

WATER PERMIT NO. 8501-3

Name of Applicant: **John & Jacki Smith**

Address: **2507 Valley Road, Yankton SD 57078**

Phone: **605 660-0848**

Amount of Water Claimed: **1.33 cfs**

Total Acres: **80 acres**

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

Water to be used for: **irrigation**

County: **Yankton**

Type of Waste Disposal System:

Location: **1 1/2 miles northwest of Mission Hill**

PRIORITY

Date Received: **3-19-21**

Application/License Fee: **\$ 950**

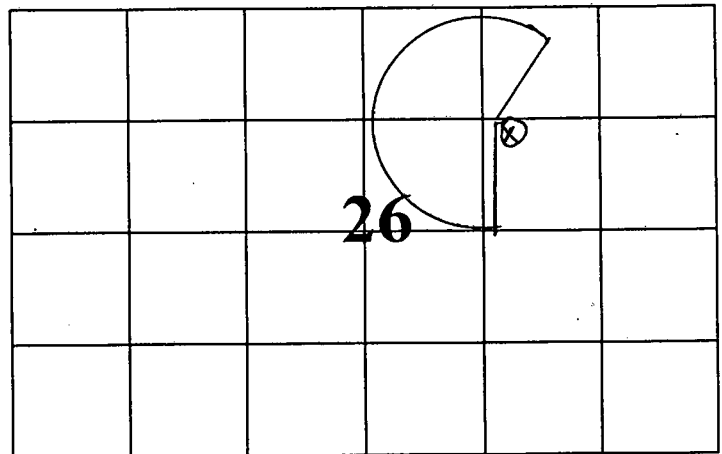
Corrected Application Received:

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

Remarks:

Diversion Point: **SE 1/4 NE 1/4 Sec 26-T94N-R55W**

Land to be Irrigated: **NE 1/4 Sec 26-T94N-R55W**



Depth of Well: **140**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **3-22-21**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8501-3**

Date of first receipt of application March 19, 2021.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8501-3 to John & Jacki Smith, 2507 Valley Road, Yankton SD 57078 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. 8501-3 appropriates 1.33 cubic feet of water per second (cfs) from one well to be completed into the Lower James Missouri Aquifer (approximately 140 feet deep) located in the SE 1/4 NE 1/4 Section 26 for irrigation of 80 acres located in the NE 1/4 Section 26; all in T94N-R55W. This site is located approximately one and one-half mile northwest of Mission Hill SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is March 19, 2021.
4. The date of approval of Permit No. 8501-3 is June 1, 2021.
5. One-fifth of the construction is to be completed on or before December 1, 2023.
6. All construction is to be completed on or before June 1, 2026.
7. Water is to be put to beneficial use on or before June 1, 2030.
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. 8501-3 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. The well authorized by Permit No. 8501-3 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8501-3 authorizes a maximum diversion rate of 1.33 cfs for the irrigation of 80 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

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

JUL 06 2021

date



PAID

MAR 19 2021

Ck# 4476

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8501-3</u> (office use only) Hydrologic Unit <u>101600111</u>
	Basin <u>James River</u>
	Newspaper <u>Press & Dakotan</u>

Application For Permit To Appropriate Water For IrrigationType 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 John & Jacki Smith

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

Mailing Address 2507 Valley Road Yankton ☒ sd ☒ 57078
(Address) (City) (State) (Zip Code)Phone _____ Mobile 605-660-0848 Email jcsfarms@iw.net2. Amount of water claimed 1.33 *CFS or 600 **GPM ***AF Total Acreage 80
(**Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply Lower James:Missouri aquifer4. Location of point of diversion 1 well in the SE 1/4 of NE 1/4, Section 26, T94n R55w
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)County Yankton ☒5. County or counties where water will be used Yankton6. Annual period during which water is to be used April 1-October 317. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
ne of ne, Section 26, T94nR55w	13		
sw of ne, Section 26, T94nR55w	34		
nw of ne, Section 26, T94nR55w	31		
se of ne, Section 26, T94nR55w	2		

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

Center pivot crop irrigation of the above listed properties. Greater than statutory diversion rate requested due to windshield wiper application method.

I, John C. Smith land owner, the applicant, certify under
Name of Person Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by _____
(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) 140 Depth to Top of Water Bearing Material 80 Depth to Water from Surface 85d) Distance to nearest domestic well on applicant's property None Property owned by others >3000'**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)

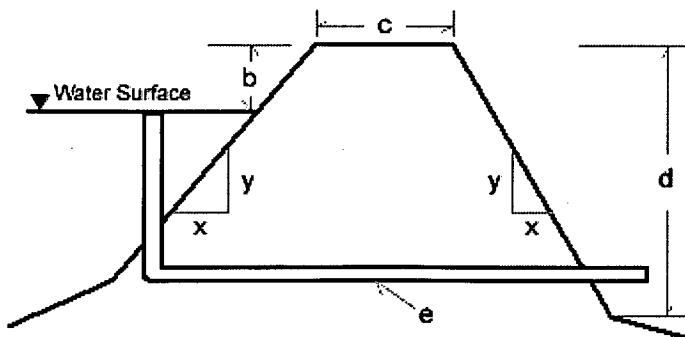
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



John Smith Irrigation

Write a description for your map.

307th St

NE corner Section 26

proposed well

445th Ave

308th St

444th Ave



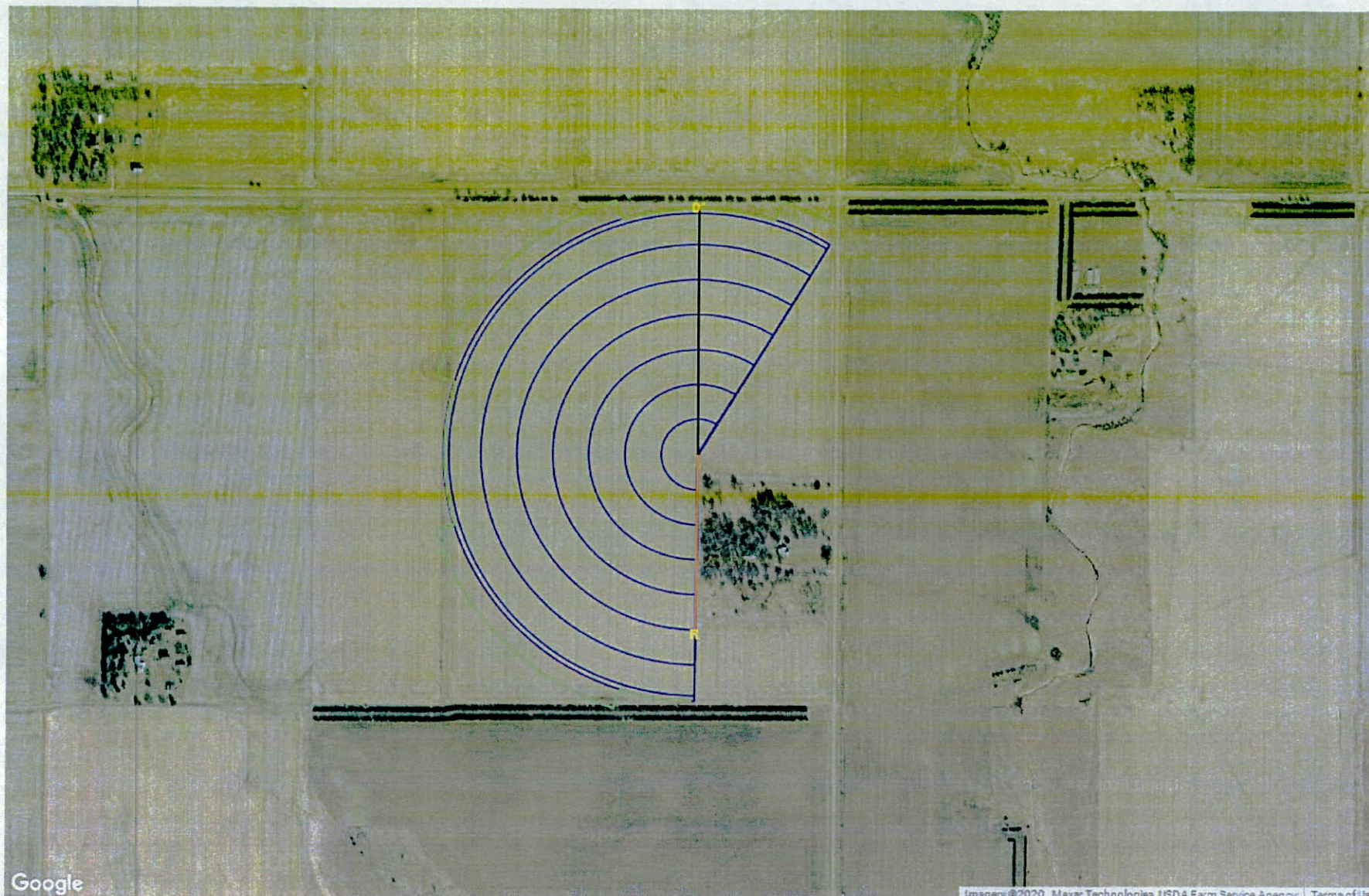
3000 ft

Google Earth

© 2021 Google



Project Name - John Smith - Relocated Valley
Version Name - John Smith - Relocated Valley_Version
Map Summary Report - John Smith - Relocated Valley



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

Heine Electric & Irrigation - 307 S Robinson Ave, Hartington, NE, 68739, UNITED STATES



Project Name - John Smith - Relocated Valley
Version Name - John Smith - Relocated Valley_Version
Map Summary Report - John Smith - Relocated Valley



Field Name	Design Name	Machine Category	Machine Area (ac)	No. of Towers	Total Machine Length (ft)	Total Irrigated Area (ac)
Pivot_1_81720207855641	John Smith - Relocated Valley	Large Field Electrical Pivot 8000	68.35	7	1269.12	74.82

(John Smith - Relocated Valley)	Spans and Overhang	Corner	Endgun*	Bender / DropSpan	Keep-Out
Irrigated Area using (ac)	68.26	0	6.57	0	0.00

* Estimated

Total Span Length (ft) 1240.00

Overhang Length (ft) 27.00

Flex/Transition/Other Lengths (ft) 2.12

S.No	Diameter	Length (ft)	Cable Size	Motor Options	Tire Size	Bender / DropSpan	Profile
1	6 5/8	180.00	10 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 38 Non-Directional 6Ply w/Tube	None	Standard
2	6 5/8	180.00	10 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 38 Non-Directional 6Ply w/Tube	None	Standard
3	6 5/8	180.00	10 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 38 Non-Directional 6Ply w/Tube	None	Standard
4	6 5/8	180.00	10 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 38 Non-Directional 6Ply w/Tube	None	Standard
5	6 5/8	180.00	10 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 38 Non-Directional 6Ply w/Tube	None	Standard
6	6 5/8	180.00	10 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 38 Non-Directional 6Ply w/Tube	None	Standard
7	6 5/8	160.00	10 ga cable / 11 cond shielded	34 RPM Baldor Helical	11.2 x 38 Non-Directional 6Ply w/Tube	None	Standard

Endgun Angles (John Smith - Relocated Valley)	Endgun 1	Endgun 2	Endgun 3
Start Angle	17.75 deg	197.75 deg	287 deg
End Angle	30.75 deg	253.25 deg	342.5 deg

Field Name	Latitude	Longitude	Pivot Road Angle	Pivot Road Offset	Start Angle	End Angle
Pivot_1_81720207855641	42.93431300428175	-97.30119677212367	180.56 deg	-	180.56 deg	31.23 deg

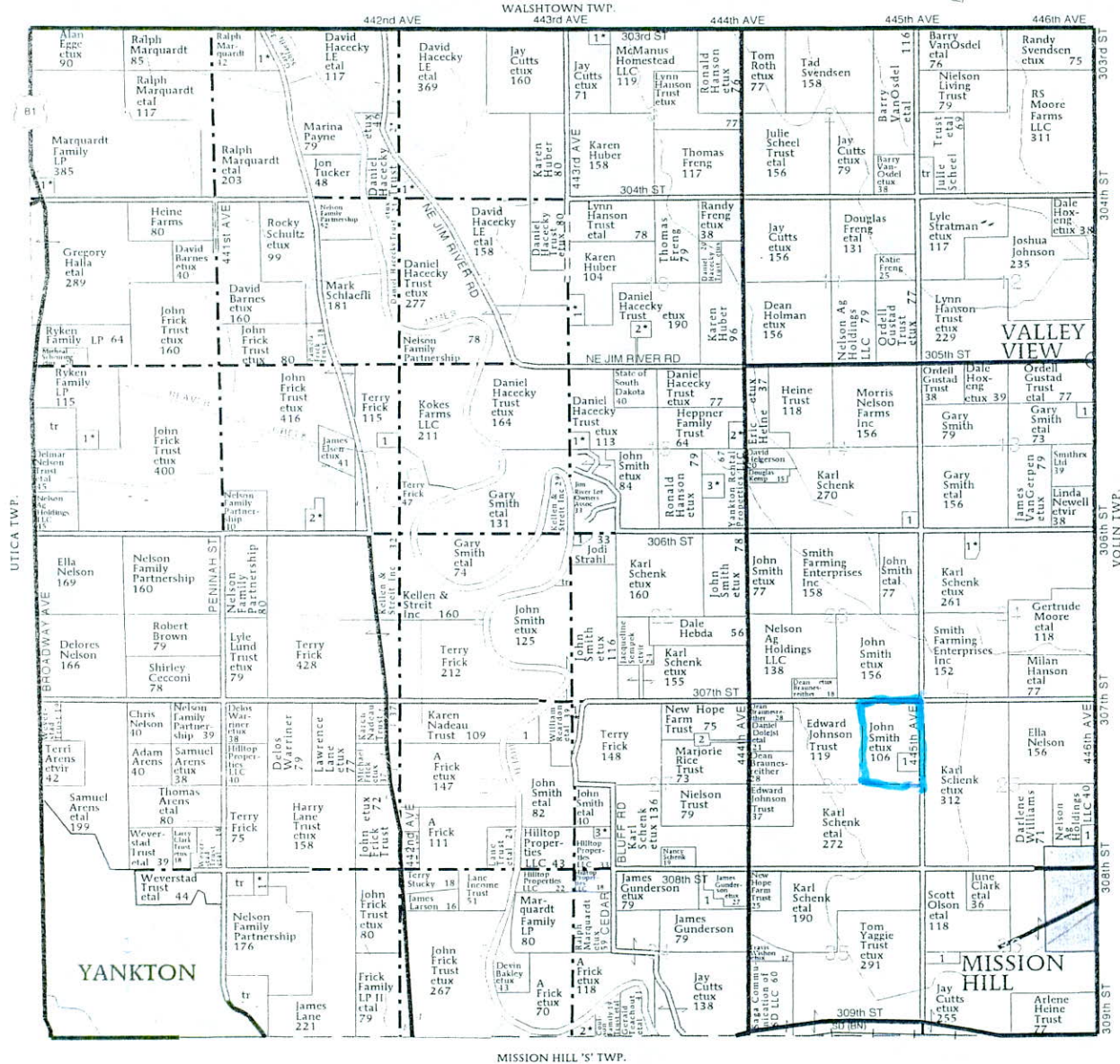
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Page in this book to see how

T-94-N

MISSION HILL 'N' PLAT

R-55-W



MISSION HILL 'S' TWP.

MISSION HILL 'N'
TOWNSHIP

SECTION 3

1. Knode, Dale etux 8

SECTION 4

1. Hacecky Trust, Daniel etux 25

SECTION 5

1. Marquardt, Ralph etal 10
2. Hacecky LE, David etal 7

SECTION 6

1. Jones, Boyd etux 5

SECTION 10

1. Hacecky LE, David etal 15

2. Wathier, George etux 8

SECTION 13

1. Quatier, Todd 6

SECTION 14

1. Helgerson, David 6

SECTION 15

1. Larson, Jeffery etux 6
2. Aase, Elwyn etux 10
3. Williams, James etux 11

SECTION 17

1. Kokes Farms LLC 9
2. Frick, Christopher 9

SECTION 18

1. Likness, Micah etux 10

SECTION 22

1. Jim River Lot Owners Assoc 6

SECTION 24

1. Adams, Richard etux 9

SECTION 25

1. Hasker, Elmer 12

SECTION 26

1. Sarringar, Margaret 10

SECTION 27

1. Reardon, William etal 5
2. Nelsen, Christopher 9

SECTION 28

1. Olson, Gordon etux 6
-
- SECTION 28**
-
1. Smith Farming Enterprises Inc 10
 2. Luben LLC 9

3. Montagne, Pierre etux 5

4. Stucky, Terry etux 5

SECTION 32

1. Shafer, Timothy etux 7

SECTION 34

1. Aune, David 11
2. Hacecky Trust, Daniel etux 15

SECTION 36

1. Town of Mission Hill 12

RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Environment and Natural Resources

Date March 19, 2021

RECEIVED OF John/Jacki Smith 2507 Valley Road Yankton SD 57078

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

Fee for Application for Permit No. <u>8501-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$750.00
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>8501-3</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	\$950.00

By Eric Gronlund
Chief Engineer

Em

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, May 12, 2021 8:33 AM
To: jcsfarms@iw.net
Subject: Water Permit Application No. 8501-3
Attachments: 1212.pdf

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

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8501-3, John & Jacki Smith**

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. 8501-3, John & Jacki Smith, 2507 Valley Road, Yankton SD 57078.

The Chief Engineer is recommending APPROVAL of Application No. 8501-3 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. 8501-3 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. The well authorized by Permit No. 8501-3 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 8501-3 authorizes a maximum diversion rate of 1.33 cfs for the irrigation of 80 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. 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
May 11, 2021

**REPORT TO THE CHIEF ENGINEER
WATER PERMIT APPLICATION NO. 8501-3
JOHN AND JACKI SMITH
MAY 5, 2021**

Water Permit Application No. 8501-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.33 cubic feet per second (cfs) from the Lower James Missouri aquifer. The applicant intends to divert water from one well, approximately 140 feet-deep, to be located in the SE ¼ NE ¼ Section 26 for irrigation of 80 acres located in the NE ¼ Section 26; all in T94N-R55W. The site is located approximately 1.5 miles northwest of Mission Hill, SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

AQUIFER: Lower James Missouri (LJM)

Aquifer Characteristics

The Lower James Missouri aquifer was deposited as glacial outwash and is composed primarily of sand and gravel (Bugliosi, 1986; Lindgren and Hansen, 1990). It underlies approximately 191,700 acres of Clay, Hutchinson, and Yankton counties with an estimated 2,795,400 million acre-feet of recoverable water in storage (Hedges et al., 1982). Bugliosi (1986) and Lindgren and Hansen (1990) both note the extensive hydraulic connection between the Lower James Missouri aquifer with surrounding bedrock and surficial aquifers, as-well-as the James and Missouri Rivers. This has resulted in both confined and unconfined groundwater conditions being present in the aquifer. Unconfined conditions are generally along the James River where the aquifer is exposed to the surface but, in other locations, the aquifer can be buried by as much as 355 feet of till (Bugliosi, 1986; Lindgren and Hansen, 1990). The general direction of water movement in the aquifer is to the south and toward the James River (Hedges et al., 1982; Lindgren and Hansen, 1990).

Well completion reports in the vicinity of the application location indicate there is an average thickness of 96 feet of glacial till overlying sand and gravel with a minimum average thickness of 33 feet (Water Rights, 2021a and 2021b). The average static water level was at 72 feet below ground surface. This indicates an average of 24 feet of artesian head pressure and that the proposed site is under confined conditions (Water Rights, 2021a).

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 reasonable probability that there is unappropriated water available for the 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 water availability and potential for unlawful impairment of existing water rights within the Lower James Missouri aquifer.

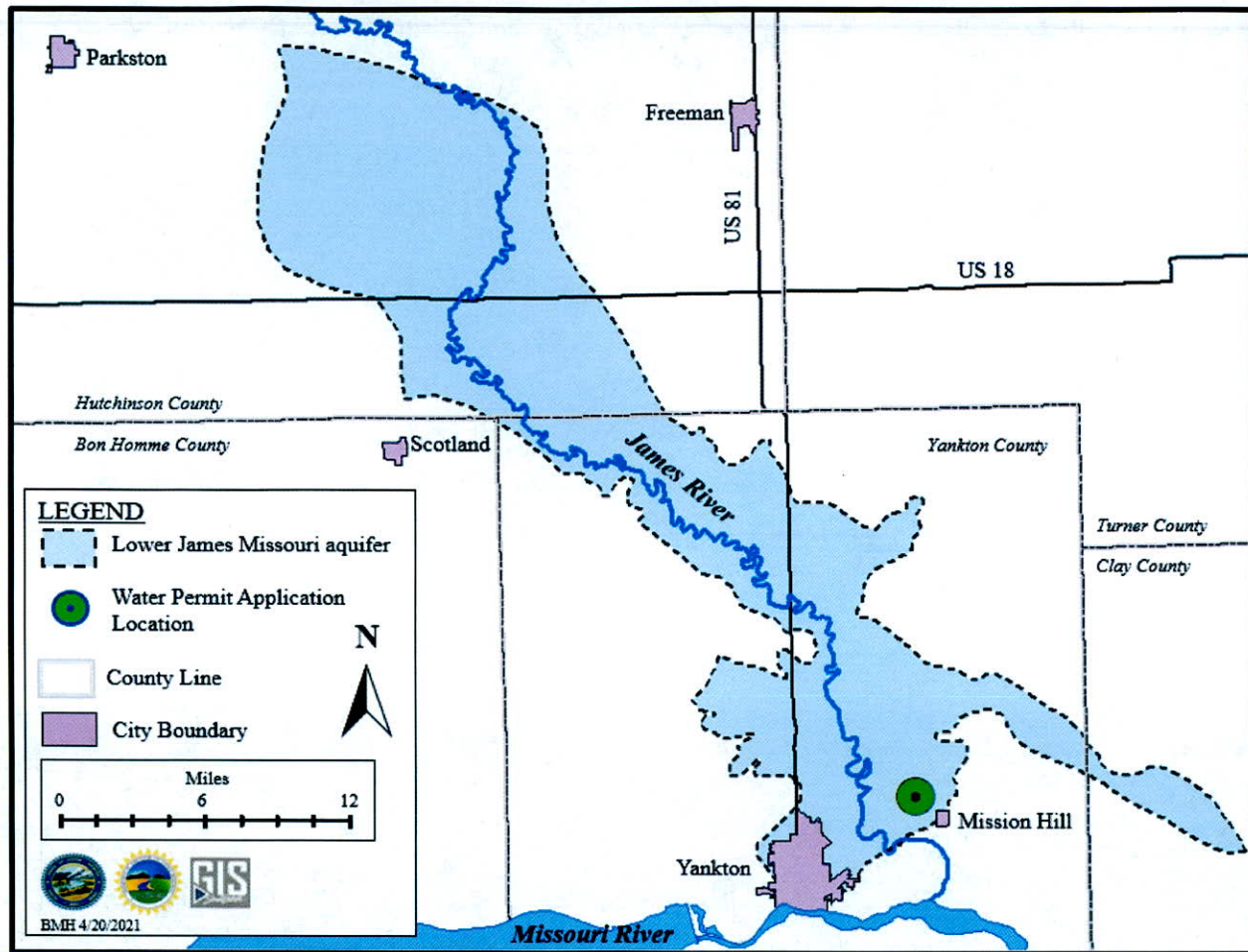


Figure 1. Water Permit Application No. 8501-3 shown within the Lower James Missouri aquifer boundary (modified from: Hedges et al., 1982).

WATER AVAILABILITY

Water Permit Application No. 8501-3 proposes to appropriate water from the Lower James Missouri aquifer. The probability of unappropriated water being available from an 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 as defined by SDCL 46-1-6(17) has applied for a permit, the Board need not consider the balance of recharge to and withdrawal from the aquifer. For this application, a water distribution system is not involved and the aquifer is not older or lower than the Greenhorn Formation; therefore, the balance of recharge and withdrawal must be considered.

Hydrologic Budget

Recharge:

The Lower James Missouri aquifer is recharged from infiltration by precipitation where the aquifer is at or near land surface, inflow from surface water, and leakage from underlying and adjacent aquifers (Bugliosi, 1986; Lindgren and Hansen, 1990). This results in both confined and

unconfined conditions throughout the estimated 191,700 total acres (Hedges, et al., 1982) of the aquifer. Hedges, et al. (1985) utilized regional flow-net analysis to estimate a recharge rate of 1.5 inches per year (in/yr) for the aquifer. When this is applied to 191,700 acres, a recharge value of 23,960 acre-feet/year (ac-ft/yr) is obtained for the aquifer. Hedges, et al. (1985) utilized observation well analysis to estimate a recharge rate of 3.9 in/yr for the unconfined portions of the aquifer. Stonesifer (2014) estimated the areal extent of the unconfined portion to be approximately 82,200 acres. This results in recharge to the unconfined portion of the aquifer at approximately 26,715 ac-ft/yr. It should be noted that Stonesifer (2014) used a larger estimated areal extent for the aquifer than Hedges et al. (1982). This larger areal extent also included unconfined portions of what Hedges et al. (1982) identified as the Plum Creek and Choteau: East aquifers. Stonesifer's (2014) recharge estimate should be considered a likely maximum recharge rate for the Lower James Missouri aquifer. These values produce an annual recharge range between 23,960 to 26,715 ac-ft/yr for the Lower James Missouri aquifer.

Discharge:

Discharge from the Lower James Missouri aquifer is by leakage to the James River, evapotranspiration where the aquifer is near land surface, groundwater outflow to adjacent aquifers, and well withdrawals (Bugliosi, 1986; Lindgren and Hansen, 1990). Currently, there are 131 water rights/permits authorized to appropriate water from the Lower James Missouri aquifer (Water Rights, 2021a). Eight are for non-irrigation use and are comprised of six commercial (COM) and two industrial (IND) water rights (Table 1). The total estimated volume of water to be withdrawn can be determined by assuming that water rights/permits limited by an annual volume will pump the entire volume appropriated annually or that water rights/permits limited by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time. All permits in Table 1 are assumed to pump 60 percent of their authorized diversion rate except for 8412-3, which is limited by its annual volume. No discharge values have been established for evapotranspiration, leakage to adjacent aquifers, or surface water. There are no future use permits reserving water from the Lower James Missouri aquifer (Water Rights, 2021a).

Table 1. Non-irrigation water rights/permits from the Lower James Missouri aquifer with permitted appropriation and estimated volume water use (Water Rights, 2021a).

Permit Number	Name	County	Status ^a	Use ^a	CFS	Estimated Volume ^b (acre-feet/year)
840-3	Stuelpnagels Inc.	Yankton	LC	COM	1.11	482.2
1288-3	National Food Stores Inc.	Yankton	LC	IND	0.16	69.5
4556-3	Concrete Materials	Yankton	LC	COM	0.44	191.3
6264-3	Yankton Land & Cattle Co.	Yankton	LC	COM	0.56	243.3
6320-3	Wolf Creek Colony	Hutchinson	LC	COM	0.08	34.8
6925-3	Tschetter Colony	Hutchinson	LC	COM	0.07	30.4
7827-3	Maxwell Colony	Hutchinson	PE	COM	0.33	143.4
8412-3	Concrete Materials Co.	Yankton	LC	IND	7.80	400.0 ^c
					Total:	1,594.9
a - LC: Licensed Water Right; PE: Water Permit; COM: Commercial; IND: Industrial						
b - These permits are all assumed to pump at 60% of their volume except where noted						
c - This permit is by annual volume						

Table 2- Historic irrigation pumpage from the Lower James Missouri aquifer (Water Rights, 1979-2019).

Year	Number of Permits Reporting	Appropriation (acre-feet/year)	Pumpage (acre-feet/year)
1979	22	11,265.0	588.00
1980	23	11,561.0	1,299.13
1981	33	14,407.8	1,834.06
1982	23	9,440.1	1,301.25
1983	27	9,883.1	1,306.54
1984	28	12,283.1	1,360.00
1985	27	10,033.1	1,483.00
1986	30	11,613.5	989.60
1987	30	11,613.5	1,041.60
1988	31	11,769.5	2,744.90
1989	31	10,909.1	2,144.80
1990	35	12,673.1	2,928.10
1991	42	15,497.9	2,599.00
1992	45	16,791.9	1,159.00
1993	45	16,241.9	230.44
1994	45	17,094.1	1,918.17
1995	41	15,088.1	1,483.32
1996	49	17,240.1	2,102.99
1997	50	17,072.1	2,320.00
1998	53	16,915.1	2,787.03
1999	50	15,992.1	2,102.15
2000	51	17,048.1	3,751.08
2001	53	17,208.1	2,940.09
2002	53	17,108.1	4,061.52
2003	53	17,373.1	2,843.15
2004	47	14,525.1	2,886.65
2005	48	14,749.1	2,866.63
2006	50	15,627.1	3,630.92
2007	56	17,477.7	3,425.91
2008	79	23,891.7	4,494.03
2009	84	25,451.1	1,463.27
2010	85	25,731.1	665.37
2011	89	27,367.1	4,147.47
2012	93	28,626.7	13,058.45
2013	118	33,664.1	7,855.75
2014	125	36,286.1	3,347.27
2015	127	37,695.2	4,822.86
2016	126	37,607.2	5,747.01
2017	126	37,142.4	5,727.12
2018	126	36,758.4	1,035.87
2019	127	36,958.4	328.01
Maximum:	127	37,695.2	13,058.45
Minimum:	22	9,440.1	230.44
Historical Average:	60	19,602.0	2,800.5
Average (2012-2019):	121	35,592.3	5,240.3

The well withdrawals from the Lower James Missouri aquifer are primarily for irrigation use. Table 2 shows the historic irrigation water use from the aquifer as reported to the DNR-Water Rights Program through annual irrigation questionnaires. For aquifers east of the Missouri River where irrigation application rates have been calculated, the application rates have been less than 1 ac-ft/acre (12 inches/acre) for center pivot crop irrigation. Therefore, if this application is approved, it will average 80 ac-ft/yr or less. The average historical annual irrigation use from the Lower James Missouri aquifer is 2,800.5 ac-ft/yr. Starting in 2012, there was a significant increase in irrigation permits and irrigated acres which suggests that the historical average pumpage is not necessarily representative of current average pumpage. Therefore, the average irrigation use of 5,240.3 ac-ft/yr (from 2012 through 2019) is considered more representative of current average use for this aquifer.

There are numerous domestic wells on file with the Water Rights Program within the Lower James Missouri aquifer (Water Rights 2021b). Domestic users are not required to report their annual water usage and their low diversion rates are not considered a significant portion of the hydrologic budget. Additionally, some domestic wells may no longer be in use after development of rural water systems in the area.

Water Balance:

The Lower James Missouri aquifer estimated average annual withdrawal rate is 6,835 ac-ft/yr (non-irrigation: 1,595 and irrigation: 5,240). If approved, the expected use of 80 ac-ft/yr (irrigating 80 acres at the 12 in/ac application rate) by this application results in a total of 6,915 ac-ft/yr of water. With a minimum estimated average annual recharge of 23,960 ac-ft/yr, this application does not result in an exceedance of the estimated average annual recharge for this aquifer. Therefore, there is reasonable probability unappropriated water is available for this application.

Observation Well Data

Administrative Rule of South Dakota Section 74:02:05:07 requires that the Water Management Board 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 DNR-Water Rights Program maintains 33 observation wells completed into the Lower James Missouri aquifer (Water Rights, 2021c). The hydrographs for the observation wells within approximately four miles of Water Permit Application No. 8501-3 are shown in Figures 2 through 4 with their locations, in relation to the application location, is shown in Figure 5.

The hydrographs shown in Figures 2 and 3 are representative of hydrographs for other observation wells completed into the Lower James Missouri aquifer. The hydrographs show the water level of the aquifer is relatively stable over the period of record. The hydrographs indicate that the aquifer responds well to climatic conditions with rising water levels during wet periods and declining water levels during drier periods. They also demonstrate that any drawdowns from pumping are temporary because the water levels typically recover to pre-pumping levels after the irrigation season. This recovery indicates that climatic conditions (the natural effects of recharge to and discharge from the aquifer) generally govern the long-term fluctuations in water level of the aquifer rather than the impacts of pumping from the Lower James Missouri aquifer.

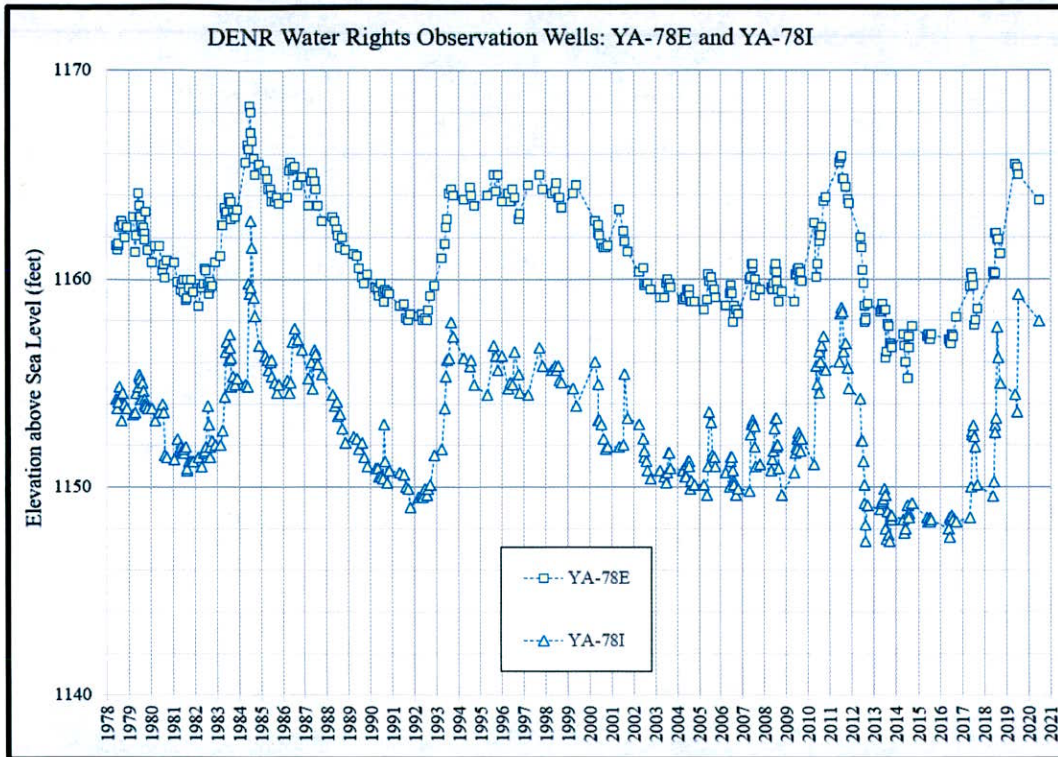


Figure 2. Hydrographs for observation wells YA-78E and YA-78I located approximately 2.3 miles north and 1.2 miles east respectively of the proposed well location for Water Permit Application No. 8501-3 (Water Rights, 2021c).

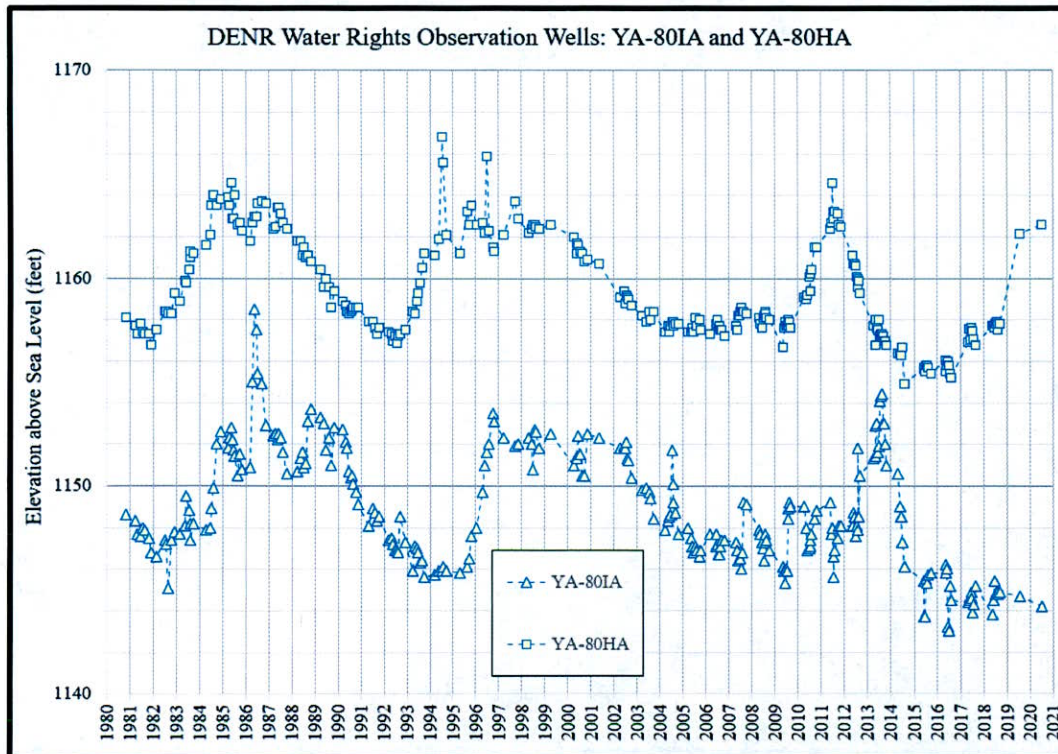


Figure 3. Hydrographs for observation wells YA-80IA and YA-80HA located approximately 1.4 miles northeast and 3.7 miles northwest respectively of the proposed well location for Water Permit Application No. 8501-3 (Water Rights, 2021c).

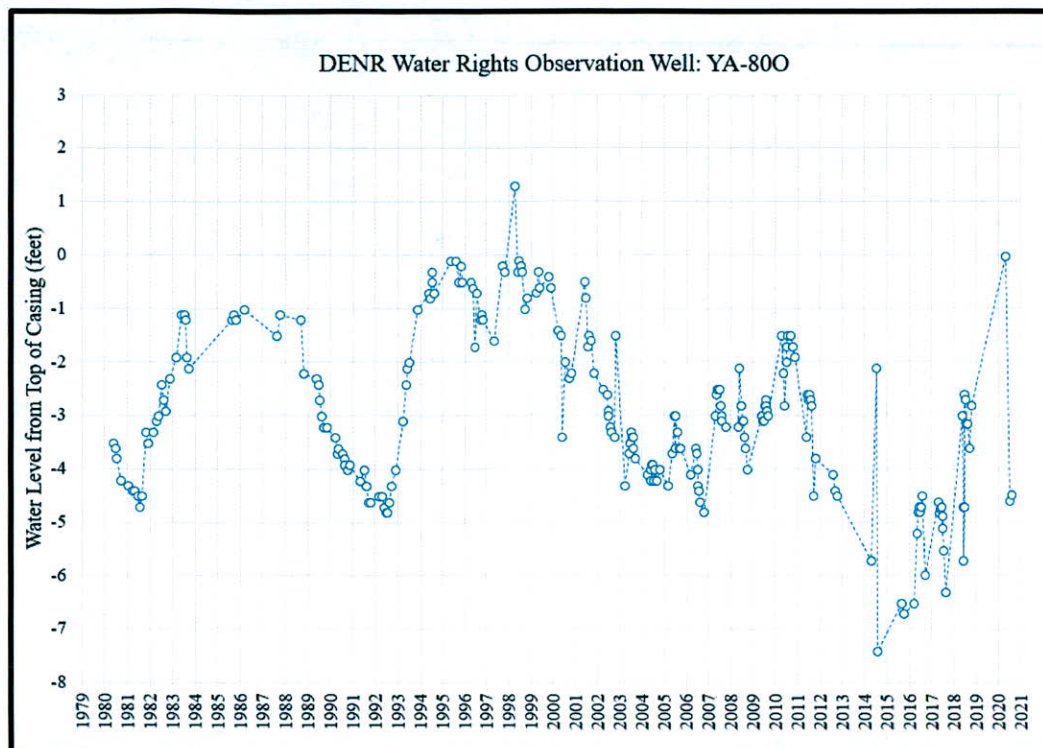


Figure 4. Hydrograph for observation well YA-800 located approximately 3.6 miles northwest of the proposed well location for Water Permit Application No. 8501-3 (Water Rights, 2021c).

There are other conditions within the aquifer that effect water levels in addition to the climatic influence. A number of the observation wells completed into the aquifer (demonstrated by YA-80HA as shown in Figure 3) document a slight declining trend in their water level data. Mathiowetz (2021) attributed this declining trend in the northern portion of the aquifer to development of the aquifer for appropriative use within the last 10 years. Stonesifer (2014) attributed declining water levels in the southern end of the aquifer to the hydraulic connection due to entrenchment of the Missouri River below Gavin's Point dam. As the entrenchment at the dam has increased, the water levels of the Missouri River and the Missouri: Elk Point aquifer below the dam have lowered. Given that there is a significant hydrologic connection between the Missouri: Elk Point aquifer and the Lower James Missouri aquifer, the slight lowering of the Missouri: Elk Point aquifer water level due to entrenchment of the Missouri River would also affect the southern portion of the Lower James Missouri aquifer. As mentioned above, unconfined conditions do exist where the aquifer is exposed at or near the surface along the James River. Observation wells near the James River exhibit unconfined and even artesian conditions. This is demonstrated in several observation wells close to the James River and particularly noted in the hydrograph for observation well YA-800 (Figure 4). It shows that the water level of the well is near the top of casing and could flow at land surface occasionally. However, the water levels as shown in the hydrographs for the four observation wells nearest to the applicants proposed diversion points (see Figures 2 and 3), as well as the other observation wells, document that the changes in water level are governed more by climatic conditions than well withdrawals. Recognizing that recharge to and natural discharge from the aquifer can be captured for pumping, the observation well data shows there is a reasonable probability there is unappropriated water available for this proposed appropriation.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS

Currently, there are 131 water rights/permits (8 non-irrigation and 123 irrigation) authorized to appropriate water from the Lower James Missouri aquifer (Water Rights, 2021a). There are several water rights/permits within 1.0 mile with the closest being Water Right No. 6919-3, at approximately 0.5 miles to the north, and Water Right No. 6838-3, at approximately 0.5 miles to the south, of the proposed application. Table 3 lists the Lower James Missouri aquifer water rights/permits shown in Figure 5 near the proposed well location for Application No. 8501-3. The nearest domestic well on file that appears to be completed into the aquifer is approximately 0.3 mile southeast of the proposed well location (Water Rights, 2021b).

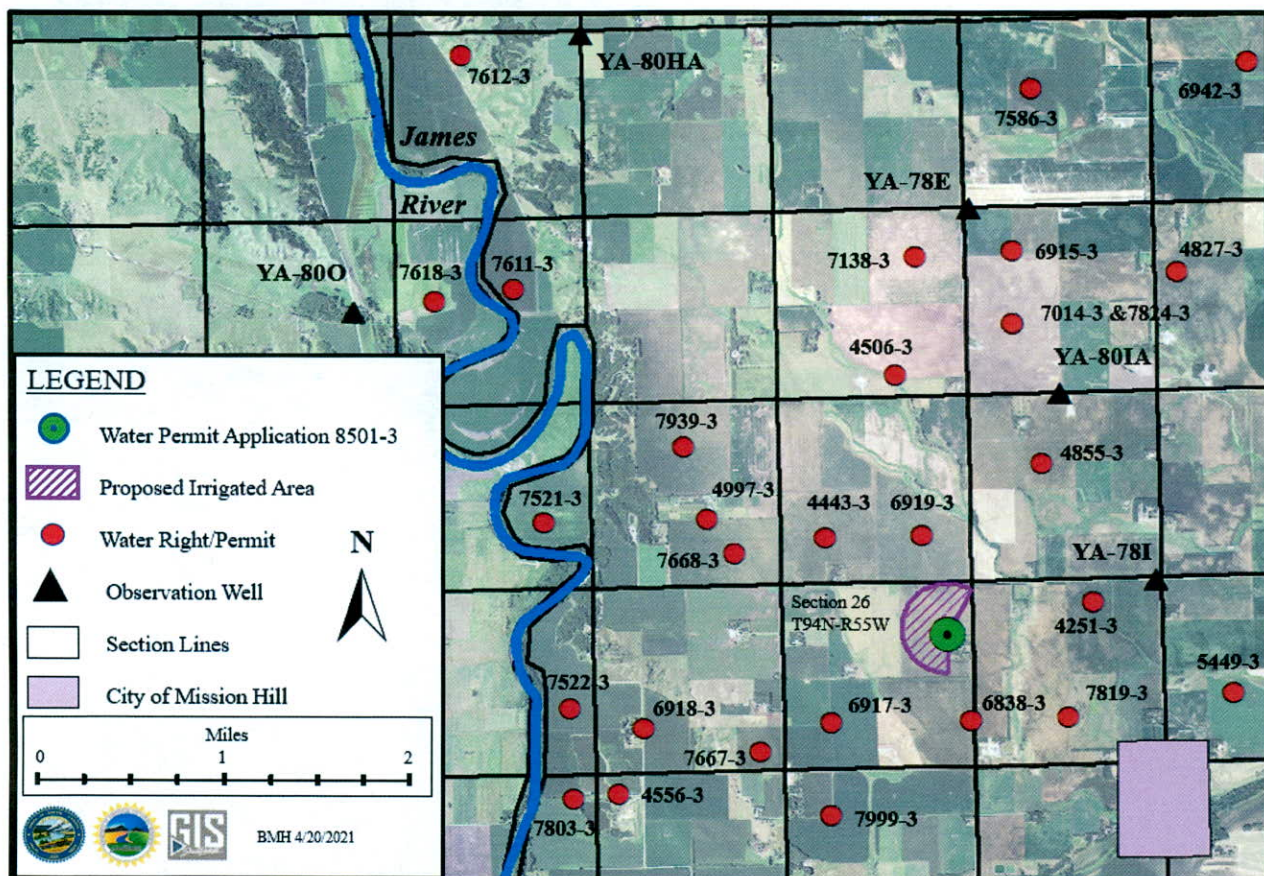


Figure 5. Existing Lower James Missouri aquifer water rights/permits and observation well in the vicinity of Water Permit Application No. 8501-3 (modified from Hedges, et al., 1982; Water Rights 2021a & 2021c).

Table 3. Water rights/permits shown in Figure 5 (Water Rights, 2021a).

Permit Number	Name	Use ^a	Status ^a	Rate (cfs)	Acres
4556-3	CONCRETE MATERIALS	COM	LC	0.44	0
4443-3	DENNIS, DARRELL NELSON	IRR		1.78	148
4506-3	KARL M SCHENK			2.45	203
4251-3	MORRIS NELSON			1.56	152
4827-3	GARY SMITH			1.83	128
4855-3	KARL M SCHENK			1.78	206
4997-3	DALE HEBDA			0.28	32
5449-3	HEINE FARMS			1.30	91
6838-3	KARL M SCHENK			2.00	120
6917-3	KARL M SCHENK			1.78	140
6918-3	KARL M SCHENK			1.33	55
6919-3	JOHN & JACQUELINE SMITH			2.00	327
7138-3	MORRIS NELSON FARMS INC			1.89	134
7618-3	JAMES C & JASON KOKES			1.67	101
7668-3	KARL M SCHENK			1.33	80
7819-3	KARL M SCHENK			1.78	70
6915-3	GARY SMITH		PE	1.78	70
6942-3	CRAIG L JOHNSON	4.44		315	
7014-3	GARY SMITH	2.00		76	
7521-3	JOHN & JACKI SMITH	1.44		101	
7522-3	JOHN & JACKI SMITH	1.33		94	
7586-3	THREE SISTERS FARMS	1.78		150	
7611-3	DAN HACECKY	1.89		77	
7612-3	DAN HACECKY	2.22		153	
7667-3	KARL M SCHENK	0.67		32	
7803-3	MARQUARDT	1.56		68	
7824-3	GARY SMITH	0.00	55.9		
7939-3	KARL M SCHENK	1.78	128		
7999-3	KARL M SCHENK	1.78	96		
a - COM: Commercial; IRR: Irrigation; LC: Licensed Water Right; PE: Permitted Water Right					

There are numerous domestic wells on file with the Water Rights Program within the vicinity of the proposed well site (Water Rights 2021b). To protect a domestic user with an adequate well, 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 Findings of Facts and Conclusions of Law that noted the reservation of artesian head pressure for delivery of water is 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 because of impacts on artesian head pressure by legitimate users is considered as an unlawful impairment, it conflicts with SDCL 46-1-4 (Water Rights, 1995). Consequently, some existing well owners may need to lower their pumps due to deeper water levels depending on the specific characteristics of the Lower James Missouri aquifer at their location; particularly since the aquifer is under confined conditions near the proposed diversion point for this application. However, many domestic wells may no longer be the primary water source since rural water systems have been introduced to the area. Additionally, there are several high capacity appropriative users in the area of this application and there is no history of well interference complaints in Yankton County (Water Rights, 2021d). Nearby adequate wells are not expected to be adversely impacted as defined in ARSD 74:02:04:20(7).

When considering the large amount of artesian head pressure (24 feet), saturated thickness of the aquifer in this area, the hydrographs of nearby observation wells not showing detrimental impact of pumping and, the lack of well interference complaints due to pumping from this aquifer, there is reasonable probability that the proposed diversion can be developed without unlawfully impairing existing appropriative or domestic water users with adequate wells.

SDCL 46-5-6:

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 70 acres, or "the equivalent thereof." The statute does provide that: "The Water Management Board may allow a greater diversion, in volume or rate or both, if the method of irrigation, any time constraints on diversion of water, or the type of soil so requires. However, no annual volume may be greater than three acre-feet per acre delivered to the land." Water Permit Application No. 8501-3 proposes to divert water at a maximum instantaneous diversion rate of 1.33 cfs for the irrigation of 80 acres or at a rate of 1.16 cfs per 70 acres. The request for this exceedance is because the intended center pivot to irrigate the proposed acreage will not complete a full rotation. However, the intended center pivot still requires the same pressure and flow rate as a similar-sized center pivot that does make a full rotation. This results in the exceedance of the 1 cfs per 70 acres stipulation. This type of reason has been accepted by the Water Management Board in past.

CONCLUSIONS:

1. Water Permit Application No. 8501-3 proposes to appropriate water at a maximum instantaneous diversion rate of 1.33 cubic feet per second (cfs) from the Lower James Missouri aquifer. The applicant intends to divert water from one well, approximately 140 feet-deep, to be located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 26 for irrigation of 80 acres located in the NE $\frac{1}{4}$ Section 26; all in T94N-R55W. The site is located approximately 1.5 miles northwest of Mission Hill, SD.
2. Based on the hydrologic budget and the observation well data, there is a reasonable probability unappropriated water is available for this proposed application.

3. There is a reasonable probability the diversions proposed by this application can be made without unlawfully impairing existing appropriative or domestic users with adequate wells.
4. Application No. 8501-3 has requested a diversion rate in excess of the statutory limit of one cfs per 70 acres. The request for this exceedance is because the intended center pivot to irrigate the proposed acreage will not complete a full rotation. This type of reason has been accepted by the Water Management Board in past.



Blaise Hansen
SD DANR – Water Rights Program

Reviewed By:



Adam Mathiowetz, PE
SD DANR-Water Rights Program

REFERENCES:

- Bugliosi, E.F. 1986. *Water Resources of Yankton County, South Dakota*. Water Resources Investigations Report 84-4241. U.S. Geological Survey, Huron, South Dakota.
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Water Rights. 2021c. *Observation Well Files*. SD DANR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

Water Rights. 2021d. *Yankton County Files*. SD DANR-Water Rights Program, Joe Foss Building, Pierre, South Dakota.

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MAY 24 2021

WATER RIGHTS
PROGRAM

JOHN & JACI SMITH
2507 VALLEY RD
YANKTON SD 57078

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

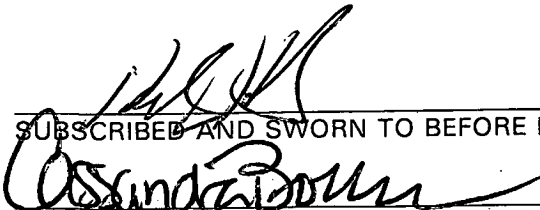
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
5 + 20 NOTICE OF APPLICATIO

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 20th DAY OF May, 2021
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT. \$24.88 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 05/20/2021

FILED ON: 05/20/2021

SUBSCRIBED AND SWORN TO BEFORE ME THIS 20th DAY OF May, 2021


NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES 07/04/2026

THE STATE OF SOUTH DAKOTA
COUNTY OF YANKTON
YANKTON DAILY PRESS AND DAKOTAN
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COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
5 + 20 NOTICE OF APPLICATIO

NOTARY PUBLIC

Ad text : 5 + 20

NOTICE OF APPLICATION

NO. 8501-3 to Appropriate Water

Notice is given that John & Jacki Smith, 2507 Valley Road, Yankton SD 57078 has filed an application for a water permit to appropriate 1.33 cubic feet of water per second (cfs) from one well to be completed into the Lower James Missouri Aquifer (approximately 140 feet deep) located in the SE 1/4 NE 1/4 Section 26 for irrigation of 80 acres located in the NE 1/4 Section 26; all in T94N-R55W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately one and one-half mile northwest of Mission Hill SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8501-3 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 Engineers 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 June 1, 2021.

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 \$24.88

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, May 12, 2021 8:30 AM
To: Jackie Lammers (jackie.lammers@yankton.net)
Subject: 8501-3, John & Jaci Smith
Attachments: 8501-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on May 20, 2021.

John & Jaci Smith, 2507 Valley Rd, Yankton SD 57078 (605 660-0848) 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

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





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

May 12, 2021

John & Jaci Smith
2507 Valley Road
Yankton SD 57078

Dear Mr. & Mrs. Smith:

Water Permit Application No. 8501-3 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 Press & Dakota printed at Yankton SD (Ph # 605 665-7811). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Karen Schlaak
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. 8501-3 to Appropriate Water

Notice is given that John & Jacki Smith, 2507 Valley Road, Yankton SD 57078 has filed an application for a water permit to appropriate 1.33 cubic feet of water per second (cfs) from one well to be completed into the Lower James Missouri Aquifer (approximately 140 feet deep) located in the SE 1/4 NE 1/4 Section 26 for irrigation of 80 acres located in the NE 1/4 Section 26; all in T94N-R55W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately one and one-half mile northwest of Mission Hill SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8501-3 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 June 1, 2021.

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.

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**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUL 06 2021

John & Jacki Smith
2507 Valley Rd
Yankton SD 57078

Dear Mr. & Mrs. Smith:

Enclosed is Water Permit No. 8501-3 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

NOV 29 2021

8501-3

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

Date 11-24-21

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

FROM: John & Jacki Smith
(name)

2507 Valley Rd.
(address)

Yankton, SD 57078
(city, state, zip)

605-660-0848
(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. 8501-3 states that the water use system is to be constructed by

6-1-26, and water is to be put to beneficial use by 6-1-30.
(date) (date)

The water use system was completed on 8-11-21.
(date)

Applying the water to beneficial use was completed on 8-12-21.
(date)

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

John C. Smith
(signature)





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

November 30, 2021

8501-3

John & Jacki Smith
2507 Valley Rd
Yankton SD 57078

Dear Mr. & Mrs. Smith:

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 authorized under Water Permit No. 8501-3.

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

**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 8501-3**

I have this day, June 30, 2022, made a thorough examination of the water use system owned by John & Jacki Smith, 2507 Valley Rd, Yankton, SD 57078, holder of Permit No. 8501-3, bearing the priority of March 19, 2021, authorizing the diversion of 1.33 cu. ft. per second of the waters of groundwater (Lower James Missouri: Aquifer) for the irrigation of 80 acres located in Yankton County.

Inspection contact: John Smith

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: SJH Contracting
- 2) No. of Wells: 1
- 3) Depth(s): Unknown feet
- 4) Well log is available: No

Casing:

- 1) Diameter: Unknown inches
- 2) Length: Unknown feet
- 3) Type: Unknown

Screen:

- 1) Diameter: Unknown inches
- 2) Length: Unknown feet
- 3) Type: Unknown
- 4) Static water level: Unknown feet

Pump:

- 1) Make: Grundfos
- 2) Model: 800S60
- 3) Capacity: 800 gpm

Motor:

- 1) Make: Grundfos
- 2) Model No.: Unknown
- 3) Horsepower rating: 60 hp

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

- 1) Type: Galvanized Size: 8 inches Length: 15 feet

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make: Valley
- 2) Overall length: 1277 feet
- 3) Number of towers: 7
- 4) End gun: Yes
- 5) Capacity: 900 gpm

Chemigation Equipment:

- 1) Does chemigate: No

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by: No
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: Yes
- 3) Exceptions to compliance are: The pump flow rate is 1.78 cfs instead of 1.33 cfs.

E. Condition and Location:

- 1) The system is in good condition with the point(s) of diversion located as follows:
The well is 690 feet west and 1,370 feet south of the northeast corner of Section 26-T94N-R55W (Latitude 42.93427, Longitude -97.30112 – SE1/4 of the NE1/4).
- 2) The works are capable of diverting and conveying to the place of use 1.78 cu. ft. per second of water which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

Section 26-T94N-R55W

<u>NW1/4NE1/4</u>	<u>13 acres</u>
<u>NE1/4NE1/4</u>	<u>29 acres</u>
<u>SW1/4NE1/4</u>	<u>15 acres</u>
<u>SE1/4NE1/4</u>	<u>20 acres</u>

comprising a total of 77 acres of land and the license should be issued for 1.33 cfs.

- 3) All structures, wells and lands on map Yes

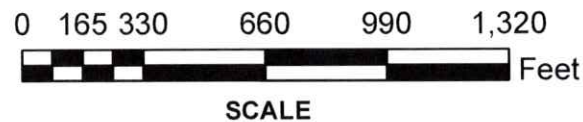
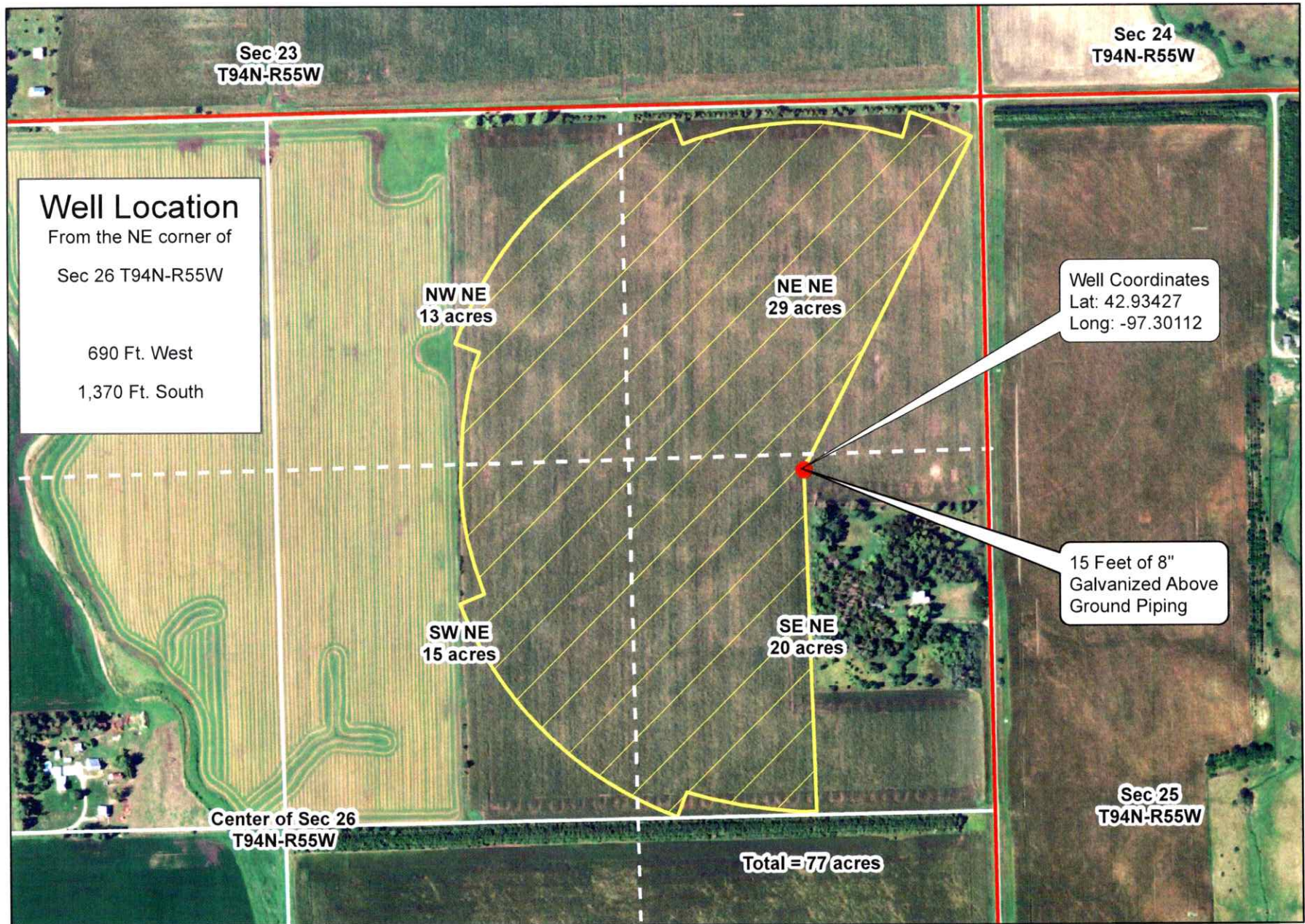
F. Comments or other permit(s) associated with the project: The pump flow rate is 1.78 cfs instead of the 1.33 cfs that was permitted. The pump and motor information was obtained from Sam Heine Well Co. The well driller did not send me a well completion report, but they did note that they encountered sand/gravel from 115 feet to 170 feet, so the well is probably 170 feet deep.

Keith DeJong

Keith DeJong, PE Ret.
Water Rights Inspector
DANR, Water Rights Program

Date report completed: July 20, 2023

Water Permit No. 8501-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
June 30, 2022



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUL 25 2023

John & Jacki Smith
2507 Valley Rd
Yankton SD 57078

8501-3

Dear Mr. & Ms. Smith:

Enclosed is Water License No. 8501-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if in the future, the owner of an existing well, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

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

NOTE: The investigation found your irrigation system is capable of diverting 1.78 cubic feet of water per second (cfs) which is equivalent to approximately 800 gallons per minute. The diversion rate authorized by Water Permit No. 8501-3 was limited to 1.33 cfs (equivalent to approximately 600 gpm). Diversion of water under this water license is limited to 1.33 cfs.

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 8501-3**

(1) John & Jacki Smith; 2507 Valley Rd, Yankton SD 57078, made Application No. 8501-3, March 19, 2021, for a water permit to divert 1.33 cubic feet of water per second from groundwater, one well (Lower James: Missouri Aquifer), Yankton County, South Dakota for irrigation purposes. Permit No. 8501-3, with a priority date of March 19, 2021, was approved June 1, 2021, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before June 1, 2026, and for the application to beneficial use of water on or before June 1, 2030.

(2) It is certified that the permit holders have complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.33 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 690 ft W & 1,370 ft S of the NE corner of Section 26, T94N, R55W (SE $\frac{1}{4}$ NE $\frac{1}{4}$)
(Latitude 42.93427 Longitude -97.30112)

(3) The permit holders have complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate the following land:

Section 26, T94N, R55W			
NE $\frac{1}{4}$ NE $\frac{1}{4}$	29.0 acres	SW $\frac{1}{4}$ NE $\frac{1}{4}$	15.0 acres
NW $\frac{1}{4}$ NE $\frac{1}{4}$	13.0 acres	SE $\frac{1}{4}$ NE $\frac{1}{4}$	20.0 acres
TOTAL: 77.0 acres			

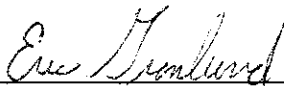
(4) Pursuant to South Dakota Water Law 46-5-30.1 John & Jacki Smith, the holders and/or owners of Water Right No. 8501-3 are issued a license to appropriate water, the right to use 1.33 cubic feet of water per second from groundwater, one well (Lower James: Missouri Aquifer), with a priority date of March 19, 2021, 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. 8501-3 and subject to the following qualifications:

1. The well approved under Water Permit No. 8501-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owners under this Water Right shall control their withdrawals so there is not a reduction of needed water in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8501-3 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. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Permit No. 8501-3 authorizes a maximum diversion rate of 1.33 cfs for the irrigation of 80 acres with an annual volume not to exceed 2 acre feet of water per acre per year. (*Water Right No. 8501-3 reduced the irrigated acres from 80 to 77 based on the system as it was developed.*)

continued

4. This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.


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

JUL 25 2023

date

