

**SOUTH DAKOTA  
WATER PERMIT NO. 8914-3**

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Date of first receipt of application December 9, 2024.

Date of return to applicant for corrections, amendments or changes December 11, 2024.

Date of receipt of corrected application December 30, 2024.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8914-3 to Todd Heine, 1020 E. 320<sup>th</sup> Street, Vermillion SD 57069, 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. 8914-3 appropriates 1.11 cubic feet of water per second (cfs) from one well (100 feet deep) completed into the Missouri: Elk Point Aquifer described as the SW1/4 NE1/4 Section 29 for irrigation of 54 acres located in the W1/2 NE1/4, NW1/4 SE1/4 Section 29; all in T92N-R51W. The same irrigated acreage and well location are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp. This site is located approximately one mile southeast of Vermillion 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: June 1 – September 30.
3. The date from which applicant may claim right is December 9, 2024.
4. The date of approval of Permit No. 8914-3 is February 24, 2025.
5. One-fifth of the construction is to be completed on or before August 24, 2027.
6. All construction is to be completed on or before February 24, 2030.
7. Water is to be put to beneficial use on or before February 24, 2034.
8. 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. 8914-3 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. 8914-3 authorizes a maximum diversion rate of 1.11 cfs for the irrigation of 54 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: \_\_\_\_\_

Mark Mayer  
Mark Mayer, PE  
Director of Office of Water  
Department of Agriculture and Natural Resources

3/17/25  
date



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

RECEIVED

DEC 09 2024

OFFICE OF  
WATER

|                                                                                                               |                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mail to:<br><br>SD DANR, Water Rights<br>523 E Capitol Ave<br>Pierre, SD 57501-3182<br><br>ph. (605) 773-3352 | No. <u>8914-3</u> Hydrologic Unit <u>10170101</u><br>Basin <u>Missouri R</u><br>Newspaper <u>Vermillion Plain Talk</u><br><u>Daily Press &amp; Dakotan</u><br>(office use only) |
|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**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 Todd Heine

**Note:** The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.

Mailing Address 1020 E. 320th st. Vermillion SD 57069  
(Address) (City) (State) (Zip Code)

Phone \_\_\_\_\_ Mobile 1-605-677-8566 Email \_\_\_\_\_

2. Amount of water claimed 1.11 \*CFS or 500 \*\*GPM \*\*\*AF Total Acreage 54 acres  
(\*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 100foot well

4. Location of point of diversion 1 well- section 29- 92N51W -NE1/4NW1/4 SW1/4 NE1/4 also see  
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

Parcel description

County clay

5. County or counties where water will be used clay

6. Annual period during which water is to be used June-September 30

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>W1/2 NE1/4, NW1/4 SE1/4</u> | <u>44acre:</u> | <u>Parcel description: Lot 2 Mildred</u> |       |
| <u>Sec 29-T92N-R51W</u>        | <u>54</u>      | <u>Anderson Tract 1 in Govt Lot 2</u>    |       |
|                                |                | <u>2-92-51 Fairview Twp</u>              |       |
|                                |                |                                          |       |

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

I, Todd Heine Manager, 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)

## Supplemental Information

(type or print)

### 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 sams Well service  
(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) 100 Depth to Top of Water Bearing Material \_\_\_\_\_ Depth to Water from Surface \_\_\_\_\_
- d) Distance to nearest domestic well on applicant's property 1 mile Property owned by others no

### 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

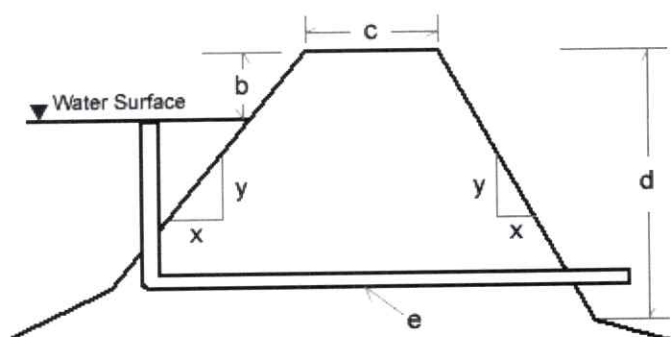
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- 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



R-51-W

PRAIRIE CENTER TWP.

**OFFICE OF  
WATER**

RECEIVED

Location of the  
Center pivot — windshield wiper!  
VERMILLION TWP.

VERMILLION TWP.

[illegible]

SEE PAGE 43 FOR ADDITIONAL NAMES NOT LISTED ON MAPS.



8914-3

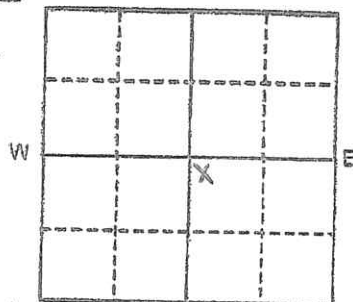
SD EForm - 1621LD V1

## SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location ~~SW~~ ~~SE~~  $\frac{1}{4}$  Sec 29 Twp 92N Rg 51WCounty CLAY

Please mark well location with an "X"



Well Completion Date

6/13/2024

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?  
1400 ft. from SEPTIC (identify source)

## PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Test holes  
☒ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

## METHOD OF DRILLING:

REVERSE ROTARY

## CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

| PIPEWEIGHT | DIAMETER     | FROM        | TO           | HOLE DIAMETER |
|------------|--------------|-------------|--------------|---------------|
| LB/FT      | <u>10</u> IN | <u>0</u> FT | <u>40</u> FT | <u>18</u> IN  |
| LB/FT      | IN           | FT          | FT           | IN            |
| LB/FT      | IN           | FT          | FT           | IN            |

## GROUTING DATA:

| Grout Type                | No. of Sacks | Grout Weight | From        | To           |
|---------------------------|--------------|--------------|-------------|--------------|
| <u>BENTONITE GROUT 26</u> |              | Lb/gal       | <u>0</u> Ft | <u>20</u> Ft |
|                           |              | Lb/gal       | Ft          | Ft           |

Describe grouting procedure

TRENIE PIPE

## SCREEN:

☒ Perforated pipe ☐ Manufactured
Diameter 10 Inches Length 40 FeetMaterial PVCSlot Size 50 Set From 40 Feet to 80 Feet

Other information

1-20' Johnson SS-60 & LOT - 80' - 100'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 TABLETS
☐ No, Why Not?

Lab to which water quality sample sent for analysis

Well Owner: TODD HEINE

Business Name:

Address: 412 STERLINGCity, State, Zip: VERMILLION, SD 57069

## WELL LOG:

| FORMATION    | DEPTH |     |
|--------------|-------|-----|
|              | FROM  | TO  |
| TOP SOIL     | 0     | 2   |
| SAND         | 2     | 44  |
| CLAY / SILTY | 44    | 60  |
| FINE GRAVEL  | 60    | 100 |
|              |       |     |
|              |       |     |
|              |       |     |
|              |       |     |
|              |       |     |

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: SUBMERSIBLE  
☐ Bailed  
☐ Other

Pumping Level Below Land Surface

25 Ft. After 1 Hrs. pumped 500 GPM

Ft. After \_\_\_\_\_ Hrs. pumped \_\_\_\_\_ GPM

If pump installed, pump rate: \_\_\_\_\_ GPM

## REMARKS

475 S30 GRUNDFOS SUBMERSIBLE PUMP30HP KARLINGTON MOTORThis well was drilled under license # 805 and this report is true and accurate.Drilling firm: 8AM WELL COMPANY

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

RECEIVED

JAN 06 2025

OFFICE OF  
WATER

# RECEIPT

## WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date December 31st, 2024

RECEIVED OF Francis J, Doris, Tim, Todd & Nick Heine 1020 E 320<sup>th</sup> St Vermillion SD 57069

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

|                                                                                                                        |                  |
|------------------------------------------------------------------------------------------------------------------------|------------------|
| Fee for Application for Permit No. <u>8914-3</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>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 Groulx  
Chief Engineer

SK

## **Water Rights Program - File Documentation**

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**NAME:** Todd Heine

**ADDRESS:** 1020 E 320<sup>th</sup> Street, Vermillion SD 57069

**DATE:** December 12, 2024

**RE:** Water Permit Application

**COMMENTS:**

I called Todd today to clarify the total acres and proposed irrigation area. Based on his map, there is a tiny area in the NW ¼ NE ¼ Sec 32-T92N-R51W that will also be irrigated. He agreed and also said going with a total acreage of 54 was fine.

*Rachel Rodriguez*

Rachel Rodriguez

Water Rights Program

605 773-3352

[rachel.rodriguez@state.sd.us](mailto:rachel.rodriguez@state.sd.us)

## Rodriguez, Rachel

---

**From:** Todd Heine <toddheine66@gmail.com>  
**Sent:** Thursday, December 12, 2024 8:26 AM  
**To:** Rodriguez, Rachel  
**Subject:** Re: [EXT] Water Permit Application for Irrigation

Rachel,  
Out of the 54 acres , 44 acres are irrigated. This has 1 well. I sent in a Payment of \$700.00 Yesterday to your Department.  
On a second e-mail , I have the map description.  
thx,

**Todd Heine**



**605.677.8566**  
**1014 E. 320th Street**  
**Vermillion, SD 57069**

On Wed, Dec 11, 2024 at 2:04 PM Rodriguez, Rachel <[Rachel.Rodriguez@state.sd.us](mailto:Rachel.Rodriguez@state.sd.us)> wrote:

Good afternoon,

I am in receipt of your online water permit application. There are a few items that need clarification:

- The Total Acreage (54) does not match the Land Description (44). I would err on the high side and have Land Description match at 54 acres. Please advise.
  - A map needs to be submitted with the application. For your use, I have enclosed a map, please outline the acres to be irrigated and mark the proposed well location with an "X".
- On page 2, you did not indicate the number of wells. Please let me know, I presume it is just one, since you have indicated 1 well for the location of point of diversion.
- A copy of the well completion report from Sam's Well Service would be appreciated if available.
- The fees for this application total \$700.00, \$500 for the application, and \$200 for the inspection fee.

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

Thank you,

## Rodriguez, Rachel

---

**From:** Todd Heine <toddheine66@gmail.com>  
**Sent:** Thursday, December 12, 2024 8:28 AM  
**To:** Rodriguez, Rachel  
**Subject:** Fwd: [EXT]  
**Attachments:** IMG\_1316.jpg

Rachel,  
Attached is the Map location of the pivot point.  
thx,

**Todd Heine**



**605.677.8566**

**1014 E. 320th Street  
Vermillion, SD 57069**

----- Forwarded message -----

From: <[6056778566@vzwpix.com](mailto:6056778566@vzwpix.com)>  
Date: Thu, Dec 12, 2024 at 8:16 AM  
Subject:  
To: <[toddheine66@gmail.com](mailto:toddheine66@gmail.com)>

## Rodriguez, Rachel

---

**From:** Rodriguez, Rachel  
**Sent:** Wednesday, December 11, 2024 2:04 PM  
**To:** toddheine66@gmail.com  
**Subject:** Water Permit Application for Irrigation  
**Attachments:** HeineMap.pdf; HeinePage2.pdf

Good afternoon,

I am in receipt of your online water permit application. There are a few items that need clarification:

- The Total Acreage (54) does not match the Land Description (44). I would err on the high side and have Land Description match at 54 acres. Please advise.
- A map needs to be submitted with the application. For your use, I have enclosed a map, please outline the acres to be irrigated and mark the proposed well location with an "X".
- On page 2, you did not indicate the number of wells. Please let me know, I presume it is just one, since you have indicated 1 well for the location of point of diversion.
- A copy of the well completion report from Sam's Well Service would be appreciated if available.
- The fees for this application total \$700.00, \$500 for the application, and \$200 for the inspection fee.

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



Thank you Ron for the response. I had a hard time with the legal description. The map is correct with the location of the pivot point and the pivot. If it is alright with you , list both legal descriptions so we know we are covered. thanks

Also I will try and get the final well completion report.

**Todd Heine**



**605.677.8566**

**1014 E. 320th Street**

**Vermillion, SD 57069**

*Response received  
12/30/24*

On Mon, Dec 30, 2024 at 5:04 PM Duvall, Ron <[Ron.Duvall@state.sd.us](mailto:Ron.Duvall@state.sd.us)> wrote:

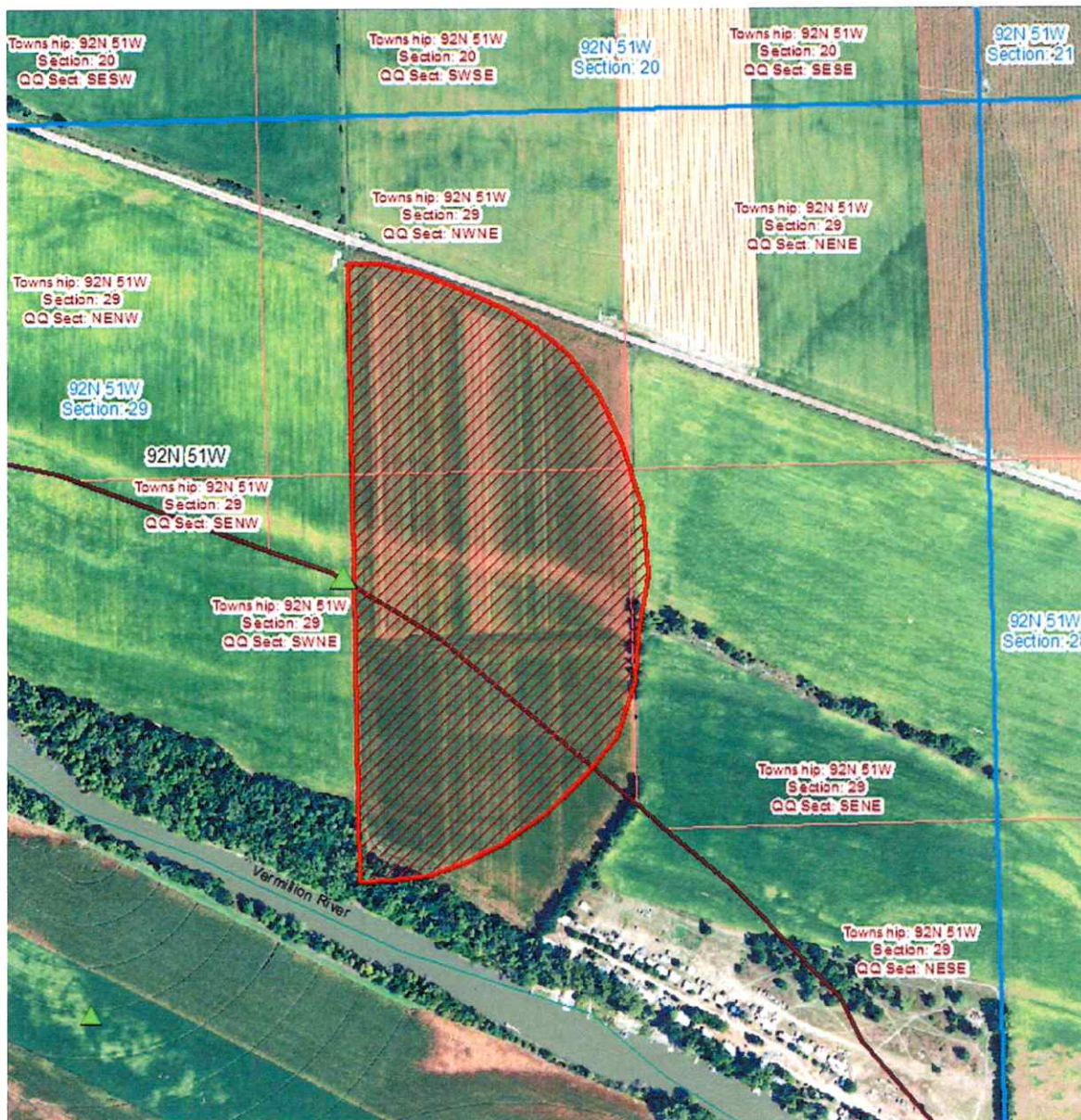
Todd,

I am looking over your application and want to confirm some legal descriptions. Following is the description according to Beacon:

A screenshot of the Beacon GIS web application for Clay County, SD. The interface has a dark red header with navigation links: Layers, Map, Search, Sales Search, Sales List, Results, Sales Results, and a white button labeled "Parcel Report". Below the header, the "Summary" section is displayed. It lists various property details in two columns. The "Legal Description" field is highlighted in yellow and contains the text "LOT 2 MILDRED ANDERSON TRACT 1 IN GOV LOT 2 2-92-51 FAIRVIEW TWSP" with a note below it: "(Note: Not to be used on legal documents)". Other fields include Parcel ID, Tax ID, Section Plat, Routing Number, Neighborhood, Property Address, Acreage, Class, and Tax District/Area.

| Summary                  |                                                                                                                |
|--------------------------|----------------------------------------------------------------------------------------------------------------|
| Parcel ID                | 12000-09251-204-01                                                                                             |
| Tax ID                   |                                                                                                                |
| Section Plat             |                                                                                                                |
| Routing Number           | 20-092-51                                                                                                      |
| Neighborhood             | 12000                                                                                                          |
| Property Address         | N/A                                                                                                            |
| Legal Description        | LOT 2 MILDRED ANDERSON TRACT 1 IN GOV LOT 2 2-92-51 FAIRVIEW TWSP<br>(Note: Not to be used on legal documents) |
| Acreage                  | 54.17                                                                                                          |
| Class                    | 100 - Agricultural Land - Vacant                                                                               |
| Tax District/Area        | 12.05                                                                                                          |
| <a href="#">View Map</a> |                                                                                                                |

This is a screen snip from our GIS software with the approximate pivot location outlined in red and well with a green triangle:



The legal descriptions in your part of the world are messy. Based on the GIS map, I would ordinarily say the pivot is located in the W1/2 NE1/4 and NW1/4 SE1/4 section 29-T92N-R51W and well in the SW1/4 NE1/4 section 29 assuming the well is near the pivot center. The legal description found on Beacon is way different. I am thinking of listing both legal descriptions unless you have a better idea. I also see you spoke to Rachel about the legal description and she mentioned a small part being in section 32. I am not seeing how, but she is out of the office at the moment.

Do I have the pivot outlined correctly above? If so, should I go with both legal descriptions – GIS and Beacon? Also, do you have a copy of the well completion report?

Please let me know.

Thank you,

Ron



**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. 8914-3, Todd Heine**

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. 8914-3, Todd Heine, 1020 E 320th Street, Vermillion SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 8914-3 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. 8914-3 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. 8914-3 authorizes a maximum diversion rate of 1.11 cfs for the irrigation of 54 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  
February 3, 2025

Report to the Chief Engineer  
On Water Permit Application No. 8914-3

Todd Heine

February 3, 2025

Water Permit Application No. 8914-3 proposes to divert water at a maximum instantaneous diversion rate of 1.11 cubic feet of water per second (cfs) from one well completed into the Missouri: Elk Point aquifer (100 feet deep) located in the SW  $\frac{1}{4}$  NE  $\frac{1}{4}$  of Section 29 for the irrigation of 54 acres located in the W  $\frac{1}{2}$  NE  $\frac{1}{4}$ , NW  $\frac{1}{4}$  SE  $\frac{1}{4}$  of Section 29; all in T92N-R51W. The same irrigated acreage and well location are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp. The applicant is requesting a diversion rate greater than the statutory limit of 1.0 cfs per 70 acres. The site of interest is located in Clay County approximately one mile southeast of Vermillion, SD.

**AQUIFER:** Missouri: Elk Point (M: EP)

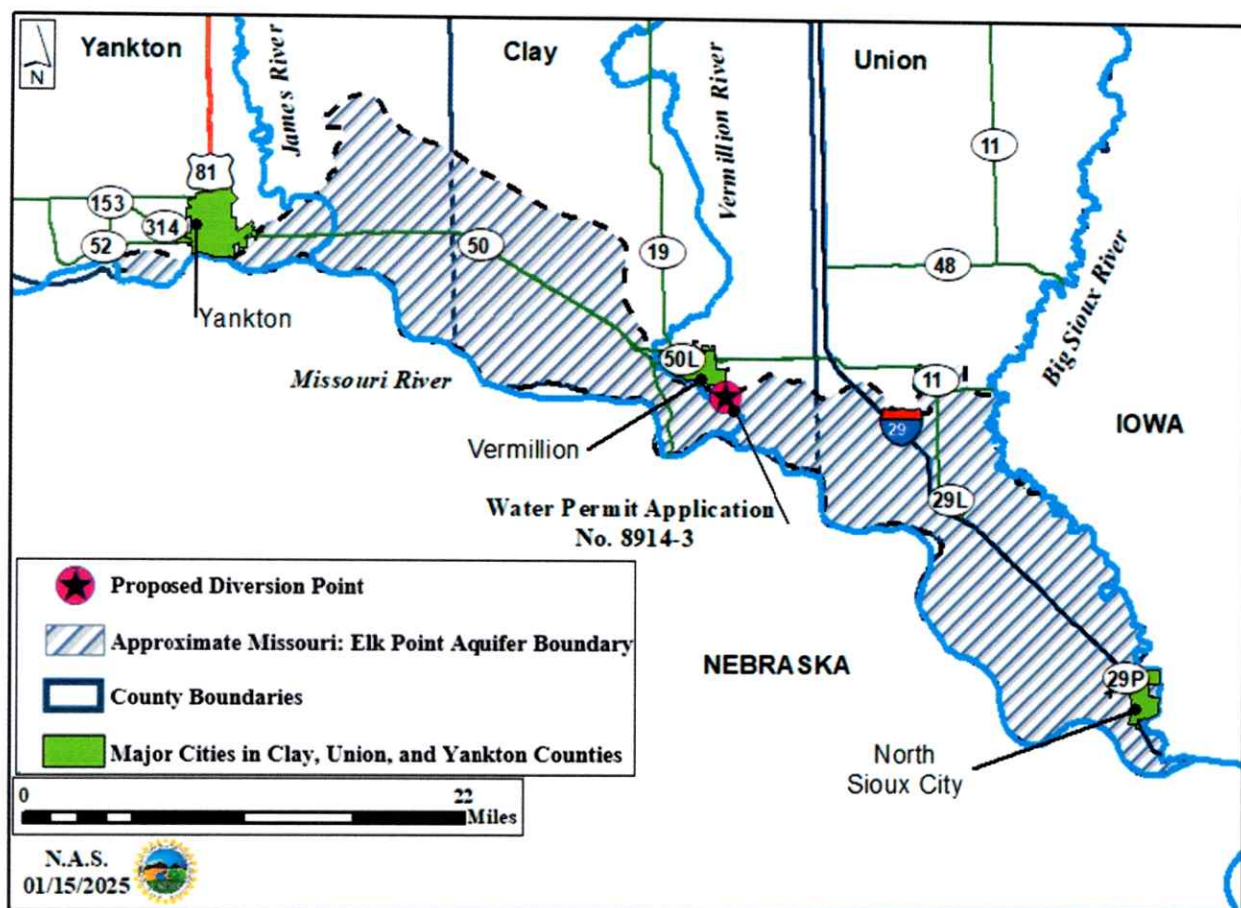
**HYDROGEOLOGY:**

The Missouri: Elk Point aquifer is a glacial outwash deposit consisting of fine sand to very coarse gravel (Niehus, 1997). The Missouri: Elk Point aquifer underlies approximately 219,100 acres in Clay, Union, and Yankton Counties in South Dakota, and the aquifer contains approximately 3,287,100 acre-feet of recoverable water in storage (Hedges et al., 1982). The Missouri: Elk Point aquifer is hydrologically connected to the Lower Vermillion-Missouri, and Lower James-Missouri aquifers, and the Big Sioux, James, Missouri, and Vermillion Rivers (Niehus, 1994; Stephens, 1967).

The Missouri: Elk Point aquifer is generally under confined conditions in the northwestern part of the aquifer and unconfined conditions in the southern part of the aquifer, and the direction of groundwater movement in the aquifer is generally from the northwest to the southeast (Niehus, 1994 and 1997).

There is a water well completion report on file for the existing well proposed to be used by Water Permit Application No. 8914-3 (Water Rights, 2025d). The report lists, “top soil” from 0 to 2 feet below the ground surface, “sand” from 2 to 44 feet, “clay/silty” from 44 to 60 feet, and “fine gravel” from 60 to 100 feet below the ground surface (Water Rights, 2025d). The well was screened from 40 to 80 feet and had a static water level of approximately 20 feet at the time of well completion (June 13, 2024) (Water Rights, 2025d). Based on the well completion report on file, the Missouri: Elk Point aquifer is unconfined at the existing well location for the well proposed to be used by this application (Water Rights, 2025c and 2025d).

Figure 1 displays a map of the approximate Missouri: Elk Point aquifer extent (modified from Hedges et al., 1982) and the location of the existing well site for Water Permit Application No. 8914-3.



**Figure 1.** Map of the approximate Missouri: Elk Point aquifer extent modified from Hedges and others (1982) with the location of the existing well site for Water Permit Application No. 8914-3 (Water Rights, 2025c and 2025d)

### 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 Missouri: Elk Point aquifer.

### WATER AVAILABILITY:

Water Permit Application No. 8914-3 proposes to appropriate water from the Missouri: Elk Point 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 Missouri: Elk Point 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 Missouri: Elk Point aquifer must be considered.

## **HYDROLOGIC BUDGET:**

### **Recharge**

Recharge to the Missouri: Elk Point aquifer is primarily through the infiltration of precipitation where the aquifer is at or near the ground surface, seepage from the Big Sioux, James, Missouri, and Vermillion Rivers, inflow from the Lower Vermillion-Missouri and Lower James-Missouri aquifers at the northern extent of the Missouri: Elk Point aquifer and inflow from the Big Sioux aquifer at the extreme northeastern extent of the Missouri: Elk Point aquifer, and from the underlying Dakota aquifer in Union County (Condley and Lamkey, 2022; Niehus, 1994 and 1997).

Several studies have been completed to estimate average annual recharge to the Missouri: Elk Point aquifer (Condley and Lamkey, 2022; Hedges et al., 1985; Mathiowetz, 2022; Stephens, 1967; Stonesifer, 2013). A discussion of these studies is available in the hydrologic budget section within the report for Water Permit No. 8614-3 - Lewis & Clark Regional Water System completed by Mathiowetz (2022). Collectively, the estimated average annual recharge rate to the Missouri: Elk Point aquifer is approximately 130,770.3 acre-feet per year assuming full development of the existing future use and water rights/permits currently held by Lewis & Clark Regional Water System (Mathiowetz, 2022 and 2023).

### **Discharge**

Discharge from the Missouri: Elk Point aquifer is primarily through well withdrawals, evapotranspiration where the aquifer is at or near the ground surface, outflow to the Big Sioux and Missouri Rivers during periods of low flow and stage, and leakage to the underlying Dakota aquifer (Niehus, 1994 and 1997; Water Rights, 2025d).

Currently, there are 654 water rights/permits authorized to appropriate water from the Missouri: Elk Point aquifer, one pending application – Water Permit Application No. 8920-3 requesting to irrigate 140 acres in Clay County, and six future use permits reserving water. The six future use permits (Nos. 5832-3, 6237-3, 6869-3, 6869A-3, 7208-3, and 8754-3) collectively reserve 21,021 acre-feet of water annually from the Missouri: Elk Point aquifer (Water Rights, 2025c). For the purpose of estimating average annual withdrawals, the future use permits are assumed to be fully developable for a total of 21,021 acre-feet per year.

Table 1 summarizes the 44 non-irrigation water rights/permits (including two irrigation water permits, see paragraph below) authorized to appropriate water from the Missouri: Elk Point aquifer with the estimated annual use for each water right/permit as determined by their limiting

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 their respective permitted diversion rate. Water rights/permits limited by an annual volume are assumed to withdraw their entire respective annual volume limitation. This is a standard method used by the DANR-Water Rights Program for estimating annual withdrawals by non-irrigation appropriations from an aquifer (Water Rights, 2025c). This method is likely an overestimation of withdrawals. Three municipal water rights were identified as being connected to a rural water system and likely maintain their wells for standby purposes (Drinking Water Program, 2025; Water Rights, 2025c); as such, the average annual water use for these water rights has been estimated to be zero acre-feet per year on Table 1.

Water Right No. 5437-3 was licensed for a reduced diversion rate which prevents pumping the allotted volume of water specified on the permit (Water Rights, 2025c). The estimated average annual withdrawal rate for Water Right No. 5437-3 was approximated assuming pumping 60% of full time at the respective licensed diversion rate method as mentioned above on Table 1.

Water Permit No. 5998-3 is permitted for the irrigation of turf and Water Permit No. 5998A-3 extends the amount of time allowed for water to be put to beneficial use as authorized by Water Permit No. 5998-3 (Water Rights, 2025c). The estimated use for these two irrigation permits is included with the non-irrigation water rights/permits listed on Table 1, as the permit holder is not required to submit an annual irrigation questionnaire. However, Water Permit No. 5998-3 is authorized for use in a rural water system and the permit holder reports the annual use by Water Permit No. 5998-3 with their other rural water system Missouri: Elk Point aquifer permits, listed on Table 2 (Water Rights, 2025c).

Water Permit No. 7059-3 is permitted for recreational use to maintain the water level of a small lake with a surface area of 17.6 acres (Water Rights, 2025c). It is assumed that the only consumptive use of this water is due to evaporation; however, it is likely there is some seepage through the bottom of the pond (Water Rights, 2025c). Annual evaporation of water from shallow lakes is estimated to be approximately 42 inches per year at the location of the authorized diversion point for Water Permit No. 7059-3 (NOAA, 1982; Water Rights, 2025c), and normal annual total precipitation at the Sioux City, Iowa airport was determined to be approximately 29.27 inches over a 30-year period of record (1991 to 2020) (Arguez et al., 2020), which results in the lake to fluctuate approximately 12.73 inches per year. To maintain the water level of the small lake, the estimated use of Water Permit No. 7059-3 is approximately 18.7 acre-feet per year. Overall, the average annual withdrawal rate for the 44 non-irrigation water rights/permits (including the two irrigation permits not required to submit an annual irrigation questionnaire) authorized to appropriate water from the Missouri: Elk Point aquifer is approximately 69,385 acre-feet per year (Table 1) (Water Rights, 2025c and 2025f).

# Report on Water Permit Application No. 8914-3

**Table 1.** Estimated annual use for the non-irrigation water rights/permits (plus two irrigation water permits for Clay RWS) authorized to divert water from the Missouri: Elk Point aquifer (Drinking Water Program, 2025; Water Rights, 2025c and 2025f)

| Permit No.                                                                                                                                  | Name                                        | Status | Priority Date | Use      | Authorized Diversion Rate (cfs) | Authorized Annual Volume (acre-feet/year) | Total Estimated Use (acre-feet/year) |
|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--------|---------------|----------|---------------------------------|-------------------------------------------|--------------------------------------|
| 4501-3                                                                                                                                      | Eddie Wohl                                  | LC     | 03/27/1980    | COM      | 0.05                            |                                           | 21.7                                 |
| 5616-3                                                                                                                                      | Cimpls Inc                                  | LC     | 01/31/1992    | COM      | 0.44                            |                                           | 191.2                                |
| 5827-3                                                                                                                                      | Don Lantis                                  | LC     | 06/08/1994    | COM      | 0.022                           |                                           | 9.6                                  |
| 5953-3                                                                                                                                      | H & K Oil Co                                | LC     | 08/19/1996    | COM      | 0.037                           |                                           | 16.1                                 |
| 6151-3                                                                                                                                      | Vernon & Norma Vakoc                        | LC     | 10/04/1999    | COM      | 0.67                            |                                           | 291                                  |
| 6580-3                                                                                                                                      | West Shores Acres LLC                       | LC     | 01/28/2005    | COM      | 0.10                            |                                           | 43.5                                 |
| 8031-3                                                                                                                                      | Dakota Protein Conversion Inc               | PE     | 06/18/2014    | COM      | 0.22                            |                                           | 95.6                                 |
| 8147-3                                                                                                                                      | Doug Lafleur                                | PE     | 04/06/2015    | COM, LCO | 1.0                             | 160                                       | 159                                  |
| 8381-3                                                                                                                                      | RP Constructors                             | PE     | 11/19/2018    | COM      | 0.04                            | 1                                         | 1                                    |
| 8403-3                                                                                                                                      | Stockmen's Livestock Inc                    | LC     | 06/27/2019    | COM      | 1.06                            | 40                                        | 40                                   |
| 8415-3                                                                                                                                      | 3 Sons Properties                           | PE     | 11/14/2019    | COM      | 0.10                            | 25                                        | 25                                   |
| 8435-3                                                                                                                                      | Sioux City Insulation                       | PE     | 07/30/2012    | COM      | 0.33                            | 1                                         | 1                                    |
| 8844-3                                                                                                                                      | GrowMark Inc                                | PE     | 03/22/2024    | COM, IND | 0.67                            | 3.68                                      | 3.68                                 |
| 7388-3                                                                                                                                      | Clay RWS Inc                                | PE     | 07/30/2012    | DOM, IRR | 2.0                             |                                           | 349                                  |
| 5998-3                                                                                                                                      | Clay RWS Inc                                | PE     | 04/21/1997    | IRR, DOM | 2.2                             |                                           |                                      |
| 5998A-3                                                                                                                                     | Clay RWS Inc                                | PE     | 04/21/1997    | IRR, DOM | 0.0                             |                                           |                                      |
| 5490-3                                                                                                                                      | USGS CERC Field Research Station            | LC     | 11/15/1990    | FWP      | 0.09                            |                                           | 39.1                                 |
| 5907-3                                                                                                                                      | US Fish and Wildlife Service                | LC     | 01/26/1996    | FWP      | 3.78                            |                                           | 1,643                                |
| 6733-3                                                                                                                                      | US Fish and Wildlife Service                | LC     | 06/07/2006    | FWP      | 1.11                            |                                           | 482.5                                |
| 7094-3                                                                                                                                      | US Fish and Wildlife Service                | LC     | 12/01/2008    | FWP      | 2.67                            |                                           | 1,160                                |
| 5021-3                                                                                                                                      | Vishay-Dale Electronics Inc                 | LC     | 05/04/1984    | IND      | 0.10                            |                                           | 43.5                                 |
| 5388-3                                                                                                                                      | LG Everist Inc                              | LC     | 01/30/1990    | IND      | 0.45                            |                                           | 195.6                                |
| 5453-3                                                                                                                                      | AaLadin Industries Inc                      | LC     | 05/24/1990    | IND      | 0.05                            |                                           | 21.7                                 |
| 5593-3                                                                                                                                      | Vishay-Dale Electronics Inc                 | LC     | 10/31/1991    | IND      | 0.056                           |                                           | 24.3                                 |
| 6170-3                                                                                                                                      | Knife River                                 | LC     | 01/03/2000    | IND      | 0.222                           |                                           | 96.5                                 |
| 1255-3                                                                                                                                      | City of Elk Point                           | LC     | 01/01/1914    | MUN      | 1.13                            |                                           | 491.1                                |
| 143-3                                                                                                                                       | City of Vermillion                          | LC     | 01/21/1956    | MUN      | 1.78                            |                                           | 773.7                                |
| 147-3                                                                                                                                       | City of Vermillion                          | LC     | 01/01/1935    | MUN      | 2.66                            |                                           | 1,245                                |
| 6236-3                                                                                                                                      | City of Vermillion                          | LC     | 11/06/2000    | MUN      | 2.6                             | 1,161                                     |                                      |
| 6354-3                                                                                                                                      | City of Vermillion                          | LC     | 08/12/2002    | MUN      | 0.022                           |                                           | 10                                   |
| 1965-3                                                                                                                                      | Town of Gayville                            | LC     | 01/01/1914    | MUN      | 0.37                            |                                           | 0*                                   |
| 4207-3                                                                                                                                      | Town of Jefferson                           | LC     | 01/01/1916    | MUN      | 0.90                            |                                           | 391                                  |
| 5118-3                                                                                                                                      | Town of Gayville                            | LC     | 01/28/1987    | MUN      | 0.33                            |                                           | 0*                                   |
| 5437-3                                                                                                                                      | Dakota Dunes Community Improvement District | LC     | 04/12/1990    | MUN      | 3.33                            |                                           | 1,447                                |
| 5782-3                                                                                                                                      | City of North Sioux City                    | LC     | 08/12/1993    | MUN      | 1.14                            |                                           | 495.5                                |
| 8212-3                                                                                                                                      | City of Yankton                             | LC     | 03/25/2016    | MUN      | 20.12                           | 6,050                                     | 6,050                                |
| 7059-3                                                                                                                                      | WE Investments LLC                          | PE     | 08/28/2008    | REC      | 3.11                            |                                           | 18.7                                 |
| 8744-3                                                                                                                                      | Dakota Bay                                  | PE     | 03/29/2023    | REC      | 1.55                            | 28.6                                      | 28.6                                 |
| 6736-3                                                                                                                                      | Lewis and Clark RWS                         | PE     | 07/08/1994    | RWS      | 27.85                           | 20,165                                    | 53,442                               |
| 7207-3                                                                                                                                      | Lewis and Clark RWS                         | PE     | 07/08/1994    | RWS      | 20                              | 12,000                                    |                                      |
| 8613-3                                                                                                                                      | Lewis and Clark RWS                         | PE     | 07/16/2007    | WDS      | 29.8                            | 13,000                                    |                                      |
| 8614-3                                                                                                                                      | Lewis and Clark RWS                         | PE     | 03/04/2022    | RWS      | 0.0                             | 8,277                                     |                                      |
| 5581-3                                                                                                                                      | Larson's Landing                            | LC     | 07/30/1991    | SHD      | 0.089                           |                                           | 38.7                                 |
| 5592-3                                                                                                                                      | East Winds Court Inc                        | LC     | 10/09/1991    | SHD      | 0.11                            |                                           | 0*                                   |
|                                                                                                                                             |                                             |        |               |          |                                 | <b>TOTAL:</b>                             | <b>69,385</b>                        |
| *Identified as being connected to a RWS; therefore, water use from aquifer is presumed to be zero acre-feet/year                            |                                             |        |               |          |                                 |                                           |                                      |
| COM: Commerical; DOM: Domestic; FWP: Fish and Wildlife Propagation; IND: Industrial; IRR: Irrigation; LCO: Livestock Confinement Operation; |                                             |        |               |          |                                 |                                           |                                      |
| MUN: Municipal; REC: Recreation; RWS: Rural Water System; SHD: Suburban Housing Development                                                 |                                             |        |               |          |                                 |                                           |                                      |

Of the 44 non-irrigation water rights/permits (including the two irrigation permits not required to submit an annual irrigation questionnaire), there are 16 non-irrigation water rights/permits that are required to report their annual usage from the Missouri: Elk Point aquifer (Water Rights, 2025c and 2025f).

Three of the non-irrigation water rights/permits that are required to report (Nos. 8031-3, 8415-3, and 8435-3) are currently under development (or were approved in 2023) and have not reported any withdrawals from the Missouri: Elk Point aquifer to the DANR-Water Rights Program (Water Rights, 2025c). The remaining thirteen non-irrigation water rights/permits that are required to report their annual usage from the Missouri: Elk Point aquifer are shown on Table 2 (Water Rights, 2025c and 2025f). The reported usage (as shown on Table 2) for Permit Nos. 8381-3 and 8403-3 (approved in 2018 and 2019) is not necessarily reflective of the future usage of these permits based on information within their respective water permit files (Water Rights, 2025c), and only four years of reported withdrawals (Water Rights, 2025f). Therefore, the estimated use for Permit Nos. 8031-3, 8415-3, 8435-3, 8381-3, 8403-3, and 8614-3 will be based on the method used previously for non-irrigation use: water rights/permits 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. The estimated average annual withdrawal rate for these permits is listed on Table 1.

The reported use for the City of Yankton (8212-3) and Lewis and Clark Regional Water System (6736-3, 7207-3, 8613-3, and 8614-3) (as shown on Table 2) is steadily increasing (Water Rights, 2025f), as these water users are continually undergoing development (Water Rights, 2025c). It is likely these water users will use their entire respective annual volume limitation in the future; therefore, the average annual withdrawal rate for these water rights/permits is assumed to be their entire respective annual volume listed on Table 1 (Water Rights, 2025c).

The annual withdrawal rate for Clay Rural Water System Inc (Permit Nos. 5998-3, 5998A-3, and 7388-3) averaged over the last ten years (approximately 349 acre-feet per year) is more reflective of current usage than the entire period of record of reported withdrawals because the first few years of reported values were during the construction period (Water Rights, 2025c and 2025f). The average annual withdrawal rate based off the reported annual withdrawal rates averaged from 2013 to 2022 on Table 2 for these water permits will be used in this analysis.

The annual withdrawal rates for Doug Lafleur (8147-3) and City of Vermillion (147-3, 6236-3) on Table 2 are relatively steady over their respective periods of record (Water Rights, 2025c and 2025f); therefore, the average annual withdrawal rate based on the reported values from each of these water users (as shown on Table 2) is reasonably reflective of the future withdrawals likely to be made by these appropriative users. The average annual withdrawal rate based off the reported annual withdrawal rates averaged over the period of record on Table 2 for these water rights/permits will be used in this analysis.

**Table 2.** Non-irrigation water rights/permits required to report their respective annual use from the Missouri: Elk Point aquifer (Water Rights, 2025c and 2025f)

|                                                        | <b>RP<br/>Constructors</b> | <b>Stockmen's<br/>Livestock<br/>Inc</b> | <b>Clay RWS<br/>Inc</b>       | <b>Doug Lafleur</b> | <b>City of Vermillion</b> | <b>City of Yankton</b> | <b>Lewis and<br/>Clark RWS</b>    |
|--------------------------------------------------------|----------------------------|-----------------------------------------|-------------------------------|---------------------|---------------------------|------------------------|-----------------------------------|
|                                                        | 8381-3                     | 8403-3                                  | 5998-3,<br>5998A-3,<br>7388-3 | 8147-3              | 147-3, 6236-3             | 8212-3                 | 6736-3, 7207-3,<br>8613-3, 8614-3 |
| <b>2003</b>                                            |                            |                                         | 238                           |                     | 1,363                     |                        |                                   |
| <b>2004</b>                                            |                            |                                         | 483                           |                     | 1,226                     |                        |                                   |
| <b>2005</b>                                            |                            |                                         | 21                            |                     | 1,247                     |                        |                                   |
| <b>2006</b>                                            |                            |                                         | 170                           |                     | 1,252                     |                        |                                   |
| <b>2007</b>                                            |                            |                                         | 217                           |                     | 1,344                     |                        | 0                                 |
| <b>2008</b>                                            |                            |                                         | 213                           |                     | 1,199                     |                        | 0                                 |
| <b>2009</b>                                            |                            |                                         | 215                           |                     | 1,140                     |                        | 0                                 |
| <b>2010</b>                                            |                            |                                         | 183                           |                     | 1,071                     |                        | 0                                 |
| <b>2011</b>                                            |                            |                                         | 137                           |                     | 1,127                     |                        | 92                                |
| <b>2012</b>                                            |                            |                                         | 525                           |                     | 1,317                     |                        | 3,836                             |
| <b>2013</b>                                            |                            |                                         | 301                           |                     | 1,183                     |                        | 9,368                             |
| <b>2014</b>                                            |                            |                                         | 307                           |                     | 1,121                     |                        | 11,532                            |
| <b>2015</b>                                            |                            |                                         | 278                           | 202                 | 1,161                     |                        | 15,591                            |
| <b>2016</b>                                            |                            |                                         | 231                           | 202                 | 1,175                     | 66                     | 17,091                            |
| <b>2017</b>                                            |                            |                                         | 276                           | 202                 | 1,215                     | 531                    | 18,051                            |
| <b>2018</b>                                            |                            |                                         | 305                           | 98                  | 1,168                     | 504                    | 18,143                            |
| <b>2019</b>                                            | 0.0171                     | 1                                       | 292                           | 135                 | 1,440                     | 1,370                  | 20,397                            |
| <b>2020</b>                                            | 0.0224                     | 4.2                                     | 461                           | 121                 | 1,373                     | 2,923                  | 21,039                            |
| <b>2021</b>                                            | 0.2332                     | 5.5                                     | 486                           | 170                 | 1,378                     | 3,065                  | 23,537                            |
| <b>2022</b>                                            | 0.0252                     | 5.7                                     | 550                           | 142                 | 1,394                     | 3,405                  | 24,693                            |
| <b>2023</b>                                            | 0.0313                     | 6.4                                     | 495                           | 161                 | 1,368                     | 3,157                  | 26,801                            |
| <b>Max (acre-feet)</b>                                 | 0.2                        | 6.4                                     | 550                           | 202                 | 1,440                     | 3,405                  | 26,801                            |
| <b>Min (acre-feet)</b>                                 | 0.0171                     | 1                                       | 21                            | 98                  | 1,071                     | 66                     | 0                                 |
| <b>Avg (acre-feet)</b>                                 | <b>0.066</b>               | <b>4.56</b>                             | <b>304</b>                    | <b>159</b>          | <b>1,251</b>              | <b>1,878</b>           | <b>16,167*</b>                    |
| RWS: Rural Water System *Excluded reported zero values |                            |                                         |                               |                     |                           |                        |                                   |

Currently, there are 612 irrigation water rights/permits authorized to appropriate water from the Missouri: Elk Point aquifer, plus one pending application (Water Rights, 2025c). 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 for the Missouri: Elk Point aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2023) is approximately 19,589 acre-feet per year (Table 3) (Water Rights, 2025a). A more recent average period is likely to better reflect the current development of irrigation water rights/permits; thus, the average annual withdrawal rate for irrigation appropriations from 2014 to 2023 is approximately 25,765 acre-feet per year (Table 3) (Water Rights, 2025a).

The usage for two irrigation water permits (Nos. 5998-3 and 5998A-3) was accounted for on Table 1 with the non-irrigation water rights/permits, as the permit holder is not required to report their respective annual irrigation usage (Water Rights, 2025c), resulting in only 610 of the Missouri: Elk Point aquifer irrigation water rights/permits being currently required to submit an annual irrigation questionnaire (Water Rights, 2025c).

Additionally, Water Right No. 6110-3 is authorized to divert water from a well completed into the Dakota aquifer and pump the water into two ponds that receive incidental surface runoff and possible groundwater inflow from the Missouri: Elk Point aquifer (Water Rights, 2025c). Water Right No. 6110-3 is included in the 612 irrigation water rights/permits authorized to appropriate water from the Missouri: Elk Point aquifer; however, the estimated use for this permit is assumed to be negligible to the overall hydrologic budget due to the minimal amount of water from the Missouri: Elk Point aquifer the permit holder is expected to withdraw. When omitting Water Right No. 6110-3 and Water Permit Nos. 5998-3 and 5998A-3 from this analysis of Missouri: Elk Point aquifer irrigation water rights/permits, 609 water rights/permits remain.

Table 3 lists 599 water rights/permits as reporting in 2023 (Water Rights, 2025a and 2025c). The 599 water rights/permits listed as reporting in 2023 includes seven water rights/permits (Nos. 7325-3, 7322-3, 7749-3, 8595-3) that were incorporated into another water right or cancelled in 2023 or 2024 (Water Rights, 2025c), resulting in only 596 of the water rights/permits reporting on the 2023 irrigation questionnaire as being currently active.

Thirteen water permits/rights did not submit an irrigation questionnaire form in 2023 that are currently active, accounting for the difference between the 596 currently active water rights/permits that reported in 2023 and the 609 irrigation water rights/permits currently required to submit an annual irrigation questionnaire and annual use being estimated in this analysis (Water Rights, 2025a and 2025c). Of these thirteen permits, eleven were issued in 2023 or 2024 and have not yet been required to submit an irrigation questionnaire. The remaining permits, Water Right No. 5935-3, is not required to submit an irrigation questionnaire, and Water Right No. 1006-3 did not submit an irrigation questionnaire for an unknown reason. Overall, these thirteen water permits/rights are authorized to irrigate approximately 1,276 acres (Water Rights, 2025c).

**Table 3.** Reported historic irrigation use from Missouri: Elk Point aquifer (Water Rights, 2025a)

| <b>Year</b>               | <b>No. of Permits Reporting</b> | <b>Reported Pumpage (acre-feet)</b> |
|---------------------------|---------------------------------|-------------------------------------|
| 1979                      | 259                             | 10,258                              |
| 1980                      | 263                             | 14,937                              |
| 1981                      | 297                             | 13,931                              |
| 1982                      | 269                             | 19,143.1                            |
| 1983                      | 273                             | 11,081                              |
| 1984                      | 281                             | 9,605.5                             |
| 1985                      | 282                             | 14,020.7                            |
| 1986                      | 286                             | 6,324.8                             |
| 1987                      | 281                             | 13,369                              |
| 1988                      | 282                             | 28,558.1                            |
| 1989                      | 292                             | 25,904.3                            |
| 1990                      | 297                             | 19,508                              |
| 1991                      | 300                             | 18,877.7                            |
| 1992                      | 295                             | 1,895                               |
| 1993                      | 298                             | 1,475.2                             |
| 1994                      | 295                             | 10,314.9                            |
| 1995                      | 292                             | 18,761.3                            |
| 1996                      | 296                             | 9,473.6                             |
| 1997                      | 305                             | 17,236                              |
| 1998                      | 313                             | 11,079.5                            |
| 1999                      | 308                             | 14,877                              |
| 2000                      | 309                             | 26,551                              |
| 2001                      | 313                             | 19,115.2                            |
| 2002                      | 315                             | 23,326.9                            |
| 2003                      | 314                             | 27,007                              |
| 2004                      | 322                             | 24,309                              |
| 2005                      | 335                             | 24,206.1                            |
| 2006                      | 353                             | 27,943.3                            |
| 2007                      | 366                             | 30,652                              |
| 2008                      | 396                             | 16,439                              |
| 2009                      | 410                             | 6,346                               |
| 2010                      | 419                             | 2,906.9                             |
| 2011                      | 431                             | 12,330                              |
| 2012                      | 445                             | 56,994.7                            |
| 2013                      | 543                             | 35,090.5                            |
| 2014                      | 557                             | 12,423.5                            |
| 2015                      | 563                             | 17,884.1                            |
| 2016                      | 564                             | 27,869.3                            |
| 2017                      | 567                             | 37,209.9                            |
| 2018                      | 570                             | 9,160.7                             |
| 2019                      | 575                             | 8,736.3                             |
| 2020                      | 570                             | 26,601                              |
| 2021                      | 572                             | 40,503.4                            |
| 2022                      | 579                             | 44,925                              |
| 2023                      | 599                             | 32,338                              |
| <b>Min</b>                | <b>259</b>                      | <b>1,475.2</b>                      |
| <b>Max</b>                | <b>599</b>                      | <b>56,994.7</b>                     |
| <b>Avg (1979 to 2023)</b> | <b>379</b>                      | <b>19,589</b>                       |
| <b>Avg (2014 to 2023)</b> | <b>572</b>                      | <b>25,765</b>                       |

Farmer (2018a, 2018b, and 2021) analyzed the amount of water pumped per permitted acre for the period from 1979 through 2005. This period was chosen due to the relatively stable number of permitted acres across the entire period. There was a continual annual increase in the number of permitted acres from 2006 through 2013/2014. From 2013/2014 through 2021, the total number of permitted acres had been relatively stable (Mathiowetz, 2022; Water Rights, 2025c). Farmer (2021) determined that it would be best to separate the review of pumpage per permitted acres between crops, such as corn and soybeans, and turf, such as golf courses and lawn irrigation, to describe the pumpage more accurately per permitted acres. Turf irrigation typically requires more water per acre annually than crop irrigation. Mathiowetz (2022) determined over the entire period of record (1979 through 2021), the crop application rate per permitted acre is 0.331 feet per year (3.97 inches per year), and 0.908 feet per year for turf (10.9 inches per year) (Water Rights, 2025a and 2025c).

Currently, there are 83,207.4 acres authorized to be irrigated from the Missouri: Elk Point aquifer, with 819.6 of those acres authorized for turf irrigation, plus one pending application requesting to crop irrigate 140 acres (Water Rights, 2025c). Table 4 contains the turf irrigation permits with their respective authorized permitted acres and an estimated average annual use based on Mathiowetz's (2022) application rate per permitted acre (Water Rights, 2025c). By multiplying the application rate of 0.908 feet per acre per year (Mathiowetz, 2022), by the 819.6 acres permitted for turf irrigation (Water Rights, 2025c), the annual use for turf irrigation yields approximately 744.2 acre-feet per year (Table 4). By multiplying the application rate of 0.331 feet per acre per year (Mathiowetz, 2022), by the 82,527.8 acres (total acres minus turf irrigated acres) acres being crop irrigated, including 140 acres for the pending application (Water Rights, 2025c), the average annual use for crop irrigation yields approximately 27,316.7 acre-feet per year. Collectively, the average annual use from the Missouri: Elk Point aquifer for both crop and turf irrigation water rights/permits utilizing Mathiowetz's (2022) application rates is approximately 28,060.9 acre-feet per year.

**Table 4.** Water rights/permits authorized for irrigation of turf (Water Rights, 2025c)

| Permit No. | Name                                          | Status | County        | Acres        | Total Estimated Use (acre-feet/year) |
|------------|-----------------------------------------------|--------|---------------|--------------|--------------------------------------|
| 1294-3     | Recreation Development Assn. Inc.             | LC     | Union         | 102          | 92.6                                 |
| 2011-3     | TR Golf LLC                                   | LC     | Union         | 95           | 86.3                                 |
| 5786-3     | Dakota Dunes Golf Course                      | LC     | Union         | 173          | 157.1                                |
| 5998-3     | Clay Rural Water System Inc                   | PE     | Union         | 300          | 272.4                                |
| 5998A-3    | Clay Rural Water System Inc                   | PE     | Union         | 0            | 0                                    |
| 5935-3     | Ted Waite                                     | LC     | Union         | 1            | 0.908                                |
| 5936-3     | Applied Engineering                           | LC     | Yankton       | 1.8          | 1.6                                  |
| 8010-3     | Ryan Rusher                                   | LC     | Yankton       | 2.5          | 2.3                                  |
| 8029-3     | Dakota Dunes Comm Improvement District        | PE     | Union         | 17.8         | 16.2                                 |
| 8040-3     | Heine Electric & Irrigation Inc               | LC     | Clay          | 1            | 0.908                                |
| 8354-3     | TR Golf LLC                                   | PE     | Union         | 30           | 27.24                                |
| 8407-3     | Gayville-Volin School District 63-1           | LC     | Yankton       | 4.5          | 4.1                                  |
| 8530-3     | National Field Archery Association Foundation | LC     | Yankton       | 16           | 14.5                                 |
| 8560-3     | TR Golf LLC                                   | PE     | Union         | 65           | 59                                   |
| 8727-3     | TR Golf LLC                                   | PE     | Union         | 10           | 9.1                                  |
|            |                                               |        | <b>TOTAL:</b> | <b>819.6</b> | <b>744.2</b>                         |

There are domestic wells completed into the Missouri: Elk Point aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2025d). Due to their relatively low diversion rates, withdrawals from domestic wells are not considered to be a significant portion of the hydrologic budget. Additionally, with the development of rural water systems in areas where the Missouri: Elk Point 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 Missouri: Elk Point aquifer.

### Hydrologic Budget Summary

The average annual recharge rate to the Missouri: Elk Point aquifer is approximately 130,770.3 acre-feet per year.

The estimated average annual withdrawal rate for the water rights/permits authorized to appropriate water from the Missouri: Elk Point aquifer is approximately 118,485 acre-feet per year (including the estimated use for Water Permit Application Nos. 8914-3 and 8920-3, if approved) (listed on Table 5). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Missouri: Elk Point aquifer for the proposed appropriation.

**Table 5.** Estimated use from Missouri: Elk Point aquifer (Water Rights, 2025a, 2025c, and 2025f)

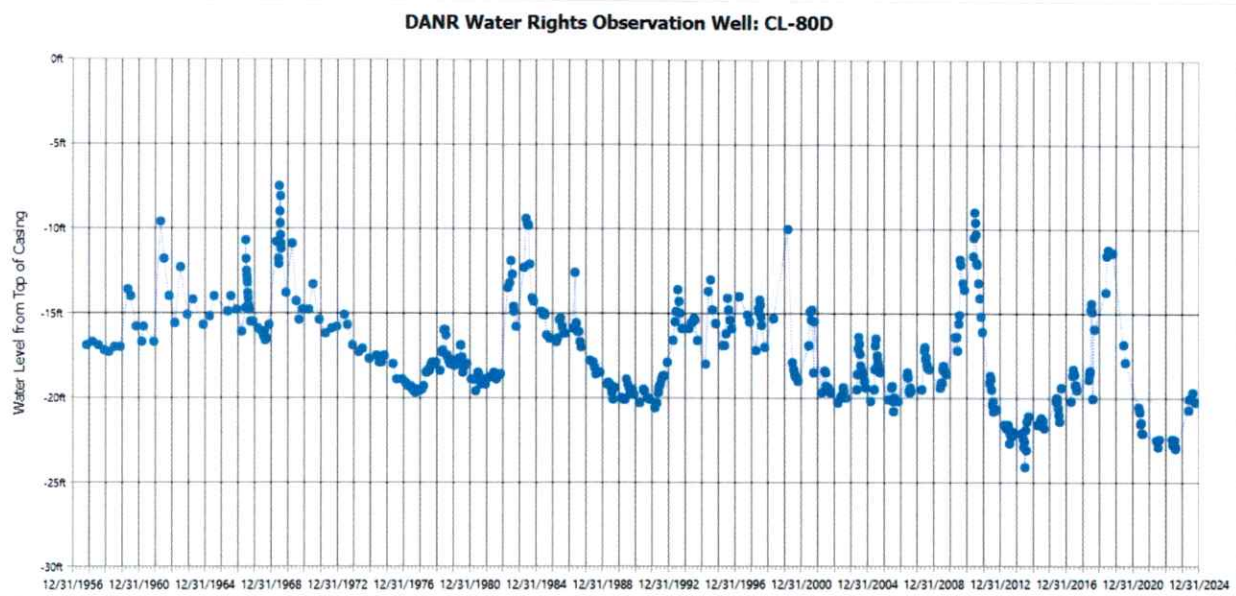
| Type of Water Right/Permit                                                                                       | Estimated Use (acre-feet/year) |
|------------------------------------------------------------------------------------------------------------------|--------------------------------|
| Future Use Reservations                                                                                          | 21,021                         |
| Non-Irrigation                                                                                                   | 69,385                         |
| Irrigation (Mathiowetz's (2022) turf and crop application rates) (including pending Water Permit App No. 8920-3) | 28,061                         |
| Application No. 8914-3 (if approved, assuming Mathiowetz's (2022) crop application rate of 0.331 per acre)       | 18                             |
| <b>TOTAL:</b>                                                                                                    | <b>118,485</b>                 |

### OBSERVATION WELL DATA:

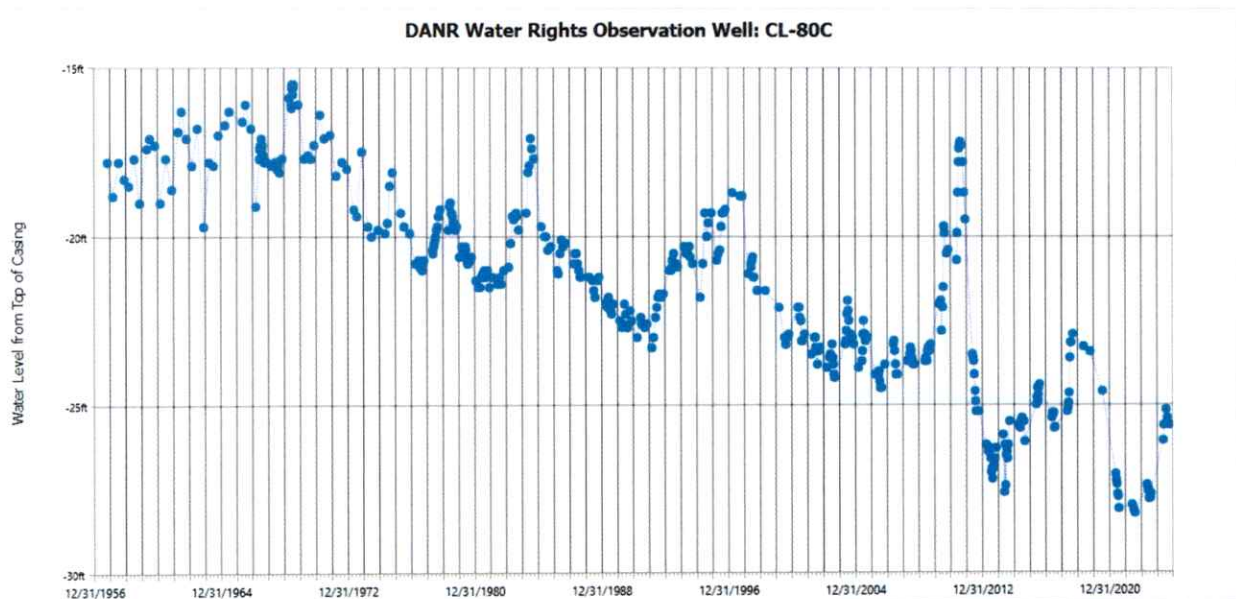
Administrative Rule of South Dakota (ARSD) 74:02:05:07 requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual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

Observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. Observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The DNR-Water Rights Program monitors 36 observation wells completed into the Missouri: Elk Point aquifer (Water Rights, 2025b). The three closest observation wells to the existing well site are CL-80D (approximately 1.5 miles southeast), CL-80C (approximately 1.9 miles southwest), and CL-80E (approximately 4.3 miles northeast)

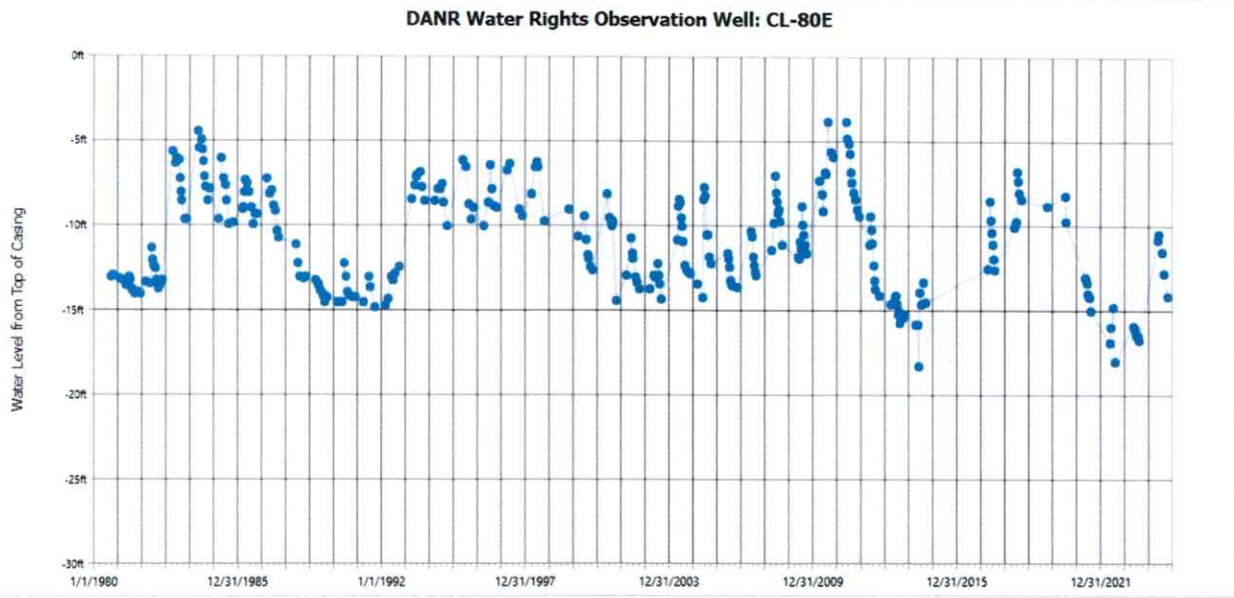
(Water Rights, 2025b). The hydrographs for these observation wells are displayed in Figures 2 to 4 (Water Rights, 2025b). The data points utilized to construct the hydrographs are measurements of the static water level in the observation wells from the top of the well casing.



**Figure 2.** Hydrograph for observation well CL-80D (Water Rights, 2025b)



**Figure 3.** Hydrograph for observation well CL-80C (Water Rights, 2025b)

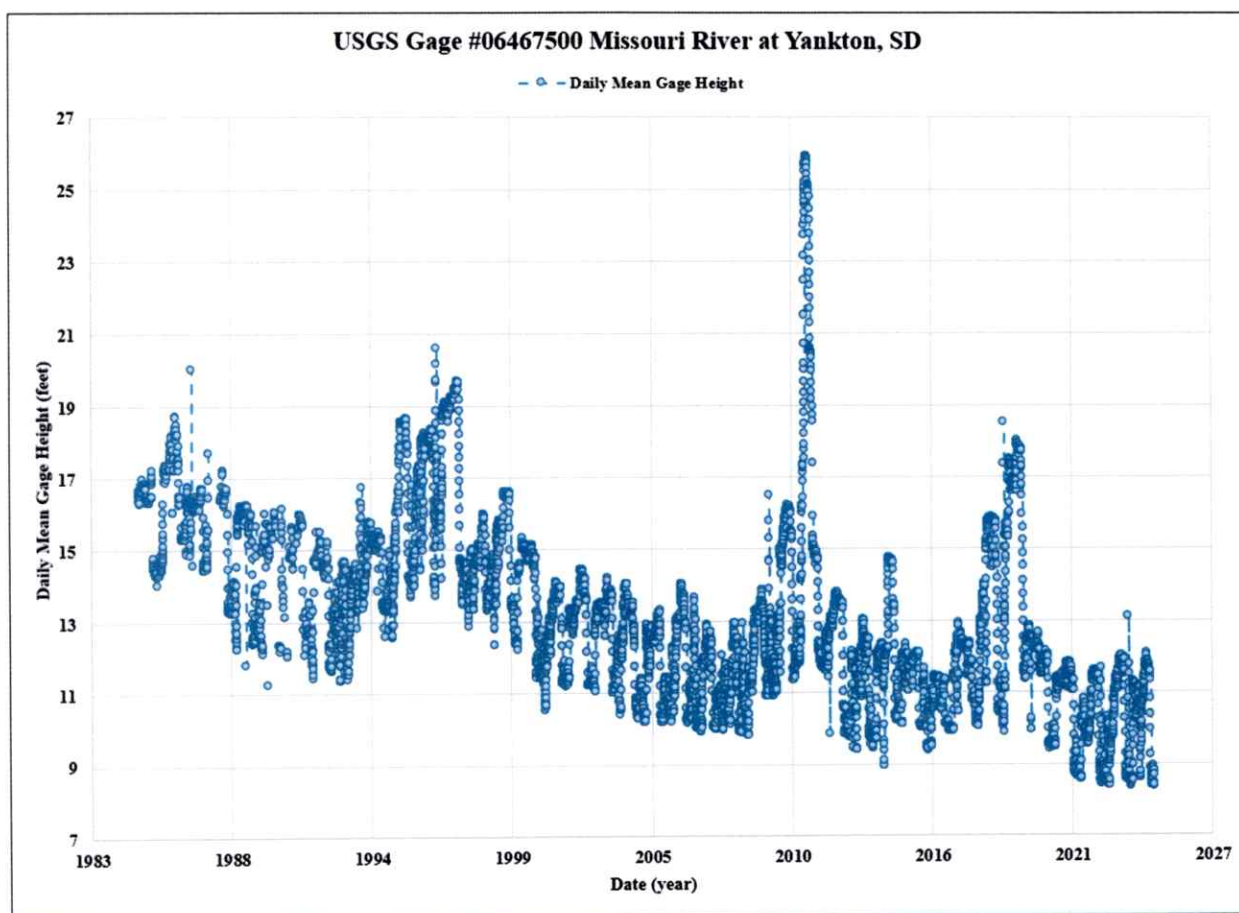


**Figure 4.** Hydrograph for observation well CL-80E (Water Rights, 2025b)

Most hydrographs for observation wells completed into the Missouri: Elk Point aquifer display a generally stable trend, except for several Missouri: Elk Point aquifer observation wells close to the Missouri River whose respective hydrographs show a gradual long-term downward trend. The same trend is displayed in Figures 2 to 4 (Water Rights, 2025b), but is less pronounced than what is seen on hydrographs for observation wells completed close to the Missouri River. This downward trend is caused by entrenchment of the Missouri River riverbed and in some places a widening of the channel leading to lower water levels despite the river having the same rate of flow (Elliott and Jacobson, 2022). The lowering of the water level in the Missouri River downstream of the Gavins Point Dam and the subsequent lowering of the water level of Missouri: Elk Point aquifer observation wells in proximity to the river show the strong hydrologic connection between the Missouri River and the Missouri: Elk Point aquifer. This is demonstrated by the very similar water levels between the aquifer and river as shown in the hydrographs in Figures 2 to 5. The lowering of the water levels in the aquifer, especially in proximity to the Missouri River, is not a sign of over appropriation of the Missouri: Elk Point aquifer.

To demonstrate the connection between the aquifer and the Missouri River, consider the United States Geological Survey (USGS) Stream Gage #06467500, located on the Missouri River at Yankton, SD below Gavins Point Dam, and the hydrograph for this gage is shown in Figure 5 (USGS, 2025). By comparing the hydrograph for Stream Gage #06467500 to the observation well hydrographs of the Missouri: Elk Point aquifer (Figures 2 to 4), both show the river and aquifer react to climatic conditions by rising and falling over similar trends and similar magnitudes for the observation wells closest to the river (USGS, 2025; Water Rights, 2025b). Additionally, during flood events (such as, the years 2011 and 2019), the water level in the Missouri: Elk Point aquifer, especially where in closer proximity to the Missouri River, rises very quickly beyond what is typically seen for glacial outwash aquifers that are only responding to the infiltration of precipitation (Water Rights, 2025b). This indicates there is a hydrologic

connection between the Missouri: Elk Point aquifer and the Missouri River. Therefore, when the elevation of the water in the Missouri River is higher than the elevation of water in the aquifer, the river will recharge the aquifer. In contrast, when the elevation of water is higher in the Missouri: Elk Point aquifer, the aquifer naturally discharges to the Missouri River. The observation well water levels simply show the connection between the river and the aquifer and how the aquifer reacts to climatic conditions without showing any long-term effects from pumping. Therefore, there is a reasonable probability unappropriated water is available for this proposed appropriation.

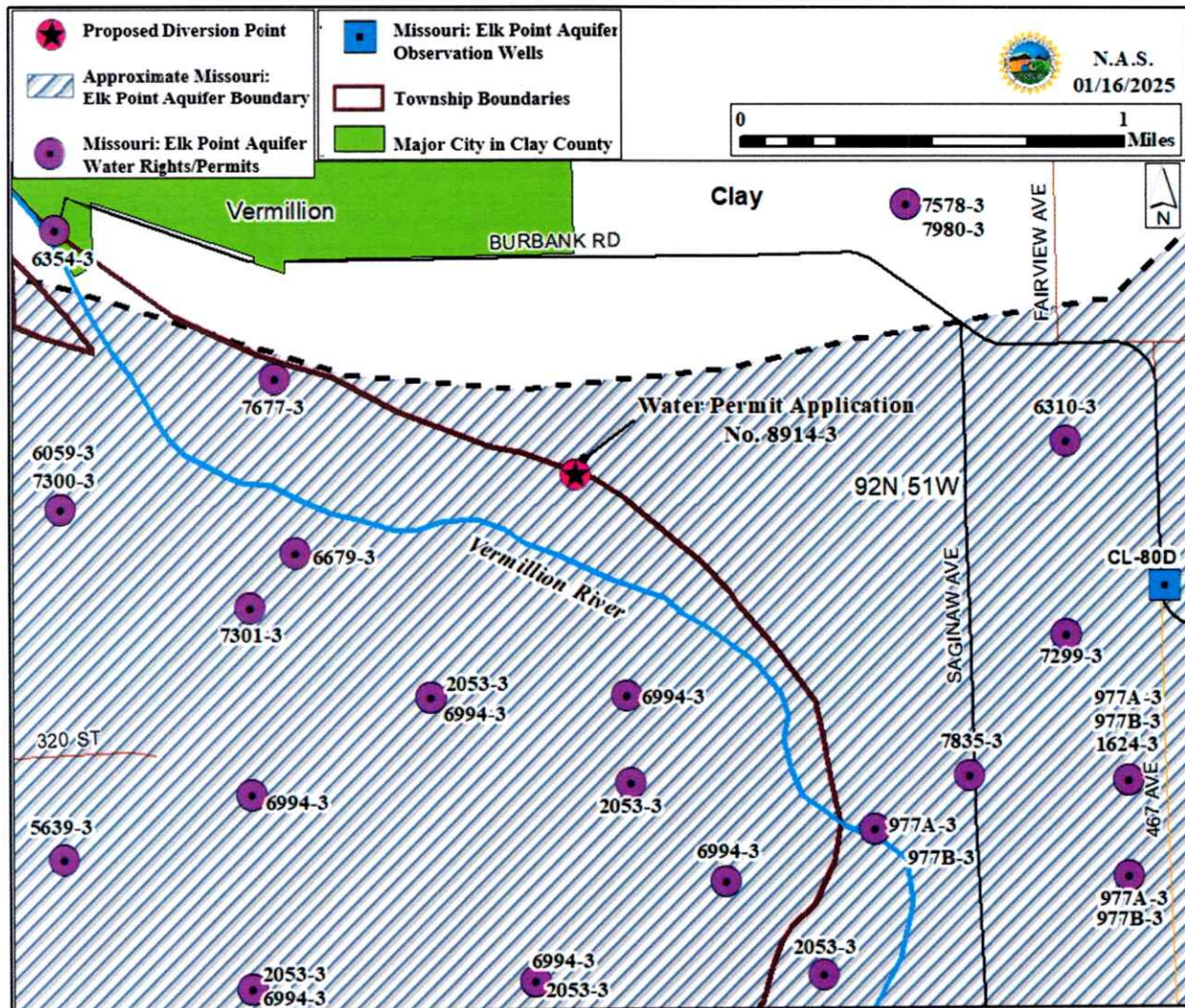


**Figure 5.** Hydrograph for USGS Stream Gage #06467500 Missouri River at Yankton, SD from 1985 to 2025 (USGS, 2025)

### POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 654 water rights/permits authorized to appropriate water from the Missouri: Elk Point aquifer, plus six future use permits reserving water, and one pending application (Water Rights, 2025c). The closest water right/permit to the existing well site is Water Permit No. 6994-3, which is held by Francis Heine. The diversion point for Water Permit No. 6994-3 is located approximately 0.5 miles southeast of the existing well site for this application (Figure 6) (Table 6) (Water Rights, 2025c).

There are domestic wells on file with the DANR-Water Rights Program that are completed into the Missouri: Elk Point aquifer, with the closest domestic well on file (not held by the applicant) located approximately 0.3 miles southeast of the existing well site (Water Rights, 2025d). There could potentially be other domestic wells completed into the Missouri: Elk Point aquifer near the well the applicant proposes to use that are not on file with the DANR-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.



**Figure 6.** Location of the existing well site for Water Permit Application No. 8914-3 with the Missouri: Elk Point aquifer water rights/permits and observation well within approximately 1.5 miles (Water Rights, 2025b and 2025c)

**Table 6.** Water rights/permits authorized to withdraw water from the Missouri: Elk Point aquifer within approximately 1.5 miles of the existing well site, as shown in Figure 6 (Water Rights, 2025c)

| <b>Permit No.</b>                                                           | <b>Name</b>                | <b>Status</b> | <b>Use</b> | <b>Authorized Acres if IRR</b> | <b>Authorized Diversion Rate (cfs)</b> |
|-----------------------------------------------------------------------------|----------------------------|---------------|------------|--------------------------------|----------------------------------------|
| 977A-3                                                                      | Todd Heine                 | LC            | IRR        | 255                            | 3.64                                   |
| 977B-3                                                                      | Todd Heine                 | LC            | IRR        | 165                            | 2.36                                   |
| 1624-3                                                                      | Todd Heine                 | LC            | IRR        | 80                             | 1.14                                   |
| 2053-3                                                                      | Todd Heine                 | LC            | IRR        | 922                            | 10.22                                  |
| 5639-3                                                                      | Todd Heine                 | PE            | IRR        | 105                            | 1.50                                   |
| 6310-3                                                                      | Nels J Sorensen            | LC            | IRR        | 112                            | 1.78                                   |
| 6354-3                                                                      | City of Vermillion         | LC            | MUN        |                                | 0.022                                  |
| 6679-3                                                                      | Todd Heine                 | LC            | IRR        | 140                            | 2.23                                   |
| 6994-3                                                                      | Todd Heine                 | PE            | IRR        | 46                             | 0                                      |
| 7299-3                                                                      | Todd Heine                 | PE            | IRR        | 38                             | 0                                      |
| 7300-3                                                                      | Todd Heine                 | PE            | IRR        | 10                             | 0                                      |
| 7301-3                                                                      | Todd Heine                 | PE            | IRR        | 32                             | 0                                      |
| 7578-3                                                                      | Todd Heine                 | PE            | IRR        | 80                             | 2                                      |
| 7677-3                                                                      | Wagner Limited Partnership | LC            | IRR        | 192                            | 2                                      |
| 7835-3                                                                      | Don O'Connor               | LC            | IRR        | 43                             | 1.78                                   |
| 7980-3                                                                      | Todd Heine                 | PE            | IRR        | 5                              | 0                                      |
| LC: Licensed Water Right; PE: Water Permit; IRR: Irrigation; MUN: Municipal |                            |               |            |                                |                                        |

The Missouri: Elk Point aquifer ranges from confined to unconfined aquifer conditions, but is primarily under unconfined conditions (Niehus, 1994 and 1997). Based on the water well completion reports on file for nearby wells completed into the aquifer, and the lithologic logs on file for nearby observation wells, the Missouri: Elk Point aquifer is expected to be unconfined near the existing well site (SDGS, 2025; Water Rights, 2025b and 2025d). 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. Examination of the hydrographs for observation wells completed into the Missouri: Elk Point aquifer show no signs of being significantly impacted by drawdown caused by pumping, despite usually being located within a mile of several high-yield wells (assumed to be a well with an authorized diversion rate greater than 0.2 cfs) (Water Rights, 2025b and 2025c).

At the existing well site, the Missouri: Elk Point aquifer has a saturated aquifer thickness of approximately 80 feet (Water Rights, 2025d). This would generally allow for enough thickness for a pump to be placed 20 feet below the top of the aquifer, which is required for the well to be considered adequate under ARSD 74:02:04:20(6). Any drawdown as a result of the proposed diversion for this application is not expected to unlawfully impair nearby adequate wells. In Clay, Union, and Yankton Counties, there are no substantiated complaints on file with the DANR-Water Rights Program regarding well interference for adequate wells completed into the Missouri: Elk Point aquifer (Water Rights, 2025e).

When considering the saturated thickness of the Missouri: Elk Point aquifer near the existing well site, the generally unconfined nature of the aquifer, and the lack of well interference complaints for adequate wells completed into the Missouri: Elk Point aquifer, 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. Additionally, the well proposed to be used is an existing well that has been in place and is presumed to have been in use since approximately 2024 without any reported well interference complaints on file with the DANR-Water Rights Program (Water Rights, 2025d and 2025e). Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments to existing users with adequate wells.

#### **SDCL 46-5-6:**

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of 1.0 cfs per 70 acres, or “the equivalent thereof.” The statute does provide 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 of water, or the type of soil so requires...”

If approved, Water Permit Application No. 8914-3 would authorize a maximum instantaneous diversion rate of 1.11 cfs from one well for the irrigation of 54 acres, or at a rate of 1.44 cfs per 70 acres. The applicant did not provide a reason for the exceedance, but it appears to be due to the potential of irrigating the proposed area with a center pivot that does not make a full rotation. A center pivot making a partial rotation uses water at the same rate as a center pivot making a full rotation while irrigating fewer acres. This reason falls within SDCL 46-5-6 which allows the Water Management Board to allow a greater diversion rate and has been accepted by the Water Management Board and the Water Rights Program in the past.

#### **CONCLUSIONS:**

1. Water Permit Application No. 8914-3 proposes to divert water at a maximum instantaneous diversion rate of 1.11 cfs from one well completed into the Missouri: Elk Point aquifer (100 feet deep) for the irrigation of 54 acres. The same irrigated acreage and well location are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp. The site of interest is located in Clay County approximately one mile southeast of Vermillion, SD.
2. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer to supply the proposed appropriation.

3. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8914-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic users.
4. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres due to the partial rotation of the center pivot. This reason falls within SDCL 46-5-6 which allows the Water Management Board to allow a greater diversion rate and has been accepted by the Water Management Board and the Water Rights Program in the past.

*Nakaila Steen*

Nakaila Steen  
Natural Resources Engineer II  
SD DANR - Water Rights Program

Reviewed by:

*Adam Mathiowetz*

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

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**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 NEWSPAPERS RIGHT AWAY.**

February 5, 2025

Todd Heine  
1020 E 320<sup>th</sup> Street  
Vermillion SD 57069

Dear Mr. Heine:

Water Permit Application No. 8914-3 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 Plain Talk printed in Vermillion SD (Ph # 605 624-2695) and the Daily Press & Dakotan printed in Yankton SD (Ph # 605 665-7811). You will need to contact the newspapers 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 newspapers to authorize publication of your Notice and to arrange for payment.** Early contact with the papers can eliminate delays. Upon receiving authorization from you, the publishers have been instructed to publish your notice. The newspapers have 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.

NOTICE OF APPLICATION NO. 8914-3 to Appropriate Water

Notice is given that Todd Heine, 1020 E. 320<sup>th</sup> Street, Vermillion SD 57069, has filed an application for a water permit to appropriate 1.11 cubic feet of water per second (cfs) from one well (100 feet deep) completed into the Missouri: Elk Point Aquifer described as the SW1/4 NE1/4 section 29 for irrigation of 54 acres located in the W1/2 NE1/4, NW1/4 SE1/4 section 29; all in T92N-R51W. The same irrigated acreage and well location are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately one mile southeast of Vermillion SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8914-3 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 February 24, 2025.

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 February 24, 2025.

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

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**From:** Rodriguez, Rachel  
**Sent:** Wednesday, February 5, 2025 8:35 AM  
**To:** Kelly Kronaizl  
**Subject:** 8914-3 Todd Heine - Public Notice  
**Attachments:** 8914-3 public.short\_final.docx; FORM8.FRM.doc

Attached is a notice to be published on February 14, 2025, in the Plain Talk and Daily Press & Dakotan.

Todd Heine, 1020 E. 320<sup>th</sup> Street, Vermillion SD 57069, 605-677-8566 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

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED

FEB 18 2025

OFFICE OF  
WATER

TODD HEINE  
1020 E 320TH ST  
VERMILLION SD 57069

STATE OF SOUTH DAKOTA  
COUNTY OF YANKTON

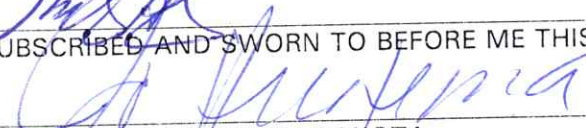
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES  
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON  
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE  
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER  
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY  
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID  
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED  
NOTICE OF APPLICATION NO.

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE  
NEWSPAPER ON THE 14th DAY OF February, 2025  
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION  
OF SAID NOTICE TO WIT \$41.92 ENSURES TO THE  
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO  
AGREEMENT AND 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.

PUBLISHED ON: 02/14/2025

FILED ON: 02/14/25

  
SUBSCRIBED AND SWORN TO BEFORE ME THIS 14th DAY OF February, 2025

  
NOTARY PUBLIC, SOUTH DAKOTA  
MY COMMISSION EXPIRES 07/15/2028



RECEIVED

FEB 18 2025

OFFICE OF  
WATER

NOTICE OF APPLICATION  
NO. 8914-3 to Appropriate Water

Notice is given that Todd Heine, 1020 E. 320th Street, Vermillion SD 57069, has filed an application for a water permit to appropriate 1.11 cubic feet of water per second (cfs) from one well (100 feet deep) completed into the Missouri: Elk Point Aquifer described as the SW1/4 NE1/4 section 29 for irrigation of 54 acres located in the W1/2 NE1/4, NW1/4 SE1/4 section 29; all in T92N-R51W. The same irrigated acreage and well location are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately one mile southeast of Vermillion SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8914-3 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 February 24, 2025.

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 February 24, 2025.

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 \$41.92 and can be viewed free of charge at [www.sdpublicnotices.com](http://www.sdpublicnotices.com)

Published February 14, 2025.

# AFFIDAVIT OF PUBLICATION

PLAIN TALK

TODD HEINE  
1020 E 320TH ST  
VERMILLION SD 57069

STATE OF SOUTH DAKOTA  
COUNTY OF CLAY

BETH RYE, BEING FIRST DULY SWORN ON OATH DEPOSES  
AND SAYS THAT (S)HE IS THE ADVERTISING DIRECTOR OF YANKTON  
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HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 02/14/2025

FILED ON: 02/13/25

  
SUBSCRIBED AND SWORN TO BEFORE ME THIS 13th DAY OF February, 2025

  
NOTARY PUBLIC, SOUTH DAKOTA  
MY COMMISSION EXPIRES 07/15/2028



RECEIVED  
FEB 18 2025  
OFFICE OF  
WATER

NOTICE OF APPLICATION  
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Notice is given that Todd Heine, 1020 E. 320th Street, Vermillion SD 57069, has filed an application for a water permit to appropriate 1.11 cubic feet of water per second (cfs) from one well (100 feet deep) completed into the Missouri: Elk Point Aquifer described as the SW1/4 NE1/4 section 29 for irrigation of 54 acres located in the W1/2 NE1/4, NW1/4 SE1/4 section 29; all in T92N-R51W. The same irrigated acreage and well location are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately one mile southeast of Vermillion SD.

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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.

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Published February 14, 2025.

RECEIVED

FEB 18 2025

OFFICE OF  
WATER

## Rodriguez, Rachel

---

**From:** Rodriguez, Rachel  
**Sent:** Wednesday, February 5, 2025 8:38 AM  
**To:** Todd Heine  
**Subject:** 8914-3 Todd Heine - Public Notice  
**Attachments:** 8914-3 Rec.pdf; 8914-3 Ltr.pdf; 8914-3 PubNotice.pdf

Thank you,  
Good morning,

Attached is a copy of the chief engineer's recommendation, report 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.

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

MAR 17 2025

Todd Heine  
1020 E. 320<sup>th</sup> Street  
Vermillion SD 57069

Dear Mr. Heine:

Enclosed is Water Permit No. 8914-3 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,

Mark Mayer, PE  
Director of Office of Water

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.:** 8914-3

**Name of Applicant:** Todd Heine

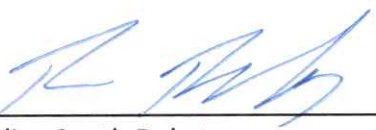
**Date of Posting:** 2/10/2025

**Date of Removal:** 3/17/2025

  
\_\_\_\_\_  
Ron Duvall, Engineer III

3/17/2025  
\_\_\_\_\_  
Date

Subscribed and sworn to before me, a notary public, this 17<sup>th</sup> day of March, 2025.

  
\_\_\_\_\_  
Notary Public - South Dakota  
My commission expires:

Rachel Rodriguez  
My Commission Expires  
May 16, 2029

(SEAL)



**Report of Examination of Works and/or Application of Water to Beneficial Use  
For Permit No. 8914-3**

I have this day, January 10, 2025, made a thorough examination of the water use system owned by Todd Heine, 1020 E. 320<sup>th</sup> St., Vermillion, SD, 57069, holder of Permit No. 8914-3, bearing the priority date of December 9, 2024. This permit appropriates 1.11 cu. ft. per second (cfs) from one well (100 feet deep) completed into the Missouri: Elk Point Aquifer as described as the SW1/4 NE1/4 Section 29 for irrigation of 54 acres located in the W1/2 NE1/4, NW1/4 SE1/4 Section 29; all in T92N-R51W. The same irrigated acreage and well location are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp. The site is located in Clay County.

Inspection contacts: Todd Heine

**A. Works used to divert the water:**

**Well Information**

- 1) Well Drilling Firm: Sam Heine Well Company
- 2) No. of Wells: 1
- 3) Depth(s): 100 feet
- 4) Well log is available: Yes

**Casing:**

- 1) Diameter: 10 inches
- 2) Length: 40 feet
- 3) Type: Plastic

**Screen:**

- 1) Diameter: 10 inches
- 2) Length: 40 feet of PVC
- 3) Length 20 feet of Stainless Steel
- 4) Static water level: 20 feet

**Pump:**

- 1) Make: Grundfos
- 2) Model: 475S30
- 3) Capacity: 500 gpm

**Motor:**

- 1) Make: Karlington
- 2) Model No.: Unknown
- 3) Horsepower rating: 30 hp

**Generator:**

- 1) Make: Onan
- 2) Model No.: 100.0DYC-15R/20321J
- 3) KW rating: 100 kw
- 4) Engine Make: Alice Chalmers
- 5) Engine Model No.: MN-670T

**B. Works used to transport water to place of use:**

- 1) Type: Aluminum Size: 8 inches Length: 10 feet

**C. Works used to apply water to beneficial use:****Center Pivot:**

- 1) Make: Zimmatic  
 2) Overall length: 1,077 feet  
 3) Number of towers: 6  
 4) End gun: Yes Range: 104 feet  
 5) Capacity: 532 gpm

**Chemigation Equipment:**

- 1) Does chemigate: No

**D. Compliance with Permit Requirements:**

- 1) Permit qualifications being abided by: No  
 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: New Pivot  
 3) Exceptions to compliance are: The flow rate is more than what was authorized.

**E. Condition and Location:**

- 1) The system is in good condition with the point(s) of diversion located as follows:  
The well is 1,600 feet south and 2,365 feet west of the northeast corner of Section 29-T92N-R51W (Latitude 42.76039, Longitude -96.89311 – SW1/4 of the NE1/4).  
 2) The works are capable of diverting and conveying to the places of use 1.11 cu. ft. per second of water from the well which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

Section 29-T92N-R51W

|                   |                 |
|-------------------|-----------------|
| <u>NW1/4NE1/4</u> | <u>15 acres</u> |
| <u>SW1/4NE1/4</u> | <u>30 acres</u> |
| <u>NW1/4SE1/4</u> | <u>2 acres</u>  |

comprising a total of 47 acres of land and the license should be issued for 1.11 cfs.

- 3) All structures, wells and lands on map: Yes

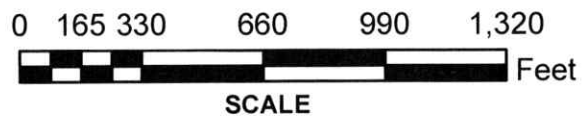
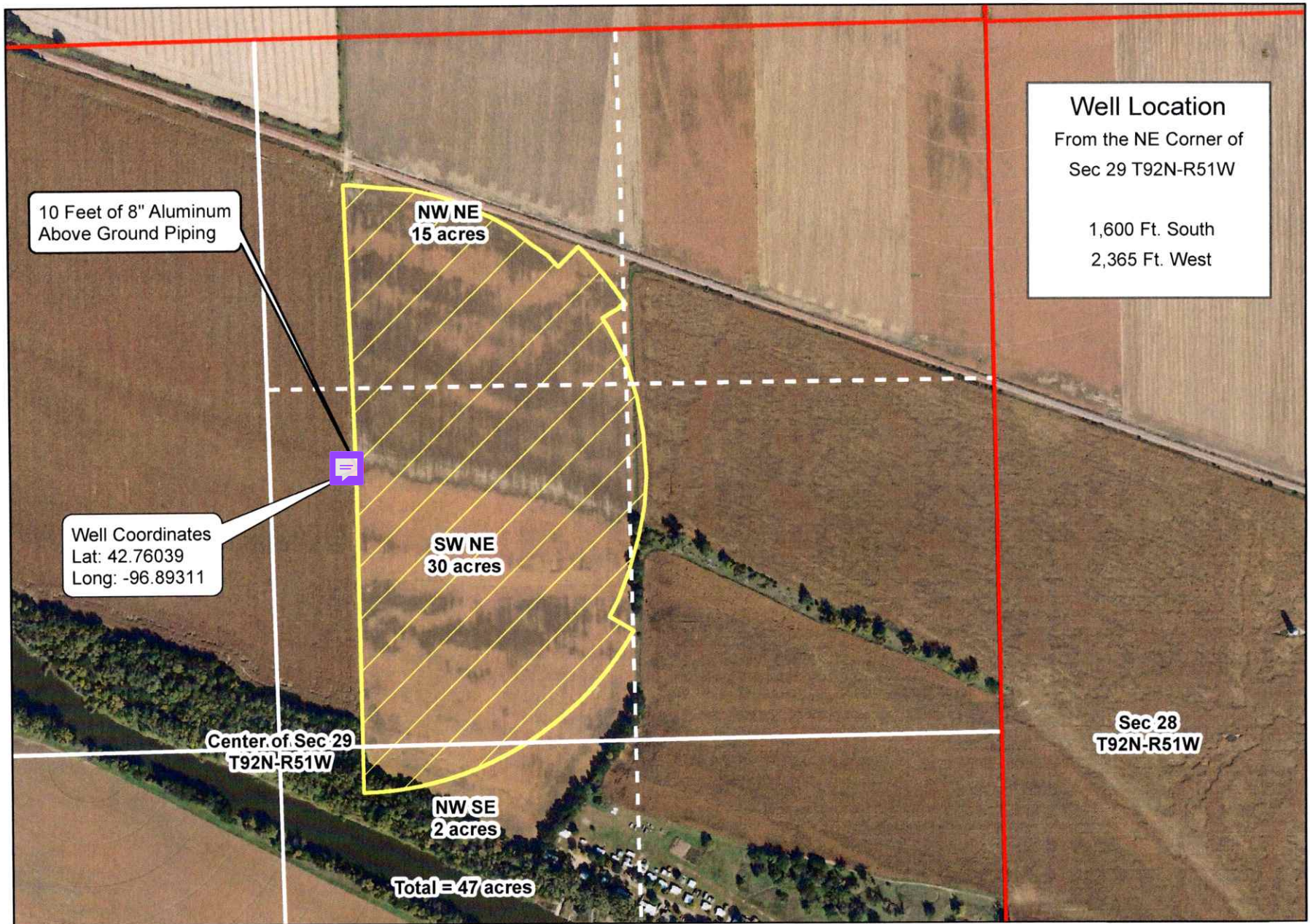
**F. Comments or other permit(s) associated with the project: None**

*Keith DeJong*

Keith DeJong, PE Ret.  
 Water Rights Inspector  
 DANR, Water Rights Program

Date report completed: March 13, 2025

# Water Permit No. 8914-3



*Keith DeJong*  
Keith DeJong, PE Ret.  
Staff Engineer  
January 10, 2025

**NOTICE OF COMPLETION OF WORKS AND  
APPLICATION OF WATER TO BENEFICIAL USE**

Date 3-18-2025

MAIL TO: PMB 2020  
DANR - Water Rights Program  
523 E. Capitol Ave  
Pierre, SD 57501-3182  
  
Phone: (605) 773-3352

FROM: Todd Heine  
(name)

1020 E 320<sup>th</sup> Street  
(address)

Vermillion  
(city)

SD  
(state)

57069  
(zip)

605-667-8566  
(phone)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 8914-3 states that the water use system is to be constructed by

February 24, 2030, and water is to be put to beneficial use by February 24, 2034.  
(date) (date)

The water use system was completed on 2024.  
(date)

Applying the water to beneficial use was completed on 2024.  
(date)

You may schedule an investigation so that the water license may be issued.

Todd Heine  
(signature)





**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**

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

**JUL 02 2025**

Todd Heine  
1020 E 320<sup>th</sup> St  
Vermillion, SD 57069

No. 8914-3

Dear Mr. Heine:

Enclosed is Water License No. 8914-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if in the future, the owner of an existing well, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

So long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water. If you have any questions regarding the enclosed license, please contact Water Rights Permitting Administrator, Amanda Dewell at (605) 773-3352 or [Amanda.Dewell@state.sd.us](mailto:Amanda.Dewell@state.sd.us).

Sincerely,

Mark Mayer, PE  
Director of Office of Water  
(605) 773-3352

**Note:** The irrigated acreage and diversion point identified on the face of this license are also known as Lot 2 Mildred Anderson Tract 1 in Gov Lot 2 2-92-51 Fairview Twp.

enclosures

**STATE OF SOUTH DAKOTA**  
**WATER LICENSE NO. 8914-3**

---

(1) Todd Heine, 1020 E 320<sup>th</sup> St, Vermillion, SD 57069, made Application No. 8914-3, December 9, 2024, for a water permit to divert 1.11 cubic feet of water per second from groundwater, one well (Missouri: Elk Point Aquifer), Clay County, South Dakota for irrigation purposes. Permit No. 8914-3, with a priority date of December 9, 2024, was approved February 24, 2025, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before February 24, 2030, and for the application to beneficial use of water on or before February 24, 2034.

The permit holder submitted a Notice of Completion of Works and Application of Water to Beneficial Use form on March 18, 2025. The Notice stated the diversion system was completed in 2024 and the water was placed to beneficial use in 2024.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.11 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 1,600 feet S and 2,365 feet W from the NE corner of Section 29, T92N, R51W (SW  $\frac{1}{4}$  NE  $\frac{1}{4}$ ) (Latitude 42.76039 and Longitude -96.89311)

(3) The amount of 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: June 1 – September 30.

(4) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate to following land:

Section 29, T92N, R51W  
NW  $\frac{1}{4}$  NE  $\frac{1}{4}$  - 15 acres  
SW  $\frac{1}{4}$  NE  $\frac{1}{4}$  - 30 acres  
NW  $\frac{1}{4}$  SE  $\frac{1}{4}$  - 2 acres  
Total – 47 acres

(5) Pursuant to South Dakota Water Law 46-5-30.1 Todd Heine, the holder and/or owner of Water Right No. 8914-3 is issued a license to appropriate water, the right to use 1.11 cubic feet of water per second from groundwater, one well (Missouri: Elk Point Aquifer), with a priority date of December 9, 2024, from the location specified in (2) of this license for irrigation purposes.

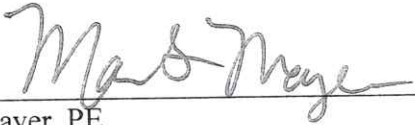
This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8914-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 8914-3 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.

continued

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. 8914-3 authorizes a maximum diversion rate of 1.11 cfs for the irrigation of 54 acres with an annual volume not to exceed 2 acre-feet of water per acre per year. *(Water Right No. 8914-3 authorizes irrigation of 47 acres, based on the system as constructed.)*

3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.



Mark Mayer, PE  
Director of Office of Water

  
date

