

WATER PERMIT NO. 2655-2

Name of Applicant: City of Rapid City

Address: 300 6th St, Rapid City SD 57701

Phone: 065 394-4165

Amount of Water Claimed: 0.83

Total Acres: 132.7

Source of Water Supply: Rapid Creek

Water to be used for: municipal

County: Pennington

Type of Waste Disposal System:

Location:

PRIORITY

Date Received: 8-5-2010

Application/License Fee: \$

Corrected Application Received:

Period of Annual Use: January 1 – December 31

Remarks: Transfer of use from Water Permit No. 1736-2, Cyclone Ditch Company

Diversion Point:

Land to be Irrigated:

Depth of Well:

Well Driller:

Remarks:

Type of Map: topo

Prepared by: Robert Ellis

Reviewed and the Number Assigned on: 8-5-2010

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

Mail to:
PMB 2020
DENR - Water Rights
523 E Capitol Ave
Pierre, SD 57501-3182
ph. (605) 773-3352

No. 2655-2 (office use only)
Hydrologic Unit 10120110
Basin Upper Cheyenne
Newspaper Rapid City Journal PO Box 450
605-394-8300 57701

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AUG - 5 2010

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:
(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. 1736-2

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

- Name of Applicant City of Rapid City Phone 605.394.4165
 (check one) ☒ Owner ☐ Tenant/lessee
 Mailing Address 300 Sixth Street Rapid City SD 57701
 (Address) (City) (State) (Zip Code)
- Amount of water claimed 0.83 *CFS or 132.7 **GPM ***AF
 (*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Rapid Creek (see attached Exhibit 1 for maps)
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Pennington
 See attached Exhibit 2 for legal descriptions of city of Rapid City water treatment plant and/or the city infiltration galleries located along Rapid Creek.
- County or counties where water will be used Pennington, South Dakota
- Annual period during which water is to be used April 1-October 31 (Jan. 1-Dec. 31 for Pactola Storage)
- 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 will divert water from Rapid Creek to the city water treatment plant and/or the city infiltration galleries located along Rapid Creek. Alternatively, the project will, but not simultaneously, divert water from Rapid Creek to storage in Pactola Reservoir. See the attached Exhibit 3 (engineering report).

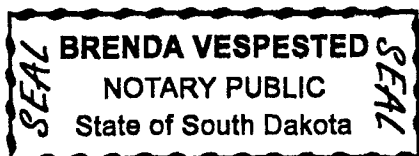
STATE OF SOUTH DAKOTA)
 County of Pennington) SS

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

I, Robert Ellis, 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 Robert Ellis

Subscribed and sworn to before me this 28th day of July 20 10



Brenda Vespsted
 Notary Public signature

SOUTH DAKOTA
WATER PERMIT NO. 2655-2

Date of first receipt of application August 5, 2010.

Date of receipt of corrected application August 19, 2010.

The Water Management Board approved Water Permit No. 2655-2 on December 1, 2010 for City of Rapid City, c/o Robert Ellis, Public Works Director, 300 6th St, 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. 2655-2 authorizes the transfer of a portion of Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 1736-2 from Cyclone Ditch. The transfer is for Rapid Creek water historically used to irrigate 58 acres known as the David Lamb property. The portion of Rapid Creek natural flows to be transferred to the city is 0.83 cubic feet of water per second (cfs) with an annual volume limitation of 132.7 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 66.4 acre-feet, if stored in Pactola Reservoir.

Historically, the 0.83 cfs has been used to irrigate approximately 58 acres legally described as that part of the SW ¼ NW ¼ north of the Cyclone Ditch and the NW ¼ NW ¼ all in Section 22-T1N-R8E. The existing diversion point on Rapid Creek for Cyclone Ditch is located in the SE ¼ SE ¼ Section 8-T1N-R8E. This permit changes the diversion point for 0.83 cfs to diversion points for use by the city to be located in the SE ¼ NE ¼ Section 3 (Rapid City Water Treatment Plant), NW ¼ SE ¼ Section 8 (new Jackson Springs Water Treatment Plant); SW ¼ SW ¼ Section 3 (Sioux Park Gallery); SE ¼ NE ¼ Section 9 (Meadowbrook Gallery); NW ¼ SE ¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW ¼ SW ¼ Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This permit does not authorize any new water appropriations from Rapid Creek. This application, if approved, will retain the October 31, 1887 priority date established by the Cyclone Ditch vested water rights.

2. The water appropriated shall be used for the purpose of meeting Rapid City's water needs and may not exceed the amount of water needed for beneficial use for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes.
3. The water is to be used during the following described annual period: April 1 - October 31 for diversions from the Water Treatment Plant, Sioux Park Gallery, Meadowbrook Gallery and Jackson Springs Gallery and January 1 - December 31 for Pactola Reservoir diversion releases from storage.
4. The date from which applicant may claim right is October 31, 1887 (established by the Cyclone Ditch Vested Water Right No. 1736-2).
5. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. Permit No. 2655-2 is limited to a diversion rate of 0.83 cfs for a total annual volume of 66.4 acre feet of water annually at Pactola Reservoir or a total annual volume of 132.7 acre feet of water annually at the SE ¼ NE ¼ Section 3 (Rapid City Water Treatment Plant); SW ¼ SW ¼ Section 3 (Sioux Park Gallery); SE ¼ NE ¼ Section 9 (Meadowbrook Gallery); NW ¼ SE ¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City are as follows:

(continued)

Monthly Volume Limitation

Month	City Intakes (ac-ft)	Pactola (ac-ft)
April	10.5	5.3
May	18.6	9.3
June	19.7	9.9
July	23.4	11.7
August	25.2	12.6
September	18.2	9.1
October	17.0	8.5
Total	132.7	66.4

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

2. Permit No. 2655-2 authorize diversion of only natural flow water by the city of Rapid City and does not include any rights to stored irrigation water available under contract from Deerfield Reservoir.
3. Diversions under this permit when taken at the Jackson Spring treatment plant Rapid Creek intake are limited to natural flows that exceed 10 cubic feet of water per second as measured at USGS gaging station Rapid City above Canyon Lake near Rapid City No. 06412500. During the period April 1 through September 30 natural flow diversions are limited to the amount exceeding 20 cfs with the remainder of the diversion being released supplemental water equal to an amount released from storage through Rapid City's Deerfield and Pactola contracts with the United States Bureau of Reclamation.
4. The City of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at Pactola reservoir or the diversion points within Rapid City.
5. That the Water Management Board is retaining jurisdiction of Permit No. 2655-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2655-2.
6. Diversions under Permit No. 2655-2 may not interfere with existing water rights in effect prior to approval of No. 2655-2 or any domestic rights.
7. The amount of water with an October 31, 1887 priority date which may be appropriated under Vested Water Right No. 1736-2 is reduced by 0.83 cfs.
8. Approval of Permit No. 2655-2 transferring the use of Rapid Creek natural flows for 58 acres located in Section 22, T1N, R8E, known as the David Lamb property and historically irrigated under Cyclone Ditch Company's Vested Water Right No. 1736-2 may not qualify for a new irrigation rights from any source.

(continued)

9. The permit holder shall permanently render inoperable the structural means of diverting water to the land which is no longer subject to Vested Water Right No. 1736-2 pursuant to South Dakota Codified law 46-5-34.1. This work shall be completed prior to the permit holder's diversion of the transferred water to beneficial use on the parcel of land approved under the transfer. The permit holder must notify the Chief Engineer to schedule an inspection. This transfer is subject to the Chief Engineer's approval that the works are rendered inoperable. This qualification does not grant access to property owned by third parties for making structural changes. The permit is responsible for ensuring that access is obtained from such third parties and that such third parties are also notified that inspections will occur.

WATER MANAGEMENT BOARD

By: Garland Erbele

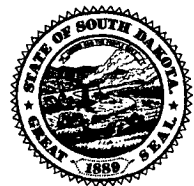
Garland Erbele, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

MAR 11 2011

date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter _____ Depth _____
- b) Casing Type _____ Diameter _____ Thickness _____
- c) Screen Type _____ Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth to Water (ground surface to water level) _____
- g) Distance to nearest existing domestic well:
- On applicant's property _____ On property owned by others _____

2. Wastewater Disposal System Information

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

3. Dugout Information

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

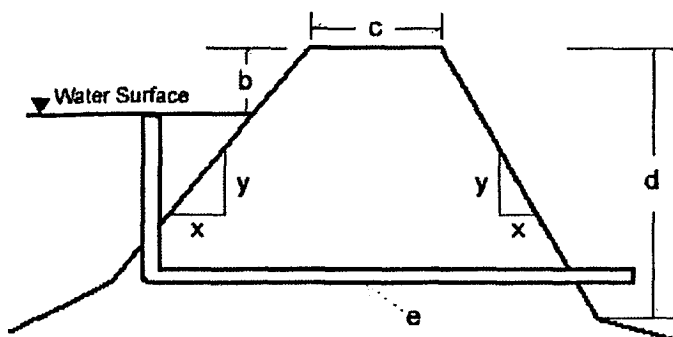
4. Water Storage Dams

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

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:
U.S. Bureau of Reclamation
Department of the Interior

b) Freeboard 3.3 feetc) Crest Width 40 feetCrest Length 5,200 including dikesd) Height 245 feete) Primary Outlet Capacity 1,150 cfsIf pipe, diameter 2-2.75 feet x 2.75 feetf) Secondary Spillway Capacity 245,000 cfSpillway Width 425 feet

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

Upstream 2.5:1Downstream 2:1h) Surface Area of Impoundment 1,232 acresi) Storage 99,029.0 Acre Feetj) Drainage Area Above Dam 319.0 Acres

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EXHIBIT 2

APPLICATION FOR PERMIT TO APPROPRIATE WATER WITHIN THE STATE OF SOUTH DAKOTA

LOCATION OF POINT OF DIVERSION

City of Rapid City Water Treatment Plant

North 71 degrees 39 feet West, 1,205 feet from East ¼ corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

Sioux Park "Girl Scout" Gallery

1,270 feet north 54 degrees 05 feet East of Southwest corner of Section Three (3), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

Meadowbrook Gallery

2,032 feet South 31 degrees 41 feet West of Northeast corner of Section Nine (9), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

Jackson Springs Gallery

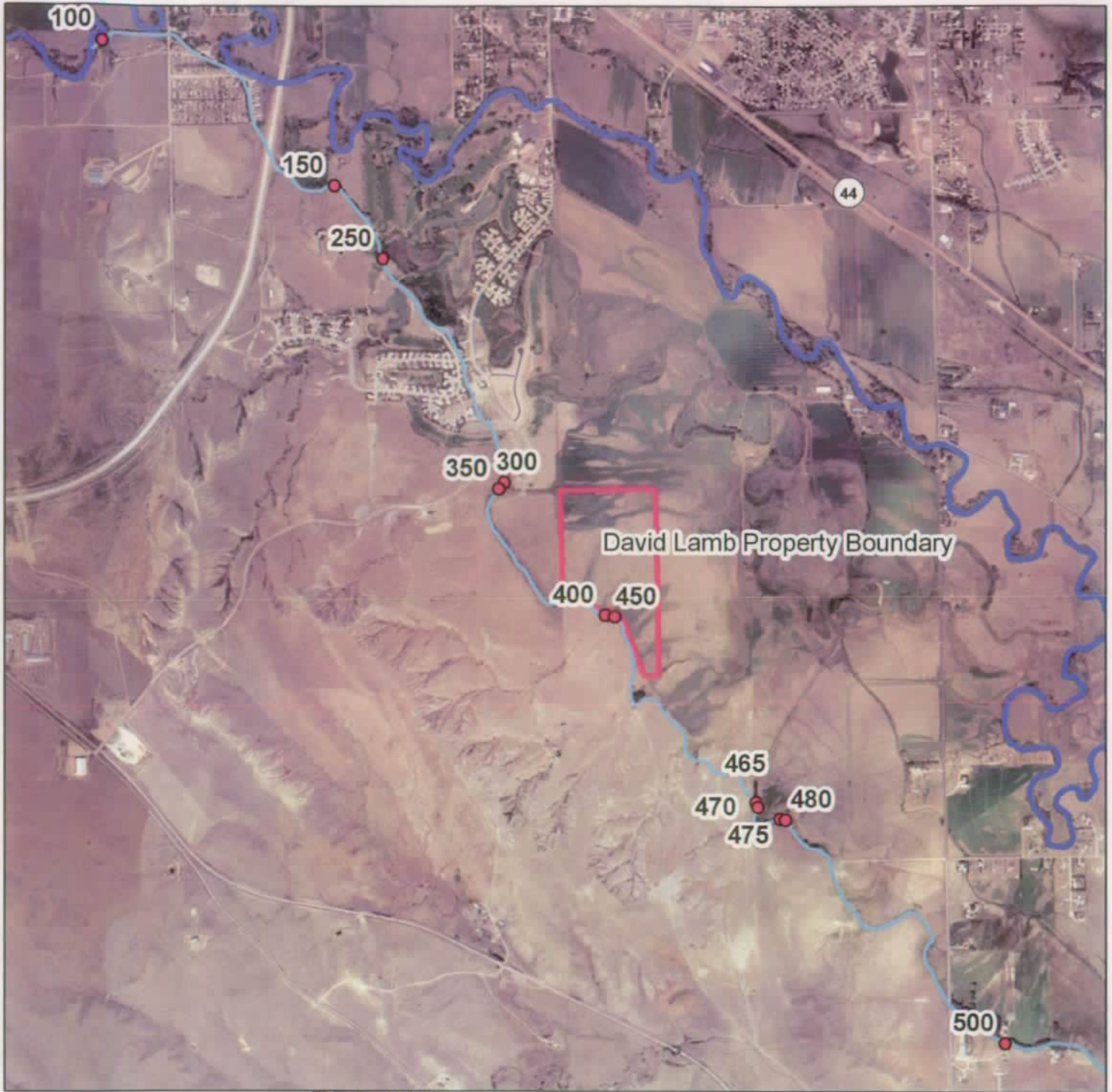
2,943 feet North 58 degrees 54 feet West of Southeast corner of Section Eight (8), Township One (1) North, Range Seven (7) East of the Black Hills Meridian.

Alternate Pactola Reservoir Diversion (Inlet to Service Spillway)

South 19 degrees East 3,740 feet of Northwest corner of Section Two (2), Township One (1) North, Range Five (5) East of the Black Hills Meridian.

Reservoir generally located in portions of Sections Two (2), Three (3), Four (4), Five (5), Ten (10), and Eleven (11), Township One (1) North, Range Five (5) East of the Black Hills Meridian, and portions of Sections Thirty-One (31), Thirty-Two (32), Thirty-Three (33), and Thirty-Four (34) Township One (1) North, Range Five (5) East of the Black Hills Meridian.

All of the above in Pennington County, South Dakota.



Legend

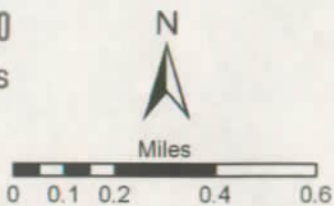
- Rapid City Diversions
- Measurement Locations
- Cyclone Ditch
- Rapid Creek
- David Lamb Property Boundary

RelB

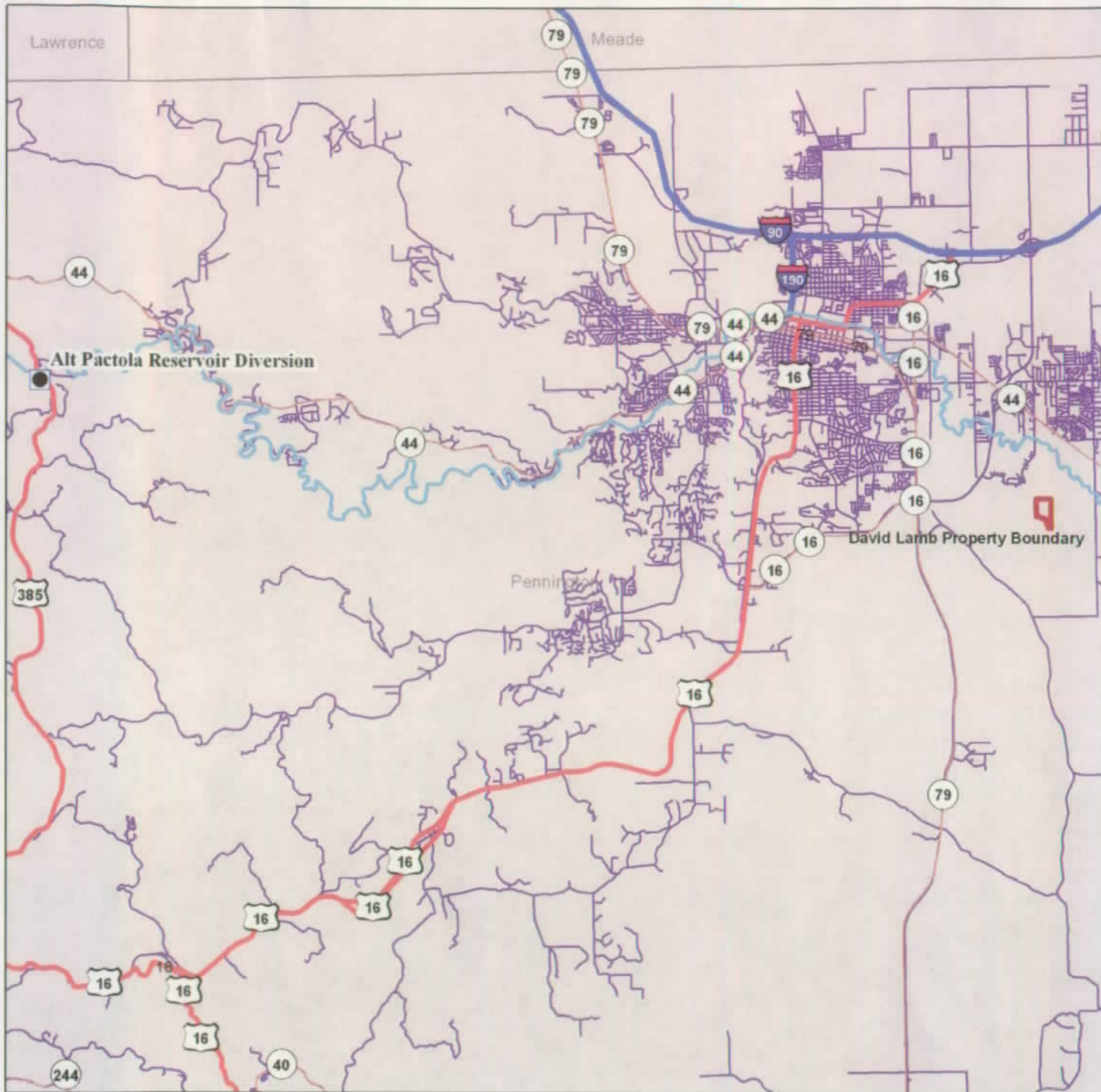
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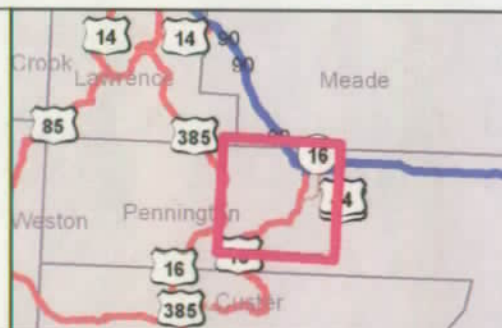


Created By: Cindie McCutcheon
Date: 7-9-2010
MXD: Cyclone_Ditch_Area_1



Legend

-  Pactola Reservoir Diversion
-  Rapid Creek
-  David Lamb Property Boundary



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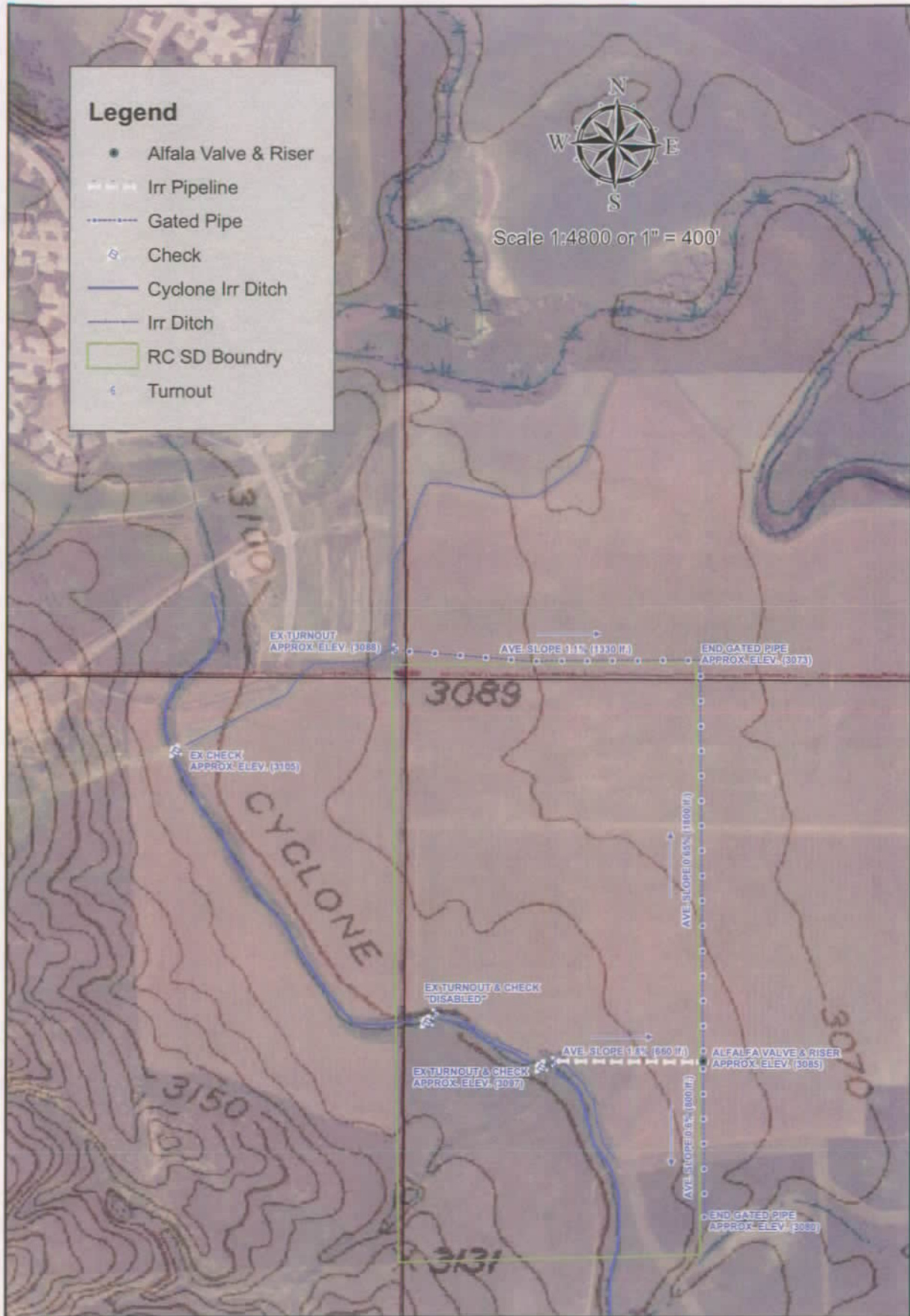
Created By: Cindie McCutcheon
Date: 7-9-2010
MXD: Cyclone_Ditch_Area_1

Legend

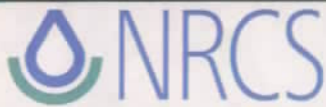
- Alfalfa Valve & Riser
- Irr Pipeline
- Gated Pipe
- Check
- Cyclone Irr Ditch
- Irr Ditch
- RC SD Boundry
- ⚡ Turnout



Scale 1:4800 or 1" = 400'



Sheet
of



Natural Resources Conservation Service
United States Department of Agriculture

DAVID LAMB LAND TRANSFER MAP (Irrigation) SEC 22-T1N-R8E

PENNINGTON COUNTY, SOUTH DAKOTA

Drawn g miller Date 1/18/11



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701

Public Works Department Engineering Services Division

300 Sixth Street

Telephone: (605) 394-4154 FAX: (605) 355-3083

Web: www.rcgov.org

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TRANSMITTAL

To: PMB 2020
DENR – Water Rights
523 E. Capitol Avenue
Pierre, SD 57501-3182

Re: Application for Permit to Appropriate Water within the State of South Dakota
Amendment/Correction to Permit No. 1736-2

Attached are the following:

Two Copies of Form 2
Two Copies of Form 2A
Signed Maps
Exhibit 2 – Location of Point of Diversion
Exhibit 3 – Engineering Report

The applicable fee of \$950.00 will be mailed on September 8, 2010. If you have any questions, please feel free to contact me.

Toni Broom, Compliance Specialist

8/4/10

Date

cc: Robert Ellis, Public Works Director



EQUAL OPPORTUNITY EMPLOYER



CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701

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Public Works Department
Engineering Services Division

AUG 19 2010

WATER RIGHTS
PROGRAM

300 Sixth Street

Telephone: (605) 394-4154 FAX: (605) 355-3083

Web: www.rcgov.org

TRANSMITTAL

To: PMB 2020
DENR – Water Rights
523 E. Capitol Avenue
Pierre, SD 57501-3182

Re: Application for Permit to Appropriate Water within the State of South Dakota
Amendment/Correction to Permit No. 1736-2
Filing Fee

Enclosed is check #0332700 in the amount of \$950.00 for the filing fee for this application.
Application and associated documentation were mailed on August 4, 2010.

Toni Broom, Compliance Specialist

8/18/10

Date

cc: Robert Ellis, Public Works Director



EQUAL OPPORTUNITY EMPLOYER

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 8/19, 2010

RECEIVED OF City of Rapid City 300 6th St Rapid City SD 57701

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

Fee for Application for Permit No. <u>1736-2</u> to Appropriate Water, to construct and to put water to beneficial use	750	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>1736-2</u>	200	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	950 00

No. 04604

By

Galen F. Schell
Chief Engineer

March 14, 2011

PAYMENT REQUEST FORM

PAYEE: City of Rapid City
Robert Ellis - Pubic Works
300 6th St
Rapid City SD 57701

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

DESCRIPTION OF SERVICE, PRODUCE OR TRANSFER

Refund on overpayment of permit # 2655-2

AMOUNT: \$650.00

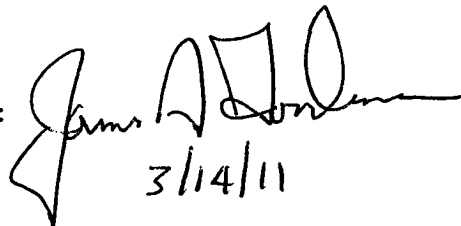
FUNDING SOURCE:

GENERAL: X

FEDERAL:

COMMENTS:

AUTHORIZATION:


3/14/11

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**

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

March 14, 2011

City of Rapid City
c/o Robert Ellis, Public Works Director
300 6th St
Rapid City SD 57701

Dear Mr. Ellis:

I am writing in regard to Water Permit No. 2655-2 authorizing the transfer of a portion of the Cyclone Ditch Company's use of Rapid Creek to the city's water diversion system which was recently sent to you.

An application/license filing fee of \$950.00 was submitted in August. The correct fee is \$300.00. Therefore, \$650.00 will be refunded to the city. 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

EXHIBIT 3

DAVID LAMB WATER RIGHTS TRANSFER

Topical Report RSI-2141

prepared for

South Dakota Department of Environment
and Natural Resources

523 East Capital

Joe Foss Building

Pierre, South Dakota 57501

July 2010



DAVID LAMB WATER RIGHTS TRANSFER

Topical Report RSI-2141

by

Jared K. Oswald

RESPEC

P.O. Box 725

Rapid City, South Dakota 57709

prepared for

South Dakota Department of Environment
and Natural Resources

523 East Capital

Joe Foss Building

Pierre, South Dakota 57501

July 2010

FOREWORD

An engineering analysis was conducted on the David Lamb property to determine the amount of water the property has the right to transfer to the city of Rapid City, South Dakota. The 58-acre parcel being assessed is located within Section 22, Township 1 North, Range 8 East, Black Hills Meridian, Pennington County, South Dakota. The property has a portion of a vested right (Water Right No. 1736-2) of 7 cubic feet per second (cfs) diverted off of Rapid Creek into the Cyclone Ditch. The analysis determined that 132.7 acre-feet of water (approximately 2.3 acre-feet per acre) can be transferred annually from the property to diversion points within Rapid City from April 1–October 31 not to exceed a rate of 0.83 cfs. A total annual volume of 66.4 is available for transfer to Pactola Reservoir storage.

TABLE OF CONTENTS

1.0 ENGINEERING ANALYSIS	1
1.1 HISTORIC CROP WATER USE.....	1
1.2 HISTORIC DIVERSIONS.....	7
1.3 DELIVERY SYSTEM LOSSES	8
2.0 WATER RIGHTS AVAILABLE FOR TRANSFER	15
APPENDIX A. HISTORIC CROP WATER USE BY YEAR	A-1
APPENDIX B. HAMAK STUDY ON RAPID CREEK WATER USE	B-1
APPENDIX C. CYCLONE DITCH RUN SUMMARY, ENTIRE SYSTEM	C-1

LIST OF TABLES

TABLE	PAGE
1-1 Calculated Weighted Water-Holding Capacity for the David Lamb Property.....	6
1-2 Amount of Irrigation Water Available for Transfer Based on Historic Crop Water Use Analysis.....	8
1-3 Historic Diversions in Acre-Feet to the Cyclone Ditch Reports by Mr. John Hamak of the South Dakota Department of Water Resources.....	9
1-4 Monthly Pro Rata Share Available for Transfer From the David Lamb Property Based on Historic Diversion Records	10
1-5 Flow Measurement Sites With Coordinates and Location Descriptions	11
1-6 Three Run Averages for the Entire Cyclone Ditch System	13
1-7 Three Run Averages for the Entire Cyclone Ditch System Broken Down by Site and Diversion.....	14
1-8 Three Run Averages for the Upper Section of the Cyclone Ditch System.....	14
2-1 Irrigation Amounts Available for Transfer From the David Lamb Property.....	15
2-2 Approximate Locations of City of Rapid City Intake Galleries.....	16
C-1 Raw Data Collected on June 4, 2010, First Run	C-2
C-2 Summary of Data for First Run June 4, 2010	C-3
C-3 Raw Data Collected on June 4, 2010, Second Run.....	C-4
C-4 Summary of Data for Second Run June 4, 2010.....	C-5
C-5 Raw Data Collected on June 10, 2010.....	C-6
C-6 Summary of Data Collected on June 10, 2010.....	C-7
C-7 Summary of Data for Entire System.....	C-7

LIST OF FIGURES

FIGURE	PAGE
1-1 Location of the David Lamb Property	2
1-2 Crop Coefficient (K_c) Throughout the Growing Season for Alfalfa Developed Specifically for the David Lamb Property.....	3
1-3 Plant Available Coefficient (K_a) Response to Changes in Percent of Available Water in the Soil Profile.....	4
1-4 Location of the David Lamb Property With Soils Overlayed	5
1-5 Water Balance Tracking for 1970 Irrigation Season	6
1-6 Total Values of Rainfall, Irrigation, Reference Evapotranspiration, and Actual Evapotranspiration During the Analysis Period of 1970–2004	7
1-7 Map of Cyclone Ditch System and Flow Measurement Locations	12
1-8 Site 400 Cross-Sectional Comparison for the Three Runs.....	13
A-1 Crop Water Use Calculation for Year 1970	A-2
A-2 Crop Water Use Calculation for Year 1971	A-2
A-3 Crop Water Use Calculation for Year 1972	A-3
A-4 Crop Water Use Calculation for Year 1973	A-3
A-5 Crop Water Use Calculation for Year 1974	A-4
A-6 Crop Water Use Calculation for Year 1975	A-4
A-7 Crop Water Use Calculation for Year 1976	A-5
A-8 Crop Water Use Calculation for Year 1977	A-5
A-9 Crop Water Use Calculation for Year 1978	A-6
A-10 Crop Water Use Calculation for Year 1979	A-6
A-11 Crop Water Use Calculation for Year 1980	A-7
A-12 Crop Water Use Calculation for Year 1981	A-7
A-13 Crop Water Use Calculation for Year 1982	A-8
A-14 Crop Water Use Calculation for Year 1983	A-8
A-15 Crop Water Use Calculation for Year 1984	A-9
A-16 Crop Water Use Calculation for Year 1985	A-9
A-17 Crop Water Use Calculation for Year 1986	A-10
A-18 Crop Water Use Calculation for Year 1987	A-10
A-19 Crop Water Use Calculation for Year 1988	A-11
A-20 Crop Water Use Calculation for Year 1989	A-11

LIST OF FIGURES (Continued)

FIGURE	PAGE
A-21 Crop Water Use Calculation for Year 1990	A-12
A-22 Crop Water Use Calculation for Year 1991	A-12
A-23 Crop Water Use Calculation for Year 1992	A-13
A-24 Crop Water Use Calculation for Year 1993	A-13
A-25 Crop Water Use Calculation for Year 1994	A-14
A-26 Crop Water Use Calculation for Year 1995	A-14
A-27 Crop Water Use Calculation for Year 1996	A-15
A-28 Crop Water Use Calculation for Year 1997	A-15
A-29 Crop Water Use Calculation for Year 1998	A-16
A-30 Crop Water Use Calculation for Year 1999	A-16
A-31 Crop Water Use Calculation for Year 2000	A-17
A-32 Crop Water Use Calculation for Year 2001	A-17
A-33 Crop Water Use Calculation for Year 2002	A-18
A-34 Crop Water Use Calculation for Year 2003	A-18
A-35 Crop Water Use Calculation for Year 2004	A-19

1.0 ENGINEERING ANALYSIS

The engineering analysis was divided into three sections (Historic Computer Use, Historic Diversions, and Delivery System Losses) to comprehensively assess the volume and flow rate available for transfer to the city of Rapid City, South Dakota. The historic irrigation requirements (demand) and diversions (supply) were compared on a monthly basis to determine if supply or demand is the limiting amount. The delivery system losses were then subtracted from the limiting amount to determine the monthly acre-feet of water available for transfer.

1.1 HISTORIC CROP WATER USE

An assessment was conducted to determine the historic crop water use and irrigation requirements of the David Lamb property shown in Figure 1-1. An online irrigation scheduling consultant tool, developed for individual landowners within the Belle Fourche Irrigation District (BFID) in western South Dakota, tracks the daily water balance in a field and provides a recommendation of irrigation timing and depth. Because of the proximity of the BFID to the David Lamb property, the methods used to develop the tool were deemed appropriate to assess historic crop water use.

The analysis ran daily (April 1 to October 31) from 1970–2004. The inputs required to track a daily water balance are local weather and rainfall estimates, crop type, and field boundaries. Weather and rainfall data were collected from the Rapid City Regional Airport located approximately 4 miles east of the property and, therefore, deemed representative. The weather data were input into the American Society of Civil Engineers (ASCE) Penman Monteith (PM) equation (Equation 1-1) to calculate daily evapotranspiration (ET). This equation requires daily values of dew point, high temperature, low temperature, average wind speed, and solar radiation, all of which were available from the airport weather station for the entire analysis period.

The owners indicated that during the analysis period, the field was in alfalfa. The ASCE PM equation estimates daily evapotranspiration and references a 0.5-meter-tall crop similar to full-cover alfalfa. In other words, it uses the weather parameters required to estimate the amount of water that would be lost from full-cover alfalfa on that day.

This reference ET (ET_r) estimate is multiplied by a crop coefficient (K_c) to adjust this value to any crop or crop stage other than full-cover alfalfa along with a plant available water coefficient (K_a) that adjusts for changes in soil moisture (Equation 1-1):

$$ET_a = ET_r \times K_c \times K_a. \quad (1-1)$$

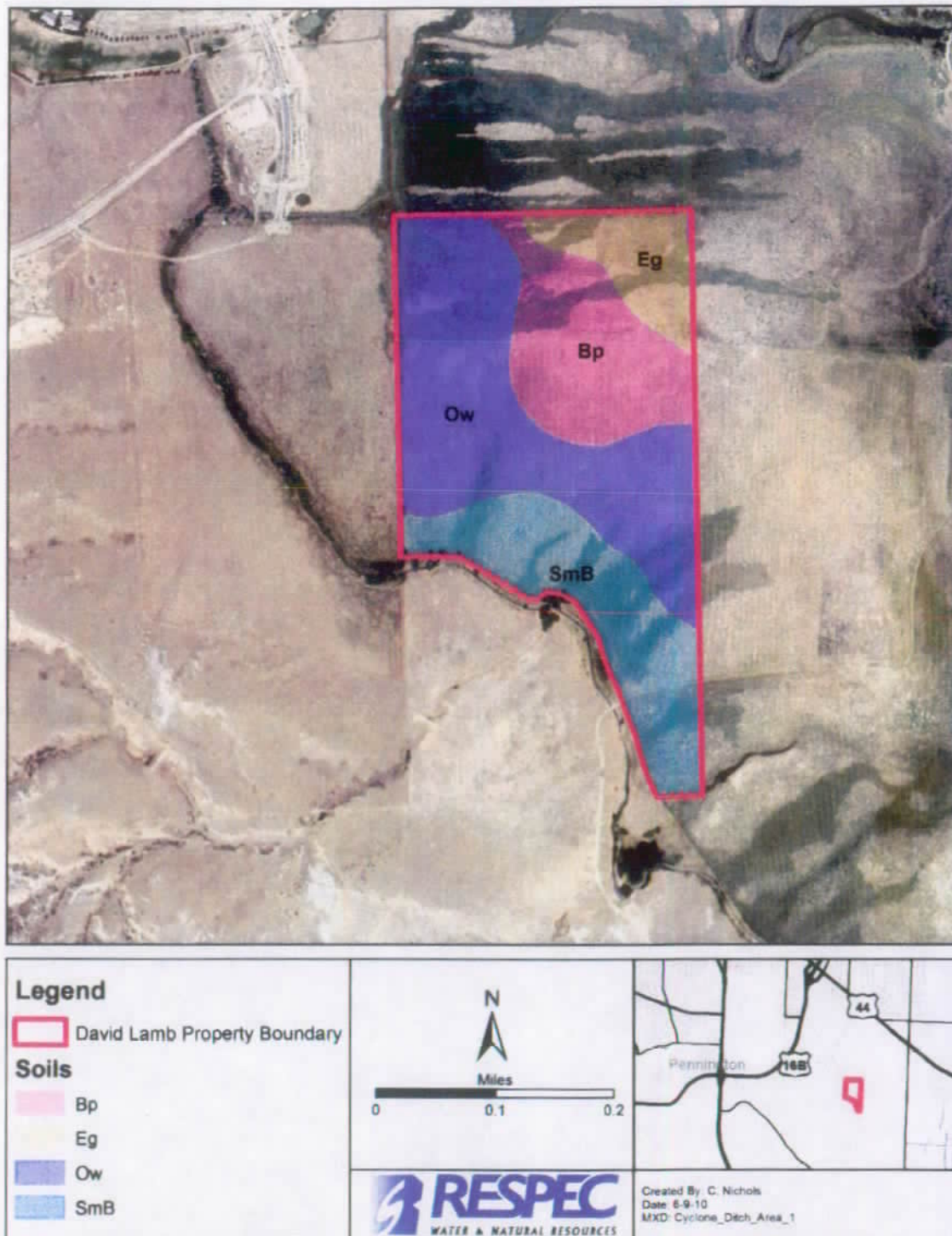


Figure 1-1. Location of the David Lamb Property.

The values for K_c used in this analysis are shown in Figure 1-2. It was assumed that the start of growing season, on average, begins on April 1. For alfalfa, it is assumed that the plant begins to thrive when the first 5 days of average temperature exceed 41 degrees Fahrenheit, which occurs, on average, on April 1 for this area. At this time, the K_c is estimated to be 0.5, or half the water used for a full-cover alfalfa crop. After the start of the season, the value steadily increases until the crop is harvested and the K_c drops immediately to 0.3 and the cycle repeats itself. For this analysis, based on conversations with the landowner and local knowledge, it was assumed that, on average, the alfalfa is harvested on June 2, July 12, and August 21.

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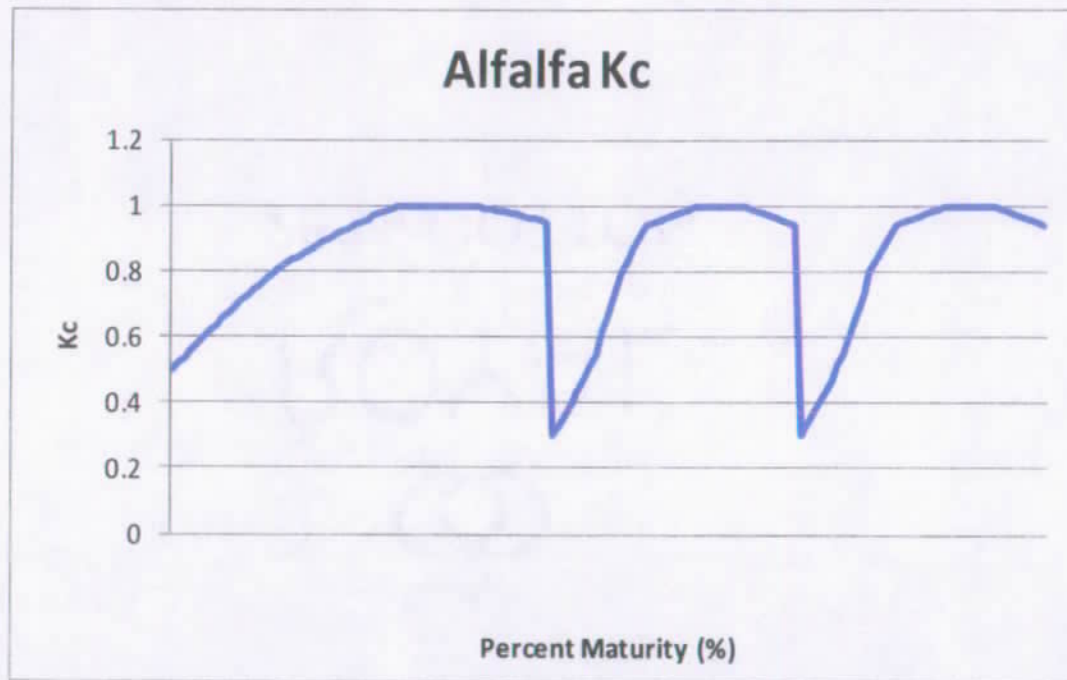


Figure 1-2. Crop Coefficient (K_c) Throughout the Growing Season for Alfalfa Developed Specifically for the David Lamb Property.

The ET_r estimate is also multiplied by a plant available water coefficient (K_a) to determine the actual ET estimate (ET_a) for the day. This value takes into account the current soil water balance. The form of the coefficient is shown in Figure 1-3. In essence, the more saturated the soil profile, the closer K_a gets to one, meaning the more readily available the water is to be released.

To assess the percent available water in the soil, the water-holding capacity must be known. Figure 1-4 provides an aerial view of the David Lamb property with the soils overlaid. The 58 acres being assessed is comprised of 44 percent Owanka clay loam (OW), 25 percent Savo silt loam (SmB), 21 percent Bridgeport silt loam (Bp), and 10 percent Egas silty clay loam (Eg) soil.

The overall water-holding capacity of the property was determined by calculating an area weighted value. This was determined by developing an estimate of water-holding capacity in inches per foot for the top 4 feet for each soil type. The top 4 feet was used because that is considered the effective rooting depth for an established alfalfa crop. The estimated water-holding capacity of the individual soil types is then multiplied by the percent of area they comprise of the property. The calculated area weighted water-holding capacity for the property is shown in Table 1-1.

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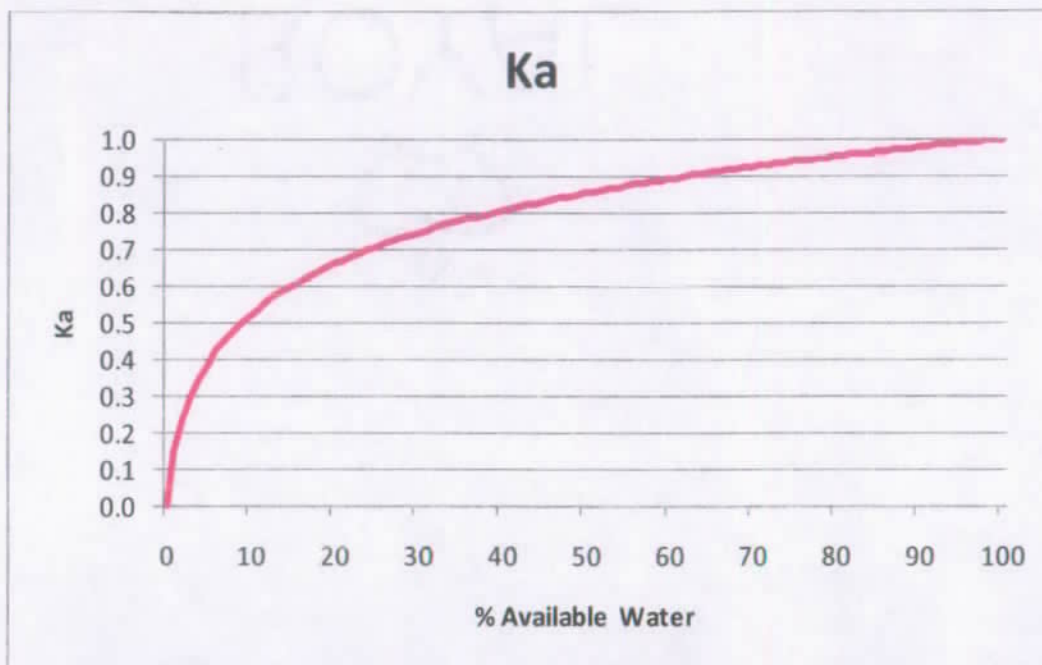


Figure 1-3. Plant Available Coefficient (K_a) Response to Changes in Percent of Available Water in the Soil Profile.

The daily water balance is found by adding the daily rainfall and irrigation amounts and subtracting the ETa calculated using Equation 1-2. Irrigation events were assumed to occur when the calculated balance reached 50 percent of the water-holding capacity (also often referred to as field capacity). Irrigation amounts fully replenished any soil water deficit at the time.

$$\text{Available Water} = \text{Previous Day Available Water} - ETa + \text{Rainfall} + \text{Irrigation} \quad (1-2)$$

Figure 1-5 provides a graphical representation of the estimated water balance from 1970 using the methods described above. During the irrigation season (April 1–October 31), the field received 13.71 inches of rainfall and had 42.06 inches of ETa deficit, which induced 23.17 inches

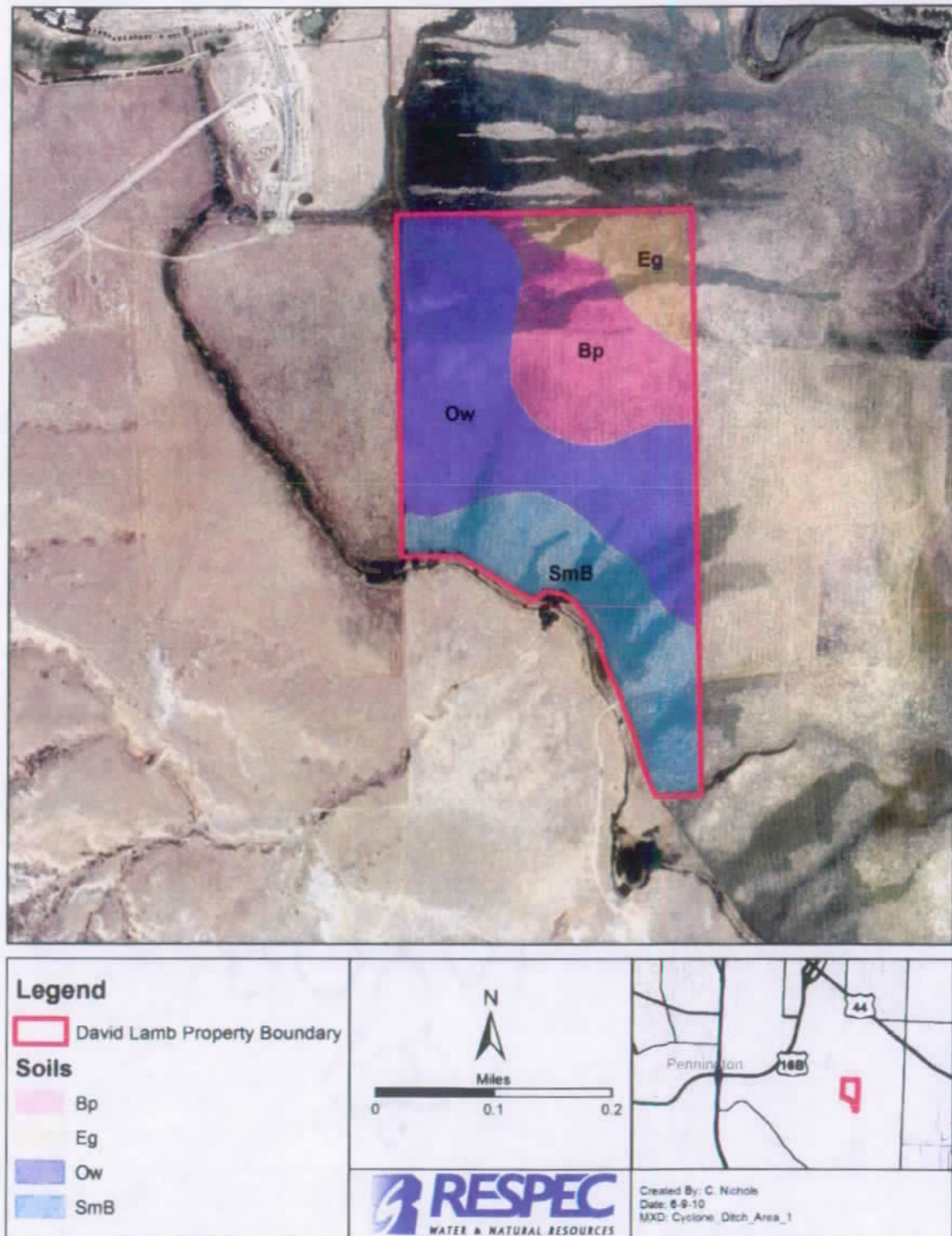


Figure 1-4. Location of the David Lamb Property With Soils Overlaid.

of irrigation. The graphs from the remaining years are displayed in Appendix A. Figure 1-6 displays the total values for reference rainfall, irrigation, reference ET (ET_r), and actual ET (ET_a), throughout the period of analysis. On average, there was 59.44 inches of ET_r , 41.69 inches of ET_a , 13.40 inches of rainfall, and 24.87 inches of irrigation simulated. The greatest irrigation amount simulated (34.98 inches) occurred in 1988, which was in response to receiving only 8.92 inches of rain and having 53.52 inches of ET_a .

Table 1-1. Calculated Weighted Water-Holding Capacity for the David Lamb Property

Depth (ft)	Water Holding Capacity (in/ft)
1	2.05
2	1.89
3	1.87
4	1.81
Total	7.62

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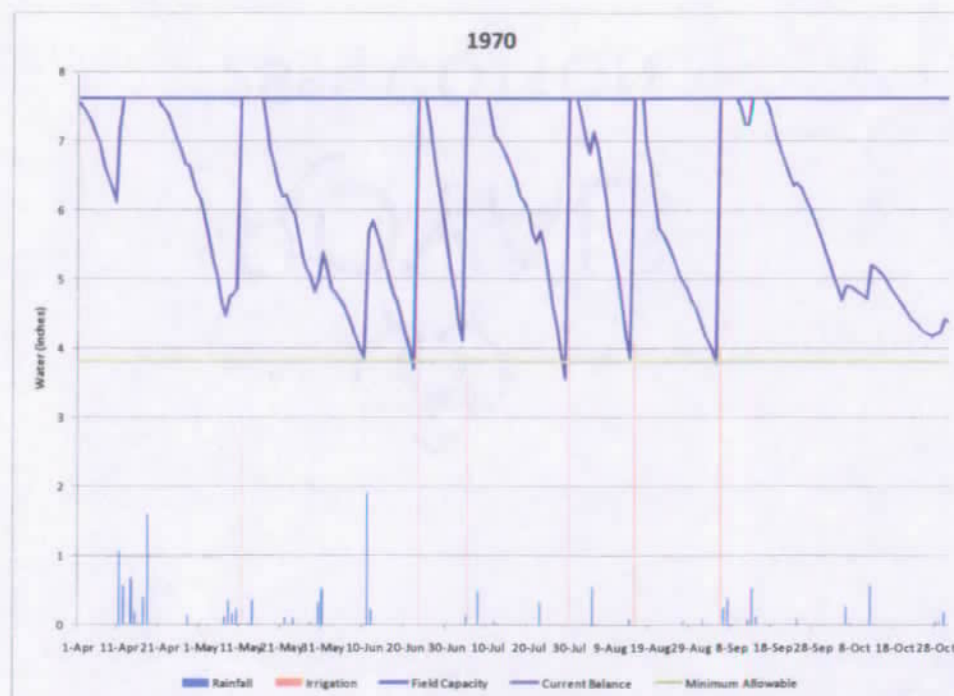


Figure 1-5. Water Balance Tracking for 1970 Irrigation Season.

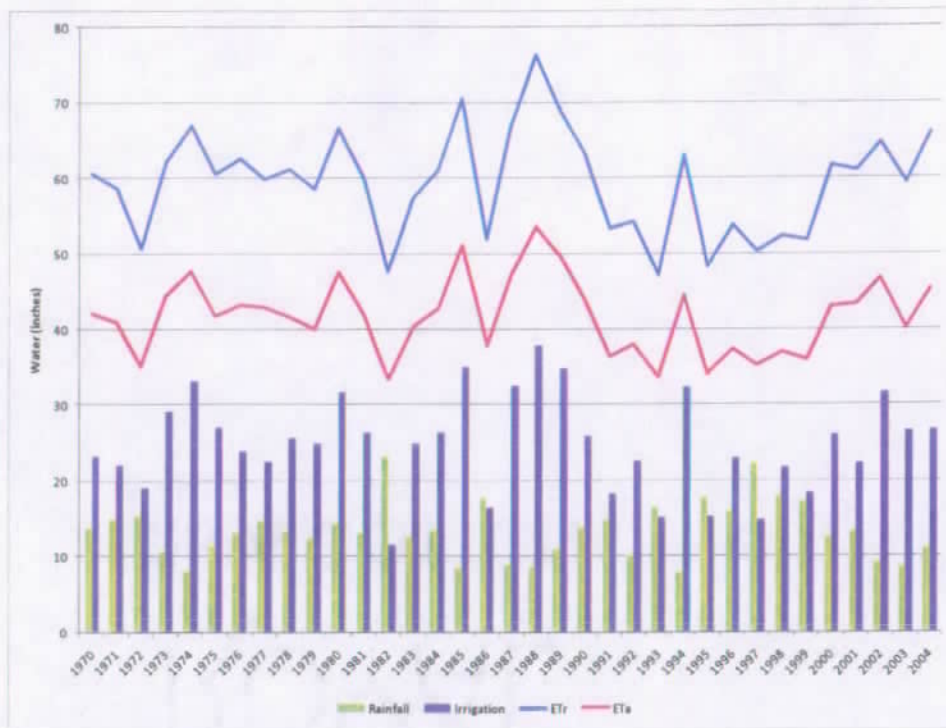


Figure 1-6. Total Values of Rainfall, Irrigation, Reference Evapotranspiration, and Actual Evapotranspiration During the Analysis Period of 1970–2004.

According to the owners, the property has been surface irrigated throughout its existence. Irrigation efficiency was therefore assumed to be 50 percent. Table 1-2 displays the water available to be transferred from the David Lamb property by month based on the analysis of historic crop water use. According to this analysis, there is 240.4 acre-feet available for transfer with delivery rates varying from 0.19 cubic feet per second (cfs) in April to 0.91 cfs in July.

1.2 HISTORIC DIVERSIONS

Diversion records were not typically collected for the Cyclone Ditch. The last assessment was compiled by Mr. David Hamak of the South Dakota Department of Water Resources and is included in its entirety in Appendix B. The assessment collected monthly diversion data for water users on Rapid Creek from 1947 to 1979 for May through September. Table 1-3 shows the diversions specific to the Cyclone Ditch. Data were not available for May 1954; water years 1955, 1960–1962, and 1969; and May 1970. On a yearly basis, diversions ranged from 160 acre-feet in 1968 to 1,916 acre-feet in 1952 with an average of 954 acre-feet. Average historic monthly diversions range from a low of 167 acre-feet in September to a high of 231 acre-feet in August.

Table 1-2. Amount of Irrigation Water Available for Transfer Based on Historic Crop Water Use Analysis

	April	May	June	July	August	September	October	Total
Average Irrigation Needed (inches)	1.20	4.44	3.53	5.76	5.22	2.79	1.93	24.87
Irrigation Needed at 50 Percent Efficiency (inches)	2.39	8.87	7.07	11.52	10.45	5.58	3.86	49.74
Acre-Feet/Acre to Be Transferred	0.20	0.74	0.59	0.96	0.87	0.47	0.32	
Number of Acres	58	58	58	58	58	58	58	
Total Acre-Feet to Transfer	11.6	42.9	34.2	55.7	50.5	27.0	18.7	240.6
Days of Delivery	30.0	31.0	30.0	31.0	31.0	30.0	31.0	214.0
cfs Equivalent	0.19	0.70	0.57	0.91	0.82	0.45	0.30	

The historic diversions to the ditch were then multiplied by the fraction of land (pro rata share) that the David Lamb property encompasses within the water right to determine the historic monthly diversion amount (Equation 1-3). The water right (1736-2) identifies that the 58-acre property is approximately 12 percent of the 486 acres that are irrigated under this right. Table 1-4 shows the amount of water available for transfer.

$$\text{Monthly Pro Rata Share} = \text{Monthly Historic Diversion} \times \left(\frac{58}{486} \right). \quad (1-3)$$

1.3 DELIVERY SYSTEM LOSSES

Twelve flow measurement sites were used for the evaluation of losses within the entire Cyclone Ditch delivery system. Table 1-5 outlines the site number, coordinates, and location description of each site. Figure 1-7 is a map of Cyclone Ditch, the project area that identifies the flow measurement locations, boundary of the David Lamb property, and proximity of all elements to Rapid Creek.

Flow measurements were taken a total of four separate times—once on May 21, twice on June 4, and once on June 10. Before flow measurements were taken, the canal headgate was opened to its maximum allowable capacity at the time and allowed to stabilize for 24 hours. The maximum allowable capacity was used to simulate worst-case conditions as far as head pressures and associated loss because of seepage. The May 21 data were not included in this final report because high losses occurred since this was the first time the canal was in operation in 2010.

**Table 1-3. Historic Diversions in Acre-Feet to the Cyclone Ditch Reports
by Mr. John Hamak of the South Dakota Department of Water
Resources [1980] (Page 1 of 2)**

	May	June	July	August	September	Total
1947	110	91	65	336	273	875
1948	236	244	101	285	379	1,245
1949	39	190	394	440	225	1,288
1950	63	468	524	299	156	1,510
1951	491	223	114	316	117	1,261
1952	482	183	378	477	396	1,916
1953	74	134	343	392	189	1,132
1954		284	293	242	220	1,039
1955						
1956	262	214	286	118	0	880
1957	0	0	18	108	224	350
1958	130	70	194	138	140	672
1959	446	146	317	221	120	1,250
1960						
1961						
1962						
1963	69	50	304	298	190	911
1964	304	184	258	264	124	1,134
1965	248	164	96	264	214	986
1966	120	368	258	168	60	974
1967	30	0	24	102	120	276
1968	90	70	0	0	0	160
1969						
1970		159	92	87	45	383
1971	80	158	91	102	56	487
1972	52	0	112	42	53	259

Table 1-3. Historic Diversions in Acre-Feet to the Cyclone Ditch Reports by Mr. John Hamak of the South Dakota Department of Water Resources [1980] (Page 2 of 2)

	May	June	July	August	September	Total
1973	31	61	203	162	94	551
1974	80	224	308	264	114	990
1975	352	112	138	222	376	1,200
1976	82	76	130	184	210	682
1977	128	372	376	388	192	1,456
1978	120	338	412	320	212	1,402
1979	334	488	186	242	180	1,430
Totals	4,453	5,071	6,015	6,481	4,679	26,699
Average	171	181	215	231	167	954

Table 1-4. Monthly Pro Rata Share Available for Transfer From the David Lamb Property Based on Historic Diversion Records

	April	May	June	July	August	September	October	Total
Pro Rata Share to Acreage (Acre-Feet)	0	20.4	21.6	25.6	27.6	19.9	0	115.1

Flows were measured with the current meter method using a portable flowmeter, Flo-Mate Model 2000 from Marsh-McBirney, Inc. The water velocity and canal geometry were recorded at each site. These data were used to calculate the flow at each site using the midsection method in a computerized spreadsheet. A canal cross section from this study can be seen in Figure 1-8. All sample locations were flagged so that the cross sections could easily be duplicated during the next run for the purposes of being able to accurately compare the cross sections of each run.

From the three data collection runs used, it was found that an average of 7.64 cfs (15.15 acre-feet per day) was entering Cyclone Ditch. An average of 1.98 cfs loss (3.93 acre-feet per day), or 25.9 percent, was found over the entire system. This was calculated by subtracting the water diverted and the water left at the end of the system from the total amount of water entering the system. Flow measurements were taken directly above and directly below each of the four diversions. This allowed for the diversions to be calculated by subtracting the flow below each diversion from the flow above each diversion. The averaged results from the entire system

are shown in Table 1-6. Data from individual sites and the amounts diverted are shown in Table 1-7. It should be noted that water was gained from Site 100 to Site 150 in all three runs. This may indicate the presence of a spring in this canal section. The individual data and averages from each run can be found in Appendix C.

Table 1-5. Flow Measurement Sites With Coordinates and Location Descriptions

Site Number	GPS Coordinates		Location Description
100	N 44.0562	W 103.1752	Below headgate after canal diversion at Rapid Creek
150	N 44.0504	W 103.1629	Before Elks Golf Course
250	N 44.0486	W 103.1607	Before concrete lined section
300	N 44.0476	W 103.1605	Above the first David Lamb diversion near the end of Jolly Lane
350	N 44.0388	W 103.1543	Below the first David Lamb diversion near the end of Jolly Lane
400	N 44.0385	W 103.1546	Above the second David Lamb diversion near the Lamb home site
450	N 44.0335	W 103.1491	Below the second David Lamb diversion near the Lamb home site
465	N 44.0335	W 103.1486	Above the third new culvert diversion
470	N 44.0261	W 103.1413	Below the third new culvert diversion
475	N 44.0260	W 103.1412	Above the fourth old culvert diversion
480	N 44.0255	W 103.1401	Below the fourth old culvert diversion
500	N 44.0254	W 103.1398	Near the end of the canal

The entire system was broken down into a smaller upper section that incorporates only the sites from the beginning of Cyclone Ditch through the last diversion to the 58-acre parcel on the David Lamb property (Site 100 to Site 450). This analysis found that the average loss through this upper section was 0.67 cfs (1.33 acre-feet per day) or 8.8 percent. The average results from the upper section are shown in Table 1-8.

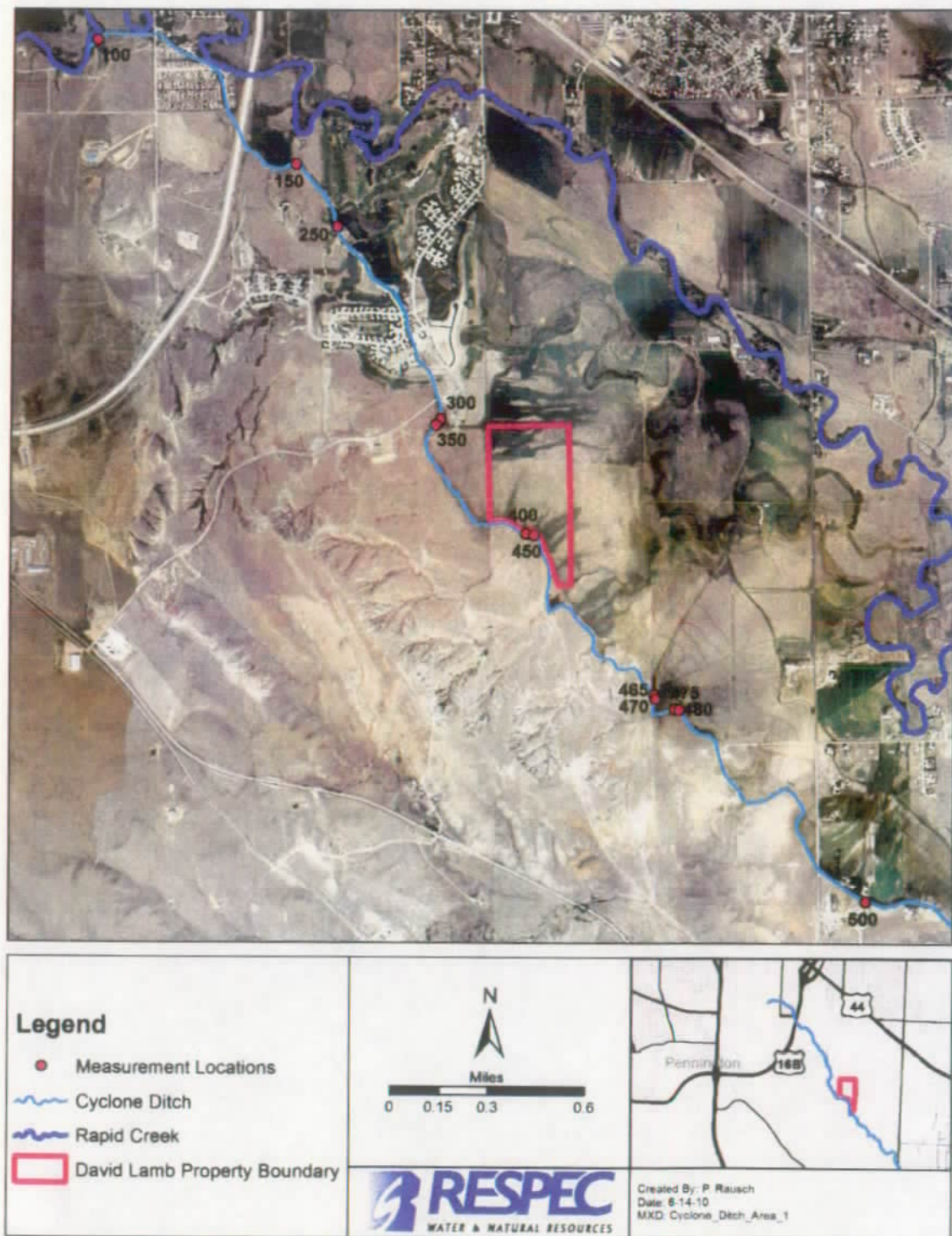


Figure 1-7. Map of Cyclone Ditch System and Flow Measurement Locations.

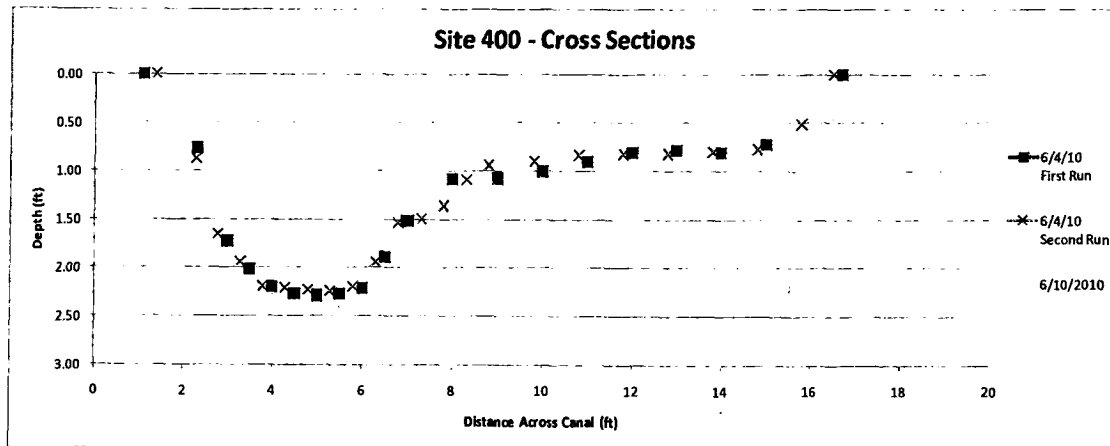


Figure 1-8. Site 400 Cross-Sectional Comparison for the Three Runs.

Table 1-6. Three Run Averages for the Entire Cyclone Ditch System

	cfs	acre-feet per day	(%)
Entering System	7.64	15.15	
Diverted From System	4.23	8.40	55.4
End of System	1.43	2.83	18.7
Loss	1.98	3.93	25.9
Total	7.64	15.15	100.0

Table 1-7. Three Run Averages for the Entire Cyclone Ditch System Broken Down by Site and Diversion

Site	Flow (cfs)	Loss Through Reach	
		cfs	%
100	7.640		
		-0.351	-5
150	7.991		
		0.866	11
300	7.125		
Diverted	3.065		
350	4.060		
		0.319	8
400	3.741		
Diverted	0.963		
450	2.778		
		0.342	12
465	2.436		
Diverted	0.064		
470	2.372		
		0.467	20
475	1.905		
Diverted	0.143		
480	1.762		
		0.336	19
500	1.426		

Table 1-8. Three Run Averages for the Upper Section of the Cyclone Ditch System

	cfs	acre-feet per day	%
Entering System	7.64	15.15	
Diverted From Section	4.19	8.32	54.9
End of System	2.78	5.51	36.4
Loss	0.67	1.33	8.8
Total	7.64	15.15	100.0

2.0 WATER RIGHTS AVAILABLE FOR TRANSFER

An engineering analysis was completed to determine the water rights that were available for transfer from the David Lamb property located within Section 22, Township 1 North, Range 8 East, Black Hills Meridian, Pennington County, South Dakota. To complete this analysis, the historic crop water use for the 58-acre parcel as well as historic diversion records to the Cyclone Ditch were assessed. Table 2-1 provides a monthly summary of the findings in acre-feet, subtracting out the 8.8 percent delivery losses as well as the irrigation rights available for transfer in acre-feet and cfs. The irrigation rights to be transferred was found by taking the lesser of the two analyses (crop water use or diversions) except in April and October where the crop water use amount was used because no historic delivery records were available. The analysis concluded that 132.7 acre-feet per year is available for transfer to diversion points in Rapid City (Table 2-2) and 66.4 acre-feet per year is available for transfer to storage in Pactola Reservoir.

Table 2-1. Irrigation Amounts Available for Transfer From the David Lamb Property

	April	May	June	July	August	September	October	Total
Historic Diversions to Ditch (Acre-Feet)	0	171	181	215	231	197	0	995
Pro Rata Share of Historic Diversions (Acre-Feet)	0	18.6	19.7	23.4	25.2	18.2	0	105.1
Crop Demand (Acre-Feet)	10.5	39.1	31.2	50.8	46.1	24.6	17.0	219.2
Irrigation Right to Be Transferred to Diversion Points in Rapid City (Acre-Feet)	10.5	18.6	19.7	23.4	25.2	18.2	17.0	132.7
Irrigation Right to Be Transferred to Diversion Points to Pactola Reservoir (Acre-Feet)	5.3	9.3	9.9	11.7	12.6	9.1	8.5	66.4
Irrigation Right to Be Transferred to Diversion Points in Rapid City (cfs)	0.18	0.30	0.33	0.38	0.41	0.30	0.28	

Table 2-2. Approximate Locations of City of Rapid City Intake Galleries

Location Name	Location
Sioux Park Gallery	SW¼ SW¼ Section 3
Meadowbrook Gallery	SE¼ NE¼ Section 9
Rapid City Water Treatment Plant	SE¼ NE¼ Section 3
Jackson Springs Gallery	NW¼ SE¼' Section 8

APPENDIX A

**HISTORIC CROP WATER USE
BY YEAR**

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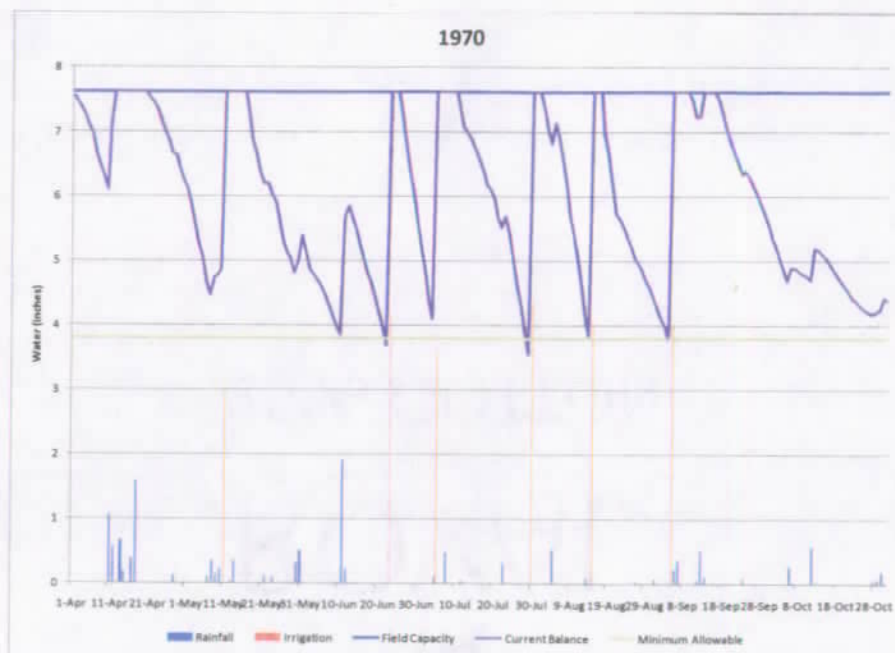


Figure A-1. Crop Water Use Calculation for Year 1970.

RSI-1948-10-008

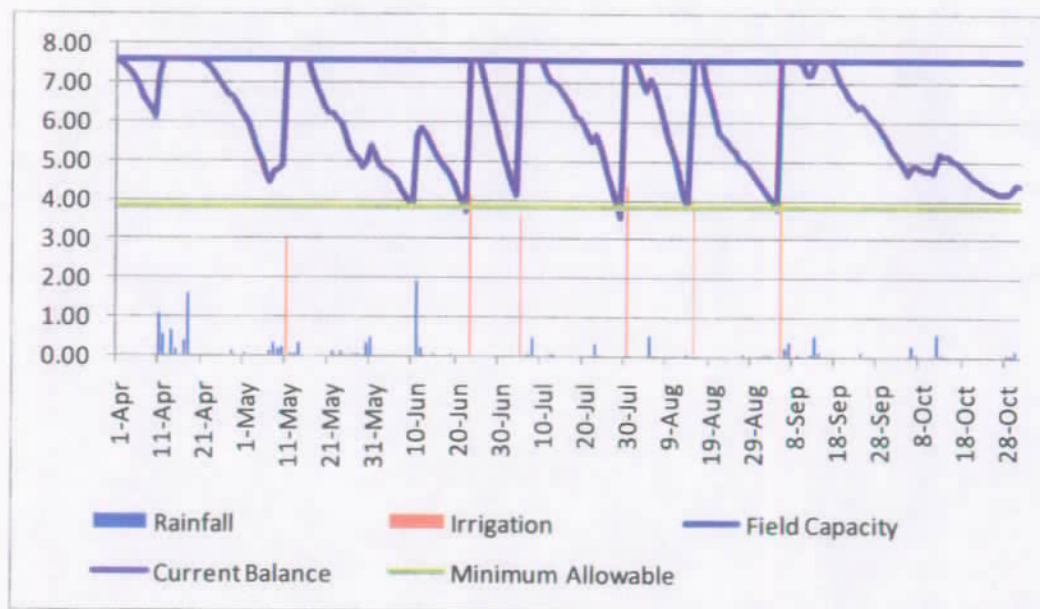


Figure A-2. Crop Water Use Calculation for Year 1971.

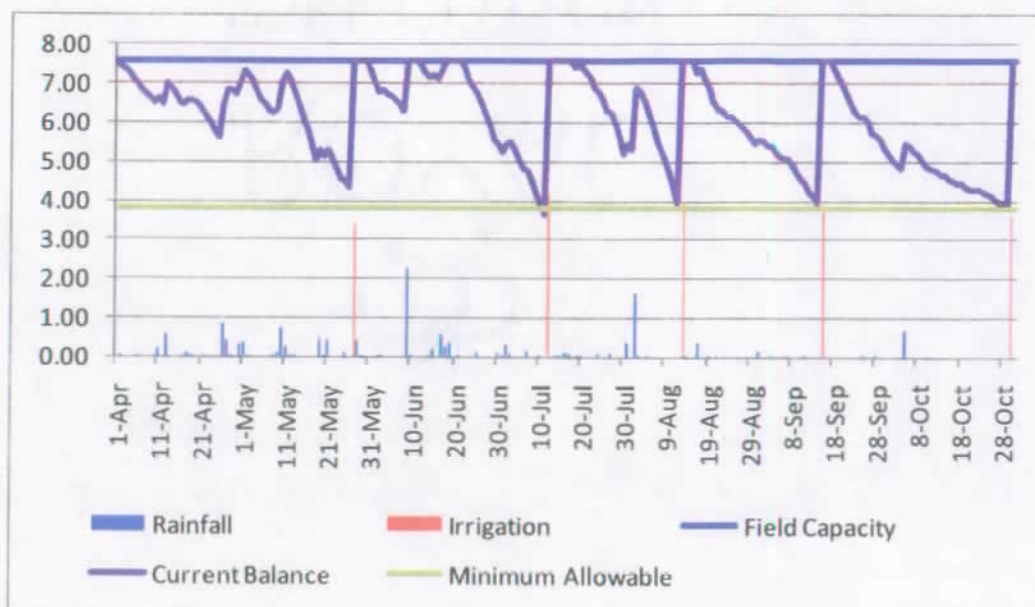


Figure A-3. Crop Water Use Calculation for Year 1972.

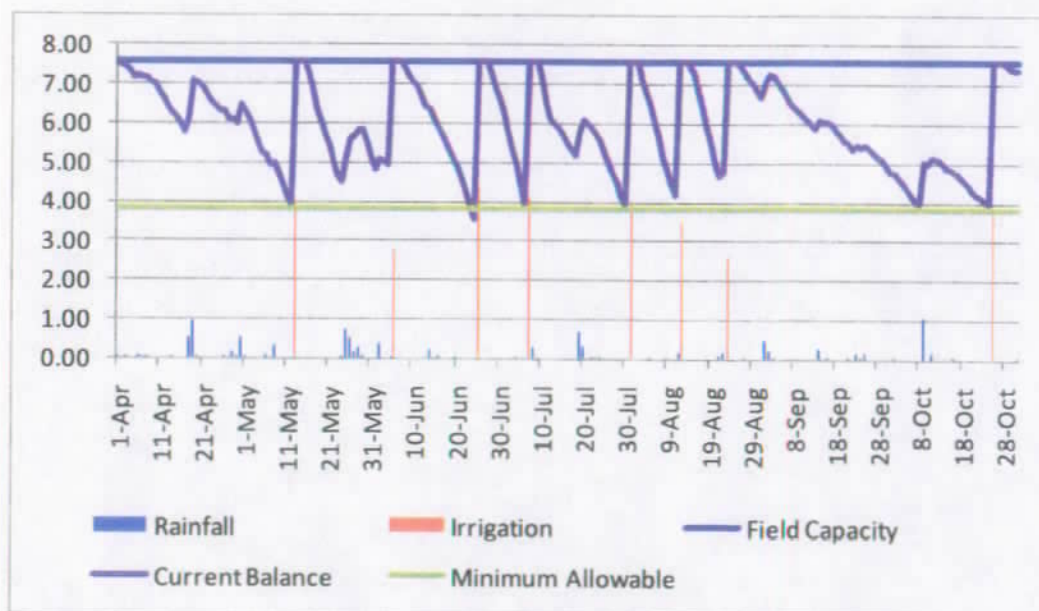


Figure A-4. Crop Water Use Calculation for Year 1973.

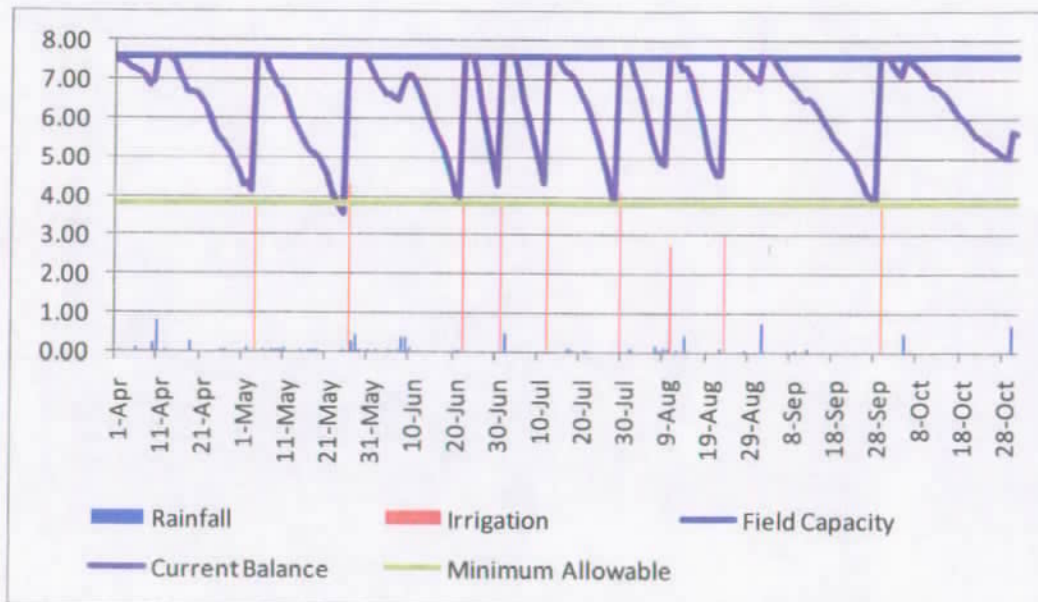


Figure A-5. Crop Water Use Calculation for Year 1974.

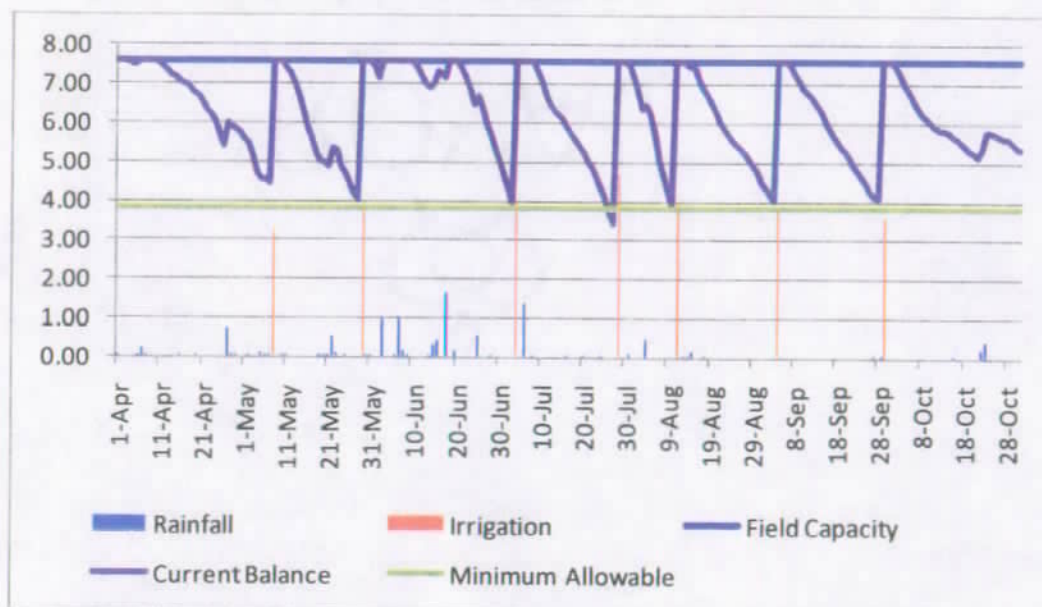


Figure A-6. Crop Water Use Calculation for Year 1975.

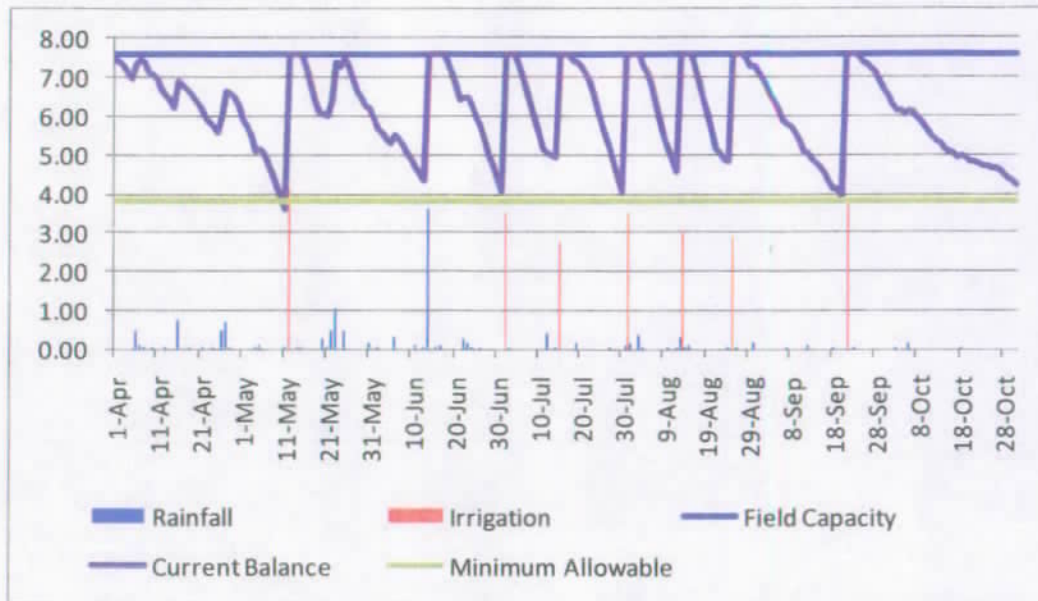


Figure A-7. Crop Water Use Calculation for Year 1976.

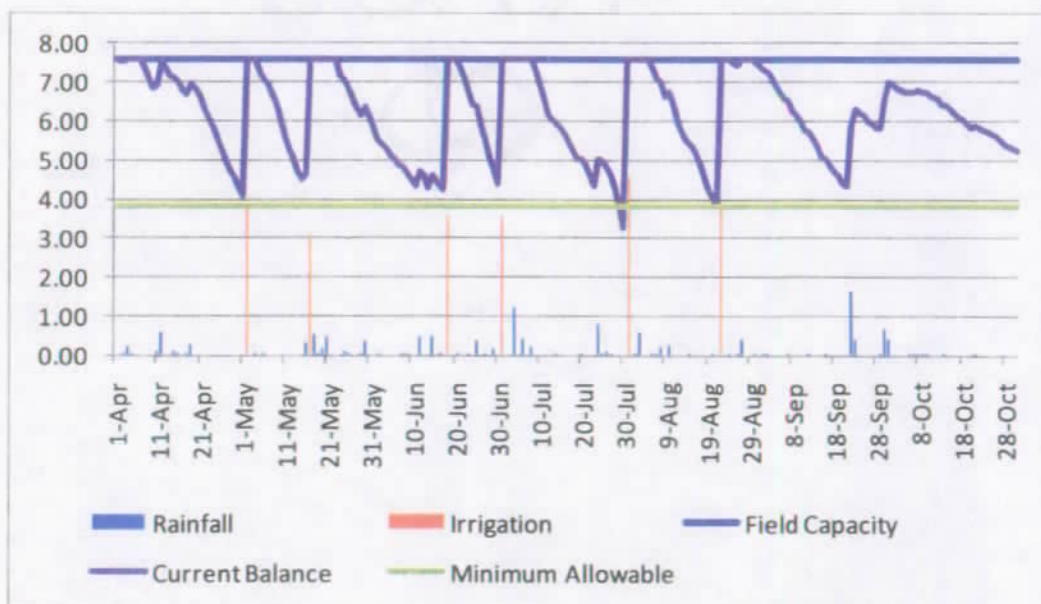


Figure A-8. Crop Water Use Calculation for Year 1977.

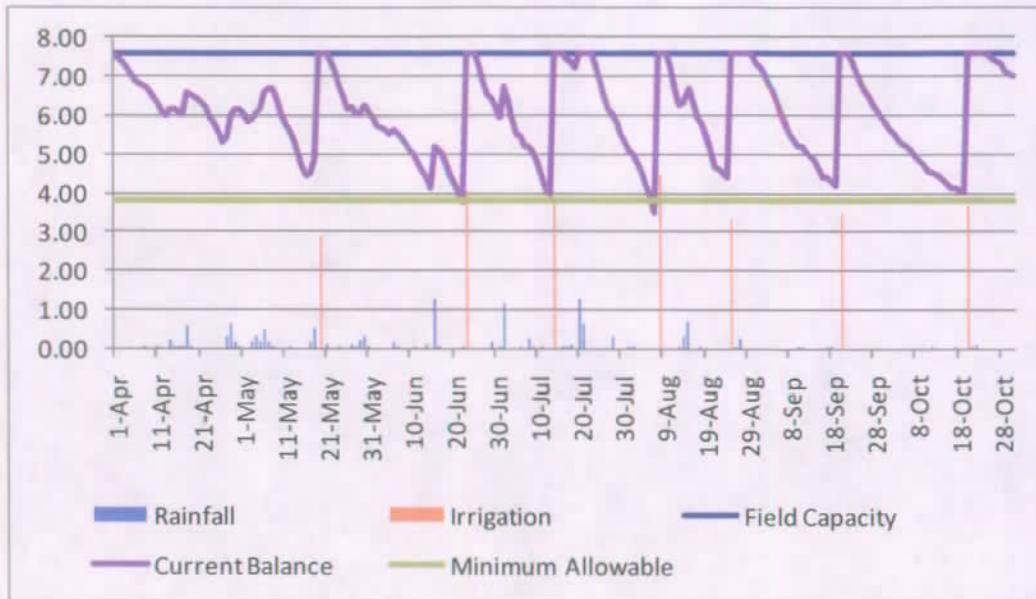


Figure A-9. Crop Water Use Calculation for Year 1978.



Figure A-10. Crop Water Use Calculation for Year 1979.

RSI-1948-10-017

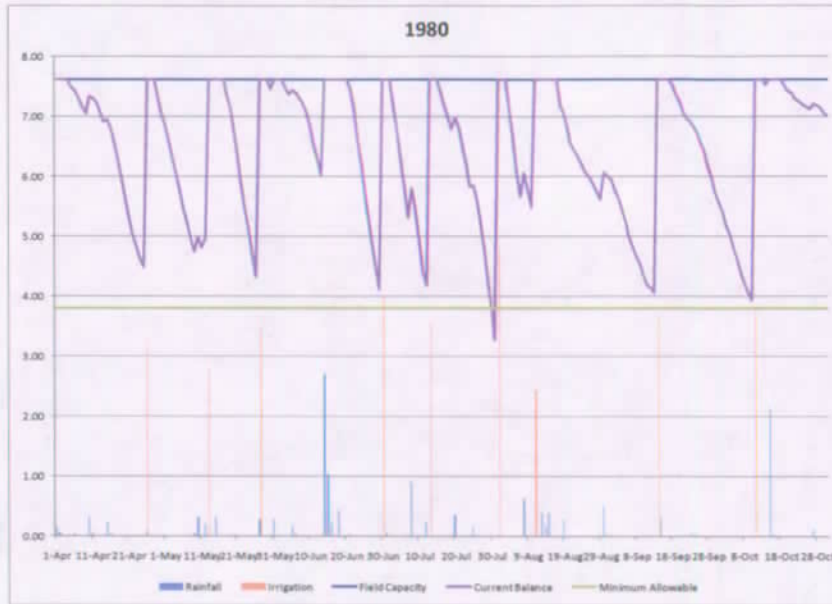


Figure A-11. Crop Water Use Calculation for Year 1980.

RSI-1948-10-018

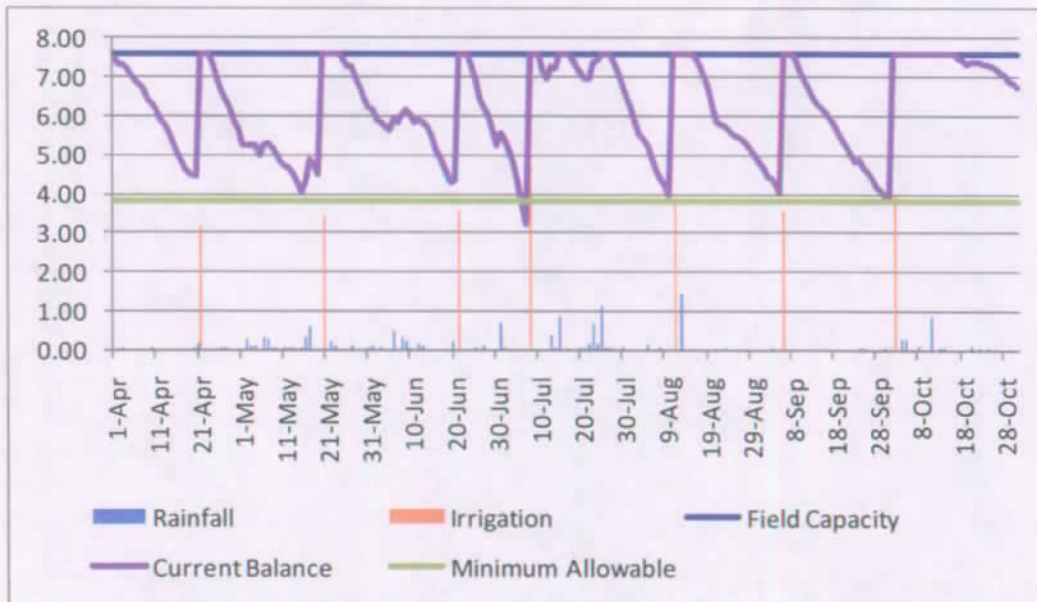


Figure A-12. Crop Water Use Calculation for Year 1981.

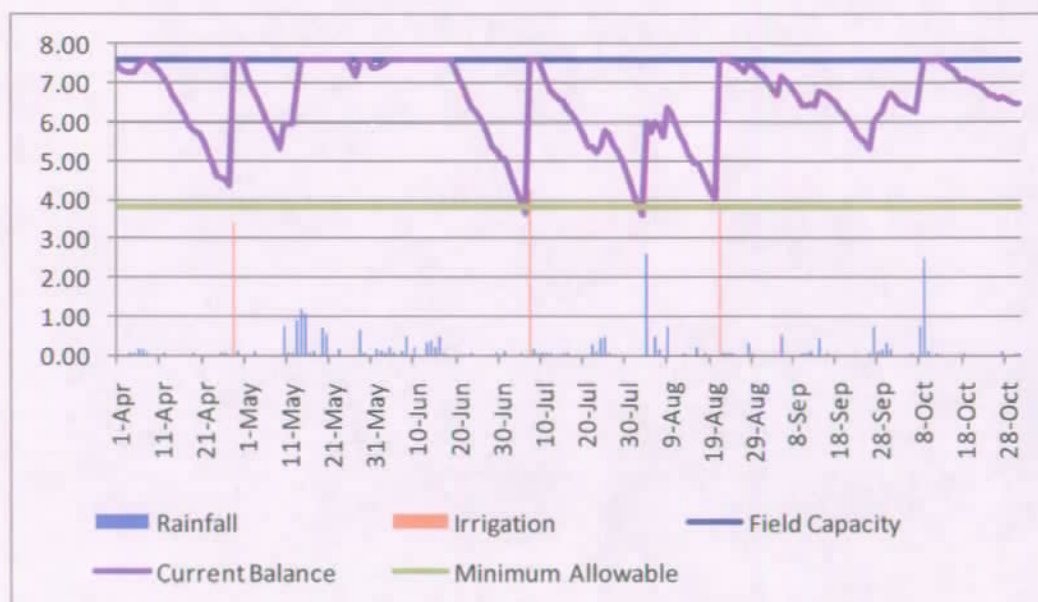


Figure A-13. Crop Water Use Calculation for Year 1982.

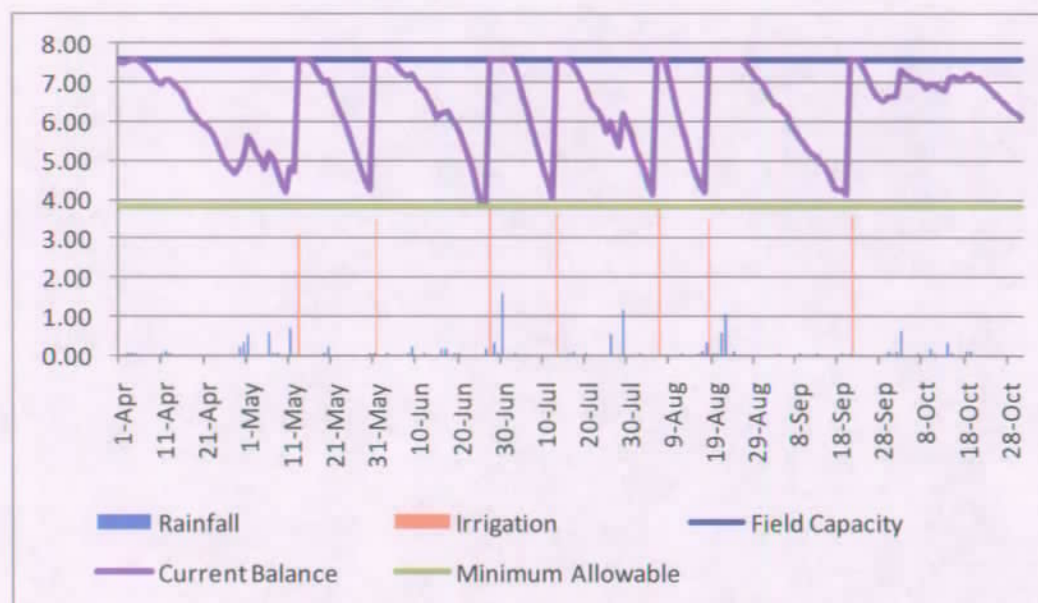


Figure A-14. Crop Water Use Calculation for Year 1983.

RSI-1948-10-021

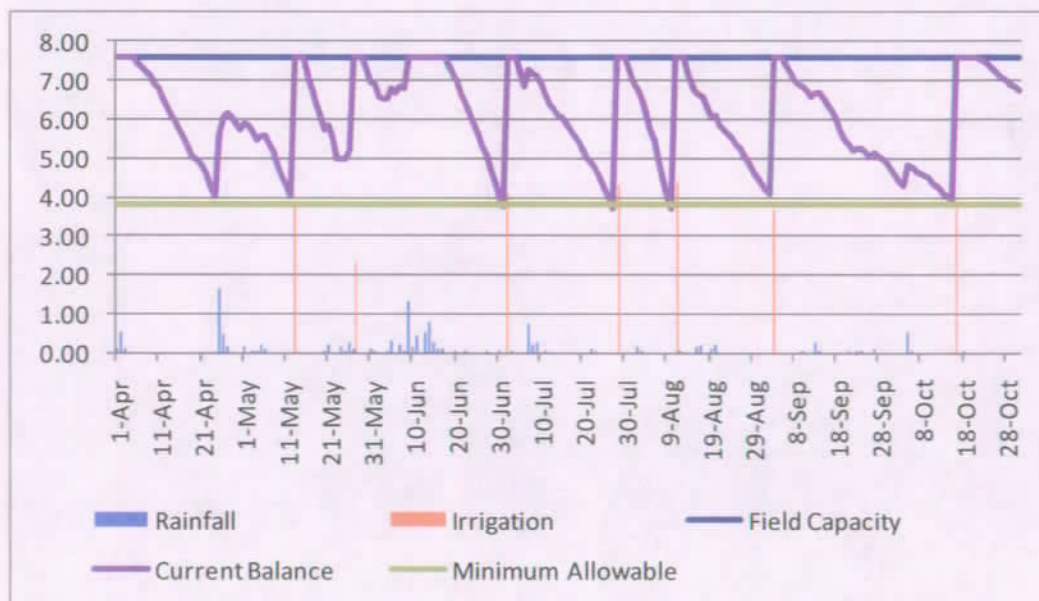


Figure A-15. Crop Water Use Calculation for Year 1984.

RSI-1948-10-022

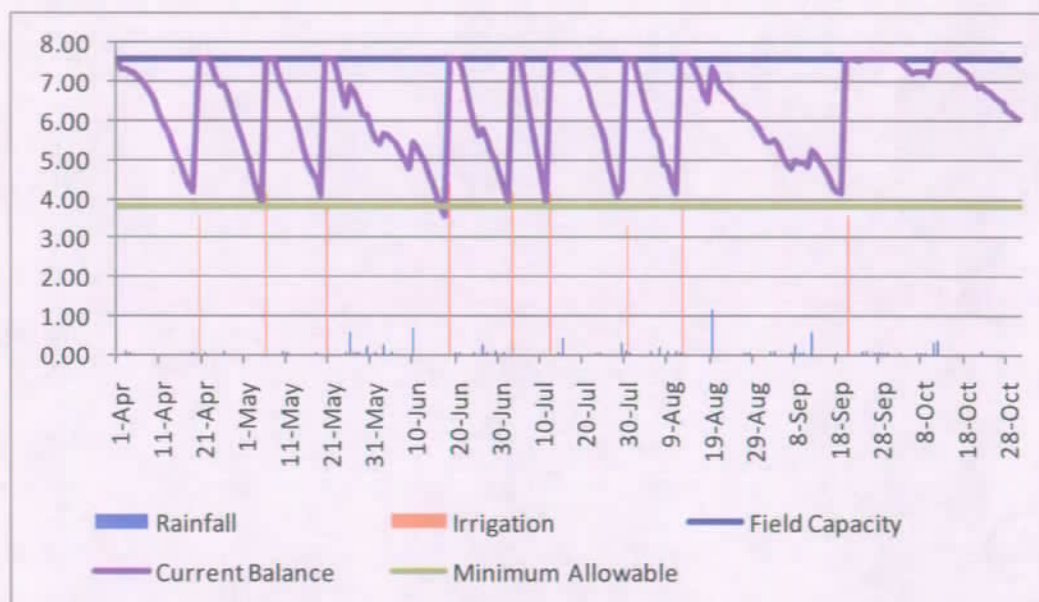


Figure A-16. Crop Water Use Calculation for Year 1985.

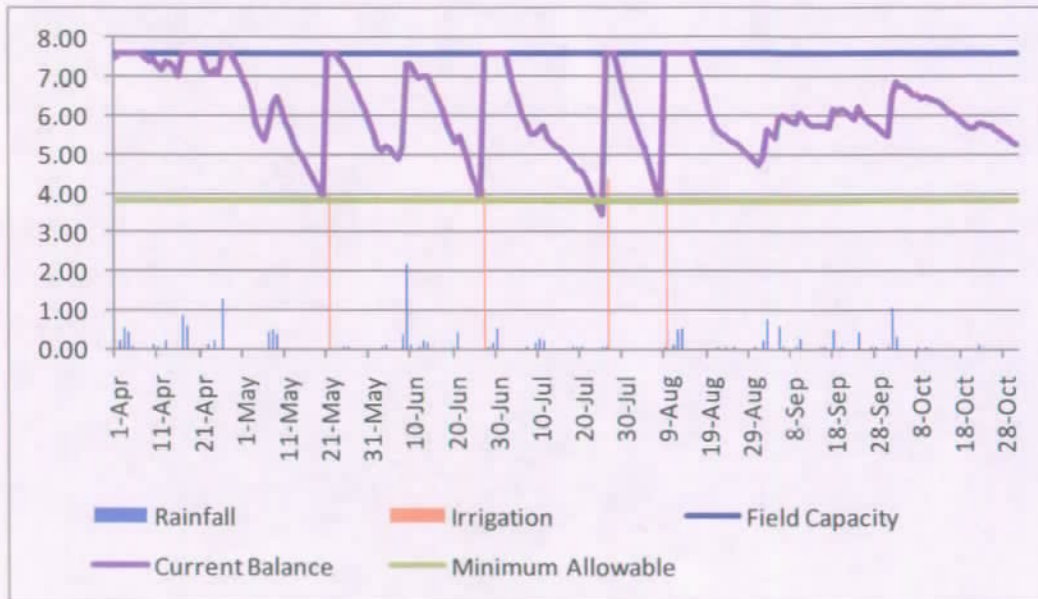


Figure A-17. Crop Water Use Calculation for Year 1986.



Figure A-18. Crop Water Use Calculation for Year 1987.



Figure A-19. Crop Water Use Calculation for Year 1988.

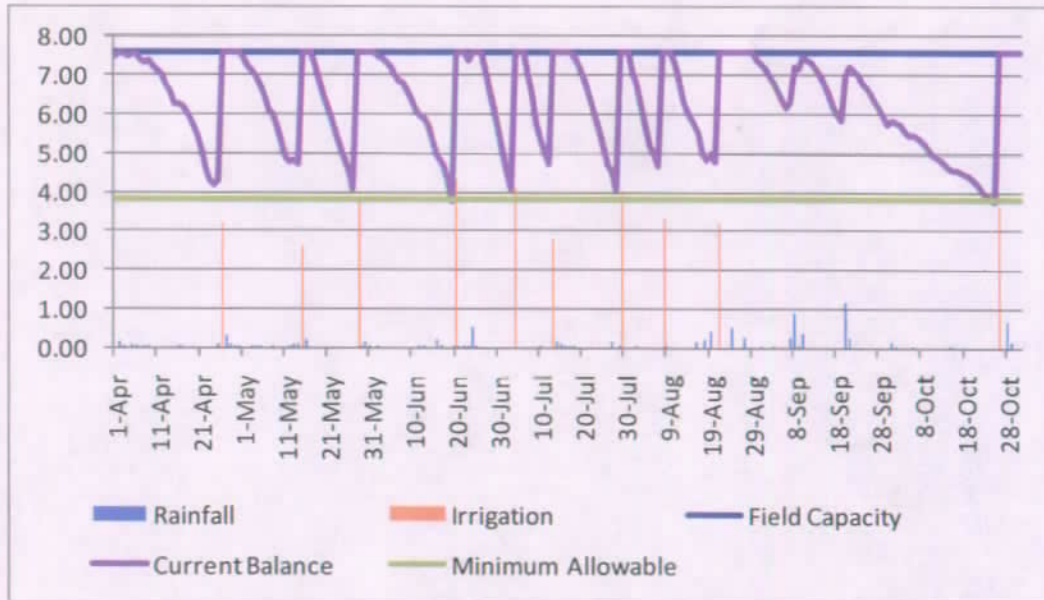


Figure A-20. Crop Water Use Calculation for Year 1989.

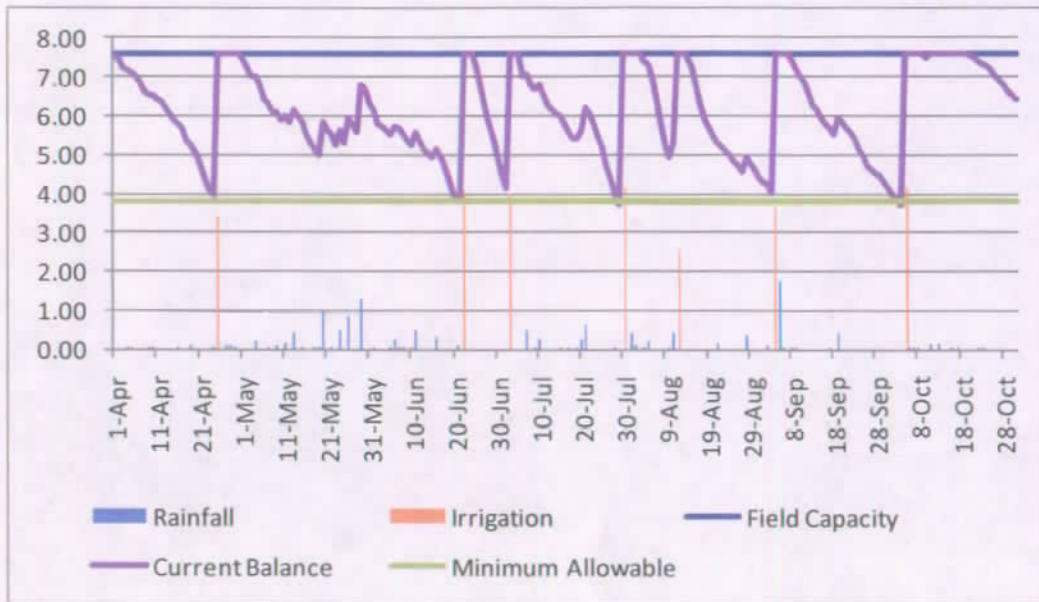


Figure A-21. Crop Water Use Calculation for Year 1990.

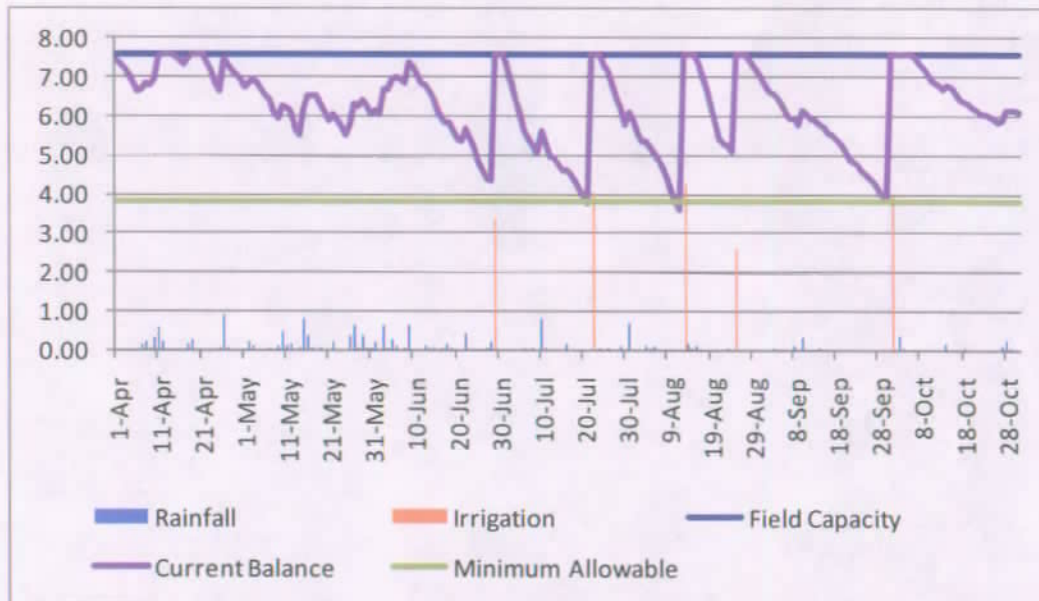


Figure A-22. Crop Water Use Calculation for Year 1991.

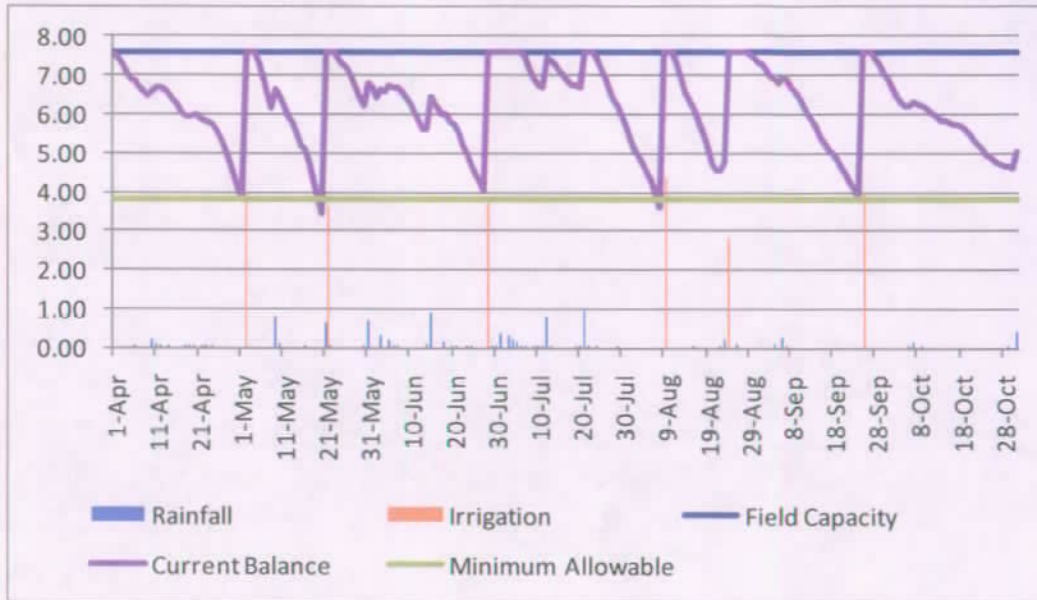


Figure A-23. Crop Water Use Calculation for Year 1992.

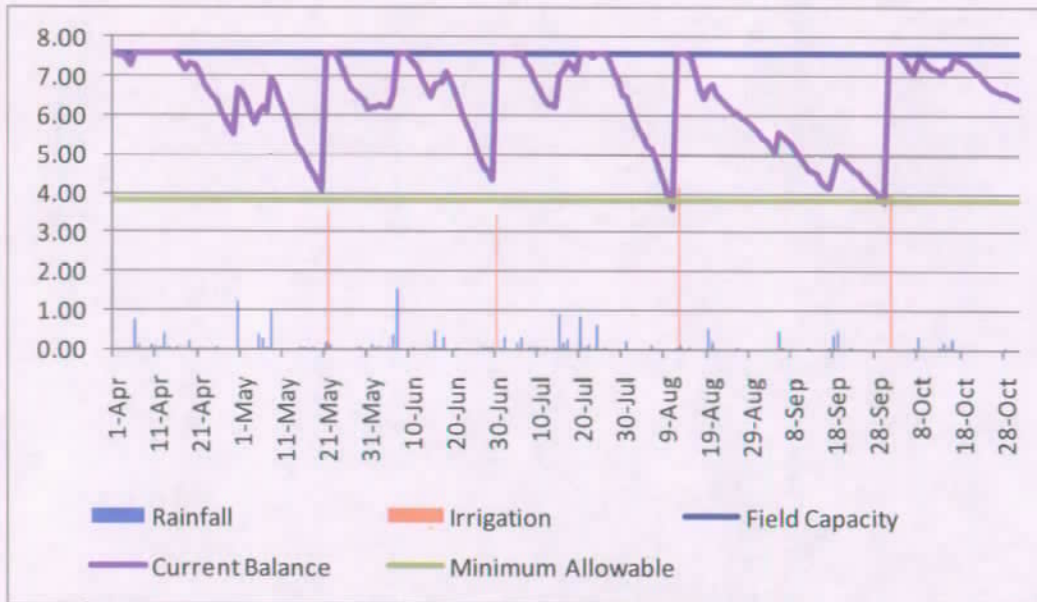


Figure A-24. Crop Water Use Calculation for Year 1993.

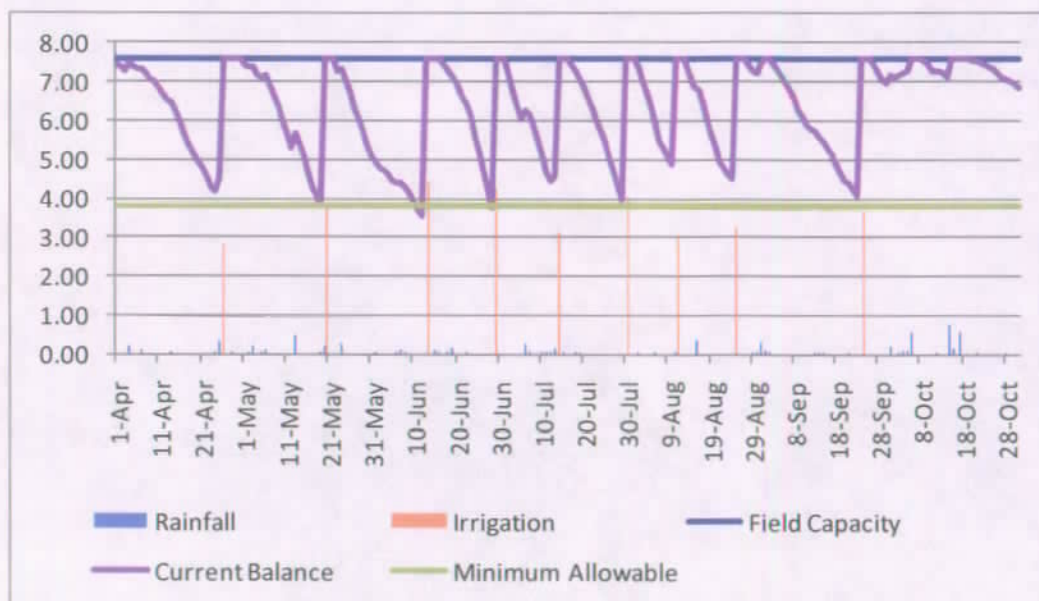


Figure A-25. Crop Water Use Calculation for Year 1994.



Figure A-26. Crop Water Use Calculation for Year 1995.

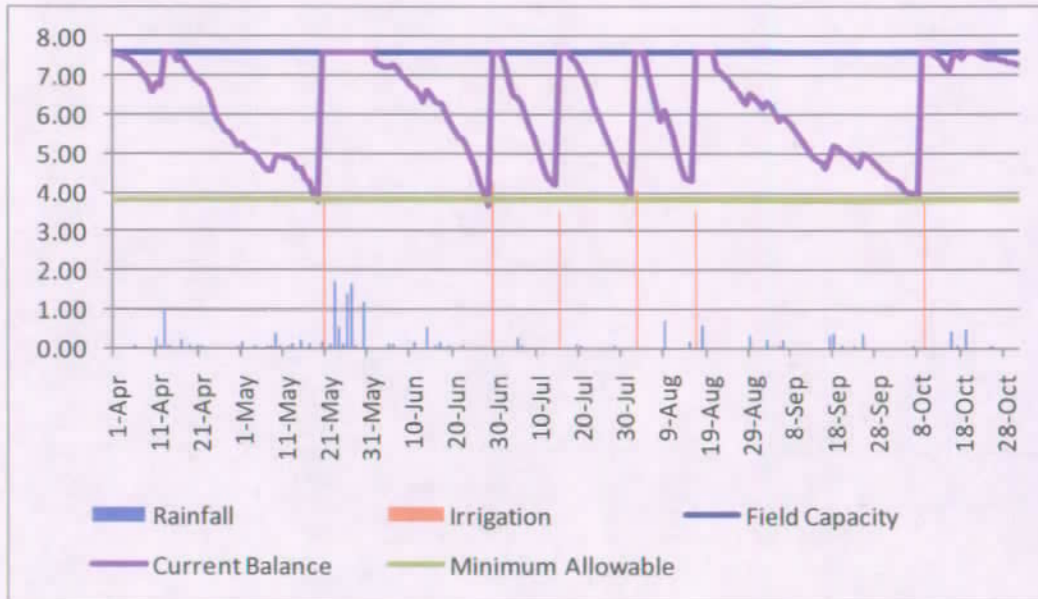


Figure A-27. Crop Water Use Calculation for Year 1996.

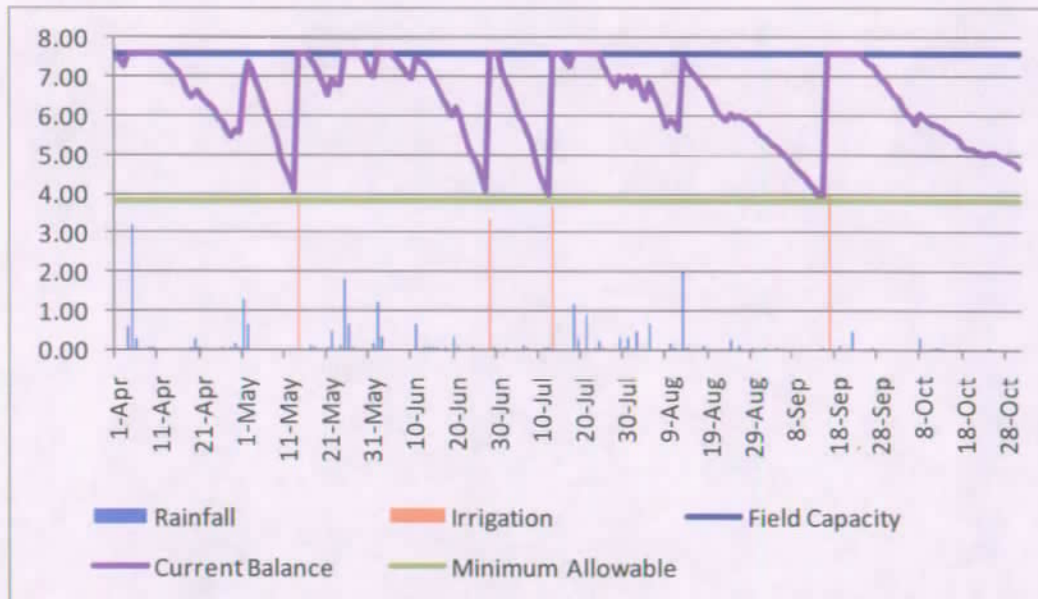


Figure A-28. Crop Water Use Calculation for Year 1997.

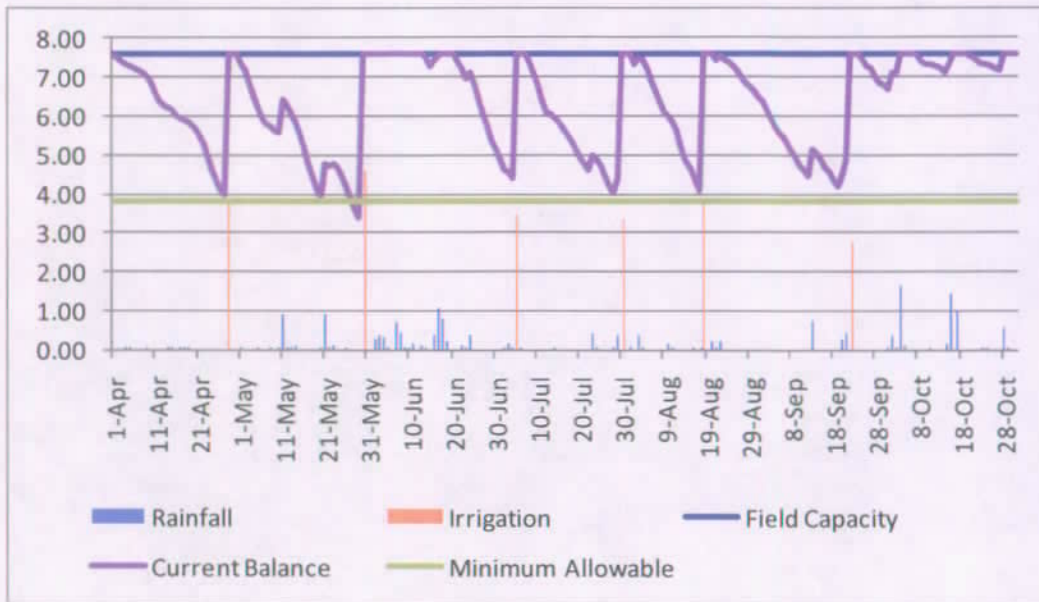


Figure A-29. Crop Water Use Calculation for Year 1998.

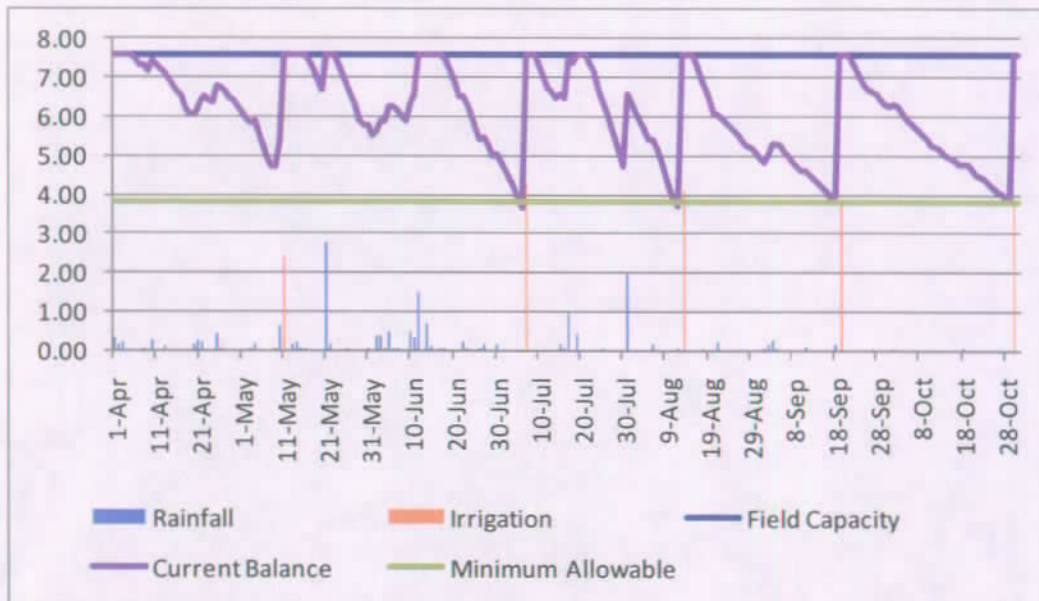


Figure A-30. Crop Water Use Calculation for Year 1999.

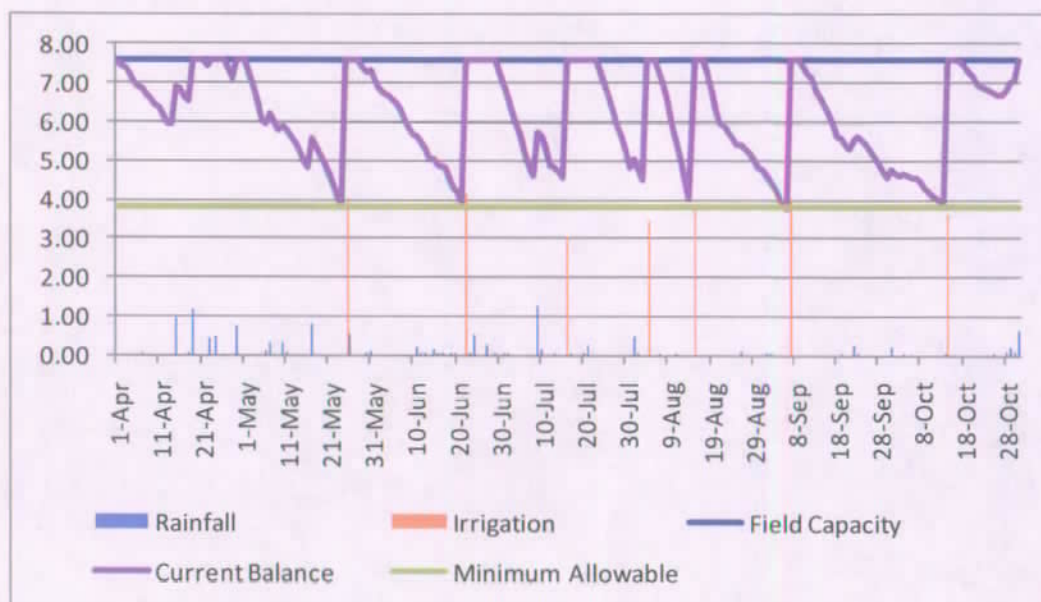


Figure A-31. Crop Water Use Calculation for Year 2000.

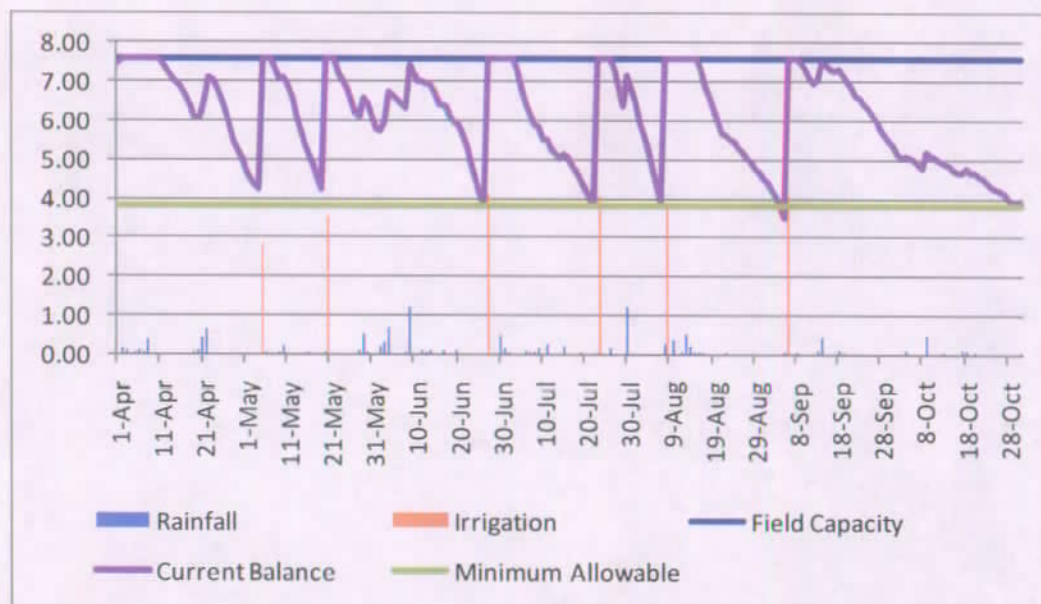


Figure A-32. Crop Water Use Calculation for Year 2001.

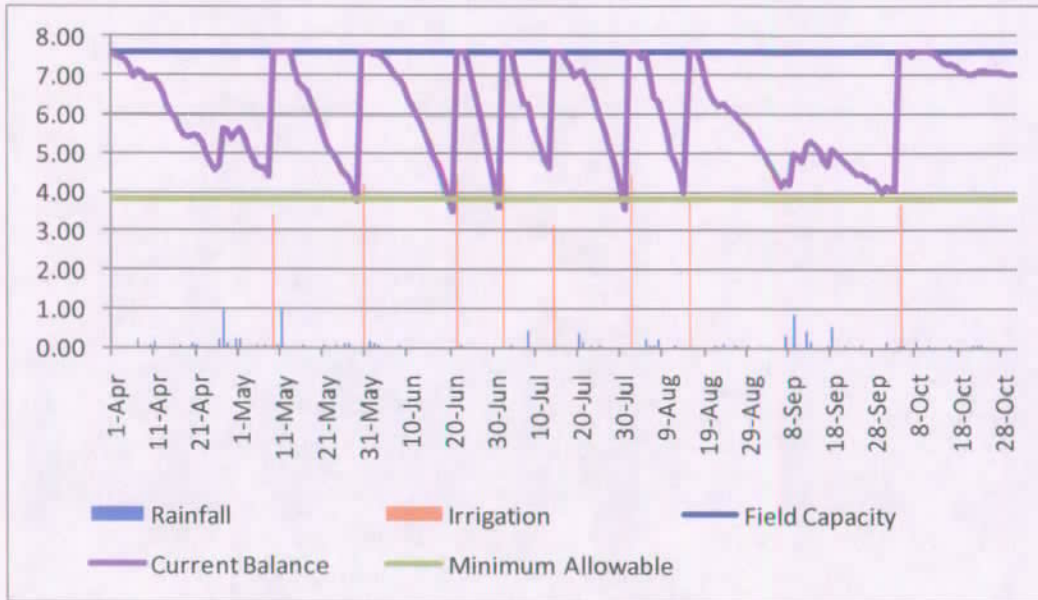


Figure A-33. Crop Water Use Calculation for Year 2002.

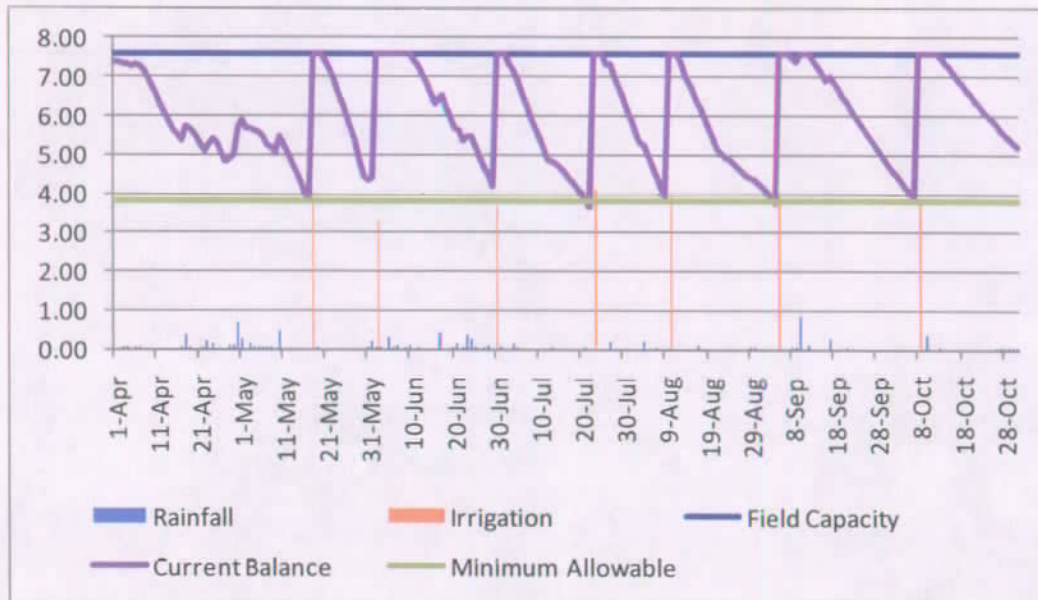


Figure A-34. Crop Water Use Calculation for Year 2003.

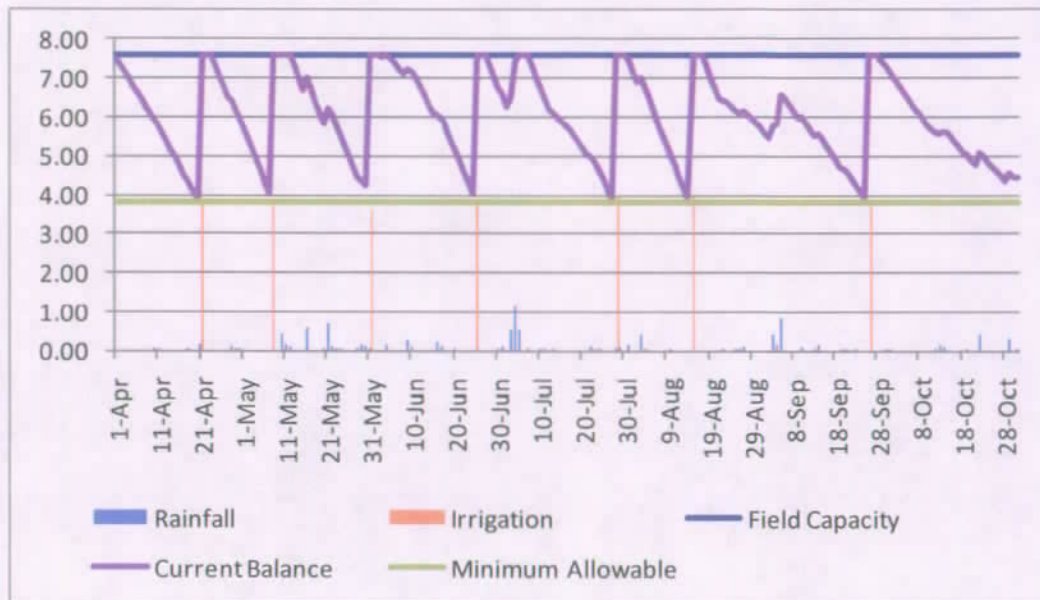


Figure A-35. Crop Water Use Calculation for Year 2004.

APPENDIX B

HAMAK STUDY ON RAPID CREEK WATER USE

STATUS OF WATER USE ON RAPID CREEK

by:

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prepared for:

Bob Neufeld, Secretary
Department of Water & Natural Resources

and

John Hatch, Chief Engineer
Water Rights Division, DWR

December 12, 1980

APPENDIX V

Contents	Page
Explanation of Table #1 and accompanying graphs	35A
Table #1	36A
Graphs of Table #1	39A
Table #2	44A
Graphs of Table #2	46A
Table #3	51A
Computations made from Table #3	53A

1947

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	399	301	396	496	484	2076
Bennett	58	33	136	68	0	295
Iowa	145	16	21	16	82	280
Hawthorne	1160	555	631	1100	1152	4596
Rapid Valley	421	547	517	730	1560	3775
Cyclone	110	91	65	336	273	875
South Side	357	562	424	526	498	2367
Little Giant	21	53	0	344	142	560
Lone Tree	368	609	135	148	244	1504
St. Germain	858	681	289	609	532	2969
Downstream from St. Germain	86	49	110	153	159	557
Lockhart	---	---	---	---	---	---
Total	3897	3497	2614	4526	5124	19,854

1948

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	328	508	502	474	434	2246
Bennett	70	37	89	93	92	381
Iowa	430	165	127	100	78	900
Hawthorne	804	574	787	828	1200	4193
Rapid Valley	513	522	348	999	826	3208
Cyclone	236	244	101	285	379	1245
South Side	399	433	325	767	732	2656
Little Giant	6.1	251	93	106	172	628
Lone Tree	438	576	409	369	391	2183
St. Germain	865	740	251	314	437	2607
Downstream from St. Germain	78	24	8.6	5.9	45	216
Lockhart	---	---	---	---	---	---
Total	4167	4050	3032	4394	4786	20,463

1949

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	619	587	567	505	467	2745
Bennett	70	66	94	128	87	445
Iowa	134	538	286	68	10	1036
Hawthorne	665	728	1080	867	530	3870
Rapid Valley	105	480	425	1130	876	3016
Cyclone	39	190	394	440	225	1288
South Side	167	880	716	749	625	3137
Little Giant	105	72	51	7	5	240
Lone Tree	75	713	655	285	192	1920
St. Germain	698	564	551	479	237	2529
Downstream from St. Germain Lockhart	133	111	147	49	44	484
	---	---	---	---	---	---
Total	2810	4929	4966	4707	3298	20,710

1950

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	329	39	488	503	493	1852
Bennett	12	93	92	56	43	296
Iowa	6	0	242	117	76	441
Hawthorne	205	1150	1230	992	702	4279
Rapid Valley	34	1010	1150	798	626	3618
Cyclone	63	468	524	299	156	1510
South Side	362	1040	927	300	222	2851
Little Giant	4	402	261	142	51	860
Lone Tree	220	667	450	618	473	2438
St. Germain	240	712	839	287	461	2539
Downstream from St. Germain Lockhart	20	77	118	102	45	362
	---	---	---	---	---	---
Total	1495	5658	6331	4214	3348	21,046

1951

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	338	418	465	438	506	2165
Bennett	73	56	65	43	34	271
Iowa	280	230	222	261	255	1248
Hawthorne	979	909	650	753	543	3834
Rapid Valley	902	470	297	803	84	2556
Cyclone	491	223	114	316	117	1261
South Side	888	484	201	307	226	2106
Little Giant	28	286	47	213	130	704
Lone Tree	367	362	289	331	277	1626
St. Germain	477	916	372	383	49	2197
Downstream from St. Germain	37	44	45	31	8	165
Lockhart	---	---	---	---	---	---
Total	4860	4398	2767	3879	2229	18,133

1952

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	400	370	480	480	470	2200
Bennett	---	---	387	---	---	---
Iowa	212	214	940 387	186	54	1053
Hawthorne	1460	936	555 940	1110	747	5093
Rapid Valley	998	393	378 555	1140	660	3746
Cyclone	482	183	554 378	477	396	1916
South Side	965	321	2 551	739	913	3489
Little Giant	36	0	495 2	223	112	373
Lone Tree	684	318	525 495	581	497	2575
St. Germain	955	530	37 525	341	392	2743
Downstream from St. Germain	59	44	37	32	11	183
Lockhart	---	---	---	NOE 2/27/52 ---	---	---
Total	6251	3309	4350	5309	4252	23,371

1953

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					
	May	June	July	Aug	Sept	Total
Leedy-Sickler	400	370	480	480	470	2200
Bennett	---	---	---	---	---	---
Iowa	97	134	152	194	72	649
Hawthorne	515	962	1150	617	717	3961
Rapid Valley	---	236	888	1030	1100	3254
Cyclone	74	134	343	392	189	1132
South Side	28	484	513	633	574	2232
Little Giant	---	---	---	---	---	---
Lone Tree	135	633	598	401	330	2097
St. Germain	422	712	474	484	272	2364
Downstream from St. Germain	22	40	32	29	43	166
Lockhart	---	---	---	---	---	---
Total	1693	3705	4630	4260	3767	18,055

1954

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					
	May	June	July	Aug	Sept	Total
Iowa	---	253	24	94	115	486
Lockhart	---	0	101	4	66	171
Hawthorne	---	552	776	790	542	2660
Rapid Valley	---	477	960	904	770	3111
Cyclone	---	284	293	242	220	1039
South Side	---	904	988	440	233	2565
Little Giant	---	144	282	131	0	557
Lone Tree	---	644	360	647	410	2061
St. Germain	---	732	86	539	467	1824
Total	---	3990	3870	3791	2823	14,474

1956

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					
	May	June	July	Aug	Sept	Total
Iowa	496	200	142	212	158	1208
Lockhart	0	30	50	7	0	87
Hawthorne	470	924	686	700	344	3124
Rapid Valley	322	858	720	450	376	2726
Cyclone	262	214	286	118	0	880
South Side	332	1138	762	648	506	3386
Little Giant	0	128	308	116	0	552
Lone Tree	680	732	602	358	480	2852
St. Germain	1078	408	308	152	70	2016
Total	3640	4632	3864	2761	1934	16,831

1957

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					
	May	June	July	Aug	Sept	Total
Iowa	242	0	120	146	22	530
Lockhart	0	0	0	0	0	0
Hawthorne	430	22	566	924	588	2530
Rapid Valley	126	0	206	716	334	1382
Cyclone	0	0	18	108	224	350
South Side	242	282	254	700	906	2384
Little Giant	0	0	0	98	316	414
Lone Tree	672	318	444	720	660	2814
St. Germain	732	30	384	438	90	1674
Total	2444	652	1992	3850	3140	12,078

1958

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Iowa	55	45	156	56	36	348
Lockhart	16	8	0	0	0	24
Hawthorne	726	598	592	848	550	3314
Rapid Valley	686	648	438	542	558	2872
Cyclone	130	70	194	138	140	672
South Side	770	520	352	836	822	3300
Little Giant	56	0	0	74	198	328
Lone Tree	542	588	596	444	600	2770
St. Germain	358	147	284	320	352	1461
Total	3339	2624	2612	3258	3256	15,089

1959

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Iowa	66	60	306	234	0	666
Lockhart	0	8	50	0	0	58
Hawthorne	628	622	692	821	10	2773
Rapid Valley	620	450	614	778	436	2898
Cyclone	446	146	317	221	120	1250
South Side	890	618	900	880	773	4061
Little Giant	26	82	72	80	20	280
Lone Tree	698	524	762	453	628	3065
St. Germain	504	398	290	323	154	1669
Total	3878	2908	4003	3790	2141	16,720

1963

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	200	200	180	150	100	830
Bennett	10	30	50	50	20	160
Iowa	31	30	200	181	200	642
Hawthorne	292	236	930	802	152	2412
Rapid Valley	298	288	768	718	240	2312
Cyclone	69	50	304	298	190	911
South Side	234	784	974	974	520	3486
Little Giant	0	0	0	0	0	0
Lone Tree	616	476	472	648	302	2514
St. Germain	132	174	898	682	204	2090
Downstream from St. Germain	0	0	75	20	0	95
Lockhart	---	---	---	---	---	---
Total	1882	2268	4851	4523	1928	15,452

1964

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	124	120	134	168	134	680
Bennett	62	44	62	62	28	258
Iowa	272	22	58	160	90	602
Hawthorne	690	520	822	1070	526	3628
Rapid Valley	378	135	516	814	360	2203
Cyclone	304	184	258	264	124	1134
South Side	430	830	788	900	632	3580
Little Giant	0	0	0	74	60	134
Lone Tree	752	490	726	820	336	3124
St. Germain	1276	732	740	822	284	3854
Downstream from St. Germain	0	0	70	116	0	186
Lockhart	0	0	0	11	0	11
Total	4288	3077	4174	5281	2574	19,394

1965

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					Total
	May	June	July	Aug	Sept	
Leedy-Sickler	124	154	216	288	120	902
Bennett	0	0	24	62	18	104
Iowa	0	172	84	150	20	426
Hawthorne	0	626	420	456	750	2252
Rapid Valley	171	250	510	796	630	2357
Cyclone	248	164	96	264	214	986
South Side	152	600	684	916	560	2912
Little Giant	0	0	18	156	102	276
Lone Tree	460	300	74	730	500	2064
St. Germain	62	234	298	744	84	1422
Downstream from St. Germain	0	0	0	0	0	0
Lockhart	0	0	0	0	0	0
Total	1217	2500	2424	4562	2998	13,701

1966

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					Total
	May	June	July	Aug	Sept	
Leedy-Sickler	124	120	124	124	120	612
Bennett	22	60	62	62	8	214
Iowa	71	278	26	50	0	425
Hawthorne	374	942	794	604	158	2872
Rapid Valley	282	588	686	214	120	1890
Cyclone	120	368	258	168	60	974
South Side	418	1044	872	678	300	3312
Little Giant	36	126	90	62	60	374
Lone Tree	426	322	388	230	60	1426
St. Germain	286	642	774	304	60	2066
Downstream from St. Germain	0	68	84	24	0	176
Lockhart	0	0	0	0	0	0
Total	2159	4558	4158	2520	946	14,341

1967

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	120	120	124	216	120	700
Bennett	0	0	20	62	14	96
Iowa	50	0	12	124	12	198
Hawthorne	90	0	46	394	82	612
Rapid Valley	40	0	147	304	120	611
Cyclone	30	0	24	102	120	276
Little Giant	100	0	6	62	34	202
South Side	0	100	292	568	260	1220
Lone Tree	120	120	156	434	240	1070
St. Germain	60	0	163	529	148	900
Downstream from St. Germain	0	0	0	0	0	0
Lockhart	0	0	0	0	0	0
Total	610	340	990	2795	1150	5885

1968

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	30	116	124	176	180	626
Bennett	0	0	28	114	76	218
Iowa	138	0	0	170	180	488
Hawthorne	356	348	596	658	396	2354
Rapid Valley	210	96	242	606	130	1284
Cyclone	90	70	0	0	0	160
South Side	360	170	210	414	166	1320
Little Giant	37	11	21	40	0	109
Lone Tree	546	424	622	438	128	2158
St. Germain	127	478	358	398	142	1503
Downstream from St. Germain	0	0	0	0	0	0
Lockhart	---	---	---	---	---	---
Total	1894	1713	2201	3014	1398	10,220

1970						
Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	---	89	93	137	105	424
Bennett	---	15	29	62	25	131
Iowa	---	79	16	89	49	233
Hawthorne	---	411	392	467	159	1429
Rapid Valley	---	229	294	307	93	923
Cyclone	---	159	92	87	45	383
South Side	---	414	201	442	182	1239
Little Giant	---	53	229	51	24	357
Lone Tree	---	280	340	198	107	925
St. Germain	---	404	467	330	153	1354
Downstream from St. Germain	---	35	123	90	19	267
Lockhart	---	---	---	---	---	---
Total		2168	2276	2260	961	7665

1971						
Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	91	111	116	130	131	579
Bennett	9	17	36	47	31	140
Iowa	51	40	18	88	60	257
Hawthorne	273	387	392	467	198	1717
Rapid Valley	180	230	294	306	116	1126
Cyclone	80	158	91	102	56	487
South Side	292	397	298	463	252	1702
Little Giant	36	64	270	58	29	457
Lone Tree	384	296	399	276	113	1468
St. Germain	158	416	376	341	161	1452
Downstream from St. Germain	0	0	245	0	0	245
Lockhart	---	---	---	---	---	---
Total	1554	2116	2535	2278	1147	9630

1972

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	34	27	0	0	0	61
Bennett	12	5	0	0	0	17
Iowa	0	0	0	0	0	0
Hawthorne	343	0	669	862	496	2370
Rapid Valley	176	60	52	600	215	1103
Cyclone	52	0	112	42	53	259
South Side	332	0	0	882	530	1744
Little Giant	27	0	0	0	0	27
Lone Tree	424	120	676	128	137	1485
St. Germain	213	0	432	230	197	1072
Downstream from St. Germain	0	31	28	17	10	86
Lockhart	---	---	---	---	---	---
Total	1613	243	1969	2761	1638	8224

1973

Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	0	0	0	0	0	0
Bennett	0	0	0	0	0	0
Iowa	0	56	36	46	54	192
Hawthorne	120	274	470	458	287	1609
Rapid Valley	96	310	552	510	240	1708
Cyclone	31	61	203	162	94	551
South Side	179	362	539	507	264	1851
Little Giant	0	65	89	65	34	253
Lone Tree	120	485	511	439	228	1783
St. Germain	96	302	527	257	174	1356
Downstream from St. Germain	0	0	170	0	0	170
Lockhart	---	---	---	---	---	---
Total	642	1915	3097	2444	1375	9473

1974						
Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	144	108	138	124	74	588
Bennett	0	0	0	0	0	---
Iowa	80	56	---	---	---	136
Hawthorne	148	754	800	584	462	3348
Rapid Valley	744	900	960	904	752	4260
Cyclone	80	224	308	264	114	990
South Side	828	728	1094	1084	556	4290
Little Giant	100	84	106	62	50	402
Lone Tree	600	732	902	868	752	3854
St. Germain	932	476	880	842	608	3738
Downstream from St. Germain	126	114	418	184	0	842
Lockhart	---	---	---	---	---	---
Total	4382	4176	5606	4916	3368	22,448

1975						
Amount of Water Diverted at Head Gate free and purchased (acre-feet)						
Canal	May	June	July	Aug	Sept	Total
Leedy-Sickler	62	60	116	124	136	498
Bennett	0	0	0	0	0	---
Iowa	---	---	---	---	---	---
Hawthorne	146	272	552	964	856	2790
Rapid Valley	366	98	520	968	960	2912
Cyclone	352	112	138	222	376	1200
South Side	536	486	712	816	948	3498
Little Giant	76	66	100	162	154	558
Lone Tree	404	578	756	868	804	3410
St. Germain	632	458	1040	640	624	3394
Downstream from St. Germain	0	0	0	60	78	138
Lockhart	---	---	---	---	---	---
Total	2574	2130	3934	4824	4936	18,398

1976

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					Total
	May	June	July	Aug	Sept	
Leedy-Sickler	0	0	0	0	0	---
Bennett	0	0	0	0	0	---
Iowa	0	---	---	---	---	---
Hawthorne	230	634	592	688	620	2764
Rapid Valley	328	392	440	620	608	2388
Cyclone	82	76	130	184	210	682
South Side	468	684	656	1056	880	3744
Little Giant	48	0	68	152	124	392
Lone Tree	492	696	836	784	868	3676
St. Germain	564	610	760	1000	496	3430
Downstream from St. Germain	30	0	0	0	0	30
Lockhart	---	---	---	---	---	---
Total	2240	3092	3482	4484	3806	17,106

1977

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					Total
	May	June	July	Aug	Sept	
Leedy-Sickler	0	0	0	100	92	192
Bennett	62	60	62	62	60	306
Iowa	---	0	---	0	---	---
Hawthorne	92	604	930	882	510	3018
Rapid Valley	196	514	592	668	342	2312
Cyclone	128	372	376	388	192	1456
South Side	402	584	848	1086	552	3472
Little Giant	34	24	170	186	38	452
Lone Tree	418	652	874	922	700	3566
St. Germain	788	500	1336	680	516	3820
Downstream from St. Germain	0	0	0	0	0	---
Lockhart	---	---	---	---	---	---
Total	2120	3310	5188	4974	3002	18,594

1978

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					
	May	June	July	Aug	Sept	Total
Leedy-Sickler	0	31	60	100	120	311
Bennett	0	60	62	124	62	308
Iowa	---	---	---	---	---	---
Hawthorne	0	210	494	330	332	1366
Rapid Valley	30	180	440	460	632	1742
Cyclone	120	338	412	320	212	1402
South Side	112	354	620	620	748	2454
Little Giant	20	64	0	0	98	182
Lone Tree	120	412	744	744	780	2800
St. Germain	124	302	1012	644	812	2894
Downstream from St. Germain	0	0	0	0	0	---
Lockhart	---	---	---	---	---	---
Total	526	1951	3844	3342	3796	13,459

1979

Canal	Amount of Water Diverted at Head Gate free and purchased (acre-feet)					
	May	June	July	Aug	Sept	Total
Leedy-Sickler	120	120	110	110	120	580
Bennett	0	0	0	0	0	---
Iowa	---	---	---	---	---	---
Hawthorne	0	400	658	790	804	2652
Rapid Valley	328	708	498	368	460	2362
Cyclone	334	488	186	242	180	1430
South Side	312	880	616	580	664	3052
Little Giant	38	162	174	158	152	684
Lone Tree	652	808	744	464	588	3256
St. Germain	938	1036	412	620	368	3374
Downstream from St. Germain	0	160	0	0	0	160
Lockhart	---	---	---	---	---	---
Total	2722	4762	3398	3332	3336	17,550

APPENDIX C

CYCLONE DITCH RUN SUMMARY
ENTIRE SYSTEM

Table C-1. Raw Data Collected on June 4, 2010, First Run

Time of Start	Site	Flow (cfs)	Loss	
			cfs	%
9:07	100	7.44		
			-0.17	-2
9:44	150	7.61		
	250		.69	.9
10:10	300	6.91		
	diverted	3.53		
10:32	350	3.38		
			0.33	10
11:20	400	3.05		
	diverted	0.95		
11:35	450	2.10		
			0.17	8
12:13	465	1.93		
	diverted	-0.23		
12:21	470	2.16		
			0.79	37
12:43	475	1.37		
	diverted	-0.05		
12:49	480	1.42		
			0.34	24
13:09	500	1.08		
4:02				

**Table C-2. Summary of Data for First Run June 4,
2010**

	cfs	acre-ft/day	%
Entering System	7.44	14.76	
Diverted From Section	4.20	8.33	56.5
End of Section	1.08	2.14	14.5
Loss	2.16	4.29	29.1
Total	7.44	14.76	100.0

**Table C-3. Raw Data Collected on June 4, 2010,
Second Run**

Time of Start	Site	Flow (cfs)	Loss	
			cfs	%
14:21	100	7.31		
			-0.288	-4
14:44	150	7.598		
			0.469	6
	250	7.129		
			0.26	4
15:19	300	6.869		
	diverted	3.443		
15:36	350	3.426		
			0.249	7
16:04	400	3.177		
	diverted	1.159		
16:19	450	2.018		
			0.242	12
16:39	465	1.776		
	diverted	-0.008		
16:43	470	1.784		
			0.286	16
16:53	475	1.498		
	diverted	0.187		
16:58	480	1.311		
			0.193	15
17:12	500	1.118		
2:51				

**Table C-4. Summary of Data for Second Run June 4,
2010**

	cfs	acre-ft/day	%
Entering System	7.31	14.50	
Diverted From Section	4.78	9.48	65.4
End of Section	1.12	2.22	15.3
Loss	1.41	2.80	19.3
Total	7.31	14.50	100.0

Table C-5. Raw Data Collected on June 10, 2010

Time of Start	Site	Flow (cfs)	Loss	
			cfs	%
7:55	100	8.171		
			-0.597	-7
8:28	150	8.768		
			0.248	3
8:53	250	8.52		
			0.927	11
9:30	300	7.593		
	diverted	2.222		
0:00	350	5.371		
			0.377	7
10:44	400	4.994		
	diverted	0.777		
11:09	450	4.217		
			0.612	15
12:03	465	3.605		
	diverted	0.428		
12:17	470	3.177		
			0.326	10
12:33	475	2.851		
	diverted	0.295		
12:44	480	2.556		
			0.473	19
13:08	500	2.083		
5:13				

Table C-6. Summary of Data Collected on June 10, 2010

	cfs	acre-ft/day	%
Entering System	8.17	16.21	
Diverted From Section	3.72	7.38	45.6
End of Section	2.08	4.13	25.5
Loss	2.37	4.69	29.0
Total	8.171	16.21	100.0

Table C-7. Summary of Data for Entire System

	cfs	acre-ft/day	%
Entering System	7.64	15.15	
Diverted From Section	4.23	8.40	55.4
End of Section	1.43	2.83	18.7
Loss	1.98	3.93	25.9
Total	7.64	15.15	100.0



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2655-2, City of Rapid City**

Pursuant to SDCL 46-2A-2, the following is the revised recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 2655-2, City of Rapid City, c/o Robert Ellis, Public Works Director, 300 Sixth Street, Rapid City SD 57701.

The Chief Engineer is recommending APPROVAL of Application No. 2655-2 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. Permit No. 2655-2 is limited to a diversion rate of 0.83 cfs for a total annual volume of 66.4 acre feet of water annually at Pactola Reservoir or a total annual volume of 132.7 acre feet of water annually at the SE ¼ NE ¼ Section 3 (Rapid City Water Treatment Plant); SW ¼ SW ¼ Section 3 (Sioux Park Gallery); SE ¼ NE ¼ Section 9 (Meadowbrook Gallery); NW ¼ SE ¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City are as follows:

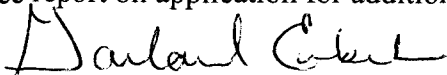
Monthly Volume Limitation

Month	City Intakes (ac-ft)	Pactola (ac-ft)
April	10.5	5.3
May	18.6	9.3
June	19.7	9.9
July	23.4	11.7
August	25.2	12.6
September	18.2	9.1
October	17.0	8.5
Total	132.7	66.4

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

2. Permit No. 2655-2 authorize diversion of only natural flow water by the city of Rapid City and does not include any rights to stored irrigation water available under contract from Deerfield Reservoir.
3. Diversions under this permit when taken at the Jackson Spring treatment plant Rapid Creek intake are limited to natural flows that exceed 10 cubic feet of water per second as measured at USGS gaging station Rapid City above Canyon Lake near Rapid City No. 06412500. During the period April 1 through September 30 natural flow diversions are limited to the amount exceeding 20 cfs with the remainder of the diversion being released supplemental water equal to an amount released from storage through Rapid City's Deerfield and Pactola contracts with the United States Bureau of Reclamation.
4. The City of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at Pactola reservoir or the diversion points within Rapid City.
5. That the Water Management Board is retaining jurisdiction of Permit No. 2655-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2655-2.
6. Diversions under Permit No. 2655-2 may not interfere with existing water rights in effect prior to approval of No. 2655-2 or any domestic rights.
7. The amount of water with an October 31, 1887 priority date which may be appropriated under Vested Water Right No. 1736-2 is reduced by 0.83 cfs.
8. Approval of Permit No. 2655-2 transferring the use of Rapid Creek natural flows for 58 acres located in Section 22, T1N, R8E, known as the David Lamb property and historically irrigated under Cyclone Ditch Company's Vested Water Right No. 1736-2 may not qualify for a new irrigation rights from any source.
9. The permit holder shall permanently render inoperable the structural means of diverting water to the land which is no longer subject to Vested Water Right No. 1736-2 pursuant to South Dakota Codified law 46-5-34.1. This work shall be completed prior to the permit holder's diversion of the transferred water to beneficial use on the parcel of land approved under the transfer. The permit holder must notify the Chief Engineer to schedule an inspection. This transfer is subject to the Chief Engineer's approval that the works are rendered inoperable. This qualification does not grant access to property owned by third parties for making structural changes. The permit is responsible for ensuring that access is obtained from such third parties and that such third parties are also notified that inspections will occur.

See report on application for additional information.



Garland Erbele, Chief Engineer
September 20, 2010



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2655-2, City of Rapid City**

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. 2655-2, City of Rapid City, c/o Robert Ellis, Public Works Director, 300 Sixth Street, Rapid City SD 57701.

The Chief Engineer is recommending APPROVAL of Application No. 2655-2 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. Permit No. 2655-2 is limited to a diversion rate of 0.83 cfs for a total annual volume of 66.4 acre feet of water annually at Pactola Reservoir or a total annual volume of 132.7 acre feet of water annually at the SE ¼ NE ¼ Section 3 (Rapid City Water Treatment Plant); SW ¼ SW ¼ Section 3 (Sioux Park Gallery); SE ¼ NE ¼ Section 9 (Meadowbrook Gallery); NW ¼ SE ¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City are as follows:

Monthly Volume Limitation

Month	City Intakes (ac-ft)	Pactola (ac-ft)
April	10.5	5.3
May	18.6	9.3
June	19.7	9.9
July	23.4	11.7
August	25.2	12.6
September	18.2	9.1
October	17.0	8.5
Total	132.7	66.4

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

2. Permit No. 2655-2 authorize diversion of only natural flow water by the city of Rapid City and does not include any rights to stored irrigation water available under contract from Pactola Reservoir.
3. The City of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at Pactola reservoir or the diversion points within Rapid City.
4. That the Water Management Board is retaining jurisdiction of Permit No. 2655-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2655-2.
5. Diversions under Permit No. 2655-2 may not interfere with existing water rights in effect prior to approval of No. 2655-2 or any domestic rights.
6. The amount of water with an October 31, 1887 priority date which may be appropriated under Vested Water Right No. 1736-2 is reduced by 0.83 cfs.
7. Approval of Permit No. 2655-2 transferring the use of Rapid Creek natural flows for 58 acres located in Section 22, T1N, R8E, known as the David Lamb property and historically irrigated under Cyclone Ditch Company's Vested Water Right No. 1736-2 may not qualify for a new irrigation rights from any source.
8. The permit holder shall permanently render inoperable the structural means of diverting water to the land which is no longer subject to Vested Water Right No. 1736-2 pursuant to South Dakota Codified law 46-5-34.1. This work shall be completed prior to the permit holder's diversion of the transferred water to beneficial use on the parcel of land approved under the transfer. The permit holder must notify the Chief Engineer to schedule an inspection. This transfer is subject to the Chief Engineer's approval that the works are rendered inoperable. This qualification does not grant access to property owned by third parties for making structural changes. The permit is responsible for ensuring that access is obtained from such third parties and that such third parties are also notified that inspections will occur.

See report on application for additional information.



Garland Erbele, Chief Engineer
September 1, 2010

REPORT ON APPLICATION NO. 2655-2

For City of Rapid City

August 9, 2010

Water Permit Application No. 2655-2 proposes to transfer a portion of Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 1736-2 from Cyclone Ditch. The transfer is for Rapid Creek water historically used for irrigation of 58 acres known as the David Lamb property. The portion of Rapid Creek natural flows to be transferred to the city is 0.83 cubic feet of water per second (cfs) with an annual volume limitation of 132.7 acre-feet of water, if diverted at the city's water treatment plant and infiltration galleries or 66.4 acre-feet of water, if stored in Pactola Reservoir.

Historically, the 0.83 cfs has been used to irrigate approximately 58 acres located in Section 22, T1N-R8E. The existing diversion point on Rapid Creek for Cyclone Ditch is located in the SE¼ SE¼ Section 8, T1N-R8E. This application, if approved, changes the diversion point for 0.83 cfs to diversion points for use by the city to be located in the SE¼ NE¼ Section 3 (Rapid City Water Treatment Plant); NW¼ SE¼ Section 8 (new Jackson Springs Water Treatment Plant); SW¼ SW¼ Section 3 (Sioux Park Gallery); SE¼ NE¼ Section 9 (Meadowbrook Gallery); NW¼ SE¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is in the NW¼ SW¼ Section 2, T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E.

The transferable diversion rate is based on the pro-rated share of Cyclone Ditch water decreased by the 8.8 percent carriage loss that remains in the ditch. Additionally, if this application is approved, it will retain the October 31, 1887 priority date established by the Cyclone Ditch vested water right for natural flow and does not authorize any new water appropriation from Rapid Creek.

REVIEW OF EXISTING WATER PERMITS/RIGHTS

There are 102 existing water rights/permits appropriating 260.13 cfs on Rapid Creek between Pactola Reservoir and the confluence with the Cheyenne River. Fifty-nine of these rights/permits which appropriate 136.47 cfs are junior in priority and forty-two of these rights/permits which appropriate 115.56 cfs are senior in priority to the October 31, 1887 Cyclone Ditch right.

REVIEW OF PROPOSED TRANSFER

The historic irrigation requirements (demand) and diversions (supply) were compared on a monthly basis to determine if supply or demand is the limiting amount. An online irrigation scheduling consultant tool, developed for the individual landowners within the Belle Fourche Irrigation District (BFID) in western South Dakota, tracks the daily water balance in a field and provides recommendation of irrigation timing and depth. Because of the proximity of the BFID to the David Lamb property, the methods used to develop the tool were deemed appropriate to assess historic crop water use.

The analysis ran daily (April 1 to October 31) from 1970-2004. The inputs required to track a daily water balance are local weather and rainfall estimates, crop type and field boundaries. Weather and rainfall data were collected from the Rapid City Regional Airport located approximately 4 miles east of the property and, therefore, deemed representative. The weather data were input into the American Society of Civil Engineers (ASCE) Penman Monteith (PM) equation to calculate daily evapotranspiration (ET). This equation requires daily values of dew point, high temperature, low temperature, average wind speed and solar radiation, all of which were available from the airport weather station for the entire analysis period.

An engineering analysis was completed to determine the water rights that were available for transfer from the David Lamb property. To complete this analysis, the historic crop water use for the 58-acre parcel as well as historic diversion records to the Cyclone Ditch were assessed. The irrigation right to be transferred was found by taking the lesser of the two analyses (crop water use or diversions) except in April and October where the crop water use amount was used because no historic delivery records were available. The analysis concluded that 132.7 acre-feet per year is available for transfer to diversion points in Rapid City and 66.4 acre-feet per year is available for transfer to storage in Pactola Reservoir. The following table provides a monthly summary of the findings in acre-feet, subtracting out the 8.8 percent delivery losses as well as the irrigation rights available for transfer in acre-feet and cfs.

	April	May	June	July	August	September	October	Total
Historic Diversions to Ditch (acre-feet)	*	171	181	215	231	167	*	965
Pro Rata Share of Historic Diversions (acre-feet)	*	18.6	19.7	23.4	25.2	18.2	*	105.1
Crop Demand (acre-feet)	10.5	39.1	31.2	50.8	46.1	24.6	17.0	219.2
Irrigation Right to be Transferred to Rapid City Diversion Points (acre-feet)	10.5*	18.6	19.7	23.4	25.2	18.2	17.0*	132.7
Irrigation Right to be Transferred to Storage in Pactola Reservoir (acre-feet)	5.3	9.3	9.9	11.7	12.6	9.1	8.5	66.4
Irrigation Right to be Transferred to Diversion Points in Rapid City (cfs)	0.18	0.30	0.33	0.38	0.41	0.30	0.28	

* For the months of April and October the crop demand amount was used because no historic delivery records were available.

If this application is approved, the authorized diversion rate and acres under Water Right No. 1736-2 should decrease by 0.83 cfs and 58 acres respectively. Credited diversions taken at the City's intakes include crop consumptive use and return flows that historically have been available to downstream water right holders. The City returns treated effluent to Rapid Creek at the City's sewage treatment facility. This allows existing downstream water rights to divert this water based upon priority availability. If in the future the City of Rapid City stops returning effluent to Rapid Creek, then the diversion proposed by this water permit will need to be recalculated to reflect that change. Also the Water Management Board should monitor the operation and management of the proposed transfer to ensure protection of existing water rights.

DELIVERY SYSTEM LOSS DISCUSSION

Carriage losses for this proposed transfer were measured in May and June of 2010. An average flow of 7.64 cfs was entering Cyclone Ditch with an average loss of 1.98 cfs, or 25.9 percent, was found over the entire system. The entire system was then broken down into a smaller upper section that incorporates only the sites from the headgate of Cyclone Ditch through the last diversion to the 58-acre parcel on the David Lamb property. This analysis found that the average loss through this upper section was 0.67 cfs or 8.8 percent. Therefore, the 8.8 percent loss rate would be deemed appropriate and acceptable in this case since it best fits the definition of carriage loss. The carriage loss is the water lost to seepage within the irrigation ditch as the water travels from the creek

diversion to the where the water is applied. The carriage loss remains in the ditch to ensure that the proposed transfer does not unlawfully impair or adversely affect the remaining/existing water rights.

APPLICABLE STATUTES

South Dakota Codified Law, SDCL 46-5-34.1 states that no transfer can occur unless the transfer can be made without detriment to existing rights, or to individual domestic use rights. SDCL 46-2A-12 allows a change in use "only if the change does not unlawfully impair existing rights and is for a beneficial use and in the public interest." Calculations using accepted scientific methods and available climatic and cropping data have been made to insure that the proposed change does not unlawfully impair or adversely affect existing water rights. The water available for transfer is only from the natural flow in Rapid Creek and does not include stored water or stored water releases from the Deerfield - Pactola Reservoirs.

During review, it was found the irrigated acreage associated with this transfer is also covered by irrigation under Water Permit No. 1461-2. Water Permit No. 1461-2 authorizes 2.25 cfs for the irrigation of 602 acres. Since Water Permit No. 1461-2 is not the focus of this water right transfer, the status of this permit is not being evaluated with this application.

An issue that has come up involving a few of the previous water right transfers is the unauthorized irrigation of the land involved in the transfer. Water Rights staff and the Rapid Valley Water Master have received complaints concerning this issue. In order to help rectify future problems if approved this permit should contain the following qualification:

The permit holder shall permanently render inoperable the structural means of diverting water to the land which is no longer subject to Water Right No. 1736-2 pursuant to South Dakota Codified Law 46-5-34.1. This work shall be completed prior to the permit holder's diversion of the transferred water to beneficial use on the parcel of land approved under the transfer. The permit holder must notify the Chief Engineer to schedule an inspection. This transfer is subject to the Chief Engineer's approval that the works are rendered inoperable. This qualification does not grant access to property owned by third parties for making structural changes. The permit holder is responsible for ensuring that access is obtained from such third parties and that such third parties are also notified that inspections will occur.

CONCLUSIONS

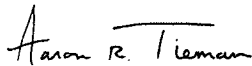
1. The water has been historically used to irrigate 58 acres.
2. The diversion rate to be transferred is 0.83 cfs which is based on the pro-rated share of the total ditch diversion rate minus the 8.8% carriage loss.
3. The amount of water requested to be transferred has an annual volume limitation of 132.7 acre-feet if diverted at the city's water treatment plants and infiltration galleries or 66.4 acre-feet if stored in Pactola Reservoir.
4. The total monthly diversion shall not exceed the amount listed in the following table.

Monthly Volume Limitation		
	City Intakes	Pactola
Month	(ac-ft)	(ac-ft)
April	10.5	5.3
May	18.6	9.3
June	19.7	9.9
July	23.4	11.7
Aug	25.2	12.6
Sept	18.2	9.1
Oct	17.0	8.5
Total	132.7	66.4

5. If application No. 2655-2 is approved, the authorized diversion rate and acreage of Water Right No. 1736-2 should be decreased by 0.83 cfs and 58 acres.
6. The Water Management Board should retain jurisdiction in order to monitor the management and operation of the proposed transfer.
7. If approved the water permit should contain the following qualifications

The permit holder shall permanently render inoperable the structural means of diverting water to the land which is no longer subject to Vested Water Right No. 1736-2 pursuant to South Dakota Codified Law 46-5-34.1. This work shall be completed prior to the permit holder's diversion of the transferred water to beneficial use on the parcel of land approved under the transfer. The permit holder must notify the Chief Engineer to schedule an inspection. This transfer is subject to the Chief Engineer's approval that the works are rendered inoperable. This qualification does not grant access to property owned by third parties for making structural changes. The permit holder is responsible for ensuring that access is obtained from such third parties and that such third parties are also notified that inspections will occur.

8. During certain dry periods in the past, natural flow water has not been available for Water Right No. 1736-2, so approval of this application does not guarantee that natural flow water will be available every year.



Aaron R. Tieman
Natural Resources Project Engineer

Approved by



Mark D. Rath
Natural Resources Engineering Specialist

BIBLIOGRAPHY

RESPEC Consulting & Services, July 2010. Topical Report RSI-2124 – David Lamb Water Rights Transfer.

Water Rights, 2010, Unpublished Water Rights Data, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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PIERRE, SOUTH DAKOTA 57501-3182
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August 27, 2010

Jerry Hammerquist
Rapid Valley Conservancy District
PO Box 26
Caputa SD 57725

Dear Mr. Hammerquist:

Enclosed is a copy of the report, recommendation and public notice for Water Permit Application No. 2655-2 filed by the city of Rapid City. The public notice is scheduled to be published September 8 and 15, 2010 in the Rapid City Journal for a hearing to be held before the Water Management Board on October 5, 2010.

This information is being sent to you because of your continuing interest in Rapid Creek water right issues. If you have any questions regarding DENR's review of the application, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 27, 2010

Keith Ham
15567 Hammerquist Road
Caputa SD 57725

Dear Mr. Ham:

Enclosed is a copy of the report, recommendation and public notice for Water Permit Application No. 2655-2 filed by the city of Rapid City. The public notice is scheduled to be published September 8 and 15, 2010 in the Rapid City Journal for a hearing to be held before the Water Management Board on October 5, 2010.

This information is being sent to you because of your continuing interest in Rapid Creek water right issues. If you have any questions regarding DENR's review of the application, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 27, 2010

Kevin Ham
Rapid Valley Water Master
3724 Freedom Court
Rapid City SD 57701-7639

Dear Mr. Ham:

Enclosed is a copy of the report, recommendation and public notice for Water Permit Application No. 2655-2 filed by the city of Rapid City. The public notice is scheduled to be published September 8 and 15, 2010 in the Rapid City Journal for a hearing to be held before the Water Management Board on October 5, 2010.

This information is being sent to you because of your continuing interest and responsibilities as Water Master on Rapid Creek. If you have any questions regarding DENR's review of the application, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
(605) 773-3352

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SEP 16 2010

Form 8

WATER RIGHTS
PROGRAM

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of Pennington)

I, Patricia K. Van Patten

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:

September 8, 2010

September 15, 2010

Cost of Printing One hundred seventy-four
dollars and twenty-four cents (\$174.24)

Patricia K. Van Patten
(Signature)

Legal Advertising Rep.
(Title)

09/15/10
(Date Signed)

and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 27, 2010, at the above Water Rights Program address to request copies of information pertaining to this application. Notice is given to individuals with disabilities that this hearing is being held in a physically accessible place. Please notify the Department of Environment and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing. The telephone number for making arrangements is (605) 773-3352.

Since this application does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case may not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by September 27, 2010.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

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

(Published twice at the total approximate cost of \$174.24.)

Sept. 8, 15

L20504973

NOTICE OF HEARING ON APPLICATION NO. 2655-2 TO TRANSFER USE

Notice is given that the City of Rapid City, c/o Robert Ellis, Public Works Director, 300 6th St., Rapid City SD 57701, has filed an application pursuant to SDCL 46-5-34.1 to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigations use to municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic use by the City of Rapid City.

Application No. 2655-2 proposes to transfer a portion of Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 1736-2 from Cyclone Ditch. The transfer is for Rapid Creek water historically used to irrigate 58 acres known as the David Lamb property. The portion of Rapid Creek natural flows to be transferred to the city is 0.83 cubic feet of water per second (cfs) with an annual volume limitation of 132.7 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 66.4 acre-feet, if stored in Pactola Reservoir. Historically, the 0.83 cfs has been used to irrigate approximately 58 acres located in Section 22-T1N-R8E. The existing diversion point on Rapid Creek for Cyclone Ditch is located in the SE1/4 SE1/4 Section 8-T1N-R8E. This permit is to change the diversion point for 0.83 cfs to diversion points for use by the city to be located in the SE1/4 NE1/4 Section 3 (Rapid City Water Treatment Plant), NW1/4 SE1/4 Section 8 (new Jackson Springs Water Treatment Plant); SW1/4 SW1/4 Section 3 (Sioux Park Gallery); SE1/4 NE1/4 Section 9 (Meadowbrook Gallery); NW1/4 SE1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW1/4 SW1/4 Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This permit does not authorize any new water appropriations from Rapid Creek. This application, if approved, will retain the October 31, 1887, priority date established by the Cyclone Ditch vested water rights.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2655-2 because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to 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 September 27, 2010. 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.

The Water Management Board will consider this application at 1:00 p.m. (CDT) on October 5, 2010, in the Matthews Training Center, Joe Foss Building, 523 E. Capitol Ave., Pierre, SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. The October 5, 2010, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by September 27, 2010.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

September 2, 2010

Rapid City Journal
PO Box 450
Rapid City SD 57701

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 2655-2 to Appropriate Water to be published twice. Please publish the first notice on September 10, 2010 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 City of Rapid City, c/o Robert Ellis, Public Works Director, 300 6th St., Rapid City SD 57701 (Ph # 605-394-4165).

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. 2655-2

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

Date _____

We are in receipt of your letter of September 2, 2010 enclosing Notice to Appropriate Water by Application No. 2655-2 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
denr.sd.gov

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

September 2, 2010

City of Rapid City
Robert Ellis
300 6th St
Rapid City SD 57701

Dear Mr. Ellis:

Water Permit Application No. 2655-2 for municipal 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 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
eric.gronlund@state.sd.us

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.

Instruction to Newspaper - Publish first Notice on September 8, 2010 with the second publication 7 days later. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF HEARING on Application NO. 2655-2 to Transfer Use

Notice is given that the City of Rapid City, c/o Robert Ellis, Public Works Director, 300 6th St, Rapid City SD 57701 has filed an application pursuant to SDCL 46-5-34.1 to transfer the use of a portion of Rapid Creek natural flows appropriated for irrigations use to municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic use by the City of Rapid City.

Application No. 2655-2 proposes to transfer a portion of Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 1736-2 from Cyclone Ditch. The transfer is for Rapid Creek water historically used to irrigate 58 acres known as the David Lamb property. The portion of Rapid Creek natural flows to be transferred to the city is 0.83 cubic feet of water per second (cfs) with an annual volume limitation of 132.7 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 66.4 acre-feet, if stored in Pactola Reservoir. Historically, the 0.83 cfs has been used to irrigate approximately 58 acres located in Section 22-T1N-R8E. The existing diversion point on Rapid Creek for Cyclone Ditch is located in the SE ¼ SE ¼ Section 8-T1N-R8E. This permit is to change the diversion point for 0.83 cfs to diversion points for use by the city to be located in the SE ¼ NE ¼ Section 3 (Rapid City Water Treatment Plant), NW ¼ SE ¼ Section 8 (new Jackson Springs Water Treatment Plant); SW ¼ SW ¼ Section 3 (Sioux Park Gallery); SE ¼ NE ¼ Section 9 (Meadowbrook Gallery); NW ¼ SE ¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E or to allow storage in Pactola Reservoir. The location of the Pactola Reservoir diversion point is the NW ¼ SW ¼ Section 2-T1N-R5E and the reservoir impounds water in portions of Sections 2, 3, 4, 5, 10, 11 of T1N-R5E and Sections 31, 32, 33, 34 of T2N-R5E. This permit does not authorize any new water appropriations from Rapid Creek. This application, if approved, will retain the October 31, 1887 priority date established by the Cyclone Ditch vested water rights.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2655-2 because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to 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 September 27, 2010. 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.

The Water Management Board will consider this application at 1:00 p.m. (CST) on October 5, 2010 in the Matthews Training Center, Joe Foss Building, 523 E. Capitol Ave., Pierre SD. The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. The October 5, 2010 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by September 27, 2010.

Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by September 27, 2010, at the above Water Rights Program address to request copies of information pertaining to this application. Notice is given to individuals with disabilities that this hearing is being held in a physically accessible place. Please notify the Department of Environment and Natural Resources at least 48 hours before the hearing if you have a disability for which special arrangements must be made at the hearing. The telephone number for making arrangements is (605) 773-3352.

Since this application does not involve a monetary controversy in excess of \$2,500.00 or termination of a property right in accordance with SDCL 1-26-18.3, the Chief Engineer has determined this contested case may not be referred to the Office of Hearing Examiners. If any party disagrees with this determination, the Chief Engineer shall be notified by September 27, 2010.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-2A-20, 46-2A-21; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15. Steven M. Pirner, Secretary, Department of Environment and Natural Resources. Published twice at the total approximate cost of _____.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 2, 2010

Don Bradeen
Cyclone Ditch
5995 Reservoir Rd
Rapid City 57703

Dear Mr. Bradeen:

Enclosed is a copy of the report, recommendation and public notice for Water Permit Application No. 2655-2 filed by the city of Rapid City. The public notice is scheduled to be published September 8 and 15, 2010 in the Rapid City Journal for a hearing to be held before the Water Management Board on October 5, 2010.

This information is being sent to you as a representative of Cyclone Ditch since the transfer involves the ditch. Please share with other ditch shareholders as you deem appropriate. If you have any questions regarding DENR's review of the application, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 2, 2010

David Lamb
4555 Reservoir Road
Rapid City SD 57703

Dear Mr.Lamb:

Enclosed is a copy of the report, recommendation and public notice for Water Permit Application No. 2655-2 filed by the city of Rapid City. The public notice is scheduled to be published September 8 and 15, 2010 in the Rapid City Journal for a hearing to be held before the Water Management Board on October 5, 2010.

This information is being sent to you because the transfer involves a transfer of the proportionate share of the Cyclone Ditch right for 58 acres you own. If you have any questions regarding DENR's review of the application, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 2, 2010

Jim Jester
Rapid Valley Sanitary District
4611 Teak Drive
Rapid City SD 57701

Dear Mr. Jester:

Enclosed is a copy of the report, recommendation and public notice for Water Permit Application No. 2655-2 filed by the city of Rapid City. The public notice is scheduled to be published September 8 and 15, 2010 in the Rapid City Journal for a hearing to be held before the Water Management Board on October 5, 2010.

This information is being sent to you because of the District's continuing interest in Rapid Creek water right issues. If you have any questions regarding DENR's review of the application, please contact Mark Rath at (605) 773-3352.

Sincerely,

Eric Gronlund
Water Rights Program, DENR
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 21, 2010

Robert Ellis
City of Rapid City
300 6th St
Rapid City SD 57701

Dear Mr. Ellis:

Enclosed is a Revised Recommendation from the Chief Engineer of the Water Rights Program for Application No. 2655-2.

The revised recommendation fixes the wording in qualification number 2 referencing the appropriate reservoir. The second change adds a new qualification – number 3 to address diversions at the new Rapid Creek intake for the Jackson Springs water treatment plant to be consistent with the qualifications for Nos. 2642-2 and 2138A-2 approved by the Water Management Board this past March. The remaining qualifications are renumbered.

If you have any questions, please contact Eric Gronlund or Mark Rath at phone 605-773-3352.

Sincerely:

Garland Erbele
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 21, 2010

Don Bradeen
Cyclone Ditch
5995 Reservoir Road
Rapid City SD 57703

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If you have any questions, please contact Eric Gronlund or Mark Rath at phone 605-773-3352.

Sincerely:

Garland Erbele
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 21, 2010

David Lamb
4555 Reservoir Road
Rapid City SD 57703

Dear Mr. Lamb:

Enclosed is a Revised Recommendation from the Chief Engineer of the Water Rights Program for Application No. 2655-2.

The revised recommendation fixes the wording in qualification number 2 referencing the appropriate reservoir. The second change adds a new qualification – number 3 to address diversions at the new Rapid Creek intake for the Jackson Springs water treatment plant to be consistent with the qualifications for Nos. 2642-2 and 2138A-2 approved by the Water Management Board this past March. The remaining qualifications are renumbered.

If you have any questions, please contact Eric Gronlund or Mark Rath at phone 605-773-3352.

Sincerely:

Garland Erbele
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 21, 2010

Jim Jester
Rapid Valley Sanitary District
4611 Teak Dr
Rapid City SD 57701

Dear Mr. Jester:

Enclosed is a Revised Recommendation from the Chief Engineer of the Water Rights Program for Application No. 2655-2.

The revised recommendation fixes the wording in qualification number 2 referencing the appropriate reservoir. The second change adds a new qualification – number 3 to address diversions at the new Rapid Creek intake for the Jackson Springs water treatment plant to be consistent with the qualifications for Nos. 2642-2 and 2138A-2 approved by the Water Management Board this past March. The remaining qualifications are renumbered.

If you have any questions, please contact Eric Gronlund or Mark Rath at phone 605-773-3352.

Sincerely:

Garland Erbele
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 21, 2010

Jerry Hammerquist
Rapid Valley Conservancy District
PO Box 26
Caputa SD 57725

Dear Mr. Hammerquist:

Enclosed is a Revised Recommendation from the Chief Engineer of the Water Rights Program for Application No. 2655-2.

The revised recommendation fixes the wording in qualification number 2 referencing the appropriate reservoir. The second change adds a new qualification – number 3 to address diversions at the new Rapid Creek intake for the Jackson Springs water treatment plant to be consistent with the qualifications for Nos. 2642-2 and 2138A-2 approved by the Water Management Board this past March. The remaining qualifications are renumbered.

If you have any questions, please contact Eric Gronlund or Mark Rath at phone 605-773-3352.

Sincerely:

Garland Erbele
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 21, 2010

Keith Ham
15567 Hammerquist Rd
Caputa SD 57725

Dear Mr. Ham:

Enclosed is a Revised Recommendation from the Chief Engineer of the Water Rights Program for Application No. 2655-2.

The revised recommendation fixes the wording in qualification number 2 referencing the appropriate reservoir. The second change adds a new qualification – number 3 to address diversions at the new Rapid Creek intake for the Jackson Springs water treatment plant to be consistent with the qualifications for Nos. 2642-2 and 2138A-2 approved by the Water Management Board this past March. The remaining qualifications are renumbered.

If you have any questions, please contact Eric Gronlund or Mark Rath at phone 605-773-3352.

Sincerely:

Garland Erbele
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 21, 2010

Kevin Ham
Rapid Valley Water Master
3724 Freedom Court
Rapid City SD 57701-7639

Dear Mr. Ham:

Enclosed is a Revised Recommendation from the Chief Engineer of the Water Rights Program for Application No. 2655-2.

The revised recommendation fixes the wording in qualification number 2 referencing the appropriate reservoir. The second change adds a new qualification – number 3 to address diversions at the new Rapid Creek intake for the Jackson Springs water treatment plant to be consistent with the qualifications for Nos. 2642-2 and 2138A-2 approved by the Water Management Board this past March. The remaining qualifications are renumbered.

If you have any questions, please contact Eric Gronlund or Mark Rath at phone 605-773-3352.

Sincerely:

Garland Erbele
Chief Engineer

LAW OFFICES OF
BENNETT, MAIN & GUBBRUD
A PROFESSIONAL CORPORATION
618 STATE STREET
BELLE FOURCHE, SOUTH DAKOTA 57717-1489
TEL (605) 892-2011
FAX (605) 892-4084
EMAIL: bellelaw@bellelaw.com

MAX MAIN*
DWIGHT A. GUBBRUD*
JOHN W. WALLACE
*LICENSED IN SOUTH DAKOTA AND WYOMING

EST. 1908

RETIRED
DONN BENNETT

RECEIVED
SEP 24 2010
WATER RIGHTS
PROGRAM

September 23, 2010

✓ Chief Engineer
Water Rights Program
Foss Building
523 East Capitol Ave.
Pierre, SD 57501

City of Rapid City
c/o Robert Ellis, Public Works Director
300 Sixth Street
Rapid City, SD 57701

**RE: In the Matter of the Application of the City of Rapid City to
Transfer a Portion of Cyclone Ditch Rapid Creek Natural Flows;
Application 2655-2; Our File No. 4600.012010.**

Dear Mr. Erbele and Mr. Ellis:

The original of the Petition of Rapid Valley Water Conservancy District in the above-referenced matter is being filed with the Chief Engineer with this letter, and a copy is being served on the Applicant.

Please do not hesitate to contact me if you have any questions.

Sincerely,

BENNETT, MAIN & GUBBRUD, P.C.



Max Main

MM/ra
Enc.
cc (w/Enc.): Client

RECEIVED

SEP 24 2010

WATER RIGHTS
PROGRAM

**STATE OF SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
WATER MANAGEMENT BOARD**

IN THE MATTER OF THE	)	APPLICATION NO. 2655-2
APPLICATION OF THE CITY OF	)	
RAPID CITY TO TRANSFER A	)	
PORTION OF CYCLONE DITCH	)	PETITION OF RAPID
COMPANY STOCKHOLDER'S	)	VALLEY WATER
/LANDOWNER'S USE OF RAPID	)	CONSERVANCY DISTRICT
CREEK NATURAL FLOWS	)	
APPROPRIATED UNDER VESTED	)	
WATER RIGHT NO. 1736-2 FROM	)	
CYCLONE DITCH.	)	

COMES NOW, the Rapid Valley Water Conservancy District (the "Petitioner") and files this Petition in the above-referenced matter, alleging as follows:

1. Petitioner stores, transports and delivers water for irrigation purposes in portions of the reach of Rapid Creek affected by the Application.
2. The 58 acres located in Section 22, T1N, R8E, allegedly historically irrigated with the amount of water proposed to be transferred to the City of Rapid City must be specifically described. The Report of the Water Rights Program on the Application states that the above-described 58 acres "is also covered by irrigation under Water Permit No. 1461-2." The status and effect of this purported "double irrigation" needs to be investigated and determined. If the 58 acres was being irrigated under Vested Water Right No. 1736-2, then it was not being irrigated under Water Permit No. 1461-2. Conversely, if the 58 acres was being irrigated under Water Permit No. 1461-2, then it was not being irrigated under Vested Water Right No. 1736-2, and there is no water available to be transferred under this Application from Vested Water Right No. 1736-2.

3. If the Application is ultimately approved, the diversion structure that must be rendered permanently inoperable needs to be identified by the Water Rights Program.

DATED this 23rd day of September, 2010.

BENNETT, MAIN & GUBBRUD, P.C.
Attorneys for Petitioner

By: Max Main

Max Main
618 State Street
Belle Fourche, SD 57717
Telephone 605.892.2011

CERTIFICATE OF SERVICE

I, **MAX MAIN**, one of the attorneys for Petitioner, do hereby certify that on the 23rd day of September, 2010, I caused full, true and complete copies of the foregoing PETITION OF RAPID VALLEY WATER CONSERVANCY DISTRICT to be served upon the following named entity at its last known mailing address, as follows:

City of Rapid City
c/o Robert Ellis, Public Works Director
300 Sixth Street
Rapid City, SD 57701

and the original sent for filing with:

Chief Engineer
Water Rights Program
Foss Building
523 East Capitol Ave.
Pierre, SD 57501

Application No. 2655-2 - Petition of Rapid Valley Water Conservancy District

by depositing the same in the United States Mail in Belle Fourche, South Dakota with first class postage thereon fully prepaid, in envelopes addressed as above.


MAX MAIN

RECEIVED

SEP 27 2010

WATER RIGHTS
PROGRAM

CYCLONE DITCH COMPANY

5977 Sparrow Hawk Tr.
Rapid City, SD 57703-2328

City of Rapid City
c/o Robert Ellis
Public Works Director
300 6th Street
Rapid City, SD 57701

Garland Erbele
Chief Engineer
Water Rights Program
Foss Building
523 E. Capitol
Pierre, SD 57501

**PETITION OPPOSING WATER PERMIT APPLICATION NO. 2655-2 TO TRANSFER
USE AND REQUEST FOR AUTOMATIC DELAY**

I am the President of Cyclone Ditch Company, the holder of Vested Water Right No. 1736-2. At this point, Petitioner opposes the Application for Transfer on the following basis:

1. Cyclone Ditch Company has not been contacted or included in the Application process to address the affect on the remaining water users to include carriage losses, responsibility for the maintenance of the ditch as it passes through the 58 acres proposed for transfer and whether the City of Rapid City will be responsible for necessary maintenance fees and costs or the impact on future necessary water purchases, including cost to remaining users.
2. The first notice to Cyclone Ditch Company of the proposed transfer was by letter of Eric Gronlund dated September 2, 2010 addressed to Don Bradeen. Mr. Bradeen is not an officer of the ditch company and the delivery by Mr. Bradeen of the September 2 Notice and Supplemental Notice sent September 21 to the undersigned President of the ditch company was delayed until just a few days ago.
3. There has been no opportunity for a meeting of the members of Cyclone Ditch Company to obtain their input.
4. It is Cyclone Ditch Company's position that consent of the ditch company is necessary to transfer a portion of a water right held by the company.
5. Until the above items are addressed and Cyclone Ditch Company is given an opportunity for meaningful input, Cyclone Ditch Company will oppose the

Application. Whether the ditch company will oppose the Application once the above concerns have been addressed is not known at this point.

REQUEST FOR AUTOMATIC STAY

CYCLONE DITCH COMPANY REQUESTS THAT THE OCTOBER 5, 2010 HEARING DATE BE AUTOMATICALLY DELAYED FOR AT LEAST 20 DAYS.

Dated this 24th day of September, 2010.

CYCLONE DITCH COMPANY
by: Bill Rughorn
Its: President
5768 Sparrow Hawk Trail
Rapid City, SD 57703
Home phone: 393-1189
Cell phone: 381-8581



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

September 28, 2010

NOTICE

TO: Robert Ellis, Public Works Director
City of Rapid City
300 6th Street
Rapid City SD 57701

Max Main
Bennett, Main & Gubbrud
618 State Street
Belle Fourche, SD 57717-1489

Bill Kinghorn, President
Cyclone Ditch Company
5977 Sparrow Hawk Tr.
Rapid City SD 57703-2328

FROM: Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Automatic Delay of Hearing for Water Permit Application No. 2655-2, City of Rapid City

The Rapid Valley Water Conservancy District and Cyclone Ditch Company submitted petitions to Water Permit Application No. 2655-2 in response to the notice of hearing published September 8 and 15, 2010 in the Rapid City Journal. The petition from Cyclone Ditch Company also requests an automatic delay of the October 5, 2010 hearing on Water Permit Application No. 2655-2. Therefore, the hearing on Application No. 2655-2 is automatically delayed pursuant to SDCL 46-2A-4 and 46-2A-5 and will not be held on October 5, 2010.

The hearing to consider Application No. 2655-2 will now be scheduled for the December 8 and 9, 2010 Water Management Board meeting tentatively to be held in Pierre. Future notice of the time and place of the hearing for Application No. 2655-2 will be provided to parties of record.

Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

c: Diane Best, Assistant Attorney General

CERTIFICATION

I hereby certify that on September 28, 2010, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated September 28, 2010, regarding automatic delay of hearing on Water Right Permit Application No. 2655-2, as addressed below:

Robert Ellis, Public Works Director
City of Rapid City
300 6th Street
Rapid City SD 57701

Max Main
Bennett, Main & Gubbrud
618 State Street
Belle Fourche, SD 57717-1489

Bill Kinghorn, President
Cyclone Ditch Company
5977 Sparrow Hawk Tr.
Rapid City SD 57703-2328

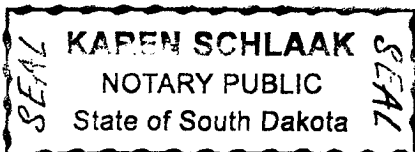
Diane Best, Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls SD 57104


Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 28th day of September, 2010.


Karen Schlaak
Notary Public
My Commission expires April 1, 2013





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

October 19, 2010

NOTICE

TO: Robert Ellis, Public Works Director
City of Rapid City
300 6th Street
Rapid City SD 57701

Max Main
Bennett, Main & Gubbrud
618 State Street
Belle Fourche, SD 57717-1489

Bill Kinghorn, President
Cyclone Ditch Company
5977 Sparrow Hawk Tr.
Rapid City SD 57703-2328

FROM: Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Scheduling of Hearing for Water Permit Application No. 2655-2, City of Rapid City

The Water Management Board will conduct a hearing to consider Application No. 2655-2 at 10:30 AM (Central Time) on Wednesday, December 1, 2010 in the Floyd Matthew Training Center, Joe Foss Building, 523 E. Capitol Avenue, Pierre SD. Future notice will be provided to all parties if there is a change to the hearing time or date.

Enclosed is the report, recommendation, affidavit of publication and petitions in the matter of Water Permit Application No. 2655-2. State law directs the Chief Engineer to provide Water Management Board members with a copy of all pleadings including petitions for each proceeding. This same information will be sent to the Board members in advance of the hearing. In addition, enclosed are two documents intended to acquaint parties with the hearing process entitled "Procedure for Hearings before the Water Management Board" and "Summary of South Dakota Water Laws and Rules". You are encouraged to review these documents prior to the hearing.

The Board has appointed a prehearing chairman for the purpose to rule on any procedural schedules and motions and resolve discovery disputes as necessary. Enclosed is the appointment. If any party files a motion that requires action prior to the scheduled Board meeting, a telephonic conference before Mr. Freeman will be scheduled at his earliest convenience.

Applicable provision of the notice published September 8 and 15, 2010 in the Rapid City Journal still apply at this hearing.

Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

c: Diane Best, Assistant Attorney General

CERTIFICATION

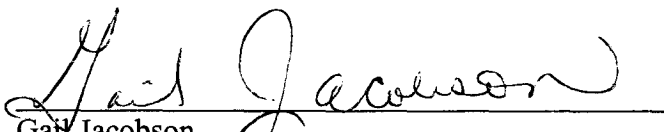
I hereby certify that on October 19, 2010, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated October 19, 2010, regarding scheduling of hearing on Water Right Permit Application No. 2655-2, as addressed below:

Robert Ellis, Public Works Director
City of Rapid City
300 6th Street
Rapid City SD 57701

Max Main
Bennett, Main & Gubbrud
618 State Street
Belle Fourche, SD 57717-1489

Bill Kinghorn, President
Cyclone Ditch Company
5977 Sparrow Hawk Tr.
Rapid City SD 57703-2328

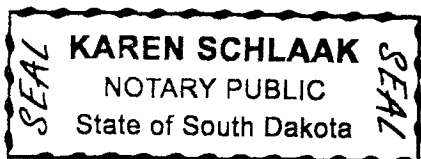
Diane Best, Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls SD 57104


Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 19th day of October, 2010.


Karen Schlaak
Notary Public
My Commission expires April 1, 2013



LAW OFFICES OF
BENNETT, MAIN & GUBBRUD
A PROFESSIONAL CORPORATION
618 STATE STREET
BELLE FOURCHE, SOUTH DAKOTA 57717-1489
TEL (605) 892-2011
FAX (605) 892-4084
EMAIL: bellelaw@bellelaw.com

MAX MAIN*
DWIGHT A. GUBBRUD*
JOHN W. WALLACE
*LICENSED IN SOUTH DAKOTA AND WYOMING

EST. 1908

RETIRED
DONN BENNETT

RECEIVED
NOV 24 2010
WATER RIGHTS
PROGRAM

November 23, 2010
Via Mail and Email

Diane Best, Assistant Attorney General
Office of the Attorney General
300 N. Dakota Ave., #403
Sioux Falls, SD 57104

Rights Program, DENR
Attn: Garland Erbele
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3181

City of Rapid City
c/o Robert Ellis, P.E.
300 6th Street
Rapid City, SD 57701

**RE: In the Matter of the Application of the City of Rapid City to Transfer a
Portion Cyclone Ditch Rapid Creek Natural Flows -
Application 2655-2; Our File No. 4600.0012010.**

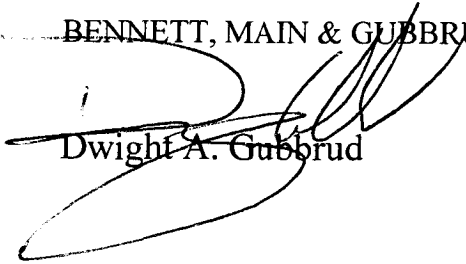
Dear Diane, Mr. Erbele and Mr. Ellis:

The Rapid Valley Water Conservancy District proposes additional conditions for Water Permit Application No. 2655-2 submitted by the City of Rapid City. For your information, I have attached the additional conditions.

I am also providing a copy of this letter to Cyclone Ditch Company.

Sincerely,

.....BENNETT, MAIN & GUBBRUD, P.C.


Dwight A. Gubbrud

DAG/njo
Enc.

cc: client (w/ Enc.)
Cyclone Ditch Company
c/o Bill Kinghorn, Pres.
5768 Sparrow Hawk Tr.
Rapid City, SD 57703

PROPOSED CONDITIONS FOR WATER PERMIT
APPLICATION NO. 2655-2,
CITY OF RAPID CITY

1. The 58 acres from which this water permit is being transferred is legally described as that part of the SW1/4NW1/4 located north of the Cyclone Ditch and NW1/4NW1/4 of Section 22, Township 1 North, Range 8 East, B.H.M., Pennington County, South Dakota. This transfer will not be approved until and unless the applicant files an agreement from David Lamb that this 58 acres will not be irrigated under Water Permit No. 1461-2 or any other permit or license currently describing said land. SDCL 46-5-34.1. This agreement must be binding upon Mr. Lamb and future owners of the 58 acres.
2. This permit may not be transferred until or unless consent to the transfer is received/obtained from the Cyclone Ditch Company, owner of Water Right 1736-2.

RAPID CITY

Thomas H. Foye
 Thomas E. Simmons
 Charles L. Riter
 Allen G. Nelson
 James P. Hurley
 Michael M. Hickey
 Terry L. Hofer
 Rod Schlauger
 Daniel F. Duffy
 Jeffrey G. Hurd
 John H. Raforth
 Terry G. Westergaard
 Steven R. Nolan
 Gregory J. Erlandson
 Eric J. Pickar
 Sarah E. Baron Houy
 Chad A. Williams
 Kirsten M. Taggart

SIoux FALLS

John P. Mullen
 Brian K. Kirby
 Victoria M. Duehr
 Patrick J. Knecht
 Thomas J. Von Wald
 David A. Grennan

*Attorneys also admitted in
 Nebraska, North Dakota,
 Iowa, Minnesota and Missouri*



BANGS McCULLEN

— LAW FIRM —

Reply to Rapid City Office

Writer's email address: criter@bangsmccullen.com

November 30, 2010

Diane Best, Assistant Attorney General
 Office of the Attorney General
 300 N. Dakota Ave., #403
 Sioux Falls, SD 57104
 Via E-Mail: diane.best@state.sd.us

Rights Program, DENR
 Attn: Garland Erbele
 Joe Foss Building
 523 E. Capitol
 Pierre, SD 57501-3181
 Via E-Mail: garland.erbele@state.sd.us

City of Rapid City
 c/o Robert Ellis, P.E.
 300 6th Street
 Rapid City, SD 57701
 Via E-Mail: Robert.Ellis@rcgov.org

Dwight A. Gubbrud
 Bennett, Main & Gubbrud, P.C.
 618 State Street
 Belle Fourche, SD 57717
 Via E-Mail: Dwight@belelaw.com

Re: In the Matter of the Application of the City of Rapid City to
 Transfer a Portion Cyclone Ditch Rapid Creek Natural Flows –
 Application 2655-2

Dear Diane and Gentlemen:

This is to advise you that David S. Lamb has no objections to the additional conditions proposed by Dwight A. Gubbrud in his November 23, 2010 letter, concerning Water Application 2655-2, submitted by the City of Rapid City.

However, Mr. Lamb wishes to add two additional conditions of his own to the issuance of permit. They are that:

1. The limitation on irrigation proposed in the Rapid Valley Conservancy District additional conditions would not limit or prohibit Mr. Lamb in any way from transporting water over and across the 58 acres, from one parcel of property to another parcel of property. In other words, Mr. Lamb can continue to use ditches, canals and arterials that now exist on the property for transferring water across that property as he has done in the past. This would not include Mr. Lamb irrigating the 58 acres.

RAPID CITY

First Interstate Gateway
 333 West Boulevard
 Suite 400
 P.O. Box 2670
 Rapid City, South Dakota
 57709-2670
 P. (605) 343-1040
 F. (605) 343-1503

SIoux FALLS

Doral Centre Building
 101 W. 69th Street
 Suite 200
 P.O. Box 88208
 Sioux Falls, South Dakota
 57109-8208
 P. (605) 339-6800
 F. (605) 339-6801

November 30, 2010
Page 2

2. Mr. Lamb intends to sell and donate 80 acres of property, which includes the 58 acres discussed in number 1 above, to the Rapid City School District No. 51-4. If, for any reason, the sale/gift is not completed on or before May 1, 2010, then Mr. Lamb withdraws his consent and all agreements pertaining to this matter.

If you have any questions about this, please let me know right away.

Thank you.

Very truly yours,

BANGS, MCCULLEN, BUTLER,
FOYE & SIMMONS, L.L.P.

A handwritten signature in black ink, appearing to read "Charles L. Riter", written over a horizontal line.

Charles L. Riter

CLR:sb

cc: Cyclone Ditch Company
c/o Bill Kinghorn, President
5768 Sparrow Hawk Trail
Rapid City, SD 57703

LAW OFFICES OF
BENNETT, MAIN & GUBBRUD
A PROFESSIONAL CORPORATION
618 STATE STREET
BELLE FOURCHE, SOUTH DAKOTA 57717-1489
TEL (605) 892-2011
FAX (605) 892-4084
EMAIL: bellelaw@bellelaw.com

MAX MAIN*
DWIGHT A. GUBBRUD*
JOHN W. WALLACE
*LICENSED IN SOUTH DAKOTA AND WYOMING

EST. 1908

RECEIVED
DEC - 1 2010
WATER RIGHTS
PROGRAM

RETIRED
DONN BENNETT

November 30, 2010
Via Mail & Email

Diane Best, Assistant Attorney General
Office of the Attorney General
300 N. Dakota Ave., #403
Sioux Falls, SD 57104

Rights Program, DENR
Attn: Garland Erbele
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3181

City of Rapid City
c/o Robert Ellis, P.E.
300 6th Street
Rapid City, SD 57701

RE: In the Matter of the Application of the City of Rapid City to Transfer a Portion Cyclone Ditch Rapid Creek Natural Flows - Application 2655-2; Our File No. 4600.0012010.

Dear Diane, Mr. Erbele and Mr. Ellis:

This morning Robert Ellis confirmed that David Lamb and the City of Rapid City agree to the first condition proposed by the Rapid Valley Water Conservancy District. This condition requires David Lamb to file a written agreement that the 58 acres will not be irrigated under Water Permit No. 1461-2 or any other permit that describes the 58 acres. This agreement will be binding upon Mr. Lamb and future owners of the 58 acres. Since that condition is acceptable, Rapid Valley Water Conservancy District will not be appearing at tomorrow's hearing.

Although the District will not appear at the hearing, we would like the Water Management Board to consider the second proposed condition which requires consent from the Cyclone Ditch Company for transfer of the water right.

Please contact me if you have questions.

Sincerely,

BENNETT, MAIN & GUBBRUD, P.C.

Dwight A. Gubbrud

DAG/njo
cc: client
Cyclone Ditch Company



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

December 8, 2010

NOTICE

TO: Robert Ellis, Public Works Director
City of Rapid City
300 6th Street
Rapid City SD 57701

Dwight Gubbrud and Max Main
Bennett, Main & Gubbrud
618 State Street
Belle Fourche, SD 57717-1489

Bill Kinghorn, President
Cyclone Ditch Company
5977 Sparrow Hawk Tr.
Rapid City SD 57703-2328

FROM: Garland Erbele, Chief Engineer
Water Rights Program 

SUBJECT: Final Decision and Order in the matter of Water Permit Application No. 2655-2, City of Rapid City

The Water Management Board conducted a hearing on December 1, 2010 in the matter of Water Permit Application No. 2655-2 for the transfer of a portion of the Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows from irrigation use to municipal use by Rapid City. Attached is the Board's Final Decision and Order approving Permit No. 2655-2. The approval is subject to preconditions on issuance of the permit by the Chief Engineer and permit qualifications.

Please contact Eric Gronlund at (605) 773-3352, if you have any questions.

enclosure

c: Diane Best, Assistant Attorney General
Jeff Hallem, Assistant Attorney General
David Lamb and Andrea Anderson, 4555 Reservoir Rd, Rapid City SD 57703

CERTIFICATION

I hereby certify that on December 8, 2010, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated December 8, 2010, regarding Final Decision and Order in the matter of Water Right Permit Application No. 2655-2, as addressed below:

Robert Ellis, Public Works Director
City of Rapid City
300 6th Street
Rapid City SD 57701

Dwight Gubbrud and Max Main
Bennett, Main & Gubbrud
618 State Street
Belle Fourche, SD 57717-1489

Bill Kinghorn, President
Cyclone Ditch Company
5977 Sparrow Hawk Tr.
Rapid City SD 57703-2328

Diane Best, Assistant Attorney General
300 N. Dakota Avenue, Suite 403
Sioux Falls SD 57104

David Lamb and Andrea Anderson
4555 Reservoir Rd
Rapid City SD 57703

Sent Notice Inter-Office mail to:

Jeff Hallem, Assistant Attorney General, 1302 E. Hwy 14, Suite 1, Pierre SD 57501-8501



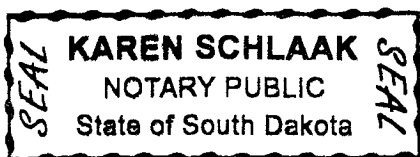
Gail Jacobson
Water Rights Program, DENR

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 8th day of December, 2010.



Karen Schlaak
Notary Public
My Commission expires April 1, 2013



Cyclone Ditch Company
5977 Sparrow Hawk Trail
Rapid City, SD 57703-2328
March 3, 2011

RECEIVED
MAR - 8 2011
WATER RIGHTS
PROGRAM

City of Rapid City
Public Works Department
300 Sixth Street
Rapid City, SD 57701-5035

Attention: Robert B. Ellis, P.E.
Public Works Director

Re: Cyclone Ditch Company

Dear Mr. Ellis:

This letter is to confirm that Cyclone Ditch Company consents to the transfer of .83CFS under Vested Water Right No. 1736-2 from Cyclone Ditch Company to City of Rapid City, subject to all of the terms and conditions set forth in the Final Decision and Order of the State of South Dakota Water Management Board in the Matter of Water Permit Application 2655-2, including specifically those terms and conditions set forth in paragraphs 3e and 3f. This Consent is also contingent on City of Rapid City's execution of the below Agreement re: costs and maintenance. Please execute the Agreement below and return to me. Thank you.

CYCLONE DITCH COMPANY

By: Cyclone Ditch Co. by Bill Kinghorn
Bill Kinghorn, President President

AGREEMENT BY CITY OF RAPID CITY

The City of Rapid City hereby agrees to pay its pro rata share of costs for the operation, maintenance, upkeep, upgrade and repair of Cyclone Ditch irrigation system as duly assessed.

Dated this 8th day of March, 2011.

CITY OF RAPID CITY

By: [Signature]
Its: Public Works Director



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

March 8, 2011

Robert Ellis, P.E.
Public Works Director
City of Rapid City
300 6th Street
Rapid City, SD 57701

Dear Mr. Ellis:

Water Permit Application No. 2655-2 filed by Rapid City transfers a portion of Cyclone Ditch Company stockholder/landowner's irrigation use of Rapid Creek natural flows appropriated under Vested Water Right No. 1736-2 to municipal use. The Water Management Board approved the permit subject to preconditions prior to the Chief Engineer's issuance of the permit. Specifically the applicable preconditions that have been met are:

Precondition 2a. - Agreement from David Lamb's counsel is on file that the 58 acres will not be irrigated under Water Permit No. 1461-2.

Precondition 2b. - A letter of consent to the transfer signed by Bill Kinghorn, President of Cyclone Ditch has been filed.

Precondition 2c. - An engineering plan prepared by the Natural Resources Conservation Service for continued irrigation from Cyclone Ditch of the remaining David Lamb property has been submitted and is hereby approved.

The preconditions set forth in the Water Management Board's Final Decision and Order have been satisfied and DENR will issue the water permit with the qualifications set forth in the order.

Sincerely,

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

c: Diane Best, Assistant Attorney General
Max Main
Bill Kinghorn

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF WATER	)	
PERMIT APPLICATION 2655-2,	)	FINAL DECISION and ORDER
CITY OF RAPID CITY	)	

This matter concerns an Application by the City of Rapid City for the transfer of a portion of a Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows (0.83 CFS with an annual volume limitation of 132.7 acre-feet of water if diverted at the city's water treatment plant and infiltration galleries or 66.4 acre-feet if stored in Pactola Reservoir) appropriated under Vested Water Right No. 1736-2 from Cyclone Ditch Company. The transfer is for water historically used to irrigate fifty-eight acres known as the David Lamb property.

A hearing on the Application was held by the Board on December 1, 2010, at which a quorum of Board members were present. Present representing the parties were Robert Ellis, Rapid City Public Works Director, for Applicant; Andrea Anderson for landowner David Lamb; and Assistant Attorney General Diane Best and Chief Engineer Garland Erbele for Department of Environment Natural Resources Water Rights Program. Intervenor Rapid Valley Water Conservancy District and Cyclone Ditch Company were not present.

The Board, upon hearing evidence presented, reviewing the record, which included various submissions by counsel for Intervenor, and given the waiver

of the entry of Findings of Fact and Conclusions of Law by all parties present at the hearing, the Board hereby enters its final decision and order.

1. Water Permit Application No. 2655-2 is hereby approved, subject to the preconditions on issuance of the permit by the Chief Engineer and to the permit qualifications listed below.

2. Issuance of a water permit by the Chief Engineer is subject to the following conditions:

- a. The fifty-eight acres from which this water permit is being transferred is legally described as that part of the SW1/4 NW1/4 located north of the Cyclone Ditch and NW1/4 N/W1/4 Section 22, Township 1 North, Range 8 East, B.H.M., Pennington County, South Dakota. The Applicant's counsel has, through a letter dated November 30, 2010, filed an agreement from David Lamb that these fifty-eight acres will not be irrigated under Water Permit No. 1461-2 or any other permit or license currently describing said land. Mr. Lamb has agreed that this is binding upon Mr. Lamb and future owners of the fifty-eight acres.
- b. The transfer is contingent on submission to the Chief Engineer of the consent to the transfer from the Cyclone Ditch Company, owner of Vested Water Right No. 1736-2.
- c. The approval is contingent on submission to the Chief Engineer and his approval of engineering plans for continued irrigation from

Cyclone Ditch of the remaining David Lamb property other than the fifty-eight acres involved in the transfer.

- d. The transfer does not limit or prohibit David Lamb in any way from transporting water over and across the fifty-eight acres, from one parcel of property to another parcel of property, if necessary. Mr. Lamb can continue to use ditches, canals and arterials that now exist on the property for transferring water across that property as he had done in the past. This does not include Mr. Lamb's irrigation of the fifty-eight acres that is subject to the water right being transferred.
 - e. The Board retains jurisdiction over Water Permit Application No. 2655-2 to modify this Order until the above stated conditions are met and the Chief Engineer issues Water Permit 2655-2 to Applicant, City of Rapid City.
3. The permit issued by the Chief Engineer is subject to the following qualifications:
- a. Permit No. 2655-2 is limited to a diversion rate of 0.83 CFS for a total annual volume of 66.4 acre-feet of water annually at Pactola Reservoir or a total annual volume of 132.7 acre-feet of water annually at the SE1/4 NE1/4 Section 3 (Rapid City Water Treatment Plant); SW1/4 SW1/4 Section 3 (Sioux Park Gallery); SE1/4 NE1/4 Section 9 (Meadowbrook Gallery); NW1/4 SE1/4 Section 8 (Jackson Springs Gallery); all in T1N-R7E. Maximum

monthly diversion volumes at Pactola Reservoir or the diversion points within Rapid City are as follows:

Monthly Volume Limitation

Month	City Intakes (AC-FT)	Pactola (AC-FT)
April	10.5	5.3
May	18.6	9.3
June	19.7	9.9
July	23.4	11.7
August	25.2	12.6
September	18.2	9.1
October	17.0	8.5
Total	132.7	66.4

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

- b. Permit No. 2655-2 authorize diversion of only natural flow water by the city of Rapid City and does not include any rights to stored irrigation water available under contract from Deerfield Reservoir.
- c. Diversions under this permit when taken at the Jackson Spring treatment plant Rapid Creek intake are limited to natural flows that exceed 10 cubic feet of water per second as measured at USGS gauging station Rapid City above Canyon Lake near Rapid City No. 06412500. During the period April 1 through September 30 natural flow diversions are limited to the amount exceeding 20 CFS with the remainder of the diversion being

released supplemental water equal to an amount released from storage through Rapid City's Deerfield and Pactola contracts with the United States Bureau of Reclamation.

- d. The City of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at Pactola Reservoir or the diversion points within Rapid City.
- e. That the Water Management Board is retaining jurisdiction of Permit No. 2655-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2655-2.
- f. Diversions under Permit No. 2655-2 may not interfere with existing water rights in effect prior to approval of No. 2655-2 or any domestic rights.
- g. The amount of water with an October 31, 1887, priority date which may be appropriated under Vested Water Right No. 1736-2 is reduced by 0.83 CFS.
- h. Approval of Permit No. 2655-2 transferring the use of Rapid Creek natural flows for fifty-eight acres located in Section 22, T1N, R8E, known as the David Lamb property and historically irrigated under Cyclone Ditch Company's Vested Water Right No. 1736-2 may not qualify for a new irrigation rights from any source.
- i. The permit holder shall permanently render inoperable the structural means of diverting water to the land which is no longer

subject to Vested Water Right No. 1736-2 pursuant to South Dakota Codified law 46-5-34.1. This work shall be completed prior to the permit holder's diversion of the transferred water to beneficial use on the parcel of land approved under the transfer. The permit holder must notify the Chief Engineer to schedule an inspection. This transfer is subject to the Chief Engineer's approval that the works are rendered inoperable. This qualification does not grant access to property owned by third parties for making structural changes. The permit is responsible for ensuring that access is obtained from such third parties and that such third parties are also notified that inspections will occur.

Dated this 3 day of December, 2010.

BY THE BOARD:

By: _____

Tim Bjork



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

MAR 11 2011

City of Rapid City
c/o Robert Ellis, Public Works Director
300 6th St
Rapid City SD 57701

Dear Mr. Ellis:

Enclosed is Water Permit No. 2655-2 authorizing the transfer of a portion of the Cyclone Ditch Company's use of Rapid Creek to the city's water diversion system.

We will schedule an inspection so that the Water License may be issued to you, thus completing your acquisition of a Water Right.

Sincerely,

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

enclosures

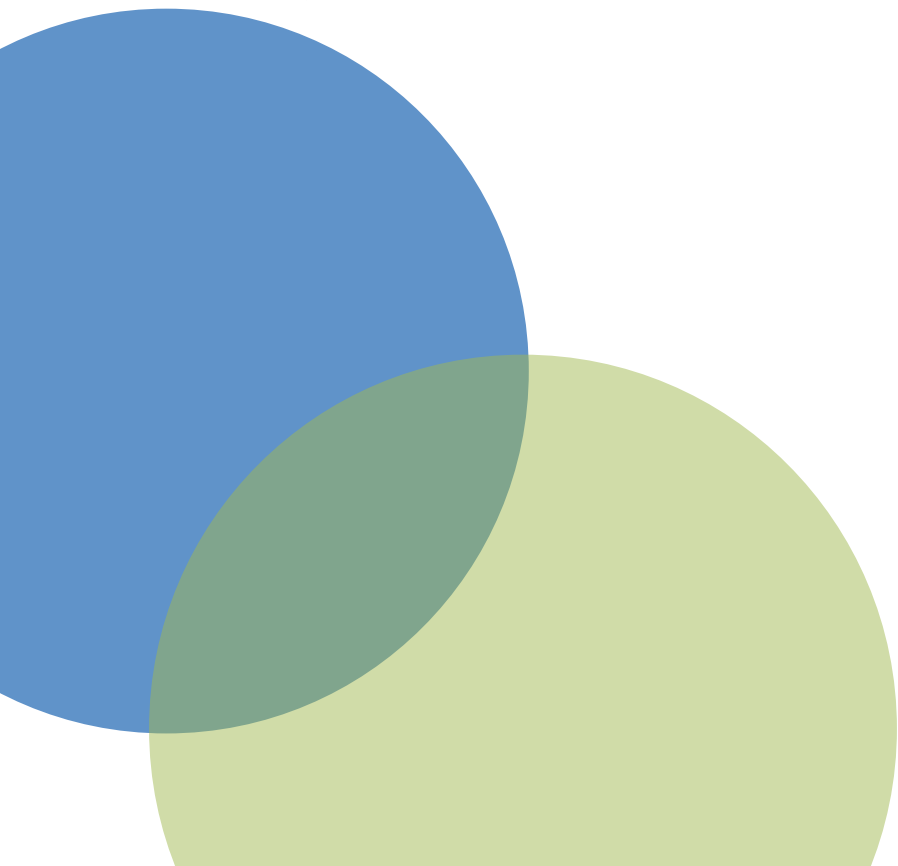
DOCUMENTATION OF
IRRIGATION DIVERSION POINT ABANDONMENT
FOR CITY OF RAPID CITY
PROJECT NO. 12-2034, CIP NO. 50922

Topical Report RSI-2317

prepared for

City of Rapid City
Public Works Department
Water Division
300 6th Street
Rapid City, SD 57701

January 2016



DOCUMENTATION OF
IRRIGATION DIVERSION POINT ABANDONMENT
FOR CITY OF RAPID CITY
PROJECT NO. 12-2034, CIP NO. 50922

Topical Report RSI-2317

by

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TABLE OF CONTENTS

1.0 BACKGROUND	1
2.0 DATA SOURCES	2
3.0 IRRIGATION DITCH SUMMARIES	4
3.1 CYCLONE DITCH	4
3.1.1 Permit 2655-2	4
3.1.1.1 Turnout	4
3.1.1.2 Access	4
3.1.1.3 Disablement	4
3.2 HAWTHORNE DITCH	5
3.2.1 Permit 2317-2	5
3.2.1.1 Turnout	6
3.2.1.2 Access	6
3.2.1.3 Disablement	6
3.3 MURPHY DITCH	6
3.3.1 Permit 2316-2	6
3.3.1.1 Turnout	7
3.3.1.2 Access	8
3.3.1.3 Disablement	8
3.3.2 Permit 2469-2	10
3.3.2.1 Turnouts	10
3.3.2.2 Access	10
3.3.2.3 Disablement	11
3.3.3 Permit 2201-2	13
3.3.3.1 Turnout	13
3.3.3.2 Access	13
3.3.3.3 Disablement	13
3.3.4 Permit 2399-2	14
3.3.4.1 Turnouts	14
3.3.4.2 Access	14
3.3.4.3 Disablement	16
3.3.5 Permit 2468-2	18
3.3.5.1 Turnouts	18
3.3.5.2 Access	18
3.3.5.3 Disablement	18
3.3.6 Permits 2142-2 and 2199-2	19
3.3.6.1 Turnout	19
3.3.6.2 Access	19
3.3.6.3 Disablement	19
3.3.7 Permit 2512-2	20

TABLE OF CONTENTS

3.3.7.1	Turnouts.....	20
3.3.7.2	Access	20
3.3.7.3	Disablement.....	20
3.4	SOUTH SIDE DITCH	23
3.4.1	Permits 2234-2, 2397-2, and 2411-2	24
3.4.1.1	Turnouts.....	24
3.4.1.2	Access	24
3.4.1.3	Disablement.....	24
3.4.2	Permit 2513-2	25
3.4.2.1	Turnouts.....	25
3.4.2.2	Access	27
3.4.2.3	Disablement.....	27
3.4.3	Permit 2249-2	28
3.4.3.1	Turnouts.....	28
3.4.3.2	Access	32
3.4.3.3	Disablement.....	32
3.4.4	Permit 2218-2	36
3.4.4.1	Turnouts.....	36
3.4.4.2	Access	36
3.4.4.3	Disablement.....	36
3.4.5	Permit 2415-2	37
3.4.5.1	Turnouts.....	37
3.4.5.2	Access	41
3.4.5.3	Disablement.....	41
3.4.6	Permit 2217-2	46
3.4.6.1	Turnouts.....	46
3.4.6.2	Access	46
3.4.6.3	Disablement.....	46
3.4.7	Permit 2296-2 and 2360-2	47
3.4.7.1	Turnouts.....	47
3.4.7.2	Access	47
3.4.7.3	Disablement.....	47
4.0	PERMITS AND REGULATIONS	48
4.1	CLEAN WATER ACT SECTION 404 PERMIT.....	48
4.2	CLEAN WATER ACT SECTION 402 PERMIT.....	48
4.3	FLOODPLAIN DEVELOPMENT PERMITS	48
4.4	HISTORIC PRESERVATION.....	48
5.0	REFERENCES	49
	APPENDIX A TURNOUT VICINITY MAPS.....	A-1

LIST OF TABLES

TABLE	PAGE
2-1 Information for Water Rights Transferred to the City of Rapid City.....	3
3-1 Cyclone Ditch Turnout Information	4
3-2 Hawthorne Ditch Turnout Information	5
3-3 Murphy Ditch Turnout Information	6
3-4 South Side Ditch Turnout Information.....	24

LIST OF FIGURES

FIGURE	PAGE
3-1 The Turnout Ditch (Left Arrow) and Former Location of Flume (Right Arrow) Associated With Permit 2655-2	5
3-2 Wooden Flume Used as a Check for Permit 2316-2	7
3-3 Opening to 12-Inch-Diameter Corrugated Metal Pipe Turnout for Permit 2316-2.....	7
3-4 Removal of Turnout associated with Permit 2316-2	8
3-5 Removal of Turnout associated with Permit 2316-2	9
3-6 Pipe Turnout A for Permit 2469-2	10
3-7 Pipe Turnout B for Permit 2469-2	11
3-8 Removal of Turnout A Associated with Permit 2469-2	12
3-9 Removal of Turnout B Associated with Permit 2469-2	12
3-10 Photograph Taken From in the Murphy Ditch Running Right to Left (Bank in Foreground Is Likely Former Turnout Location for Permit 2201-2).....	13
3-11 Wooden Remains Found Near the Site for Permit 2201-2.....	14
3-12 Backfill Material at the Former Location of Turnout A for Permit 2399-2.....	15
3-13 Turnout B for Permit 2399-2 (The 12-Inch Steel Canal Gate was Located on the Far Bank Adjacent to the Concrete Culvert, and Murphy Ditch Runs Right to Left).....	15
3-14 Removal of Turnout B for Permit 2399-2 Located on Murphy Ditch on Radar Road.	16
3-15 Removal of Turnout B for Permit 2399-2 Located on Murphy Ditch on Radar Road.....	17
3-16 Disabled Turnout Ditch for Permit 2468-2 Running From the Foreground to the Background Along the East Side of Radar Hill Road (The Lateral Ditch Is in the Left Foreground, Turning Left at the Visible Tree Root).....	18
3-17 Former Location of the Turnout for Permits 2142-2 and 2199-2 (The Concrete Check Structure and a Disconnected Corrugated Metal Pipe Segment Sit on the Far Bank, and Murphy Ditch Flows Right to Left).....	19
3-18 Pipe Used for Turnout A of Permit 2512-2 (Red Arrow).....	20
3-19 Plywood Headgate for Turnout B of Permit 2512-2.	21
3-20 Junction Box With 24-Inch Canal Gate for Turnout C of Permit 2512-2 (Turnout C Shown With Red Arrow, Leading South).....	21
3-21 Removal of Turnout C for Permit 2512-2 Located on Murphy Ditch on the East Side of Airport Road.....	22
3-22 Removal of Turnout C for Permit 2512-2 Located on Murphy Ditch on the East Side of Airport Road Going South to the Airport.....	23
3-23 Turnout for Permit 2234-2	25
3-24 Inlet Structure, Weir Box, and Air Vent Associated With Turnout 2513-2	26

LIST OF FIGURES (continued)

FIGURE	PAGE
3-25 Inlet Structure, Weir Box, and Air Vent Associated With Turnout 2513-2	26
3-26 Inside the Weir Box for Turnout 2513-2.....	27
3-27 Removal of Turnout for Permit 2513-2	28
3-28 Turnout A structure Associated with Permit 2249-2	29
3-29 Culvert Crossing Used as a Check for Turnout B Associated with Permit 2249-2	29
3-30 Outlet end of Turnout B pipe (Red Arrow). (Looking South, Towards South Side Ditch)	30
3-31 Second Culvert Crossing, Used as Check for Turnout C Associated With Permit 2249-2	30
3-32 Wooden Structure (Red Arrow) for Turnout C Associated With Permit 2249-	31
3-33 Metal Framed Canal Gate of Turnout D Associated With Permit 2249-2.....	31
3-34 Turnout D Division Box Associated With Permit 2249-2	32
3-35 Turnout A Associated with Permit 2249-2.....	33
3-36 Turnout B Associated with Permit 2249-2.....	33
3-37 Turnout C Associated With Permit 2249-2	34
3-38 Turnout D Associated With Permit 2249-2.....	34
3-39 Turnout D Associated With Permit 2249-2.....	35
3-40 Turnout D Associated With Permit 2249-2.....	35
3-41 Turnout for Permit 2218-2	36
3-42 Turnout A for Permit 2415-2	37
3-43 Wooden Flume Used as a Check for Turnout A of Permit 2415-2.....	38
3-44 Turnout B (Red Arrow) and the Flume Associated with Permit 2415-2.....	38
3-45 Turnout C (Red Arrow) and the Wooden Weir Associated With Permit 2415-2	39
3-46 Turnout C and the 24-Inch-Diameter Concrete Pipe (Red Arrow) Associated With Permit 2415-2	39
3-47 Concrete Flume/Check Structure for Turnout D Associated With Permit 2415-2 (Looking Downstream).....	40
3-48 North Flume/Check Structure Wall and Outlet for Turnout D Associated With Permit 2415-2	40
3-49 South Flume/Check Structure Wall and Outlet for Turnout D Associated With Permit 2415-2	41
3-50 Removal of Turnout A associated with Permit 2415-2.....	42
3-51 Turnout A Wooden Flume Structure Associated With Permit 2415-2, Removed.....	43
3-52 Turnout B Associated With Permit 2415-2. Timber Turnout Removed.....	43
3-53 Turnout B Associated With Permit 2415-2. Wooden Flume Structure Removed	44

LIST OF FIGURES (continued)

FIGURE	PAGE
3-54 Turnout C Associated With Permit 2415-2 Timber Gate Turnout Structure, Concrete Abutments, and Timber Weir Check Structure Removed.....	44
3-55 Turnout C Associated With Permit 2415-2	45
3-56 Turnout D Associated With Permit 2415-2.....	45
3-57 Turnout D Associated With Permit 2415-2.....	46
3-58 Turnout Associated With Permit 2296-2 and Permit 2360-2, Currently Serving an Active Permit for 50 Acres Irrigated by Mr. Donald Jundt	47
A-1 Cyclone Ditch Turnout Vicinity Map.	A-2
A-2 Hawthorne Ditch Turnout Vicinity Map.	A-3
A-3 Murphy Ditch Turnout Vicinity Map (1 of 2).....	A-4
A-4 Murphy Ditch Turnout Vicinity Map (2 of 2).....	A-5
A-5 South Side Ditch Turnout Vicinity Map (1 of 2).	A-6
A-6 South Side Ditch Turnout Vicinity Map (2 of 2)	A-7

1.0 BACKGROUND

The City of Rapid City has obtained the water permits from several irrigators served by Rapid Creek in the Rapid Valley area. According to the South Dakota Department of Environment and Natural Resources (SD DENR) Water Rights Division, the holder of a transferred permit shall permanently render inoperable the structural means of diverting water to land that is no longer subject to the water permit. The City of Rapid City has record of transfers and has now completed abandonment of the aforementioned diversion structures. The abandonment of the structures was performed by the City of Rapid City and reviewed by SD DENR personnel. This report documents the permits transferred, the diversion points associated with those permits, and the abandonment of those diversion points.

2.0 DATA SOURCES

Six sources were used to identify the diversion structures (turnouts) to be disabled. The first is the South Dakota Water Rights Program online permit database that is operated by the SD DENR [2012]. This database includes water rights documentation for each of the Rapid Valley irrigation ditches, identifies all permit transfers, and has documentation for individual water rights permits.

The second source is the Rapid Valley Water Management Study, which was completed in 1990 by the U.S. Bureau of Reclamation for ditches that have storage in Deerfield Reservoir, including the South Side, Cyclone, Little Giant, and Hawthorne irrigation ditches [U.S. Bureau of Reclamation, 1990]. The Murphy Ditch was excluded from the Rapid Valley Water Management Study because its water right is for natural Rapid Creek flows and, therefore, contractually has no storage in Deerfield Reservoir managed by the Bureau of Reclamation. The documentation from the study includes photographs of irrigation turnouts; associated notes; and irrigation ditch maps with turnout locations, photograph locations, and irrigated acreages.

The third source is an undocumented study conducted by the City of Rapid City in 2008. This study includes photographs of irrigation turnouts, associated notes, and maps that include data pertinent to water rights transferred to the city. The last three sources include parcel delineation and owner information from RapidMap [City of Rapid City and Pennington County, 2014], field investigations, and direct communication with irrigation ditch personnel and landowners.

Searches were conducted within the SD DENR Water Rights Program database to identify the water rights transferred to the City of Rapid City. Permit documentation associated with these transfers was downloaded. The water rights flow rate, acreage, location, previous owner, and approval date were identified for each transfer and this information is provided in Table 2-1.

By combining the information from Table 2-1 with the data from the RapidMap geodatabase, the parcels associated with each transfer were identified. Then, structure location maps from the Rapid Valley Water Management Study were used to identify the locations of turnouts requiring disablement. These locations were field-verified with help from ditch personnel and were recorded with Global Positioning System (GPS). Verified structure locations were digitized with ArcGIS mapping software.

Table 2-1. Information for Water Rights Transferred to the City of Rapid City

Permit No.	Ditch(s)	Previous Owner	Acres	Flow (cfs) ^(a)	Section	Township	Range	Quarter	Transfer Date
2655-2	Cyclone	Lamb	58	0.83	22	1N	8E	SW NW, NW NW	12/1/2010
2317-2	Hawthorne	Morris	46	0.84	9	1N	8E	SW NE, SE NW, NE SW, NW SE	5/1/1996
2399-2	Little Giant and Murphy	Wileman	52	0.75	24	1N	8E	E NE	5/7/1998
2468-2	Little Giant via Murphy	Howie	34.8	0.57	19; 30	1N	9E	W SW; NW NW	12/5/2001
2142-2	Murphy	Tyler	49	0.62	19	1N	9E	W NW, NW SW	5/1/1991
2199-2	Murphy	Pelle	4	0.05	19	1N	9E	NW NW	5/7/1992
2201-2	Murphy	Long	10	0.13	14	1N	8E	C	5/7/1992
2316-2	Murphy	Morris	64	0.81	9	1N	8E	W SE	5/1/1996
2469-2	Murphy	Murphy	27	0.34	14	1N	8E	S NW, N SW	12/5/2001
2512-2	Murphy	Schroeder	145	1.84	19	1N	9E	E NW, NE SW, SW SE, N SE, S NE	12/3/2003
2217-2	South Side	Keller	29.2	0.33	29	1N	9E	SE SE	7/22/1992
2218-2	South Side	Stromer	192.5	2.16	29	1N	9E	SW	7/22/1992
2234-2	South Side	Eisenbraun	70	0.79	26	1N	8E	E NE	5/1/1996
2249-2	South Side	Weber	105.5	1.19	30	1N	9E	E NW, NW SW, E SW	5/5/1993
2296-2	South Side	Jundt	253.4	2.85	28; 33	1N	9E	SW, SW SE; NW, W NE, NW SE, N SW	1/6/1994
2360-2	South Side	Soetaert	32.6	0.37	33	1N	9E	W NW	7/10/1996
2397-2	South Side	Eisenbraun	59.3	0.59	26	1N	8E	W NE	2/25/1998
2411-2	South Side	Eisenbraun	3.6	0.04	26	1N	8E	N NE	10/1/1998
2415-2	South Side	Howie	146	1.64	32	1N	9E	NE, N SE	12/2/1998
2513-2	South Side	Steen	74.9	0.84	24; 25	1N	8E	W SE; SW NE	12/3/2003

(a) cfs = cubic feet per second

3.0 IRRIGATION DITCH SUMMARIES

The information gathered for turnouts to parcels with water rights transferred from irrigation use to the City of Rapid City is described by permit number in the following sections. The information includes each turnout location, access, and disablement information. All maps can be found in Appendix A.

All references to compacted backfill or compacted embankment were completed according to City of Rapid City Specifications Section 14-Embankment. Rapid City Specifications are located at www.rcgov.org under Departments – Public Works – Engineering Services – Standard Specifications & Details 2007.

3.1 CYCLONE DITCH

A single Cyclone Ditch water right has been transferred to the City of Rapid City with a single associated turnout. Table 3-1 describes the turnout location and Figure A-1 maps the vicinity. The following section describes the turnout details.

Table 3-1. Cyclone Ditch Turnout Information

Turnout	Longitude	Latitude	Adjacent Landowner
2655-2	-103.151	44.034	David Lamb

3.1.1 Permit 2655-2

This permit is for 58 acres and 0.85 cubic feet per second (cfs) transferred from Mr. David Lamb.

3.1.1.1 Turnout

The single turnout for this permit was an open ditch cut through the bank of Cyclone Ditch. Water was directed down the turnout ditch by boarding up a steel flume immediately downstream in the Cyclone Ditch.

3.1.1.2 Access

The turnout was located adjacent to property owned by the Rapid City Area School District No. 51-4 (PIN 3822100004). Direct access to the site is along an over 1-mile, two-track road that runs through fields on property owned by Mr. David Lamb. It is accessible by a private driveway at 4555 Reservoir Road, south of East Highway 44.

3.1.1.3 Disablement

The flume has been removed, the turnout ditch filled, and the ditch reshaped by the landowner as illustrated in Figure 3-1.



Figure 3-1. The Turnout Ditch (Left Arrow) and Former Location of Flume (Right Arrow) Associated With Permit 2655-2. Cyclone Ditch Runs From Foreground to Background Through Large Concrete Pipe.

3.2 HAWTHORNE DITCH

A single Hawthorne Ditch water right has been transferred to the City of Rapid City with a single associated turnout. Table 3-2 provides the turnout location and Figure A-2 maps the vicinity. The following section describes the turnout details.

Table 3-2. Hawthorne Ditch Turnout Information

Turnout	Longitude	Latitude	Current Landowner
2317-2	-103.162	44.064	N/A

3.2.1 Permit 2317-2

This permit is for 46 acres and 0.84 cfs transferred from Mr. Morris.

3.2.1.1 Turnout

The supplying lateral and turnout for this permit no longer exist. An internal memorandum of SD DENR dated September 30, 2005, states “Hawthorne Ditch is now piped underground through the area where the turnout for the supplying lateral was and the new Elk Vale Road bypass, a school, and (the West River Electric Association building) have been constructed where the lateral previously ran. There is no evidence of a lateral at the location” [Stroup, 2005]. This statement was field-verified.

3.2.1.2 Access

The approximate, former location of the turnout is along East Highway 44 near the Elk Vale Road bypass.

3.2.1.3 Disablement

The turnout was previously disabled.

3.3 MURPHY DITCH

Eight Murphy Ditch water rights have been transferred to the City of Rapid City, and 11 associated turnout locations are described in Table 3-3 in order from upstream to downstream. Two vicinity maps of the turnouts are illustrated by Figures A-3 and A-4. The following sections describe each of the Murphy Ditch turnout locations by permit. The ditch has a 20-foot easement on either side for access and maintenance.

Table 3-3. Murphy Ditch Turnout Information

Turnout	Longitude	Latitude	Adjacent Landowner
2316-2	-103.158	44.059	Yasmeen Dream
2469-2 A	-103.128	44.049	Dennis Murphy
2469-2 B	-103.127	44.049	Dennis Murphy
2201-2	-103.121	44.047	Ramona Buchholz
2399-2 A	-103.097	44.038	Michelle Minnerath
2399-2 B	-103.091	44.037	Penn. Co. ROW
2468-2	-103.091	44.031	SD DOT
2142-2 and 2199-2	-103.089	44.037	Randall Albers or Melvin Ross
2512-2 A	-103.083	44.035	Rapid City
2512-2 B	-103.077	44.034	Rapid City
2512-2 C	-103.070	44.031	Rapid City ROW

3.3.1 Permit 2316-2

This permit is for 64 acres and 0.81 cfs transferred from Mr. Morris.

3.3.1.1 Turnout

A single turnout was associated with this permit. A wooden flume within the Murphy Ditch was used to check water up to a 12-inch-diameter corrugated metal pipe (CMP). The flume throat was 8 feet long, 4 feet 8 inches wide, and 4 feet 2 inches tall. The CMP was sedimented in and remained in segments. Figure 3-2 is a photograph of the flume and Figure 3-3 is a photograph of the CMP opening.



Figure 3-2. Wooden Flume Used as a Check for Permit 2316-2.



Figure 3-3. Opening to 12-Inch-Diameter Corrugated Metal Pipe Turnout for Permit 2316-2.

3.3.1.2 Access

The flume and pipe were adjacent to property owned by Yasmeen Dream that is accessible from Lytle Lane off of East Highway 44.

3.3.1.3 Disablement

The following are the procedures the City of Rapid City used in disabling the Permit 2316-2 turnout:

- Removed the wooden flume and all associated concrete from Murphy Ditch
- Removed the upstream CMP section from the ditch embankment
- Backfilled with compacted embankment material where items were removed
- Reshaped the ditch banks through the project area to match the cross section of existing banks outside of the project area

Figure 3-4 and Figure 3-5 document removal of the turnout.



Figure 3-4. Removal of Turnout associated with Permit 2316-2. Date 3/20/2014



Figure 3-5. Removal of Turnout associated with Permit 2316-2. Date 3/20/2014

3.3.2 Permit 2469-2

This permit is for 27 acres and 0.34 cfs transferred from Ms. Arlene Murphy.

3.3.2.1 Turnouts

Two turnouts were associated with this permit, and they were located at either end of an inverted siphon through which the Murphy Ditch passes. Both turnouts were approximately 10-inch-diameter plastic pipes through the ditch bank. The upstream pipe (Turnout A) was mostly buried and is shown in Figure 3-6. The downstream pipe (Turnout B) was exposed, as illustrated in Figure 3-7.



Figure 3-6. Pipe Turnout A for Permit 2469-2.

3.3.2.2 Access

Both turnouts were adjacent to property owned by Dennis Murphy (PIN 3814105010), and the sites are accessible from a private driveway at 5670 East Highway 44. Direct access to both turnouts was through fields along a two-track path. Access to the Turnout B site requires crossing an existing drainage or can alternatively be accessed by a two-track path off the end of Springfield Road.



Figure 3-7. Pipe Turnout B for Permit 2469-2.

3.3.2.3 *Disablement*

The following are the procedures the City of Rapid City used in disabling the Permit 2469-2 turnouts

- Removed both pipe turnouts from the ditch embankment
- Backfilled with compacted embankment material to match the existing bank cross section

Figures 3-8 and Figure 3-9 document removal of the turnouts.



Figure 3-8. Removal of Turnout A Associated With Permit 2469-2. Date 4/22/2014



Figure 3-9. Removal of Turnout B Associated With Permit 2469-2. Date 4/22/2014.

3.3.3 Permit 2201-2

This permit is for 10 acres and 0.13 cfs transferred from Mr. Long.

3.3.3.1 Turnout

The old turnout ditch for this permit was identified, but the turnout had been removed. No evidence of a turnout could be identified on the ditch side of the bank, as illustrated in Figure 3-10. The remains of wooden structures, possibly related to the turnout, were found nearby, as shown in Figure 3-11.

3.3.3.2 Access

The site is adjacent to property owned by Ms. Ramona Buchholz (PIN 3814326004) and is located directly west of Apple Tree Road. It is accessible from East Highway 44.

3.3.3.3 Disablement

The structure was previously disabled.



Figure 3-10. Photograph Taken From in the Murphy Ditch Running Right to Left (Bank in Foreground Is Likely Former Turnout Location for Permit 2201-2).



Figure 3-11. Wooden Remains Found Near the Site for Permit 2201-2.

3.3.4 Permit 2399-2

This permit is for 52 acres and 0.75 cfs transferred from Mr. Wesley Wileman.

3.3.4.1 *Turnouts*

Two turnout locations were associated with this permit. Turnout A had been removed but was not properly backfilled, as illustrated in Figure 3-12. A meeting on site with Mr. Jeep Williams, watermaster for Murphy Ditch, in April 2014 verified that the backfill at that site has been repaired since the photograph was taken. Turnout B was a 12-inch steel canal gate, as shown in Figure 3-13.

3.3.4.2 *Access*

The Turnout A site is adjacent to property owned by Ms. Michelle Minnerath (PIN 3824200002) and is north of Morris Lane. Direct access to the location is through a field with no defined path. Turnout B was located in the west ditch of Radar Hill Road.



Figure 3-12. Backfill Material at the Former Location of Turnout A for Permit 2399-2. This area has since had material added to the bank.



Figure 3-13. Turnout B for Permit 2399-2 (The 12-Inch Steel Canal Gate was Located on the Far Bank Adjacent to the Concrete Culvert, and Murphy Ditch Runs Right to Left).

3.3.4.3 *Disablement*

The following are the procedures the City of Rapid City used in disabling the Permit 2399-2 turnouts:

- Turnout A was previously disabled
- Turnout B
 - Removed the canal gate from Murphy Ditch
 - Removed a portion of the pipe from the ditch bank and backfilled with compacted embankment material to match the existing bank cross section

Figure 3-14 and Figure 3-15 document removal of Turnout B.



Figure 3-14. Removal of Turnout B for Permit 2399-2 Located on Murphy Ditch on Radar Road.
Date 4/22/2014



Figure 3-15. Removal of Turnout B for Permit 2399-2 Located on Murphy Ditch on Radar Road.
Date 4/22/2014

3.3.5 Permit 2468-2

This permit is for 34.8 acres and 0.57 cfs transferred from Mr. Gordon Howie.

3.3.5.1 *Turnouts*

A single turnout for this permit was once located on a lateral ditch. The turnout ditch was identified, as shown in Figure 3-16, but no turnout structure exists.



Figure 3-16. Disabled Turnout Ditch for Permit 2468-2 Running From the Foreground to the Background Along the East Side of Radar Hill Road (The Lateral Ditch Is in the Left Foreground, Turning Left at the Visible Tree Root).

3.3.5.2 *Access*

The site is located on property owned by the South Dakota Department of Transportation (SD DOT) on the east side of Radar Hill Road, south of East Highway 44 (PIN 3824427001).

3.3.5.3 *Disablement*

The structure was previously disabled.

3.3.6 Permits 2142-2 and 2199-2

Permit 2142-2 is for 49 acres and 0.62 cfs transferred from Mr. Tyler. Permit 2199-2 is for 4 acres and 0.05 cfs transferred from Mr. Pelle.

3.3.6.1 Turnout

A single turnout location was used for these two permits. Upon inspection, the turnout ditch was identified and a short, disconnected segment of a 12-inch-diameter CMP was found lying in the ditch at the site, but an existing turnout structure was not evident. The concrete check structure for the turnout has been removed and sits on the ditch bank at the location illustrated in Figure 3-17.



Figure 3-17. Former Location of the Turnout for Permits 2142-2 and 2199-2 (The Concrete Check Structure and a Disconnected Corrugated Metal Pipe Segment Sit on the Far Bank, and Murphy Ditch Flows Right to Left).

3.3.6.2 Access

The site is adjacent to property owned by Mr. Randall Albers (PIN 3919100002) along Morris Lane. Direct access to the site is through the Albers property or the neighboring property owned by Melvin Ross (PIN 391900001), or from the top side of the Murphy Ditch through Mr. Jerry Olson's property.

3.3.6.3 Disablement

The structure was previously disabled and no further action was required, as per a meeting with SD DENR personnel in April 2014.

3.3.7 Permit 2512-2

This permit is for 145 acres and 1.84 cfs transferred from Ms. Marilyn Schroeder.

3.3.7.1 Turnouts

Three turnouts were associated with this permit. Turnout A was a 10-inch-diameter plastic pipe through the ditch bank but was capped and buried, as shown in Figure 3-18. Turnout B was a clay pipe 12-inches in diameter and 20 feet long through the ditch bank. The downstream end of this pipe was previously buried. Figure 3-19 is a photograph of a plywood headgate used for Turnout B. Turnout C was a 24-inch steel canal gate secured in a concrete junction box, as shown in Figure 3-20. The junction box is on a lateral ditch and is shared with an identical gate for a separate, active permit.



Figure 3-18. Pipe Used for Turnout A of Permit 2512-2 (Red Arrow).

3.3.7.2 Access

Turnouts A and B were located adjacent to property owned by the City of Rapid City (PIN 3919200001). Turnout C was located in the west right-of-way for Airport Road.

3.3.7.3 Disablement

The following are the procedures the City of Rapid City used in disabling the Permit 2512-2 turnouts:

- Turnout A was previously disabled and no further action was required per discussion with the Murphy Ditch watermaster and SD DENR personnel in April 2014.
- Turnout B was previously disabled and no further action was required per discussion with the Murphy Ditch watermaster and SD DENR personnel in April 2014.

- Turnout C
 - Removed the canal gate and disabled the pipe with a Class M-5 concrete plug.

Figure 3-21 and Figure 3-22 document disablement of the Turnout C structure.



Figure 3-19. Plywood Headgate for Turnout B of Permit 2512-2.



Figure 3-20. Junction Box With 24-Inch Canal Gate for Turnout C of Permit 2512-2 (Turnout C Shown With Red Arrow, Leading South).



Figure 3-21. Removal of Turnout C for Permit 2512-2 Located on Murphy Ditch on the East Side of Airport Road. Date 4/22/2014



Figure 3-22. Removal of Turnout C for Permit 2512-2 Located on Murphy Ditch on the East Side of Airport Road Going South to the Airport. Date 4/22/2014.

3.4 SOUTH SIDE DITCH

Ten South Side Ditch water rights have been transferred to the City of Rapid City, and 13 associated turnout locations were identified by using maps from the Rapid Valley Water Management Study [U.S. Bureau of Reclamation, 1990] and field investigations. The locations are described in Table 3-4 from upstream to downstream. Two vicinity maps of the turnouts are provided by Figures A-5 and A-6.

Table 3-4. South Side Ditch Turnout Information

Turnout	Longitude	Latitude	Adjacent Landowner
2234-2, 2397-2 & 2411-2	-103.115	44.017	Reinhold Eisenbraun (south) Randy Christensen (north)
2513-2	-103.100	44.018	City of Rapid City
2249-2 A	-103.095	44.017	City of Rapid City
2249-2 B	-103.091	44.015	City of Rapid City
2249-2 C	-103.091	44.015	City of Rapid City
2249-2 D	-103.084	44.011	City of Rapid City
2218-2	-103.071	44.010	Merlin Stromer
2415-2 A	-103.065	44.008	Matt Bowen
2415-2 B	-103.061	44.006	Matt Bowen
2415-2 C	-103.059	44.006	Matt Bowen
2415-2 D	-103.056	44.006	Matt Bowen
2217-2	-103.056	44.011	Leonard V. Keller Trust
2296-2 and 2360-2	-103.05	44.007	Donald Jundt

3.4.1 Permits 2234-2, 2397-2, and 2411-2

Permit 2234-2 is for 70 acres and 0.79 cfs, Permit 2397-2 is for 59.3 acres and 0.59 cfs, and Permit 2411-2 is for 3.6 acres and 0.04 cfs, all transferred from Mr. Reinhold Eisenbraun.

3.4.1.1 Turnouts

One turnout structure could be found in the described vicinity of these permits, located in Section 26, 1N 8E. The ditch was walked for approximately 1/2 mile to the west and the only turnout found is shown in Figure 3-23.

3.4.1.2 Access

The turnout for Permit 2234-2 is accessed off of Highway 44 by turning south on Anderson Rd. and continuing south past Southside Dr. approximately 3/8 mile to South Side Ditch. The site is approximately 1/4 mile west. The land north of the ditch, including the structure, is owned by Mr. Randy Christensen, and the land south of the ditch is owned by Mr. Eisenbraun.

3.4.1.3 Disablement

The structure was previously disabled, and no further action was required by SD DENR personnel.



Figure 3-23. Turnout for Permit 2234-2. Note the headwall sticking out of the snow just upstream from the culvert crossing on the left or north side of the ditch (red arrow). The ditch behind the headwall has been filled in.

3.4.2 Permit 2513-2

This permit is for 74.9 acres and 0.84 cfs transferred from Mr. Steen.

3.4.2.1 Turnouts

One turnout was associated with Permit 2513-2. The turnout was located straight south of the Rapid City Water Treatment Plant near the middle of section 25 on South Side Ditch. The turnout inlet structure was concrete with a 15-inch canal gate and PVC pipe going under the north bank to a weir box. On the north side of the weir box, 15-inch PVC pipe ran from the box to a vertical PVC air vent and then continued north. Figures 3-24, 3-25, and 3-26 show the structures associated with Permit 2513-2.



Figure 3-24. Inlet Structure, Weir Box, and Air Vent Associated With Turnout 2513-2.



Figure 3-25. Inlet Structure, Weir Box, and Air Vent Associated With Turnout 2513-2.



Figure 3-26. Inside the Weir Box for Turnout 2513-2. Note center wall weir and PVC pipe exiting the box.

3.4.2.2 Access

The site is located on land owned by the City of Rapid City and occupied by Mr. Bud Steen. The site may be accessed by turning off Highway 44 on Anderson Rd., then turning east on Southside Dr. to the treatment plant, then south on Redemption Road at the west edge of the treatment plant. At South Side Ditch, the site is located just east of the road.

3.4.2.3 Disablement

The following are the procedures the City of Rapid City used in disabling the turnout associated with Permit 2513-2:

- Cut existing turnout pipe 5 feet north from air vent
- Removed the air vent, inlet structure, and appurtenances.
- Backfilled with compacted embankment material

Figure 3-27 documents disablement of the structure.



Figure 3-27. Removal of Turnout for Permit 2513-2. Headgate removed, measurement box filled with dirt and pipeline air vent removed. Date: 10/29/2015

3.4.3 Permit 2249-2

This permit is for 105.5 acres and 1.19 cfs transferred from Mr. Weber.

3.4.3.1 *Turnouts*

Four turnouts were associated with Permit 2249-2. Turnout A was located 1,500 feet downstream from the Permit 2513-2 turnout site and consisted of a steel-framed headgate and concrete headwall. The structure is shown in Figure 3-28.

Turnout B was located upstream from a culvert crossing, shown in Figure 3-29. This culvert was used as a check structure for Turnout B and is located just west of the line between Section 25, 1N 8E and Section 30, 1N 9E. Figure 3-30 shows the outlet end of the Turnout B pipe.

Turnout C consisted of a wooden structure on the north bank of South Side Ditch, just upstream from a second culvert crossing, shown in Figure 3-31. The Turnout C site is shown in Figure 3-32 and located just east of the line between Section 25, 1N 8E and Section 30, 1N 9E.

Turnout D was located in the SW1/4 of Section 30 T1N R9E and consisted of a steel frame canal gate and division box. The gate is shown in Figure 3-33 and the division box is shown in Figure 3-34.



Figure 3-28. Turnout A structure Associated with Permit 2249-2.



Figure 3-29. Culvert Crossing Used as a Check for Turnout B Associated with Permit 2249-2.



Figure 3-30. Outlet end of Turnout B pipe (Red Arrow). (Looking South, Towards South Side Ditch).



Figure 3-31. Second Culvert Crossing, Used as Check for Turnout C Associated With Permit 2249-2.



Figure 3-32. Wooden Structure (Red Arrow) for Turnout C Associated With Permit 2249-2. This structure is immediately upstream of the culvert crossing in Figure 3-31, on the north bank.



Figure 3-33. Metal Framed Canal Gate of Turnout D Associated With Permit 2249-2.



Figure 3-34. Turnout D Division Box Associated With Permit 2249-2. Date 10/30/2015.

3.4.3.2 Access

The turnout sites may be accessed by turning south from Highway 44 on Anderson Rd., then east on Southside Dr. to the treatment plant. The sites are adjacent to property owned by the City of Rapid City, southeast from the treatment plant.

3.4.3.3 Disablement

The following are the procedures the City of Rapid City used in disabling turnouts A, B, C, and D associated with Permit 2249-2:

- Turnout A
 - Removed turnout head gate
 - Placed concrete plug in turnout pipe
 - Filled turnout ditch with compacted material
- Turnout B
 - Removed pipe and structure
 - Backfilled with compacted embankment material to match existing ditch cross section
- Turnout C
 - Removed the wooden structure
 - Backfilled with compacted embankment material to match existing ditch cross section
- Turnout B
 - Removed the steel framed canal gate and structure
 - Backfilled with compacted embankment material to match the existing ditch cross section

Figures 3-35 through Figure 3-40 document the disablement of these four turnouts.



Figure 3-35. Turnout A Associated with Permit 2249-2. Headgate removed, turnout pipe filled with concrete, and outlet filled in. Date 10/29/2015



Figure 3-36. Turnout B Associated with Permit 2249-2. The old turnout structure has been removed. Date 10/29/2015.



Figure 3-37. Turnout C Associated With Permit 2249-2. Removed turnout structure. Date 10/29/2015.



Figure 3-38. Turnout D Associated With Permit 2249-2, removed by the City. Date 10/30/2015



Figure 3-39. Turnout D Associated With Permit 2249-2. Turnout being backfilled. Date 10/30/2015.



Figure 3-40. Turnout D Associated With Permit 2249-2. Photo of the division box being removed and backfilled by the City. Date 10/30/2015.

3.4.4 Permit 2218-2

This permit is for 192.5 acres and 2.16 cfs transferred from Mr. Merlin Stromer.

3.4.4.1 *Turnouts*

One turnout was associated with Permit 2218-2. The turnout consisted of a pipe inlet, a metal valve well, and an air vent immediately downstream of the valve well, shown in Figure 3-41.

3.4.4.2 *Access*

The turnout site for Permit 2218-2 is located turning south on Airport Road from Highway 44 and travelling about 0.7 miles to the driveway into Mr. Merlin Stromer's property, then another 0.3 miles south through the Stromer property to South Side Ditch.

3.4.4.3 *Disablement*

A discussion with Mr. Merlin Stromer in April of 2014 was that after Mr. Stromer sold his water rights to the city, he hired a contractor to disable the turnout. No water can be or has been delivered through the turnout since the water right transfer. Discussion with SD DENR was that this would satisfy abandonment requirements and the turnout would not be disturbed since it has been disabled.



Figure 3-41. Turnout for Permit 2218-2. This turnout has been disabled and will not be disturbed.

3.4.5 Permit 2415-2

This permit is for 146 acres and 1.64 cfs transferred from Mr. Gordon Howie.

3.4.5.1 Turnouts

Four turnouts were associated with Permit 2415-2, designated Turnout A through Turnout D (upstream to downstream on the South Side Ditch). Turnout A consisted of a gate structure composed of timber and is shown in Figure 3-42. A wooden flume was used as a check structure for Turnout A, located approximately 35 feet downstream and shown in Figure 3-43.

Turnout B was also a gate structure composed of timbers. As shown in Figure 3-44, a wooden flume was located next to Turnout B (Turnout B indicated by red arrow) and was used as a check structure.

Turnout C consisted of a wooden gate structure supported by concrete abutments. Figure 3-45 displays Turnout C (red arrow) along with a wooden weir check structure located downstream from Turnout C. The ditch from Turnout C led to a 24-inch-diameter concrete pipe that was used to convey diverted water, shown in Figure 3-46.

Turnout D consisted of a concrete flume/check structure, shown in Figure 3-47. The structure included outlets on both the north and south walls, with timbers used to convey diverted water from the structure. Figures 3-48 and 3-49 show the north and south outlets, respectively.



Figure 3-42. Turnout A for Permit 2415-2. The turnout is composed of timber.



Figure 3-43. Wooden Flume Used as a Check for Turnout A of Permit 2415-2.



Figure 3-44. Turnout B (Red Arrow) and the Flume Associated with Permit 2415-2.



Figure 3-45. Turnout C (Red Arrow) and the Wooden Weir Associated With Permit 2415-2.



Figure 3-46. Turnout C and the 24-Inch-Diameter Concrete Pipe (Red Arrow) Associated With Permit 2415-2.



Figure 3-47. Concrete Flume/Check Structure for Turnout D Associated With Permit 2415-2 (Looking Downstream).



Figure 3-48. North Flume/Check Structure Wall and Outlet for Turnout D Associated With Permit 2415-2.



Figure 3-49. South Flume/Check Structure Wall and Outlet for Turnout D Associated With Permit 2415-2.

3.4.5.2 Access

Turnouts A through D are adjacent to property owned by Mr. Matt Bowen (PINs 3932100003 and 3932200001). The sites are accessed by travelling approximately 1/2 mile south on Bradsky Road from Highway 44 to a private drive just north of the South Side Ditch crossing.

- The Turnout A and Turnout B sites are accessed by travelling west on the private drive for approximately 1/2 mile from Bradsky Road, crossing South Side Ditch, then leaving the private drive and following South Side Ditch along its south bank.
- The Turnout C and Turnout D sites are accessed from the private drive on the north bank of South Side Ditch, approximately 1/2 mile and 1/4 mile west of Bradsky Road, respectively.

3.4.5.3 Disablement

The following are the procedures the City of Rapid City used in disabling the four turnouts associated with Permit 2415-2.

- Turnout A
 - o Removed the timber turnout and the wooden flume structure
 - o Backfilled with compacted embankment material to match existing ditch cross section

- Turnout B
 - o Removed the timber turnout and the wooden flume structure
 - o Backfilled with compacted embankment material to match existing ditch cross section
- Turnout C
 - o Removed the wooden gate turnout structure, concrete abutments, and wooden weir check structure from South Side Ditch
 - o Backfilled ditch banks with compacted embankment material to match existing ditch cross section
 - o Backfilled existing turnout ditch from South Side Ditch to existing concrete pipe with compacted material to match existing adjacent grade
- Turnout D
 - o Removed the concrete inlets and wooden turnouts from the north and south banks.
 - o Backfilled with compacted embankment material to match existing ditch cross section.

Figures 3-50 through 3-57 document the disablement of the structures associated with the four turnouts.



Figure 3-50. Removal of Turnout A associated with Permit 2415-2. Date 7/30/2015



Figure 3-51. Turnout A Wooden Flume Structure Associated With Permit 2415-2, removed. Date 7/30/2015



Figure 3-52. Turnout B Associated With Permit 2415-2. Timber Turnout Removed. Date 7/30/2015.



Figure 3-53. Turnout B Associated With Permit 2415-2. Wooden Flume Structure Removed. Date 7/30/2015.



Figure 3-54. Turnout C Associated With Permit 2415-2 Timber Gate Turnout Structure, Concrete Abutments, and Timber Weir Check Structure Removed. Date 7/30/2015.



Figure 3-55. Turnout C Associated With Permit 2415-2. Turnout ditch filled in. Date 7/30/2015.



Figure 3-56. Turnout D Associated With Permit 2415-2. Headgate removed and concrete plug put in place for south turnout. Date 7/30/2015



Figure 3-57. Turnout D Associated With Permit 2415-2. Headgate removed and concrete plug put in place for north turnout. Date 7/30/2015.

3.4.6 Permit 2217-2

This permit is for 29.2 acres and 0.33 cfs transferred from Mr. Leonard Keller.

3.4.6.1 *Turnouts*

No turnouts associated with this permit were located.

3.4.6.2 *Access*

The site is along Back Country Trail off of Bradsky Road.

3.4.6.3 *Disablement*

This turnout was previously disabled.

3.4.7 Permit 2296-2 and Permit 2360-2

Permit 2296-2 is for 253.4 acres and 2.85 cfs transferred from Mr. Donald Jundt. Permit 2360-2 is for 32.6 acres and 0.37 cfs transferred from Mr. Soetaert.

3.4.7.1 Turnouts

The turnout structure associated with transferred Permit 2296-2 and transferred Permit 2360-2, shown in Figure 3-58, also serves the active Permit 2526-2 for 0.71 cfs currently serving 50 acres of irrigated land owned by Mr. Donald Jundt. The turnout will not be disabled.



Figure 3-58. Turnout Associated With Permit 2296-2 and Permit 2360-2, Currently Serving an Active Permit for 50 Acres Irrigated by Mr. Donald Jundt.

3.4.7.2 Access

The turnout for Permit 2296-2 and Permit 2360-2 is located approximately 1/2 mile south of Highway 44 on the east side of Bradsky Road at the South Side Ditch. All associated structures are on property owned by Mr. Donald Jundt.

3.4.7.3 Disablement

No disablement was required.

4.0 PERMITS AND REGULATIONS

4.1 CLEAN WATER ACT SECTION 404 PERMIT

According to the U.S. Army Corps of Engineers [2007]:

“Under Section 404(f)(1)(C) of the CWA (see also 33 CFR 323.4(a)(3) and 40 CFR 232.3(c)(3)), discharges of dredged or fill material associated with construction or maintenance of irrigation ditches, or the maintenance (but not construction) of drainage ditches, are not prohibited by or otherwise subject to regulation under Section 404 of the CWA (i.e., these activities are exempt from the need to obtain a Section 404 Permit from the Department of the Army (DA)). Discharges of dredged or fill material associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant to and functionally related to irrigation ditches are included in the exemption for irrigation ditches.”

A 404 Permit was not required.

4.2 CLEAN WATER ACT SECTION 402 PERMIT

According to the South Dakota Department of Environment and Natural Resources [2010] Section 2.2.2:

“Storm water discharges from operators disturbing less than one acre that are part of a larger common plan of development or sale that, combined, disturb one or more acres.”

The combination of ground area disturbed by the combination of all disablements associated with this project did not exceed 1 acre.

A 402 Permit was not required.

4.3 FLOODPLAIN DEVELOPMENT PERMITS

After reviewing both the Pennington County and Rapid City Flood Insurance Rate Maps, it was determined that none of the disablement sites lie within the 100-year floodplain.

Floodplain permits were not required.

4.4 HISTORIC PRESERVATION

As required by State Preservation Law (South Dakota Codified Law (SDCL) 1-19A-11.1), the Office of History was given notice and an opportunity to investigate and comment on this proposed project. The Office of History concluded that the irrigation ditches in Rapid Valley are listed on neither the State nor the National Register of Historic Places. Additionally, because federal funding will not be used for this proposed project, Section 106 of the National Historic Preservation Act did not apply.

5.0 REFERENCES

City of Rapid City and Pennington County, 2012. *RapidMap*, retrieved September 19, 2012, from <http://www.rcgov.org/GIS/rapidmap.html>

South Dakota Department of Environment and Natural Resources, 2012. *South Dakota Water Rights*, retrieved September 19, 2012, from <http://denr.sd.gov/des/wr/dbwrsearch.aspx>

South Dakota Department of Environment and Natural Resources, 2010. *General Permit for Storm Water Discharges Associated With Construction Activities*, prepared by the South Dakota Department of Environment and Natural Resources, Pierre, SD.

Stroup, D. E., 2005. *Rapid City – Rapid Valley Water Rights Transfers*, internal memorandum from D. E. Stroup, South Dakota Department of Environment and Natural Resources, Water Rights Program, Pierre, SD, to G. Eberle, South Dakota Department of Environment and Natural Resources, Water Rights Program, Pierre, SD, September 30.

U.S. Army Corps of Engineers, 1990. *Exemptions for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches under Section 404 of Clean Water Act*, Regulatory Guidance Letter, prepared by U.S. Army Corps of Engineers, Washington, DC, July 4.

U.S. Bureau of Reclamation, 1990. *Rapid Valley Water Management Study*, prepared by U.S. Bureau of Reclamation, Newell, South Dakota.

APPENDIX A

TURNOUT VICINITY MAPS

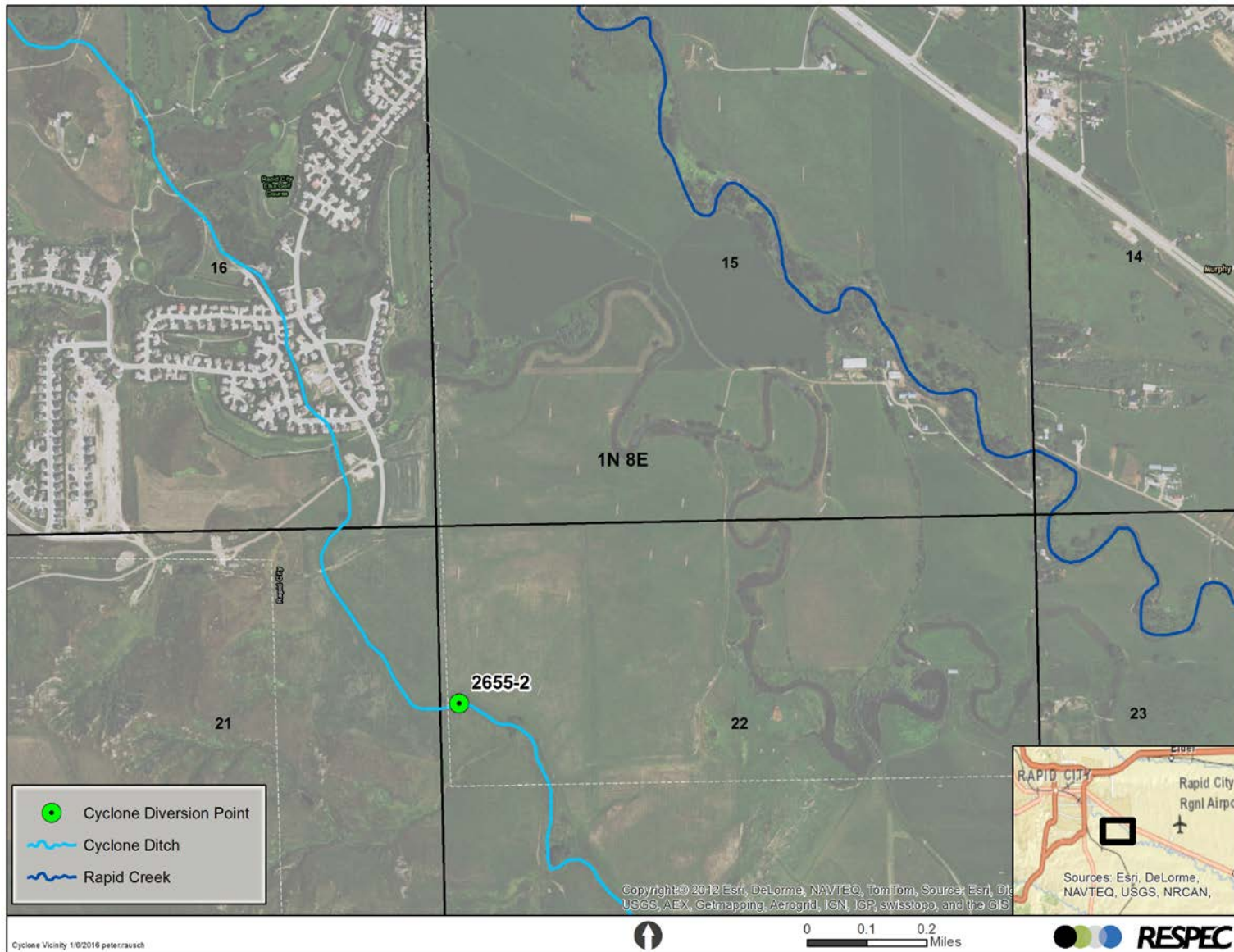


Figure A-1. Cyclone Ditch Turnout Vicinity Map.



Figure A-2. Hawthorne Ditch Turnout Vicinity Map.

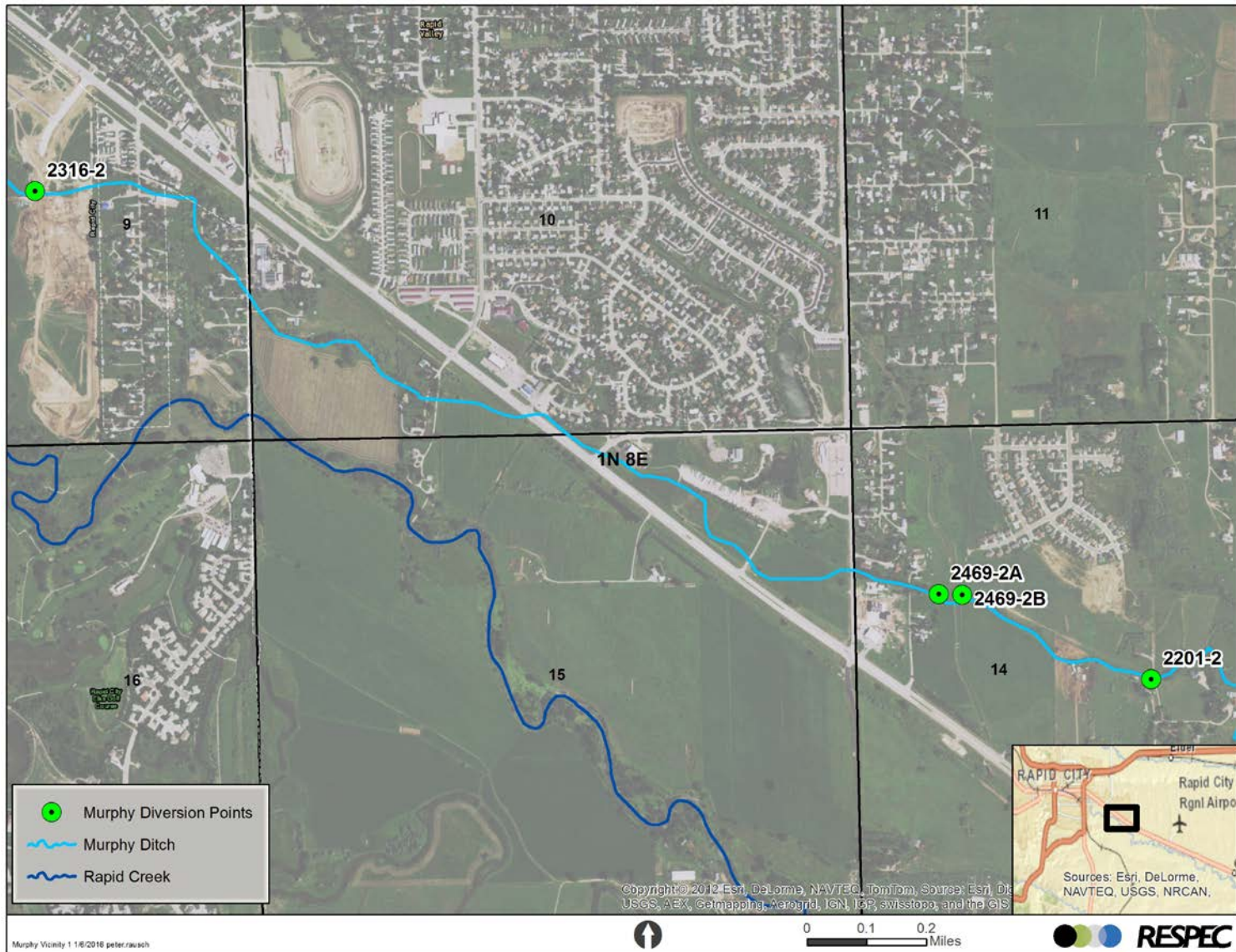


Figure A-3. Murphy Ditch Turnout Vicinity Map (1 of 2).

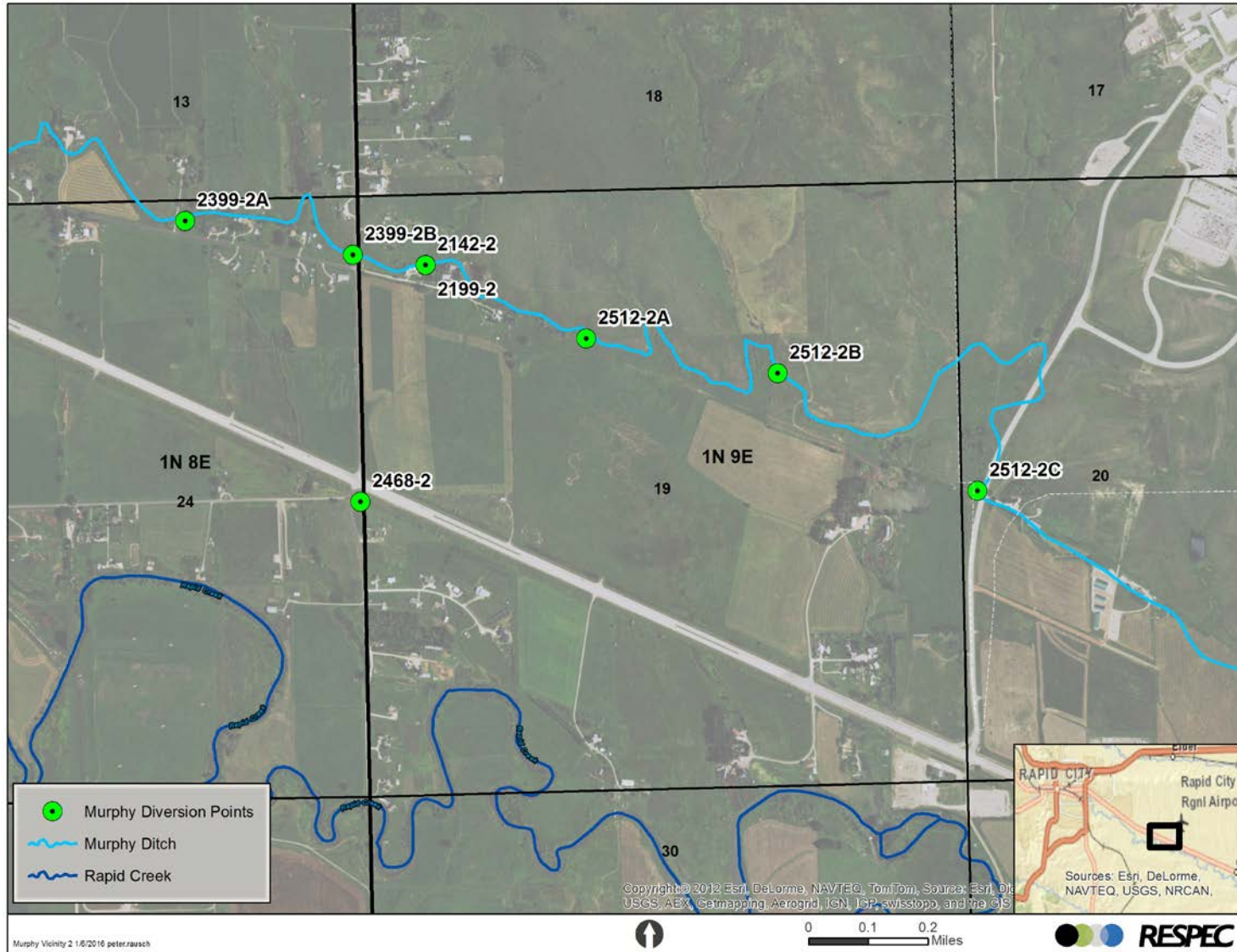


Figure A-4. Murphy Ditch Turnout Vicinity Map (2 of 2).



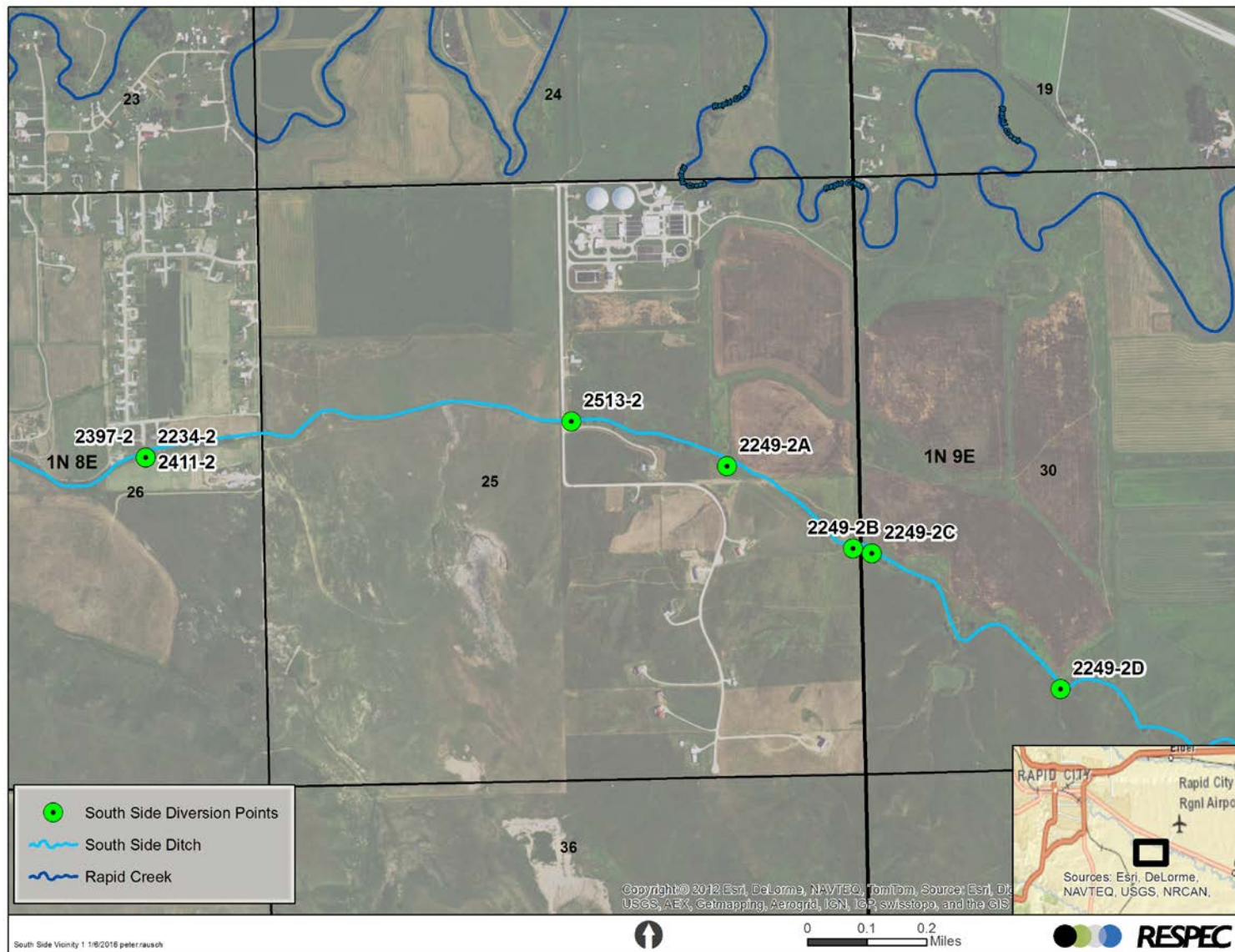


Figure A-5. South Side Ditch Turnout Vicinity Map (1 of 2).

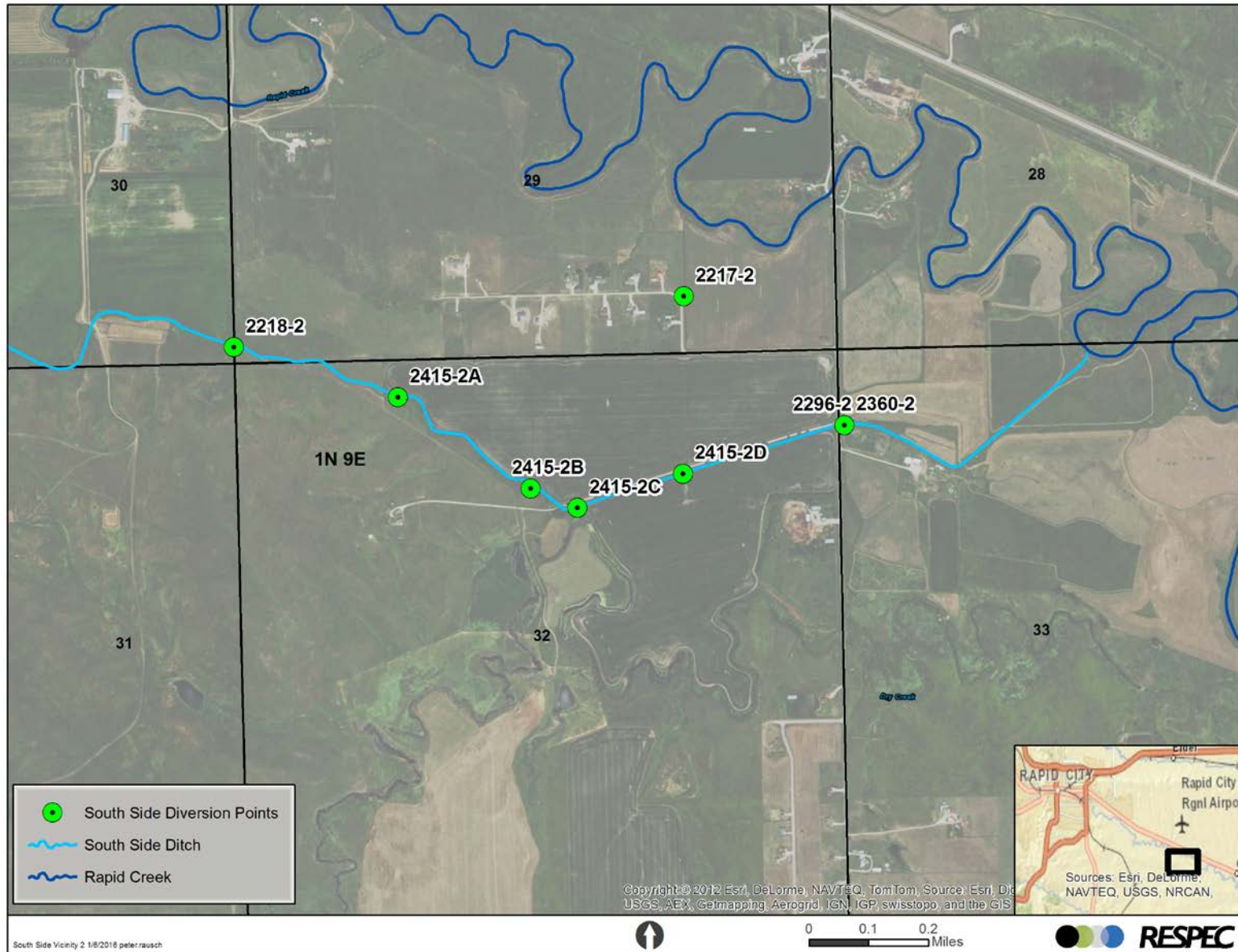


Figure A-6. South Side Ditch Turnout Vicinity Map (2 of 2)

Permit No. 2655-2
Upper Cheyenne River - Water District

Report of Examination of Works

TO: Chief Engineer, Water Rights Program, DENR, Foss Bldg., Pierre, SD 57501

I have on this day, 10/29/2015, made a thorough examination of the water use system constructed by City of Rapid City, 300 6th Street, Rapid City SD 57701 holder of Permit No. 2655-2, bearing the priority date of October 31, 1887 authorizing the diversion of 0.83 cubic feet of water per second (cfs), with an annual volume limitation of 132.7 acre-feet if diverted at the Mountain View Water Treatment Plant, Rapid Creek Intake Structure and the Rapid Creek collection galleries, or 66.4 acre-feet if stored in Pactola Reservoir, of the natural flow water of Rapid Creek for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes, in Pennington County.

Inspection contact and relationship to
permit holder, if applicable:

Tim Weber,
City of Rapid City Interim Water Superintendent

A. Works used to divert the water:

Pumps connected to the Mountain View Water Treatment Plant, Sioux Park "Girl Scout" Collection Gallery, Rapid Creek Intake Structure, Jackson Springs Collection Gallery and storage in Pactola Reservoir. (Pump, motor and reservoir information listed on following pages.)

B. Works used to transport water to place of use:

City of Rapid City municipal distribution system.

The system is in the following condition good. The points of diversion are located as follows: (Mountain View Water Treatment Plant) 2280 feet south & 1170 feet west of the NE corner of Section 3, T1N-R7E (SE¼NE¼), Lat/Lon N44.075797/W-103.256411; (Sioux Park "Girl Scout" Collection Gallery) 990 feet north & 800 feet east of the SW corner of Section 3, T1N-R7E (SW¼SW¼), Lat/Lon N44.069836/W-103.269050; (Rapid Creek Intake Structure) 1475 feet north & 2620 feet east of the SW corner of Section 8, T1N-R7E (NE¼SW¼), Lat/Lon N44.057074/W-103.302468; (Jackson Springs Collection Gallery) 1427 feet north & 2537 feet east of the SW corner of Section 8, T1N-R7E (NE¼SW¼), Lat/Lon N44.056945/W-103.302779; and (Pactola Reservoir) 1675 feet north & 750 feet east of the SW corner of Section 2, T1N-R5E (NW¼SW¼), Lat/Lon N44.072506/W-103.491294. Pactola Reservoir impounds water in portions of Sections 2, 3, 4, 5, 10 & 11, T1N-R5E and in portions of Sections 31, 32, 33, & 34, T2N-R5E. (See Attachment A)

The water system is capable of diverting and conveying to the place of use 0.83 cfs which is to be used for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes.

Water has been put to beneficial use to the maximum extent and the license should be issued for 0.83 cfs.

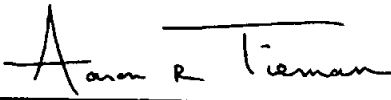
All structures, wells and lands on map: Y

Exceptions to compliance: none

Comments: This permit transfers a portion of Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows, appropriated under Vested Water Right No. 1736-2 for Cyclone Ditch, that were historically used to irrigate 58 acres known as the David Lamb property. The portion of Rapid Creek natural flows to be transferred to the City is 0.83 cubic feet of water per second (cfs) with an annual volume limitation of 132.7 acre-feet of water, if diverted at the Mountain View Water Treatment Plant Rapid Creek Intake Structure and Rapid Creek collection galleries, or 66.4 acre-feet of water, if stored in Pactola Reservoir. This permit does not authorize any new water appropriations from Rapid Creek.

Diversions under this permit, when taken at the Rapid Creek Intake Structure, are limited to natural flows that exceed 10 cubic feet of water per second (cfs) as measured at the USGS gaging station No. 06412500 'Rapid Creek above Canyon Lake near Rapid City'. During the period April 1 through September 30 natural flow diversions are limited to the amount exceeding 20 cfs with the remainder of the diversions being released as supplemental water equal to an amount from storage through Rapid City's Deerfield and Pactola contracts with the United States Bureau of Reclamation.

Meadowbrook Gallery is no longer used and has been dismantled. Water is now diverted from Mr. View Water Treatment Plant located in the SE ¼ NE ¼ Section 3, T1N, R7E. The change was authorized under Water Permit No. 439B-2.



Aaron R Tieman
Natural Resources Engineer II
DENR, Water Rights Program

Date report completed: August 12, 2016

Attachment A

(Legal Locations and GPS Coordinates of Points of Diversion for the City of Rapid City)

Mt. View Water Treatment Plant

2280 feet south and 1170 feet west of the NE corner of Section 3, T1N-R7E of the Black Hills Meridian.
44.075797 North Latitude, -103.256411 West Longitude.

Sioux Park "Girl Scout" Collection Gallery

990 feet north and 800 feet east of the SW corner of Section 3, T1N-R7E of the Black Hills Meridian.
44.069836 North Latitude, -103.269050 West Longitude.

Rapid Creek Intake Structure

1475 feet north and 2620 feet east of the SW corner of Section 8, T1N-R7E of the Black Hills Meridian.
44.057074 North Latitude, -103.302468 West Longitude.

Jackson Springs Collection Gallery

1427 feet north and 2537 feet east of the SW corner of Section 8, T1N-R7E of the Black Hills Meridian.
44.056945 North Latitude, -103.302779 West Longitude.

Alternate Pactola Reservoir Diversion (Inlet to Service Spillway)

1675 feet north and 750 feet east of the SW corner of Section 2, T1N-R5E of the Black Hills Meridian.
44.072506 North Latitude, -103.491294 West Longitude.

Reservoir generally located in portions of Sections 2, 3, 4, 5, 10, and 11, T1N-R5E of the Black Hills Meridian
and portions of Sections 31, 32, 33 and 34, T2N-R5E of the Black Hills Meridian.

All of the above located in Pennington County, South Dakota.

FIELD INVESTIGATION REPORT FOR PERMIT NO. 2655-2

DATE OF INVESTIGATION	October 29, 2015
PERMIT HOLDER NAME & ADDRESS	City of Rapid City 300 6th Street Rapid City, SD 57701
NAME OF INSPECTION CONTACT AND RELATIONSHIP TO PERMIT HOLDER	Tim Weber, (Water Production Supervisor / Interim Water Superintendent)
DIVERSION POINT LEGAL LOCATION	*
WATER SUPPLY SOURCE	Rapid Creek

*** (Mountain View Water Treatment Plant) 2280 feet south and 1170 feet west of the NE corner of Section 3, T1N-R7E (SE¼NE¼); (Sioux Park "Girl Scout" Collection Gallery) 990 feet north and 800 feet east of the SW corner of Section 3, T1N-R7E (SW¼SW¼); (Rapid Creek Intake Structure) 1475 feet north and 2620 feet east of the SW corner of Section 8, T1N-R7E (NE¼SW¼); (Jackson Springs Collection Gallery) 1427 feet north and 2537 feet east of the SW corner of Section 8, T1N-R7E (NE¼SW¼); and (Pactola Reservoir) 1675 feet north and 750 feet east of the SW corner of Section 2, T1N-R5E (NW¼SW¼). Pactola Reservoir impounds water in portions of Sections 2, 3, 4, 5, 10 and 11, T1N-R5E and in portions of Sections 31, 32, 33, and 34, T2N-R5E. (See Attachment A)**

MT. VIEW WATER TREATMENT PLANT

Pump:

- 1) Make: Peerless
- 2) Model: 258595
- 3) Capacity: 5600 GPM

Motor:

- 1) Make: GE
- 2) Model No.: 5K405DP7011B FR2G
- 3) Horsepower rating: 75 hp

Pump:

- 1) Make: Layne Bowler
- 2) Model: 14MSL
- 3) Capacity: 2780 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: 326UP
- 3) Horsepower rating: 30 hp

Pump:

- 1) Make: Vertiline
- 2) Model: 27908
- 3) Capacity: 5560 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: 445UPY
- 3) Horsepower rating: 60 hp

Pump:

- 1) Make: Layne Bowler
- 2) Model: 85522
- 3) Capacity: 5875 GPM

Motor:

- 1) Make: Louis Allis
- 2) Model No.: COG5B
- 3) Horsepower rating: 60 hp

Pump:

- 1) Make: Vertiline
- 2) Model: 27989
- 3) Capacity: 8000 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: CFU
- 3) Horsepower rating: 100 hp

SIoux PARK "GIRL SCOUT" COLLECTION GALLERY

Pump:

- 1) Make: Worthington
- 2) Model: 12H13501
- 3) Capacity: 1400 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: 324UP
- 3) Horsepower rating: 25 hp

Pump:

- 1) Make: Worthington
- 2) Model: 12H13501
- 3) Capacity: 1400 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: 324UP
- 3) Horsepower rating: 25 hp

RAPID CREEK INTAKE STRUCTURE

Pump:

- 1) Make: Goulds
- 2) Model: 14RJHC
- 3) Capacity: 3000⁺ GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: BF56A(1)
- 3) Horsepower rating: 60 hp

Pump:

- 1) Make: Goulds
- 2) Model: 14RJHC
- 3) Capacity: 2900 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: BF56A(2)
- 3) Horsepower rating: 60 hp

Pump:

- 1) Make: Goulds
- 2) Model: 14RJHC
- 3) Capacity: 2925 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: BF56A(3)
- 3) Horsepower rating: 60 hp

JACKSON SPRINGS COLLECTION GALLERY

Pump:

- 1) Make: Goulds
- 2) Model: 14RJHC
- 3) Capacity: 2970 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: BF56A(4)
- 3) Horsepower rating: 60 hp

Pump:

- 1) Make: Goulds
- 2) Model: 14RJHC
- 3) Capacity: 3075 GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: BF56A(5)
- 3) Horsepower rating: 60 hp

Pump:

- 1) Make: Goulds
- 2) Model: 14RJHC
- 3) Capacity: 3000⁺ GPM

Motor:

- 1) Make: US Electrical
- 2) Model No.: BF56A(6)
- 3) Horsepower rating: 60 hp

PACTOLA RESERVOIR: (US Bureau of Reclamation dam with 55,972 acre-feet of active storage.)

Dam Information:

- 1) Freeboard 3.3 feet
- 2) Crest width 40 feet
- 3) Crest length 5200 feet (including dikes)
- 4) Height to crest 245 feet
- 5) Primary Outlet Capacity 1,150 cfs
If pipe, diameter 2-2.75 feet x 2.75 feet
- 6) Secondary Spillway Capacity 245,000 cfs
Spillway width 425 feet
- 7) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream 2½ to 1
Downstream 2 to 1
- 8) Surface Area of Impoundment 1,232 acres
- 9) Storage 99,029 ac-ft
- 10) Drainage Area Above Dam 319 acres

DISTRIBUTION LINES OR CANALS:

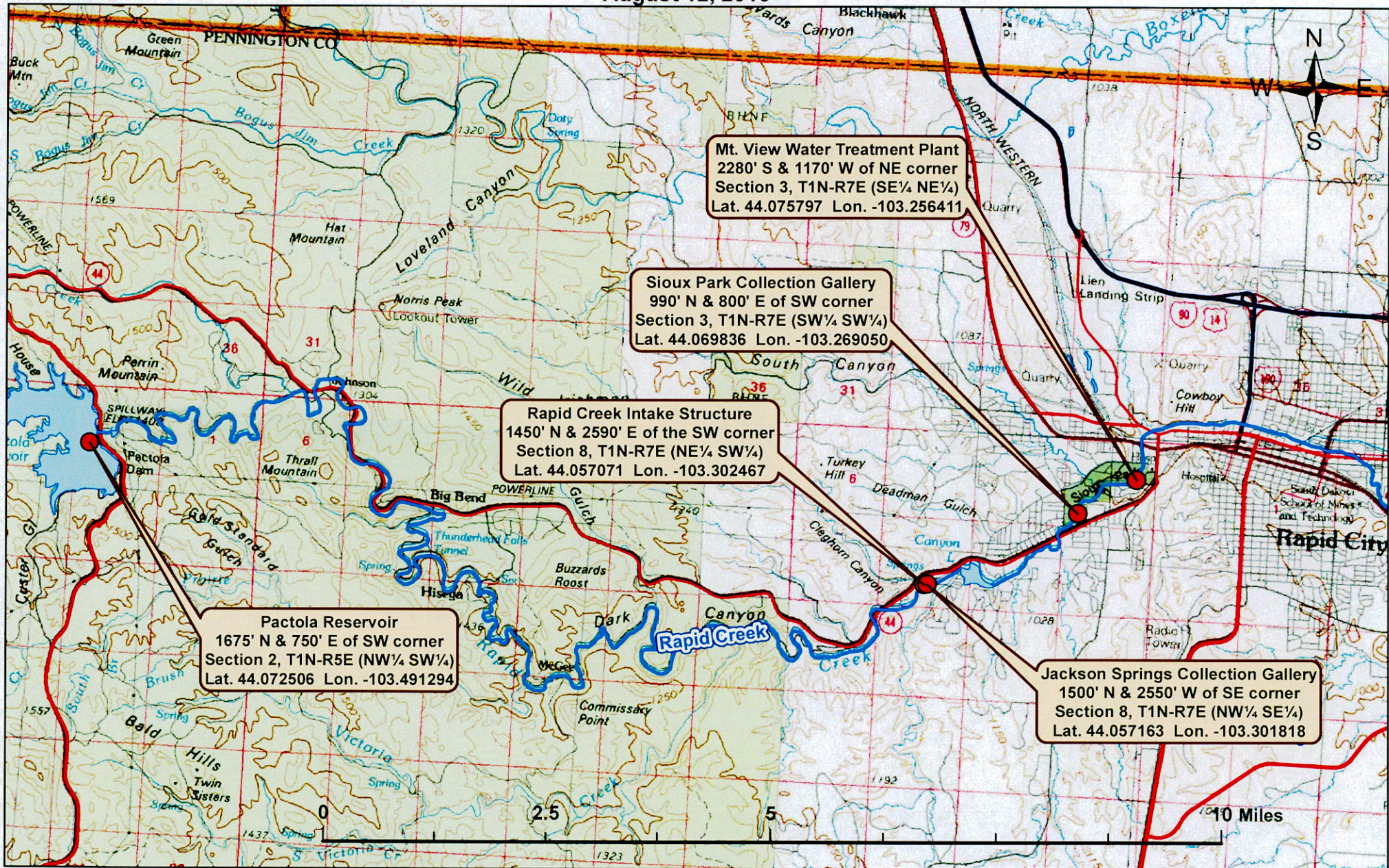
- 1) Type: Municipal distribution system

PERMIT QUALIFICATIONS:

- 1) Special permit qualifications being abided by Yes
- 2) All structures, wells and lands on map Yes

COMMENTS:

Water Right 2655-2
City of Rapid City
August 12, 2016



Aaron R. Tieman

Aaron R Tieman
Natural Resources Engineer II
DNR, Water Rights Program





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

OCT 24 2016

2655-2

Tim Weber, Interim Water Supt
City of Rapid City
300 6th Street
Rapid City SD 57701

Dear Mr. Weber:

Enclosed is Water License No. 2655-2. 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.

As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water.

Sincerely,

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

enclosures

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 2655-2

(1) The City of Rapid City, 300 6th St, Rapid City SD 57701 made Application No. 2655-2, August 5, 2010 for a water permit to transfer a portion of Cyclone Ditch Company stockholder/landowner's use of Rapid Creek natural flows appropriated under Vested Water Right No. 1736-2 from Cyclone Ditch. The transfer is for Rapid Creek water historically used to irrigate 58 acres known as the David Lamb property. The portion of Rapid Creek natural flows transferred to the city is 0.83 cubic feet of water per second (cfs) with an annual volume limitation of 132.7 acre-feet if diverted at the city's water treatment plant and infiltration galleries or 66.4 acre-feet if stored in Pactola Reservoir.

Water Permit No. 2655-2 did not authorize any new water appropriations from Rapid Creek. The priority date of October 31, 1887, established by Cyclone Ditch vested water rights was retained. The water is appropriated for the purpose of meeting the city of Rapid City's water needs for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the water supply system and is entitled to divert 0.83 cubic feet of water per second for beneficial use with an annual volume limitation of 132.7 acre feet if diverted at the city's water treatment plants and infiltration galleries or 66.4 acre feet if stored in Pactola Reservoir.

The location of the diversion points, located in Pennington County are as follows:

- **Mt. View Water Treatment Plant**

2280 feet south and 1170 feet west of the NE corner of Section 3, T1N-R7E of the Black Hills Meridian.
44.075797 North Latitude, -103.256411 West Longitude. (SE ¼ NE ¼ Section 3) *The former location was the Meadow Brook Gallery – Water Permit No. 439B-2 changed the location of the city's diversion point to the Mt. View Water Treatment Plant described above)*

- **Sioux Park "Girl Scout" Collection Gallery**

990 feet north and 800 feet east of the SW corner of Section 3, T1N-R7E of the Black Hills Meridian.
44.069836 North Latitude, -103.269050 West Longitude. (SW ¼ SW ¼ Section 3)

- **Rapid Creek Intake Structure (for Jackson Water Treatment Plant)**

1475 feet north and 2620 feet east of the SW corner of Section 8, T1N-R7E of the Black Hills Meridian.
44.057074 North Latitude, -103.302468 West Longitude. (NE ¼ SW ¼ Section 8)

- **Jackson Springs Collection Gallery (for Jackson Water Treatment Plant)**

1427 feet north and 2537 feet east of the SW corner of Section 8, T1N-R7E of the Black Hills Meridian.
44.056945 North Latitude, -103.302779 West Longitude. (NW ¼ SE ¼ Section 8)

- **Alternate Pactola Reservoir Diversion (Inlet to Service Spillway)**

1675 feet north and 750 feet east of the SW corner of Section 2, T1N-R5E of the Black Hills Meridian.
44.072506 North Latitude, -103.491294 West Longitude. (NW ¼ SW ¼ Section 2)

continued:

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use from April 1 – October 31 for diversions from the water treatment plants, infiltration galleries and Pactola Reservoir.

(4) Pursuant to South Dakota Water Law 46-5-30.1 the City of Rapid City, 300 6th St, Rapid City SD 57701 the holder and/or owner of Water Right No. 2655-2 is issued a license to appropriate water, the right to use 0.83 cubic feet of water per second with an annual volume limitation of 132.7 acre-feet, if diverted at the city's water treatment plant and infiltration galleries or 66.4 acre-feet, if stored in Pactola Reservoir. A priority date of October 31, 1887 is retained with water use for municipal, industrial, commercial, common distribution system, rural water system, suburban housing and domestic purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2655-2 and subject to the following qualifications:

1. No. 2655-2 is limited to a diversion rate of 0.83 cfs for a total annual volume of 66.4 acre feet of water annually at Pactola Reservoir or a total annual volume of 132.7 acre feet of water annually at the SE ¼ NE ¼ Section 3 (Rapid City Water Treatment Plant); SW ¼ SW ¼ Section 3 (Sioux Park Gallery); ~~SE ¼ NE ¼ Section 9 (Meadowbrook Gallery)~~ ***Meadowbrook Gallery is no longer used and has been dismantled; water is diverted from Mt. View Water Treatment Plant located in the SE ¼ NE ¼ Section 3***; NW ¼ SE ¼ Section 8 (Jackson Springs Gallery); all in T1N-R7E. Maximum monthly diversion volumes at Pactola or the diversion points within Rapid City are as follows:

Monthly Volume Limitation

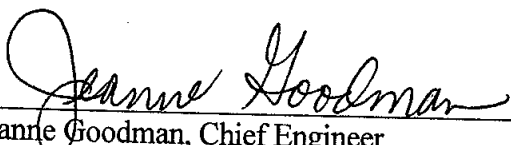
Month	City Intakes (acre-feet)	Pactola (acre-feet)
April	10.5	5.3
May	18.6	9.3
June	19.7	9.9
July	23.4	11.7
August	25.2	12.6
September	18.2	9.1
October	17.0	8.5
Total	132.7	66.4

Diversions during a month may be made at either Pactola Reservoir or at the diversion points within Rapid City, but not simultaneously at both Pactola and the Rapid City diversion points.

2. No. 2655-2 authorizes diversion of only natural flow water by the city of Rapid City and does not include any rights to stored irrigation water available under contract from Deerfield Reservoir.
3. Diversions under this permit when taken at the Jackson Spring treatment plant Rapid Creek intake are limited to natural flows that exceed 10 cubic feet of water per second as measured at USGS gaging station Rapid City above Canyon Lake near Rapid City No. 06412500. During the period April 1 through September 30 natural flow diversions are limited to the amount exceeding 20 cfs with the remainder of the diversion being released supplemental water equal to an amount released from storage through Rapid City's Deerfield and Pactola contracts with the United States Bureau of Reclamation.

4. The City of Rapid City shall report to the Chief Engineer annually the amount of water withdrawn each month at Pactola reservoir or the diversion points within Rapid City.
5. That the Water Management Board is retaining jurisdiction of Permit No. 2655-2 in the event that additional information shows that changes need to be made in the monthly or total annual volumes authorized by Permit No. 2655-2.
6. Diversions under Permit No. 2655-2 may not interfere with existing water rights in effect prior to approval of No. 2655-2 or any domestic rights.
7. The amount of water with an October 31, 1887 priority date which may be appropriated under Vested Water Right No. 1736-2 is reduced by 0.83 cfs.
8. Approval of Permit No. 2655-2 transferring the use of Rapid Creek natural flows for 58 acres located in Section 22, T1N, R8E, known as the David Lamb property and historically irrigated under Cyclone Ditch Company's Vested Water Right No. 1736-2 may not qualify for a new irrigation rights from any source.
9. The permit holder shall permanently render inoperable the structural means of diverting water to the land which is no longer subject to Vested Water Right No. 1736-2 pursuant to South Dakota Codified law 46-5-34.1. This work shall be completed prior to the permit holder's diversion of the transferred water to beneficial use on the parcel of land approved under the transfer. The permit holder must notify the Chief Engineer to schedule an inspection. This transfer is subject to the Chief Engineer's approval that the works are rendered inoperable. This qualification does not grant access to property owned by third parties for making structural changes. The permit holder is responsible for ensuring that access is obtained from such third parties and that such third parties are also notified that inspections will occur.*

Documentation of irrigation diversion point abandonment was submitted in January, 2016 by RESPEC on behalf of the City of Rapid City indicating the flume had been removed, the turnout ditch filled in and the ditch reshaped by the landowner.


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

OCT 24 2016
date

