

WATER PERMIT NO. 7388-3

Name of Applicant: Clay RWS, Inc.

Address: 30376 SD Hwy 19, Wakonda SD 57073 Phone: 605 267-2088

Amount of Water Claimed: 2.0 cfs Total Acres: NA

Source of Water Supply: groundwater (one well)

Water to be used for: fire protection and lawn irrigation County: Union

Type of Waste Disposal System:

Location: near McCook Lake in southern Union County

PRIORITY Date Received: 7-30-12 Application/License Fee: \$ 1,950

Corrected Application Received: Period of Annual Use: April 1 – December 1

Remarks: This application also corrects the location of the well authorized by No. 5998A-3

Diversion Point: NE ¼ SE ¼ Sec 18-T89N-R48W

Land to be Irrigated:

Depth of Well: 140 feet deep

Well Driller: Sargent Irrigation

Remarks:

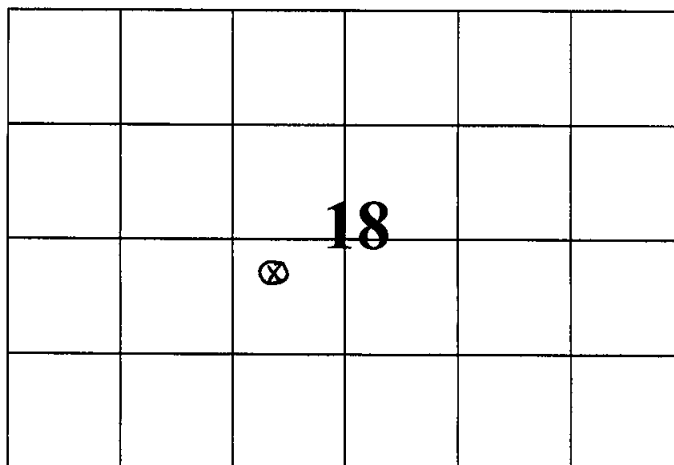
Type of Map: aerial

Prepared by: Ron Duvall

Reviewed and the Number Assigned on: 8-1-12

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



FORM 2: Application for irrigation in South Dakota

(type or print)

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only) No. <u>7388-3</u> Hydrologic Unit <u>10170101</u>
	Basin <u>Missouri River</u>
	Newspaper <u>Leader-Courier, Elk Point</u> <u>Press & Dakotan, Yankton</u>

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JUL 30 2012

WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

Type of Application: ☒ New ☐ Vested Right ☒ Amendment/Correction to Permit No. 5998A-3
(Use predates Mar 2, 1955) 5998-3

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

This application corrects the location of the existing well.

1. Name of Applicant Clay Rural Water System, Inc. Phone 605-267-2088
(check one) Owner ☐ Tenant/lessee
Mailing Address 30376 SD HWY 19 Wakonda SD 57073
(Address) (City) (State) (Zip Code)

2. Amount of water claimed 2.0 *CFS or **GPM ***AF Total Acreage
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply Missouri:Elk Point Aquifer

4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Union
One new well adjacent to existing well on Water Permit No. 5998A-3.
Legal: SW1/4 NE 1/4 Section 18-T89N-R48W (South Dakota Survey)

5. County or counties where water will be used Union

6. Annual period during which water is to be used April 1 to December 1

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

Land Description	Acres	Land Description	Acres
Wynstone Housing Development	220		

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

Existing well has been developed at 1.11 CFS, additional water is needed as homes continue to be built in the development. Water is used for fire-protection and lawn irrigation. Applying for increase from 1.11 to 3.11.

STATE OF SOUTH DAKOTA)

County of CLAY) SS

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Also, attach map and any other technical information. (see instructions)

I, GREG MANNING, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature GREG MANNINGSubscribed and sworn to before me this 27th day of July 20 12Donna R. Henrichsen

Notary Public signature

Exp: 11/25/2015

SOUTH DAKOTA
WATER PERMIT NO. 7388-3

Date of first receipt of application July 30, 2012.

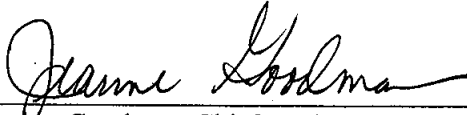
The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 7388-3 to Clay Rural Water System, Inc, 30376 SD Hwy 19, Wakonda SD 57073 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 7388-3 appropriates 2.0 cubic feet of water per second (cfs) from one additional well to be completed into the Missouri:Elk Point Aquifer (140 feet deep) located in Replat of Lot A of Tract Twelve (12), Wynstone Phase 1, Section 36, T30N, R7E, Union County, South Dakota (Nebraska Survey) for irrigation of up to 300 acres and fire protection at the Wynstone Housing Development. The notice also served to correct the legal location of the existing well authorized by Water Permit No. 5998A-3. Water Permit No. 5998A-3 authorizes 2.22 cfs from one well originally issued based on the South Dakota survey as being located in the NE 1/4 SW 1/4 Section 18-T89N-R48W. The well as developed produces 1.11 cfs and is legally described on the deed as also being in Replat of Lot A of Tract Twelve (12), Wynstone Phase 1, Section 36, T30N, R7W. Water Permit No. 5998A-3 and this permit authorize pumping water from the two wells at a total rate of 3.11 cfs into a 135 acre-feet man-made lake to be utilized for fire protection and irrigation of 300 acres of the Wynstone suburban housing development area located in the portions of Section 36, T30N, R7E and Section 1, T29N, R7E.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period April 1 – December 1 (for irrigation) and January 1 – December 31 (for fire protection).
3. The date from which applicant may claim right is July 30, 2012.
4. The date of approval of Permit No. 7388-3 is November 5, 2012.
5. One-fifth of the construction is to be completed on or before May 5, 2017.
6. All construction is to be completed on or before November 5, 2017.
7. Water is to be put to beneficial use on or before November 5, 2021.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized by Permit No. 7388-3 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. Clay Rural Water System shall report annually the amount of water diverted from the Missouri:Elk Point Aquifer.

WATER MANAGEMENT BOARD

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

APR 12 2013

date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 32 " Depth 140 '
- b) Casing Type PVC Diameter 16 " Thickness TBD
- c) Screen Type Stainless Diameter 16 " Thickness TBD
- d) Gravel Pack Northern Length of Gravel Pack 60 '
- e) Depth to Top of Water Bearing Material To be determined
- f) Depth to Water (ground surface to water level) 17 '
- g) Distance to nearest existing domestic well:
- On applicant's property 5,197 ' On property owned by others 3,860

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

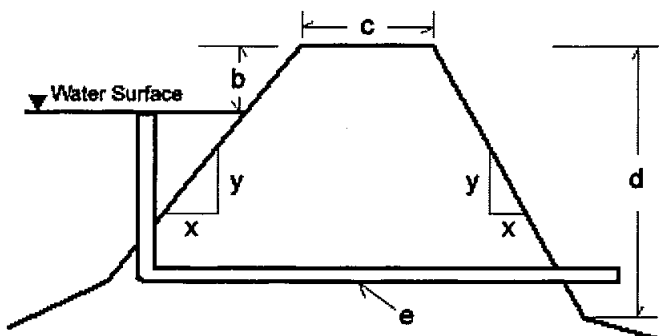
3. Dugout Information

- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:



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

Scale: 1 inch = 1,042 feet

1,500

Feet



South Dakota
Department of Environment
& Natural Resources
Water Rights

Completed by:

Ron Duvall

Ron Duvall, Natural Resources Engineer
Water Rights Program

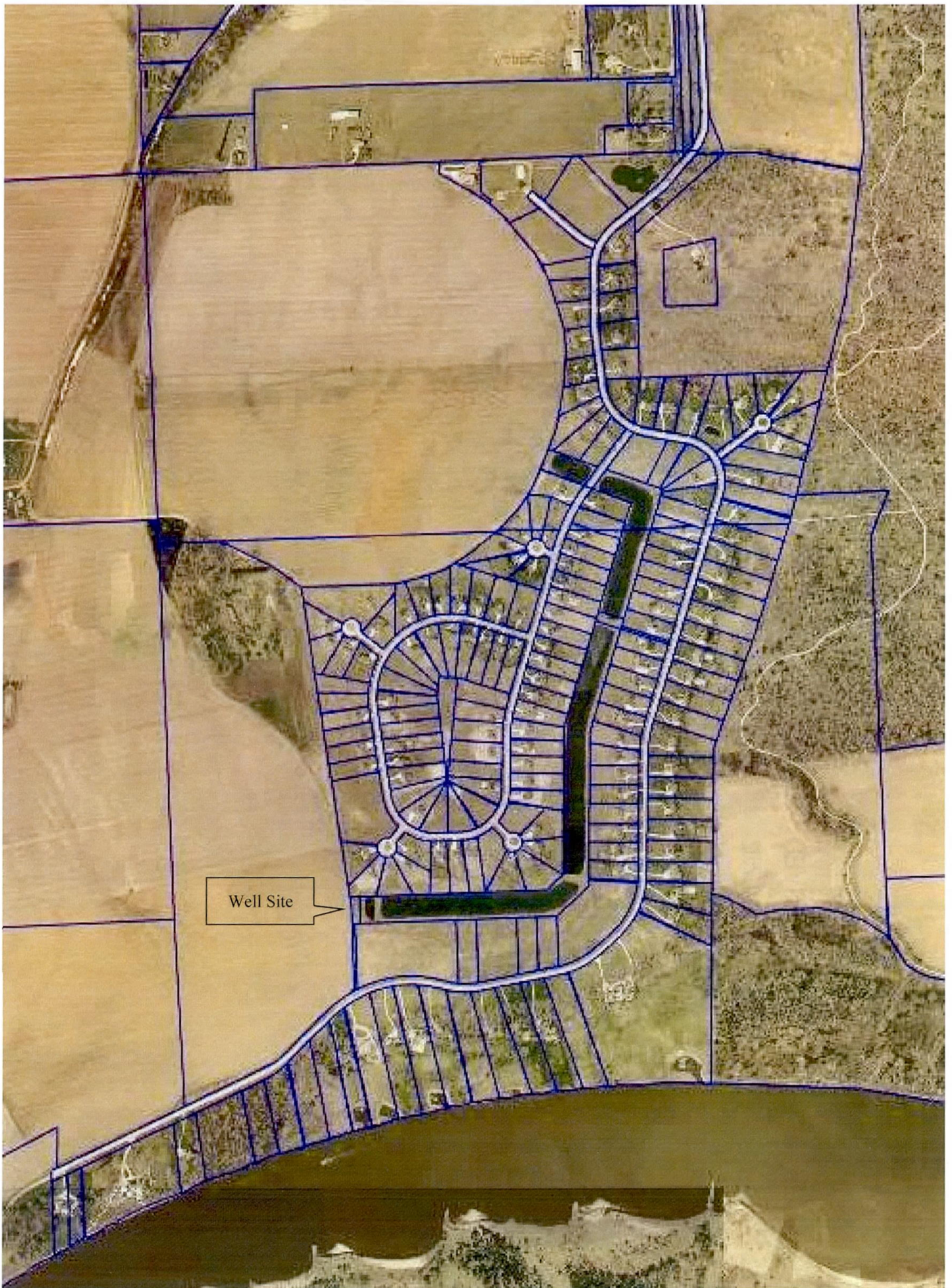
Date:

8/1/2012

Application No.





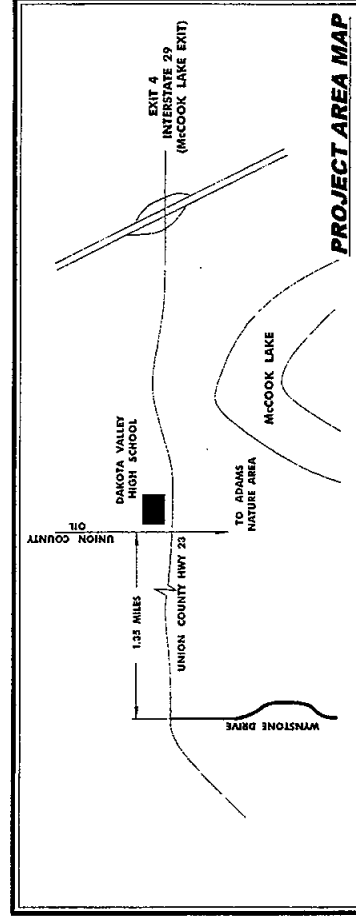
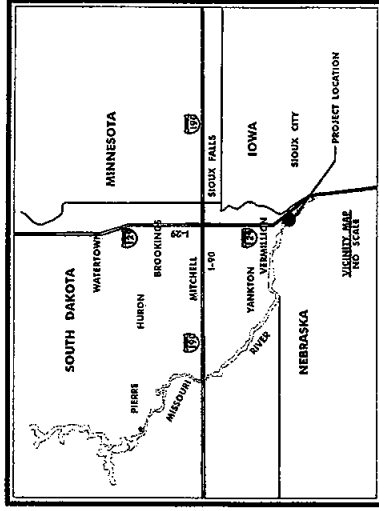
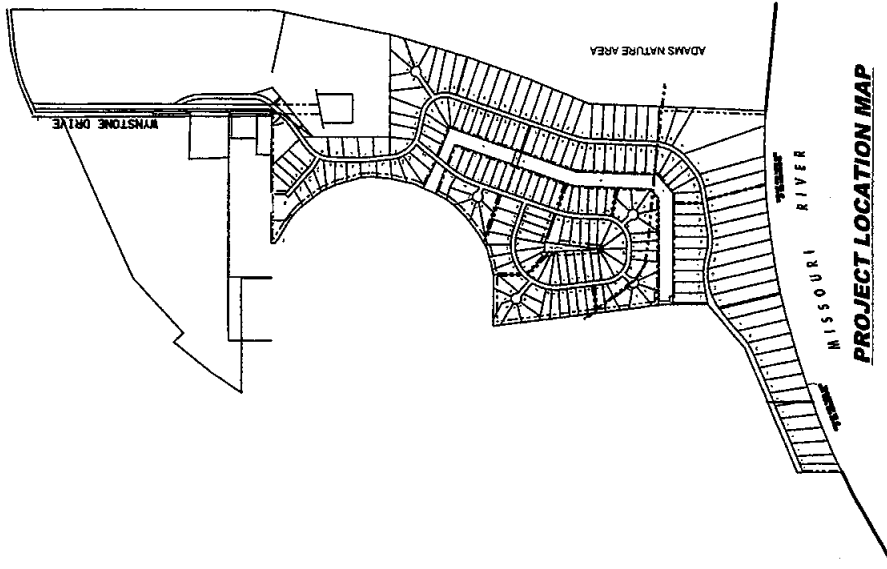


Well Site

ENGINEER
McLAURY ENGINEERING, INC.
P.O. BOX 1130, 118 W. MAIN ST
ELK POINT, SD 57025-1130
605-356-2308

OWNER
CLAY RURAL WATER SYSTEM INC.
30376 SD HWY 19
WAKANDA SD 57073
605-267-2088

CLAY RURAL WATER WYNSTONE WATER SYSTEM



McLaury Engineering, Inc.
Elk Point, South Dakota

CLAY RURAL WATER
WYNSTONE WATERLINE

SCALE: NONE
DATE: 07/20/12
DRAWN BY: JDL APPROVED BY: KJP SHEET 1 OF 35

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WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 7/31, 20 12

RECEIVED OF Clay Rural Water System 30376 SD Hwy 19 Wakonda SD 57073

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

Fee for Application for Permit No. <u>7388-3</u> to Appropriate Water, to construct and to put water to beneficial use	1750	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>7388-3</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	1950 00

No. 05509

By Louise Erbe
Chief Engineer



CRWS

Clay Rural Water System

30376 SD HWY 19
Wakonda SD 57073-6416
Phone: 605-267-2088
Fax: 605-267-2085
Email: office@clayruralwater.com

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JUL 30 2012

**WATER RIGHTS
PROGRAM**

July 27, 2012

Ron Duval
DENR Water Rights Program
PMB 2020 – 523 E Capitol Ave
Pierre SD 57501-3182

RE: Water Right Application

Dear Mr. Duval:

Enclosed find an application to increase our water right for an irrigation/fire protection supply well in the Wynstone Housing Development near McCook Lake, SD.

Our existing developed water right at this site is 1.11 CFS. We wish to increase by 2.0 CFS to a total of 3.11 CFS. We also wish to construct a test well in conjunction with this project. The well will be drilled by Sargent Irrigation of Geneva, NE.

Please let me know if you need any additional information.

Thank you.

Sincerely,

Greg Merrigan
Manager

Schlaak, Karen

From: Duvall, Ron
Sent: Friday, July 27, 2012 1:24 PM
To: 'Greg Merrigan'
Subject: RE: Atten: Eric Gronlund

Greg,

The application fee is \$1,750.00 plus a \$200.00 licensing fee. I calculated that by multiplying 2.00 cfs by 720 AF/year and dividing that by 120 AF increments which the fee is based on. That gave me a value of 12 – first increment is \$500.00, second is \$250.00 and the following 10 increments are \$100.00 each. So, that total (\$1,750.00) plus the \$200.00 license fee adds up to \$1,950.00.

If your maps show the location of the proposed diversion point(s), the pond, and the area to be irrigated, then I will sign the maps for you. Also, there needs to be some reference to a government section corner on the maps so we can reference all the locations to a known legal description. If you have any follow-up questions, please let me know. Have a nice weekend.

Thank you,

Ron
773-5670

From: Greg Merrigan [<mailto:greg.merrigan@clayruralwater.com>]
Sent: Friday, July 27, 2012 12:30 PM
To: Duvall, Ron
Subject: RE: Atten: Eric Gronlund

Ron:

Preparing the application ... currently have 1.11 CFS and applying to increase to 3.11. Water use will be for fire protection and lawn watering in a residential development. What would the fee be?
Also, I am trying to do this project in house. I have prepared three maps showing the location. Instruction 2.e states that the maps need to be signed by an authorized official. Do I need that in this case?

Thank you.

Greg Merrigan

From: Ron.Duvall@state.sd.us [<mailto:Ron.Duvall@state.sd.us>]
Sent: Thursday, July 26, 2012 1:33 PM
To: greg.merrigan@clayruralwater.com
Subject: RE: Atten: Eric Gronlund

Mr. Merrigan:

The process to apply for an increase in the diversion rate is identical to the process used to acquire the original permit. The additional 0.58 cfs, if approved, would receive a new priority date and the original 2.22 cfs would continue with the original priority date established under the existing permit. The preceding information

assumes that the entire 2.22 cfs was developed for use within the permitted timeframe allowed for development of the water use. If a lesser amount was developed, then the amount being applied for to get to 2.80 cfs would be a greater amount.

I see that this permit was transferred to Clay Rural Water. Is the type of water use by the rural water system the same as applied for under the original permit which was for irrigation? The answer to that question may also enter into what action is needed by the rural water system. In terms of new permitting timeframes, you are typically looking at about 3 months to get a new permit approved assuming the application is not contested in response to the public notice.

Please give me a call if you have any questions or wish to discuss the above. I can be reached at 605 773-5670. Also, attached are application forms (one for irrigation use the other for nonirrigation uses) for you to use or you can also fill-in the application online at: <http://denr.sd.gov/des/wr/watrightsapps.aspx>

Thank you,

Ron Duvall
Water Rights Program, DENR
<http://denr.sd.gov/wr>
605 773-3352

From: Greg Merrigan [<mailto:greg.merrigan@clayruralwater.com>]
Sent: Thursday, July 26, 2012 10:50 AM
To: DENR INTERNET INFORMATION
Subject: Atten: Eric Gronlund

Eric:

We have a water right at the Wynstone Housing Development (5998-3) for 2.22 cfs. What would be the process to increase that to 2.8 cfs and the expected time-frame?

Thank you.

Greg Merrigan
Manager
Clay Rural Water System, Inc
30376 SD HWY 19
Wakonda SD 57073-6416
(P) 605-267-2088
(F) 605-267-2085
greg.merrigan@clayruralwater.com
www.clayruralwater.com



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

August 1, 2012

Greg Merrigan
Clay Rural Water System
30376 SD HWY 19
Wakonda, SD 57073-6416

Dear Mr. Merrigan:

As requested, pursuant to South Dakota Well Construction Standard 74:02:04:21, you are authorized to construct a test well into the Missouri: Elk Point aquifer in the SW¼ NE¼ Section 18, T89N-R48W, prior to approval of a water permit. The test well must be constructed in accordance with the SD Well Construction Standards. Any test holes that are abandoned must be plugged pursuant to the SD Well Construction Standards.

Authorization must be obtained before water from the well can be used. Approval of this test well does not assure issuance of a water permit. Following review of a Water Permit Application; and assessing the availability of water, the potential impacts to existing users, the beneficial use, and the public interest of a permit, the Chief Engineer will make a recommendation to the Water Management Board regarding the application. The recommendation to approve, deny, or defer the application will be publicly noticed and an opportunity afforded for the public to intervene. A public hearing may be required to consider the water permit.

Very truly yours,

For GARLAND ERBELE, Chief Engineer
Water Rights Program
(605) 773-3352

Nos. 5998-3, 5998A-3 & New Application

WATER RIGHTS PROGRAM -- FILE DOCUMENTATION

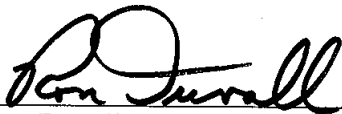
NAME: Clay Rural Water (c/o Greg Merrigan)

DATE: August 1, 2012

RE: Application for additional well and increased diversion rate

COMMENTS:

After reviewing the application for an additional well received July 30, 2012, it was discovered the existing well was not constructed at the site identified on the existing permit No. 5998-3. I spoke with Mr. Merrigan to confirm the location of the existing well at the site shown on the map submitted with the new application. Mr. Merrigan confirmed that the site is correct as shown on the map. Mr. Merrigan also mentioned that the proposed well will be constructed about 20 feet from the existing well. Based on the information provided by Mr. Merrigan I prepared a new map showing the location of the existing and proposed wells. I was also authorized by Mr. Merrigan to amend the new permit application to correct the location of the existing well as well as identify the correct location of the proposed well.



Ron Duvall
Natural Resources Engineer
Water Rights Program

Gronlund, Eric

From: Greg Merrigan <greg.merrigan@clayruralwater.com>
Sent: Monday, September 17, 2012 12:05 PM
To: Gronlund, Eric
Cc: Duvall, Ron
Subject: RE: water permit application at Wynstone development

From the Union County Register of Deeds Office ... Nebraska survey.

Replat of Lot A of Tract Twelve (12), Wynstone Phase 1, Section 36, Township 30 North, Range 7 East, Union County, South Dakota

From: Eric.Gronlund@state.sd.us [<mailto:Eric.Gronlund@state.sd.us>]
Sent: Thursday, September 13, 2012 9:33 AM
To: greg.merrigan@clayruralwater.com
Cc: Ron.Duvall@state.sd.us
Subject: water permit application at Wynstone development

Greg

The staff report on the additional well to supply the pond and irrigation at Wynstone is complete. A question arose on the legal description for the well. In the past the South Dakota survey was used. As you are probably aware legal descriptions in the area can be complicated due to accretion land, odd sized sections along the Missouri River and whether to use the SD or Nebraska survey. Attached are maps based on the Neb and SD surveys. Please check the deed for the well location and provide the legal description as set forth on the deed for the well location. DENR wants to make sure we have the right legal description in the public notice so the permit has proper legal standing. If necessary, in the same public notice we will also correct the past permits at this location.

Thanks,

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 7388-3, Clay Rural Water System Inc.**

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. 7388-3, Clay Rural Water System, Inc., c/o Greg Merrigan, 30376 SD Hwy 19, Wakonda SD 57073.

The Chief Engineer is recommending APPROVAL of Application No. 7388-3 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 qualification:

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. 7388-3 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. Clay Rural Water System shall report annually the amount of water diverted from the Missouri:Elk Point Aquifer.

See report on application for additional information.

Garland Erbele, Chief Engineer
October 19, 2012

REPORT TO THE CHIEF ENGINEER
ON
WATER PERMIT APPLICATION NO. 7388-3
CLAY RWS, INC.
SEPTEMBER 1, 2012

Water Permit Application No. 7388-3 proposes to appropriate 2.0 cubic feet of water per second (cfs) from one well completed into the Missouri: Elk Point aquifer for the irrigation of up to 300 acres and for fire protection in the Wynstone Housing Development. This application also proposes to authorize a change of the location of the well that supplies Water Permit No. 5998A-3. The well that supplies Water Permit No. 5998A-3 is located adjacent to the well site proposed by Application No. 7388-3. Water Permit No. 5998A-3 and Water Permit No. 7388-3, if approved, will authorize pumping water from two wells into a manmade lake with a storage capacity of 135 acre-feet. Water will be diverted from the lake for fire protection and to irrigate 300 acres within the suburban housing development. The location of the wells and the housing development are shown in figure 1.

AQUIFER: Elk Point Management Unit of the Missouri aquifer (M: EP)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Missouri aquifer is an alluvium mantled glacial outwash deposit that is estimated to be 150-200 feet thick in this area (McCormick and Hammond, 2004). The Elk Point management unit of the Missouri aquifer underlies approximately 99,600 acres of Union County and extends into neighboring Clay County (Hedges and others, 1982). The Missouri: Elk Point contains an estimated 1,494,600 acre-feet (ac-ft) of recoverable water in storage in Union County alone (Hedges and others, 1982). The aquifer generally overlies the Dakota Formation. The Elk Point management unit is hydraulically connected to the Big Sioux and Missouri Rivers. Ground water movement in the Elk Point management unit is generally to the southeast with the gradient of the potentiometric surface generally about 1.5 feet per mile (Niehus, 1994). The aquifer is under unconfined conditions in this area.

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is 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 water availability and existing rights issues only.

WATER AVAILABILITY:

This application proposes to appropriate an additional 1,448 ac-ft annually from the Missouri: Elk Point aquifer. 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 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."



Figure 1. Location of the well site proposed by Application No. 7388-3 and the Wynstone Suburban Housing development.

Recharge versus Discharge:**Recharge:**

Recharge to the Elk Point management unit in Union County occurs through direct penetration of precipitation, streamflow losses, upward leakage from the Dakota aquifer and subsurface inflow from Clay County and adjacent aquifers (the Lower Vermillion-Missouri aquifer and the Big Sioux aquifer). The quantity of recharge from each source is variable since the gradient from the rivers and adjacent aquifers influences the amount of recharge received. Average annual recharge has not been quantified for the Missouri: Elk Point aquifer.

The importance of the surface water/groundwater connection probably cannot be overstated. When the water levels in the aquifer are below the stages of the rivers, the aquifer is recharged by streamflow losses. In other words, groundwater levels are maintained by surface water. As Stephens (1967) states for neighboring Clay County: "much of the discharge of the Missouri river is potentially available to recharge the aquifer. Increased ground-water discharge by wells would induce additional recharge from the river." The Missouri: Elk Point aquifer in this area is ideally suited for the maintenance of groundwater levels through recharge from the Missouri River.

Discharge:

Discharge from the Missouri: Elk Point aquifer is: (1) evapotranspiration; (2) discharge to the Big Sioux and Missouri rivers during periods of low flow and stage; (3) possibly discharge to the underlying Dakota aquifer; and (4) withdrawals from wells. The Missouri: Elk Point aquifer is heavily appropriated with 37 Water Permits, 252 Water Rights appropriating water from the aquifer in Union County alone. There are three water rights appropriating water for commercial use and two water rights appropriating water for industrial use, and the remaining appropriations are for irrigation use. In 2011, 272 irrigators reported withdrawing a total of 72,897 ac-ft from the Missouri: Elk Point aquifer from Union County (Water Rights, 2012).

Observation Well Data:

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

The DENR-Water Rights Program monitors 37 observation wells completed into the Missouri: Elk Point aquifer, including 25 in Union County (Water Rights, 2012a). The nearest Water Rights' observation well completed into the Missouri: Elk Point aquifer (UN-77Q) is located approximately one and one-half miles northwest of the well site proposed by this application. A hydrograph of the observation well is shown in figure 2.

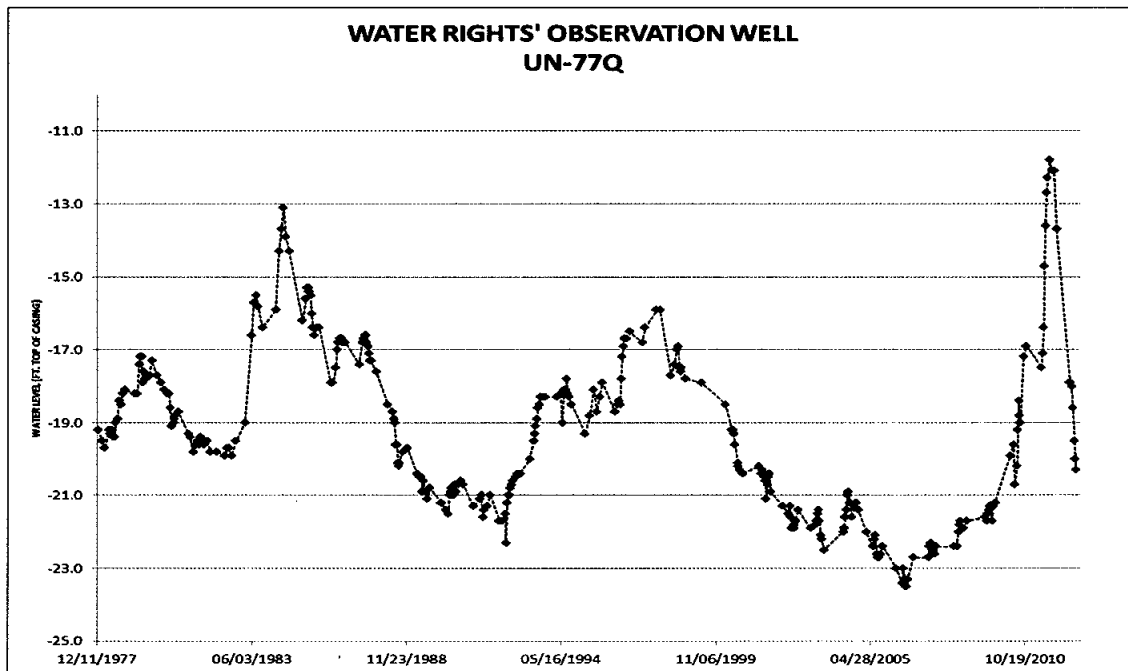


Figure 2. Hydrograph of DENR-Water Rights' Observation Well UN-77Q which is located approximately one and one-half mile north-northwest of the well site proposed by Application No. 7388-3.

A general downward trend of the water table of the Elk Point Management Unit of the Missouri aquifer can be seen in the data for observation wells. Inserting a linear trend line to the observation well hydrograph (see figure 3) clearly demonstrates this decline.

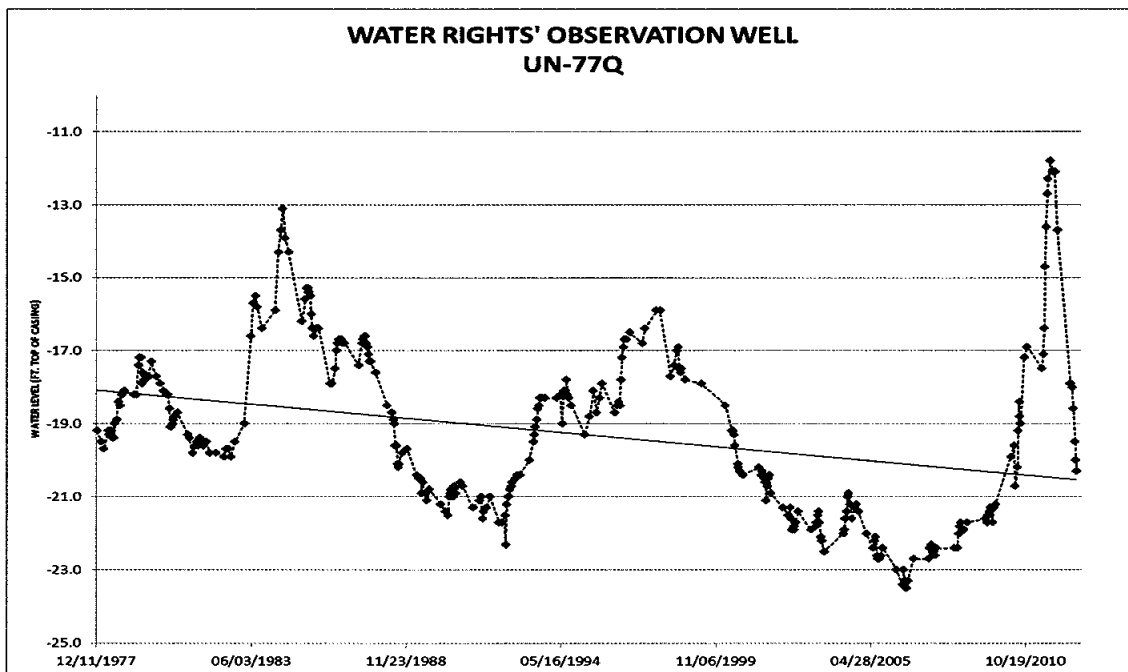


Figure 4. Hydrograph of DENR-Water Rights' Observation Well UN-77Q, with linear trend line.

The lower water levels documented by the observation well data represent less water in storage in the aquifer. The gradual lowering of the water table has been attributed to: (a) the entrenching of the Missouri River (Goodman, 2007) or (b) the fact that controlled flows of the Missouri River eliminated most of the flooding that used to inundate the entire floodplain and raise the water table to or above land surface (Stephens, 1967). The lower water levels that have occurred since the construction of Gavins Point Dam are probably caused by a combination of both factors cited above. Regardless of the cause, the declining water levels demonstrate the hydraulic connection between the aquifer and the Missouri River. The high flows in the Missouri River during the summer of 2011 are also very evident from the hydrograph. As stated earlier, groundwater levels are maintained by surface water. Increased ground-water discharge by wells would induce additional recharge from the rivers. The minimum discharge from Gavins Point dam is approximately 9,000 cfs (Rath). Even if all of the water appropriated from the Missouri: Elk Point aquifer was induced from the Missouri River it would be only a small percentage of the Missouri River flows. Therefore unappropriated water can be considered available for this appropriation.

EXISTING WATER RIGHTS:

In addition to Clay RWS's current appropriations, there are three existing water rights within approximately one mile of the well site proposed by this application. They are shown in Table 1.

PERMIT NO	NAME	PRIORITY DATE	STATUS	USE	CFS	ACRES
1019-3	LEONARD, RICHARD DAILEY	02/12/1963	LC	IRR	3.27	230
2340-3	STEVE HEITMAN	09/02/1975	LC	IRR	2.7	216
5666-3	JOE & JOHN TRUDEAU	04/02/1992	LC	IRR	1.56	203
LC= Water Right, IRR= Irrigation						

Table 1. Water Rights held by others within approximately one mile of the well site proposed by this application.

Well interference is not expected to be a concern in this area due to the thickness of the aquifer in the area and fact that because of the close proximity of the Missouri River, the flow and stage of the river will dominate the groundwater levels in this area.

CONCLUSIONS:

1. Water Permit Application No. 7388-3 proposes to appropriate up to 1448 ac-ft annually from the Missouri: Elk Point aquifer at a maximum diversion rate of 2.0 cfs.
2. There is a reasonable probability that unappropriated water is available from the Missouri: Elk Point aquifer for this proposed appropriation.
3. There is a reasonable probability that the diversion proposed by this appropriation should not adversely impact existing water rights.



Ken Buhler
SD DENR-Water Rights Program

REFERENCES:

- Goodman, J.A., 2007, Report on Water Permit Application No. 6869-3 for Lewis and Clark RWS: SD DENR-Water Rights Program
- Hedges, L.S., Burch, S.L., Iles, D.L., Barari, R.A., Schoon, R.A., 1982, Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, Task 1: Bedrock Topography and Distribution, Task 2: Extent of Aquifers, Task 3: Ground-Water Storage, Task 4: Computerized Data Base, Final Report; U.S. Army Corps of Engineers Contract DACW 45-80-C-0185
- McCormick, K.A., and Hammond, R.H., 2004, Geology of Lincoln and Union Counties, South Dakota: SD DENR-Geological Survey Program: Bulletin 39, 43 p. 4 pls, 12 figs, 4 tables. 2 app.
- Niehus, C.A., 2004, Water Resources of Lincoln and Union Counties, South Dakota, U.S. Geological Survey Water-Resources Investigations Report 93-4195, 57 p.
- Rath, Mark. Natural Resources Engineering Specialist, SD DENR-Water Rights Program. Personal communication. 16 Aug. 2006
- Stephens, J.C., 1967, Geology and Hydrology of Clay County South Dakota, South Dakota, Part II: Water Resources, SD Geological Survey Bulletin 19, 62 p.
- Water Rights, 2011, "2010 Irrigation Summary by Aquifer": SD DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Water Rights, 2012a, Observation Well Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2012b, Water Right/Permit Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.
- Water Rights, 2012c, Well Completion Report Files, SD DENR-Water Rights Program, Joe Foss Bldg, Pierre, SD.

AFFIDAVIT OF PUBLICATION

State of South Dakota)
:ss
County of Union)

Kelly Kruithoff,

an employee of the Leader-Courier, deposes and says that

The Leader-Courier

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

Notice of Application No. 7388-3

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

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

on Thursday, the 25 day of October, 2012

and that the succeeding publications were

on Thursday, the _____ day of _____,

on Thursday, the _____ day of _____,

on Thursday, the _____ day of _____,

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

\$ 36.08, that the full amount of the fee charged insures to the benefit of the publisher of the said newspaper, that no agreement or understanding for the division thereof has been made with any other person and that no part thereof has been agreed to be paid to any other person whomsoever.

Kelly Kruithoff

Subscribed and sworn to before me

this 25 day of October, 2012

My commission expires 6-21-17

SUSAN ODSON
NOTARY PUBLIC
SOUTH DAKOTA

Notary Public

NOTICE OF APPLICATION NO. 7388-3 to Appropriate Water

Notice is given that Clay Rural Water System, Inc., c/o Greg Merigan, 30376 SD Hwy 19, Wakonda, SD 57073 has filed an application for a water permit to appropriate 2.0 cubic feet of water per second (cfs) from one additional well to be completed into the Missouri/Elk Point Aquifer (140 feet deep) located in Replat of Lot A of Tract Twelve (12), Wynstone Phase 1, Section 36, T30N, R7E, Union County, South Dakota (Nebraska Survey) for irrigation of up to 300 acres and fire protection at the Wynstone Housing Development. This notice also corrects the legal location of the existing well authorized by Water Permit No. 5998A-3. Water Permit No. 5998A-3 authorizes 2.22 cfs from one well originally issued based on the South Dakota survey as being located in the NE1/4SW1/4 Section 18-T89N-R48W. The well as developed produces 1.11 cfs and is legally described on the deed as also being in Replat of Lot A of Tract Twelve (12), Wynstone Phase 1, Section 36, T30N, R7W. Water Permit No. 5998A-3 and this application, if approved, will pump water from the two wells at a total rate of 3.11 cfs into a 135 acre-foot man-made lake to be utilized for fire protection and irrigation of 300 acres of the Wynstone suburban housing development area located in the portions of Section 36, T30N, R7E and Section 1, T29N, R7E.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7388-3 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 November 5, 2012.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application.

Steven M. Pirner, Secretary,
Department of Environment and Natural Resources.
Published October 25, 2012
Published once at the total approximate cost of \$36.08
43-12-97

RECEIVED

NOV - 5 2012

WATER RIGHTS
PROGRAM

RECEIVED

OCT 29 2012

WATER RIGHTS
PROGRAM

AFFIDAVIT OF PUBLICATION

YANKTON DAILY PRESS AND DAKOTAN

Department of Environment and Natural Resources
PMB 2020
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3182

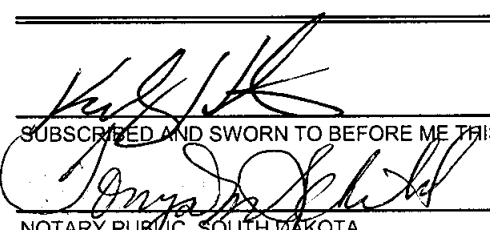
STATE OF SOUTH DAKOTA
COUNTY OF YANKTON

KELLY HERTZ BEING FIRST DULY SWORN ON OATH DEPOSE
AND SAYS THAT HE IS THE MANAGING EDITOR OF, YANKTON
MEDIA INC, A CORPORATION, THE PRINTER AND THE PUBLISHER OF
YANKTON DAILY PRESS AND DAKOTAN, A LEGAL DAILY NEWSPAPER
PUBLISHED AND CIRCULATED IN THE CITY OF YANKTON, SAID COUNTY
AND STATE, AND ONE OF THE OFFICIAL NEWSPAPERS OF THE SAID
COUNTY OF FACTS STATED IN THIS AFFIDAVIT; THAT THE ANNEXED
Notice of Application No. 7388-3

TAKEN FROM THE PAPER, IN WHICH IT WAS LAST PUBLISHED IN THE
NEWSPAPER ON THE 25th DAY OF October 2012
THAT THE FULL AMOUNT OF THE FEE CHARGED FOR THE PUBLICATION
OF SAID **NOTICE** TO WIT \$35.42 ENSURES TO THE
BENEFITS OF THE PUBLISHER OF SAID NEWSPAPER AND THAT NO
AGREEMENT AND UNDERSTANDING FOR THE DIVISION THEREOF HAS
BEEN MADE WITH ANY OTHER PERSON, AND THAT NO PART THEREOF
HAS BEEN AGREED TO BE PAID TO ANY PERSON WHOMSOEVER.

PUBLISHED ON: 10/25/2012

FILED ON: 10/25/2012

SUBSCRIBED AND SWORN TO BEFORE ME THIS 25th DAY OF October 2012

NOTARY PUBLIC, SOUTH DAKOTA
MY COMMISSION EXPIRES 8/19/2015

mailing address is given above. A petition filed by either an interested person or the applicant must be filed by November 5, 2012.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel. If legal counsel is obtained, contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pimer, Secretary, Department of Environment and Natural Resources.

Published once at the total approximate cost of \$35.41.

NOTICE OF APPLICATION
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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 7388-3 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.

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Instruction to Newspaper - Publish the Notice on October 25, 2012. 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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Published once at the total approximate cost of _____.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

October 19, 2012

Southern Union Co Leader Courier
PO Box 310
Elk Point SD 57025

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 7388-3 to Appropriate Water. Please publish the notice once on October 25, 2012. 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 Clay Rural Water System Inc., c/o Greg Merrigan, 30376 SD Hwy 19, Wakonda SD 57073 (Ph # 605-267-2088).

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**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

October 19, 2012

Press & Dakotan
319 Walnut
Yankton SD 57078

ATTENTION: Legal Public Notice

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Natural Resources Engineer
605 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

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

October 19, 2012

Clay Rural Water System Inc
Greg Merrigan
30376 SD Hwy 19
Wakonda SD 57073

Dear Mr. Merrigan:

Water Permit Application No. 7388-3 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Southern Union Co. Leader Courier printed at Elk Point SD (Ph # 605-356-2632) and the Press & Dakotan printed at Yankton SD (Ph # 605-665-7811). You will need to contact the newspaper(s) and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,


Eric Gronlund

Natural Resources Engineer
(605) 773-3352

enclosures

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

APR 12 2013

Clay Rural Water System, Inc.
c/o Greg Merrigan, Manager
30376 SD Hwy 19
Wakonda SD 57073

Dear Mr. Merrigan:

Enclosed is Water Permit No. 7388-3 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit. Also, enclosed is Reissued Water Permit No. 5998A-3 which lists the correct location of the existing well.

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

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

Sincerely,

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

enclosures

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

Date April 16, 2013

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

RECEIVED

APR 19 2013

WATER RIGHTS
PROGRAM

FROM: Greg Merrigan, Manager CRWS

(name)

30376 SD HWY 19

(address)

Vermillion SD 57069

(city, state, zip)

(605) 267-2088

(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.

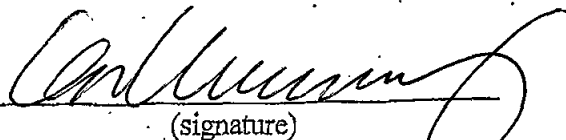
Water Permit No. 7388-3 states that the water use system is to be constructed by

Nov. 5, 2017, and water is to be put to beneficial use by Nov. 5, 2021
(date) (date)

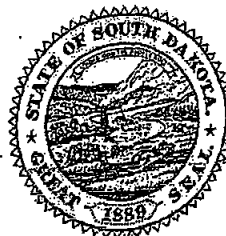
The water use system was completed on Nov. 1, 2012
(date)

Applying the water to beneficial use was completed on Nov. 15, 2012
(date)

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


(signature)

Greg Merrigan, Manager, CLAY RWS



SOUTH DAKOTA WATER WELL COMPLETION REPORT

SD Form - 1621LD V1

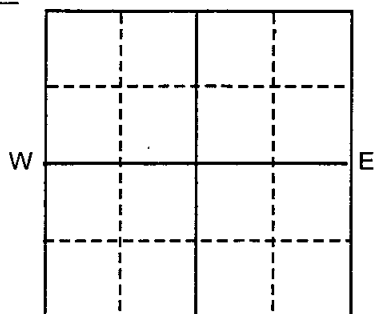
11-02

Location NW 1/4 NE 1/4 Sec 1 Twp 29 Rg 7E

County Union

North

Please mark well location with an "X"



Well Completion Date

February 3, 2010

← 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:

Reverse Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	16.00 IN	0.0 FT	90.0 FT	30.00 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Bentonite	2	1,000.0 Lb/gal	8.0 Ft	25.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure _____

SCREEN:

☒ Perforated pipe ☐ Manufactured

Diameter 16.00 Inches Length 50.0 Feet

Material Stainless Steel

Slot Size .080 Set From 90.0 Feet to 140.0 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? Sodium Hypochlorite

☐ No, Why Not? _____

Lab to which water quality sample sent for analysis _____

Well Owner: Clay Rural Water System

Business Name: _____

Address: 30376 SD HWY 19

City, State, Zip: Wakonda SD 57073

WELL LOG: Well #2 - Wynstone

DEPTH

FORMATION	FROM	TO
Top soil and brown clay	0	3
Fine sand & clay	3	40
Fine sand w/clay layer	40	60
Medium sand w/black shale pieces	60	80
Coarse sand w/clay	80	112
Fine sand w/clay streak	112	126
Medium, coarse sand w/gravel	126	138
Sandstone	138	160
Sandstone w/gray shale layer	160	200

STATIC WATER LEVEL 21.0 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: _____

☐ Bailed

☐ Other

Pumping Level Below Land Surface

31.0 Ft. After 4.0 Hrs. pumped 1,200.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

RECEIVED

JUN - 7 2013

WATER RIGHTS PROGRAM

This well was drilled under license # 273 and this report is true and accurate.

Drilling firm: Sargent Irrigation Co., Inc.

Signature of License Representative: Doug Kuntze

Signature of Well Owner or Equitable Property Holder: _____

Date: _____