

WATER PERMIT NO. 8591-3

Name of Applicant: **D Olson & Sons, LLC**

Address: **31729 455th Ave, Meckling SD 57069**

Phone: **605 660-8990**

Amount of Water Claimed: **1.56 cfs**

Total Acres: **80**

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

Water to be used for: **irrigation**

County: **Clay**

Type of Waste Disposal System:

Location: **7 miles northwest of Vermillion**

PRIORITY

Date Received: **2-7-22**

Application/License Fee: **\$ 950**

Corrected Application Received:

Period of Annual Use: **April 1 – October 31**

Remarks:

Diversion Point: **S ½ SE ¼ Sec 3-T92N-R53W**

Land to be Irrigated: **S ½ SE ¼ Sec 3-T92N-R53W**

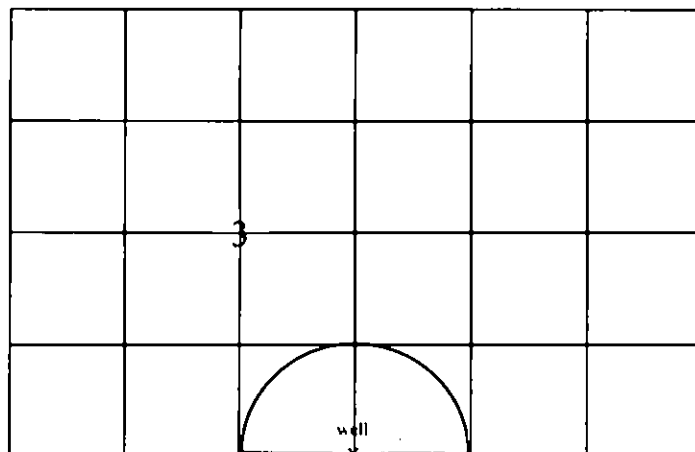
Depth of Well: **120 feet deep**

Well Driller:

Remarks:

Type of Map: **aerial**

Prepared by:



Reviewed and the Number Assigned on: **2-14-22**

By: **Ron Duvall**

Notice of Hearing - date to intervene: _____

**SOUTH DAKOTA
WATER PERMIT NO. 8591-3**

Date of first receipt of application February 7, 2022.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8591-3 to D Olson & Sons LLC, c/o Dale Gene Olson, 31729 455th Ave, Meckling SD 57029 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. 8591-3 appropriates 1.56 cubic feet of water per second from one well to be completed into the Missouri Elk Point Aquifer (approximately 120 feet deep) located in the S1/2 SE1/4 for irrigation of 80 acres located in the S1/2 SE1/4; all in section 3-T92N-R53W. This site is located approximately 7 miles northwest of Vermillion 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 February 7, 2022.
4. The date of approval of Permit No. 8591-3 is April 18, 2022.
5. One-fifth of the construction is to be completed on or before October 18, 2024.
6. All construction is to be completed on or before April 18, 2027.
7. Water is to be put to beneficial use on or before April 18, 2031.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

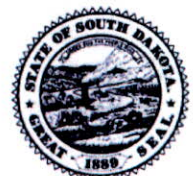
QUALIFICATIONS

1. The well approved under Permit No. 8591-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8591-3 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. 8591-3 authorizes a maximum diversion rate of 1.56 cfs for the irrigation of 80 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: Eric Gronlund
Eric Gronlund, Chief Engineer
Water Rights Program
Department of Agriculture and Natural Resources

JUN 01 2022
date



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

RECEIVED

FEB 07 2022

PAID

FEB 7 2022

Ck# 2655

Rec't#

Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>8591-3</u>	(office use only) Hydrologic Unit <u>10170101</u>	WATER RIGHTS PROGRAM
	Basin <u>Missouri River</u>		
	Newspaper <u>Plain talk</u>		
	<u>Press & Dakotan</u>		

Application For Permit To Appropriate Water For Irrigation

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

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

1. Name to Appear on Irrigation Permit D Olson & Sons, 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 31729 455th ave Meckling sd 57069
(Address) (City) (State) (Zip Code)

Phone _____ Mobile 605-660-8990 Email _____

2. Amount of water claimed 1.56 *CFS or 700 **GPM ***AF Total Acreage 80
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Missouri:Elk Point Aquifer

4. Location of point of diversion 1 well in S 1/2 of SE 1/4, Section 3, T92nR53W

(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 April 1-october 31

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

Land Description	Acres	Land Description	Acres
<u>SE of SE Section 3, T92nR53w</u>	<u>38</u>		
<u>SW of SE Section 3, T92nR53w</u>	<u>38</u>		

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

Center pivot irrigation of the above listed property. Greater than statutory water volume requested due to windshield wipe water application and soil type.

I, Dale Gene Olson, 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 _____
(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) 120 Depth to Top of Water Bearing Material 60 Depth to Water from Surface 25d) Distance to nearest domestic well on applicant's property NA Property owned by others >3,000'**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)

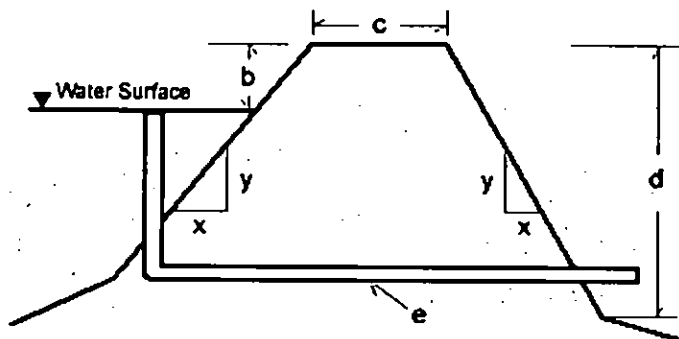
Upstream _____

Downstream _____

h) Surface Area of Impoundment _____

i) Storage _____ Acre Feet

j) Drainage Area Above Dam _____ Acres



DA Olson

New Design (1)



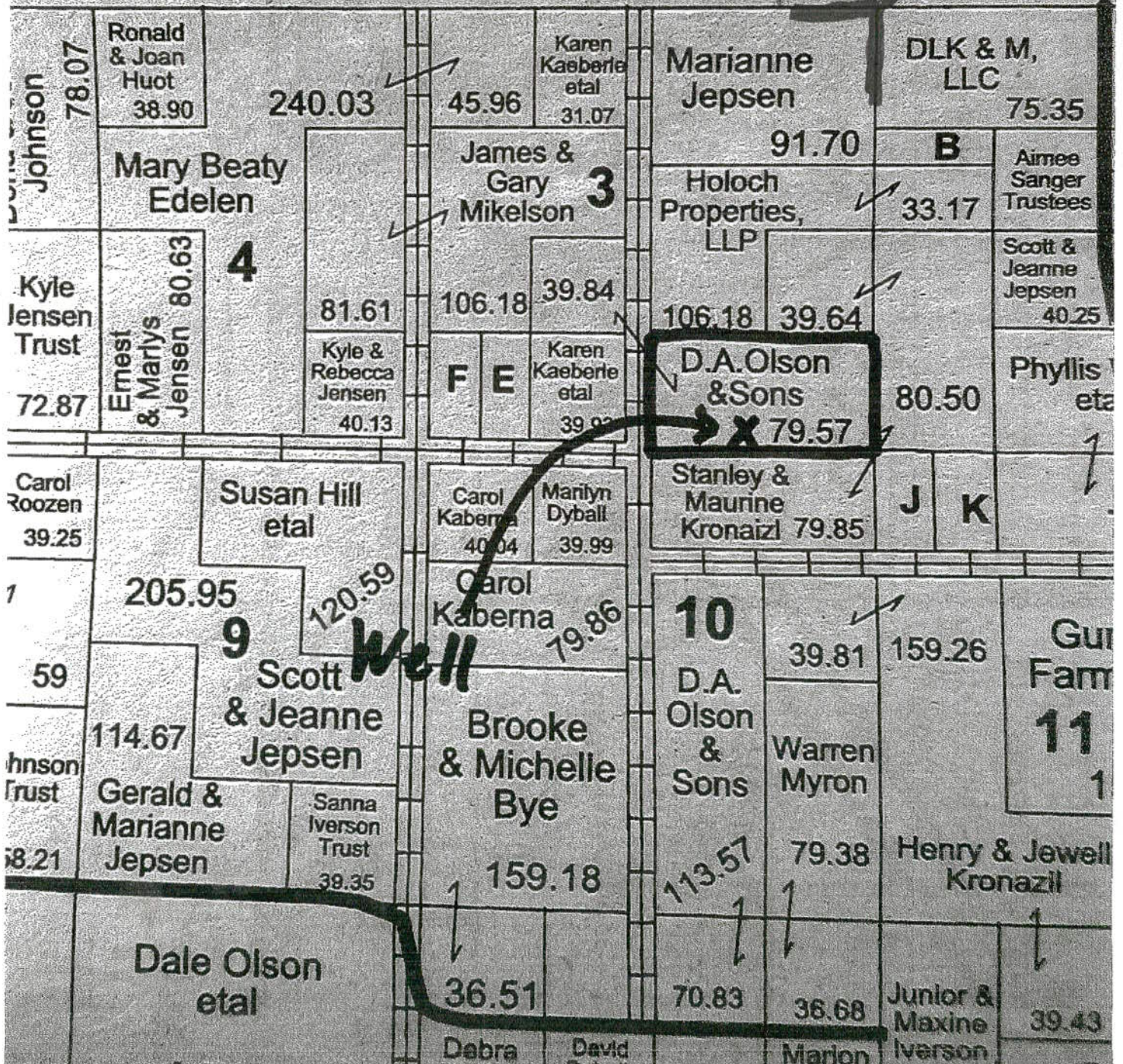
Clay Co. Norway Twp

Sec. 3 South Half of SE 1/4

NE Corner of Section 3
T92NR53W

455 AVE

456 AVE



RECEIPT

WATER RIGHTS PROGRAM South Dakota Department of Agriculture and Natural Resources

Date February 7, 2022

RECEIVED OF D Olson & Sons LLC 31729 455th Ave., Meckling SD 57069

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

Fee for Application for Permit No. <u>8591-3</u> to Appropriate Water, to construct and to put water to beneficial use	\$ <u>850.00</u>
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>8591-3</u>	\$ <u>200.00</u>
Fee for Filing Transfer Form _____	\$ _____
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	\$ <u>1050.00</u>

By Eric Gronlund
Chief Engineer

Em



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 8591-3, D Olson & Sons, LLC**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Agriculture and Natural Resources concerning Water Permit Application No. 8591-3, D Olson & Sons, LLC, 31729 455th Avenue, Meckling SD 57069.

The Chief Engineer is recommending APPROVAL of Application No. 8591-3 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 domestic water uses and water rights, 3) the proposed use is a beneficial use and 4) it is in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board with the following qualifications:

1. The well approved under Permit No. 8591-3 is located near domestic wells and other wells which may obtain water from the same aquifer. Water withdrawals shall be controlled 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. 8591-3 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. 8591-3 authorizes a maximum diversion rate of 1.56 cfs for the irrigation of 80 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.

Eric Gronlund, Chief Engineer
March 24, 2022

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 8591-3
D OLSON & SONS LLC
MARCH 25, 2022

Water Permit Application No. 8591-3 proposes to irrigate 80 acres located in the S ½ SE ¼ Section 3 at a maximum instantaneous diversion rate of 1.56 cubic feet of water per second (cfs) from one well, approximately 120 feet deep, to be completed into the Missouri: Elk Point aquifer and located in the S ½ SE ¼ Section 3; all in T92N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately 7 miles northwest of Vermillion, SD and approximately 6 miles northwest of the proposed well site for Application No. 8595-3, also requesting to appropriate water from the Missouri: Elk Point aquifer.

AQUIFER: Missouri: Elk Point (M:EP)

Aquifer Characteristics:

The Elk Point management unit of the Missouri aquifer, also known as the Missouri: Elk Point aquifer, is a deposit of glacial outwash lying within the Missouri River flood plain from the Yankton area down to the southeastern tip of South Dakota (Niehus, 1994; Stephens, 1967). Hansen (2021) described the aquifer in detail. In short, it underlies approximately 219,100 acres of Yankton, Clay, and Union counties with an estimated 3,287,100 ac-ft of recoverable water in storage (Hedges et al, 1982). The aquifer is generally under unconfined conditions, but confined conditions can locally be encountered (Water Rights, 2022c and 2022e).

Based on local lithologic information (SDGS, 2022) and well completion reports (Water Rights, 2022e), the Missouri: Elk Point aquifer is generally found near land surface to a depth of 100 to 120 feet below ground surface. The static water level in the area of the applicant's proposed well typically ranges from 15 to 30 feet below ground surface (Water Rights, 2022c and 2022e). In this area, the aquifer is expected to have a saturated thickness of ranging from 70 to 100 feet (Water Rights, 2022c and 2022e). The aquifer is expected to be unconfined at the applicant's proposed well location.

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 diversion point can be developed without unlawful impairment of existing domestic water uses and water rights, and that the proposed use is a beneficial use and in the public interest as it pertains to matters of public interest within the regulatory authority of the Water Management Board as defined by SDCL 46-2-9 and 46-2-11." This report will address the availability of unappropriated water and the potential for unlawful impairment of existing domestic water uses and water rights from the Missouri: Elk Point aquifer.

WATER AVAILABILITY:

This application proposes to appropriate water from the Missouri: Elk Point aquifer. The probability of unappropriated water available from the aquifer can be evaluated by considering SDCL 46-6-3.1, which requires the amount of water withdrawn annually to not exceed the average estimated recharge unless the aquifer is older or lower than the Greenhorn Formation and the applicant is a water distribution system.

The Missouri: Elk Point aquifer is not stratigraphically lower/older than the Greenhorn Formation (Fahrenbach et al, 2010), and the applicant is not a water distribution system as defined in SDCL 46-1-6(17). Therefore, a comparison of average annual recharge and average annual withdrawals from the Missouri: Elk Point aquifer is required for this application.

Hydrologic Budget

Recharge

The Missouri: Elk Point aquifer is recharged by infiltration of precipitation, groundwater inflow from the Lower Vermillion Missouri and Lower James Missouri aquifers, and seepage from the Missouri, Vermillion, James, and Big Sioux Rivers (Bugliosi, 1986; Niehus, 1994). The recharge rate estimate for the Missouri: Elk Point aquifer includes an estimate of recharge induced from the Missouri River by the pumping operations of the Lewis and Clark Regional Water System. A thorough discussion of the recharge rate to the aquifer can be found in Hansen (2021). The estimated average annual recharge is approximately 92,000 ac-ft/yr (Hansen, 2021). It should be noted this does not account for any recharge induced from other domestic and appropriative wells in close vicinity to the Missouri River.

Discharge:

Discharge from the Missouri: Elk Point aquifer occurs through evapotranspiration where the aquifer and water level are at or near land surface, well withdrawals, leakage to the underlying Dakota aquifer and outflow to the Missouri, James, Vermillion, and Big Sioux Rivers (Bugliosi, 1986; Niehus, 1994). Currently, there are 623 water rights/permits (584 irrigation, 39 non-irrigation) and 5 future use permits (Water Rights, 2022d).

Hansen (2021) estimated the average annual use by non-irrigation water rights/permits to be 48,361 ac-ft/yr. This value also includes the reported pumpage for irrigation by Water Permit No. 5998A-3 held by Clay Rural Water System Inc. and as reported with their permit for rural water system use Water Permit No. 7388-3 (Hansen, 2021). The five future use permits reserve 14,900 ac-ft/yr. Hansen (2021) has a thorough discussion of the exact details of the non-irrigation water use estimate. There have been no changes in number of permits or estimated use by the non-irrigation water rights/permits and the future use permits since Hansen (2021) completed his report.

The 2021 irrigation questionnaire data has not been fully reported or compiled yet (Water Rights, 2022b) and thus there is no new data beyond what was analyzed by Hansen (2021). The average annual irrigation pumpage from 1979 through 2020 is approximately 19,031 ac-ft/yr (Hansen, 2021). However, Hansen (2021) noted that it is not likely to be fully representative of current development due to a significant increase in the number of permits and permitted acreage that started in 2006. Hansen (2021) used methods developed and refined by Farmer (2021) to estimate current average annual irrigation use more appropriately from the Missouri: Elk Point aquifer. Farmer (2021) determined application rates of 0.343 ft/yr for crop irrigation and 0.97 ft/yr for turf irrigation per permitted acre based on the submitted irrigation questionnaire data (Water Rights, 2022b). The 584 irrigation water rights/permits authorize the irrigation of 80,564.54 crop acres and 744.6 turf acres. Using Farmer's (2021) application rate for the crop acres (0.343 ft/yr), yields an estimated average annual use of 27,634 ac-ft/yr. The estimated average annual turf irrigation water usage is shown in Table 1.

Table 1- Estimated average annual turf irrigation water use from the Missouri: Elk Point aquifer (Farmer, 2021; Water Rights, 2022d)

Permit No.	Name	Status	County	Acres	Estimated Use (ac-ft/yr)
1294-3	RECREATION DEV ASSN INC	LICENSE	UNION	102	98.9
2011-3	TR GOLF LLC	LICENSE	UNION	95	92.2
5786-3	DAKOTA DUNES GOLF COURSE	LICENSE	UNION	173	167.8
5935-3	TED WAITT	LICENSE	UNION	1	1.0
5936-3	APPLIED ENGINEERING INC	LICENSE	YANKTON	1.8	1.7
5998A-3	CLAY RURAL WATER SYSTEM INC	PERMIT	UNION	300	n/a*
8010-3	RYAN RUSHER	LICENSE	YANKTON	2.5	2.4
8029-3	DAKOTA DUNES COMM IMPROVEMENT DISTRICT	PERMIT	UNION	17.8	17.3
8040-3	HEINE ELECTRIC & IRRIGATION INC	LICENSE	CLAY	1	1.0
8354-3	TR GOLF LLC	PERMIT	UNION	30	29.1
8407-3	GAYVILLE-VOLIN SCHOOL DISTRICT 63-1	LICENSE	YANKTON	4.5	4.4
8530-3	NATIONAL FIELD ARCHERY ASSOCIATION FOUNDATION	LICENSE	YANKTON	16	15.5
* = Accounted for in non-irrigation use with Water Permit No. 7388-3			Total	744.6	431.3

There are numerous domestic wells completed into the Missouri: Elk Point aquifer (Water Rights, 2022c). However, domestic users are not required to report their usage. Furthermore, with the prevalence of rural water systems in the areas where the aquifer is present, it is likely many domestic well users have converted to using rural water. These factors and the fact that domestic users have a limited diversion rate means domestic use is considered a negligible portion of the hydrologic budget.

Balance of Hydrologic Budget

Estimated average annual recharge to the Missouri: Elk Point aquifer is 92,000 ac-ft/yr. Estimated average annual withdrawals is 91,326 ac-ft/yr (future use: 14,900; non-irrigation: 48,361; crop irrigation: 27,634; turf irrigation: 431.3). Following the methods set out by Farmer (2021), Application No. 8595-3 requesting 80 acres and this application requesting 80 acres will use, combined, 54.9 ac-ft/yr. Therefore, there is a reasonable probability unappropriated water is available for this proposed appropriation. The hydrologic budget is also supported by the observation well data as detailed in the next section of this report.

Observation Well Data:

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

The Water Rights Program maintains 36 observation wells completed into the Missouri: Elk Point aquifer (Water Rights, 2022c). The nearest observation well, CL-80B, is approximately 1.2 miles southwest of

the proposed well location. All other Missouri: Elk Point aquifer observation wells are greater than 5 miles away from the project area. The hydrograph for CL-80B is shown in Figure 1.

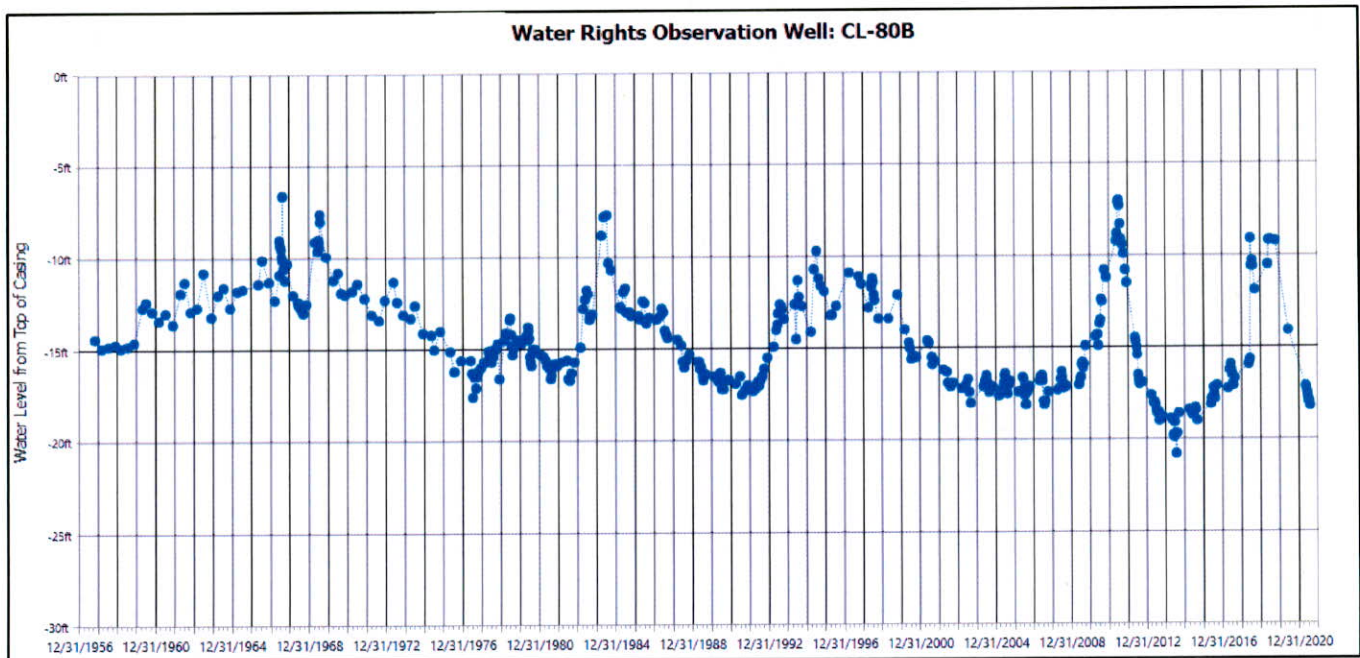


Figure 1- Missouri: Elk Point aquifer observation Well CL-80B hydrograph (Water Rights, 2021c)

The hydrograph for CL-80B is representative of the hydrographs for the other observation wells completed into the Missouri: Elk Point aquifer located close to the Missouri River. In general, the observation well hydrographs show water levels that are broadly stable but are responsive to climatic conditions. The water levels rise during wet periods and slowly decline to stable levels during drier periods. Furthermore, the hydrographs demonstrate that any drawdowns from pumping are temporary because the water levels typically recover to pre-pumping levels after the irrigation season if pumping drawdowns are even noticeable on the hydrograph. Several of the Missouri: Elk Point aquifer observation wells show a gradual long-term downward trend. These wells are located closer to the Missouri River and the downward trend is due to entrenchment of the Missouri River channel below Gavin's Point Dam in Yankton. Subsequently, this entrenchment has lowered the water level of the river and thus of the hydrologically connected aquifer and is easily noticed in the observation wells near the river. However, this lowering of the water level in the aquifer is not a sign of over appropriation of the aquifer. The observation well data and how it reacts to climatic conditions does not show any long-term effects from pumping. Therefore, the observation well hydrographs document there is unappropriated water available for this proposed appropriation.

POTENTIAL FOR UNLAWFUL IMPAIRMENT OF EXISTING WATER RIGHTS:

The Missouri: Elk Point aquifer is primarily under unconfined conditions in the area of this application (Water Rights, 2022c and 2022e). The nearest Missouri: Elk Point aquifer appropriative well is approximately one mile to the southwest of the applicant's proposed well site (Water Rights, 2022d). The nearest domestic well on file with the Water Rights Program that appears to be completed into the Missouri: Elk Point aquifer is approximately 1.7 miles southwest (Water Rights, 2022e). It is likely there are other domestic wells in the vicinity of the applicant's proposed well site that are not on file with the DANR-Water Rights Program.

In general, drawdown does not extend far from a pumping well completed into an unconfined aquifer but can extend some distance from a well completed into a confined aquifer. The applicant's proposed well site appears to be under unconfined conditions. This is exemplified by the hydrograph for CL-80B (see Figure 1) that does not show any effect from pumping although it is surrounded by at least six high capacity wells, wells with a diversion rate greater than 0.2 cfs, within approximately one-half mile (Water Rights, 2022c and 2022d). Furthermore, there has not been a history of well interference complaints from wells completed into the Missouri: Elk Point aquifer (Water Rights, 2022a).

In order to balance interests between appropriative use and domestic water users, the Water Management Board defined an "adversely impacted domestic well" in Administrative Rule of South Dakota (ARSD) 74:02:04:20(7) as:

"a well in which the pump intake was set at least 20 feet below the top of the aquifer at the time of construction or, if the aquifer is less than 20 feet thick, is as near to the bottom of the aquifer as is practical and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner's needs".

When considering the lack of drawdown caused by pumping, the fact drawdown does not extend far from pumping a well in an unconfined aquifer, the large saturated thickness of the aquifer, and the lack of complaints, there is a reasonable probability this proposed diversion can be developed without unlawfully impairing existing adequate domestic wells or adequate appropriative 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, in volume or rate or both, if the method of irrigation, any time constraints on diversion of water, or the type of soil so requires...." Water Permit Application No. 8591-3 proposes to divert water at a maximum rate of 1.56 cfs for the irrigation of 80 acres or at a rate of 1.365 cfs per 70 acres. The applicant stated the pivot will be using a partial or "windshield-wipe" rotation. This limits the irrigated acres. However, the center pivot still requires the same flow rate as if it were making a full rotation. The request by the applicant is reasonable and acceptable to the Water Rights Program and has been accepted by the Water Management Board in the past.

CONCLUSIONS:

1. Application No. 8591-3 proposes the irrigation of 80 acres at a maximum instantaneous diversion rate of 1.56 cfs from a well completed into the Missouri: Elk Point aquifer in Clay County.
2. Based on the observation well data and a hydrologic budget, there is a reasonable probability unappropriated water is available for this proposed appropriation.
3. There is a reasonable probability that pumping this proposed diversion will not unlawfully impair existing domestic water users and water rights with adequate wells.

4. Application No. 8591-3 has requested a diversion rate in excess of the statutory limit at the equivalent of 1.365 cfs per 70 acres. The partial rotation of the pivot is a reasonable and acceptable reason for this request.



Adam Mathiowetz, PE
SD-DANR-Water Rights Program

REFERENCES:

- Bugliosi, E.F. 1986. Water Resources of Yankton County, South Dakota. Water Resources Investigations Report 84-4241. U.S. Geological Survey, Huron, SD.
- Fahrenbach, M.D., Steece, F.V., Sawyer, J.F., McCormick, K.A., McGillivray, L.D., Schulz, I.D., and Redden, J.A. 2010. South Dakota Stratigraphic Correlation Chart. Oil and Gas Investigation 3. SD DANR-Geological Survey. Vermillion, South Dakota.
- Farmer, J. 2021. Report on Water Permit Application No. 8503-3: Sorensen Family Farm, LLC. SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD.
- Hansen, B.M. 2021. Report to the Chief Engineer on Water Permit Application No. 8530-3 National Field Archery Association Foundation. SD DANR-Water Rights Program. Pierre, SD.
- Hedges, I.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. Tasks 1-4. Final Report. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185. SD DANR-Geological Survey. Vermillion, South Dakota.
- Nichus, C.A. 1994. Water Resources of Lincoln and Union Counties, South Dakota. Water-Resources Investigations Report 93-4195. U.S. Geological Survey. Rapid City, SD.
- SDGS. 2022. *Lithologic Logs Database*. <<http://cf.sddenr.net/lithdb/index.cfm>>. Accessed March 12, 2022. SD DANR-Geological Survey Program. Vermillion, South Dakota.
- Stephens, J.C. 1967. Geology and Water Resources of Clay County, South Dakota, Part II: Water Resources. DANR-Geological Survey Bulletin 19. Vermillion, SD.
- Water Rights. 2022a. County Files. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2022b. Irrigation Questionnaire Files. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2022c. Observation Well Files. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2022d. Water Right/Permit Files. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2022e. Well Completion Reports. SD DANR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

RECEIVED

APR 11 2022

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

PLAIN TALK

D A OLSON & SONS
31725 455TH AVE
MECKLING SD 57069

STATE OF SOUTH DAKOTA
COUNTY OF CLAY

MICHELE SCHIEVELBEIN, BEING FIRST DULY SWORN ON OATH DEPOSES AND SAYS THAT (S)HE IS THE ADVERTISING DIRECTOR 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.

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE NEWSPAPER ON THE 8th DAY OF April, 2022
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION OF SAID NOTICE TO WIT \$39.36 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: 04/08/2022

FILED ON: 04/08/2022



SUBSCRIBED AND SWORN TO BEFORE ME THIS 8th DAY OF April, 2022



NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 07/04/2026

Ad text : NOTICE OF APPLICATION NO. 8591-3 to Appropriate Water

Notice is given that D Olson & Sons LLC, 31729 455th Ave, Meckling SD 57069 has filed an application for a water permit to appropriate 1.56 cubic feet of water per second from one well to be completed into the Missouri Elk Point Aquifer (approximately 120 feet deep) located in the S1/2 SE1/4 for irrigation of 80 acres located in the S1/2 SE1/4; all in section 3-T92N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately 7 miles northwest of Vermillion SD.

RECEIVED
APR 11 2022
WATER RIGHTS
PROGRAM

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8591-3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing this application or recommendation shall allege that the application, upon approval, will cause injury to the person that is unique from any injury suffered by the public in general. The injury must concern a matter either within the regulatory authority found in SDCL 46-2A 9 for approval or denial of the application, or other matter concerning the application within the regulatory authority of the board to act upon as defined by SDCL 46-2-9 and 46-2-11, or both. Any person meeting the petitioner requirements and wishing to be a party of record in a contested case hearing shall file a written petition to oppose the application with BOTH the applicant and Chief Engineer. A petition opposing the application shall be filed on a form provided by the Chief Engineer. The petition form is available online at <https://danr.sd.gov/public> or by contacting the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501" or call (605) 773-3352. The applicant's mailing address is given above. If contesting the Chief Engineer's recommendation, the applicant shall also file a petition. A petition filed by either an interested person or the applicant must be filed by April 18, 2022.

The petition shall include a statement describing the unique injury upon approval of the application on the petitioner, the petitioner's reasons for opposing the application, and the name and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

Any interested person may file a comment on the application with the Chief Engineer. The comment shall be filed on a form provided by the Chief Engineer and is available online at <https://danr.sd.gov/public> or by calling (605) 773-3352 or writing the Chief Engineer at the address provided above. Filing a comment does not make the commenter a party of record or a participant in any hearing that may be held. Any comment must be filed by April 18, 2022.

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.

Published once at the total approximate cost of \$39.36.
Published April 8, 2022.

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

RECEIVED

APR 11 2022

WATER RIGHTS
PROGRAM

D A OLSON & SONS
31725 455TH AVE
MECKLING SD 57069

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
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4 + 8 NOTICE OF APPLICATION

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NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 07/04/2026

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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8591 3 with qualifications because 1) unappropriated water is available, 2) existing domestic water uses and water rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest as it pertains to matters within the regulatory authority of the Water Management Board. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <https://danr.sd.gov/public> or contact Ron Duvall for this information, or other information, at the Water Rights Program address provided below.

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Published once at the total approximate cost of \$39.52.

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APR 11 2022

WATER RIGHTS
PROGRAM

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, March 29, 2022 9:26 AM
To: Kelly Kronaizl
Subject: 8591-3, D Olson & Sons LLC
Attachments: 8591-3public.short_final.docx; FORM8.FRM.doc

Attached is a notice to be published on April 8, 2022 in both the Plain Talk and the Press and Dakotan.

D Olson & Sons LLC, c/o Dale Gene Olson, 31729 455th Ave, Meckling SD 57069 (605 660-8990) 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

DANR - Water Rights Program
(605) 773-3352
Website: <https://danr.sd.gov>





**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

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

March 29, 2022

D Olson & Sons LLC
31729 455th Ave
Meckling SD 57069

Dear Mr. Olson:

Water Permit Application No. 8591-3 for irrigation use have 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 (Ph # 605 624-2695) and the Press & Dakota printed at Yankton (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 publishers have been instructed to publish your notice. The newspapers have 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,

Karen Schlaak

Karen Schlaak
Water Rights Program
(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. 8591-3 to Appropriate Water

Notice is given that D Olson & Sons I.L.C, 31729 455th Ave, Meckling SD 57069 has filed an application for a water permit to appropriate 1.56 cubic feet of water per second from one well to be completed into the Missouri Elk Point Aquifer (approximately 120 feet deep) located in the S1/2 SE1/4 for irrigation of 80 acres located in the S1/2 SE1/4; all in section 3-T92N-R53W. The applicant is requesting a diversion rate greater than the statutory limit of 1 cfs per 70 acres. This site is located approximately 7 miles northwest of Vermillion SD.

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Published once at the total approximate cost of

May 24, 2022

PAYMENT REQUEST FORM

PAYEE: D. Olson & Sons LLC
c/o Dale Gene Olson
31729 455th Ave
Meckling, SD 57029

FROM: DANR Water Rights Program
523 E. Capitol Ave
Pierre, SD 57501-3181

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Refund-Over Payment for Application/License Fee

AMOUNT: \$100.00

FUNDING SOURCE:

GENERAL: X

FEDERAL:

OTHER:

COMMENTS:

AUTHORIZATION: *Eric Hunsbuck* 5/31/2022

I declare and affirm under the penalties of perjury that this claim is in all things, true and correct.
I further agree to comply with the provisions of the Civil Rights Act of 1964 and regulations issued thereunder relating to nondiscrimination in federal assisted programs.



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUN 01 2022

D. Olson & Sons LLC
c/o Dale Gene Olson
31729 455th Ave
Meckling SD 57029

Dear Mr. Olson:

Enclosed is Water Permit No. 8591-3 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

An application/license filing fee of \$1,050.00 was submitted with the application. The correct fee for this permit is \$950.00. \$100.00 will be refunded to you. The refund check should be received within the next couple of weeks.

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,

Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

8591-3

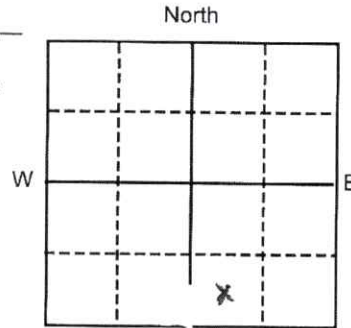
SD EForm - 1621LD V1

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SW 1/4 SE 1/4 Sec 3 Twp 92N Rg 53WCounty CLAY

Please mark well location with an "X"



Well Completion Date

8/23/22

1 Mile

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary

CASING DATA:

If other describe ☐ Steel ☒ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	<u>16</u> IN	<u>0</u> FT	<u>84</u> FT	<u>22</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>Groutwell DF</u>	<u>48</u> BAGS	Lb/gal	<u>0</u> Ft	<u>13</u> Ft
<u>ARMOUR COAT</u>		Lb/gal	<u>13</u> Ft	<u>104</u> Ft

Describe grouting procedure

Tremmie

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 16 Inches Length 20 Feet
 Material PVC
 Slot Size .080 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
☐ No, Why Not?
 Lab to which water quality sample sent for analysis
Well Owner: DALE OLSON

Business Name:

Address: 31729 455th AveCity, State, Zip: MECKLING, SD, 57069

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
TOPSOIL	0	3
Fine Sand	3	7
Silty Clay	7	13
Fine Sand	13	42
Sand & Gravel	42	48
Fine Sand	48	62
Sand & Gravel	62	74
Fine Sand	74	80
Gravel	80	104

STATIC WATER LEVEL 222' 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

40 Hp Grundfos Flowwise 92C 1stage pump
 6" x 60' Drop pipe

This well was drilled under license # 810 and this report is true and accurate.Drilling firm: HEINE ELECTRIC & IRRIGATION

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

RECEIVED

Date: _____

JAN 12 2023

OFFICE OF
WATER



8591-3

**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

D.A. Olson & Sons
31725 455th Ave
Meckling SD 57069

8591-3

Dear Mr. Olson:

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 water use 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,

Amanda Dewell
Water Rights Program
(605) 773-3352
email: Amanda.Dewell@state.sd.us

JUN 12 2023

OFFICE OF
WATERNOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USEDate 6-5-2023TO: Water Rights Program, DANR
523 E. Capitol
Pierre, SD 57501-3181FROM: DA Olson & Sons
(name)
31725 455th Ave
(address)
Meckling SD 57069-4423 605-660-8990
(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.

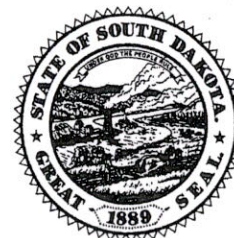
Water Permit No. 8591-3 states that the water use system is to be constructed by
4-18-2027 , and water is to be put to beneficial use by 4-18-2031 .
(date) (date)

The water use system was completed on 9-1-2022 .
(date)

Applying the water to beneficial use was completed on 6-5-2023 .
(date)

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

DA Olson & Sons
(signature)
Dale Gene Olson





8591-3

**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

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

JUN 16 2023

D Olson & Sons LLC
c/o Dale Gene Olson
31729 455th Ave
Meckling SD 57069

8591-3

Dear Mr. Olson:

Enclosed is Water License No. 8591-3. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if in the future, the owner of an existing well, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program
(605) 773-3352

NOTE: The investigation found your irrigation system is capable of diverting 750 gallons per minute (gpm), which is equivalent to approximately 1.7 cubic feet of water per second (cfs). The diversion rate authorized by your water permit was 1.56 cfs (equivalent to 700 gpm). Diversion of water under this water license is limited to 1.56 cfs.

enclosures

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 8591-3

(1) D Olson & Sons, LLC c/o Dale Gene Olson; 31729 455th Ave, Meckling, SD 57069 made Application No. 8591-3, February 7, 2022, for a water permit to divert 1.56 cubic feet of water per second from groundwater, one well (Missouri Elk Point Aquifer), Clay County, South Dakota for irrigation purposes. Permit No. 8591-3, with a priority date of February 7, 2022, was approved April 18, 2022, and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before April 18, 2027, and for the application to beneficial use of water on or before April 18, 2031.

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

- 1,320 ft W & 10 ft N of the SE corner of Section 3, T92N, R53W (S $\frac{1}{2}$ SE $\frac{1}{4}$)
(Latitude 42.80816 Longitude -97.08663)

(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 3, T92N, R53W	
SW $\frac{1}{4}$ SE $\frac{1}{4}$	34.0 acres
SE $\frac{1}{4}$ SE $\frac{1}{4}$	34.0 acres
TOTAL: 68 acres	

(4) Pursuant to South Dakota Water Law 46-5-30.1 D Olson & Sons, LLC, the holder and/or owner of Water Right No. 8591-3 is issued a license to appropriate water, the right to use 1.56 cubic feet of water per second from groundwater, one well (Missouri Elk Point Aquifer), with a priority date of February 7, 2022, 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. 8591-3 and subject to the following qualifications:

1. 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 their 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. 8591-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. *(The well was drilled by Heine Electric & Irrigation in 2022. A copy of the well completion report is on file with the Water Rights Program)*

continued

3. This Water Right is approved subject to the irrigation water use questionnaire being submitted each year.
4. 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. 8591-3 authorizes a maximum diversion rate of 1.56 cfs for the irrigation of 68 acres with an annual volume not to exceed 2 acre feet of water per acre per year. *(The acreage was reduced from 80 to 68 based on the system as developed.)*



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

JUN 16 2023
date



**Report of Examination of Works and/or Application of Water to Beneficial Use
For Permit No. 8591-3**

I have this day, **June 5, 2023**, made a thorough examination of the water use systems owned by **D Olson and Sons, LLC, 31729 455th Ave., Meckling, SD 57069**, holder of Permit No. **8591-3**, bearing the priority date of **February 7, 2022**. This permit authorizes the diversion of **1.56** cu. ft. per second of the waters of **groundwater, one well, (Missouri: Elk Point Aquifer)** authorizing the irrigation of **80 acres** located in **Clay** County.

Inspection contacts: **Dale Olson**

A. Works used to divert the water:

Well Information

- 1) Well Drilling Firm: **Heine Electric & Irrigation**
- 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: **22** feet

Pump:

- 1) Make: **Flowise**
- 2) Model: **FW9LC**
- 3) Capacity: **750** GPM

Motor:

- 1) Make: **Grundfos**
- 2) Model No.: **Unknown**
- 3) Horsepower rating: **40** hp

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

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

C. Works used to apply water to beneficial use:

Center Pivot:

- 1) Make: **Zimmatic**
- 2) Overall length: **1,299** feet
- 3) Number of towers: **7**
- 4) End gun: **Yes**
- 5) Capacity: **700** 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: 2023 is the first year the pivot is in use.
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 1,320 feet west and 10 feet north of the southeast corner of Section 3-T92N-R53W (Latitude 42.80816, Longitude -97.08663— S1/2 of the SE1/4).
2) The works are capable of diverting and conveying to the places of use 1.67 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:

Section 3-T92N-R53W

SW1/4 SE1/4 34 acres

SE1/4 SE1/4 34 acres

comprising a total of 68 acres of land and the license should be issued for 1.56 cfs.

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

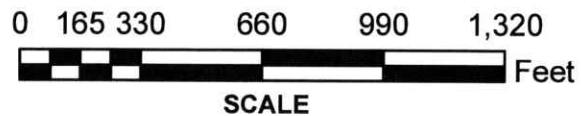
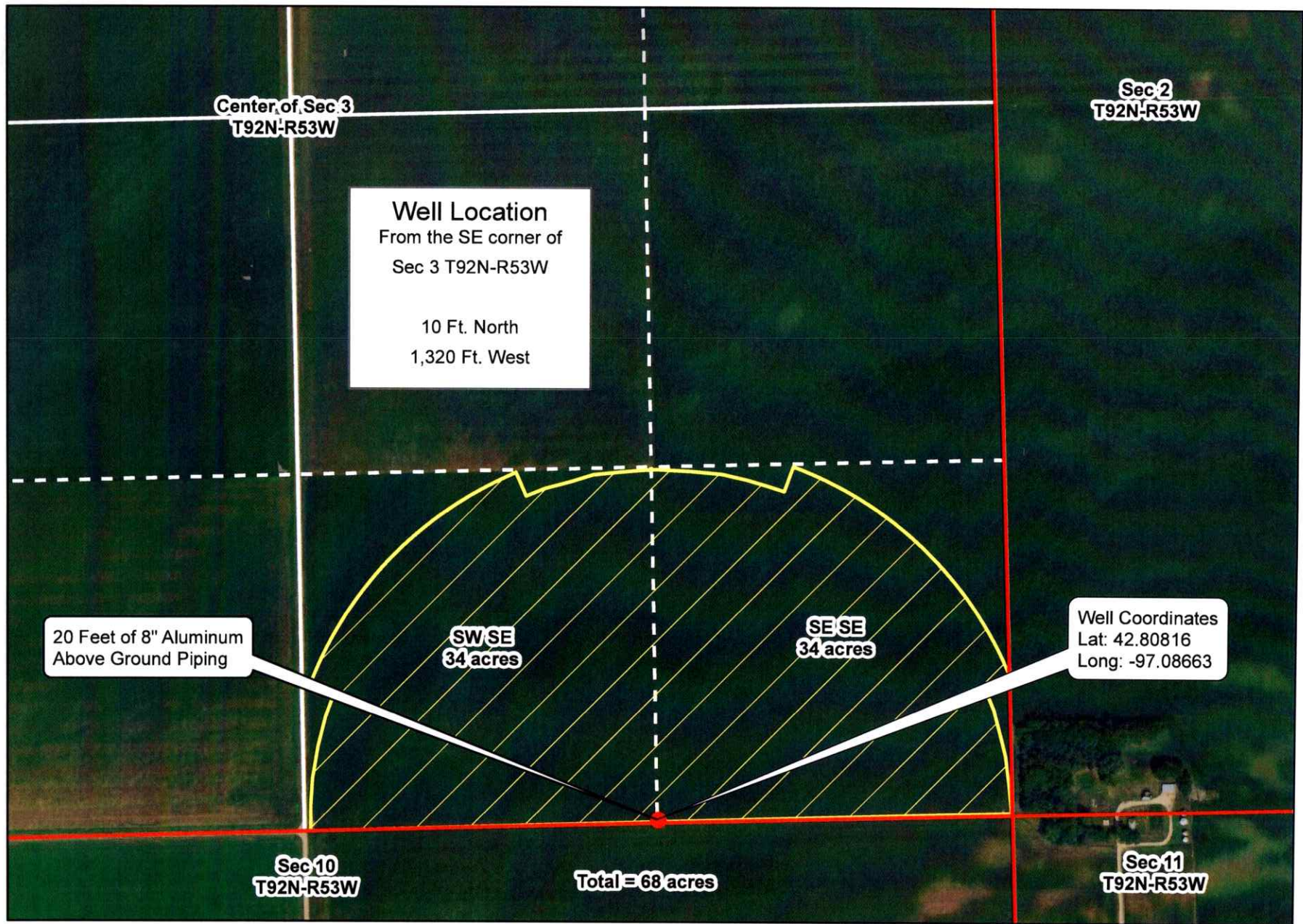
F. Comments or other permit(s) associated with the project: The pump is rated for 750 gpm, but the pivot is nozzled for 700 gpm.

Keith DeJong

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

Date report completed: June 6, 2023

Water Permit No. 8591-3



Keith DeJong
Keith DeJong, PE Ret.
Staff Engineer
June 6, 2023