

WATER PERMIT NO. 8805-3

Name of Applicant: Craig Bass

Address: 17949 459th Avenue, Castlewood SD 57223

Phone: 605-881-0880

Amount of Water Claimed: 1.78

Total Acres: 220

Source of Water Supply: Groundwater

Water to be used for: Irrigation

County: Hamlin

Type of Waste Disposal System:

Location: Approx. 4 miles north of Castlewood SD

PRIORITY

Date Received: 11-2-23

Application/License Fee: \$1,150.00

Corrected Application Received:

Period of Annual Use: April 1 – October 31

Remarks:

Diversion Point: NW 1/4 SW 1/4 Sec 11 -T115N-
R52W

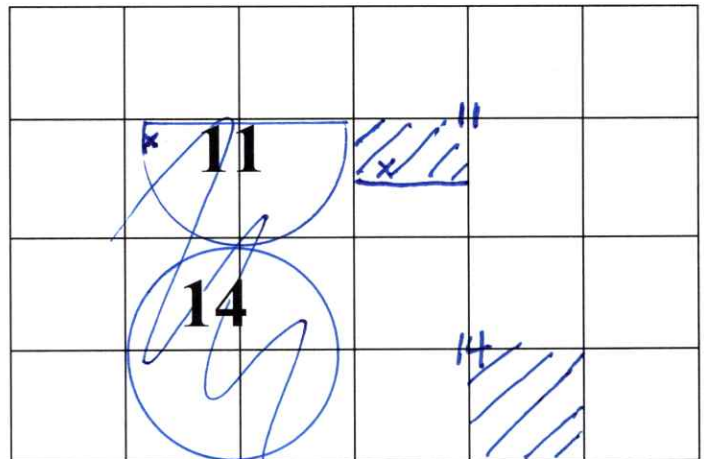
Land to be Irrigated: N 1/2 of SW 1/4 Sec 11 -
T115-R52W, SE 1/4 Sec 14 -T115N-R52W

Depth of Well: 26

Well Driller: Thien Well

Remarks:

Type of Map: aerial



Reviewed and the Number Assigned on: 11-3-23

By: Rachel Rodriguez

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 8805-3

Date of first receipt of application November 2, 2023.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8805-3 to Craig Bass, 17949 459th Avenue, Castlewood SD 57223 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. 8805-3 appropriates 1.78 cubic feet of water per second from one well to be completed into the Big Sioux: North Aquifer (approximately 26 feet deep) located in the NW 1/4 SW 1/4 Section 11 for irrigation of 220 acres located in the N 1/2 SW 1/4 Section 11, SE 1/4 Section 14; all in T115N-R52W. This site is located approximately 4 miles north of Castlewood 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 November 2, 2023.
4. The date of approval of Permit No. 8805-3 is January 15, 2024.
5. One-fifth of the construction is to be completed on or before July 15, 2026.
6. All construction is to be completed on or before January 15, 2029.
7. Water is to be put to beneficial use on or before January 15, 2033.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under Water Permit No. 8805-3 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. The well authorized by Permit No. 8805-3 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: Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

JAN 29 2024
date



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

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8805-3</u> Hydrologic Unit <u>10170201</u> Basin <u>Upper Big Sioux</u> Newspaper <u>Castlewood Hamlin Co Enterprise</u> <u>Watertown</u> (office use only) <u>Public Opinion</u>
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PAID
NOV 02 2023
Ck# 5813
Rec't# 11213

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 Craig Bass

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

Mailing Address 17949 459th Ave Castlewood SD 57223
(Address) (City) (State) (Zip Code)

Phone 605-793-2169 Mobile 605-881-0880 Email cbass@itctel / bassbrent@icloud.
Com

2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 220
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Groundwater Aquifer

4. Location of point of diversion 1 well in NW 1/4 Section 11, T115N, R52W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
County Hamlin

5. County or counties where water will be used Hamlin

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

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

Land Description	Acres	Land Description	Acres
North 1/2 of SW 1/4 Sec 11 - T115N - R52W	80		
SE 1/4 Sec 14 - T115N - R52W	140		

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

Drilling one irrigation well to irrigate two parcels of land.

I, Craig Bass 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.

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 1 Have test holes been drilled? ☒ Yes ☐ No Drilled by Thein well
(if yes, please provide copies of logs)
- b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by _____

For either existing or proposed wells:

- c) Well Depth (required) 26 Depth to Top of Water Bearing Material 5' Depth to Water from Surface 5'
- d) Distance to nearest domestic well on applicant's property 2750' Property owned by others 0

2. Wastewater Disposal System Information

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

3. Dugout Information

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

4. Water Storage Dams

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

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

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

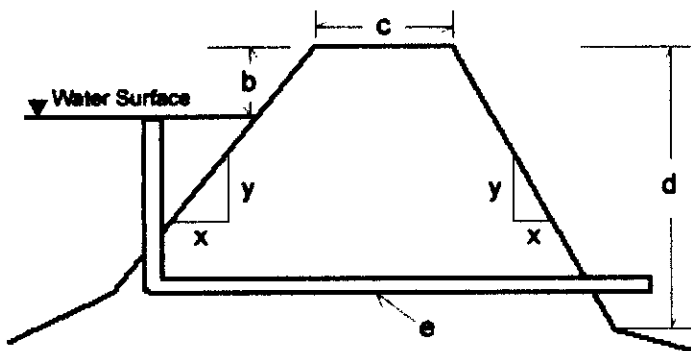
If pipe, diameter _____

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

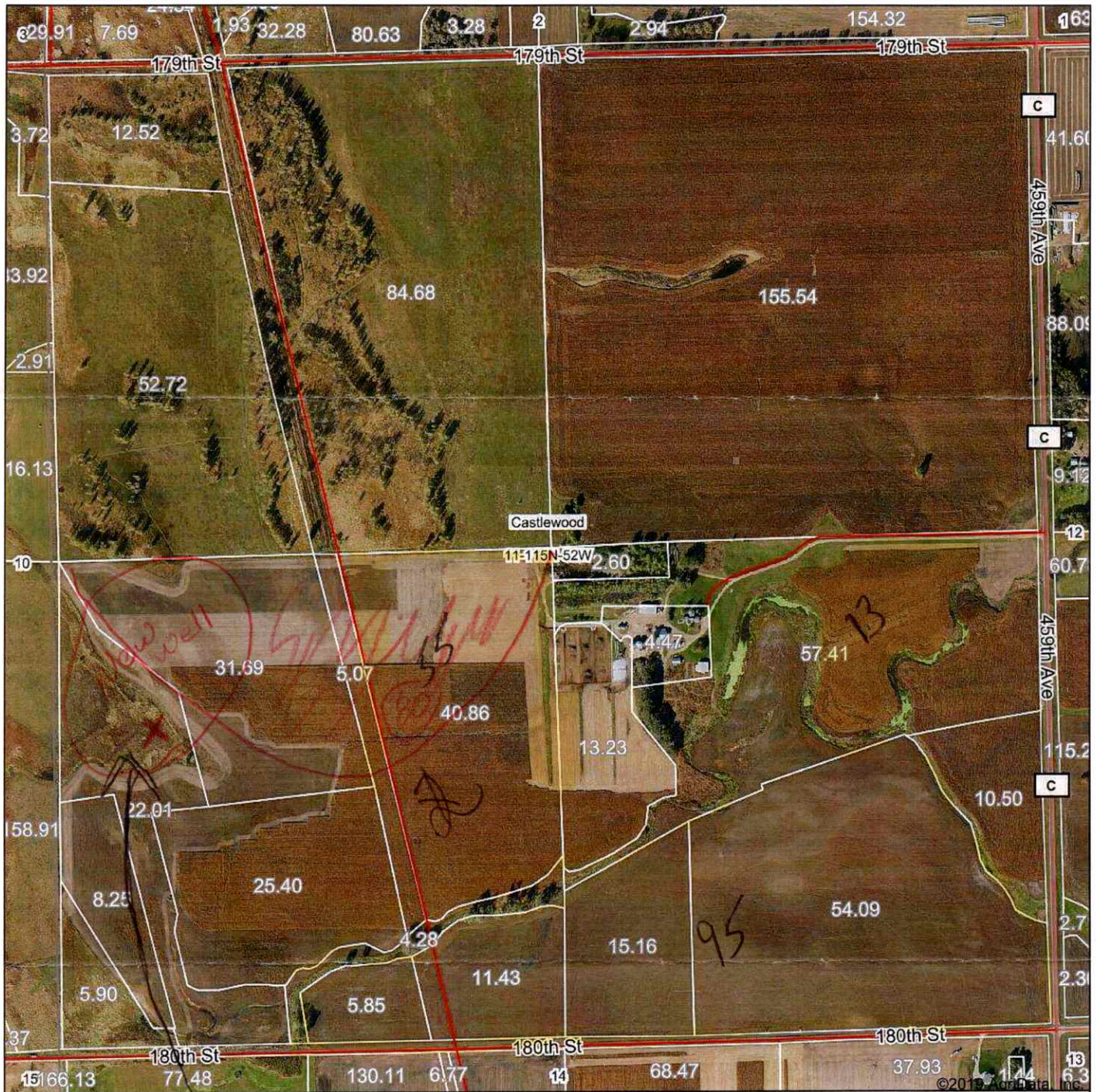
h) Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



Aerial Map



Castlewood
Farmers Elevator
Phone: (605) 703-2181

map center: 44° 46' 57.01, -97° 2' 12.15

0ft 833ft 1667ft

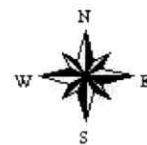
Maps Provided By:



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11-115N-52W
Hamlin County
South Dakota

Location of New Well



5/8/2019

Field borders provided by Farm Service Agency as of 5/21/2008.

Aerial Map



**Castlewood
Farmers Elevator**
Phone: (605) 793-2181

map center: 44° 46' 4.84, -97° 2' 12.42

0ft 833ft 1667ft

Maps Provided By:

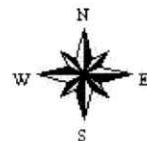


surety
CUSTOMIZED ONLINE MAPPING

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www.AgridataInc.com

**14-115N-52W
Hamlin County
South Dakota**



5/8/2019

Field borders provided by Farm Service Agency as of 5/21/2008.

BRENT BASS SEC 11 CASTLEWOOD

Write a description for your map.

Legend

N 44 46.7960 W 97 2.7000 BRENT BASS 36' TEST HOLE 10/24/2023

459th Ave

Google Earth

3000 ft

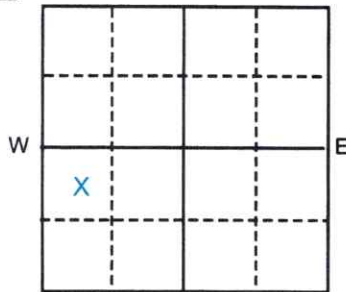


SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW 1/4 SW 1/4 Sec 11 Twp 115 Rg 52County Hamlin ☐

North

Please mark well
location with an "X"

Well Completion Date

10/24/2023

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

MUD ROTARY

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
<u>BENTONITE</u>	<u>4</u>	Lb/gal	<u>0</u> Ft	<u>36</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ 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?
☒ No, Why Not?
Lab to which water
quality sample sent for analysis

TEST HOLE ONLY

Well Owner: BRENT BASS

Business Name:

Address: 17949 459TH AVECity, State, Zip: CASTLEWOOD ☐ SD ☐ 57223

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOP SOIL	0	3
BROWN CLAY	3	5
SAND/ GRAVEL	5	26
BLUE CLAY	26	36

STATIC WATER LEVEL N/A 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 _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

GPS N 44 46.7960 W 97 2.7000

TH # 1

This well was drilled under license # 475 and this report is true and accurate.Drilling firm: THEIN WELL COMPANY, INCORPORATED

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 November 2, 2023

RECEIVED OF Craig/Roxanne Bass 17949 459th Ave., Castlewood SD 57223

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	\$ <u>950.00</u>
Fee for Application for Permit No. _____ to Appropriate Water for Future use	\$ _____
Fee to retain Future Use Permit No. _____ after period of seven years.	\$ _____
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
Fee for _____	\$ _____
Fee for Issuing New Well Driller's License No. _____	\$ _____
Fee for Renewal of Well Driller's License No. _____	\$ _____
Fee for Issuing Well Pump Installer's License No. _____	\$ _____
Fee for Renewal of Well Pump Installer's License No. _____	\$ _____
(Any Other Work Provided by Law) TOTAL	\$ <u>1150.00</u>

By Eric Gronlund
Chief Engineer
vm

Rodriguez, Rachel

From: Brent Bass <bassbrent@icloud.com>
Sent: Wednesday, November 8, 2023 9:58 AM
To: Rodriguez, Rachel
Subject: Fwd: [EXT] SD Water Rights
Attachments: Bass test hole log.pdf

Good morning
Here is the information you requested last week. Thanks
Brent

Sent from my iPhone

Begin forwarded message:

From: Zack Thein <zack@theinwell.com>
Date: November 8, 2023 at 7:34:30 AM CST
To: Brent Bass <bassbrent@icloud.com>
Subject: RE: SD Water Rights

Hi Brent,
Attached is a copy of your test hole log. I will need to sign (bottom right) and send a copy back to me.
Thanks,

Zack Thein

Thein Well Company
www.theinwell.com
(800)450-8000
-Since 1893-

From: Brent Bass <bassbrent@icloud.com>
Sent: Friday, October 27, 2023 11:13 AM
To: Zack Thein <zack@theinwell.com>
Subject: Re: SD Water Rights

Hey, the only change will be to put Craig Bass on the permit. Do we send it in or will you and what is the cost to apply for this permit?

Thanks,
Brent

Sent from my iPhone

On Oct 26, 2023, at 9:03 PM, Brent Bass <bassbrent@icloud.com> wrote:

Thank you very much!!
Brent

Sent from my iPhone

On Oct 26, 2023, at 3:10 PM, Zack Thein <zack@theinwell.com> wrote:

Hi Brent ,

Attached is what I came up with for the permit info.. take a look and make any corrections needed. Let me know if you have any questions.

Thanks,

Zack Thein

Thein Well Company

www.theinwell.com

(800)450-8000

-Since 1893-

From: Zack Thein

Sent: Thursday, October 26, 2023 2:47 PM

To: bassbrent@icloud.com

Subject: SD Water Rights

Hi Brent ,

Here is the link for the water permit.

https://sdeforms.na2.adobesign.com/public/esignWidget?wid=CBFCIBA A3AAABlqZhBLtvDdWE9RveBiAAwtIE4vnTviwsJTMz79WkhxzqRIGIkHKSvwCrgd1ifTEkDTnLc*

Zack Thein

Thein Well Company

www.theinwell.com

(800)450-8000

-Since 1893-

Rodriguez, Rachel

From: Brent Bass <bassbrent@icloud.com>
Sent: Friday, November 3, 2023 1:32 PM
To: Rodriguez, Rachel
Subject: Re: [EXT] Application for Water Permit

Ok, yes we can provide them once we get them back from the lab/well driller.

Thanks

Brent

Sent from my iPhone

On Nov 3, 2023, at 11:04 AM, Rodriguez, Rachel <Rachel.Rodriguez@state.sd.us> wrote:

Good Morning,

I am in receipt of your application. Everything looks great however, I noticed that you indicated that test holes have been done. I was wondering if you would please provide a copy of the well log because I know our engineer is going to ask for it.

Thank you,

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



Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Friday, November 3, 2023 11:04 AM
To: cbass@itctel.com; bassbrent@icloud.com
Subject: Application for Water Permit

Good Morning,

I am in receipt of your application. Everything looks great however, I noticed that you indicated that test holes have been done. I was wondering if you would please provide a copy of the well log because I know our engineer is going to ask for it.

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8805-3, Craig Bass**

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. 8805-3, Craig Bass, 17949 459th Avenue, Castlewood SD 57223.

The Chief Engineer is recommending APPROVAL of Application No. 8805-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under Water Permit No. 8805-3 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. The well authorized by Permit No. 8805-3 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.

See report on application for additional information.

Eric Gronlund, Chief Engineer
December 18, 2023

NOTE: You are encouraged to review the staff engineer's report on the application carefully. The saturated thickness of the Big Sioux:North aquifer in the area of this application is thin and there may be times when pumping from the thicker part of this aquifer could cause drawdown impacting adequate wells in the thinner part of the aquifer. The saturated thickness of your well authorized by Water Permit No. 7844-3 is 14 feet. Considering the close proximity of these two high-yield wells you may need to manage diversions in order to operate.

Report to the Chief Engineer
Water Permit Application No. 8805-3

Craig Bass

11 December 2023

Water Permit Application No. 8805-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.78 cubic feet of water per second (cfs) from one well to be completed into the Big Sioux: North aquifer (approximately 26 feet deep) for the irrigation of 220 acres. The well is to be located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 11 for the irrigation of land located in the N $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 11 and the SE $\frac{1}{4}$ of Section 14, all in T115N-R52W. The site is located in Hamlin County, approximately 4 miles north of Castlewood, South Dakota.

Aquifer: Big Sioux: North (BS:N)

Description of Aquifer:

The Big Sioux: North aquifer or the north management unit of the Big Sioux aquifer, lies in the flood plain of the Big Sioux River and its tributaries (Hansen, 1994). The aquifer is a Quaternary aged glacial outwash consisting of medium to coarse unconsolidated sand and gravel which was deposited by meltwater from receding glaciers (Hansen, 1990). The aquifer is generally at or near land surface and is primarily under water-table (unconfined) conditions, although artesian (confined) areas may be locally present. The north management unit of the Big Sioux aquifer underlies portions of Codington, Grant, Hamlin, and Roberts Counties (Hedges et al., 1982). The areal extent of the Big Sioux: North aquifer is estimated to be 111,700 acres after Stonesifer (2013) reevaluated delineations by Hedges et al. (1982) along with numerous other aquifer studies outlined in Water Permit No. 7857-3. This areal extent should be considered a likely minimum because the outline includes at *least* all the available data provided by SD DANR observation wells and Water Right/Permit files (Water Rights, 2023b and 2023c), SDGS lithologic logs (SDGS, 2023), and well completion reports (Water Rights, 2023d) at the time of the 2013 delineation.

Lakes Kampeska and Pelican near Watertown, and Still Lake north of Watertown are hydrologically connected to the Big Sioux: North aquifer (Hansen, 1990; Putnam and Thompson, 1996). The general direction of groundwater movement in the aquifer is to the south and towards the Big Sioux River (Hansen, 1990).

In Codington and Grant Counties, the average thickness of the Big Sioux aquifer is 24 feet and can range from 2 to 54 feet thick (Putnam and Thompson, 1996). In Deuel and Hamlin Counties, the Big Sioux aquifer has an average thickness of 30 feet and in some areas can be as thick as 123 feet (Kume, 1985). The aquifer is generally less than 10 feet below land surface (Hansen, 1990). The Big Sioux: North aquifer can be exposed at the land surface, but locally for this application, the test hole and nearby well completion reports state an overlying 1 to 3 feet of topsoil followed by sandy tan clay. The test hole that was drilled for this application has a depth to aquifer materials of 5 feet below the land surface, and a total aquifer material thickness of 21

feet. The test hole log submitted with this application does not report static water level, and the total aquifer materials thickness may not all be saturated. Other nearby well completion reports have depths to aquifer materials ranging from 1 to 5 feet below the land surface, saturated aquifer thicknesses ranging from approximately 14 to 22 feet, and static water levels at the time of well completion to range from 3 to 7.5 feet below the land surface (Water Rights, 2023c and 2023d). The test hole information submitted with this application, along with nearby well completion reports, indicates that the Big Sioux: North aquifer is unconfined at the location of the proposed diversion point.

The applicant, Craig Bass, submitted Application No. 7555-3 for a water permit in 2014 but it was deferred and eventually withdrawn. The reason for deferral was because the test hole for that application was drilled into an unknown water-bearing material. The location for that proposed well was inside the mapped boundary of the Big Sioux: North aquifer by Stonesifer (2013); however, the potentiometric surface at that location was lower than the expected Big Sioux: North aquifer potentiometric surface by over 30 feet, less than one mile away from the well completion reports for Water Right No. 7844-3 and the test hole for this application (Water Rights, 2023c and 2023d). This indicates that the proposed water source for Application No. 7555-3 was most likely different from the Big Sioux: North aquifer (Mathiowetz, 2023b), where the water table begins at a depth generally less than 10 feet from the surface. It is also unusual to see a dramatic water table gradient compared to other areas of the aquifer with similar topography (Water Rights, 2023d; SDGS, 2023). Figure 1 shows the locations of nearby water rights/permits near the potential diversion point for this application.

For this application, the test hole information that the applicant provided indicates that the water is from the Big Sioux: North aquifer which is the only aquifer documented at this specific location and depth.

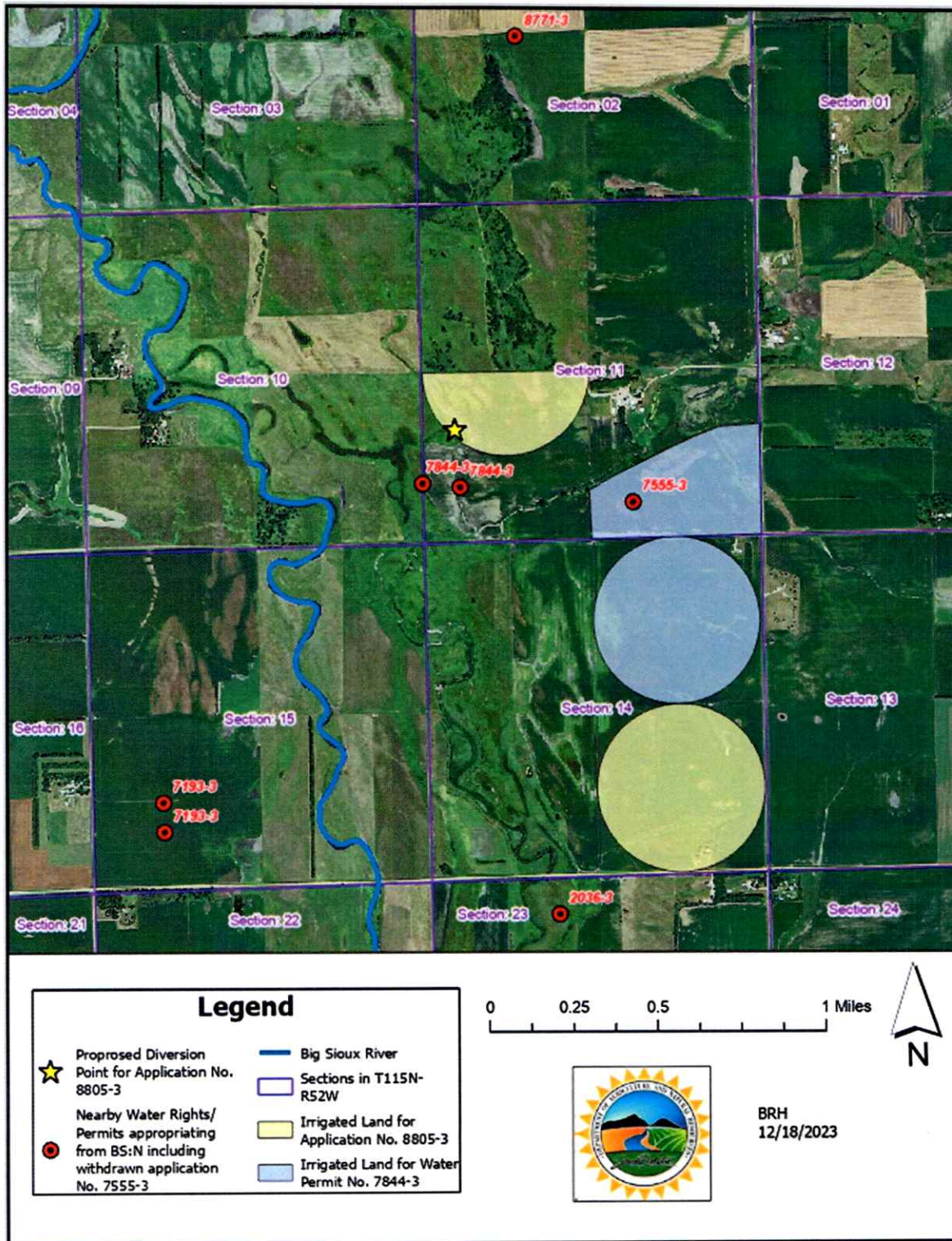


Figure 1. Map of part of T115N-R52W showing the proposed diversion point for Application No. 8805-3 and nearby water rights/permits authorized to irrigate from the Big Sioux: North aquifer, including withdrawn Water Permit Application No. 7555-3, submitted by Craig Bass. The lands to be irrigated by this application and the land authorized to be irrigated by Water Right No. 7844-3, held by Craig Bass, are also outlined (Water Rights, 2023c).

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: North aquifer.

SDCL 46-6-3.1:

SDCL 46-6-3.1 states that "no application to appropriate groundwater may be approved if, according to the best possible 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."

Water Permit Application No. 8805-3 does not involve a water distribution system as defined by SDCL 46-1-6(17) and is not older or stratigraphically lower than the Greenhorn formation. Therefore, in order to approve an application to appropriate water, there needs to be evidence showing that water unappropriated is available, which for this report will be data showing that the average annual recharge exceeds discharge, and observation well analysis.

Hydrologic Budget Analysis:

Recharge

Recharge to the aquifer is by infiltration of precipitation on the surface of the outwash, recharge from runoff from other areas onto the surface of the aquifer deposits, leakage from adjacent till, and infiltration from the Big Sioux river where the potentiometric surface of the aquifer is lower than the river (Kume, 1985). Lakes Kampeska and Pelican are hydrologically connected to the Big Sioux: North aquifer. In the spring and early summer months, if the lake water levels are higher than water surface of the aquifer, the lakes will recharge the aquifer (Hanson, 1990). For unconfined, non-buried aquifers like the Big Sioux: North (except in some areas where the aquifer can be locally confined by till (Hansen, 1990)), observation well data is the simplest and often most accurate way to quantify recharge. The average annual recharge is calculated by multiplying the average annual water level rise for a series of wells by the specific yield of the aquifer materials. By using this method, Hedges (1985) calculated a recharge rate of 3.2 inches/year to the Big Sioux: North aquifer using data from 25 observation wells. Putnam and Thompson (1996) used the same method and calculated a recharge rate range of 2.9 to 5.8 inches/year, using data from nine observation wells. Since the Hedges (1985) rate lies within the range calculated by Putnam and Thompson (2013), the latter will be used for this report. This

gives a range of volumetric recharge to the Big Sioux: North aquifer to be approximately 27,000 to 54,000 acre-feet/year, using the areal extent of 111,700 acres estimated by Stonesifer in 2013.

Discharge

During the summer and fall, water levels in Lakes Kampeska and Pelican are lower than the water levels in the surrounding Big Sioux: North aquifer, and water from the aquifer discharges into the lakes. Discharge to the aquifer also occurs through evapotranspiration and well withdrawals, and by the general water movement from north to south, and discharge into the Big Sioux River when the potentiometric surface of the river is lower than that of the aquifer (Hanson, 1990; Water Rights, 2023d).

There are currently 106 established water rights/permits (irrigation and non-irrigation) that are authorized to appropriate water from the Big Sioux: North aquifer (Water Rights, 2023c). Of those, three are future use permits for the City of Watertown, and the remaining volume of water reserved in those permits will be included in the hydrologic budget. There are currently no other pending applications for the Big Sioux: North aquifer.

Of the 106 established water rights/permits that are authorized to appropriate from the Big Sioux: North aquifer, 44 are for non-irrigation use (Water Rights, 2023c). Historically, average water use by non-irrigation appropriations limited by an instantaneous diversion rate have been assumed to be pumping 60% of the time at their respective permitted diversion rate. Water rights/permits limited by an annual volume are assumed to withdraw their entire respective annual volume limitation. For non-irrigation water rights/permits that report annual pumping to the Chief Engineer and have at least 10 years of data, the average of the reported withdrawal rates is calculated to estimate annual use. These are standard methods used by the SD DANR Water Rights Program for estimating annual withdrawals by non-irrigation appropriations from an aquifer. Table 1 lists the non-irrigation water rights/permits and their respective estimated annual use from the Big Sioux: North aquifer. Overall, the estimated average annual withdrawal from the Big Sioux: North aquifer by non-irrigation water rights/permits is approximately 16,493 acre-feet/year.

Water Right No. 8336-3 appropriates water from both the Big Sioux: North aquifer and the Prairie Coteau aquifer. To estimate its average annual withdrawal, Water Right No. 8336-3 will be assumed to withdraw their full specified volume permitted from their Big Sioux: North aquifer allocation. Water Permit No. 8732-3 authorizes the City of Estelline to connect to the Sioux Rural Water System, which appropriates from the Big Sioux: North aquifer via Water Right No. 5158-3. However, the well field for Water Right No. 5158-3 has not been used since 1998 due to water quality issues (Mathiowetz, 2014; Water Rights, 2023c). Therefore, the estimated annual use for both Water Right No. 5158-3 and Water Permit No. 8732-3 are assumed to be zero acre-feet.

Table 1. Estimated annual use for non-irrigation water rights authorized to divert water from the Big Sioux: North aquifer (Water Rights, 2023c and 2023f).

Permit No.	Name	Priority Date	Status	Use	Authorized diversion rate (cfs)	Authorized annual volume (acre-feet)	Annual estimated use (acre-feet)	
1218-3	City of Watertown	12/03/1956	FU	MUN	N/A	2,709	2,709	
2107-3		08/26/1974	FU	MUN	N/A	N/A	0	
5862-3		04/06/1995	FU	MUN	N/A	760	760	
1716-3		12/03/1956	LC	MUN	0.8	N/A	347.5	
2239-3		09/02/1965	LC	MUN	2.23	N/A	968.7	
2757-3		09/02/1965	LC	MUN	1.45	N/A	629.9	
3022-3		09/02/1965	LC	MUN	1.31	N/A	569.1	
349-3		01/01/1933	LC	MUN	0.33	N/A	143.4	
350-3		01/01/1933	LC	MUN	0.8	N/A	347.5	
351-3		01/01/1934	LC	MUN	1.12	N/A	486.5	
352-3		12/03/1956	LC	MUN	1.12	N/A	486.5	
6500-3		06/14/2004	LC	MUN	0.11	N/A	47.8	
6208-3		05/15/2000	LC	MUN	0.1	N/A	43.4	
5233-3		09/02/1965	LC	MUN	2	N/A	868.8	
5683-3		09/02/1965	LC	MUN	2.67	1160	1,160	
348A-3		Watertown Municipal Utilities Dept.	08/01/1932	LC	MUN	0.33	N/A	143.4
4183A-3		Pelican Plaza	10/27/1977	LC	SHD	0.08	N/A	34.8
4932-3		Northern Con-Agg Inc.	10/27/1982	LC	IND	3.12	N/A	1,355.3
494-3		Watertown Mall Assoc.	08/06/1957	LC	COM	0.11	N/A	47.8
496-3		Medical Center	08/15/1957	LC	COM	0.08	N/A	34.8
5157-3		Magellan Pipeline Co. LLC	10/08/1987	LC	IND	0.19	N/A	82.5
5158-3		Sioux Rural Water System Inc.	10/28/1987	LC	RWS	2.44	1,060	0
5318-3		Consolidated Ready Mix	04/11/1989	LC	COM	0.1	N/A	43.4
5636-3		Stanley Schmitt	01/01/1949	LC	COM	0.033	N/A	14.3
1402-3		FJ McLaughlin Co	04/26/1967	LC	COM	1	N/A	434.4
5690-3		BJ's Food & Spirits	07/22/1992	LC	COM	0.07	N/A	30.4
5696-3		Rauville Café	08/03/1992	LC	COM	0.022	N/A	9.6
5954-3		Lakeland Nurseries	09/09/1996	LC	COM	0.022	N/A	9.6
6043-3		Dakota Finishing Inc.	01/23/1998	PE	IND	0.155	N/A	67.3
6270-3		Dakota Plastics Company	07/17/2001	LC	IND	0.214	N/A	93.0
6457-3		Big Sioux Nursury Inc.	12/30/2003	LC	COM	0.04	N/A	17.4
6514-3		Concrete Dakota Redi-Mix Inc.	05/24/2004	LC	IND	0.134	N/A	58.2
6595-3 ¹		Clark RWS Inc.	01/26/2005	LC	RWS	0.44	404	135.9
6750-3		Big Sioux Nursury Inc.	08/16/2006	LC	COM	0.055	N/A	23.9
6856-3 ¹		Watertown Municipal Utilities	09/02/1965	LC	MUN	2.14	927	19
7055-3 ¹	04/06/1995		LC	MUN	8	4,500	2,621.3	
7969-3	Bronson Custom Farms Inc.	02/13/2014	LC	COM	0.2	N/A	86.9	
8027-3	Wilbur Ellis	06/13/2014	LC	COM	0.09	N/A	39.1	
8297-3	Valley View Farms Inc.	06/16/2017	LC	COM	0.08	35	35	
8336-3 ²	Everist Inc.	03/12/2018	LC	COM	0.044	2.75	2.75	
8341-3		03/26/2018	LC	IND	6.67	1,199	1,199	
8732-3 ²	Sioux Rural Water System Inc.	03/15/2023	PE	RWS	2.44	1,060	0	
8770-3	Sioux River Dairy Inc.	05/24/2023	LC	COM	0.279	56	56	
8771-3	County Line Dairy LLC	06/12/2023	PE	COM	1.55	230	230	
FU: Future Use, LC: License, PE: Permit, MUN: Municipal, SHD: Suburban Housing Development, IND: Industrial, COM: Commercial, RWS: Rural Water System, ¹ Average annual pumping (with at least 10 years of data) as reported to the Chief Engineer (Water Rights, 2023f), ² Appropriates water from multiple aquifers						Total	16,493	

Of the 106 water rights/permits authorized to appropriate water from the Big Sioux: North aquifer, 62 are for irrigation use (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 for the Big Sioux: North aquifer irrigation water rights/permits that have reported over the period of record 1979 to 2022 is approximately 2,470 acre-feet (Water Rights, 2023a). To reflect the current development of irrigation water rights/permits more accurately, the average annual withdrawal for irrigation appropriations from 2013 to 2022 will be used for the budget, and is approximately 3,652 acre-feet (Water Rights, 2023a).

Water Permit No. 8728-3 was approved by the Chief Engineer after the mailing of 2022 irrigation questionnaires, and an estimate of its annual use will be included in the budget. Water Permits Nos. 8554-3 and 8622-3 are included in the 2022 questionnaire but have not yet put water from the aquifer to beneficial use, and so their annual use will be estimated and included in the budget for this report. Water Right No. 8734-3 is authorized to irrigate from both the Prairie Coteau and the Big Sioux: North aquifers and is not included on the irrigation questionnaire for the Big Sioux: North (Four wells into BS:N and one well into Prairie Coteau). For the budget, Water Right No. 8734-3 will be assumed to irrigate fully from the Big Sioux: North for a conservative estimate. Generally, non-turf irrigators in South Dakota apply less than one foot of water per acre per year. Assuming a conservative application rate of one foot of water per acre per year, Water Permit Nos. 8554-3, 8622-3, and 8728-3 will be assumed to pump 368 acre-feet/year. Water Right No. 8734-3 will be assumed to pump 332 acre-feet/year. This application No. 8805-3, if approved, will be assumed to pump 220 acre-feet/year.

There are domestic wells completed into the Big Sioux: North aquifer that do not require a water right/permit, so the withdrawal amount from those wells is unknown (Water Rights, 2023d). Due to their relatively low diversion rates, withdrawals from domestic wells are generally not considered to be a significant portion of the hydrologic budget. Additionally, rural water systems have been developed in areas where the Big Sioux: North aquifer is the uppermost aquifer available, and it is likely that some domestic users 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 aquifer.

Hydrologic Budget Summary:

Recharge to the North management unit of the Big Sioux aquifer is estimated to range between approximately 27,000 and 54,000 acre-feet/year. The estimated average annual withdrawal from the Big Sioux: North aquifer is 20,845 acre-feet, listed on Table 2. This application seeks to withdraw an estimated 220 acre-feet of water per year. Based on the hydrologic budget analysis, there is a reasonable probability that unappropriated water is available for the proposed appropriation.

Table 2. Summary of estimated withdrawals from the Big Sioux: North aquifer (Water Rights, 2023a, 2023c, and 2023f).

Type of Water Right/Permit	Annual Withdrawal (acre-feet)
Non-Irrigation	16,493
Irrigation (Average annual withdrawal from 2013 to 2022)	3,652
Water Permit Nos. 8554-3, 8622-3, 8728-3	368
Water Right No. 8734-3	332
TOTAL	20,845

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 SD DANR Water Rights Program monitors 29 observation wells completed into the Big Sioux: North aquifer (Water Rights, 2023b). Observation wells CK-78S and CD-78A were originally determined to be Big Sioux: North aquifer observation wells but are far outside the delineation by Stonesifer (2013). The aquifer that these observation wells are completed into is still being determined (Mathiowetz, 2023a) and those wells were not included in this analysis.

The closest observation well to the diversion point for Application No. 8805-3 is CD-57B (approximately 4 miles northwest) and observation wells CD-60DR and CD-60D (approximately 6 miles northwest). CD-60DR is a replacement well for CD-60D which was drilled in 2017. Reviewing the hydrograph and air development records for CD-60D, the observation well ceased to be representative of the aquifer after August 11, 2013 (Water Rights, 2023b). Readings after this date for CD-60D will not be considered in the observation well analysis.

Hydrographs for these observation wells are shown in Figures 2 and 3. Hydrographs of observation wells are constructed by measuring the static water level from the top of the well casing over a period of record, and for Figures 2 and 3, subtracting that water level from the surveyed elevation of the well in reference to the NVGD 1929 vertical datum. Water levels for these observation wells illustrate water level trends, climatic conditions, and pumping for the Big Sioux: North aquifer at those locations (Water Rights, 2023b). Observation well data show the behavior of the aquifer and are invaluable to the SD DANR Water Rights Program for determining the availability of unappropriated water in an aquifer.

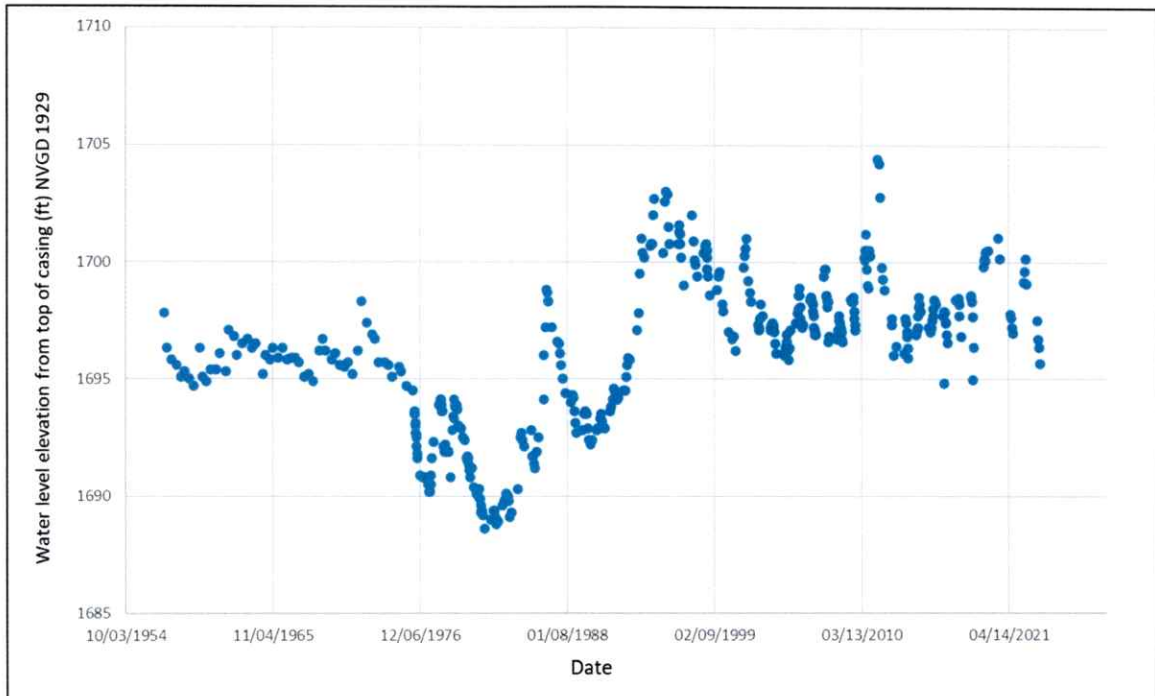


Figure 2. Hydrograph for observation well CD-57B (Water Rights, 2023b)

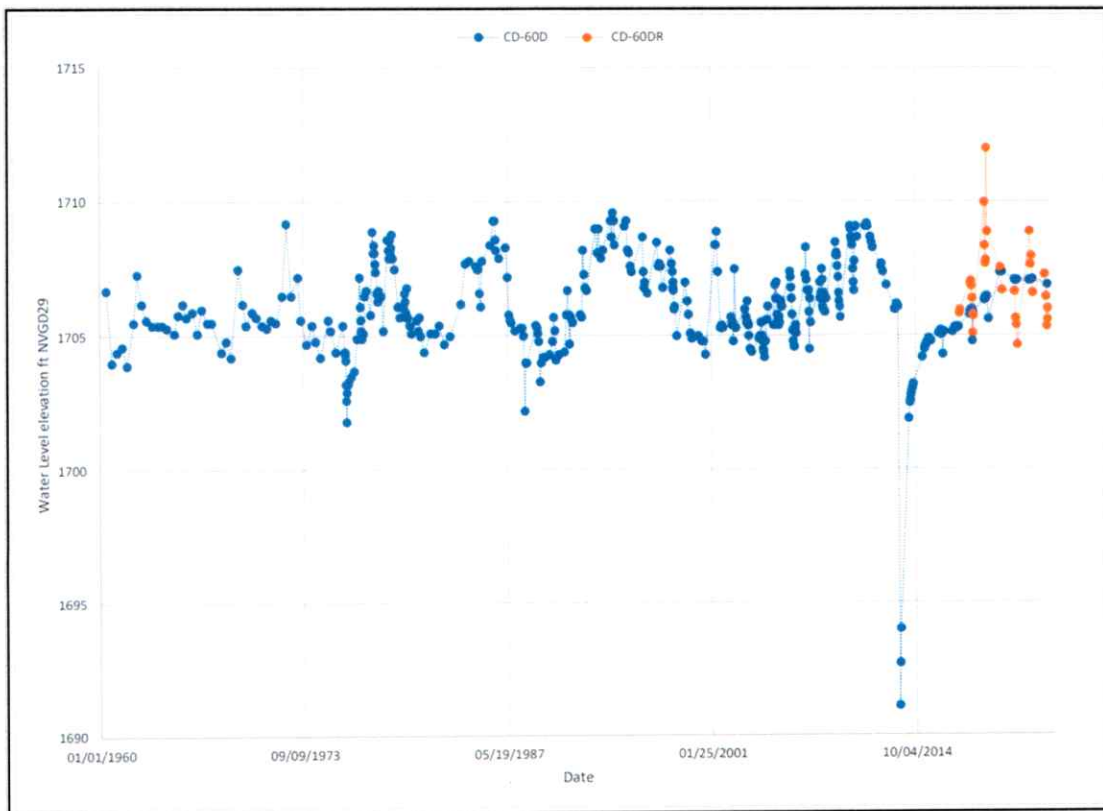


Figure 3. Hydrograph for observation wells CD-60D and CD-60DR (Water Rights, 2023b)

When evaluating hydrographs, the context of the entire period of record is important, as it shows long-term trends of the aquifer and not only the beginning and ending water levels. The overall trend for the hydrographs of the nearest observation wells to the proposed diversion point display stable to increasing water levels. Short-term trends show pre-pumped water levels recovering after the end of irrigation seasons. A shallow, unconfined aquifer such as the Big Sioux: North will have more short-term fluctuations between seasons, which makes the hydrographs look choppy. Long-term trends illustrate climatic fluctuations in approximately 10-year intervals. Droughts have occurred in South Dakota in the mid to late 1970's, the late 1980's to early 1990's, the early 2000's, the years 2012-2014, and the years 2020 to the present. Figures 2 and 3 reflect those climate conditions, and water levels recover during subsequent wet years (NOAA, 2023; Water Rights, 2023b).

Other observation wells completed into the Big Sioux: North aquifer have hydrographs with similar long and short-term trends as those shown in Figures 2 and 3. Overall, water levels are rising during wetter periods and declining, then stabilizing during dry periods. Climatic conditions, and therefore the effects of recharge to and natural discharge from the aquifer govern the short and long-term water level trends in the aquifer rather than the impacts of pumping. Since both recharge to and natural discharge from an aquifer can be captured for pumping, the observation well hydrographs show that unappropriated water is available for the proposed appropriation.

Potential for Unlawful Impairment:

Nearby Water Rights/Permits

Currently, there are 106 water rights/permits authorized to appropriate water from the north management unit of the Big Sioux aquifer (Water Rights, 2023c). The nearest water permit (not held by the applicant) is Water Permit No. 8771-3, held by County Line Dairy, LLC and is located approximately 1.2 miles north of the proposed diversion point for this application (Figure 1) (Water Rights, 2023c).

There are domestic wells on file with the SD DANR Water Rights Program that are completed into the Big Sioux: North aquifer, with the closest domestic wells on file (not held by applicant) located approximately 2 miles south of the proposed diversion point (Water Rights, 2023d). There could potentially be other domestic wells completed into the Big Sioux: North aquifer near the proposed diversion point that are not on file with the Water Rights Program. The locations of the domestic wells are based on the location provided by the well driller at the time of well completion.

Potential of Drawdown

The Big Sioux: North aquifer is unconfined at the proposed well site, confirmed by the test hole report submitted with the application as well as nearby well completion reports (Water Rights, 2023c and 2023d). Drawdown created by pumping a well generally does not extend far from the pumped well in an unconfined aquifer. An aquifer performance test would be required to know the exact aquifer response to pumping. The log for the test hole submitted with this application

reports a total aquifer materials thickness of 21 feet which may not all be saturated, and nearby saturated aquifer thicknesses for nearby well completion logs range from approximately 14 to 22 feet (Water Rights, 2023d). These reported thicknesses are on the low side for the requirements of an adequate well, defined 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.”

While the best information available indicates that there is a reasonable probability that average 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.

There have been complaints for adversely impacted wells in the Big Sioux: North aquifer. A complaint was made in 2015 by a Mr. Daniel Meseberg, who was concerned that wells from the City of Watertown were causing enough drawdown to where he can't pump water (Water Rights, 2023e). An investigation revealed that the Meseberg well was likely impaired by the Watertown Rauville wellfield. The Rauville wellfield is within a mile of the Meseberg well. The nearest well completion reports to the proposed diversion for this application are for a well associated with Water Permit No. 7844-3, belonging to Craig Bass, and has a saturated thickness of 14 feet. Therefore, the applicant's own well is at the greatest risk of impairment from this appropriation, especially considering the close proximity of the high-yield wells (pumped at a rate greater than 0.2 cfs). Considering the adequate well rule (ARSD 74:02:04:20(6)), the unconfined nature of the Big Sioux: North aquifer at this location, and that the nearest wells to the proposed diversion point are the applicant's own, there is a reasonable probability that this proposed appropriation will not impair other users.

Conclusions:

1. Water Permit Application No. 8805-3 proposes to appropriate 1.78 cfs from a well to be completed into the Big Sioux: North aquifer located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ of Section 11 for the irrigation of 220 acres located in the N $\frac{1}{2}$ SW $\frac{1}{4}$ of Section 11 and the SE $\frac{1}{4}$ of Section 14, all in T115N-R52W during the irrigation season of April 1 to October 31. The site is located in Hamlin County, approximately 4 miles north of Castlewood, South Dakota.
2. Based on a hydrologic budget analysis and observation well data, there is reasonable probably that unappropriated water is available from the Big Sioux: North aquifer to supply the proposed appropriation at the location of the test hole report submitted with this application.

3. There is a reasonable probability that the diversion by Water Permit Application No. 8805-3, if approved, will not unlawfully impair adequate wells for existing water rights/permits and domestic uses not held by the applicant.



Brittan R. Hullinger
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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**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

December 19, 2023

Craig Bass
17949 459th Ave
Castlewood SD 57223

Dear Mr. Bass:

Water Permit Application No. 8805-3 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 Hamlin County Republican printed in Castlewood SD (Ph # 605 793-2293) and the Public Opinion printed in Watertown SD (see attachment for contact number). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Rachel Rodriguez

Rachel Rodriguez
Water Rights Program
(605) 773-3352

enclosures

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

NOTICE OF APPLICATION NO. 8805-3 to Appropriate Water

Notice is given that Craig Bass, 17949 459th Avenue, Castlewood SD 57223 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Big Sioux: North Aquifer (approximately 26 feet deep) located in the NW 1/4 SW 1/4 Section 11 for irrigation of 220 acres located in the N 1/2 SW 1/4 Section 11, SE 1/4 Section 14; all in T115N-R52W. This site is located approximately 4 miles north of Castlewood SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8805-3 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 January 15, 2024.

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

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by January 15, 2024.

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

Published once at the total approximate cost of_

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, December 19, 2023 8:30 AM
To: LeeAnne Dufek
Subject: 8805-3 Craig Bass - Public Notice
Attachments: 8805-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on January 3, 2024 in the Hamlin County Republican.

Craig Bass, 17949 459th Avenue, Castlewood SD 57223, (605-881-0880) 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



Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, December 19, 2023 8:33 AM
To: legals@thepublicopinion.com
Subject: 8805-3 Craig Bass - Public Notice
Attachments: 8805-3 public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on January 3, 2024.

Craig Bass, 17949 459th Avenue, Castlewood SD 57223, (605-881-0880), cbass@itctel.com or bassbrent@icloud.com 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



LOCALiQ

Aberdeen News
Watertown Public Opinion

PO Box 630567 Cincinnati, OH 45263-0567

PROOF OF PUBLICATION

Water Rights Program
Bass Craig
17949 459Th AVE
Castlewood SD 57223-5306

STATE OF SOUTH DAKOTA, COUNTY OF CODINGTON

The Watertown Public Opinion is, and during all the times hereafter mentioned was, a daily legal newspaper as defined in SDCL 17-2-2.1 through 17-2-2.4, as amended, published at Watertown, Codington County, South Dakota, by Watertown Public Opinion; that the notice, order or advertisement, a printed copy of which is attached, was published in said newspaper in the issue dated:

01/03/2024

and that the fees charged are legal.
Sworn to and subscribed before on 01/03/2024

Legal Clerk

Notary, State of WI, County of Brown

My commission expires

Publication Cost: \$50.24

Order No: 9650913

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THIS IS NOT AN INVOICE!

Please do not use this form for payment remittance.

NICOLE JACOBS
Notary Public
State of Wisconsin

RECEIVED

JAN 10 2024

COUNTY

**NOTICE OF
APPLICATION NO. 8805-3
to Appropriate Water**

Notice is given that Craig Bass, 17949 459th Avenue, Castlewood SD 57223 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Big Sioux: North Aquifer (approximately 26 feet deep) located in the NW 1/4 SW 1/4 Section 11 for irrigation of 220 acres located in the N 1/2 SW 1/4 Section 11, SE 1/4 Section 14; all in T115N-R52W. This site is located approximately 4 miles north of Castlewood SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8805-3 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 January 15, 2024.

The petition shall include a statement describing the unique injury upon

approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at

<https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by January 15, 2024.

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

Published on Jan. 3, 2024 at the total approximate cost of \$50.24 and may be viewed free of charge at www.sdpublicnotices.com

RECEIVED

JAN 05 2024

Form 8

OFFICE OF
WATER

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County of Hamlin) SS

I, Lee Anne Dufek

certify that the attached printed Notice was taken

from the Hamlin County
Republican

printed and published in Castlewood

County of Hamlin and

state of South Dakota. The notice was published

in the newspaper on the following date:

Jan. 3, 2024

Cost of Printing \$39.29

Lee Anne Dufek
(Signature)

Owner
(Title)

1-3-2024
(Date Signed)

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8805-3 TO APPROPRIATE WATER

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Published Jan. 3, 2024, at total cost of \$39.29 and may be viewed online at www.sdpublicnotices.com

Rodriguez, Rachel

From: Rodriguez, Rachel
Sent: Tuesday, December 19, 2023 9:48 AM
To: cbass@itctel.com; bassbrent@icloud.com
Subject: 8805-3 Craig Bass - Public Notice
Attachments: 8805-3 Rec.pdf; 8805-3 Ltr.pdf; 8805-3 PubNotice.pdf; 8805-3 PubOpinionNewspaper.pdf

Good Morning Craig,

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

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

Thank you,

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JAN 29 2024

Craig Bass
17949 459th Avenue
Castlewood SD57223

Dear Mr. Bass:

Enclosed is Water Permit No. 8805-3 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.: 8805-3

Name of Applicant: Craig Bass

Date of Posting: 1/1/2024

Date of Removal: 1/29/2024



Ron Duvall, Engineer III

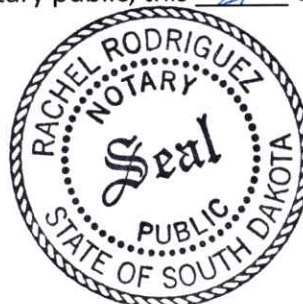
1/29/2024

Date

Subscribed and sworn to before me, a notary public, this 29th day of January, 2024.



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



(SEAL)

8805-3

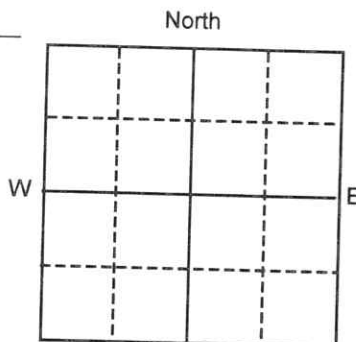
SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW ¼ SW ¼ Sec 11 Twp 115 Rg 52

County HAMLIN

Please mark well
location with an "X"

Well Completion Date

April 5, 2024

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
2,000.0 ft. from WEST OF SEPTIC (identify source)

PROPOSED USE:

☐ Domestic/Stock ☐ Municipal ☐ Business ☐ Test holes
☒ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring wellMETHOD OF DRILLING:
MUD ROTARY

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	12.00 IN	0.0 FT	17.5 FT	16.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
BENTONITE	4	Lb/gal	0.0 Ft	12.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

SCREEN:

☐ Perforated pipe ☒ Manufactured
Diameter 12.00 Inches Length 10.0 Feet

Material STAINLESS STEEL

Slot Size .070 Set From 16.5 Feet to 26.5 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?☒ No, Why Not?Lab to which water
quality sample sent for analysis

IRRIGATION WELL

Well Owner: BRENT BASS

Business Name:

Address: 17949 459TH AVE

City, State, Zip: CASTLEWOOD SD 57223

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOPSOIL- BLACK	0	3
BROWN CLAY	3	5
GRAY SAND/ GRAVEL	5	26.5
GRAY CLAY	26.5	30

STATIC WATER LEVEL 3.9 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

16.0 Ft. After 4.0 Hrs. pumped 300.0 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

12" IRR WELL GPS N44 46.7924 W97 2.7018

This well was drilled under license # 475 and this
report is true and accurate.

Drilling firm: THEIN WELL COMPANY, INCORPORATED

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

RECEIVED

MAY 24 2024

Date:

OFFICE OF
WATER

Brent Bass 12" Well Sec 11

Legend

 Untitled Polygon

BRENT BASS 36' TEST HOLE 10/24/2023  12" well 4/5/2024 26.5 ' Brent Bass
n 44 46.7925 w 97 2.7018

459th Ave

T

Google Earth

Image © 2024 Airbus



3000 ft