

WATER PERMIT NO. 8758-3

Name of Applicant: **Marvin Post**

Address: **21242 461 Avenue** Phone: **605-695-4227**

Amount of Water Claimed: **No add'l** Total Acres: **127.5**

Source of Water Supply: **Howard/Big Sioux Brookings**

Water to be used for: **Irrigation** County: **Brookings**

Type of Waste Disposal System:

Location: **6 miles southwest of Volga**

PRIORITY Date Received: **5-5-2023** Application/License Fee: **\$850.00**

Corrected Application Received: Period of Annual Use: **April 1 – October 31**

Remarks: **Existing wells Water Permit 6930-3 (Big Sioux Brookings) and Permit No. 7046-3 (Howard)**

Diversion Point: **NW 1/4 NE 1/4 Section 28 - T110N-R51W**

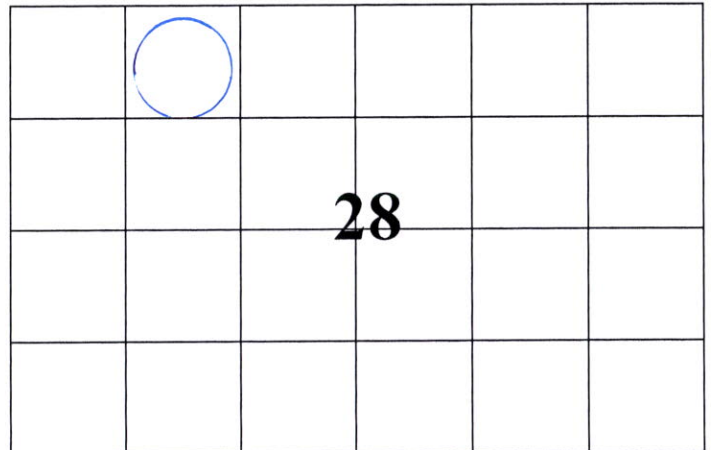
Land to be Irrigated: **NW 1/4 Section 28 -T110N-R51W**

Depth of Well: **58/161**

Well Driller: **Thein Well Co.**

Remarks:

Type of Map: **aerial**



Reviewed and the Number Assigned on: **5-8-2023**

By: **Rachel Rodriguez**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8758-3**

Date of first receipt of application May 5, 2023.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8758-3 to Marvin Post, 21242 461st Avenue, Volga SD 57071 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. 8758-3 authorizes irrigation of an additional 127.5 acres from two wells authorized by Water Permit Nos. 6930-3 and 7046-3. Water Permit No. 6930-3 appropriates 1.78 cubic feet of water per second (cfs) from one well completed in the Big Sioux: Brookings Aquifer (58 feet deep) located in the center of the NE 1/4 Section 28 for irrigation of 160 acres located in the NE 1/4 Section 28; all in T110N-R51W. Water Permit No. 7046-3 appropriates 1.56 cfs from one well completed in the Howard Aquifer (313 feet deep) located in the NW 1/4 NE 1/4 Section 28 to irrigate 160 acres located in the NE 1/4 Section 28; all in T110N-R51W. Only 120 acres of the permitted 160 acres were developed. This permit authorizes irrigation of an additional 127.5 acres located in the NW 1/4 Section 28 from the two existing wells both located in the NW 1/4 NE 1/4 Section 28; all in T110N-R51W. This permit, and Water Permit Nos. 6930-3 and 7046-3 will authorize a total of 1.34 cfs for irrigation of 247 acres. The 1.34 cfs diversion rate reflects the combined developed rate from the wells. This site is located approximately 2 miles southwest of Volga SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is May 5, 2023.
4. The date of approval of Permit No. 8758-3 is July 28, 2023.
5. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells approved under Water Permit Nos. 6930-3, 7046-3 and 8758-3 are located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall 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. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

AUG 31 2023
date



MAY 05 2023

FORM 2: Application for irrigation in South Dakota
(type or print)OFFICE OF
WATER**PAID**

MAY 05 2023

Ck# 02925

Rec't# 51923

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8758-3</u> Hydrologic Unit <u>10170202</u>
	Basin <u>Big Sioux River</u>
	Newspaper <u>Brookings Register</u> ^{plus} <u>692-6271</u>
	(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 Marvin Post

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

Mailing Address 21242 461 Ave Volga SD 57071
(Address) (City) (State) (Zip Code)

Phone _____ Mobile 605 695-4227 Email marvjoy@itctel.com

2. Amount of water claimed _____ *CFS or no add'l **GPM _____ ***AF 127.5
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply 2 existing wells - Howard Aquifer and Big Sioux Brookings Aquifer

4. Location of point of diversion NW 1/4 NE 1/4 Section 28-T110N-R51W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Brookings

5. County or counties where water will be used Brookings

6. Annual period during which water is to be used April 1 - October 31

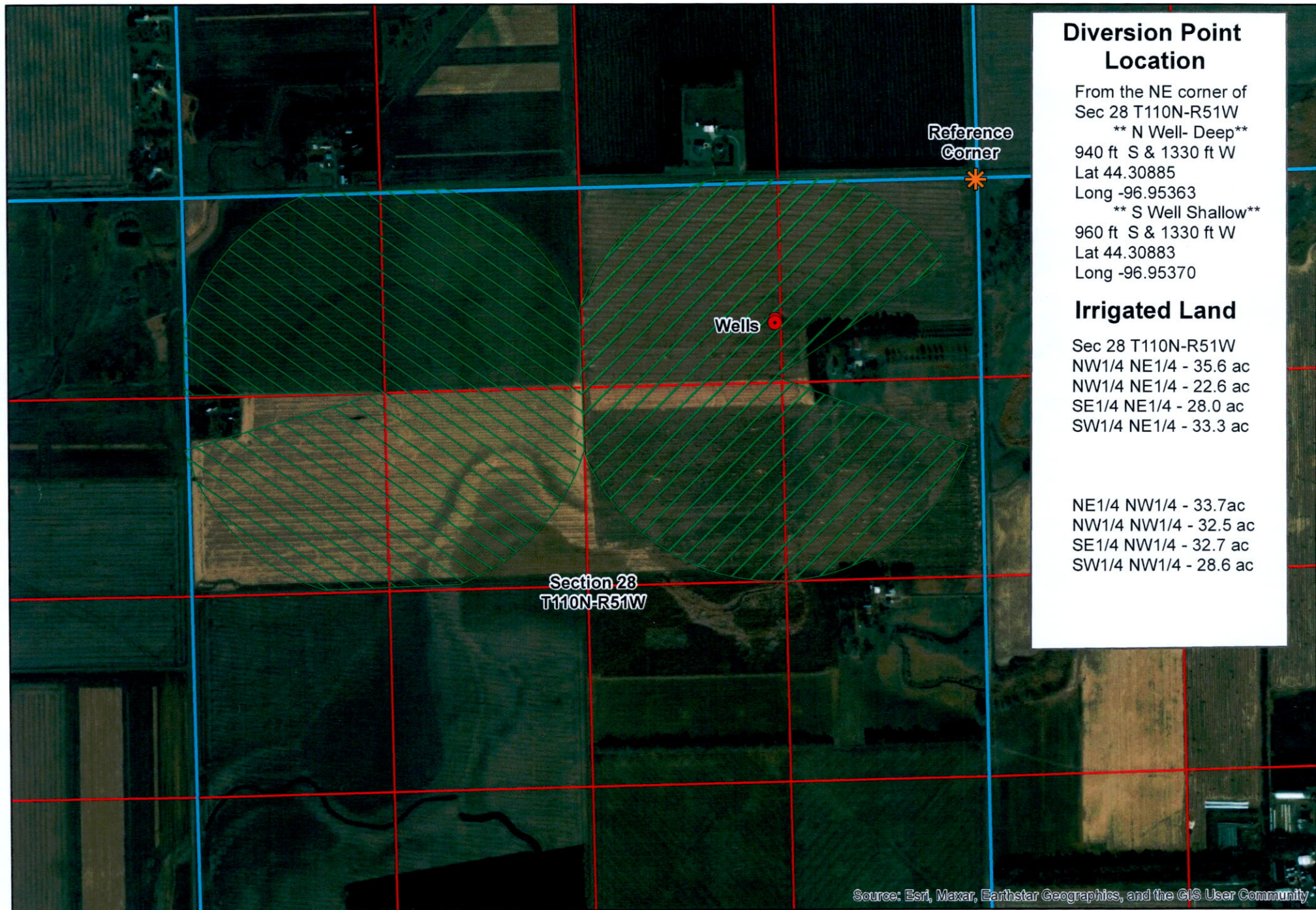
7. List below each forty-acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
NW 1/4 Section 28-T110N-R51W	127.5		

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

The existing wells authorized by Water Permit No. 6930-3 (Big Sioux Brookings Aquifer) and No. 7046-3 (Howard Aquifer) combined, are capable of diverting 1.44 cfs (600 gpm)

I, Marvin Post Owner, 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.



Diversion Point Location

From the NE corner of
Sec 28 T110N-R51W
** N Well- Deep**
940 ft S & 1330 ft W
Lat 44.30885
Long -96.95363
** S Well Shallow**
960 ft S & 1330 ft W
Lat 44.30883
Long -96.95370

Irrigated Land

Sec 28 T110N-R51W
NW1/4 NE1/4 - 35.6 ac
NW1/4 NE1/4 - 22.6 ac
SE1/4 NE1/4 - 28.0 ac
SW1/4 NE1/4 - 33.3 ac

NE1/4 NW1/4 - 33.7ac
NW1/4 NW1/4 - 32.5 ac
SE1/4 NW1/4 - 32.7 ac
SW1/4 NW1/4 - 28.6 ac

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community



0 625 1,250 2,500 3,750 5,000 Feet

Darrell DeBoer
Water Right Inspector
DANR-Water Rights Program

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7046-3 & 6930-3

I have this day, April 14, 2023, made a thorough examination of the water use system constructed by Marvin Post; 21242 461st Ave, Volga, SD 7071 of Permit No. 7046-3, bearing the priority of July 7, 2008 authorizing the diversion of 1.56 cu. ft. per second of the waters of the Howard Aquifer for irrigation purposes, and Permit No. 6930-3, bearing a priority date of December 24, 2007 authorizing diversion of 1.78 cfs from the Big Sioux Brookings Aquifer for irrigation purposes, both in **Brookings County**.

A. Works used to divert the water:

Well Information: Howard Aquifer (Deep Well) Permit 7046-3

- 1) Well Drilling Firm: Thein Well Co
- 2) No. of Wells: 1
- 3) Depth: 313 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 12 inches
- 2) Length 243 feet
- 3) Type steel

Screen:

- 1) Type Stainless steel
- 2) Length 70 feet
- 3) Static water level 51 feet

Pump:

- 1) Make: Submersible
- 2) Model & Size: Unknown
- 3) Capacity: 450 GPM

Motor:

- 1) Make, Model & Horsepower: Unknown

Well Information: BS:B Aquifer (Shallow Well) Permit 6930-3

- 1) Well Drilling Firm: Thein Well Co
- 2) No. of Wells: 1
- 3) Depth: 58 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 10 inches
- 2) Length 38 feet
- 3) Type: steel

Screen:

- 1) Type: stainless steel
- 2) Length: 20 feet
- 3) Static water level 51 feet

Pump:

- 1) Make: Submersible
- 2) Model & Size: Unknown
- 3) Capacity: 150 GPM

Motor:

- 1) Make, Model & Horsepower: Unknown

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

- 1) Type PVC
- 2) Size 10 inches
- 3) Length 400 feet

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

- 1) Make Valley (2 similar pivots)
- 2) Overall length: 1320 feet
- 3) Number of towers: 7
- 4) End gun Y
- 5) Capacity 600 GPM (2 wells operated simultaneously)

The 10 inch line goes from the well location to the east center pivot and then another line goes from the east to the west pivot. The pivots are operated independently from each other.

Chemigation Equipment: Does not chemigate

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by N (See Comments Section)
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y
- 3) Exceptions to compliance are: Needs new permit for NW 1/4 of Section 28.

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows:
 - **North well (deep):** 940 feet S & 1,330 feet W of the NE corner of Section 28, T110N, R51W
Latitude: 44.30885, Longitude: -96.95370
 - **South well (shallow):** 960 feet S & 1,330 feet W of the NE corner of Section 28, T110N, R51W
Latitude: 44.30883, Longitude: -96.95370
2. The works are capable of diverting and conveying to the place of use 1.44 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

Section 28, T110N, R51W	NW ¼ NW ¼	33.7 acres	NW ¼ NE ¼	35.6 acres
	SE ¼ NW ¼	32.7 acres	SE ¼ NE ¼	28.0 acres
	NE ¼ NW ¼	32.5 acres	NE ¼ NE ¼	22.6 acres
	SW ¼ NW ¼	28.6 acres	SW ¼ NE ¼	33.3 acres

comprising a total of 247 acres of land and the license should be issued for 1.44 cfs (600 gpm)

3. All structures, wells and lands on map Y

F. Comments or other permit(s) associated with the project:

The irrigated acreage was determined with the aid of FSA imagery and ArcMAP software.

The pump rates reported in a recent Irrigation Questionnaire was used to establish the system flow capacity.

The mailing address and the house telephone number in the permit materials are current. Mr. Post's cell phone number is 605/695-4227.



Darrell W DeBoer
Water Rights Inspector
DANR, Water Rights Program

Date report completed: April 15, 2023

**SOUTH DAKOTA
WATER PERMIT NO. 6930-3**

Date of first receipt of application December 24, 2007.

Date of return to applicant for corrections, amendments or changes January 2, 2008.

Date of receipt of corrected application January 7, 2008.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 6930-3 to Marvin Post, 21242 461st Ave, Volga SD 57071 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. 6930-3 appropriates 1.78 cubic feet of water per second from one well to be completed into the Big Sioux:Brookings Aquifer (approximately 63 feet deep) located in the center of the NE 1/4 Section 28 to irrigate 160 acres located in the NE 1/4 Section 28; all in T110N-R51W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is December 24, 2007.
4. The date of approval of Permit No. 6930-3 is February 18, 2008.
5. One-fifth of the construction is to be completed on or before August 18, 2010.
6. All construction is to be completed on or before February 18, 2013.
7. Water is to be put to beneficial use on or before February 18, 2017.
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 this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 6930-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

FEB 27 2008
date



SD EForm - 0499 V2

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

RECEIVED

DEC 24 2007

WATER RIGHTS
PROGRAM

Mail to Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (505) 775-3352	No. <u>6930-3</u> (office use only)
	Hydrologic Unit <u>10170202</u>
	Basin <u>Sioux River</u>
	Newspaper <u>Brookings Register</u>

Application For Permit To Appropriate Water For Irrigation

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

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

- Name of Applicant Marvin Post Phone 605-826-4227
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 21242 461st Ave Volga State SD 57071
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 1.78 CFS or 800 **GPM ***AF Total Acreage 160
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/digout or annual use if applicable
- Source of water supply Well
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T10N-R33W) County Brookings
1 well in NE1/4 section 28-110-51
- County or counties where water will be used Brookings
- Annual period during which water is to be used April 1 to October 31
- 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
NW1/4 NE1/4 section 28-110-51	40		
NE1/4 NE1/4 section 28-110-51	40		
SW1/4 NE1/4 section 28-110-51	40		
SE1/4 NE1/4 section 28-110-51	40		

8. Give a description of the project. (Attach sheet if more space is needed)
Marvin + Joyce Post, trustees of Post Living Trust, are proposing to install irrigation on the above listed acres.

STATE OF SOUTH DAKOTA ss
County of Brookings

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

I, Marvin Post, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Marvin Post

Subscribed and sworn to before me this 20th day of December 20 07

Monica Cooper
Notary Public's signature

2-2007

My Commission expires 8-8-09

Dec 20 07 09:09

**SOUTH DAKOTA
WATER PERMIT NO. 7046-3**

Date of first receipt of application July 7, 2008.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7046-3 to Marvin Post, 21242 461st Ave, Volga SD 57071 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. 7046-3 appropriates 1.56 cubic feet of water per second (cfs) from one well to be completed into the Howard Aquifer (approximately 315 feet deep) located in NW 1/4 NE 1/4 Section 28 to irrigate 160 acres located in the NE 1/4 Section 28; all in T110N-R51W. Water Permit No. 6930-3 authorizes irrigation of the same lands from the Big Sioux:Brookings Aquifer.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is July 7, 2008.
4. The date of approval of Permit No. 7046-3 is September 15, 2008.
5. One-fifth of the construction is to be completed on or before March 15, 2011.
6. All construction is to be completed on or before September 15, 2013.
7. Water is to be put to beneficial use on or before September 15, 2017.
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 this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7046-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Combinations of diversion authorized by Water Permit Nos. 6930-3 and 7046-3 may not exceed 1.0 cfs per 70 acres and an annual volume of 2 acre foot of water per acre.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

SEP 17 2008
date



FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>7046-3</u> (office use only) Hydrologic Unit <u>10170202</u>
	Basin <u>Sioux River</u>
	Newspaper <u>Brookings Register P.O. Box 177</u>
	<u>605-692-6271</u> <u>57006</u>

RECEIVED
JUL - 7 2008
WATER RIGHTS
PROGRAM

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.)

Complete a well into the Howard Aquifer to irrigate the lands authorized by Water Permit No. 6930-3

- Name of Applicant Marvin Post Phone (605) 826-4227
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 21242 461st Avenue Volga State SD 57071
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 1.56*CFS or 700 **GPM ***AF Total Acreage 160
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Howard Aquifer
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Brookings
1 well in NE1/4 section 28-110-51 (NW1/4 NE1/4)
- County or counties where water will be used Brookings
- Annual period during which water is to be used April 1 - October 31
- 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
NW 1/4 NE 1/4 Sect. 28, T110N, R51W	40		
NE 1/4 NE 1/4 Sect. 28, T110N, R51W	40		
SW 1/4 NE 1/4 Sect. 28, T110N, R51W	40		
SE 1/4 NE 1/4 Sect. 28, T110N, R51W	40		

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

Wells completed into the Big Sioux:Brookings Aquifer do not provide sufficient water. Intend to complete well into the deeper Howard Aquifer. The BS:B well will be used at a lesser rate of approximately 150 gpm. The plan is to blend the Howard Aquifer well with the BS:B aquifer well to bring the salinity down to a manageable level.

STATE OF SOUTH DAKOTA)
County of Brookings SS

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

I, Marvin Post, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature [Signature]

Subscribed and sworn to before me this 30th day of June 2008

[Signature]
Monica Cooper

Notary Public signature

My Commission expires 8-8-09

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7046-3

I have this day, April 14, 2023, made a thorough examination of the water use system constructed by Marvin Post; 21242 461st Ave, Volga, SD 7071 of Permit No. 7046-3, bearing the priority of July 7, 2008 authorizing the diversion of 1.56 cu. ft. per second of the waters of the Howard Aquifer for irrigation purposes, in Brookings County.

A. Works used to divert the water:

Well Information: (Deep Well) Permit 7046-3

- 1) Well Drilling Firm: Thein Well Co
- 2) No. of Wells 1
- 3) Depth(s) 313 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 12 inches
- 2) Length 243 feet
- 3) Type steel

Screen:

- 1) Type Stainless steel
- 2) Length 70 feet
- 3) Static water level 51 feet

Pump:

- 1) Make Submersible
- 2) Model Unknown
- 3) Size Unknown
- 4) Capacity 450 GPM

Motor:

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

Well Information: (Shallow Well) Permit 6930-3

- 5) Well Drilling Firm: Thein Well Co
6) No. of Wells 1
7) Depth(s) 58 feet
8) Well log is available Y

Casing:

- 4) Diameter 10 inches
5) Length 38 feet
6) Type steel

Screen:

- 4) Type Stainless steel
5) Length 20 feet
6) Static water level 51 feet

Pump:

- 5) Make Submersible
6) Model Unknown
7) Size Unknown
8) Capacity 150 GPM

BSB

Motor:

- 4) Make Unknown
5) Model No. Unknown
6) Horsepower rating Unknown hp

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

- 1) Type PVC 2) Size 10 inches 3) Length 400 feet

Comments: The 10 inch line goes from the well location to the east center pivot and then another line goes from the east to the west pivot. The pivots are operated independently from each other.

C. Works used to apply water to beneficial use:

Center pivot:

- 1) Make Valley (2 similar pivots)
- 2) Overall length 1320 feet
- 3) Number of towers 7
- 4) End gun Y
- 5) Capacity 600 GPM (2 wells operated simultaneously)

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by N (See Comments Section)
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y
- 3) Exceptions to compliance are: None

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: **WELL LOCATIONS (2 WELLS same spot) From the NE corner Sec 28 T110N R51W, 960 ft S & 1320 ft W, Lat 44.30883 Long -96.95370 NW ¼ NE ¼).**

2. The works are capable of diverting and conveying to the place of use 1.44 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

legal description/acreage

All irrigated land in Sec 28 T110N R51W

NW NW 33.7 acres	NE NW 32.5 acres
SE NW 32.7 acres	SW NW 28.6 acres
NW NE 35.6 acres	NE NE 22.6 acres
SE NE 28.0 acres	SW NE 33.3 acres

legal description/acreage

not covered

comprising a total of 247 acres of land and the license should be issued for 1.44 cfs (600 gpm)

3. All structures, wells and lands on map Y

F. Comments or other permit(s) associated with the project:

The irrigated acreage was determined with the aid of FSA imagery and ArcMAPS software.

There are three (3) Water permits involved in the current situation. Permit 6929-3 is related to the irrigation of the NW quarter section of Section 28 but DANR records show it was cancelled; however, there is a pivot on the quarter and it is currently being used to water the land. Permits 6930-3 and 7046-3 are related to the NE quarter of Section 28 only, but are for two side-by-side wells, a shallow (150 gpm) and a deep well (450 gpm).

The pump rates reported in a recent Irrigation Questionnaire was used to establish the system flow capacity.

The mailing address and the house telephone number in the permit materials are current. Mr. Post's cell phone number is 605/695-4227.

Darrell W DeBoer

Darrell W DeBoer
Water Rights Inspector
DANR, Water Rights Program

Date report completed: April 15, 2023

*600
150 gpm total*

*\$1050 no add'l cfs
\$850*

*BS&B 6929-3 Cancelled in May 2021
for non construction*

*which well is irrigating NW 1/4? - Both
Darrell says
6930-3 BS&B deep well is
7046-3 Howard Aquifer 20' N of shallow well*

*They need to be licensed separately
Need Separate reports*

File No. 6929-3

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

NAME & ADDRESS: Joyce Post, 21242 461st Ave, Volga SD 57071

DATE: January 5, 2021

TELEPHONE: 605 826-4227

RE: status of Water Permit No. 6929-3

COMMENTS:

The 2020 irrigation questionnaire submitted for Water Permit No. 6929-3 indicated the system was not constructed. A letter was written to Marvin Post regarding the permit covering the NW ¼ Section 28, T110N, R51W.

On today's date, Joyce Post called and indicated they were unable to find water in the quarter authorized for irrigation under the permit and did not put up a system.

She indicated they use a shallow well and a deeper well under Permit Nos. 6930-3 and 7046-3 for irrigation purposes on other land.

Ms. Post confirmed they are agreeable to cancellation of Water Permit No. 6929-3. They do not intend to develop anything in that quarter. The date specified in the permit for completion of the project expired February 18, 2013.



Genny McMath
Water Rights Program

SOUTH DAKOTA WATER WELL COMPLETION REPORT

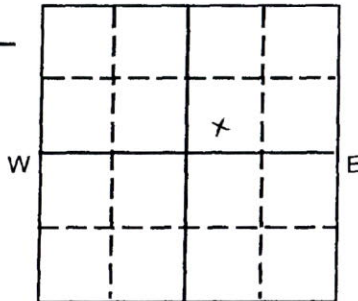
11-02

Location NE 1/4 SW 1/4 Sec 28 Twp 109 Rg 51

County

BrookingsNorth 67N/23

Please mark well location with an "X"



Well Completion Date

7/8/2008

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

? 50.0 ft. from septic (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

If other describe

☒ Steel ☐ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
	10.00	0.0	38.0	9.88

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	0.0 Ft	28.0 Ft
Volclay	2			

Describe grouting procedure
Tremmie piped

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 10.00 Inches Length 20.0 Feet
 Material Stainless steel
 Slot Size .40 Set From 38.0 Feet to 58.0 Feet
 Other information

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How? Chlorinated

Lab sample sent to for water quality analysis

☒ No, Why Not? used for irrigation
Well Owner: Marv Post

Business Name:

Address: 21242 461st AveCity, State, Zip: Volga SD 57071

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Black dirt	0	1
Yellow clay	1	4
Gravel	4	45
Medium to fine sand	45	58
Gray clay	58	-

STATIC WATER LEVEL 15.0 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:
☐ Bailed
☐ Other

Pumping Level Below Land Surface

30.0 Ft. After 4.0 Hrs. pumped 260.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: 225.0 GPM

REMARKS

GPS N 44 18.527
W 096 57.225
 RECEIVED
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 WATER RIGHTS
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This well was drilled under license # _____

And this report is true and accurate.

Drilling firm: Thein Well Co.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT

7046-3
11-02Location NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 28 Twp 100 Rg 51

County

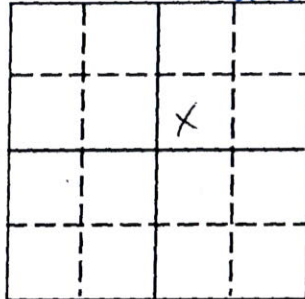
Brookings

North

110
per AM
6/29/23Please mark well
location with an "X"

W

E



Well Completion Date

7/1/2008

1 Mile

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

? 50.0 ft. from septic (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

☒ Steel☐ Plastic☐ Other

If other describe

PIPEWEIGHT LB/FT	DIAMETER IN	FROM FT	TO FT	HOLE DIAMETER IN
	12.00	0.0	243.0	18.50

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight Lb/gal	From Ft	To Ft
Neat cement	138		51.0	233.0
Volclay	10		0.0	51.0

Describe grouting procedure
Tremmie piped

SCREEN:

☐ Perforated pipe☒ ManufacturedDiameter 12.00 Inches Length 70.0 FeetMaterial Stainless steelSlot Size .25 Set From 243.0 Feet to 313.0 Feet

Other information

WAS A PACKER OR SEAL USED?

☐ Yes☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?ChlorinatedLab sample sent to for
water quality analysis☒ No, Why Not?used for irrigationWell Owner: Marv Post

Business Name:

Address: 21242 461st AveCity, State, Zip: Volga SD 57071

WELL LOG:

DEPTH

FORMATION	FROM	TO
Black dirt	0	1
Brown clay	1	4
Gravel	4	45
Medium to fine sand	45	57
Gray clay	57	58
Fine sand	58	63
Brown clay	63	106
Gray clay	106	161
Continued on next page		

STATIC WATER LEVEL 51.0 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:☐ Bailed☐ Other

Pumping Level Below Land Surface

174.1 Ft. After 6.0 Hrs. pumped 600.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: 525.0 GPM

REMARKS

GPS N 44 18.528
W 096 57.222

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475

This well was drilled under license # _____

And this report is true and accurate.

Drilling firm: Thein Well Co.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: _____

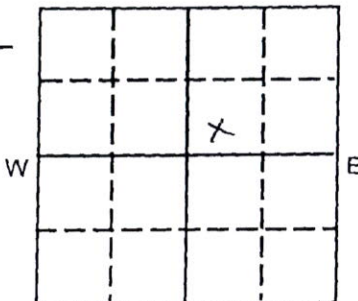
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location $\frac{1}{4}$ $\frac{1}{4}$ Sec Twp Rg County

North

Please mark well location with an "X"

Well Completion Date

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

? ft. from (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

CASING DATA:

☐ Steel ☐ Plastic ☐ Other
If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	Ft	Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

SCREEN:

☐ Perforated pipe ☐ Manufactured
Diameter Inches Length FeetMaterial Slot Size Set From Feet to FeetOther information

WAS A PACKER OR SEAL USED?

☐ Yes ☐ No
If so, what material? Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?
☐ No, Why Not?
Lab sample sent to for water quality analysis Well Owner: Marv PostBusiness Name: Address: 21242 461st AveCity, State, Zip: Volga SD 57071

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Blue shale	161	217
Brown clay	217	221
Shale	221	241
Sandstone	241	314
Shale	314	320

STATIC WATER LEVEL

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:
☐ Bailed
☐ Other

Pumping Level Below Land Surface

 Ft. After Hrs. pumped GPM Ft. After Hrs. pumped GPMIf pump installed, pump rate: GPM

REMARKS

RECEIVED
AUG 22 2008
WATER RIGHT'S
PROGRAM

This well was drilled under license #

And this report is true and accurate.

Drilling firm: Signature of License Representative: Signature of Well Owner or Equitable Property Holder: Date:

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date May 5, 2023

RECEIVED OF Marvin/Joyce Post 21242 461 Ave., Volga SD 57071

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

Fee for Application for Permit No. <u>8758-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>850.00</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. _____	\$ _____
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>850.00</u>

By Eric Gronlund
Chief Engineer vm



**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. 8758-3, Marvin Post**

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. 8758-3, Marvin Post, 21242 461st Avenue, Volga SD 57071.

The Chief Engineer is recommending APPROVAL of Application No. 8758-3 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 wells approved under Water Permit Nos. 6930-3, 7046-3 and 8758-3 are located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall 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. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Eric Gronlund

Eric Gronlund, Chief Engineer
July 10, 2023

NOTE: The original Water Permit Nos. 6930-3 and 7046-3 will be incorporated into the Permit No. 8758-3 upon licensing to reflect the systems as developed. When submitting the annual irrigation questionnaire you will receive just one questionnaire each fall. It is suggested that when reporting water use to include the percentage used from each well (aquifer)

Report to the Chief Engineer
On Water Permit Application No. 8758-3

Marvin Post

June 28th, 2023

Water Permit Application No. 8758-3 proposes the irrigation of 127.5 acres using the wells and diversion rate authority authorized under Water Permit Nos. 6930-3 and 7046-3. Water Permit No. 6930-3 appropriates 1.78 cubic feet per second (cfs) from one well completed into the Big Sioux: Brookings aquifer (58 feet deep) located near the center of the NE $\frac{1}{4}$ Section 28 for irrigation of 160 acres located in the NE $\frac{1}{4}$ Section 28; all in T110N-R51W. Water Permit No. 7046-3 appropriates 1.56 cfs from one well completed into the Howard aquifer (313 feet deep) located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 28 for irrigation of 160 acres located in the NE $\frac{1}{4}$ Section 28; all in T110N-R51W. Only 120 acres of the permitted 160 acres for Permit Nos. 6930-3 and 7056-3 were developed. This application proposes to irrigate an additional 127.5 acres located in the NW $\frac{1}{4}$ Section 28 from the two existing wells both located in the NW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 28; all in T110N-R51W. This application if approved, and Water Permit Nos. 6930-3 and 7046-3 will authorize a combined total of 1.34 cfs for irrigation of 247 acres. The site of interest is located in Brookings County approximately 2 miles southwest of Volga, SD.

AQUIFER: Big Sioux: Brookings (BS:B) and Howard (HO)

Big Sioux: Brookings Aquifer

Hydrogeology

The Brookings management unit of the Big Sioux aquifer is a Quaternary-aged glacial outwash that consists of medium to very coarse sand and very fine to medium gravel (Kume, 1985; Hamilton, 1989). The depth of the top of the Big Sioux: Brookings aquifer ranges from the land surface in the Big Sioux River floodplain to 212 feet below land surface (Hamilton, 1989). The Big Sioux: Brookings aquifer is estimated to underly approximately 323,000 acres of Brookings, Deuel, Kingsbury, and Moody Counties and contains approximately 1,453,000 acre-feet of recoverable water in storage (Hedges et al., 1982 and Stonesifer, 2013). The direction of groundwater movement in the Big Sioux aquifer is south and towards the Big Sioux River (Hamilton, 1989). The Big Sioux aquifer is unconfined near the Big Sioux River and along major tributary valleys, but elsewhere the aquifer may be confined by overlying till or clay lenses (Hamilton, 1989).

Water Well Completion Report

A water well completion report was submitted with Water Permit Application No. 8758-3 (Water Rights, 2023d). The water well was completed on July 8, 2008, for Water Permit No. 6930-3. The water well is completed into the Big Sioux: Brookings aquifer (Water Rights, 2023d). The top of aquifer bearing material is 4 ft below the ground surface, with a static water level of 15 ft below the ground surface, and a saturated aquifer thickness of 43 ft (SDGS, 2023; Water Rights,

2023b and 2023d). The water well data would suggest the aquifer at the diversion point is unconfined.

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 unappropriated water is available for the applicant’s proposed use, the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, the proposed use is a beneficial use, and the permit is 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 portion of the report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic uses and water rights within the Big Sioux: Brookings aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8758-3 proposes to appropriate water from the Big Sioux: Brookings aquifer. The probability of unappropriated water being available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.” The Big Sioux: Brookings aquifer is not older than or stratigraphically lower than the Greenhorn Formation, and the applicant’s proposed use is not for use in a water distribution system as defined by SDCL 46-1-6(17). Therefore, the average annual recharge and average annual withdrawal rates to and from the Big Sioux: Brookings aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Big Sioux: Brookings aquifer is received primarily through infiltration of precipitation and seepage through till, lake deposits, and underlying aquifers (Hamilton, 1989). Using observation well analysis Hedges et al. (1985) estimated a recharge rate of 4.0 inches per year for the Big Sioux: Brookings aquifer. The Big Sioux: Brookings aquifer has an estimated areal extent of approximately 323,000 acres (Stonesifer, 2013). Therefore, the average annual recharge rate (based on Hedges et al., 1985; Stonesifer, 2013) is approximately 107,000 acre-feet/year.

Discharge

Discharge from the Big Sioux: Brookings aquifer in South Dakota primarily occurs through well withdrawals, seepage to surface water features, and evapotranspiration in areas where the aquifer is at or near land surface (Hamilton, 1989). Currently, there are 262 water rights/permits

authorized to appropriate water from the Big Sioux: Brookings aquifer (Water Rights, 2023c). There is one other pending application (No. 8753-3) for the Big Sioux: Brookings aquifer with a priority date senior to this application. There are 11 future use permits reserving 6,041 acre-feet/year of water from the Big Sioux: Brookings aquifer, shown on Table 1 (Water Rights, 2023c).

Table 1. Future Use permit reserved water for the Big Sioux: Brookings aquifer (Water Rights, 2023c)

Future Uses Permit Holder	Permit Nos.	Amount of Reserved Water (acre-feet)
Joint Well Fields Inc.	3982-3, 3982A-3, 3982B-3, 6988-3	2,375
City of Lake Norden	4055-3, 6261-3	0
City of Castlewood	558A-3	123
City of Volga	5875-3, 6259-3	1,143
Sioux Rural Water System	5094-3, 7853-3	2,400
TOTAL:		6,041

Table 2 summarizes the 48 non-irrigation water rights/permits authorized to appropriate water from the Big Sioux: Brookings aquifer with the estimated annual use for each water right/permit as determined by their limiting diversion rate or annual volume. The amount of water that can be withdrawn was estimated by assuming the non-irrigation water rights/permits limited by an annual volume will withdraw their entire appropriated volume every year. It is estimated that non-irrigation water rights/permits limited only by a diversion rate will pump at their maximum permitted diversion rate for 60 percent of the time. The 60 percent estimation was established by Water Rights Staff to be a reasonable and safe estimate of average annual withdrawals by non-irrigation appropriations. Historically, the 60 percent estimate has been accepted by the Water Management Board. It should be noted that some of the permits listed on Table 5 are connected to rural water systems and use rural water rather than their local wells; so, they will not contribute to the annual withdrawal rate. Overall, the annual withdrawal rate for the Big Sioux: Brookings aquifer non-irrigation water rights/permits is approximately 15,247 acre-feet/year (Table 2) (Water Rights, 2023c).

Table 2. Estimated annual use for non-irrigation water rights/permits authorized to divert water from the Big Sioux: Brookings aquifer (Water Rights, 2023c)

Permit No.	Name	Status	Uses	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet)	Estimate Use (acre-feet/year)
2111-3	GOPHER SIGN CO	LC	COM	0.040	N/A	17.38
5675-3	LAKE POINSETT ESTATES	LC	COM	0.090	N/A	39.10
6019-3	DAKOTA WHOLESALE BAIT INC	LC	COM, DOM	0.355	N/A	154.21
6329-3	OSWALD	LC	COM	1.280	N/A	556.03
6745-3	HANSEN	LC	COM	0.110	N/A	47.78
6785-3	DRUMGOON DAIRY LP	LC	COM, LCO	0.200	N/A	86.88
6786-3	NYSTROM	LC	COM, LCO	0.170	N/A	73.85
7277-3	OLD TREE FARMS	LC	COM, LCO	0.100	N/A	43.44

Report on Water Permit Application No. 8758-3

Permit No.	Name	Status	Uses	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet)	Estimate Use (acre-feet/year)
7854-3	ULVESTAD	PE	COM, LCO	0.890	N/A	386.62
7259-3	OLD APOSTOLIC LUTHERAN CHURCH	LC	GEO	1.000	120.00	120.00
5129-3	TECHNICAL ORDNANCE INC	LC	IND	0.100	N/A	43.44
6146-3	SD SOYBEAN PROCESSORS	LC	IND	0.144	N/A	62.55
1317-3	ESTELLINE	LC	MUN	1.100	N/A	477.84
1759-3	VOLGA	LC	MUN	1.650	N/A	716.76
3117-3*	HAYTI	LC	MUN	0.330	N/A	0.00
4950-3	BRUCE	LC	MUN	0.270	N/A	117.29
5071-3*	CLEAR LAKE	LC	MUN	0.450	N/A	0.00
5167-3	VOLGA	LC	MUN	0.450	N/A	195.48
534A-3*	CLEAR LAKE	LC	MUN	1.100	N/A	0.00
557-3	LAKE NORDEN	LC	MUN	3.000	N/A	1303.20
558B-3	CASTLEWOOD	LC	MUN	0.560	N/A	243.26
558D-3	CASTLEWOOD	LC	MUN	0.330	N/A	143.35
5645-3	ESTELLINE	LC	MUN	0.660	N/A	286.70
617-3*	HAYTI	LC	MUN	0.660	N/A	0.00
5815-3	LAKE NORDEN	LC	MUN	0.560	139.00	139.00
5941-3	VOLGA	LC	MUN	0.890	644.00	644.00
6417-3	LAKE NORDEN	LC	MUN	1.450	630.00	630.00
6542-3	LAKE NORDEN	LC	MUN	0.600	262.00	262.00
8640-3	VOLGA	PE	MUN	1.110	645.00	645.00
2033-3	SIOUX RURAL WATER SYSTEM	LC	RWS	0.750	N/A	325.80
4830-3	BROOKINGS-DEUEL RWS	LC	RWS	2.000	N/A	868.80
5079-3	BROOKINGS-DEUEL-KINGBROOK	LC	RWS	2.900	N/A	1259.76
5098-3	SIOUX RURAL WATER SYSTEM	LC	RWS	2.000	N/A	868.80
5434-3	BROOKINGS-DEUEL-KINGBROOK	LC	RWS	1.000	434.00	434.00
5602-3	BROOKINGS-DEUEL-KINGBROOK	LC	RWS	1.000	434.00	434.00
5960-3	SIOUX RURAL WATER SYSTEM	PE	RWS	1.330	600.00	600.00
6002-3	BROOKINGS-DEUEL-KINGBROOK	LC	RWS	1.000	362.00	362.00
2245B-3	BROOKINGS-DEUEL RWS	LC	RWS	1.930	270.00	270.00
6718-3	BROOKINGS-DEUEL-KINGBROOK	LC	RWS	1.000	300.00	300.00
7381-3	BROOKINGS-DEUEL RWS	PE	RWS	0.000	N/A	0.00
7852-3	SIOUX RURAL WATER SYSTEM INC	PE	RWS	1.330	600.00	600.00
8185-3	JOINT WELL FIELD INC.	PE	RWS	0.000	603.00	603.00
7852A-3	SIOUX RURAL WATER SYSTEM	PE	RWS	0.000	N/A	0.00
6988A-3	JOINT WELL FIELD INC	PE	RWS	0.000	N/A	0.00
8371-3	JOINT WELL FIELD INC	PE	RWS	0.000	434.00	434.00
8732-3	SIOUX RURAL WATER SYSTEM	PE	RWS	0.000	N/A	0.00
1956-3	MEYER	LC	SHD	1.000	N/A	434.40
1956-3A	HAMILTON	LC	SHD	0.040	N/A	17.38
LC Licensed Water Right, PE Water Permit, COM Commercial, DOM Domestic, LCO Livestock Confinement Operation, GEO Geothermal, IND Industrial, MUN Municipal, RWS Rural Water System, SHD Suburban Housing Development, *These Water Rights get their water from a separate system rather than local wells.					TOTAL:	15,247

Currently, there are 214 irrigation water rights/permits appropriating water from the Big Sioux: Brookings aquifer (Water Rights, 2023c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. The average annual withdrawal rate for the Big Sioux: Brookings aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2021) is approximately 8,943 acre-feet per year (Table 3) (Water Rights, 2023a). To reflect the current development of irrigation water rights/permits more accurately, the average annual withdrawal rate for irrigation appropriations from 2012 to 2021 is approximately 10,951 acre-feet per year (Table 3) (Water Rights, 2023a).

There are seven irrigation water permits approved in 2022-2023, that are not accounted for in Table 3, Water Permit Nos. 8601-3, 8602-3, 8638-3, 8645-3, 8669-3, 8712-3, and 8738-3 (Water Right, 2023c). There are also two pending irrigation applications Nos. 8753-3 and 8758-3 (this application) (Water Right, 2023c). Water Permit Nos. 8601-3, 8602-3, 8638-3, 8645-3, 8669-3, 8712-3, and 8738-3 combined are authorized to irrigate approximately 634 acres (Water Rights, 2023c). Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. However, one foot of water per acre per year application rate will be used to somewhat overestimate the annual withdrawal rate for these irrigation water rights/permits. Therefore, the estimated average annual withdrawal rate for Water Permit Nos. 8601-3, 8602-3, 8638-3, 8645-3, 8669-3, 8712-3, and 8738-3 is estimated at approximately 634 acre-feet per year. Additionally, this application and one other pending application (No. 8753-3) propose to use approximately 267 acre-feet per year. Collectively, the average annual withdrawal rate for the irrigation appropriations from 2012 to 2021 (10,951 acre-feet/year), plus the estimated average annual withdrawal rate for the irrigation water permits approved in 2022-2023 and pending applications (901 acre-feet/year), is approximately 11,852 acre-feet per year.

Table 3. Reported historic irrigation use from the Big Sioux: Brookings aquifer (Water Rights, 2023a)

Year	No. of Permits Reporting	Reported Pumpage (acre-feet)
1979	184	6,144
1980	187	9,837
1981	198	9,040
1982	155	4,558
1983	161	8,227
1984	188	8,177
1985	181	4,951
1986	179	2,855
1987	171	10,015
1988	167	18,521
1989	166	13,931
1990	175	5,863
1991	165	7,772
1992	162	2,332
1993	162	1,043
1994	160	2,855
1995	161	3,862
1996	154	7,221
1997	153	5,650
1998	157	8,110
1999	155	7,841
2000	153	8,934
2001	149	8,385
2002	149	12,411
2003	149	11,380
2004	156	11,810
2005	159	11,513
2006	161	14,325
2007	164	12,730
2008	166	12,506
2009	174	9,173
2010	172	2,713
2011	174	8,528
2012	177	19,483
2013	198	15,432
2014	212	9,948
2015	209	8,796
2016	210	10,267
2017	209	9,572
2018	211	7,953
2019	211	106
2020	209	10,001
2021	205	17,955
Max	212	19,483
Min	149	106
Avg (1982-2021)	174	8,943
Avg (2012-2021)	205	10,951

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

Hydrologic Budget Summary

The average annual recharge rate to the Big Sioux: Brookings aquifer is estimated to be about 107,000 acre-feet/year (Stonesifer, 2013). The average withdrawal rate from the Big Sioux: Brookings aquifer totals to approximately 33,140 acre-feet/year; (future use: 6,041 acre-feet/year; non-irrigation: 15,247 acre-feet/year; irrigation (avg 2012 to 2021 plus the water rights/permits approved between 2021 and 2022) and pending applications: 11,852 acre-feet/year). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Big Sioux: Brookings aquifer for the proposed appropriation.

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.

The DANR-Water Rights Program monitors 77 observation wells completed into the Big Sioux: Brookings aquifer. The observation wells completed into the aquifer are shown on Figure 1 (Water Rights, 2023b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The three closest observation wells to the proposed diversion point are BG-77N (approximately 2.2 miles north), BG-77M (approximately 2.5 miles northeast), and BG-77Q (approximately 2.8 miles southeast) (Water Rights, 2023b). The hydrographs for these observation wells are displayed in Figures 2 to 4 respectively (Water Rights, 2023b). 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. It is worth noting the hydrograph titles display DENR Water Rights Observation Well on the hydrographs when the titles should display DANR Water Rights Observation Well on hydrographs. The majority of observation wells in the Big Sioux: Brookings aquifer have a stable water level, with several observation wells that are under the influence of heavy pumping showing a history of slightly declining water levels that eventually stabilize. The data shown on Figures 2 to 4 share a similar trend with most of the observation wells in the Big Sioux: Brookings aquifer.

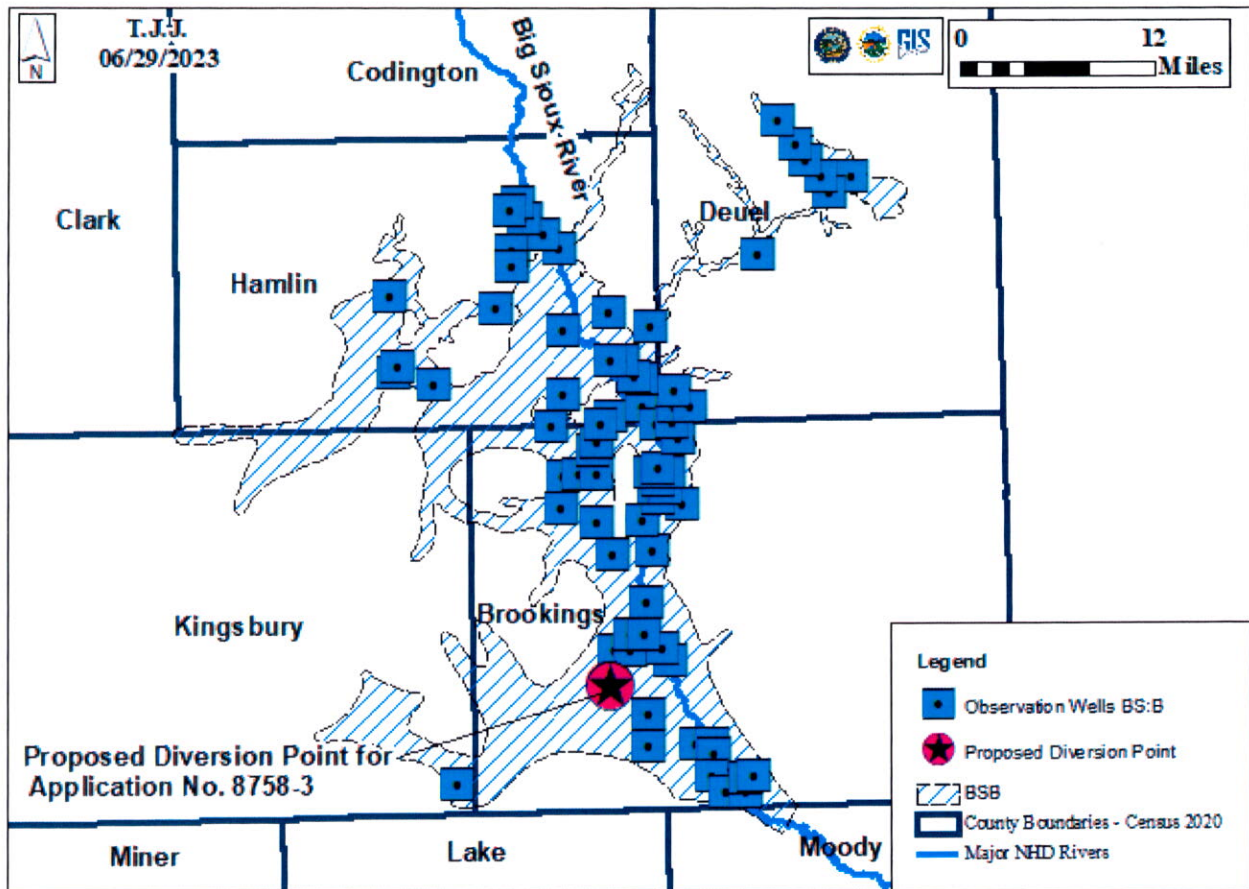


Figure 1. Map of the area Big Sioux: Brookings aquifer observation wells (Water Rights, 2023b and 2023c), and the location of diversion point for Water Permit Application No. 8758-3.

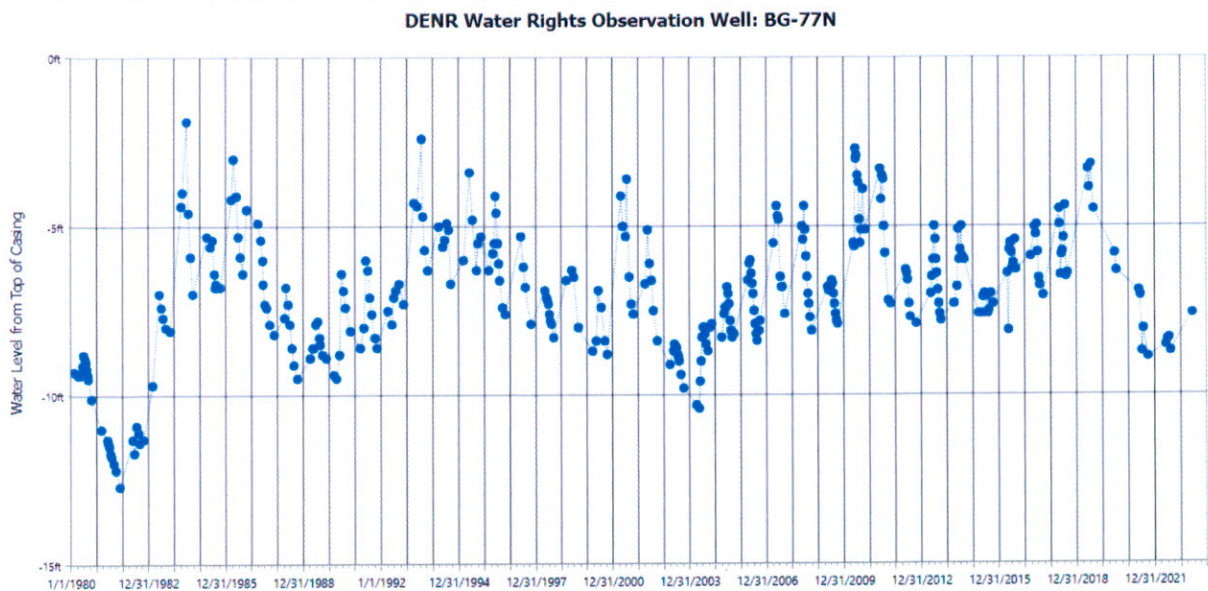


Figure 2. Hydrograph for observation well BG-77N (Water Rights, 2023b)

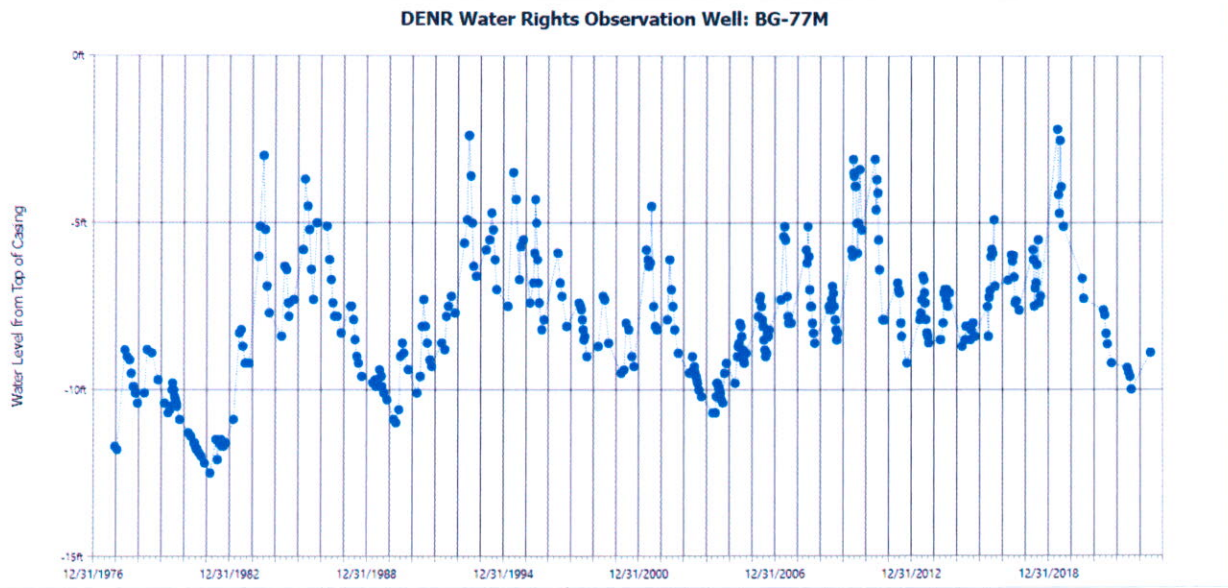


Figure 3. Hydrograph for observation well BG-77M (Water Rights, 2023b)

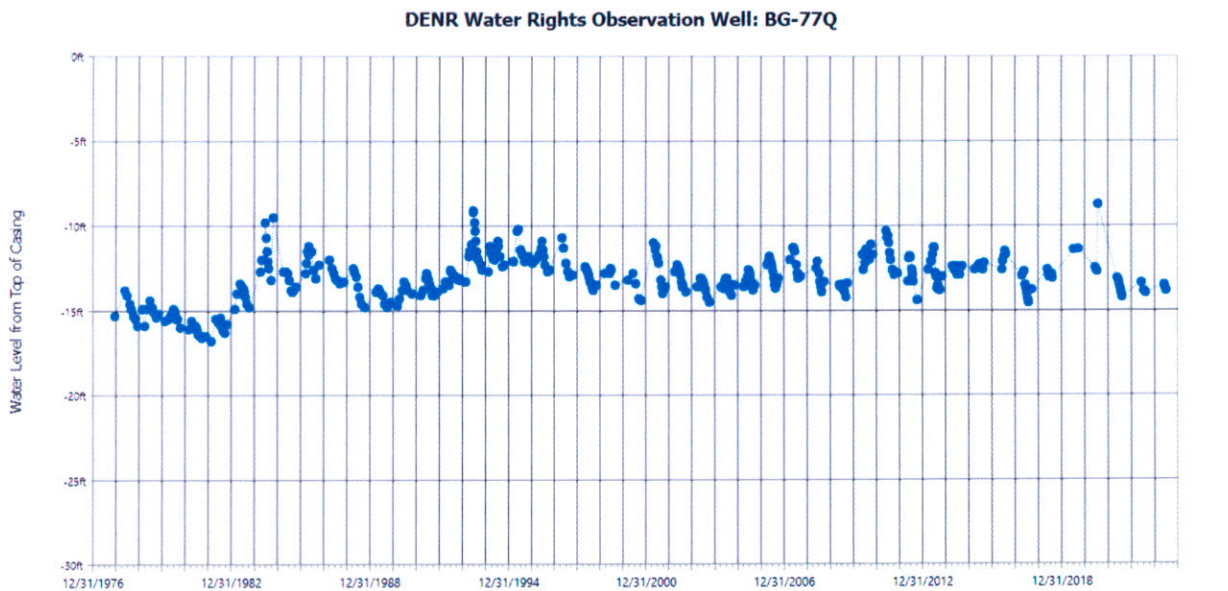


Figure 4. Hydrograph for observation well BG-77Q (Water Rights, 2023b)

The hydrographs, Figures 2 to 4, for the observation wells display generally stable water levels which is representative to a majority of other observation wells in the Big Sioux: Brookings aquifer. The hydrographs for the Big Sioux: Brookings aquifer indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods (early spring snowmelt and precipitation) and declining to a stable water level during drier periods. Additionally, the water levels in the observation wells display that the amount of recharge to and natural discharge from the aquifer greatly exceeds pumping with the aquifer returning to pre-pumping conditions between irrigation seasons. Aquifer recovery indicates that climatic conditions and therefore, the effects of recharge to and natural discharges from the aquifer, govern the long-term fluctuations of waters levels in the aquifer rather than the impacts of

pumping from the Big Sioux: Brookings aquifer. By recognizing that both recharge to and natural discharge from an aquifer can be captured for pumping, the observation well hydrographs demonstrate unappropriated water is available for the proposed appropriation.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Water rights/permits appropriating water from the Big Sioux: Brookings aquifer in the general vicinity of the proposed well site for this application are shown in Figure 5 and summarized in Table 4 (Water Rights, 2023c). The closest water right/permit to the diversion point is Water Right No. 8640-3 which is held by The City of Volga. The diversion point for Water Right No. 8640-3 is located approximately 0.3 miles northeast of the diversion point for this application (Water Rights, 2023c). There are domestic wells on file with the DANR-Water Rights Program that are completed into the Big Sioux: Brookings aquifer, with the closest domestic well on file (not held by the applicant) approximately 0.2 miles southeast of the diversion point based on the well completion report submitted by the driller (Water Rights, 2023d). The location of the domestic wells is based on the information provided by the well driller on the submitted well completion report. There could potentially be other domestic wells completed into the Big Sioux: Brookings aquifer near the diversion point that are not on file with the DANR-Water Rights Program.

Table 4. List of water rights/permits shown in Figure 5.

Permit	Name/Business	Priority	Status	Use Type	CFS	Acres
1759-3	City of Volga	06/15/1970	License	Municipal	1.49	NA
2169-3	Carol M Glantz	12/16/1974	License	Irrigation	0.14	15
5167-3	City of Volga	12/22/1987	License	Municipal	0.45	NA
5333-3	Vanderwal Yards Inc	04/14/1976	License	Irrigation	1.61	121
5849-3	Meadow Creek Golf Course	10/15/1975	License	Irrigation	0.89	84
5941-3	City of Volga	07/26/1995	License	Municipal	0.89	NA
6146-3	SD Soybean Processors	06/08/1999	License	Industrial	0.144	NA
7104-3	Howell Farms Inc	03/16/2009	License	Irrigation	1.56	134
7252-3	SD Crop Improvement Association	05/18/2011	License	Irrigation	0.133	20
7277-3	Old Tree Farms	10/21/2011	License	Commercial	0.1	NA
7500-3	Hillestad Farms	11/05/2012	License	Irrigation	1.0	124.5
7502-3	Howell Farms Inc	10/31/2012	License	Irrigation	1.34	123
7503-3	Howell Farms Inc	10/31/2012	License	Irrigation	1.34	112.9
8640-3	City of Volga	06/04/2001	Permit	Irrigation	1.11	NA

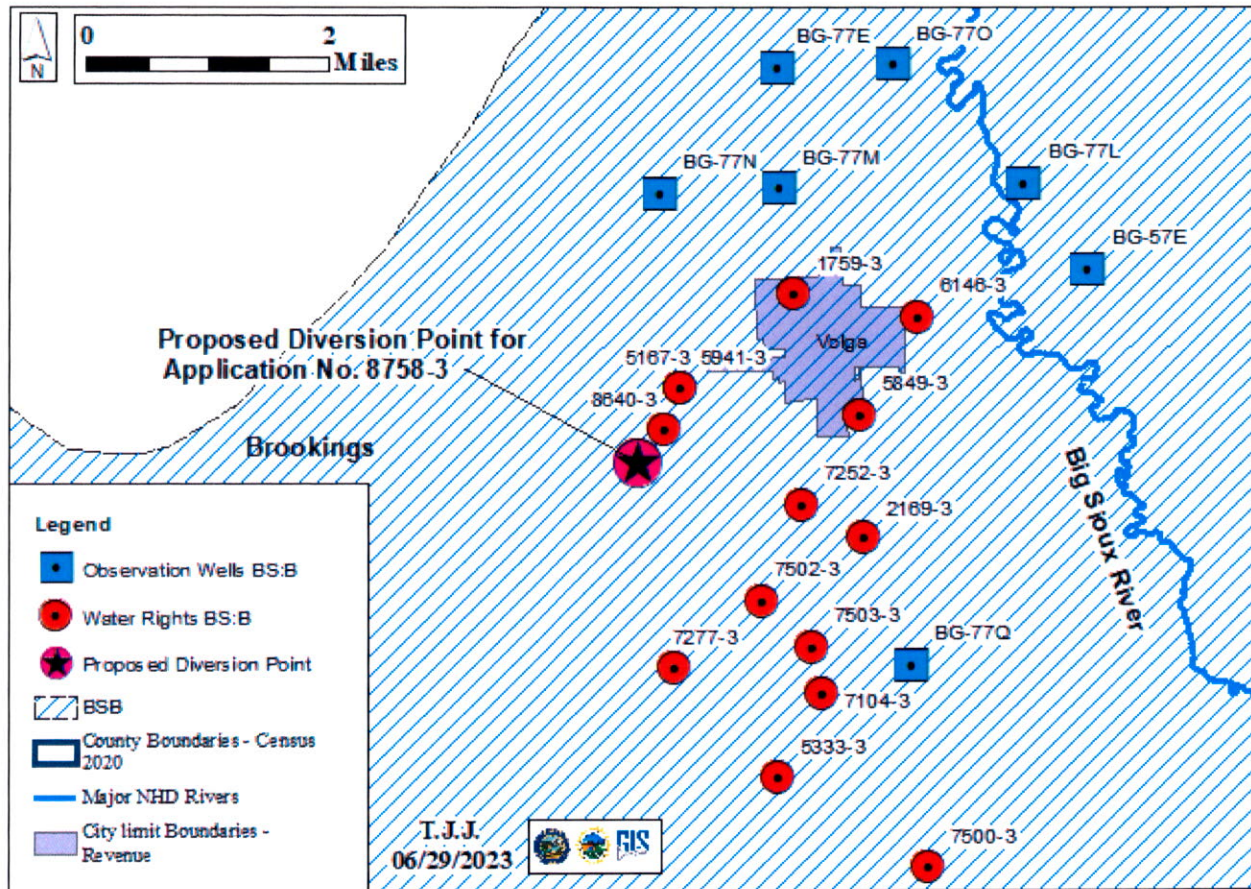


Figure 5. Map of the Big Sioux: Brookings aquifer water rights/permits within 4 miles of the proposed diversion point (Water Rights, 2023b and 2023c), and the location of diversion point for Water Permit Application No. 8758-3.

The Big Sioux: Brookings aquifer is primarily under unconfined conditions. In an unconfined aquifer, drawdown created by pumping does not extend far from the pumped well. The Water Management Board recognizes that putting water to beneficial use requires a certain amount of drawdown to occur. The Board has developed rules to allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. The Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

“A well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner’s needs.”

A local water well completion report shows, the Big Sioux aquifer has a saturated aquifer thickness of 43 feet at the diversion point (Water Rights, 2023d). Drawdown is likely to occur in the Big Sioux: Brookings aquifer. However, precise drawdown in the aquifer cannot be known without an aquifer performance test. While the best information available indicates that there is a

reasonable probability average annual recharge exceeds average annual withdrawals in the aquifer, conditions can occur where withdrawals in the aquifer exceed recharge for a period of time. Situations may occur where pumping from a thicker part of an unconfined aquifer could cause drawdown impacting adequate wells in a thinner part of the aquifer. Under such conditions an unlawful impairment of senior water rights/permits or adequate domestic wells may occur. Therefore, the applicant should control their withdrawals so that nearby adequate domestic wells and senior water rights/permits are able to access needed water. When considering the statutes (SDCL 46-1-4 and 46-6-6.1), rules (ARSD 74:02:04:20 (6) and (7)), the saturated aquifer thickness near the diversion point, the lack of recent well interference complaints for adequate wells completed into the Big Sioux: Brookings aquifer in Brookings County (Water Rights, 2023e), and the well has been in use since 2008, any drawdown created from the diversion is not expected to cause an unlawful impairment on existing water right/permit holders or domestic users with adequate wells. Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments on existing users with adequate wells.

Howard Aquifer

Hydrogeology

The Howard aquifer is a Quaternary-aged glacial outwash that consists of very fine to very coarse sand and very fine to fine gravel (Hamilton, 1989). The depth of the top of the Howard aquifer ranges from 140 feet below land surface in south-central Kingsbury County to 438 feet below land surface 2 miles east of Arlington (Hamilton, 1989). The thickness of the Howard aquifer averages 25 feet (Hamilton, 1989). In Miner County, the Howard aquifer is estimated to underly approximately 110,100 acres according to Hedges et al. (1982); while Hamilton (1989) estimated the aquifer to underly approximately 835 square miles (534,400 acres) in Kingsbury and Brookings Counties. Hansen (1986) estimated the Howard aquifer underly 675 square miles (432,000 acres) of Lake and Moody Counties. Altogether, the total extent of the Howard Aquifer across five Counties (Lake, Moody, Miner, Kingsbury, and Brookings) is approximately 1,076,500 acres (Hedges et al., 1982; Hansen, 1986; Hamilton, 1989). The direction of groundwater movement in the Howard aquifer is southward (Hamilton, 1989). The Howard aquifer is primarily confined, but there are some locations where the aquifer is locally unconfined (Hamilton, 1989; Water Rights, 2023b). Based on observation wells and well completion reports of the Howard aquifer, the Howard aquifer may not be as expansive as previously expected (Water Rights, 2023b and 2023d); however, further study would be required to confirm this.

Water Well Completion Report

A water well completion report was submitted with Water Permit Application No. 8758-3 (Water Rights, 2023d). The water well was completed on July 1, 2008, for Water Permit No. 7046-3. The water well is completed into the Howard aquifer (Water Rights, 2023d). The top of aquifer bearing material is 241 ft below the ground surface, with a static water level of 51 ft below the

ground surface, and a saturated aquifer thickness of 73 ft (SDGS, 2023; Water Rights, 2023b and 2023d). The water well data would suggest the Howard aquifer to be confined at this location.

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 unappropriated water is available for the applicant’s proposed use, the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, the proposed use is a beneficial use, and the permit is 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 portion of the report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic uses and water rights within the Howard aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8758-3 also proposes to appropriate water from the Howard 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 Howard aquifer is not older than or stratigraphically lower than the Greenhorn Formation, 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 Howard aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Howard aquifer is received primarily through infiltration of precipitation through hundreds of feet of overlying clayey till (Hamilton, 1989). There are also local thick sand deposits in the overlying till layer where greater recharge may occur (Hamilton, 1989). No recharge rate is available for the Howard aquifer. Hedges et al. (1985) recommend a recharge rate range of 0.15 to 0.6 inches per year for buried confined aquifers which will be used to estimate recharge (Hedges et al., 1985). Considering the Howard aquifer underlies approximately 1,076,500 acres across five counties (Lake, Moody, Miner, Kingsbury, and Brookings) (Hedges et al., 1982; Hansen, 1986; Hamilton, 1989); the recharge rate for the Howard aquifer ranges between 13,456 acre-feet/year to 53,825 acre-feet/year. However, the actual recharge to the aquifer could be much lower due to the likely smaller areal extent of the aquifer than what is currently mapped by the various reference sources.

Discharge

Discharge from the Howard aquifer in South Dakota primarily occurs through well withdrawals and groundwater outflow to hydrologically connected sand and gravel units with a lower hydraulic head. Currently, there are 21 water rights/permits authorized to appropriate water from the Howard aquifer (Water Rights, 2023c). Of those 21 water rights/permits, 15 are non-irrigation water rights/permits and 6 are irrigation water rights/permits (Water Rights, 2023c). There is one future use permit reserving 387 acre-feet/year of water from the Howard aquifer (Water Rights, 2023c).

Table 5 summarizes the 15 non-irrigation water rights/permits authorized to appropriate water from the Howard aquifer with the estimated annual use for each water right/permit as determined by their limiting diversion rate or annual volume. The amount of water that can be withdrawn was estimated by assuming the non-irrigation water rights/permits limited by an annual volume will withdraw their entire appropriated volume every year. It is estimated that non-irrigation water rights/permits limited only by a diversion rate will pump at their maximum permitted diversion rate for 60 percent of the time. The 60 percent estimation was established by Water Rights Staff to be a reasonable and safe estimate of average annual withdrawals by non-irrigation appropriations. Historically, the 60 percent estimate has been accepted by the Water Management Board. It should be noted that some of the permits listed on Table 5 are connected to rural water systems and use rural water rather than their local wells; so, they will not contribute to the annual withdrawal rate. Overall, the annual withdrawal rate for the Howard aquifer non-irrigation water rights/permits is approximately 1,648 acre-feet/year (Table 5) (Water Rights, 2023c).

Table 5. Estimated annual use for non-irrigation water rights/permits authorized to divert water from the Howard aquifer (Water Rights, 2023c)

Permit No.	Name	Status	Uses	Authorized Diversion Rate (cfs)	Authorized Annual Volume (acre-feet)	Estimated Use (acre-feet/year)
5789-3	RAMSDELL'S FERTILIZER & PROPANE INC	LC	COM	0.18	N/A	78.19
8596-3	KINGFISHER ENTERPRISES	PE	COM	0.20	72.60	72.60
5465A-3	BRANDON KARBAN	LC	DOM	0.11	N/A	47.78
5955-3	SD SOYBEAN PROCESSORS	LC	IND	0.44	N/A	192.87
1061-3*	CITY OF COLMAN	LC	MUN	0.00	N/A	0.00
1599-3*	CITY OF HOWARD	LC	MUN	0.00	N/A	0.00
1604-3*	CITY OF MADISON	LC	MUN	0.89	N/A	386.62
1958-3	WINFRED WATER DISTRICT	LC	MUN	0.10	N/A	43.44
244-3*	CITY OF COLMAN	LC	MUN	0.00	N/A	0.00
4162-3	TOWN OF CANOVA	LC	MUN	0.66	N/A	286.70
4813-3	RUTLAND SCHOOL DIST 39-4	LC	MUN	0.03	N/A	14.34
5143A-3*	CITY OF HOWARD	LC	MUN	0.00	N/A	0.00
578-3*	CITY OF HOWARD	LC	MUN	0.00	N/A	0.00
5465-3	LAKE PRESTON	LC	MUN	0.56	N/A	243.26
6511-3*	CITY OF MADISON	LC	MUN	0.63	282.00	282.00
*Acquires water fully or partially from another water system					Total:	1,648
LC Licensed Water Right, PE Water Permit, COM Commercial, DOM Domestic, IND Industrial, MUN Municipal						

Currently, there are 6 irrigation water rights/permits appropriating water from the Howard aquifer (Water Rights, 2023c). Irrigation water rights/permits have been typically required to report their annual usage on an irrigation questionnaire since 1979. The average annual withdrawal rate for the Howard aquifer irrigation water rights/permits that have reported over the period of record (1979 to 2021) is approximately 62 acre-feet per year (Figure 6) (Water Rights, 2023a). To reflect the current development of irrigation water rights/permits more accurately, the average annual withdrawal rate for irrigation appropriations from 2012 to 2021 is approximately 116 acre-feet per year (Figure 6) (Water Rights, 2023a).

This pending application is requesting to irrigate approximately 127.5 acres. Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. However, one foot of water per acre per year application rate will be used to somewhat overestimate the annual withdrawal rate. Therefore, a proposed 127 acre-feet per year is being requested for this application. Collectively, the average annual withdrawal rate for the irrigation appropriations from 2012 to 2021 (116 acre-feet/year), plus this pending application (127 acre-feet/year), is approximately 243 acre-feet per year.

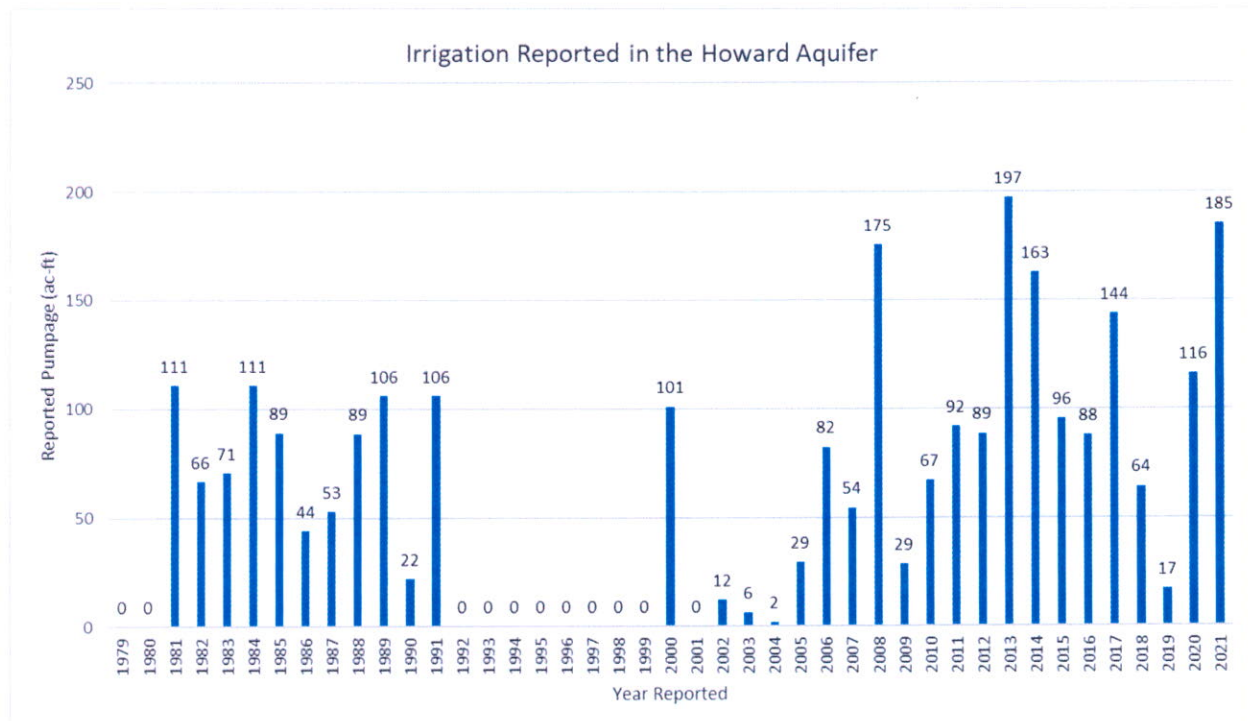


Figure 6: Reported historic irrigation use from the Howard aquifer (Water Rights, 2023a)

There are domestic wells completed into the Howard aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2023d). Due to their relatively low diversion rates, withdrawals from domestic wells are not considered to be a significant portion of the hydrologic budget. Additionally, with the development of rural water systems in areas where the Howard 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 Howard aquifer.

Hydrologic Budget Summary

The average annual recharge rate to the Howard aquifer ranges between 13,456 acre-feet/year to 53,825 acre-feet/year (Hedges et al., 1985). The average withdrawal rate from the Howard aquifer totals to approximately 2,278 acre-feet/year; (future use: 387 acre-feet/year; non-irrigation: 1,648 acre-feet/year; average irrigation appropriation between 2012 to 2021 plus this proposed application: 243 acre-feet/year). Based on the hydrologic budget, there is a reasonable probability unappropriated water is available from the Howard aquifer for the proposed appropriation.

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.

The DANR-Water Rights Program monitors 7 observation wells completed into the Howard aquifer. The observation wells completed into the aquifer are shown on Figure 7 (Water Rights, 2023b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The two closest observation wells to the proposed diversion point are BG-2000A (approximately 2.6 miles southeast) and LK-81A (approximately 13.5 miles south) (Water Rights, 2023b). The hydrographs for this observation wells are displayed in Figures 8 and 9 respectively (Water Rights, 2023b). The data points utilized to construct the hydrographs are measurement of the static water level in the observation wells from the top of the well casing. It is worth noting the hydrograph titles display DENR Water Rights Observation Well on the hydrographs when the titles should display DANR Water Rights Observation Well on hydrographs. The data shown on Figure 8 matches potentiometric contours of the Howard aquifer in Brookings County (Hamilton, 1989). The majority of observation wells in the Howard aquifer have a stable water level.

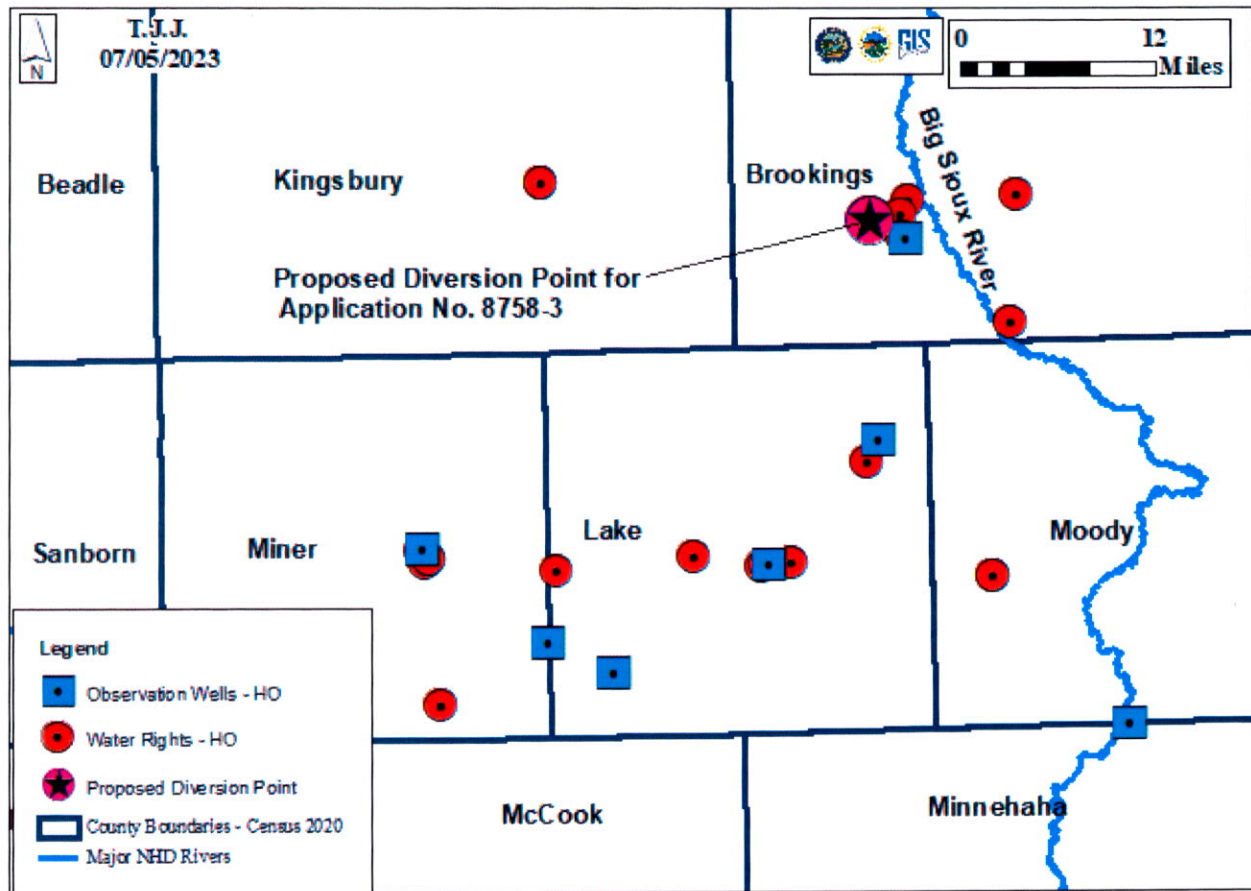


Figure 7. Map of the area Howard aquifer water rights/permits/observation wells (Water Rights, 2023b and 2023c), and the location of diversion point for Water Permit Application No. 8758-3.

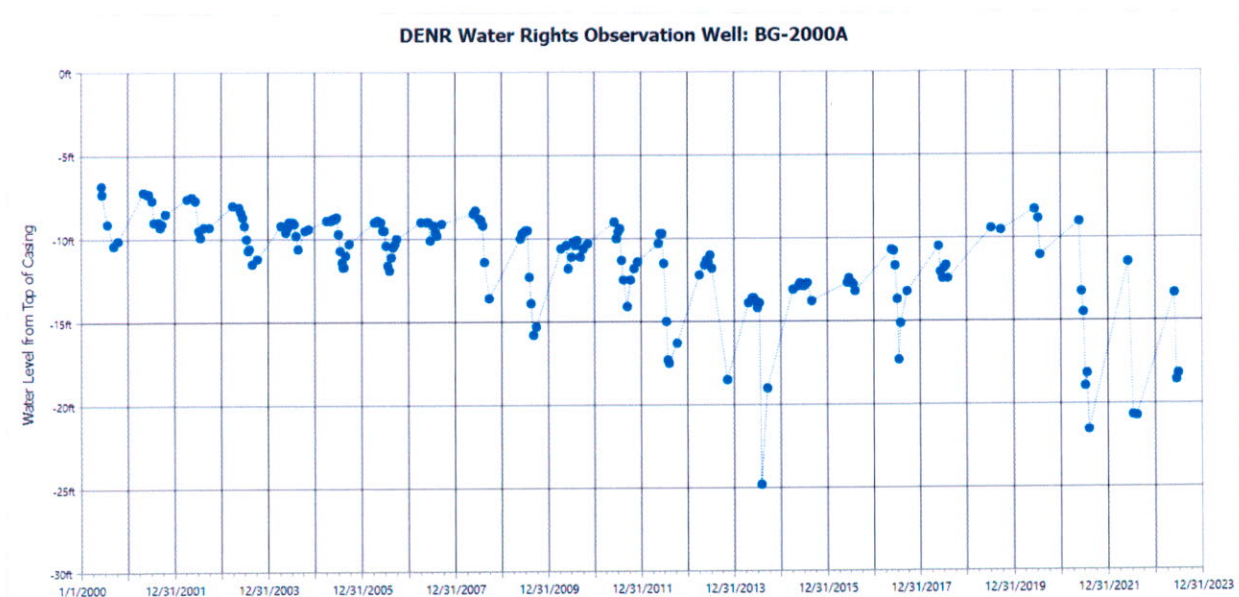


Figure 8. Hydrograph for observation well BG-2000A (Water Rights, 2023b)

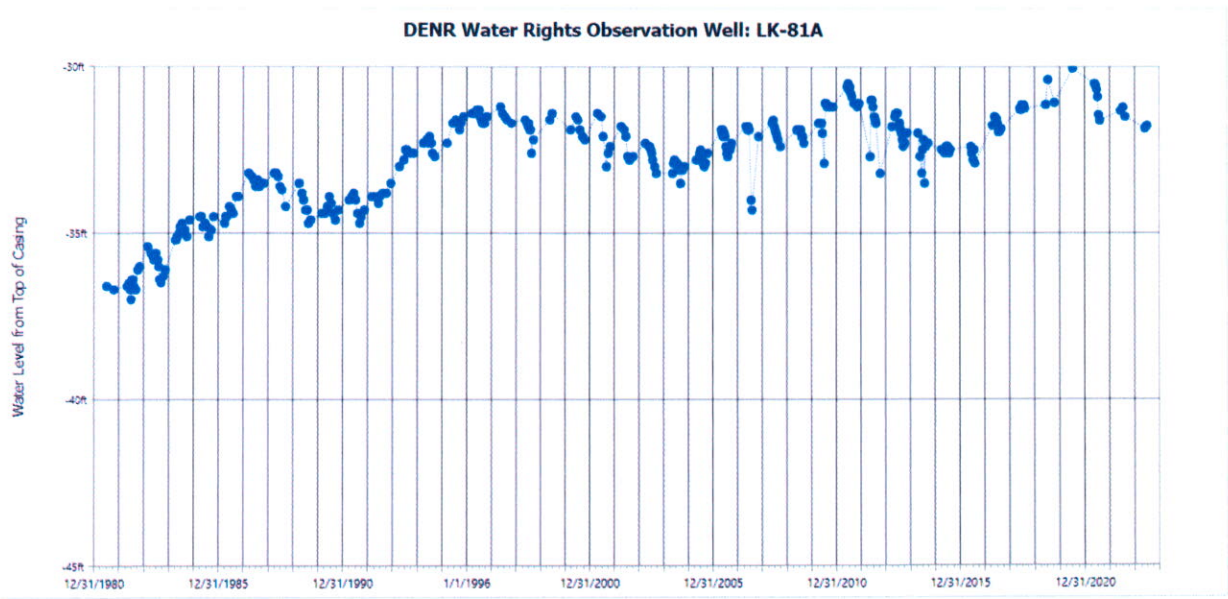


Figure 9. Hydrograph for observation well LK-81A (Water Rights, 2023b)

The hydrographs for the Howard aquifer indicate that the aquifer responds well to climatic conditions because water levels are rising during wetter periods (early spring snowmelt and precipitation) and declining to a stable water level during drier periods. Additionally, the water levels in the observation wells display that the amount of recharge to and natural discharge from the aquifer greatly exceeds pumping with the aquifer returning to pre-pumping conditions between irrigation seasons. Aquifer recovery indicates that climatic conditions and therefore, the effects of recharge to and natural discharges from the aquifer govern the long-term fluctuations of water levels in the aquifer rather than the impacts of pumping from the Howard aquifer. By recognizing that both recharge to and natural discharge from an aquifer can be captured for pumping, the observation well hydrographs demonstrate unappropriated water is available for the proposed appropriation.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Water rights/permits appropriating water from the Howard aquifer in the general vicinity of the existing well site for this application are shown in Figure 10 and summarized in Table 6 (Water Rights, 2023c). The closest water right/permit to the diversion point is Water Right No. 6194-3 which is held by Meadow Creek Golf Course. The diversion point for Water Right No. 6194-3 is located approximately 2 miles east of the diversion point for this application (Water Rights, 2023c). There are domestic wells on file with the DANR-Water Rights Program that are completed into the Howard aquifer, with the closest domestic well on file (not held by the applicant) approximately 0.2 miles northeast of the diversion point based on the well completion report submitted by the driller (Water Rights, 2023d). The location of the domestic wells is based on the information provided by the well driller on the submitted well completion report. There could potentially be other domestic wells completed into the Howard aquifer near the diversion point that are not on file with the DANR-Water Rights Program.

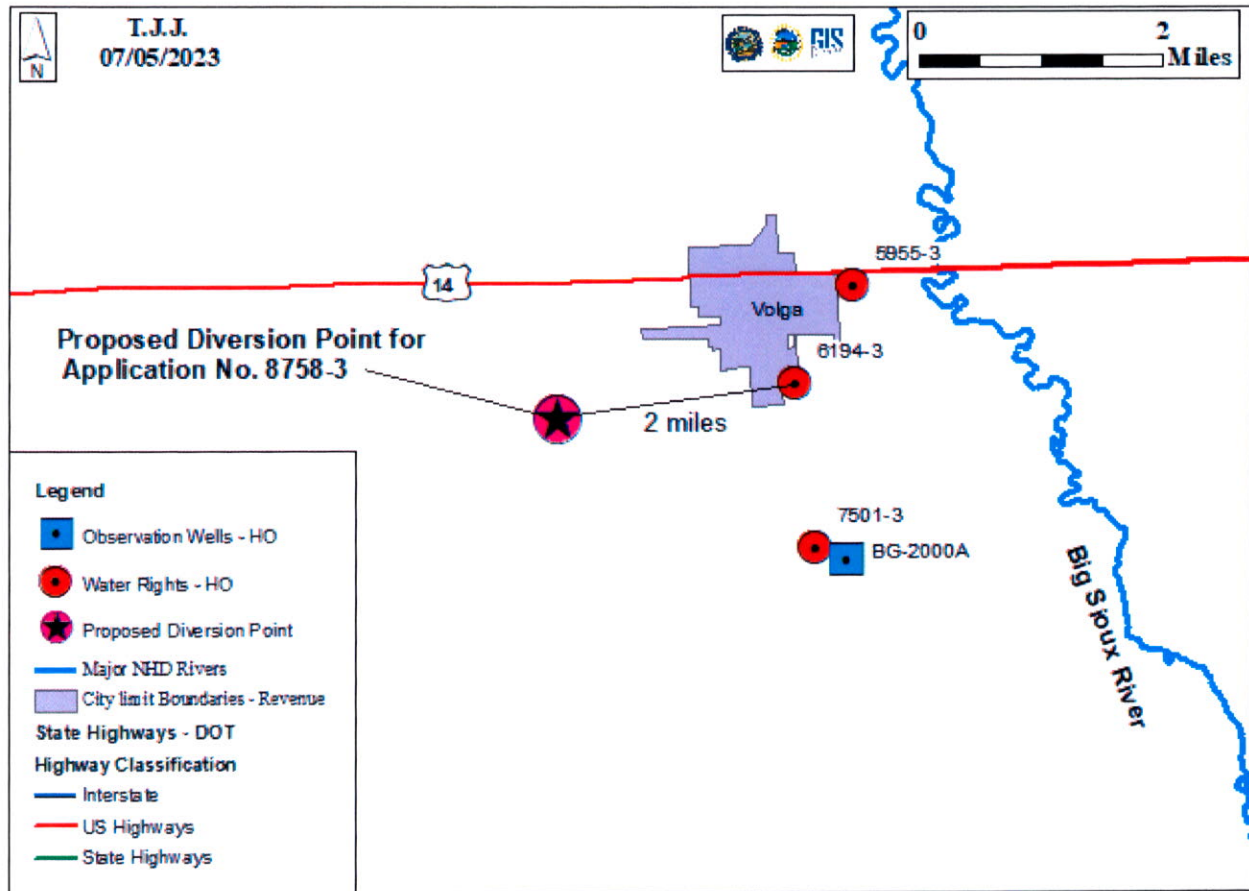


Figure 10. Map of the Howard aquifer water rights/permits within 4 miles of the proposed diversion point (Water Rights, 2023b and 2023c), and the location of diversion point for Water Permit Application No. 8758-3.

Table 6. List of water rights/permits shown in Figure 10.

Permit	Name/Business	Priority	Status	Use Type	CFS	Acres
5955-3	SD Soybean Processors	09/12/1996	License	Industrial	0.444	0
6194-3	Meadow Creek Golf Course	03/14/2000	License	Irrigation	0.67	84
7501-3	Paul Moriarty	11/05/2012	License	Irrigation	1.56	132

The Howard aquifer is primarily under confined conditions. In an confined aquifer, drawdown created by pumping can extend some distance from the pumped well. The Water Management Board recognizes that putting water to beneficial use requires a certain amount of drawdown to occur. The Board has developed rules to allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. The Water Management Board defined an “adversely impacted domestic well” in ARSD 74:02:04:20(7) as:

“A well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner’s needs.”

The Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use during the issuance of Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills. The Board adopted the Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water would be inconsistent with SDCL 46-1-4 which states, “general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable...” (Water Rights, 1995). Furthermore, the Water Management Board found if increased cost or decreased production as a result of impacts on artesian head pressure by legitimate users is to be considered as an unlawful impairment, it would also conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to install or lower pumps depending on the specific characteristics of the Howard aquifer at their location. However, when considering the statutes (SDCL 46-1-4 and 46-6-6.1), rules (ARSD 74:02:04:20 (6) and (7)), the saturated aquifer thickness near the diversion point, the lack of recent well interference complaints for adequate wells completed into the Howard aquifer in Brookings County (Water Rights, 2023e), and the well has been in use since 2008, any drawdown created from the diversion is not expected to cause an unlawful impairment on existing water right/permit holders or domestic users with adequate wells. Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments on existing users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8758-3 proposes to irrigate an additional 127.5 acres located in the NW ¼ Section 28 from the two existing wells both located in the NW ¼ NE ¼ Section 28; all in T110N-R51W and authorized by Water Permit Nos. 6930-3 and 7046-3
2. Water Permit No. 6930-3 appropriates 1.78 cubic feet per second (cfs) from one well completed into the Big Sioux: Brookings aquifer (58 feet deep) located in the center of the NE ¼ Section 28 for irrigation of 160 acres located in the NE ¼ Section 28; all in T110N-R51W.
3. Water Permit No. 7046-3 appropriates 1.56 cfs from one well completed into the Howard aquifer (313 feet deep) located in the NW ¼ NE ¼ Section 28 for irrigation of 160 acres located in the NE ¼ Section 28; all in T110N-R51W.
4. This application, if approved, and Water Permit Nos. 6930-3 and 7046-3 will authorize a combined total of 1.34 cfs for irrigation of 247 acres.
5. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Big Sioux: Brookings aquifer and from the Howard aquifer to supply the proposed appropriation.

6. There is a reasonable probability that the diversion by Water Permit Application No. 8758-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic uses in either the Big Sioux: Brookings aquifer or the Howard aquifer.



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SD DANR - Water Rights Program

Reviewed by:



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SD DANR - Water Rights Program

References

- Hamilton, L.J., 1989. Water Resources of Brookings and Kingsbury Counties, South Dakota: Water-Resources Investigation Report 88-4185. USGS, Huron, South Dakota: U.S. Geological Survey.
- Hansen, D.S. 1986. Water Resources of Lake and Moody Counties, South Dakota: Water-Resources Investigation Report 84-4209. USGS, Huron, South Dakota: U.S. Geological Survey.
- Hedges, L.S., Allen, J., Holly, D.E., 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 7: Ground Water Recharge; United States Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A. 1982. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 1: Bed rock Topography and Distribution, Task 2: Extent of Aquifers, Task 3 Ground-Water Storage, Task 4: Computerized Data Base. United States Army Corps of Engineers Contract DACW 45-80-C-0185.
- Kume J., 1985. Water Resources of Deuel and Hamlin Counties, South Dakota; Water-Resources Investigations Report 84-4069 SDGS, Huron, South Dakota.
- SDGS, 2023. South Dakota Geological Survey Lithologic Logs Database. Accessed June 6, 2023. <http://cf.sddanr.net/lithdb/>.
- Stonesifer, J.R., 2013. Report to the Chief Engineer, Water Permit Application No. 7854-3, David Ulverstad, August 23, 2013. SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 1995. Findings of Fact, Conclusions of Law, and Final Decision in the Matter of Water Permit Application No. 2313-2, Coca-Cola Bottling Company of the Black Hills. DANR-Water Rights Program file for Water Right No. 2313-2. Pierre, SD.
- Water Rights, 2023a. "1979-2022 Irrigation Summaries by Aquifer", SD DANR-Water Rights Program, Joe Foss Building, Pierre, SD.
- Water Rights, 2023b. Observation Well Data, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2023c. Water Right/Permit Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2023d. Well Completion Reports, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2023e. County Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

July 10, 2023

Marvin Post
21242 461 Ave
Volga SD 57071

Dear Mr. Post:

Water Permit Application No. 8758-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Brookings Register printed at Brookings SD (Ph # 605 692-6271). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Rachel Rodriguez

Rachel Rodriguez
Water Rights Program
(605) 773-3352

enclosures

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

NOTICE OF APPLICATION NO. 8758-3 to Appropriate Water

Notice is given that Marvin Post, 21242 461st Avenue, Volga SD 57071 has filed an application for a water permit to irrigate an additional 127.5 acres from two wells authorized by Water Permit Nos. 6930-3 and 7046-3. Water Permit No. 6930-3 appropriates 1.78 cubic feet of water per second (cfs) from one well completed in the Big Sioux: Brookings Aquifer (58 feet deep) located in the center of the NE 1/4 Section 28 for irrigation of 160 acres located in the NE 1/4 Section 28; all in T110N-R51W. Water Permit No. 7046-3 appropriates 1.56 cfs from one well completed in the Howard Aquifer (313 feet deep) located in the NW 1/4 NE 1/4 Section 28 to irrigate 160 acres located in the NE 1/4 Section 28; all in T110N-R51W. Only 120 acres of the permitted 160 acres were developed. This application proposes to irrigate an additional 127.5 acres located in the NW 1/4 Section 28 from the two existing wells both located in the NW 1/4 NE 1/4 Section 28; all in T110N-R51W. This application, if approved, and Water Permit Nos. 6930-3 and 7046-3 will authorize a total of 1.34 cfs for irrigation of 247 acres. The 1.34 cfs diversion rate reflects the combined developed rate from the wells. This site is located approximately 2 miles southwest of Volga SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8758-3 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 July 28, 2023.

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 July 28, 2023.

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

Published once at the total approximate cost of _

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Monday, July 10, 2023 11:01 AM
To: registerclassifieds@brookingsregister.com
Subject: 8758-3 Marvin Post - Public Notice
Attachments: 8758-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on July 18, 2023.

Marvin Post, 21242 461st Avenue, Volga SD 57071, (605 695-4227) has been notified to contact you to authorize publication and arrange for payment.

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

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

Thank you,

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



Affidavit of Publication

State of South Dakota

ss

County of Brookings

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

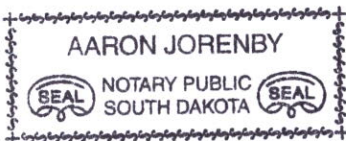
LEG #24677 NOTICE TO APPROPRIATE WATER

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

July 18, 2023

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

Fifty three dollars and seventy eight cents \$53.78



[Handwritten signature]

18 day of

July

2023

[Handwritten signature]

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

Legal 24677 1X
7/18
**NOTICE OF APPLICATION
NO. 8758-3 TO
APPROPRIATE WATER**
Notice is given that Marvin Post, 21242 461st Avenue, Volga SD 57071 has filed an application for a water permit to irrigate an additional 127.5 acres from two wells authorized by Water Permit Nos. 6930-3 and 7046-3. Water Permit No. 6930-3 appropriates 1.78 cubic feet of water per second (cfs) from one well completed in the Big Sioux: Brookings Aquifer (58 feet deep) located in the center of the NE 1/4 Section 28 for irrigation of 160 acres located in the NE 1/4 Section 28; all in T110N-R51W. Water Permit No. 7046-3 appropriates 1.56 cfs from one well completed in the Howard Aquifer (313 feet deep) located in the NW 1/4 NE 1/4 Section 28 to irrigate 160 acres located in the NE 1/4

RECEIVED

JUL 27 2023

OFFICE OF
WATER

Section 28; all in T110N-R51W. Only 120 acres of the permitted 160 acres were developed. This application proposes to irrigate an additional 127.5 acres located in the NW 1/4 Section 28 from the two existing wells both located in the NW 1/4 NE 1/4 Section 28; all in T110N-R51W. This application, if approved, and Water Permit Nos. 6930-3 and 7046-3 will authorize a total of 1.34 cfs for irrigation of 247 acres. The 1.34 cfs diversion rate reflects the combined developed rate from the wells. This site is located approximately 2 miles southwest of Volga SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8758-3 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 July 28, 2023.

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 July 28, 2023.

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 July 18, 2023 at the total approximate cost of \$53.78 and may be viewed free of charge at www.sdpublicnotices.com.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

April 20, 2023

Marvin Post
21242 461st Ave
Volga SD 57071

Dear Mr. Post:

Enclosed is an *Application for a Permit to Appropriate Water* for irrigation. This partially completed form is being sent based on the inspection of your water permits conducted by Darrell DeBoer, staff engineer.

The inspection found 127.5 acres located in the NW 1/4 Section 28-T110N-R51W were not authorized by your existing permits. Genny McMath with this office, indicated she has talked with you regarding the permits.

Please review the enclosed form, make any necessary corrections, list an email address if available, and sign at the bottom of the form. Enclosed is a map prepared by Mr. DeBoer of the irrigation system as developed.

Return the signed application and the application fee of \$850.00. The license fee of \$200.00 submitted for Permit No. 7046-3 will be applied towards this application. You should be aware that you will be responsible for payment of the public notice once a staff report and the Chief Engineer's recommendation are complete. We will be in contact with you at that time.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

enclosures

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Monday, July 10, 2023 11:08 AM
To: marvjoy@itctel.com
Subject: 8758-3 Marvin Post - Public Notice
Attachments: 8758-3_rec.pdf; 8758-3_Ltr.pdf; 8758-3_Pub.pdf

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

Thank you,

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

AUG 31 2023

Marvin Post
21242 461st Avenue
Volga SD 57071

Dear Mr. Post:

Enclosed is Water Permit No. 8758-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Sincerely,

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

enclosures



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

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

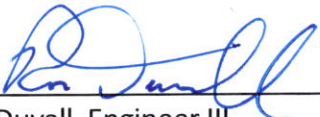
Pursuant to SDCL § 46-2A-4, public notice of the following application was posted on the DANR web site at <https://danr.sd.gov/public>. The posted public notice is the same notice as published in the pertinent newspaper(s) and a copy of the public notice is maintained in the application file. If the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

Application No.: 8758-3

Name of Applicant: Marvin Post

Date of Posting: 7/18/2023

Date of Removal: 8/31/2023



Ron Duvall, Engineer III

8/31/2023

Date

Subscribed and sworn to before me, a notary public, this 31 day of August, 2023.



Notary Public - South Dakota
My commission expires: **Rachel Rodriguez**
My Commission Expires
May 16, 2029

(SEAL)



8758-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

December 7, 2003

8758-3

Marvin Post
21242 461st Ave
Volga SD 57071

Dear Mr. Post:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with your water use system.

The system is now ready for inspection. Inspections are done on a county-by-county basis as staff time permits. You have done everything you need to do and the intervening time between the completion of your project and the staff inspection has no bearing on your water permit.

Someone from our office will contact you prior to the inspection to set up a time that is convenient for you. If you have any questions, please contact me.

Sincerely,

Amanda Dewell
Water Rights Program
(605) 773-3352
email: Amanda.Dewell@state.sd.us

RECEIVED

DEC 06 2023

NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEOFFICE OF
WATERDate 11-30-23TO: Water Rights Program, DANR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

Marvin Post

(name)

21242 46th Ave

(address)

Volga, SD 57071

(city, state, zip)

605-695-4227

(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. 8758-3 states that the water use system is to be constructed by5-5-23

(date)

, and water is to be put to beneficial use by

7-28-23

(date)

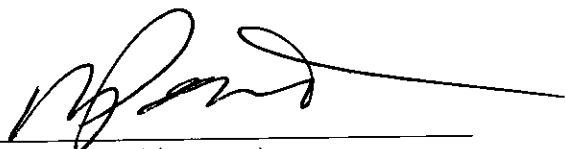
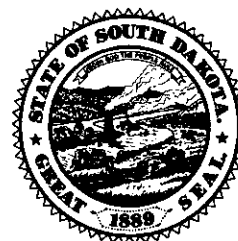
The water use system was completed on 5-1-23

(date)

Applying the water to beneficial use was completed on 6-4-23

(date)

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


(signature)

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7046-3 & 6930-3

I have this day, April 14, 2023, made a thorough examination of the water use system constructed by Marvin Post; 21242 461st Ave, Volga, SD 7071 of Permit No. 7046-3, bearing the priority of July 7, 2008 authorizing the diversion of 1.56 cu. ft. per second of the waters of the Howard Aquifer for irrigation purposes, in Brookings County.

A. Works used to divert the water:

Well Information:

(Deep Well) Permit 7046-3 - HO

- 1) Well Drilling Firm: Thein Well Co
- 2) No. of Wells 1
- 3) Depth: 313 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 12 inches
- 2) Length 243 feet
- 3) Type steel

Screen:

- 1) Type Stainless steel
- 2) Length 70 feet
- 3) Static water level 51 feet

Pump:

- 1) Make: Submersible
- 2) Model & Size: Unknown
- 3) Capacity: 450 GPM

Motor:

- 1) Make, Model & Horsepower: Unknown

Well Information:

(Shallow Well) Permit 6930-3 - BS:B

- 1) Well Drilling Firm: Thein Well Co
- 2) No. of Wells : 1
- 3) Depth: 58 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 10 inches
- 2) Length 38 feet
- 3) Type: steel

Screen:

- 1) Type: stainless steel
- 2) Length: 20 feet
- 3) Static water level 51 feet

Pump:

- 1) Make: Submersible
- 2) Model & Size: Unknown
- 3) Capacity: 150 GPM

Motor:

- 1) Make, Model & Horsepower: Unknown

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

- 1) Type PVC
- 2) Size 10 inches
- 3) Length 400 feet

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

- 1) Make Valley (2 similar pivots)
- 2) Overall length: 1320 feet
- 3) Number of towers: 7
- 4) End gun Y
- 5) Capacity 600 GPM (2 wells operated simultaneously)

The 10 inch line goes from the well location to the east center pivot and then another line goes from the east to the west pivot. The pivots are operated independently from each other.

Chemigation Equipment: Does not chemigate

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by N (See Comments Section)
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y
- 3) Exceptions to compliance are: Needs new permit for NW 1/4 of Section 28. (obtained under 8758-3)

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows:
 - **North well (deep HO):** 940 feet S & 1,330 feet W of the NE corner of Section 28, T110N, R51W
Latitude: 44.30885, Longitude: -96.95370
 - **South well (shallow BS:B):** 960 feet S & 1,330 feet W of the NE corner of Section 28, T110N, R51W
Latitude: 44.30883, Longitude: -96.95370
2. The works are capable of diverting and conveying to the place of use 1.33 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

Section 28, T110N, R51W	NW ¼ NW ¼	33 acres	NW ¼ NE ¼	35 acres
	SE ¼ NW ¼	33 acres	SE ¼ NE ¼	28 acres
	NE ¼ NW ¼	32 acres	NE ¼ NE ¼	23 acres
	SW ¼ NW ¼	30 acres	SW ¼ NE ¼	34 acres

comprising a total of 247 acres of land and the license should be issued for 1.33 cfs (600 gpm)

3. All structures, wells and lands on map Y

F. Comments or other permit(s) associated with the project:

The irrigated acreage was determined with the aid of FSA imagery and ArcMAP software.

The pump rates reported in a recent Irrigation Questionnaire was used to establish the system flow capacity.

The mailing address and the house telephone number in the permit materials are current. Mr. Post's cell phone number is 605/695-4227.



Darrell W DeBoer
Water Rights Inspector
DANR, Water Rights Program

Date report completed: April 15, 2023



0 0.1 0.2 0.4 0.6 0.8 Miles



Darrell DeBoer
Water Right Inspector
DNR-Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUL 02 2024

8758-3
7046-3
6930-3

Marvin Post
21242 461st Ave
Volga SD 57071

Dear Mr. Post:

Enclosed is Water License No. 8758-3. 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, please contact our office.

Sincerely,

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

NOTES: The applicable portions of Water Permit Nos. 6930-3 & 7046-3 have been incorporated into Water Right No. 8758-3.

Combined diversion from the two wells is not to exceed 1.34 cfs (approx. 600 gpm).

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8758-3**

(1) Water Permit No. 6930-3, held by Marvin Post, authorizes the diversion of 1.78 cubic feet of water per second (cfs) from groundwater, one well (Big Sioux: Brookings Aquifer), for the irrigation of 160 acres. The applicable portions of Permit No. 6930-3 have been incorporated into this license.

Water Permit No. 7046-3, held by Marvin Post, authorizes the diversion of 1.56 cfs from groundwater, one well (Howard Aquifer), for the irrigation of the same 160 acres approved under Permit No. 6930-3. The applicable portions of Permit No. 7046-3 have been incorporated into this license.

Marvin Post, 21242 461st Ave, Volga SD 57071, made Application No. 8758-3, May 5, 2023, for a water permit to irrigate an additional 127.5 acres to what was already approved under Permit Nos. 6930-3 & 7046-3. Permit No. 8758-3, with a priority date of May 5, 2023, was approved July 28, 2023, and issued to the applicant for diversion of water and the application to beneficial use of water.

(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 a combined total of 1.34 cfs for beneficial use. The locations of the diversion points are:

- North Well (Howard Aquifer): 940 ft S & 1,330 ft W of the NE corner of Section 28, T110N, R51W (NW ¼ NE ¼) (Latitude 44.30885 & Longitude -96.95370)
- South Well (Big Sioux: Brookings): 960 ft S & 1,330 ft W of the NE corner of Section 28, T110N, R51W (NW ¼ NE ¼) (Latitude 44.30883 & Longitude -96.95370)

(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: April 1 – October 31.

(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 28, T110N, R51W			
NE ¼ NE ¼	23 acres	NE ¼ NW ¼	32 acres
NW ¼ NE ¼	35 acres	NW ¼ NW ¼	33 acres
SW ¼ NE ¼	34 acres	SW ¼ NW ¼	30 acres
SE ¼ NE ¼	28 acres	SE ¼ NW ¼	33 acres
TOTAL: 247 acres			

(5) Pursuant to South Dakota Water Law 46-5-30.1 Marvin Post, the holder and/or owner of Water Right No. 8758-3 is issued a license to appropriate water, the right to use 1.34 cubic feet of water per second from groundwater, one well completed into the Howard Aquifer & one well completed into the Big Sioux: Brookings Aquifer, with priority dates outlined in the chart below, from the locations specified in (2) of this license for irrigation purposes.

Priority Date	Diversion Rate	Irrigated Acres
December 24, 2007	0.34 cfs (BS:B)	120 acres NE ¼ Section 28, T110N, R51W
September 15, 2008	1.0 cfs (HO)	120 acres NE ¼ Section 28, T110N, R51W
May 5, 2023		127 acres NW ¼ Section 28, T110N, R51W

continued

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8758-3 and subject to the following qualifications:

1. The wells approved under Water Permit Nos. 6930-3, 7046-3, and 8758-3 are located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall 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. This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.


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

JUL 02 2024

date

