

WATER PERMIT NO. 7418-3

Name of Applicant: Brook Bye

Address: 31472 458th Ave, Vermillion SD 57069

Phone: 605 670-9132

Amount of Water Claimed: 1.78 cfs

Total Acres: 134 acres

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: Clay

Type of Waste Disposal System:

Location: 4 miles northwest of Vermillion

PRIORITY

Date Received: 9-4-12

Application/License Fee: \$ 1050

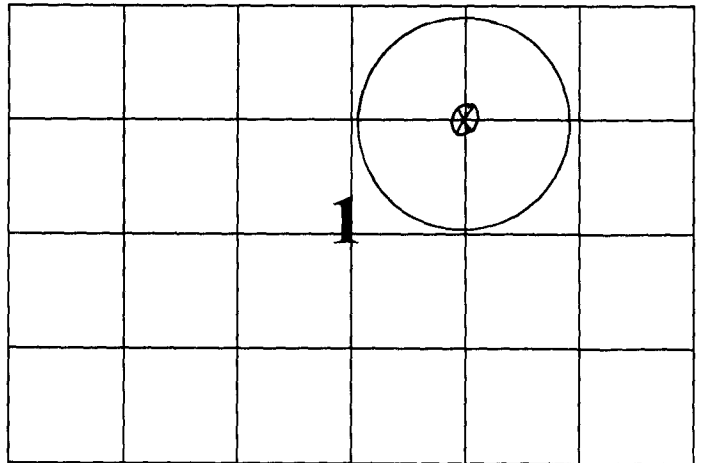
Corrected Application Received:

Period of Annual Use: May 1 – October 31

Remarks:

Diversion Point: approximate center of NE 1/4 Sec
1-T92N-R53W

Land to be Irrigated: NE 1/4 Sec 1-T92N-R53W



Depth of Well: 110 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by: Barbara Dykstra, Clay Co FSA

Reviewed and the Number Assigned on: 9-6-12

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

FORM 2: Application for irrigation in South Dakota
 (type or print)

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>7418-3</u> (office use only) Hydrologic Unit <u>10170102</u>
	Basin <u>Vermillion River</u> <u>605-624-2695</u>
	Newspaper <u>Plain Talk 201 W Cherry Vermillion 57069</u>
	<u>Press Democrat 319 Walnut Yankton 57078 605-7811</u>

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SEP - 4 / 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 of Applicant Brook Bye Phone 605-670-9132

 (check one) ☐ Owner ☐ Tenant/lessee

 Mailing Address 31472 458th Ave. Vermillion SD 57069
 (Address) (City) (State) (Zip Code)

 2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 134
 (*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 water

 4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Clay
NE 1/4 section 1 T92N-R53 (approximate center)

 5. County or counties where water will be used Clay

 6. Annual period during which water is to be used May 1 to Oct. 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
<u>NE 1/4 of NE 1/4 of Sec. 1</u>	<u>33.5</u>	<u>NW 1/4 of NE 1/4 Sec. 1</u>	<u>33.5</u>
<u>T 92 N R 53 W</u>		<u>T 92 N R 53 W</u>	
<u>SE 1/4 of NE 1/4 of sec 1</u>	<u>33.5</u>	<u>SW 1/4 of NE 1/4 Sec. 1</u>	<u>33.5</u>
<u>T 92 N R 53 W</u>		<u>T 92 N R 53 W</u>	

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

STATE OF SOUTH DAKOTA

 County of Clay SS

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

 I, Brook Bye, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

 Applicant's signature Brook Bye

 Subscribed and sworn to before me this 30 day of August 20 12
Notary Public signature

**SOUTH DAKOTA
WATER PERMIT NO. 7418-3**

Date of first receipt of application September 4, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7418-3 to Brook Bye, 31472 458th Ave, Vermillion SD 57069 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. 7418-3 appropriates 1.78 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (110 feet deep) located in center of the NE 1/4 Section 1 for irrigation of 134 acres located in the NE 1/4 Section 1; all in T92N-R53W.
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 September 4, 2012
4. The date of approval of Permit No. 7418-3 is December 7, 2012.
5. One-fifth of the construction is to be completed on or before June 7, 2015.
6. All construction is to be completed on or before December 7, 2017.
7. Water is to be put to beneficial use on or before December 7, 2021.
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 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. 7418-3 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: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JAN 07 2013
date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 28" Depth 110'
- b) Casing Type PVC Diameter 16" Thickness SDR 26
- c) Screen Type PVC Diameter 16" Thickness SDR 26
- d) Gravel Pack Road Gravel Length of Gravel Pack 110'
- e) Depth to Top of Water Bearing Material 20'
- f) Depth to Water (ground surface to water level) ~~20'~~ 15'
- g) Distance to nearest existing domestic well:
- On applicant's property None On property owned by others None

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

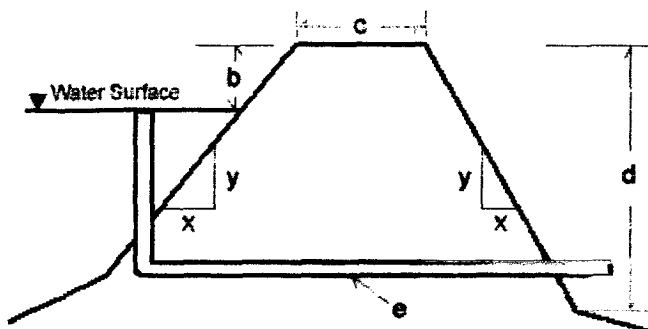
3. Dugout Information

- 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

Barbara Dayhousie Clay Co FSA
Program Tech



United States Department of Agriculture
Farm Service Agency

PLSS: 1_92N_53W
Farm: 4656

Clay County, SD

1:8,310

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WATER RIGHTS
PROGRAM



March 12, 2010

Wetland Determination Identifiers

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

□ Common Land Units

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

2008 Ortho-Photography - Not to Scale

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WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

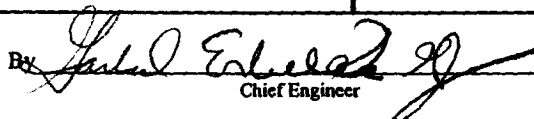
Date 9/6, 20 12

RECEIVED OF Brook Bye 31472 458th Ave Vermillion SD 57069

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

Fee for Application for Permit No. <u>74118-3</u> to Appropriate Water, to construct and to put water to beneficial use	850	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>74118-3</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	1050 00

No. **05567**

By 
Chief Engineer



**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. 7418-3, Brook Bye**

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. 7418-3, Brook Bye, 31472 458th Avenue, Vermillion SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 7418-3 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. 7418-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Garland Erbele, Chief Engineer
November 13, 2012

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7418-3
BROOK BYE
OCTOBER 30, 2012

Water Permit Application No. 7418-3 proposes to appropriate 268 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 Missouri: Elk Point aquifer. The well is expected to be approximately 110 feet deep and is to be located in the approximate center of Section 1, T92N-R53W. This permit application proposes to irrigate 134 acres located in the NE¼ of Section 4, T92N-R53W in Clay County.

AQUIFER: Elk Point management unit of the Missouri aquifer (M: EP)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Missouri: Elk Point is an alluvium mantled outwash consisting of clay and silt with small amounts of sand and gravel (Jensen, 2000). The aquifer is unconfined in the area of the proposed well site. In total, the Missouri: Elk Point aquifer underlies 219,100 acres and contains an estimated 3,287,100 acre-feet (ac-ft) of water in storage. In Clay County alone, the aquifer underlies 74,500 acres and contains an estimated 1,117,000 ac-ft of water in storage (Hedges and others, 1982).

The Missouri: Elk Point aquifer extends west into Yankton County and east into Union County. The aquifer connects to the Lower Vermillion-Missouri aquifer to the north, overlies the Dakota aquifer in portions of Clay County, and is hydraulically connected to the Vermillion River to the east and Missouri River to the south. Water in the aquifer generally moves from the northwest to the southeast towards the Missouri River (Stephens, 1967).

A test well was not drilled for this application; however, information is available from area irrigation, domestic, and observation wells. In the area of the proposed well site, the aquifer is 100 to 125 feet thick, and the static water level is between 12 to 21 feet below ground surface. In general, wells in Clay County that are completed into the Missouri: Elk Point aquifer are highly productive, and so, a well proposed at the application's proposed location would probably yield the amount of water requested (Water Rights, 2012a; Water Rights, 2012b; Water Rights, 2012c).

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 and pertinent to this application.

WATER AVAILABILITY:

This application proposes to appropriate 268 ac-ft/yr from the Missouri: Elk Point 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 Missouri: Elk Point aquifer is due to infiltration of precipitation in areas where the aquifer is near land surface, inflow from the Lower Vermillion-Missouri aquifer at the Missouri: Elk Point aquifer's northern boundary, inflow from the Missouri River during periods of high flow, and leakage from the underlying Dakota aquifer.

Hedges and others (1985) estimated recharge, based on observation well data, of the Missouri: Elk Point aquifer to be 3.8 inches per year. Using this recharge rate and the area of the aquifer cited previously, the estimated recharge equals 69,400 ac-ft/yr for the entire aquifer and 23,600 ac-ft/yr for the portion of the aquifer underlying Clay County. Also, Stephens (1967) indicated that additional discharge by wells would induce additional recharge from the Missouri River.

Discharge:

Discharge from the Missouri: Elk Point aquifer occurs due to evapotranspiration in areas where the aquifer is near land surface, outflow to the Missouri River during periods of low flow, outflow into the underlying Dakota aquifer, and well withdrawals from commercial use, industrial use, fish and wildlife propagation, municipal use, recreational use, rural water systems, suburban housing development, and irrigation. There are a total of 485 water rights and permits appropriating water from the Missouri: Elk Point aquifer, with 107 of these water rights/permits in Clay County (Water Rights, 2012b).

From the entire Missouri: Elk Point aquifer, diversion rate appropriation for commercial use, industrial use, fish and wildlife propagation, recreational use, rural water systems, suburban housing development totals 15.936 cfs. Diversion rate appropriation for municipal use totals 11.662 cfs. Annual volume of water currently appropriated for municipal use and rural water systems totals 1,161 ac-ft/yr and 32,165 ac-ft/yr, respectively. Five future use permits reserve a total of 1,900 and 25,000 ac-ft/yr for municipal use and rural water systems, respectively (Water Rights, 2012b).

The amount of water that can be expected to be withdrawn by the non-irrigation use water permits rights/permits at the current appropriation amount can be estimated by assuming: 1) water rights/permits limited by an annual volume will pump the entire volume appropriated annually, 2) water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate at 60 percent of the time, and 3) future use permits can be fully developed. Total annual withdrawal from the entire Missouri: Elk Point aquifer by non-irrigation use is expected to total less than 72,214 ac-ft/yr at the current appropriation amount.

Lewis and Clark Rural Water System's (RWS) expected water use is a significant portion of the annual volume of water anticipated to be used under current appropriations. Lewis and Clark RWS currently has two permits appropriating at total of 32,165 ac-ft/yr and four future use permits reserving a total of 25,000 ac-ft/yr (Water Rights, 2012b). Recognizing that due to the proximity of the wells to the Missouri River and the design of the wells, most of the water that will be withdrawn from the Lewis and Clark RWS wells will be induced from the Missouri River.

In 2011, the annual volume of water appropriated from the entire Missouri: Elk Point aquifer by irrigation totaled 159,700 ac-ft/yr, while the pumpage reported totaled 12,107.55 ac-ft/yr (Water Rights, 1979-2011). Figure 1 shows the Missouri: Elk Point aquifer's historic irrigation data.

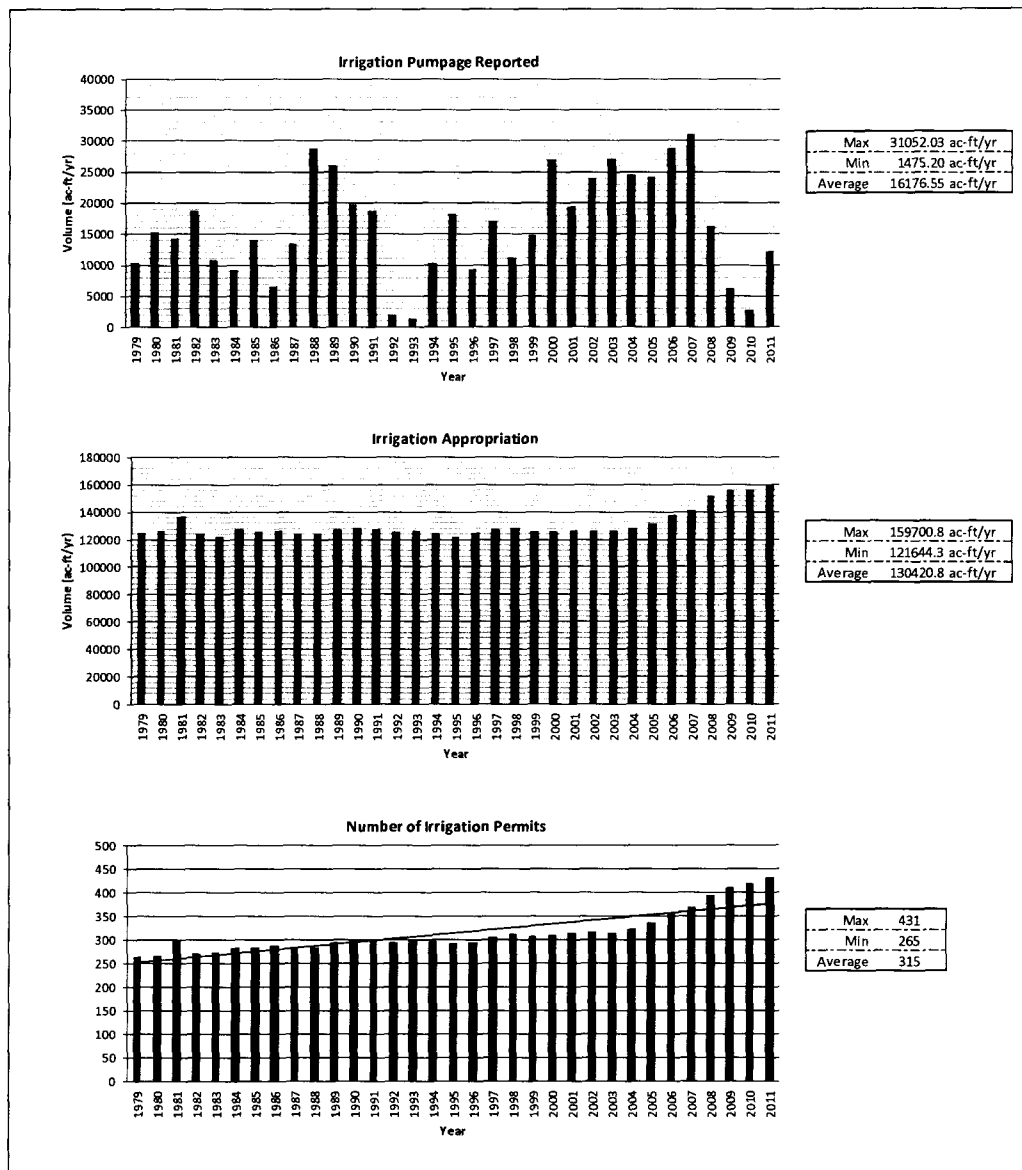


Figure 1: Historic irrigation water use from the Missouri: Elk Point aquifer (Water Rights, 1979-2011)

In addition, there are many domestic wells on file with the SD DENR-Water Rights Program in Clay County that may be completed into the Missouri: Elk Point aquifer (Water Rights, 2012c).

Hydrologic Budget:

Recognizing that Lewis and Clark RWS withdraw water from the Missouri: Elk Point aquifer that is induced from the Missouri River and considering the remaining hydrologic budget, there is a reasonable probability that unappropriated groundwater is available from the Missouri: Elk Point aquifer for the proposed appropriation of 268 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 DENR-Water Rights Program monitors 37 observation wells located into the Missouri: Elk Point aquifer, with five of these observation wells being in Clay County (Water Rights, 2012a). The nearest of these wells, CL-80B and CL-80G, are located approximately three miles southwest and four and three-quarter miles northeast of the proposed well site, respectively. Hydrographs of these observation wells are shown in Figures 2 and 3.

The observation well data documents cyclic conditions of water levels, recharging during wet years and declining during dry years, which may be influenced by the aquifer’s connection to the Missouri River. For example, high flows in the Missouri River during the summer of 2011 and the current drought conditions are evident in the hydrographs. The hydrographs also show the effects of nearby pumping on the aquifer. Observation well data indicates that temporal well withdrawal is masked by climatic conditions. Therefore, recharge to and natural discharge from the Missouri: Elk Point aquifer greatly exceeds well withdrawal.

Trend lines of hydrographs of the two observation wells show a slight downward trend of the Missouri: Elk Point aquifer’s water table. This gradual decline has been attributed to entrenching the Missouri River (Goodman, 2007) or controlling the flow of the Missouri River by the Gavins Point Dam, which no longer allows inundating the floodplain (Stephens, 1967). Regardless of cause, the declining water table levels demonstrate the hydraulic connection between the aquifer and the Missouri River. Pumping from the aquifer will induce recharge supplied by the Missouri River or capture discharge before outflowing to the river (Stephens, 1967).

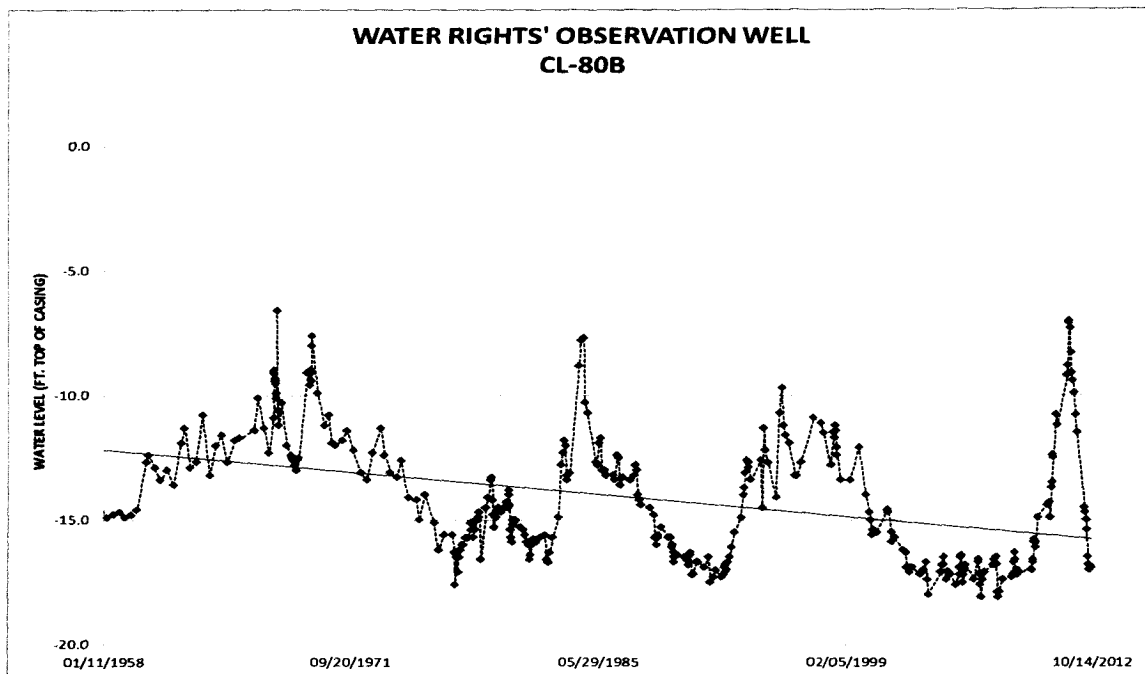


Figure 2: Hydrograph for DENR-Water Rights' observation well CL-80B (Water Rights, 2012a)

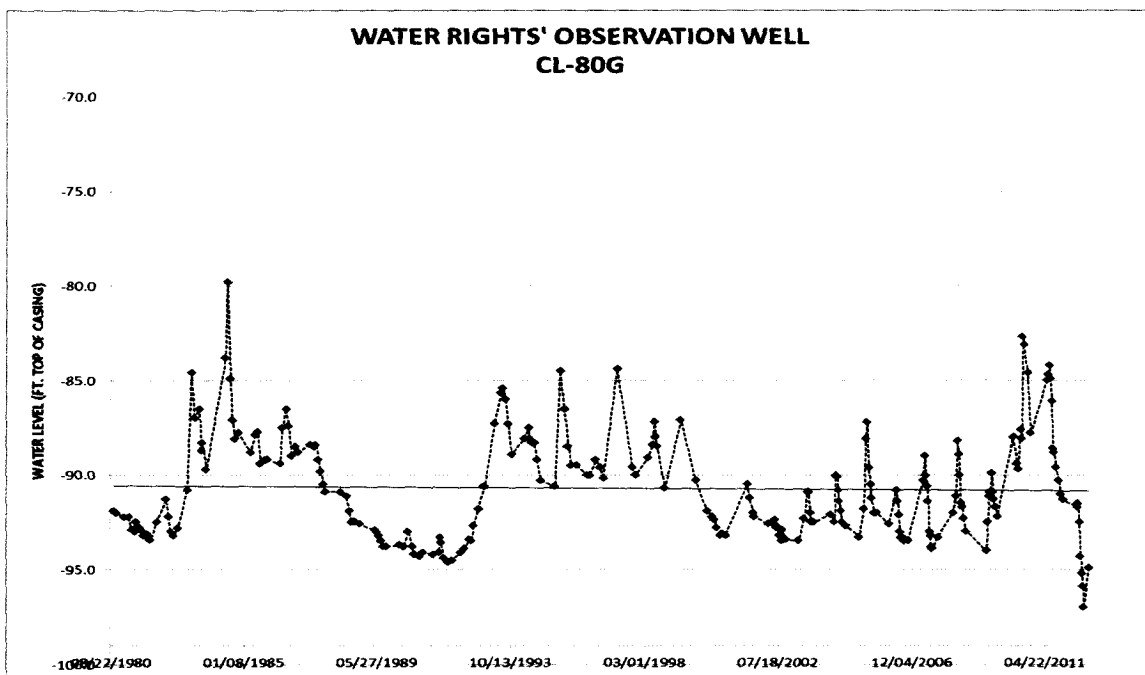


Figure 3: Hydrograph for DENR-Water Rights' observation well CL-80G (Water Rights, 2012a)

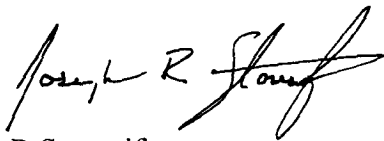
EXISTING WATER RIGHTS:

There are 107 water rights/permits appropriating water from the Missouri: Elk Point aquifer in Clay County. There are five water rights/permits within two miles of the proposed well site. Water Right No. 7019-3, to Brook Bye, is the only water right/permit located within one mile. All five water rights/permits are designated for irrigation use (Water Rights, 2012b). There are two domestic wells on record with the SD DENR-Water Rights Program within two miles, but further than one mile, of the proposed well site (Water Rights, 2012c).

Due to the distance between wells and the relatively small diversion rate, drawdown is not expected to be significant. As shown by the observation wells, interference is not expected to be a concern of surrounding wells due to the addition of the proposed well.

CONCLUSIONS:

1. The application proposes to appropriate 268 ac-ft/yr for irrigation.
2. Most of the water that will be withdrawn from the Lewis and Clark RWS wells will be induced from the Missouri River.
3. There is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer to supply the proposed appropriation.
4. There is a reasonable probability that this proposed well will not cause interference in existing nearby wells.



Joseph R Stonesifer
SD DENR-Water Rights Program

REFERENCES:

- Goodman, J.A. 2007. Report on Water Permit Application No. 6869-3 for Lewis and Clark RWS: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., and Schoon, R.A. 1982. Evaluation of Ground-Water Resources 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.
- 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.
- Jensen, A.R. 2000. Aquifer Materials Map 1. South Dakota DENR-Geological Survey, Vermillion, SD.
- “Lithologic Logs Database.” South Dakota Department of Environment & Natural Resources Geological Survey. 19 October 2012
- Stephens, J.C. 1967. Geology and Hydrogeology of Clay County, South Dakota, Part II: Water Resources. South Dakota DENR-Geological Survey Bulletin 19, 62 p.
- Water Rights. 1979-2012. “Annual Irrigation Summary by Aquifer”: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Water Rights. 2012c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.

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AFFIDAVIT OF PUBLICATION

PLAIN TALK

Brook Bye
DENR
31472 458th Ave
Vermillion, SD 57069

STATE OF SOUTH DAKOTA
COUNTY OF CLAY

TERA SCHMIDT BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT SHE IS THE CLASSIFIED MANAGER OF YANKTON
MEDIA INC., A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
PLAIN TALK, A LEGAL WEEKLY NEWSPAPER PUBLISHED AND CIRCULATED
IN THE CITY OF VERMILLION, SAID COUNTY AND STATE, AND ONE OF THE
OFFICIAL NEWSPAPERS OF THE SAID COUNTY OF FACTS STATED IN THIS
AFFIDAVIT; THAT THE ANNEXED
NOTICE ON APPLICATION NO. 7418-3 TO APPROPRIATE WATER

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 23 DAY OF NOVEMBER 2012
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$27.68 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: 11/23/12

FILED ON: 11/23/12

Tera A. Schmidt
SUBSCRIBED AND SWORN TO BEFORE ME THIS 28th DAY OF

Erin M. Dild
NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 8/19/2015

NOTICE OF APPLICATION

NO. 7418-3 to Appropriate
Water

Notice is given that Brook Bye, 31472 458th Ave, Vermillion SD 57069 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (110 feet deep) located in center of the NE 1/4 Section 1 for irrigation of 134 acres located in the NE 1/4 Section 1; all in T92N-R53W

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7418-3 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 December 3, 2012.

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 \$27.68

Estimated publishing cost per published copy \$0.148

Published: November 23, 2012

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AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Department of Environment and Natural Resources
PMB 2020
Joe Foss Building
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Pierre, SD 57501-3182

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT 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
Application No. 7418-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 27th DAY OF November 2012
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID **NOTICE** TO WIT **\$24.82** 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: 11/27/2012

FILED ON: 11/27/2012

SUBSCRIBED AND SWORN TO BEFORE ME THIS 27th DAY OF November

2012

NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES

8/19/2015

11+27

NOTICE OF APPLICATION
NO. 7418-3 to Appropriate Water

Notice is given that Brook Bye, 31472 458th Ave, Vermillion SD 57069 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (110 feet deep) located in center of the NE 1/4 Section 1 for irrigation of 134 acres located in the NE 1/4 Section 1; all in T92N-R53W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7418-3 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 December 7, 2012.

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 \$24.82



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

November 14, 2012

Plain Talk
201 W Cherry
Vermillion SD 57069

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7418-3 to Appropriate Water. Please publish the notice once on November 23, 2012. 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 Brook Bye, 31472 458th Ave., Vermillion SD 57069 (Ph # 605-670-9132).

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

November 14, 2012

Daily Press & Dakotan
319 Walnut
Yankton SD 57078

ATTENTION: Legal Public Notice

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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.

November 14, 2012

Brooke Bye
31472 458th Ave
Vermillion SD 57069

Dear Mr. Bye:

Water Permit Application No. 7418-3 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 Plain Talk printed at Vermillion SD (Ph # 605-624-2695) and the Daily Press & Dakotan printed at Yankton SD (Ph # 605-665-7811). 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 November 23, 2012. 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. 7418-3 to Appropriate Water

Notice is given that Brook Bye, 31472 458th Ave, Vermillion SD 57069 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from one well to be completed into the Missouri:Elk Point Aquifer (110 feet deep) located in center of the NE 1/4 Section 1 for irrigation of 134 acres located in the NE 1/4 Section 1; all in T92N-R53W.

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Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by December 3, 2012.

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_____.

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Published once at the total approximate cost of _____.

Schlaak, Karen

From: Schlaak, Karen
Sent: Monday, November 26, 2012 9:23 AM
To: 'Tera Schmidt'
Subject: RE: DENR notice for Brook Bye (Application No. 7418-3)
Attachments: 7418-3public.short.docx

Tera,
Please publish tomorrow - November 27th. Attached is the notice with correct date. As always, please send affidavit ASAP.
Karen

-----Original Message-----

From: Tera Schmidt [<mailto:tera.schmidt@yankton.net>]
Sent: Monday, November 26, 2012 9:00 AM
To: Schlaak, Karen
Subject: Re: DENR notice for Brook Bye (Application No. 7418-3)

I can publish it again anytime you want. Tomorrow? Please send the correct text.

Tera

On 11/26/12 7:52 AM, "Schlaak, Karen" <Karen.Schlaak@state.sd.us> wrote:

> Good morning,
> If you ran the notice for Brook Bye on the 24th, it will need to be
> published again. There is a time sensitive date at the end of the third paragraph.
> Please let me know when you will publish it again and I can give you
> the correct date change for the third paragraph.
>
> Karen
>
> -----Original Message-----
> From: Tera Schmidt [<mailto:tera.schmidt@yankton.net>]
> Sent: Friday, November 23, 2012 10:03 AM
> To: Schlaak, Karen
> Subject: DENR notice for Brook Bye (Application No. 7418-3)
>
> Karen,
>
> We had a problem with the notices that ran in the Press & Dakotan
> today. The Brook Bye notice was accidentally replaced by the Glenn
> Nelson notice so the Glenn Nelson notice ran twice and the Brook Bye notice didn't run.
>
> I have rescheduled the Bye notice to run tomorrow (11/24/12) but I
> need to make sure that this is what your office would like done.
>
> I am very sorry about the error, I must have copied and pasted the

> wrong notice and not realized it until this morning when I was trying
> to figure out why Glenn Nelson ran twice.
>
> If you are not in the office today, please let me know ASAP Monday
> what we need to do to.
>
> I apologize again,
>
> --
> Tera Schmidt
> Classified Manager
> Yankton Media Inc.
> 605-665-7811
> tera.schmidt@yankton.net
>

--
Tera Schmidt
Classified Manager
Yankton Media Inc.
605-665-7811
tera.schmidt@yankton.net



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

JAN 07 2013

Brook Bye
31472 458th Ave
Vermillion SD 57069

Dear Mr. Bye:

Enclosed is Water Permit No. 7418-3 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,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

7418-3

SD EForm - 1311LD V1

Form 10

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

MAIL TO: PMB 2020

Date

1/29/16

DENR - Water Rights Program
523 E Capitol Ave
Pierre, SD 57501-3182

ph. (605) 773-3352

FROM:

Brook Bye

(name)

31472458th Ave.

(address)

VermillionSD57069

(city)

(state)

(zip)

605-670-9132

(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. 7418-3 states that the water use system is to be constructed by

12-7-2017

(date)

, and water is to be put to beneficial use by 12-7-2021

(date)

The water use system was completed on

4 / 2013

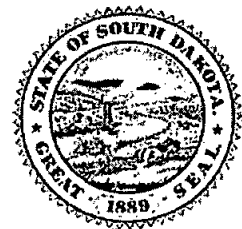
(date)

Applying the water to beneficial use was completed on

6 2013

(date)

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



Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 7418-3

I have this day, January 29, 2016, made a thorough examination of the water use system constructed by Brook Bye, 31472 458th Ave, Vermillion SD 57069 of Permit No. 7418-3, bearing the priority of September 4, 2012 authorizing the diversion of 1.78 cu. ft. per second of the waters of Missouri:Elk Point Aquifer for irrigation purposes, of 134 acres, in Clay County.

Inspection contact & relationship **Brook Bye, permit holder**
to permit holder, if applicable:

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Hammond-Wetmore Drilling, LLC
- 2) No. of Wells 1
- 3) Depth(s) 105 feet
- 4) Well log is available Yes

Casing:

- 1) Diameter 16 inches
- 2) Length 80 feet
- 3) Type PVC

Screen:

- 1) Type PVC Perforated
- 2) Length 25 feet
- 3) Static water level 20.7 feet

Pump:

- 1) Make Grundfos Submersible
- 2) Model 625S400-2a
- 3) Capacity 725 GPM

Motor:

- 1) Make Grundfos
- 2) Model No. Submersible
- 3) Horsepower rating 40 hp

C. Works used to apply water to beneficial use:

Center pivot:

- 1) Make Valley
- 2) Overall length 1300 feet
- 3) Number of towers 7
- 4) End gun Yes
- 5) Capacity 725 GPM

Comments: Water Permit 7418-3 appropriated 1.78 cfs or 800 gpm, however only 1.62 cfs or 725 gpm was developed.

Chemigation Equipment:

- 1) Does chemigate No

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 Yes, began irrigating in 2013.

List any extended period of nonuse: None

- 3) Exceptions to compliance are: Diversion rate exceeds statutory limit.

E. Condition and Location:

1. The system is in good condition with the point(s) of diversion located as follows: West 1330', South 1310' from NE Corner of Sec 1-T92N-R53W; Lat 42.81895/Long -97.04713; approximate center of NE ¼ Sec 1-T92N-R53W.

2. The works are capable of diverting and conveying to the place of use 1.62 cfs or 725 gpm of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

Sec 1-T92N-R53W.

NW ¼ NE ¼ - 34 ac

SW ¼ NE ¼ - 5 ac

NE ¼ NW ¼ - 1 ac

Sec 36-T93N-R53W.

SE ¼ SE ¼ - 1 ac

NE ¼ NE ¼ - 33 ac

SE ¼ NE ¼ - 30 ac

SE ¼ NW ¼ - 1 ac

comprising a total of 105 acres of land and the license should be issued for 1.50 cfs or 675 gpm which is the statutory limit of 1 cfs per 70 acres irrigated.

3. All structures, wells and lands on map Yes

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

Provide detailed explanation when multiple permits are involved or any discrepancy between what the permit was issued for and what was developed.

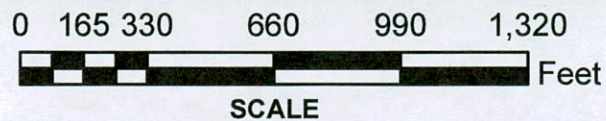
The diversion rate of Water Permit No. 7418-3 is greater than the statutory limit of 1 cfs per 70 acres irrigated.



Harold Holoch, PE
Staff Engineer
DENR, Water Rights Program

Date report completed: October 30, 2017

7418-3



Harold Holoch
Harold Holoch, PE
Staff Engineer
June 2 2017

Licensing of Acreage Outside of Permitted Area

NAME: Brook Bye

ADDRESS: 31472 458th Avenue, Vermillion SD 57069

DATE: November 4, 2017

COUNTY: Clay

TELEPHONE:

AUTHORITY

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

NO INCREASE IN PERMITTED ACREAGE OR WATER APPROPRIATED:

The acreage developed for irrigation is 105 acres as compared to 134 acres authorized by the permit. The developed diversion rate is 1.62 cfs as compared to the 1.78 cfs authorized by the permit. The water license will be limited to 1.5 cfs based on the statutory limit for 105 acres.

The permit authorizes irrigation within the NE $\frac{1}{4}$ of Section 1-T92N-R53W. The system as developed extends with one (1) acre being irrigated in each of the following quarter-quarter sections – NE $\frac{1}{4}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 1-T92N-R53W and SE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 36-T93N-R53W.

UNPERMITTED ACREAGE:

- **Contiguous to Permitted Acreage**

Yes – the center pivot extends into adjoining property

- **Owned by Same Property Owner**

The permit holder is Brook Bye and the 2016 Clay County plat book lists the land is owned by the Bye Family Trust

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

Yes - Date to complete construction of works on the water permit is December 7, 2017.

RECOMMENDED ACTION

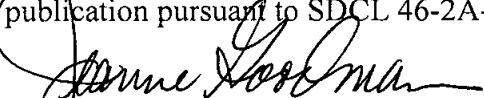
Based on the above criteria, it is recommended that the xx acre area be included in the water license.



Eric Gronlund, Natural Resource Engineer III
Water Rights Program

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

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



Jeanne Goodman, Chief Engineer
Water Rights Program



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

NOV 13 2017

7418-3

Brook Bye
31472 458th Ave
Vermillion SD 57069

Dear Mr. Bye:

Enclosed is Water License No. 7418-3. 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, 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

NOTE: The investigation found your irrigation system is capable of diverting 1.62 cubic feet of water per second (cfs) which is equivalent to approximately 725 gallons per minute. The statutory limit for 105 acres is 1.50 cfs (equivalent to 675 gpm). Diversion of water under this water license is limited to 1.50 cfs.

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 7418-3**

(1) Brook Bye, 31472 458th Ave, Vermillion SD 57069 made Application No. 7418-3, September 4, 2012 for a water permit to divert 1.78 cubic feet of water per second from ground water, one well (Missouri Elk Point Aquifer), Clay County, South Dakota for irrigation purposes. Permit No. 7418-3, with a priority date of September 4, 2012 was approved December 7, 2012 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before December 7, 2017 and for the application to beneficial use of said water on or before December 7, 2021.

The Permit holder submitted a "*Notice of Completion of Works and Application of Water to Beneficial Use*" on January 29, 2016. The "*Notice*" stated the water use system was completed in April, 2013 and the water placed to beneficial use in June, 2013.

The investigation of the water use system found three acres had been developed outside of the permitted area. Pursuant to SDCL 46-5-30.5, the Chief Engineer made a finding the change in acreage did not impair existing water rights and the overall project, as developed, was consistent with the original application.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.50 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 1,330"W and 1,310'S of the NE corner of Section 1, T92N, R53W (approximate center of the NE ¼); Latitude 42.81895, Longitude -97.04713

(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 1, T92N, R53W	NW ¼ NE ¼	34 acres	NE ¼ NE ¼	33 acres
	SW ¼ NE ¼	5 acres	SE ¼ NE ¼	30 acres
	NE ¼ NW ¼	1 acre	SE ¼ NW ¼	1 acre
Section 36, T93N, R53W	SE ¼ SE ¼	1 acre		
Total 105 acres				

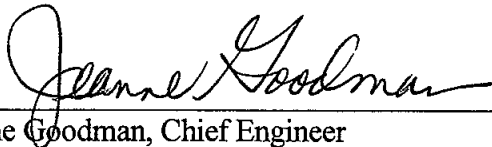
(4) Pursuant to South Dakota Water Law 46-5-30.1 Brook Bye, 31472 458th Ave, Vermillion SD 57069 the holder and/or owner of Water Right No. 7418-3 is issued a license to appropriate water, the right to use 1.50 cubic feet of water per second from ground water, one well (Missouri Elk Point Aquifer) with a priority date of September 4, 2012 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. 7418-3 and subject to the following qualifications:

- 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.

continued

- The well authorized by Permit No. 7418-3 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 by Hammond Wetmore Drilling in May, 2013. A copy of the well log is 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

NOV 13 2017

date

