

WATER PERMIT NO. 7987-3

Name of Applicant: **Francis M Armstrong Living Trust**

Address: **4 South Norbeck, Vermillion SD 57069** Phone: **605 658-0117**

Amount of Water Claimed: **1.78 cfs** Total Acres: **102**

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

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

Type of Waste Disposal System:

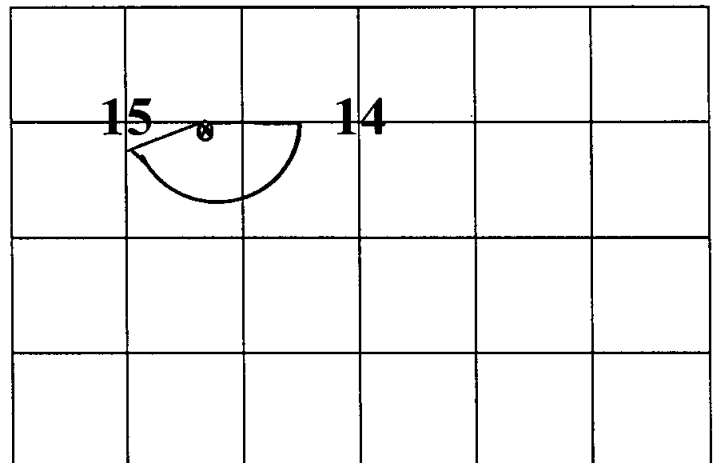
Location: **7 miles west of Vermillion**

PRIORITY Date Received: **3-17-14** Application/License Fee: **\$ 950**

Corrected Application Received: **3-28-14** Period of Annual Use: **May 1 – October 31**

Remarks: **Requesting diversion rate greater than statutory limit**

Diversion Point: **NE 1/4 SE 1/4 Sec 15-T92N-R53W**



Land to be Irrigated: **SE 1/4 Sec 15 and NW 1/4 SW 1/4 Sec 14; all in T92N-R53W**

Depth of Well: **100 feet deep**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **3-28-14**

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

(office use only)
No. 7987-3 Hydrologic Unit 10170101
Basin Missouri River 605-224-2695
Newspaper Plain Talk 201 W Cherry Vermillion 57069
Press & Democrat 319 Walnut Yankton 57078 605-665-7811

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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 Francis M. Armstrong Living Trust

(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 4 South Norbeck Vermillion SD 57069
(Address) (City) (State) (Zip Code)

Home Phone 605-624-3521 Cell _____ Email armstrongjune@msn.com

2. Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 102
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Groundwater: 1 Well in the Missouri:Elk Point aquifer

4. Location of point of diversion 1 well in the ne 1/4, se 1/4 of section 15-t92n-r53w
(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

County Clay

5. County or counties where water will be used Clay

6. Annual period during which water is to be used May to October, annually

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
nw of se of section 15, t92n r53w	<u>34</u>		
sw of se of section 15, t92n r53w	<u>5</u>	<u>NW of SW 1/4, Section 14, T92N R53W</u>	<u>15</u>
se of se of section 15, t92n r53w	<u>8</u>		
ne of se of section 15, t92n r53w	<u>40</u>		

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

center pivot irrigation of above listed tracts. Greater than the statutory allocation is requested because of sandy soils and type of irrigation system (center pivot).

I, June W. Armstrong, Trustee, 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. 7987-3

Date of first receipt of application March 17, 2014.

Date of return to applicant for corrections, amendments or changes March 18, 2014.

Date of receipt of corrected application March 28, 2014.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7987-3 to Francis M. Armstrong Living Trust, 4 South Norbeck, 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. 7987-3 appropriates 1.78 cubic feet of water per second (cfs) from one well to be completed into the Missouri:Elk Point Aquifer (100 feet deep) located in the NE 1/4 SE 1/4 Section 15 for irrigation of 102 acres located in the SE 1/4 Section 15 and NW 1/4 SW 1/4 Section 14; 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 – October 31.
3. The date from which applicant may claim right is March 17, 2014.
4. The date of approval of Permit No. 7987-3 is June 2, 2014.
5. One-fifth of the construction is to be completed on or before December 2, 2016.
6. All construction is to be completed on or before June 2, 2019.
7. Water is to be put to beneficial use on or before June 2, 2023.
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. 7987-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 7987-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 102 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: 

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

JUN 18 2014

date



Supplemental Information

(type or print)

1. Well Information

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

a) If new wells, how many 1 Have test holes been drilled ☐ Yes ☒ No Drilled by _____
(if yes, please provide copies of logs)

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

c) Well Depth 100 Depth to Top of Water Bearing Material 50 Depth to Water from Surface 25

d) Distance to nearest existing domestic well:

On applicant's property 1500' On property owned by others 2500'

2. Wastewater Disposal System Information

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

b) System Capacity (gallons) _____ Year Constructed _____

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)

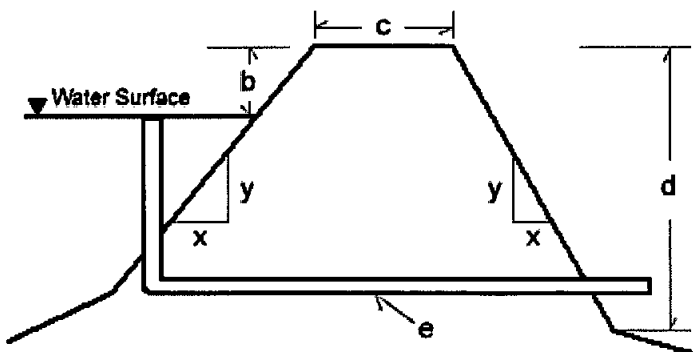
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



3/25/2014

cPivot



The Leader in Precision Irrigation

Number of Spans: 9.
Total radius with overhang: 1656 feet.
Total Coverage: 1

102 Acres -



16

15

14

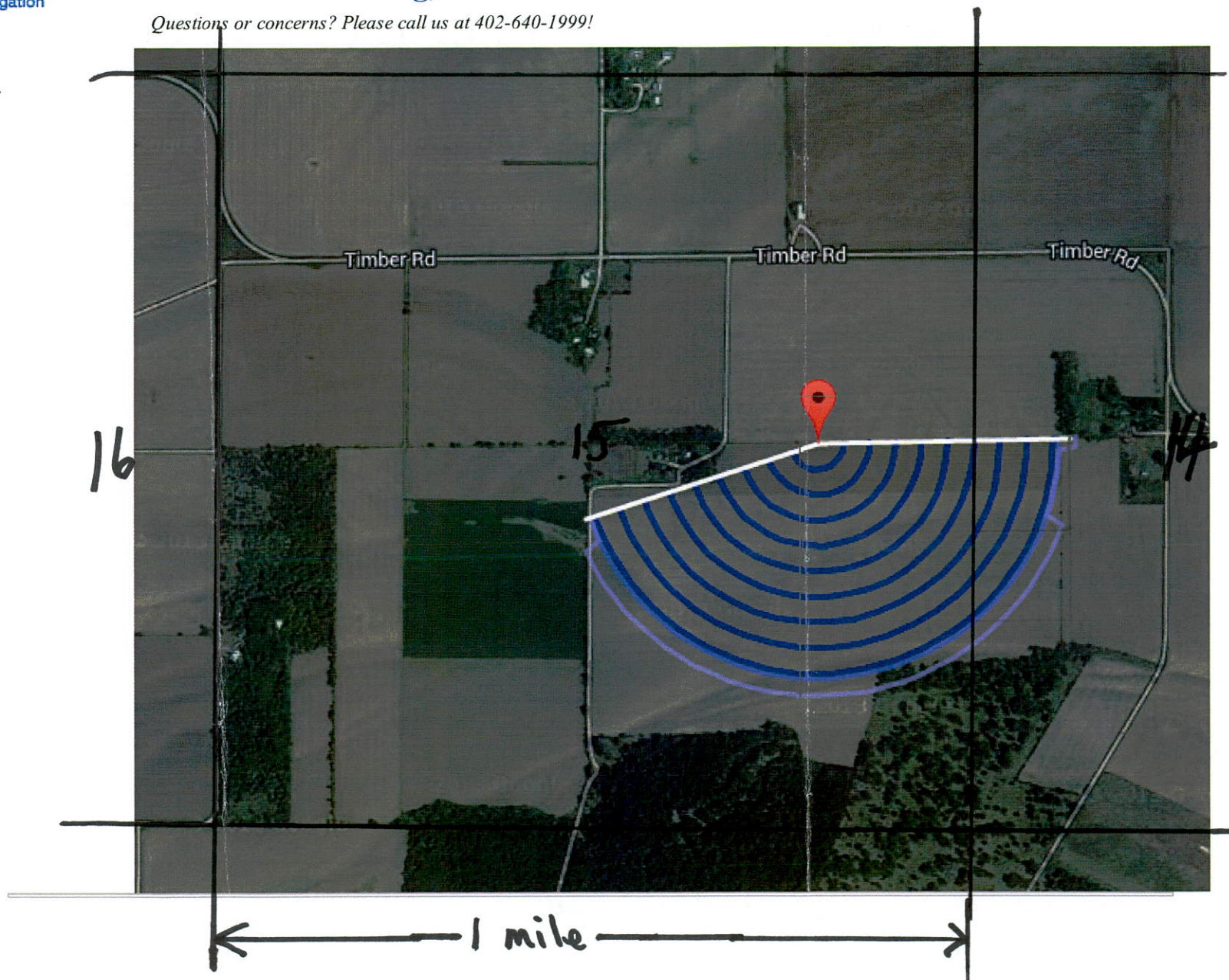
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MAR 28 2014

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RH Hammond
CP6 8272

Prepared By: **Heine Electric and Irrigation, Inc.**
For: **Armstrong, Mike- north**
Questions or concerns? Please call us at 402-640-1999!





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MAR 17 2014

WATER RIGHTS

Date: 3/5/2014



United States Department of Agriculture
Farm Service Agency

S: 14_92N_53W
1: 4528

Clay County

Handwritten: CP6 8272

Date: 3/5/

Wetland Determination Id

● Restricted Use

Sec 9
T092N
R53W

Sec 10
T092N
R53W

Sec 11
T092N
R53W

Sec 16
T092N
R53W

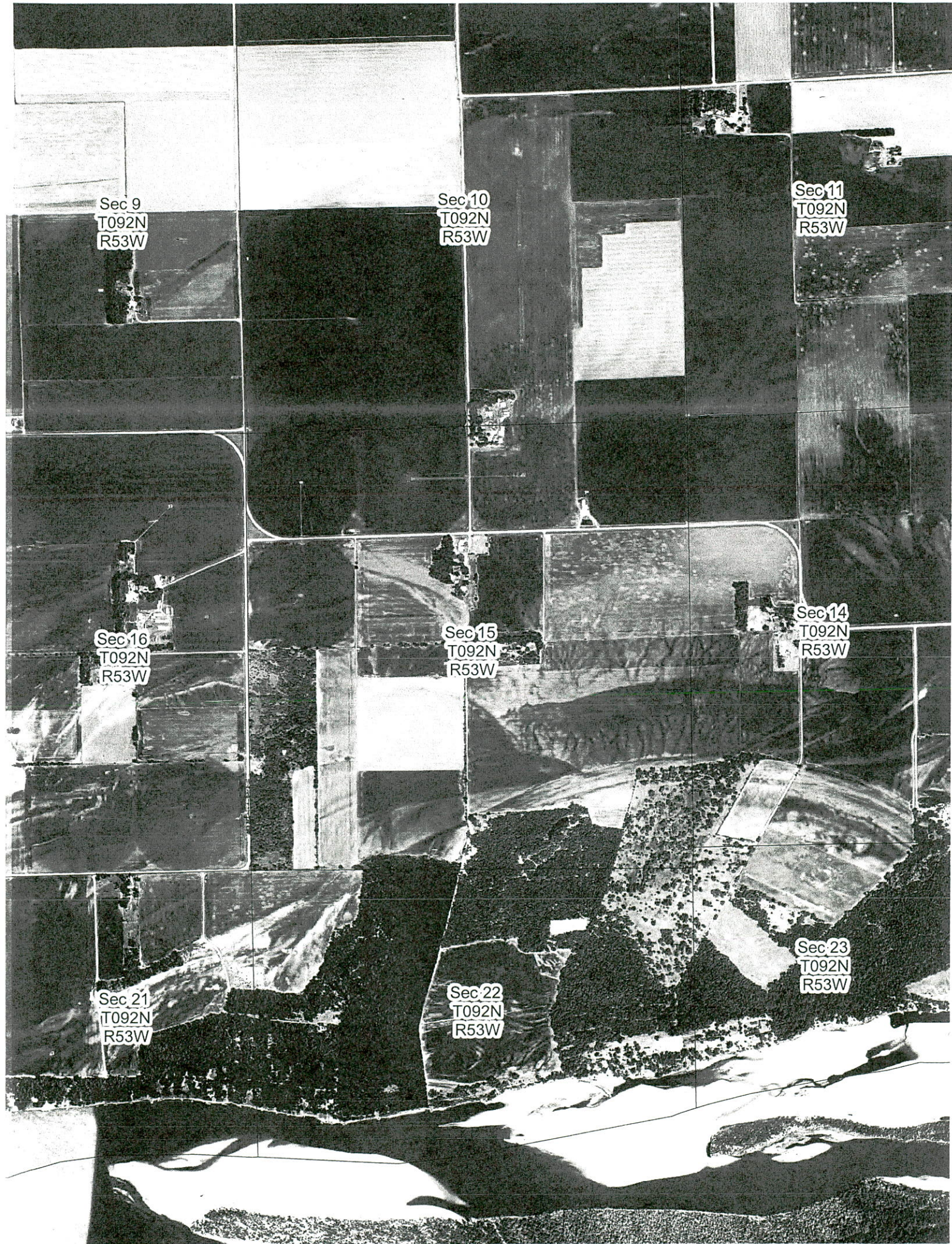
Sec 15
T092N
R53W

Sec 14
T092N
R53W

Sec 21
T092N
R53W

Sec 22
T092N
R53W

Sec 23
T092N
R53W



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 3/17, 2014

RECEIVED OF Francis M Armstrong 4 S Norbeck Vermillion SD 57069

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

Fee for Application for Permit No. <u>7987-3</u> to Appropriate Water, to construct and to put water to beneficial use	750	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>7987-3</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	950 00

No. **06788**

By Jeanne Loomer
Chief Engineer



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



March 18, 2014

Francis M Armstrong Living Trust
c/o June W Armstrong, Trustee
4 S Norbeck
Vermillion SD 57069

Dear Ms. Armstrong:

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

- Item No. 2 states total acreage of 120 acres. Item No. 7 gives the breakdown of acreage which totals 142 acres. The acres located in the NW 1/4 SW 1/4 of Section 14 are not included in the breakdown.

Using a computer program, I determined the pink outlined area on the map to be 150 acres. Below is a breakdown of the acres.

Section 15-T92N-R53W	Section 14-T92N-R53W
SW 1/4 NE 1/4 20 ac	NW 1/4 SW 1/4 20 ac
NE 1/4 SE 1/4 40 ac	
NW 1/4 SE 1/4 38 ac	
SW 1/4 SE 1/4 20 ac	
SE 1/4 SE 1/4 12 ac	Total 150 acres

- If you intend to irrigate 120 or 142 acres, then please submit the breakdown of acres by the quarter-quarter and outline only those acres to be irrigated on the map.
- Irrigation of more than 120 acres will require an additional \$100.00 application/license fee.

If you have any questions, please contact me.

Sincerely,

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

enclosures

Schlaak, Karen

From: Richard Hammond <rhhei@gmail.com>
Sent: Tuesday, March 25, 2014 2:53 PM
To: Schlaak, Karen
Subject: Francis Armstrong WR permit app.
Attachments: armstrong 2014 pivot.htm

Karen, I am helping June Armstrong with her permit application. Her app was not quite ready for mailing, so we are revising the submission to reflect changes necessary after getting more information from the electric provider and changes to the pivot layout. I am sending a map showing the area that will actually be watered after these changes. The software suggests that a total of 100.38 acres will be covered as follows:

Section 15 ne of se: 40 acres

nw of se: 33 acres

sw of se: 6 acres

se of se: 8 acres

Section 14 nw of sw: 13 acres

Any adjustments needed? We will send an amended application form and another copy of the enclosed photo as needed.

Thanks!!

Dick Hammond
605-670-2321

*Called and
said hill be
pending stuff*



**DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
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**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7987-3, Francis M Armstrong Living Trust**

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. 7987-3, Francis M Armstrong, c/o June W Armstrong, Trustee, 4 South Norbeck, Vermillion SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 7987-3 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. 7987-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Permit No. 7987-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 102 acres with an annual volume not to exceed 2 acre feet of water per acre per year.
4. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
May 16, 2014

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7987-3
FRANCIS M ARMSTRONG LIVING TRUST
C/O JUNE W ARMSTONG, TRUSTEE
MAY 16, 2014

Water Permit Application No. 7987-3 proposes to divert groundwater at a maximum rate of 1.78 cubic feet of water per second (cfs) from one well to be completed into the Elk Point management unit of the Missouri aquifer. The well is expected to be approximately 100 feet deep and located in the NE ¼ SE ¼ Section 15 for the irrigation of 102 acres located in the SE ¼ Section 15 and the NW ¼ SW ¼ Section 14; all in T92N-R53W in Clay County. The applicant is requesting a diversion rate greater than the statutory limit.

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

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Elk Point management unit of the Missouri aquifer is an alluvium mantled outwash consisting of fine sand to very coarse gravel (Niehus, 1994; Stephens, 1967). The Missouri: Elk Point aquifer is located in southeastern South Dakota, underlying large portions of Yankton, Clay, and Union Counties. In total, the Missouri: Elk Point aquifer is estimated to underlie 210,100 acres and contain 3,287,100 acre feet (ac-ft) of recoverable water in storage (Hedges et. al, 1982). The aquifer connects to the Lower Vermillion Missouri and Lower James Missouri aquifers to the north, overlies and is often hydrologically connected to the Dakota aquifer, and is hydraulically connected to the Vermillion, Big Sioux, and Missouri Rivers. Water in the aquifer generally moves from the northwest to the southeast and towards the Missouri River (Stephens, 1967). The Missouri: Elk Point aquifer is predominantly under water table conditions.

A test hole log was not submitted with this application. Nearby SD DENR-Geological Survey test hole logs indicate sand and gravel from near ground surface to approximately 115 feet below grade (SDGS, 2014). The static water level of wells in the area and a DENR-Water Rights Program observation well (CL-80B) ranges from 5 to 20 feet below ground surface (Water Rights, 2014a and 2014c). The well site is approximately 1.1 miles away from the Missouri River. Christensen and Stephens (1967) estimated the transmissivity of a well completed into the Missouri: Elk Point aquifer approximately two miles east of the proposed well site from the specific capacity of the well during a 24 hour pump test. The transmissivity they estimated was 155,000 gallons per day per foot (gpd/ft). It is reasonable to assume the transmissivity is similar between the proposed well site and the well two miles east.

South Dakota Codified Law (SDCL) 46-2A-9

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

WATER AVAILABILITY:

This application proposes to appropriate water from the Missouri: Elk Point aquifer. Actual water use, if this application is approved, will likely be less than 204 acre-feet annually (ac-ft/yr). 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.” If the source of the water is older or lower than the greenhorn formation and a public water system has applied for a permit, the Board need not consider the recharge/withdrawal issue. Here, a public water system is not involved and the aquifer is not older or lower than the Greenhorn Formation therefore withdrawal/recharge issue must be considered.

Hydrologic Budget:

The hydrologic budget of the Missouri: Elk Point aquifer was evaluated for groundwater appropriations as of June 10, 2013. Water rights/permits/future use permits are expected to use 81,108 ac-ft/yr, which includes expected use by newer irrigation water permits. Recharge to the aquifer is estimated to be at least 91,964 ac-ft/yr, which considers induced recharge. Therefore, approximately 10,856 ac-ft/yr of unappropriated water was available at that stage of development (Stonesifer, in progress).

Since June 10, 2013, 13 water permits have been approved. The 13 water permits are for irrigation use and are shown in Table 1. Historically, irrigation use water rights/permits withdrawing water from this aquifer pump on average 13.7% of the total appropriation (Stonesifer, in progress). Stonesifer’s percentage of pumping to appropriation takes in to account the continuing development of irrigation from the Missouri: Elk Point aquifer, especially during the period of 2006 to 2012. Stonesifer accomplished this by only considering the pumpage compared to appropriation of water rights/permits that were past the end of their respective construction period (five years after approval).

Applying that proportion to the new appropriations and the pending appropriation, estimated expected use is 417 ac-ft/yr. Consequently, there is approximately 10,439 ac-ft/yr of recharge in excess of average annual withdrawal. Therefore there is a reasonable probability that unappropriated water is available for this proposed appropriation.

Permit No.	Name	County	Priority Date	Permit CFS	Permit Acres	Permit Appropriation (ac-ft)
7848-3	Missouri Valley Farms Inc.	Union	05/31/2013	3.04	213	426
7856-3	Mike & Steve Allard	Union	07/01/2013	1.78	129.3	258.6
7895-3	Todd Hansen	Union	09/09/2013	1.89	180	360
7898-3	James Orr	Clay	09/12/2013	1.56	132	264
7899-3	Justin Orr	Clay	09/12/2013	1.56	97	194
7904-3	Craig S. McInerney	Union	09/23/2013	1.78	160	320
7933-3	Doug Bye	Clay	12/12/2013	0.89	80	160
7936-3	Donald Johnson	Yankton	12/17/2013	1.39	83	166
7938-3	Russell M. Hall	Union	01/02/2014	n/a	53	106
7941-3	Joseph F. Chicoine	Union	01/14/2014	1	37.69	75.8
7951-3	Allen Pace	Union	01/24/2014	1.78	150	300
7955-3	Karl M. Schenk	Yankton	02/03/2014	1.78	140	280
7971-3	Barry Van Osdel	Yankton	02/20/2014	1.11	68	136

Table 1- Approved and pending water permits from the Missouri Elk Point aquifer since June 10, 2013 (Water Rights, 2014b)

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 Water Rights Program monitors 37 observation wells completed into the Missouri: Elk Point aquifer (Water Rights, 2014a). The nearest of these wells, CL-80B, is located approximately one mile northwest of the proposed well site. The hydrograph of this observation well is shown in Figure 1. The observation well data documents cyclic conditions of water levels, recharging during wet years and declining during dry years. The hydrograph also shows the effects or lack thereof of nearby pumping on the aquifer. Observation well data indicates that at the current level of development temporal well withdrawal is greatly masked by climatic conditions, indicating that recharge to and natural discharge from the aquifer greatly exceeds well withdrawal.

In general, hydrographs of observation wells completed into the Missouri: Elk Point aquifer show a slight decline in the water table. This has been attributed to entrenching of the Missouri River and a strong hydraulic connection between the river and the aquifer (Goodman, 2007; Stephens, 1967). The Missouri River stage near the City of Yankton has decreased approximately ten feet since the Gavin’s Point Dam was completed, as shown in Figure 2. Since the drought in 2012, water levels in many observation wells completed into the Missouri: Elk Point aquifer have not yet returned to previous elevations. Also shown in the hydrograph in Figure 1 is Missouri River water levels near the City of Yankton, approximately 17.8 miles west of the observation well. The trends in water levels between groundwater and surface water are very similar. This indicates that a strong hydraulic connection exists, where groundwater levels are to some extent dependent on the Missouri River stage. Therefore, water levels in the aquifer are not decreasing due to well withdrawal, and unappropriated water is available.

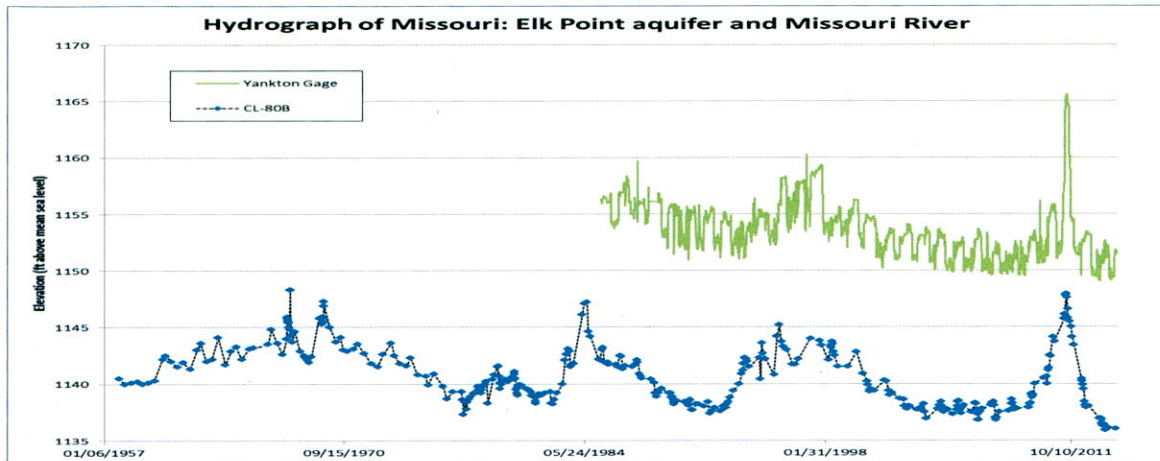


Figure 1- Hydrograph for observation well CL-80B and Missouri River stream gage near the City of Yankton (USGS, 2014; Water Rights, 2014a)

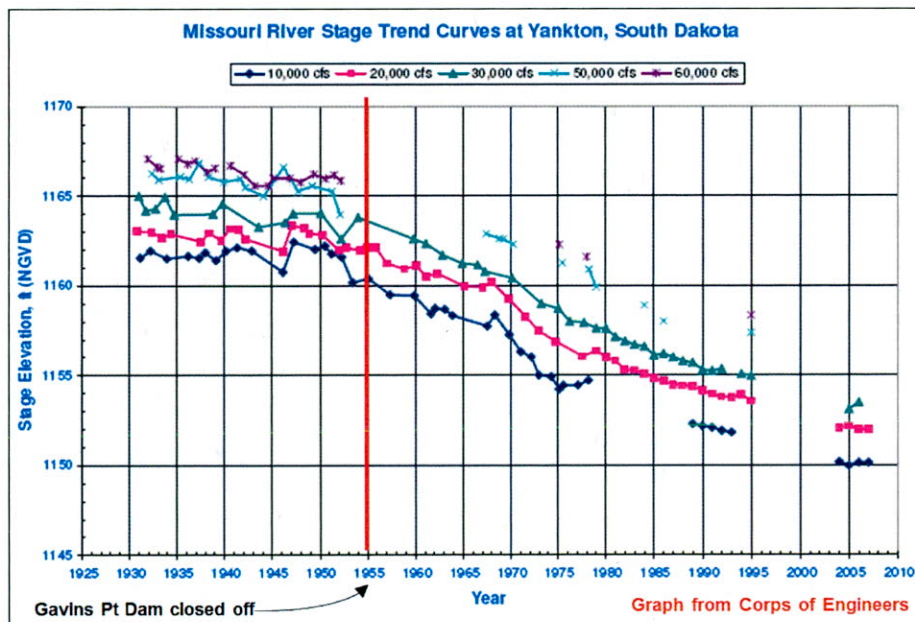


Figure 2- Missouri River Stage Trend Curves at Yankton, South Dakota (Cowman, 2014)

EXISTING WATER RIGHTS:

Only Water Right No. 4214-3 for D.A. Olson & Sons authorizes a well within approximately one-half mile of the proposed well site (Water Rights, 2014b). The well site for Water Right No. 4214-3 is approximately 0.4 miles northwest of the proposed well site. There is only one domestic well on file with the SD DENR-Water Rights Program within approximately one-half mile of the proposed well site (Water Rights, 2014c). The domestic well is approximately 0.3 miles west of the proposed well site.

Using the transmissivity from the well described by Christensen and Stephens and the Theis Equation, the drawdown at a well 1,600 feet away that would be created from pumping the proposed well at the variables shown in Table 2 is estimated to be 2.09 feet ("Theis Equation

Calculator”). There is generally 80 feet or more of saturated thickness in the area of the proposed well site.

Distance from pumped well (ft)	Storage Coefficient	Transmissivity (gpd/ft)	Time (days)	Discharge (cfs)	Drawdown (ft)
1,600	0.1	155,000	185	1.78	2.09

Table 2- Theis Equation variables

The water table conditions of the Missouri: Elk Point aquifer, combined with the relatively large saturated thickness and high transmissivity, indicate the effects of drawdown due to pumpage would be minimal. This is illustrated by the proliferation of high capacity wells in the area. However, precise drawdown cannot be quantified without aquifer testing. The Water Management Board has consistently recognized that to place water to maximum beneficial use a certain amount of drawdown may occur. Therefore, nearby adequate wells defined by ARSD 74:02:20(7) are not expected to be adversely or unlawfully impaired due to the proposed wells.

SDCL 46-5-6

Pursuant to SDCL 46-5-6, the diversion rate for an irrigation appropriation cannot be in excess of one cfs for every 70 acres, or “the equivalent thereof.” The statute does provide that the Water Management Board may allow a greater diversion rate if the method of irrigation so requires. Water Permit Application No. 7987-3 proposes to divert 1.78 cfs from the Missouri: Elk Point aquifer for the irrigation of 102 acres, or the equivalent of 1.22 cfs per 70 acres. The applicant requested the diversion rate greater than the statutory limit because of sandy soils and the type of system, a center pivot, needs the requested flow rate to operate properly. Based on the map submitted with the application, it appears that a center pivot irrigation system would be unable to make a full rotation. In the past, it has been accepted that to run a center pivot that only makes a partial rotation a diversion rate greater than the statutory limit is often required, and sandy soils may require a higher diversion rate to make the irrigation project effective.

CONCLUSIONS:

1. The water permit application proposes to withdraw groundwater at a maximum diversion rate of 1.78 cfs from one well to be completed into the Missouri: Elk Point aquifer for the irrigation of 102 acres in Clay County.
2. Unappropriated water is available from the Missouri: Elk Point aquifer to supply the proposed appropriation.
3. This proposed diversion is not expected to adversely or unlawfully impair existing appropriative or domestic users.
4. The applicant is requesting a diversion rate greater than the statutory limit. The applicant stated that the center pivot and the sandy soils required the requested diversion rate to operate the system properly and make the irrigation project effective. In the past, the Water Management Board has accepted these as valid reasons for the request.



Adam Mathiowetz
SD DENR-Water Rights Program

Approved by



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

Cowman, Tim. 2014. "Bed Degradation." Message to Ken Buhler. 20 February, 2014. E-mail.

Christensen, C.M. and J.C. Stephens. 1967. Geology and Hydrology of Clay County, South Dakota: Part II, Water Resources. Bulletin 19. SD DENR-Geological Survey, Vermillion, South Dakota

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, South Dakota.

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.

Niehus, C.A. 1994. Water Resources of Lincoln and Union Counties, South Dakota. U.S. Geological Survey Water-Resources Investigations Report 93-4195. U.S. Geological Survey. Rapid City, South Dakota.

SDGS. Lithologic Logs Database Search. <<http://sddenr.net/lithdb/>>. Accessed: May 7, 2014. SD DENR-Geological Survey. Vermillion, South Dakota.

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. Vermillion, South Dakota.

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Water Rights. 2014c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

AFFIDAVIT OF PUBLICATION

PLAIN TALK

Francis M Armstrong Living Trust,
c/o June W Armstrong, Trustee
4 South Norbeck
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 of Application No. 7987-3 to Appropriate Water

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 23 DAY OF May 2014
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID **NOTICE** TO WIT **\$28.79** ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 5/23/14

FILED ON: 5/22/14

Tera C. Schmidt
SUBSCRIBED AND SWORN TO BEFORE ME THIS

27

DAY OF

May

2014

[Signature]
NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES

8/19/2015

application. Steven M. Pimer,
Secretary, Department of
Environment and Natural
Resources.

Published once at the total
approximate cost of \$28.79.
Publish: May 23, 2014.

Notice is given that Francis M
Armstrong Living Trust, c/o June
W Armstrong, Trustee, 4 South
Norbeck, 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 (100 feet deep) located in
the NE 1/4 SE 1/4 Section 15 for
irrigation of 102 acres located in
the SE 1/4 Section 15 and NW 1/4
SW 1/4 Section 14; all in
T92N-R53W. 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.
7987-3 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 June 2,
2014.

The petition may be informal, but
must include a statement describ-
ing the petitioner's interest in
the application, the petitioner's
reasons for opposing or support-
ing 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

RECEIVED

MAY 29 2014

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
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. 7987-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 23rd DAY OF May 2014
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$27.14 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: 5/23/2014

FILED ON: 5/23/2014

SUBSCRIBED AND SWORN TO BEFORE ME THIS 23rd DAY OF May 2014

NOTARY PUBLIC, SOUTH DAKOTA

MY COMMISSION EXPIRES 8/19/2015

Notice is given that Francis M
Armstrong Living Trust, c/o June
W Armstrong, Trustee, 4 South
Norbeck, Vermillion SD 57069
has filed an application for a wa-
ter permit to appropriate 1.78 cu-
bic feet of water per second from
one well to be completed into the
Missouri:Elk Point Aquifer (100
feet deep) located in the NE 1/4
SE 1/4 Section 15 for irrigation of
102 acres located in the SE 1/4
Section 15 and NW 1/4 SW 1/4
Section 14; all in T92N-R53W.
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terest. In accordance with SDCL
46-2A-23, the Chief Engineer will
act on this application, as recom-
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applicant files a petition contest-
ing the Chief Engineer's recom-
mendation. If a petition opposing
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petition.

Any person interested in opposing
or supporting this application or
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ten petition with BOTH the ap-
plicant and Chief Engineer. The ap-
plicant must file a petition if con-
testing the Chief Engineer's rec-
ommendation. The Chief Engi-
neer'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 inter-
ested person or the applicant must
be filed by June 2, 2014.

The petition may be informal, but
must include a statement describ-
ing the petitioner's interest in the
application, the petitioner's rea-
sons for opposing or supporting
the application, and the signature
and mailing address of the peti-
tioner or the petitioner's legal
counsel, if legal counsel is ob-
tained. Contact Eric Gronlund at
the above Water Rights Program
address to request copies of infor-
mation pertaining to this applica-
tion. Steven M. Pirner, Secretary,
Department of Environment and
Natural Resources.

Published once at the total ap-
proximate cost of \$27.14.



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



May 16, 2014

Plain Talk
201 W Cherry St
Vermillion SD 57069

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7987-3 to Appropriate Water. Please publish the notice once on May 23, 2014. 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 Francis M Armstrong Living Trust, c/o June W Armstrong, Trustee, 4 South Norbeck, Vermillion SD 57069 (Ph # 605-658-0117).

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

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



May 16, 2014

Press & Dakotan
319 Walnut
Yankton SD 57078

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7987-3 to Appropriate Water. Please publish the notice once on May 23, 2014. 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 Francis M Armstrong Living Trust, c/o June W Armstrong, Trustee, 4 South Norbeck, Vermillion SD 57069 (Ph # 605-658-0117).

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Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



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

May 16, 2014

Francis M Armstrong Living Trust
June W Armstrong-Trustee
4 South Norbeck
Vermillion SD 57069

Dear Ms. Armstrong:

Water Permit Application No. 7987-3 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 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 May 23, 2014. 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. 7987-3 to Appropriate Water

Notice is given that Francis M Armstrong Living Trust, c/o June W Armstrong, Trustee, 4 South Norbeck, 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 (100 feet deep) located in the NE 1/4 SE 1/4 Section 15 for irrigation of 102 acres located in the SE 1/4 Section 15 and NW 1/4 SW 1/4 Section 14; all in T92N-R53W. 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. 7987-3 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 June 2, 2014.

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

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



JUN 18 2014

Francis M Armstrong Living Trust
4 S Norbeck
Vermillion SD 57069

Dear Ms. Armstrong:

Enclosed is Water Permit No. 7987-3 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

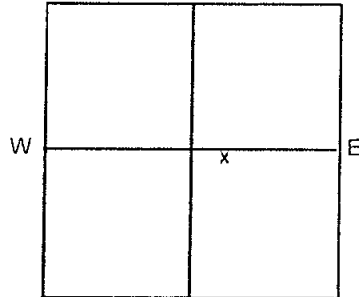
SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location nw se 15 Twp 92n Rg 53w

County Clay ☒ North

Please mark well location with an "X"



Well Completion Date

June 6, 2014

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

PROPOSED USE:

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

METHOD OF DRILLING:

Bucket Method

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>16</u> IN	<u>0</u> FT	<u>84</u> FT	<u>24</u> IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
<u>bentonite</u>	<u>25</u>	Lb/gal	<u>0</u> Ft	<u>80</u> Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
tremie

SCREEN:

☐ Perforated pipe ☒ Manufactured

Diameter 16 Inches Length 20 Feet

Material PVC

Slot Size .085 Set From 84 Feet to 104 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? HTH Tablets

Lab to which water ☐ No, Why Not?
quality sample sent for analysis

Well Owner: Francis Armstrong Trust

Business Name: _____

Address: 4 South Norbeck

City, State, Zip: Vermillion ☒ SD ☒ 57069

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Topsoil, brown	0	2
Sand, silty brown	2	60
Clay, dk brown, silty, sandy	60	70
Sand, silty, fine, brown	70	77
Sand, medium, silty	77	80
Sand, medium,	80	90
Gravel, medium to coarse, sandy	90	96
Gravel, coarse,	96	104

STATIC WATER LEVEL 24 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:
☐ Bailed
☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

RECEIVED

JUN 30 2014

WATER RIGHTS PROGRAM

This well was drilled under license # 666 and this report is true and accurate.

Drilling firm: Hammond Wetmore Drilling, LLC

Signature of License Representative:

[Signature]

Signature of Well Owner or Equitable Property Holder:

Date: 6/23/2014

7-7-14

7987-3
RECEIVED

AUG - 4 2014

WATER RIGHTS
PROGRAMNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 1 August 2014TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181FROM: Francis M. Armstrong Trust
June W. Armstrong, Trustee
(name)
~~120 N. Hancock~~ 4 South Norbeck
(address)
Vermillion, SD 57069 605-624-3521
(city, state, zip) (phone)

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

Water Permit No. 7987-3 states that the water use system is to be constructed by June 2, 2019, and water is to be put to beneficial use by June 2, 2023.
(date) (date)

The water use system was completed on July 21, 2014.
(date)

Applying the water to beneficial use was completed on July 22, 2014.
(date)

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

June W. Armstrong
(signature)





**DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES**

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



August 4, 2014

7987-3

June W Armstrong, Trustee
Francis M Armstrong Trust
4 S Norbeck
Vermillion SD 57069

Dear Ms. Armstrong:

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.

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

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Richard Hammond

DATE: 11/25/14 TELEPHONE: 605-270-2321

RE: Pump installed for Permit No, 7987-3

COMMENTS:

The 2014 irrigation questionnaire submitted for 7987-3 stated a pump rate of 106.8 gpm for the irrigation of 102 acres. That pump rate would not support a center pivot to irrigate that acreage. Mr. Hammond had assisted in filling out the application for the permit and drilled the well for the permit. I called Mr. Hammond to check on the pump rate. He stated the pump was set for 650 gpm.



Adam Mathiowetz

Natural Resources Engineer

DENR-Water Rights Program



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

November 28, 2018

.1006-3

1034-3

7338-3

7987-3

June Armstrong, Trustee
45567 Timber Rd
Vermillion SD 57069

Dear Ms. Armstrong:

Enclosed are four 2018 Irrigation Questionnaires. The questionnaires were returned by the post office. It is our understanding Francis Armstrong is deceased. The Clay County Assessor's office gave me this mailing address. Please forward the questionnaires to the owner or operator for completion and return all the forms to our office by **January 1, 2019**. As stated in the October 30, 2018 letter, it is important these forms are completed and returned.

Also included are four partially completed "Notice of Transfer" forms for use in filing an ownership change on each of the water rights/permits.

The transfer forms should be completed, checked over for accuracy, and **signed by the new owner**. Upon completion, return the form to our office with a required filing fee of \$50.00 each.

If you have any questions, please contact me.

Sincerely,

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

enclosures

NOTICE OF TRANSFER OF OWNERSHIP

PAID
OCT - 5 2020
Ck# 1047

To: Chief Engineer
Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

RECEIVED
OCT 05 2020
WATER RIGHTS
PROGRAM

No. 7987-3

Date: 10/01/2020

I/We request that Water Permit No. 7987-3

formerly owned by: Francis M Armstrong Living Trust

be transferred to: (name & address)

Nicholas W. Olson
2112 Augusta Dr.
Vermillion, SD 57069

Telephone No. 605-670-1024

Title to the following described land(s)/property has been transferred as described above:

102 acres – SE ¼ Section 15, T92N, R53W

I/We understand that the validity of Water Permit No. 7987-3 has not been determined by this transfer action. If I/We have any questions on validity, I/We understand that only the Water Management Board has the authority to determine if a water permit/right is valid (see note).

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Fifty Dollars (\$50.00) is required to cover the filing fees as required under SDCL 46-2-13. This form must be signed by the new owner.

I/We Nicholas W. Olson, the new owner, certify that the above information is true and correct.


(Signed by new owner)

NOTE: Water permits may be cancelled for nonconstruction after the five year construction period has expired. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

7987-3

RECEIPT**WATER RIGHTS PROGRAM**

South Dakota Department of Environment and Natural Resources

Date October 5, 2020RECEIVED OF Nicholas W. Olson 2112 Augusta Dr. Vermillion SD 57069

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	\$
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. _____	\$
Fee for Filing Transfer Form <u>7987-3</u>	\$50.00
Fee for _____	\$
Fee for Issuing New Well Driller's License No. _____	\$
Fee for Renewal of Well Driller's License No. _____	\$
Fee for Issuing Well Pump Installer's License No. _____	\$
Fee for Renewal of Well Pump Installer's License No. _____	\$
(Any Other Work Provided by Law) TOTAL	\$50.00

By Eric Gronlund
Chief Engineer
vm

7987-3



DENR
SOUTH DAKOTA

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

October 5, 2020

7338-3
7987-3

Nicholas W Olson
2112 Augusta Dr
Vermillion SD 57069

Dear Mr. Olson:

Thank you for sending in the ownership changes and fees for Water Permit Nos. 7338-3 and 7987-3.

The ownership changes have been completed. Water Permit Nos. 7338-3 and 7987-3 formerly held by Francis m Armstrong Living Trust are now listed under your name.

Enclosed for your records are receipts in the amount of \$50 each. If I can answer any questions for you, please let me know.

Sincerely,

A handwritten signature in cursive script, appearing to read "Genny McMath".

Genny McMath
Water Rights Program
605 773-3352
Genny.mcmath@state.sd.us

enclosures

**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 7987-3**

I have this day, September 13, 2022, made a thorough examination of the water use systems owned by Nicholas W. Olson, 2112 Augusta Dr., Vermillion, SD 57069, holder of Permit No. 7987-3, bearing the priority date of March 17, 2014. This permit authorizes the diversion of 1.78 cu. ft. per second of the waters of groundwater (Missouri: Elk Point Aquifer) authorizing the irrigation of 102 acres located in Clay County.

Inspection contacts: Nicholas Olson

A. Works used to divert the water:

Well Information

- 1) Well Drilling Firm: Hammond Wetmore Drilling
- 2) No. of Wells: 1
- 3) Depth(s): 104 feet
- 4) Well log is available: Yes

Casing:

- 1) Diameter: 16 inches
- 2) Length: 84 feet
- 3) Type: Plastic

Screen:

- 1) Diameter: 16 inches
- 2) Length: 20 feet
- 3) Type: PVC
- 4) Static water level: 24 feet

Pump:

- 1) Make: Grundfos
- 2) Model: 625S300-2AA
- 3) Capacity: 650 GPM

Motor:

- 1) Make: Grundfos
- 2) Model No.: Unknown
- 3) Horsepower rating: 30 hp

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

- 1) Type: Steel Size: 8 inches Length: 10 feet

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make: Valley
- 2) Overall length: 1659 feet
- 3) Number of towers: 9
- 4) End gun: Yes
- 5) Capacity: 650 GPM

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
3) Exceptions to compliance are: None

E. Condition and Location:

- 1) The system is in good condition with the point(s) of diversion located as follows:
The well is 1,100 feet west and 2,640 feet north of the southeast corner of Section 15-T92N-R53W (Latitude 42.78642, Longitude -97.08577– NE1/4 of the SE1/4).
2) The works are capable of diverting and conveying to the places of use 1.45 cu. ft. per second of water from the well which is to be used for irrigation purposes. Water has been put to beneficial use to the maximum extent as follows:

<u>Section 15-T92N-R53W</u>	
<u>NW1/4SE1/4</u>	<u>31 acres</u>
<u>NE1/4SE1/4</u>	<u>40 acres</u>
<u>SW1/4SE1/4</u>	<u>6 acres</u>
<u>SE1/4SE1/4</u>	<u>12 acres</u>

<u>Section 14-T92N-R53W</u>	
<u>NW1/4SW1/4</u>	<u>13 acres</u>

comprising a total of 102 acres of land and the license should be issued for 1.45 cfs.

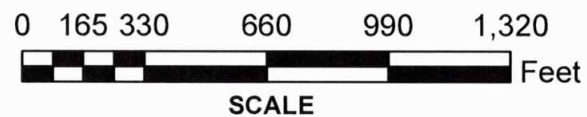
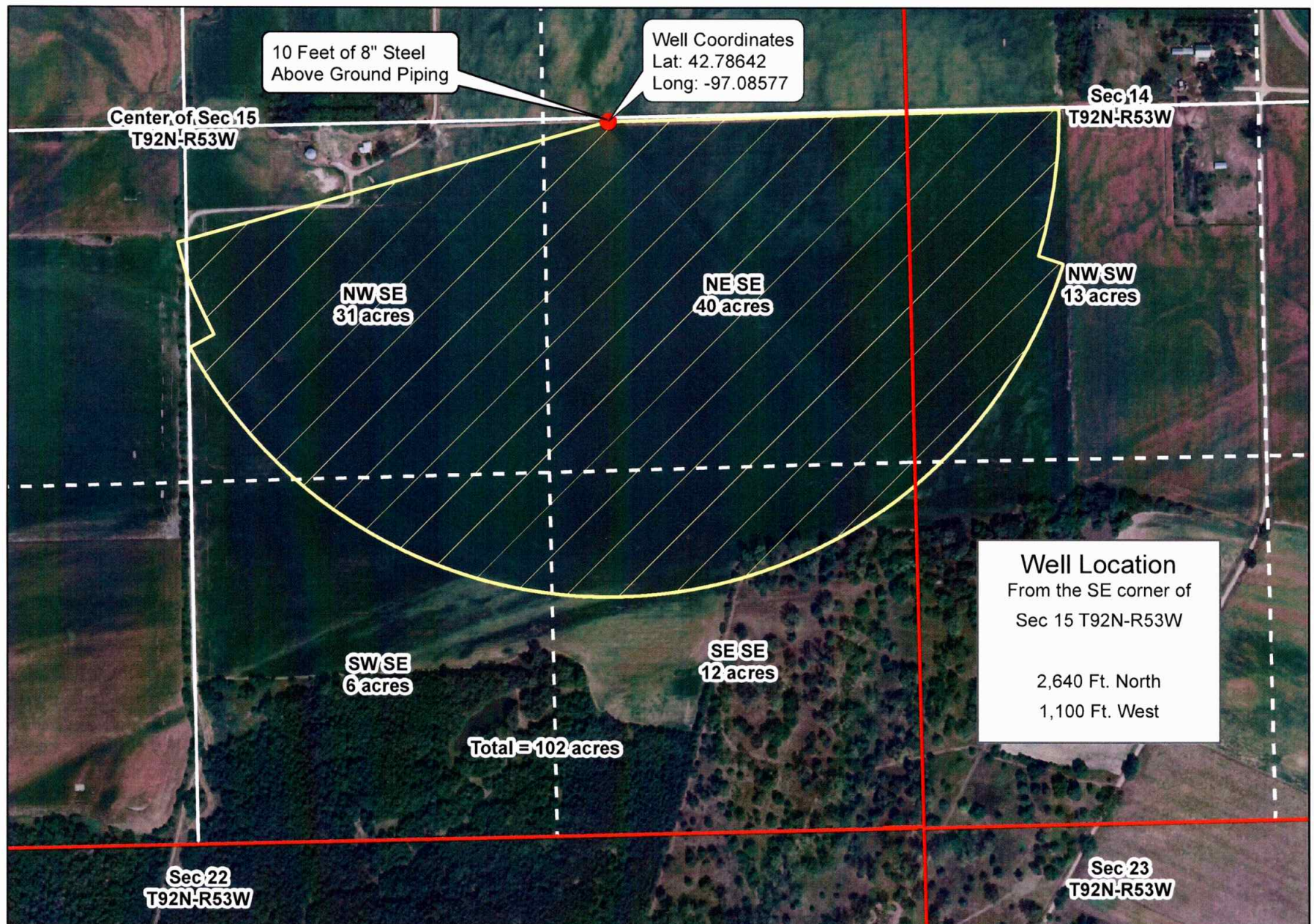
- 3) All structures, wells and lands on map: Yes

F. Comments or other permit(s) associated with the project: The pump and motor information was obtained from Heine Electric and Irrigation.

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

Date report completed: September 14, 2022

Water Permit No. 7987-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
September 14, 2022

7987-3



DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES
JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

SEP 16 2022

7338-3
7987-3

Nicholas Olson
2112 August Dr
Vermillion SD 57069

Dear Mr. Olson:

Enclosed are Water License Nos. 7338-3 and 7987-3. They are the final water right documents completing your process of obtaining Water Rights. Included with each 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 Licenses, 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 developed under No. 7338-3 is capable of diverting 1.34 cubic feet of water per second (cfs) which is equivalent to approximately 650 gallons per minute. The original application and subsequent permit specified a diversion rate of 0.60 cfs which is equivalent to 260 gpm. Diversion of water under this water license is limited to 0.60 cfs.

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 7987-3

(1) Francis M Armstrong Living Trust made Application No. 7987-3, March 17, 2014, 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. 7987-3, with a priority date of March 17, 2014, was approved June 2, 2014, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before June 2, 2019, and for the application to beneficial use of water on or before June 2, 2023.

Water Permit No. 7987-3 was transferred October 5, 2020, from Francis M Armstrong Living Trust to Nicholas W Olson.

(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 1.45 cubic feet of water per second for beneficial use. The location of the diversion point is:

- 1,100' W and 2,640' N of the SE corner of Section 15, T92N, R53W (NE ¼ SE ¼)
Latitude 42.78642, Longitude -97.08577

(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 15, T92N, R53W		Section 14, T92N, R53W	
NW ¼ SE ¼	31 acres	NW ¼ SW ¼	13 acres
NE ¼ SE ¼	40 acres		
SW ¼ SE ¼	6 acres		
SE ¼ SE ¼	12 acres	Total 102 acres irrigated	

(4) Pursuant to South Dakota Water Law 46-5-30.1 Nicholas W Olson, 2112 August Dr., Vermillion SD 57069 the holder and/or owner of Water Right No. 7987-3 is issued a license to appropriate water, the right to use 1.45 cubic feet of water per second from ground water, one well (Missouri Elk Point Aquifer) with a priority date of March 16, 2014, 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. 7987-3 and subject to the following qualifications:

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

continued

- The well authorized by Permit No. 7987-3 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 in June 2014 by Hammond-Wetmore Drilling LLC. A copy of the well completion report is on file with the Water Rights Program.*
- Pursuant to SDCL 46-5-6 which allows a greater diversion rate if the method of irrigation, time constraints, or type of soils so requires, Water Right No. 7987-3 authorizes a maximum diversion rate of 1.78 cfs for the irrigation of 102 acres with an annual volume not to exceed 2 acre feet of water per acre per year. *This qualification is no longer applicable. The water right holder developed 1.45 cfs for irrigation of 102 acres which is the statutory limit for the acreage.*
- This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.



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

SEP 16 2022

date

