

WATER PERMIT NO. 7560-3

Name of Applicant: Jon Vaske

Address: 21215 485th Ave, Elkton SD 57026 Phone: 605-695-1511

Amount of Water Claimed: 1.33 cfs Total Acres: 60

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation County: Brookings

Type of Waste Disposal System:

Location: southeast side of Elkton

PRIORITY Date Received: 12-7-12 Application/License Fee: \$ 700

Corrected Application Received: 12-14-12 Period of Annual Use: May 1 – September 30

Remarks: Requesting diversion rate greater than statutory limit

Diversion Point: SE 1/4 SE 1/4 Sec 21-T109N-
R47W

Land to be Irrigated: S 1/2 SE 1/4, NE 1/4 SE 1/4
Sec 21-T109N-R47W

Depth of Well: 45 feet dep

Well Driller: Thein Well Drilling

Remarks:

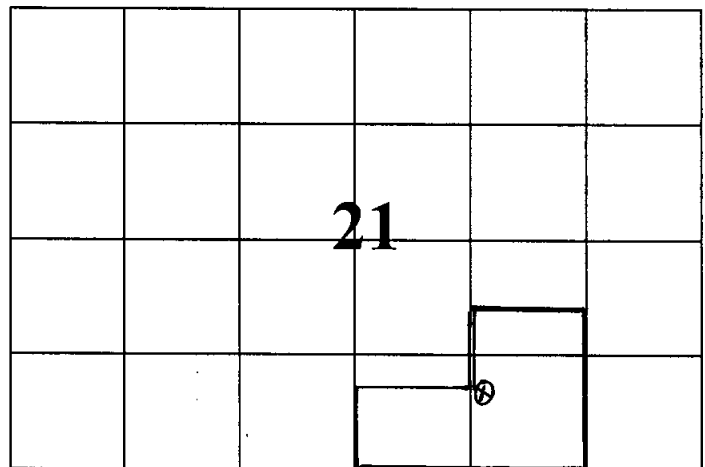
Type of Map: aerial

Prepared by:

Reviewed and the Number Assigned on: 12-17-12

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



I will sent well Log
when I get one

Thank

Mail to:
PMB 2020
DENR - Water Rights
523 E Capitol Ave
Pierre, SD 57501-3182
ph. (605) 773-3352

No. 7560-3 (office use only)
Hydrologic Unit 10170202
Basin Sioux River
Newspaper Brookings Register
Box 177 Brookings 57006-6271 605-692

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DEC - 7 2012

WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

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

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

1. Name to Appear on Irrigation Permit Jon Vaske(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 21215 485th Ave Elkton SD 57026
(Address) (City) (State) (Zip Code)

Home Phone _____ Cell (605) 645-1511 Email jvaske@tctel.com

2. Amount of water claimed 1.33 *CFS or 600 **GPM ***AF Total Acreage 604
(*Cubic Feet per Second) (**Gallons per Minute) (***) Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply well

4. Location of point of diversion Wells SE 1/4 of the SE 1/4
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R33W)
Sec 21 - T109N - R47W County Brookings

5. County or counties where water will be used _____

6. Annual period during which water is to be used May 1 - Sept. 30

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

Land Description	Acres	Land Description	Acres
<u>SE 1/4 of the SE 1/4 sec 21 109-47</u>	<u>20</u>		
<u>SW 1/4 of the SE 1/4 sec 21 109-47</u>	<u>20</u>		
<u>NE 1/4 of the SE 1/4 sec 21 109-47</u>	<u>20</u>		

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

Requesting diversion Rate greater than statutory Limit

I, Jon Vaske, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

SOUTH DAKOTA
WATER PERMIT NO. 7560-3

Date of first receipt of application December 7, 2012.

Date of return to applicant for corrections, amendments or changes December 10, 2012.

Date of receipt of corrected application December 14, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7560-3 to Jon Vaske, 21215 485th Ave, Elkton SD 57026 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. 7560-3 appropriates 1.33 cubic feet of water per second from three wells to be completed into the Big Sioux:Aurora Aquifer (45 feet deep) located in the SE 1/4 SE 1/4 Section 21 for irrigation of 60 acres located in the S 1/2 SE 1/4, NE 1/4 SE 1/4 Section 21; all in T109N-R47W.
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: May 1 – September 30.
3. The date from which applicant may claim right is December 7, 2012.
4. The date of approval of Permit No. 7560-3 is March 4, 2013.
5. One-fifth of the construction is to be completed on or before September 4, 2015.
6. All construction is to be completed on or before March 4, 2018.
7. Water is to be put to beneficial use on or before March 4, 2022.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The wells authorized by Permit No. 7560-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

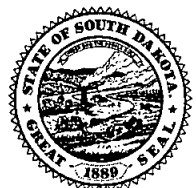
WATER MANAGEMENT BOARD

By: *Jeanne Goodman*

Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUN 24 2013

date



Supplemental Information

(type or print)

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1. Well Information (check one or both as applicable) ☒ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many 2 Have test holes been drilled ☒ Yes ☐ No Drilled by Thein Well Company
(if yes, please provide copies of logs)

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

☒ c) Well Depth 45' Depth to Top of Water Bearing Material 8' Depth to Water from Surface Unknown

d) Distance to nearest existing domestic well:

On applicant's property On property owned by others One (1) mile

2. Wastewater Disposal System Information

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

b) System Capacity (gallons) Year Constructed

c) Connected to the City of Sanitary System

3. Dugout Information

a) Surface Dimensions Depth

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

4. Water Storage Dams

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

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

b) Freeboard

c) Crest Width

Crest Length

d) Height

e) Primary Outlet Capacity

If pipe, diameter

f) Secondary Spillway Capacity

Spillway Width

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

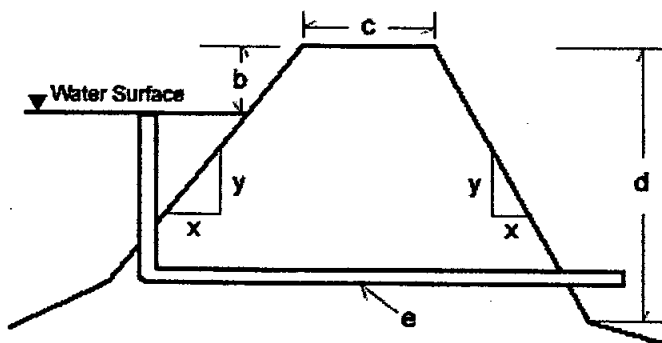
Upstream

Downstream

h) Surface Area of Impoundment

i) Storage Acre Feet

j) Drainage Area Above Dam Acres



Don Vasko



PPLS: 21_109N_47W

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www.delorme.com

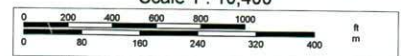


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Scale 1 : 10,400



1" = 866.7 ft

Data Zoom 14-3



WELLS ~ PUMPS
SALES ~ SERVICE

Since 1893

Date: 11/29/12

Casing Length:

Screen Length:

Total Well Depth: 200'

SWL:

Test hole #2 next to road

[illegible]



Since 1893

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 12/10, 20 12

RECEIVED OF Jon Vaske Farm 21215 485th Ave Elkton SD 57026

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

Fee for Application for Permit No. <u>7560-3</u> to Appropriate Water, to construct and to put water to beneficial use	500	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>7560-3</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	700 00

No. **05751**

By

David E. Eide
Chief Engineer

**SIoux FALLS**

2801 N. Louise Ave.
Sioux Falls, SD 57107
(605) 336-2730
Fax (605) 336-8241

RAPID CITY

1540 Deadwood Ave.
Rapid City, SD 57702
(605) 348-1566
Fax (605) 348-7496

MARSHALL

1710 E. College Dr.
Marshall, MN 56258
(507) 532-0994
Fax (507) 532-0993

**JOHN DEERE****RECEIVED****4/5/2013****APR - 8 2013****WATER RIGHTS
PROGRAM***Karm,*

*I believe that I have completed
this form as you have requested.
As it states, I would like to
use three (3) wells to supply
the amount of water that is
currently allocated in Permit # 7560-3.*

*If you have any questions,
please contact me at (605) 695-1511.*

*Thanks,
Jon Vaske
Jon Vaske*



FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only) No. _____ Hydrologic Unit _____
	Basin _____
	Newspaper _____

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APR - 8 2013

WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☐ New ☐ Vested Right ☒ Amendment/Correction to Permit No. 7560-3
(Use predates Mar 2, 1955)

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

Plan to have three (3) wells to supply permitted allocation of water.1. Name to Appear on Irrigation Permit Jon Vaske(check one) ☐ Owner ☐ Tenant/lessee ☒ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 21215 485th Ave Elkton, SD SD 57026
(Address) (City) (State) (Zip Code)Home Phone _____ Cell (605) 695-1511 Email jvaske@fictel.com2. Amount of water claimed NO ADD *CFS or _____ **GPM _____ ***AF _____ Total Acreage No Addition
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply Ground Water4. Location of point of diversion 3 wells in SE 1/4 21-109N-47W
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)County Brookings5. County or counties where water will be used Brookings County6. Annual period during which water is to be used May 1st through September 30th7. List below each forty acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres
<u>See Water Permit # 7560-3</u>			

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

Requesting to drill additional wells to bring to permitted
600 gpmI, Jon Vaske, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

Supplemental Information

(type or print)

1. Well Information

** See application for Permit # 7560-3. It has all applicable information for this tract.*

(check one or both as applicable) ☐ Drilling new well(s) ☐ Using existing well(s)

a) If new wells, how many ____ Have test holes been drilled ☒ Yes ☐ No Drilled by Therin Well
(if yes, please provide copies of logs)

b) If existing wells, how many ____ Provide copy of log(s), if available. Drilled by ____

c) Well Depth ____ Depth to Top of Water Bearing Material ____ Depth to Water from Surface ____

d) Distance to nearest existing domestic well:

On applicant's property ____ On property owned by others ____

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)

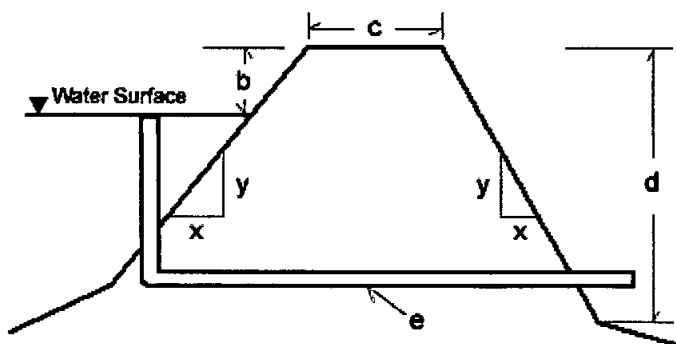
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



Don Vaska

DE LORME

XMap 7



PPLS: 21_109N_47W

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PROGRAM

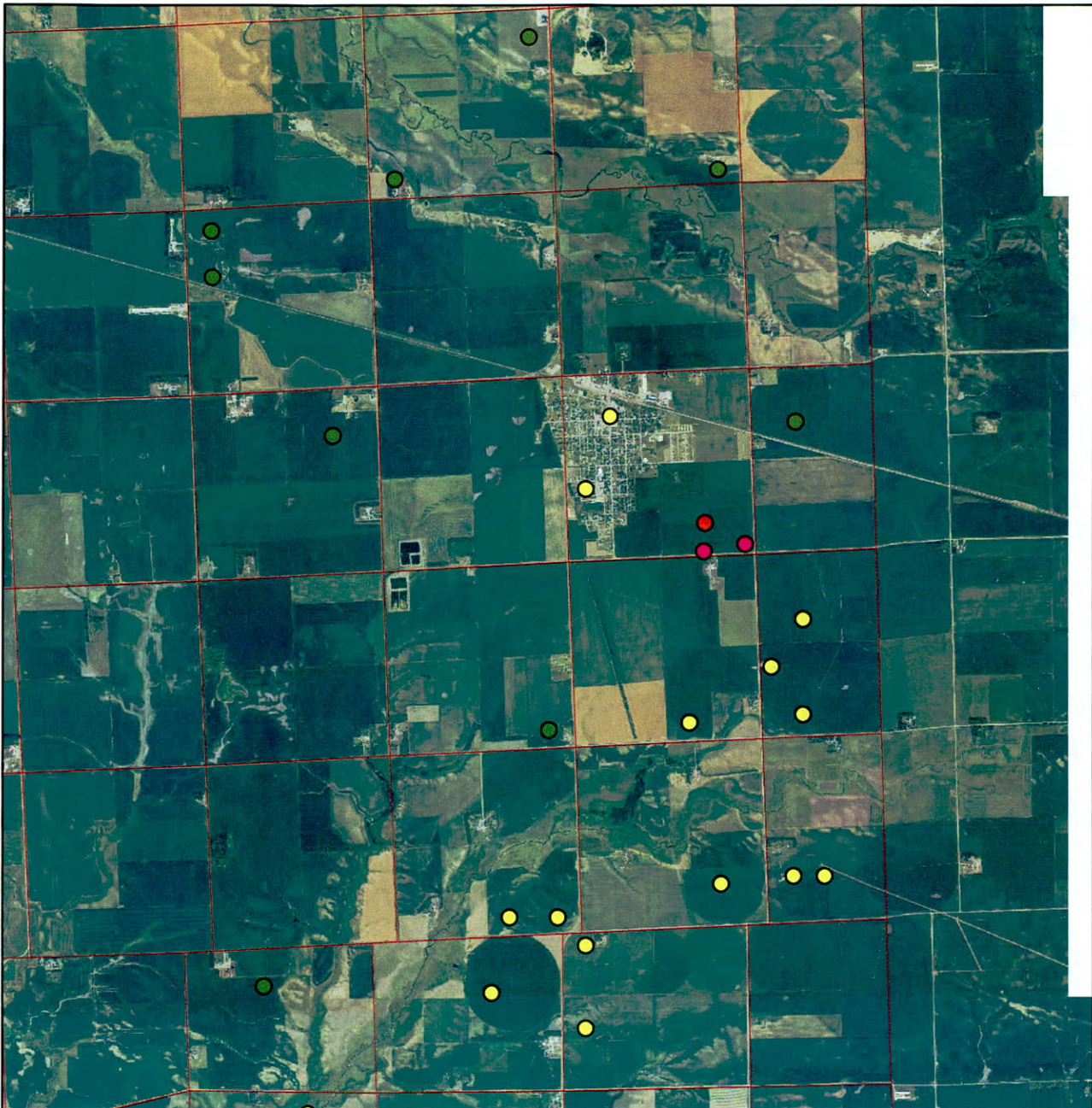
Scale 1 : 10,400



1" = 866.7 ft

Data Zoom 14-3

ADDITIONAL REQUEST FOR WELLS TO WATER PERMIT NO. 7560-3, VASKE



0 1,500 3,000 6,000 9,000 12,000
Feet

● Well location authorized by Water Permit No. 7560-3

● Proposed two additional well locations

● Domestic well completion reports on file

● Existing water permits from Big Sioux:Aurora Aquifer



Approval of Additional Diversion Point

NAME: Water Permit No. 7560-3, Jon Vaske

ADDRESS: 21215 485th Avenue, Elkton SD 57026

DATE: June 17, 2013 **COUNTY:** Brookings **TELEPHONE:**

BACKGROUND:

Water Permit No. 7560-3 appropriates 1.33 cubic feet of water per second from one well to be completed into the Big Sioux:Aurora Aquifer (45 feet deep) located in the SE ¼ SE ¼ Section 21, for irrigation of 60 acres located in the S ½ SE ¼, NE ¼ SE ¼ Section 21, T109N, R47W.

This water permit was approved based on Chief Engineer's recommendation after public notice occurred and no petitions to intervene were filed by the March 4, 2013 deadline. DENR was in the process of issuance of the water permit when Mr. Vaske informed us that more than one well was necessary to produce the desired 1.33 cfs diversion rate. Based on that conversation, Mr. Vaske filed a request for two additional wells located in the SE ¼ Section 21, T109N, R47W.

AUTHORITY:

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

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

The water source authorized by Water Permit No. 7560-3 is the Big Sioux:Aurora Aquifer. The original application included test hole information that gravel is present from approximately 6 to 45 feet. The request for the two additional wells states to see Application No. 7560-3 as it has all applicable information. Based on this the two additional wells are also to be completed into the Big Sioux:Aurora Aquifer.

No additional appropriation of water is requested. The water right is limited to a diversion rate of 1.33 cfs which equates to 600 gallons per minute. The request is clear that the additional wells are to bring to the permitted diversion rate of 600 gpm.

Review of Existing Diversions

The well completion report and water rights databases were reviewed for the nearest domestic wells and water rights on file.

The nearest domestic wells on record are located approximately 3,700 feet to the northeast and 6,800 feet southwest of the additional wells being requested. Brookings Deuel Rural Water System likely serves many domestic users in the area.

There are nine water rights from the Big Sioux:Aurora Aquifer for municipal and irrigation use within two miles of Water Permit No. 7560-3. The municipal water rights are for the city of Elkton approximately 3,800 feet to the northwest. The city is now served by rural water and the existing water rights are most

likely kept for backup purposes. The remaining seven water rights within the two mile radius are located to the south with the nearest being 2,650 feet southeast of the Vaske wells.

See map for location of existing domestic and permitted wells.

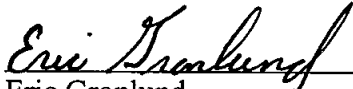
The staff report to the Chief Engineer on Application No. 7560-3 as completed February 5, 2013 by Joseph Stonesifer. This report reviewed the observation well located two miles south of the Vaske irrigation project that is in this southern subunit of the aquifer. The report also reviewed existing water rights. The report concluded that there is a reasonable probability that this proposed well will not adversely or unlawfully impair existing nearby wells. This conclusion remains valid to this request for two additional wells. All three wells will be in the SE ¼ SE ¼ of Section 21. Although the additional wells will be 900 feet closer to the nearest irrigation well, they are still about 3,500 feet away from the nearest well. The report referred to observation well BG-78H completed into this subunit of the aquifer and documents pumping but that the effects are minimal relative to climatic conditions.

CONCLUSION

- The additional wells do not seek to appropriate additional water.
- The wells will be completed into the southern subunit of Big Sioux:Aurora Aquifer.
- Given the distance from domestic and existing water rights, interference is not expected to be a concern.
- The authorization of the additional wells shall include that the total diversion rate shall not exceed 1.33 cfs.

RECOMMENDED ACTION

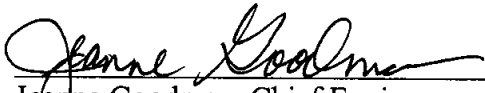
Based on the above criteria, it is recommended that the additional diversion point locations be authorized under Water Permit No. 7560-3.



Eric Gronlund
Water Rights Program

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

The additional diversion points do not increase the potential for adverse effects to existing diversions.



Jeanne Goodman, Chief Engineer
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

June 18, 2013

Jon Vaske
21215 485th Avenue
Elkton SD 57026

Mr. Vaske:

Water Permit No. 7560-3 appropriates 1.33 cubic feet of water per second (cfs) from one well to be completed into the Big Sioux:Aurora Aquifer (45 feet deep) located in the SE ¼ SE ¼ Section 21, for irrigation of 60 acres located in the S ½ SE ¼, NE ¼ SE ¼ Section 21, T109N, R47W.

You requested authorization to complete two additional wells located in the SE ¼ SE ¼ Section 21, T109N, R47W. The basis for the request to drill two additional wells is to supply the 1.33 cfs diversion rate authorized by Permit No. 7560-3.

Upon review of the request and pursuant to SDCL 46-5-13.1, the two additional well locations are authorized without application or publication of a notice of hearing pursuant to SDCL 46-2A-4. No increase in the authorized diversion rate of 1.33 cfs (600 gpm) from the Big Sioux:Aurora Aquifer is authorized. If the total diversion rate increases above 1.33 cfs, a new water right permit will need to be obtained.

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

Sincerely,


Jeanne Goodman, Chief Engineer
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7560-3, Jon Vaske**

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. 7560-3, Jon Vaske, 21215 485th Avenue, Elkton SD 57026.

The Chief Engineer is recommending APPROVAL of Application No. 7560-3 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 Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7560-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See on application for additional information.

Garland Erbele, Chief Engineer
February 14, 2013

REPORT TO THE CHIEF ENGINEER

WATER PERMIT APPLICATION NO. 7560-3

JON VASKE

FEBRUARY 5, 2013

Water Permit Application No. 7560-3 proposes to appropriate up to 120 acre-feet per year (ac-ft/yr) at a maximum diversion rate of 1.78 cubic feet of water per second (cfs) from one well to be completed into the Aurora management unit of the Big Sioux aquifer. The well is expected to be approximately 45 feet deep and is to be located in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 21 to irrigate 60 acres located in the S $\frac{1}{2}$ SE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$ of Section 21, all in T109N-R47W in Brookings County. The application proposes a diversion rate in excess of the statutory limit.

AQUIFER: Aurora management unit of the Big Sioux aquifer (BS: A)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Big Sioux is an alluvium mantled outwash consisting of silt and fine to coarse sand and gravel that is generally under unconfined conditions near the Big Sioux River and can be confined elsewhere (Hamilton, 1989). The Aurora management unit of the Big Sioux aquifer underlies an estimated 83,000 acres in Brookings and Moody Counties in South Dakota and Lincoln and Pipestone Counties in Minnesota (Buhler, 2012).

The aquifer is hydraulically connected to the Big Sioux River and water in the aquifer generally moves from north to south and locally towards the Big Sioux River (Hamilton, 1989). In the center of T109N-R47W, groundwater flow in the aquifer divides: west-northwest in the northern portion and southwest in the southern portion, essentially creating subunits of the Aurora management unit. The southern subunit, in which the proposed well site is located, underlies an estimated 20,000 acres (Buhler, 2012).

In Brookings and Kingsbury Counties, the top of the Big Sioux: Aurora aquifer is encountered from ground surface to 212 feet below ground surface, the aquifer is 30 feet thick on average, and depth to water in the aquifer ranges from ground surface to 120 feet below ground surface. In the area of the proposed well site, the aquifer is expected to be encountered five feet below ground surface, 40 feet thick, and have a static water level of 20 feet below ground surface (Hamilton, 1989). From the well logs submitted with the application, aquifer materials were found between six and 45 feet below ground surface in the area of the proposed well site.

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant's proposed use, that the 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 existing rights from the aquifer that are pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate 120 ac-ft/yr from the Big Sioux: Aurora aquifer. If this application is approved, the actual water use will be less than the appropriation. The probability of unappropriated water 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 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.”

Hydrologic Budget:*Recharge:*

Recharge to the Big Sioux: Aurora aquifer occurs through infiltration of precipitation in areas where the aquifer is at or near land surface, seepage through till, lake deposits, and underlying aquifers, and inflow from the Big Sioux River during wet years (Hamilton, 1989).

Hedges and others (1985) estimated recharge of various management units of the Big Sioux aquifer using several methods and state that “recharge rates calculated using observation well data and computer models are generally in accord” and “management programs using these values should be acceptable.” Therefore, recharge to the Big Sioux aquifer is estimated to range from 2.7 to 6.9 inches per year (in/yr). Koch (1980) estimated recharge to the aquifer to be 6.57 in/yr. An estimate of the recharge rate of the Aurora management unit alone, which is based on observation well analysis, is estimated to be 5.0 in/yr (Hedges and others, 1985).

Using recharge rate of the Aurora management unit by Hedges and others (1985), 5.0 in/yr, and the area of the subunit estimated by Buhler (2012), 20,000 acres, recharge to the southern subunit of the Big Sioux: Aurora aquifer is estimated to be 8,300 ac-ft/yr.

Discharge:

Discharge from the aquifer occurs through evapotranspiration in areas where the aquifer is at or near land surface, outflow to streams during dry years, and well withdrawals. There are a total of 11 water rights and five water permits appropriating water and one future use permit reserving water from this southern subunit of the Big Sioux: Aurora aquifer in South Dakota, shown in Table 1 (Water Rights, 2013b).

In addition, there are many domestic wells on record with the SD DENR-Water Rights Program that appear to be completed into the southern subunit of the Big Sioux: Aurora aquifer (Water Rights, 2013c). The annual withdrawal due to domestic use is not significant to the hydrologic budget of the aquifer. Consider also that many of these domestic wells are no longer in use due to users connecting to local rural water systems.

The City of Elkton is now connected to a rural water system. Water Right No. 4038-3 is maintained as a standby source but is no longer expected to withdraw from the southern subunit of the Big Sioux: Aurora aquifer and is therefore excluded from this hydrologic budget (Water Rights, 2013b).

This water permit application proposes to divert at a rate of 1.78 cfs per 60 acres, equaling 2.08 cfs per 70 acres. The application indicates that the proposed pivot will not make a full rotation. This requested diversion rate is probably an operational requirement of the equipment that is unrelated to the amount of rotation and subsequent area of land irrigated.

CONCLUSIONS:

1. The application proposes to appropriate 120 ac-ft/yr for irrigation. However, the actual water use will likely be less than the appropriation.
2. There is a reasonable probability that unappropriated water is available from the southern subunit of the Big Sioux: Aurora aquifer to supply the proposed appropriation.
3. There is a reasonable probability that this proposed well will not adversely or unlawfully impair existing nearby wells.
4. This application has requested an additional diversion rate in excess of one cfs per 70 acres.



Joseph R Stonesifer
SD DENR-Water Rights Program

Approved by



Ken Buhler
SD DENR-Water Rights Program

Table 1: Water rights/permits appropriating from and future use permit reserving from the southeastern subunit of the Big Sioux: Aurora aquifer (Water Rights, 2013b)

Permit No.	Name	Priority Date	Status	Type	CFS	Acres	Ac-ft/yr
2574-3	Lowell Christensen	02/23/1976	LC	IRR	1.31	92	
3185-3	Witte Ag Partnership #1	10/29/1976	LC	IRR	1.41	99	
3496-3	Minnie Van Dyke	12/28/1976	LC	IRR	0.52	37	
4038-3	City of Elkton	01/01/1920	LC	MUN	0.72	0	
4295-3A	Alice Moulton	06/26/1978	LC	IRR	1.34	136	
4332-3	Alice Moulton	10/10/1978	LC	IRR	1.34	125	
4523-3	James Stuefen	04/04/1980	LC	IRR	1	71	
4726-3	Witte Ag Partnership #1	04/09/1981	LC	IRR	1.56	115	
4763-3	Mary Ellen McGill Trust	05/06/1981	LC	IRR	2.44	234	
5558A-3	Larry Olson	05/31/1991	LC	IRR	1.78	268	
5804-3	Heartland HBI	02/18/1994	LC	IRR	1.78	177	
7178-3	Jos Family Farms	01/13/2010	PE	IRR	4.44	400	
7219-3	Elkton School District	11/06/2010	PE	IRR	0.178	2.3	
7228-3	Jos Family Farms	01/20/2011	PE	IRR	1.71	120	
7317-3	Jos Family Farms	01/31/2012	PE	IRR	1.78	180	
7392-3	Lincoln Pipestone Rural Water	08/08/2012	PE	RWS	2.67	0	614
7393-3	Lincoln Pipestone Rural Water	08/08/2012	FU	RWS	0	0	614

LC = Water Right, PE = Water Permit, FU = Future Use Permit, IRR = Irrigation, MUN = Municipal, RWS = Rural Water System

Aside from domestic wells, the Lincoln Pipestone Rural Water System is the only user of the southern subunit of the Big Sioux: Aurora in Minnesota with combined permitted withdrawal of 683 million gallons per year, the equivalent of 2,096 ac-ft/yr. The average withdrawals from this well field equals 1,366 ac-ft/yr. However, this rural water system is still developing. Therefore, full development of the well field is assumed for this hydrologic budget (Buhler, 2012).

The amount of water that can be expected to be withdrawn by the non-irrigation use water rights/permits can be estimated by assuming water rights/permits limited by an annual volume will pump the entire volume appropriated annually, and future use permits can be fully developed. Therefore, the total annual withdrawal from the southern subunit of the Big Sioux: Aurora aquifer by non-irrigation use is expected to be less than a total of 1,228 ac-ft/yr (Water Rights, 2013b).

The irrigation development of the southern subunit of the Big Sioux: Aurora aquifer over the period of record, 1979 to 2011 has remained fairly constant. However, in recent years, development has increased slightly. The annual withdrawal from the Big Sioux: Aurora aquifer fluctuates, as shown in Figure 1. This is probably mostly dependent on annual growing season climatic conditions. Over the period of record, the average pumpage reported equals 611 ac-ft/yr. The maximum and minimum pumpage reported was 1,323 and 132 ac-ft/yr, respectively (Water Rights, 1980-2011). Since 2011, one water permit was approved appropriating up to 240 ac-ft/yr, and this water permit application was submitted proposing up to 120 ac-ft/yr (Water Rights, 2013b). The full use of these approved or proposed appropriations is assumed for this hydrologic budget.

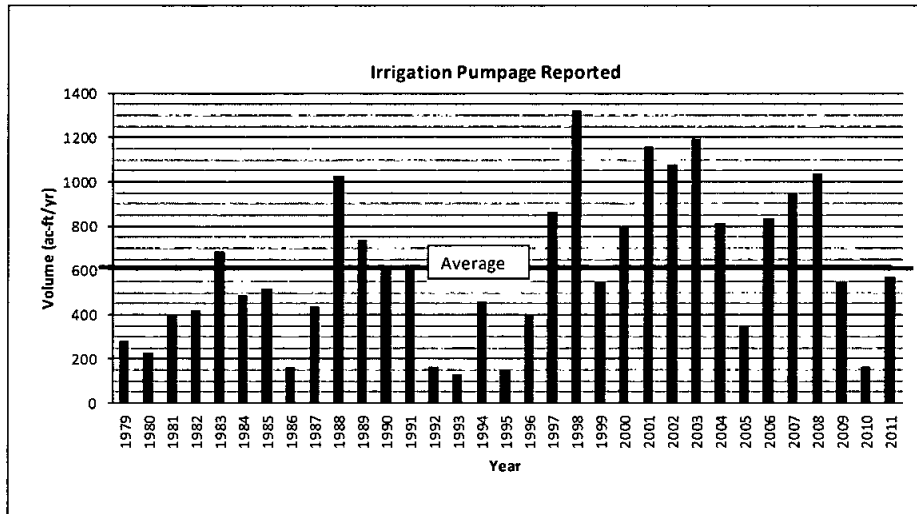


Figure 1: Historic irrigation water use from the southern subunit of the Big Sioux: Aurora aquifer (Water Rights, 1980-2011)

Hydrologic Budget:

The average annual withdrawal is estimated to be 4,300 ac-ft/yr, which is much less than the estimated annual recharge of 8,300 ac-ft/yr. Therefore, there is a reasonable probability that unappropriated water is available from the southern subunit of the Big Sioux: Aurora aquifer for the proposed appropriation of 120 ac-ft/yr.

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 to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge of the aquifer.”

The SD DENR-Water Rights Program monitors 15 observation wells completed into the Big Sioux: Aurora aquifer; only one of these is located within the southern subunit. This observation well, BG-78H, is located approximately two miles south of the proposed well site. The hydrograph of this well is shown in Figure 2 (Water Rights, 2013a).

The observation well data documents cyclic conditions of water levels, recharging during wet years and declining during dry years. Note that the water level in this observation well declined recently, likely due to the recent dry year; however, these levels are not abnormally low for the aquifer over the period of record. The hydrograph also shows the effects of nearby pumping on the aquifer. This data documents that, at the current level of development, temporal well withdrawal is masked by climatic conditions. Therefore, recharge to and natural discharge from the aquifer greatly exceeds well withdrawal, indicating that unappropriated water is available from the southern subunit of the Big Sioux: Aurora aquifer to support the proposed appropriation of 120 ac-ft/yr.

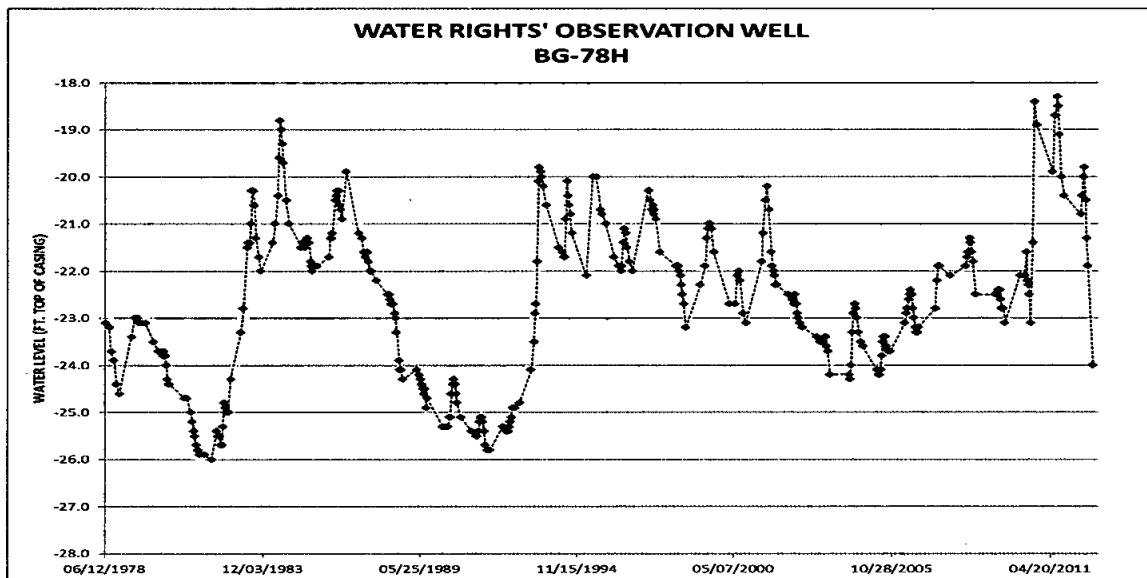


Figure 2: Hydrograph for observation well BG-78H (Water Rights, 2013a)

EXISTING WATER RIGHTS:

If approved, the proposed well will be located near other wells that obtain water from the same aquifer. Water Right Nos. 4038-3, 4726-3, and 4763-3 and Water Permit No. 7219-3 are located within one mile of the proposed well site (Water Rights, 2013b). There are several domestic wells on record with the SD DENR-Water Rights Program within one mile of the proposed well site that appear to be completed into the Big Sioux: Aurora aquifer (Water Rights, 2013c). The proposed well site is also located within the city limits of the City of Elkton.

The water table conditions of the aquifer in this area dictate that drawdown due to pumping would probably not be significant far from the proposed well site. Considering that the Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur, a nearby adequate well defined by ARSD 74:02:20(7), which states that the pump intake must be set 20 feet below the top of the aquifer or, if the aquifer is less than 20 feet thick, as near to the bottom of the aquifer as is practical, is not expected to be adversely or unlawfully impaired.

Observation well BG-78H, whose hydrograph is shown in Figure 2, is located near several water rights/permits. As previously discussed, the hydrograph for this observation well documents pumping; however, these effects are minimal relative to climatic conditions (Water Rights, 2013a). Therefore, there is a reasonable probability that any well interference from the proposed appropriation will not cause a significant impact to nearby existing users.

SDCL 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cubic foot of water per second for every seventy acres, or "the equivalent thereof." The statute provides that the Water Management Board may allow a greater diversion if the method of irrigation so requires.

REFERENCES:

- Buhler, K. 2012. Report on Water Permit Application Nos. 7392-3 and 7393-3 for Lincoln Pipestone Rural Water: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Hamilton, L.J. 1989, Water Resources of Brookings and Kingsbury Counties, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 88-4185, 82 p.
- Hedges, L.S., Allen, J., and Holly, D.E. 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 7: Ground Water Recharge. South Dakota DENR-Geological Survey, Vermillion, SD.
- Koch, N.C., 1980, Appraisal of the Water Resources of the Big Sioux Aquifer, Brookings, Deuel, and Hamlin Counties, South Dakota: U.S. Geological Survey Water-Resources Investigations 80-100, 46 p.
- Water Rights. 1980-2011. "Annual Irrigation Summary by Aquifer": SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2013a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2013b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2013c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

RECEIVED

FEB 27 2013

10/

Affidavit of Publication

State of South Dakota

Exhibit "A"

ss

WATER RIGHTS
PROGRAM

County of Brookings

Chaylee Duis of said county, first duly sworn, on oath, says: That she is the office clerk of THE BROOKINGS REGISTER, a daily newspaper, printed and published in the City of Brookings, in said County of Brookings, and State of South Dakota; that she has full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper and has a bona fide circulation of at least two hundred copies of each issue daily; that said newspaper has been published within the said County of Brookings and State of South Dakota, for more than one year prior to the first publication of Exhibit "A," hereto attached and herein mentioned, and was and is printed that the

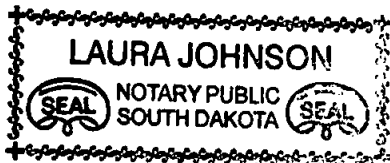
Leg#389 Notice #7560-3-Vaske

same was published, is hereto attached marked Exhibit said newspaper for _____ 1 times, to-wit:

February 22, 2013

said Exhibit "A" inures to the sole benefit for the publishers of said newspaper; that no agreement or 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; that the fees charged for the publication thereof are:

twenty-three dollars and sixteen cents \$23.16



25th day of

February

2013

Notary Public in and for the County of Brookings, South Dakota.
My Commission expires August 3, 2017.

Legal 389, 1x, 2/22
NOTICE OF APPLICATION NO. 7560-3 to
Appropriate Water
Notice is given that
Jon Vaske, 21215 485th
Ave, Elkton SD 57026
has filed an application
for a water permit to
appropriate 1.33 cubic
feet of water per second
from one well to be
completed into the Big
Sioux-Aurora Aquifer
(45 feet deep) located in
the SE 1/4 SE 1/4
Section 21 for irrigation
of 60 acres located in
the S 1/2 SE 1/4, NE 1/4
SE 1/4 Section 21; all in
T109N-R47W. The
applicant is requesting
a diversion rate greater
than the statutory limit.
Pursuant to SDCL

46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7560-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

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 March 4, 2013.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of \$23.16



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

February 14, 2013

Brookings Register
PO Box 177
Brookings SD 57006

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7560-3 to Appropriate Water. Please publish the notice once on February 22, 2013. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Jon Vaske, 21215 485th Ave., Elkton SD 57026 (Ph # 605-695-1511).

Please send the Water Rights Program an affidavit or the enclosed Proof of Publication form immediately.

The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

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

February 14, 2013

Jon Vaske
21215 485th Ave
Elkton SD 57026

Dear Mr. Vaske:

Water Permit Application No. 7560-3 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 Brookings Register printed at Brookings SD (Ph # 605-692-6271). You will need to contact the newspaper(s) 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(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper 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.

Instruction to Newspaper - Publish the Notice on February 22, 2013. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 7560-3 to Appropriate Water

Notice is given that Jon Vaske, 21215 485th Ave, Elkton SD 57026 has filed an application for a water permit to appropriate 1.33 cubic feet of water per second from one well to be completed into the Big Sioux:Aurora Aquifer (45 feet deep) located in the SE 1/4 SE 1/4 Section 21 for irrigation of 60 acres located in the S 1/2 SE 1/4, NE 1/4 SE 1/4 Section 21; all in T109N-R47W. The applicant is requesting a diversion rate greater than the statutory limit.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7560-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. 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.

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 March 4, 2013.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of _____.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

JUN 24 2013

Joe Vaske
21215 485th Ave
Elkton SD 57026

Dear Mr. Vaske:

Enclosed is Water Permit No. 7560-3 authorizing construction of your 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,

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

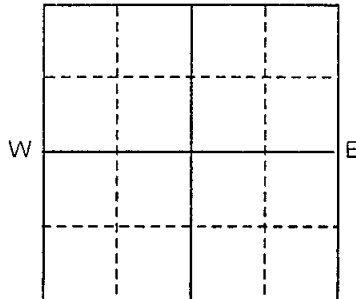
enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE 1/4 SE 1/4 Sec 21 Twp 109N Rg 47WCounty Brookings

North

Please mark well
location with an "X"

Well Completion Date

February 12, 2103

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Auger

CASING DATA:

☒ Steel ☐ Plastic ☐ Other
 If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	10.00 IN	0.0 FT	29.5 FT	18.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	8	Lb/gal	0.0 Ft	28.5 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie piped

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 10.00 Inches Length 18.0 Feet
 Material stainless steel
 Slot Size .040 Set From 29.5 Feet to 47.5 Feet
 Other information _____

WAS A PACKER OR SEAL USED?

☐ Yes ☒ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? chlorinated

Lab to which water

quality sample sent for analysis

n/a

Well Owner: John Vaske

Business Name:

Address: 21215 485th AveCity, State, Zip: Elkton SD 57026

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Sand, gravel, clay	0	25
sand, gravel	25	47.5

STATIC WATER LEVEL 24.0 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

39.6 Ft. After 8.0 Hrs. pumped 185.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

well #2

GPS: N 44 13.530

W 96 28.199

RECEIVED

SEP 30 2013

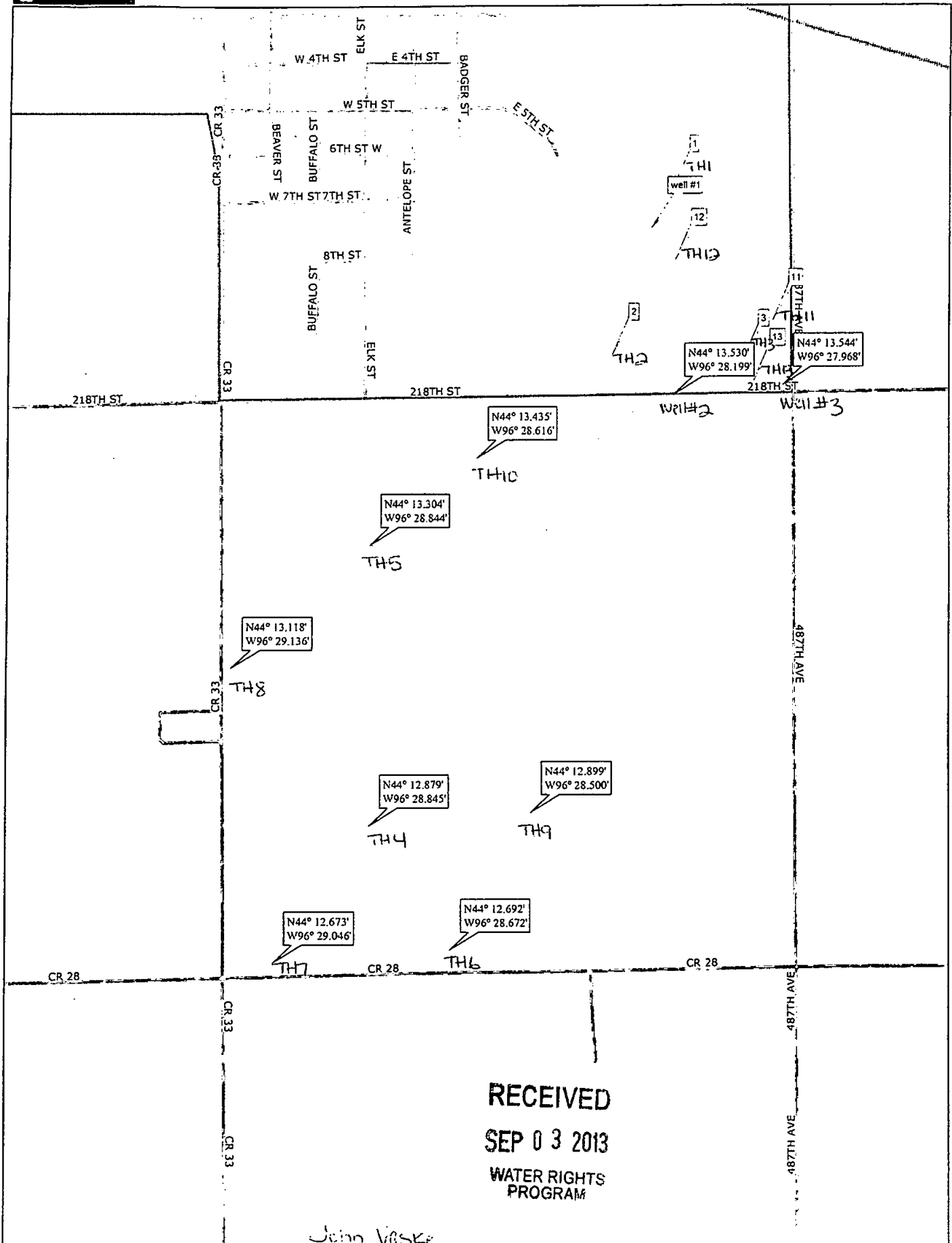
WATER RIGHTS
PROGRAMThis well was drilled under license # 475 and this
report is true and accurate.Drilling firm: Thein Well Co., Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date: 9/4/2013

10-1-13





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
www.denr.sd.gov

December 17, 2013

7560-3
7897-3

Jon Vaske
21215 485th Ave
Elkton SD 57026

Dear Mr. Vaske:

Thank you for calling with the water use information for your water permits and for the two you operate for Witte Ag Partnership.

I completed irrigation questionnaires for you based on our phone conversation. I have enclosed copies for your records and also an extra copy for you to send to Witte Ag Partnership.

The completion of works form you requested is also included with this correspondence. If you have any questions concerning your permits or any of the enclosed copies, please give us a call.

Sincerely,

A handwritten signature in black ink that reads "Genny McMath". The signature is written in a cursive, flowing style.

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

RECEIVED

DEC 19 2013

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 12/16/2013

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

FROM:

Jon Vaske

(name)

21215 485th Ave

(address)

Elkton SD 57026

(city, state, zip)

(605) 695-1511

(phone)

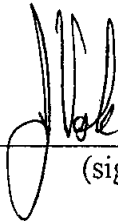
I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 7560-3 states that the water use system is to be constructed by 07/15/2013, and water is to be put to beneficial use by 07/20/2013.
(date) (date)

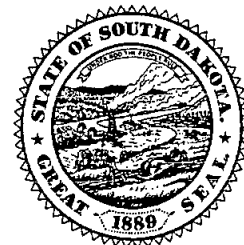
The water use system was completed on 07/20/2013.
(date)

Applying the water to beneficial use was completed on 07/20/2013.
(date)

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



(signature)





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

December 23, 2013

7560-3

Jon Vaske
21215 485th Ave
Elkton SD 57026

Dear Mr. Vaske:

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. 7560-3.

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. 7560-3

I have this day, 30 October 2014, made a thorough examination of the water use system constructed by Jon Vaske, 21215 485th Ave., Elkton, SD 57026 holder of Permit No. 7560-3, bearing the priority of 7 December 2012 authorizing the diversion of 1.33 cu. ft. per second of the waters of the Big Sioux: Aurora aquifer for irrigation purposes, in Brookings County.

Inspection contact & relationship to permit holder, if applicable: **Jon Vaske, owner**

A. Works used to divert the water:

Well₁ (north well) Information:

- 1) Well Drilling Firm: Thein Well Co.
- 2) No. of Wells 1
- 3) Depth(s) 44 feet
- 4) Well log is available Yes

Casing:

- 1) Diameter 10 inches
- 2) Length 29 feet
- 3) Type steel

Screen:

- 1) Type stainless steel
- 2) Length 15 feet
- 3) Static water level 20 feet (11 Jan. 2013)

Pump:

- 1) Make Franklin
- 2) Model 220510-4AABB
- 3) Size 10 HP
- 4) Capacity 212 GPM

Well₂ (south well) Information:

- 1) Well Drilling Firm: Thein Well Co.
- 2) No. of Wells 1
- 3) Depth(s) 47.5 feet
- 4) Well log is available Yes

Casing:

- 1) Diameter 10 inches
- 2) Length 29.5 feet
- 3) Type steel

Screen:

- 1) Type stainless steel
- 2) Length 10 feet
- 3) Static water level 24 feet (12 Feb. 2013)

Pump:

- 1) Make Franklin
- 2) Model 220510-4AABB
- 3) Size 10 HP
- 4) Capacity 213 GPM

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

- | | | |
|--------------------|-------------------------|---------------------------|
| 1) Type <u>PIP</u> | 2) Size <u>6</u> inches | 3) Length <u>900</u> feet |
| 1) Type <u>PIP</u> | 2) Size <u>6</u> inches | 3) Length <u>20</u> feet |

C. Works used to apply water to beneficial use:

Center pivot located at Lat/Lon:44.22800/-96.47092

- 1) Make Valley
- 2) Overall length 1040 with corner feet
- 3) Number of towers 5 plus corner
- 4) End gun Nelson 100
- 5) Capacity 425 GPM

Chemigation Equipment:

- 1) Does not chemigate

D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Yes
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period na
- 3) Exceptions to compliance are: na

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows:
Well₁: 900 feet north and 1350 feet west of the SE corner of Sec.21, T109N-R47W (Lat/Lon: 44.22796/-96.47096, SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 21, T109N-R47W
Well₂: 80 feet north and 1120 feet west of the SE corner of Sec.21, T109N-R47W (Lat/Lon: 44.22571/-96.47005, SW $\frac{1}{4}$ SW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 21, T109N-R47W
2. The works are capable of diverting and conveying to the place of use 0.95 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec.21, T109N-R47W: 7.6 acres
SW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec.21, T109N-R47W: 19.9 acres
SE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec.21, T109N-R47W: 30.7 acres

comprising a total of 58.2 acres of land and the license should be issued for 0.95 cfs.

3. All structures, wells and lands on map Yes

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

na

Report of Examination of Works

Permit No. 7560-3



Ken Buhler
DENR, Water Rights Program

Date report completed: **8 December 2014**



Well

--- Buried 6-inch PIP

 Irrigated acres

 Section Boundaries-PLSS

NW1/4 SE 1/4

NE 1/4 SE 1/4

7.6 acres

SW1/4 SE 1/4
19.9 acres

SE 1/4 SE 1/4
30.7 acres



80'



900'

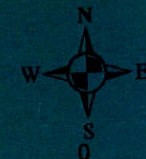
SE corner Sec. 21, T109N-R47W

1120'

1350'

7560-3

kb
8 Dec. 2014



660

330

0

660 Feet

SW 1/4 SE 1/4: per inspection 10-30-14

7560-3

SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

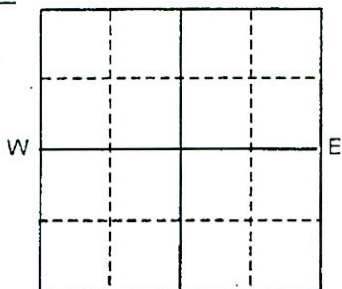
Location NE 1/4 SE 1/4 Sec 21 Twp 109N Rg 47W

Well Owner: John Vaske

County Brookings

North

Please mark well location with an "X"



Business Name:

Address: 21215 485th Ave

City, State, Zip: Elkton SD 57026

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top soil	0	7
gravel/sand mix	7	44

Well Completion Date

January 11, 2103

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Auger

CASING DATA:

☒ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	10.00 IN	0.0 FT	29.0 FT	18.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	10	Lb/gal	0.0 Ft	28.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie piped

SCREEN:

☐ Perforated pipe ☒ Manufactured

Diameter 10.00 Inches Length 15.0 Feet

Material stainless steel

Slot Size .050 Set From 29.0 Feet to 44.0 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? chlorinated

☐ No, Why Not?

Lab to which water

quality sample sent for analysis

n/a

STATIC WATER LEVEL 20.0 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

31.8 Ft. After 9.3 Hrs. pumped 100.0 GPM

Ft. After Hrs. pumped GPM

If pump installed, pump rate: GPM

REMARKS

well #1

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

Drilling firm: Thein Well Co., Inc.

Signature of License Representative:

[Signature]

Signature of Well Owner or Equitable Property Holder:

[Signature]

Date: 9/4/2013

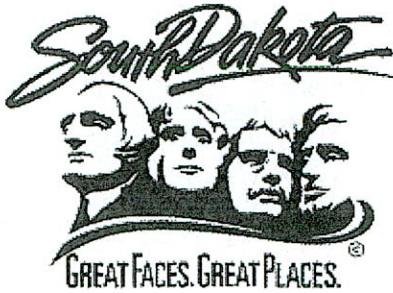
RECEIVED

SEP 30 2013

WATER RIGHTS

SD00000000

10-1-13



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

MAR 19 2015

7560-3

Jon Vaske
21215 485th Ave
Elkton SD 57026

Dear Mr. Vaske:

Enclosed is Water License No. 7560-3. 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 the owner of an existing well, such as the well authorized by Water Right No. 7560-3, 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, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

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

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 7560-3**

(1) Jon Vaske, 21215 485th Ave., Elkton SD 57026 made Application No. 7560-3, December 7, 2012 for a water permit to divert 1.33 cubic feet of water per second from ground water (three wells, Big Sioux Aurora Aquifer), Brookings County, South Dakota for irrigation purposes. Permit No. 7560-3, with a priority date of December 7, 2012 was approved March 4, 2013 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before March 4, 2018 and for the application to beneficial use of water on or before March 4, 2022.

The Permit holder submitted a "*Notice of Completion of Works and Application of Water to Beneficial Use*" on December 19, 2013. The "*Notice*" stated the water use system was completed and the water placed to beneficial use on July 20, 2013.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.95 cubic feet of water per second for beneficial use. The location of the diversion points are:

- 900 feet north and 1,350 feet west of the SE corner of Section 21, T109N, R47W (SW $\frac{1}{4}$ SE $\frac{1}{4}$)
- 80 feet north and 1,120 feet west of the SE corner of Section 21, T109N, R47W (SE $\frac{1}{4}$ SE $\frac{1}{4}$).

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

Section 21, T109N, R47W	NE $\frac{1}{4}$ SE $\frac{1}{4}$	7.6 acres
	SW $\frac{1}{4}$ SE $\frac{1}{4}$	19.9 acres
	SE $\frac{1}{4}$ SE $\frac{1}{4}$	30.7 acres
Total		58.2 acres

(4) Pursuant to South Dakota Water Law 46-5-30.1 Jon Vaske, 21215 485th Ave., Elkton SD 57026 the holder and/or owner of Water Right No. 7560-3 is issued a license to appropriate water, the right to use 0.95 cubic feet of water per second from ground water (two wells, Big Sioux Aurora Aquifer) with a priority date of December 7, 2012 from the locations 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. 7560-3 and subject to the following qualifications:

- The wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The wells authorized by Permit No. 7560-3 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. ***Both wells drilled by Thein Well Company. Copies of the logs are on file with the Water Rights Program.***

- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.



Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

MAR 19 2015

date



7560-3



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

7560-3
8255-3

JUN 17 2021

Jon Vaske
21215 485th Ave
Elkton SD 57026

Dear Mr. Vaske:

Enclosed is Water License No. 8255-3. 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. Upon licensing, the applicable portions of Water Right No. 7560-3 were incorporated into No. 8255-3.

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 capable of diverting 1.45 cubic feet of water per second (cfs) which is equivalent to approximately 650 gallons per minute. Water Permit No. 8255-3 was obtained to increase the diversion authority up to 1.33 cfs (equivalent of 600 gpm). Diversion of water under this water license is limited to 1.33 cfs.