

WATER PERMIT NO. 8879-3

Name of Applicant: City of Elkton

Address: PO Box 308, Elkton SD 57026

Phone: 605-542-5411

Amount of Water Claimed: 0.17 cfs

Total Acres: 3

Source of Water Supply: Groundwater

Water to be used for: Irrigation

County: Brookings

Type of Waste Disposal System:

Location: The west side of Elkton SD

PRIORITY Date Received: 06-07-24

Application/License Fee: \$700.00

Corrected Application Received: 06-18-24

Period of Annual Use: April 1 – October 31

Remarks: Water a baseball field

Diversion Point: SE 1/4 NW 1/4 Sec 21-T109N-
R47W

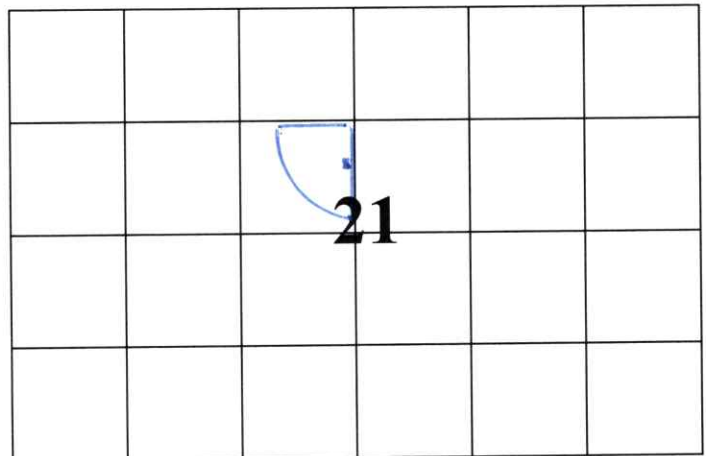
Land to be Irrigated: SE 1/4 NW 1/4 Sec 21-
T109N-R47W

Depth of Well: 40

Well Driller: Lacey Well Drilling

Remarks:

Type of Map: aerial



Reviewed and the Number Assigned on: 06-18-24

By: Rachel Rodriguez

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8879-3**

Date of first receipt of application June 7, 2024.

Date of return to applicant for corrections, amendments or changes June 7, 2024.

Date of receipt of corrected application June 18, 2024.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8879-3 to City of Elkton, PO Box 308, Elkton SD 57026, authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 8879-3 appropriates 0.18 cubic feet of water per second (cfs) from one well completed into the Big Sioux: Aurora Aquifer (40 feet deep) located in the SE 1/4 NW 1/4 Section 21 for irrigation of 3 acres located in the SE 1/4 NW 1/4 Section 21; all in T109N-R47W. This site is located in the City of Elkton SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is June 7, 2024.
4. The date of approval of Permit No. 8879-3 is September 9, 2024.
5. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Water Permit No. 8879-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals must be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8879-3 authorizes a maximum diversion rate of 0.18 cfs for the irrigation of 3 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

SEP 27 2024
date



FORM 2: Application for irrigation in South Dakota
(type or print)

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8879-3</u> Hydrologic Unit <u>10170203</u> Basin <u>Big Sioux</u> Newspaper <u>Brookings Register</u> (office use only)
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PAID
JUN 07 2024
Ck# 4164160
Rec't# _____

Application for Permit to Appropriate Water for Irrigation

Type of Application: ☒ **New** ☐ **Vested Right** ☐ **Amendment/Correction to Permit No.** _____
(Use predates Mar 2, 1955)

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

1. Name to Appear on Irrigation Permit City of Elkton
Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.
Mailing Address PO Box 308 Elkton SD 57026
(Address) (City) (State) (Zip Code)
Phone 605 542 5411 Mobile _____ Email cityelk@itel.com
2. Amount of water claimed 0.18 *CFS or 80 **GPM _____ ***AF Total Acreage 3
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Ground water, well
4. Location of point of diversion NW 1/4 sec 21 Twp 109 n Rg 47-w
SE 1/4 (example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)
County Brookings
5. County or counties where water will be used Brookings
6. Annual period during which water is to be used Apr - Oct 31
7. List below each forty-acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>3 Acres</u>			

8. Give a description of the project. (Attach sheet if more space is needed)

water baseball Field

I, [Signature] Mayor / Elkton, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

2021-08

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Also, attach map and any other technical information. (see instructions)

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WATER

See well completion Report.

1. Well Information (check one or both as applicable)

1. **Well Information** (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)
- a) If new wells, how many 1 Have test holes been drilled? ☐ Yes ☒ No Drilled by Lacey Well Drilling
(if yes, please provide copies of logs)
- b) If existing wells, how many 0 Provide copy of log(s), if available. Drilled by —

For either existing or proposed wells:

- For either existing or proposed wells:**
- c) Well Depth (required) 40' Depth to Top of Water Bearing Material 20' 6" Depth to Water from Surface 20' 6"
- d) Distance to nearest domestic well on applicant's property ~~300'~~ Property owned by others none

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

3. Dugout Information

- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

- b) Freeboard _____
- c) Crest Width _____
Crest Length _____
- d) Height _____
- e) Primary Outlet Capacity _____

If pipe, diameter _____

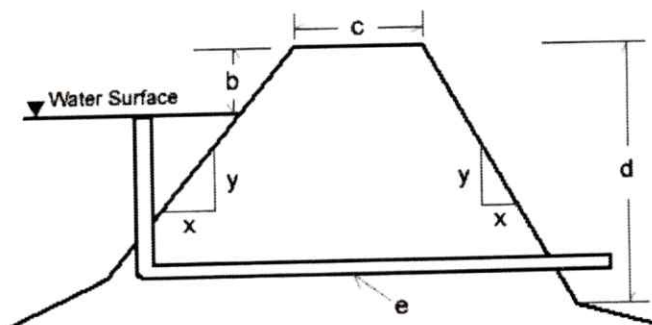
- f) Secondary Spillway Capacity _____
Spillway Width _____

- g) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream _____
Downstream _____

- ### h) Area of Impoundment _____

- i) Storage _____ Acre Feet

- j) Drainage Area Above Dam _____ Acres



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Supplemental Information

(type or print)

See well completion Report.

1. Well Information (check one or both as applicable)

☐ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many _____ Have test holes been drilled? ☐ Yes ☐ No Drilled by _____
(if yes, please provide copies of logs)

b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by _____

For either existing or proposed wells:

c) Well Depth (required) _____ Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____

d) Distance to nearest domestic well on applicant's property _____ Property owned by others _____

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) _____

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions _____ Depth _____

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b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____

If pipe, diameter _____

f) Secondary Spillway Capacity _____

Spillway Width _____

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

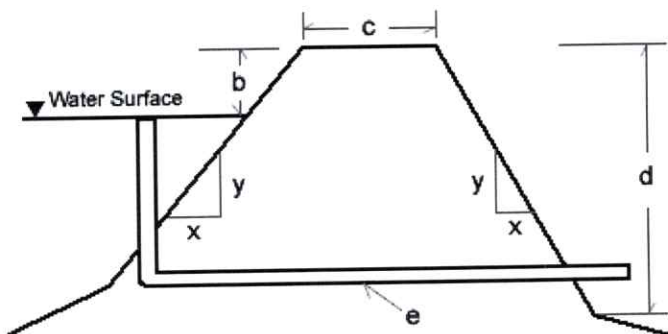
Upstream _____

Downstream _____

h) Area of Impoundment _____

i) Storage _____ Acre Feet

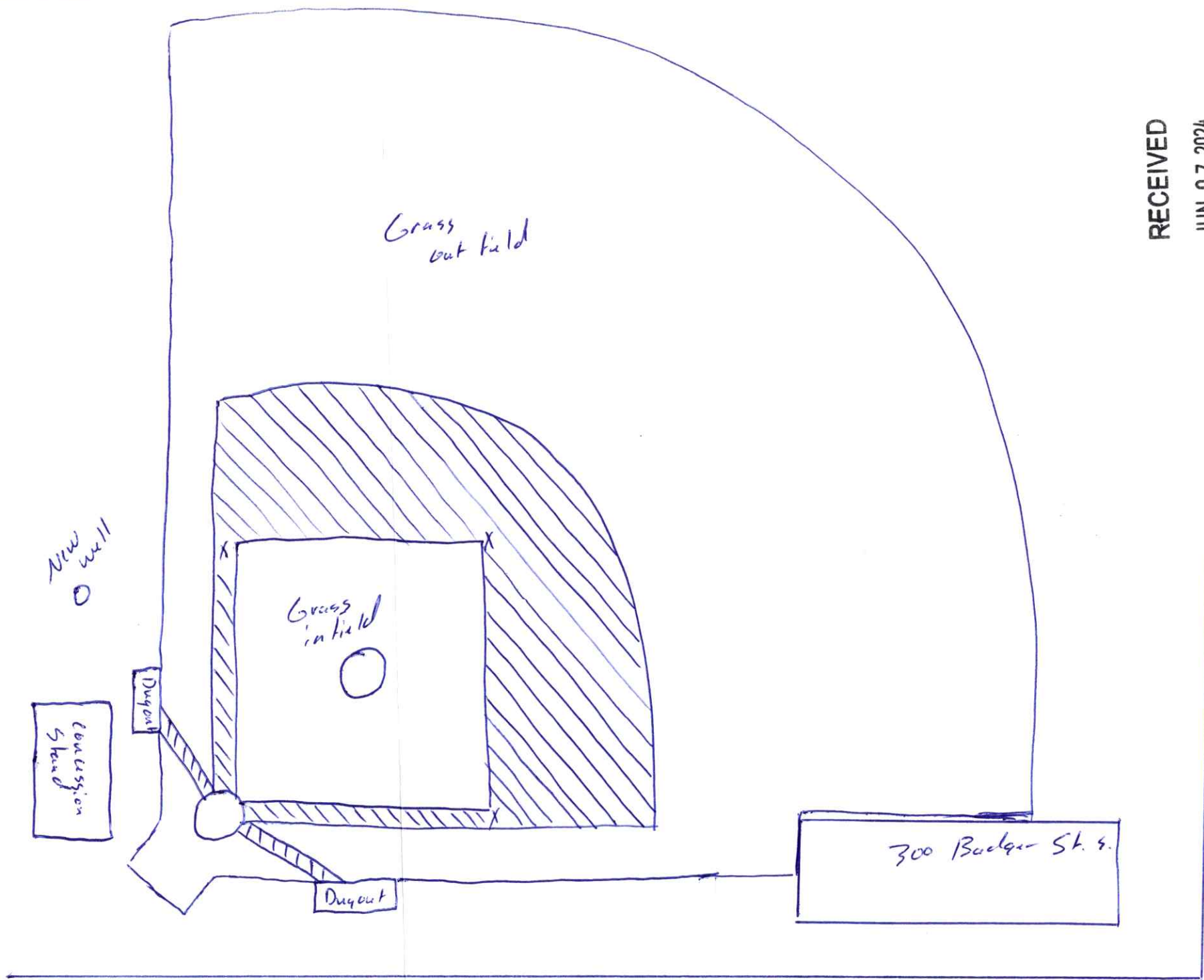
j) Drainage Area Above Dam _____ Acres



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South

Badger Street

3rd Street

North

13

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HEALTH
WATER

486 AVE

47 ST

15 ST W. Q. STE
14 ST W. Q. STE
13 ST W. Q. STE
12 ST W. Q. STE
11 ST W. Q. STE
10 ST W. Q. STE
9 ST W. Q. STE
8 ST W. Q. STE
7 ST W. Q. STE
6 ST W. Q. STE
5 ST W. Q. STE
4 ST W. Q. STE
3 ST W. Q. STE
2 ST W. Q. STE
1 ST W. Q. STE

Big Sioux

W
20

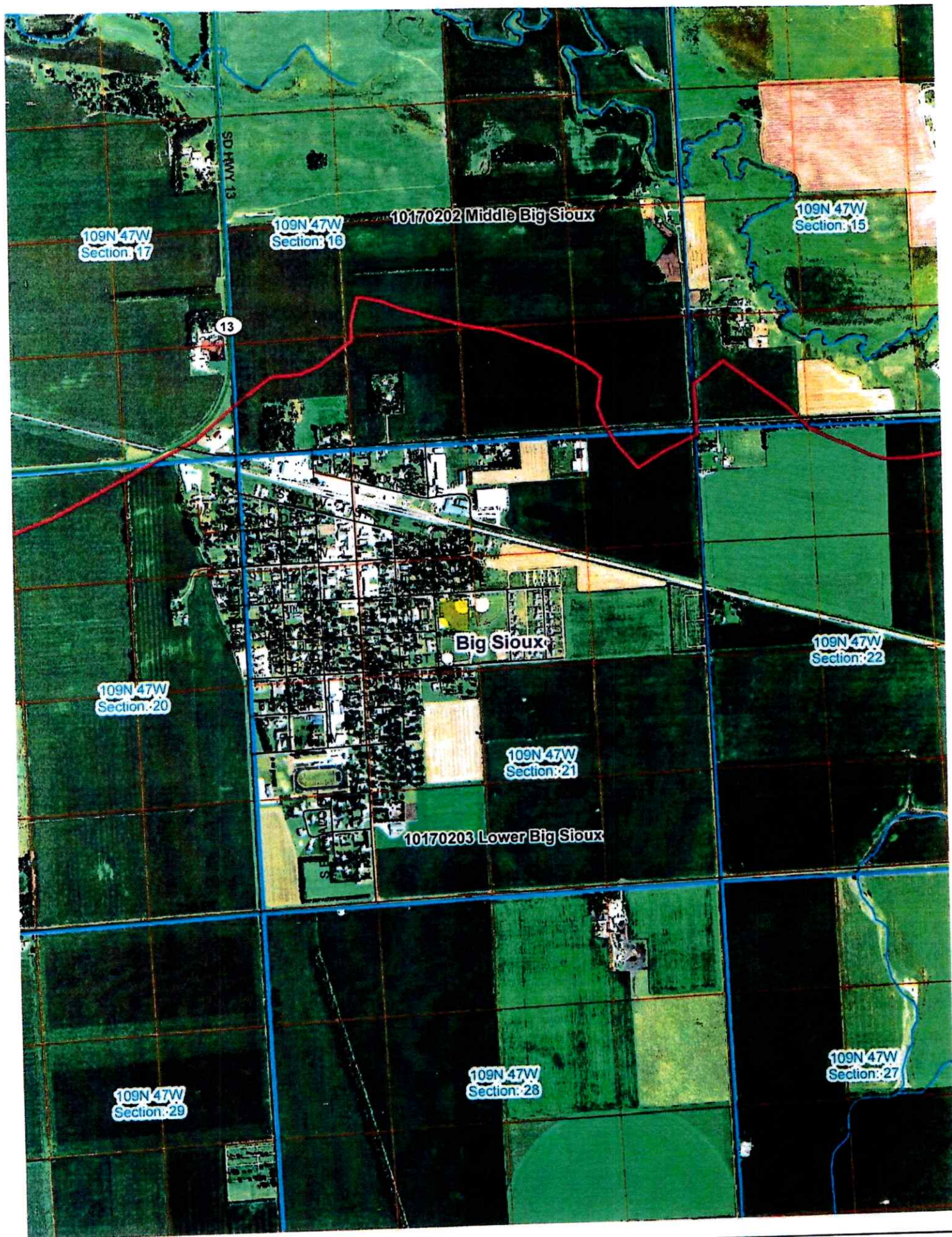
109N 47W
Section 21

10170203 Lower Big Sioux

24 ST

7W
29

109N 47W
Section 28

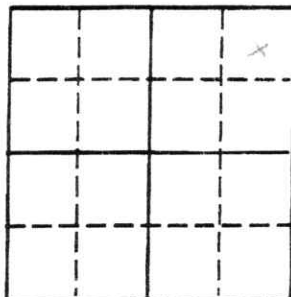


Location Due 1/4 NE 1/4 Sec 21 Twp 10N-11 Rg 7W

County

Brookings

North



Please mark well location with an "X"

Well completion Date

11-14-23

Distance to nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)

? 200 ft. from well line (Identify source)

PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring

METHOD OF DRILLING:

Bucket - False Casing

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>30 LB/FT</u>	<u>12 IN</u>	<u>14 FT</u>	<u>35 FT</u>	<u>20 IN</u>
<u>LB/FT</u>	<u>IN</u>	<u>FT</u>	<u>FT</u>	<u>IN</u>
<u>LB/FT</u>	<u>IN</u>	<u>FT</u>	<u>FT</u>	<u>IN</u>

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Portland Cement</u>		<u>Lb/gal</u>	<u>7 FT</u>	<u>30 FT</u>
<u>Sherry</u>		<u>Lb/gal</u>	<u>FT</u>	<u>FT</u>

Describe grouting procedure

Portland Cement and sherry

SCREEN:

☐ Perforated pipe ☒ Manufactured

Diameter 12 Inches Length 5 Feet

Material PVC

Slot Size 1/20 Set From 35 Feet to 40 Feet

Other information

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How?

Chlorine

☐ No, Why Not?

Lab sample sent to for water quality analysis

City

Please return **WHITE COPY** to: **DENR Water Rights**

Well Owner:

Business Name:

Address:

City, State, Zip:

City of Elkton

Elkton Bell Pack

117 Elk St.

Elkton, South Dakota 57026

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Topsoil</u>	<u>0</u>	<u>2</u>
<u>Clayey sand</u>	<u>2</u>	<u>6</u>
<u>Gravel</u>	<u>6</u>	<u>20</u>
<u>Coarse Gravel</u>	<u>20</u>	<u>40</u>

STATIC WATER LEVEL

20'

FEET

If flowing: closed in pressure

PSI

GPM flow through inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe: Sherry
☐ Bailed
☐ Other

Pumping Level Below Land Surface

27' Ft. After Hrs. pumped 300 GPM

 Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

This well was drilled under license # 111

And this report is true and accurate.

Drilling firm: Henry W. Drilling, Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

RECEIVED

DEC 27 2023

Date:
523 E Capitol Ave. Pierre SD 57501

OFFICE OF WATER

RECEIVED

JUN 07 2024

OFFICE OF WATER

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Agriculture and Natural Resources

Date June 7th, 2024

RECEIVED OF City of Elkton PO Box 305 Elkton SD 57026

The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>8879-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>500.00</u>
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. _____ after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8879-3</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law)	
TOTAL	\$ <u>700.00</u>

By Eric Gronlund
Chief Engineer

Ek



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8879-3, City of Elkton**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 8879-3, City of Elkton, PO Box 308, Elkton SD 57026.

The Chief Engineer is recommending APPROVAL of Application No. 8879-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under Water Permit No. 8879-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals must be controlled so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8879-3 authorizes a maximum diversion rate of 0.18 cfs for the irrigation of 3 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Eric Gronlund, Chief Engineer
August 16, 2024

Report to the Chief Engineer
Water Permit Application No. 8879-3

City of Elkton

08/02/2024

Water Permit Application No. 8879-3 proposes to appropriate 0.18 cubic feet of water per second (cfs) from one well completed into the Big Sioux: Aurora aquifer (40 feet deep) located in the SE ¼ NW ¼ Section 21 for irrigation of 3 acres located in the SE ¼ NW ¼ Section 21; all in T109N-R47W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located in the City of Elkton, SD.

AQUIFER: Big Sioux: Aurora (BS:A)

HYDROGEOLOGY:

The Big Sioux aquifer is primarily composed of Quaternary-aged meltwater stream and glacial outwash deposits that range from fine to medium, poorly sorted sand to a well-sorted sand and medium gravel and occurs mostly in the floodplains of the Big Sioux River and its major tributaries (Hamilton, 1989). The Big Sioux aquifer is divided into twelve management units that have been historically recognized by the DANR-Water Rights Program and SD Water Management Board (Water Rights, 2024c). The water to be appropriated is within the Aurora management unit of the Big Sioux aquifer.

In Brookings County, Hedges and others (1982) estimated the Big Sioux: Aurora aquifer to underly 39,300 acres. More recent mapping estimates completed by Buhler (2012) estimated the Big Sioux: Aurora aquifer to underly approximately 83,000 acres in Brookings and Moody Counties in South Dakota, and Pipestone and Lincoln Counties in Minnesota. Farmer (2017) made additional revisions to the mapping completed by Buhler (2012) and estimated the Big Sioux: Aurora aquifer to underly approximately 72,485 acres in Brookings and Moody Counties in South Dakota, and Pipestone and Lincoln Counties in Minnesota. The areal extent of the Aurora management unit of the Big Sioux aquifer is likely in the range of the estimates calculated by Buhler (2012) and Farmer (2017). However, there are portions of the Big Sioux: Aurora aquifer mapped by Hamilton (1989) not included in either Buhler (2012) or Farmer's (2017) areal extent estimates. Hamilton's (1989) mapping estimates of the Big Sioux aquifer in Brookings and Kingsbury Counties indicated sections of the aquifer are buried under glacial till, particularly in the northeastern extreme of the Big Sioux: Aurora aquifer. The available lithologic evidence indicates that the Big Sioux: Aurora aquifer does exist in at least portions of Hamilton's delineation of the aquifer (Hamilton, 1989; SDGS; 2024; Water Rights, 2024d).

There is a groundwater divide in the Big Sioux: Aurora aquifer that exists near Elkton, South Dakota (near the approximate center of T109N-R47W) that can be seen on the potentiometric surface map for the Big Sioux: Aurora aquifer (Hamilton, 1989). The direction of groundwater movement north of the divide flows to the west, and groundwater south of the divide flows to the southwest (Hamilton, 1989). As such, the groundwater divide isolates the flow of the northern

portion of the aquifer from the southern portion, essentially creating two sub-units in the Aurora management unit as shown in Figure 1. The proposed diversion point for this application (if approved) is to be located in the northern sub-unit of the Big Sioux: Aurora aquifer. For the remainder of this report, the term “Big Sioux: Aurora aquifer” will be referencing the northern sub-unit of the Big Sioux: Aurora aquifer. Farmer (2017) estimated the areal extent of the northern sub-unit of the Big Sioux: Aurora aquifer to be approximately 54,245 acres.

A well completion report is on file for the well proposed to be used by Water Permit Application No. 8879-3. The report lists “topsoil” from 0 to 2 feet below the ground surface, “clayey sand” from 2 to 6 feet, “gravel” from 6 to 20 feet, and “coarse gravel” from 20 to 40 feet (Water Rights, 2024d). In 2023, the static water level was approximately 21 feet at the time of well completion. Based on the water well completion reports on file in the area, and the lithologic logs on file for nearby observation wells, the Big Sioux: Aurora aquifer is expected to be unconfined at the site of the well this application proposes to use (SDGS, 2023; Water Rights, 2024b and 2024d).

South Dakota Codified Law (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, “A permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant’s proposed use, that the diversion point can be developed without unlawful impairment of existing domestic water uses and water rights, and that the proposed use is a beneficial use and in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by SDCL 46-2-9 and 46-2-11.” This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic water uses and water rights within the Big Sioux: Aurora aquifer.

South Dakota Codified Law (SDCL) 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of 1 cfs per 70 acres or the equivalent thereof. The statute provides that: “The Water Management Board may allow a greater diversion, in volume or rate or both, if the method of irrigation, any time constraints on diversion or water, or the type of soil so requires.” This application is requesting an instantaneous diversion rate of 0.18 cfs for the irrigation of 3 acres or the equivalent of 4.2 cfs per 70 acres. No specific reason for the request was provided on the application. This application is to irrigate a baseball field. It is highly likely the requested diversion rate is required to allow the irrigation system to operate properly coupled with time constraints when the system can be operated. This reason has been accepted by the Water Management Board and the Water Rights Program in the past.

WATER AVAILABILITY:

Water Permit Application No. 8879-3 proposes to appropriate water from the Big Sioux: Aurora aquifer. The probability of unappropriated water being available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires “No application to appropriate

groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.” The Big Sioux: Aurora aquifer is not older than or stratigraphically lower than the Greenhorn Formation (Fahrenbach et al., 2010), and the applicant’s proposed use is not for use in a water distribution system as defined by SDCL 46-1-6(17). Therefore, the average annual recharge and average annual withdrawal rates to and from the Big Sioux: Aurora aquifer must be considered.

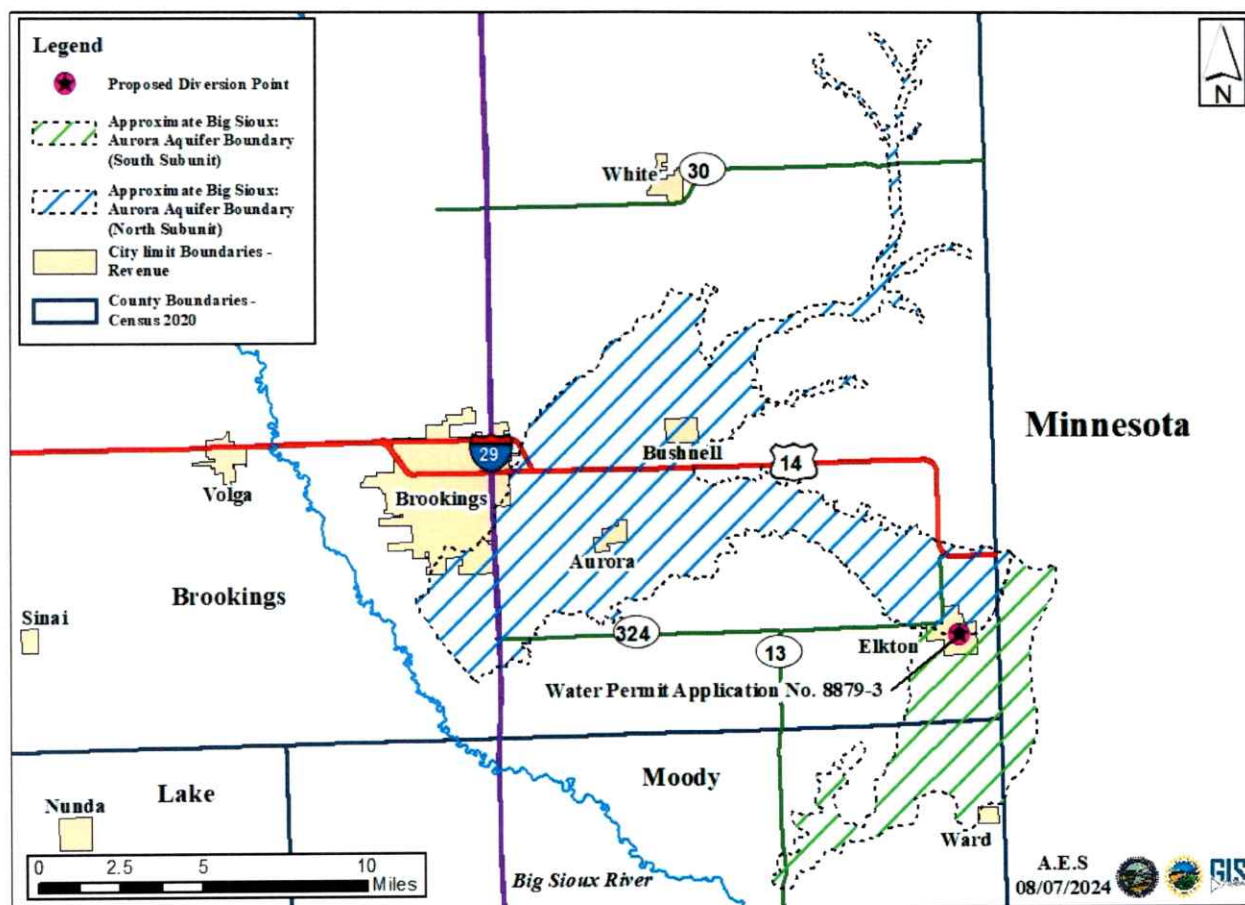


Figure 1. Map of the approximate Big Sioux: Aurora aquifer boundary and the well proposed to be used for Water Permit Application No. 8879-3

HYDROLOGIC BUDGET:

Recharge

Recharge to the Big Sioux: Aurora aquifer is primarily through infiltration of precipitation and by slow seepage through till, lake deposits and underlying aquifers when the potentiometric surface of the underlying aquifer is higher than the potentiometric surface of the Big Sioux: Aurora aquifer (Hamilton, 1989).

Using observation well analysis, Hedges and others (1985) estimated a recharge rate of 5.0 inches per year to the Big Sioux: Aurora aquifer. Farmer (2017) estimated the areal extent of the northern sub-unit of the Big Sioux: Aurora aquifer to be approximately 54,245 acres. Therefore, the average annual recharge rate to the northern sub-unit of the Big Sioux: Aurora aquifer is estimated at approximately 22,602 acre-feet per year.

Discharge

Discharge from the Big Sioux: Aurora aquifer is through evapotranspiration, leakage to underlying aquifers and surface water sources when the potentiometric surface of the aquifer is above the potentiometric surface of the surface water source, and well withdrawals (Hamilton, 1989; Water Rights, 2024d). Currently, there are 83 water rights/permits authorized to appropriate water from the Big Sioux: Aurora aquifer and three future use permits reserving water (Water Rights, 2024c). Of those, 61 water rights/permits are located in the northern sub-unit of the Big Sioux: Aurora aquifer. There are two future use permits reserving water in the northern sub-unit of the aquifer; Future Use Permit No 1598-3 has zero acre-feet of water left in reservation, but Future Use Permit Application No. 8793-3 reserves 4,500 acre-feet of water.

Table 1 summarizes the 19 non-irrigation water rights/permits authorized to appropriate water from the northern sub-unit of the Big Sioux: Aurora aquifer with the estimated annual use for each water right/permit as determined by their permitted maximum diversion rate or annual volume. Historically, average water use by non-irrigation appropriations limited by an instantaneous diversion rate have been assumed to be pumping 60% of full time at the respective permitted diversion rate. Water rights/permits limited by an annual volume are assumed to withdraw their entire respective annual volume limitation. For water rights/permits required to report annual pumpage, the average across their period of record is used to estimate average annual withdrawals if there has been reported pumpage for at least 10 years after completing initial construction and there is no evidence of continual and significant increase in annual pumping. This is a standard method used by the DNR-Water Rights Program for estimating annual withdrawals by non-irrigation appropriations from an aquifer and is likely an overestimation of average annual withdrawals (Water Rights, 2024c). Two municipal water rights (Nos. 1952-3 and 4038-3) were identified as being connected to a rural water system and likely maintain their wells for standby purposes (Drinking Water Program, 2024; Water Rights, 2024c); as such, the average annual water use for these water rights has been estimated to be zero acre-feet per year on Table 1. Overall, the estimated average annual withdrawal rate from the northern sub-unit of the Big Sioux: Aurora aquifer by the non-irrigation water rights/permits is approximately 13,521 acre-feet per year (Table 1) (Water Rights, 2024c).

Table 1. Summary of the limiting diversion rate or appropriation and estimated use for the non-irrigation water rights/permits for the northern sub-unit of the Big Sioux: Aurora aquifer (Drinking Water Program, 2024; Water Rights, 2024c)

Permit No.	Name	Status	Use	Authorized Diversion Rate (cfs)	Estimation Method	Authorized Annual Volume (ac-ft/yr)	Estimated Use (ac-ft/yr)
1952-3	City of Aurora	LC	MUN	0.2	Connected to RWS		0
3979-3	City of Brookings	LC	MUN	6.69	60% Pumping		2,906
4038-3	City of Elkton	LC	MUN	0.72	Connected to RWS		0
4980-3	Brookings-Deuel RWS	LC	RWS	0.89	60% Pumping		386.6
5433-3	Brookings-Deuel RWS	LC	RWS	0.44	60% Pumping		191.1
6048-3	City of Brookings	LC	MUN	2.9	Volume	2,100	2,100
6325-3	Valero Renewable Fuels Company LLC	LC	IND	2.67	Average Pumping (20 years)	1,935	1,211.1
6437-3	Crosswind Jersey's Inc	LC	COM	0.056	60% Pumping		24.3
7167-3	Basin Electric Power Cooperative	LC	IND	0.22	Average Pumping (13 years)		18.4
7182-3	Agfirst Farmers Cooperative	LC	COM	0.35	Volume	10	10
7887-3	Novita Aurora LLC	LC	IND	0.67	Volume		100.8
8146-3	Brookings Economic Dev Ag Tech Center	LC	IND	0.033	Volume	23.9	13.5
8285-3	Norm's Greenhouse & Nursery LLC	LC	COM	0.1	Volume	9.2	9.2
8379-3	Bobcat Farms RE LLC	LC	COM, LCO	0.1	Volume	62	25.5
8401-3	LG Everist Inc	LC	IND	11.1	Volume	2,210	2,210
8443-3	Linde Dairy LLC	PE	COM, LCO	0.67	Volume	323	323.0
8511-3	Bowes Construction Inc	PE	IND	1.67	Volume	405	405
8794-3	Brookings Municipal Utilities	PE	MUN	2.67	Volume	1,160	1,160
8795-3	Brookings Municipal Utilities	PE	MUN	5.57	Volume	2,426	2,426
						Total:	13,521

LC: Licensed Water Right; PE: Water Permit; MUN: Municipal; RWS: Rural Water System; IND: Industrial; COM: Commercial; LCO: Livestock Confinement Facility

There are 10 non-irrigation water rights/permits required to report their annual water usage from the Big Sioux: Aurora aquifer each year (Water Rights, 2024c and 2024f). The reported values averaged on Table 2 are for comparison purposes only to show historically the average annual use has been less than the volume that is estimated on Table 1 (Water Rights, 2024c and 2024f). The estimated use for these non-irrigation water rights/permits calculated on Table 1 will be used in the analysis. Water Permit Nos. 8794-3 and 8795-3 were approved late in 2023 and did not report pumping in 2023.

Table 2. Non-irrigation water rights/permits required to report their respective annual use from the Big Sioux: Aurora aquifer (Water Rights, 2024c and 2024f)

Permit No.	Name	Status	Use Type	Priority Date	Authorized Diversion Rate (cfs)	Authorized Annual Volume (ac-ft/yr)	Yrs of Reported Use	Avg of Reported Use (ac-ft/yr)
6048-3	City of Brookings	LC	MUN	06/28/1968	2.9	2,100	21	1,906.2
6325-3	Valero Renewable Fuels Company LLC	LC	IND	05/21/2002	2.67	1,935	20	1,211.1
7167-3	Basin Electric Power Cooperative	LC	IND	11/02/2009	0.22		13	18.4
7887-3	Novita Aurora LLC	LC	IND	08/21/2013	0.67		10	100.8
8146-3	Brookings Economic Dev Ag Tech Center	LC	IND	03/26/2015	0.033	23.9	9	13.5
8285-3	Norm's Greenhouse & Nursery LLC	LC	COM	05/15/2017	0.1	9.2	7	9.2
8379-3	Bobcat Farms RE LLC	LC	COM, LCO	11/01/2018	0.1	62	5	25.5
8443-3	Linde Dairy LLC	PE	COM, LCO	08/31/2020	0.67	323	3	62.4
8794-3	Brookings Municipal Utilities	PE	MUN	08/03/2023	2.67	1,160	N/A	N/A
8795-3	Brookings Municipal Utilities	PE	MUN	08/03/2023	5.57	2,426	N/A	N/A

LC: Licensed Water Right; PE: Water Permit; COM: Commercial; IND: Industrial; MUN: Municipal; LCO: Livestock Confinement Operation

There are 43 water rights/permits authorizing irrigation from the northern sub-unit of the Big Sioux: Aurora aquifer (Water Rights, 2024c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. The estimated average annual withdrawal rate from the northern sub-unit of the Big Sioux: Aurora aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2023) is approximately 2,211 acre-feet per year (Table 3) (Water Rights, 2024a). To be more reflective of the current development of irrigation water rights/permits more accurately, the average annual withdrawal rate for irrigation appropriations that have reported from 2014 through 2023 is approximately 1,704 acre-feet per year (Table 3) (Water Rights, 2024a). The average annual withdrawal rate over the entire period of record (1979 to 2023) will be used in this analysis because the number of permits reporting irrigation has been relatively stable and to provide somewhat of an overestimate. Table 3 lists 43 water rights/permits as reporting in 2023 as the usage from Water Right 5467A-3 is reported with Water Right No. 7252-3 per former Water Rights staff member McMath (Steen, 2020). The reported use for Water Right Nos. 5467A-3 and 7252-3 will be included in this analysis. Typically for turf irrigation, such as for this application, irrigation application rates in eastern South Dakota range from 12 to 24 inches. For this report, it will be estimated the applicant will apply 24 inches of water over the 3 acres. That is an estimated annual volume of 6 ac-ft.

There are domestic wells completed into the Big Sioux: Aurora aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2023d). Due to their relatively low diversion rates, withdrawals from domestic wells are generally not considered to be a significant portion of the hydrologic budget. Additionally, with the development of rural water systems in areas where the Big Sioux: Aurora aquifer is the uppermost aquifer available; it is likely some domestic users may have transitioned to rural water. Therefore, the quantity of water withdrawn by domestic wells is estimated to be negligible to the hydrologic budget for the Big Sioux: Aurora aquifer.

Hydrologic Budget Summary

The estimated average annual recharge rate to the Big Sioux: Aurora aquifer is approximately 22,602 acre-feet per year. The estimated average annual withdrawal rate from the northern sub-unit of the Big Sioux: Aurora aquifer including this application is approximately 20,238 acre-feet per year (non-irrigation: 13,521 acre-feet/year; irrigation (avg 1979 to 2023) (including pending Water Permit Application No. 8879-3): 2,217 acre-feet/year; Future Use Application No. 8793-3: 4,500 acre-feet/year). Based on the hydrologic budget there is a reasonable probability unappropriated water is available for this proposed appropriation.

Table 3. Reported historic irrigation use from the northern sub-unit of the Big Sioux: Aurora aquifer (Water Rights, 2024a)

Year	No. of Permits Reporting	Reported Pumpage (acre-feet)
1979	34	1,034.7
1980	34	1,231.3
1981	43	2,607
1982	41	1,405.2
1983	40	1,937.8
1984	41	2,393
1985	44	2,642
1986	46	1,476
1987	47	2,579.7
1988	46	3,959.5
1989	48	3,108.7
1990	39	2,408.5
1991	40	1,299.4
1992	40	660.2
1993	40	208.1
1994	38	1,557.6
1995	35	250.1
1996	35	1,840.1
1997	35	2,863
1998	36	3,318.6
1999	36	2,319.5
2000	36	2,698.1
2001	37	2,812.1
2002	38	2,799.5
2003	37	3,176.0
2004	35	2,695.6
2005	35	2,312.5
2006	35	2,829.7
2007	35	3,221.4
2008	38	3,732.3
2009	38	3,431.3
2010	39	537.0
2011	39	2,673.9
2012	39	4,464.9
2013	44	3,972.4
2014	44	2,246.5
2015	44	1,474.8
2016	44	1,264.2
2017	44	1,392.3
2018	44	835.2
2019	43	118.01
2020	43	1,291.7
2021	41	2,836.9
2022	41	2,037.7
2023	43	3,543.8
Max	48	4,465
Min	34	118.0
Avg (1979-2023)	40	2,211
Avg (2014-2023)	43	1,704

OBSERVATION WELL DATA:

Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.

Observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The DNR-Water Rights Program monitors 15 observation wells completed into the Big Sioux: Aurora aquifer, with 14 completed into the northern sub-unit of the Big Sioux: Aurora aquifer (Water Rights, 2024b). The three closest observation wells to the proposed diversion points are BG-77I (approximately 9.4 miles northeast), BG-57G (approximately 7.3 mile southeast), and BG-77J (approximately 9.2 miles northeast) (as shown in Figure 5) (Water Rights, 2023b). The hydrographs for these observation wells are displayed in Figures 2 to 4 (Water Rights, 2024b). The data points utilized to construct the hydrographs are measurements of the static water level in the observation wells from the top of the well casing.

The hydrographs for these observation wells were compared to hydrographs for other observations wells completed into the Big Sioux: Aurora aquifer and all displayed a generally similar trend as shown on the hydrographs displayed in Figures 2 to 4 (Water Rights, 2024b). The hydrographs for the observation wells display stable water levels over their respective periods of record. The hydrographs for the Big Sioux: Aurora aquifer indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods and declining to a stable water level during drier periods. Additionally, the water levels in the observation wells display that the amount of recharge to and natural discharge from the aquifer exceeds pumping with the aquifer returning to pre-pumping conditions between irrigation seasons. Aquifer recovery indicates that climatic conditions and therefore, the effects of recharge to and natural discharges from the aquifer govern the long-term fluctuations of waters levels in the aquifer rather than the impacts of pumping from the Big Sioux: Aurora. By recognizing that both recharge to the natural discharge from an aquifer can be captured for pumping, the observation well hydrographs demonstrate unappropriated water is available for the proposed appropriation.

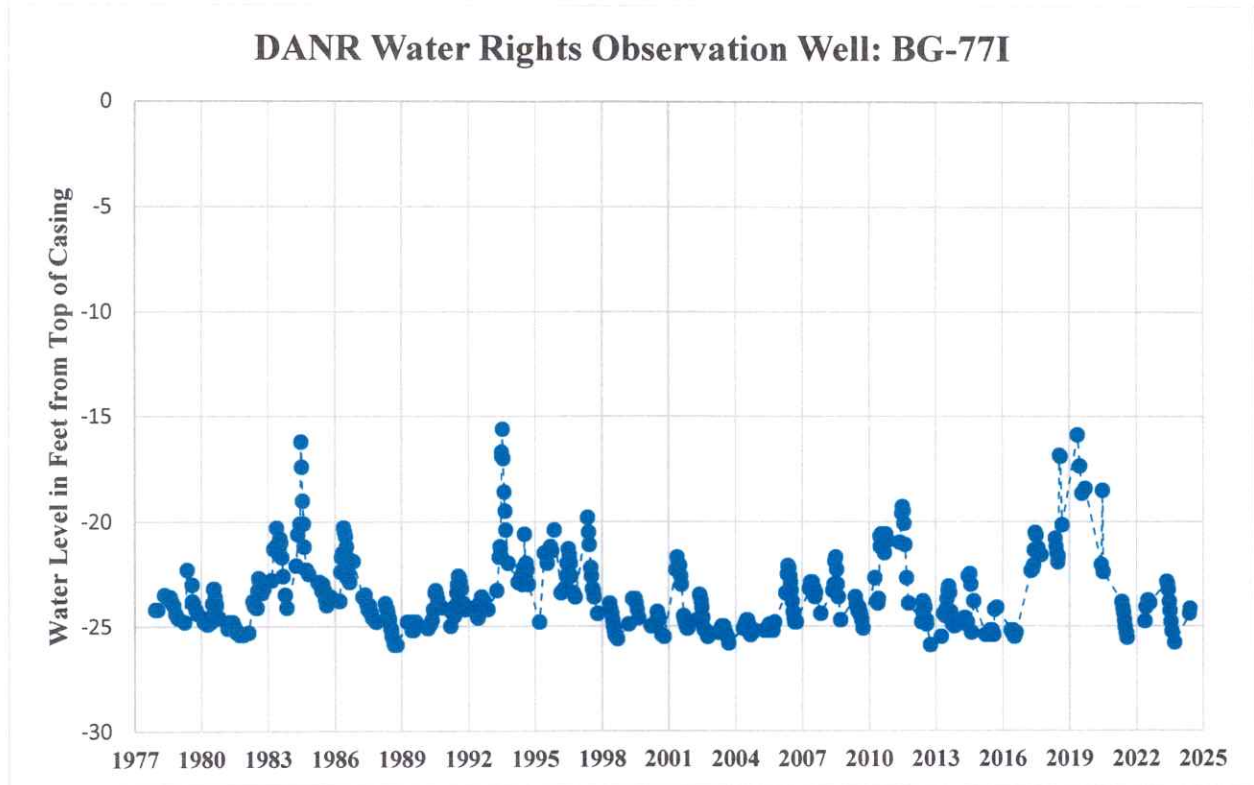


Figure 2. Hydrograph for observation well BG-77I (Water Rights, 2024b)

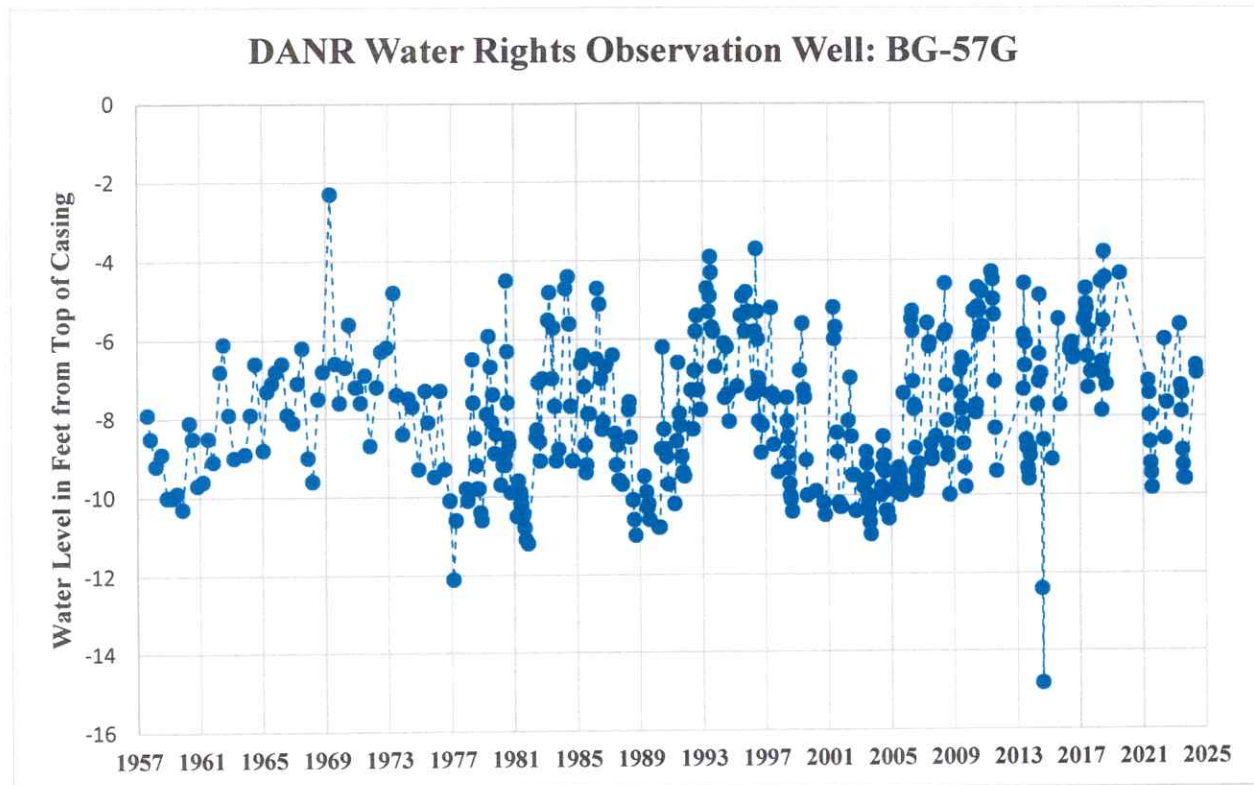


Figure 3. Hydrograph for observation well BG-57G (Water Rights, 2024b)

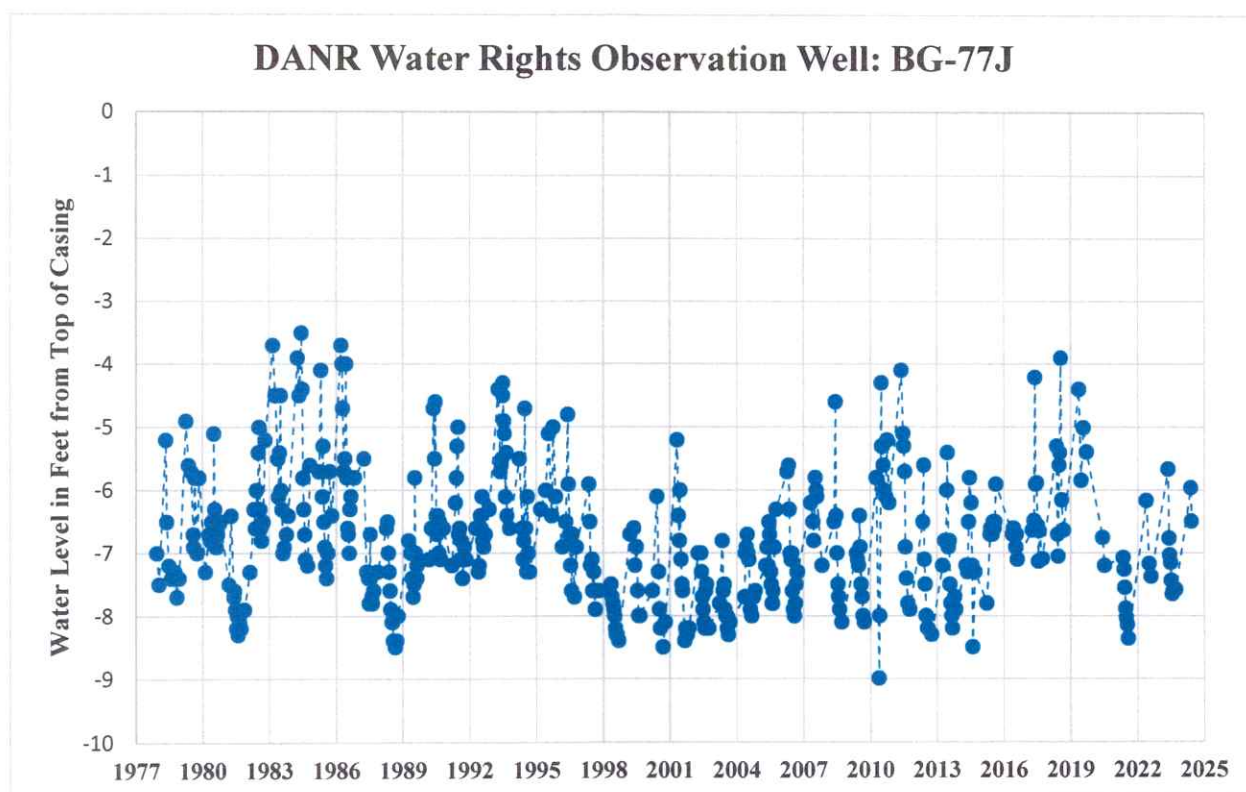


Figure 4. Hydrograph for observation well BG-77J (Water Rights, 2024b)

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

The closest water right is Water Right No. 4038-3 held by the City of Elkton located approximately 0.26 miles northwest (Water Rights, 2024c). The closest water rights/permits completed into the northern sub-unit of the Big Sioux: Aurora aquifer to the proposed diversion point, not held by the applicant, are Water Right Nos. 4980-3 and 5433-3 both held by Brookings-Deuel Rural Water System. The diversion point for Water Right Nos. 4980-3 and 5433-3 is located approximately 5 miles northwest of the applicant's well (Table 4) (Figure 5) (Water Rights, 2024c). The closest water rights completed into the southern sub-unit of the Big Sioux: Aurora aquifer to the applicant's well are Water Right No. 7219-3 for the Elkton School District and Water Right No. 8255-3 for Jon Vaske located approximately 0.5 miles southwest and southeast respectively (Table 4) (Figure 5) (Water Rights, 2024c). While Water Right Nos. 7219-3 and 8255-3 are in the southern sub-unit of the aquifer, the sub-units are hydrologically connected and drawdown from pumping this proposed appropriation will cross the "boundary" between the sub-units.

There are domestic wells on file with the DANR-Water Rights Program that are completed into the Big Sioux: Aurora aquifer, with the closest domestic well on file (not held by the applicant) that maps within the northern sub-unit of the Big Sioux: Aurora aquifer located approximately 1.5 miles north of the applicant's well (Water Rights, 2024d). There are also several wells that map within the boundary of the southern sub-unit of the Big Sioux: Aurora aquifer in close proximity to the applicant's well. The nearest wells are approximately 0.3 miles west and south

(Water Rights, 2024d). There could potentially be other domestic wells completed into the Big Sioux: Aurora aquifer near the well the applicant proposes to use that are not on file with the DNR-Water Rights Program. The location of the domestic wells in the well completion report database maintained by the Water Rights Program is based on the location listed by the driller on the well completion report.

Table 4. Water rights/permits authorized to withdraw water from the Big Sioux: Aurora aquifer within the vicinity of the applicant's well, as shown in Figure 5 (Water Rights, 2024c)

Permit No.	Name	Status	Use Type	Authorized Acres if IRR	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet/year)
4038-3*	CITY OF ELKTON	LC	MUN		0.72	313
4726-3	WITTE AG PARTNERSHIP #3	LC	IRR	115	1.56	
4980-3	BROOKINGS-DEUEL RWS	LC	RWS		0.89	387
5433-3	BROOKINGS-DEUEL RWS	LC	RWS		0.44	191
7219-3	ELKTON SCHOOL DISTRICT	LC	IRR	2.3	0.15	
7560-3	JON VASKE	IL	IRR	60	1.33	
7590-3	LARRY N MOULTON	LC	IRR	160	1.78	
7897-3	JON VASKE	LC	IRR	300	3.56	
8255-3	JON VASKE	LC	IRR	23	0.38	
8808-3	JUSTIN VYN IRREVOCABLE TRUST	PE	IRR	238	2.22	

LC: Licensed Water Right; IRR: Irrigation; MUN: Municipal; COM: Commercial; RWS: Rural Water System; * Is owned by applicant

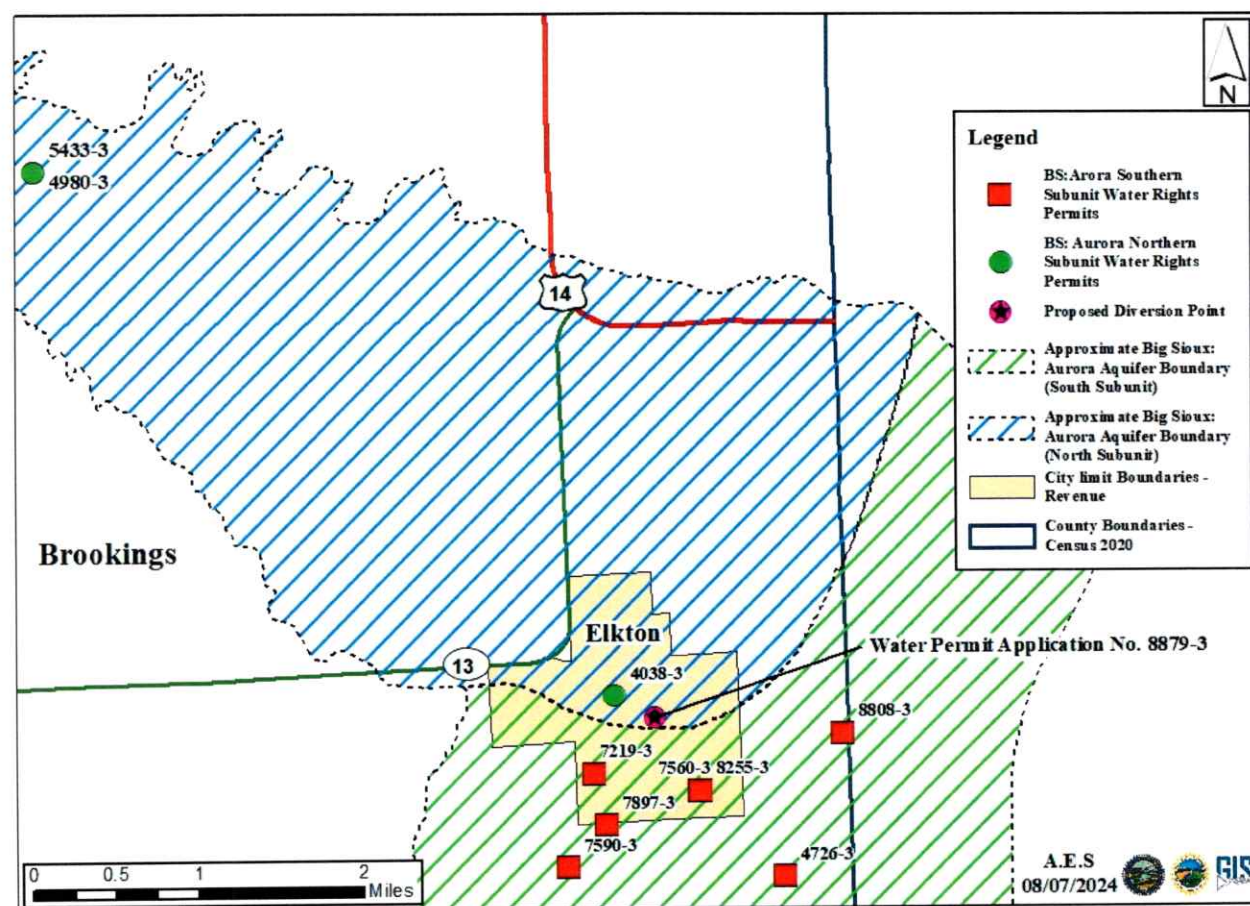


Figure 5. Map of a portion of the approximate extent Big Sioux: Aurora aquifer, both northern and

southern sub-units with the well proposed to be used for Water Permit Application No. 8879-3 and water rights/permits (Water Rights, 2024b and 2024c)

The Big Sioux: Aurora aquifer is generally unconfined near the Big Sioux River and along major tributary valleys (such as Deer Creek), but is elsewhere may confined beneath till (Hamilton, 1989; Water Rights, 2024d). Based on the water well completion reports on file, and the lithologic logs on file for nearby observation wells, the Big Sioux: Aurora aquifer is expected to be unconfined near the proposed diversion points (SDGS, 2023; Water Rights, 2024b and 2024d). Drawdown created by pumping a well generally does not extend far from the pumped well in an unconfined aquifer; however, in a confined aquifer, drawdown from pumping could extend a distance from the diversion point. The exact drawdown behavior of a well cannot be known without an aquifer performance test.

In Brookings County, the Big Sioux aquifer has an average saturated aquifer thickness of approximately 30 feet and a documented maximum thickness of 93 feet (Hamilton, 1989). Within approximately one mile of the proposed diversion points, water well completion reports on file for wells completed into the Big Sioux: Aurora aquifer have saturated thicknesses ranging from approximately 10 to 40 feet (Water Rights, 2024b and 2024d). Any drawdown as a result of the proposed diversion is not expected to unlawfully impair nearby adequate wells. An adequate well is defined by ARSD 74:02:04:20(6) as

“a well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet.”

There are no complaints on file with the DANR-Water Rights Program regarding well interference for adequate wells completed into the Big Sioux: Aurora aquifer (Water Rights, 2024e). In places the Big Sioux: Aurora aquifer can be a relatively thin aquifer with a limited amount of water in storage. While the average annual withdrawal would not exceed average annual recharge to the aquifer, conditions may occur when the withdrawal exceeds recharge. When this occurs, water will be removed from storage; consequently, reducing the saturated thickness of the aquifer. If the saturated thickness is reduced to the extent that water rights/permits can no longer pump at their developed or “historically established” diversion rates, this may be considered an adverse impact. If approved, the water permit should include a qualification that the well owner should control their withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

When considering the generally unconfined nature of the aquifer, and the proliferation of water rights/permits in the vicinity of the applicant’s well without complaints regarding well interference, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment to existing water right/permit holders or domestic users with adequate wells. Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments to existing users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8879-3 filed by the City of Elkton proposes to irrigate 3 acres located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 21 at a maximum instantaneous diversion rate of 0.18 cfs from one well to be completed into the Big Sioux: Aurora aquifer (40 feet deep) located in the SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 21; all in T109N-R47W. This site is located in the City of Elkton, SD. The well site for this application is within the northern sub-unit of the Big Sioux: Aurora aquifer.
2. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. The request is the equivalent of 4.2 cfs per 70 acres. This request is likely based on the methods used to irrigate the baseball field for this project and time constraints during which water may be applied. This reason has been accepted by the Water Rights Program and the Water Management Board in the past.
3. Based on the observation well data and hydrologic budget, there is a reasonable probability that unappropriated water is available for this proposed appropriation.
4. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8879-3 will not unlawfully impair adequate wells for existing water right/permit holders and domestic users.



Austin Settje
Natural Resources Engineer I
SD DANR - Water Rights Program



Adam Mathiowetz, PE
Natural Resources Engineer IV
SD DANR - Water Rights Program

References

- Buhler, K., 2012. Report to the Chief Engineer on Future Use Permit Application No. 7392-3, Lincoln Pipestone Rural Water. SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD

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- Farmer, J., 2017. Report to the Chief Engineer on Water Permit Application No. 8285-3, Norm's Greenhouse. SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
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- Hedges, L.S., Allen, J., Holly, D.E., 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 7: Ground Water Recharge; United States Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A., 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
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- Water Rights, 2024d. Well Completion Reports, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2024e. County Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2024f. "2003-2022 Non-Irrigation Yearly Reports", SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Rodriguez, Rachel

From: cityelk@itctel.com
Sent: Tuesday, June 18, 2024 12:02 PM
To: Rodriguez, Rachel
Subject: RE: [EXT] Scanned image from Sharp Copier

Yes that is correct.

Susan Schuurman
Elkton Finance Officer
605-542-5411

-----Original Message-----

From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Tuesday, June 18, 2024 10:21 AM
To: cityelk@itctel.com
Subject: RE: Scanned image from Sharp Copier

Excellent! I just need you to confirm that the diversion point is actually in the SE ¼ NW ¼?

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us

-----Original Message-----

From: cityelk@itctel.com <cityelk@itctel.com>
Sent: Monday, June 17, 2024 11:09 AM
To: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Subject: FW: [EXT] Scanned image from Sharp Copier

Hope this helps for the water permit for the City of Elkton.

Susan Schuurman
Elkton Finance Officer
605-542-5411

-----Original Message-----

From: sharpcopier@1officesolution.com <sharpcopier@1officesolution.com>
Sent: Monday, June 17, 2024 9:58 AM
To: cityelk@itctel.com
Subject: Scanned image from Sharp Copier

Reply to: sharpcopier@1officesolution.com <sharpcopier@1officesolution.com> Device Name: City of Elkton South
Dakota Device Model: MX-C303W
Location: Not Set

File Format: PDF (Medium)
Resolution: 300dpi x 300dpi

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Wednesday, June 12, 2024 2:54 PM
To: 'cityelk@itctel.com'
Subject: RE: Water Permit Application
Attachments: Elkton.pdf

Good afternoon,

I am in receipt of the items you mailed. I can see the X for the diversion point. However, I do not see the outlined area to be irrigated. Please send me the color map and outline the area to be irrigated. It's much easier to see in color.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



From: Rodriguez, Rachel
Sent: Friday, June 7, 2024 3:56 PM
To: cityelk@itctel.com
Subject: Water Permit Application

Good afternoon,

I am in receipt of your water permit application for irrigation. However, in looking over the map, there are a few items that need clarification:

- You listed the diversion point in the NW ¼ NW ¼ Section 21-T109N-R47W. Please see attached map, it looks as though, based on your drawing that the diversion point is actually in the SE ¼ NW ¼, is that correct? If not, please mark the location of the well with an "X".
- On the enclosed map, please outline the area to be irrigated.
- I have highlighted in yellow the area that needs to be complete, see page 2 of the attachment.

Once I am in receipt of the items above, I can begin processing your application.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Friday, June 7, 2024 3:56 PM
To: cityelk@itctel.com
Subject: Water Permit Application
Attachments: Elkton.pdf

Good afternoon,

I am in receipt of your water permit application for irrigation. However, in looking over the map, there are a few items that need clarification:

- You listed the diversion point in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 21-T109N-R47W. Please see attached map, it looks as though, based on your drawing that the diversion point is actually in the SE $\frac{1}{4}$ NW $\frac{1}{4}$, is that correct? If not, please mark the location of the well with an "X".
- On the enclosed map, please outline the area to be irrigated.
- I have highlighted in yellow the area that needs to be complete, see page 2 of the attachment.

Once I am in receipt of the items above, I can begin processing your application.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



cityelk@itctel.com

From: Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us>
Sent: Friday, June 7, 2024 3:56 PM
To: cityelk@itctel.com
Subject: Water Permit Application
Attachments: Elkton.pdf

Good afternoon,

I am in receipt of your water permit application for irrigation. However, in looking over the map, there are a few items that need clarification:

- You listed the diversion point in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 21-T109N-R47W. Please see attached map, it looks as though, based on your drawing that the diversion point is actually in the SE $\frac{1}{4}$ NW $\frac{1}{4}$, is that correct? If not, please mark the location of the well with an "X".
- On the enclosed map, please outline the area to be irrigated.
- ✓ I have highlighted in yellow the area that needs to be complete, see page 2 of the attachment.

Once I am in receipt of the items above, I can begin processing your application.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



RECEIVED

JUN 12 2024

OFFICE OF
WATER



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

**NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPER RIGHT AWAY.**

August 19, 2024

City of Elkton
c/o Susan Schuurman, Finance Officer
PO Box 308
Elkton SD 57026

Dear Ms. Schuurman:

Water Permit Application No. 8879-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Brookings Register printed in Brookings SD (Ph # 605 692-6271). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Rachel Rodriguez

Rachel Rodriguez
Water Rights Program
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

Instruction to Newspaper - Publish the Notice on August 28, 2024. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 8879-3 to Appropriate Water

Notice is given that City of Elkton, PO Box 308, Elkton SD 57026 has filed an application for a water permit to appropriate 0.18 cubic feet of water per second (cfs) from one well completed into the Big Sioux: Aurora Aquifer (40 feet deep) located in the SE 1/4 NW 1/4 Section 21 for irrigation of 3 acres located in the SE 1/4 NW 1/4 Section 21; all in T109N-R47W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located in the City of Elkton SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8879-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A-9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by September 9, 2024.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by September 9, 2024.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled, and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Published once at the total approximate cost of _

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Friday, August 16, 2024 2:57 PM
To: registerclassifieds@brookingsregister.com
Subject: 8879-3 City of Elkton - Public Notice
Attachments: 8879-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on August 28, 2024.

City of Elkton, PO Box 308, Elkton SD 57026, 605542-5411, has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol Ave, Pierre SD 57501.

Let me know if you have questions. **Please acknowledge receipt of this email.**

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us



Affidavit of Publication

State of South Dakota

Exhibit "A"

ss

County of Brookings

Katherine Foiles of said county, first duly sworn, on oath, says: That she is the office clerk of THE BROOKINGS REGISTER, a daily newspaper, printed and published in the City of Brookings, in said County of Brookings, and State of South Dakota; that she has full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper and has a bona fide circulation of at least two hundred copies of each issue daily; that said newspaper has been published within the said County of Brookings and State of South Dakota, for more than one year prior to the first publication of Exhibit "A," hereto attached and herein mentioned, and was and is printed that the

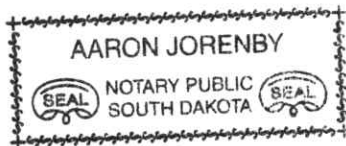
LEG #40479 Notice of Application 8879-3

same was published, is hereto attached marked Exhibit "A" said newspaper for _____ 1 times, to-wit:

August 28, 2024

said Exhibit "A" inures to the sole benefit for the publishers of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are:

Forty-Four Dollars and Ninety-Seven Cents \$44.97



August

KMF

30 day of

2024

AS

Notary Public in and for the County of Brookings, South Dakota.
My Commission expires February 22, 2026

Legal 40479 1X
8/28

NOTICE OF APPLICATION
NO. 8879-3 TO
APPROPRIATE WATER

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RECEIVED

SEP 05 2024

OFFICE OF
WATER

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Published August 28, 2024 at the total approximate cost of \$44.97 and may be viewed free of charge at www.sdpublicnotices.com.



28

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Friday, August 16, 2024 3:00 PM
To: cityelk@itctel.com
Subject: 8879-3 City of Elkton - Public Notice
Attachments: 8879-3 Rec.pdf; 8879-3 Ltr.pdf; 8879-3 PubNotice.pdf

Good afternoon,

Attached is a copy of the report, chief engineer's recommendation, and information regarding the public notice for your water permit application. As stated in the letter, **please contact the paper(s) as soon as possible to authorize publication and arrange for payment.** This information is also being mailed to you today.

Let me know if you have questions. Please acknowledge receipt of this email.

Thank you,

Rachel Rodriguez
DANR | Program Assistant
Rachel.Rodriguez@state.sd.us





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

SEP 27 2024

City of Elkton
c/o Susan Schuurman, Finance Officer
PO Box 308
Elkton SD 57026

Dear Ms. Schuurman:

Enclosed is Water Permit No. 8879-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

**Affidavit of Public Notice
Posting on DANR Website**

Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the application is contested, the posting is moved to the DANR contested case website at <https://danr.sd.gov/public/ContestedCase.aspx> until final action is taken on the application pursuant to SDCL § 46-2A-4.

Application No.: 8879-3

Name of Applicant: City of Elkton, c/o Charles Remund, Mayor

Date of Posting: 8/26/2024

Date of Removal: 9/27/2024

Ron Duvall, Engineer III

9/27/2024

Date

Subscribed and sworn to before me, a notary public, this 27th day of Sept, 2024.

Notary Public - South Dakota

My commission expires: **Rachel Rodriguez**
My Commission Expires
May 16, 2029

(SEAL)





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

June 5, 2026

City of Elkton
C/O Charles Remund
PO Box 308
Elkton, SD 57026

8879-3

Dear Mr. Remund:

I am writing in regard to your Water Permit No. 8879-3. The water permit authorizes the diversion of 0.18 cfs (approx. 180 gpm), from one well, completed into the Big Sioux: Aurora Aquifer, for the irrigation of 3 acres in the SE ¼ NW ¼, of Section 21-T109N-R47W.

In reviewing your 2025 irrigation questionnaire, we have found discrepancies in the amount of water used and have some concerns. Enclosed is a copy of your questionnaire for reference purposes.

Water Permit No. 8879-3 allows you to use up to 2 acre-feet (ac-ft) (24 inches) of water, per acre, per year. On the questionnaire you reported substantially more water use. The following information is what was reported and what is authorized:

- 3.67 acres reported irrigated
- Reported water use – 26.52 ac-ft of water (approximately 106.06 inches per acre)
- Authorized water use – 6 acre-feet (3 acres x 2 ac-ft per year = 24 inches per acre)

We realize that water use depends greatly on climactic conditions and may vary year to year. However, it is very rare that irrigators come close to the 24 inches per acre that is authorized. Typical water use is between 8 and 12 inches per acre. Often, irrigators do not keep track of their days or hours actually pumped and estimate numbers for the questionnaires in an effort to get them completed and back in on time. While we appreciate returning the forms in a timely manner each year, we need the forms to reflect accurate information to ensure everyone is limiting their use to the amount of water appropriated to them.

The information we receive each year from irrigators across the state is very valuable. The water use data supplied by irrigators is one of the tools we use to help determine whether an aquifer or stream is nearing full appropriation.

If you do in fact apply as much water as claimed on your questionnaire, you are exceeding the limits of your water permit and will have to reduce your discharge to stay within the authorized limit. If you simply estimated your water use, we ask that you please ensure the information reported is as accurate as possible. As stated before, the information you provide to us is very valuable. If you have any questions, please contact me.

Sincerely,

Shannon Konst
Water Rights Program
605 773-3352
Shannon.konst@state.sd.us