPTER 16 – Allocation to Municipal Users	34
CHAPTER 17 – Allocation to Any Other Users.....	36
CHAPTER 18 – Level III GWQMA – Stays of Development.....	37
CHAPTER 19 – Wellhead Protection Areas.....	37
CHAPTER 20 – Angled and Horizontal High Capacity Wells.....	37

APPENDICIES

Appendix A = Ranking Methodology

Appendix B = Fee Schedule

FIGURES

Figure 1 = LCNRD Aquifer Delineation Map

Figure 2 = LCNRD Subarea Delineation Map

Figure 3 = LCNRD Depth to Bedrock Map

Figure 4 = LCNRD PWS Wellhead Protection Areas

Groundwater Quantity

Chapter 1 – Authority and Purpose

1.1 Authority - The following rules and regulations are adopted pursuant to the Nebraska Groundwater Management and Protection Act (the “Act”) Neb. Rev. Stat. §§ 46-701 to 46-754.

1.2 Purpose – The purpose of the rules and regulations is to implement the Lewis and Clark Natural Resources District’s Groundwater Management Plan, to develop procedures for the implementation of management practices, to conserve and protect groundwater supplies, to prevent contamination of groundwater, and to prevent inefficient or improper use of groundwater.

In January 1986, the LCNRD adopted its first Groundwater Management Plan (Neb. Rev. Stat. § 46.709). That plan featured a reservoir life goal to: “Preserve and maintain the natural quality and quantity of groundwater for an indefinite period of time for the sustained use of the resource.” The proposed rules and regulations are intended to continue preservation and maintenance of the reservoir life goal. The plan was amended in July, 1993 to further address groundwater quality issues and again in October, 2004 to focus on nitrate contamination issues within a defined boundary affecting seventy square miles in Knox County.

Chapter 2 – Effective Date of These Rules and Regulations

2.1 Effective date – These rules and regulations shall become effective when approved by the Lewis and Clark Natural Resources District Board of Directors and shall remain in full force and effect until revised, repealed, amended or superseded.

2.2 All existing Rules and Regulations pertaining to groundwater, other than groundwater quantity, shall remain in full force and effect until revised, repealed, amended or superseded.

Chapter 3 – Definitions Applying to These Rules and Regulations

3.1 Abandoned water well – Abandoned water well shall mean any water well (1) the use of which has been accomplished or permanently discontinued, (2) which has been decommissioned as described in the rules and regulations of the Department of Health and Human Services Regulation and Licensure, and (3) for which the notice of abandonment required by Neb. Rev. Stat. § 46-602(2) has been filed with the Department of Natural Resources by the licensed water well contractor or pump installation contractor who decommissioned the water well or by the water well owner if the owner decommissioned the water well.

3.2 Acre inch – the amount of water covering (1) surface acre of land to a depth of one (1) inch.

3.2.1 One (1) acre inch is equal to twenty-seven thousand one hundred fifty four (27,154) gallons.

3.3 Agricultural user – groundwater user who uses groundwater for irrigation, recreation, wildlife or other uses that requires the application of groundwater to the surface of the land.

3.4 Allocation – the apportionment of groundwater.

3.4.1 As related to water use for irrigation purposes, Allocation shall mean – the allotment of a specified total number of acre-inches of irrigation water per irrigated acre per year or an

average number of acre-inches of irrigation water per irrigated acre over any reasonable period of time.

- 3.5 **Aquifer** – a geological formation, group of formations, or part of a formation having pores or open spaces that contain sufficient saturated permeable material capable of yielding a significant quantity of water to satisfy a particular demand.
- 3.6 **Beneficial use** - use by which water may be put for the benefit of humans or other species as recognized by Nebraska law.
- 3.7 **Board or Board of Directors** – the Board of Directors of the Lewis and Clark Natural Resources District acting in its official capacity.
- 3.8 **Certified groundwater use acre** – a groundwater use acre certified by the Board for the application of groundwater pursuant to these rules and regulations.
- 3.9 **Confined aquifer** – groundwater that is confined under pressure greater than atmospheric by overlying relatively impermeable strata. Confined aquifers are also known as artesian or pressure aquifers.
- 3.10 **Consumptive use** – the allowable amount of groundwater consumed under appropriate and reasonably efficient practices to accomplish without waste the purposes for which the appropriation or other legally permitted use is lawfully made.
- 3.11 **Decommission** – the act of filling, sealing and plugging of a water well cavity in accordance with the rules and regulations adopted pursuant to the Water Well Standards and Contractors' Licensing Act.
- 3.12 **District** – the Lewis and Clark Natural Resources District or the staff or others designated by the Board of Directors to carry out these rules and regulations.
- 3.13 **District groundwater level** – the average level of the surface of the groundwater table as determined in accordance with Chapter 9 of these rules and regulations.
- 3.14 **Flow meter** – Flow meter or meter shall mean a device of type and design approved by the District and installed in connection with the use of a groundwater well that, when properly installed, measures the total quantity and rate of groundwater withdrawn.
- 3.15 **Government survey section** – a section of land approximately one (1) square mile in size as defined by the United States Government Department of Interior Bureau of Land Management Public Land Survey System (PLSS) of townships, ranges, sections, quarter sections, etc.
- 3.16 **Groundwater** – water that occurs, moves, seeps, filters or percolates through the ground under the surface of the land.
- 3.17 **Groundwater Quantity Management Area Level I** – Groundwater Quantity Management Area Phase I or GWQMA Level I shall mean all areas of the District designated for Level I management and regulation activities related to groundwater quantity.
 - 3.17.1 GWQMA Level I includes all areas of the Lewis and Clark Natural Resources District that are not designated as Level II or Level III GWQMAs.

- 3.17.2** Maps showing the geographic area and the legal description of the District's GWQMA are attached hereto as Figure 1 and Figure 2 and incorporated herein by reference.
- 3.18 Groundwater Quantity Management Area Level II** – Groundwater Quantity Management Area Level II or GWQMA Level II shall mean an area designated for Level II management and regulation activities related to groundwater quantity.
- 3.18.1** GWQMA Level II includes all management and regulation activities of Level I GWQMAs.
- 3.18.2** GWQMA Level II includes only portions of the Lewis and Clark Natural Resources District as designated.
- 3.19 Groundwater Quantity Management Area Level III** – Groundwater Quantity Management Area Level III or GWQMA Level III shall mean an area designated for Level III management and regulation activities related to groundwater quantity.
- 3.19.1** GWQMA Level III includes all management and regulation activities of Level I and Level II GWQMAs.
- 3.19.2** GWQMA Level III includes only portions of the Lewis and Clark Natural Resources District as designated.
- 3.20 Groundwater use acre** – Groundwater use acre shall mean an acre of land that a groundwater user wants to apply groundwater to, pursuant to these rules and regulations.
- 3.21 Groundwater use period** – Groundwater use period shall mean a period of three (3) consecutive calendar years designated by the Board for which an allocation is set.
- 3.22 Groundwater user** – a person or entity, who at any time, extracts, withdraws or confines groundwater for any use by him or herself or allows such use by other persons at a rate greater than fifty (50) gallons per minute. If the landowner and operator is not the same person, the term “groundwater user” shall mean both the landowner and the operator.
- 3.22.1** Agricultural user - a groundwater user that uses groundwater for irrigation, recreation, wildlife or other uses that require the application of groundwater to the surface of the land.
- 3.22.2** Municipal user - a groundwater user that is an incorporated or unincorporated city or village, rural water district or sanitary improvement district that withdraws groundwater from a water well to serve its customers for domestic purposes as it relates to human needs of health, fire control and sanitation.
- 3.22.3** Other user - a groundwater user that uses groundwater for purposes other than those described in the definitions of agricultural and municipal users.
- 3.22.3.1** Other user shall include a customer of a municipal user that uses groundwater for commercial, industrial or manufacturing purposes.
- 3.23 High capacity well** – any water well designed and constructed to pump greater than 50 gallons per minute.
- 3.24 Illegal water well** – Illegal water well shall mean:

- 3.24.1** A water well operated or constructed without, or in violation of, a permit required by these rules and regulations or by the Nebraska Ground Water Management and Protection Act or
- 3.24.2** A water well that is not properly registered in accordance with the provisions of Neb. Rev. Stat. §§ 46-602 to 46-604, or
- 3.24.3** A water well constructed or operated in violation of the Water Well Standards and Contractor Licensing Act or
- 3.24.4** A replacement water well constructed or operated in the place of a water well that has not been properly decommissioned in violation of the Water Well Standards and Contractor's Licensing Act or
- 3.24.5** A water well not in compliance with any other applicable laws of the State of Nebraska or with any provisions of these rules and regulations.
- 3.25 Management area** – a geographic area designated by the Board of Directors.
- 3.26 Monitoring well** – a water well that is designed and constructed to provide the District ongoing hydrologic and groundwater quality information. A monitoring well may have a permanent pump installed to withdraw groundwater samples for analysis but is not intended for consumptive use.
- 3.27 Municipal user** – a groundwater user that is an incorporated or unincorporated city or village, rural water district or sanitary improvement district that withdraws groundwater from a water well to serve its customers for domestic purposes as it relates to human needs of health, fire control, and sanitation.
- 3.28 Nitrogen fertilizer** – a chemical compound in which the percentage of nitrogen is greater than the percentage of any other nutrient in the compound or, when applied, results in an average application rate of more than twenty (20) pounds of nitrogen per acre over the field to which it is being applied.
- 3.29 Observation well** – a well monitored by the District or other public agency to measure fluctuations in the static water level of groundwater within an aquifer.
- 3.30 Operator** – a person, partnership, association, corporation, municipality or other entity which operates irrigated or dryland properties for the production of agricultural, horticultural, silvicultural, nursery products or aquaculture.
- 3.31 Other user** – A groundwater user that uses groundwater for purposes other than those described in the definitions of agricultural and municipal users.
- 3.31.1** Other user shall include a customer of a municipal user that uses groundwater for commercial, industrial or manufacturing purposes.
- 3.32 Permit** – a document obtained from the Lewis and Clark Natural Resources District in accordance with these rules and regulation authorizing an activity.
- 3.32.1** Irrigated acre expansion permit – shall mean a document obtained, in accordance with these rules and regulations, authorizing the expansion of irrigated acres occurring after June 1, 2014.
- 3.32.2** Water well permit – a document obtained, in accordance with the Nebraska Groundwater Management and Protection Act and these rules and regulations, authorizing the construction or modification of a water well or its use.

- 3.32.2.1** A water well permit may be issued for construction or modification of a water well for which a water well permit was not previously issued.
- 3.32.2.2** A water well permit may be issued for construction, modification or increased groundwater withdrawal from a water well as provided in Chapter 5.2.2.3 and 5.2.2.4.
- 3.32.2.3** A late water well permit may be issued when a water well was illegally constructed or modified without first receiving a water well permit.
- 3.33** **Person** – a natural person, personal representative, trustee, guardian, conservator, partnership, association, corporation, municipality, irrigation district, agency or political subdivision of the State of Nebraska, or a department, agency or bureau of the United States.
- 3.34** **Saturated thickness** – the vertical height of a hydrogeologically defined aquifer unit in which the pore spaces are 100% saturated with water. For unconfined, unconsolidated aquifers, the saturated thickness is equal to the difference in elevation between the bedrock surface and the water table.
- 3.35** **Static Water Level (SWL)** – the level at which water stands in a water well when no water is being removed from the aquifer. SWL is expressed as the distance from the ground surface or measuring point near the ground surface to the water level in the well.
- 3.36** **Test hole** – a hole or shaft, usually vertical, excavated in the earth for subsurface exploration to determine and record or log the depth to water, and the depth, color, character, thickness, size of material of the various geologic formations encountered.
- 3.37** **Unconfined aquifer** – groundwater that is under the pressure exerted by the overlying ground and by atmospheric pressure.
- 3.38** **Variance** – Variance shall mean (a) the approval to act in a manner contrary to the existing rules or regulations from a governing body whose rule or regulation is otherwise applicable, (b) an approval to deviate from a restriction imposed under the Rules and Regulations of the Lewis and Clark NRD.
- 3.39** **Water well** – As defined in Neb. Rev. Stat. § 46-601.01 - Water well shall mean (a) any artificial opening or excavation made in the ground that is drilled, cored, bored, washed, driven, dug, jetted or otherwise constructed for the purpose of exploring for groundwater, monitoring groundwater, utilizing the geothermal properties of the ground, obtaining hydrogeologic information, or extracting water from or injecting fluid as defined in Neb. Rev. Stat. § 81-1502 into an underground water reservoir. (b) Water well includes any excavation made for any purpose if groundwater flows into the excavation under natural pressure and a pump or other device is placed in the excavation for the purpose of withdrawing water from the excavation for irrigation. For such excavations, construction means placing a pump or other device into the excavation for the purpose of withdrawing water for irrigation. (c) Water well shall not include (i) any excavation made for obtaining or prospecting for oil or natural gas or for inserting media to repressure oil or natural gas bearing formations regulated by the Nebraska Oil and Gas Conservation Commission or (ii) any structure requiring a permit by the Department of Natural Resources used to exercise a surface water appropriation.

Chapter 4 – Groundwater Quantity Management Area – Management Options and Means Authorized

- 4.1** The District hereby establishes a Groundwater Quantity Management Area which includes the entire geographic area within the boundaries of the District. The District may by order and following a hearing held in accordance with Neb. Rev. Stat. § 46-712, manage the use of water in the management area for water quantity or quality purposes or both by any of the following means, as provided in Neb. Rev. Stat. § 46-739.
- 4.1.1** Allocate the amount of groundwater that may be withdrawn by groundwater users;
 - 4.1.2** Adopt a system of rotation for use of groundwater;
 - 4.1.3** Adopt well-spacing requirements more restrictive than those found in Neb. Rev. Stat. § 46-609 and § 46-651;
 - 4.1.4** Require the installation of devices for measuring groundwater withdrawals from wells;
 - 4.1.5** May require water use reporting to the district for all water wells within all or part of the management area;
 - 4.1.6** Adopt a system which requires a reduction of irrigated acres;
 - 4.1.7** Limit or prevent the expansion of irrigated acres or otherwise limit or prevent increases in the consumptive use of groundwater withdrawals from water wells used for irrigation or other beneficial purposes;
 - 4.1.8** It may require the use of best management practices;
 - 4.1.9** It may impose mandatory educational requirements designed to protect water quantity and stabilize or reduce the incidence of groundwater depletion;
 - 4.1.10** It may require District approval of groundwater transfers of groundwater off the land where the water is withdrawn;
 - 4.1.11** It may require, when conditions so permit, that new or replacement water wells to be used for domestic or other purposes shall be constructed to such a depth that they are less likely to be affected by seasonal water level declines caused by other water wells in the same area;
 - 4.1.12** It may close all or a portion of the management area to the issuance of additional permits or may condition the issuance of additional permits on compliance with other rules and regulations adopted and promulgated by the district to achieve the purpose or purposes for which the management area was designated;
 - 4.1.13** It may adopt and promulgate such other reasonable rules and regulations as are necessary to carry out the purpose for which a management area was designated.
- 4.2** In adopting, amending, or repealing any control authorized by subsection (1) of Neb. Rev. Stat. § § 46-739, 46-740, or 46-741, the District's considerations shall include, but not be limited to, whether it reasonably appears that such action will mitigate or eliminate the condition which led to designation of the management area or will improve the administration of the area.
- 4.3** If because of varying groundwater uses, varying surface water uses, different irrigation distribution systems, or varying climatic, hydrologic, geologic, or soil conditions existing within a management area, the uniform application throughout such area, of one or more controls would fail to carry out the intent of the Nebraska Groundwater Management and Protection Act in a reasonably effective and equitable manner, the controls adopted by the District pursuant to Neb. Rev. Stat. § 46-739 may contain different provisions for different categories of groundwater use or portions of the management area which differ from each other because of varying climatic, hydrologic, geologic, or soil conditions. Any differences

in such provisions shall recognize and be directed toward such varying groundwater uses or varying conditions. Except as otherwise provided in this section, if the District adopts different controls for different categories of groundwater use, those controls shall be consistent with Neb. Rev. Stat. § 46-613 and shall, for each such category, be uniform for all portions of the area which have substantially similar climate, hydrologic, geologic, and soil conditions.

- 4.4** The District may establish different water allocations for different irrigation distribution systems.
- 4.5** Except as otherwise authorized by law, the District shall make a replacement water well as defined in Neb. Rev. Stat. § 46-602, or as further defined in district rules and regulations, subject to the same provisions as the water well it replaces.
- 4.6** If the District has included controls delineated in subsection (1) of Neb. Rev. Stat. § 46-739 in its management plan, but has not implemented such controls within two years, the District shall hold a public hearing, as provided in Neb. Rev. Stat. § 46-712, to determine whether to implement the controls presented.
- 4.7** In addition to the controls listed in subsection (1) of Neb. Rev. Stat. § 46-739, the District may also adopt and implement one or more of the following measures if it determines that any such measures would help the District and water users achieve the goals and objectives of the management area. It may sponsor non-mandatory educational programs and it may establish and implement financial or other incentive programs. As a condition for participation in an incentive program the District may require water users or landowners to enter into and perform such agreements or covenants concerning the use of land or water as are necessary to produce the benefits for which the incentive program is established.
- 4.8 Designated Sub-Areas of Management in the Lewis and Clark NRD** - The District hereby establishes the following as designated sub-areas of management. The areas are geologically/hydrogeologically different, necessitating different methods of management and permitting to effectively monitor and manage them.
- 4.8.1 Niobrara Chalk Bedrock Reservoir** (Figure 1) – a fractured, bedrock aquifer where potential for high rates of in-season decline is likely. The Niobrara Chalk Formation yields water primarily in north central Cedar County where it is not overlaid by Pierre Shale and where it has been weathered causing the fractures which yield water. Only a portion of the area where Niobrara Formation wells could be developed is represented in Figure 1. The Niobrara Formation extends beneath the primary aquifer formations across the entire District, except in areas where it is at or near the surface, and along the northeastern edge of the District, where the District borders the Missouri River. However it only yields water in the areas where the Formation has been weathered. Test hole logs must be reviewed to determine whether a proposed well is to be developed in the Niobrara or other Formation.
- 4.8.2 Dakota Sandstone Bedrock Reservoir** (Figure 1) – an ancient, confined, bedrock aquifer. Use of water from this aquifer has historically been for stock wells and other low capacity uses. More recently development within the formation has included high capacity irrigation wells. Water quality, and quantity information and other aquifer characteristics of the Dakota Formation in the

Lewis and Clark NRD is limited. Monitoring and management is necessary to ensure its protection. Only a portion of the area where Dakota Formation wells could be developed is represented in Figure 1. The Dakota Sandstone Formation extends beneath the primary aquifer and other formations across the entire District, however the depth to the Dakota Formation is much greater in the southern portion of the District. Test hole logs must be reviewed to determine whether a well is developed in the Dakota or other Formation.

4.8.3 Area of Limited Aquifer Development Potential (Figure 2) - groundwater regions with limited aquifer development potential and a high probability for conflict between groundwater users. The hydrogeology of the area is highly variable due to glaciation and in much of the designated area bedrock is at or near the surface (CSD 1979 – area represented in Figure 3) with little or no primary aquifer present. The region where there is little or no primary aquifer present and the land adjacent to it has limited potential for development of highly productive sand and gravel wells due to limited and highly variable, primary aquifer thickness and/or presence. This designation does not indicate groundwater is not present – it specifies the potential to find an abundant source of groundwater is limited when compared to the rest of the District. Due to this variability the entire hatched region designated on Figure 2 has been designated as the “Area of Limited Aquifer Development Potential”.

4.8.4 Remaining Areas (Figure 2) – The Remaining Area is comprised of the region located predominately south of the “Area of Limited Aquifer Development Potential”. Variable aquifer characteristics and the density of high capacity wells increases potential of in season pumping declines within the groundwater systems accessed for irrigation. In season pumping in this region could impact irrigation wells, as well as domestic and stock wells.

4.8.5 Missouri River Groundwater Reservoir (Figure 1) – The primary aquifer along the south side of the Missouri River comprised of the saturated clay, silt, sand and gravel deposits from the Missouri River. Water quality for domestic use in this aquifer is generally poor however it is used for stock wells and this aquifer generally yields sufficient quantities for irrigation.

4.8.6 Community Water System Protection Areas (Figure 4) – Well Head Protection areas for Public Water Systems located in the Lewis and Clark NRD.

Chapter 5 –Irrigated Acre Expansion Permits and Water Well Permits

5.1 Irrigated acre expansion permits

5.1.1 Irrigated Acre Expansion Permit - Any entity who intends to irrigate acres which do not have irrigated acre history according to Chapter 12.1, must apply for a permit to expand the amount of acres irrigated by groundwater.

5.1.1.1 any person or entity who fails, or in the future fails to obtain a permit as required by subsection 5.1.1 shall make application for a late permit on forms provided by the District. The late permit application shall contain the same information as required by Chapter 5.1.2. The fee for a late permit application shall be established by and payable to the District (see Appendix B - Fee Schedule).

5.1.1.2 Any entity expanding irrigated acres through construction of a new or replacement well must also obtain a water well permit per Chapter 5.2.

5.1.2 Information required for all irrigated acre expansion permit or late irrigated acre expansion permit applications - forms shall be available at the office of the District, 608 North Robinson Ave, Hartington, Cedar County, Nebraska.

5.1.2.1 A non-refundable filing fee is required payable to the District for all irrigated acre expansion permit applications. A non-refundable filing fee is required for all late irrigated acre expansion permit applications. For a list of the current fee structure see Appendix B.

5.1.2.2 The application shall contain (a) the name and post office address of the applicant or applicants, (b) type of proposed irrigation, (c) proposed method of obtaining irrigation water, if the water source is from an existing well or surface water appropriation then the registration number or appropriation number must be included, if the acres to be irrigated will be under irrigation from a new well the water well permit number shall be referenced on the irrigation expansion permit application (d) the intended location by legal description, of the irrigated acre expansion (e) map or recent aerial photo with area to be irrigated delineated (f) estimated annual water usage in acre feet per year (g) proposed crop(s) to be produced on the acres and (h) such other information as the District requires.

5.1.2.2.1 Each application for an irrigated acre expansion permit shall include or be provided any additional information deemed necessary by the District to determine compliance with these rules and regulations.

5.1.2.2.1.1 Additional information may include, but is not limited to, a test hole geophysical log, a hydrogeologic evaluation and/or groundwater modeling analysis.

5.1.2.2.1.2 If the District finds the application to expand irrigated acres is incomplete or needs corrections, it shall return the application to the applicant for any necessary corrections. Corrections must be made within sixty (60) days or the application will be cancelled. No refund of any application fees shall be made regardless of whether the permit to expand irrigated acres is approved, cancelled, or denied.

5.1.3 Irrigated acre expansion permit review – District staff will review complete applications received and compile all pertinent soil/ slope data, and hydrogeologic information provided by the applicant or available from well registrations. The information will be brought forth to the LCNRD Board for consideration where upon a motion will be made to approve, deny or table the application. An application may be tabled until the next Board meeting if the Board feels additional information is needed to make a decision or the application was received after 5:00 P.M. on the first Thursday of the month prior to the regularly scheduled monthly Board meeting, the third Thursday of each month.

5.1.3.1 Using the best data available to the District, including any information submitted by the applicant as part of the irrigated acre expansion permit application, evidence must show that the proposed acres are of suitable soil capability class and soil slope where groundwater application is determined to be a beneficial use of the groundwater resource, show the estimated production by the well proposed to irrigate those acres will not have a

negative impact on the current production of neighboring wells. Data must also show production demands of the well used to irrigate the acres will not have a significant negative impact to the long term sustainability of the aquifer that serves as the primary source of water. Data must also show production demands of the well used to irrigate the acres will not negatively impact the ability of existing properly constructed, maintained and operational registered wells served by the same primary aquifer to operate in a reasonable manner. Irrigated acre expansion permit applications meeting all the criteria set forth in this section shall be approved by the District and those failing to meet the criteria shall be denied or approved with conditions as established by the District.

5.1.3.2 The District has developed a standardized method for evaluating and ranking irrigated acre expansion permit applications based upon criteria set forth in the District's Water Well and Irrigated Acre Expansion Permit Ranking System (Appendix A) The main criteria considered includes (1) the thickness of aquifer formation, (2) calculated transmissivity of the aquifer formation, (3) well density of surrounding registered irrigation, domestic, livestock and public water supply wells, (4) the slope and agricultural capability classification of the soils to be irrigated, and (5) permit classes will be subject to the review criteria established for each Groundwater Reservoir, as necessary, due to varying aquifer characteristics.

5.1.4 Denial of an Irrigated Acre Expansion Permit - An application for a permit to expand irrigated acres in a management area shall be denied if the District Finds:

5.1.4.1 The application fails to meet the criteria set forth in Chapter 5.1.3 .

5.1.4.2 The applicant refuses to agree to the terms in Chapter 5.1.5 (Requirements when a irrigated acre expansion permit is approved.)

5.1.4.3 An irrigated acre expansion permit application includes any intentionally misleading or falsified data.

5.1.4.4 The irrigated acre expansion permit application fails to meet ranking requirements established by the Board of Directors.

5.1.4.5 The proposed use of ground or surface water would not be a beneficial use for agricultural purposes.

5.1.4.6 Other reasons which could negatively impact groundwater or soil resources where irrigated acre development is proposed.

5.1.4.7 In the case of a late irrigated acre expansion permit where the applicant did not act in good faith in failing to obtain a timely permit.

5.1.4.8 All permits shall be denied or approved with or without conditions attached not later than sixty days after receipt by the District of a complete and properly prepared application.

5.1.5 When an irrigated acre expansion permit is approved – When a permit is approved the applicant shall have twenty-four (24) months after the date of the permit approval to irrigate the approved acres. If the applicant fails to irrigate the acres under the terms of the permit, the District will cancel the permit.

5.1.5.1 Within twenty-four (24) months following approval of the irrigated acre expansion permit the applicant agrees to allow District staff to conduct a field confirmation of the acres established for irrigation.

5.1.5.2 Acres approved as irrigated pasture or other non-row crop shall not be converted to irrigated row crop without obtaining a permit to do so.

5.1.6 An irrigated acre expansion permit issued shall specify all regulations and controls adopted by the District relevant to irrigating approved acres.

5.1.7 If the applicant fails to complete the project under the terms of the irrigated acre expansion permit, the District may cancel the permit.

5.2 Water well permits

5.2.1 Construction, decommissioning and temporary capping of water wells – Any person that owns or controls land upon which the construction, decommissioning or temporary capping of a water well is to be accomplished, shall accomplish such tasks in accordance with the Water Well Standards and Contractor Licensing Act and the regulations adopted pursuant thereto.

5.2.2 When a water well permit is required - Any person or entity who intends to construct any new or replacement water well on land which he or she owns or controls that falls within the following categories shall, before commencing construction, apply to the District for a water well permit on forms provided by the District, and receive approval from the District:

5.2.2.1 Any water well designed and constructed, or modified to pump more than 50 gallons per minute; except livestock or domestic wells.

5.2.2.2 Any water well designed and constructed to pump 50 gallons per minute or less if such water well is commingled, combined, clustered, or joined with any other water well or wells or other water source serving a single purpose, other than a water source for domestic or livestock use. Such wells shall be considered individually for the permitting purpose and require a permit for each well.

5.2.2.3 Any person or entity who fails or in the future fails to obtain a permit as required by subsection 5.2.2.1 or 5.2.2.2 shall make application for a late permit on forms provided by the District. The late permit application shall contain the same information as required by Chapter 5.2.5 and 5.2.6. The fee for a late permit application shall be established by and payable to the District (see Appendix B - Fee Schedule).

5.2.3 Spacing of Water Wells – No water well requiring a permit under this chapter shall be constructed within 1000 feet of any public water supply well, within 600 feet of any other registered irrigation or commercial/industrial well under separate ownership, or within 300 feet of any registered domestic or stock well under separate ownership. Spacing requirements can be superceded by state requirements if they become more restrictive. No water well shall be constructed within the listed spacing requirements for any non-constructed wells with a valid permit.

5.2.3.1 In addition to the LCNRD spacing requirements all pertinent state statutes for irrigation well spacing included in Neb. Rev. Stat. § 46.651 must be followed.

- 5.2.3.2 Replacement well spacing, special conditions** – A replacement well may be constructed no more than 50 feet from the original well if the original well is less than 300 feet from a domestic or stock well under different ownership.
- 5.2.3.3 Illegal water wells not protected** – Illegal water wells are not protected by the provisions of this Rule. The failure of a person to update water well registration information, ownership and irrigated acres records shall not jeopardize his or her well spacing protection provided under this Rule unless:
- 5.2.3.3.1** The District determines that said person has knowingly attempted to deceive the District.
- 5.2.3.3.2** The well owner was notified by the District that the water well was identified as unregistered and constructed after such date in which registration was required and said person failed to act in good faith to register the water well. If the well owner agrees to comply with registering the water well, the District will provide assistance as needed.
- 5.2.3.3.3** The District determines that said person has failed to act in good faith in matters pertaining to these rules.
- 5.2.3.4 Spacing for commingled water wells** – When water wells are commingled, combined, clustered, or joined and have a combined total capacity greater than fifty (50) gallons per minute, each water well shall comply with all provisions of Chapter 5.2.3.
- 5.2.3.5 Request for spacing variance** – Any person applying for a permit to construct a well that would violate any portion of Chapter 5.2.3 may request a variance as outlined in Chapter 6.
- 5.2.4 Exempt wells** – No permit shall be required for (a) test holes with an intended use of ninety days or less, or (b) single water wells designed and constructed to pump fifty (50) gallons per minute or less.
- 5.2.4.1** New or replacement domestic and stock wells should be constructed to a depth that is less likely to be affected by seasonal water level declines caused by other water wells in the same area.
- 5.2.5 Information required for all water well permits or late water well permit applications** - permit application forms shall be available at the office of the District, 608 North Robinson Ave, Hartington, Cedar County, Nebraska.
- 5.2.5.1** A non-refundable filing fee is required payable to the District for all permit applications to construct a water well. A non-refundable filing fee is required for all late water well permit applications. For a list of the current fee structure see Appendix B.
- 5.2.5.2** The application shall contain (a) the name and post office address of the applicant or applicants, (b) the nature of the proposed use, (c) the intended location of the proposed water well or other means of obtaining groundwater, (d) the intended size, type and description of the proposed water well and the estimated depth, if known, (e) the estimated capacity in gallons per minute, (f) the estimated annual water usage in acre feet per year (g)

the acreage and location by legal description of the land involved if the water is to be used for irrigation purposes, (h) a description of the proposed use if other than for irrigation purposes, (i) the registration number of the water well being replaced if applicable, (j) proposed crop(s) to be grown and (k) such other information as the District requires.

5.2.5.3 Each application for a water well permit or late permit must be accompanied with documentation that a test hole was drilled including the following information:

5.2.5.3.1 The test hole must be drilled within 100 feet of the proposed well location as indicated on the well permit application.

5.2.5.3.2 Geographic coordinates of the test hole location.

5.2.5.3.3 The water well permit application must include the acres to be irrigated outlined on a map or recent aerial photo.

5.2.5.3.4 Additional water well permit information is required by Permit Class as outlined in Chapter 5.2.6. All required information must be received by the District for a permit to be considered for approval.

5.2.5.4 If any of the proposed acres to be irrigated do not have irrigated acre history (Chapter 12.1) the application for a well permit must be accompanied by a permit to expand irrigated acres (Chapter 5.1), the expansion permit must be approved, and the acres must be irrigated and certified as detailed below:

5.2.5.4.1 Proposed acres to be irrigated must be certified as irrigated within two years of the approval date of the permit to expand irrigated acres.

5.2.5.4.2 If the proposed acres are not certified irrigated within two years of the approval date to expand irrigated acres the applicant must make a new application to expand irrigated acres.

5.2.5.5 If any of the acres proposed for irrigation by the new or replacement well have irrigated acre history the applicant must complete Irrigated Acre Certification (Chapter 12).

5.2.5.6 Each application for a water well permit or late water well permit shall include or be provided any additional information deemed necessary by the District to determine compliance with these rules and regulations.

5.2.5.6.1 Additional information may include, but is not limited to, a test hole geophysical log, a hydrogeologic evaluation and/or groundwater modeling analysis.

5.2.5.7 If the District finds the application for a water well permit or late water well permit is incomplete or needs corrections, it shall return the application to the applicant for any necessary corrections. Corrections must be made within sixty (60) days or the application will be cancelled. No refund of any application fees shall be made regardless of whether the water well permit is approved, cancelled, or denied.

5.2.6 Classes of Water Well Permits and Required Hydrogeologic Information – Any water well requiring a permit shall be required to provide certain hydrogeologic and/or water quality

information, and/or other information before a water well permit may be approved (Reports). The District shall provide guidelines for required information which shall be submitted to the District with each water well permit application.

5.2.6.1 Niobrara Class Permit (also referred to as shale or chalk) applies to any proposed water well to be developed in and removing water from the Niobrara Groundwater Reservoir and which is required to have a permit according to Chapters 5.2.2.1 – 5.2.2.2. Water well permit requirements in addition to those outlined in Chapter 5.2.5 for the Niobrara Class include:

5.2.6.1.1 Geographic coordinates of test hole location.

5.2.6.1.2 A geologic/lithologic log of materials encountered with depth.

5.2.6.1.2.1 The geologic/lithologic log must clearly detail the depth, color, thickness and size of material of the various geologic formations encountered.

5.2.6.1.2.2 The geologic/lithologic log must include the measured depth to groundwater from the ground surface before and after “test pumping”.

5.2.6.1.3 An accurate pumping water level and pumping rate (gpm) after test pumping for 15, 30, 60, 90, and 120 minutes.

5.2.6.1.4 In the case where a groundwater system above the bedrock aquifer is to be screened in construction of the well, ranking criteria must be met for the bedrock aquifer and, if necessary, the overlying groundwater reservoir(s) to be screened for the Management Area where the well is proposed.

5.2.6.2 Dakota Class Permit (also referred to as sandstone)– applies to any proposed water well to be developed in and removing water from the Dakota Groundwater Reservoir and which is required to have a permit according to Chapters 5.2.2.1 – 5.2.2.2. Well permit requirements in addition to those outlined in Chapter 5.2.5 for the Dakota Class include:

5.2.6.2.1 Geographic coordinates of test hole location.

5.2.6.2.2 A geologic/lithologic log of materials encountered with depth is required following well construction.

5.2.6.2.2.1 The geologic/lithologic log must clearly detail the depth, color, thickness and size of material of the various geologic formations encountered.

5.2.6.2.2.2 The geologic/lithologic log must include the measured depth to groundwater from the ground surface.

5.2.6.2.3 Following well construction, results of an irrigation water quality test conducted by a reputable lab on a water sample collected from the test hole to address potential mineral composition concerns with agricultural uses. The minimum

accepted water quality evaluation is a standard irrigation suitability test plus iron content.

5.2.6.2.4 In the case where a groundwater system above the bedrock aquifer is to be screened in construction of the well, ranking criteria must be met for the bedrock aquifer and, if necessary, the overlying groundwater reservoir(s) to be screened for the Management Area where the well is proposed.

5.2.6.3 Area with Limited Aquifer Development Potential Class Permit - applies to any proposed water well located in the hatched area of Figure 2 designated as “Area with Limited Aquifer Development Potential”, of which no portion of the well will be constructed in a bedrock reservoir, and which is required to have a permit according to Chapters 5.2.2.1 – 5.2.2.2. Well permit requirements in addition to those outlined in Chapter 5.2.5 for the Area with Limited Aquifer Development Potential Class include:

5.2.6.3.1 Geographic coordinates of test hole location.

5.2.6.3.2 A geologic/lithologic log of materials encountered with depth.

5.2.6.3.2.1 The geologic/lithologic log must clearly detail the depth, color, thickness and size of material of the various geologic formations encountered.

5.2.6.3.2.2 The geologic/lithologic log must include the measured depth to groundwater from the ground surface.

5.2.6.3.3 A neighboring well used to estimate/determine the appropriate pumping rate for the proposed well must be identified, including registration number and accurate location of this well indicated on a map.

5.2.6.3.4 In order to more easily define the “Area with Limited Aquifer Development Potential” due to the irregular shape, the identified region has been squared off using one mile square sections as defined by the Public Land Survey System (PLSS). The entire section where a portion has been identified in the limited area is considered part of the Area with Limited Aquifer Development Potential. Any section bordered on three sides by the designation will be included in the designated Area with Limited Aquifer Development Potential.

5.2.6.4 Remaining Area – Including the Missouri River Groundwater Reservoir Class Permit – applies to any proposed water well located outside of the hatched area, Figure 2 of which no portion of the well will be constructed in a bedrock reservoir, and which is required to have a permit according to Chapters 5.2.2.1 – 5.2.2.2. Well permit requirements in addition to those outlined in Chapter 5.2.5 for the All Other Regions Class include:

5.2.6.4.1 Geographic coordinates of test hole location.

5.2.6.4.2 A geologic/lithologic log of materials encountered with depth.

5.2.6.4.2.1 The geologic/lithologic log must clearly detail the depth, color, thickness and size of material of the various geologic formations encountered.

5.2.6.4.2.2 The geologic/lithologic log must include the measured depth to groundwater from the ground surface.

5.2.6.4.3 A neighboring well used to estimate/determine the appropriate pumping rate for the proposed well must be identified, including registration number and accurate location of this well indicated on a map.

5.2.6.4.4 Any portion of a section which is not hatched on Figure 2 but where another portion of the section is included in the hatched area will be considered in the “Area with Limited Development Potential” Class for permitting purposes (Chapter 5.2.6.3). If the section where the well is to be located is bordered on three sides by the “Area with Limited Development Potential”, the section will be considered part of that region for permitting purposes.

5.2.6.5 Community Water System Protection Areas – permitting requirements for wells proposed in the Well Head Protection areas of public supply wells are the same as for the regions where the proposed well is located; ie. Niobrara Reservoir, Dakota Reservoir, Area with Limited Aquifer Development Potential, or All Other Regions.

5.2.7 When a hydrogeologic evaluation is required - Any entity intending to modify any existing well or construct any new or replacement water well with an annual withdrawal of groundwater greater than 500 acre-feet (equal to pumping ~310 gallons/min for 24hrs/days/year), such entity shall, in addition to the information and requirements for the well permit application in Chapter 5.2.2, 5.2.5, and 5.2.6 provide the District with a hydrogeologic evaluation illustrating the impact, if any, from the intended withdrawal on the static water level of the aquifer and on local groundwater users.

5.2.7.1 Construction/withdrawal prohibited – The NRD Board of Directors reserves the right to deny any water well permit application under this section based upon the following:

5.2.7.1.1 The proposed water well is shown by the hydrogeologic evaluation and/or other data and information to have a reasonable probability of adversely impacting the local aquifer and surrounding groundwater wells with a higher preference of use, or

5.2.7.1.2 The hydrogeologic evaluation does not conform with accepted methods, or the data used does not adequately represent actual hydrologic and/or hydrogeologic conditions, or

5.2.7.1.3 No waivers of liability have been obtained or provided by the well permit applicant, or

5.2.7.1.4 The construction of the water well or increased groundwater withdrawal would violate any other provisions of these rules and regulations or

5.2.7.1.5 The application fails to meet the minimum criteria set forth in Chapter 5.2.8.

5.2.7.1.6 Other reasons which could negatively impact groundwater resources due to development of the proposed well.

5.2.8 Well permit review – District staff will review the applications received and compile all pertinent hydrogeologic data, information provided by the applicant and other information that is readily available. The information will be brought forth to the LCNRD Board for consideration where upon a motion will be made to approve, deny or table the application. An application may be tabled until the next Board meeting if the Board feels additional information is needed to make a decision or the application was received after 5:00 P.M. on the first Thursday of the month prior to the regularly scheduled monthly Board meeting, the third Thursday of each month.

5.2.8.1 Using the best data available to the District, including any information submitted by the applicant as part of the well permit application, evidence must show that the proposed well has the ability to meet or exceed the flow volume included on the permit application and produce enough water to support the purpose shown on the permit application. To ensure the water will be for a beneficial purpose, data must show the proposed acres to be irrigated are suitable for crop production under irrigation. Data must also show the well will not have a significant negative impact to the long term sustainability of the aquifer that serves as the primary source of water for the proposed well. Data must also show the proposed well will not negatively impact the ability of existing properly constructed, maintained and operational registered wells served by the same primary aquifer to operate in a reasonable manner. Permit applications meeting all the criteria set forth in this section shall be approved by the district and those failing to meet the criteria shall be denied or approved with conditions as established by the District.

5.2.8.2 The District has developed a standardized method for evaluating and ranking well permit applications based upon criteria set forth in the District's Water Well and Irrigated Acre Expansion Permit Ranking System (Appendix A) The main criteria considered includes (1) the thickness of aquifer formation, (2) calculated transmissivity of the aquifer formation, (3) well density of surrounding irrigation, domestic, livestock and public water supply wells, (4) the slope and agricultural capability classification of the soils to be irrigated, and (5) permit classes will be subject to the review criteria established for each region, as necessary, due to varying aquifer characteristics.

5.2.8.3 Any water well commingled, combined, clustered, or joined with any other water well or wells or other water source for irrigation cannot irrigate more than one quarter of ground unless a variance from the District is requested and granted.

5.2.8.4 Public water supply wells are exempt from the requirements of Chapters 5.2.8.2 and 5.2.9.5 however Chapters 5.2.2, 5.2.3, 5.2.5, 5.2.6 and 5.2.7 remain applicable.

5.2.9 Denial of a Water Well Permit - An application for a permit or late permit for a water well in a management area shall be denied if the District Finds:

5.2.9.1 The application fails to meet the criteria set forth in Chapter 5.2.8.

5.2.9.2 The location or operation of the proposed water well or other work would conflict with any regulations or controls adopted by the District or of other applicable laws of the State of Nebraska.

5.2.9.3 The applicant refuses to agree to the terms in Chapter 5.2.13 (Requirements when a permit is approved.)

- 5.2.9.4** A water well permit application includes any intentionally misleading or falsified data.
- 5.2.9.5** The water well permit application fails to meet a minimum ranking score established by the Board of Directors.
- 5.2.9.6** The proposed use would not be a beneficial use of water for domestic, agricultural, manufacturing, or industrial purpose.
- 5.2.9.7** In the case of a late water well permit where the applicant did not act in good faith in failing to obtain a timely permit.
- 5.2.9.8** Other reasons which could negatively impact groundwater or soil resources where well development is proposed.
- 5.2.9.9** All permits shall be denied or approved with or without conditions attached not later than sixty days after receipt by the District of a complete and properly prepared application.
- 5.2.10 Waivers of liability** – Waivers of liability obtained from potentially impacted groundwater users will be considered by the District when determining whether to grant or deny a water well permit.
- 5.2.11 Flow meter required** – All new water wells designed and constructed to pump greater than fifty (50) gallons per minute or existing water wells modified to pump greater than fifty (50) gallons per minute, or combined in some way with a total pumping rate greater than fifty (50) gallons per minute, must be equipped with a flow meter prior to groundwater withdrawal, see Chapter 13 for Rules and Regulations pertaining to flow meters.
- 5.2.11.1** Annual Groundwater use reports are required for wells where flow meters are required, see Chapter 14 for Rules and Regulations pertaining to Annual Groundwater use reports.
- 5.2.12 Permit no exemption from liability** – The issuance of a permit by the District, as provided for in this Rule, should not be construed by the applicant to exempt him or her from any liability which may result from the withdrawal of groundwater.
- 5.2.13 When a water well permit is approved** – When a permit is approved the applicant shall commence construction of the water well as soon as possible after the date of the permit approval. The applicant shall have one (1) year after the permit approval date to complete construction of the well. If the applicant fails to complete the well under the terms of the permit, the District will cancel the permit.
- 5.2.13.1** Within eighteen (18) months after the water well registration filing date with the Department of Natural Resources, the applicant agrees to allow District staff:
- 5.2.13.1.1** to collect a GPS (global positioning satellite) location coordinate of said well;
- 5.2.13.1.2** to collect and analyze a water sample from said well, in order to establish a benchmark nitrate-nitrogen concentration;
- 5.2.13.1.3** to measure the pumping rate from said well under normal operating conditions.

5.2.13.2 The applicant agrees to allow the District to add the approved well or wells to the District's observation well monitoring network for collecting static water level measurement data and water quality data as deemed necessary.

5.2.14 A water well permit issued shall specify all regulations and controls adopted by the District relevant to the construction or utilization of the proposed water well. The District shall transmit one copy of each permit issued to the Nebraska Department of Natural Resources, the permit applicant and the identified well contractor.

5.2.15 If the applicant fails to complete the project under the terms of the water well permit, the District may withdraw the water well permit.

Chapter 6 – Request for Variance well spacing variance, acres irrigated with co-mingled wells variance, and other variances

6.1 Request for a spacing variance – Any person who intends to construct any new or replacement water well(s) or modify an existing water well on land which he or she owns or controls that would meet the criteria set forth in Chapter 5.2.2 & 5.2.8 but is unable to meet the spacing requirements set forth in Chapter 5.2.3 (Spacing of water wells) may apply to the District for a request for a variance. A well permit application shall accompany the request for a variance.

6.1.1 Information required for a spacing variance – An application for a variance shall be made on forms provided by the District. An application for a request for a spacing variance shall include the following:

6.1.1.1 A map or recent aerial photo showing the location of lands and measured distances from the proposed well location to any existing water wells or any non-constructed wells with a valid and approved permit that would be affected.

6.1.1.2 An explanation as to why the variance is needed including:

6.1.1.2.1 How the person making applications for the variance would be affected if the variance is not granted, and

6.1.1.2.2 Alternatives considered, including why each alternative was rejected in lieu of a variance.

6.1.1.3 The name and address of all landowners adjacent to the location of the requested variance.

6.1.1.4 A written waiver of objection signed by all adjacent landowner(s) or water well owner(s) that would be directly affected by the granting of a variance.

6.1.1.5 Any other information the person making the request shall deem relevant.

6.1.1.6 Any other information deemed necessary by the District.

6.1.1.7 A non-refundable application fee (See Appendix B for the fee schedule) payable to the Lewis and Clark Resources District. This fee does not include the well permit fee.

6.1.2 Upon receipt of the application, the District or a committee which has been delegated authority by the Board to approve or deny a variance shall have 60 days to approve or deny the variance.

6.2 Variance request for comingled wells to irrigate more than 160 acres – Any person who intends to construct any new or replacement water well(s) or modify an existing water well on land which he or she owns or controls that would meet the criteria set forth in Chapter 5.2.2 and 5.2.8 but does not meet the requirements of Chapter 5.2.8.3 may apply for a variance.

6.2.1 Information required for a variance to irrigate more than 160 acres with comingled wells – an application for a variance shall be made on forms provided by the District. An application for a variance request to increase acres irrigated by comingled wells shall include the following:

6.2.1.1 A map or recent aerial photo showing the location of acres to be irrigated by the comingled wells.

6.2.1.2 A written explanation of the need to irrigate more than 160 acres with the proposed wells including.

6.2.1.2.1 How the person making application for the variance would be affected if the variance is not granted.

6.2.1.2.2 Alternatives considered, including why each alternative was rejected in lieu of a variance.

6.2.1.3 The name and address of all landowners adjacent to the location of the requested variance.

6.2.1.4 A written waiver of objection signed by all adjacent landowner(s) or water well owner(s) that would be directly affected by the granting of a variance.

6.2.1.5 Any other information the person making the request shall deem relevant.

6.2.1.6 Any other information deemed necessary by the District.

6.2.1.7 A non-refundable application fee (See Appendix B for the fee schedule) payable to the Lewis and Clark Resources District. This fee does not include the well permit fee.

6.2.2 Upon receipt of the application, the District or a committee which has been delegated authority by the Board to approve or deny a variance shall have 60 days to approve or deny the variance.

6.3 Other Variance Requests– any person wishing to conduct activities covered by the Groundwater Quantity Rules and Regulations of the Lewis and Clark NRD but where the activities would not be consistent with the Rules and Regulations must request a variance.

6.3.1 Information required for a variance for other reasons – an application for a variance shall be made on forms provided by the District. An application for a variance request for other reasons shall include the following:

6.3.1.1 A citation of the rules for which the variance is requested.

6.3.1.2 A map or recent aerial photo showing the location of lands and/or water wells that would be affected by the variance, if applicable.

6.3.1.3 An explanation as to why the variance is needed including:

6.3.1.3.1 How the person making applications for the variance would be affected if the variance is not granted; and

6.3.1.3.2 Alternatives considered, including why each alternative was rejected in lieu of a variance.

6.3.1.4 The name and address of all landowners adjacent to the location of the requested variance.

6.3.1.5 A written waiver of objection signed by adjacent landowner(s) or water well owner(s) who would be directly affected by the granting of a variance.

6.3.1.6 Any other information the person making the request shall deem relevant.

6.3.1.7 Any other information deemed necessary by the District.

6.3.1.8 A non-refundable application fee (See Appendix B for the fee schedule) payable to the Lewis and Clark Natural Resources District.

6.3.2 Upon receipt of the application, the District or a committee which has been delegated authority by the Board to approve or deny a variance shall have 60 days to approve or deny the variance.

6.4 Consideration of variance request by the Board of Directors - requests for variance shall be considered by the Board on a case by case basis.

6.4.1 All variance requests must be approved by the Board, unless approval authority has been delegated to a committee by the Board.

6.4.2 When issuing a variance, the District or committee which has been delegated authority by the Board to approve or deny a variance, may include specific conditions which will be required as part of the permitting or drilling process.

6.4.3 Any variance granted under Chapter 6.1, 6.2, or 6.3 will be valid for a period of not more than 180 days from its date of approval. This rule supersedes the one year water well construction period as set forth in Chapter 5.2.13.

6.4.4 The applicant applying for a variance or his or her representative may appear before the Lewis and Clark NRD Board of Directors to present the reasons for the variance request.

6.4.4.1 With prior notification to the District, written testimony may be provided if the applicant cannot be present to meet with the committee.

6.5 Applicant must agree to conditions for granting a variance – If a variance is granted, the grantee may be required to sign an affidavit agreeing to all terms and conditions of the variance.

6.5.1 The District may require the affidavit to be recorded with the Register of Deeds by the District.

6.5.2 The recorded affidavit will be attached to all properties affected by the variance.

Chapter 7 – Enforcement of Rules and Regulations

7.1 Enforcement of these rules and regulations – These rules and regulations will be enforced by cease and desist orders entered by the Board, in accordance with the Nebraska Groundwater Management and Protection Act, and by bringing an appropriate action in the district court in the county where the violation occurs. The matter may be referred to the appropriate County Attorney or Attorney General for criminal and/or civil enforcement.

- 7.2 Appeal** – A person aggrieved by the issuance of a cease and desist order or other decision of the Board concerning a matter contained in these rules and regulations shall have a right to request a formal adjudicatory hearing before the Board.
- 7.3 Situations not covered by these rules and regulations** – The Board may consider situations not covered by these rules and regulations on a case by case basis.
- 7.4 Severability** – If a rule or part of a rule herein is declared invalid or unconstitutional by a state or such declaration will not affect the validity or constitutionality of the remaining rules or portions thereof.
- 7.5 Rules and Regulations not an exemption from state laws** – Nothing contained in these rules and regulations shall exempt a person from the provisions of applicable state laws.
- 7.6** The issuance by the District of a permit pursuant to Neb. Rev. Statute § 46-736 or registration of a water well by the Director of the Department of Natural Resources pursuant to Neb. Rev. Statute §46-602 shall not authorize any person to violate any District rule, regulation, or control in effect on the date of issuance of the permit or the registration of the water well or violate any rule, regulation, or control properly adopted after such date.

Chapter 8 – Level I Groundwater Quantity Management Area Determination and Requirements

- 8.1 Level I Groundwater Quantity Management Area** – Upon establishment of these rules and regulations, the entire District shall be designated as a Level I Groundwater Quantity Management Area.
- 8.2** Any entity which intends to construct any new or replacement water well designed to pump greater than fifty (50) gallons per minute or co-mingle wells for a combined capacity greater than fifty (50) gallons per minute on land which he or she owns or controls in the District shall, before commencing construction, comply with the rules set forth in Chapter 5 – Irrigated Acre Expansion Permits and Water Well Permits.
- 8.3** Agricultural operators are encouraged to use best management practices, irrigation scheduling, and water conserving crops and/or cover crops when managing acres served by ground or surface water irrigation.
- 8.4** Agronomists and crop consultants can provide valuable assistance when identifying potential improvements for groundwater use. Employing the services of a reputable agronomist or crop consultant is recommended.

Chapter 9 – Level II Groundwater Quantity Area – Determination and Requirements

- 9.1** The District may initiate Level II Groundwater Quantity Management Area actions when the determination of District Groundwater Levels indicates the static water level elevation has dropped below 1991 groundwater levels for a two consecutive year period using spring water level readings. When this trigger is actuated, the NRD will take the actions listed in Chapter 9.2.

In areas not sufficiently represented by observation wells – if the staff and Board becomes aware of areas experiencing groundwater level decline, the areas will be further evaluated and a Level II designation may be made if deemed necessary by the staff and Board of Directors. When this trigger is actuated, the NRD will take the actions listed in Chapter 9.2.

Flexibility is built into the triggers because of the complex hydrogeology of the District. The current triggers may be too protective in some areas and may under-protect other areas. As knowledge of the District's hydrogeology increases, the triggering mechanisms will be modified to improve the effectiveness of our groundwater quantity protection efforts. The Lewis and Clark NRD will develop unique triggers and actions for different regions of the District as more local hydrogeologic information becomes available.

9.2 When the triggers in Chapters 9.1 are actuated the following actions will be implemented:

9.2.1 Increase the number of wells monitored in the area to determine the extent of the problem, and to serve as a base line for determining if the area included in the Level II area should be modified and to obtain the hydrogeologic information necessary to delineate the Level II GWQMA. The intensified monitoring program described below applies to the entire District. The actual monitoring program for each problem area may vary according to the local hydrogeologic characteristics of the area.

9.2.2 The District will determine an initial area to be monitored. The shape and size of the area will change as more information is gathered. A minimum area of 9 square miles will be monitored.

9.2.3 The minimum number of monitoring sites will be approximately 50% of the number of registered irrigation wells in the area that are suitable for use as groundwater level observation wells (taking into account criteria such as quality of well construction, total well depth and screened intervals). The District will also consider using registered industrial, livestock, monitoring, observation, public water supply, and domestic wells that would be suitable as monitoring sites.

9.2.4 When deemed necessary by the LCNRD Board of Directors and staff, a localized groundwater model will be developed to further delineate the area to be monitored.

9.2.5 Install dedicated observation wells as deemed necessary to collect additional geologic and static water level data.

9.3 All Level I Groundwater Quantity Management Area Requirements as set forth in Chapters 8 shall apply.

9.4 All new permitted wells approved and constructed may be added to the District's observation well network if deemed necessary.

9.5 End Gun Use in Designated Level II Areas

9.5.1 End guns are not allowed on any irrigation system installed as part of a new well permit or as a method to expand irrigated acres.

9.5.2 In order to conserve water, end gun use is strongly discouraged on any existing or replacement wells and irrigation systems.

9.6 Flow Meters in Designated Level II Areas

9.6.1 All new permitted wells pumping greater than fifty (50) gpm, and existing wells and well series pumping greater than fifty (50) gallons per minute serving locations where corner systems are used; are required to have a fully functioning flow meter installed.

9.6.2 See Chapter 13 for rules and regulations pertaining to flow meter requirements.

- 9.6.3** Total annual groundwater withdrawal reports will be required by December 31st each year as detailed in Chapters 9.9 and 14.
- 9.6.4** All existing wells pumping greater than fifty (50) gpm (not serving corner systems) are strongly encouraged to install a flow meter.
- 9.6.5** Cost share may be provided by the District to assist with the costs associated with flow meter purchase and/or installation.

9.7 Groundwater use prohibited for irrigation purposes after October 1st each year.

- 9.7.1** The use of groundwater for irrigation is prohibited after October 1st of each year unless the purpose is to start a cover crop or wheat.
- 9.7.2** If there is a valid reason, other than cover cropping, or wheat establishment, to irrigate after October 1st approval from the LCNRD must be granted prior to irrigating.

9.8 Irrigation Management following Level II GWQMA designation

- 9.8.1** In the first year following Level II GWQMA designation, all irrigation users withdrawing groundwater from the established Level II area are strongly encouraged to evaluate the groundwater use efficiency of the well and irrigation system applying water withdrawn from the designated area. This evaluation may include, but is not limited to, analysis of nozzling options, evaluation of pump efficiency, leak identification, and system efficiency. Groundwater users are strongly encouraged to implement the identified mechanisms to improve groundwater use efficiency.
- 9.8.2** All irrigation users within the established Level II GWQMA are strongly encouraged to evaluate crop water use requirements vs. precipitation and groundwater use for the crop year. If discrepancies exist in water use amounts, landowners are strongly encouraged to modify groundwater use to match crop water use recommendations. Groundwater users are strongly encouraged to adopt the identified modifications.
- 9.8.3** All irrigation users are strongly recommended to implement irrigation management tools and irrigation scheduling to improve groundwater use efficiency. The District may provide cost share to assist landowners with the cost of implementing approved methods of irrigation management.

9.9 Groundwater use reports required - All groundwater users within the established Level II area are required to submit total annual water use reports by December 31st each year.

- 9.9.1** For wells where flow meters are required by Chapter 9.6, total groundwater withdrawal must be reported, including readings from the flow meter, crop irrigated, and other information as deemed necessary by the District, on forms provided by the NRD.
- 9.9.2** For wells where a flow meter is not installed, flow may be determined using an ultrasonic flow meter. Groundwater withdrawal, crop irrigated, and other information as deemed necessary by the District, must be reported on forms provided by the NRD.
- 9.9.3** 10% of wells in the Level II area will be checked for reporting accuracy each year.

- 9.9.4** Following the first year of Level II GWQMA designation, groundwater users will be asked to report identified water use inefficiencies of the well and/or irrigation system located in the designated area according to Chapter 9.8.
- 9.9.5** Following the second year of Level II GWQMA designation groundwater users will be asked to report changes implemented on wells and/or irrigation systems to improve water use efficiency in the designated area according to Chapter 9.8.
- 9.9.6** The District will report the groundwater use per acre, per crop in the designated area following receipt of annual withdrawal reports.
- 9.9.7** See Chapter 14 for additional groundwater use report requirements.
- 9.10** Level II Rules and Regulations will remain in effect until conditions improve and they are dissolved by the Board.

Chapter 10 – Level III Groundwater Quantity Management Area – Determination and Requirements

- 10.1** Level III Groundwater Quantity Management Area (GWQMA) – The District may initiate the following actions when spring water level readings, following the second year of Level II designation, have not raised above the Level II trigger point in the LCNRD observation wells identified in Chapter 9. Level III designation may also be actuated if there is sufficient evidence the health of the aquifer is at risk due to in season irrigation pumping. When either of these triggers is actuated, all or part of the Level II area will be designated a Level III GWQMA and the NRD will take the following actions:
- 10.2** All Level I Groundwater Quantity Management Area Requirements as set forth in Chapter 8 and all Level II Groundwater Quantity Management Area Requirements as set forth in Chapter 9 shall apply unless superseded by requirements in Chapter 10.
- 10.3** A Level III Groundwater Quantity Management Area can only be designated from all or a portion of a previously designated Level II GWQMA if aquifer conditions indicate the affected area is greater than the Level II GWQMA and the area is adjacent to the existing Level II area, the area identified can be designated a Level III GWQMA without first being designated a Level II GWQMA.

10.4 Flow meters required.

- 10.4.1** All permitted wells pumping greater than fifty (50) gpm are required to have a fully functioning flow meter installed.
- 10.4.2** See Chapter 13 for Rules and Regulations pertaining to flow meters.
- 10.5** **The closure to the issuance of any new well permits** will be in effect for the entire Level III area.
- 10.6** Annual groundwater use allocations as determined by the NRD Board of Directors and set forth by Chapters 15, 16, and 17 of these rules and regulations will be in effect.
- 10.7** Replacement wells will be allowed, however the replacement well cannot be designed to pump greater than the registered pumping capacity of the original well.
 - 10.7.1** Replacement wells must follow all Chapter 5 rules.

- 10.7.2** A replacement well can be relocated out of a Level III GWQMA into a lesser Level area however Level III rules remain in effect on the replacement well until the Level III Area is dissolved by the District.

10.8 Level III rules will remain in effect until the Level III area is dissolved by the Board of Directors.

Chapter 11 – Groundwater Transfer

11.1 On or after the effective date of these rules and regulations a person who intends to transfer groundwater from an overlying tract, shall apply for a transfer authorization on forms provided by the District.

- 11.1.1** A non-refundable application fee (See Appendix B – Fee Schedule) payable to the District shall accompany all requests for groundwater transfer to cover costs associated with its review.

11.2 Transfers for Agricultural Users - The District will consider a request for a groundwater transfer by an Agricultural User as defined in Chapter 4, when the following criteria are met:

11.2.1 groundwater transfer will not significantly adversely affect any other water user;

11.2.2 groundwater transfer is consistent with all applicable statutes and District rules and regulations, including criteria to review new water well permit applications of Chapter 5.2.6 and irrigated acre expansion of Chapter 5.1.3 in order to evaluate aquifer characteristics and soil capability class and slope suitability for irrigation with the best information available.

11.2.3 will only be considered if the well where withdrawal will occur is/will be registered and the registered well has complete well construction records on file with DNR for review.

11.2.4 the total transfer from the source tract shall not apply groundwater to more than one-hundred sixty (160) acres on the receiving tract and no more than a combined total of 320~~e~~ acres between the source track and receiving track.

11.2.5 the location and use of the water and any pipeline or other means of conveyance are authorized by easement or other adequate property interest on all land on which such water well and pipeline or other means of conveyance are located.

11.2.6 is in the public interest.

11.3 The withdraw and transfer of groundwater within the District for the sole purpose of providing water to range livestock does not require a transfer permit as long as the following conditions are met:

- 11.3.1** the capacity of the water well or series of water wells connected together for such purposes does not exceed fifty (50) gallons per minute.

11.4 New transfer of groundwater is prohibited when allocation has been established.

11.5 Nothing in Chapter 11 shall exempt a person from the provisions of applicable state laws regarding groundwater transfers.

11.6 The following types of transfers are exempt from Chapter 11:

- 11.6.1** Groundwater transfers authorized by municipalities.

11.6.2 The physical transfer of groundwater within the same government survey section, as long as the conditions of Chapter 5.1 and 5.2 are met and the applicant is in compliance with all other rules and regulations of the Lewis and Clark NRD.

11.7 The District may revoke a groundwater transfer authorization if the Groundwater User does not comply with the provisions of Chapter 11 including any conditions placed on the groundwater transfer authorization at the time of issuance.

Chapter 12 – Certification of Groundwater Use Acres and Water Well Use

12.1 After the effective date of these Rules and Regulations, except as otherwise provided herein, no acres will be irrigated with groundwater unless those acres have been certified for irrigation by the LCNRD. Any irrigated acres that are not certified on or before December 31, 2017, or later date if deemed necessary by the Board, will not be allowed to have groundwater applied to them for any purpose, unless an application is made and approved according to Chapter 5.1 to expand irrigated acres. Groundwater use Acre Certification and water well use must meet the following requirements:

12.1.1 Acres that have been irrigated at least (1) time during the growing season between the calendar years of 2004 and 2014 shall receive full certification credit and will be certified provided documentation described in Chapter 12.1.5 is provided as required.

12.1.2 Acres that were irrigated prior to 2004 will not be considered for certification except for those cases detailed in Chapter 12.1.3.

12.1.2.1 Acres that have not been irrigated between 2004 and 2014, and do not meet the criteria in Chapter 12.1.3 must make an application to expand irrigated acres (Chapter 5.1) for those acres to be considered for certification by the Board.

12.1.3 Acres with documented irrigated history but currently enrolled with the Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Environmental Quality Incentive Program (EQIP) or other federal, state or local conservation program that would prevent the landowner from irrigating, as described by Chapter 12.1.1 shall receive 100 % certification for the total amount of irrigated acres should they choose to proceed with the certification process with the following conditions:

12.1.3.1 Acres must be certified by December 31, 2017 or date approved by the Board.

12.1.3.2 Proof of historical use shall be by submission of information specified in Chapter 12.1.5 and had the means to irrigate during that time period.

12.1.4 Acres irrigated by multiple water sources may not be duplicated and certified with each source in the acre certification process. Each acre will have only one primary source of irrigation although each well used to irrigate the acres must be identified on the certification.

12.1.5 For acres to be certified the following information is required:

12.1.5.1 on forms provided by the District to be completed and signed by the landowner or power of attorney in order to complete the certification process:

12.1.5.1.1 Landowner contact information.

12.1.5.1.2 Operator contact information.

- 12.1.5.1.3** Location of historically irrigated acres by legal description to the nearest quarter section and outlined on a map or recent aerial photo
- 12.1.5.1.4** The total number of historically irrigated acres.
- 12.1.5.1.5** The last calendar date of active irrigation.
- 12.1.5.1.6** The DNR registration number(s) of any groundwater wells(s) associated with the irrigation of the land to be certified with the primary well for irrigation of the acres specified.
- 12.1.5.1.7** Identification of any other sources of irrigation water other than groundwater.
- 12.1.5.1.8** If relevant, documented proof of enrollment in any local, state, or federal conservation programs as described in Chapter 12.1.3.
- 12.1.5.1.9** Any other information requested by the District.
- 12.1.5.2** The following documentation of historical irrigation is required:
 - 12.1.5.2.1** A copy of the most recent property tax statement, or other documentation from the county assessor showing irrigated acres, or certification of irrigated acres from the Farm Service Agency (FSA) must be attached
 - 12.1.5.2.1.1** A person can grant approval to allow the NRD access to irrigated acre information from FSA.
 - 12.1.5.2.2** For tax exempt groundwater use acres, the groundwater user shall provide available documentation as deemed necessary by the District.
- 12.1.5.3** Updated well registration with the Nebraska Department of Natural Resources (DNR) indicating current ownership and accurate acre assessment of the irrigation well based on District acre certification.
- 12.1.5.4** Any other information deemed necessary by the District.
- 12.2** Certification of irrigated acres will be complete upon submission to the District of the following items:
 - 12.2.1** Completed District provided certification form.
 - 12.2.2** Property tax statement or FSA irrigated acre certification showing irrigated acres.
 - 12.2.2.1** The Board will certify tax exempt groundwater use acres based on available information.
 - 12.2.3** Updated well registration with the Nebraska Department of Natural Resources indicating current ownership and accurate acre assessment of the irrigation well based on District acre certification.
- 12.3** The Board may consider adjustment to certified groundwater use acres based on evidence presented by the groundwater user.

- 12.4** The Board will consider new requests for certification of groundwater use acres at each monthly Board meeting.
- 12.5 Pooling of certified groundwater use acres for irrigated acre purposes** – The certified groundwater use acres which are under the control of two or more agricultural users served by the same water well shall be pooled unless the groundwater withdrawn by each agricultural user is measured by a different flow meter.
- 12.5.1** The pooling agreement shall designate the water well(s) and groundwater use acres included in the pool. The pooling agreement shall also designate the person(s) responsible for all reporting of groundwater withdrawal and other information required by the District should allocation or reporting be required.
 - 12.5.2** A new pooling agreement or amendments to an existing pooling agreement must be submitted to the District by March 1st prior to the commencement of the irrigation season
 - 12.5.3** All agricultural users with groundwater use acres included in the pooling agreement must sign the agreement.
 - 12.5.4** Certified groundwater use acres which have exhausted their allocation shall not be added to a pooling agreement.
- 12.6 Municipal users must report** – By December 31, 2017, or date designated by the Board, a municipal user must report the following information to the District
- 12.6.1** The water wells operated by the municipal user.
 - 12.6.2** The total acreage within the municipal jurisdictional limits.
 - 12.6.3** Any acreage outside the municipal jurisdictional limits served by the municipal water supply system.
 - 12.6.4** The municipality's population according to the most recent federal census.
 - 12.6.5** The number of people served by the municipal water supply system.
 - 12.6.6** The number of service connections served by the municipal water supply system.
 - 12.6.7** Any other information deemed necessary by the District.
- 12.7 Other groundwater users must report** – By December 31, 2017, or date designated by the Board, other groundwater users must report the following information to the District if the well(s) is rated to remove more than fifty (50) gallon per minute:
- 12.7.1** The water wells under the user's control.
 - 12.7.2** The purpose of the groundwater withdrawal.
 - 12.7.3** Historic annual groundwater withdrawal, if known.
- 12.8** Groundwater user must report changes in information – A groundwater user must report any changes or additions to the information required in this Chapter within sixty (60) days.

- 12.9** Penalty for failure to report – The failure to report any information required by this Chapter may result in the issuance of a cease and desist order denying the withdrawal of groundwater or such other penalties as the Board determines.

Chapter 13 – Water Measurement and Flow Meter Requirements

- 13.1 Flow meter required** – Any new, replacement, or existing, water well designed and constructed to pump greater than fifty (50) gallons per minute, or existing water wells modified to pump greater than fifty (50) gallons per minute, or water wells combined in some way to pump greater than fifty (50) gallons per minute, must be equipped with a flow meter prior to groundwater withdrawal: if any of the following conditions are met:
- 13.1.1** Well construction was approved on or after the effective date of these rules and regulations.
 - 13.1.2** It is an existing water well located within a designated Level II, Chapter 9, or Level III, Chapter 10, Groundwater Quantity Management Area and meets requirements as outlined in those chapters.
 - 13.1.3** Allocations become effective as outlined in Chapters 15, 16 and 17.
 - 13.1.4** Any entity with an approved permit that owns or controls land upon which a water well is proposed to be constructed or groundwater withdrawal is increased as provided in Chapter 5.2.7 (More than 500 acre feet withdrawal (which = 310 gpm for 24 hours/day, 365 days/year)).
- 13.2** Groundwater withdrawal measured from connected wells – Groundwater withdrawals from water wells that are connected by a common pipeline may be measured by the use of one flow meter, provided the total groundwater withdrawal is measured.
- 13.3** All flow meters installed must be approved – Any flow meter installed to comply with these rules must be selected from a list approved by the District, and must meet or exceed the following minimum specifications, except for public water supply wells regulated under the Nebraska Department of Health and Human Services Title 179, Chapter 22.
- 13.3.1** The District will maintain a list of flow meter models and/or brands approved for use in the District for the purposes of this Rule which meet or exceed the following specification. This list may be viewed in the District office at 608 North Robinson Ave, Hartington, Nebraska or available on the LCNRD website at www.lcnrd.org.
 - 13.3.2** The meter manufacturer must have detailed written instructions for the installation and operation of the flow meter and for the frequency and methods for maintaining the flow meter.
 - 13.3.3** Flow meters must be accurate to within plus-or-minus two percent (+/- 2%) of the flow meter reading.
 - 13.3.4** Flow meters shall have a clearly readable display to quantify the flow rate of groundwater through the meter at any time, and shall measure the flow rate in units of gallons or acre inches.
 - 13.3.5** Flow meters shall have a clearly readable indicator to record and display the total volume of groundwater withdrawal, which shall measure in units of gallons or acre-inches, and shall

clearly and visibly display any multiplier needed to convert the meter reading to the correct total volume of groundwater withdrawal. The totalizer shall be non-resettable.

- 13.3.6** Each flow meter totalizer shall have sufficient range to record the total volume of water expected to be withdrawn over at least a one year period.
- 13.3.7** Flow meters shall be installed and calibrated to pipe size so the expected flow rate and pressure are within the manufacturer's design parameters for the flow meter. The meter size, serial number and the direction of flow shall be clearly stamped on the body of the meter. The inside pipe diameter for which the meter has been calibrated shall be clearly shown on the meter to the nearest 0.001 of an inch.
- 13.3.8** Flow meters, especially the register and meter head, shall be protected from the weather, livestock and other potential sources of damage to the meter.
- 13.3.9** Flow meters must be installed according to manufacturers' specifications to ensure accurate operation.
- 13.3.10** The District will consider approval of flow meters installed prior to the implementation of these rules and regulations on a case by case basis.
- 13.4** Reporting flow meter installation – The groundwater user shall report the installation of a water flow meter within thirty (30) days after installation.
- 13.5** Reporting malfunctioning meters – A malfunctioning flow meter must be reported to the District within twenty-four (24) hours after discovery.
- 13.6 Flow meter maintenance and repair** –The District may inspect flow meters for proper installation and operation.
 - 13.6.1** The groundwater user shall be responsible for maintenance, repair and/or replacement of a malfunctioning flow meter or improperly installed flow meter.
 - 13.6.1.1** Maintenance must be done according to the schedule recommended by the manufacturer. If the manufacturer does not have written recommendations for maintenance, the NRD will determine an appropriate maintenance schedule.
 - 13.6.2** Records of the flow meter readings must be kept by the groundwater user when a flow meter is removed for off site service or replacement.
 - 13.6.3** When a flow meter is removed for repair at a time when the groundwater user desires to withdraw groundwater, a temporary flow meter may be installed.
 - 13.6.3.1** District approved methods of determining groundwater consumption may be used if a flow meter is not available or cannot be readily installed when repairs are necessary.
 - 13.6.3.2** The flow meter must be replaced no later than the next groundwater use season.
 - 13.6.4** The flow meter service provider shall certify in writing that a flow meter meets the manufacturer's specifications following repairs or calibration.
 - 13.6.4.1** The groundwater user shall provide the District with a copy of the certification.

- 13.7** Sealing of flow meters – Flow meters may be sealed by the District to prevent tampering.
- 13.7.1** The District may consider whether or not to seal a flow meter when circumstances indicate doing so may cause unnecessary inconvenience for the groundwater user or the District.
- 13.7.2** Removal of a seal must be approved – The seal on a flow meter shall not be removed without prior approval of the District.
- 13.8** Random inspection of flow meters – the District shall have access at all reasonable times to randomly inspect installed flow meters.
- 13.9** A flow meter may be removed for off season storage, where applicable.
- 13.9.1.1** In order to prevent groundwater contamination when a flow meter is removed, the pipe opening must be covered in such a manner as to provide a water tight seal.
- 13.10** Penalty for failure to comply – A groundwater user that fails to report, or falsely reports groundwater withdrawal, removes a seal from a flow meter, damages or interferes with the operation of a flow meter, neglects to perform required maintenance, or allows another person to do so, shall be:
- 13.10.1** Subject to cease and desist of groundwater use until requirements for flow meter operation, use, and/or reporting are met in situations where a flow meter is required.
- 13.10.2** Subject to forfeiture of allocation or other penalty as the Board so determines, if the well is located in an area where a Level III Groundwater Quantity Management Area has been designated.
- 13.11** Variances will be considered – The District will consider variances in instances where Nebraska Department of Health and Human Services regulations governing public water supply systems conflict with these rules and regulations.

Chapter 14 – Annual Groundwater Use Reports

- 14.1** **Groundwater use reports** for wells where flow meters are required by Chapter 5.2.11.
- 14.1.1** Groundwater use reports are required for all wells and replacement wells constructed after June 1, 2014 as outlined in Chapter 5.2.11.1.
- 14.1.2** Groundwater use reports are required for wells located within a designated Level II or Level III Groundwater Quantity Management Area, as outlined in Chapter 9 and 10.
- 14.2** By December 31st of each year, all agricultural groundwater users shall report the groundwater withdrawal from each water well, where a flow meter is required, for the calendar year.
- 14.2.1** Groundwater use reports will be required each subsequent year by December 31st where flow meters are required.
- 14.3** By December 31st of each year, all municipal users and each other user shall report the groundwater withdrawal from each water well for the calendar year.

14.3.1 Groundwater use reports for municipal and other users wells located where Level II or III GWQMA's have been designated will be required each subsequent year by December 31st, until the Level II or Level III GWQMA is dissolved by the District.

14.3.2 All new and replacement municipal or other groundwater user wells developed after the effective date of this plan are required to submit an annual use report by December 31st each year.

Chapter 15 – Allocation to Agricultural Users – Following Level III GWQMA Designation

15.1 Amount of groundwater allocated – The allocation for the first groundwater use period (3 yrs) in a Level III GWQMA will be set after considering: (1) the relationship between groundwater wells within the subarea; (2) whether groundwater levels are declining; (3) historical irrigation use as established in Level II; and (4) such other factors as the Board determines may be relevant to the appropriate amount of water to be withdrawn. The first allocation will be set no lower than 36 acre inches for the groundwater use period and will be established by September 1st prior to the first year of the groundwater use period.

15.1.1 The new allocation will be set by amendments to these rules and regulations in accordance with the requirements of state law.

15.2 Next allocation set by the Board – The Board will set a new allocation for the next groundwater use period by September 1st prior to the end of the previous groundwater use period.

15.2.1 The new allocation will be set by amendments to these rules and regulations in accordance with the requirements of state law.

15.3 Carry-over of an unused portion of an allocation is not allowed.– When an agricultural user does not withdraw all of his or her allocation of groundwater during a groundwater use period, the unused portion cannot be carried over to the next groundwater allocation period.

15.4 Groundwater withdrawn in excess of agricultural user's allocation – Groundwater withdrawn in excess of agricultural user's allocation shall be deducted from his or her next groundwater use period allocation.

15.5 Transfer of groundwater use acres to a different groundwater user – When the control of certified groundwater use acres is transferred to a different agricultural user during a groundwater use period, the remaining allocation balance for said acres shall also be transferred to the new agricultural user.

15.5.1 If the groundwater use acres are in a pooling agreement, the affected agreements must be amended as provided in Chapter 12.

15.6 Acres Reduction Variance – A groundwater user may request that the District use a reduction in groundwater use acres as an alternative to groundwater allocation. The Board may consider such requests on a case by case basis.

Chapter 16 – Allocation to Municipal Users – Following Level III GWQMA Designation

16.1 Allocation for municipal user shall be established for the first groundwater use period (3 years) will be set after considering:

16.1.1 the relationship between groundwater wells in the subarea;

- 16.1.2** whether groundwater levels are declining;
 - 16.1.3** historical municipal use as established during the Level II designation;
 - 16.1.4** population census will be used to determine the total capita for estimating use;
 - 16.1.5** other factors the board determines necessary.
- 16.2** Conservation procedures required – By March 1st after implementation of this Rule, the municipal user shall submit to the District an adopted administrative procedure that allows the municipal user to require water conservation practices and restrict the water use of its customers.
- 16.2.1** The municipal user shall provide the District documentation of such passed ordinances and/or resolutions.
- 16.3** Conservation education required – By March 1st after implementation of this Rule, the municipal user shall submit to the District, a conservation information and education plan designed for its customers and begin implementation of the plan.
- 16.4** Population census used to determine total capita use – The most recent population census information available from the United States Bureau of Census will be used to determine total capita groundwater use.
- 16.4.1** When a municipal user provides evidence that it delivers water to persons that have not been counted as part of the most recent census or to lands that had not previously been considered, the District shall make adjustments to the municipal user's allocation to compensate for these added water requirements.
- 16.5** Exempted groundwater uses – Groundwater used for fire protection, water and sewage system maintenance, construction and repairs shall not be considered when calculating annual groundwater withdrawal.
- 16.5.1** The municipal user shall provide documentation estimating such uses.
 - 16.5.2** The District shall consider other exemptions on a case by case basis when requested.
- 16.6** A municipal user must report other users which are supplied groundwater – A municipal user shall report to the District any other user, as described in Chapter 4.20, which is served by its water system.
- 16.6.1** Groundwater delivered to the other user shall not be considered part of a municipal user's allocation.
- 16.7** Allocation adjustments – When a municipal user provides evidence that it has begun to serve additional people and/or land, the allocation for these people and/or land, during a groundwater use period shall be based on the actual remaining part of the groundwater use period in which groundwater withdrawal is expected to occur.
- 16.8** Carry over of unused portion of an allocation – When a municipal user does not withdraw all of its allocation of groundwater during a groundwater use period, the unused amount shall be added to the next groundwater use period allocation.

16.8.1 The maximum accumulated carry over shall not exceed one-third ($\frac{1}{3}$) of the allocation amount for the current allocation period.

16.9 Groundwater withdrawn in excess of municipal user's allocation, groundwater withdrawn in excess of municipal user's allocation shall be deducted from its next groundwater use period allocation.

16.10 Next allocation set by the Board – The Board will set a new allocation for the next groundwater use period by September 1st prior to the end of each groundwater use period.

16.10.1 The new allocation will be set by amendments to these rules and regulations in accordance with the requirements of state law.

Chapter 17 – Allocation to Any Other Users - Following Level III GWQMA Designation

17.1 Allocation for other users – Any other user shall limit his or her groundwater withdrawal during the groundwater use period to one hundred (100) percent of his or her withdrawal for the three (3) year period prior to the first groundwater use period.

17.2 New or modified operations requiring additional groundwater – If, at any time, any other user desires to start a new operation or modify an existing operation that will require a new or additional allocation, he or she shall request such an allocation. The request shall include:

17.2.1 The quantity of groundwater desired annually.

17.2.2 The purpose for which the groundwater is to be used.

17.2.3 An explanation of operation methods, including water conservation features, for that type of water use.

17.2.4 An estimate of the water use per unit of production, if applicable.

17.2.5 Other information requested by the District.

17.3 Next allocation set by the Board – The Board will set a new allocation for the next groundwater use period by September 1st prior to the end of each groundwater use period.

17.3.1 The new allocation will be set by amendments to these rules and regulations in accordance with the requirements of state law.

17.4 Carry-over of unused portion of an allocation is not allowed – When another user does not withdraw all of his or her allocation of groundwater during a groundwater use period, the unused amount cannot be added to his or her next groundwater use period allocation.

17.5 Groundwater withdrawn in excess of other user's allocation – Groundwater withdrawn in excess of another user's allocation shall be deducted from his or her next groundwater use period allocation.

17.5.1 The total additional amount of groundwater withdrawn after the implementation of this Rule shall not exceed one-fifth ($\frac{1}{5}$) of the allocation for the current groundwater use period.

17.6 Transfer of groundwater withdrawal to a different groundwater user – When the control of another user's withdrawal is transferred to a different groundwater user during a groundwater use period, the

remaining allocation balance for the groundwater use period shall also be transferred to the new groundwater user.

Chapter 18 – Level III GWQMA Groundwater Wells and Irrigated Acre Stay of Development

- 18.1** In a Level III Water Quantity Sub-Area the board shall issue a stay on well permits, well construction, and expansion of irrigated acres with the following exceptions.
- 18.1.1** Well construction stays shall be selective as to groundwater use but will comply with State Statute 46-613 concerning groundwater preference of use.
 - 18.1.2** All stays will be in effect until Level III GWQMA designation is dissolved by the Board of Directors.
 - 18.1.3** Upon decision of the Board of Directors that a stay on new well construction and/or expansion of irrigated acres shall be implemented, notice of such stay shall be provided by publication once each week for three consecutive weeks in at least one newspaper of local circulation.
 - 18.1.4** No new well permits or expansion of irrigated acre permits shall be issued for the selected groundwater use(s) immediately upon Board decision that a stay on well construction and/or irrigated acre expansion will be implemented.
 - 18.1.5** Construction of any new well shall be prohibited on the effective date of Level III designation unless construction had commenced prior to that publication date. This restriction shall apply even if a well permit had been issued by the District prior to the implementation of a stay.
 - 18.1.6** Expansion of irrigated acres shall be prohibited on the effective date of Level III designation.
 - 18.1.7** Certification of irrigated acres shall be accomplished following procedure outlined in Chapter 12.
- 18.2** Before stays are enacted the District shall conduct two public meetings to offer statements on the need and to accept testimony from the public.

Chapter 19 – Wellhead Protection Areas

- 19.1** Every public water supply system well field within the District has a Nebraska Department of Environmental Quality delineated Wellhead Protection Area map. The District will provide technical and cost-share assistance (when feasible) as requested and necessary to protect the water quality and quantity of each system within the District.

Chapter 20 – Angled and Horizontal High Capacity Wells

- 20.1** Well permit applications received for angled or horizontal high capacity wells may be subject to analysis by a consulting engineering firm to determine potential impacts to other groundwater users.

Lewis and Clark NRD Irrigated Acre Expansion and Well Permit Ranking Methodology

Appendix A

Well/Groundwater Ranking Methodology

Goal: To continue to allow high capacity well development without creating impacts, conflicts or interference with neighboring water well users. Wells developed in sands and gravels will be ranked using the following criteria.

Permit applications for wells proposed in the Niobrara or Dakota Formations will consider the well density within 6,000 feet of the proposed well (Steps 3, 4, and 5) and determine whether there is a potential impact to the existing groundwater uses. Test pumping results will be reviewed for wells proposed in the Niobrara Formation. A water quality test is required for wells proposed in the Dakota Formation.

Main Criteria

1. Thickness of Primary Aquifer Formation
2. Calculated Transmissivity
3. Irrigation Well Density
4. Public Water Supply Well Density
5. Domestic, Livestock & “Other” Well Density
6. Irrigation Best Management Practices
 - a. Soil Moisture Monitoring Equipment

1. Thickness of Primary Aquifer Formation

- a. 1 point for each foot of primary aquifer thickness beginning with 0 points at 10 feet of thickness.
- b. Example – 18 feet of aquifer thickness equals 8 points (18ft – 10 ft).
- c. Maximum point value of 100.

2. Calculated Transmissivity

- a. The testhole log submitted will be reviewed and scored by comparing the testhole geologic entry to the estimated equivalent hydraulic conductivity table based upon work at the University of Nebraska Conservation and Survey by E.C. Reed and R. Piskin. (see Appendix A – Hydraulic Conductivity Table).
- b. The hydraulic conductivity value for each geologic entry is then multiplied by the number of feet of thickness of the material as shown in the equation.
 - i. $T = K * b$ (1)
where T = transmissivity, gpd/ft
 K = hydraulic conductivity, ft/day
 b = saturated thickness, ft
- c. The corresponding “T” values for each layer of material are then added together and multiplied by 7.48 gal/ft³ to get T_{eff} , the effective transmissivity.
- d. 1 point is scored for each 1,000 gpd/ft of transmissivity rounded to the nearest integer.
- e. Maximum point value of 100.

3. Irrigation Well Density

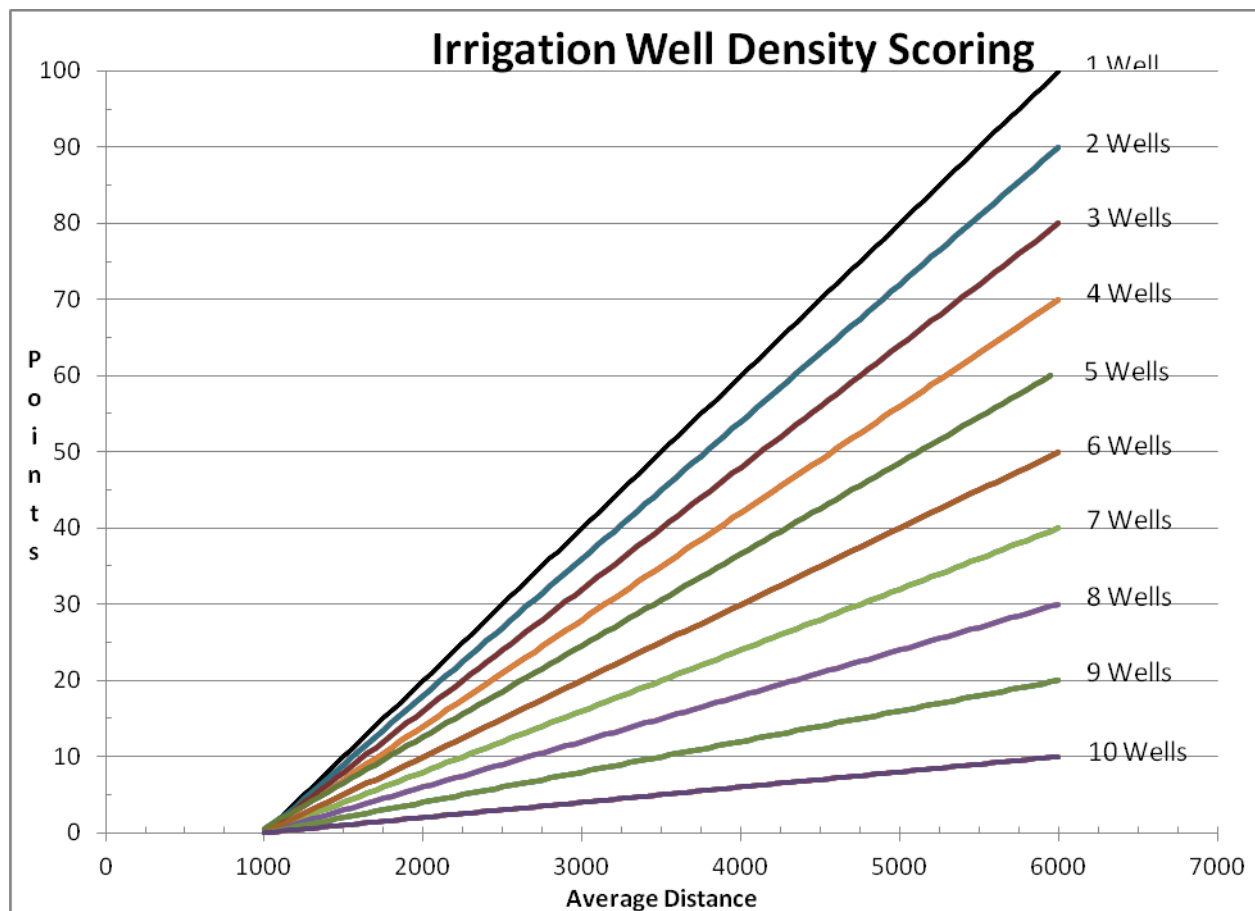
- a. The irrigation well density is the distance away from the proposed irrigation well in relation to all other irrigation wells located within a 6,000 foot radius. The point value is calculated using the following equation:

$$\text{i. Points} = [0.02 - [(n - 1) * (0.002)] * d - (22 - (2 - n))] \quad (2)$$

where n = number of irrigation wells

d = average distance of all irrigation wells within 6,000 feet

- ii. As the number of wells increases the maximum total point value decreases by 10 points for each additional well within the 6,000 foot radius
- iii. Maximum point value of 100 and minimum point value of 0
- iv. A zero point score is automatically assigned for 11 or more neighboring irrigation wells within the 6,000 foot radius
- v. Graphical representation of Equation (2)



4. Public Water Supply Well Density

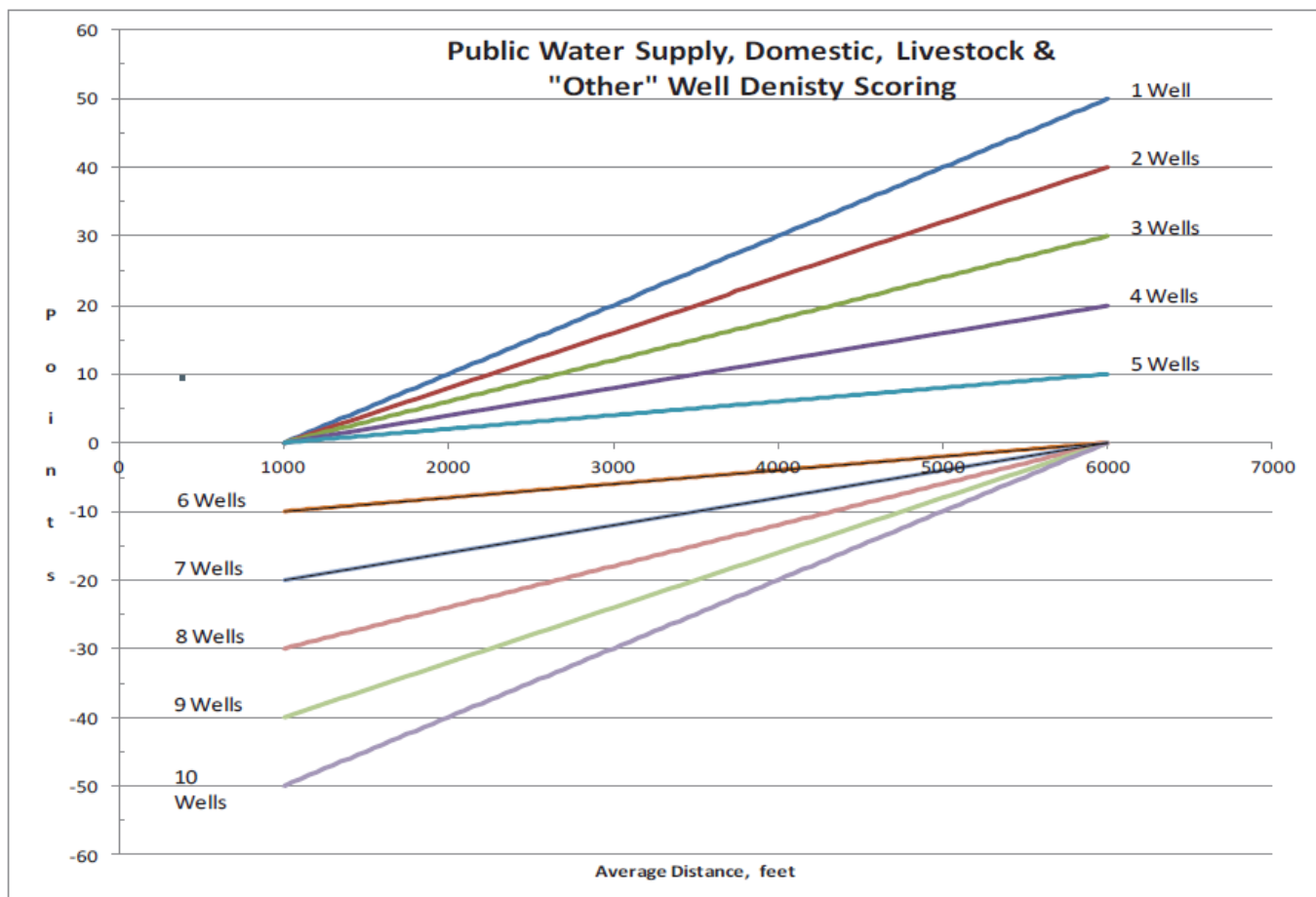
- a. The public water supply well density is the distance away from the proposed irrigation well in relation to public supply wells located within a 6,000 foot radius. The point value for 1 to 5 public water supply wells located within a 6,000 foot radius is calculated using the following equation:

$$\text{i. Points} = [[0.01 - [(n-1) * (0.002)]] * d - (12 - (2 * n))] \quad (3)$$

Where n = number of public water supply wells

d = average distance of all public water supply wells within a 6,000 foot radius

- ii. As the number of wells increases the maximum total point value decreases by 10 points for each additional well within the 6,000 foot radius
- iii. Maximum positive point value of 50
- b. The point value for 6 or more public water supply wells located within a 6,000 foot radius is calculated using the following equation:
 - i. $\text{Points} = [0.002 * (n - 5) * (d)] - (12 * (n - 5))$ (4)
Where n = number of public water supply wells
d = average distance of all public water supply wells within a 6,000 foot radius
 - ii. Maximum negative point value of 50
 - iii. Graphical representation of Equations (3) and (4)



5. Domestic, Livestock, and "Other" Well Density

- a. The domestic, livestock and "other" well density is also calculated using equations (3) and (4) in the public water supply well density.

Following is an example worksheet on how a well permit application would be scored according to the above methodology.

Example Data

Testhole Log

Material	From, ft	To, ft	K	T
Top soil	0	2		
Fine sand, tan	8	34		
Sand with clay/silt, brown	34	50		
Sand fine-medium, brown	50	54	53	212
Sand medium-course, tan	54	82	74	2072
Sand, with clay	82	104	6	132
Clay, yellow	104	120		

$T_{\text{effective}}$ in gpd/ft = 18,072

Ranking System Worksheet

Criteria	Maximum Points	Value	Units	Point Value
1. Thickness of Primary Aquifer Formation	100	54	feet	54
2. Transmissivity	100	18,072	gallons per day per foot	18
3. Irrigation Well Density	100	4595	average distance, feet	29
		7	# of wells	
4. Public Water Supply Well Density	50	2256	average distance, feet	10
		2	# of wells	
5. Domestic & Livestock Well Density	50	4955	average distance, feet	24
		3	# of wells	
6. Irrigation Management				25
Soil Moisture Monitoring	25			
	425	Total Score		160

Estimated Hydraulic Conductivity from Particle Size Descriptions						
Grain Size	Degree of Sorting			Silt Content		
	Poor	Moderate	High	Slight	Moderate	Very
Clay and silt:						
Clay	0.0					
Silt, slightly clayey	1.3					
Silt, moderately clayey	2.7					
Silt, very clayey						
Silt; loess; sandy silt						
Sand and gravel:						
Very fine sand	13	20	27	23	19	13
Very fine to fine sand	27	27		24	20	13
Very fine to medium sand	36	41-47		32	27	21
Very fine to coarse sand	48			40	31	24
Very fine to very coarse sand	59			51	40	29
Very fine sand to fine gravel	76			67	52	38
Very fine sand to medium gravel	99			80	66	49
Very fine sand to coarse gravel	128			107	86	64
Fine sand	27	40	53	33	27	20
Fine to medium sand	53	67		48	39	30
Fine to coarse sand	58			53	43	32
Fine to very coarse sand	70			60	47	35
Fine sand to fine gravel	88			74	59	44
Fine sand to medium gravel	114			94	75	57
Fine sand to coarse gravel	145			107	87	72
Medium sand	67	80	94	64	51	40
Medium to coarse sand	74	94		72	57	42
Medium to very coarse sand	84			71	61	49
Medium sand to fine gravel	103			84	68	52
Medium sand to medium gravel	131			114	82	66
Medium sand to coarse gravel	164			134	108	82
Coarse sand	80	107	134	94	74	53
Coarse to very coarse sand	94	134		94	75	57
Coarse sand to fine gravel	116			107	88	68
Coarse sand to medium gravel	147			114	94	74
Coarse sand to coarse gravel	184			134	100	92
Very coarse sand	107	147	187	114	94	74
Very coarse sand to fine gravel	134	214		120	104	84
Very coarse sand to medium gravel	170			147	123	99
Very coarse sand to coarse gravel	207			160	132	104
Gravel						
Fine gravel	160	214	267	227	140	107
Fine to medium gravel	201	334		201	167	134
Fine to coarse gravel	245			234	189	144
Medium gravel:	241	321	401	241	201	160
Medium to coarse gravel	294	468		294	243	191
Coarse gravel	334	468	602	334	284	234

The table above shows the estimated hydraulic conductivities values from an unpublished and undated paper by E.C. Reed and R. Piskin as it was published in "Hydrogeology of Parts of the Twin Platte and Middle Republican Natural Resources Districts, Southwestern Nebraska" by J. W. Goeke, J. M. Peckenpau, R. E. Cady, and J. T. Dugan, Nebraska Water Survey Paper No. 70, April 1992, published through the Conservation and Survey Division, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln.

Irrigated Acre Expansion Permit Methodology

Goal: To continue to allow groundwater use for irrigation where its use is determined to be beneficial.

Main Criteria:

1. Groundwater ranking criteria described in the “Well/Groundwater Ranking Methodology” above
2. Irrigated Capability Classification
3. Soil Slope and Conservation Planning
4. Crop History and Conservation Planning

1. Groundwater/Well ranking criteria described above.

- a. Groundwater ranking criteria as described above must be met when proposed acres for irrigation expansion will be established using existing well(s).

2. Irrigated Capability Classification

- a. When 33 percent or more of the acres proposed for irrigation are of an Irrigated Capability Class of “6e” or greater, the proposed acres will be further evaluated (see 3. Soil Slope, Crop History and Conservation Planning).
- b. Irrigated Capability Class – Definitions (see table A)

3. Soil Slope, Crop History and Conservation Planning

- a. When 33 to 50 percent of the acres proposed for irrigation are of an Irrigated Capability Class of 6e or greater and a slope of 12% or greater, using 2012 LiDAR imagery, an approved conservation plan from the Natural Resources Conservation Service for those acres is required prior to the approval of a permit for groundwater application when other requirements are met. Conservation plans must be followed to maintain permit requirements.
- b. When more than 50 percent of the acres proposed for irrigation are of an Irrigated Capability Class of 6e or greater and a slope of 12% or greater a permit will be approved if or when the following conditions are met.
- c. A signed affidavit filed at the County Courthouse is required for permit approval.
 1. If the proposed acres are grass or pasture and will remain grass or pasture, the acres are eligible for permit approval to apply groundwater when other conditions are met.
 2. If the proposed acres have at least one year of recorded row crop history between 2004 and 2014 (could include alfalfa or small grain), the acres are eligible for permit approval with an approved and signed conservation plan.
 3. If the proposed acres were grass or pasture between 2004 and 2014 without recorded crop history, in those years, the acres are not eligible for permit approval to apply groundwater.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject

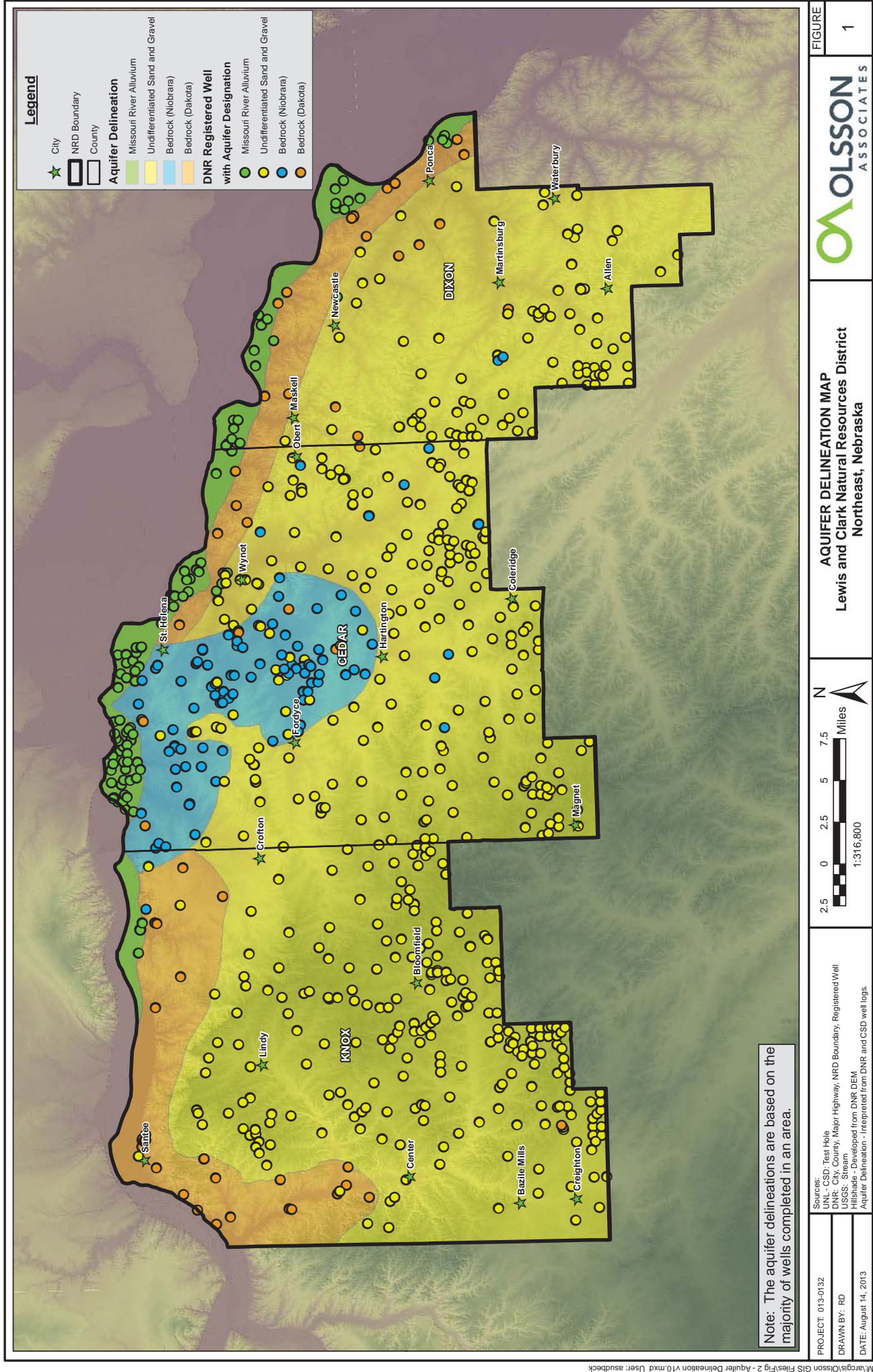
to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

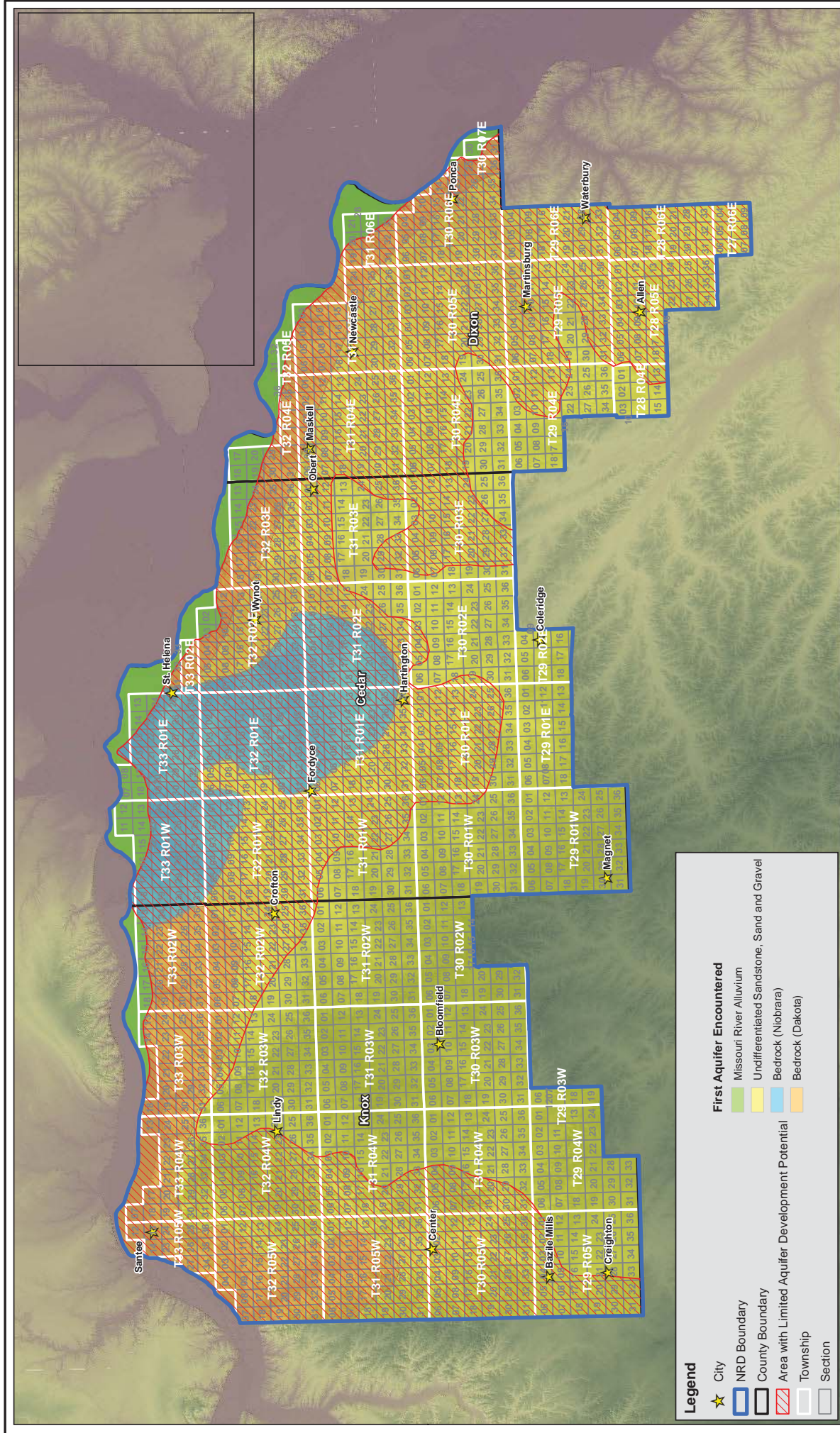
USDA – Land Capability Classification

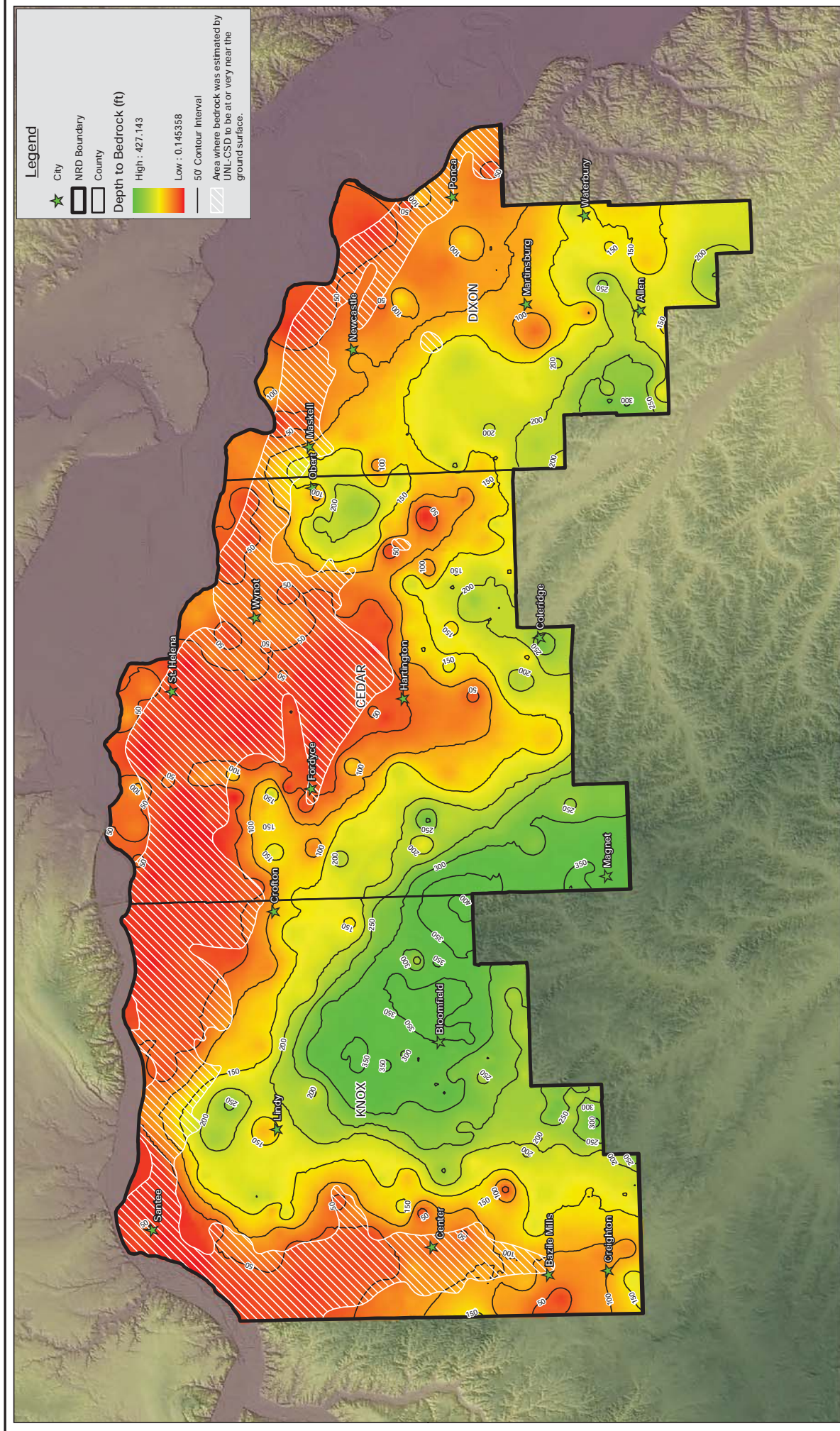
**Lewis and Clark Natural Resources District - Fee Schedule for the
Management Area Rules and Regulations for Groundwater Quantity Management**

Appendix B

Fee Type	Typical	Late
Expand Irrigated Acres Permit Application	\$50.00	\$250.00
Water Well Permit Application	\$50.00	\$250.00
Variance Request	\$100.00	
Groundwater Transfer Permit	\$100.00	







Legend

- City
- NRD Boundary
- County
- Depth to Bedrock (ft)
- High : 427.143
- Low : 0.145358
- 50' Contour Interval
- Area where bedrock was estimated by UNL-CSD to be at or very near the ground surface.

PROJECT: 009-1684, 101, 101001 DRAWN BY: RD DATE: June 24, 2010		Sources: UNL - CSD, Test Hole DNR - City, County, Major Highway, NRD Boundary, Registered Well USGS - Stream Hillshade - Developed from DNR DEM Depth to Bedrock - Interpreted from DNR and CSD Well logs.	2.5 0 2.5 5 7.5 Miles 1:316,800	DEPTH TO BEDROCK MAP Lewis and Clark Natural Resource District Northeast, Nebraska		FIGURE 3
---	--	---	------------------------------------	--	--	-------------

