

WATER PERMIT NO. 2607-2

Name of Applicant: Colonial Pine Hills Sanitary District

Address: 8251 Dunsmore Rd, Rapid City SD 57702-8950

Phone: 605 348-3113

Amount of Water Claimed: 0.22 cfs (150 AF)

Total Acres: NA

Source of Water Supply: groundwater (one well)

Water to be used for: suburban housing development

County: Pennington

Type of Waste Disposal System:

Location:

PRIORITY

Date Received: 12-18-06

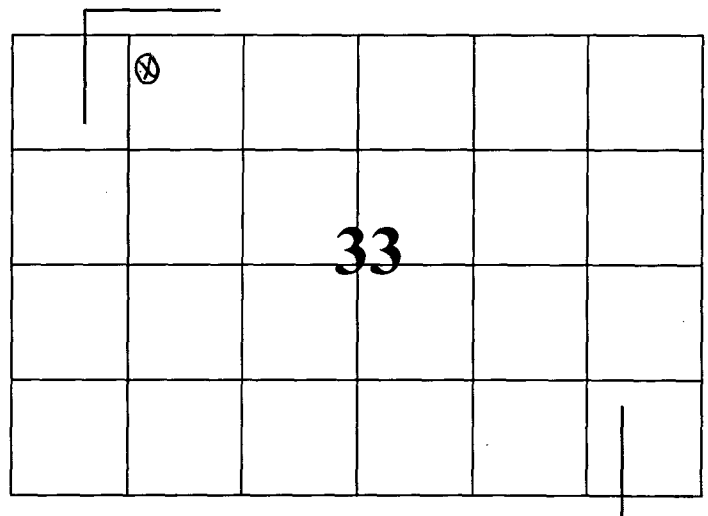
Application/License Fee: \$275

Corrected Application Received:

Period of Annual Use: Jan 1 – Dec 31

Remarks:

Diversion Point: NW ¼ NW ¼ Sec 33-T1N-R7E



Land to be Irrigated: NA

Depth of Well: 1200 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by: Theodore F Schultz, PE

Reviewed and the Number Assigned on: 12-18-06

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. 2607-2 (office use only)
Hydrologic Unit 10120109
Basin Upper Cheyenne
Newspaper Rapid City Journal Rapid City
SD 57709 PO Box 450

RECEIVED
DEC 18 2006
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 Geothermal Heat

Type of Application:
(check one)

☒ New ☐ Vested Right (Use predates Mar. 2, 1955) ☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

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

1. Name of Applicant Colonial Pine Hills Sanitary District Phone 605-348-3113
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address 8251 Dunsmore Road, Rapid City State SD 57702-8950
(Street, RR, or Box and City) (Zip Code)
2. Amount of water claimed 0.66 *CFS or 300 **GPM 150 **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 Madison Aquifer

4. Location of point of diversion (example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W) County Pennington
NW 1/4 NW 1/4 Sec 33 T104N R7E

5. County or counties where water will be used Pennington

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

Project includes construction of new Madison well east of Dunsmore Road near Kerry Drive in Pennington County. The new well is necessary to provide quality drinking water to the residents of Colonial Pine Hills Sanitary District. The well will replace unreliable, poor-quality Deadwood aquifer wells. Refer to attached information.

STATE OF SOUTH DAKOTA)

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)

County of Pennington)

I, Jim Martin, 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

Jim Martin

Subscribed and sworn to before me this 13th day of December 2006

SANDRA J. FEICKER
NOTARY PUBLIC
State of South Dakota

Notary Public signature

SOUTH DAKOTA
WATER PERMIT NO. 2607-2

Date of first receipt of application December 18, 2006.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2607-2 to Colonial Pine Hills Sanitary District, 8251 Dunsmore Road, Rapid City SD 57702-8950 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. 2607-2 appropriates 0.66 cubic feet of water per second (150 acre-feet of water annually) from one well to be completed into the Madison Aquifer (approximately 1,200 feet deep) located in the NW ¼ NW ¼ Section 33-T1N-R7E.
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. 2607-2 is February 12, 2007.
5. The date from which applicant may claim right is December 18, 2006.
6. One-fifth of the construction is to be completed on or before August 12, 2009.
7. All construction is to be completed on or before February 12, 2012.
8. Water is to be put to beneficial use on or before February 12, 2016.
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. 2607-2 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. 2607-2 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 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.
3. The well authorized by Permit No. 2607-2 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. Colonial Pine Hills Sanitary District shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

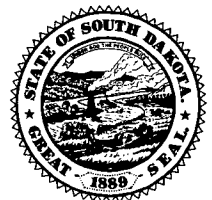
WATER MANAGEMENT BOARD

By: Garland Erbele

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

APR 17 2007

date



Form 2A **Supplemental Information**

(Complete applicable portions only)

(type or print in ink)

1. Well Information – Proposed Construction

- a) Drill Hole Diameter 12- $\frac{1}{4}$ " Depth 1,200 feet
- b) Casing Type Steel Diameter 9- $\frac{5}{8}$ " Thickness 0.28" min.
- c) Screen Type Open Hole Diameter 8- $\frac{3}{4}$ " Thickness
- d) Gravel Pack N/A Length of Gravel Pack
- e) Depth to Top of Water Bearing Material 750 feet
- f) Depth to Water (ground surface to water level) 450 feet
- g) Distance to nearest existing domestic well:

On applicant's property 1,600 feet

On property owned by others 380 feet*

*Well will be used for back-up on Nikolas property.

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) None located on property
- b) System Capacity (gallons) Year Constructed
- c) Connected to the City of Sanitary System

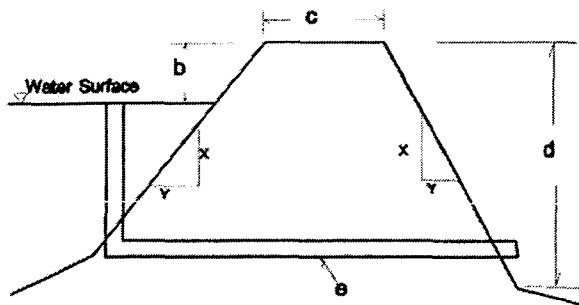
3. Dugout Information

- 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
- d) Height
- e) Primary Outlet Capacity
- f) Secondary Spillway Capacity
- g) X & Y Slope
Upstream
Downstream
- h) Surface Area of Impoundment
- i) Storage Acre Feet
- j) Drainage Area Above Dam Acres

Dunsmore Well Project Summary

Colonial Pine Hills Sanitary District

System Background

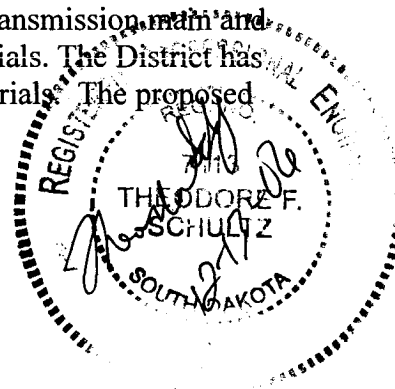
The Colonial Pine Hills Sanitary District water system is currently composed of approximately 420 customers located south of Sheridan Lake Road, west of Dunsmore Road, east of Spring Canyon Trail, and north of Spring Creek in Pennington County. The current system supply from all sources is approximately 415 gpm and is lower than the recommended 563 gpm. The District enforces water conservation restrictions throughout the summer months and has a sliding rate scale for increased water usage to deter water consumption. There are also water quality and reliability issues with some of the existing wells, but the system has been enhanced by the addition of the Nonanna Well in 2003 and the new Whispering Pines PRV & Booster Station in 2005.

The system is currently comprised of two pressure zones with 500,000 gallons of storage constructed in 2005 and 90,000 gallons of storage for the booster system pumping. The system weakness point is an adequate quality water supply. The system currently has two Madison aquifer wells and three Deadwood aquifer wells. The Madison wells produce high quality drinking water and the addition of a third Madison well will reduce reliance on the Deadwood aquifer wells. The Deadwood aquifer wells in this region have high levels of radon, radionuclides, and iron. The CSS Main and Conifer Deadwood wells require chemical treatment for iron and the CSS Main well has been moved to standby status due to the radionuclide levels and low production rate.

Project Description

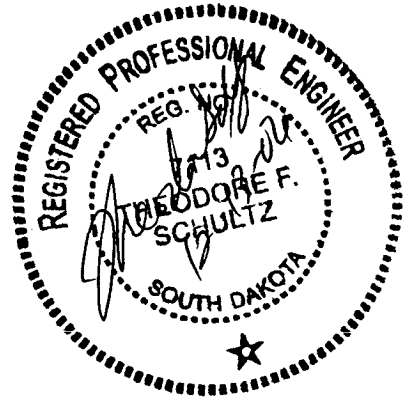
The District proposes to drill a new 300 gpm Madison well located just east of Dunsmore Road at Kerry Drive as shown on the attached drawings. The District pumped approximately 66 million gallons or 202 acre-ft. in 2005 and the new well is anticipated to produce 100 to 150 acre-ft. per year. The District has negotiated an easement with the landowner to construct a well house and new well on the property. The District will provide water service to the two Nikolas residences located on Lots 2 & 3 east of the proposed well site. The existing Nikolas well located 380 ft. northeast of the proposed well is also in the Madison aquifer and will not be relied upon due to possible influence.

The project also includes the construction of approximately 1,800 linear ft. of 8" water main along Kerry Drive to Nonanna Street to connect to the existing high level water main. The Kerry Drive water main project provides a transmission main and also replaces an aging 4" line with inferior water service materials. The District has repaired many leaks in this part of the system due to poor materials. The proposed project layout is shown on the attached exhibit.

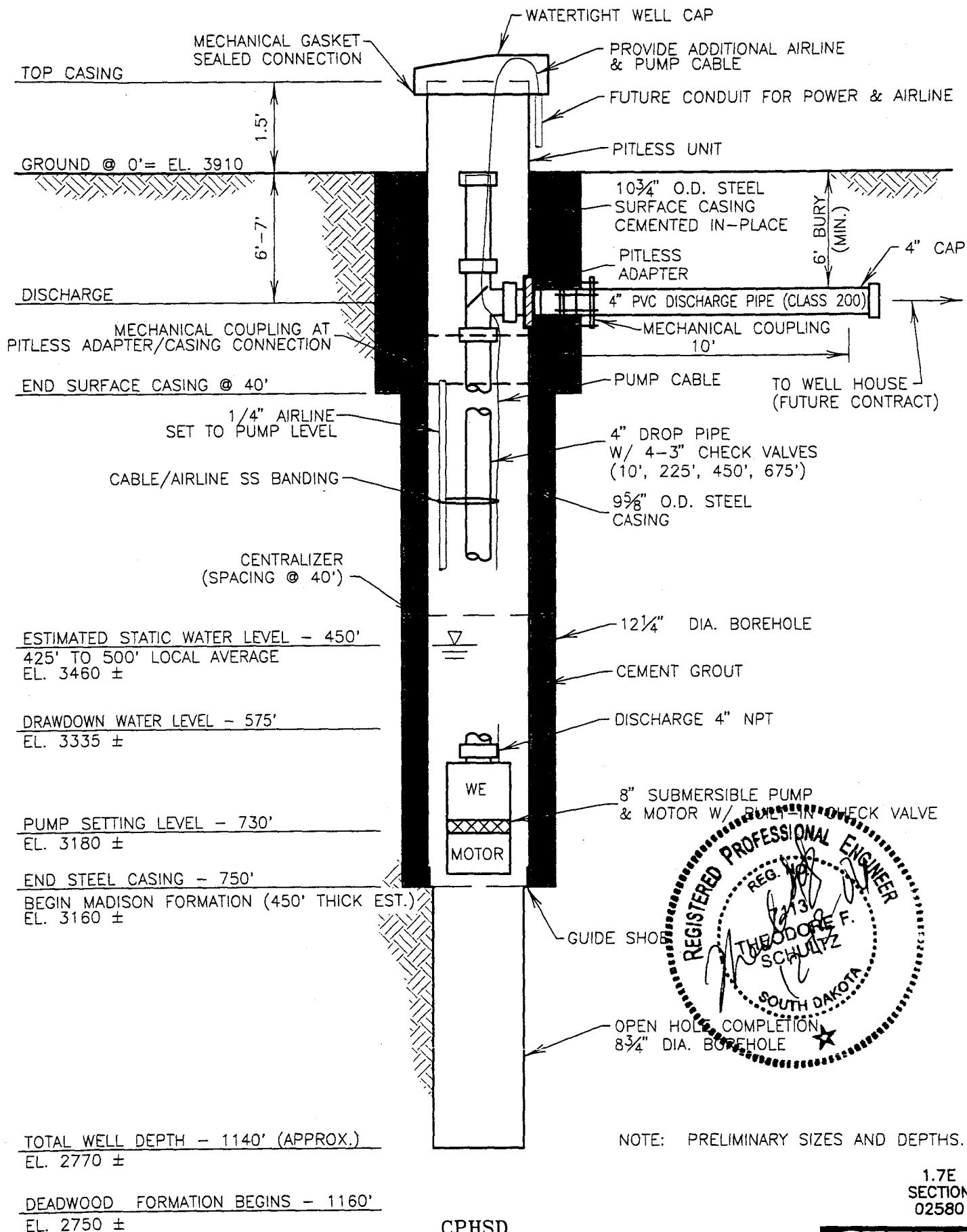


CPHSD WELL PRODUCTION

Source	Reliable Quality Production	Non-Reliable or Poor Quality Production	Recommendations or Issues
Nonanna Well	145 gpm		High Quality/Reliable Madison Well
Conifer Well:		118 gpm	Deadwood Well with Radon/Iron/High Electrical Costs
Clarkson Well:	22 gpm		Madison Well with Limited Production/New Well House Needed
CSS Main Well:		40 gpm	Deadwood Well with high Radon/Iron/Maintenance Issues (Aban
WP Main Well:		90 gpm	Deadwood Well with low Radon/Iron Issues
Current Net System Supply:	167 gpm	248 gpm	
Proposed Dunsmore Rd Well	300 gpm		New Madison Well near Dunsmore Rd/Kelly Ave
Total Firm Quality Well Production	467 gpm		
Add Back-up Production from WP/Conifer	90-118 gpm		
Future Well Production	557-585 gpm		Meets recommended production of 563 gpm.



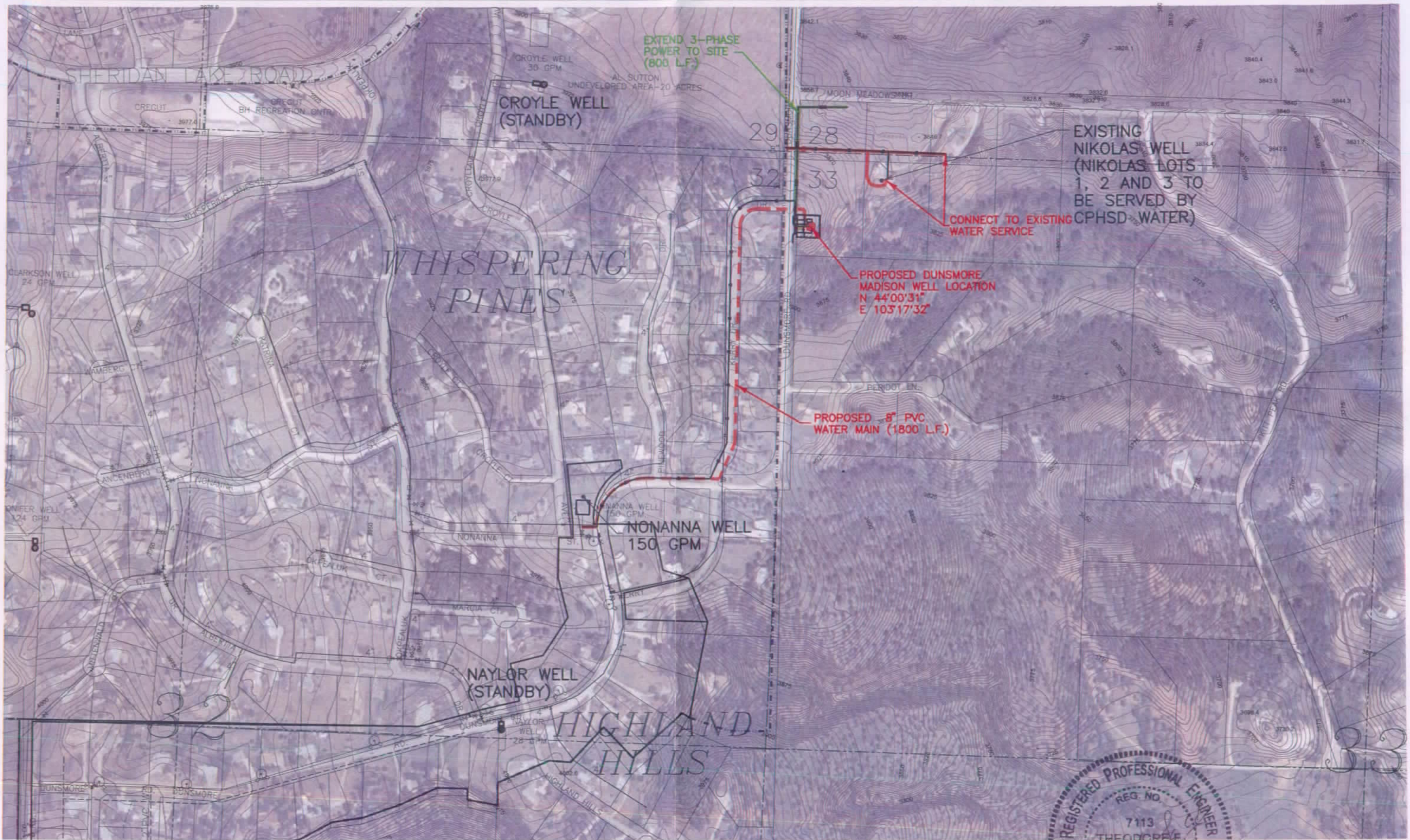
CSS TANK HWL EL. 4210



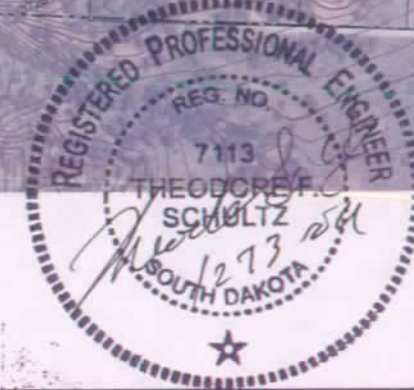
CPHSD
DUNSMORE WELL CONSTRUCTION SCHEMATIC

1.7E
SECTION
02580





DUNSMORE ROAD WATER IMPROVEMENTS
COLONIAL PINE HILLS SANITARY DISTRICT



Drawn: 11/13/2006 2:18:12 PM
Drawing: MOON MEADOWS DRIVE SANITARY DISTRICT

LOT 1 OF SE1/4SE1/4, LESS LOT B OF SE1/4S E1/4,
LESS COLONIAL PINE HILLS SANITARY DIST. WELL LOT,
LESS FLANNERY SUB; LOT A OF LOT 1 OF
SEC. 29 TOWNSHIP 1N RANGE 7E
AL & PAT SUTTON, TRUSTEES
5707 E. HIGHWAY 80 #1089
YUMMA, AZ 85365

LOT 1 OF
PINWOOD ESTATES
JOHN D. TER BEEST
3300 KERRY DR.
RAPID CITY, SD

LOT 2 OF
PINWOOD ESTATES
BOBBY R. &
RUTH M. JOACHIM
3302 KERRY DR.
RAPID CITY, SD

LOT 3 OF
PINWOOD ESTATES
STEVEN & KARY WITTE
WITTE TRUST
3304 KERRY DR.
RAPID CITY, SD

LOT 21 OF BLOCK 3
MOON MEADOWS ESTATES
ROBERT L. & JEANNE L. NIKOLAS, TRUSTEES,
4265 MOON MEADOWS DRIVE
RAPID CITY, SD

LOTS 1 & 2 OF BLOCK 2
MOON MEADOWS ESTATES
ROBERT L. & JEANNE L. NIKOLAS, TRUSTEES,
4265 MOON MEADOWS DRIVE
RAPID CITY, SD

LOT 3 OF BLOCK 2
MOON MEADOWS ESTATES
ROBERT L. NIKOLAS, JR.
4227 MOON MEADOWS DR
RAPID CITY, SD

KERRY DRIVE
PROPOSED 8" PVC WATER MAIN

2-10' GATES

DUNSMORE ROAD

PROPOSED
WELL HOUSE
F.F. EL. 3910

PROPOSED
CHAIN LINK FENCE

PROPOSED
WELL HEAD
N 44°00'31"
E 103°17'32"

PROPOSED
GRAVEL DRIVEWAY

EASEMENT (INCLUDING
EXISTING 0.03 AC. EASEMENT AND
0.19 AC. NEW EASEMENT)

TRENCHLESS
CROSSING - 40 L.F.
AT EL. 3862.0

PROPOSED 3-PHASE POWER 600-L.F.
(BLACK HILLS ELEC. COOP.)

PROPOSED 1 1/2" WATER SERVICE LINE - 380 L.F.

PROPOSED 1" WATER SERVICE LINE - 360 L.F.

PROPOSED 1" WATER SERVICE
LINE 180 L.F.

METER
PIT

METER
PIT
YARD
HYDRANT

EXISTING WATER SERVICE
UNKNOWN LOCATION



SHEET:

1 OF 1

PROJECT:

COLONIAL PINE HILLS
SANITARY DISTRICT
PENNINGTON COUNTY, SOUTH DAKOTA

SHEET DESCRIPTION:

NIKOLAS WATER SERVICE
AND DUNSMORE WELL SITE LAYOUT

DESIGNED: TS

DETAILED: RC

CHECKED: TS

APPROVED: X

DATE: 12/13/06

cetec
ENGINEERING SERVICES, INC.

1830 West Fulton Street
Rapid City, SD 57702
Phone: (605) 341-7800
Fax: (605) 341-7864
www.cetecengineering.com

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date DECEMBER 18, 20 06

RECEIVED OF CETEC Engineering Services Inc., PO Box 9014, Rapid City SD 57709

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	275	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. _____	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	325.000

No.

27 1

By

Darland Erbe
Chief Engineer

December 13, 2006

Mr. Eric Gronlund, P.E.
S.D. Dept. of Environment & Natural Resources
Water Rights
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3182

**Re: Proposed Dunsmore Well – Water Rights Application
Colonial Pine Hills Sanitary District**

Dear Mr. Gronlund:

An application for a water permit for the referenced project in Pennington County is enclosed. Included with this letter are two (2) copies of the following:

- Form 2
- Form 2A
- Project Summary
- Anticipated Well Construction Schematic
- Filing Fee \$325.00 (300 gpm)
- Well Site Drawings and Vicinity Map

The proposed well is located within an easement on the Nikolas property as shown on the attached drawings. Please review the application and contact me with any questions.

Sincerely,

CETEC Engineering Services, Inc.



Ted Schultz, P.E.
Project Manager

TS/sjf

Enclosures

cc: Jim Martin, Colonial Pine Hills Sanitary District

RECEIVED

DEC 18 2006

WATER RIGHTS
PROGRAM

1830 West Fulton St.
PO Box 9014
Rapid City, SD
57709-9014

www.cetecengineering.com

cetec



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
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. 2607-2, Colonial Pine Hills Sanitary District**

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. 2607-2, Colonial Pine Hills Sanitary District, c/o Jim Martin, 8251 Dunsmore Road, Rapid City SD 57702-8950.

The Chief Engineer is recommending APPROVAL of Application No. 2607-2 for a 20 year term 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. 2607-2 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. 2607-2 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 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.
3. The well authorized by Permit No. 2607-2 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. Colonial Pine Hills Sanitary District shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

See report on application for additional information.

Garland Erbele, Chief Engineer
January 12, 2007

WATER PERMIT APPLICATION NO. 2607-2
COLONIAL PINE HILLS SANITARY DISTRICT
DECEMBER 29, 2007

Water Permit Application No. 2607-2 proposes to appropriate 150 acre-feet of water annually, at a maximum diversion rate of 0.66 cubic feet of water per second, from one well to be completed into the Madison aquifer (approximately 1,200 feet deep) located in the NW¼ NW¼ Section. 33, T1N-R7E, Pennington County. The water will be used for a suburban housing.

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.

WATER AVAILABILITY

The probability of unappropriated water available for appropriation can be evaluated by considering SDCL 46-6-3.1 which requires that:

“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.”

Although this statute contains two exceptions which could apply to this application, namely exceptions for water distribution systems and for groundwater from formations older than or stratigraphically lower than the Greenhorn Formation; the principle of withdrawals not exceeding recharge is a reasonable benchmark to define water availability.

AQUIFER: Madison aquifer (MDSN)

Geology and Aquifer Characteristics:

The Madison (Pahasapa) Limestone is a massive limestone and dolomite that underlies much of the Western United States. The Madison underlies approximately 1,489,920 acres of Pennington County and contains an estimated 29,798,400 acre-feet of recoverable water in storage in the county (Allen and others, 1985). Estimates of the thickness of the Madison in this area range from approximately 350 feet thick (Allen and others, 1985) to approximately 460 feet thick (Carter and Redden, 1999a) (Carter and Redden, 1999b). The top portion of the Madison Limestone 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 well site proposed by this application is located about one mile northeast of the Madison outcrop (recharge area), (Strobel and others, 1999). The top of the Madison Limestone is expected to be approximately 900 feet below grade at this proposed

well site. (Carter and Redden, 1999a). The Madison is under confined conditions at the well site proposed by this application and the well is expected to have a static water level of 400-450 feet below grade (Strobel and others, 2000).

Water Balance:

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. Recharge for the entire Madison aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year (Woodward Clyde, 1981). Average annual recharge from 1931-1998 is estimated to be approximately 137,000 ac-ft/yr (Carter and others, 2001a).

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 144 permits/rights which currently appropriate water from the Madison aquifer in South Dakota (Water Rights, 2006c). In addition, there are five future use permits (369-1 City of Belle Fourche, 1833-2 Weston Heights Home Owners, 2086-2 The City of Rapid City, 2560-2 Fall River Water User's District, and 2580-2 Southern Black Hills Water System) that reserve 8,202.8 acre-feet of water annually 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.

This application proposes to appropriate 150 acre-feet of water annually from the Madison aquifer. 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.

A water budget is not intended to suggest that all of the water that is in storage in the Madison or that all of the recharge is available for this appropriation, merely to demonstrate that in general the Madison aquifer is an immense resource that is relatively untapped.

Observation Well Data:

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2006b). Three of these wells are within approximately three and one-half miles of the well proposed by this application. The hydrographs for the observation wells are shown below in figure 1-3.

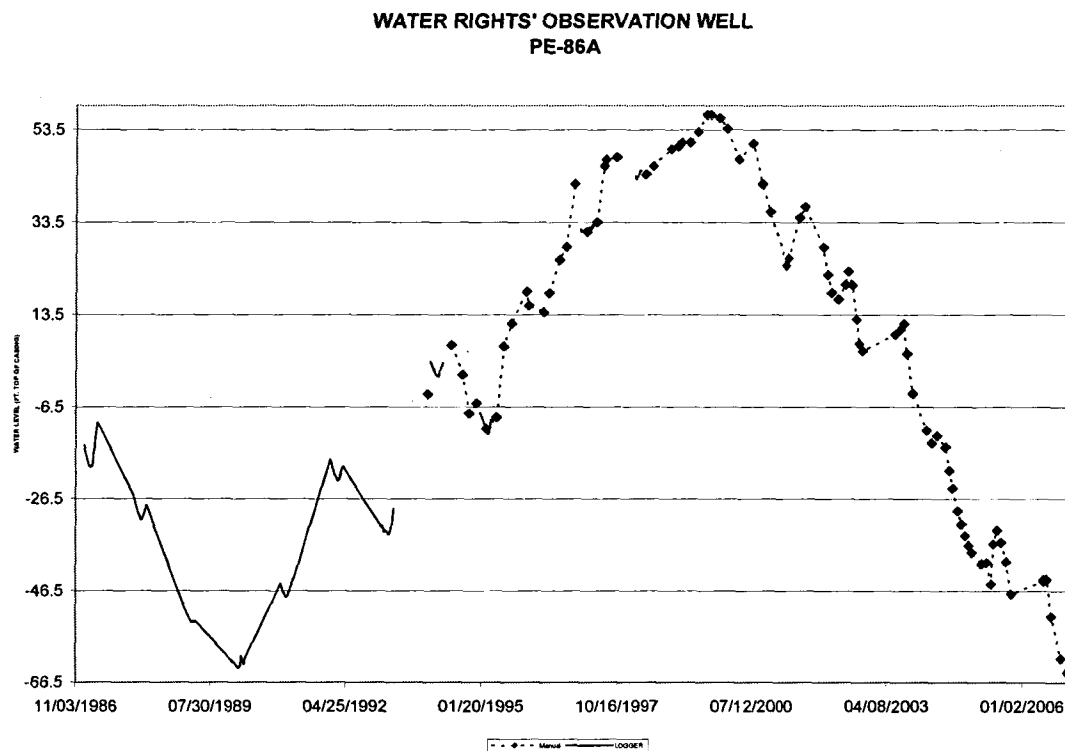


Figure 1. Hydrograph of Water Rights Observation Well PE-86A, located about two miles southeast of this proposed well site.

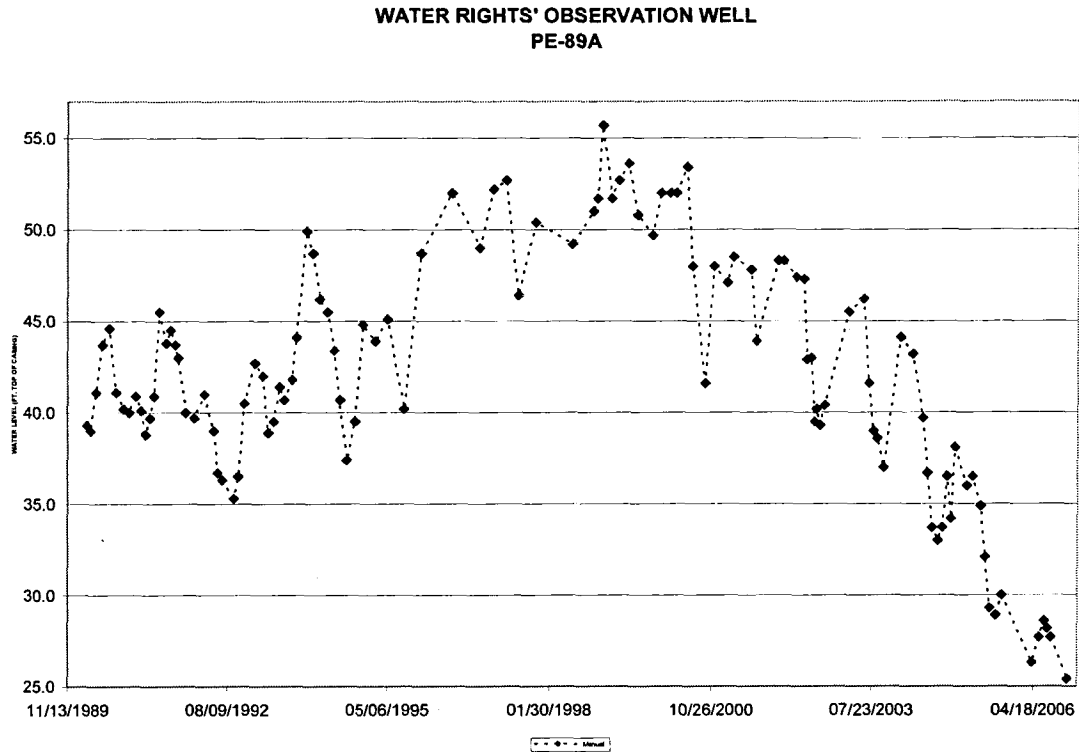


Figure 2. Hydrograph of Water Rights Observation Well PE-89A, located about three and one-half miles north of this proposed well site.

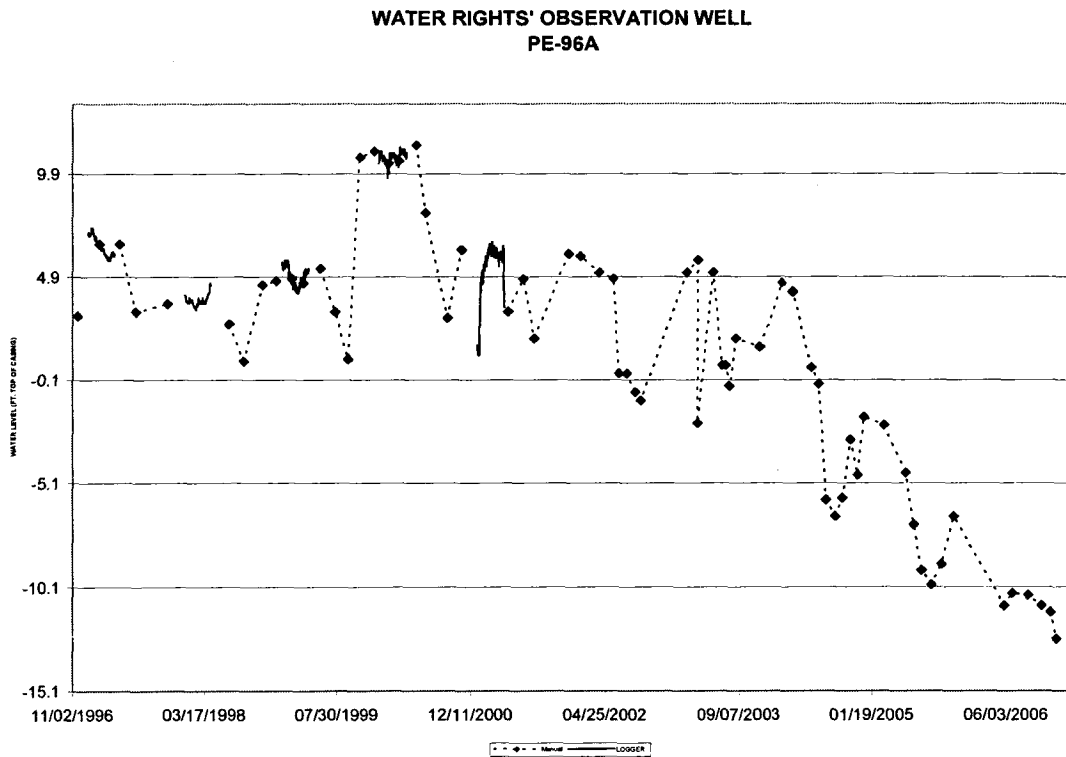


Figure 3. Hydrograph of Water Rights Observation Well PE-96A, located about three and one-quarter miles northwest of this proposed well site.

The hydrographs show the potentiometric surface measured at these sites rose during the late 1990's in response to wet climatic conditions. The water levels have decreased since about 2000 in response to less recharge. A comparison of these hydrographs with data from Water Rights' Observation wells completed into the Madison aquifer that have longer periods of record, suggest the fluctuations shown in figures 1-3 are representative of climatic conditions instead of pumping from the aquifer. Long-term water level declines are not apparent from the hydrographs of wells with longer periods of record. The observation well data verifies that unappropriated water is available from the Madison aquifer.

AFFECTS ON EXISTING RIGHTS:

There are 27 water rights/permits appropriating groundwater within approximately two miles of the well site proposed by this application. They are shown in table 1.

PERMIT NO	NAME	AQUIFER	USE	CFS
1147-2	CALVIN KNOCK	SNDC	SHD	0.08
1628-2	COPPER OAKS WATER ASSN	MDSN	SHD	0.05
1726-2	COLONIAL PINE HILLS SANITARY DISTRICT	MDSN	SHD	0.38
1871-2	VISTA HILLS WATER ASSOC	MNLS	SHD	0.09
1880-2	RUSHMORE WATERSLIDE INC	MNLS	COM	0.17
1883-2	REPTILE GARDENS	MNLS	COM	0.07
1905-2	BLACK HILLS JELLYSTONE RV	MNLS	COM	0.06
1913-2	HAPPY HOLIDAY RV RESORT	MNLS	COM	0.10
1925-2	PONDEROSA PARK DEV ASSOC	MDSN	SHD	0.03
1965-2	HIGHLAND HILLS WATER ASS.	MDSN	SHD	0.06
2045-2	WHISPERING PINES WATER	DDWD	SHD	0.08
2053-2	SPRING CANYON WATER CO	MDSN	SHD	0.05
2056-2	COUNTRYSIDE HOMEOWNERS	DDWD	SHD	0.30
2108-2	COLONIAL PINE HILLS SANITARY DISTRICT	MDSN	SHD	0.04
2295-2	COLONIAL PINE HILLS SANITARY DISTRICT	DDWD	SHD	0.29
2305-2	SPRING CANYON WATER CO	DDWD	SHD	0.04
2333-2	BERDELL DUNWORTH	MNLS	COM	0.04
2410-2	FLYING T CHUCKWAGON	MNLS	COM	0.04
2461-2	COLONIAL PINE HILLS SANITARY DISTRICT	MDSN	SHD	0.33
2473-2	CREGUT INC	MDSN	COM	0.04
2475-2	CITY OF RAPID CITY	MDSN	MUN	2.67
2476-2	REPTILE GARDENS	ALQ	COM	0.08
2496-2	SPRING CANYON WATER CO	MDSN	SHD	0.17
2498-2	COUNTRYSIDE HOMEOWNERS	MNLS	SHD	0.33
2507-2	HANI SHAFAI	DDWD	SHD	0.07
2519-2	CITY OF RAPID CITY	MDSN	MUN	1.78
2600-2	GARY KLUTHE	DDWD	SHD	0.04

Table 1. Groundwater appropriations within approximately two miles of 2607-2

The extent of a hydrologic connection between the Madison and other aquifers is unclear and debatable. In the vicinity of this proposed well, the potentiometric surface of the Madison aquifer is estimated to be around 3475 feet above sea level (Strobel and others, 2000b); the potentiometric surface of the Minnelusa aquifer is estimated to be around 3600 feet above sea level (Strobel and others, 2000a); and the potentiometric surface of the Deadwood aquifer is estimated to be around 3500 feet above sea level (Strobel and others, 2000c). Comparison of the water levels from Water Rights' Deadwood aquifer Observation Well PE-84A (Water level $\cong$ 3485 fmsl); the well completed into Minnelusa aquifer for Water Permit No. 2498-2 (Water level $\cong$ 3590 fmsl); and the well completed into the Madison aquifer for Water Right No. 2473-2 (Water level $\cong$ 3510 fmsl); also suggest that there is a potential for leakage from the Minnelusa and Deadwood aquifers to the Madison aquifer in this area. If leakage between the aquifers were significant, drawdown in the Madison should lower the water levels in the other aquifers. The dolomitic lower portion of the Minnelusa formation is thought to serve as a confining layer, and for the most part the Madison and Minnelusa aquifers are "hydraulically distinct units". The lower portion of the Madison Limestone probably limits leakage between the Madison and the Deadwood aquifers. Therefore, appropriations supplied by wells completed into aquifers other than the Madison are not expected to be impacted by withdrawals from the Madison.

There are 11 permits/rights appropriating water from the Madison aquifer in this proposed future use are. They are shown in Table 2.

PERMIT NO	NAME	DISTANCE TO 2607-2 (miles)
1628-2	COPPER OAKS WATER ASSN	1.75
1726-2	COLONIAL PINE HILLS SANITARY DISTRICT	0.5 & 0.25*
1925-2	PONDEROSA PARK DEV ASSOC	1.25 & 0.5*
1965-2	HIGHLAND HILLS WATER ASS.	0.5
2053-2	SPRING CANYON WATER CO	1.5
2108-2	COLONIAL PINE HILLS SANITARY DISTRICT	1.25
2461-2	COLONIAL PINE HILLS SANITARY DISTRICT	0.25
2473-2	CREGUT INC	0.5
2475-2	CITY OF RAPID CITY	1.75
2496-2	SPRING CANYON WATER CO	1.75
2519-2	CITY OF RAPID CITY	1.75
* two diversion points authorized		

Table 2. Madison appropriations within approximately two miles of 2607-2

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. At this time, it is not practical to attempt to quantify the specific affect this well may have on area wells since aquifer characteristics have not been determined for this area, and the aquifer characteristics of the Madison can vary considerably within a short distance. It should be noted however, that well interference(drawdown) measured at Water Rights' observation wells located near high

capacity municipal wells in Spearfish, Sturgis and Rapid City, is only in tens of feet rather than hundreds of feet.

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 existing water rights, including domestic wells.

Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1, provide for the regulation of large capacity wells to the degree necessary to maintain an adequate depth of water for a prior appropriator in wells that have the ability to produce water **independent of artesian**. Simply put, the pump placement in a prior appropriator's well is not necessarily protected.

If the water levels in the Madison aquifer were to decline, owners of existing wells bear the responsibility of lowering the pump inlet in the well to the top of the aquifer, if necessary. Increased lift would decrease the pump discharge; or require a larger pump or a different type of a pump to maintain the same output.

An increase in operating expenses that may result from interference between wells is not necessarily an adverse impact. The Water Management Board considered this situation in the matter of Water Permit Application 2313-2, Coca-Cola Bottling Company of the Black Hills (Water Rights, 1995). The Board adopted findings of fact and conclusions of law that basically state that if the 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.

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 these permits without a term limitation of 20 years.

CONCLUSIONS:

1. The Madison aquifer is a viable aquifer in this area.
2. This diversion proposed by this application will not adversely impair existing water rights.

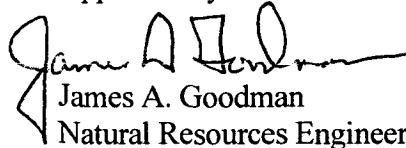
3. Information is not available to justify issuing this permit without a term limitation of 20 years.



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

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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

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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

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Water Rights Program, 2006a, Observation Well Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2006b, Water Permit/Right Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

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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

Form 8

RECEIVED

FEB 01 2007

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of Pennington)

I, Patricia K. Van Fatten

certify that the attached printed Notice was
taken

from the Rapid City Journal

printed and published in Rapid City

County of Pennington and

state of South Dakota. The notice was
published

in the newspaper on the following two dates:

January 24, 2007

January 31, 2007

Cost of Printing Ninety-four dollars

and eight cents (\$94.08)

Patricia K. Van Fatten
(Signature)

Legal Advertising Rep.
(Title)

01/31/07
(Date Signed)

Jan. 24, 31 L2503489

NOTICE OF
APPLICATION NO. 2607-2
TO APPROPRIATE WATER

Notice is given that Colonial Pine Hills Sanitary District, c/o Jim Martin, 8251 Ounmore Road, Rapid City, SD 57702-8930, has filed an application for a water permit to appropriate 8.66 cubic feet of water per second (150 acre-feet of water annually) from one well to be completed into the Madison Aquifer (approximately 1,200 feet deep) located in the NW1/4NW1/4 Section 33, T1N-R7E. The water is for a suburban housing development.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2607-2 for a 20-year term 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. 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 (605-773-3252)," and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by February 12, 2007.

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 Granlund at the above Water Rights Program address to request copies of information pertaining to this application.

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



January 16, 2007

Rapid City Journal
PO Box 450
Rapid City SD 57709-0450

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2607-2 to Appropriate Water to be published twice. Please publish the first notice on January 24, 2007 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 Colonial Pine Hills Sanitary District, % Jim Martin, 8251 Dunsmore Road, Rapid City SD (Ph # 605-348-3113).

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. 2607-2

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

Date _____

We are in receipt of your letter of January 16, 2007 enclosing Notice to Appropriate Water by Application No. 2607-2 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
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.

January 16, 2007

Colonial Pine Hills Sanitary District
% Jim Martin
8251 Dunsmore Road
Rapid City SD 57702-8950

Dear Mr. Martin:

Water Permit Application No. 2607-2 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 Rapid City Journal printed at Rapid City, SD (Ph # 605-394-8300). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and 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

c: Ted Schultz, CETEC Engineering, PO Box 9014, Rapid City SD 57709

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.

Instruction to Newspaper - Publish first Notice on January 24, 2007 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 2607-2 to Appropriate Water

Notice is given that Colonial Pine Hills Sanitary District, c/o Jim Martin, 8251 Dunsmore Road, Rapid City SD 57702-8950 has filed an application for a water permit to appropriate 0.66 cubic feet of water per second (150 acre-feet of water annually) from one well to be completed into the Madison Aquifer (approximately 1,200 feet deep) located in the NW ¼ NW ¼ Section 33-T1N-R7E. The water is for a suburban housing development.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2607-2 for a 20 year term 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. 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 February 12, 2007.

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**

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

APR 17 2007

Colonial Pine Hills Sanitary District
c/o Jim Martin
8251 Dunsmore Rd
Rapid City SD 57702-8950

Dear Mr. Martin:

Enclosed is Water Permit No. 2607-2 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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

May 1, 2007

2607-2

CETEC Engineering Services, Inc.
Ted Schultz, Project Manager
PO Box 9014
Rapid City SD 57709

RE: Colonial Pine Hills Sanitary District

Dear Mr. Schultz:

I am writing in regard to Water Permit No. 2607-2 which you submitted on behalf of Colonial Pine Hills Sanitary District. The application was submitted last December along with a \$325.00 application/license filing fee. The correct fee for the amount of water claimed (150 acre-feet) is \$275.00. Therefore, \$50.00 will be refunded to your company. The refund check should be received within the next couple of weeks.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
605 773-3352

PAYMENT REQUEST FORM

PAYEE: CETEC ENGINEERING
TED SCHULTZ, PROJECT MANAGER
PO BOX 9014
RAPID CITY SD 57709

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

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

REFUND -OVERPAYMENT OF WATER PERMIT # 2607-2

AMOUNT: \$-50.00

FUNDING SOURCE:

GENERAL: X

FEDERAL:

COMMENTS:

AUTHORIZATION:

David C. Cihul. 5/10/07

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

AUG 27 2015

2607-2
2607A-2

Jim Martin, Mgr
Colonial Pine Hills Sanitary District
8251 Dunsmore Rd
Rapid City SD 57702 8950

Dear Mr. Martin:

Enclosed is Water License No. 2607A-2. 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. 2607A-2, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, 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

Note: Upon licensing, the applicable portions of Water Permit No. 2607-2 were incorporated into Water License No. 2607A-2.