

**WATER PERMIT NO. 8146-3**

Name of Applicant: **Brookings Economic Dev Agricultural Technology Center**

Address: **414 Main Ave, Brookings SD 57006** Phone: **605 430-1469**

Amount of Water Claimed: **0.19 cfs** Total Acres: **NA**

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

Water to be used for: **industrial use** County: **Brookings**

Type of Waste Disposal System:

Location: **east side of Brookings**

**PRIORITY** Date Received: **3-26-15**

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

Corrected Application Received: **3-31-15**

Period of Annual Use: **January 1 – December 31**

Remarks:

Diversion Point: **SE 1/4 SE 1/4 Sec 30-T110N-R49W**

Land to be Irrigated: **NA**

Depth of Well: **27 feet deep**

Well Driller: **Kaiser Well Drilling Inc.**

Remarks:

Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **3-31-15**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: \_\_\_\_\_

|  |  |  |    |   |  |
|--|--|--|----|---|--|
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## SD EForm - 1585LD V4

FORM 2: Application for uses other than irrigation  
(type or print)

|                                                                                                                 |                                                                     |
|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| Mail to:<br>PMB 2020<br>DENR - Water Rights<br>523 E Capitol Ave<br>Pierre, SD 57501-3182<br>ph. (605) 773-3352 | No. <u>8146-3</u> (office use only) Hydrologic Unit <u>10170202</u> |
|                                                                                                                 | Basin <u>Sioux River</u>                                            |
|                                                                                                                 | Newspaper <u>Brookings Register</u>                                 |
|                                                                                                                 |                                                                     |

RECEIVED

MAR 26 2015

WATER RIGHTS  
PROGRAM

## Application For Permit To Appropriate Water Within The State Of South Dakota

## -Check use(s) of water:

|                                                 |                                                |                                                     |                                          |
|-------------------------------------------------|------------------------------------------------|-----------------------------------------------------|------------------------------------------|
| <input type="checkbox"/> Municipal              | <input type="checkbox"/> Suburban Housing      | <input type="checkbox"/> Recreational               | <input type="checkbox"/> Institutional   |
| <input type="checkbox"/> Rural Water System     | <input type="checkbox"/> Commercial            | <input checked="" type="checkbox"/> Fish & Wildlife | <input type="checkbox"/> Geothermal Heat |
| <input type="checkbox"/> Domestic (over 18 gpm) | <input checked="" type="checkbox"/> Industrial | <input type="checkbox"/> Other _____                |                                          |

Type of Application:  
(check one)

|                                                                                                |                                                                  |                                                 |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------------|
| <input checked="" type="checkbox"/> New                                                        | <input type="checkbox"/> Vested Right (Use predates Mar 2, 1955) | <input type="checkbox"/> Future Use Reservation |
| <input type="checkbox"/> Place to Beneficial Use Water Reserved by Future Use Permit No. _____ |                                                                  |                                                 |
| <input type="checkbox"/> Amendment/Correction to Permit No. _____                              |                                                                  |                                                 |

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

1. Name to Appear on Water Permit Brookings Economic Dev Agricultural Technology Center(check one) ☒ Owner ☐ Tenant/lessee ☐ Owner's Legal Agent

(name and complete address if different than above name)

Mailing Address 414 MAIN AVE BROOKINGS SD 57006

(Address)

(Dennis)

(City)

(State)

(Zip Code)

Home Phone 605 697-8103 Cell 605 430-1469 Email \_\_\_\_\_2. Amount of water claimed 0.19 \*CFS or 85 \*\*GPM \*\*\*AF

(\*Cubic Feet per Second)

(\*\*Gallons per Minute)

(\*\*\*)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply 1 well (SE 1/4 SE 1/4 Sec 30 - T110N - R49W)4. Location of point of diversion Telkamp Ind Add Lot 3B Block 5 in city limits Brookings County Brookings

(example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)

If not a public water supply (e.g. municipal), will water be used outside of the area described above? ☐ Yes ☒ No

If "Yes," where will water be used? \_\_\_\_\_

(example - NW1/4 section 12-T104N-R53W)

5. County or counties where water will be used BROOKINGS-6. Annual period during which water is to be used January 1 - Dec 31

-7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

The well will be used to supply water to a small aquaculture facility that is doing research on a feed ingredient developed in conjunction with SDSU.

I, Dennis Harstad, GM, the applicant, certify that I have read this application, have examined the attached map, and that the matters stated are true.

**SOUTH DAKOTA  
WATER PERMIT NO. 8146-3**

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Date of first receipt of application March 26, 2015.

Date of return to applicant for corrections, amendments or changes March 26, 2015.

Date of receipt of corrected application March 30, 2015.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 8146-3 to Brookings Economic Dev Agricultural Technology Center, 414 Main Ave, Brookings SD 57006 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. 8146-3 appropriates 0.19 cubic feet of water per second (48.4 acre feet of water annually) from one well completed into the Big Sioux:Aurora Aquifer (27 feet deep) located in the SE 1/4 SE 1/4 (Telkamp Industrial Addition, Lot 3B Block 5) Section 30-T110N-R49W.
2. The water appropriated shall be used for the purpose of industrial use at an aquaculture research facility and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 8146-3 is July 6, 2015.
5. The date from which applicant may claim right is March 26, 2015.
6. One-fifth of the construction is to be completed on or before January 6, 2018.
7. All construction is to be completed on or before July 6, 2020.
8. Water is to be put to beneficial use on or before July 6, 2024.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

**QUALIFICATIONS**

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8146-3 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. Water Permit No. 8146-3 authorizes a total annual diversion of 48.4 acre feet of water.
4. The Permit Holder shall report to the Chief Engineer annually the amount of water withdrawn from the Big Sioux:Aurora aquifer.

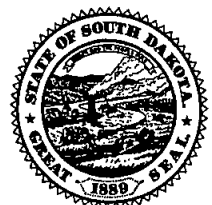
**WATER MANAGEMENT BOARD**

By: *Jeanne Goodman*

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

AUG 04 2015

date



## Supplemental Information

(type or print)

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

- a) If new wells, how many \_\_\_\_ Have test holes been drilled ☐ Yes ☐ No Drilled by \_\_\_\_\_  
(if yes, please provide copies of logs)
- b) If existing wells, how many 1 Provide copy of log(s), if available. Drilled by KAISER WELL DRILLING INC
- c) Well Depth 27 Depth to Top of Water Bearing Material 6 Depth to Water from Surface 8
- d) Distance to nearest existing domestic well:  
On applicant's property NONE On property owned by others UNKNOWN

**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 Brookings Sanitary System

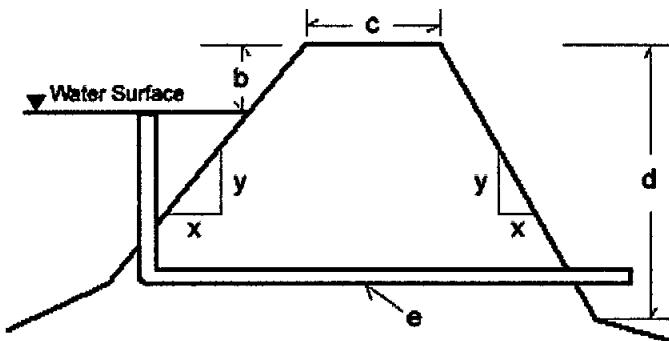
**3. Dugout Information**

- 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:



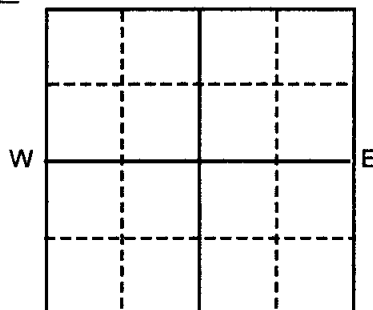
- b) Freeboard \_\_\_\_\_
- c) Crest Width \_\_\_\_\_  
Crest Length \_\_\_\_\_
- d) Height \_\_\_\_\_
- e) Primary Outlet Capacity \_\_\_\_\_  
If pipe, diameter \_\_\_\_\_
- f) Secondary Spillway Capacity \_\_\_\_\_  
Spillway Width \_\_\_\_\_
- g) X & Y Slope (e.g. 3 to 1 is a typical slope)  
Upstream \_\_\_\_\_  
Downstream \_\_\_\_\_
- h) Surface Area of Impoundment \_\_\_\_\_
- i) Storage \_\_\_\_\_ Acre Feet
- j) Drainage Area Above Dam \_\_\_\_\_ Acres

## SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location 1/4 SE 1/4 Sec 30 Twp 110N Rg 49WCounty BROOKINGS

North

Please mark well  
location with an "X"

Well Completion Date

9-2014

1 Mile

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

## PROPOSED USE:

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

## METHOD OF DRILLING:

DIRECT ROTARY DRILL

## CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe \_\_\_\_\_

| PIPEWEIGHT  | DIAMETER | FROM     | TO       | HOLE DIAMETER |
|-------------|----------|----------|----------|---------------|
| 40.0 LB/FT  | 12.00 IN | 0.0 FT   | 22.0 FT  | 18.00 IN      |
| _____ LB/FT | _____ IN | _____ FT | _____ FT | _____ IN      |
| _____ LB/FT | _____ IN | _____ FT | _____ FT | _____ IN      |

## GROUTING DATA:

| Grout Type | No. of Sacks | Grout Weight | From     | To       |
|------------|--------------|--------------|----------|----------|
| GWDF       | 6            | 54.0 Lb/gal  | 0.0 Ft   | 22.0 Ft  |
| _____      | _____        | _____ Lb/gal | _____ Ft | _____ Ft |

Describe grouting procedure \_\_\_\_\_

## SCREEN:

☐ Perforated pipe ☒ Manufactured  
 Diameter 12.00 Inches Length 5.0 Feet  
 Material PVC  
 Slot Size .050 Set From 22.0 Feet to 27.0 Feet

Other information \_\_\_\_\_

## WAS A PACKER OR SEAL USED?

☐ Yes ☐ No

If so, what material? \_\_\_\_\_

Describe packer(s) and location \_\_\_\_\_

## DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?  
☐ No, Why Not?
Lab to which water  
quality sample sent for analysisWell Owner: BROOKINGS ECONOMIC DEVELOPMENTBusiness Name: AGRICULTURAL TECHNOLOGY CENTERAddress: 414 MAIN AVECity, State, Zip: BROOKINGS SD 57006

## WELL LOG:

| FORMATION           | DEPTH |    |
|---------------------|-------|----|
|                     | FROM  | TO |
| TOP SOIL            | 0     | 2  |
| YELLOW CLAY         | 2     | 6  |
| MIXED YELLOW GRAVEL | 6     | 15 |
| FINE SAND           | 15    | 21 |
| MEDIUM              | 21    | 27 |
|                     |       |    |
|                     |       |    |
|                     |       |    |
|                     |       |    |

STATIC WATER LEVEL 8.0 FEET

If flowing: closed in pressure \_\_\_\_\_ PSI

GPM flow \_\_\_\_\_ through \_\_\_\_\_ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other \_\_\_\_\_

Reduced flow rate \_\_\_\_\_ GPM

Can well be completely shut in?

## WELL TEST DATA:

☐ Pumped Describe: SUBMERSIBLE PUMP  
☐ Bailed  
☐ Other

Pumping Level Below Land Surface

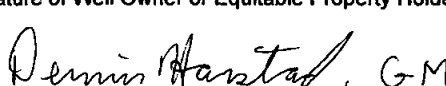
20.0 Ft. After 4.0 Hrs. pumped 90.0 GPM

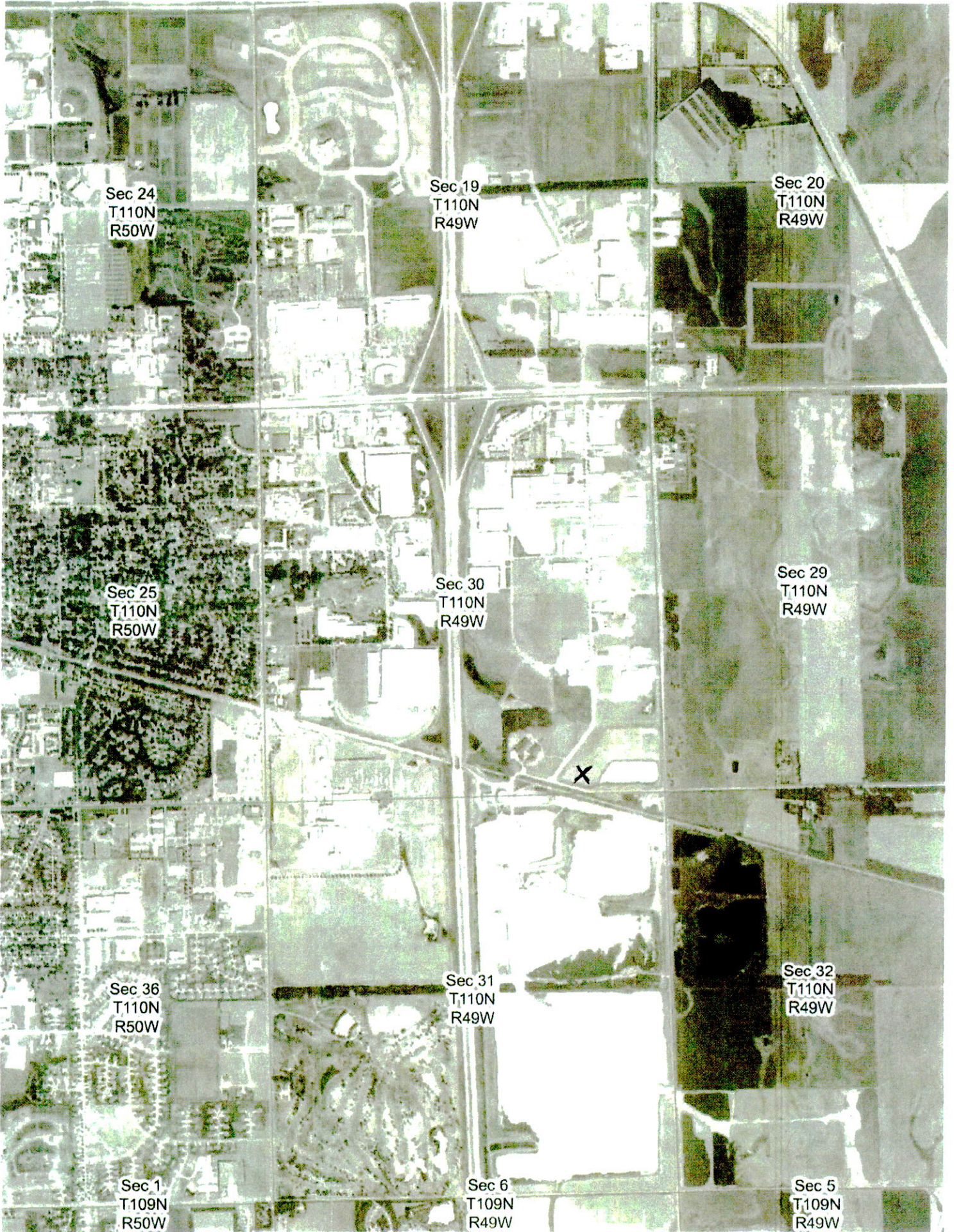
\_\_\_\_\_ Ft. After \_\_\_\_\_ Hrs. pumped \_\_\_\_\_ GPM

If pump installed, pump rate: \_\_\_\_\_ GPM

## REMARKS

## LEGAL DESCRIPTION

TELKAMP INDUSTRIAL ADDITION LOT 3B BLOCK 5  
IN CITY OF BROOKINGS CITY LIMITSThis well was drilled under license # 689 and this  
report is true and accurate.Drilling firm: KAISER WELL DRILLING INC **RECEIVED**Signature of License Representative: **MAR 26 2015****WATER RIGHTS  
PROGRAM**Signature of Well Owner or Equitable Property Holder: Date: Mar. 10, 15





GRID BEARING

1000' 500' 0 1000' 2000'

HORIZONTAL DATUM:  
- NAD 83  
- PROJECTION: SOUTH DAKOTA STATE PLANE COORDINATES NORTH ZONE

VERTICAL DATUM:  
- NAVD 88  
- GEOID 09

BASIS OF BEARING: GEODETIC NORTH

ALL DIMENSIONS SHOWN ARE IN TERMS OF U.S. SURVEY FEET

**LEGEND**

- SINGLE WELL
- NESTED WELL
- IRRIGATION WELL
- 10 YEAR
- 5 YEAR
- WELL FIELD BOUNDARY
- BUFFER ZONE
- GROUND WATER FLOW DIRECTION ARROW

**BANNER**

409 22nd Ave. S. P.O. Box 298  
Brookings, South Dakota 57006  
Tel: 605-692-6342  
Toll Free: 1-855-323-6342  
www.bannerassociates.com

CONSULTANTS:

**RECEIVED**  
**MAR 26 2015**  
**WATER RIGHTS PROGRAM**

**FOR REVIEW ONLY**  
**NOT FOR CONSTRUCTION**

PROJECT TITLE:  
**BROOKINGS MUNICIPAL UTIL. WELL HEAD PROTECTION MAP UPDATE - 2013**

PROJECT LOCATION:  
**EAST OF BROOKINGS SOUTH DAKOTA**

| REV. | DATE | DESCRIPTION |
|------|------|-------------|
|      |      |             |
|      |      |             |
|      |      |             |
|      |      |             |
|      |      |             |

DRAWN BY: JLU  
DESIGNED BY: DCO  
CHECKED BY: DGO  
JOB NO: 06814-02-05  
DATE: JULY 2013

SCALE REDUCTION BAR

SHEET TITLE:  
**WHPA UPDATE 2013 WITH BMU WELLS ON (1.69 MGD) SHOT 12-2-13**

SHEET NO.:  
**7**

# RECEIPT

## WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 3/26, 20 15

RECEIVED OF DAST LLC 101 Main Ave #325 Sioux Falls SD 57104

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

|                                                                                                                        |       |        |
|------------------------------------------------------------------------------------------------------------------------|-------|--------|
| Fee for Application for Permit No. <u>8146-3</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>8146-3</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. 07552

By

J. James Goodman Jr.  
Chief Engineer



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

[denr.sd.gov](http://denr.sd.gov)

February 3, 2015

Brookings Economic Development  
Ag Technology Center  
414 Main Ave  
Brookings SD 57006

Dear Sir:

I am writing in regard to a well driller's report filed by Kaiser Well Drilling. The report indicates a new well was completed for Brookings Economic Development Ag Technology Center in September, 2014. Based on the information in the report, you may need a water permit for this industrial water use.

1. According to state law, a water permit is needed for any water use except for reasonable, private domestic use.
2. Also, as a new well owner, you need to be aware of some of your responsibilities. Enclosed is a copy of "Well Owner Responsibilities". Please review these responsibilities to ensure you are complying with all of the requirements.

Enclosed are application forms and instruction sheet to apply for a water permit. The completed forms with the application, fee and map can be returned to: Water Rights Program, 523 E. Capitol, Pierre, SD 57501. Please respond by March 1, 2015.

If you believe your water use does not require a water permit or that you have an existing permit, or if help is needed completing the application forms, please contact Ron Duvall or me at (605) 773-3352. We will be happy to assist you in any way possible.

Sincerely,

Karen Schlaak  
Water Rights Program  
[karen.schlaak@state.sd.us](mailto:karen.schlaak@state.sd.us)

enclosures



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

[denr.sd.gov](http://denr.sd.gov)

March 26, 2015

Brookings Economic Dev Ag Technology Center  
c/o Al Heuton, Executive Director  
414 Main Ave  
Brookings SD 57006

Dear Mr. Heuton:

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

- The map submitted with the application did not meet the necessary criteria. The map needs to reference a government section corner or quarter corner including section, township and range. For your use, I have enclosed a map with those designations. Please mark the well location with an "X".

If you have any questions, please contact me.

Sincerely,

*Karen Schlaak*

Karen Schlaak  
Water Rights Program  
605 773-3352  
[karen.schlaak@state.sd.us](mailto:karen.schlaak@state.sd.us)

enclosure

c: Dennis Harstad

## Schlaak, Karen

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**From:** Al Heuton <al@brookingsedc.com>  
**Sent:** Monday, February 09, 2015 4:34 PM  
**To:** Schlaak, Karen  
**Subject:** RE: Brookings Economic Development Well Permit Letter

Thank you Karen. I was not aware of the rules pertaining to wells and was relying on the tenants/well driller to make sure everything was completed according to State/Local regulations.

Al

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**From:** Schlaak, Karen [<mailto:Karen.Schlaak@state.sd.us>]  
**Sent:** Monday, February 09, 2015 4:10 PM  
**To:** Al Heuton  
**Subject:** RE: Brookings Economic Development Well Permit Letter

Mr. Heuton,  
Regarding your first email, the lessee/tenant can hold the permit as long as all parties are in mutual consent.

Below is an administrative rule regarding well owner's responsibility. The Economic Development Corporation should be aware of this if they remain the property owner.

**74:02:04:74. Well owner's responsibilities.** The owner or equitable property holder is responsible for the well from the time the licensed well driller successfully completes the well in compliance with this chapter. The owner or equitable property holder shall keep the well capped or covered, in good repair, and in a sanitary condition. If the well is flowing, the owner or equitable property holder shall control the flow to the amount necessary for reasonable domestic use or to the amount authorized by the water permit or right. The owner or equitable property holder shall shut in the well or reduce the flow to no more than five gallons a minute to prevent freezing when the flowing well is not in use. The owner or equitable property holder may not change the construction to deviate from the requirements of this chapter. If property is leased, the obligations of the owner or equitable property holder which are set in this section may be transferred to the lessee by mutual consent.

I will send Prairie Aqua Tech application forms. If you have further questions, please contact Eric Gronlund or me.

*Karen Schlaak*  
Water Rights Program  
523 E Capitol Ave  
Pierre SD 57501  
Phone: 605 773-3352

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**From:** Al Heuton [<mailto:al@brookingsedc.com>]  
**Sent:** Monday, February 09, 2015 3:54 PM  
**To:** Schlaak, Karen  
**Subject:** Brookings Economic Development Well Permit Letter

Good Afternoon Karen,

I have spoken to Prairie AquaTech. Following is the contact information for their company regarding the well that was drilled and for questions on the well permit.

Dennis Harstad  
VP of Operations/GM  
Prairie Aqua Tech  
705 32nd Ave South  
Brookings, SD 57006  
Cell: 605-430-1496  
Email: [dennis@prairieaquatech.com](mailto:dennis@prairieaquatech.com)

Please let me know of there is anything else that I should be doing. I would like to see this resolved as quickly as possible as, even though we did not procure the well drilling services, it is on our property.

Thank you,

Al Heuton  
Executive Director  
[al@brookingsEDC.com](mailto:al@brookingsEDC.com)

605.697.8103  
414 Main Avenue  
Brookings, SD 57006-2012

**BROOKINGS ECONOMIC DEVELOPMENT CORPORATION**  
**BrookingsEDC.com**

**Schlaak, Karen**

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**From:** Dennis Harstad <dennis@prairieaquatech.com>  
**Sent:** Tuesday, February 10, 2015 10:49 AM  
**To:** Schlaak, Karen  
**Subject:** Well permit

Karen,

I received an email from Al Heuton from the Brookings Economic Development Corporation (BEDC) regarding the well on their property. Prairie Aquatech is currently leasing the property from BEDC and should be named on the permit. Please send me the application forms that need to be filled out and I will get them completed and returned to you as soon as possible. Let me know if you have any other questions regarding this matter.

Thanks!

Dennis

Dennis Harstad  
VP of Operations/GM  
Prairie Aqua Tech  
705 32nd Ave South  
Brookings, SD 57006  
Cell: 605-430-1496  
Email: [dennis@prairieaquatech.com](mailto:dennis@prairieaquatech.com)

## Schlaak, Karen

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**From:** Schlaak, Karen  
**Sent:** Tuesday, March 31, 2015 8:13 AM  
**To:** 'Dennis Harstad'  
**Cc:** Al Heuton (al@brookingsedc.com)  
**Subject:** RE: Brookings Economic Dev Ag Technology Center map

Thanks you for returning the map. The application is now complete. It will be given to an engineer to prepare a report on water availability etc. After the report is complete, the chief engineer makes a recommendation. At that time, the application will be public noticed. We prepare that and will send you instructions on how to proceed. That will not be for a few weeks.

If you have questions, let me know.

*Karen Schlaak*  
Water Rights Program  
523 E Capitol Ave  
Pierre SD 57501  
Phone: 605 773-3352

**From:** Dennis Harstad [<mailto:dennis@prairieaquatech.com>]  
**Sent:** Monday, March 30, 2015 5:38 PM  
**To:** Schlaak, Karen  
**Subject:** Brookings Economic Dev Ag Technology Center map

Karen,

Attached is the map showing the well location for the well that goes along with the Brookings Economic Dev Ag Technology Center permit that we submitted last week. Thanks for providing us with a copy of the map showing the corner sections.

Please let me know if you need any additional information.

Dennis Harstad  
VP of Operations/GM  
Prairie Aqua Tech  
705 32nd Ave South  
Brookings, SD 57006  
Cell: 605-430-1496  
Email: [dennis@prairieaquatech.com](mailto:dennis@prairieaquatech.com)

## Gronlund, Eric

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**From:** Dennis Harstad <dennis@prairieaquatech.com>  
**Sent:** Tuesday, May 26, 2015 12:51 PM  
**To:** Gronlund, Eric  
**Cc:** al@brookingsedc.com  
**Subject:** Re: water permit application for aquaculture research facility

Eric,

85 gpm is the maximum output from the pump. We average 30 gpm every day, 365 days a year. The discharge water is sent to the Brookings Municipal Utilities wastewater treatment plant.

Dennis Harstad  
1119 Copper Mtn Rd  
Brookings SD 57006  
605-430-1496

On May 26, 2015, at 9:11 AM, Gronlund, Eric <[Eric.Gronlund@state.sd.us](mailto:Eric.Gronlund@state.sd.us)> wrote:

Gentlemen:

The Water Rights Program is completing its review of the application filed for the well to supply the aquaculture research facility. A few questions remain. The application seeks a pump rate of 85 gallons per minute. Is there an estimate of the total annual amount of water that will be diverted each year? In other words, is the 85 gpm rate diverted continuously over the course of a year. Is the water diverted 50% of the time as various research trials are conducted?

Where is the water being discharged after used in the research facility?

Thanks,

Eric Gronlund  
Water Rights Program, DENR  
605 773-3352  
[Eric.gronlund@state.sd.us](mailto:Eric.gronlund@state.sd.us)

**NO. 8146-3**

Water Rights Program - DENR  
Conversation File Documentation

NAME OF PERSON OR FILE: No. 8146-3, Brookings Economic Development Ag Tech Center

ADDRESS: COUNTY: Brookings

DATE: May 26, 2015 TELEPHONE

RE: email from Dennis Harstad

I emailed Mr. Harstad on May 26, 2015 regarding the expected annual use at the proposed aquaculture research facility. Mr. Harstad responded indicating an average of 30 gpm every day, 365 days per year.

This 30 gpm use equates to 48.4 acre feet of water annually.

NAME: Eric Threlkeld



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT  
APPLICATION NO. 8146-3,  
Brookings Economic Development Agricultural Technology Center**

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. 8146-3, Brookings Economic Development Agricultural Technology Center, c/ Al Heuton, Executive Director, 414 Main Avenue, Brookings SD 57006.

The Chief Engineer is recommending APPROVAL of Application No. 8146-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 8146-3 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. Water Permit No. 8146-3 authorizes a total annual diversion of 48.4 acre feet of water.
4. The Permit Holder shall report to the Chief Engineer annually the amount of water withdrawn from the Big Sioux:Aurora aquifer.

See report on application for additional information.

Jeanne Goodman, Chief Engineer  
May 27, 2015

**REPORT TO THE CHIEF ENGINEER**  
**WATER PERMIT APPLICATION NO. 8146-3**  
**Brookings Economic Development Agricultural Technology Center**  
**C/O Al Heuton**  
**May 8, 2015**

Water Permit Application No. 8146-3 proposes to appropriate water from the Aurora Management Unit of the Big Sioux aquifer at 0.19 cubic feet per second. Water will be diverted from a single existing well located within the Brookings City Limits in Brookings County in the SE ¼ SE ¼ of Section 30, T110N-R49W and completed to a depth of 27 feet. This water is to be used for industrial purposes at an aquaculture research facility.

**AQUIFER: Aurora Management Unit of the Big Sioux aquifer.**

**GEOLOGY AND AQUIFER CHARACTERISTICS:**

The Big Sioux aquifer is an alluvium mantled outwash consisting of silt and fine to coarse sand and gravel that is generally under unconfined conditions near the Big Sioux River but can be confined elsewhere. The aquifer is hydraulically connected to the Big Sioux River and water in the aquifer generally moves from north to south and locally towards the Big Sioux River (Hamilton, 1989). The Aurora Management Unit of the Big Sioux aquifer underlies approximately 83,000 acres in Brookings and Moody Counties in South Dakota and Lincoln and Pipestone Counties in Minnesota. In the center of T109N-R47W, groundwater flow in the aquifer divides: flowing west-northwest in the northern portion and flowing southwest in the southern portion, essentially creating subunits of the Aurora management unit. The northern subunit, where this application proposes to divert water, underlies approximately 63,000 acres all in Brookings County (Buhler, 2012).

In Brookings and Kingsbury Counties the Big Sioux aquifer has an average thickness of 30 feet and, where present, is encountered at depths ranging from ground surface to 212 feet with the depth to water ranging from zero to 120 feet below ground surface (Hamilton, 1989). The well log submitted with this application shows the aquifer to be present at six feet to at least 30 feet below ground surface with a static water level of approximately eight feet below ground surface.

**SDCL 46-2A-9:**

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is a reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report will address the availability of unappropriated water and existing rights from the aquifer that are pertinent to this application.

**WATER AVAILABILITY:**

The probability of unappropriated water available from an aquifer can be evaluated by considering SDCL 46-6-3.1, which requires "No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average

estimated annual recharge of water to the groundwater source.” If the source of the water is older or lower than the Greenhorn Formation and a public water system has applied for a permit, the Board need not consider the recharge/withdrawal issue. Here, a public water system is not involved. Therefore, the withdrawal/recharge issue must be considered.

In applying SDCL 46-6-3.1, the Sixth Judicial Circuit Court ruled in 2005 that if the Water Management Board uses average annual recharge, then it should also use average annual withdrawals to determine if unappropriated water is available from the aquifer (*Hines v. South Dakota Dept. of Environ. and Nat'l. Resources, Hughes County 04-37*) (Memorandum Decision, April 29, 2005).

A 2012 First Judicial Circuit Court’s rulings basically stated that data must be presented to show it is probable the average annual recharge exceeds the average annual discharge by at least the amount requested by the water permit application being considered (*Hanson County Dairy v. Robert Bender and Stace Nelson*) (Memorandum Decision, April 11, 2012).

Later in 2012, the First Judicial Circuit Court stated that in deciding whether or not it is probable that the quantity of water withdrawn will exceed the quantity of the average estimated annual recharge is to be based according to the best information reasonably available, and that nothing in South Dakota law requires a recharge study (*Longview Farms, LLP v. South Dakota Dept. of Environ. and Nat'l. Resources*), (Memorandum Decision, May 17, 2012).

### **Hydrologic Budget:**

#### *Recharge:*

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

Hedges and others (1985) determined the average recharge to the entire Big Sioux aquifer system by base flow analysis to be 6.5 inches per year (in/yr). Koch (1980) estimated average recharge to the Big Sioux aquifer in Brookings, Deuel, and Hamlin Counties by modeling to be 6.57 in/yr in the unconfined portions. Hansen (1988) estimated recharge to the Big Sioux aquifer in Moody County by modeling to be on average 4.85 in/yr. Hedges and others (1985) estimated recharge specifically of the Aurora management unit by observation well analysis to be 5.0 in/yr. For the purpose of this report the last recharge estimate of 5.0 in/yr (Hedges et al., 1985) will be used because of its focus on the Aurora Management Unit. However, it is likely that increased pumping will induce recharge from the Big Sioux River (Koch, 1980).

Given a recharge rate of 5.0 in/yr for the Aurora Management Unit (Hedges et al., 1985) and an area of 63,000 acres for the northern subunit, recharge to this subunit was calculated to be 26,250 ac-ft/yr.

#### *Discharge:*

Discharge from the Big Sioux: Aurora aquifer occurs through evapotranspiration in areas where the aquifer is at or near land surface, outflow to streams during dry years, and well withdrawals. There are 62 water rights and permits appropriating water for irrigation use, 10 for industrial,

municipal, rural water, and commercial, and one future use permit reserving water from the northern subunit of the Big Sioux: Aurora aquifer (Water Rights, 2015b).

Non-irrigation water rights/permits that do not report annual use currently authorize a total maximum diversion rate of 2.96 cfs. The City of Brookings reports an annual average use for the past 10 years of 2,036 ac-ft/yr (Water Rights, 2015b). Water Permit No. 7167-3 and Water Right No. 6325-3 also report annual usage which averages 16.4 and 1,208.8 ac-ft/yr over the time that they've been reporting, respectively. Future Use Permit No. 1598-3 for the City of Brookings currently reserves 2,426 ac-ft/yr. The City of Aurora no longer regularly uses their water system and instead relies on Brookings Municipal Utilities. However, the City of Aurora maintains Water Right No. 1952-3 for standby (Water Rights, 2015b).

The amount of water that can be expected to be withdrawn by non-irrigation water rights/permits is estimated by assuming the maximum diversion rate is pumped 60 percent of the time. Making this assumption, the annual volume pumped by non-irrigation, non-reporting users was calculated to be 1,284 ac-ft. Assuming that future use permits will be fully developed and that average use is representative of expected future use, the amount of water expected to be pumped from the Big Sioux: Aurora aquifer by non-irrigation sources is estimated to be 6,971.2 ac-ft/yr (Water Rights, 2015b).

Although there are numerous domestic wells on file, their relatively small withdrawals compared to water rights/permits in the area renders them an insignificant part of the overall water budget meaning they are not taken into consideration when estimating overall usage.

Historic withdrawals for irrigation from the Northern Subunit of the Big Sioux: Aurora aquifer during the period of record are shown below in Table 1. Average water use over this time period is 2,420.8 ac-ft/yr with a minimum of 227.1 ac-ft/yr and a maximum of 4,593.5 ac-ft/yr. This wide range of annual use can be attributed primarily to varying climatic conditions. Expected use is assumed to be equal to average use.

In an email sent to the Water Rights Program from Dennis Harstad of the Brookings Economic Development Agricultural Technology Center on May 26, 2015, it was stated that the diversion rate under Water Permit No. 8146-3 will average 30 gpm, continuously. This diversion rate equates to 48.4 ac-ft/yr. Therefore, annual usage is not expected to exceed 48.4 ac-ft.

#### *Hydrologic Budget:*

The sum of the average or expected use from all water permits/rights appropriating water from the North Subunit Big Sioux: Aurora aquifer is estimated to be 9,392 ac-ft/yr. Comparing this rate to the estimated annual recharge of 26,250 ac-ft/yr shows unappropriated water is available from the aquifer for the proposed use.

| Year       | Number of Irrigation | Total Irrigation | Usage From North |
|------------|----------------------|------------------|------------------|
| 1979       | 34                   | 15830.00         | 1068.86          |
| 1980       | 35                   | 16142.00         | 1261.33          |
| 1981       | 44                   | 19356.00         | 2875.07          |
| 1982       | 44                   | 19933.00         | 1585.08          |
| 1983       | 45                   | 20245.00         | 2205.22          |
| 1984       | 45                   | 19834.00         | 1685.89          |
| 1985       | 45                   | 19834.00         | 3282.64          |
| 1986       | 45                   | 19834.00         | 1523.00          |
| 1987       | 45                   | 19834.00         | 2734.20          |
| 1988       | 45                   | 19782.00         | 4593.50          |
| 1989       | 46                   | 19810.00         | 3248.93          |
| 1990       | 39                   | 15396.00         | 2346.50          |
| 1991       | 40                   | 15465.00         | 1286.44          |
| 1992       | 40                   | 15465.00         | 660.16           |
| 1993       | 40                   | 15465.00         | 227.10           |
| 1994       | 39                   | 15566.00         | 1790.85          |
| 1995       | 38                   | 15524.00         | 250.10           |
| 1996       | 37                   | 15224.00         | 1995.45          |
| 1997       | 37                   | 15226.00         | 2932.79          |
| 1998       | 37                   | 15226.00         | 3543.97          |
| 1999       | 37                   | 15226.00         | 2407.85          |
| 2000       | 37                   | 15226.00         | 2992.18          |
| 2001       | 37                   | 15226.00         | 2812.14          |
| 2002       | 37                   | 14976.00         | 3120.50          |
| 2003       | 36                   | 14502.00         | 3175.96          |
| 2004       | 35                   | 14364.00         | 2695.57          |
| 2005       | 35                   | 14364.00         | 2312.50          |
| 2006       | 35                   | 14364.50         | 2829.95          |
| 2007       | 35                   | 14364.50         | 3221.37          |
| 2008       | 38                   | 15062.50         | 3732.33          |
| 2009       | 38                   | 15086.00         | 3431.34          |
| 2010       | 39                   | 15366.00         | 536.97           |
| 2011       | 38                   | 14930.00         | 2487.42          |
| 2012       | 38                   | 14930.00         | 4274.18          |
| 2013       | 42                   | 15772.00         | 3984.75          |
| 2014       | 43                   | 15782.00         | 2037.98          |
| <b>MIN</b> | <b>34</b>            | <b>14364.00</b>  | <b>227.10</b>    |
| <b>MAX</b> | <b>46</b>            | <b>20245.00</b>  | <b>4593.50</b>   |
| <b>AVE</b> | <b>39</b>            | <b>16348.13</b>  | <b>2420.83</b>   |

Table 1: Historic irrigation water use in the North and South Subunits of the Big Sioux: Aurora aquifer (Water Rights, 1980-2015).

### 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 and 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 DENR-Water Rights Program monitors 15 observation wells in the Aurora Management Unit of the Big Sioux aquifer, 14 of which are in the Northern Subunit. Of these wells, Observation Well BG-79D is the closest to the proposed well site proposed in Water Permit Application No. 8146-3 at approximately 1.5 miles to the northeast. The hydrograph for Observation Well BG-79D shows up to six feet of seasonal drawdown with full annual recovery along with limited climatic variation. The majority of observation wells completed into the Big Sioux: Aurora appear to have similar conditions with seasonal drawdown visible in most hydrographs along with a full annual recovery and some visible climatic variation. The strong recovery evident in those hydrographs that experience seasonal drawdown as a result of pumping, regardless of the magnitude of that drawdown, may be an indication that induced recharge is occurring (see Figure 1), as suggested by Koch (1980). Those hydrographs in which the effects of pumping are not readily visible, such as Observation Well BG-89A (located three miles to the east of the proposed well site), appear to be primarily climatically controlled with water levels rising in wet years and declining in dry years (see Figure 2).

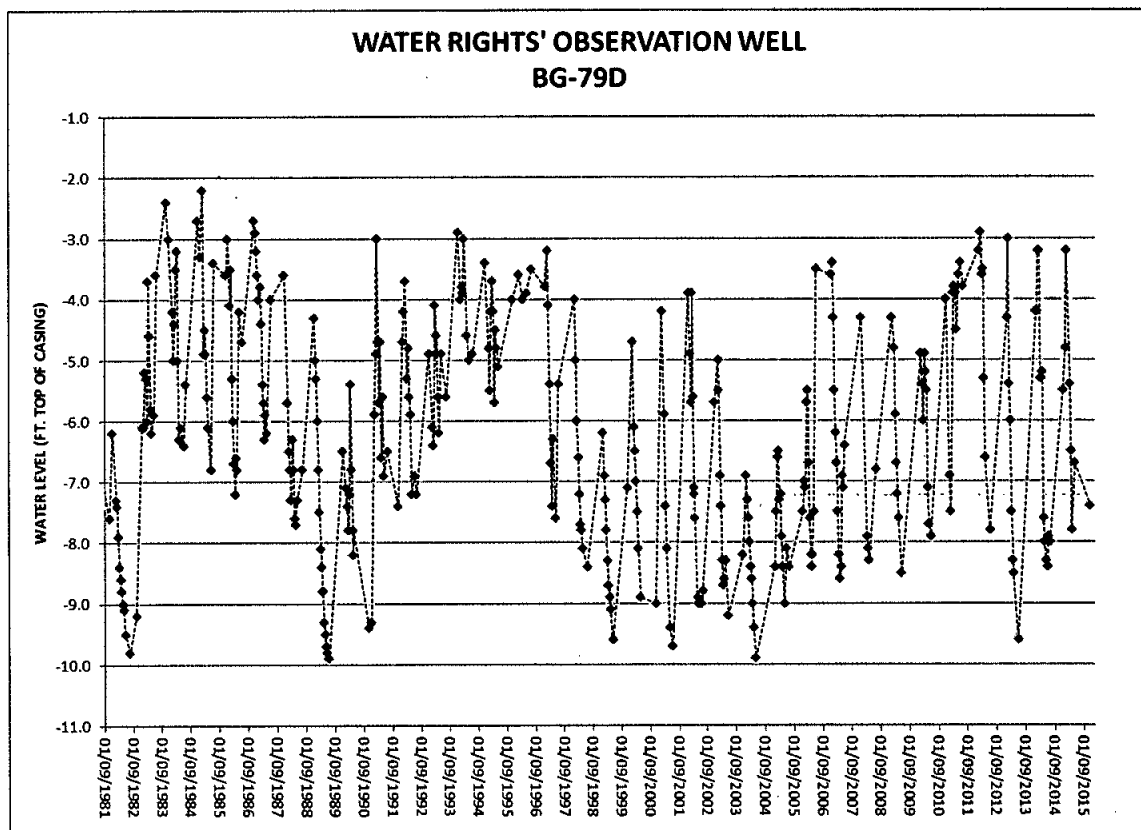


Figure 1: Historic water levels in Observation Well BG-79D (Water Rights, 2015a).

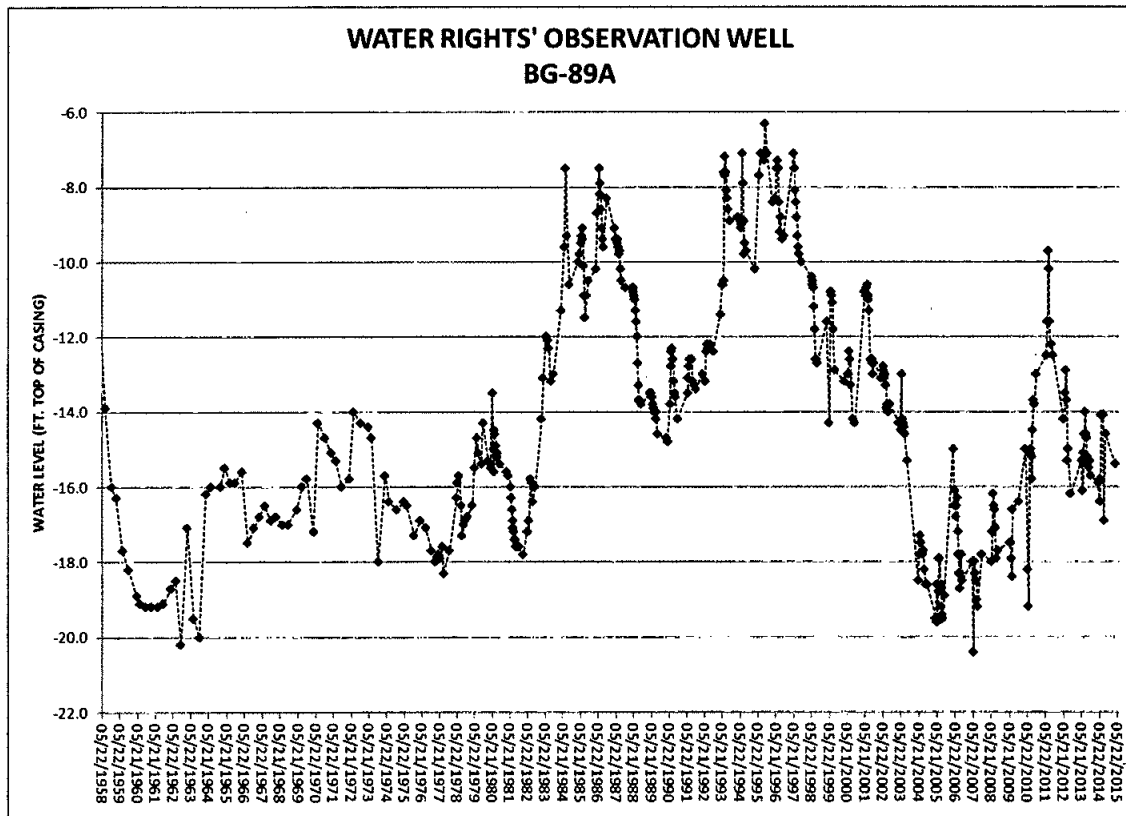


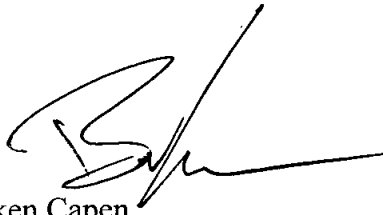
Figure 2: Historic water levels in Observation Well BG-89A (Water Rights, 2015a).

### EXISTING WATER RIGHTS:

Currently, there are currently 72 water permits/rights appropriating water from the Big Sioux: Aurora aquifer (Water Rights, 2015b) in addition to one future use permit held by the City of Brookings. Of these, the closest is Water Right No. 3979-3, located approximately 1,500 feet to the southeast of the existing well site. Although water usage will likely be less, it is assuming the applicant will pump at the proposed 0.19 cfs. With unconfined conditions in the area, a transmissivity of approximately 15,000 gallons per day per foot (calculated from well logs obtained from Brookings Economic Development Center) and an assumed storativity value of 0.075, the drawdown at 1,500 feet from the proposed well (the distance to the nearest well) as a result of pumping at the proposed rate continuously for 180 days was calculated to be approximately one foot. Assuming adequate construction of nearby wells, this level of drawdown is not expected to impair existing water rights or domestic wells.

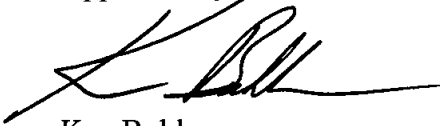
### CONCLUSIONS:

1. Water Permit Application No. 8146-3 proposes to withdraw groundwater from one well completed into the Big Sioux: Aurora aquifer in Section 30, T110N-R49W for industrial use.
2. Water Permit Application No. 8146-3 proposes to pump water at a maximum rate of 0.19 cfs.
3. There is a reasonable probability that unappropriated water is available from the Big Sioux: Aurora aquifer to supply the proposed appropriation.
4. The division rate is not expected to adversely impair nearby adequate wells.
5. Annual usage is not expected to exceed 48.4 ac-ft.



Bracken Capen  
SD DENR-Water Rights Program

Approved by,



Ken Buhler  
SD DENR-Water Rights Program

**REFERENCES:**

- Buhler, K. 2012. Report on Water Permit Application Nos. 7392-3 and 7393-3 for Lincoln Pipestone Rural Water: SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Hamilton, L.J. 1989. Water Resources of Brookings and Kingsbury Counties, South Dakota. Water-Resources Investigations Report 88-4185, 82 p. USGS, Huron, South Dakota.
- Hansen, H.S. 1988. Appraisal of the Water Resources of the Big Sioux Aquifer, Moody County, South Dakota. Water-Resources Investigations Report 87-4057. USGS, Huron, South Dakota.
- Hedges, L.S., Allen, J., and Holly, D.E. 1985. Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa. Task 7: Ground Water Recharge. U.S. Army Corps of Engineers Contract DACW 45-80-C-0185.
- Koch, N.C., 1980, Appraisal of the Water Resources of the Big Sioux Aquifer, Brookings, Deuel, and Hamlin Counties, South Dakota: U.S. Geological Survey Water-Resources Investigations 80-100, 46 p.
- In the Matter of Water Permit Application No. 7209-3, Longview Farms, LLP v. South Dakota DENR, South Dakota First Judicial Court Civ. No. 11-146 (Memorandum Decision, May 17, 2012).
- In the Matter of Water Permit Application No. 7239-3, Hanson County Dairy v. Robert Bender and Stace Nelson, South Dakota First Judicial Court Civ. No. 11-54 (Memorandum Decision, April 11, 2012).
- In the Matter of Water Permit Application No. 6431-3, Phillip W. Hines v. South Dakota DENR, South Dakota Sixth Judicial Court Civ. No. HU04-37 (Memorandum Decision, April 11, 2012).
- Water Rights. 1990-2015. "Annual Irrigation Summary by Aquifer": SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2015a. Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2015b. Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.
- Water Rights. 2015c. Water Well Completion Reports, SD DENR-Water Rights Program, Joe Foss Bldg., Pierre, South Dakota.

RECEIVED

Affidavit of Publication

JUN 19 2015

10/

State of South Dakota

ss WATER RIGHTS PROGRAM

County of Brookings

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

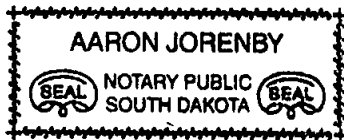
Leg#797 Application 8146-3

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

June 4, 2015

said Exhibit "A" inures to the sole benefit for the publishers of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are:

Twenty-five dollars and thirteen cents \$25.13



5th day

June

2015

Notary Public in and for the County of Brookings, South Dakota. My Commission expires February 22, 2020.

Legal 797, 1x, 6/4  
NOTICE OF APPLICATION NO. 8146-3 to  
Appropriate Water  
Notice is given that Brookings Economic Development Agricultural Technology Center, c/o Al Heuton, Executive Director, 414 Main Ave, Brookings, SD 57006 has filed an application to appropriate 0.19 cubic feet of water per second (48.4 acre feet of water annually) from one well completed into the Big Sioux: Aurora Aquifer (27 feet deep) located in the SE 1/4 SE 1/4 (Telkamp Industrial Addition, Lot 3B Block 5) Section 30-T110N-R49W for industrial use at an aquaculture research facility. Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8146.3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition. Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by May 26, 2015.

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. Information concerning this application is available at <http://denr.sd.gov/public>. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published once at the total approximate cost of \$25.13.

Should have been June 15, 2015

Instruction to Newspaper - Publish the Notice on June 4, 2015. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

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NOTICE OF APPLICATION NO. 8146-3 to Appropriate Water

Notice is given that Brookings Economic Development Agricultural Technology Center, c/o Al Heuton, Executive Director, 414 Main Ave, Brookings SD 57006 has filed an application for a water permit to appropriate 0.19 cubic feet of water per second (48.4 acre feet of water annually) from one well completed into the Big Sioux:Aurora Aquifer (27 feet deep) located in the SE 1/4 SE 1/4 (Telkamp Industrial Addition, Lot 3B Block 5) Section 30-T110N-R49W for industrial use at an aquaculture research facility.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8146-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 15, 2015.

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. Information concerning this application is available at <http://denr.sd.gov/public>. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of \_\_\_\_\_.



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

[denr.sd.gov](http://denr.sd.gov)

May 28, 2015

Brookings Register  
PO Box 177  
Brookings SD 57006

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 8146-3 to Appropriate Water. Please publish the notice once on June 4, 2015. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published and arrange for payment. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Brookings Economic Development Agricultural Technology Center, c/o Al Heuton, Executive Director, 414 Main Ave, Brookings SD 57006 (Ph # 605-697-8103) or Dennis Harstad, Prairie Aqua Tech, 705 32<sup>nd</sup> Avenue South, Brookings SD 57006 (Ph # 605 430-1496).

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

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

Sincerely,

Eric Gronlund  
Natural Resources Engineer  
605 773-3352

enclosures



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

denr.sd.gov

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

May 28, 2015

Brookings Economic Development Agricultural Technology Center  
Al Heuton, Executive Director  
414 Main Ave  
Brookings SD 57006

Dear Mr. Heuton:

Water Permit Application No. 8146-3 for industrial use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Brookings Register printed at Brookings SD (Ph # 605-692-6271). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper(s) to authorize publication of your Notice and to arrange for payment. Early contact with the paper(s) can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund  
Natural Resources Engineer  
(605) 773-3352

enclosures

cc: Dennis Harstad, General Manager, Prairie Aqua Tech, 705 32<sup>nd</sup> Ave S, Brookings SD 57006

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.

RECEIVED

Affidavit of Publication

JUL 09 2015

10/

State of South Dakota

ss

WATER RIGHTS  
PROGRAM

Exhibit "A"

County of Brookings

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

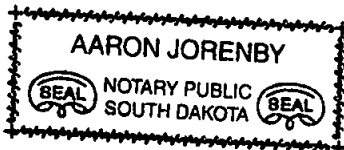
Leg#797 Application 8146-3

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

June 25, 2015

said Exhibit "A" inures to the sole benefit for the publishers of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are:

Twenty-five dollars and thirteen cents \$25.13



June

26 day of

2015

Notary Public in and for the County of Brookings, South Dakota.  
My Commission expires February 22, 2020.

Legal 797, 1x, 6/25  
NOTICE OF APPLICA-  
TION NO. 8146-3 to  
Appropriate Water  
Notice is given that  
Brookings Economic  
Development  
Agricultural Technology  
Center, c/o Al Heuton,  
Executive Director, 414  
Main Ave, Brookings SD  
57006 has filed an  
application for a water  
permit to appropriate  
0.19 cubic feet of water  
per second (48.4 acre  
feet of water annually)  
from one well complet-  
ed into the Big  
Sioux/Aurora Aquifer  
(27 feet deep) located in  
the SE 1/4 SE 1/4  
(Telkamp Industrial  
Addition, Lot 3B Block  
5) Section 30-T110N-  
R49W for industrial use  
at an aquaculture  
research facility.  
Pursuant to SDCL 46-  
2A-2, the Chief  
Engineer recommends  
APPROVAL of  
Application No. 8146-3  
because 1) unappropri-  
ated water is available,  
2) existing rights will not  
be unlawfully impaired,  
3) it is a beneficial use  
of water, and 4) it is in  
the public interest. In  
accordance with SDCL  
46-2A-23, the Chief  
Engineer will act on this  
application, as recom-  
mended, unless a peti-  
tion is filed opposing the  
application or the appli-  
cant files a petition con-

testing the Chief  
Engineer's recommen-  
dation. If a petition  
opposing the applica-  
tion or contesting the  
recommendation is  
filed, then a hearing will  
be scheduled and the  
Water Management  
Board will consider this  
application. Notice of  
the hearing will be given  
to the applicant and any  
person filing a petition.  
Any person interested  
in opposing or support-  
ing 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 recom-  
mendation. The Chief  
Engineer's address is  
"Water Rights Program,  
Foss Building, 523 E  
Capitol, Pierre SD  
57501 (605 773-3352)"  
and the applicant's mail-  
ing address is given  
above. A petition filed  
by either an interested  
person or the applicant  
must be filed by July 6,  
2015.  
The petition may be  
informal, but must  
include a statement  
describing the peti-  
tioner's interest in the ap-  
plication, the petitioner's  
reasons for opposing or  
supporting the applica-  
tion, and the signature  
and mailing address of  
the petitioner or the  
petitioner's legal coun-  
sel, if legal counsel is  
obtained. Information  
concerning this applica-  
tion is available at  
[http://denr.sd.gov/pub-  
lic](http://denr.sd.gov/pub-<br/>lic). Contact Eric  
Gronlund at the above  
Water Rights Program  
address to request  
copies of information  
pertaining to this appli-  
cation. Steven M.  
Pirner, Secretary,  
Department of  
Environment and  
Natural Resources.  
Published once at the  
total approximate cost  
of \$25.13.

## Schlaak, Karen

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**From:** Schlaak, Karen  
**Sent:** Tuesday, June 23, 2015 9:09 AM  
**To:** registerclassifieds (registerclassifieds@brookingsregister.com)  
**Subject:** Notice for 8146-3  
**Attachments:** 8146-3public.short.docx

Aaron,

Attached is the file that we talked about this morning that needs to be published again for Brookings Economic Development Ag Technology Center to correct an error. Please publish this notice on June 25 and send us the affidavit ASAP.

If you have questions, please let me know.

Thanks,

*Karen Schlaak*

Water Rights Program  
523 E Capitol Ave  
Pierre SD 57501  
Phone: 605 773-3352

**Schlaak, Karen**

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**From:** Schlaak, Karen  
**Sent:** Tuesday, June 23, 2015 9:44 AM  
**To:** Dennis Harstad (dennis@prairieaquatech.com)  
**Cc:** Al Heuton (al@brookingsedc.com)  
**Subject:** Public Notice for Application No. 8146-3  
**Attachments:** DOC062315-06232015091649.pdf; 8146-3public.short.docx

Attached is the affidavit we received from the Brookings Register for the Notice of Application No. 8146-3, Brookings Economic Development As Technology Center which was published on June 4th. The notice was published with an error as noted on the attached copy of the affidavit.

I have contacted Aaron at the Brookings Register and the notice will be published again on June 25th with a correct date. That notice is also attached. The public will now have until July 6, 2015 to file petitions.

If you have questions, please let me know.

Karen Schlaak  
Water Rights Program  
523 E Capitol Ave  
Pierre SD 57501  
Phone: 605 773-3352

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NOTICE OF APPLICATION NO. 8146-3 to Appropriate Water

Notice is given that Brookings Economic Development Agricultural Technology Center, c/o Al Heuton, Executive Director, 414 Main Ave, Brookings SD 57006 has filed an application for a water permit to appropriate 0.19 cubic feet of water per second (48.4 acre feet of water annually) from one well completed into the Big Sioux:Aurora Aquifer (27 feet deep) located in the SE 1/4 SE 1/4 (Telkamp Industrial Addition, Lot 3B Block 5) Section 30-T110N-R49W for industrial use at an aquaculture research facility.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 8146-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on this application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by July 6, 2015.

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. Information concerning this application is available at <http://denr.sd.gov/public>. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of\_\_\_\_\_.



DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES

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

denr.sd.gov

AUG 04 2015

Brookings Economic Dev Agricultural Technology Center  
414 Main Ave  
Brookings SD 57006

Dear Sir:

Enclosed is Water Permit No. 8146-3 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,

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

enclosures

AUG 17 2015

WATER RIGHTS  
PROGRAM

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

Date 8-11-15

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

FROM: BROOKINGS ECONOMIC DEVELOPMENT CORP. - AL HEUTON  
(name)  
2301 RESEARCH PARK WAY, STE 113  
(address)  
BROOKINGS, SD 57006 605-697-9103  
(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.

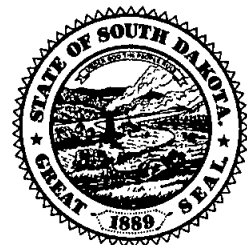
Water Permit No. 8146-3 states that the water use system is to be constructed by  
JULY 6, 2020, and water is to be put to beneficial use by JULY 6, 2024.  
(date) (date)

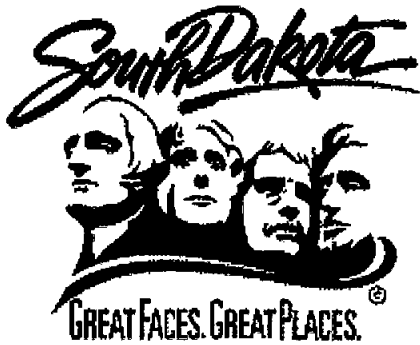
The water use system was completed on AUGUST 7, 2015.  
(date)

Applying the water to beneficial use was completed on AUGUST 7, 2015.  
(date)

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

Al Heuton  
(signature)





**DEPARTMENT of ENVIRONMENT  
and NATURAL RESOURCES**

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

August 25, 2015

8146-3

Al Heuton  
Brookings Economic Development Corp  
2301 Research Park Way Ste 113  
Brookings SD 57006

RE: Aquaculture Research Facility

Dear Mr. Heuton:

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 the water use system authorized under Water Permit No. 8146-3.

The system is now ready for inspection. Inspections are done on a county-by-county basis as staff time permits. You have done everything you need to do and the intervening time between the completion of the project and the staff inspection has no bearing on the water permit.

Someone from our office will contact you prior to the inspection to set up a time that is convenient for you. If you have any questions, please contact me.

Sincerely,

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

Note: Based on the completion of works form, I have changed our records to reflect the corporation's new mailing address.

## Report of Examination of Works and/or Application of Water to Beneficial Use For Permit No. 8146-3

I have this day, May 14, 2021, made a thorough examination of the water use system constructed by Brookings Economic Development Agr Tech Center, 2301 Research Park Way, Ste 13, Brookings, SD 57006 of Permit No. 8146-3, bearing the priority of March 31, 2015 authorizing the diversion of 0.19 cu. ft. per second of the waters of Big Sioux: Aurora Aquifer for industrial purposes, in Brookings County.

### A. Works used to divert the water:

#### Well Information:

- 1) Well Drilling Firm: Kaiser Well Drilling, Inc
- 2) No. of Wells 1
- 3) Depth(s) 27 feet
- 4) Well log is available Y

#### Casing:

- 1) Diameter 12 inches
- 2) Length 22 feet
- 3) Type Plastic

#### Screen:

- 1) Type Manufactured
- 2) Length 5 feet
- 3) Static water level 8 feet

#### Pump:

- 1) Make NA
- 2) Model Submersible
- 3) Size NA
- 4) Capacity NA GPM

### D. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Y

### E. Condition and Location:

1. The point(s) of diversion located as follows: From the SE corner of Sec 30 T110N-R49W 280 ft N & 1100 ft W (SE ¼ SE ¼, Sec 30) Lat 44.29757 Long -96.75241

2. All structures, wells and lands on map Y

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

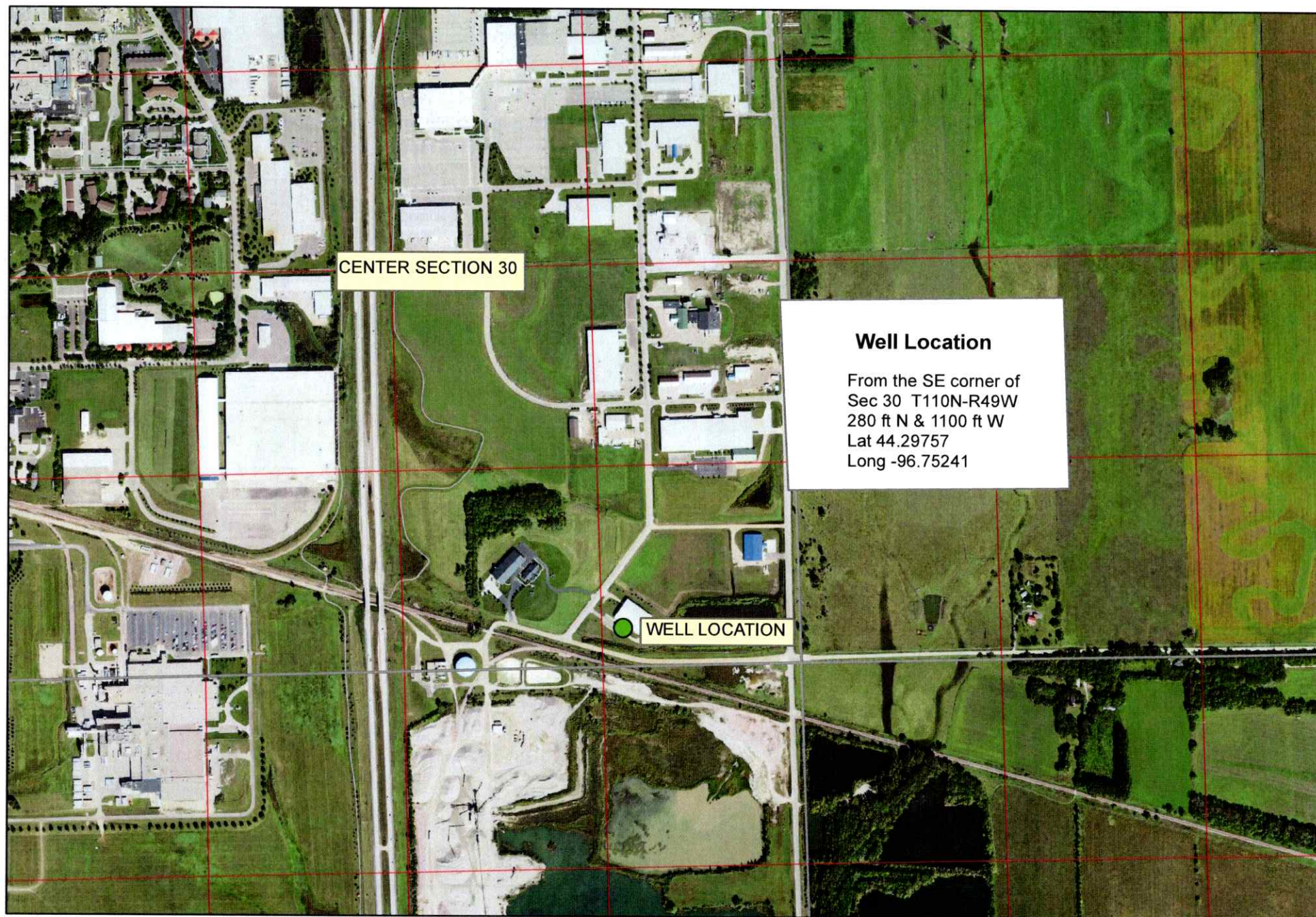
**Mr. Luke Fredrickson, Aquaculture Manager, told this Inspector he estimated the aquaculture system to be using about 15 gal/min (0.033 cfs) for research studies dealing with feedstock nutrient and related fish growth.**



---

Darrell W DeBoer  
Water Rights Inspector  
DANR, Water Rights Program

Date report completed: May 17, 2021



CENTER SECTION 30

### Well Location

From the SE corner of  
Sec 30 T110N-R49W  
280 ft N & 1100 ft W  
Lat 44.29757  
Long -96.75241

WELL LOCATION



0 0.1 0.2 0.4 0.6 0.8 Miles



Darrell DeBoer  
Water Right Inspector  
DANR-Water Rights Program



**DEPARTMENT of AGRICULTURE  
and NATURAL RESOURCES**

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

**MAY 20 2021**

8146-3

Al Heuton  
Brookings Economic Dev Ag Technology Center  
2301 Research Park Way, Ste 13  
Brookings SD 57006

Dear Mr. Heuton:

Enclosed is Water License No. 8146-3. 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

enclosures

**STATE OF SOUTH DAKOTA**  
**WATER LICENSE NO. 8146-3**

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(1) Brookings Economic Development Agricultural Technology Center, 2301 Research Park Way, Ste 13, Brookings SD 57006 made Application No. 8146-3, March 26, 2015 for a water permit to divert 0.19 cubic feet of water per second from ground water, one well (Big Sioux Aurora Aquifer), Brookings County, South Dakota for industrial use purposes. Permit No. 8146-3, with a priority date of March 26, 2015 was approved July 6, 2015 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 6, 2020 and for the application to beneficial use of water on or before July 6, 2024.

The Permit holder submitted a "Notice of Completion of Works and Application of Water to Beneficial Use" on August 17, 2015. The "Notice" indicated the water use system was completed and the water placed to beneficial use on August 7, 2015.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the water supply system and is entitled to divert 0.033 cubic feet of water per second for beneficial use. The location of the diversion point is as follows:

- 280' N and 1,100' W of the SE corner of Section 30, T110N, R49W (SE ¼ SE ¼ Section 30)  
Latitude 44.29757 Longitude -96.75241

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use at the aquaculture research facility.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Brookings Economic Development Agricultural Technology Center, 2301 Research Park Way, Ste 13, Brookings SD 57006 the holder and/or owner of Water Right No. 8146-3 is issued a license to appropriate water, the right to use 0.033 cubic feet of water per second (23.9 acre feet annually) from ground water, one well (Big Sioux Aurora Aquifer) with a priority date of March 26, 2015 from the location specified in (2) of this license for industrial purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 8146-3 and subject to the following qualifications:

- The well approved under this water right will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this water right shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The well authorized by Permit No. 8146-3 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. ***Th well was drilled in September 2014 by Kaiser Well Drilling Inc. A copy of the well completion report is on file with the Water Rights Program.***

continued

- Water Right No. 8146-3 authorizes a total annual diversion of 23.9 acre feet of water. *The annual volume of water authorized was reduced from the permitted authorization of 48.4 acre feet to reflect what was developed.*
- The water right holder shall report to the Chief Engineer annually the amount of water withdrawn from the Big Sioux Aurora Aquifer.

*Eric Gronlund*

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

*MAY 20 2021*

date

