

WATER PERMIT NO. 2779-2

Name of Applicant: **Black Hills Raptor Center Inc., Leon & Cheryl Fenhaus**

Address: **15227 Caputa Loop, Rapid City SD 57703** Phone: **605 390-2335**

Amount of Water Claimed: **0.078 cfs** Total Acres: **NA**

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

Water to be used for: **institutional** County: **Pennington**

Type of Waste Disposal System:

Location: **9 miles southeast of Rapid City**

PRIORITY Date Received: **1-8-2018** Application/License Fee: **\$ 300**

Corrected Application Received: Period of Annual Use: **January 1 – December 31**

Remarks:

Diversion Point: **NW 1/4 SE 1/4 Sec 35-T1N-R9E**

Land to be Irrigated: **NA**

Depth of Well: **51 feet deep**

Well Driller: **B & B Foundation Service Inc.**

Remarks:

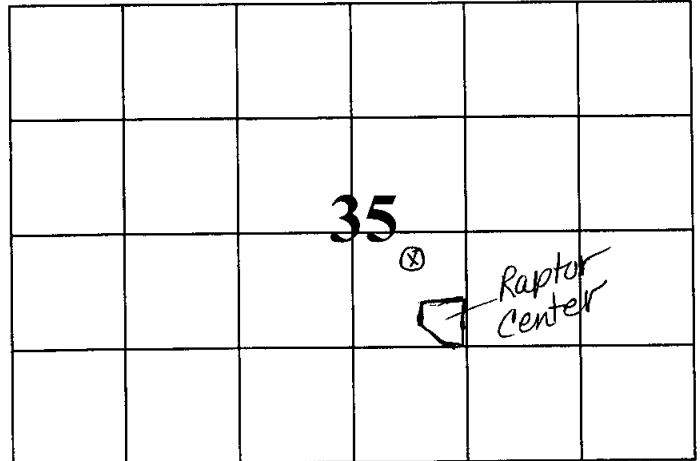
Type of Map: **aerial**

Prepared by:

Reviewed and the Number Assigned on: **1-8-18**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



Mail to: DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. <u>2779-2</u> (office use only) Hydrologic Unit <u>10120110</u>
	Basin <u>Upper Cheyenne</u>
	Newspaper <u>Rapid City Journal</u>

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JAN 08 2018

WATER RIGHTS
PROGRAM**Application For Permit To Appropriate Water Within The State Of South Dakota****Check use(s) of water:**

☐ Municipal	☐ Water Distribution System	☐ Recreational	☐ Institutional
☐ Rural Water System	☐ Commercial	☐ Fish & Wildlife	☐ Geothermal
☒ Domestic (over 18 gpm)	☐ Industrial	☒ Other Raptor Center	

Type of Application:
(check one)

☒ New	☐ Vested Right (Use predates Mar 2, 1955)	☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____		
☐ 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 Leon & Cheryl Fenhaus, and the Black Hills Raptor Center, Inc.Mailing Address 15227 Caputa Loop Rapid City SD 57703
(Address) (City) (State) (Zip Code)Phone (605) 719-9292 Mobile (605) 390-2335 Email l.fenhaus@aol.com2. Amount of water claimed 0.078 *CFS or 35 **GPM and ***AF or Gallons
Flow rate and volume are both required. (*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use)3. Source of water supply groundwater4. Location of point of diversion NW 1/4 of SE 1/4 of Sec 35, T1N R9E County Pennington
(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 ☒ NoIf "Yes," where will water be used? water used: NW 1/4 SE 1/4 Sec 35 - T1N-R9E
(example - NW1/4 section 12-T104N-R53W)5. County or counties where water will be used Pennington6. Annual period during which water is to be used Jan 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 subject well is currently used for domestic consumption by the Fenhaus family. The Black Hills Raptor Center (BHRC) has purchased 5 acres of ground from the Fenhaus', and will pay a water tap fee to them for the privilege of using their well to be our water source. The BHRC is a non-profit organization that cares for non-releasable birds of prey (raptors), using them for education, and also rehabilitates sick and injured raptors with the intent of returning them to the wild. This facility will become a limited basis public facility, where guests can view birds, take part in educational programs, & assist in scientific research. (more)

I, Maggie Engler

Name of Person

President of the Board

Title (if applicable)

, the applicant, certify under

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.

SOUTH DAKOTA
WATER PERMIT NO. 2779-2

Date of first receipt of application January 8, 2018.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2779-2 to Leon & Cheryl Fenhaus and the Black Hills Raptor Center, 15227 Caputa Loop, Rapid City SD 57703 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. 2779-2 appropriates 2.0 acre-feet of water annually at a maximum diversion rate of 0.078 cubic feet of water per second (35 gallons per minute) from one well completed into the Quaternary Alluvium Aquifer (51 feet deep) located in the NW 1/4 SE 1/4 Section 35 for use at the Black Hills Raptor Center located in the NW 1/4 SE 1/4 Section 35; all in T1N-R9E. The raptor center will be located approximately 9 miles southeast of Rapid City SD.
2. The water appropriated shall be used for the purpose of domestic and institutional use 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. 2779-2 is April 2, 2018.
5. The date from which applicant may claim right is January 8, 2018.
6. One-fifth of the construction is to be completed on or before October 2, 2020.
7. All construction is to be completed on or before April 2, 2023.
8. Water is to be put to beneficial use on or before April 2, 2027.
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 permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Quaternary Alluvium aquifer.
3. Water Permit No. 2779-2 authorizes a total annual diversion of 2.0 acre feet of water.

WATER MANAGEMENT BOARD

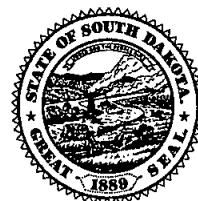
By: Jeanne Goodman
Jeanne Goodman, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

APR 09 2018

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 see well completion report

For either Existing or Proposed Wells:

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

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

2. Wastewater Disposal System Information

a) Type of System (i.e. septic tank, drain field) separate septic systems;

b) System Capacity (gallons) ____ Year Constructed 2017 2018

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)

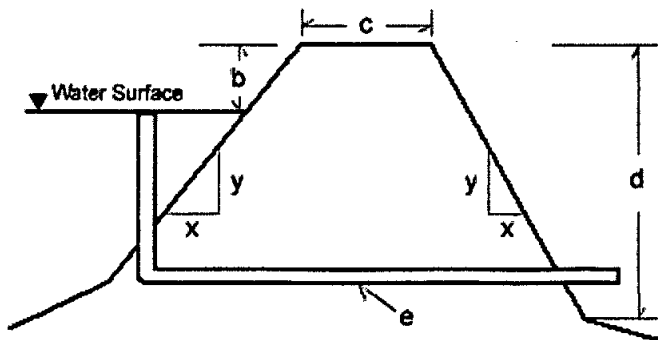
Upstream ____

Downstream ____

h) Surface Area of Impoundment ____

i) Storage ____ Acre Feet

j) Drainage Area Above Dam ____ Acres



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WATER RIGHTS
PROGRAM

Project Description continued
Water Permit Application for Non-Irrigation Use
Fenhaus and Black Hills Raptor Center

The term "limited basis" means that it will be by invitation only. The general public will not be able to drop by during daily posted hours.

The buildings that will be constructed on the 5 acres of land include those listed on the attached sheet.

We worked with a group of senior civil engineering students from the SDSMT to have them design a gray water recycling system. Our intent would be to use the recycled water to benefit our planned shelterbelts and public gardens. That document is included in the packet.

Civil engineer Ron Davis of Davis Engineering, has done the design on the septic and the layout of the buildings and drives.

Building sizes

Clinic building (The Hub)	3000 sq feet
Mews (70 x 16) group 1	1120 sq feet
Mews (70 x 16) group 2	1120 sq feet
Storage and hallway to the exterior of the mews	840 sq feet
cold storage (attached to the Hub)	1000 sq feet (40 x25)
heated storage/workshop (attached to the Hub & cold storage space)	500 sq feet (20 x25)
Rehab pods (3)	1600 sq feet (footings only; no slab except at entrance)
Oval rehab flight	6000 sq feet (pole barn construction)
Driveway and parking (graveled)	10,000 sq feet
Residence	1300 sq feet
Garage	576 sq feet (24x24)
Education Center	2000 sq feet

Dimensions taken from Prelim budget for BHRC facility by Jim Scull, 8/18/14

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NW SE Sec 35 Twp 1N Rg 9E

County

Pennington

North

Please mark well
location with an "X"

W

E

Well Completion Date

2/21/2008

1 Mile

Distance to nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)

? ft. from All Clear (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Auger Bucket

CASING DATA:

☐ Steel☒ Plastic☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	16.00 IN	2.0 FT	11.0 FT	36.00 IN
LB/FT	16.00 IN	11.0 FT	51.0 FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
bentonite		27.0 Lb/gal	8.0 Ft	6.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure

SCREEN:

☒ Perforated pipe☐ ManufacturedDiameter 16.00 inches Length 40.0 FeetMaterial Schedule 40 pvc water well casingSlot Size .020 Set From 11.0 Feet to 51.0 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?well chlorine☐ No, Why Not?Lab sample sent to for
water quality analysisWell Owner: Leon Fenhaus

Business Name:

Address: 1115 West BoulevardCity, State, Zip: Rapid City SD 57702

WELL LOG:

DEPTH

FORMATION	FROM	TO
Topsoil	0	1
Sandy/clay	1	14
Cobble	14	25
Tight Shale	25	51

STATIC WATER LEVEL 12.0 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: Repeated☒ Bailed☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

Approximately 35 gpm

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MAR 20 2008

WATER RIGHTS
PROGRAMThis well was drilled under license # 195

And this report is true and accurate.

Drilling firm: B&B Foundation Service, Inc

Signature of License Representative:

Samuel J. Bin

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Signature of Well Owner or Equitable Property Holder:

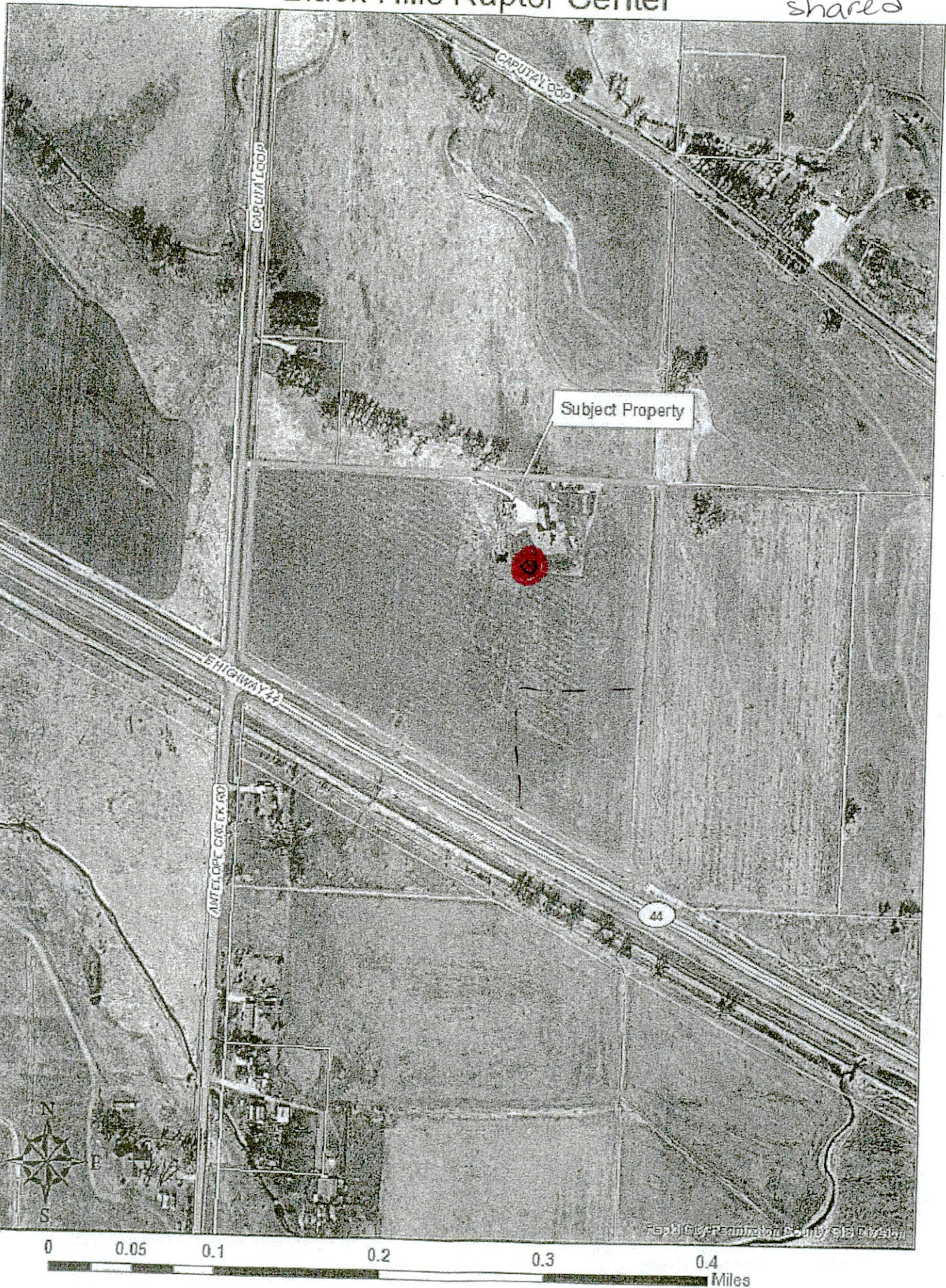
Leon Fenhaus

JAN 08 2018

WATER RIGHTS
PROGRAMDate: MARCH 19, 2008

Black Hills Raptor Center

location of
well to be
shared



Sec 27
T001N
R09E

Sec 26
T001N
R09E

Sec 25
T001N
R09E

Sec 34
T001N
R09E

Sec 35
T001N
R09E

Sec 36
T001N
R09E

Sec 2
T001S
R09E

Sec 1
T001S
R09E

Sec
T00
R10

Sec 11
T001S
R09E

Sec 12
T001S

Sec
T00

Black Hills Raptor Center Design Final Design Report



Raptor Squad Five
Engineering Design Consultants

South Dakota School of Mines and Technology

Fall 2016

EXECUTIVE SUMMARY

The Black Hills Raptor Center (BHRC) is a non-profit organization out of Rapid City, SD. Their mission is to protect native raptors through education and rehabilitation. Because the volunteers for the BHRC currently operate out of their own homes, they are in the process of building a new complex outside of Rapid City along Highway 44. This location is a five acre plot on Leon Fenhaus' property. The BHRC Board of Directors has asked our senior design team to help with certain components of the complex design. This includes designing a stormwater capture and reuse system, greywater reuse system, and structural design of the flight rehabilitation pen.

In order to achieve these requests, the design team split up into two subteams: the Environmental Team and the Structural Team. For the Environmental Team, Andrew focused on the stormwater reuse and water treatment systems, while Katie completed the greywater reuse and water distribution network. For the Structural Team, Kylie, Sam, and Sylvia all contributed to the design of the oval flight rehabilitation pen (OFRP). For the design of the OFRP, Kylie focused on alternative structural materials and creating models, Sam focused on the schematic design of the OFRP, and Sylvia focused on special design loads. Sylvia also assisted the Environmental Team with designing the drip irrigation system. The team was divided this way based on educational background, work experience, and personal interest.

The first step in the development of the design was taking note of any criteria or situational restrictions that limited design options. The Environmental Team first looked at the site's location relative to the Box Elder Creek floodplain. Fortunately, the floodplain does not overlap the site at any location. Next, the team calculated monthly precipitation averages for the area to find the potential stormwater harvesting for each roof. In order to find out if the greywater and blackwater could be reused for land application, the team assessed the projected wastewater quality and researched grey/blackwater reuse legislation. The result of this assessment is that both the wastewater quality and legislation allows for irrigating shelterbelts. In addition, the team estimated the average daily water use to help size the pipes, pumps, and water treatment units.

In order to evaluate and choose which design alternatives would be most effective, weighted matrices were constructed. The matrices use a pair-wise comparison to directly compare one criteria with another. For this study, eight selection criteria were chosen and ranked by the Board of Directors. The score of "1" means that the criteria is most important, while "8" is least important. The average score for each criteria was used to help weigh the different design alternatives.

The first design alternative considered was the type of roof for the mews. The original plan for the roof of the mews was to install a metal roof that matched the rest of the buildings on the complex. However, two other options - a green terrain roof or wood shingle roof - were assessed because they could possibly provide better fit the desired function for this unique structure.

Ultimately, the metal roofs proved to be the best option, primarily because they are cost effective, provide the best surface for capturing stormwater, and will not negatively impact the raptors.

The second alternative considered by the Environmental Team was the stormwater reuse. After considering multiple ways to reuse this water, the Environmental Team narrowed the field down to two options: connect the stormwater to the septic tank and distribute the water to the garden and shelterbelt, or keep the stormwater separate and use it to wash the mews and water the garden only. Connecting the stormwater system to the septic tank proved to make the overall design more difficult and restrictive. On the other hand, separating the system into two different reuse systems made the overall design more user friendly and multifunctional.

The third alternative considered was the type of storage tank used to hold stormwater. Three different alternatives were chosen to be assessed: a retention pond, above ground tank, and a below ground tank. The above ground tank turned out to be the best option because it is accessible and cost effective.

The septic tank was left out of the design alternative assessment because it is still currently being designed by an independent engineer. However, the Environmental team researched the restrictions for land application of septic wastewater. For irrigating the shelterbelt, there is a maximum of two inches per acre per week application, and at no point can this discharge exceed $\frac{1}{4}$ inch per hour. In addition, land application cannot occur during periods of soil saturation or snow cover. Despite these restrictions, a discharge permit is not required for this application.

After all of the design alternatives were assessed, the Environmental Team began the design process with the stormwater reuse system. The first step in this design was catchment. Only part of the roofs of the Education Bird Mews and the Hub were needed to collect an adequate amount of water. Therefore, the gutters were sized for a 100-year storm event for the surface area of these roofs. The Center for Rainwater Harvesting (CRH) provided a spreadsheet that helped confirm the size and type of gutter needed for this roof. The result was 8-inch K-style gutters.

The first rush of water from these gutters carries almost all of the debris that was on the roof. Therefore, two treatment mechanisms are attached to the downspout. The first one is a downspout filter that removes large debris from the system. The second is a first flush diverter that holds the water containing the initial rush of contaminants. The first flush chamber is designed to hold one gallon for every 100 square feet of catchment area. The downspout itself is recommended to have one square inch of cross-sectional area for every 100 square feet. Therefore, the downspout and first flush diverter will need to be 10 inches in diameter to convey the 100-year storm flow.

Because the stormwater will be used for watering the garden and washing the mews, there needs to be an adequate amount of stormwater storage to supply these demands. A daily water balance for a 4500 gallon tank was calculated to prove that this size of tank will store an appropriate amount of water. Even though the roof is eight feet high, to gravity feed the stormwater from the roof to the tank, the maximum height of the tank would need to be three feet. Therefore, the diameter of the tank would need to be 16 feet to have a capacity of 4500 gallons.

The overflow pipe was sized the same as the downspout. The first flush diverter connects with the overflow pipe to convey excess stormwater and the contaminated stormwater to a bioretention cell. This cell is also sized to hold the volume of a 100-year storm event from the roofs. This bioretention cell would be an ideal place for natural landscaping.

For the water distribution network, the pipes used for this system will vary from 4" diameter to 1" diameter pipes depending on the required flow. These diameters were determined using the EPA Net software and running multiple simulations. By running these simulations it allowed the team to determine the best size of pipes and pumps to use for each section of the system. Pipes and pumps for the clean water, greywater, and stormwater reuse networks were all sized with this method.

The drip irrigation system for the garden will consist of four 20 foot lines of irrigation pipes. These low flow pipes will have an emitting nozzle every 12 inches along the pipe. A normal emitter nozzle will supply 0.16 gallons of water per hour. With 80 nozzles operating for 5.5 hours a day, the total water delivered is 70.4 gallons. This water use is consistent with the garden water demand of 72 gallons per day.

Two water samples were collected from the well and taken to Midcontinent Testing Laboratories, Inc. in Rapid City, SD. The samples were collected by following the USGS Field Manual for well purging and sterilizing. These protocols can be found in Chapters 4 and 7 of the Field Manual, respectively (38). The results of the water samples showed that the well water exceeded the Secondary Drinking Water Standards for sulfates and total dissolved solids, and the presence of coliforms violated the Primary Drinking Water Standards. After reviewing different treatment options, the team found an ion-exchange system called the Twin Sulfate Eater-12 and an ultraviolet disinfection unit that will collectively treat the water to meet all standards.

The first step in the structural design process was determining the loads that the structure would carry. Pennington County does not have an own building code, and requires new buildings to be built under the Rapid City building code. Design loads were taken or calculated from this code. Controlling loads are the Wind Roof load of 35 psf, and the Snow Roof load of 30 psf. Other loads included in the design were the dead load of the roof sheathing, which was rounded up to 1 psf to be conservative. Also included in the dead load were the self-weights of all the materials.



NTI
NORTHERN
TECHNOLOGIES, LLC

8105 Black Hawk Road
PO Box 558
Black Hawk, South Dakota 57718
P: 605.787.9303 F: 605.787.9515
www.NTIgeo.com

Unearthing confidence™

May 8, 2017

Davis Engineering
1060 King's Road
Rapid City, South Dakota 57702

Attn: Mr. Ron Davis

Subj: Percolation Testing
Black Hills Raptor Sanctuary
Caputa, South Dakota
NTI Project No. 17.30325.100

Northern Technologies has been requested to provide a percolation test for use in the design of the on site septic system for the proposed Black Hills Raptor Sanctuary.

The percolation test was conducted in accordance with Pennington County Regulations. The test was performed near the northwest corner of the site as requested by the client. The approximate locations are indicated on the attached site plan.

The results of the percolation test are attached. No groundwater or other limiting factors were encountered in the upper 8 feet of soils.

Please contact Northern Technologies at 605-787-9303 with any questions or comments.

NORTHERN TECHNOLOGIES, LLC

Karl Liester, P.E.
Senior Engineer

Ivy McGillivray, E.I.T.
Staff Engineer

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PENNINGTON COUNTY



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PLANNING DEPARTMENT
130 KANSAS CITY STREET, SUITE 200
RAPID CITY, SD 57701
605-394-2186 • FAX 605-394-6016
www.pennco.org/wastewater

SEPTIC PERMIT # _____

BUILDING PERMIT # _____

ON-SITE WASTEWATER SYSTEM PERCOLATION TEST

All portions of this form must be completed. No portion of the system may be buried until it has been inspected.

Date 5/9/17 Installer/Person Performing Test _____

Owner/General Contractor _____ Phone () _____

Address _____

Legal Description TRACT A OF BLACK HILLS RAPTOR Center Addn. Section _____ Twn _____ Range _____

General Percolation Information

Diameter 6 (inches) Date prepared/soaked 5/2/17

Method of scratching sidewall 1 inch with nail

Soak start time 2:30 pm 5/2/17 Soak end time 2:30 pm 5/3

Test performed by NTI

Percolation Test Data

Test Hole #1

Date reading taken 5/3/17

Starting Time 2:30

Depth 36 (inches)

Reading	Start Time	End Time	Minutes/Inch (end time -- start time)
1 inch	<u>0</u>	<u>25</u>	<u>25</u>
2 inches	<u>25</u>	<u>55</u>	<u>30</u>
3 inches	<u>55</u>	<u>90</u>	<u>35</u>
4 inches	<u>90</u>	<u>125</u>	<u>35</u>
5 inches			
6 inches			
7 inches			
8 inches			
9 inches			
10 inches			
11 inches			
12 inches			

Percolation Rate for Test Hole #1 31.3 min/inch (average of readings one through twelve)

Test Hole #2

Date reading taken 5/3/17

Starting Time 2:35

Depth _____ (inches)

Reading	Start Time	End Time	Minutes/Inch (end time – start time)
1 inch	0	20	20
2 inches	20	75	55
3 inches	75	125	50
4 inches			
5 inches			
6 inches			
7 inches			
8 inches			
9 inches			
10 inches			
11 inches			
12 inches			

Percolation Rate for Test Hole #2 41.7 min/inch (average of readings one through twelve)

Test Hole #3

Date reading taken 5/3/17

Starting Time 2:40

Depth _____ (inches)

Reading	Start Time	End Time	Minutes/Inch (end time – start time)
1 inch	0	25	25
2 inches	25	85	60
3 inches	85	150	65
4 inches			
5 inches			
6 inches			
7 inches			
8 inches			
9 inches			
10 inches			
11 inches			
12 inches			

Percolation Rate for Test Hole #3 50.0 min/inch (average of readings one through twelve)

Average Percolation Rate 41.0 min/inch

Installer/Person Performing Test KARL LIESTER
Print Name

[Signature]
Signature

Date 5/9/17

Owner/General Contractor _____
Print Name

Signature

Date _____

Environmental Planner _____
Print Name

Signature

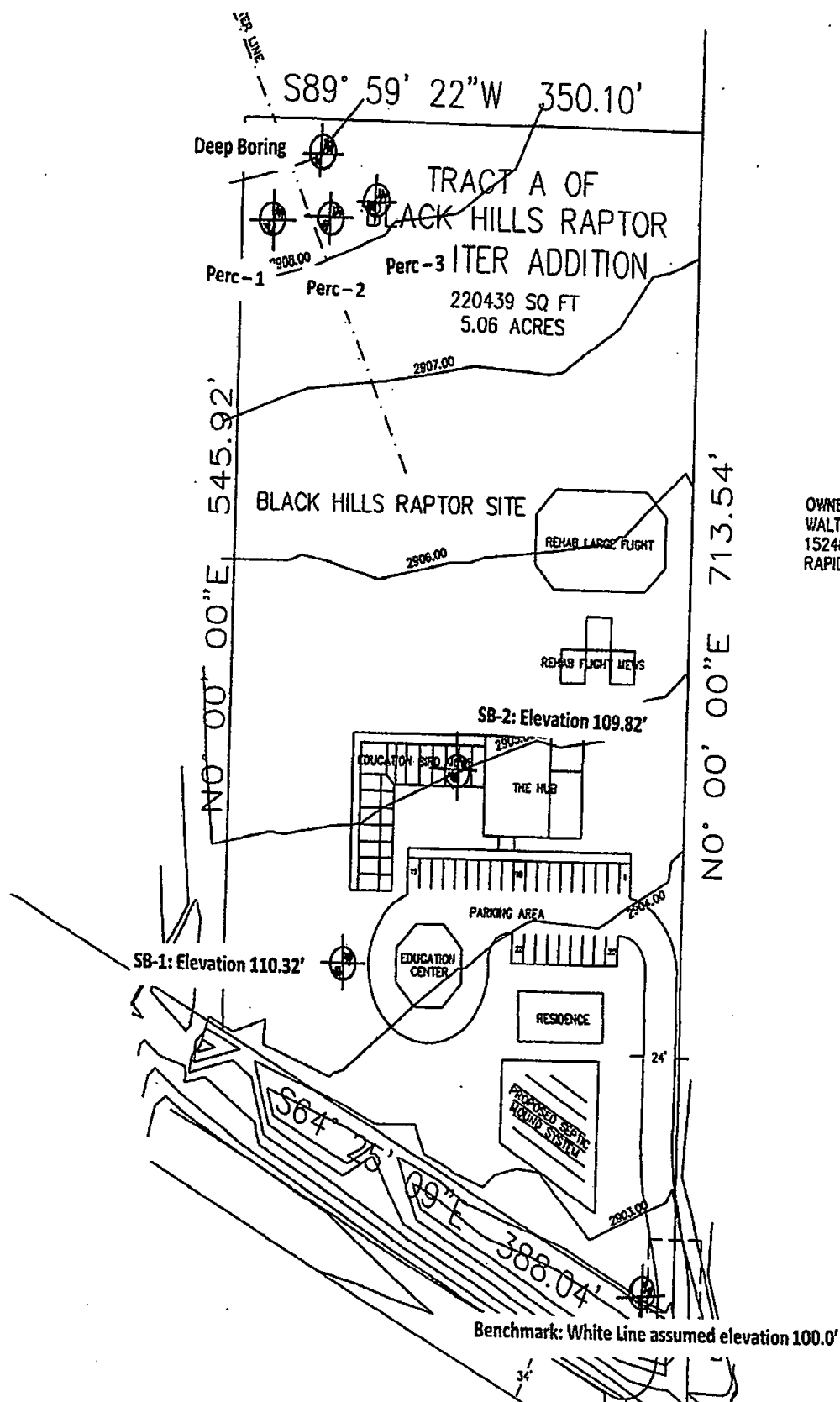
Date _____



Benchmark: white line at entrance to site. Assumed elevation 100.0'

Boring Location Diagram
Black Hills Raptor Center
Caputa, South Dakota
NTI Project #: 17.30325.100

NOTE: Boring locations are approximate.





Boring Location Diagram
Black Hills Raptor Center
Caputa, South Dakota
NTI Project #: 17.30325.100

NOTE: Boring locations are approximate.



NTI
NORTHERN
TECHNOLOGIES, INC.

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date January 8, 2018

RECEIVED OF Black Hills Raptor Center PO Box 9713 Rapid City, SD 57709 9713

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

Fee for Application for Permit No. <u>2779-2</u> to Appropriate Water, to construct and to put water to beneficial use	100	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>2779-2</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	300 00

No. **08454**

By

Jeanne Goodman
Chief Engineer

JM

Gronlund, Eric

From: Gronlund, Eric
Sent: Monday, January 08, 2018 4:04 PM
To: 'l.fenhaus@aol.com'
Subject: water permit application for use of the well.

Mr. and Mrs. Fenhaus:

DENR is in receipt of the water right permit application to appropriate 35 gallons per minute (gpm) from one well for domestic use in a home and institutional use at the BH Raptor Center. The application defines the pump rate from the well at 35 gpm. Do you have an estimate on the annual volume in gallons to be used to serve both the home and the Raptor Center?

The current average indoor use of water is about 138 gallons per household. This would equate to 50,370 gallons per year for the indoor component for the home.

Then you would need to add an estimate for the lawn/garden watering by the home.

And finally add the amount anticipated to be used by the Raptor Center. This is just the water supplied from the well to the Raptor Center.

Please provide an estimate of total annual gallons of water to be pumped from the well. Be reasonable but estimate on the high side.

Let me know if you have any questions.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
Eric.gronlund@state.sd.us

Gronlund, Eric

From: Gronlund, Eric
Sent: Wednesday, January 10, 2018 3:29 PM
To: 'Black Hills Raptor Center'
Cc: Leon Fenhaus
Subject: RE: [EXT] water rights permit application

Acknowledge receipt.

The Raptor Center and Fenhaus home totals 573,080 gallons per year (equates to 1.76 acre feet/annually). To give a buffer I suggest the application reflect a peak annual volume of 2.0 acre feet/annually (652,000 gallons). Let me know if this is agreeable.

Eric

From: Black Hills Raptor Center [<mailto:info@blackhillsraptorcenter.org>]
Sent: Wednesday, January 10, 2018 3:07 PM
To: Gronlund, Eric
Cc: Leon Fenhaus
Subject: RE: [EXT] water rights permit application

Hi Eric,

My apologies for the delay.

If this is NOT what you are seeking from us, please let me know and I will get you the correct info.

This is the Raptor Center use only, so we need to add the Fenhaus use of 50,400 gallons to this amount for the entire total to come from the well.

Sincerely,

Maggie

From: Black Hills Raptor Center [<mailto:info@blackhillsraptorcenter.org>]
Sent: Tuesday, January 09, 2018 10:54 AM
To: 'Eric.Gronlund@state.sd.us'
Cc: Leon Fenhaus
Subject: water rights permit application

Hi Eric, I will send you the requested info this evening. Look for it tomorrow morning.

Sincerely,

Maggie Engler
Co-Founder
Black Hills Raptor Center

Gronlund, Eric

From: Leon Fenhaus <l.fenhaus@aol.com>
Sent: Tuesday, January 16, 2018 8:21 AM
To: info@blackhillsraptorcenter.org; Gronlund, Eric
Subject: Re: [EXT] water rights permit application

Eric,
We are in agreement with the 2 acre feet annual figure.
Leon and Cheryl Fenhaus

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

From: Black Hills Raptor Center <info@blackhillsraptorcenter.org>
To: 'Gronlund, Eric' <Eric.Gronlund@state.sd.us>
Cc: 'Leon Fenhaus' <l.fenhaus@aol.com>
Sent: Wed, Jan 10, 2018 6:26 pm
Subject: RE: water rights permit application

It is ok on the Raptor Center side.

Maggie

From: Gronlund, Eric [<mailto:Eric.Gronlund@state.sd.us>]
Sent: Wednesday, January 10, 2018 2:29 PM
To: 'Black Hills Raptor Center'
Cc: Leon Fenhaus
Subject: RE: water rights permit application

Acknowledge receipt.

The Raptor Center and Fenhaus home totals 573,080 gallons per year (equates to 1.76 acre feet/annually). To give a buffer I suggest the application reflect a peak annual volume of 2.0 acre feet/annually (652,000 gallons). Let me know if this is agreeable.

Eric

From: Black Hills Raptor Center [<mailto:info@blackhillsraptorcenter.org>]
Sent: Wednesday, January 10, 2018 3:07 PM
To: Gronlund, Eric
Cc: Leon Fenhaus
Subject: RE: [EXT] water rights permit application

Hi Eric,

My apologies for the delay.

If this is NOT what you are seeking from us, please let me know and I will get you the correct info.

This is the Raptor Center use only, so we need to add the Fenhaus use of 50,400 gallons to this amount for the entire total to come from the well.

Sincerely,

SDSMT student calculations

Type of Use	# of Users	Gallons per User	Total Gallons per Day
Volunteers	6	15	90
BHRC Laundry	1	40	40
Personal Laundry	2	40	80
School Field Trip	120	3	360
Residence w/ 3 bedrooms	3	120	360
Residence w/ 1 bedrooms	1	120	120
Utility Sink	4	30	120
Mew Cleaning		200	200
Bird Bath Pans		50	50
Dishwasher in Hub	1	4	4
Dishwasher in House 1	1	4	4
Dishwasher in House 2	1	4	4
Total			1432
1432 x365 = 522,680 gal			

2 gallons per flush for efficient toilet, .5 gallon for washing hands, .5 gallon for drinking

not for at least 5 years - 2021 at earliest

*This would describe a maximum use per day, where all residence wash dishes and clothes on the same day, all 120 visitors use the bathroom at least once during a 4 hour visit.

plant & shelterbelt watering is all done with gray water system

most of the amounts of water used are based on info provided by Scott Hipple of the DENR

as he was figuring out the septic system sizes we needed

appliance amounts came from the internet

Affidavit of Publication

RECEIVED

APR 03 2018

WATER RIGHTS
PROGRAM

March 21 L2107707
NOTICE OF APPLICATION
NO. 2779-2 to Appropriate Water
Notice is given that Black Hills
Raptor Center, Inc. and Leon &
Cheryl Fenhaus, 15227 Caputa
Loop, Rapid City SD 57703 has
filed an application for a water
permit to appropriate 2.0 acre-feet
of water annually at a maximum
diversion rate of 0.078 cubic feet of
water per second (35 gallons per
minute) from one well completed
into the Quaternary Alluvium Aq-
uifer (51 feet deep) located in the
NW 1/4 SE 1/4 Section 35 for do-
mestic use and institutional use at
the Black Hills Raptor Center lo-
cated in the NW 1/4 SE 1/4 Section
35; all in T1N-R9E. The raptor
center will be located approxi-
mately 9 miles southeast of Rapid
City SD.

Pursuant to SDCL 46-2A-2, the
Chief Engineer recommends AP-
PROVAL of Application No. 2779-2
with qualifications because 1) un-
appropriated water is available, 2)
existing rights will not be unlaw-
fully impaired, 3) it is a beneficial
use of water, and 4) it is in the pub-
lic interest. The Chief Engineer's
recommendation with qualifica-
tions, the application, and staff re-
port are available at
<http://denr.sd.gov/public> or con-
tact Eric Gronlund for this infor-
mation, or other information, at
the Water Rights Program ad-
dress provided below.

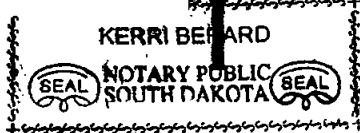
Any person interested in oppos-
ing or supporting this application
or recommendation must file a
written petition with BOTH the ap-
plicant and Chief Engineer. The
applicant must file a petition if
contesting the Chief Engineer's
recommendation. The Chief
Engineer's address is "Water
Rights Program, Foss Building,
523 E Capitol, Pierre SD 57501 (605
773-3352)" and the applicant's mail-
ing address is given above. A peti-
tion filed by either an interested
person or the applicant must be
filed by April 2, 2018.

The petition may be informal,
but must include a statement de-
scribing 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 peti-
tioner or the petitioner's legal
counsel, if legal counsel is ob-
tained.

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 ap-
plication pursuant to the recom-
mendation with no hearing held
before the Water Management
Board. If a petition opposing the
application or contesting the rec-
ommendation is filed, then a hear-
ing will be scheduled and the
Water Management Board will
consider this application. Notice
of the hearing will be given to the
applicant and any person filing a
petition.

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

(Published once at the total approximate
cost of \$65.69)



STATE OF SOUTH DAKOTA

County of Pennington

SS:

Sheri Sponder being first duly sworn, upon his/her oath says: That
he/she is now and was at all time hereinafter mentioned, an
employee of the RAPID CITY JOURNAL, a corporation of Rapid
City, South Dakota, the owner and publisher of the RAPID CITY
JOURNAL, a legal and daily newspaper printed and published in
Rapid City, in said County of Pennington, and has full and
personal knowledge of all the facts herein stated as follows: that
said newspaper is and at all of the times herein mentioned has been
a legal and daily newspaper with a bonafide paid circulation of at
least Two Hundred copies daily, and has been printed and published
in the English language, at and within an office maintained by the
owner and publisher thereof, at Rapid City, in said Pennington
County, and has been admitted to the United States mail under the
second class mailing privilege for at least one year prior to the
publication herein mentioned; that the advertisement, a printed
copy of which, taken from said Rapid City Journal, the paper in
which the same was published, is attached to this sheet and made a
part of this affidavit, was published in said paper once each

day for one successive
day, the first publication there of being on the
21st day of March 2018 that the fees charged for
the publication there of are 65 dollars
and 69 cents.

Sheri Sponder

Subscribed and sworn to before me this 29th
day of March, 2018.

Kerri Beard
Notary public

8/21/2019

My commission expires



**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 RIGHT AWAY.**

March 13, 2018

Leon and Cheryl Fenhaus
15227 Caputa Loop
Rapid City SD 57703

✓ Maggie Engler
Black Hills Raptor Center
PO Box 9713
Rapid City SD 57709

Dear Mr. & Mrs. Fenhaus and Ms. Engler:

Water Permit Application No. 2779-2 for domestic and institutional use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Rapid City Journal (Ph # 605-394-8300). You will need to contact the newspaper 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 to authorize publication of your Notice and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization from you, the publisher has been instructed to publish your notice. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.

NOTICE OF APPLICATION NO. 2779-2 to Appropriate Water

Notice is given that Black Hills Raptor Center, Inc. and Leon & Cheryl Fenhaus, 15227 Caputa Loop, Rapid City SD 57703 has filed an application for a water permit to appropriate 2.0 acre-feet of water annually at a maximum diversion rate of 0.078 cubic feet of water per second (35 gallons per minute) from one well completed into the Quaternary Alluvium Aquifer (51 feet deep) located in the NW 1/4 SE 1/4 Section 35 for domestic use and institutional use at the Black Hills Raptor Center located in the NW 1/4 SE 1/4 Section 35; all in T1N-R9E. The raptor center will be located approximately 9 miles southeast of Rapid City SD.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2779-2 with qualifications because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. The Chief Engineer's recommendation with qualifications, the application, and staff report are available at <http://denr.sd.gov/public> or contact Eric Gronlund for this information, or other information, at the Water Rights Program address provided below.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by April 2, 2018.

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

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

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

Schlaak, Karen

From: Schlaak, Karen
Sent: Tuesday, March 13, 2018 8:09 AM
To: RCY Legals (legals@rapidcityjournal.com)
Subject: 2779-2, Black Hills Raptor Center and Leon & Cheryl Fenhaus
Attachments: 2779-2public.short.docx; FORM8.FRM.doc

Attached is a notice to be published on March 21, 2018.

Black Hills Raptor Center and Leon & Cheryl Fenhuas, 15227 Caputa Loop, Rapid City SD 57703 (605 719-9292 or 605 390-2335) have been notified to contact you to authorize publication and arrange for payment.

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

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

Karen Schlaak

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





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2779-2, Black Hills Raptor Center and Leon & Cheryl Fenhaus**

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. 2779-2, Black Hills Raptor Center, Inc. and Leon & Cheryl Fenhaus, 15227 Caputa Loop, Rapid City SD 57703.

The Chief Engineer is recommending APPROVAL of Application No. 2779-2 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 permit holder shall report to the Chief Engineer annually the amount of water withdrawn from the Quaternary Alluvium aquifer.
3. Water Permit No. 2779-2 authorizes a total annual diversion of 2.0 acre feet of water.

See report on application for additional information.

Jeanne Goodman, Chief Engineer
March 12, 2018

REPORT ON APPLICATION NO. 2779-2

For Black Hills Raptor Center, Inc. and Leon & Cheryl Fenhaus

March 7, 2018

Black Hills Raptor Center, Inc. and Leon & Cheryl Fenhaus have filed Water Permit Application No. 2779-2 for a water permit to appropriate 2.0 acre-feet of water annually at a maximum pump rate of 0.078 cubic feet of water per second (cfs) from one existing well to be completed into the Quaternary Alluvium aquifer along Rapid Creek (approximately 51 feet deep) located in the NW¼ SE¼ Section 35 for domestic and institutional use at the Black Hills Raptor Center located in the NW¼ SE¼ Section 35; all in T1N-R9E. The raptor center will be located approximately 9 miles southeast of Rapid City in Pennington County, South Dakota.

AQUIFER – QUATERNARY ALLUVIUM (ALQ)

The Quaternary Alluvium aquifer along Rapid Creek is a Quaternary aged alluvium that consists of sand, gravel and clay. The alluvium can be considered an aquifer where there is sufficient saturated material to supply water to wells. The aquifer is generally under unconfined conditions. However, because the alluvium consists of interfingering layers of differing materials and permeability, ground water can occur under confined conditions (Rosier and Snell, 1953). The South Dakota Water Well Completion Report on file for this well identifies one foot of top soil overlying 24 feet of sandy/clay and cobble of the Quaternary Alluvium aquifer along Rapid Creek (Water Rights, 2018c). At the time of well completion (February 21, 2008), the static water level was 12 feet below ground surface, which indicates that the aquifer is under unconfined conditions at this location. Groundwater movement in the alluvium is generally toward Rapid Creek and in a downstream direction. Recharge to the aquifer occurs through precipitation falling directly on the outcrop, from the creek and from irrigation losses.

The Quaternary Alluvium aquifer along Rapid Creek is hydraulically connected to Rapid Creek, and groundwater withdrawals can deplete streamflow. The well site proposed by this application is approximately ½ mile from Rapid Creek. Therefore, given the distance from the creek and the diversion rate proposed by this application (35 gallons per minute), this proposed project should not have a measurable impact to the flow in Rapid Creek.

The alluvium is restricted to the Rapid Creek flood plain and underlies approximately 15,000 acres between Canyon Lake and the well site proposed by this application (Martin and others, 2004), see Figure 1.



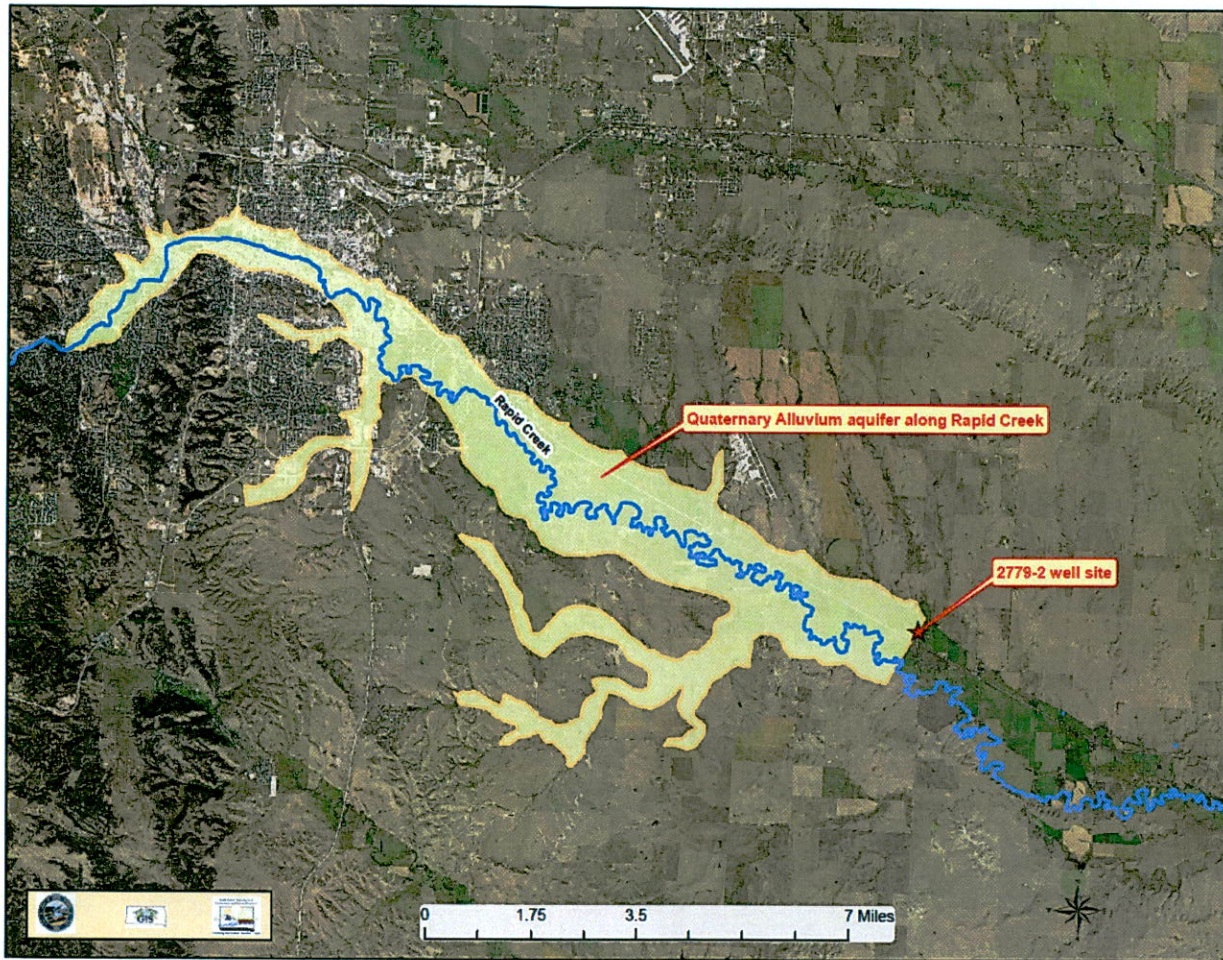


Figure 1: Areal extent of the Quaternary Alluvium along Rapid Creek between Canyon Lake and the well site proposed by Application No. 2779-2 (Modified from Martin and others, 2004).

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

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

In the matter of Water Permit No. 2142-2, the Water Management Board adopted Findings of Facts and Conclusions of Law that explicate that irrigation return flows in Rapid Valley are available for appropriation, or at least to satisfy downstream appropriators. Basically, groundwater return flows are considered part of the fully appropriated Rapid Creek system (Water Rights, 1991). Therefore, the only groundwater in the Quaternary Alluvium aquifer along Rapid Creek that is available for appropriation is the water that would have occurred under natural conditions. At this time, the amount of groundwater available for appropriation (i.e. naturally occurring groundwater) has not been quantified.

WATER AVAILABILITY

The availability of unappropriated water 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 that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source.”

Currently, there are three Water Rights/Permits appropriating 0.622 cfs, or approximately 270 acre-feet per year, from the Quaternary Alluvium aquifer along Rapid Creek (Water Rights, 2018a). This estimate is based on water rights/permits limited by diversion rate will be used at 60% of continuous pumping at the maximum diversion rate for their annual use period. If Water Permit Application No. 2779-2 is approved for 2.0 acre-feet annually, the combined appropriation from the aquifer would be approximately 272 acre-feet per year. A “natural” recharge rate of 0.22 inches per year over the surface area of the alluvium extending from Canyon Lake to this well site (approximately 15,000 acres) would be sufficient to support all of the groundwater appropriations from the Quaternary Alluvium aquifer along Rapid Creek. A recharge rate of 0.22 inches per year is considered extremely conservative for this hydrologic setting and when compared to recharge rates of similar alluvium aquifers. Therefore, there is a reasonable probability that unappropriated water is available to satisfy this appropriation.

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 DENR-Water Rights Program monitors five observation wells completed into the alluvium along Rapid Creek (Water Rights, 2018b). The nearest one (PE-69A) is located less than 1½ miles from the well site proposed by this application. Hydrographs of the observation wells document that the aquifer reacts well to climatic conditions with higher water levels during wet years and lower water levels during dry periods (Figures 2 – 6).

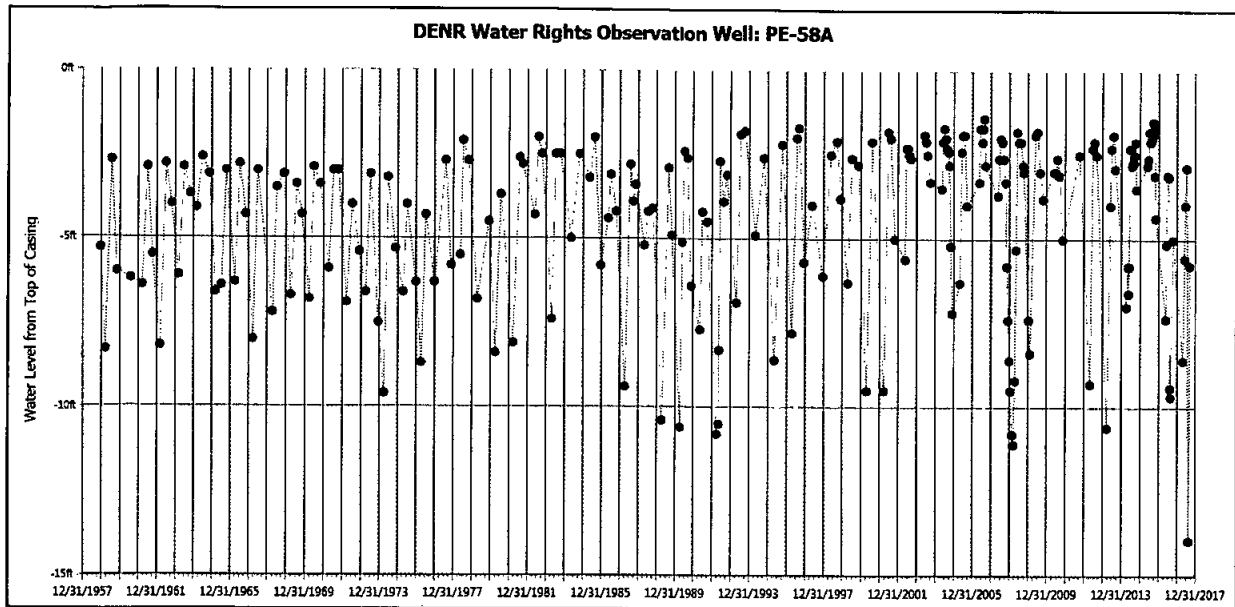


Figure 2: Hydrograph for Observation Well PE-58A located approximately 10 miles northwest of Water Permit Application No. 2779-2 (Water Rights, 2018b).

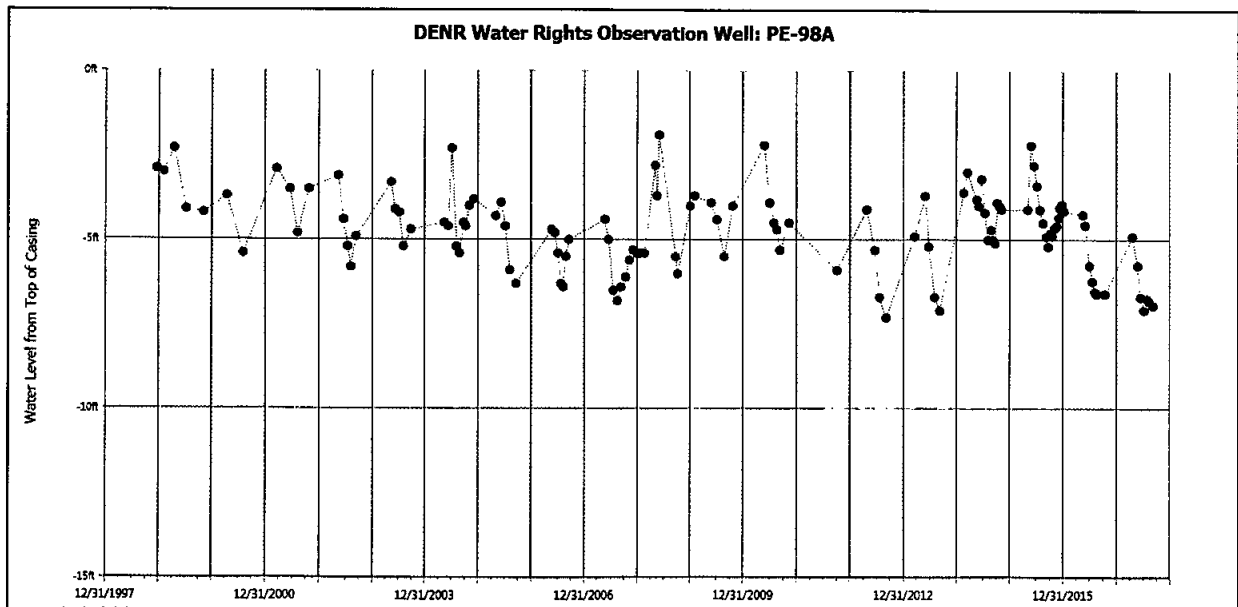


Figure 3: Hydrograph for Observation Well PE-98A located approximately 4 miles northwest of Water Permit Application No. 2779-2 (Water Rights, 2018b).

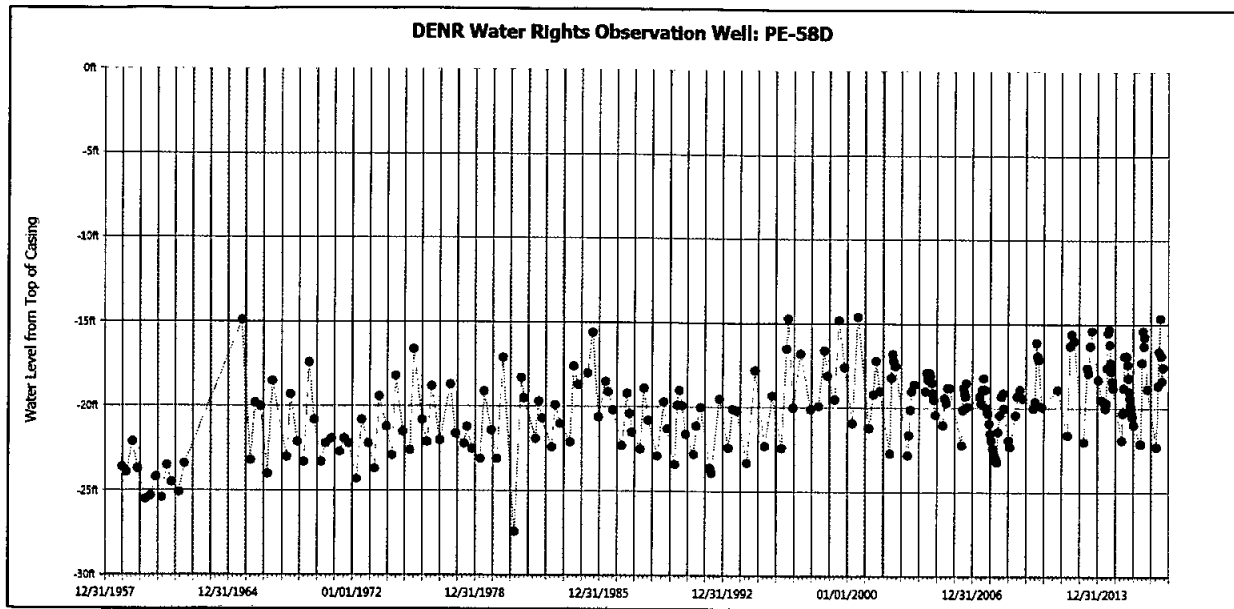


Figure 4: Hydrograph for Observation Well PE-58D located approximately 2 miles southeast of Water Permit Application No. 2779-2 (Water Rights, 2018b).

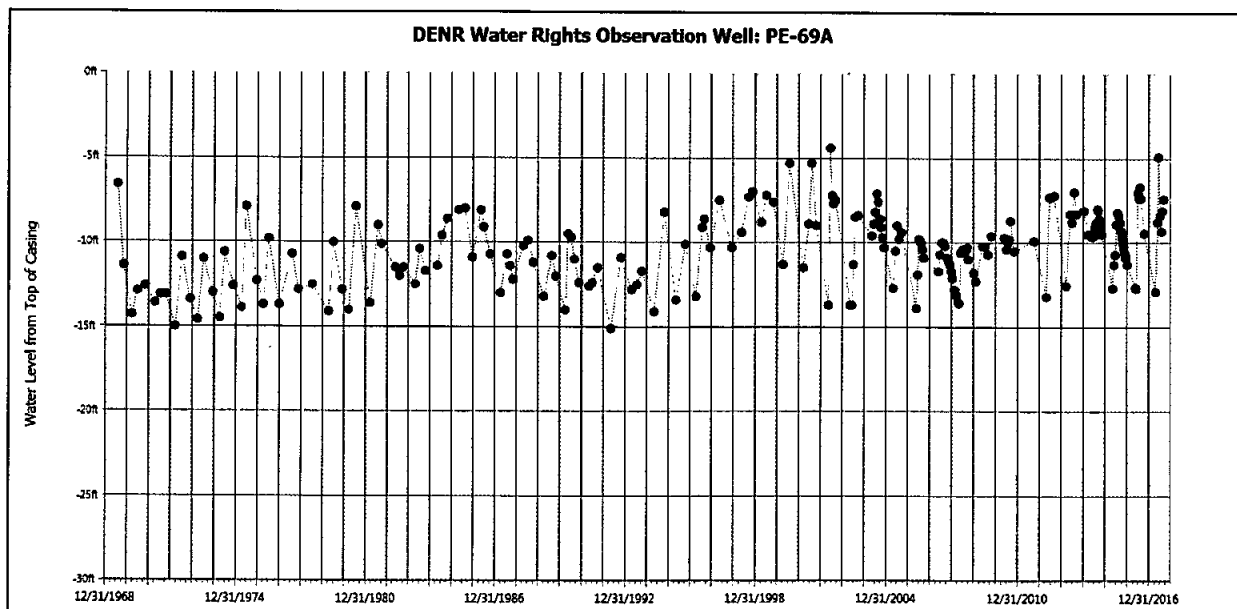


Figure 5: Hydrograph for Observation Well PE-69A located approximately 1½ miles southeast of Water Permit Application No. 2779-2 (Water Rights, 2018b).

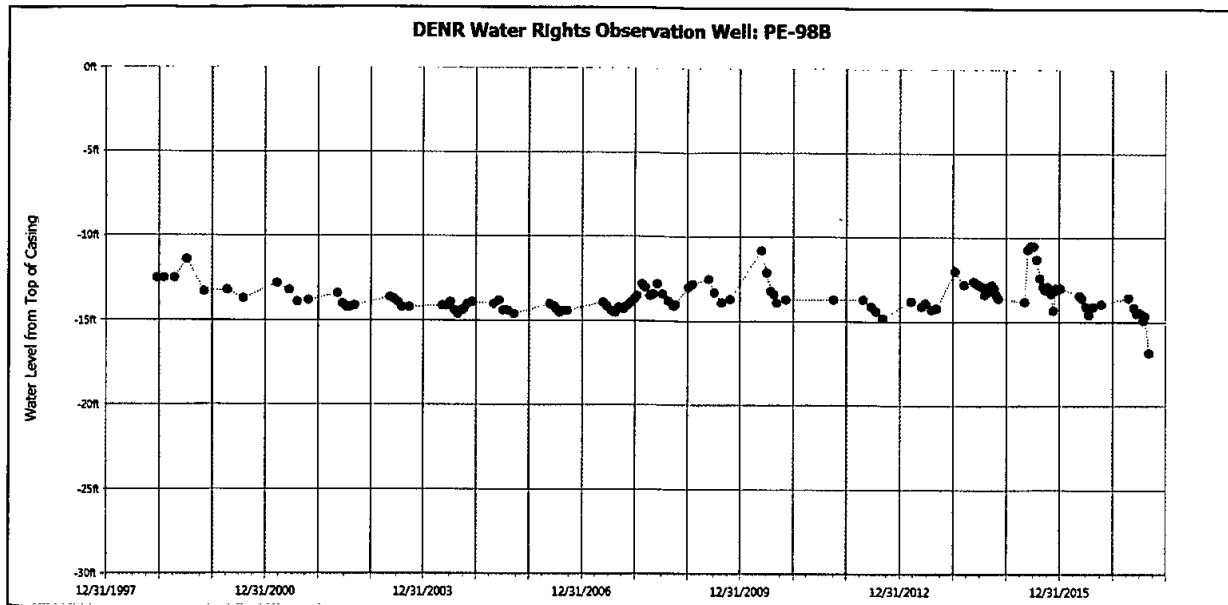


Figure 6: Hydrograph for Observation Well PE-98B located approximately 8¼ miles southeast of Water Permit Application No. 2779-2 (Water Rights, 2018b).

REVIEW OF EXISTING WATER PERMITS/RIGHTS

Currently there are three existing Water Rights/Permits appropriating 0.622 cfs from the Quaternary Alluvium aquifer along Rapid Creek. All three are located upgradient from this proposed application with the nearest water right/permit located approximately 5 miles away. In addition to wells supplying appropriative rights, there are a number of domestic use wells on file with the DENR-Water Rights Program in the vicinity of the well site proposed by this application (Water Rights, 2018c). The low diversion rate proposed by this application is not likely to adversely affect adequate wells (domestic or appropriative).

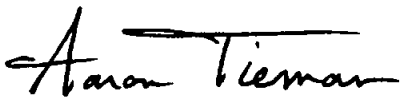
An adequate well as defined by South Dakota Administrative Rules as:

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

There is not a history of well interference issues reported on file with the Quaternary Alluvium aquifer along Rapid Creek. At the distances involved between the well site proposed by this application and wells of existing water rights/permits and domestic users, interference is not expected to be a concern.

CONCLUSIONS

1. Water Permit Application No. 2779-2 proposes to appropriate 2.0 acre-feet per year from the Quaternary Alluvium aquifer along Rapid Creek at a maximum diversion rate of 0.078 cfs.
2. The Quaternary Alluvium along Rapid Creek is a viable aquifer in this area, and there is a reasonable probability that unappropriated water is available for this proposed appropriation.
3. Well interference is not expected to be significant and will not adversely impact existing users (domestic or appropriative).



Aaron Tieman

SD DENR-Water Rights Program

REFERENCES

- Martin, J.E., Sawyer, J.F., Fahrenbach, M.D., Tomhave, D.W., Schultz, L.D., 2004, Geologic map of South Dakota: S.D. Geological Survey General Map 10, Scale 1:500,000.
- Rosier, A.J., and Snell, L.J., 1953, Ground-water resources of the Rapid Valley unit, Cheyenne Division, South Dakota, with a section on the surface waters of Rapid Valley: U.S. Geological Survey Circular 201, 32 p.
- Water Rights, 1991, Findings of Fact, Conclusions of Law and Final Decision in the matter of Water Permit Application No. 2142-2: SD DENR-Water Rights Program
- Water Right, 2018a, Water Right/Permit Files, SD DENR, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.
- Water Right, 2018b, Observation Well Database, SD DENR, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.
- Water Right, 2018c, Well Completion Report Files, SD DENR, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

APR 09 2010

Leon and Cheryl Fenhaus
15227 Caputa Loop
Rapid City SD 57703

Maggie Engler
Black Hills Raptor Center
PO Box 9713
Rapid City SD 57709

Dear Mr. & Mrs. Fenhaus and Ms. Engler:

Enclosed is Water Permit No. 2779-2 authorizing construction of the water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

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

Sincerely,

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