

WATER PERMIT NO. 8454-3

Name of Applicant: **BKV Thorstenson Ranch LP**

Address: **12980 Cedar Rd, Selby SD 57472** Phone: **605 230-0591**

Amount of Water Claimed: **1.78 cfs** Total Acres: **132.6 acres**

Source of Water Supply: **groundwater (1 well)**

Water to be used for: **irrigation** County: **Walworth**

Type of Waste Disposal System:

Location: **5 miles northwest of Selby**

PRIORITY Date Received: **9-28-20**

Application/License Fee: **\$ 1050.00**

Corrected Application Received: **10-8-20**

Period of Annual Use: **June 1 – Sept 30**

Remarks:

Diversion Point: **Center of SW 1/4 Sec 11-T124N-**
R77W

Land to be Irrigated: **SW 1/4 Sec 11-T124N-**
R77W

Depth of Well: **152 feet deep**

Well Driller:

Remarks:

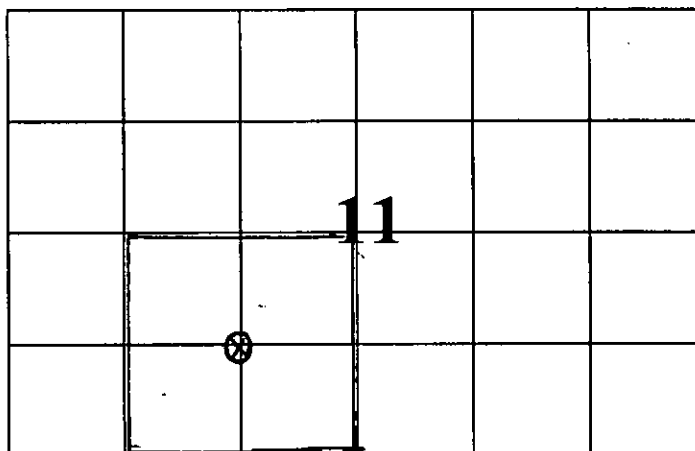
Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **10-8-20**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



**SOUTH DAKOTA
WATER PERMIT NO. 8454-3**

Date of first receipt of application September 28, 2020.

Date of return to applicant for corrections, amendments or changes September 28, 2020.

Date of receipt of corrected application October 8, 2020.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8454-3 to BKV Thorstenson Ranch LP, c/o Vaughn Thorstenson, 12980 Cedar Rd, Selby SD 57472 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. 8454-3 appropriates 1.78 cubic feet of water per second from one well to be completed into the Grand Aquifer (152 feet deep) located in the center of the SW 1/4 Section 11 for irrigation of 132.6 acres located in the SW 1/4 Section 11; all in T124N-R77W. This site is located approximately 5 miles northwest of Selby SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: June 1 – September 30.
3. The date from which applicant may claim right is September 28, 2020.
4. The date of approval of Permit No. 8454-3 is December 14, 2020.
5. One-fifth of the construction is to be completed on or before June 14, 2023.
6. All construction is to be completed on or before December 14, 2025.
7. Water is to be put to beneficial use on or before December 14, 2029.
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. 8454-3 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. 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 Environment and Natural Resources

JAN 19 2021

date



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>8454-3</u> (office use only) Hydrologic Unit <u>10130106</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Selby Record</u> <u>America News</u>

PAID

SEP 28 2020

Ck# 4693

RECEIVED

SEP 28 2020

Application For Permit To Appropriate Water For Irrigation WATER RIGHTS PROGRAM

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.)

THIS WELL WAS USED IN THE 1980'S FOR IRRIGATING THIS SAME QUARTER.1. Name to Appear on Irrigation Permit BKV THORSTENSON RANCH LP

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

Mailing Address 12980 CEDAR RD SELBY SD 57472
(Address) (City) (State) (Zip Code)Phone (605) 649-6262 Mobile (605) 230-0591 Email vwthor@sbtcl.net2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 132.6
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply WELL4. Location of point of diversion 1 WELL IN CENTER OF SW 1/4 SEC 11 124N 77W
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)
County WALWORTH5. County or counties where water will be used WALWORTH6. Annual period during which water is to be used JUNE, JULY, AUGUST, SEPTEMBER7. 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>SW 1/4 OF SEC 11 124N 77W</u>	<u>132.6</u>		

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

TO REUSE EXISTING WELL, INSTALL A NEW CENTER PIVOT IRRIGATION SYSTEM TO IRRIGATE THE 132.6 ACRES IN A CIRCLE WITH CENTER POINT IN MIDDLE OF SW 1/4 SEC 11 124N 77W

Brian KEGEMAN Partner BKV Thorstenson Ranch LP
Name of Person Title (if applicable)

, the applicant, certify under

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 ____ Have test holes been drilled ☐ Yes ☐ No Drilled by ____
(if yes, please provide copies of logs)

b) If existing wells, how many 1 Provide copy of log(s), if available. Drilled by HURON DRILLING INC.

For either Existing or Proposed Wells:

c) Well Depth (required) 152 Depth to Top of Water Bearing Material 90 Depth to Water from Surface 15

d) Distance to nearest domestic well on applicant's property 5+ MILES Property owned by others 3/4 OF A MILE

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) _____

b) System Capacity (gallons) _____ Year Constructed _____

c) Connected to the City of _____ Sanitary System

3. Dugout Information

a) Surface Dimensions _____ Depth _____

b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

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

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

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____

If pipe, diameter _____

f) Secondary Spillway Capacity _____

Spillway Width _____

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

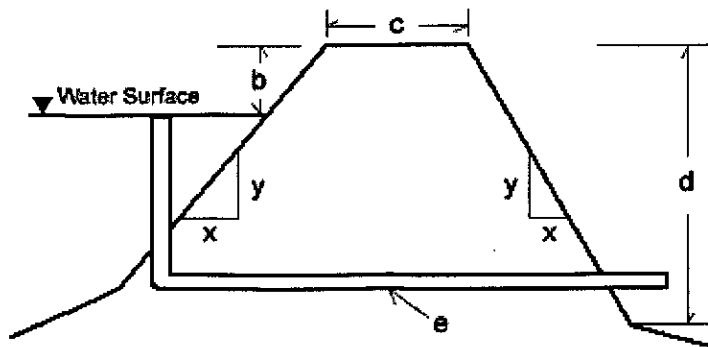
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



RECEIVED

SEP-28 2020

ERIC

WATER-RIGHTS
PROGRAM

MY NAME IS BRIAN BEBEMW,
AND I'M PARTNERS IN LAZY TV
RANCH WITH GINA & VAUGHN
THORSTENSON, ALL OF SELBY.

WE ARE ALL 50 OWNERS OF
BKV. THORSTENSON RANCH LP, WHO
OWNS LAND etc., AND OUR
LAZY TV RANCH LP RENTS AND
OPERATES.

(603) 230 0511 IS MY
CELL. PLEASE, IF I
HAVE MADE ERRORS CALL
ME AND WE'LL STRAIGHTEN ME
OUT.

I MAY HAVE FOUND THE OLD
PERMIT # 2983-3 ??
BUT NOT CERTAIN IF
THAT'S HELPFUL.

over

ALSO, I UNDERSTAND I NEED
TO ADVERTISE IN A PUBLICATION.
~~IS THERE A FORM FOR~~
~~THAT?~~ AND THAT

YOU'LL SEND ME THE NOTICE TO
PUBLISH

LOOKING FORWARD TO
HEAR FROM U.

Jim Beggs

HURON DRILLING INC. DRILLERS LOG				PAGE NO.	
Hubert Stulken		Walworth County		5-29-81	
JOB NAME		LOCATION		RIG NO.	
				Dennis Duvall	
				FOREMAN	
DEPTH	TIME	REMARKS			
10		0-2 Topsoil			
20		2-14 Fine yellow sand with some yellow clay			
30		14-25 Very fine dark sand			
40		25-45 Very fine blue sand with some soft clay			
50		45-50 Fine blue sand with some medium sand and coal			
60		50-61 Fine blue sand and coal			
70		61-83 Medium sand and coal with some BB size gravel			
80		83-117 Coarse sand, gravel, and coal			
90		117-147 Coarse sand and gravel with a few streaks of hard blue clay			
100		137-150 Shale			
110					
120					
130					
140					
150					
152	T.D.				

HURON DRILLING CO.
Huron, S. D.

WELL REPORT

Walworth County
SWA-11-124-77

June 2, 1981

Hubert Stulken
OWNER

DESCRIPTION

DATE

CASING LOG

Depth 152 ft.

Flows gpm 92 ft. 16" Plastic pipe to 92 ft.

Pumps gpm 60 ft. 16" Plastic Screen pipe to 152 ft.

Head ft. 100 slot

60 Ft. Plastic Screen 100 slot ft. pipe to ft.

Perforations ft. pipe to ft.

Pressure 92-152 Ft.

3 days

Drilling Time

Rig No. 18

Dennis Duvall

Foreman

REMARKS



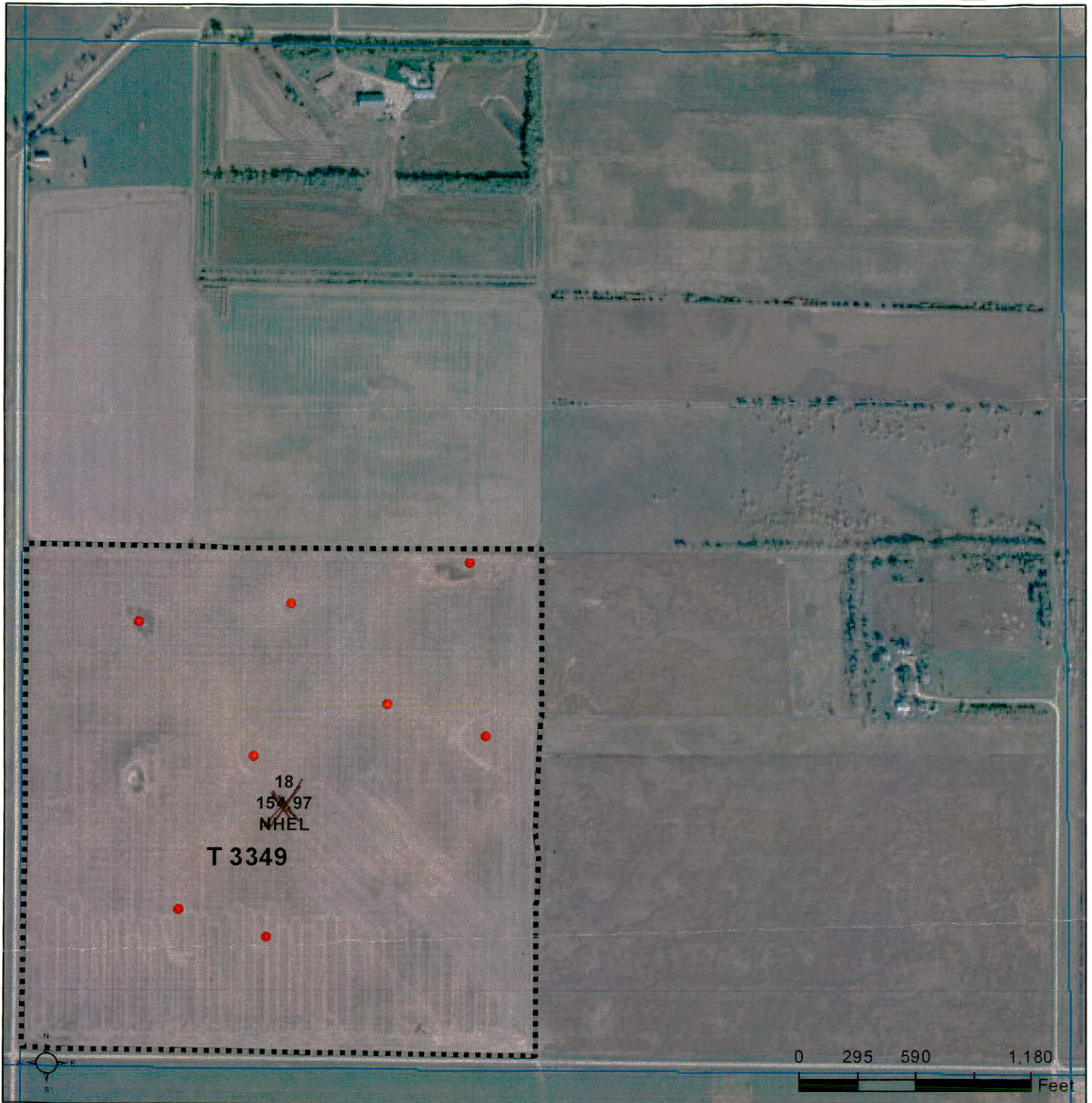
United States
Department of
Agriculture

Walworth County, South Dakota

Producer: Lazy TV Ranch

Initial: _____ Date: _____

Shares: _____



Common Land Unit ☐ PLSS

☐ Cropland
☐ Tract Boundary

Wetland Determination Identifiers

- ☐ Restricted Use
- ☐ Limited Restrictions
- ☐ Exempt from Conservation Compliance Provisions

Wht Spr Gr
Sunfl Oil Gr

Corn Yel Gr
Soy Com Gr

All Crops NI

All Crops as listed above unless otherwise indicated

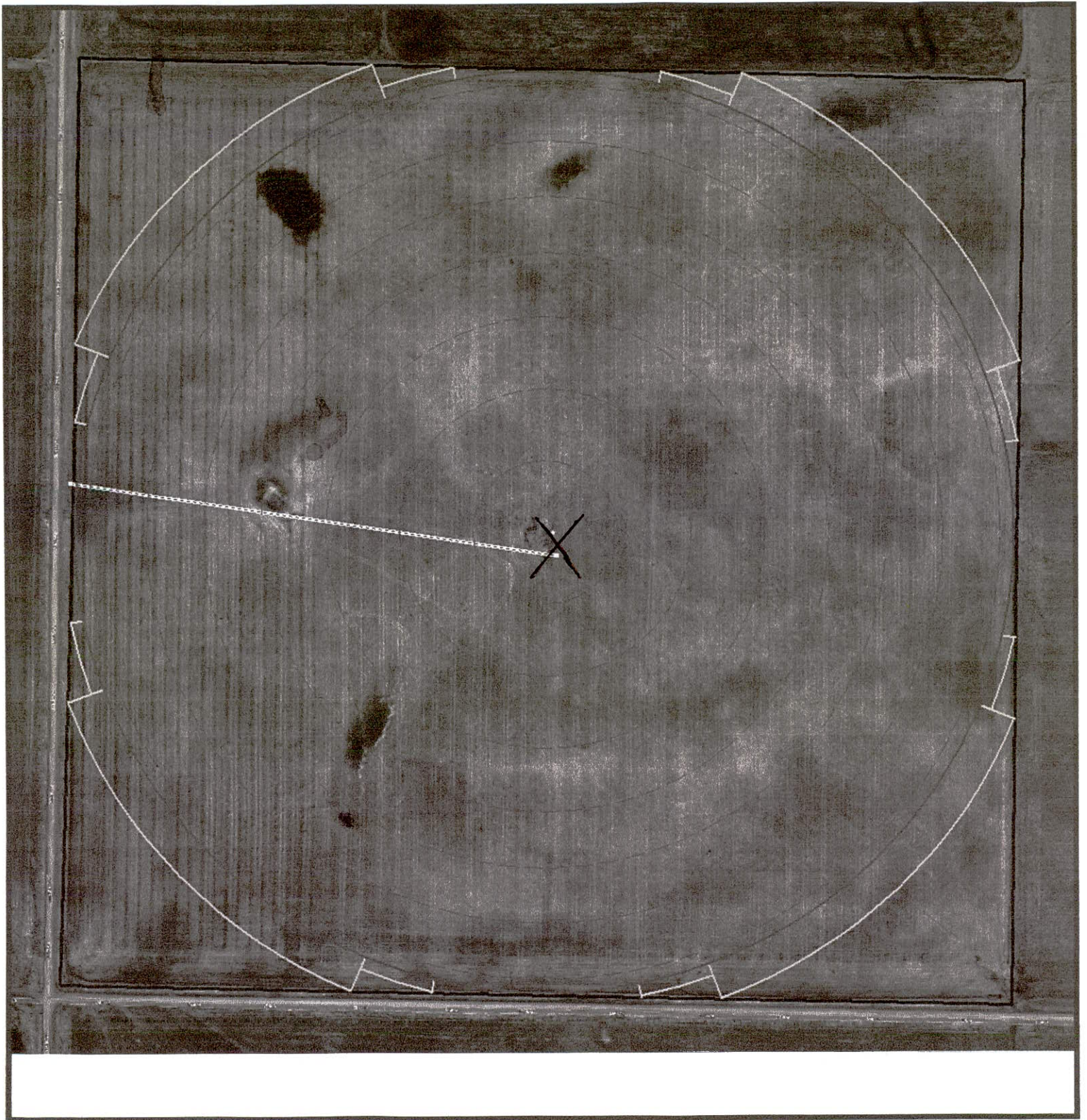
2020 Program Year

Map Created March 18, 2019

Farm **3874**

11 -124N -77W

United States Department of Agriculture (USDA) Farm Service Agency (FSA) maps are for FSA Program administration only. This map does not represent a legal survey or reflect actual ownership; rather it depicts the information provided directly from the producer and/or National Agricultural Imagery Program (NAIP) imagery. The producer accepts the data 'as is' and assumes all risks associated with its use. USDA-FSA assumes no responsibility for actual or consequential damage incurred as a result of any user's reliance on this data outside FSA Programs. 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 boundaries and determinations or contact USDA Natural Resources Conservation Service (NRCS).



* outline of proposed
seven tower irrigation system

11-124N-77W
WAL WORTH COUNTRY

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Environment and Natural Resources

Date September 28, 2020

RECEIVED OF Lazy TV Ranch 12980 Cedar Rd Selby SD 57472

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

Fee for Application for Permit No. <u>8454-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$850.00
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>8454-3</u>	\$200.00
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	\$1050.00

By Eric Gronlund
Chief Engineer

VM



OFFICE OF THE SECRETARY OF STATE
STEVEN J. BARNETT, SECRETARY OF STATE
JASON LUTZ, DEPUTY SECRETARY OF STATE

Filing Information

Name: **BKV THORSTENSON RANCH, LLLP**

General Information

SOS Business ID **DP001272**
Filing Type: Limited Partnership - Domestic
 07/30/2001
Status: Good Standing
Duration Term: Perpetual

Registered Agent Address
VAUGHN THORSTENSON
12980 CEDAR ROAD
SELBY, SD 57472

The following document(s) was/were filed in this office on the date(s) indicated below:

<u>Date Filed</u>	<u>Filing Description</u>	<u>Image #</u>
02/17/2016	Common Amendment (Delayed Date 02/17/2016)	
12/12/2006	Common Amendment	
02/16/2005	Common Amendment	
07/30/2001	Initial Filing	DP001272



DENR
SOUTH DAKOTA

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

September 28, 2020

BKV Thorstenson Ranch LP
Brian Begeman
12980 Cedar Rd
Selby SD 57472

RECEIVED

OCT 08 2020

**WATER RIGHTS
PROGRAM**

Dear Mr. Begeman

Thank you for submitting the *Application for a Permit to Appropriate Water* for irrigation in Walworth County. In order to complete the application, the following is required.

- A review of the Secretary of State's corporation website finds BKV Thorstenson Ranch LLLP listed. Your name is not listed as a registered agent or one of its partners. The name that appears is Vaugh Thorstenson. DENR will need the application to be signed by a listed partner or a statement of authority that the person signing the application has the authority to act on behalf of BKV Thorstenson Ranch on all matters involving the water permit application.
- As I stated in our phone conversation, please have Vaugh Thorstenson sign the application above your signature and return the application to us.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

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

enclosures

Phone Conversation Summary – November 17, 2020 – Nakaila Steen

I called Brian Begeman on November 17, 2020 to inform him that Water Permit No. 2983-3 (which was transferred to BKV Thorstenson Ranch on November 13, 2019) was subject to cancellation due to non-use, and because the permitted acreage under Water Permit No. 2983-3 is the same acreage in Section 11-T124N-R77W as what is being requested on Water Permit Application No. 8454-3.

He was a bit confused on what he needed to do on his part and I indicated nothing, but I just wanted to give him a heads up on the “old” water right being subject to cancellation, if the new one is approved. (Referring to the previous water right as the “old” one was confusing to him as they are very new owners of the Water Permit...will be more specific next time).

He was also worried about possible disapproval of the application as he was getting the pivot installed on the well authorized under Water Permit No. 2983-3 today. I indicated as of right now, there are no flags indicating it wouldn't be approved and we would contact him if this situation changes.

Overall, it was my first phone call out of office regarding a matter like this so I think I confused him for a second, but summarized the end of the phone call by saying: If Water Permit Application No. 8454-3 is approved, Water Permit No. 2983-3 will be subject to cancellation due to non-use and so the same acreage to be irrigated is not permitted under two permits. But then the land he is intending to irrigate in Sec 11 will still be covered under new permit (if approved) even if/when old permit (Water Permit No. 2983-3) is cancelled.

I offered to give him my desk phone number if he has any questions, and he indicated he should not unless he receives something on the notice that he doesn't understand.

Note: I should have indicated regardless of the approval of Water Permit Application No. 8454-3 or not, Water Permit No. 2983-3 will be subject to cancellation due to non-use.

Note: approximately 10 minutes later, Brian called back wanted to speak with Genny, so I gave him her desk phone number. Then went and updated her on the previous phone call I had just had with him.



DENR
SOUTH DAKOTA

**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. 8454-3, BKV Thorstenson Ranch LP**

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. 8454-3, BKV Thorstenson Ranch LP, 12980 Cedar Rd, Selby SD 57472.

The Chief Engineer is recommending APPROVAL of Application No. 8454-3 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 well approved under Water Permit No. 8454-3 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. 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
November 20, 2020

Note: The Water Rights Program intends to proceed with cancellation of Water Right No. 2983-3 for abandonment and/or forfeiture for nonuse. Water Right No. 2983-3 is for use of the same well and irrigation of the same acres authorized by this application. However, irrigation has not occurred for many years which subjects the original water right to cancellation.

Report to the Chief Engineer

On Water Permit Application No. 8454-3

BKV Thorstenson Ranch LP c/o Vaugh Thorstenson

November 17, 2020

Water Permit Application No. 8454-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.78 cubic feet per second (cfs) from the Grand aquifer for the irrigation of 132.6 acres located in the SW ¼ of Section 11-T124N-R77W. The proposed diversion point is one existing well (152 feet deep) authorized under Water Permit No. 2983-3 that is located in the center of the SW ¼ of Section 11-T124N-R77W in Walworth County, approximately five miles northwest of Selby, South Dakota.

Water Permit No. 2983-3 has a priority date of September 10, 1976, the permitted acreage has not been irrigated since 1997 and was in CRP until 2011 (Water Rights, 2020a). Water Permit No. 2983-3 was amended on March 6, 2019 to include the irrigation water use questionnaire qualification and was transferred to BKV Thorstenson Ranch LP on November 13, 2019 (Water Rights, 2020c). Water Permit No. 2983-3 is subject to cancellation due to either non-use, abandonment, or both.

AQUIFER: Grand (G)

HYDROGEOLOGY:

The Grand aquifer is a deep, glacial aquifer that lies in a bedrock valley eroded by the ancient, pre-glacial Grand River (Christensen, 1977; Hamilton, 1982; Koch, 1970). The aquifer was deposited by glacial meltwater and is composed of sorted and stratified sand, gravel and silt layers, that can contain thin beds of silty clay (Hamilton, 1982; Koch, 1970). The Grand aquifer abruptly increases in thickness from its margins to the deepest part of the bedrock channel in which it lies, with the greatest thicknesses occurring in the deepest areas of the bedrock channels (Hamilton, 1982). In the southwestern portion of McPherson County, the deepest area of the bedrock channel in which the aquifer lies is where a documented maximum thickness of 175 feet for the Grand aquifer has been measured (Hamilton, 1982). Groundwater movement in the Grand aquifer varies depending on location and is primarily under artesian (confined) conditions (Koch, 1970; Hamilton, 1982).

Hedges and others (1982) estimated the areal extent and amount of recoverable water stored in the Grand aquifer (Table 1). Those approximations were based on the best available information at that time. Figure 1 displays the delineation of the Grand aquifer based on the study completed by Hedges and others (1982).

Table 1. Areal extent and amount of recoverable water stored in the Grand aquifer based on the delineation estimated by Hedges and others (1982)

	Campbell	Edmunds	Faulk	Hand	McPherson	Walworth	Total:
Areal Extent (acres)	97,900	112,000	74,200	9,600	44,200	67,200	405,100
Recoverable Water in Storage (acre-feet)	1,469,000	840,000	556,000	48,000	331,000	393,000	3,637,000

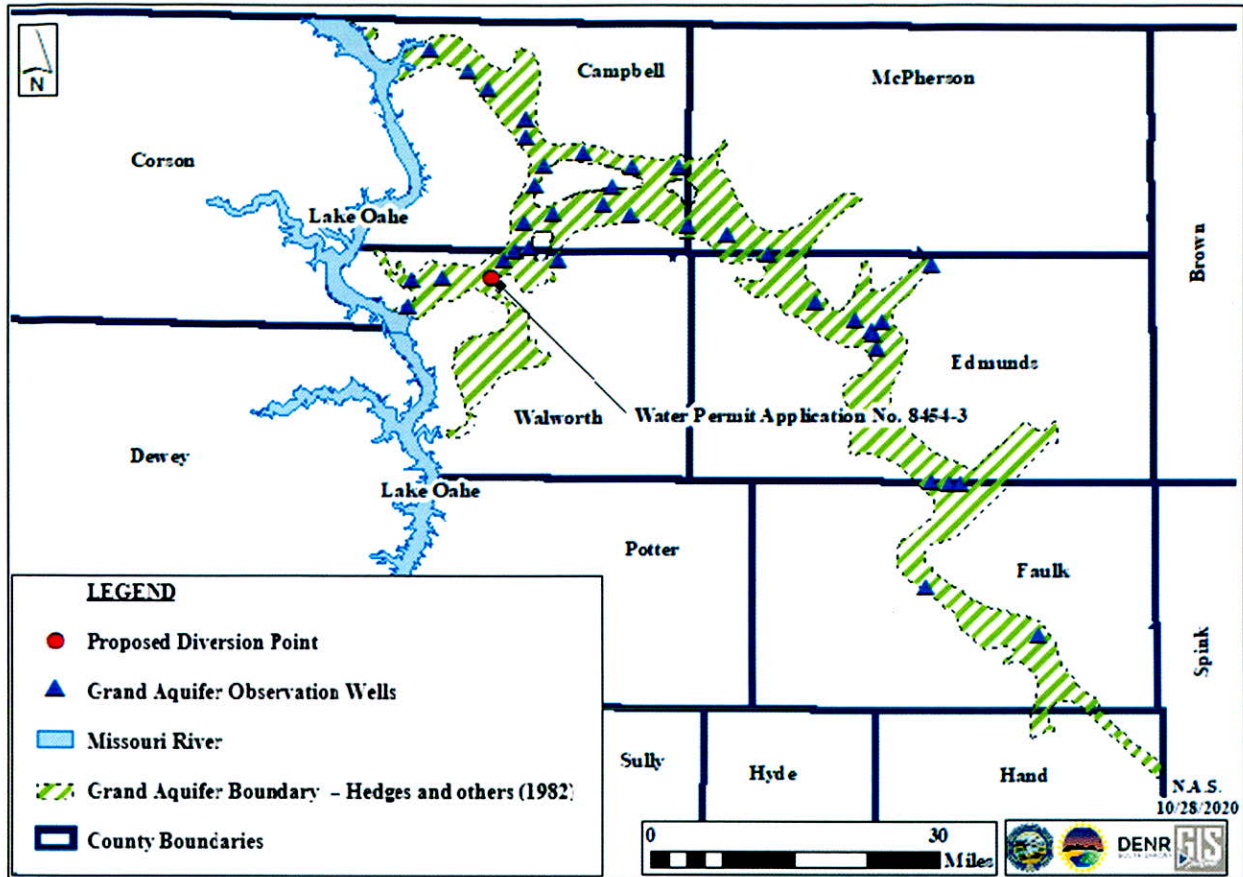


Figure 1. Map of the approximate Grand aquifer boundary delineated by Hedges and others (1982) with the proposed diversion point for Water Permit Application No. 8454-3 and the Grand aquifer observation wells (modified from Hedges et al., 1982; Water Rights, 2020b)

More recently, the South Dakota Geological Survey (SDGS) completed additional drilling in Edmunds, Faulk and Hand Counties to aid in developing first occurrence of aquifer materials maps (finalized by Tom Rich) for these counties. A first occurrence of aquifer materials map typically does not identify individual glacial aquifers, but it does provide a map with a range of depths to geologic materials of a mappable extent that have the potential to produce water. In the case of the First Occurrence of Aquifer Materials Map for Edmunds County, some of the mapped aquifer materials included notations on which aquifer's extent they contributed to (Rich, 2010). Since multiple aquifers separated by confining layers can be present vertically at a single location, first occurrence maps only yield information that can potentially contribute to refining aquifer delineation for the upper most aquifer in the sequence. Therefore, depending on location first occurrence maps typically do not offer much understanding into the extent of basal aquifers (glacial aquifers directly overlying bedrock). However, in Edmunds, Hand and Faulk Counties the Grand aquifer (where present) is generally the uppermost mappable aquifer material so the first occurrence of aquifer materials maps for these counties can be used to determine the areal extent of the materials that compose the Grand aquifer (Hedges et al., 1982; Rich, 2008; Rich, 2010; Rich, 2013).

After reviewing observation well data and the first occurrence of aquifer materials mapped by Tom Rich (Rich, 2008, 2010, and 2013), there appears to be three separate portions of the Grand aquifer that are not hydrologically connected in the same locations mapped by Hedges and others (1982). Figure 2 displays the delineation of the Grand aquifer based on the Hedges and others (1982) study with modifications based on the First Occurrence of Aquifer Materials Maps for Edmunds, Faulk and Hand Counties (Hedges et al., 1982; Rich, 2008; Rich, 2010; Rich, 2013).

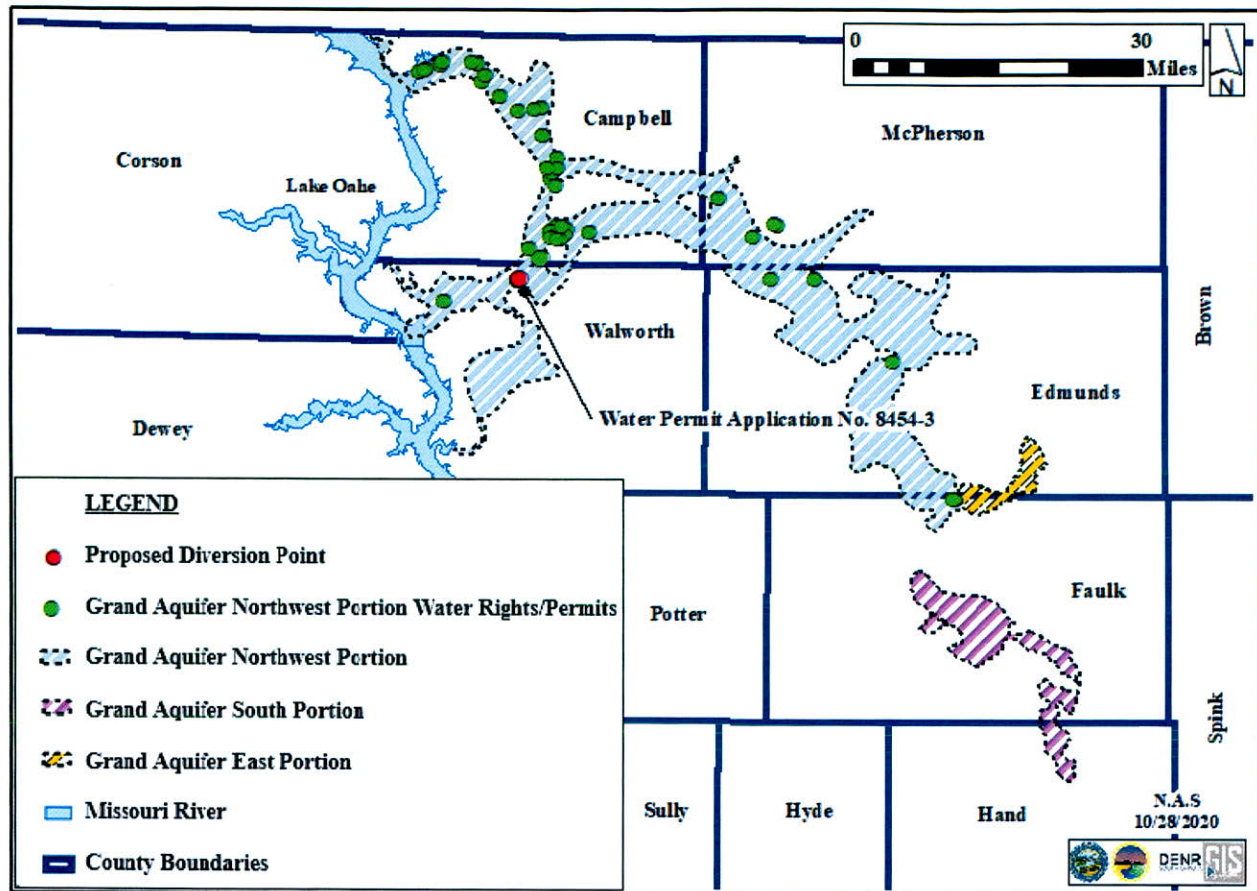


Figure 2. Map of the approximate Grand aquifer boundary (modified from Hedges et al., 1982; modified from Rich, 2008; modified from Rich, 2010; modified from Rich, 2013; modified from Kilts, 2019), with the proposed diversion point for Water Permit Application No. 8454-3 and the water rights/permits authorized to appropriate water from the northwestern portion of the Grand aquifer (Water Rights, 2020c)

For Campbell, Walworth and McPherson Counties, the areal extent for the northwestern portion of the Grand aquifer was determined by utilizing the delineation based on Hedges and others (1982) (Table 2). Hedges and others (1982) estimated areal extent for those counties is the best information currently available since substantial drilling has not been completed. Additionally, the SDGS “Current Projects – Aquifer Delineation” webpage for the First Occurrence of Aquifer Materials mapping work lists additional work in Campbell and McPherson Counties as “In Progress,” and as “Planned” for Walworth County (SDGS, 2020a). The drilling and studies needed to produce these maps are multi-year projects. In these counties, there is a greater presence of shallow aquifers overlying the Grand aquifer; therefore, those shallow aquifers would be mapped as the first occurrence of aquifer material rather than the Grand aquifer. It is

likely it will be several years until enough data is available to further refine the extent of the Grand aquifer boundary in Campbell, Walworth and McPherson Counties.

For Edmunds and Faulk Counties, the areal extent for the northwestern portion of the Grand aquifer was determined by utilizing the First Occurrence of Aquifer Materials Maps completed by Rich (2008 and 2010) (Table 2). Overall, the estimated area for the northwestern portion of the Grand aquifer (as displayed in Figure 2) is 360,621 acres (Hedges et al., 1982; Rich, 2008; Rich, 2010; Kilts, 2019)

Table 2. Estimated area of the northwestern portion of the Grand aquifer as displayed in Figure 2 (Hedges et al., 1982; Rich, 2008; Rich, 2010; Kilts, 2019)

County	Acres	Source
Campbell	97,900	Hedges et al., (1982) - report text
McPherson	44,200	Hedges et al., (1982) - report text
Walworth	67,200	Hedges et al., (1982) - report text
Edmunds	144,039	estimated from Rich (2010)
Faulk	7,282	estimated from Rich (2008)
Total	360,621	

The proposed diversion point for Water Permit Application No. 8454-3 is located in the northwestern portion of the Grand aquifer. For the remainder of this report, the terms “aquifer” or “Grand aquifer” will be referring to the northwestern portion of the Grand aquifer as shown in Figure 2.

In Walworth County, the Grand aquifer has an average thickness of approximately 106 feet and an average saturated thickness of 39 feet. The depth to the top of aquifer materials ranges from 19 to 207 feet below grade and the depth to water from the ground surface ranges from 4 to 232 feet below grade (Kume and Howells, 1987). Additionally, Kume and Howells (1987) estimated the Grand aquifer to underlie approximately 91,000 acres and contain approximately 700,000 acre-feet of recoverable water in storage. It is worth noting the areal extent and recoverable water approximations estimated by Kume and Howells (1987) is greater than the extent and volume Hedges and others (1982) estimated for the Grand aquifer in Walworth County. It is likely the actual areal extent and volume of recoverable water stored in the Grand aquifer ranges between the estimates calculated by Hedges and others (1982) and Kume and Howells (1987). To be conservative, the areal extent and volume of recoverable water in storage estimated by Hedges and others (1982) will be used in this analysis.

The water well completion report for the well authorized under Water Permit No. 2983-3 was submitted with Water Permit Application No. 8454-3 (Table 3). The well was screened across sand and gravel (with some coal and clay) from 92 feet to 152 feet below grade (Water Rights, 2020d), and the applicant indicated the depth to water from the ground surface is approximately 15 feet. Based on the well completion report and the available hydrogeologic information for this location, the Grand aquifer is under confined conditions at the proposed diversion point (SDGS, 2020b; Water Rights, 2020b and 2020d).

Table 3. Water well completion report for well authorized under Water Permit No. 2983-3 that was submitted with Water Permit Application No. 8454-3 (Water Rights, 2020c and 2020d)

Depth (feet)	Remarks
0 to 2	Topsoil
2 to 14	Fine yellow sand with some yellow clay
14 to 25	Very fine dark sand
25 to 45	Very fine blue sand with some soft clay
45 to 50	Fine blue sand with some medium sand and coal
50 to 61	Fine blue sand and coal
61 to 83	Medium sand and coal with some BB size gravel
83 to 117	Coarse sand, gravel and coal
117 to 147	Coarse sand and gravel with a few streaks of blue clay
137 to 150	Shale
152	Total Depth (T.D.)

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 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 the potential for unlawful impairment of existing water rights within the Grand aquifer.

WATER AVAILABILITY:

Water Permit Application No. 8454-3 proposes to appropriate water from the Grand aquifer. The probability of unappropriated water being available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems.” The Grand aquifer is not older than or stratigraphically lower than the Greenhorn Formation, and the applicant’s proposed use is not for use in a water distribution system. Therefore, the average annual recharge and average annual withdrawal rates to and from the Grand aquifer must be considered.

OBSERVATION WELL DATA:

Administrative Rule of South Dakota (ARSD) 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 33 observation wells completed into the northwestern portion of the Grand aquifer (Water Rights, 2020b). These observation wells provide data on how the aquifer reacts to regional climatic conditions and local pumping. The six closest observation wells to the proposed diversion point are WL-76E (approximately 0.6 miles north), CA-80F (approximately 1.8 miles northeast), CA-78K (approximately 5 miles northeast), WL-76J (approximately 5.5 miles east), WL-76B (approximately 6.7 miles southwest) and CA-78I (approximately 7.5 miles northeast) (as shown in Figure 9) (Water Rights, 2020b and 2020c). The hydrographs for these observation wells are displayed in Figures 3 to 8 (Water Rights, 2020b). The data points utilized to construct the hydrographs are measurements of the static water level in the observation wells from the top of the well casing.

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

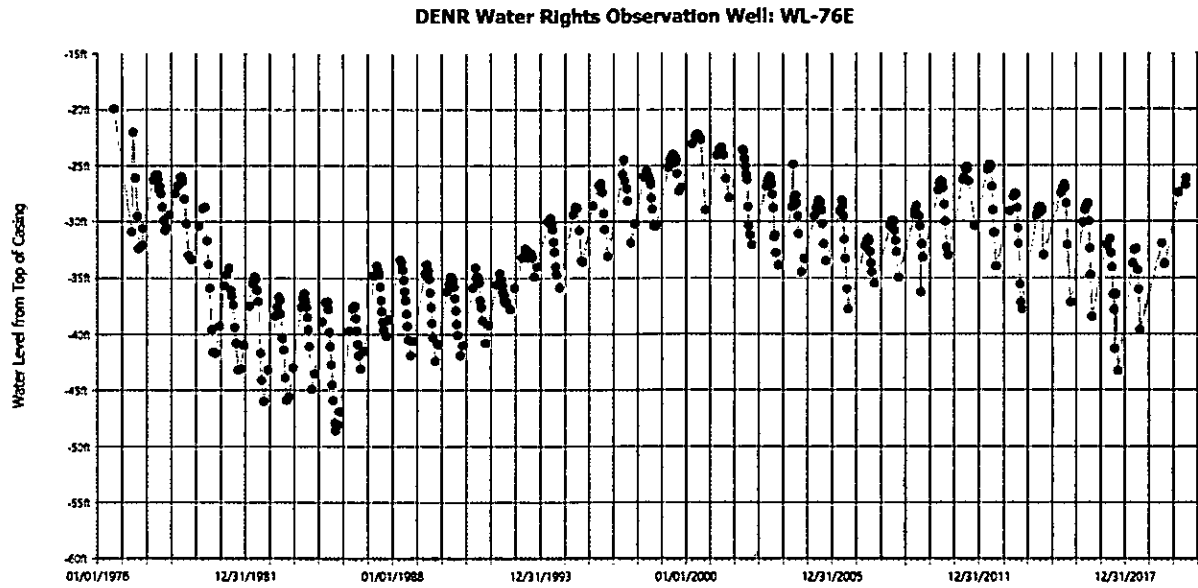


Figure 3. Hydrograph for observation well WL-76E (Water Rights, 2020b)

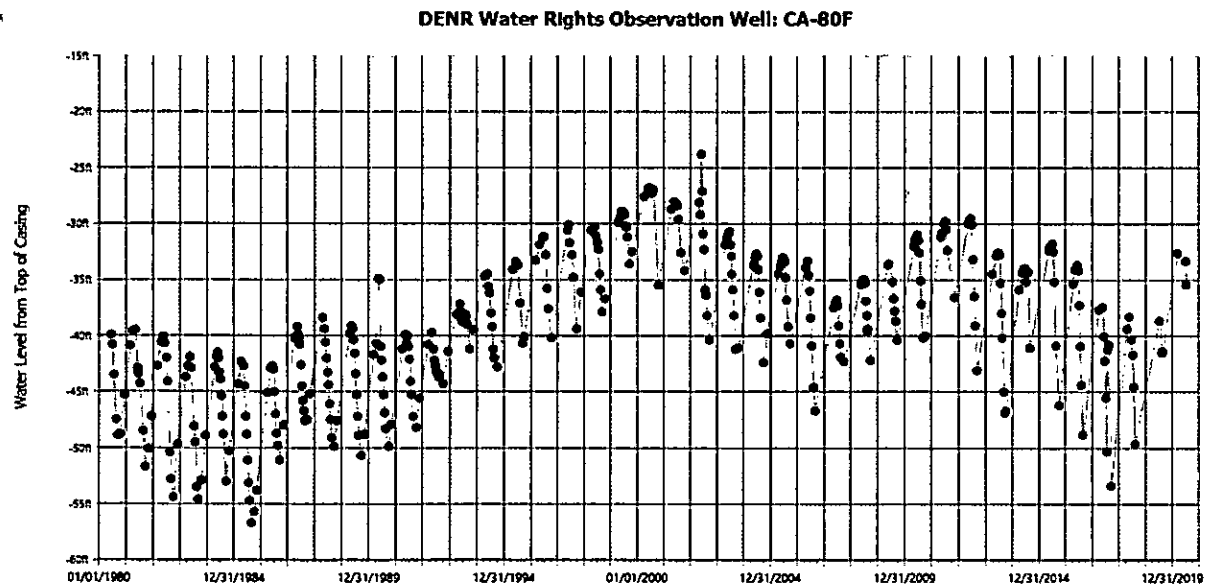


Figure 4. Hydrograph for observation well CA-80F (Water Rights, 2020b)

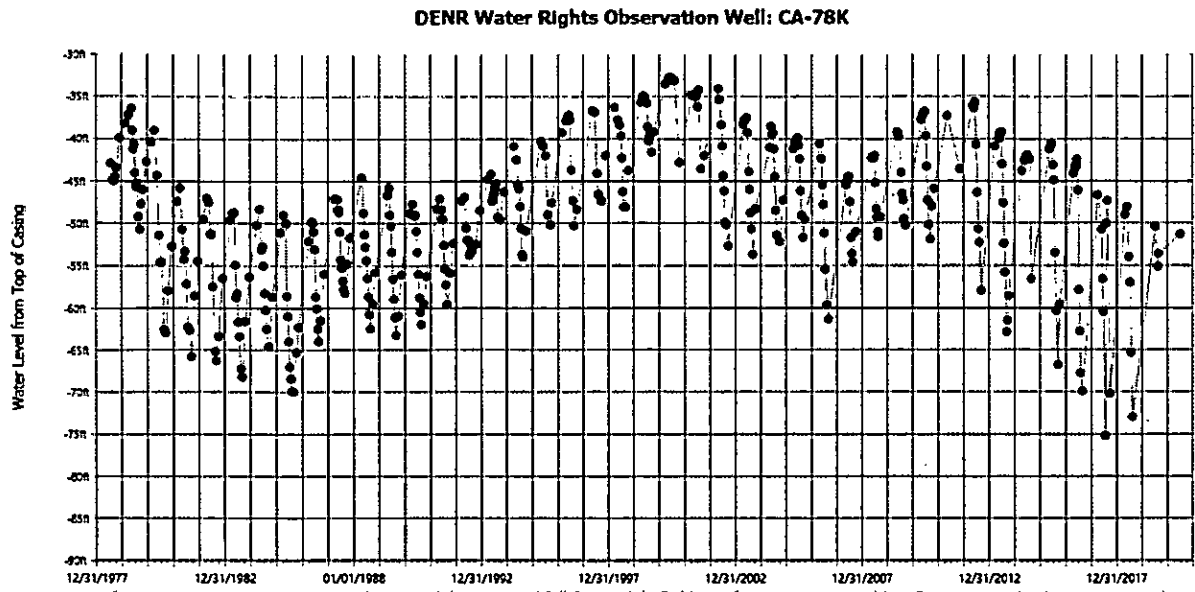


Figure 5. Hydrograph for observation well CA-78K (Water Rights, 2020b)

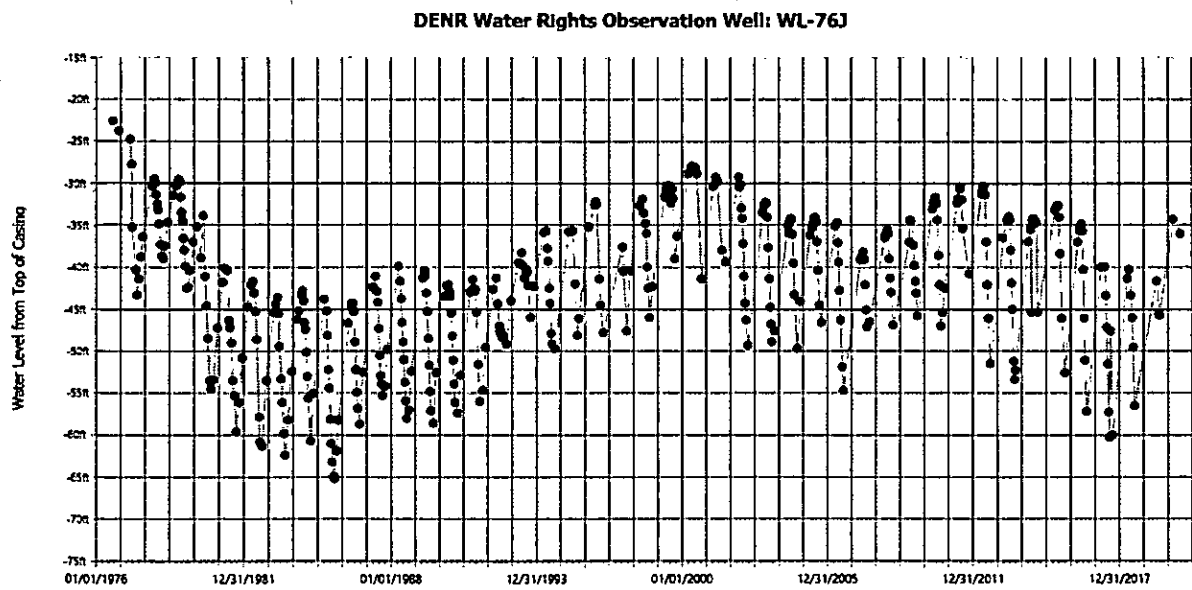


Figure 6. Hydrograph for observation well WL-76J (Water Rights, 2020b)

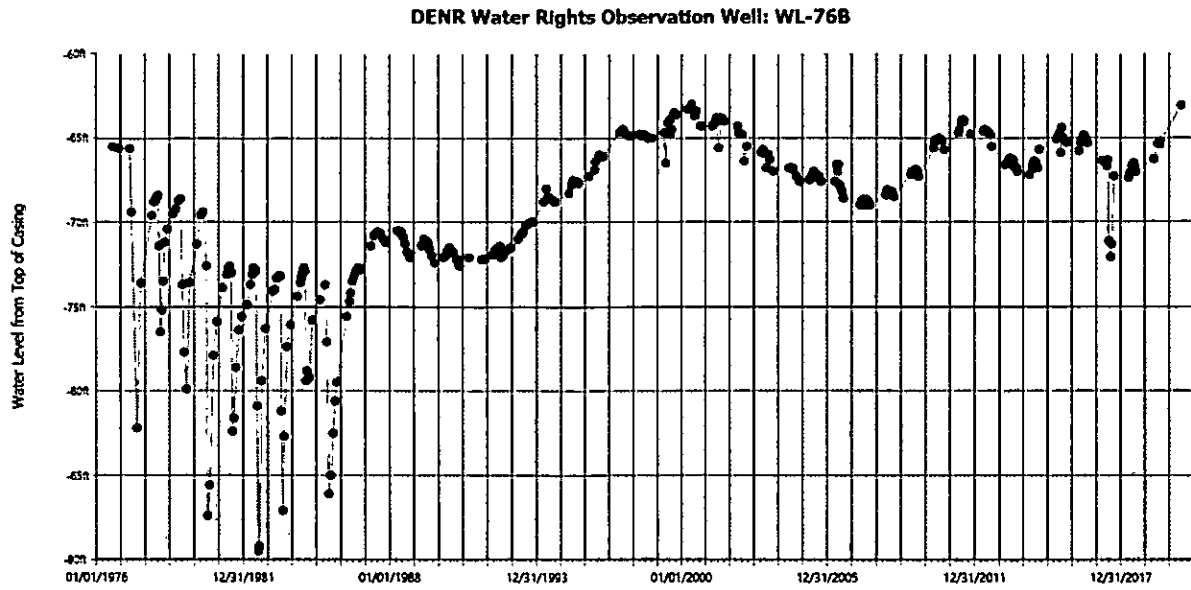


Figure 7. Hydrograph for observation well WL-76B (Water Rights, 2020b)

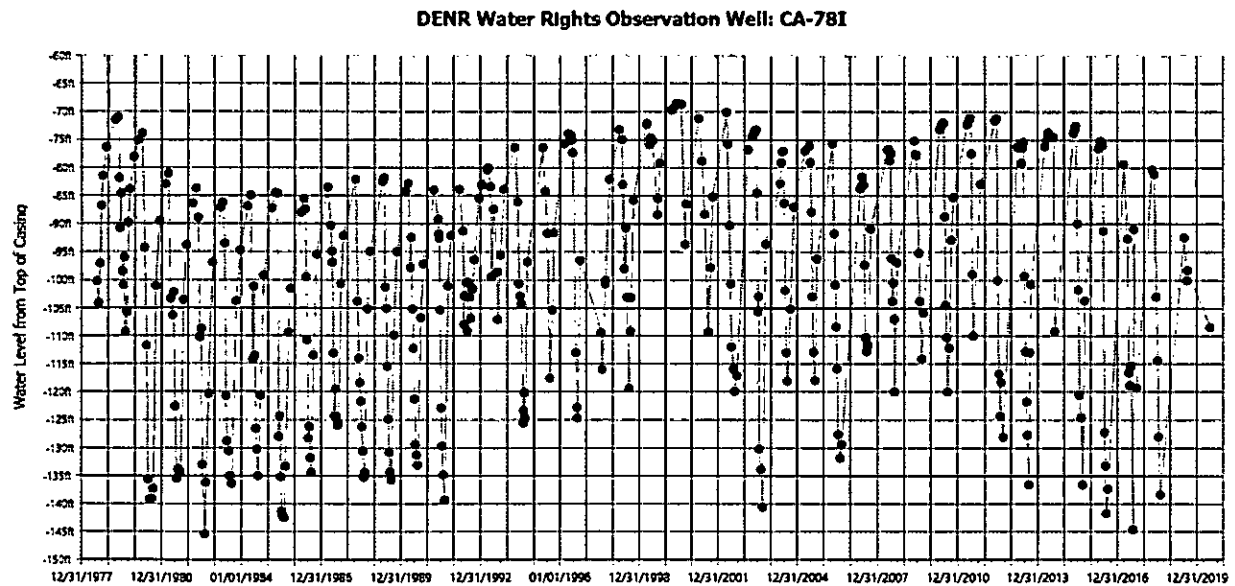


Figure 8. Hydrograph for observation well CA-78I (Water Rights, 2020b)

HYDROLOGIC BUDGET:

Recharge

Recharge to the Grand aquifer in Walworth County, South Dakota occurs through infiltration of precipitation through overlying sediments and by movement of water from overlying aquifers such as the Selby aquifer in northwestern Walworth County, and from the Bowdle aquifer in southeastern Walworth County (Kume and Howells, 1987).

Using observation well analysis, Hedges and others (1985) estimated a recharge rate to the unconfined portions of the aquifer to be approximately 4 inches per year. However, these unconfined portions of the Grand aquifer have not been mapped. Hedges and others (1985) have estimated an average annual recharge rate to buried, confined aquifers that ranges from 0.15 to 0.60 inches per year for use by management and development programs. Due to the northwestern portion of the Grand aquifer being mostly under confined conditions and the unconfined portions not being mapped, the lower average annual recharge range of 0.15 to 0.60 inches per year will be used for this analysis.

By multiplying the estimated areal extent of the northwestern portion of the Grand aquifer (360,621 acres) by the average annual recharge rate of 0.15 to 0.60 inches per year, the estimated average annual recharge rate to the northwestern portion of the Grand aquifer varies between 4,507 to 18,031 acre-feet per year (Hedges et al., 1982 and 1985; Rich, 2008; Rich 2010). This is a conservative average annual recharge rate, as the higher recharge rate estimated by Hedges and others (1985) to the unconfined portions of the Grand aquifer is not being considered.

Discharge

Discharge from the Grand aquifer in Walworth County, South Dakota is primarily through well withdrawals and groundwater movement to Lake Oahe (Kume and Howells, 1987; Water Rights, 2020c). Currently, there are 47 water rights/permits authorized to appropriate water from the northwestern portion of the Grand aquifer (Water Rights, 2020c).

Table 4 summarizes the twelve non-irrigation water rights/permits authorized to appropriate water from the Grand aquifer with their annual limit or diversion rate and estimated annual use. The amount of water that can be withdrawn was estimated by assuming the non-irrigation water rights/permits limited by an annual volume will withdraw the entire appropriated volume every year. It is estimated that the non-irrigation water rights/permits limited only by a diversion rate will pump at a maximum permitted diversion rate for 60 percent of the time.

The Town of Pollock (Water Right Nos. 778-3 and 5366-3), Town of Glenham (Water Right No. 3998-3), Town of Mound City (Water Right No. 4144-3) and the City of Herreid (Water Right No. 5417-3) are all connected to a rural water system (Drinking Water Program, 2020). These wells for these municipalities are maintained for emergency/standby use (back-up water supply, fire protection etc.) As such, the average annual water use for these municipal rights has been estimated to be zero acre-feet per year on Table 4. The City of Roscoe obtains approximately 75 percent of its water from a rural water system and the City of Hosmer obtains approximately 90 percent of its water from a rural water system (Kilts, 2019). Therefore, it is likely these two

municipalities (Water Right Nos. 1705-3 and 4814-3) appropriate less water than the estimated average use values assuming a 60 percent full time pumping rate reflected on Table 4.

Table 4. Estimated average annual water use from non-irrigation water rights in the northwestern portion of the Grand aquifer (Water Rights, 2020c; Drinking Water Program, 2020)

Permit No.	Name	Use	Status	Diversion Rate (cfs)	Annual Limit (acre-feet)	Estimated Use (acre-feet/year)
778-3	Town of Polluck	MUN	LC	0.56		0
1705-3	City of Hosmer	MUN	LC	0.27		117.3
3998-3	Town of Glenham	MUN	LC	0.12		0
4144-3	Town of Mound City	MUN	LC	0.22		0
4914-3	City of Roscoe	MUN	LC	0.5		217.2
5366-3	Town of Polluck	MUN	LC	0.78		0
5417-3	City of Herreid	MUN	LC	1.17		0
6012-3	West Polluck Association	COM	LC	0.035		15.2
6111-3	Blumengard Colony	COM	LC	0.45		195.5
6185-3	Blumengard Colony	COM	LC	0.667		289.7
7184-3	Jensen Rock & Sand Inc	IND	LC	0.67	20	20
7841-3	Herreid Concrete Inc	IND	LC	1.39	282	282
						Total: 1,136.9
COM: Commercial, IND: Industrial, MUN: Municipal, LC: Licensed Water Right						

There are 35 water rights/permits authorized to appropriate water from the northwestern portion Grand aquifer for irrigation use (Water Rights, 2020c). Generally, irrigation water rights/permits are required to report their annual water usage. The estimated average annual withdrawal rate for irrigation appropriations over the period of record (1979-2019) is 2,400.7 acre-feet per year (Table 5) (Water Rights, 2020a).

Three irrigation water permits (Nos. 8402-3, 8405-3 and 8429-3) were approved in either 2019 or 2020, so their usage is not reflected in the estimated average annual withdrawal rate calculated in Table 5 (Water Rights, 2020c). The submission of the 2019 Irrigation Questionnaires (IQ) indicated Water Permit Nos. 8091-3, 8092-3, 8096-3 and 8097-3 had not been constructed as of the date the 2019 questionnaires were submitted (Water Rights, 2019-2020). While the deadline for the completion of construction for these water permits was April 20, 2020 for Water Right No. 8097-3 and October 14, 2020 for Water Right Nos. 8091-3, 8092-3 and 8096-3, construction of these systems could have occurred between the submission of the 2019 IQ and the completion of the construction date on the permit, so these permits will be included in the hydrologic budget of the aquifer. These seven water permits (8091-3, 8092-3, 8096-3, 8097-3, 8402-3, 8405-3 and 8429-3) combined authorize the irrigation of 1,356 acres each year (Water Rights, 2020c). Generally, irrigators in eastern South Dakota apply less than one foot of water per acre per year. However, to conservatively account for the fluctuation in wet and dry cycles from year to year, the one foot of water per acre per year application rate will be used to estimate the annual withdrawal rate for these water rights/permits who have not reported. If these seven permits applied 12 inches of water over the 1,356 acres authorized to be irrigated, the estimated average annual use for these seven permits is approximately 1,356 acre-feet per year. Therefore, the

estimated average annual withdrawal rate for irrigation appropriations for the northwestern portion of the Grand aquifer is approximately 3,756.7 acre-feet per year.

Table 5. Reported historic irrigation use from the northwestern portion of the Grand aquifer (Water Rights, 2020a)

Year	No. of Permits	Annual Appropriation (acre-feet)	Reported Pumpage (acre-feet)
1979	22	18,382	1,339
1980	21	17,902	2,334
1981	28	20,782	2,204
1982	22	16,223.6	2,956.4
1983	22	17,681.6	3,067.6
1984	25	19,401.6	3,407
1985	23	18,441.6	3,082
1986	22	18,121.6	2,333
1987	22	18,121.6	2,272
1988	20	16,645.6	2,845.9
1989	20	16,645.6	2,042.1
1990	20	16,645.6	2,335
1991	20	16,645.6	1,853
1992	19	15,632.6	1,205
1993	18	13,760.6	727
1994	17	13,370.6	1,695.4
1995	16	12,890.6	1,092.6
1996	15	11,394.6	1,172
1997	15	11,394.6	1,422
1998	15	11,394.6	1,245.1
1999	15	11,394.6	1,162.7
2000	16	10,797.6	1,317.8
2001	16	10,797.6	1,220.1
2002	17	11,061.6	2,646.0
2003	17	11,061.6	1,784.7
2004	17	11,061.6	1,621.8
2005	18	11,701.6	1,842.9
2006	18	11,653.6	3,892.6
2007	19	12,163.4	2,352.0
2008	19	12,163.4	2,660.4
2009	19	12,163.4	2,334.9
2010	19	12,163.4	2,903.8
2011	21	13,219.4	2,428.5
2012	23	13,755.4	3,206.3
2013	28	16,277.4	3,983.2
2014	29	16,817.4	2,984.3
2015	30	17,527.4	4,061.8
2016	34	17,882.6	4,115.2
2017	33	17,474.6	5,180.6
2018	33	17,474.6	4,797.9
2019	32	16,994.6	1,299.8
Max	34	20,782	5,181
Min	15	10,798	727
Avg	21	14,807	2,401

There are domestic wells completed into the Grand aquifer that do not require a water right/permit, so the withdrawal amount is unknown (Water Rights, 2020d). Since the introduction of rural water systems, many domestic wells are likely no longer in use or are not being used as primary water sources. Due to their relatively low diversion rates and the availability of rural water, withdrawals from domestic wells are not considered to be a significant portion of the hydrologic budget for the Grand aquifer.

Hydrologic Budget Summary

The average annual recharge rate to the northwestern portion of the Grand aquifer ranges between approximately 4,507 to 18,031 acre-feet per year (Hedges et al., 1982 and 1985; Rich, 2008; Rich 2010).

The average annual withdrawal rate to the northwestern portion of the Grand aquifer plus the appropriation proposed by this application is approximately 5,026.2 acre-feet per year (non-irrigation: 1,136.9 acre-feet/year, irrigation: 3,756.7 acre-feet/year, and Water Permit Application No. 8454-3 (if approved, assuming 12-inch application rate): 132.6 acre-feet/year) (Water Rights, 2020a and 2020c).

The recharge estimate used for this balance is based on the conservative average annual recharge rate estimated by Hedges and others (1985). Additionally, it is expected that the withdrawals from irrigation users and Water Permit Application No. 8454-3 would be less than what is being used for this balance, as these values are based on an assumed water application rate of 12 inches for each licensed/permitted acre for irrigation water rights/permits who have not reported. Given the hydrologic budget, along with the observation well data indicating water is available, there is a reasonable probability unappropriated water is available in the northwestern portion of the Grand aquifer for the appropriation requested by Water Permit Application No. 8454-3.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

Currently, there are 47 water rights/permits authorized to appropriate water from the northwestern portion of the Grand aquifer (Water Rights, 2020c). The closest water right/permit to the diversion point proposed by this application (excluding Water Permit No. 2983-3 as its diversion point is the same as the proposed diversion point) is Water Permit No. 8429-3, held by Norman Thorstenson. The diversion point for Water Permit No. 8429-3 is located approximately 3.3 miles to the northeast (Table 6) (Figure 9) (Water Rights, 2020c).

There are domestic wells on file with the DENR-Water Rights Program that are completed into the northwestern portion of the Grand aquifer, with the closest four domestic wells on file (not held by the applicant) within approximately 0.5 miles southwest from the proposed diversion point (Water Rights, 2020d). There are likely other domestic wells completed into the northwestern portion of the Grand aquifer near the proposed diversion point that are not on file with the DENR-Water Rights Program.

Table 6. Water rights/permits authorized to withdraw water from the Grand aquifer within approximately ten miles of the proposed diversion point, as shown in Figure 9 (Water Rights, 2020c)

Permit No.	Name	Status	Use	Diversion Rate (cfs)
1990-3	Kenneth Brockel	LC	IRR	1.93
2983-3	BKV Thorstenson Ranch LLLP	PE	IRR	1.93
3170-3	Douglas L Salverson	LC	IRR	2.23
3367-3	Dick or Konny Lacey	PE	IRR	3
3368-3	Dick or Konny Lacey	PE	IRR	3
3803-3	Iverson Farms LTD	LC	IRR	1.78
3881-3	Dick or Konny Lacey	PE	IRR	2
3882-3	Dick or Konny Lacey	PE	IRR	2
3998-3	Town of Glenham	LC	MUN	0.12
4448-3A	Iverson Farms LTD	LC	IRR	1.89
4602-3	Kenneth Brockel	LC	IRR	1.89
4705-3	Iverson Farms LTD	LC	IRR	1.78
6294-3	Lazy TV Ranch	LC	IRR	1.88
7924-3	Brandon Ritter	PE	IRR	2
8136-3	Richard or Konny Lacey Living Trust	LC	IRR	1.78
8159-3	Richard or Konny Lacey Living Trust	LC	IRR	1.78
8402-3	Roger Volzke	PE	IRR	3.33
8429-3	Norman Thorstenson	PE	IRR	1.78

LC: Licensed Water Right; PE: Water Permit; IRR: Irrigation; MUN: Municipal

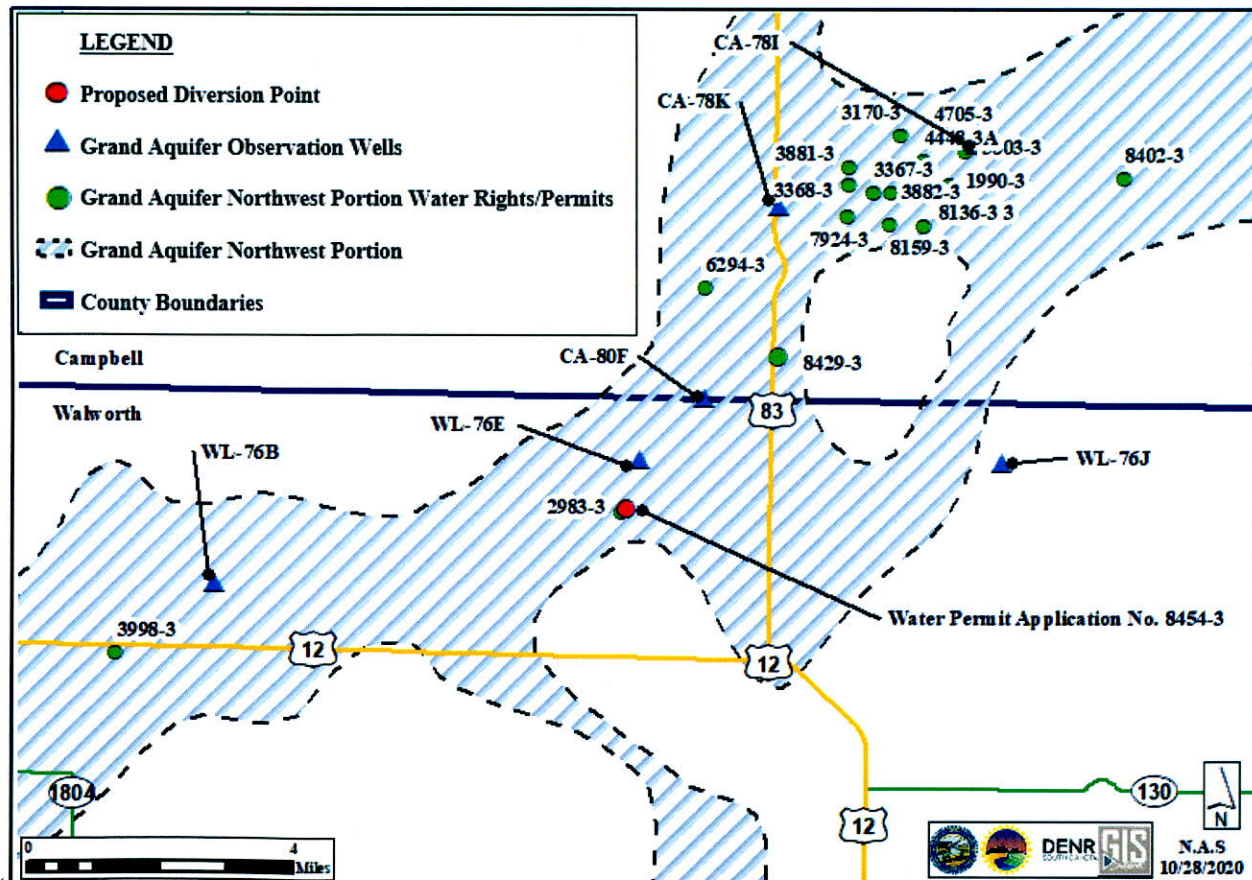


Figure 9. Location of proposed diversion point by Water Permit Application No. 8454-3 with nearby Grand aquifer water rights/permits, and the observation wells used in this analysis (Water Rights, 2020b and 2020c)

The northwestern portion of the Grand aquifer is expected to be under confined conditions at the applicant's proposed diversion point based on the lithologic logs on file and static water levels measured for nearby domestic wells and observation wells (SDGS, 2020b; Water Rights, 2020b and 2020d). Since the northwestern portion of the Grand aquifer is expected to be confined at the proposed diversion point, drawdown can extend some distance but the exact drawdown behavior of a well cannot be known without an aquifer performance test. Observation well CA-78I (approximately 7.5 miles northeast of proposed diversion point) has 14 high-yield irrigation wells within three miles of it (Water Rights, 2020b and 2020c). The drawdown from pumping can be seen on the hydrograph for CA-78I, along with the aquifer returning to pre-pumping conditions between irrigation seasons (Figure 8) (Water Rights, 2020b). The lithologic log on file for CA-78I noted the well was drilled 320 feet deep and was screened in the bottom 25 feet (SDGS, 2020b; Water Rights, 2020b). Therefore, the top of aquifer is expected to be approximately 295 feet below the ground surface. The lowest recorded static water level on the hydrograph is approximately 145 feet, which indicates there was still about 150 feet of artesian head pressure in CA-78I even during drier periods when high-yield irrigation wells are expected to be pumping more water (Water Rights, 2020b).

In Walworth County, the Grand aquifer has an average saturated thickness of approximately 39 feet with depth to the top of Grand aquifer materials around 90 feet below the ground surface according to the well completion report submitted with the application (Kume and Howells, 1987; Water Rights, 2020d). This would allow for enough thickness for a pump to be placed 20 feet below the top of the aquifer, which is required for the well to be considered adequate under ARSD 74:02:04:20 (6). Any drawdown as a result of the proposed diversion is not expected to unlawfully impair nearby adequate wells. In Walworth County, there are no complaints on file with the DENR-Water Rights Program regarding well interference for wells completed into the Grand aquifer (Water Rights, 2020e).

The Water Management Board recognizes that putting water to beneficial use requires a certain amount of drawdown to occur. The Board has developed rules to allow water to be placed to maximum beneficial use without the necessity of maintaining artesian head pressure for domestic use. The Water Management Board defined an "adversely impacted domestic well" in ARSD 74:02:04:20(7) as:

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

The Water Management Board considered the delivery of water by artesian head pressure versus maximum beneficial use during the issuance of Water Right No. 2313-2 for Coca-Cola Bottling Company of the Black Hills. The Board adopted the Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water would be inconsistent with SDCL 46-1-4 which states, "general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable..." (Water Rights, 1995).

Furthermore, the Water Management Board found if increased cost or decreased production as a result of impacts on artesian head pressure by legitimate users is to be considered as an unlawful impairment, it would also conflict with SDCL 46-1-4 (Water Rights, 1995). With that in mind, some existing well owners may need to install or lower pumps depending on the specific characteristics of the Grand aquifer at their location. However, when considering the statutes (SDCL 46-1-4 and 46-6-6.1) and ARSD 74:02:04:20 (6) and (7), the thickness of the northwestern portion of the Grand aquifer in the applicant's location, and the lack of well interference complaints, any drawdown created from the proposed diversion is not expected to cause an unlawful impairment on existing water rights/permits or domestic users with adequate wells. Therefore, there is a reasonable probability that any interference from the proposed appropriation will not impose unlawful impairments on existing users with adequate wells.

CONCLUSIONS:

1. Water Permit Application No. 8454-3 proposes to appropriate water from the northwestern portion of the Grand aquifer at a maximum instantaneous diversion rate of 1.78 cfs from one existing well (152 feet deep) authorized under Water Permit No. 2983-3 for the irrigation of 132.6 acres; all in the SW $\frac{1}{4}$ of Section 11-T124N-R77W.
2. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the northwestern portion of the Grand aquifer to supply the proposed appropriation.
3. There is a reasonable probability that the proposed diversion by Water Permit Application No. 8454-3 will not unlawfully impair adequate wells for existing water rights/permits and domestic users.

Nakaila Steen

Nakaila Steen
Natural Resources Engineer I
SD DENR - Water Rights Program

Reviewed by:

Adam Mathiowetz

Adam Mathiowetz, PE
Natural Resources Engineer III
SD DENR - Water Rights Program

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Water Rights, 2020e. County Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, November 24, 2020 8:37 AM
To: 'vwthor@sbtc.net'
Subject: Water Permit Application No. 8454-3
Attachments: 0142.pdf

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

Karen Schlaak

Water Rights Program
(605) 773-3352



DENR
SOUTH DAKOTA

RECEIVED

DEC 28 2020

WATER RIGHTS
PROGRAM

Affidavit of Publication
STATE OF SOUTH DAKOTA)

) SS
COUNTY OF WALWORTH)

I, Karen Speidel, being first duly sworn under oath say: the Selby Record/continuing the Java Herald is a legal weekly newspaper of general circulation as required by South Dakota Codified Laws, and any acts amendatory thereto, published by KT Publishing dba Selby Record in said county and state, and has been such legal newspaper during the time hereinafter mentioned; that during all of said time as an employee or officer of said newspaper, I have had personal knowledge of the facts stated in this affidavit; that the advertisement headed:

BKV Thorstensen Ranch files
application for water permit

A printed copy of which is hereto attached, was printed and published in said newspaper for

1 successive weeks upon the following dates, to wit:

<u>Dec. 3</u> , 2020	<u>2020</u>
<u>2020</u>	<u>2020</u>
<u>2020</u>	<u>2020</u>
<u>2020</u>	<u>2020</u>

That the full amount of the fees charged for publishing the same to wit: the sum of \$ 29.91

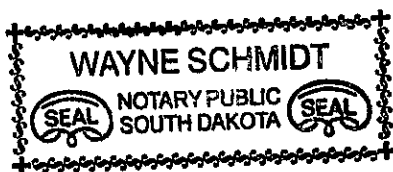
inures solely to the benefit of the publishers of said newspaper; that no agreement or understanding for any division of this sum has been made with any other person; and that no part of said sum has been agreed to be paid to any person whomsoever.

Wayne Schmidt
Karen Speidel

Subscribed and sworn to before me this
22nd day of December, 2020

Wayne Schmidt
My Commission Expires
April 15, 2025

My Commission expires



BKV Thorstenson Ranch files application for water permit

NOTICE OF APPLICATION NO. 8454-3 to Appropriate Water

Notice is given that BKV Thorstenson Ranch LP, c/o Vaughn Thorstenson, 12980 Cedar Rd, Selby SD 57472 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 Grand Aquifer (152 feet deep) located in the center of the SW 1/4 Section 11 for irrigation of 132.6 acres located in the SW 1/4 Section 11; all in T124N-R77W. This site is located approximately 5 miles northwest of Selby SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8454-3 with qualifications 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. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.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 or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. 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 December 14, 2020.

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

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 \$29.81.

Published in the Selby Record December 3, 2020

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA}

§

COUNTY OF BROWN}

Mary Vance being duly sworn, on his/her oath says: That the AMERICAN NEWS is a daily newspaper of general circulation, printed and published in Aberdeen, Brown County, South Dakota, by the Aberdeen News Company, a corporation, and has been such a newspaper during the times hereinafter mentioned; That affiant is an employee and principal clerk of said publisher and has personal knowledge of all facts stated in this affidavit; That the advertisement headed:

Notice of Application

No. 8454-3

a printed copy of which is hereunto attached, was printed and published in the regular and entire issue of said newspaper, and not in a supplement thereof, once each day for one day.

The first publication being made on the 3rd day of December, 2020

The second publication being made on the _____ day of _____, 2020

The third publication being made on the _____ day of _____, 2020

The fourth publication being made on the _____ day of _____, 2020

The fifth publication being made on the _____ day of _____, 2020

The sixth publication being made on the _____ day of _____, 2020

That said newspaper is a legal newspaper published five days or more each week; with a bona fide circulation of more than two hundred copies daily; published in the English language within the said county of Brown for more than one year prior to the first publication of said notice; and printed in whole in an office maintained at the place of publication of said newspaper; That the whole amount of the fee paid for the publication of the annexed notice is \$ 48.23, which insures solely to the benefit of said publisher; That no agreement or understanding for a division thereof had been made with any other person; and That no part thereof has been agreed to be paid to any person whomsoever.

Mary Vance

Subscribed and sworn to before me this 3rd day of December, 2020

Daily Circulation 8,000

(No. 911252)

(December 3, 2020 - 1T)

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Published once at the total approximate cost of \$48.23.

Michael

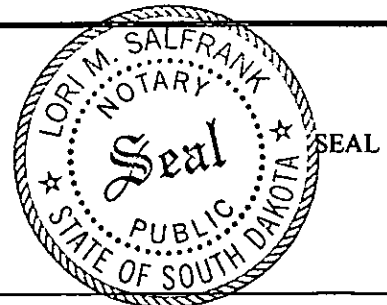
Notary Public, Brown County, SD.

My commission expires March 20, 2025.

RECEIVED

DEC 07 2020

WATER RIGHTS
PROGRAM



Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, November 24, 2020 8:33 AM
To: Aberdeen News Legals (aan-legals@aberdeennews.com)
Subject: 8454-3, BKV Thorstenson Ranch LP
Attachments: 8454-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on December 3, 2020.

BKV Thorstenson Ranch LP, c/o Vaugh Thorstenson, 12980 Cedar Rd, Selby SD 57472 (605 230-0591) 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, Pierre SD 57501.

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

Karen Schlaak

Water Rights Program
(605) 773-3352



DENR
SOUTH DAKOTA

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, November 24, 2020 8:32 AM
To: 'selbyrec@venturecomm.net'
Subject: 8454-3, BKV Thorstenson Ranch LP
Attachments: 8454-3public.short.docx; FORM8.FRM.doc

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Karen Schlaak

Water Rights Program
(605) 773-3352



DENR
SOUTH DAKOTA



DENR
SOUTH DAKOTA

**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 DATES, CONTACT
THE NEWSPAPERS RIGHT AWAY.**

November 24, 2020

BKV Thorstenson Ranch LP
c/o Vaugh Thorstenson
12980 Cedar Rd
Selby SD 57472

Dear Mr. Thorstenson:

Water Permit Application No. 8454-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Selby Record printed at Selby SD (Ph # 605 649-7866) and the American News printed at Aberdeen SD (Ph # 605 225-4100). 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,

Karen Schlaak
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. 8454-3 to Appropriate Water

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Published once at the total approximate cost of_



DENR
SOUTH DAKOTA

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

JAN 19 2021

BKV Thorstenson Ranch LP
c/o Vaugh Thorstenson
12980 Cedar Rd
Selby SD 57472

Dear Mr. Thorstenson:

Enclosed is Water Permit No. 8454-3 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

RECEIVED

JUN 03 2021

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 5-25-2021TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM:

BKV Thorstenson Ranch LLC - Vaughn Thorstenson/Brian Begeman
(name)
12980 Cedar Rd.
(address)
Selby, SD 57472 605-649-6262
(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. 8454-3 states that the water use system is to be constructed by6-14-2023, and water is to be put to beneficial use by 12-14-2029.
(date) (date)The water use system was completed on 5/15/2021.
(date)Applying the water to beneficial use was completed on 5/20/2021.
(date)

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

[Signature]
(signature)





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

June 3, 2021

8454-3

Vaughn Thorstenson
BKV Thorstenson Ranch LP
12980 Cedar Rd
Selby SD 57472

Dear Mr. Thorstenson:

I am writing to acknowledge receipt of the "Notice of Completion of Works" form that you sent in to let us know that you are completed with your irrigation system in the SW ¼ Section 11, T124N, R77W.

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

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

Sincerely,

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