

WATER PERMIT NO. 8158-3

Name of Applicant: **David C Zubke**

Address: **44769 149th St, Waubay SD 57273**

Phone: **605 265-0069**

Amount of Water Claimed: **2.22 cfs**

Total Acres: **355 acres**

Source of Water Supply: **groundwater (two wells)**

Water to be used for: **irrigation**

County: **Day**

Type of Waste Disposal System:

Location: **6 miles southeast of Waubay**

PRIORITY

Date Received: **5-8-15**

Application/License Fee: **\$ 1350**

Corrected Application Received: **5-18-15**

Period of Annual Use: **April 1 – October 31**

Remarks:

Diversion Point: **SE 1/4 NE 1/4 Sec 24-T121N-R53W**

Land to be Irrigated: **NE 1/4 Sec 24, SE 1/4, E 1/2
SW 1/4 Sec 13; all in T121N-R53W**

Depth of Well: **64 feet**

Well Driller: **Wieber Well Drilling**

Remarks:

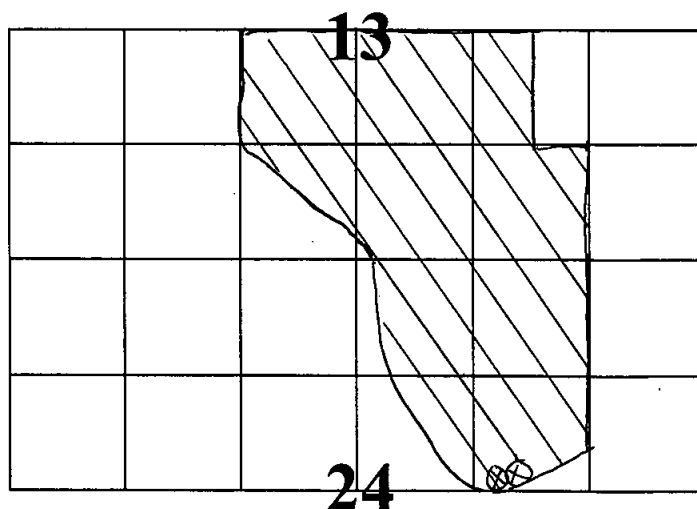
Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **5-18-15**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



SD EForm - 0499LD V4

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. 8158-3 (office use only) Hydrologic Unit 10120202
 Basin Sioux River
 Newspaper Reporter & Farmer-Webster
Public Opinion - Watertown

RECEIVED

MAY 08 2015

WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

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

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

1. Name to Appear on Irrigation Permit David C Zubke(check one) ☒ Owner ☐ Tenant/Lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

 Mailing Address 44769 149th St Waubay SD 57273
 (Address) (City) (State) (Zip Code)
Home Phone 605-947-4114 Cell 605-265-0069 Email dzubke@itctel.com
 2. Amount of water claimed 2.22 *CFS or 1000 **GPM ***AF Total Acreage 355
 (*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Wells (2 wells)
 4. Location of point of diversion well SE of NE sec 24-121-53
 (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
County Day5. County or counties where water will be used Day6. Annual period during which water is to be used April thru Oct
 7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
 (Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>NE sec 24-121-53</u>	<u>135</u>	<u>E 1/2 SW sec 13-121-53</u>	<u>80</u>
<u>W 1/2 NE of SE sec 13-121-53</u>	<u>20</u>		
<u>NW of SE 13-121-53</u>	<u>40</u>		
<u>S 1/2 SE 13-121-53</u>	<u>80</u>		

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

Irrigation
 I, David C Zubke, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

2012-09

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

**SOUTH DAKOTA
WATER PERMIT NO. 8158-3**

Date of first receipt of application May 8, 2015.

Date of return to applicant for corrections, amendments or changes May 11, 2015.

Date of receipt of corrected application May 18, 2015.

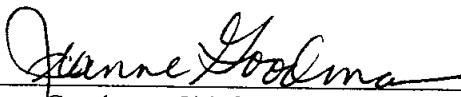
The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8158-3 to David C Zubke, 44769 149th St, Waubay SD 57273 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 8158-3 appropriates 2.22 cubic feet of water per second from two wells to be completed into the Big Sioux:North Aquifer (64 feet deep) located in the SE 1/4 NE 1/4 Section 24 to irrigate 355 acres located in the NE 1/4 Section 24; SE 1/4, E 1/2 SW 1/4 Section 13; all in T121N-R53W within former boundaries of the Sisseton-Wahpeton Reservation.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is May 8, 2015.
4. The date of approval of Permit No. 8158-3 is August 13, 2015.
5. One-fifth of the construction is to be completed on or before February 13, 2018.
6. All construction is to be completed on or before August 13, 2020.
7. Water is to be put to beneficial use on or before August 13, 2024.
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 wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 8158-3 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: 
Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

SEP 21 2015
date



Form 2A

(Complete applicable portions only)

Supplemental Information

(type or print)

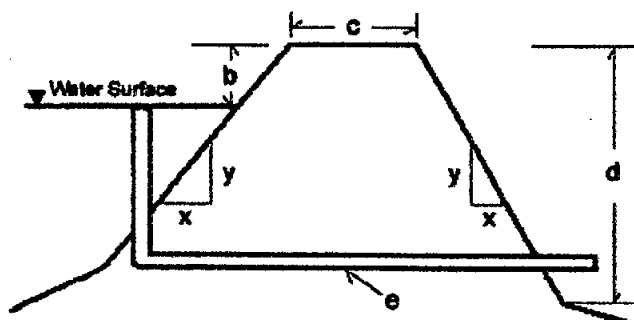
1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)a) If new wells, how many 2 Have test holes been drilled ☒ Yes ☐ No Drilled by Wichester well drilling
(if yes, please provide copies of logs)b) If existing wells, how many Provide copy of log(s), if available. Drilled by X c) Well Depth 64 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 4000 + Feet**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 Feetj) Drainage Area Above Dam Acres



Google earth

miles
km



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Sec 11
T121N
R53W

Sec 12
T121N
R53W

Sec 7
T121N
R52W

Sec 14
T121N
R53W

Sec 13
T121N
R53W

Sec 18
T121N
R52W

Sec 23
T121N
R53W

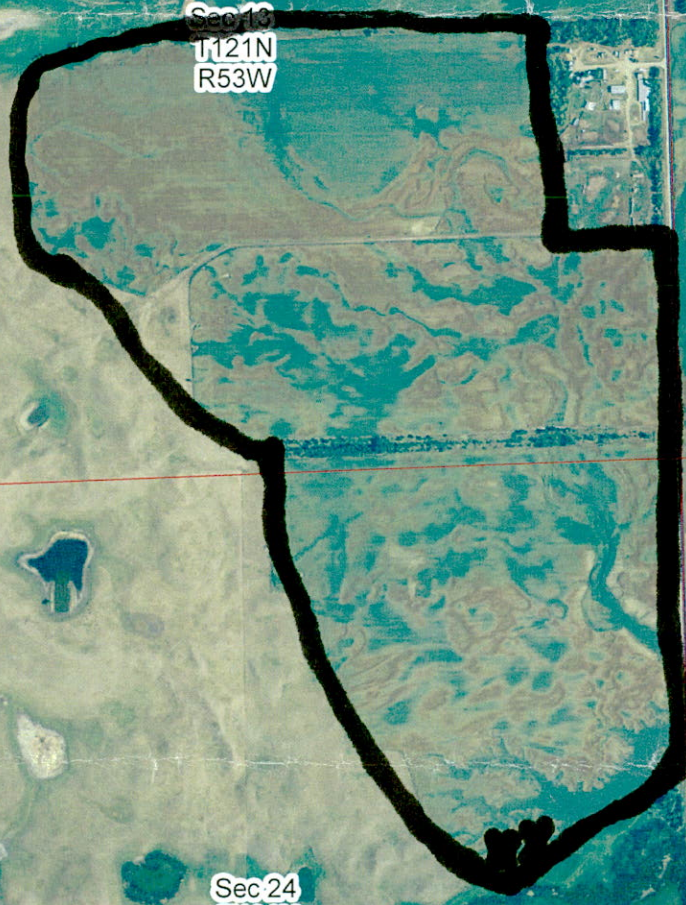
Sec 24
T121N
R53W

Sec 19
T121N
R52W

Sec 26

Sec 25

Sec 30



Report #1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 NE 1/4 Sec 24 Twp 121 Rg 53

County DAY NE QUARTER North

Please mark well location with an "X"

Well completion Date 5-12-2015

Distance from nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)
? IN Field ft. from (Identify source)

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

METHOD OF DRILLING:
Test hole - Test well

CASING DATA: ☐ Steel ☒ Plastic ☐ Other
 If other describe _____

PIPEWEIGHT DIAMETER 5" IN 54" HOLE DIAMETER
 LB/FT 5 IN 54 FT 8 3/4 IN
 LB/FT 5 IN 54 FT 8 3/4 IN
 LB/FT 5 IN 54 FT 8 3/4 IN

GROUTING DATA:
 Grout Type 1 Step Wyo Ben No. of Sacks _____ Grout Weight Lb/gal From Fl To Fl
Lb/gal Fl Fl

Describe grouting procedure + Benite to top of pack

SCREEN: ☐ Perforated pipe ☒ Manufactured
 Diameter 5" Inches Length _____ Feet
 Material PVC
 Slot Size _____ Set From 54 Feet to 64 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? Test well
Test Hole

Lab sample sent to for water quality analysis _____

Well Owner: DAVID Zubke

Business Name: _____

Address1: 44769 149th St.

Address2: Waubay, S.D. 57273

City, State, Zip: _____

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>TOP SOIL</u>	<u>0</u>	<u>2</u>
<u>COARSE GRAVEL Small Rocks</u>	<u>2</u>	<u>15</u>
<u>Rocks</u>	<u>15</u>	<u>20</u>
<u>FINE GRAY SAND</u>	<u>20</u>	<u>35</u>
<u>COARSE GRAY SAND</u>	<u>35</u>	<u>52</u>
<u>1" plus Rock - GRAVEL (gwL)</u>	<u>52</u>	<u>64</u>
<u>Blue Clay Bottom</u>	<u>64</u>	<u>-</u>

STATIC WATER LEVEL 14' 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: AIR
☐ Bailed _____
☒ Other _____

Pumping Level Below Land Surface est.
20' FL After 2 Hrs. pumped 100 GPM
 _____ FL After _____ Hrs. pumped _____ GPM
 If pump installed, pump rate: _____ GPM

REMARKS

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This well was drilled under license # 480
 And this report is true and accurate.
 Drilling firm: Wieber Well Drilling Co.
 Signature of License Representative: Jerry Wieber
 Signature of Well Owner or Equitable Property Holder: _____

Date: 5-12-2015

Please return White Copy to DENR Water Rights

523 E. Capitol Ave., Pierre SD 57501

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 5/11, 20 15

RECEIVED OF David Zubke 44769 149th St Waubay SD 57273

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

Fee for Application for Permit No. <u>8158-3</u> to Appropriate Water, to construct and to put water to beneficial use	1150 00
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>8158-3</u>	200 00
Fee for Filing Transfer Form _____	
Fee for _____	
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____	
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____	
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____	
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____	
(Any Other Work Provided by Law)	
TOTAL	1350 00

No. 07394

By Jeanne Goodman
Chief Engineer



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

May 11, 2015

David C Zubke
44769 149th St
Waubay SD 57273

Dear Mr. Zubke:

Thank you for submitting the two *Applications for a Permit to Appropriate Water* for irrigation in Day County. In order to complete the applications, the following is required.

- Regarding the application to irrigate 60 acres in Section 24-T121N-R53W, please sign near the bottom of the page.
- Enclosed are the two Form 2A, Supplemental Information. On Item No. 1 regarding the Well Information, please complete c) Well Depth with the proposed well depth. Your well driller should be able to give you an estimate depth for your proposed well locations.
- Also you indicated that test holes have been completed by Wieber Well Drilling. If available, please submit a copy of the test hole logs.
- The aerial photo maps need to reference a government section corner or quarter corner including section, township and range. For your use, I have enclosed maps with those designations for each application. Please outline the acres to be irrigated and mark the proposed well location with an "X".

If you have any questions, please contact me.

Sincerely,

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

enclosures

Water Rights Program - File Documentation

NAME: David C Zubke

ADDRESS: Waubay SD

DATE: 5-18-15 **COUNTY:** Day **TELEPHONE:** 605 265-0069

RE: Pending applications

COMMENTS:

I called to clarify the note David returned with the maps.

Mr. Zubke is requesting two wells (well depth-64 feet) on the application to irrigate 355 acres and one well (well depth-32 feet) on the application to irrigate 60 acres.



Karen Schlaak
Water Rights Program



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8158-3, David C Zubke**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 8158-3, David C Zubke, 44769 149th Street, Waubay SD 57273.

The Chief Engineer is recommending APPROVAL of Application No. 8158-3 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 rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 8158-3 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.

Jeanne Goodman, Chief Engineer

July 21, 2015

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NOS. 8157-3 AND 8158-3
DAVID C. ZUBKE
JULY 22, 2015

Water Permit Application No. 8157-3 proposes to appropriate water at a maximum diversion rate of 1.55 cubic feet of water per second (cfs) from one well to be completed into the Big Sioux: North aquifer to irrigate up to 60 acres located in the S $\frac{1}{2}$ SW $\frac{1}{4}$ Section 24; all in T121N-R53W in Day County. The well is expected to be approximately 32 feet deep and located in the S $\frac{1}{2}$ SW $\frac{1}{4}$ Section 24; all in T121N-R53W. The proposed well site is within the former boundaries of the Sisseton-Wahpeton Reservation. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Water Permit Application No. 8158-3 proposes to appropriate water at a maximum diversion rate of 2.22 cubic feet of water per second (cfs) from two wells to be completed into the Big Sioux: North aquifer to irrigate up to 355 acres located in the NE $\frac{1}{4}$ Section 24, and the SE $\frac{1}{4}$ and the E $\frac{1}{2}$ SW $\frac{1}{4}$ Section 13; all in T121N-R53W in Day County. The wells are expected to be approximately 64 feet deep and located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 24; all in T121N-R53W. The proposed well sites are within the former boundaries of the Sisseton-Wahpeton Reservation.

AQUIFER: Big Sioux: North (BS:N)

Aquifer Characteristics:

The portions of the Big Sioux: North aquifer that extend into Day County have been previously included in the Prairie Coteau aquifer. The Prairie Coteau aquifer is used as a general name for discontinuous and hydraulically disconnected outwash deposits throughout the Prairie Coteau region of South Dakota. This portion of the Big Sioux: North aquifer lies along a small, surficial channel that lies between Bitter Lake and the Big Sioux River. This small channel is filled with sand and gravel and may connect the sand and gravel deposits around Bitter Lake, a portion of the Prairie Coteau aquifer, to the sand and gravel deposits that comprise the Big Sioux: North aquifer.

The Big Sioux: North aquifer is an unconfined aquifer that underlies approximately 83,500 acres of Codington, Grant, Hamlin, Roberts, and Day counties and contains an estimated 187,880 ac-ft of recoverable water in storage (Hedges et. al, 1982). The aquifer is comprised of surficial outwash that ranges from medium sand to medium gravel; it is generally less than 10 feet below land surface (Hansen, 1990). Alluvium is also present along and in stream beds (Jensen, 2004). The aquifer is generally found in the flood plain of the Big Sioux River and its tributaries (Hansen, 1990). The aquifer is hydraulically connected to area lakes, such as Lake Kampeska, Pelican Lake and Still Lake, and the Big Sioux River and its tributaries (Putnam and Thompson, 1996). Near the edges of the aquifer it can be overlain by glacial till. The Big Sioux: North aquifer has a thickness that ranges from two to 54 feet thick with an average of 22 feet (Hansen, 1994).

The test well log submitted for Application No, 8157-3 stated gravel was encountered from 2 to 32 feet below grade with a static water level of 2 feet below ground surface in May, 2015. The test well log submitted with Application No. 8158-3 stated sand and gravel was encountered from 2 to 64 feet below grade with a static water level of 14 feet below ground surface in May, 2015. Figure 1 is a map of the project area with observation wells completed into the Big Sioux: North aquifer.

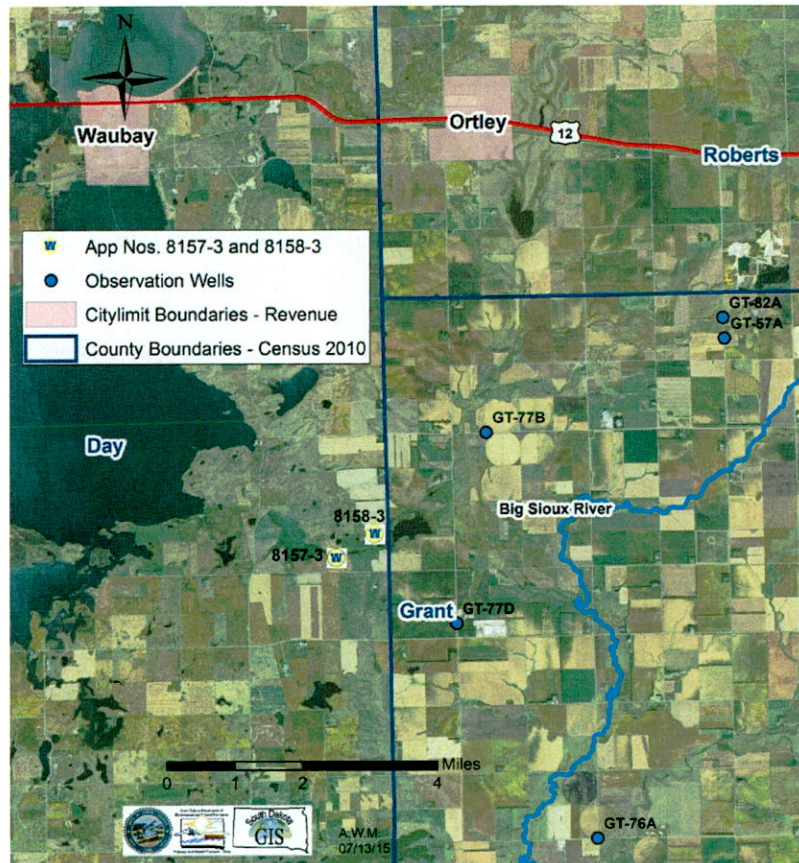


Figure 1- Map of application region with Big Sioux: North observation wells (Water Rights, 2015a)

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 this applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will address the availability of unappropriated water and effects on existing rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY:

These applications propose to appropriate water from the Big Sioux: North aquifer. The probability of unappropriated water 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.” If the source of the water is older or lower than the Greenhorn Formation and a water distribution system has applied for a permit, the Board need not consider the recharge/withdrawal issue. In this case, the aquifer is not stratigraphically lower than the Greenhorn Formation and the applicant is not a water distribution system.

A subunit of the Big Sioux: North aquifer is likely fully appropriated. The well sites proposed by these applications are approximately 15 miles north of the subunit. The appropriations proposed by these applications will not have any effect on the likely fully appropriated subunit of the Big Sioux: North aquifer.

Observation Well Data:

Administrative Rule of South Dakota Section 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 DENR-Water Rights Program monitors 27 observation wells completed into the Big Sioux: North aquifer (Water Rights, 2015a). The closest observation wells to the proposed well sites are GT-77B and GT-77D. Figures 2 and 3 show the hydrographs for GT-77B and GT-77D, respectively. Observation wells GT-77B and GT-77D are representative of the aquifer. The hydrographs for the observations wells completed into the Big Sioux: North aquifer in general show the aquifer has had a stable to increasing water level over the period of record. The aquifer also shows good response to changing climatic conditions. The water levels rise (recharge) during wet years and gradually decline during dry years. The climatic effects on the water level mask the temporal impacts of well withdrawal. Therefore, recharge to and natural discharge from the Big Sioux: North aquifer significantly exceeds pumping. Recognizing that natural discharge can be captured for pumping, the hydrograph documents that unappropriated water is available for this proposed appropriation.

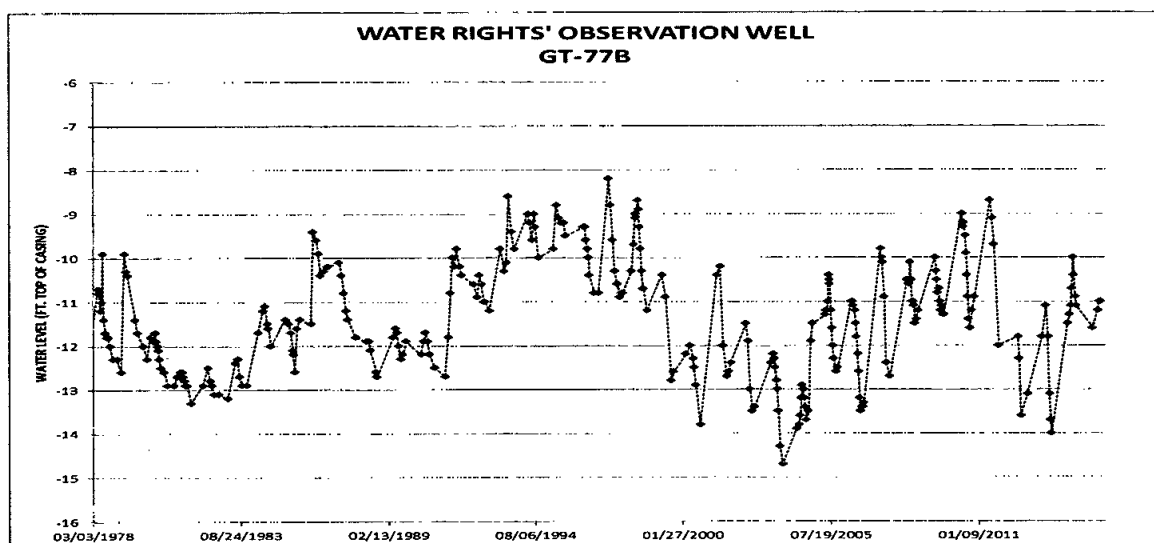


Figure 3- Hydrograph for observation well GT-77B (Water Rights, 2015a)

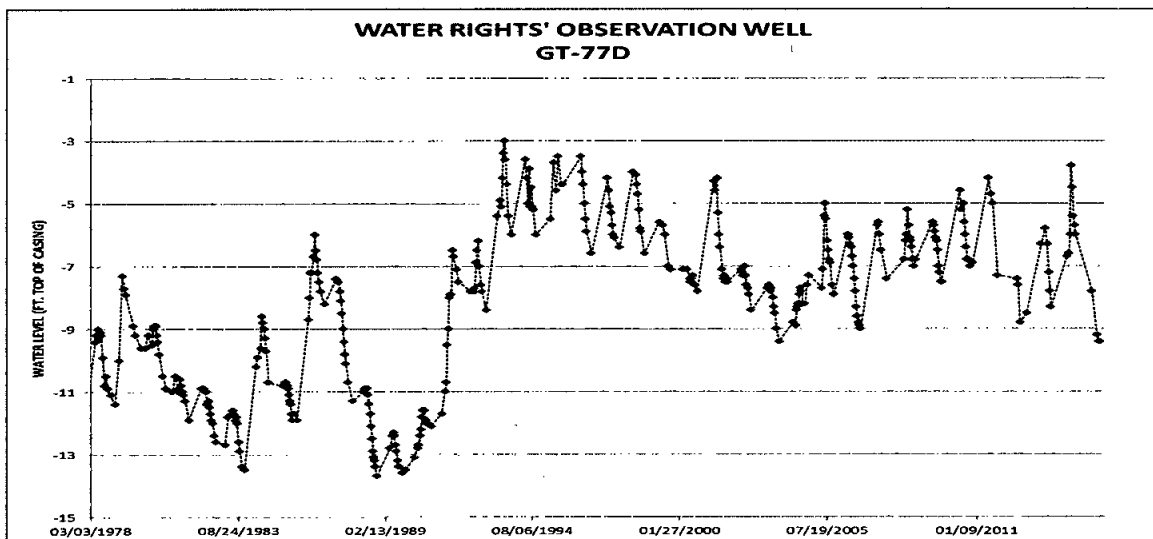


Figure 4- Hydrograph for observation well GT-77D (Water Rights, 2015a)

Recharge and Discharge:

Recharge:

The Big Sioux: North aquifer is recharged through infiltration and subsequent percolation of precipitation where the aquifer is near land surface (Hansen, 1990). Since the aquifer is hydraulically connected to some area lakes and the Big Sioux River, recharge is provided to the aquifer during periods when surface water levels are higher than groundwater levels, such as high runoff events.

Several estimates for recharge rates to the Big Sioux: North aquifer have been made. Hedges and others (1985) calculated recharge rates for the various management units of the Big Sioux aquifer to range from 2.7 to 6.9 in/yr, if flow-net analysis is ignored. Hansen (1990) estimated recharge to be between 5 and 10 in/yr. Putnam and Thompson (1996) estimated the average annual recharge rate to the Big Sioux: North to be in the approximate range of 2.9 to 5.8 in/yr. Putnam and Thompson (1996) estimate a rate of 5.53 in/yr for the purpose of computer modeling the Big Sioux: North aquifer under steady state conditions. Using Putnam and Thompson's (1996) recharge rate range (2.9 to 5.8 in/yr) and Hedges and others (1982) approximate area, the estimated range of recharge to the Big Sioux: North aquifer is 20,180 to 40,360 ac-ft/yr.

This is not to suggest that the entire volume of annual recharge to or that all of the recoverable water in storage in the Big Sioux: North aquifer is available for use everywhere in the aquifer. In fact, Putnam and Thompson's (1996) computer model for the aquifer suggested that during dry conditions the ability of some high capacity wells to produce would be seriously impacted. They stated, "The Big Sioux aquifer probably is unable to support extensive irrigation during dry periods such as those that occurred during 1980 and 1981 or in 1976."

Discharge:

The Big Sioux: North aquifer naturally discharges to area lakes, rivers, and streams when groundwater levels are higher than surface water levels, and discharges through evapotranspiration and groundwater outflow. There are 97 water rights/permits appropriating

water and three future use permits reserving water from the Big Sioux: North aquifer (Water Rights, 2015b). The non-irrigation appropriations from the aquifer are 15 for municipal purposes, 11 for commercial purposes, five for industrial purposes, two for livestock confinement operations, two for rural water system purposes, one for a suburban housing development, and three future use reservations for municipal purposes (Water Rights, 2015b).

Water Right No. 5158-3 for Sioux Rural Water System has not been used since 1998 due to high nitrate levels; it was a backup source during much of that time (Buhler, 2012). However, Sioux Rural Water System Manager Heath Thompson (2015) stated they are planning a test pump sometime in the second-half of 2015 to determine if the nitrate problem has lessened. Estimated pumpage by Sioux Rural Water would be 1,060 ac-ft/yr if they resumed pumping from the well field at the licensed diversion rate.

The future use permits are all for the City of Watertown and reserve 3,469 ac-ft/yr. The expected maximum water use by non-irrigation appropriations, not including the City of Watertown, Sioux Rural Water System (as previously discussed), and Clark Rural Water System, is 2,725 ac-ft/yr (Water Rights, 2015b). This estimate is based on pumping at the maximum allowed diversion rate for 60 percent of the time. The maximum expected annual use by the City of Watertown through current appropriations from the Big Sioux: North aquifer is calculated from 60 percent assumed use for permits limited only by diversion rate and 100 percent use for permits limited by annual volume. This maximum expected use is estimated to be 12,247 ac-ft/yr. The maximum expected use for Clark Rural Water System is assumed to be 100 percent of its appropriated volume of 404 ac-ft/yr.

Current usage by both the City of Watertown and Clark Rural Water System is a fraction of the maximum expected use by either as shown in Table 1. Annual irrigation withdrawals from the aquifer as reported to the DENR-Water Rights Program through annual irrigation questionnaires are shown in Table 2.

Reported Pumpage From the BS:N for Municipal and RWS Use (ac-ft/yr)		
	Watertown	Clark RWS
2014	4040	136
2013	4095	127
2012	4259.65	108
2011	3864.04	143
2010	3947.15	143
2009	3735.26	164
2008	3984.15	127
2007	4062.46	44
2006	2960.86	N/A
2005	2391.83	N/A
2004	2125.66	N/A
Avg.	3588	124

Table 1- Reported water use from the Big Sioux: North aquifer by the City of Watertown and Clark RWS (modified from: Mathiowetz, 2014; Water Rights, 2004-2015)

Year	Number of Permits Reporting	Appropriation (ac-ft/yr)	Pumpage Reported (ac-ft/yr)
2014	61	20631.7	3268.69
2013	56	19431.7	4943.32
2012	50	17732	4970.47
2011	46	16208.5	2147.88
2010	46	16208.5	2421.27
2009	45	15948.5	1773.51
2008	41	15498.5	2743.94
2007	38	14584.5	3308.79
2006	38	15134.5	4285.97
2005	40	15250.5	2886.7
2004	38	14673.5	2448.79
2003	37	14113.5	3662.11
2002	37	14129.5	2835.49
2001	36	14116	2558.91
2000	36	14116	3013.88
1999	35	14047.6	2593.1
1998	35	14117.8	1702.52
1997	31	13612.8	1656
1996	30	13472.8	1497.96
1995	32	14136.8	1186.68
1994	33	14151.8	1192.95
1993	34	14445.8	865.5
1992	33	14311.8	1325.7
1991	38	17240	1659
1990	44	22492.8	2520.1
1989	40	21096.8	2686.6
1988	35	19564.8	2740.4
1987	35	19564.8	1929.4
1986	35	19564.8	1079.1
1985	36	19659	1419.7
1984	36	21936.3	1684.5
1983	34	21141	1110.45
1982	32	20187	1384.05
1981	37	20814	1067
1980	39	20598	888
1979	39	20598	912
Min	30	13472.8	865.5
Max	61	22492.8	4970.47
Avg	38.6	17070.3	2232.5

Table 2- Historical irrigation use from the Big Sioux: North aquifer (Water Rights, 1980-2015)

Hydrologic Budget:

Estimated annual recharge to the Big Sioux: North aquifer ranges from 20,180 to 40,360 ac-ft/yr. The expected maximum use including future use reservation is 21,078 ac-ft/yr plus 1,060 ac-ft/yr that may be put back in use if Sioux Rural Water resumes pumping under Water Right No. 5158-3. Estimated average annual use plus future use reservation is approximately 12,139 ac-ft/yr plus 1,060 ac-ft/yr if Sioux Rural Water System resumes pumping. These applications are expected to use 415 ac-ft/yr. Therefore, there is a reasonable probability that unappropriated water is available for this proposed appropriation.

EXISTING WATER RIGHTS:

Figure 4 shows a map of the project area with water rights/permits, water permit applications, and observation wells for the Big Sioux: North aquifers. Table 3 lists the water rights/permits

shown in Figure 4. There is one water permit, Permit No. 7453-3 and one water right (Right No. 2733-3) authorized to withdraw water from the Big Sioux: North aquifer within approximately one mile of the proposed well sites (Water Rights, 2015b). The proposed well sites for the two applications are approximately 0.6 miles apart. At the distances between well sites, it is likely there will not be an adverse impact by pumping this proposed diversion, because of the history of high capacity wells completed into the aquifer in the area without a history of complaints. There are a number of domestic wells completed into the Big Sioux: North aquifer within two miles of the proposed well sites (Water Rights, 2015c). However, there is no history of well complaints in the area and a history of high capacity wells. Therefore, there is a reasonable probability that this appropriation can be made without adversely impacting existing appropriate or domestic users.

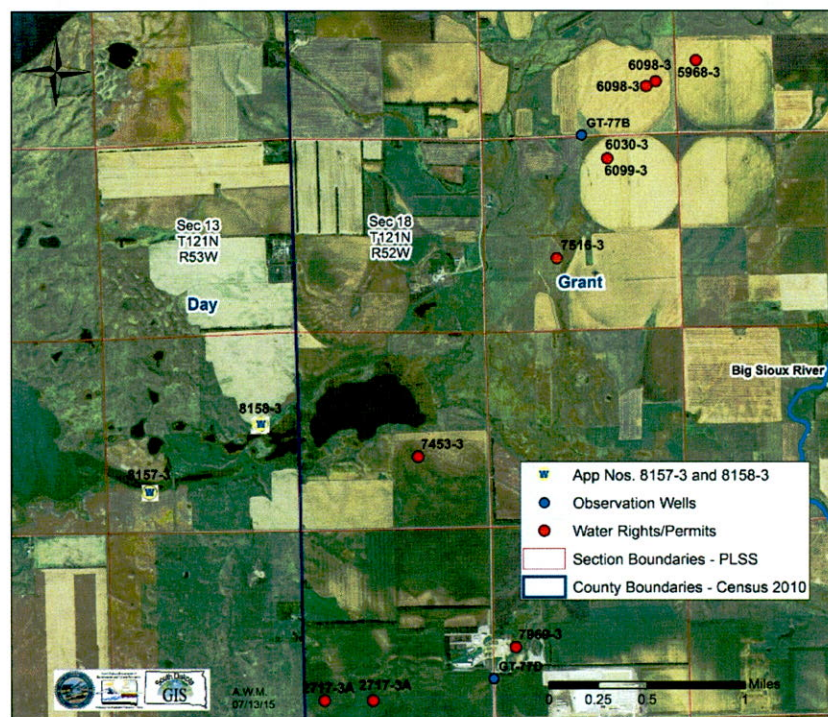


Figure 4- Map of Application No. 8157-3 and 8158-3 project area with Big Sioux: North water rights/permits (Water Rights, 2015b) and observation wells (Water Rights, 2015c)

Permit No.	Name	County	Status	Use	CFS	Acres
2717-3A	Kristopher Bronson	GT	LC	IRR	1.66	231
5968-3	Don Endres	GT	LC	IRR	2.11	132
6030-3	Endres Family Trust	GT	LC	IRR	2.12	132
6098-3	Cheryl Berger	GT	LC	IRR	2	110
6099-3	Endres Family Trust	GT	LC	IRR	2.11	132
7453-3	Berger Farms	GT	PE	IRR	2	140
7516-3	David Zubke	GT	PE	IRR	2.22	170
7969-3	Bronson Custom Farms Inc	GT	PE	COM/LCO	0.67	
8157-3	David C Zubke	DA	APP	IRR	1.55	60
8158-3	David C Zubke	DA	APP	IRR	2.22	355

GT= Grant County, DA= Day County, LC= Water Right, PE= Water Permit, APP= Permit Application, BS:N= Big Sioux North, PCO= Prairie Coteau, IRR= Irrigation, DOM= Domestic, FWP= Fish and Wildlife Propagation

Table 3- Water rights/permits authorizing diversion from the Big Sioux: North aquifers as shown in Figure 2 (Water Rights, 2015b)

In the past, the Water Management Board has recognized that to place water to maximum beneficial use, a certain amount of drawdown may occur. Since the aquifer is under unconfined conditions drawdown due to pumping would not be significant far from the well sites. There has also been a history of large capacity wells in the area and from this aquifer. Therefore, nearby adequate wells are not expected to be adversely or unlawfully impaired by the proposed diversion.

The Big Sioux: North 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 the withdrawal exceeds recharge. When this occurs, water will be removed from storage, consequently reducing the saturated thickness of the aquifer. If 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 his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

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 rate if the method of irrigation so requires. Water Permit Application No. 8157-3 proposes to divert up to 1.55 cfs for the irrigation of 60 acres, or the equivalent of 1.81 cfs per 70 acres. The applicant stated the soil is “lighter ground” (more sandy) and that he intends to use a center pivot irrigator that will only make a partial rotation. In the past, it has been accepted that a center pivot only making a partial rotation often requires a diversion rate in excess of the statutory limit.

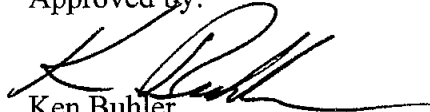
CONCLUSIONS:

1. Application No. 8157-3 proposes to appropriate water from the Big Sioux: North aquifer at a maximum diversion rate of 1.55 cfs for the irrigation of 60 acres in Day County within the former boundaries of the Sisseton-Wahpeton Reservation.
2. Application No. 8158-3 proposes to appropriate water from the Big Sioux: North aquifer at a maximum diversion rate of 2.22 cfs for the irrigation of 355 acres in Day County within the former boundaries of the Sisseton-Wahpeton Reservation.
3. There is a reasonable probability that unappropriated water is available from the Big Sioux: North aquifer for this proposed appropriation.
4. There is a reasonable probability that the diversions proposed by these applications can be made without adversely impact existing appropriative or domestic users.



Adam Mathiowetz PE
SD DENR-Water Rights Program

Approved by:



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Buhler, KA. 2012. Report on Water Permit Application No. 7328-3 Marvin Amdahl. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, South Dakota.
- Hansen, D.S. 1994. Major Aquifers of Codington and Grant Counties, South Dakota. SD DENR-Geological Survey Information Pamphlet 47. SD DENR-Geological Survey. Vermillion, South Dakota.
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- Hedges, L.S., Allen, J., Holly D.E., 1985, Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 7: Ground Water Recharge; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Hedges, L.S., S.L. Burch, D.L. Iles, R.A. Barari, and R.A. Schoon. 1982. Evaluation of Ground-water Resources in Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Jensen, A.R. 2004. First Occurrence of Aquifer Materials in Grant County, South Dakota. SD DENR-Geological Survey Aquifer Materials Map 17. SD DENR-Geological Survey, Vermillion, South Dakota.
- Mathiowetz, A.W. 2014. Report on Water Permit Application No. 7969-3 Bronson Custom Farms Inc. SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, South Dakota.
- Putnam, L.D. and R.C. Thompson. 1996. Appraisal of the Water Resources of the Big Sioux Aquifer, Codington and Grant Counties, South Dakota: U.S. Geological Survey Water Resources Investigations No. 96-4275. U.S. Geological Survey. Huron, South Dakota.

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Thompson, H. Telephone Conversation with Adam Mathiowetz. Manager Sioux Rural Water System. July 16, 2015.

Water Rights. 2004-2015. "Yearly Non-Irrigation Questionnaires". SD DENR-Water Rights Program. Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 1980-2015. "1979-2014 Irrigation Summaries by Aquifer": SD DENR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights. 2015a. Observation Well Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2015b. Water Right/Permit Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

Water Rights. 2015c. Well Completion Reports. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

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AUG 17 2015

WATER RIGHTS
PROGRAM

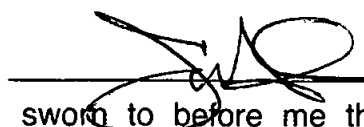
AFFIDAVIT OF PUBLICATION

County of Day }
State of South Dakota, } ss.

John Suhr, of said county and state being duly sworn on oath, says: That the Reporter & Farmer is a legal weekly newspaper of general circulation, and an official newspaper as required by Session Laws of 1893, printed and published in Webster, in said county and state, by the Day County Printing Company and has been such newspaper during the time hereinafter mentioned, that I, John Suhr, the undersigned, am publisher of said newspaper, and have personal knowledge of all facts stated in this affidavit and that the advertisement headed, Application-Appropriate Water: David Zubke, a printed copy of which is hereunto attached, was printed and published in the said newspaper one successive and complete issues as follows:

First Publication Aug. 3, 2015;
Second Publication ;
Third Publication ;
Fourth Publication ;
Fifth Publication ;

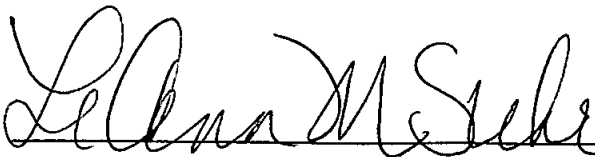
That the full amount of fees for publication of the annexed notice is \$33.19 and inures solely to the Reporter & Farmer, published by The Day County Printing Company, that no arrangement or understanding for a division thereof has been made with any other person, and that no part thereof has been agreed to be paid any person whomsoever.


Subscribed and sworn to before me this third day of August, 2015.

LeAnn M. Suhr.

Day County South Dakota

My Commission Expires November 2, 2017


Notary Public, Day County, South Dakota

Water p

NOTICE OF APPLICATION
NOS. 8157-3 and 8158-3
to Appropriate Water

Notice is given that David C Zubke, 44769 149th St., Waubay SD 57273 has filed the following applications for a water permit.

Application No. 8157-3 proposes to appropriate 1.55 cubic feet of water per second (cfs) from one well to be completed into the Big Sioux: North Aquifer (32 feet deep) located in the S1/2SW1/4 Section 24 for irrigation of 60 acres located in the S1/2SW1/4 Section 24; all in T121N-R53W within former boundaries of the Sisseton-Wahpeton Reservation. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 8158-3 proposes to appropriate 2.22 cfs from two wells to be completed into the Big Sioux: North Aquifer (64 feet deep) located in the SE1/4NE1/4 Section 24 to irrigate 355 acres located in the NE1/4 Section 24; SE1/4E1/2 SW1/4 Section 13; all in T121N-R53W within former boundaries of the Sisseton-Wahpeton Reservation.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 8157-3 and 8158-3 because 1) unappropriated water is avail-

permit application

able, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendations. 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 these applications. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting these applications or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendations. The Chief Engineer's

address is "Water Rights Program, Foss Building, 523 E. Capitol, Pierre, SD 57501 (605-773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by August 13, 2015.

The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to these applications.

Steven M. Pirner, Secretary,
Department of Environment
and Natural Resources

Published once at the total
approximate cost of \$33.19.

RECEIVED

AUG 10 2015

WATER RIGHTS
PROGRAM

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Codington) SS

I, Monica K. Saathoff

certify that the attached printed Notice was taken
from the Watertown Public Opinion

printed and published in Watertown

County of Codington and

state of South Dakota. The notice was published

in the newspaper on the following date:

August 3rd, 2015

Cost of Printing \$68.91

Monica K Saathoff
(Signature)

Bookkeeper

(Title)

August 3rd, 2015

(Date Signed)

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

NOTICE OF APPLICATION NOS. 8157-3 and 8158-3 to Appropriate Water

Notice is given that David C. Zubke, 44769 149th St, Waubay SD 57273 has filed the following applications for a water permit.

Application No. 8157-3 proposes to appropriate 1.55 cubic feet of water per second (cfs) from one well to be completed into the Big Sioux North Aquifer (32 feet deep) located in the S 1/2 SW 1/4 Section 24 for irrigation of 60 acres located in the S 1/2 SW 1/4 Section 24, all in T121N-R53W within former boundaries of the Sisseton-Wahpeton Reservation. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 8158-3 proposes to appropriate 2.22 cfs from two wells to be completed into the Big Sioux North Aquifer (64 feet deep) located in the SE 1/4 NE 1/4 Section 24 to irrigate 355 acres located in the NE 1/4 Section 24, SE 1/4, E 1/2 SW 1/4 Section 13, all in T121N-R53W within former boundaries of the Sisseton-Wahpeton Reservation.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 8157-3 and 8158-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendations.

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 these applications. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting these applications or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendations.

The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by August 13, 2015. The petition may be informal, but must include a statement describing the petitioner's interest in the

applications, the petitioner's reasons for opposing or supporting the applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to these applications. Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at an approximate cost of \$63.91.

(August 3, 2015)

All legal notices in the Public Opinion and other South Dakota newspapers can be found at
www.sdpublicnotices.com

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, July 22, 2015 4:40 PM
To: news@reporterandfarmer.com
Subject: 8157-3 & 8158-3, David C Zubke
Attachments: 8157-58-3pluralpublic-short.docx; FORM8 FRM.doc

Attached is a notice to be published on August 3, 2015.

David C Zubke, 44769 149th St, Waubay SD 57273 (h 605 947-4114 c 605 265-0069) 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.

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

Karen Schlaak

Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, July 22, 2015 4:45 PM
To: legals@thepublicopinion.com
Subject: 8157-3 & 8158-3, David C Zubke
Attachments: 8157-58-3pluralpublic-short.docx; FORM8 FRM.doc

Jackie,

Attached is a notice to be published on August 3, 2015.

David C Zubke, 44769 149th St, Waubay SD 57273 (h 605 947-4114 c 605 265-0069) 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.

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

Karen Schlaak

Water Rights Program
523 E Capitol Ave
Pierre SD 57501
Phone: 605 773-3352



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATE, CONTACT
THE NEWSPAPER(S) RIGHT AWAY.

July 23, 2015

David C Zubke
44769 149th St
Waubay SD 57273

Dear Zubke:

Water Permit Application Nos. 8157-3 and 8158-3 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 Reporter & Farmer printed at Webster SD (Ph # 605-345-3356) and the Public Opinion printed at Watertown SD (Ph # 605-886-6901). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications 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(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper(s) 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,

Eric Gronlund
Natural Resources Engineer
(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 applications.

NOTICE OF APPLICATION NOS. 8157-3 and 8158-3 to Appropriate Water

Notice is given that David C Zubke, 44769 149th St, Waubay SD 57273 has filed the following applications for a water permit.

Application No. 8157-3 proposes to appropriate 1.55 cubic feet of water per second (cfs) from one well to be completed into the Big Sioux: North Aquifer (32 feet deep) located in the S 1/2 SW 1/4 Section 24 for irrigation of 60 acres located in the S 1/2 SW 1/4 Section 24; all in T121N-R53W within former boundaries of the Sisseton-Wahpeton Reservation. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Application No. 8158-3 proposes to appropriate 2.22 cfs from two wells to be completed into the Big Sioux:North Aquifer (64 feet deep) located in the SE 1/4 NE 1/4 Section 24 to irrigate 355 acres located in the NE 1/4 Section 24; SE 1/4, E 1/2 SW 1/4 Section 13; all in T121N-R53W within former boundaries of the Sisseton-Wahpeton Reservation.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 8157-3 and 8158-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendations. 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 these applications. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting these applications or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendations. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by August 13, 2015.

The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to these applications.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of_____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

SEP 21 2015

David C Zubke
44769 149th St
Waubay SD 57273

Dear Zubke:

Enclosed are Water Permit Nos. 8157-3 and 8158-3 authorizing construction of your water diversion systems and beneficial use of the water, not exceeding the limits as specified in the Water Permits.

Form 10's, *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 licenses 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,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures



8158-3
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

October 04, 2016

David C. Zubke
44769 149th St
Waubay, SD 57273

Dear Mr. Zubke:

I am writing in response to your October 3, 2016 e-mail to Eric Gronlund. In your email, you requested: permission to construct a test well prior to approval to serve as a helper well for the wells authorized under Water Permit No. 8158-3 to be located about 500 feet east of the existing well.

Pursuant to South Dakota Well Construction Standard 74:02:04:21, you are authorized to construct a test well in NE ¼ Section 24-T121N-R53W within the former boundaries of the Sisseton-Wahpeton Reservation in Day County, prior to approval of an additional diversion point. The test well must be constructed in accordance with the SD Well Construction Standards. Any test holes that are abandoned must be plugged pursuant to the SD Well Construction Standards. Approval of this test well does not assure approval of an additional diversion point.

Sincerely,

For JEANNE GOODMAN, Chief Engineer
Water Rights Program
(605) 773-3352



8158-3

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

February 9, 2017

David Zubke
44769 149th Street
Waubay, SD 57273

Dear Mr. Zubke:

Water Permit No. 8157-3 appropriates 1.55 cubic feet of water per second from one well completed into the Big Sioux: North aquifer (32 feet deep) for irrigation of 60 acres, all located in the S $\frac{1}{2}$ SW $\frac{1}{4}$ Section 24 T121N, R53W within the former boundaries of the Sisseton-Wahpeton Reservation.

You filed a request for authorization for an additional well to Water Permit No. 8157-3. A well originally constructed for testing is located approximately 200 feet east of the permitted well and is also completed in the Big Sioux: North aquifer. The request is to use this well to increase production up to the permitted amount which was not achieved with one well.

Water Permit No. 8158-3 appropriates 2.22 cubic feet of water per second from two wells completed into the Big Sioux: North aquifer (64 and 58 feet deep) for irrigation of 355 acres, located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 24 T121N, R53W for irrigation of 355 acres located in the NE $\frac{1}{4}$ Section 24, SE $\frac{1}{4}$, E $\frac{1}{2}$, SW $\frac{1}{4}$ Section 13; all in T121N, R53W within the former boundaries of the Sisseton-Wahpeton Reservation.

You filed a request for authorization for an additional well to Water Permit No. 8158-3. A 12" well was drilled approximately 700 feet to the north and east of the existing permitted wells as an additional diversion point for your irrigation system. This additional 12" well is located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 24 T121N, R53W and is completed in the Big Sioux: North aquifer. The request is to use this well to increase production up to the permitted amount which was not achieved with two wells.

Upon review of the request and pursuant to SDCL 46-5-13.1, the additional wells for Nos. 8157-3 and 8158-3 are authorized without application or publication of a notice of hearing pursuant to SDCL 46-2A-4.

If any of the wells are abandoned they must be plugged in accordance with South Dakota well construction standards. If an existing well is removed from service and not permanently abandoned it may be temporarily abandoned by sealing the top with a watertight cap.

If you have any questions, please contact Eric Gronlund at (605) 773-3352.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program

FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8158-3</u> (office use only) Hydrologic Unit _____
	Basin _____
	Newspaper _____

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DEC 16 2016
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☐ New ☐ Vested Right ☒ Amendment/Correction to Permit No. 8158-3
(Use predates Mar 2, 1955)

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

add diversion Point

1. Name to Appear on Irrigation Permit David Zubke

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

Mailing Address 44769 149th St Waubay SD 57273
(Address) (City) (State) (Zip Code)

Phone 605-947-4114 Mobile 605-265-0069 Email dzubke@itctel.com

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

3. Source of water supply Well

4. Location of point of diversion SE 1/4 NE 1/4 Sec 24 T121 R53
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Day

5. County or counties where water will be used Day

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

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

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

Add an additional Well while keeping the permitted Gallonage the same

I, David Zubke, 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 Wichita Well Drilling
(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) 54 Depth to Top of Water Bearing Material 42 Depth to Water from Surface 6
- d) Distance to nearest domestic well on applicant's property Property owned by others

2. Wastewater Disposal System Information

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

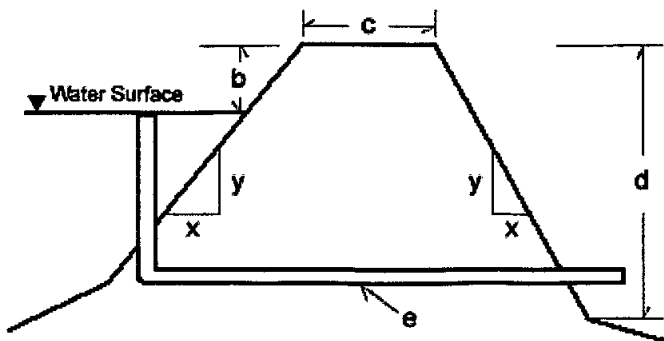
3. Dugout Information

- a) Surface Dimensions _____ Depth _____
- 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:

[illegible]

- 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



United States Department of Agriculture
Farm Service Agency

PLSS: 24_121N_53W
Farm: 4402

Day County, SD
1:8,238

May 12, 2010



Wetland Determination Identifiers
 ○ Restricted Use
 ○ Limited Restrictions
 ○ Exempt from Conservation Compliance Provisions

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Common Land Units

WATER RIGHTS PROGRAM

Disclaimer: Wetland identifiers do not represent the size, shape or specific determination of the area. Refer to your original determination (CPA-026 and attached maps) for exact wetland boundaries and determinations, or contact NRCS.

2008 Ortho-Photography - Not to Scale

8158-3

well #1

SD EForm - 1621LD V1

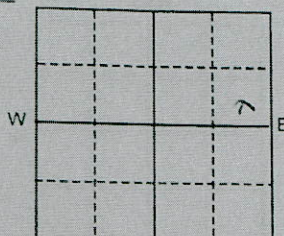
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 NE 1/4 Sec 24 Twp 121 Rg 53County Day

North

Please mark well location with an "X"



Well Completion Date

5/6/15

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
ft. from In Field (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
00 LB/FT	12 IN	0 FT	409 FT	18 1/2 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Quickgrout	10	10 Lb/gal	0 Ft	39 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

Full hole grouting
+ screen line to 39

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 12 Inches Length 15 Feet
 Material PVC Ever-Flow
 Slot Size .100 Set From 49 Feet to 64 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

IrrigationWell Owner: Colleen Cloud Zubkey

Business Name:

Address: 44769 149th StCity, State, Zip: Waubay SD

WELL LOG:

DEPTH

FORMATION	FROM	TO
top soil	0	2
yellow clay	2	20
Blue clay	20	30
Blue clay	30	40
HARD Blue clay	40	49
coarse sand	49	64

STATIC WATER LEVEL

14'

FEET

If flowing: closed in pressure

PSI

GPM flow through

Inch pip

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate

GPM

Can well be completely shut in? yes

WELL TEST DATA:

☒ Pumped Describe: AIR line
☐ Bailed
☐ Other

Pumping Level Below Land Surface

45 Ft. After 3 Hrs. pumped 750 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

Southwell og 2 on 1/4

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FEB - 3 2017

WATER RIGHTS PROGRAM

This well was drilled under license # 480
report is true and accurate.Drilling firm: Weber well Drilling

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

8158-3

well #2

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 NE 1/4 Sec 24 Twp 12 Rg 53 Well Owner Dan & Zeb Key

County Day North

Address 1 44769 149th St

Address 2

City, State, Zip Wichita, SD

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
top soil	0	1
yellow clay	2	18
blue clay	18	30
blue clay hard	30	46
coarse water sand	46	58

STATIC WATER LEVEL 12' FEET

If flowing, closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Produced flow rate _____ GPM

Can well be completely shut in? yes

WELL TEST DATA:

☒ Pumped Description _____

☐ Bailed _____

☐ Other _____

Plunging Level Below Land Surface

45 Ft. After 3 Hrs. pumped 750 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS North well of 2 on qtr.

This well was drilled under license # 480

And this report is true and accurate.

Drilling firm Wieber Well Drilling

Signature of Drilling Firm Representative _____

Signature of Well Owner or Equitable Property Holder _____

Date _____

523 E. Capitol Ave., Pierre SD 57501

Please return Whole Copy to DNR Water Rights

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FEB - 3 2017

WATER RIGHTS
PROGRAM

Existing
2 plots

well 3 of 3

SOUTH DAKOTA WATER WELL COMPLETION REPORT

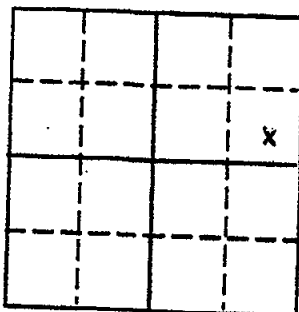
11-02

Location SE 1/4 NE 1/4 Sec 24 Twp 121 Rg 53

County

Day

North



Please mark well location with an "X"

Well completion Date

10/11/16

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

? ft. from 1st Field (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Forward Rotary

CASING DATA:

- ☐ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>200 LB/FT</u>	<u>12 IN</u>	<u>0 FT</u>	<u>42 FT</u>	<u>18 1/2 IN</u>
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Wyo-Ben</u>	<u>10</u>	<u>10 Lb/gal</u>	<u>0 ft</u>	<u>30 ft</u>
		Lb/gal	ft	ft

Describe grouting procedure Full hole grouting
Remie Line to 30

SCREEN:

- ☐ Perforated pipe ☒ Manufactured

Diameter 12 Inches Length 12 Feet

Material PVC Ever-Fit

Slot Size .100 Set From 42 Feet to 54 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 sample sent to for water quality analysis

Well Owner:

Davin Zubkey

Business Name:

Address1:

44769 149th St

Address2:

City, State, Zip:

Waubay, SD

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>top soil</u>	<u>0</u>	<u>2</u>
<u>yellow clay</u>	<u>2</u>	<u>15</u>
<u>Blue clay</u>	<u>15</u>	<u>25</u>
<u>Sandy</u>	<u>25</u>	<u>30</u>
<u>Sandy</u>	<u>30</u>	<u>42</u>
<u>COURSE SAND</u>	<u>42</u>	<u>54</u>

STATIC WATER LEVEL

6

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?

yes

WELL TEST DATA:

☒ Pumped Describe: Air

☐ Bailed

☒ Other

Pumping Level Below Land Surface

30

Fl. After 3

Hrs. pumped

600

GPM

Fl. After

Hrs. pumped

GPM

If pump installed, pump rate:

GPM

REMARKS

well # 3 of 3

RECEIVED

DEC 16 2016

WATER RIGHTS
PROGRAM

This well was drilled under license #

489

And this report is true and accurate.

Drilling firm:

Wieber Well Drilling

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

523 E. Capitol Ave., Pierre SD 57501

Please return White Copy to DENR Water Rights

Request for Additional Diversion Point

NAME: David C Zubke

ADDRESS: 44769 149th Street, Waubay SD 57273

DATE: January 18, 2017 **COUNTY:** Day **TELEPHONE:**

BACKGROUND:

Water Permit No. 8158-3 appropriates 2.22 cubic feet of water per second (cfs) from two wells completed into the Big Sioux: North aquifer (64 and 58 feet deep) located in the SE ¼ NE ¼ Section 24 T121N, R53W for irrigation of 355 acres located in the NE ¼ Section 24, SE ¼, E ½, SW ¼ Section 13; all in T121N, R53W within the former boundaries of the Sisseton-Wahpeton Reservation.

Mr. Zubke requested add an additional 12" well drilled approximately 700 feet to the north and east of the existing permitted wells as an additional diversion point for their irrigation system. The additional 12" well is also located in the SE ¼ NE ¼ Section 24 T121N, R53W. There was no request to increase the rate of diversion from the permitted rate of 2.22 cfs or to increase the irrigated acreage from 355 acres.

AUTHORITY:

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed or additional diversion points may be licensed provided the following conditions are met and the potential for interference with other existing diversions is not increased.

Developed water source same as permitted source and no additional water appropriated

The water source authorized by Water Permit No. 8158-3 is the Big Sioux: North aquifer. The well completion reports show that the 12" well is placed in course sand at a depth similar to the original diversion. Given the close proximity and similar depth, the water source is the same as the permitted source.

No additional appropriation of water is requested. This request is to add an additional diversion point. For the purpose of irrigation, Water Permit No. 8158-3 appropriates a maximum diversion rate of 2.22 cfs which equates to 996 gallons per minute (gpm).

No new land for irrigation

Water Permit 8158-3 is for irrigation of 355 acres in NE ¼ Section 24, SE ¼, E ½, SW ¼ Section 13; all in T121N, R53W. The request does not change the permitted acreage. No new land is being irrigated.

Review of Existing Diversions

The well completion report and water rights databases were reviewed for the nearest domestic wells and water rights/permits on file. The nearest domestic well on file and completed into this aquifer is approximately 0.9 miles northeast of the diversion. The nearest water appropriations not owned by Mr. Zubke, and completed into this aquifer, are located approximately 0.8 miles to the east. Based upon the small change in distance from other wells in the Big Sioux: North aquifer, well interference is not expected to be a concern.

Observation Well Data

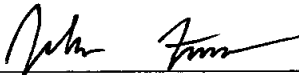
The Water Rights Program has twenty eight observation wells completed into the Big Sioux: North aquifer. The nearest observation well completed into this aquifer (GT-77D) is located approximately 1.75 miles to the southeast of the well sites. This well has been in place since 1977 and shows static water level fluctuations of 3 to 16 feet below the top of the casing. Historic water levels in GT-77D show that the aquifer is predominately controlled by climatic conditions. In recent years GT-77D may be showing drawdown as the result of a commercial water permit in the immediate vicinity, and does not reflect general aquifer conditions. The next nearest observation well completed into the Big Sioux: North aquifer is GT-77B, which is 2.1 miles to the northeast. GT-77B also shows that the aquifer is predominately controlled by climatic conditions, and does not show the recent drawdown that GT-77D exhibits.

CONCLUSION

- The additional well location does not seek to appropriate additional water.
- The well is completed into the Big Sioux: North aquifer.
- No additional acres are requested to be irrigated
- Unlawful impairment of existing water rights/permits and domestic wells is not expected to occur.

RECOMMENDED ACTION

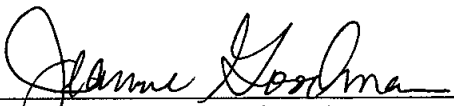
Based on the above criteria, it is recommended that the additional diversion point location be authorized under Water Permit No. 8158-3.



John Farmer
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

The additional diversion point does not increase the potential for adverse effects to existing diversions.



Jeanne Goodman, Chief Engineer
Water Rights Program

DEC 07 2020

WATER RIGHTS
PROGRAM

8158-3

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**Date 12-8-2020

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

FROM: David Zybke
(name)
44769 149th St
(address)
Waubay SD 57273 605-265-0069
(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. 8158-3 states that the water use system is to be constructed by
8-13-2020, and water is to be put to beneficial use by 8-13-2024.
(date) (date)

The water use system was completed on 6-10-2017.
(date)

Applying the water to beneficial use was completed on 8-15-2017.
(date)

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

David Zybke
(signature)





DENR
SOUTH DAKOTA

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

December 7, 2020

8157-3
8158-3

David Zubke
44769 149th St
Waubay SD 57273

Dear Mr. Zubke:

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 your irrigation systems.

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 your project 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. 8158-3**

I have this day, September 11, 2023, made a thorough examination of the water use system constructed by David Zubke, 44769 149th St, Waubay, SD 57273 of Permit No. 8158-3, bearing the priority of May 8, 2015 authorizing the diversion of 2.22 cu. ft. per second of the waters of the Big Sioux: North Aquifer for irrigation purposes, in Day County.

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Wieber Well Drilling
- 2) No. of Wells 3
- 3) Depth(s) 54 feet
- 4) Well log is available Y

Comments: All three wells approximately same

Casing:

- 1) Diameter 12 inches
- 2) Length 42 feet
- 3) Type Plastic

Screen:

- 1) Type PVC
- 2) Length 12 feet
- 3) Static water level 6 feet

Pump:

- 1) Make Submersible
- 2) Model Unknown
- 3) Size Unknown
- 4) Capacity 850 total 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 10 inches 3) Length 4300 feet

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

- 1) Make 2 Valleys
 2) Overall length 1450, 1100 feet
 3) Number of towers 7 + corner leg, 6
 4) End gun Y
 5) Capacity 850 each GPM

Chemigation Equipment:

- 1) Does chemigate N

D. Compliance with Permit Requirements:

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

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: WELL LOCATIONS
From the NE corner, Sec 24 T121N R53W, WELL "1": 1985 ft S & 1790 ft W, Lat 45.24923 Long -
97.23013 (SW ¼ NE ¼) WELL "2": 2365 ft S & 1075 ft W, Lat 45.24773 Long -97.22900 (SE ¼ SE ¼)
WELL # "3": 2220 ft S & 820 ft W, Lat 45.24823 Long -97.22720 (SE ¼ SE ¼).

2. The works are capable of diverting and conveying to the place of use 1.89 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 13 T121N R53W**

SW NE – 6 acres
 NE SW – 24 acres
 SE SW 9 acres
 NW SE – 40 acres
 SE SE – 17 acres
 SW SE – 37 acres
 NE SE – 15 acres

legal description/acreage**Land in Sec 24 T121N R53W**

NW NE 31 acres
 NE NE – 38 acres
 SE NE 17 acres
 SW SE – 14 acres

comprising a total of 248 acres of land and the license should be issued for 1.89 cfs

3. All structures, wells and lands on map Y

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

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

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

The mailing address and the telephone number in the permit materials are current

I talked to Mr. David Zubke during the field inspection visit.

A handwritten signature in black ink, appearing to read "Darrell W DeBoer". The signature is fluid and cursive, with the first name "Darrell" and last name "DeBoer" clearly distinguishable.

Darrell W DeBoer
Water Rights Inspector
DANR, Water Rights Program

Date report completed: September 29, 2023

Licensing of Acreage Outside of Permitted Area

NAME: David Zubke

ADDRESS: 44769 149th St, Waubay SD 57273

DATE: October 5, 2023 COUNTY: Day

AUTHORITY

Pursuant to SDCL 46-5-30.5, acreage developed for irrigation outside of the area described on the permit may be licensed provided the following conditions are met:

NO INCREASE IN PERMITTED ACREAGE OR WATER APPROPRIATED:

The acreage developed for irrigation is 248 acres as compared to 355 acres authorized by the permit.

UNPERMITTED ACREAGE:

- **Contiguous to Permitted Acreage**

The relocated 6 acres are in the SW1/4 NE1/4 immediately adjacent to permitted acres in the SE1/4 of Section 13 T121N-R53W

- **Owned by Same Property Owner**

All the property involved is listed under the David C and Marilyn A Zubke

- **Developed Prior to Expiration of Construction Period**

The construction completion date was to be completed by August 13, 2020. Irrigation was reported being performed in 2016

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the # acre area be included in the water license.



Mark D Rath, Natural Resources Engineer
Water Rights Program

The Chief Engineer makes a finding pursuant to SDCL 46-5-30.5 that:

This acreage change does not impair existing water rights and the overall project, as developed, is consistent with the original application. Licensing of the unpermitted acreage may occur without application or publication pursuant to SDCL 46-2A-4.



Eric Gronlund, Chief Engineer
Water Rights Program

Approval of Location Change and/or Additional Diversion Point(s)

NAME: David Zubke

ADDRESS: 44769 149th St, Waubay SD 57273

DATE: October 5, 2023 COUNTY: Day

GENERAL DESCRIPTION OF AUTHORIZED PROJECT:

The permit holder is authorized to construct two wells approximately 64 foot deep well into the Big Sioux:North Aquifer in the center of the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 24 T121N-R53W(res) for irrigation of 355 acres in the NE $\frac{1}{4}$ Section 24: SE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$ Section 13; all in T121N-R53W(res).

AUTHORITY:

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed, or additional diversion points may be licensed provided the following conditions are met and the potential for interference with other existing diversions is not increased:

- **Developed water source same as permitted source and no additional water appropriated**
- The permit holder constructed three wells approximately 54 foot wells into the Big Sioux:North Aquifer in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ and SW $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 24 T121N-R53W(res).
- **If irrigation, no new land is irrigated**
The permit holder developed 248 acres in the NE $\frac{1}{4}$ Section 24: SE $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ Section 13; all in T121N-R53W(res).
- **Review of Existing Diversions**
There are 3 other existing water permits/rights into the Big Sioux:North Aquifer are approximately a mile from where the this well was developed. Two of the permits/rights were issue to the this this water permit holder after this permit was issued. One was existing permit/right when this permit was issued, it was determined that there was reasonable probability any well interference due to pumping of this well would not adversely or unlawfully impair existing rights. The same would be expected for the well constructed in the new location.

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the diversion point(s) be licensed as developed.



Mark D. Rath, Natural Resources Engineer III
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

This change in location and/or additional diversion point(s) does not increase the potential for adverse effects to existing diversions.



Eric Gronlund, Chief Engineer
Water Rights Program

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8158-3**

(1) David C Zubke; 44769 149th St, Waubay SD 57273, made Application No. 8158-3, May 8, 2015, for a water permit to divert 2.22 cubic feet of water per second from groundwater, two wells (Big Sioux: North Aquifer), Day County, South Dakota for irrigation purposes. Permit No. 8158-3, with a priority date of May 8, 2015, was approved August 13, 2015, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before August 13, 2020, and for the application to beneficial use of water on or before August 13, 2024.

An investigation conducted for licensing purposes found one of the diversion points and acreage developed for irrigation under Water Permit No. 8158-3 were not in the locations authorized by the permit. Pursuant to SDCL 46-5-13.1 and 46-5-30.5, the Chief Engineer makes a finding that existing water rights will not be impaired and the overall project, as developed, is consistent with the original application.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.89 cubic feet of water per second for beneficial use. The locations of the diversion points are: *(within the former boundaries of the Sisseton Wahpeton Reservation)*

- Well #1: 1,985 ft S & 1,790 ft W of the NE corner of Section 24, T121N, R53W (SW $\frac{1}{4}$ NE $\frac{1}{4}$) (Latitude 45.24923 & Longitude -97.23013)
- Well #2: 2,365 ft S & 1,075 ft W of the NE corner of Section 24, T121N, R53W (SE $\frac{1}{4}$ NE $\frac{1}{4}$) (Latitude 45.24773 & Longitude -97.22900)
- Well #3: 2,220 ft S & 820 ft W of the NE corner of Section 24, T121N, R53W (SE $\frac{1}{4}$ NE $\frac{1}{4}$) (Latitude 45.24823 & Longitude -97.22720)

(3) The amount of appropriation may not exceed 2.0 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.

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

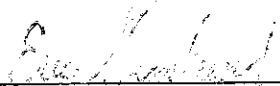
Section 13, T121N, R53W		Section 24, T121N, R53W	
<i>(within the former boundaries of the Sisseton Wahpeton Reservation)</i>			
SW $\frac{1}{4}$ NE $\frac{1}{4}$	6 acres	NE $\frac{1}{4}$ NE $\frac{1}{4}$	38 acres
NE $\frac{1}{4}$ SW $\frac{1}{4}$	24 acres	NW $\frac{1}{4}$ NE $\frac{1}{4}$	31 acres
SE $\frac{1}{4}$ SW $\frac{1}{4}$	9 acres	SW $\frac{1}{4}$ NE $\frac{1}{4}$	14 acres
NE $\frac{1}{4}$ SE $\frac{1}{4}$	15 acres	SE $\frac{1}{4}$ NE $\frac{1}{4}$	17 acres
NW $\frac{1}{4}$ SE $\frac{1}{4}$	40 acres		
SW $\frac{1}{4}$ SE $\frac{1}{4}$	37 acres		
SE $\frac{1}{4}$ SE $\frac{1}{4}$	17 acres	TOTAL:	248 acres

continued

(5) Pursuant to South Dakota Water Law 46-5-30.1 David C Zubke, the holder and/or owner of Water Right No. 8158-3 is issued a license to appropriate water, the right to use 1.89 cubic feet of water per second from groundwater, three wells (Big Sioux: North Aquifer), with a priority date of May 8, 2015, from the location specified in (2) of this license for irrigation purposes.

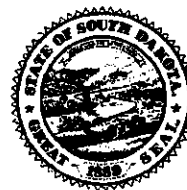
This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8158-3 and subject to the following qualifications:

1. The wells approved under this Water Right will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Water Right shall 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.
2. The wells authorized by Water Right No. 8158-3 shall be constructed by a licensed well driller and construction of the wells and installation of the pumps 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. *(These wells were constructed in 2015 & 2016 by Wieber Well Drilling. Copies of the well completion reports are on file with the Water Rights Program.)*
3. This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.


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

OCT 05 2023

date



8157-3 & 8158-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

OCT 05 2023

8157-3
8158-3

David C Zubke
44769 149th St
Waubay SD 57273

Dear Mr. Zubke:

Enclosed is Water License Nos. 8157-3 & 8158-3. These are the final water right documents completing your process of obtaining Water Rights. Included with your licenses is a map prepared by the staff engineer who conducted the field investigations.

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 Licenses, 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

enclosures

