

WATER PERMIT NO. 8602-3

Name of Applicant: Gary and Dianne Foster

Address: 19758 466th Ave, Bruce SD 57220

Phone: 605 690-0579

Amount of Water Claimed: no add'l

Total Acres: 3.4 add'l acres

Source of Water Supply: groundwater (one existing well)

Water to be used for: irrigation

County: Brookings

Type of Waste Disposal System:

Location: 5 miles north of Bruce

PRIORITY

Date Received: 2-28-22

Application/License Fee: \$ 700

Corrected Application Received:

Period of Annual Use: April 1 – October 31

Remarks:

Diversion Point: center NE 1/4 Sec 18-T112N-
R50W

Land to be Irrigated: E 1/2 NE 1/4 Sec 18, SE 1/4
SE 1/4 Sec 7; all in T112N-R50W

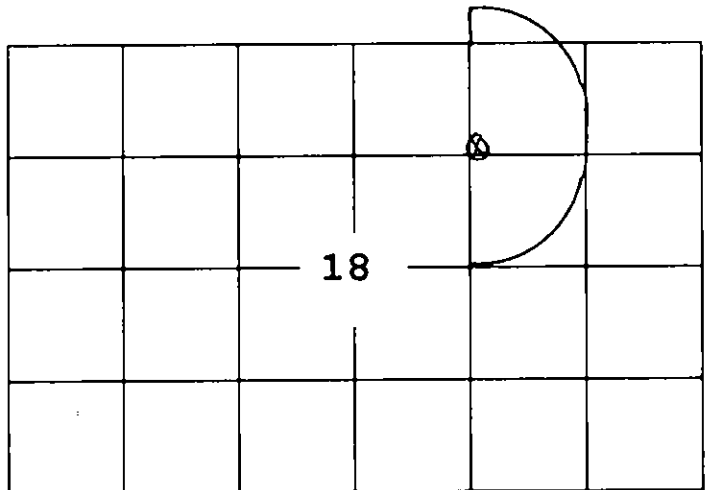
Depth of Well: NA

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:



Reviewed and the Number Assigned on: 3-1-22

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8602-3**

Date of first receipt of application February 28, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8602-3 to Gary & Dianne Foster, 19758 466th Ave, Bruce SD 57220 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. 8602-3 authorizes irrigation of 3.4 additional acres to what is authorized by Water Right No. 7962-3. Water Right No. 7962-3 appropriates 1.0 cubic feet of water per second (cfs) from one well completed into the Big Sioux:Brookings Aquifer (46 feet deep) located in the approximate center of the NE 1/4 Section 18 for irrigation of 50.1 acres located in the E 1/2 NE 1/4 Section 18; all in T112N-R50W. This permit and Water Right No. 7962-3 will authorize a combined diversion rate of 1.0 cfs from the well authorized by No. 7962-3 for irrigation of 53.5 acres located within the E 1/2 NE 1/4 Section 18; SE 1/4 SE 1/4 Section 7; all in T112N-R50W. This site is located approximately 5 miles north of Bruce 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 – September 30.
3. The date from which applicant may claim right is February 28, 2022 (3.4 acres).
4. The date of approval of Permit No. 8602-3 is April 18, 2022.
5. One-fifth of the construction is to be completed on or before October 18, 2024.
6. All construction is to be completed on or before April 18, 2027.
7. Water is to be put to beneficial use on or before April 18, 2031.
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 and Water Right No. 7962-3 is 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, this Permit and Water Right No. 7962-3 authorize a maximum diversion rate of 1.00 cfs for the irrigation of 53.5 acres with an annual volume not to exceed 2 acre-feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

JUN 01 2022
date



FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8602-3</u>	(office use only) Hydrologic Unit <u>10170202</u>
	Basin <u>Sioux River</u>	
	Newspaper <u>Brookings Register</u>	

PAID

FEB 28 2022

Ck# 1218

Rec't# _____

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☐ New ☐ Vested Right ☒ Amendment/Correction to Permit No. 7962-3
(Use predates Mar 2, 1955)

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

ADD 75' TO EXISTING CENTER PIVOT AND MOVE PIVOTPOINT TO SOUTH1. Name to Appear on Irrigation Permit GARY & DIANNE FOSTER(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 19758 466TH AVE BRUCE ☒ SD ☒ 57220
(Address) (City) (State) (Zip Code)

Home Phone 605-873-2694 Cell 605-690-0579 Email GDFOSTER@ITCTEL.COM 3.4 add'l acres

2. Amount of water claimed 1.0 ^(no add'l) *CFS or 450 **GPM ***AF Total Acreage 53.5
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply WELL4. Location of point of diversion APPROXIMATE CENTER OF NE 1/4 SEC 18-T112N-R50W

(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County BROOKINGS ☒5. County or counties where water will be used BROOKINGS6. Annual period during which water is to be used APRIL THROUGH SEPTEMBER

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
NE 1/4 OF NE 1/4 SEC 18-T112N-R50W	28.5		
SE 1/4 OF NE 1/4 SEC 18-T112N-R50W	20		
SE 1/4 OF SE 1/4 SEC 7-T112N-R50W	5		

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

ADD 75' TO EXISTING WIND SHIELD WIPE PIVOT AND MOVE CENTER POINT OF PIVOT 75' SOUTH TO NEW PAD

I, Diane Foster, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☐ Drilling new well(s) ☒ Using existing well(s)

- a) If new wells, how many ____ Have test holes been drilled ☐ Yes ☐ No Drilled by ____
(if yes, please provide copies of logs)
- b) If existing wells, how many ____ Provide copy of log(s), if available. Drilled by ____
- c) Well Depth ____ Depth to Top of Water Bearing Material ____ Depth to Water from Surface ____
- d) Distance to nearest existing domestic well:
- On applicant's property ____ On property owned by others ____

2. Wastewater Disposal System Information

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

3. Dugout Information

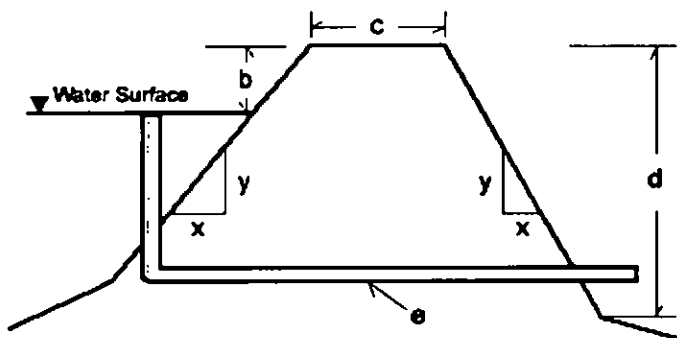
- a) Surface Dimensions ____ Depth ____
- b) Depth to water (ground surface to water level) ____

4. Water Storage Dams

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

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

- b) Freeboard ____
- c) Crest Width ____
Crest Length ____
- d) Height ____
- e) Primary Outlet Capacity ____
If pipe, diameter ____
- f) Secondary Spillway Capacity ____
Spillway Width ____
- g) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream ____
Downstream ____
- h) Surface Area of Impoundment ____
- i) Storage ____ Acre Feet
- j) Drainage Area Above Dam ____ Acres





Google

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DRIVE UNITS LARGEST POTENTIAL MACHINE GUIDANCE PATH END OF MACHINE PRIMARY ENDGUN SECONDARY ENDGUN FIELD BOUNDARY

Field Name	Design Name	Machine Category	Machine Area (ac)	No. of Towers	Total Machine Length (ft)	Total Irrigated Area (ac)
Pivot_1_1118202114258149	GARY FOSTER LOCKWOOD	Large Field Electrical Pivot 8000	49.26	8	1169.37	53.28

Total Project Irrigated Area (ac): 53.28

(GARY FOSTER LOCKWOOD)	Spans and Overhang	Corner	Endgun*	Bender / DropSpan	Polygon
Irrigated Area using (ac)	49.2	0	4.08	0	0.00

* Estimated

Total Span Length (ft) 1115.10

Overhang Length (ft) 54.00

Flex/Transition/Other Lengths (ft) 0.27

S.No	Diameter	Length (ft)	Cable Size	Motor Options	Tire Size	Bender / DropSpan	Profile
1	6 5/8	160.00	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard
2	6 5/8	140.00	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard
3	6 5/8	140.00	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard
4	6 5/8	140.00	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard
5	6 5/8	140.00	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard
6	6 5/8	140.00	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard
7	6 5/8	140.00	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard
8	6 5/8	115.10	12 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 24 New Tubeless	None	Standard

Primary Endgun

Endgun Angles (GARY FOSTER LOCKWOOD)	Endgun 1	Endgun 2	Endgun 3	Endgun 4
Start Angle	20.00 deg	108.00 deg	200.00 deg	288.00 deg
End Angle	74.00 deg	162.00 deg	254.00 deg	342.00 deg

Field Name	Latitude	Longitude	Pivot Road Angle	Pivot Road Offset	Start Angle	End Angle
Pivot_1_1118202114258149	44.512038858078	-96.87328771308	-	-	0 deg	178.97 deg

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date February 28, 2022

RECEIVED OF Foster's River View Farm Inc./Gary or Dianne Foster 19758 466th Ave., Bruce SD 57220

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

Fee for Application for Permit No. <u>8602-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>500.00</u>
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. _____ after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8602-3</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law)	
TOTAL	\$ <u>700.00</u>

By *Eric Gronlund*
Chief Engineer
vm

Water Rights Program - File Documentation

NAME: Tom Pierce, Farmers Implement & Irrigation

ADDRESS: Brookings SD

DATE: 2-24-22

RE: Pending application

COMMENTS:

I talked with Tom Pierce about two applications he was helping to complete for Gary and Dianne Foster.

Both applications are for additional acres on existing permits. Regarding the amount of water claimed on each application, Mr. Pierce indicated the cfs amount they are licensed for is amount the wells are capable of producing. Therefore, each application is for no additional water.



Karen Schlaak
Water Rights Program



**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. 8602-3, Gary and Dianne Foster**

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. 8602-3, Gary and Dianne Foster, 19758 466th Avenue, Bruce SD 57220.

The Chief Engineer is recommending APPROVAL of Application No. 8602-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under this Permit and Water Right No. 7962-3 is 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, this Permit and Water Right No. 7962-3 authorize a maximum diversion rate of 1.00 cfs for the irrigation of 53.5 acres with an annual volume not to exceed 2 acre-feet of water per acre per year.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Eric Gronlund, Chief Engineer
March 23, 2022

Report to the Chief Engineer
On Water Permit Application Nos. 8601-3 and 8602-3

Gary and Dianne Foster

March 14, 2022

Water Permit Application No. 8601-3 proposes to irrigate 50 additional acres to what is authorized by Water Right No. 6384-3. Water Right No. 6384-3 appropriates 1.45 cubic feet per second (cfs) from one well completed into the Big Sioux: Brookings aquifer (39 feet deep) located in the SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 7 for the irrigation of 140 acres located in the NE $\frac{1}{4}$, N $\frac{1}{2}$ SE $\frac{1}{4}$ of Section 7; all in T112N-R50W. This application, if approved, and Water Right No. 6384-3 will authorize a combined diversion rate of 1.45 cfs from the well authorized by Water Right No. 6384-3 for the irrigation of 190 acres within the above area described. This site is located in Brookings County approximately six miles north of Bruce, SD.

Water Permit Application No. 8602-3 proposes to irrigate 3.4 additional acres to what is authorized by Water Right No. 7962-3. Water Right No. 7962-3 appropriates 1.0 cfs from one well completed into the Big Sioux: Brookings aquifer (46 feet deep) located in the approximate center of the NE $\frac{1}{4}$ of Section 18 for the irrigation of 50.1 acres located in the E $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 18; all in T112N-R50W. This application, if approved, and Water Right No. 7962-3 will authorize a combined diversion rate of 1.0 cfs from the well authorized by Water Right No. 7962-3 for the irrigation of 53.5 acres located in the E $\frac{1}{2}$ NE $\frac{1}{4}$ of Section 18; SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 7; all in T112N-R50W. Water Right No. 7962-3 and this application request a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located in Brookings County approximately five miles north of Bruce, SD.

AQUIFER: Big Sioux: Brookings (BS: B)

HYDROGEOLOGY:

The Big Sioux aquifer is composed of meltwater stream deposits and glacial outwash that is composed of coarse sand and fine to medium gravel with certain areas containing thin interbedded clay and till layers (Hamilton, 1989; Kume, 1976; Niehus, 1997). The Big Sioux aquifer is generally overlain by 1 to 4 feet alluvium on average within the Big Sioux River Valley and underlain by till (Kume, 1976 and 1985). The Big Sioux aquifer has a thickness of 30 feet on average but can range from 5 to 123 feet (Kume, 1976). The maximum thickness of the Big Sioux aquifer occurs near the City of Brookings, SD and at areas where narrow meltwater streams were confined between hills (Hamilton, 1988 and 1989). The first occurrence of aquifer materials is mostly at the land surface or just a few feet below the land surface (Kume, 1976). Wells completed into the Big Sioux aquifer have static water levels that generally range from the land surface to 18 feet below the land surface (Kume, 1985). The Big Sioux aquifer is commonly under unconfined conditions near the Big Sioux River and along major tributary valleys but can be locally confined in places where the aquifer is overlain by till (Hamilton, 1989). Confined conditions of the Big Sioux aquifer usually occur along the boundaries of the aquifer, but the artesian pressure is normally not large enough for wells to be flowing (Hamilton, 1989). The Big

Sioux aquifer is hydraulically connected with the Shindler and Newton Hills aquifers as well as the Missouri and Big Sioux Rivers (Niehus, 1997). The direction of groundwater movement of the Big Sioux aquifer is generally to the south and towards the Big Sioux River (Hansen, 1988).

The Big Sioux aquifer is composed of twelve management units. The diversion points for Water Permit Application Nos. 8601-3 and 8602-3 are completed into the Brookings management unit of the Big Sioux aquifer. The Big Sioux: Brookings aquifer underlies approximately 323,000 acres in Brookings, Deuel, Hamlin, Kingsbury, and Moody Counties and contains approximately 1,453,000 million acre-feet (ac-ft) of recoverable water in storage (Hedges et al., 1982, Stonesifer, 2013). The approximate areal extent of the Big Sioux: Brookings aquifer is displayed in Figure 1 along with the location of the diversion points.

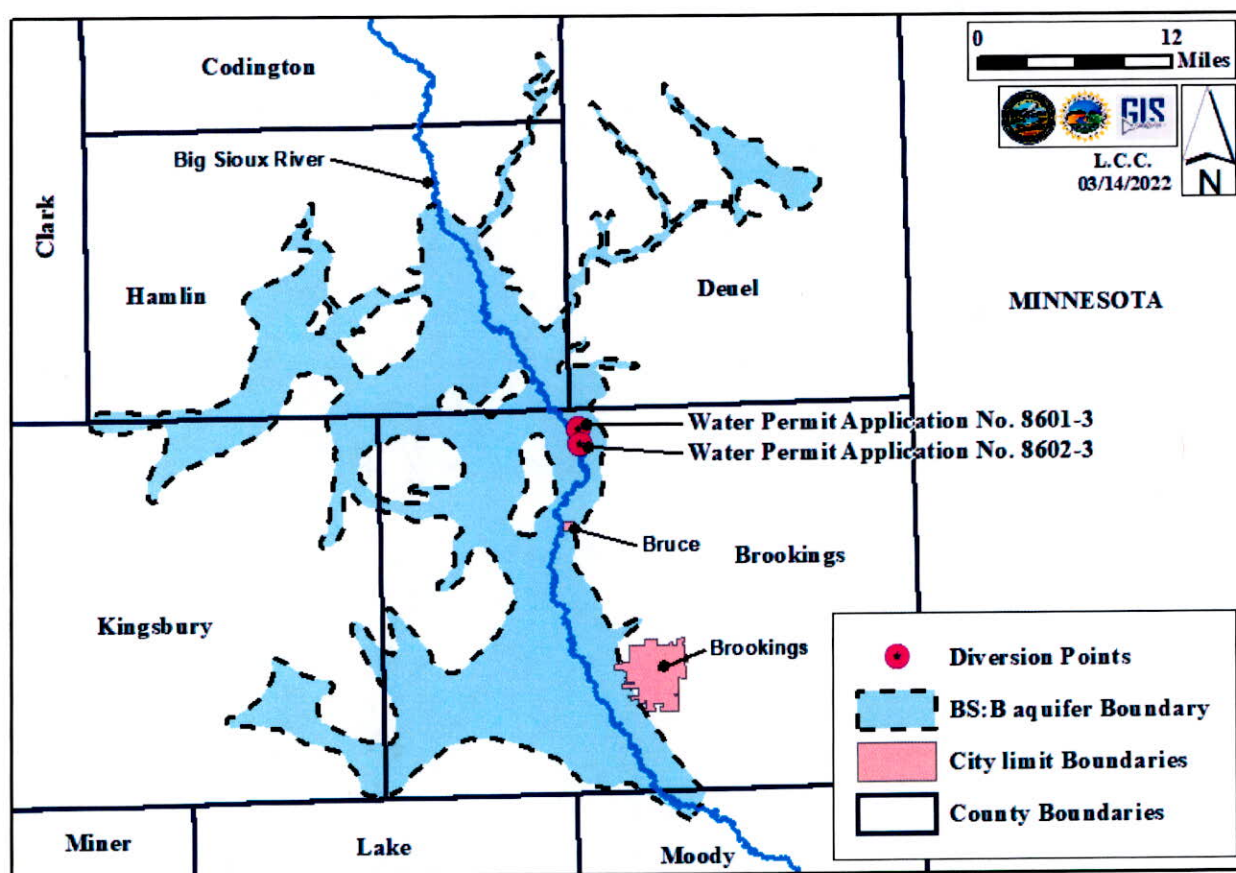


Figure 1: The approximate areal extent of the Big Sioux: Brookings aquifer including the location of the diversion points of Water Permit Application Nos. 8601-3 and 8602-3 (Hedges et al., 1982; Water Rights, 2022b and 2022c).

No well completion report was submitted with Water Permit Application Nos. 8601-3 and 8602-3 or Water Right No. 6384-3; however, a well completion report was submitted with Water Right No. 7962-3. The report lists “gumbo” from 0 to 4 feet below land surface, “coarse gravel” from 4 to 15 feet, “medium good gravel” 15 to 20 feet, and “coarse gravel” from 20 to 36 feet. The static water level in the well was five feet below land surface at the time of well completion (May 16, 2014). The Big Sioux: Brookings aquifer is unconfined at the diversion point based on

the submitted well completion report, water levels, and lithologic logs on file for nearby observation wells (SDGS, 2022; Water Rights, 2022b and 2022d).

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

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 70 acres, or “the equivalent thereof.” The statute does provide that: “The Water Management Board may allow a greater diversion, in volume or rate or both, if the method of irrigation, any time constraints on diversion of water, or the type of soil so requires....” Water Right No. 7962-3 and this application proposes to divert water at a maximum rate of 1.0 cfs for the irrigation of 53.5 acres or at a rate of 1.31 cfs per 70 acres. The applicant’s system is a center pivot making a partial or “windshield-wipe” rotation. This limits the irrigated acres. However, the center pivot still requires the same flow rate as if it were making a full rotation. The request by the applicant is reasonable and acceptable to the Water Rights Program and has been accepted by the Water Management Board in the past.

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

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

WATER AVAILABILITY:

Water Permit Application Nos. 8601-3 and 8602-3 proposes to appropriate water from the Big Sioux: Brookings aquifer for irrigation. 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. However, an application may be approved for a water distribution system 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.” The Big Sioux: Brookings aquifer is not older than or stratigraphically lower than the Greenhorn Formation (Fahrenbach et al, 2010), and the applicant’s proposed use is not for use in a water distribution system as defined by SDCL 46-1-6(17). Therefore, the average annual recharge and average annual withdrawal rates to and from the Big Sioux: Brookings aquifer must be considered.

HYDROLOGIC BUDGET:

Recharge

Recharge to the Big Sioux: Brookings aquifer is primarily through the infiltration of precipitation and seepage from the Big Sioux River and its tributaries (Koch, 1980). The recharge rate to the Big Sioux: Brookings aquifer was estimated by utilizing observation well data (Hedges et al., 1985). The average annual recharge rate that was estimated for the Big Sioux: Brookings aquifer was 4.0 inches per year (Hedges et al., 1985). The estimated areal extent of the Big Sioux: Brookings aquifer is 323,000 acres (Stonesifer, 2013). Therefore, the estimated average annual recharge to the Big Sioux: Brookings aquifer is approximately 107,700 acre-feet per year (ac-ft/yr).

Discharge

Discharge from the Big Sioux: Brookings aquifer is primarily through evapotranspiration, interaction with the Big Sioux River, and well withdrawals (Hamilton, 1989). Currently, there are 260 water rights/permits authorized to appropriate water from the Big Sioux: Brookings aquifer (Water Rights, 2022c). There are eleven future use permits reserving water from the Big Sioux: Brookings aquifer presently. For the purpose of estimating the average annual withdrawal rate from the Big Sioux: Brookings aquifer, the eleven future use permits are assumed to be fully developable for a total of 6,686 ac-ft/yr (Water Rights, 2021c).

Table 1 summarizes the 46 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 maximum permitted 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 the 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. Water Right Nos. 534A-3, 617-3, 3117-3, 4950-3, and 5071-3 are held by municipalities that are connected to a rural water system and are maintained for standby purposes (Friedeman, 2020; Water Rights, 2021c); as such, the average annual water use for these water rights has been estimated to be 0 ac-ft/yr in Table 1. Overall, the average annual withdrawal rate for the Big Sioux: Brookings aquifer for non-irrigation water rights/permits is approximately 13,151 ac-ft/yr (Table 1) (Water Rights, 2021c).

Table 1: Estimated annual water use for non-irrigation water rights/permits authorized to appropriate water within the Big Sioux: Brookings aquifer (Water Rights, 2022c).

Use Type	No. of Water Rights/Permits	Diversion rate (cfs)	Permitted Volume (ac-ft)	Estimated Annual Use (ac-ft/yr)
MUN	16	5.19	1,914	4,169
IND	2	0.24	N/A	106
RWS	16	7.56	4,037	7,321
COM	9	3.24	N/A	1,405
SHD	2	0.07	N/A	30
GEO	1	0	120	120
TOTAL:	46	16.3	6,071	13,151
MUN: Municipal; IND: Industrial; RWS: Rural Water System; COM: Commercial; SHD: Suburban Housing Development; GEO: Geothermal				

Currently, there are 214 irrigation water rights/permits appropriating water from the Big Sioux: Brookings aquifer (Water Rights, 2022c). The reported annual irrigation withdrawals from the Big Sioux: Brookings aquifer are shown in Table 2. The average annual withdrawal rate of the Big Sioux: Brookings aquifer for irrigation water rights/permits that have reported over the period of record is approximately 8,685 ac-ft/yr (Table 2) (Water Rights, 2021a). Since the number of irrigation water rights/permits has continued to increase over the period of record, the estimated average annual withdrawal rate for irrigation appropriations for the entire period of record may not accurately reflect the current level of development. The average annual withdrawal rate for irrigation appropriations from 2009 to 2020 was estimated to better reflect the current level of irrigation developments in the Big Sioux: Brookings aquifer. The average annual withdrawal rate for the Big Sioux: Brookings aquifer from 2009 to 2020 is approximately 9,331 ac-ft/yr (Table 2) (Water Rights, 2021a).

Table 2: Reported historic irrigation use from the Big Sioux: Brookings aquifer (Water Rights, 2022a).

Report on Water Permit Application Nos. 8601-3 and 8602-3

Year	No. of Permits	Reported Pumpage (acre-feet)
1979	184	6,144
1980	187	9,837
1981	197	9,040
1982	155	4,551.9
1983	161	8,227.5
1984	188	8,177.6
1985	181	4,951.4
1986	179	2,854.7
1987	171	10,015
1988	167	18,521.4
1989	166	13,930.7
1990	175	5,862.9
1991	165	7,771.7
1992	162	2,331.6
1993	162	1,042.9
1994	160	2,854.6
1995	161	3,862.3
1996	154	7,221
1997	153	5,650
1998	157	8,109.7
1999	155	7,841
2000	153	8,933.7
2001	149	8,384.8
2002	149	12,410.9
2003	149	11,380.5
2004	156	11,809.9
2005	159	11,513.5
2006	161	14,325
2007	164	12,730.1
2008	166	12,505.9
2009	174	9,172.9
2010	172	2,713.4
2011	174	8,527.6
2012	177	19,482.5
2013	198	15,432.3
2014	212	9,947.6
2015	209	8,796
2016	210	10,267.4
2017	209	9,572
2018	211	7,952.8
2019	211	106.3
2020	209	10,000.8
MIN	149	106.3
MAX	212	19,482.5
AVG	174	8,684.9
AVG 2009-2020	197	9,331

It should be noted that Water Permit Nos. 8531-3, 8537-3, and 8556-3 were approved in 2021 and have yet to submit the annual DANR-Water Rights Program irrigation questionnaire for withdrawals from the Big Sioux: Brookings aquifer. Water Permit Nos. 8531-3, 8537-3, and 8556-3 are estimated to withdrawal approximately 502 ac-ft/yr combined (assuming an application rate of 1 foot per acre [ft/ac]) (Water Rights, 2022c).

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, 2021d). 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 withdrawal rate from the Big Sioux: Brookings aquifer totals approximately 29,723 ac-ft/yr (irrigation: 9,331 ac-ft/yr; non-irrigation: 13,151 ac-ft/yr; future use: 6,686 ac-ft/yr; permits approved in 2021: 502 ac-ft/yr; Water Permit Application Nos. 8601-3 and 8602-3 (if approved) (assuming an application rate of 1 ft/ac): 53.4 ac-ft/yr) (Water Rights 2022a and 2022c). The estimated average annual recharge rate to the Big Sioux: Brookings aquifer is approximately 107,700 ac-ft/yr. Overall, the estimated average annual recharge to the Big Sioux: Brookings aquifer is greater than the estimated average annual withdrawal rate from the aquifer. Therefore, there is a reasonable probability that unappropriated water is available for the appropriation proposed by this permit application

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 (Water Rights, 2022b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. There are three observation wells within approximately one mile of the diversion points. The closest observation well to the diversion point is observation well BG-75H (approximately 0.7 miles south of Water Permit Application No. 8602-3). The hydrographs for three of these observation wells are displayed in Figures 2 through 4 (Water Rights, 2022b).

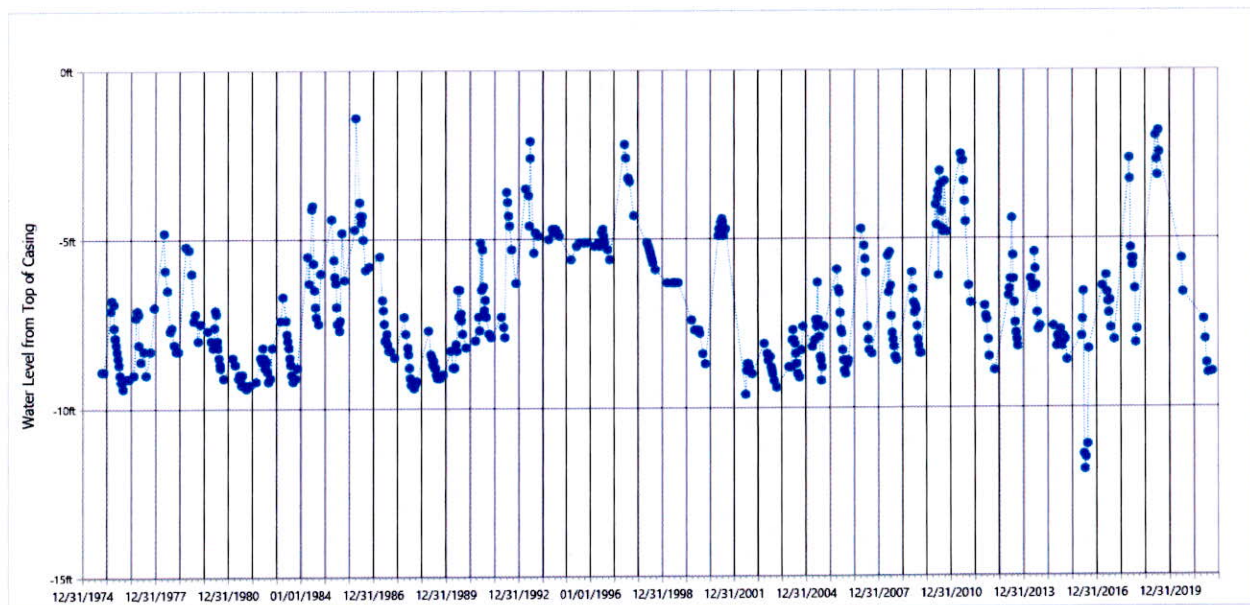


Figure 2: Hydrograph of the Big Sioux: Brookings aquifer observation well BG-75H, located approximately 0.7 miles south of the Water Permit Application No. 8602-3 (Water Rights, 2022b).

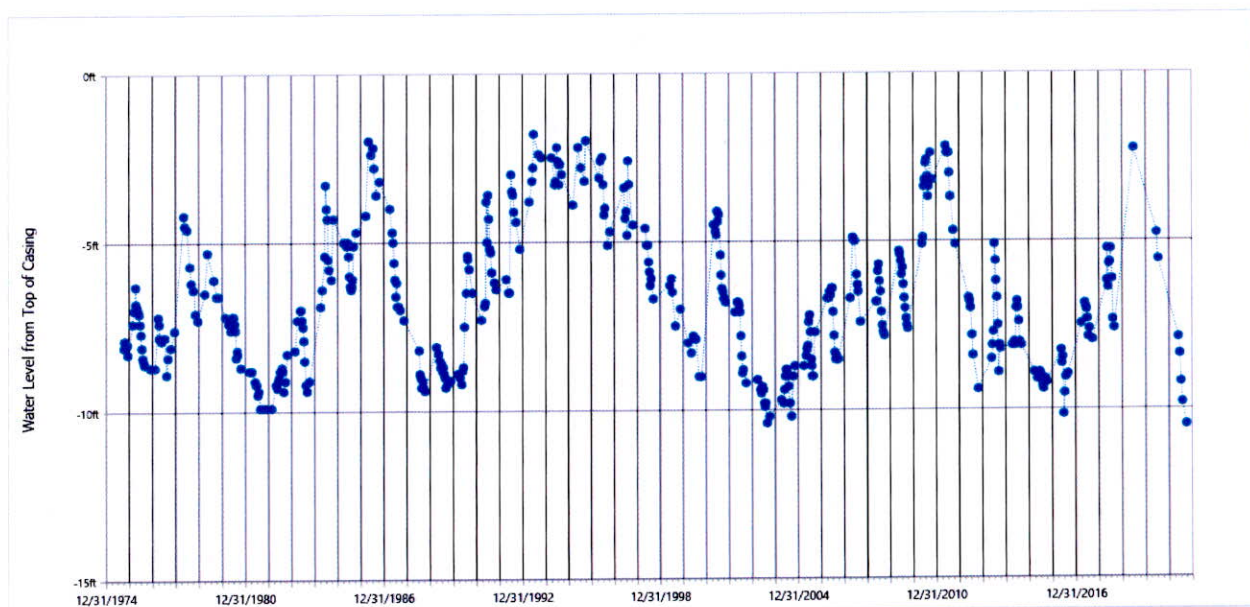


Figure 3: Hydrograph of the Big Sioux: Brookings aquifer observation well BG-75G, located approximately 0.9 miles southwest of the Water Permit Application No. 8602-3 (Water Rights, 2022b).

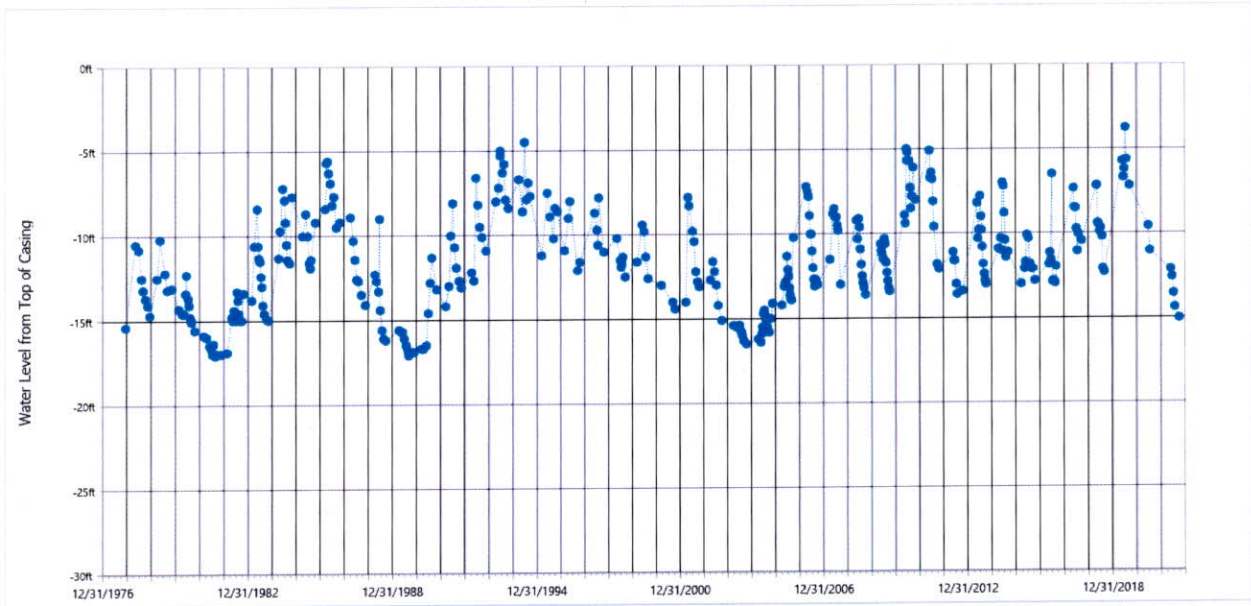


Figure 4: Hydrograph of the Big Sioux: Brookings aquifer observation well BG-77A, located approximately 0.8 miles northeast of Water Permit Application No. 8601-3 (Water Rights, 2022b).

The hydrographs for the observation wells display stable to increasing water levels over their respective periods of record. 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. This recovery of the aquifer 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:

Currently, there are 260 water rights/permits authorized to appropriate water from the Big Sioux: Brookings aquifer, including eleven future use permits appropriating water from the Big Sioux: Brookings aquifer (Water Rights, 2022c). There are 25 water rights/permits authorized to appropriate water from the Big Sioux: Brookings aquifer within approximately two and one-half miles of the diversion points (Water Rights, 2022c). The 25 water rights/permits are shown in Figure 5 and identified in Table 3. The nearest water right/permit (not held by the applicant) to the Water Permit Application No. 8601-3 completed into the Big Sioux: Brookings aquifer is Water Right No. 3556B-3 located approximately 0.6 miles northeast of the diversion point. The nearest water right/permit (not held by the applicant) to the Water Permit Application No. 8602-3 completed into the Big Sioux: Brookings aquifer is Water Permit No. 7902-3 located approximately one-half mile southwest of the diversion point.



Table 3: Water rights/permits from the Big Sioux: Brookings aquifer within approximately 2.5 miles of the diversion point (Water Rights, 2022c).

Permit No.	Name	Use	Status	Rate (cfs)	Acres
2128-3	Audrey Wiedrick	IRR	LC	1.11	156
2150-3	Jeanette Foster	IRR	LC	1.34	94
2151-3	Larry L Becker	IRR	LC	2	208
2437A-3	Jerald A Peterson	IRR	LC	1.78	132
2667-3	Bret I. Adece	IRR	LC	1.67	136
3222-3	Jay A Peterson	IRR	LC	2	148
3556A-3	Jerald A Peterson	IRR	LC	1.78	131
3556B-3	Jerald A Peterson	IRR	LC	1.78	127
3730-3	Bret & Connie Adece	IRR	LC	1.78	140
4088A-3	Roger Schwartz Trust Agreement	IRR	LC	1.93	135
4362-3	Jerald A Peterson	IRR	LC	1.69	118
4363B-3	H Bar G Farms LLC	IRR	LC	0.55	95
4940-3	Jerald A Peterson	IRR	LC	1.78	131
5170-3	Jerald A Peterson	IRR	LC	1.78	136
6002-3	Brookings-Deuel-Kingbrook	RWS	LC	0.78	N/A
6069-3	Ralland Janssen	IRR	LC	0.97	68
6209-3	Joe Ebbers	IRR	LC	1.33	66
6384-3	Gary & Dianne Foster	IRR	LC	1.45	140
6722-3	Jay A Peterson	IRR	LC	1.33	156
7087-3	Jay A Peterson	IRR	LC	1.56	119.6
7445-3	Tracy Johnson	IRR	LC	1.34	165
7902-3	Bret Adece	IRR	PE	2.67	191
7962-3	River View Farms	IRR	LC	1	50.1
7963-3	River View Farms	IRR	LC	1.67	146.6
5079-3	Brookings-Deuel-Kingbrook	RWS	LC	2.9	N/A
LC: Licensed Water Permit, PE: Water Permit					
RWS: Rural Water System, IRR: Irrigation					

The Big Sioux: Brookings aquifer is generally under unconfined conditions in Brookings County (Hamilton, 1989; SDGS, 2022). The diversion point is expected to be under unconfined conditions based on the submitted well completion report, water levels, and lithologic logs on file for the nearby observation wells (Water Rights, 2022d). Observation well data (see Figures 2 through 4) documents minimal drawdown from withdrawals of existing wells near the diversion point. Therefore, pumping from the diversion point is not expected to significantly lower water levels within the aquifer. Drawdown created by pumping a well generally does not extend far from the pumped well in an unconfined aquifer. The exact drawdown behavior cannot be known without an aquifer performance test. In Brookings County, there have been no complaints submitted to the DANR-Water Rights Program regarding potential well interference for adequate wells completed into the Big Sioux: Brookings aquifer (Water Rights, 2022e).

Within approximately one mile of the diversion points for this application, the Big Sioux: Brookings aquifer has a saturated aquifer thickness ranging from approximately 13 to 40 feet, with the depth to the top of aquifer materials ranging from approximately 1 to 10 feet below land surface, and static water levels at well completion varying from approximately 7 to 13 feet below

land surface (SDGS, 2022; Water Rights 2022b and 2022d). The Water Management Board recognizes that the saturated thickness of an aquifer may be less than optimal for the placement of the pump intake. The Water Management Board defined an “adequate well” in ARSD 74:02:04:20(6) as:

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

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 Big Sioux: Brookings aquifer is a relatively thin aquifer with a limited amount of water in storage. While the average annual withdrawal would not exceed average annual recharge to the aquifer, conditions may occur when withdrawal exceeds recharge. When this occurs, water will be removed from storage reducing the saturated thickness of the aquifer. If the saturated thickness is reduced to the extent that water rights/permits can no longer pump at their developed or “historically established” diversion rates, this may be considered an adverse impact. If approved, the water permit should include a qualification that the well owner should control their withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

Any drawdown created from pumping this diversion point is not expected to cause unlawful impairment on existing water right/permit holders or domestic users with adequate wells considering the location of the diversion point, the saturated thickness, and the lack of complaints for adequate wells completed into the Big Sioux: Brookings aquifer. 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. 8601-3 proposes to irrigate 50 additional acres to what is authorized by Water Right No. 6384-3. Water Right No. 6384-3 appropriates 1.45 cfs from one well completed into the Big Sioux: Brookings aquifer.

2. Water Permit Application No. 8601-3, if approved, and Water Right No. 6384-3 will authorize a combined diversion rate of 1.45 cfs from the well authorized by Water Right No. 6384-3 for the irrigation of 190 acres. This site is located in Brookings County approximately six miles north of Bruce, SD.
3. Water Permit Application No. 8602-3 proposes to irrigate 3.4 additional acres to what is authorized by Water Right No. 7962-3. Water Right No. 7962-3 appropriates 1.0 cfs from one well completed into the Big Sioux: Brookings aquifer.
4. Water Permit Application No. 8602-3, if approved, and Water Right No. 7962-3 will authorize a combined diversion rate of 1.0 cfs from the well authorized by Water Right No. 7962-3 for the irrigation of 53.5 acres. This site is located in Brookings County approximately five miles north of Bruce, SD.
5. There is a reasonable probability that unappropriated water is available from the Big Sioux: Brookings aquifer for these proposed appropriations based on the hydrological budget and observation well data.
6. There is a reasonable probability these diversions will not unlawfully impair adequate wells authorized by existing water rights or adequate domestic use wells.


Lindsey Cederberg
Natural Resources Engineer I
SD DANR - Water Rights Program

Reviewed by:


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

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- Water Rights, 2022c. Water Right/Permit Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2022d. Well Completion Reports, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2022e. County Files, SD DANR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Affidavit of Publication

State of South Dakota

Exhibit "A"

ss

County of Brookings

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

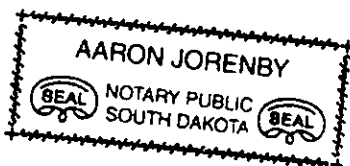
LEG# 17767 Notice of Application

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

April 6, 2022

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-Nine Dollars and Sixty-Eight Cents \$59.68



K. M. Foiles

29 day of

April

2022

Ag

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

RECEIVED

MAY 04 2022

WATER RIGHTS
PROGRAM

**NOTICE OF
APPLICATION NOS.
8601-3 AND 8602-3 TO
APPROPRIATE WATER**

Notice is given that Gary and Dianne Foster, 19758 466th Ave, Bruce SD 57220 have filed the following applications for a water permit. Application No. 8601-3 proposes to irrigate 50 additional acres to what is authorized by Water Right No. 6384-3. Water Right No. 6384-3 appropriates 1.45 cubic feet of water per second (cfs) from one well completed into the Big Sioux-Brookings Aquifer (39 feet deep) located in the SW 1/4 NE 1/4 Section 7, all in T112N-R50W. This application, if approved, and Water Right No. 6384-3 will authorize a combined diversion rate of 1.45 cfs from the well authorized by No. 6384-3 for irrigation of 190 acres all located within the above described irrigated area. This site is located approximately 6 miles north of Bruce SD. Application No. 8602-3 proposes to irrigate 3.4 additional acres to what is authorized by Water Right No. 7962-3. Water Right No. 7962-3 appropriates 1.0 cfs from one well completed into the Big Sioux-Brookings Aquifer (46 feet deep) located in the approximate center of the NE 1/4 Section 18 for irrigation of

50.1 acres located in the E 1/2 NE 1/4 Section 18; all in T112N-R50W. This application, if approved, and Water Right No. 7962-3 will authorize a combined diversion rate of 1.0 cfs from the well authorized by No. 7962-3 for irrigation of 53.5 acres located within the E 1/2 NE 1/4 Section 18; SE 1/4 SE 1/4 Section 7; all in T112N-R50W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately 5 miles north of Bruce SD. Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 8601-3 and 8602-3 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 recommendations with qualifications, the applications, 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 the applications or recommendations shall allege that the applications, 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 applications, or other matter concerning the applications 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 applications with BOTH the applicant and Chief Engineer. A petition opposing the applications 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 recommendations, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by April 18, 2022. The petition shall include a statement describing the unique injury upon approval of the applications on the petitioner, the petitioner's reasons for opposing the applications, 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 applications 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 April 18, 2022. If the applicant does not contest the recommendations of the Chief Engineer and no petition to oppose the applications is received, the Chief Engineer shall act on the applications pursuant to the recommendations with no hearing held before the Water Management Board. If a petition opposing the applications or contesting the recommendations is filed, then a hearing will be scheduled, and the Water Management Board will consider the applications. Notice of the hearing will be given to the applicant and any person filing a petition. Published 1X at the total approximate cost of \$59.68.

2A
13



**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.**

March 28, 2022

Gary and Dianne Foster
19758 466th Ave
Bruce SD 57220

Dear Mr. Foster:

Water Permit Application Nos. 8601-3 and 8602-3 for irrigation use have 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 recommendations 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 applications.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendations, 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 applications.

NOTICE OF APPLICATION NOS. 8601-3 and 8602-3 to Appropriate Water

Notice is given that Gary and Dianne Foster, 19758 466th Ave, Bruce SD 57220 have filed the following applications for a water permit. Application No. 8601-3 proposes to irrigate 50 additional acres to what is authorized by Water Right No. 6384-3. Water Right No. 6384-3 appropriates 1.45 cubic feet of water per second (cfs) from one well completed into the Big Sioux:Brookings Aquifer (39 feet deep) located in the SW 1/4 NE 1/4 Section 7 for irrigation of 140 acres located in the NE 1/4, N 1/2 SE 1/4 Section 7; all in T112N-R50W. This application, if approved, and Water Right No. 6384-3 will authorize a combined diversion rate of 1.45 cfs from the well authorized by No. 6384-3 for irrigation of 190 acres all located within the above described irrigated area. This site is located approximately 6 miles north of Bruce SD.

Application No. 8602-3 proposes to irrigate 3.4 additional acres to what is authorized by Water Right No. 7962-3. Water Right No. 7962-3 appropriates 1.0 cfs from one well completed into the Big Sioux:Brookings Aquifer (46 feet deep) located in the approximate center of the NE 1/4 Section 18 for irrigation of 50.1 acres located in the E 1/2 NE 1/4 Section 18; all in T112N-R50W. This application, if approved, and Water Right No. 7962-3 will authorize a combined diversion rate of 1.0 cfs from the well authorized by No. 7962-3 for irrigation of 53.5 acres located within the E 1/2 NE 1/4 Section 18; SE 1/4 SE 1/4 Section 7; all in T112N-R50W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately 5 miles north of Bruce SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 8601-3 and 8602-3 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 recommendations with qualifications, the applications, 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 the applications or recommendations shall allege that the applications, 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 applications, or other matter concerning the applications 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 applications with BOTH the applicant and Chief Engineer. A petition opposing the applications 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 recommendations, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by April 18, 2022.

The petition shall include a statement describing the unique injury upon approval of the applications on the petitioner, the petitioner's reasons for opposing the applications, 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 applications 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 April 18, 2022.

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

Published once at the total approximate cost of__



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUN 01 2022

Gary & Dianne Foster
19758 466th Ave
Bruce SD 57220

Dear Mr. & Mrs. Foster:

Enclosed are Water Permit Nos. 8601-3 and 8602-3 authorizing construction of the water diversion systems and beneficial use of the water, not exceeding the limits as specified in the Water Permits.

Two Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, are enclosed. Please return the completed forms after you have finished the systems 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

Schlaak, Karen

From: Schlaak, Karen
Sent: Thursday, June 2, 2022 11:09 AM
To: Tom Pierce
Subject: Water Permits for Gary & Diane Foster
Attachments: 3528.pdf

FYI- Copies of the permits for Gary & Diane Foster

Karen Schlaak
DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>



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

Date 9-13-2022

TO: Water Rights Program, DANR
523 E. Capitol
Pierre, SD 57501-3181

FROM: Gary + Dianna Foster
(name)
19758 460th Ave
(address)
Bruce SD 57720
(city, state, zip) (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. 8602-3 states that the water use system is to be constructed by
4-18-2027 (date), and water is to be put to beneficial use by 4-18-2031 (date).

The water use system was completed on 9-1-2022 (date).

Applying the water to beneficial use was completed on 9-1-2022 (date).

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

[Signature]
(signature)



8602-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

September 20, 2022

8601-3
8602-3

Gary & Dianne Foster
19758 466th Ave
Bruce SD 57220

Dear Mr. & Mrs. Foster:

I am writing to acknowledge receipt of the "Notice of Completion of Works" forms that you sent in to let us know that you are completed with the projects authorized under Water Permit Nos. 8601-3 and 8602-3.

The systems are 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 the projects and the staff inspection has no bearing on your water permits.

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,

Genny McMath
Water Rights Program
(605) 773-3352
email: genny.mcmath@state.sd.us

Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. **8602-3**

I have this day, June 3, 2024, made a thorough examination of the water use system constructed by Gary & Dianne Foster, 19758 466th Ave, Bruce, SD 57220 of Permit No. 8602-3, bearing the priority of February 28, 2022 (3.4 additional acres to Water Right 7962-3) authorizing the diversion of 1.00 cu. ft. per second of the waters of Big Sioux: Brookings Aquifer for irrigation purposes, in Brookings County.

A. Works used to divert the water:

Well Information: (See Well Completion Report for License 7962-3)

1) Well Drilling Firm: Lacey Well Drilling

2) No. of Wells 1

3) Depth(s) 36 feet

4) Well log is available Y

Comments: none

Casing:

1) Diameter 14 inches

2) Length 14 feet

3) Type PVC

Screen:

1) Type Plastic

2) Length 10 feet

3) Static water level 5 feet

Pump:

1) Make Submersible

2) Model Unknown

3) Size Unknown

4) Capacity 500 GPM

Motor:

1) Make Unknown

2) Model No. Unknown

3) Horsepower rating Unknown hp

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

1) Type PVC

2) Size 8 inches

3) Length 190 feet

Comments: none

C. Works used to apply water to beneficial use:

Center pivot:

1) Make Valley

2) Overall length 1030 feet

3) Number of towers 6

4) End gun Y

5) Capacity 500 GPM

Chemigation Equipment: Does chemigate N

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by N

If no, describe: **Pumping 500 gpm when should only be 450 gpm**

- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y (all irrigation reported under 7962-3)
- 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 LOCATION From the NE corner Sec 18 T112N R50W 1125 ft S & 1320 ft W, Lat 44.51145 Long -96.87329 (center NE 1/4)

2. The works are capable of diverting and conveying to the place of use 1.11 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

Land in Sec 7 T112N R50W

SE 1/4 SE 1/4 - 4 acres

Land in Sec 18 T112N R50W

NE 1/4 NE 1/4 - 34 acres

SE 1/4 NE 1/4 - 14 acres

comprising a total of 52 acres of land. The license should be issued for 1.0 cfs

3. All structures, wells and lands on map Y

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

I contacted Mr. Gary Foster (605/690-0579) regarding this Permit. The mailing address in the permit materials is current.

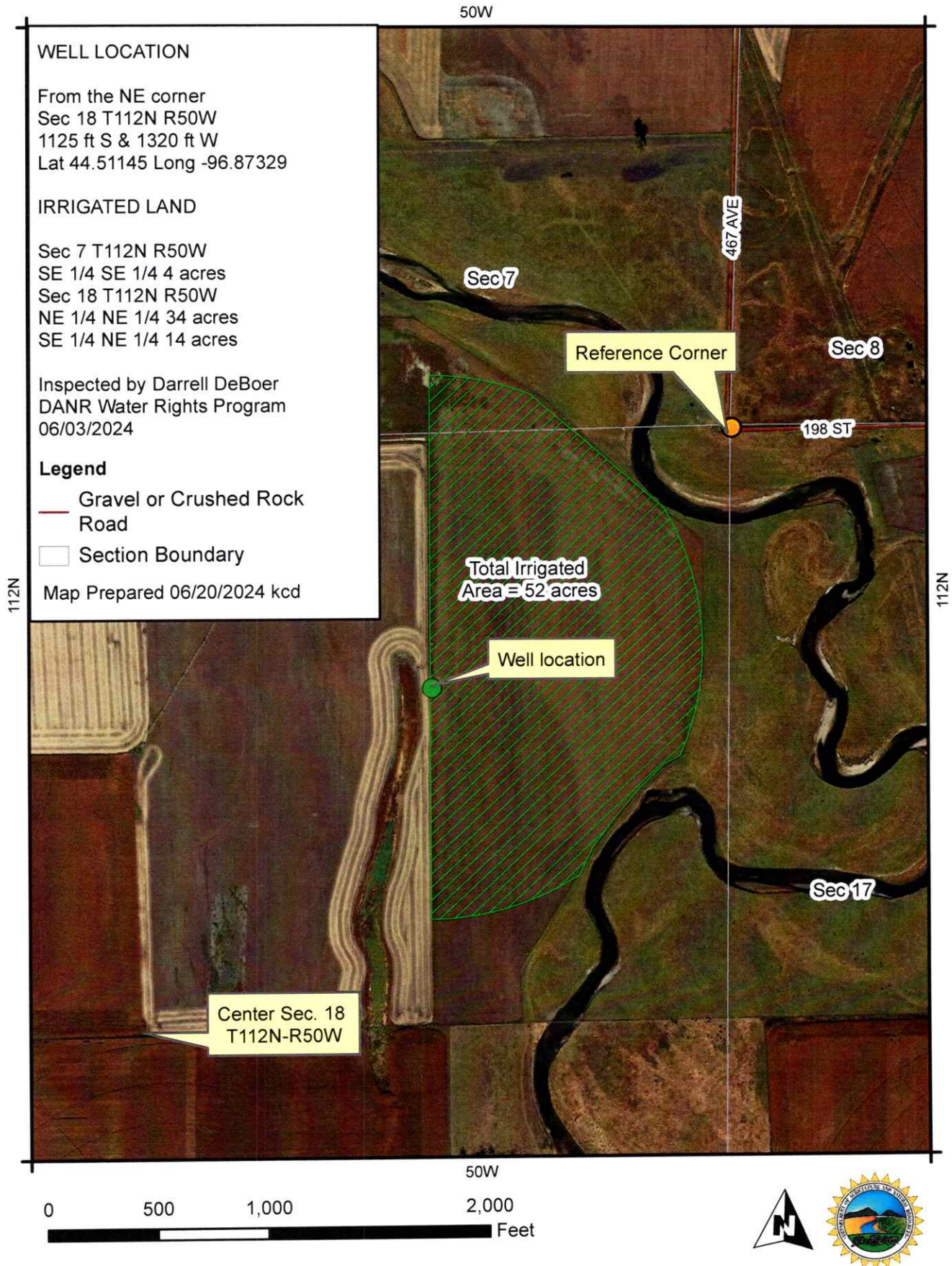
FSA maps and the ArcGIS program were used to construct the attached well location and irrigated land map.

The 2022 Irrigation Questionnaire report was used to establish the pump flow rate.



Darrell DeBoer
Water Rights Inspector
DENR, Water Rights Program

Date report completed: June 15, 2024





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUN 24 2024

8602-3
7962-3

Gary & Dianne Foster
19758 466th Ave
Bruce SD 57220

Dear Mr. & Mrs. Foster:

Enclosed is Water License No. 8602-3. 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

NOTE: The applicable portions of Water Right No. 7962-3 have been incorporated into Water Right No. 8602-3.

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8602-3**

(1) Water Right No. 7962-3, held by Riverview Farms, c/o Gary Foster, authorizes the diversion of 1.0 cubic feet of water per second from one well for the irrigation of 50.1 acres. The applicable portions of Water Right No. 7962-3 have been incorporated into this license.

Gary & Dianne Foster, 19758 466th Ave, Bruce SD 57220, made Application No. 8602-3, February 28, 2022, for a water permit to irrigate an additional 3.4 acres, with no increase in the rate of diversion, to what is already authorized under Water Right No. 7962-3. Permit No. 8602-3, with a priority date of February 28, 2022, was approved April 18, 2022, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before April 18, 2027, and for the application to beneficial use of water on or before April 18, 2031.

The permit holders submitted a Notice of Completion of Works and Application of Water to Beneficial Use form on September 13, 2022. The Notice stated the diversion system was completed and the water was placed to beneficial use on September 1, 2022.

(2) It is certified that the permit holders have complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and are entitled to divert 1.0 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 1,125 ft S & 1,320 ft W of the NE corner Section 18, T112N, R50W (approx. center NE $\frac{1}{4}$)
(Latitude 44.51145 & Longitude -96.87329)

(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 – September 30.

(4) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate to following land: *all in T112N-R50W, Brookings County*

Section 7	Section 18
SE $\frac{1}{4}$ SE $\frac{1}{4}$ 4 acres	NE $\frac{1}{4}$ NE $\frac{1}{4}$ 34 acres
	SE $\frac{1}{4}$ NE $\frac{1}{4}$ 14 acres
TOTAL: 52 acres	

(5) Pursuant to South Dakota Water Law 46-5-30.1 Gary & Dianne Foster, the holders and/or owners of Water Right No. 8602-3 are issued a license to appropriate water, the right to use 1.0 cubic feet of water per second from groundwater, one well (Big Sioux: Brookings Aquifer), with priority dates of February 11, 2014, for 1.0 cfs & 50.1 acres & February 28, 2022, for 1.9 acres, from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8602-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 8602-3 & Water Right No. 7962-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled to there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

continued

2. Pursuant to SDCL 46-5-6 which allows for a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Permit No. 8602-3 & Water Right No. 7962-3 authorize a maximum diversion rate of 1.0 cfs for the irrigation of 53.5 acre with an annual volume not to exceed 2 acre-feet of water per acre per year. *(The applicable portions of Water Right No. 7962-3 have been incorporated into Water Right No. 8602-3. All diversion authority is now held under Water Right No. 8602-3. Additionally, the number of irrigated acres is limited to 52, based on the system as developed.)*
3. This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.

Eric Gronlund

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

JUN 24 2024

date





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

October 29, 2024

7963-3
8601-3 & 8602-3

Gary & Dianne Foster
2028 Rapid Valley Ave
Brookings SD 57006

Dear Mr. & Ms. Foster:

Enclosed is a "Notice" dated October 23, 2024, concerning the 2024 Irrigation Questionnaires.

The notice was originally mailed to 19758 466th Ave, Bruce SD 57220. The post office notified our office that your address has changed, and your records have been updated accordingly.

This is a time sensitive matter. Please complete and return the enclosed questionnaires or submit your reports online at <https://danr.sd.gov/iq/> using this password *VVNUFT*.

If this change of address is in-correct, please contact our office immediately to update your contact information.

Sincerely,

Amanda Dewell
Permitting Administrator
Water Rights Program
605 773-3352
Amanda.Dewell@state.sd.us

enclosures

305 N/E 114192410010/20/24
RETURN TO SENDER
FOSTER
2028 RAPID VALLEY AVE
BROOKINGS SD 57006-2078
RETURN TO SENDER
114192410010/20/24