

WATER PERMIT NO. 8362-3

Name of Applicant: Chicoine Legacy Farm LLC

Address: 32873 479th Ave, Elk Point SD 57025

Phone: 712 899-6828

Amount of Water Claimed: 1.33 cfs

Total Acres: 85

Source of Water Supply: groundwater (one well)

Water to be used for: irrigation

County: Union

Type of Waste Disposal System:

Location: 2 miles south of Elk Point

PRIORITY

Date Received: 5-11-18

Application/License Fee: \$ 950

Corrected Application Received: 6-18-18

Period of Annual Use:

Remarks:

Diversion Point: approximate center of the N 1/2

SW 1/4 Sec 6-T90N-R49W

Land to be Irrigated: N 1/2 of Lots 1 & 2 in the

SW 1/4 Sec 6-T90N-R49W

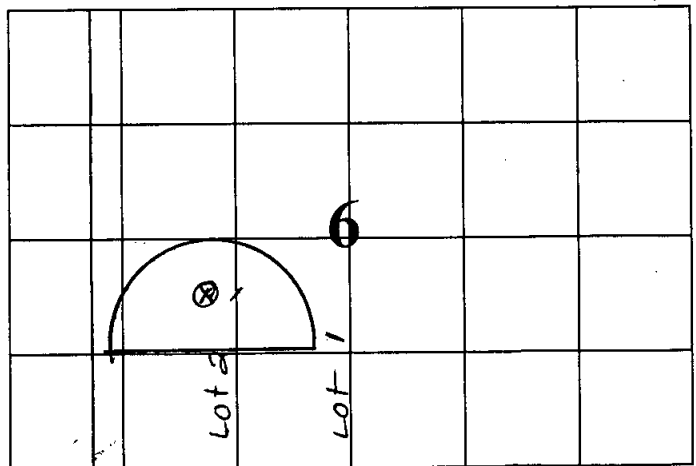
Depth of Well: 105 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by:



Reviewed and the Number Assigned on: 6-18-18

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8362-3**

Date of first receipt of application May 11, 2018.

Date of return to applicant for corrections, amendments or changes May 14, 2018.

Date of receipt of corrected application June 18, 2018.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8362-3 to Chicoine Legacy Farm LLC, 32873 479th Ave, Elk Point SD 57025 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. 8362-3 appropriates 1.33 cubic feet of water per second (cfs) from one well to be completed into the Missouri:Elk Point Aquifer (105 feet deep) located in the N 1/2 of Lots 1 & 2 in the SW 1/4 Section 6 for irrigation of 85 acres located in the N 1/2 of Lots 1 & 2 in the SW 1/4 Section 6; all in T90N-R49W. This site is located approximately 2 miles south of Elk Point SD.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: April 1 – October 31.
3. The date from which applicant may claim right is May 11, 2018.
4. The date of approval of Permit No. 8362-3 is September 4, 2018.
5. One-fifth of the construction is to be completed on or before March 4, 2021.
6. All construction is to be completed on or before September 4, 2023.
7. Water is to be put to beneficial use on or before September 4, 2027.
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 Permit No. 8362-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8362-3 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. 8362-3 authorizes a maximum diversion rate of 1.33 cfs for the irrigation of 85 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

SEP 12 2018

date



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

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8362-3</u> (office use only) Hydrologic Unit <u>10170101</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Leader-Courier, Elk Point</u>
	<u>Press & Dakotan, Yankton</u>

RECEIVED
MAY 11 2018
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

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

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

1. Name to Appear on Irrigation Permit Chicome Legacy Farm LLC
Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.
Mailing Address 32873 479th Av. Elk Point SD 57025
(Address) (City) (State) (Zip Code)
Phone 712-899-6828 Mobile 712-899-6828 Email -

2. Amount of water claimed 1.33 *CFS or 600 **GPM ***AF Total Acreage 85
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply drilled well

4. Location of point of diversion N 1/4 of lots 1 & 2 in the SW 1/4, Sect 6 Township 90N
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)
R 49 West of the 5th PM County Union

5. County or counties where water will be used Union

6. Annual period during which water is to be used July - Aug

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
N 1/2 of lots 1 & 2 in the SW 1/4, Sect 6	108.36		
Township 90N, R 49 W of the	85		
5th PM Union County SD			

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

Requesting greater diversion rate
than statutory limit.

Lemire Stuchlik general manager, the applicant, certify under
Name of Person Title (if applicable)

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

Supplemental Information

(type or print)

1. Well Information

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

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

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

For either Existing or Proposed Wells:

c) Well Depth (required) 105 Depth to Top of Water Bearing Material 60 Depth to Water from Surface 60

d) Distance to nearest domestic well on applicant's property 3 miles Property owned by others

2. Wastewater Disposal System Information

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

b) System Capacity (gallons) 600 gpm Year Constructed 2013

c) Connected to the City of Sanitary System

3. Dugout Information

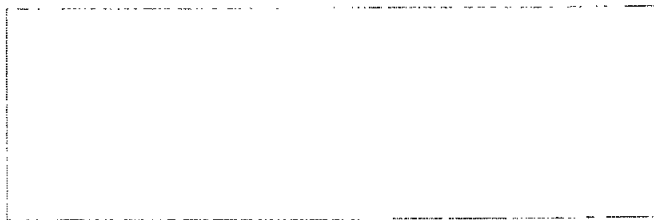
a) Surface Dimensions 18" Depth 105'

b) Depth to water (ground surface to water level) 60'

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

Sec 36
T091N
R50W

Sec 31
T091N
R49W

Sec 32
T091N
R49W

Sec 6
T090N
R49W

Sec 5
T090N
R49W

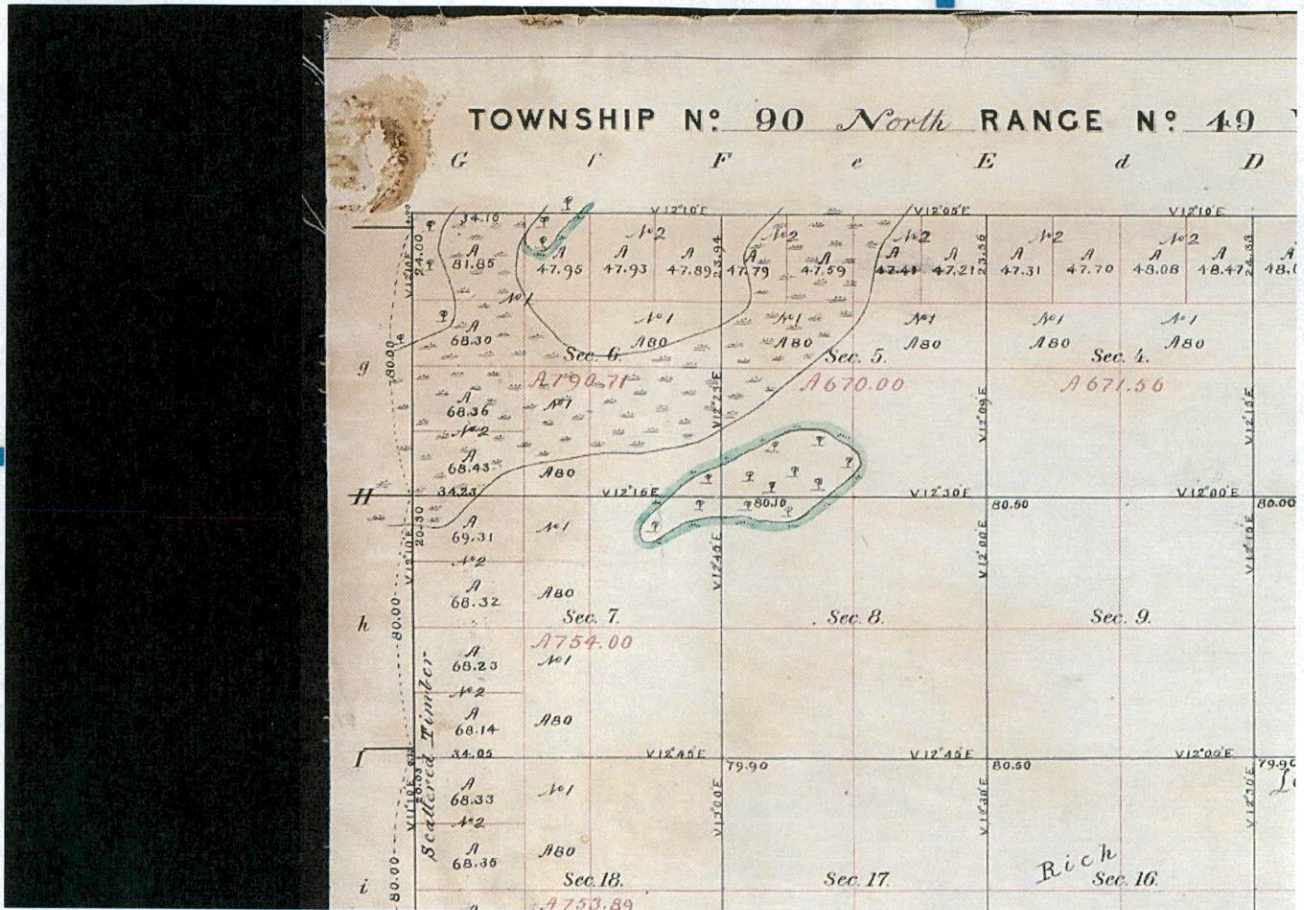
Sec 1
T090N
R50W

Sec 12
T090N
R50W

Sec 7
T090N
R49W

Sec 8
T090N
R49W





 Hold down the Ctrl key to select a region with the mouse.

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date May 14

20 18

RECEIVED OF

Chicoine Legacy Farm LLC 32873-479th Avenue Elk Point, SD 57025

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

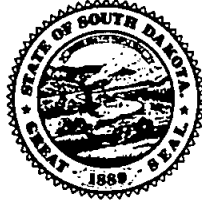
Fee for Application for Permit No. <u>8362-3</u> to Appropriate Water, to construct and to put water to beneficial use	750	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>8362-3</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. **08678**

By

Jeanne Goodman
Chief Engineer
Jm

State of South Dakota



OFFICE OF THE SECRETARY OF STATE

Certificate of Organization Domestic LLC

ORGANIZATIONAL ID# DL045772

I, **Shantel Krebs**, Secretary of State of the State of South Dakota, hereby certify that the Articles of Organization of

CHICOINE LEGACY FARM, LLC

duly signed and verified, have been received in this office and are found to conform to law.

ACCORDINGLY, and by virtue of the authority vested in me by law, I hereby issue this Certificate of Organization and attach hereto a duplicate of the Articles of Organization.

IN TESTIMONY WHEREOF,
I have hereunto set my hand and
affixed the Great Seal of the
State of South Dakota, at Pierre,
the Capital, this 11/06/2015.



Shantel Krebs

Shantel Krebs
Secretary of State

11/6/2015 2:38:11 PM

Change ID: 1286698

Filed this 6th day of NOV 2015
Shantel Krebs
SECRETARY OF STATE

RECEIVED

NOV 06 2015

S.D. SEC. OF STATE

**ARTICLES OF ORGANIZATION
Domestic Limited Liability Company
OF
CHICOINE LEGACY FARM, LLC**

ARTICLE I

The name of the company is CHICOINE LEGACY FARM, LLC.

ARTICLE II

The duration of the company is perpetual.

ARTICLE III

The address of the initial designated office in or out of the State of South Dakota where the company conducts its business:

Street Address: 32873 479th Avenue, Elk Point, SD 57025
Mailing Address: 32873 479th Avenue, Elk Point, SD 57025

ARTICLE IV

The South Dakota Registered Agent name: Rebecca Stamp

Street Address: 32612 477th Avenue, Elk Point, South Dakota 57025
Mailing Address: 32612 477th Avenue, Elk Point, South Dakota 57025

ARTICLE V

The name and address of each Organizer/Member.

<u>NAME</u>	<u>ADDRESS</u>
Sheryl Goto	3911 Garfield Street Carlsbad, California 92008
Leon Chicoine	31550 Greenfield Road Vermillion, SD 57069
Denise Strehlow	32873 479 th Avenue Elk Point, SD 57025
Marcella Cambigue	11918 W Villa Hermosa Lane Sun City, AZ 85373



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

denr.sd.gov

RECEIVED
JUN 18 2018
WATER RIGHTS
PROGRAM

May 14, 2018

Chicoine Legacy Farm LLC
c/o Denise Strehlow
32873 479th Ave
Elk Point SD 57025

Dear Ms.

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

- A map needs to be submitted that references a government section corner or quarter corner including section, township and range. For your use, I have enclosed a map with those designations. Please outline the acres to be irrigated and mark the proposed well location with an "X".
- The application list two acreage amounts of 85 acres and 108.36 acres. Which is the total amount of acres you want to apply for?
- Also, you list the annual period of water use as July – August. Are you sure you want to limit your irrigation use to those two months? Typically, the annual use period is April 1 thru October 31. Would you like this change made?

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

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

enclosure

Water Rights Program - File Documentation

NAME: Denise Strehlow – Chicoine Legacy Farm LLC

ADDRESS: Elk Point SD

DATE: 6-21-18 **COUNTY:** UN **TELEPHONE:** 712 899-6828

RE: Pending application

COMMENTS:

Talked with Denise Strehlow who indicated the pivot on this application will cover 85 acres as outlined on the aerial map. The 108.36 acres is entire area they own. She also concurred that the annual period of use be changed to April 1 – October 31.



Karen Schlaak
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8362-3, Chicoine Legacy Farm LLC**

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. 8362-3, Chicoine Legacy Farm LLC, c/o Denise Strehlow, 32873 479th Avenue, Elk Point SD 57025.

The Chief Engineer is recommending APPROVAL of Application No. 8362-3 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 Permit No. 8362-3 will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8362-3 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. 8362-3 authorizes a maximum diversion rate of 1.33 cfs for the irrigation of 85 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.

for Jeanne Goodman, Chief Engineer
August 15, 2018

WATER PERMIT APPLICATION NO. 8362-3

CHICOINE LEGACY FARM LLC

August 14, 2018

Water Permit Application No. 8362-3 requests the appropriation of water for irrigation of 85 acres at a maximum diversion rate of 1.33 cubic feet per second (cfs) from a single well. The proposed well is to be completed into the Missouri: Elk Point aquifer with an approximate depth of 105 feet and located in N ½ of lots 1 & 2 in the SW ¼ Section 6 T90N-R49W. The acres to be irrigated are located in the N ½ of lots 1 & 2 in the SW ¼ Section 6 T90N-R49W. This application is located approximately 2 miles south of Elk Point, SD in Union County. The applicant is requesting a diversion rate greater than the statutory limit due to the flow requirements needed to operate the pivot.

Aquifer: Missouri: Elk Point (M: EP)

Hydrogeology

The Missouri: Elk Point aquifer in South Dakota is located in Clay, Union, and Yankton Counties, below the floodplains of the Big Sioux and Missouri rivers. The Elk Point management unit of the Missouri aquifer is composed of unconsolidated glacial outwash deposits that range from fine sand to very coarse gravel (Niehus, 1994). The areal extent of the aquifer was estimated by Hedges et al. (1982) to be 219,100 acres, with 3,287,100 acre-feet of recoverable water in storage. The direction of water movement in the aquifer is generally from the northwest to southeast (Niehus, 1994).

The Elk Point management unit is confined in the northwestern part of the aquifer due to deposits of laterally extensive clay overlying the aquifer. The area underlying Union County is unconfined as quaternary alluvium overlies it with small amounts of clay while shale and the Dakota formation underlie it (Niehus, 1994). Observation well UN-77O is located 2.2 miles to the southeast of the proposed well and shows that the geology in the region is comprised of clay and fine to coarse sand from 0-74 feet and gravel from 74-85 feet (Water Rights, 2018b). The static water level at this observation well has varied between 12.1 feet to 21.3 feet since it was first constructed in 1977 (Water Rights, 2018b).

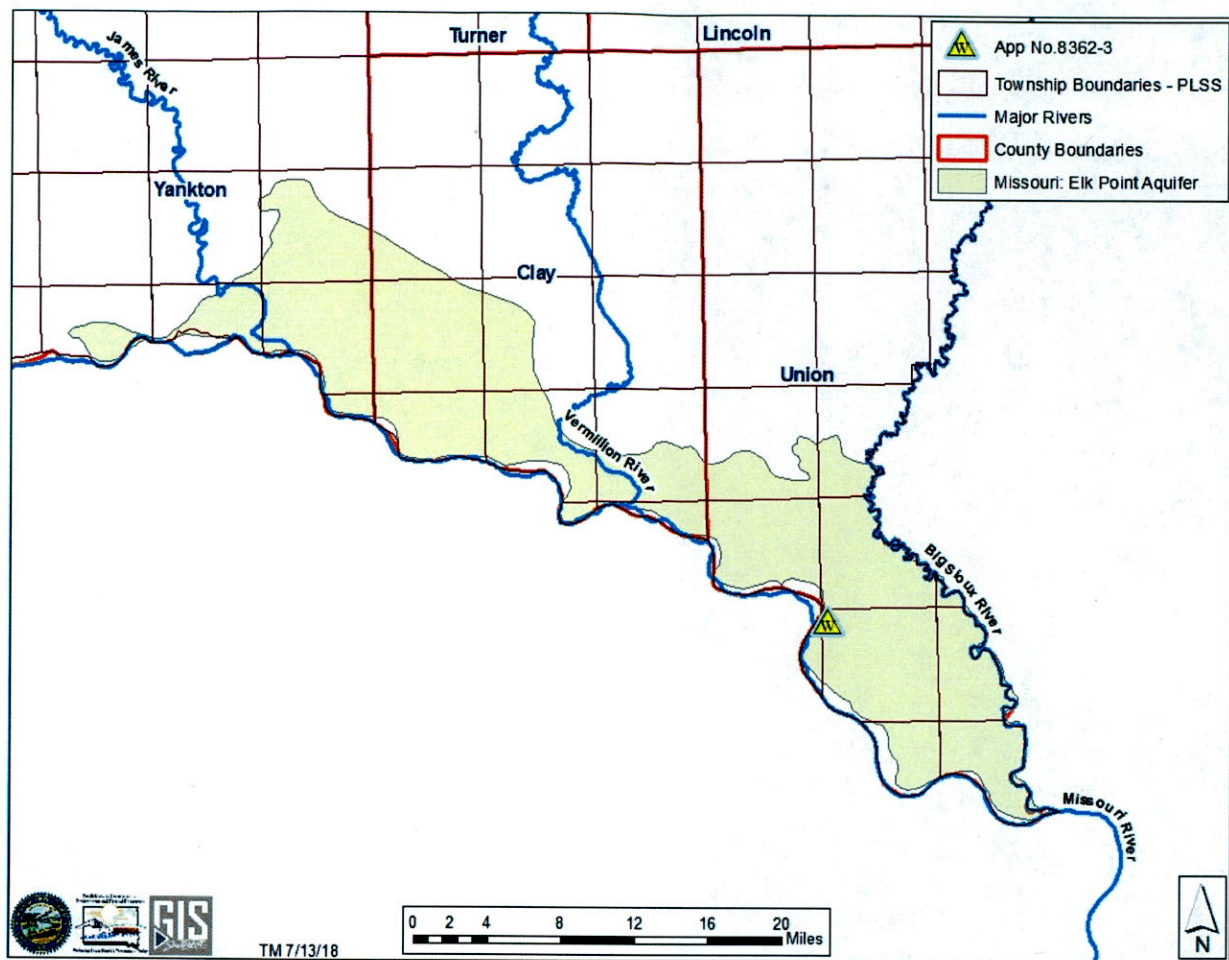


Figure 1. Map showing the Missouri: Elk Point aquifer from Hedges et al. (1982) and the proposed diversion point.

South Dakota Codified Law 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 the existing rights within the Missouri: Elk Point aquifer.

Water Availability

SDCL 46-6-3.1 is considered when evaluating the probability of unappropriated water from an aquifer and states "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source. An application may be approved, however, for withdrawals of groundwater from any groundwater formation older than or stratigraphically lower than the greenhorn formation in excess of the average estimated annual recharge for use by water distribution systems." The Missouri: Elk Point aquifer is not older or lower than the

Greenhorn formation, and there is no water distribution system. Therefore, the recharge and withdrawal rates must be considered.

Hydrologic Budget

Recharge

Recharge to the Missouri: Elk Point aquifer occurs by infiltration of precipitation, inflow from the Lower Vermillion-Missouri aquifer, leakage from the Dakota aquifer and seepage from the Missouri, Vermillion, James, and Big Sioux Rivers (Bugliosi, 1986; Niehus, 1994; Stephens, 1967; Stonesifer, 2013). Recharge to the aquifer was estimated by Hedges et al. (1985) to be approximately 3.83 inches per year. The areal extent was also estimated to be 219,100 acres. Using this information the average annual natural recharge can be estimated to be 69,382 ac-ft/yr. Stonesifer (2013) estimated the induced recharge to the aquifer from the Missouri River due to the operation of the Lewis and Clark Rural Water System to be 22,582 ac-ft/yr.

Combining the estimated natural recharge from Hedges (69,382 ac-ft/yr) and the estimated induced recharge from Stonesifer (22,582 ac-ft/yr) the Missouri: Elk Point aquifer recharges approximately 91,964 ac-ft/yr.

Discharge

Discharge from the Missouri: Elk Point aquifer occurs through evapotranspiration in areas where the aquifer is near land surface, well withdrawals and outflow to the Missouri and Big Sioux Rivers (Bugliosi, 1986; Niehus, 1994; Stephens, 1967). Currently, there are a total of 630 water rights/permits appropriating water from the Missouri: Elk point aquifer including future use permits (Water Rights, 2018a). All current non-irrigation water rights/permits appropriating water from the Missouri: Elk Point aquifer, including future use permits, are described in Table 1. The amount of water that can be expected to be withdrawn at the current non-irrigation appropriation/reservation amount can be estimated by assuming water rights/permits limited by an annual volume will pump the entire volume appropriated annually. Water rights/permits limited only by diversion rate will pump at the maximum permitted diversion rate 60 percent of the time, and future use permits will be fully developed.

Table 1: Summary of expected use of non-irrigation water rights/permits including future use permits
(Water Rights, 2018a)

Use Type	No. of Water Rights/Permits	Water Claimed (cfs)	Water Claimed Annually (ac-ft)	Expected Annual Use (ac-ft)
RWS	6		45,165.00	45,165.00
SHD	2	0.20		86.44
REC	1		393.30	393.30
COM	10	1.87	637.00	1,450.16
DOM	2	2.78		1,207.58
FWP	4	9.43		4,096.21
IND	5	0.88		381.39
MUN	12	11.05	9,111.00	13,911.78
Total	42	26.21	55,306.30	66,691.86
RWS = Rural water system, SHD = Suburban housing development, REC = Recreation, COM = Commercial, DOM = Domestic, FWP = Fish and wildlife propagation, IND = Industrial, MUN = Municipal				

Lewis and Clark Rural Water System is required to report water use to the Chief Engineer for both rural water system use permits, and the City of Vermillion is required to report water use for three of four municipal use rights/permits. Clay Rural Water System is also required to report water use. These systems have rights/permits in the Missouri: Elk Point aquifer, and their corresponding usages are reported in Table 2 with the relevant permits listed.

Table 2: Reported annual water use in acre-feet from non-irrigation water rights/permits from the years 2006 to 2017
(Water Rights, 2018a)

	City of Vermillion	Lewis and Clark RWS	Clay RWS
	147-3, 6236-3	6736-3, 7207-3	5998A-3, 7388-3
2006	1,252		170
2007	1,344		217
2008	1,199		213
2009	1,140		215
2010	1,071		183
2011	1,127	92	137
2012	1,317	3,836	525
2013	1,183	9,368	301
2014	1,121	11,532	307
2015	1,161	15,591	278
2016	1,175	17,091	231
2017	1,215	18,051	276
Max	1,344	18,051	525
Min	1,071	92	137
Average	1,192	10,794	254

The reported usage for these non-irrigation water rights/permits show that the Clay Rural Water System and the City of Vermillion have both remained steady from 2006 to 2017 whereas the Lewis and Clark Rural Water System started pumping in 2011 and is still undergoing development.

Clay Rural Water System has two permits in the Missouri: Elk Point aquifer 5998A-3 (2.22 cfs) and 7388-3 (2.0 cfs). These permits appropriate an estimated total of 1,833 ac-ft/yr assuming a 60 percent pumping rate. However, the reported average pumping is 254 ac-ft/yr. This average pumping rate has increased due to the addition of permit 7388-3 in 2012. The City of Vermillion holds two permits 147-3 (2.66 cfs) and 6236-3 (2.67 cfs, 1,161 ac-ft/yr). These permits are estimated to use a combined 2,316 ac-ft/yr as opposed to the average reported pumping rate of 1,192 ac-ft/yr. Lewis and Clark Rural Water System holds permits 6736-3 (27.85 cfs, 20,165 ac-ft/yr) and 7207-3 (12,000 ac-ft/yr); combined these permits appropriate 32,165 ac-ft/yr and the average reported pumping rate is 10,794 ac-ft/yr. Lewis and Clark Rural Water System is still undergoing development and as a result, does not have a steady pumping rate.

Clay Rural Water System and the City of Vermillion have steady pumping rates and are not undergoing development, therefore their reported average pumping rate should be considered. Combined the estimated pumping rate is 4,150 ac-ft/yr based on the permits issued; however, the reported pumping rate is 1,446 ac-ft/yr. Using the reported average pumping rate rather than the permitted values reduces the expected use from non-irrigation water rights/permits by 2,703 ac-ft/yr to 63,989 ac-ft/yr.

Irrigation data from 1979 to 2016 was analyzed by Farmer (2018), and it was determined that from 1979 to 2005, the number of acres permitted for irrigation in the Missouri: Elk Point aquifer remained steady. In 2006 there was a dramatic increase in permits that adjusted the long-term ratio of constructed to unbuilt irrigation systems. For this reason, Farmer (2018) calculated the average application rate on all acres permitted for irrigation using data from 1979 to 2005 and determined the average application rate to be 0.35 ft (a little less than 4.2 inches).

Currently, there are 588 water rights/permits for irrigation (Water Rights, 2018a). These permits combined total 83,253.4 acres of irrigated land. Using Farmer's (2018) average application rate of 0.35 ft on the permitted acres results in an estimated average annual use for irrigation purposes of 29,139 ac-ft/yr.

Hydrologic Budget Summary

The estimated withdrawals from the Missouri: Elk Point aquifer is 63,989 ac-ft/yr from non-irrigation users, and 29,139 ac-ft/yr from irrigation. The estimated average annual withdrawal from the Missouri: Elk Point aquifer is 93,128 ac-ft/yr.

The estimated annual recharge to the Missouri: Elk Point aquifer is approximately 91,964 ac-ft/yr. This estimated annual recharge does not include the recharge induced by well withdrawals

aside from Lewis and Clark Rural Water System; the actual recharge is likely to be more than 91,964 ac-ft/yr. Due to the relatively small development of this significant resource and the ability to induce recharge to the aquifer from nearby bodies of surface water, there is a reasonable probability there is unappropriated water available from the Missouri: Elk Point aquifer for the proposed appropriation.

Observation Well Data

In determining the availability of unappropriated water for a permit application, administrative rule 74:02:05:07 requires the Water Management Board to rely on the record of observation well measurements, in addition to other data, to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated annual recharge.

The DENR-Water Rights Program monitors 37 observation wells completed into the Missouri: Elk Point aquifer which are regularly monitored (Water Rights, 2018c). The nearest observation well is UN-78A, located approximately 2 miles northwest of the proposed well location. The location of this application is within a reasonable distance of several other observation wells as seen in Figure 2. These observation wells provide data on how the water table reacts to regional climatic conditions and local pumping. The remaining observation wells located nearby that can be used for analysis are UN-77O (2.2 miles), UN-80E (2.5 miles), UN-57B (2.5 miles), UN-78B (2.5 miles).

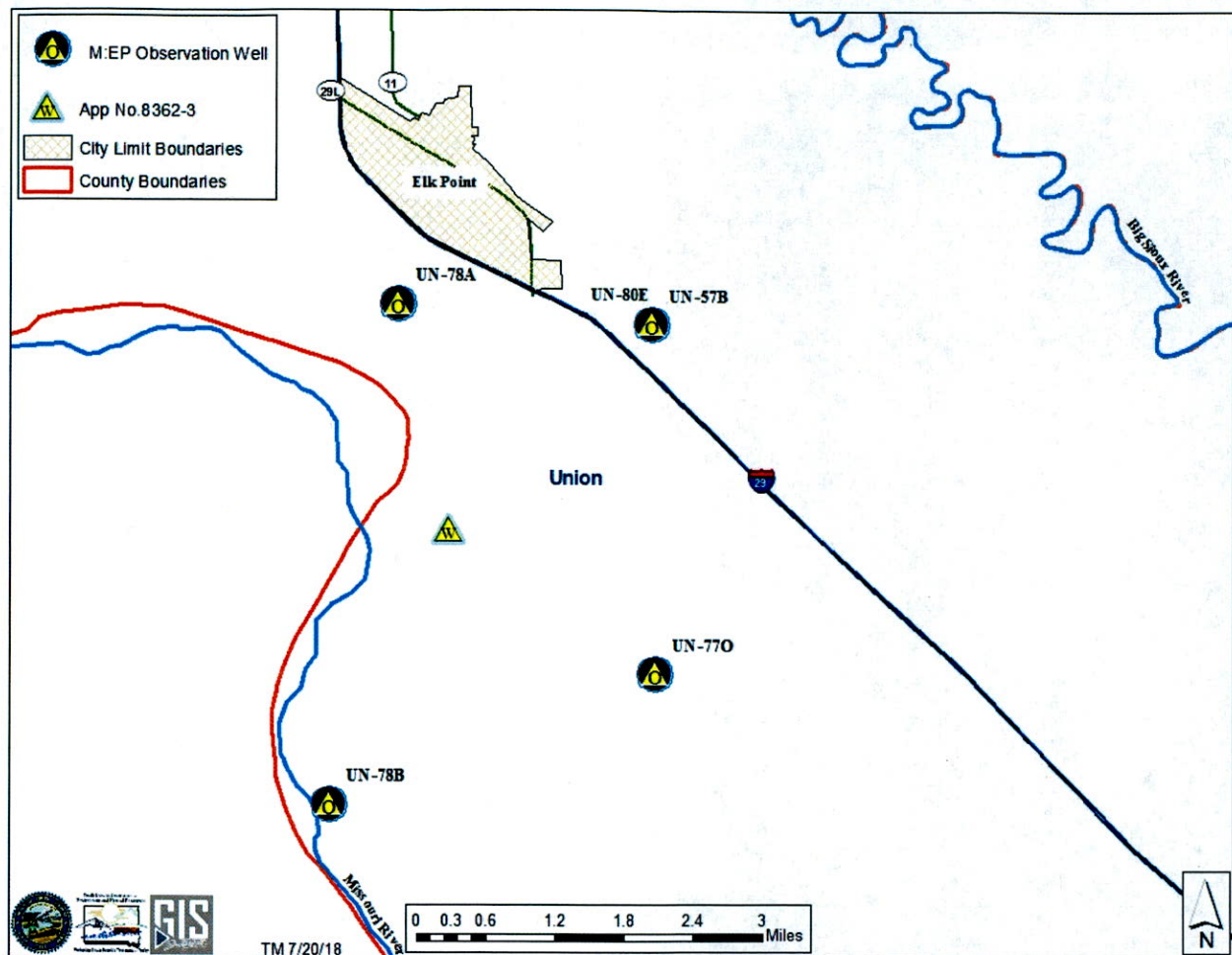


Figure 2: Map showing the location of nearby observation wells in the Missouri: Elk Point aquifer
(Water Rights, 2018a; Water Rights, 2018c)

The hydrographs for these wells are shown in Figure 3. These observation well hydrographs are representative of the Missouri: Elk Point aquifer. The hydrographs show that the aquifer responds well to hydrologic conditions, recharging during wetter periods and declining during drier periods. The hydrograph of the Missouri River in Figure 4 generally shows the same peaks, rising periods, and declining periods as the hydrographs of the Missouri: Elk Point aquifer, indicating that the aquifer is hydraulically connected to the Missouri River.

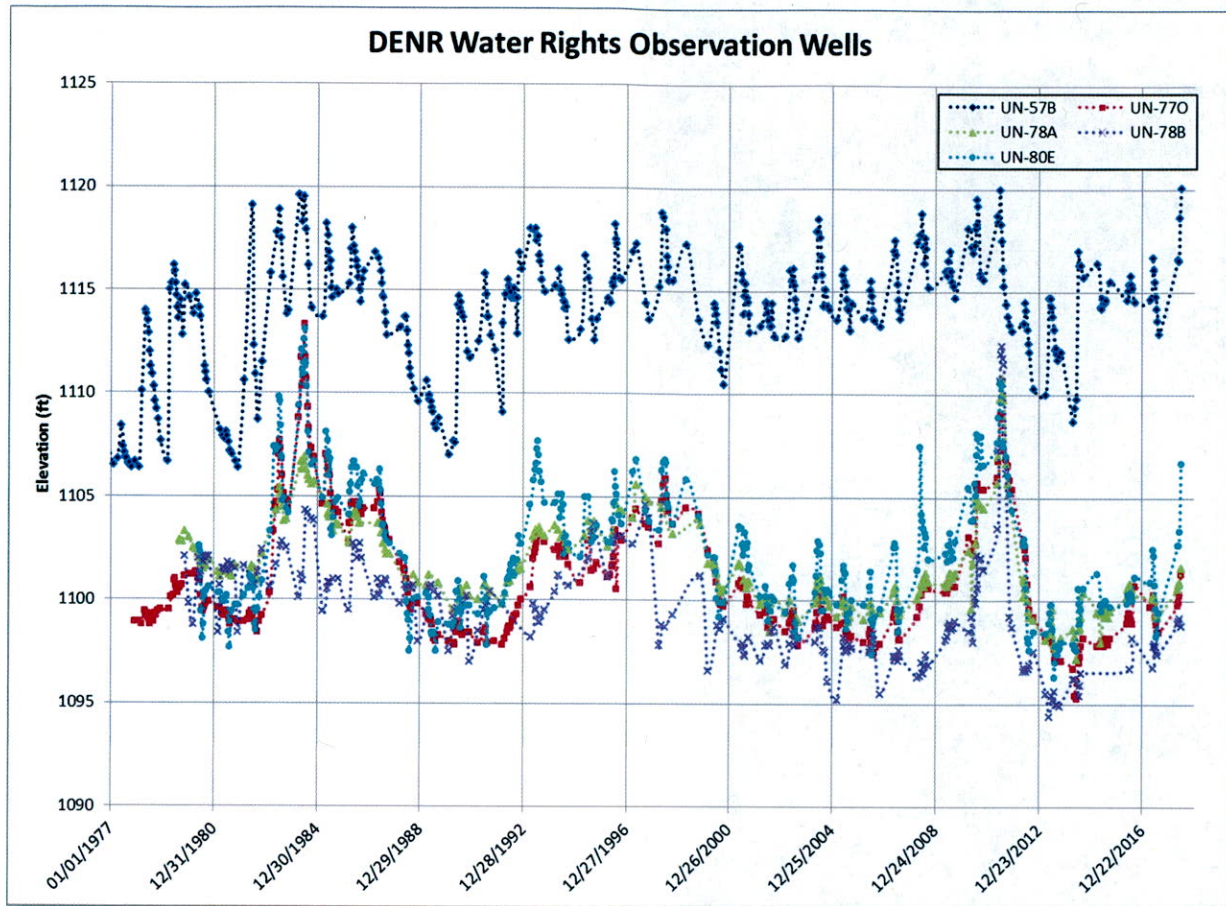


Figure 3: Hydrographs for Observation Wells UN-57B, UN-770, UN-78A, UN-78B, and UN-80E (Water Rights, 2018c)

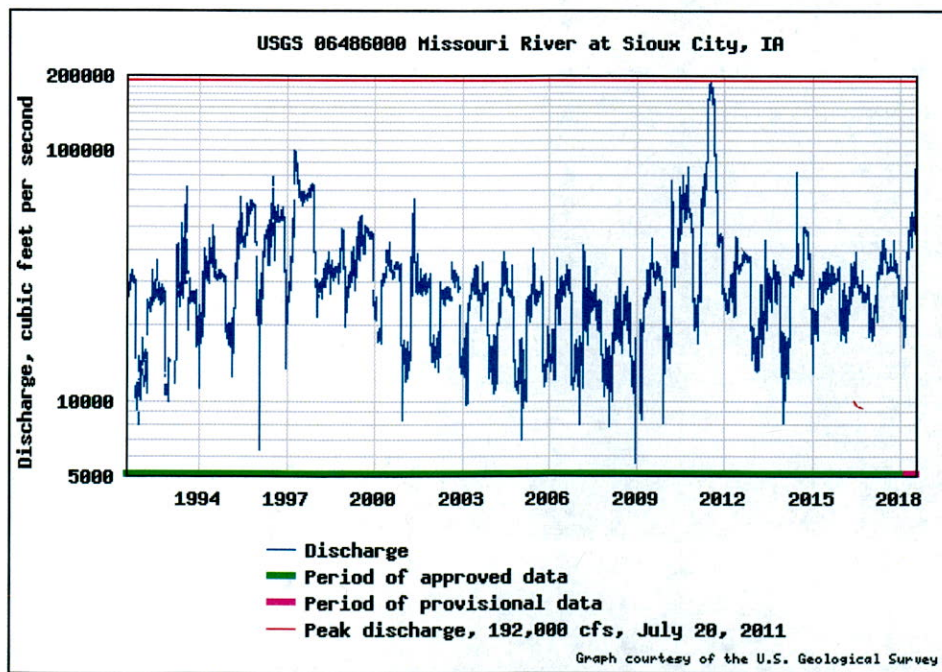


Figure 4: Hydrograph for USGS Stream Gage 06486000 Missouri River at Sioux City, IA (USGS, 2018)

The observation wells show that periods of pumping are only temporary and eventually the well returns to equilibrium. The graph also shows a gradual downward trend due to the construction of the Gavins Point Dam in Yankton, SD; the Missouri River is entrenching below the dam, lowering the water surface elevation of the river (Goodman, 2007; Iles, 1979). This downward trend is not due to an over-appropriation of the Missouri: Elk Point aquifer but rather a reflection of the entrenchment. Based on the observation well data there is a reasonable probability that there is unappropriated water available from the Missouri: Elk Point aquifer.

Existing Water Rights

Currently, there are 630 water rights/permits appropriating water from the Missouri: Elk point aquifer including 5 future use permits and 2 deferred permits (Water Rights, 2018a). The diversion points for water rights/permits currently authorized to withdraw water in the area surrounding the proposed application are shown in Figure 5.

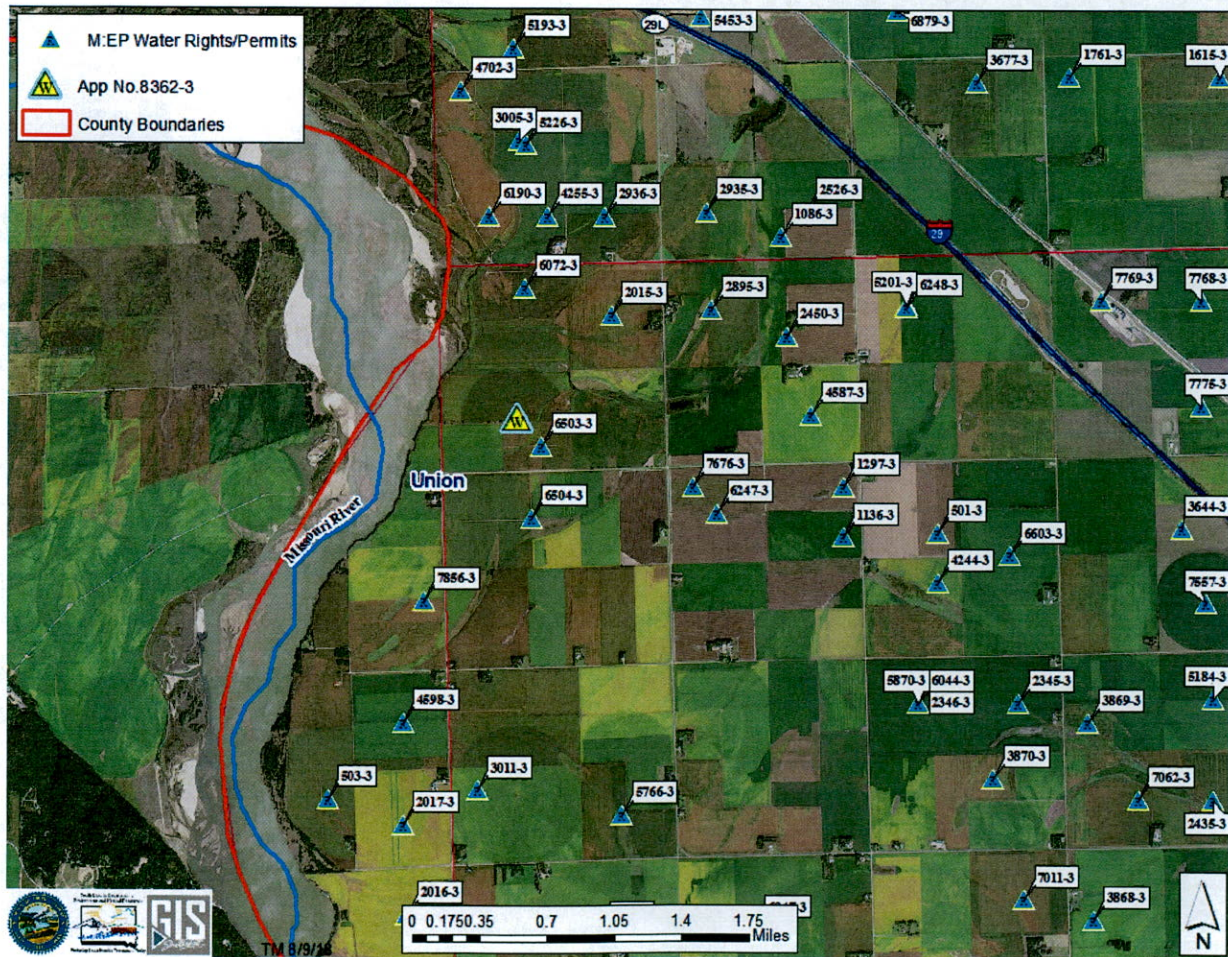


Figure 5: Map of the proposed application No. 8362-3 with nearby water rights/permits in the Missouri: Elk Point aquifer (Water Rights, 2018a)

Drawdown from pumping wells completed into the Missouri: Elk Point aquifer is typically not significant very far from the pumping well. Examination of the hydrographs of observation wells completed into the Missouri: Elk Point aquifer shows no signs of being significantly impacted by drawdown despite being located in the proximity of irrigation wells. Although precise drawdown cannot be quantified without aquifer testing this application, if approved, is not expected to impact nearby adequate wells adversely.

An adequate well has been defined in Administrative Rule of South Dakota (ARSD) 74:02:04:20(6) as:

“A well constructed or rehabilitated to allow various withdrawal methods to be used, to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer or formation material when the well is constructed, or to allow the pump to be placed as near to the bottom of the aquifer as is practical if the aquifer thickness is less than 20 feet.”

In the past, the Water Management Board has recognized that to place water to maximum beneficial use, a certain amount of drawdown may occur. With no history of well interference complaints from users in the Missouri: Elk Point aquifer, adequate wells are not expected to be adversely impacted if this proposed appropriation is approved.

Conclusions

1. Water Permit Application No. 8362-3 proposes to irrigate 85 acres with a maximum diversion rate of 1.33 cfs from one well to be completed into the Missouri: Elk Point aquifer in Union County.
2. This application is seeking a diversion rate that exceeds the statutory limit of 1 cfs for every 70 acres. This application is seeking an equivalent rate of 1.1 cfs per 70 acres due to the operational requirements of the irrigation pivot.
3. Based on observation well data and the hydrologic budget, there is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer.
4. There is a reasonable probability that the diversion proposed by this application will not adversely impact adequate wells for existing water rights and domestic use

Timothy Magstadt

Timothy Magstadt

SD DENR – Water Rights Program

References

- Bugliosi, E.F. 1986. Water Resources of Yankton County, South Dakota. USGS Water-Resources Investigations Report 84-4241. USGS. Huron, SD
- Farmer, J. 2018. Report on Water Permit Application No. 8351-3: Boyd Reimnitz. SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- 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, Task4: Computerized Data Base, Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Iles, D.L. 1979. Ground-water Study for Southern Union County. Open-File Report No. UR-28. SD DENR-Geological Survey. Vermillion, South Dakota.
- Kilts, W. 2016. Report on Water Permit Application No. 8202-3: Gerald Benjamin. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, SD.
- Niehus, C. A. 1994. Water Resources of Lincoln and Union Counties, South Dakota. USGS Water-Resources Investigations Report 93-4195. USGS. Rapid City, SD.
- Stephens, J.C.1967.Geology and Water Resources of Clay County, South Dakota. Part II Water Resources.SDGS.Vermillion, SD.
- Stonesifer, J.R. 2013. Water Availability of the Missouri: Elk Point Aquifer. SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- USGS, 2018. USGS Water data for the Nation. <https://waterdata.usgs.gov/nwis> accessed 07/18/2018.
- Water Rights. 2018a. Water Right/Permit Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2018b. Well, Completion Report Files. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2018c. "Observation Well Database." SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2018d.Irrigation Questionnaire database. SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED

AUG 27 2018

WATER RIGHTS
PROGRAM

CHICOINE LEGACY FARM, LLC
C/O DENISE STREHLOW
32873 479TH AVE
ELK POINT SD 57025

STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

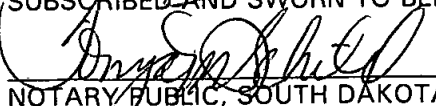
KELLY HERTZ, BEING FIRST DULY SWORN ON OATH DEPOSES
AND SAYS THAT (S)HE IS THE MANAGING EDITOR OF YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF THE
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
8+23 NOTICE OF APPLICATIO

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 23rd DAY OF August, 2018
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID NOTICE TO WIT \$27.79 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 08/23/2018

FILED ON: 08/23/2018


SUBSCRIBED AND SWORN TO BEFORE ME THIS 23rd DAY OF August, 2018


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

Ad text : 8 + 23

NOTICE OF APPLICATION NO. 8362-3 to Appropriate Water

Notice is given that Chicoine Legacy Farm LLC c/o Denise Strehlow, 32873 479th Ave, Elk Point SD 57025 has filed an application for a water permit to appropriate 1.33 cubic feet of water per second (cfs) from one well to be completed into the Missouri:Elk Point Aquifer (105 feet deep) located in the N 1/2 of Lots 1 & 2 in the SW 1/4 Section 6 for irrigation of 85 acres located in the N 1/2 of Lots 1 & 2 in the SW 1/4 Section 6; all in T90N-R49W. This site is located approximately 2 miles south of Elk Point SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8362-3 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineers recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352) and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by September 4, 2018.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

If the applicant does not contest the recommendation of the Chief Engineer and no petition to oppose the application is received, the Chief Engineer shall act on the application pursuant to the recommendation with no hearing held before the Water Management Board. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

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

AFFIDAVIT OF PUBLICATION

State of South Dakota)
:ss
County of Union)

Bruce L. Odson,
the publisher of the Leader-Courier, deposes and says that

The Leader-Courier

is a legal weekly newspaper of a general circulation, printed and published in Elk Point, County of Union, State of South Dakota, and has been such legal newspaper during the time hereinafter mentioned, and that affiant is and was during all the time hereinafter mentioned in charge of the advertising department thereof, and has personal knowledge of all the facts stated in this affidavit: and that the notice and advertisement headed:

Notice of Application

a printed copy of which is hereunto attached and made a part hereof, was printed and published in the said newspaper at least once in

each week for 1 successive weeks; that said newspaper at the time of the first publication of said notice hereinafter stated, had, and still has, a bona fide circulation of over two hundred paid copies weekly, and had been published in the said County of Union for more than one year immediately prior to the date of the said publication of said notice, and that said newspaper during said times, was, and is, printed in part in an office maintained at said city of Elk Point, the said place of publication; that the first publication of said notice in said newspaper was

on Thursday, the 23 day of August, 2018

and that the succeeding publications were

on Thursday, the _____ day of _____, _____

on Thursday, the _____ day of _____, _____

on Thursday, the _____ day of _____, _____

that the fees for the printing and publishing of said notice and advertisement in said newspaper as aforesaid were

\$ 27.96, that the full amount of the fee charged insures to the benefit of the publisher of the said newspaper, that no agreement or understanding for the division thereof has been made with any other person and that no part thereof has been agreed to be paid to any other person whomsoever.



Subscribed and sworn to before me

this 23 day of August, 2018

My commission expires 7-12-23

SUSAN OLSON
NOTARY PUBLIC
SOUTH DAKOTA

Notary Public

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Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Publish Aug. 23, 2018
Published once at the total approximate cost of \$27.96
34-1-91

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AUG 27 2018

WATER RIGHTS
PROGRAM

Schlaak, Karen

From: Schlaak, Karen
Sent: Wednesday, August 15, 2018 11:29 AM
To: Jackie Lammers (jackie.lammers@yankton.net)
Subject: 8362-3, Chicoine Legacy Farm LLC
Attachments: 8362-3public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on August 23, 2018.

Chicoine Legacy Farm LLC, c/o Denise Strehlow, 32873 479th Ave, Elk Point SD 57025 (712 899-6828) has been notified to contact you to authorize publication and arrange for payment.

Please send the affidavit or return the attached Proof of Publication form ASAP to the Water Rights Program, 523 E Capitol, Pierre SD 57501.

Let me know if you have questions. Please acknowledge receipt of this email.

Karen Schlaak

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





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 NEWSPAPERS RIGHT AWAY.**

August 15, 2018

Chicoine Legacy Farm LLC
c/o Denise Strehlow
32873 479th Ave
Elk Point SD 57025

Dear Mr. Strehlow:

Water Permit Application No. 8362-3 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 Leader-Courier printed at Elk Point SD (Ph # 605 356-2632) and the Press & Dakota printed at Yankton SD (Ph # 605 665-7811). You will need to contact the newspapers 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 newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers 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.

NOTICE OF APPLICATION NO. 8362-3 to Appropriate Water

Notice is given that Chicoine Legacy Farm LLC c/o Denise Strehlow, 32873 479th Ave, Elk Point SD 57025 has filed an application for a water permit to appropriate 1.33 cubic feet of water per second (cfs) from one well to be completed into the Missouri:Elk Point Aquifer (105 feet deep) located in the N 1/2 of Lots 1 & 2 in the SW 1/4 Section 6 for irrigation of 85 acres located in the N 1/2 of Lots 1 & 2 in the SW 1/4 Section 6; all in T90N-R49W. This site is located approximately 2 miles south of Elk Point SD. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres.

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

SEP 12 2018

Chicoine Legacy Farm LLC
c/o Denise Strehlow
32873 479th Ave
Elk Point SD 57025

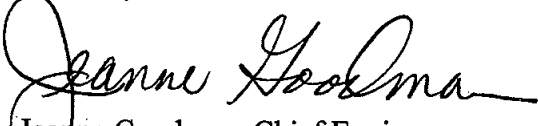
Dear Ms. Strehlow:

Enclosed is Water Permit No. 8362-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,


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

enclosures