

WATER PERMIT NO. 1825-1

Name of Applicant: **Valley View Land Co. LLC**

Address: **1521 Forest Dr, Rapid City SD 57701**

Phone: **605 390-1986**

Amount of Water Claimed: **0.5 cfs**

Total Acres: **NA**

Source of Water Supply: **groundwater (2 wells)**

Water to be used for: **suburban housing development**

County: **Meade**

Type of Waste Disposal System:

Location: **1 mile southeast of Piedmont**

PRIORITY Date Received: **7-15-04**

Application/License Fee: **\$300**

Corrected Application Received: **8-20-04**

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

Remarks:

Diversion Point: **SW ¼ NW ¼ and NE ¼ SW ¼**
Sec 14-T3N-R6E

Land to be Irrigated: **NA**

Depth of Well: **800 – 1200 feet deep**

Well Driller:

Remarks:

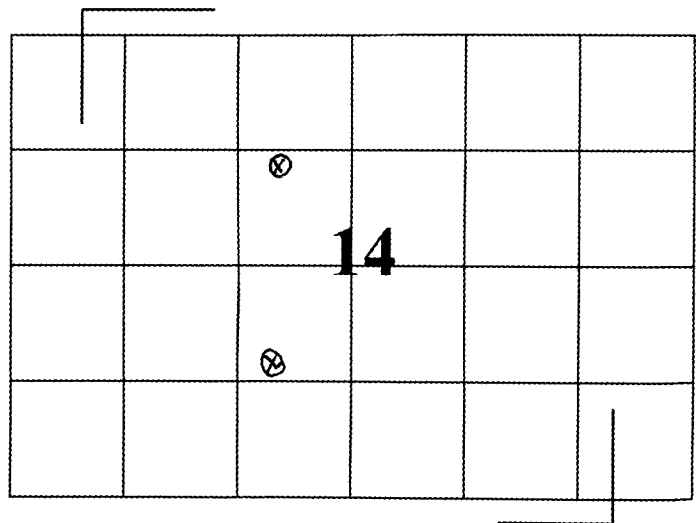
Type of Map: **plat**

Prepared by: **Hanir Shafai, PE**

Reviewed and the Number Assigned on: **8-23-04**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____



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

Mail to:
Water Rights Program
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3181
(605) 773-3352

No. 1825-1 (office use only)
Hydrologic Unit 10/20/11
Basin Upper Cheyenne
Newspaper Meade Co. Times Tribune, Sturgis

RECEIVED
JUL 15 2004
WATER RIGHTS
PROGRAM

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

Check use(s) of water:

☐ Municipal ☒ Suburban Housing ☐ Recreational ☐ Institutional
☐ Rural Water System ☐ Commercial ☐ Fish & Wildlife ☐ Geothermal Heat
☐ Domestic (over 18 gpm) ☐ Industrial ☐ Other

Type of Application: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☐ 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 of Applicant VALLEY VIEW LAND CO LLC. Phone 605-390-1986.
PROPERTY UNDER CONTRACT (check one) Owner ☐ Tenant/lessee ☐
Mailing Address 1521 FOREST DRIVE RAPID CITY State SD 57701.
PURCHASE (Street, RR, or Box and City) (Zip Code)

2. Amount of water claimed 0.5 *CFS or 225 **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)

3. Source of water supply WELL TO THE MARSH. (2 WELLS)

4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) 2 WELLS IN
SW 1/4 NW 1/4 AND PART OF NE 1/4 LYING NORTH AND
EAST OF RAILROAD R.O.W. S. 14 T.3 R.6E BHM. County MEADE

5. County or counties where water will be used MEADE.

6. Annual period during which water is to be used ALL YEAR. 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)

WILL HAVE PLAT IN ABOUT 60 DAYS.

STATE OF SOUTH DAKOTA)

County of PENNINGTON SS

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

I, R. GORDON BRYAN., 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.

SEAL
ROSA SCHINZEL
NOTARY PUBLIC
State of South Dakota
My Commission Expires
October 28, 2009

Applicant's signature R. G. Bryan
Subscribed and sworn to before me this 14 day of July 20 04
Rosa Schinzel
Notary Public signature

**SOUTH DAKOTA
WATER PERMIT NO. 1825-1**

Date of first receipt of application July 15, 2004.

Date of return to applicant for corrections, amendments or changes July 25, 2004.

Date of receipt of corrected application August 20, 2004.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1825-1 to Valley View Land Co LLC, c/o R. Gordon Bryan, 1521 Forest Drive, Rapid City SD 57701 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. 1825-1 appropriates 0.5 cubic feet of water per second from two wells to be completed into the Madison Aquifer (approximately 1200 - 1400 feet deep) located in the SW ¼ NW ¼ and the NE ¼ SW ¼ Section 14-T3N-R6E.
2. The water appropriated shall be used for the purpose of suburban housing development 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. 1825-1 is November 15, 2004.
5. The date from which applicant may claim right is July 15, 2004.
6. One-fifth of the construction is to be completed on or before May 15, 2007.
7. All construction is to be completed on or before November 15, 2009.
8. Water is to be put to beneficial use on or before November 15, 2013.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

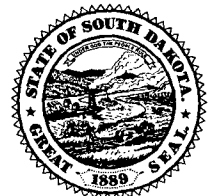
1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1825-1 is issued for a 20-year term. Pursuant to SDCL 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1825-1 may also be cancelled for nonconstruction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.
2. The wells 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.
3. The wells authorized by Permit No. 1825-1 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.
4. Valley View Land Company shall report to the Chief Engineer annually the amount of water withdrawn each year from the Madison Formation for suburban housing development.

WATER MANAGEMENT BOARD

By: Garland Erbele
Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

DEC 10 2004

date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 8.75 INCHES Depth 800-1200 FEET
- b) Casing Type STEEL Diameter 7 INCHES Thickness .025
- c) Screen Type N/A Diameter _____ Thickness _____
- d) Gravel Pack NA Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material 1000 APPROX.
- f) Depth to Water (ground surface to water level) 30 FEET
- g) Distance to nearest existing domestic well: 1/4 MILE APPROX

On applicants property _____

On property owned by others TRAILS WEST

WELL IN MINNEAPOLIS.

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 SUMMERSET SANITARY SYSTEM.

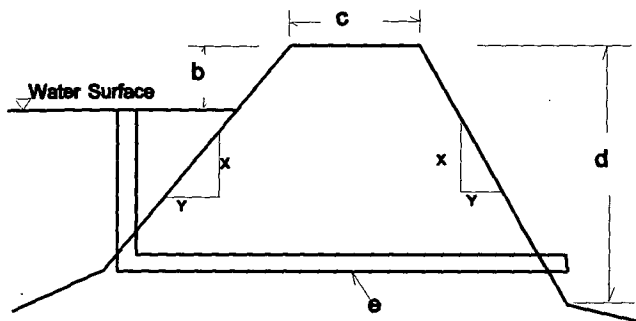
3. Dugout Information

- a) Surface Dimensions N/A 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 _____
Upstream _____
Downstream _____
- h) Surface Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date JULY 15, 20 04

RECEIVED OF Valley View LandCo LLC, R Gordon Bryan, 1521 Forrest DR, Rapid City SD 57001

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

Fee for Application for Permit No. <u>1825-1</u> to Appropriate Water, to construct and to put water to beneficial use	250	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>1825-1</u>	50	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. 2004004

By

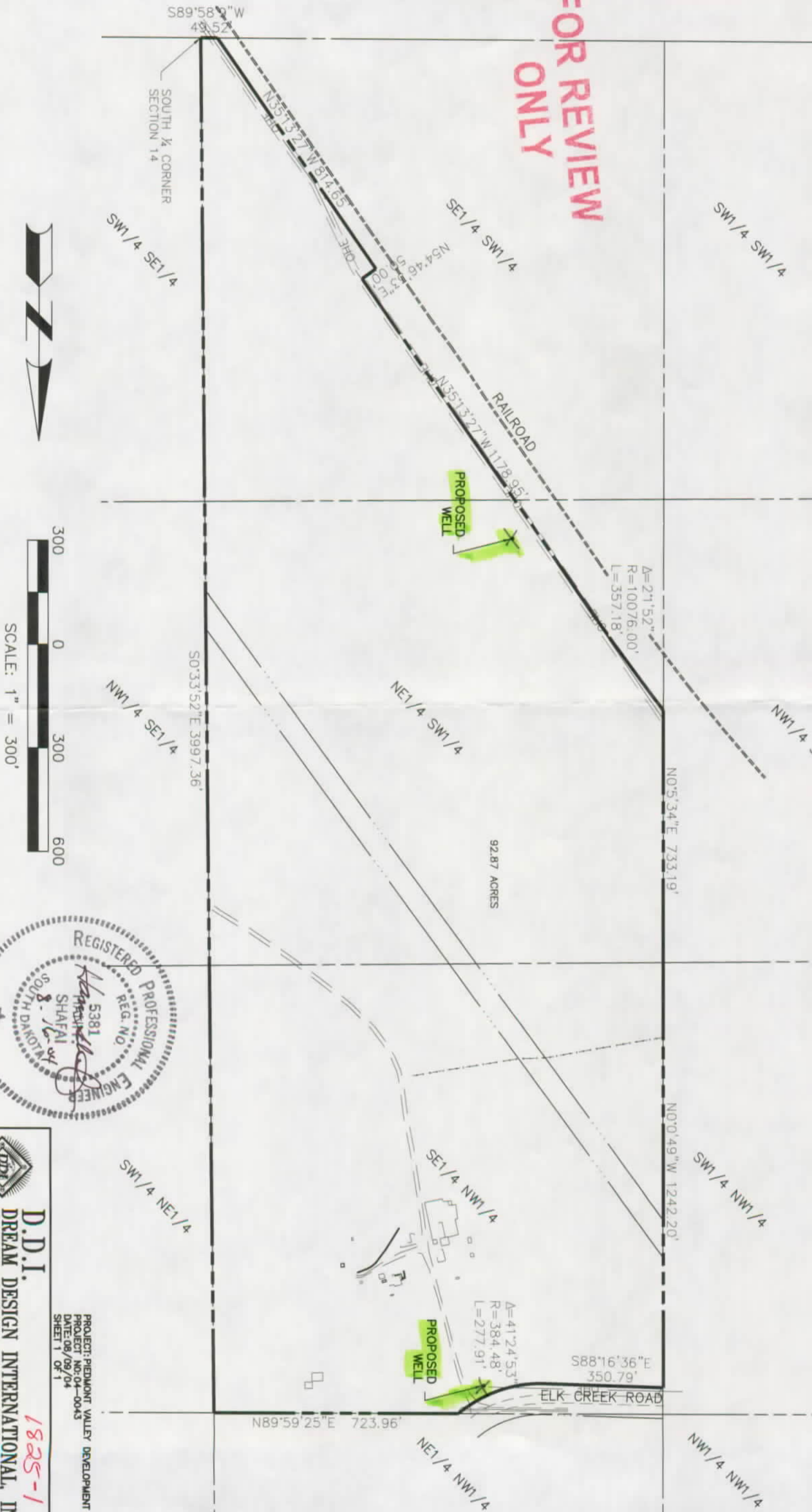
Darland Erbe
Chief Engineer *gm*

WATER WELL LOCATIONS

PIEDMONT VALLEY DEVELOPMENT

A PORTION OF THE E1/2 OF THE W1/2 SECTION 14, T3N, R6E, BHM MEADE COUNTY, SOUTH DAKOTA

FOR REVIEW ONLY



D.D.I.
DREAM DESIGN INTERNATIONAL, INC.
PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
508 KANSAS CITY ST., SUITE 4, KANSAS CITY, MO 64101
TEL: 816-346-0538 FAX: 816-346-0545 EMAIL: engineers@dreamdesigninc.com

PROJECT: PIEDMONT VALLEY DEVELOPMENT
PROJECT NO: 04-0043
DATE: 08/09/04
SHEET 1 OF 1

1825-1



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

July 25, 2004

R. Gordon Bryan
Valley View Land Co LLC
1521 Forest Drive
Rapid City SD 57701

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AUG 20 2004

WATER RIGHTS
PROGRAM

Dear Mr. Bryan:

Thank you for submitting the *Application for a Permit to Appropriate Water* for your suburban housing development. In order to complete the application the following is required.

- Enclosed is the map submitted with the application. On the map, please mark the location of the wells with an "X".
- Also, the map must be signed by one of the following: Registered Land Surveyor, Registered Professional Engineer or by any other government employee who normally prepares maps as a part of his assigned duties.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak
Karen Schlaak
Water Rights Program
605 773-3352

enclosure

*Enclosure is map
Thank you
Gordon Bryan
605-390-1986*

WATER PERMIT APPLICATION NO. 1825-1
VALLEY VIEW LAND CO. LLC
SEPTEMBER 28, 2004

Water Permit Application No. 1825-1 proposes to appropriate 0.5 cubic feet of water per second (cfs) from two wells to be completed into the Madison aquifer (approximately 1200-1400 feet deep) located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ and the NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec. 14, T3N-R6E, Meade County. The water is for use in a suburban housing development.

AQUIFER: Madison aquifer (MDSN)

Aquifer Characteristics:

The Madison Limestone, locally known as the Pahasapa Limestone, is a fine to medium crystalline, cavernous limestone and dolomite approximately 500 feet thick in this area (Carter and Redden, 1999a) (Carter and Redden, 1999b). The Madison underlies approximately 2,214,400 acres of Meade County and contains an estimated 83,040,000 acre-feet of recoverable water in storage in the county (Allen and others, 1985). The Madison extends into the counties adjacent to Meade County, and in fact underlies much of the Western United States. The top portion of the Madison Limestone is karstic, therefore it contains randomly distributed zones of secondary porosity and permeability formed by weathering of exposed surfaces, groundwater solution and fracturing, and is considered the Madison aquifer. The Madison is generally considered an excellent aquifer both in terms of quality and quantity, especially near the outcrop (recharge area). The Madison outcrop is located about one to one and one-half miles southwest of well sites proposed by this application (Strobel and others, 1999), and the top of the Madison limestone is expected to be approximately 1,100 feet below grade at southern proposed well site and approximately 1,200 feet below grade at the northern well site proposed by this application (Carter and Redden, 1999a). The average porosity of the Madison is estimated to be 11% and the effective porosity from which recoverable water can be obtained by wells is assumed to be 5% (Rahn, 1979). The Madison is recharged through infiltration of precipitation falling directly on the outcrop area, possibly upward leakage from the Deadwood aquifer, and from streamflow losses. The estimated average annual recharge for the Madison aquifer in South Dakota ranges from 140,000 to 400,000 acre-feet annually (Woodward Clyde, 1981). Average annual recharge from 1931-1998 is estimated to be approximately 137,000 ac-ft/yr (Carter and others, 2001).

The high cost of Madison wells, except very near the outcrop, and the availability of groundwater from shallower aquifers, has limited domestic development and generally restricted usage from the Madison to those uses which require water rights. There are a total of 131 permits/rights which appropriate water from the Madison aquifer in South Dakota (Water Rights, 2004c). In addition, there are two Future Use Permits (1833-2 Weston Heights Home Owners, and 2086-2 The City of Rapid City), that reserve water from the Madison aquifer. The majority of the water rights/permits from the aquifer are from Butte, Lawrence, Meade, Pennington and Fall River Counties. The Madison supplies water for irrigation, geothermal, industrial, and commercial use. However, by far the major use of the aquifer is for common distribution systems (suburban housing development and municipal

use). The cities of Spearfish, Belle Fourche, Sturgis, Rapid City, Box Elder, and Edgemont all depend on water from the Madison aquifer.

If the worst case assumptions are made that (1) permits/rights with an annual withdrawal limitation (ac-ft/yr) will use the maximum allowable; and (2) permits/rights that are limited by a diversion rate only, will use 60% of the maximum allowable (considered reasonable for water distribution systems); the total water use from the Madison would be less than 50,000 acre-feet per year. The actual amount of water used from the Madison is considerably less than this estimate. Withdrawals from wells completed into the Madison aquifer were estimated to be 10,990.2 acre-feet annually from 1987-1996 (Carter and others, 2001b). Comparison of the estimated annual recharge to the Madison with the water use estimated from the aquifer indicates unappropriated water is available from the Madison aquifer.

Observation Well Data:

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2004b). Records from the observation wells indicate the potentiometric surface of the Madison aquifer fluctuates 30-40 feet per year near the recharge area in response to seasonal and climatic variations. Long-term water level declines are not apparent from any of the hydrographs. Observation well data suggest that at the existing level of development, natural influences dominate the water levels of the aquifer and the effects of pumping as yet are not obvious.

The nearest Water Rights' Madison aquifer observation well (MD-94A) is located within one mile (northwest) of the well sites proposed by this application. The hydrograph for the observation well is shown below in figure 1.

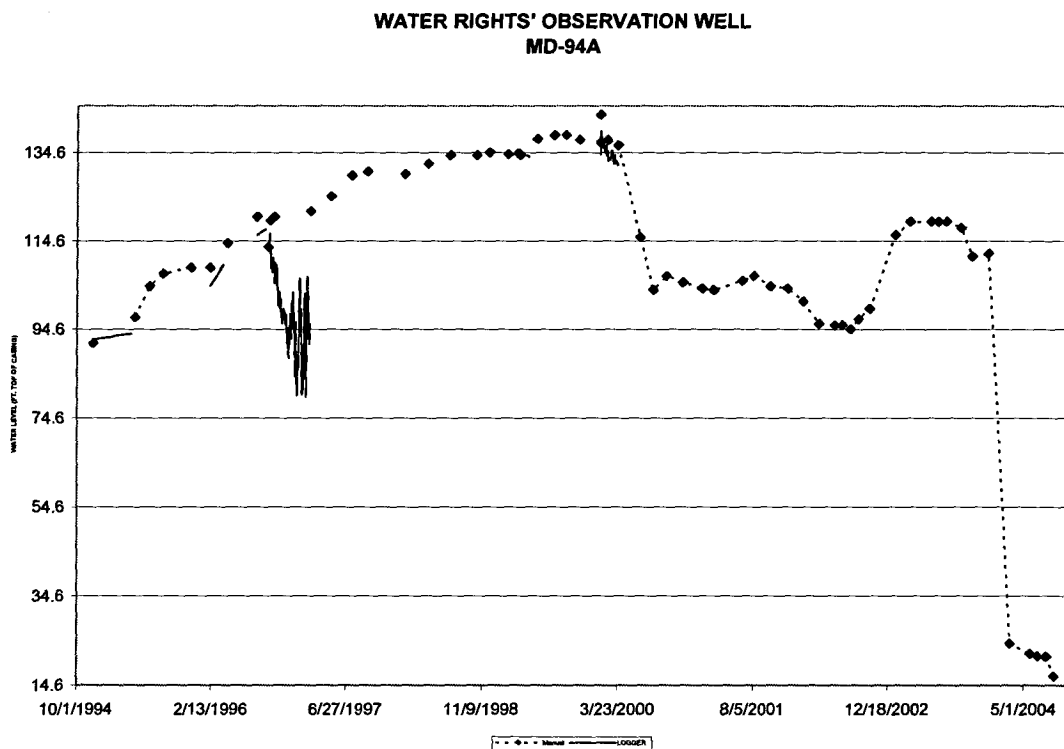


Figure 1. Hydrograph of Water Rights' observation well located approximately one mile northwest of the well sites proposed by this application.

The hydrograph shows that the water levels in the well, and presumably the Madison aquifer in this area, gradually increased by nearly 50 feet between 1994 and the spring of 2000. The water level declines recorded in 1997 and 2000 are probably responses to normal seasonal climatic conditions. However, the water level decline in 2000 seems to coincide with the completion and development of the well to be used to supply Water Permit No. 1736-1. At this time there is no logical explanation for the potentiometric surface decline of 87.8 feet between December 2003 and March 2004. The decline is unprecedented at this site (see hydrograph) or in any of the other Madison aquifer observation wells monitored by the Water Rights Program.

Affects on Existing Rights:

There are 33 Water Rights/Permits appropriating groundwater within approximately two and miles of the well sites proposed by this application, (Water Rights, 2004c), they include:

PERMIT NO	NAME	AQUIFER	USE	CFS
1155-1	DONALD/BETTY WITTINGER	MNLS	COM	0.03
1170-1	NICHE HOMEOWNERS ASSOC	MNLS	SHD	0.09
1334-1	STAGE STOP PLAZA	MNLS	COM	0.08
1336-1	PIEDMONT SENIOR CITIZENS	MNKT	INS	0.10
1338-1	BLACK HILLS PETRIFIED	INKR	COM	0.03
1373-1	EASTRIDGE ACRES DEV ASSOC	MNLS	SHD	0.09
1497-1	MIDLAND HEIGHTS WATER/SER	MNLS	RWS	0.09
1507-1	PIEDMONT BAPTIST CHURCH	MNLS	INS	0.02
1512-1	ELK CREEK STEAKHOUSE	MNLS	COM	0.02
1533-1	MEADE SCHOOL DIST 46-1	MNLS	INS	0.10
1569-1	STAGEBARN SANITARY DIST	MDSN	SHD	0.28
1588-2	WONDERLAND WATER ASSN	MNLS	SHD	0.24
1607-1	BLACK HILLS PETRIFIED FOR	MNLS	COM	0.07
1614-1	EUGENE B BERGAN	MNLS	COM	0.08
1640-1	JOHN G BOYLAN	MNLS	COM	0.04
1641-1	LANTIS FIREWORKS	SPRF	COM	0.02
1647-1	WORMAN CORPORATION	MNLS	COM	0.10
1651-1	STAGEBARN HOUSING CENTER	MNKT	COM	0.02
1659-2	SHERIDAN HEIGHTS INC	MNLS	SHD	0.26
1660-1	GFK INC	MNKT		0.02
1676-1	STAGEBARN SUBDIVISION	MDSN	SHD	0.28
1682-1	STANLEY W SCHEURER	MNLS	SHD	0.11
1688-1	JAKE OR LYNNE MOONEY	INKR	COM	0.09
1694-1	DAN C KESSLER	MNLS	COM	0.07
1701-1	STAGEBARN LODGING, LLC	MDSN	COM	0.10
1730-1	GEORGE A WANG	MNLS	COM	0.10
1736-1	STANLEY SCHEURER	MDSN	SHD	1.11
1745-1	TIM HAGGAR	MDSN	COM	0.10

1759-1	PIEDMONT FIRE PROTECTION	MNLS	DOM	0.09
1768-1	FIRST WESTERN BANK	MNLS	COM	0.06
1902-2	CAROL'S SLASH J BAR	MNLS	COM	0.01
1907-2	OUR LADY OF THE BLACK	MNLS	INS	0.10
989-1	ELK CREEK WATER CO., INC	MNLS	SHD	0.22

Table 1. Groundwater Appropriations within two miles of 1825-1

With five exceptions, these appropriations are from aquifers that are shallower than the Madison (Inyan Kara, Spearfish, Minnekahta, and Minnelusa aquifers). The extent of a hydrologic connection between the Madison and shallower aquifers is unclear and has been debated. Testimony was presented in opposition to Water Permit No. 1569-1 that pumping the Madison Aquifer may affect nearby wells completed into the Minnelusa aquifer (Water Rights, 1993). The Minnelusa directly overlies the Madison aquifer and if a hydraulic connection occurs between shallower aquifers it would be most apparent between the Madison and Minnelusa aquifers. For the most part the Madison and Minnelusa aquifers are "hydraulically distinct units". However, in general the potentiometric surfaces (water levels) suggest a potential for leakage from the Madison Aquifer to the Minnelusa Aquifer, and there is some concern over possible impacts to Minnelusa wells caused by pumping the Madison. If leakage is significant, drawdown in the Madison could cause decreased leakage and consequently lower the water levels in the Minnelusa aquifer.

The Water Rights Program maintains an observation well completed into the Minnelusa aquifer adjacent to observation well MD-94A. Comparison of the hydrographs of the two wells (figure 2) clearly shows a potential for leakage from the Madison aquifer to the Minnelusa aquifer based on the potentiometric surface differential between the two aquifers. A direct hydraulic connection between the two aquifers is not apparent however.

**WATER RIGHTS' OBSERVATION WELLS
MD-84A & MD-94A**

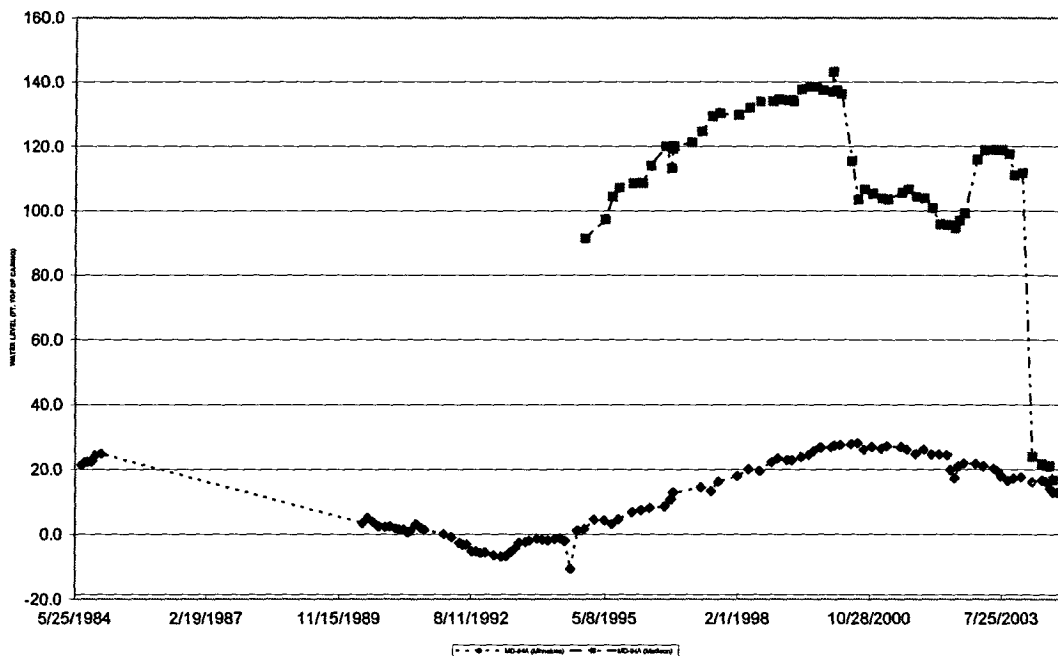


Figure 2. Composite Hydrograph comparing Madison and Minnelusa aquifers in the area

Well interference is not expected to be an issue with nearby water rights/permits completed into shallower aquifers because of an apparent hydrologic separation between the Madison aquifer and shallower aquifers.

Madison appropriations within two miles of the wells proposed by this application are shown in Table 2.

PERMIT NO	NAME	STATUS	USE	CFS	DISTANCE FROM 1825-1
1569-1	STAGEBARN SANITARY DIST	LC	SHD	0.28	1 mile
1676-1	STAGEBARN SUBDIVISION	PE	SHD	0.28	.5 mile
1701-1	STAGEBARN LODGING, LLC	LC	COM	0.10	1.5 mile
1736-1	STANLEY SCHEURER	PE	SHD	1.11	1.5 mile
1745-1	TIM HAGGAR	PE	COM	0.10	1.5 mile

Table 2. Appropriations from the Madison aquifer within two miles of 1825-1

Well interference between the wells proposed by this application and the other Madison Water Rights/Permits is possible since the aquifer is under confined (artesian) conditions and drawdown could extend a fairly extended distance from an individual pumped well. At this time it is not practical to attempt to quantify the specific affect pumping this well will have on area wells since aquifer characteristics have not been determined for this area, and the variability of the hydraulic characteristics has been well documented (Greene, 1993). In addition, Greene concluded that the transmissivity of the Madison is not equal in all directions (anisotropic); therefore the drawdown cone will extend farther in one direction than another.

Although the impact of this appropriation cannot be quantified precisely, it is still possible to address whether this appropriation can be made without adversely affecting water rights, including domestic wells. In the first place, the distance from other Madison wells should be sufficient to minimize interference. Secondly, Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1, provide protection to prior appropriators only to the degree necessary to maintain an adequate depth of water in wells that have the ability to produce water independent of artesian pressure. Simply put, the pump placement in a prior appropriator's well is not necessarily protected. In fact, in past action, the Water Management Board it has concluded that if increased cost or decreased production is considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources to be put to beneficial use to the fullest extent of which they are capable. In this area, the Madison aquifer has around 1,000 feet of artesian head pressure (Carter and Redden, 1999a) and (Strobel and others, 2000).

There are approximately 140 well completion reports on file with the Water Rights Program for water supply wells within two miles of the well sites proposed by this application. Although a limited number of these wells completed into the Madison aquifer (Water

Rights, 2004a) the potential affect of this appropriation to domestic wells must be considered. It is likely that even if a domestic well completed into the Madison aquifer in this area experienced interference, it would still be capable of delivering sufficient water with a pump inlet placed near the top of the aquifer. Therefore adverse impact to domestic wells is not probable.

Term Limitation:

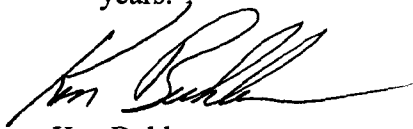
SDCL 46-2A-20 requires that "... no water permit for construction of works to withdraw water from the Madison formation in Butte, Fall River, Custer, Lawrence, Meade and Pennington counties may be issued for a term of more than twenty years, unless the water management board determines, based upon the evidence presented at the hearing that:

- (1) Sufficient information is available to determine whether any significant adverse hydrologic effects on the supply of water in the Madison formation would result if the proposed withdrawal were approved; and
- (2) The information, whether provided by the applicant or by other means, show that there is a reasonable probability that issuance of the proposed permit would not have a significant adverse effect on nearby Madison formation wells and springs."

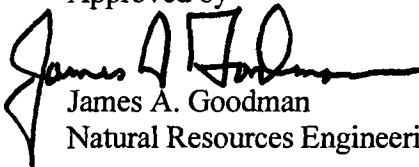
Evidence is not available to justify issuing this permit without a term limitation of 20 years.

Conclusions:

1. The Madison aquifer is a viable aquifer in this area.
2. This diversion will not adversely impair existing water rights.
3. Information is not available to justify issuing this permit without a term limitation of 20 years.



Ken Buhler
Natural Resources Engineering Specialist
Approved by



James A. Goodman
Natural Resources Engineering Director

References:

Allen, J.C., Iles, D.L., and Petres, A.K., 1985, Analysis of Groundwater and Streamflow Data Western Dakotas Region of South Dakota, Tasks 3A.B.C. and 4A.B.: Groundwater Resource Inventory: South Dakota Department of Water and Natural Resources,

- Carter, J.M., Driscoll, D.G., Hamade, G.R., 2001, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years 191-98, Water-Resources Investigations Report 00-4278, 66 p.
- Carter, J.M., Redden, J.A., 1999a, Altitude of the Top of the Madison Limestone in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-D, 2 sheets, scale 1:100,000
- Carter, J.M., Redden, J.A., 1999b, Altitude of the Top of the Deadwood Formation in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-E, 2 sheets, scale 1:100,000
- Carter, J.M., Driscoll, D.G., Hamade, G.R., 2001a, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years 191-98, Water-Resources Investigations Report 00-4278, U.S. Department of the Interior, U.S. Geological Survey, Rapid City, SD
- Carter, J.M., Driscoll, D.G., Hamade, G.R., and Jarrell, G.J., 2001b, Hydrologic Budgets for the Madison and Minnelusa Aquifers, Black Hills of South Dakota and Wyoming, Water Years 1987-1996, Water-Resources Investigations Report 01-4119, U.S. Department of the Interior, U.S. Geological Survey, Rapid City, SD
- Greene, E.A., 1993, Hydraulic Properties of the Madison Aquifer System in the Western Rapid City Area, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 93-4008, 56 p.
- Rahn, P.H., 1979, Ground Water Resources of Western South Dakota: U.S. Army Corps of Engineers, SDSM&T Project #2533
- Strobel, M.L., Jarrell, G.J., Sawyer, J.F., Schleicher, J.R., and Fahrenbach, M.D., 1999, Distribution of Hydrogeologic Units in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-743, 3 sheets, scale 1:100,000
- Strobel, M.L., Galloway, J.M., Hamade, G.R., Jarrell, G.J., and 2000, Potentiometric Surface of the Madison Aquifer in the Black Hills Area, South Dakota: U.S., Geological Survey Hydrologic Investigations Atlas HA-745-D, 2 sheets, scale 1:100,000
- Water Rights Program, 1993, "Water Permit File 1569-3", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Water Rights Program, 2004a, "Domestic Well Log Files", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Water Rights Program, 2004b, "Unpublished Observation Well Records", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Water Rights Program, 2004c, "Water Permit/Right Files", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD

Woodward Clyde Consultants, 1981, Well Field Hydrology Technical Report, for the ETSI Coal Slurry Pipeline Project, U.S. Dept. of the Interior, Bureau of Land Management



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1825-1, Valley View Land Company LLC**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 1825-1, Valley View Land Company, LLC, c/o R. Gordon Bryan, 1521 Forest Drive, Rapid City SD 57701.

The Chief Engineer is recommending APPROVAL of Application No. 1825-1 because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) it is in the public interest with the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1825-1 is issued for a 20-year term. Pursuant to SDCL 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1825-1 may also be cancelled for nonconstruction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.
2. The wells 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.
3. The wells authorized by Permit No. 1825-1 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.
4. Valley View Land Company shall report to the Chief Engineer annually the amount of water withdrawn each year from the Madison Formation for suburban housing development.

See report on application for additional information.

Garland Erbele, Chief Engineer
October 18, 2004

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA
COUNTY OF MEADE

Sheri Wiechmann, Being duly sworn, says, That the Meade County Times/Black Hills Press is and, during all times hereinafter mentioned, is a legal newspaper as defined in SDDCL 17-2-2, as amended, published in Sturgis, Meade County, South Dakota, by Country Media, Inc.; that affiant is and, during all of said times, was employed as an accounting clerk by the publisher of such newspaper and has personal knowledge of the facts stated in the affidavit; that the notice, order or advertisement, a copy of which is attached, was published in said newspaper for the issue (s) bearing the following dates:

<u>Oct 27</u> 200 <u>4</u>	_____ 200_____
<u>Nov 3</u> 200 <u>4</u>	_____ 200_____
_____ 200_____	_____ 200_____
_____ 200_____	_____ 200_____
_____ 200_____	_____ 200_____

That the full amount of the fee charged for publishing the same, to-wit the sum of

\$ 41.82, I insure solely to the benefit of the publisher of said newspaper; that no agreement or understanding for the division of the fees has been made with any person, and that no part of the fee has been agreed to be paid to any other person.

Sheri Wiechmann

Accounting Clerk

Subscribed and sworn before me this

9 Day of Nov 2004

Amela Buhler

Notary Public, South Dakota

My Commission expires

Feb 8 2007

RECEIVED

NOV 15 2004

WATER RIGHTS
PROGRAM

Water application

NOTICE OF APPLICATION

NO. 1825-1 to Appropriate Water

Notice is given that Valley View Land Co. LLC, c/o R. Gordon Bryan, 1521 Forest Drive, Rapid City SD 57701 has filed an application for a water permit to appropriate 0.5 cubic feet of water per second from two wells to be completed into the Madison Aquifer (approximately 1200 - 1400 feet deep) located in the SW1/4 NW1/4 and the NE1/4 SW1/4 Section 14-T3N-R6E. The water is for use in a suburban housing development.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1461-2 for a 20 year term because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation, 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the 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 the 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 15, 2004.

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.

Publ Oct. 27, and Nov. 3, 2004
Meade County Times-Tribune



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

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

October 19, 2004

Valley View Land Co LLC
% R. Gordon Bryan
1521 Forest Drive
Rapid City SD 57701

Dear Mr. Bryan:

Water Permit Application No. 1825-1 for suburban housing development use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Meade Co. Times Tribune printed at Sturgis, SD (Ph # 605-347-2503). 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 a 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, the publisher has been instructed to publish your notice once each week for two consecutive weeks. 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

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

October 19, 2004

Meade Co. Times Tribune
PO Box 129
Sturgis SD 57785-0129

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 1825-1 to Appropriate Water to be published twice. Please publish the first notice on October 27, 2004 with the second publication 7 days later. 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, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Valley View Land Co LLC, % R. Gordon Bryan, 1521 Forest Drive, Rapid City (Ph # 605-390-1986).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** 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

-----CUT HERE-----

No. 1825-1

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of October 19, 2004 enclosing Notice to Appropriate Water by Application No. 1825-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper

Instruction to Newspaper - Publish first Notice on October 27, 2004 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1825-1 to Appropriate Water

Notice is given that Valley View Land Co. LLC, c/o R. Gordon Bryan, 1521 Forest Drive, Rapid City SD 57701 has filed an application for a water permit to appropriate 0.5 cubic feet of water per second from two wells to be completed into the Madison Aquifer (approximately 1200 - 1400 feet deep) located in the SW $\frac{1}{4}$ NW $\frac{1}{4}$ and the NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 14-T3N-R6E. The water is for use in a suburban housing development.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1461-2 for a 20 year term because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation, 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. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the 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 the 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 15, 2004.

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.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

DEC 1 0 2004

Valley View Land Co LLC
% R Gordon Bryan
1521 Forest Drive
Rapid City SD 57701

Dear Mr. Bryan:

Enclosed is Water Permit No. 1825-1 authorizing construction of your 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,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

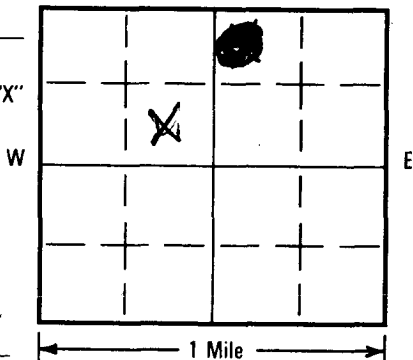
enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

 Location ~~SE~~ $\frac{1}{4}$ ~~N~~ $\frac{1}{4}$ Sec 14 Twp 3-N Rg 6-E
 County Meade

Please mark well location with an "X"



Well Completion Date

4-20-05

LOCATION:

 Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? _____ ft. from N/A (identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary Air-WaterCASING DATA: ☐ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>23</u> LB/FT	<u>7</u> IN	<u>0</u> FT	<u>955</u> FT	<u>8 3/4</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

 Grout Type Portland No. of Sacks 120 Grout Weight 94 1/2 lb./gal From 0 ft To 955 ft
Type III _____ lb./gal _____ ft _____ ft
Describe grouting procedure Pressure Grout ThenCasing displace with water by Mud PumpSCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet to _____ 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: Chlorine☐ NO, Why Not? Pellets

Laboratory sent to for water quality analysis

owner to Complete
 Well Owner: Cordon Bryan
 Business Name: Sun Valley Estates
 Address: 1521 Forestry Drive
Rapid City S.D. 57701

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Gravel</u>	<u>0'</u>	<u>20'</u>
<u>Spear Fish</u>	<u>20'</u>	<u>275'</u>
<u>Minnekahta Limestone</u>	<u>275'</u>	<u>330'</u>
<u>Opeche Shale</u>	<u>330'</u>	<u>520'</u>
<u>Minnehaha</u>	<u>520'</u>	<u>890'</u>
<u>Madison Limestone</u>	<u>890'</u>	<u>1020'</u>

STATIC WATER LEVEL _____ Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: Air developed☐ Bailed _____☒ Other _____

Pumping Level Below Land Surface

700 ft. After _____ Hrs. blew 150 GPM1000 ft. After _____ Hrs. blew 200 GPM

If pump installed, pump rate _____ GPM

REMARKS

This well was drilled under license # 568

And this report is true and accurate.

Drilling firm CIMARRON Drilling Inc.Signature of License Representative Michael J. Ruckelshaus

Signature of Well Owner or Equitable Property Holder _____

Date: _____

RECEIVED

JAN 17 2006

WATER RIGHTS PROGRAM

NOTICE OF TRANSFER OF OWNERSHIP

RECEIVED

To: Chief Engineer
Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

NOV 26 2008

WATER RIGHTS
PROGRAM

No. 1825-1

Date: _____

I/We request that Water Right/Permit No. 1825-1

formerly owned by: VALLEY VIEW LAND CO. LLC.

be transferred to: (name & address) DIAMOND "D" WATER CO. LLC.

1521 FOREST DRIVE RAPID CITY
SD 57701 Telephone No. 605-390-1986

Title to the following described land(s)/property has been transferred as described above:

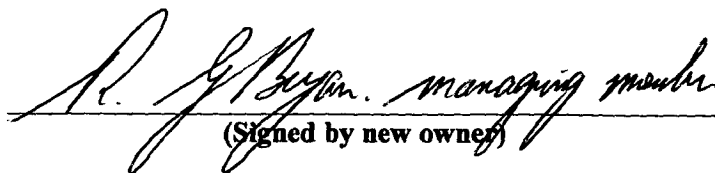
NO LAND TRANSFER.

I/We understand that the validity of Water Right/Permit No. 1825-1 has not been determined by this transfer action. If I/We have any questions on validity, I/We understand that only the Water Management Board has the authority to determine if a water permit/right is valid (see note).

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Two Dollars and Fifty Cents (\$2.50) is required to cover the filing fees as required under SDCL 46-2-13. This form must be signed by the new owner.

I/We DIAMOND D WATER CO LLC., the new owner, certify that the above information is true and correct.


(Signed by new owner)

NOTE: Water permits may be cancelled for nonconstruction after the five year construction period has expired. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 11/26, 20 08

RECEIVED OF Diamond D Water Co. LLC 1521 Forest Dr Rapid City SD 57701

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	2	50
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. _____		
Fee for Filing Transfer Form <u>1825-1</u>		
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. _____	2	50
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	
	2	50

No.

03808

By

Donald Erbe
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

December 19, 2008

1825-1

R G Bryan
Diamond D Water Co LLC
1521 Forest Drive
Rapid City SD 57701

Dear Mr. Bryan:

On November 26, 2008, we received a "Notice of Transfer of Ownership" form and filing fee from you to transfer Water Permit No. 1825-1. The ownership change has been completed. The water permit formerly held by Valley View Land Co LLC is now listed in the name of Diamond "D" Water Co LLC.

Enclosed is your Receipt No. 03808 in the amount of \$2.50 which you paid for filing the ownership change. You may keep this for your records.

If I can answer any questions for you, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Genny McMath".

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

enclosure



DEPARTMENT OF ENVIRONMENT
and NATURAL RESOURCES

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



APR 14 2014

1825-1
1825A-1

Bob Powles
Diamond D Water Company LLC
1521 Forest Dr
Rapid City SD 57701

Dear Mr. Powles:

Enclosed is Water License No. 1825A-1. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 1825A-1, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

The applicable portions of Water Permit No. 1825-1 were incorporated into Water License No. 1825A-1. As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Sincerely,

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

enclosures