

WATER PERMIT NO. 8300-3

Name of Applicant: Samual and Adam Arens

Address: 4408 Broadway, Yankton SD 57078

Phone: 605 661-8477

Amount of Water Claimed: 1.56 cfs

Total Acres: 100 acres

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: Yankton

Type of Waste Disposal System:

Location: 1 mile north of Yankton

PRIORITY

Date Received: 7-24-17

Application/License Fee: \$ 950

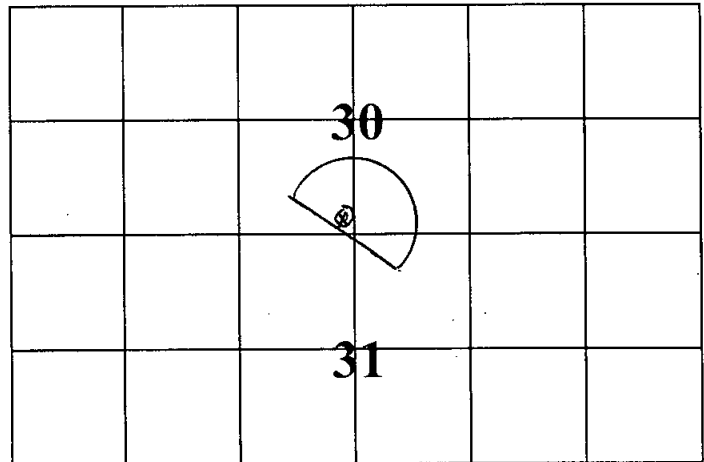
Corrected Application Received:

Period of Annual Use: April 1 – October 31

Remarks:

Diversion Point: SE 1/4 SW 1/4 Sec 30-T94N-
R55W

Land to be Irrigated: W 1/2 SE 1/4, E 1/2 SW 1/4,
SW 1/4 SW 1/4 Sec 30 and NW 1/4 NE 1/4 Sec 31;
all in T94N-R55W



Depth of Well: 215

Well Driller: Heine Electric & Irrigation, Inc.

Remarks:

Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 7-24-17

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

FORM 2: Application for irrigation in South Dakota

(type or print)

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JUL 24 2017

WATER RIGHTS
PROGRAM

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8300-3</u> (office use only)	Hydrologic Unit <u>10160011</u>
	Basin <u>James River</u>	
	Newspaper <u>Press & Dakotan, Yankton</u>	

Application For Permit To Appropriate Water For Irrigation

 Type of Application: ☒ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____

(Use predates Mar 2, 1955)

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

1. Name to Appear on Irrigation Permit Samual and Adam Arens

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

 Mailing Address 4408 Broadway Yankton ☒ SD ☒ 57078
 (Address) (City) (State) (Zip Code)

 Phone _____ Mobile 605-661-8477 Email _____

 2. Amount of water claimed 1.56 *CFS or 700 **GPM _____ ***AF Total Acreage 100
 (*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 Aquifer
 4. Location of point of diversion 1 well in the SE 1/4 of the SW 1/4, Section 30-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 to October 31
 7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
 (Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
sw of se of Sec 30, t94n, r55w	35	sw of sw of Sec 30, t94n, r55w	3
nw of se of Sec 30, t94n, r55w	5	nw of ne of Sec 31, t94n, r55w	15
ne of sw of Sec 30, t94n, r55w	15		
se of sw of Sec 30, t94n, r55w	27		

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

Center pivot irrigation of above listed cropland. Greater than statutory discharge rate requested due to incomplete circle operation of pivot and porous soils under parts of irrigated land.

 I, Adam Arens
 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.

SOUTH DAKOTA
WATER PERMIT NO. 8300-3

Date of first receipt of application July 24, 2017.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8300-3 to Samual and Adam Arens, 4408 Broadway, 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. 8300-3 appropriates 1.56 cubic feet of water per second (cfs) from one well to be completed into the Lower James Missouri Aquifer (approximately 215 feet deep) located in the SE 1/4 SW 1/4 Section 30 for irrigation of 100 acres located in the W 1/2 SE 1/4, E 1/2 SW 1/4, SW 1/4 SW 1/4 Section 30 and NW 1/4 NE 1/4 Section 31; all in T94N-R55W which is approximately one mile north of Yankton.
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 July 24, 2017.
4. The date of approval of Permit No. 8300-3 is October 9, 2017.
5. One-fifth of the construction is to be completed on or before April 9, 2020.
6. All construction is to be completed on or before October 9, 2022.
7. Water is to be put to beneficial use on or before October 9, 2026.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under this Water Permit No. 8300-3 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. 8300-3 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. 8300-3 authorizes a combined maximum diversion rate of 1.56 cfs for the irrigation of 100 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: Jeanne Goodman
Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

OCT 20 2017
date



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 Heine Electric & Irrigation, Inc.
(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) 215 Depth to Top of Water Bearing Material 95 Depth to Water from Surface 100

d) Distance to nearest domestic well on applicant's property NA Property owned by others > 2500'

2. Wastewater Disposal System Information

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

b) System Capacity (gallons)	Year Constructed
1000	1980
2000	1985
3000	1990
4000	1995
5000	2000
6000	2005
7000	2010
8000	2015
9000	2020
10000	2025

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)

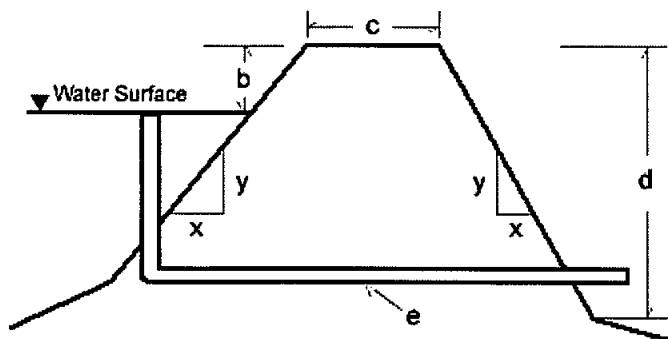
Upstream

Downstream

h) Surface Area of Impoundment

i) Storage	Acre Feet
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j) Drainage Area Above Dam	Acres
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TN★MN
3½°
07/13/17

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Automatic Irrigation Inc. Centerville, SD 605-563-2649 office

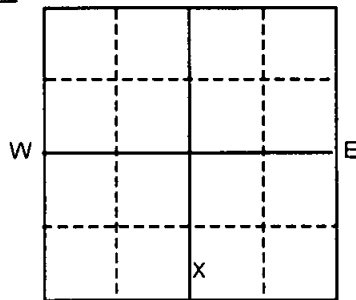
PAH
CP6 8272

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW 1/4 SE 1/4 Sec 30 Twp 94N Rg 55WCounty Yankton

North

Please mark well
location with an "X"

Well Completion Date

23 June 2017

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

PROPOSED USE:

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

METHOD OF DRILLING:

Forward rotary

CASING DATA:

☐ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	16	9.5 Lb/gal	0.0 Ft	220.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure _____

SCREEN:

☐ Perforated pipe ☐ Manufactured

Diameter _____ Inches Length _____ Feet

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what material? _____

Describe packer(s) and location _____

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How? _____☒ No, Why Not? Not requiredLab to which water
quality sample sent for analysis
Well Owner: Tom Arens

Business Name: _____

Address: 4408 Broadway AveCity, State, Zip: Yankton SD 57078

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top soil	0	3
Brown clay	3	32
Sticky blue clay	32	94
Sand and gravel with clay layers	94	144
Medium to coarse sand with gravel	144	214
Shale	214	220

STATIC WATER LEVEL 47.0 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: ☐ Bailed☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

This well was drilled under license # 810 and this report is true and accurate.Drilling firm: Heine Electric & Irrigation

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: _____

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SEP 13 2017

WATER RIGHTS
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RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date July 24, 20 17

RECEIVED OF Prairie Creek Ranch, LLC 4408 Broadway Ave Yankton, SD 57079

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

Fee for Application for Permit No. <u>8300-3</u> to Appropriate Water, to construct and to put water to beneficial use	759	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>8300-3</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	959 00

No. **08310**

By

Jeannie Goodman
Chief Engineer

vm



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

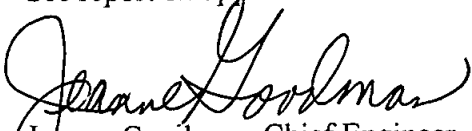
**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8300-3, Samuel and Adam Arens**

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. 8300-3, Samuel and Adam Arens, 4408 Broadway, Yankton SD 57078.

The Chief Engineer is recommending APPROVAL of Application No. 8300-3 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 this Water Permit No. 8300-3 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. 8300-3 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. 8300-3 authorizes a combined maximum diversion rate of 1.56 cfs for the irrigation of 100 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.


Jeanne Goodman, Chief Engineer
September 19, 2017

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8300-3
SAMUAL AND ADAM ARENS
SEPTEMBER 19, 2017

Water Permit Application No. 8300-3 proposes to irrigate 100 acres located in the W ½ SE ¼, E ½ SW ¼, SW ¼ SW ¼ Sec. 30 and NW ¼ NE ¼ Sec. 31 at a maximum instantaneous diversion rate of 1.56 cubic feet of water per second (cfs) from one well to be completed into the Lower James Missouri aquifer located in the SE ¼ SW ¼ Sec. 30; all in T94N-R55W in Yankton County. The location of the irrigation project is approximately one mile north of Yankton. The applicant is requesting a diversion rate greater than the statutory limit of 1.0 cfs per 70 acres.

AQUIFER: Lower James Missouri (LJM)

Aquifer Characteristics:

The Lower James Missouri aquifer is a glacial outwash aquifer that underlies portions of Clay, Hutchinson, and Yankton Counties at an approximate areal extent of 191,700 acres with an estimated 2,795,400 million acre-ft (ac-ft) of recoverable water in storage (Hedges et. al, 1982). The Lower James Missouri aquifer is contiguous with the Elk Point management unit of the Missouri aquifer, and the boundary between the two aquifers closely follows the line delineating the flood plain from the upland as presented by Jorgensen (1960). The Elk Point management unit of the Missouri aquifer underlies the flood plain, and the Lower James Missouri aquifer underlies the upland. The Lower James Missouri aquifer is also hydraulically connected to the Scotland management unit of the Lower James Missouri aquifer, the Choteau, Niobrara, and Dakota aquifers, and the James and Missouri Rivers (Bugliosi, 1986; Lindgren and Hansen, 1990).

The aquifer can be found under both confined and unconfined conditions (Bugliosi, 1986; Lindgren and Hansen, 1990). The aquifer being under confined conditions is more common than the unconfined conditions (Water Rights, 2017a and 2017c). Unconfined conditions are generally along the James River where the aquifer is not buried by glacial till (Water Rights, 2017a and 2017c). 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). The test hole completion report for this application indicates there is 94 feet of overlying clays (glacial till), sand and gravel with clay layers from 94 to 144 feet below grade, and medium to coarse sand with gravel from 144 to 214 feet below land surface. The reported static water level at the time of drilling, June 2017, was 47 feet below grade.

SOUTH DAKOTA CODIFIED LAW (SDCL) 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for this applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will address the availability of unappropriated water and effects on existing rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate water from the Lower James Missouri aquifer. The probability of unappropriated water available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires “No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.” If the source of the water is older or lower than the Greenhorn Formation and a water distribution system has applied for a permit, the Board need not consider the recharge/withdrawal issue. In this case, the aquifer is not stratigraphically lower than the Greenhorn Formation and the applicant is not a water distribution system.

Hydrologic Budget:*Recharge:*

The Lower James Missouri aquifer is recharged through infiltration of precipitation where the aquifer is at or near land surface in the James River flood plain, upward leakage from the underlying and adjacent bedrock aquifers, inflow from surface water, and inflow from surrounding glacial aquifers (Bugliosi, 1986; Hansen, 1983; Lindgren and Hansen, 1990). As previously stated, the Lower James Missouri aquifer is hydraulically connected to the Choteau, Lower James Missouri: Scotland, Niobrara and Dakota aquifers, and the James and Missouri Rivers.

Hedges and others (1985) estimated a recharge rate of 1.5 inches per year (in/yr.) to the southern portion of the Lower James Missouri aquifer by using a regional flow-net analysis. Applying this recharge rate to their estimated areal extent (191,700 acres), there is an estimated annual recharge to the Lower James Missouri aquifer of 23,963 ac-ft/yr. Using observation well analysis, Hedges and others (1985) estimated a recharge rate of 3.9 in/yr. to the unconfined portions of the aquifer. Stonesifer (2014) estimated the areal extent of the unconfined portion of the Lower James Missouri aquifer to be approximately 82,200 acres. Combining that area with Hedges and others' (1985) recharge rate to the unconfined portion of the aquifer (3.9 in/yr.) leads to an estimated recharge to the Lower James Missouri aquifer of 26,700 ac-ft/yr. It should be noted that Hedges and others' (1985) observation well analysis method assumed a rise in water level of an aquifer is the product of recharge only. In actuality, a water level rise is the result of recharge to the aquifer exceeding discharge from the aquifer. Therefore, that method of observation well analysis may be conservative when estimating a recharge rate.

Withdrawals:

Discharge from the Lower James Missouri aquifer is from seepage to the James River, evapotranspiration where the aquifer is near land surface (primarily in the James River flood plain), groundwater outflow to the Missouri: Elk Point aquifer and well withdrawals. Well withdrawals are for domestic as well as appropriative uses such as: commercial, livestock, geothermal, industrial, and irrigation. There are 137 water rights/permits currently authorized to withdraw water from the Lower James Missouri aquifer (Water Rights, 2017b). In addition, there are a number of domestic wells completed into the aquifer (Water Rights, 2017c). Water use by

the domestic wells completed into the aquifer is not expected to be a significant component of the hydrologic budget due to the relatively low water usage from individual wells.

Non-irrigation water rights/permits are assumed to pump at the maximum permitted diversion rate for 60 percent of the time unless otherwise limited by their water right/permit. Historically, average annual water use by non-irrigation appropriations has been less than 60 percent of fulltime pumping. Water Permit No. 8283-3 is limited to an annual consumptive use of 127 ac-ft/yr. The estimated average annual water use from the Lower James Missouri aquifer by non-irrigation appropriations is expected to be less than 1,370 ac-ft/yr. Table 1 lists the non-irrigation water rights/permits authorized to withdraw water from the Lower James Missouri aquifer along with estimated annual or permitted consumptive use.

Table 1- Non-irrigation water rights/permits from the Lower James Missouri aquifer with estimated or permitted water use (Water Rights, 2017b)

Permit No.	Name	County	Status	Use	CFS	Estimated Use (ac-ft/yr.)	Permitted Consumptive Use (ac-ft/yr.)
840-3	STUELPNAGELS INC	YA	LC	COM	1.11	482.2	
1288-3	NATIONAL FOOD STORES INC	YA	LC	IND	0.16	69.5	
4556-3	CONCRETE MATERIALS	YA	LC	COM	0.44	191.1	
6264-3	YANKTON LAND & CATTLE CO	YA	LC	COM/LCO	0.56	243.3	
6320-3	WOLF CREEK HTRN BRTH	HT	LC	COM/DOM	0.08	34.8	
6925-3	TSCHETTER COLONY	HT	LC	COM/LCO	0.07	30.4	
7047-3	SERVICES CENTER FEDERAL CREDIT UNION	YA	PE	GEO	0.111	48.2	
7827-3	MAXWELL COLONY	HT	PE	COM/LCO	0.33	143.3	
8283-3	CONCRETE MATERIALS COMPANY	YA	PE	IND	4		127
					Total	1369.8	
LC= Water Right, PE= Water Permit, HT= Hutchinson, YA= Yankton, COM= Commercial, DOM= Domestic, GEO= Geothermal, IND= Industrial, LCO= Livestock Confinement Operation							

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 DENR-Water Rights Program through annual irrigation questionnaires. The average annual pumpage as reported through the annual irrigation questionnaires is 2,835 ac-ft/yr. However, Table 2 clearly shows appropriations and withdrawals have increased over the period of record. Kilts (2016) calculated an average annual irrigation application rate for 1994 through 2015 for the Lower James Missouri aquifer to estimate an average annual use that would account for the continued development of irrigation projects. Kilts (2016) calculated an average annual application rate of 4.2 in/yr. per permitted acre for the time period of 1994 through 2015. Based on the number of acres currently permitted for irrigation (18,405.84), the estimated annual irrigation use is expected to be 6,442 ac-ft/yr. Using the same method, this application is expected to use 35 ac-ft/yr.

Table 2- Historic irrigation pumpage from the Lower James Missouri aquifer (Water Rights, 1979-2017)

Year	Permits Reporting	Appropriation (ac-ft/yr.)	Pumpage Reported (ac-ft/yr.)
2016	126	37607.24	5747.01
2015	127	37695.24	4822.86
2014	125	36286.1	3347.27
2013	118	33664.1	7855.75
2012	93	28626.7	13058.45
2011	89	27367.1	4147.47
2010	85	25731.1	665.37
2009	84	25451.1	1463.27
2008	79	23891.7	4494.03
2007	56	17477.7	3425.91
2006	50	15627.1	3630.92
2005	48	14749.1	2866.63
2004	47	14525.1	2886.65
2003	53	17373.1	2843.15
2002	53	17108.1	4061.52
2001	53	17208.1	2940.09
2000	51	17048.1	3751.08
1999	50	15992.1	2102.15
1998	53	16915.1	2787.03
1997	50	17072.1	2320
1996	49	17240.1	2102.99
1995	41	15088.1	1483.32
1994	45	17094.1	1918.17
1993	45	16241.9	230.44
1992	45	16791.9	1159
1991	42	15497.9	2599
1990	35	12673.1	2928.1
1989	31	10909.1	2144.8
1988	31	11769.5	2744.9
1987	30	11613.5	1041.6
1986	30	11613.5	989.6
1985	27	10033.1	1483
1984	28	12283.1	1360
1983	27	9883.1	1306.54
1982	23	9440.1	1301.25
1981	27	13053	1835
1980	23	11561	1299
1979	22	11265	588
Max	127	37695.24	13058.45
Min	22	9440.1	230.44
Avg.	55.0	18196.5	2835.0

Hydrologic Budget:

Estimated average annual recharge ranges from 23,963 to 26,700 ac-ft/yr. The estimated average annual use is expected to be less than 7,812 ac-ft/yr. This application is expected to pump 35 ac-ft/yr. based on the irrigation application rate calculated by Kilts (2016). Therefore, there is a reasonable probability unappropriated water is available for this proposed appropriation.

Observation Well Data:

Administrative Rule of South Dakota Section 74:02:05:07 requires that the Water Management Board shall rely upon the record of observation well measurements in addition to other data to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.

The DENR-Water Rights Program monitors 33 observation wells completed into the Lower James Missouri aquifer (Water Rights, 2017a). A number of the observation wells completed into the aquifer document a declining linear trend line for their respective water level data. The declining trend lines of water levels in the northern portion of the aquifer were attributed to recent development of the aquifer for appropriative uses, and the declining water levels in the southern end of the aquifer were attributed to the hydraulic connection between the Lower James Missouri aquifer and the Missouri: Elk Point aquifer by Stonesifer (2014). The Missouri: Elk Point aquifer has a significant hydraulic connection to the Missouri River, and the Missouri River has entrenched. Thus, the water levels of the hydraulically connected aquifers have also declined. Therefore, the declining trend lines observed in some observation well water levels do not indicate withdrawals from the aquifer are exceeding recharge to the aquifer.

There are four observation wells completed into the Lower James Missouri aquifer located within approximately three miles of the well site this application proposes to use. Hydrographs for these observation wells are shown in Figures 1 through 4. These four hydrographs are consistent with and representative of the hydrographs for the other observation wells completed into the Lower James Missouri aquifer. The hydrographs document that in general the water level of the aquifer is relatively stable over the period of record with a maximum amplitude of 12 feet for YA-80N over the period of record and an amplitude of less than 10 feet for the other three hydrographs. The hydrographs show the aquifer responds well to climatic conditions with rising water levels during wet periods and declining water levels during drier periods. The water level data documents the temporal impacts of well withdrawals are masked by the effects of climatic conditions on the water level. That means recharge to and natural discharge from the aquifer greatly exceeds well withdrawals. Recognizing natural discharge from an aquifer can be captured for pumping, the observation well hydrographs document there is a reasonable probability unappropriated water is available for this proposed appropriation.

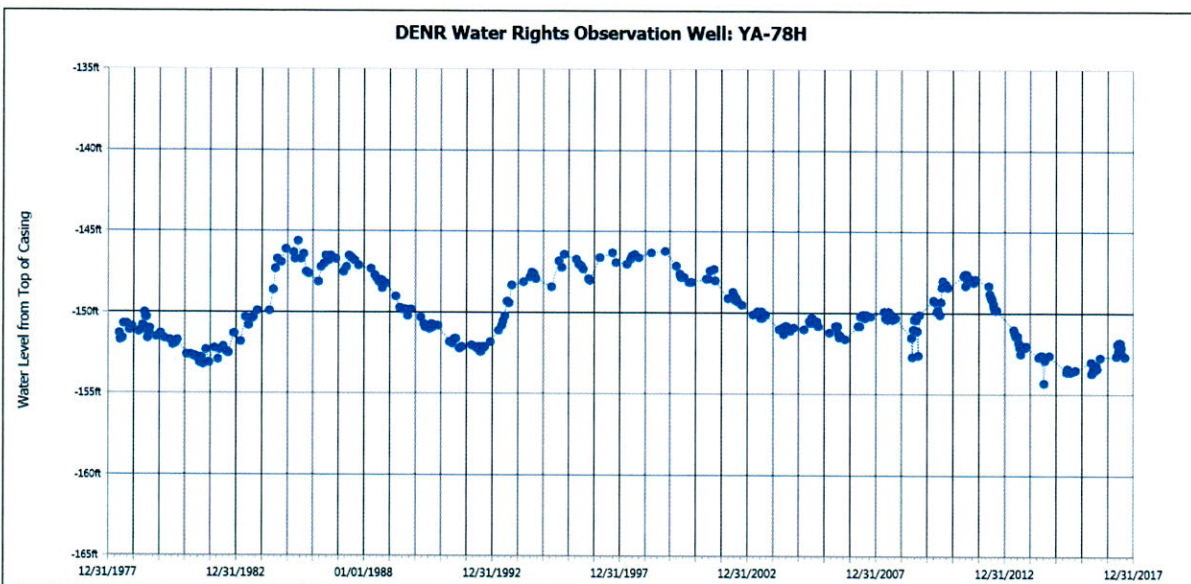


Figure 1- Hydrograph for YA-78H, approximately 2.1 miles north of Application No. 8300-3 proposed well site (Water Rights, 2017a)

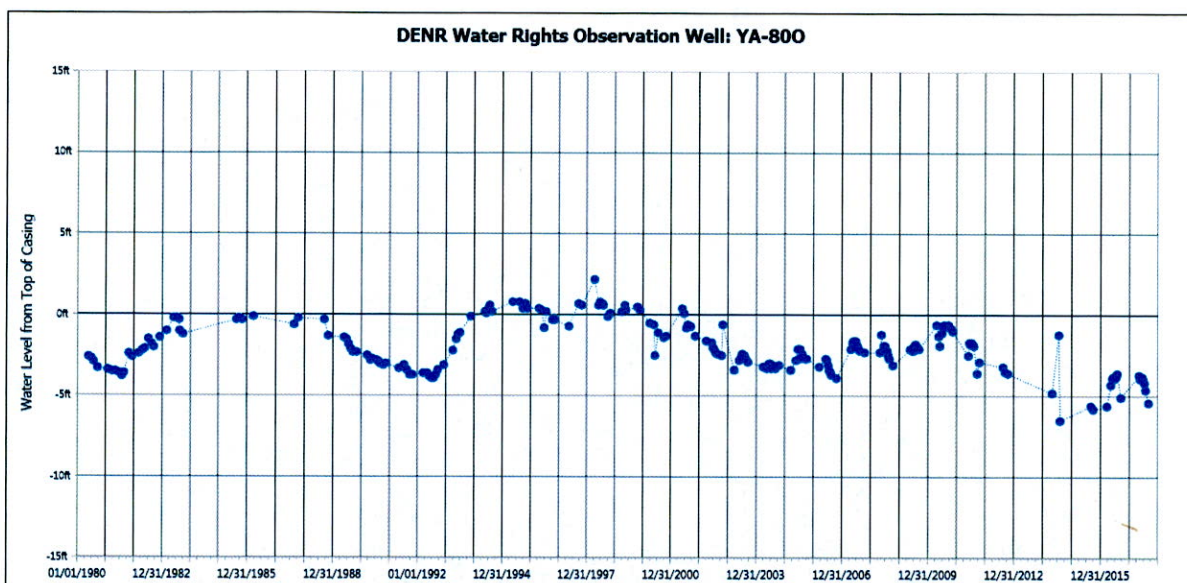


Figure 2- Hydrograph for YA-80O, approximately 2.8 miles northeast of Application No. 8300-3 proposed well site (Water Rights, 2017a)

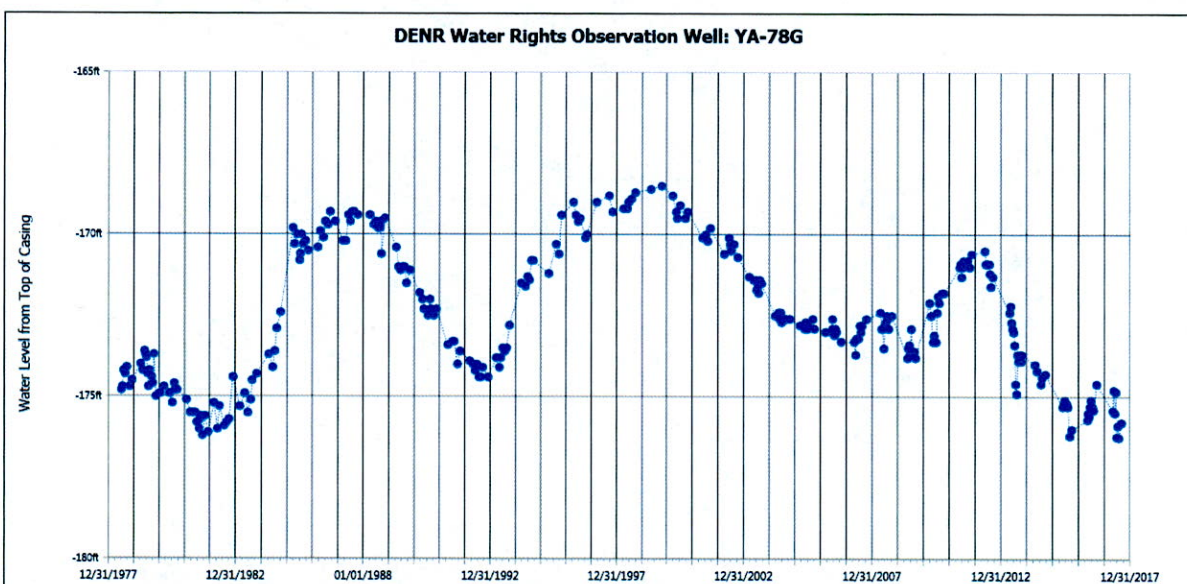


Figure 3- Hydrograph for YA-78G, approximately 3.2 miles northwest of Application No. 8300-3 proposed well site (Water Rights, 2017a)

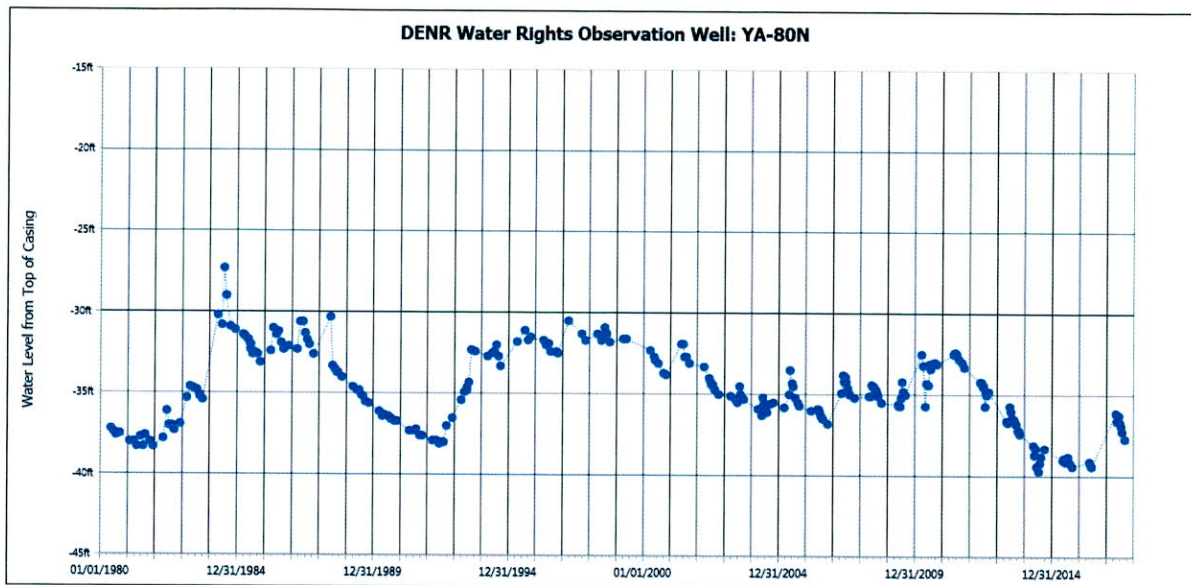


Figure 4- Hydrograph for YA-80N, approximately 3.2 miles north of Application No. 8300-3 proposed well site (Water Rights, 2017a)

EXISTING WATER RIGHTS:

Figure 5 is a map of the project area including the locations of wells for water rights/permits authorized to withdraw water from the Lower James Missouri aquifer as well as observation wells completed into the aquifer. There are a number of domestic wells on file with the DENR-Water Rights Program in the vicinity of the proposed well site for this application that appear to be completed into the Lower James Missouri aquifer (Water Rights, 2017c). Table 3 lists the water rights/permits shown in Figure 5.

Buhler (2017) calculated specific capacity of several wells authorized by water rights/permits in the area of this irrigation project. Using those specific capacities, it is possible to estimate potential drawdown created from pumping this proposed diversion. Drawdown created by pumping this proposed diversion, is expected to be less than four feet at approximately 0.5 miles from the proposed well site assuming the aquifer is under confined conditions for several miles around the proposed well site. Well completion reports in the area for both appropriative (Water Rights, 2017b) and domestic wells (Water Rights, 2017c) indicate the Lower James Missouri aquifer can be found under both confined and unconfined conditions within a couple of miles of the proposed well site. The unconfined conditions means the drawdown will likely be even less, especially in the area where the aquifer is under unconfined conditions.

There has been a recent (within the last 10 years) increase as well as a substantial history of high capacity wells in the area without a history of well interference issues. Observation well YA-78H is within one mile of several high capacity irrigation wells (see Figure 5). The hydrograph for observation well YA-78H (see Figure 1) does not show any evidence of adverse impacts caused by local appropriative pumping. There is a reasonable probability this proposed diversion can be made without unlawfully impacting existing water users.

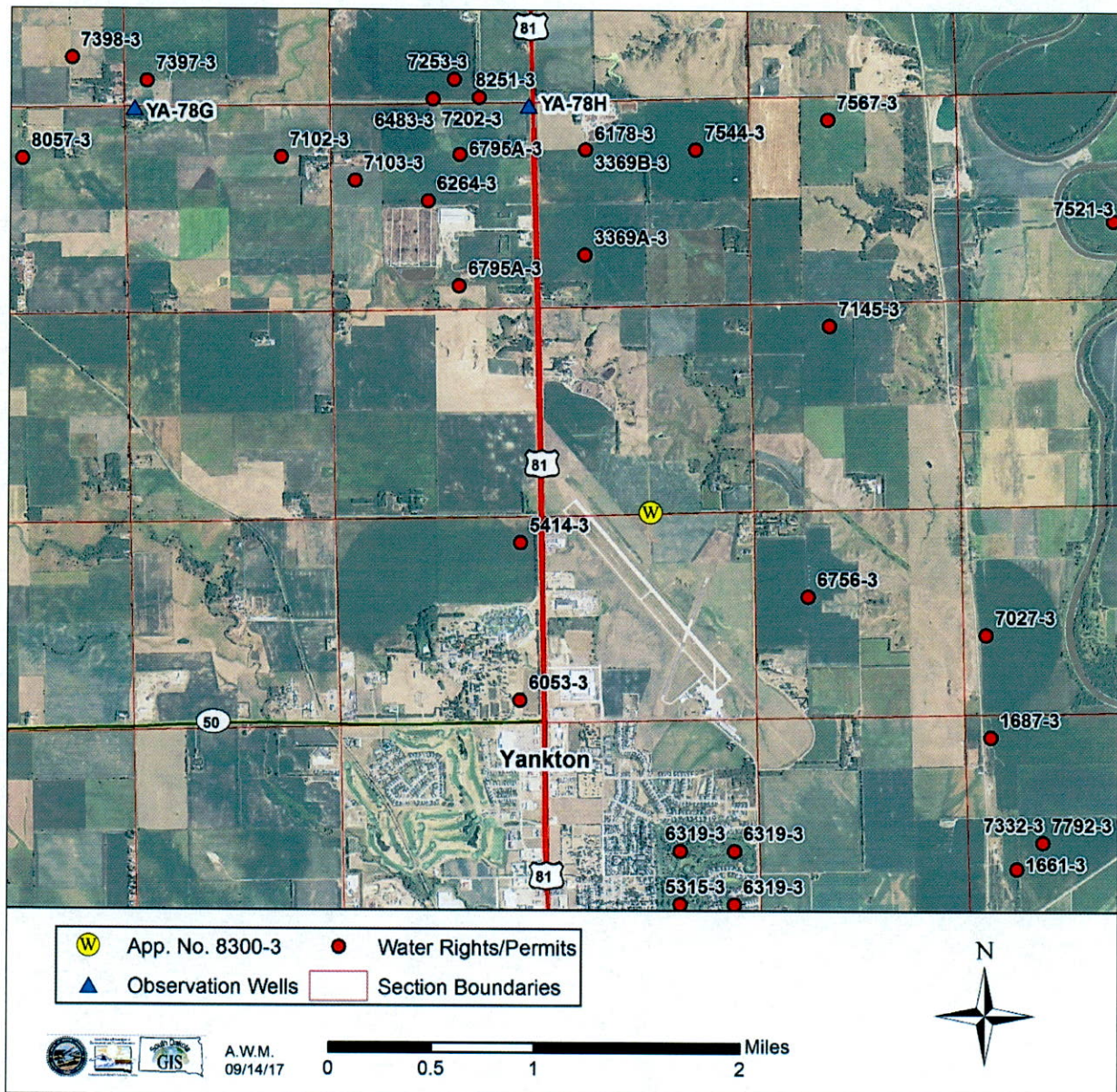


Figure 5- Map of Application No. 8300-3 project area with Lower James Missouri aquifer water right/permit well locations and observation wells (Water Rights, 2017a and 2017b)

Table 3- Water rights/permits shown in Figure 5 (Water Rights, 2017b)

Permit No.	Name	Status	Use	CFS	Acres
1661-3	Gurney Seed & Nursery	LC	IRR	2.85	200
1687-3	John Frick	LC	IRR	1.2	83
1919-3	Dakota Acres	LC	IRR	2.23	156.7
3369A-3	Delores Nelson	LC	IRR	1.44	129
3369B-3	Morris Nelson	LC	IRR	1.67	140
5315-3	Hillcrest Golf/County Club	LC	IRR	1.42	100
5414-3	Morris Nelson	LC	IRR	3	300
6053-3	City of Yankton	LC	IRR	0.21	15
6178-3	Nelson Family Partnership	PE	IRR	1.67	145
6264-3	Yankton Land & Cattle Co	LC	COM/LCO	0.56	N/A
6319-3	Hillcrest Golf/County Club	PE	IRR	0.36	0
6483-3	Willard Schmidt	LC	IRR	1.56	112
6756-3	Nelson Family Partnership	LC	IRR	2.22	164
6795A-3	Yankton Land & Cattle Co	PE	IRR/COM	1.64	115
7027-3	Jack Frick	PE	IRR	1.89	160
7102-3	Mary & Dan Cwach	PE	IRR	2.11	240
7103-3	Mary & Dan Cwach	PE	IRR	2.11	96
7145-3	Delos Warriner	PE	IRR	1.78	140
7202-3	Willard Schmidt	PE	IRR	0	40
7253-3	Willard Schmidt	PE	IRR	0	68
7332-3	Rudolph Hill Farm LLLP	PE	IRR	2	157.8
7397-3	Frank Kralicek	PE	IRR	1.56	249
7398-3	Frank Kralicek	PE	IRR	1.56	114
7521-3	John & Jacki Smith	PE	IRR	1.44	101
7544-3	Nelson Family Partnership	PE	IRR	2.22	96
7567-3	Terry Frick	PE	IRR	1.78	83
7792-3	Rudolph Hill Farm LLLP	PE	IRR	0	21.8
8057-3	Schoenfelder Family Trust	PE	IRR	2.67	360
8251-3	Willard Schmidt	PE	IRR	0	34.57

In order to protect domestic wells, 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”.

Nearby adequate wells are not expected to be adversely impacted as defined in ARSD 74:02:04:20(7). However, out of an abundance of caution if this application is approved, the water permit should include a qualification the well owner should control their withdrawals so there is not a reduction of needed water supplies for adequate domestic wells or for adequate wells having prior water rights. When all of the above factors are considered, there is a reasonable probability the proposed diversion can be made without adversely impacting existing appropriative or domestic water users.

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. 8300-3 proposes to divert water at a maximum rate of 1.56 cfs for the irrigation of 100 acres or at a rate of 1.092 cfs per 70 acres. The applicant stated the center pivot to be used for this irrigation project would not be making a complete circle and the soils present are “porous”. This center pivot orientation is known to often require a diversion rate in excess of the statutory limit and a quickly draining soil often also requires applying water at a greater rate than allowed by the statutory limit. Both of these reasons have been accepted by the Water Management Board previously as a reasonable request.

CONCLUSIONS:

1. Application No. 8300-3 proposes to authorize the irrigation of 100 acres at a maximum instantaneous diversion rate of 1.56 cfs from one well to be completed into the Lower James Missouri aquifer.
2. Based on the observation well data and a hydrologic budget, there is a reasonable probability unappropriated water is available for this proposed appropriation.
3. There is a reasonable probability the diversion proposed by this application can be made without adversely impacting existing appropriative or domestic users.
4. Application No. 8300-3 has requested a diversion rate in excess of the statutory limit of one cfs per 70 acres. The orientation of the center pivot and quick draining soils require the requested diversion rate and are reasonable requests.



Adam Mathiowetz, PE
SD DENR-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.
- Buhler, K. 2017. Report to the Chief Engineer on Water Permit Application No. 8251-3 Willard Schmidt January 31, 2017. SD DENR-Water Rights Program. Pierre, South Dakota.
- Hansen, D.S. 1983. Major Aquifers in Hansen and Davison Counties, South Dakota. Information Pamphlet No. 26. SD DENR-Geological Survey. Vermillion, South Dakota.
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- Hedges, L.S., S.L. Burch, D.L. Iles, R.A. Barari, and R.A. Schoon. 1982. Evaluation of Ground-water Resources in Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
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- Kilts, W.K. 2016 Report to the Chief Engineer Water Permit Application No. 8233-3 Randy & Valerie Swendsen August 10, 2016. SD DENR-Water Rights Program. Pierre, SD.
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- Water Rights. 2017b. Water Right/Permit Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2017c. Well Completion Reports. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED

OCT 02 2017

WATER RIGHTS
PROGRAM

SAMUEL / ADAM ARENS
4408 BROADWAY
WORTHING SD 57078

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

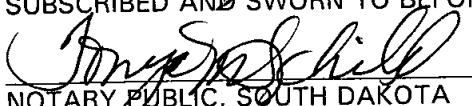
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
9+28 NOTICE OF APPLICATIO

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 28th DAY OF September, 2017
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$27.79 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: 09/28/2017

FILED ON: 09/28/2017


SUBSCRIBED AND SWORN TO BEFORE ME THIS 28th DAY OF September, 2017


NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 08/19/2021

Ad text : 9 + 28

NOTICE OF APPLICATION NO. 8300-3 to Appropriate Water

Notice is given that Samuel and Adam Arens, 4408 Broadway, Yankton SD 57078 has filed an application for a water permit to appropriate 1.56 cubic feet of water per second (cfs) from one well to be completed into the Lower James Missouri Aquifer (approximately 215 feet deep) located in the SE 1/4 SW 1/4 Section 30 for irrigation of 100 acres located in the W 1/2 SE 1/4, E 1/2 SW 1/4, SW 1/4 SW 1/4 Section 30 and NW 1/4 NE 1/4 Section 31; all in T94N-R55W which is approximately one mile north of Yankton. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8300-3 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 Eric Gronlund 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 October 9, 2017.

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.

Steven M. Pirner, Secretary, Department of Environment and Natural Resources.
Published once at the total approximate cost of \$27.79.

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, September 26, 2017 4:15 PM
To: 'Tera Schmidt'
Subject: 8300-3, Samuel and Adam Arens
Attachments: 8300-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on September 28, 2017.

Samuel and Adam Arens, 4408 Broadway, Yankton SD 57078 (605 661-8477) have 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

SD DENR, Water Rights Program
(605) 773-3352



NOTICE OF APPLICATION NO. 8300-3 to Appropriate Water

Notice is given that Samual and Adam Arens, 4408 Broadway, Yankton SD 57078 has filed an application for a water permit to appropriate 1.56 cubic feet of water per second (cfs) from one well to be completed into the Lower James Missouri Aquifer (approximately 215 feet deep) located in the SE 1/4 SW 1/4 Section 30 for irrigation of 100 acres located in the W 1/2 SE 1/4, E 1/2 SW 1/4, SW 1/4 SW 1/4 Section 30 and NW 1/4 NE 1/4 Section 31; all in T94N-R55W which is approximately one mile north of Yankton. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

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Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of _____.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

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

September 20, 2017

Samual and Adam Arens
4408 Broadway
Yankton SD 57078

Dear Sirs:

Water Permit Application No. 8300-3 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 & Dakotan 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,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

denr.sd.gov

OCT 20 2017

Samual and Adam Arens
4408 Broadway
Yankton SD 57078

Dear Sirs:

Enclosed is Water Permit No. 8300-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

A 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 information 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,

A handwritten signature in cursive script that reads 'Jeanne Goodman'.

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

enclosures

8300-3

SD EForm - 1621LD V1

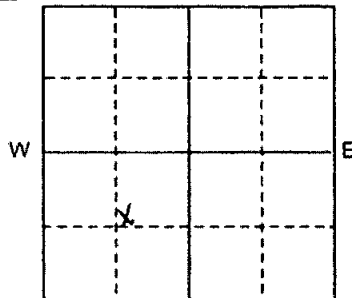
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE 1/4 SW 1/4 Sec 30 Twp 94N Rg 55WWell Owner: TOM ARENSCounty YANKTON

North

Please mark well location with an "X"



Business Name:

Address:

City, State, Zip:

4408 BroadwayYankton, SD 57078

WELL LOG:

DEPTH

FORMATION	FROM	TO
TOP SOIL	0	2
CLAY	2	136
SAND/GRAVEL	136	195

Well Completion Date

JUNE 8, 2018

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

CASING DATA:

☐ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>12</u> IN	<u>0</u> FT	<u>140</u> FT	<u>20</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Bentonite</u>		Lb/gal	<u>0</u> Ft	<u>140</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

SCREEN:

☒ Perforated pipe ☐ Manufactured
Diameter 12 Inches Length 60 FeetMaterial PVC + Johnson SSSlot Size 60 Set From 140 Feet to 195 FeetOther information 20' Johnson SS, 60 slot and 40' PVC slot.WAS A PACKER OR SEAL USED? ☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Chlorine tablets
☐ No, Why Not?

Lab to which water quality sample sent for analysis

STATIC WATER LEVEL

125

FEET

If flowing: closed in pressure

PSI

GPM flow through

Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:☐ Bailed☐ Other

Pumping Level Below Land Surface

127 Ft. After 4 Hrs. pumped 800 GPM130 Ft. After 4 Hrs. pumped 1500 GPM

If pump installed, pump rate: GPM

REMARKS

This well was drilled under license # 805 and this report is true and accurate.

Drilling firm:

Signature of License Representative

Signature of Well Owner or Responsible Property Holder

RECEIVED

Date: 6/8/18

JAN 14 2019

WATER RIGHTS PROGRAM

**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 8300-3**

I have this day, June 9, 2021, made a thorough examination of the water use system constructed by Samuel and Adam Arens, 4408 Broadway, Yankton, SD 70078, holder of Permit No. 8300-3, bearing the priority of July 24, 2017 authorizing the diversion of 1.56 cu. ft. per second of the waters of groundwater (Lower James Missouri Aquifer) for the irrigation of 100 acres located in Yankton County.

Inspection contacts: Tom, Samual and Adam Arens

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Sam Heine Well Co., LLC
- 2) No. of Wells: 1
- 3) Depth(s): 195 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 12 inches
- 2) Length: 140 feet
- 3) Type: PVC

Screen:

- 1) Diameter: 12 inches
- 2) Length: 40 feet of PVC and 20 feet of Stainless Steel
- 3) Static water level: 125 feet

Pump:

- 1) Make: Wilo
- 2) Model: S800-60
- 3) Capacity: 800 GPM

Motor:

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

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

- 1) Type: Aluminum
- 2) Size 8 inches
- 3) Length 20 feet

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make: Lockwood
- 2) Overall length: 1,448 feet
- 3) Number of towers: 9

- 4) End gun: Yes
5) Capacity: 800 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 rating is 1.78 cfs instead of 1.56 cfs.

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows:
The well is 2,570 feet east and 80 feet north of the southwest corner of Section 30-T94N-R55W (latitude 42.92355, longitude -97.38795 – SE1/4 of the SW1/4).
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:

<u>Section 30-T94N-R55W</u>	
<u>NE1/4SW1/4</u>	<u>6 acres</u>
<u>NW1/4SE1/4</u>	<u>3 acres</u>
<u>SE1/4SW1/4</u>	<u>29 acres</u>
<u>SW1/4SE1/4</u>	<u>35 acres</u>

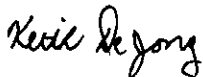
<u>Section 31-T94N-R55W</u>	
<u>NW1/4NE1/4</u>	<u>19 acres</u>

comprising a total of 92 acres of land and the license should be issued for 1.56 cfs.

3. All structures, wells, and lands on map Yes

F. Comments or other permit(s) associated with the project: There is another center pivot irrigation system in Section 30 that is owned by the Arens', but it is associated with their AFO and does not use well water. The owner may want to connect the AFO to the center pivot associated with Water Right No. 8300-3 in the future.

The pump and motor information was obtained from Sam Heine.



Keith DeJong
Water Rights Inspector
DANR, Water Rights Program

Date report completed: June 11, 2021

Water Right No. 8300-3



0 330 660 1,320 1,980 2,640
Feet
SCALE



Keith DeJong
Keith DeJong, PE
Staff Engineer
June 11, 2021

8300-3

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**Date June 9, 2021

MAIL TO: PMB 2020
DANR - Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3182

Ph: (605) 773-3352

FROM: Samuel and Adam Arens
(name)4408 Broadway Avenue
(address)

<u>Yankton</u>	<u>SD</u>	<u>57078</u>	<u>605-661-8477</u>
(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. 8300-3 states that the water use system is to be constructed by
October 9, 2022, and water is to be put to beneficial use by October 9, 2026.
(date) (date)

The water use system was completed on June, 2020.
(date)

Applying the water to beneficial use was completed on June, 2020.
(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

JUN 14 2021

8300-3

Samuel & Adam Arens
4408 Broadway
Yankton SD 57078

Dear Sirs:

Enclosed is Water License No. 8300-3. 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

enclosures

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 water permit, as originally issued, authorized a total of 1.56 cfs or 700 gpm. Diversion of water under this water license is limited to 1.56 cfs not to exceed two acre feet per acre of water annually.

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 8300-3

(1) Samuel and Adam Arens, 4408 Broadway, Yankton SD 57078 made Application No. 8300-3, July 24, 2017 for a water permit to divert 1.56 cubic feet of water per second from ground water, one well (Lower James Missouri Aquifer), Yankton County, South Dakota for irrigation purposes. Permit No. 8300-3, with a priority date of July 24, 2017 was approved October 9, 2017 and issued to the applicants for diversion of water with construction of the described water supply system to be completed on or before October 9, 2022 and for the application to beneficial use of water on or before October 9, 2026.

The Permit holders submitted a "Notice of Completion of Works and Application of Water to Beneficial Use" on June 9, 2021. The "Notice" stated the water use system was completed and water placed to beneficial use in June 2020.

(2) It is certified that the permit holders have complied with the provisions of South Dakota State Law relating to completion of the water supply system and are entitled to divert 1.56 cubic feet of water per second for beneficial use. The well is located as follows:

- 2,570 feet east and 80 feet north of the southwest corner of Section 30, T94N, R55W (SE ¼ SW ¼)
Latitude 42.92355, longitude -97.38795

(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 30, T94N, R55W		Section 31, T94N, R55W	
NE ¼ SW ¼	6 acres	NW ¼ NE ¼	19 acres
NW ¼ SE ¼	3 acres		
SE ¼ SW ¼	29 acres	Total 92 acres	
SW ¼ SE ¼	35 acres		

(4) Pursuant to South Dakota Water Law 46-5-30.1 Samuel and Adam Arens, 4408 Broadway, Yankton SD 57078 the holder and/or owner of Water Right No. 8300-3 are issued a license to appropriate water, the right to use 1.56 cubic feet of water per second from ground water, one well (Lower James Missouri Aquifer) with a priority date of July 24, 2017 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. 8300-3 and subject to the following qualifications:

- The well approved under this water right will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this water right shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

Continued

- The well authorized by Permit No. 8300-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the 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. *The well was drilled June 8, 2018 by Sam Heine Well Co., LLC. A copy of the well completion report is on file with the Water Rights Program.*
- Pursuant to SDCL 46-5-6 which allows for a greater diversion rate if the method or irrigation, time constraints, or type of soils so requires, Water Right No. 8300-3 authorizes a combined maximum diversion rate of 1.56 cfs for the irrigation of 92 acres with an annual volume not to exceed 2 acre feet of water per acre per year. *The original permit authorized 100 acres. Upon licensing, the acreage was reduced to reflect developed acres.*
- This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.

Eric Gronlund

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

JUN 14 2021

date

