

Considered: _____

WATER PERMIT NO. 5022-3

MAP No. 5022-3

Name of Applicant Davison Rural Water System

Post Office Address POB 445, Mitchell 57301

Amount of Water Claimed 2.9 not to exceed 843 AFA Total Acres _____

Source of Water Supply James River

Water to be used for RWS County Davison & S.1/4 Sanborn Co

About 2E 2 miles North of Mitchell

PROOF OF PUBLICATION: Received 1st 9-26-84 Not Received _____

APPLICATION: Approved 9-26-84 Subject to _____

F.F.& C.L. Adopted _____ Not Approved _____ Deferred _____

PRIORITY 6-19-84 Date Received 6/19/84 Fee 375.00 Remarks rural water distribution system serving Davison Co Area, transported, stored, treated and delivered by the City of Mitchell

* preliminary engineering report to be sent
Corrected Application Received _____ Period of Annual Use 1/1 to 12/31

WATER QUALITY APPROVAL RECEIVED _____ APPROVED/CONDITIONAL (Circle one)

WI-1 Description same as Application YES _____ NO _____ REMARKS not applicable

Diversion Point _____
SE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 1-T103N-R60W

Land to be Irrigated _____
n/a

*					

Well Log: Driller _____ Licensed YES _____ NO _____

Depth of Well _____ REMARKS _____

Type of Map drawn PREPARED BY DeWild Grant Rickert & Assoc. Reviewed and the Number _____

assigned on 6/25/84 By Dorothy Wardlund

cc: Nelson-Hanten

No. 5022-3 Hydrologic Unit 10160011
Map No. 5022-3 Basin JR
Newspaper Daily Republic Box 1288 MITCHELL 57301

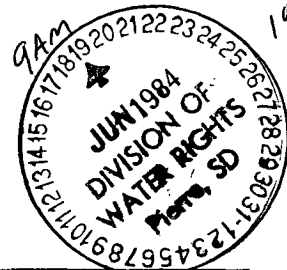
THURS
SAC BOSTON
Commonwealth - Box 218 Woonsocket, 57385

Check use of water: Industrial ☐ Commercial ☐ Municipal ☐ Other Common Distribution System ☐
Rural Water System ☒ Suburban Housing ☐ Geothermal Heat ☐ Institutional ☐ Recreational ☐
Domestic ☐ (above 18gpm) Other ☐

New ☒ Vested Right ☐ Future Use ☐ Change Use ☐

☐ Amend Permit No. _____ with old priority date retained

Change diversion point(s) ☐ Add diversion point(s) ☐ Other ☐

☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____☐ Construction to use water reserved by Future Use Permit No. _____

1. Name of Applicant Davison Rural Water SYSTEM Phone No. 996-2073
Post Office Address P.O. Box 445, Mitchell State South Dakota 57301
(Street, RR or Box) Zip Code

2. Amount of water claimed (c.f.s) 2.9 CFS not to exceed 843 AF/YR
and Lake Mitchell

3. Source of water supply James River w/same flow limits as on water License #4354-3

4. Location of point of diversion SW $\frac{1}{4}$ Sec. 1 T103N R60W (James River) and SE $\frac{1}{4}$ Section 9, T103N, R60W (Lake Mitchell). Diversion points are the same as City of Mitchell's diversion points in Water Rights No. 426-3 & 4354-3

5. Counties where water will be used Davison & South ¼ Sanborn

6. Annual period during which water is to be used Jan. 1 - Dec. 31

~~6A. " " " " " " " " " " " " " " diverted as per License #4354-3~~

7. Give a brief description of proposed 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)

A rural water distribution system serving the Davison County area; water transported, stored, treated, and delivered by the City of Mitchell.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

STATE OF SOUTH DAKOTA)
County of Davison) ss

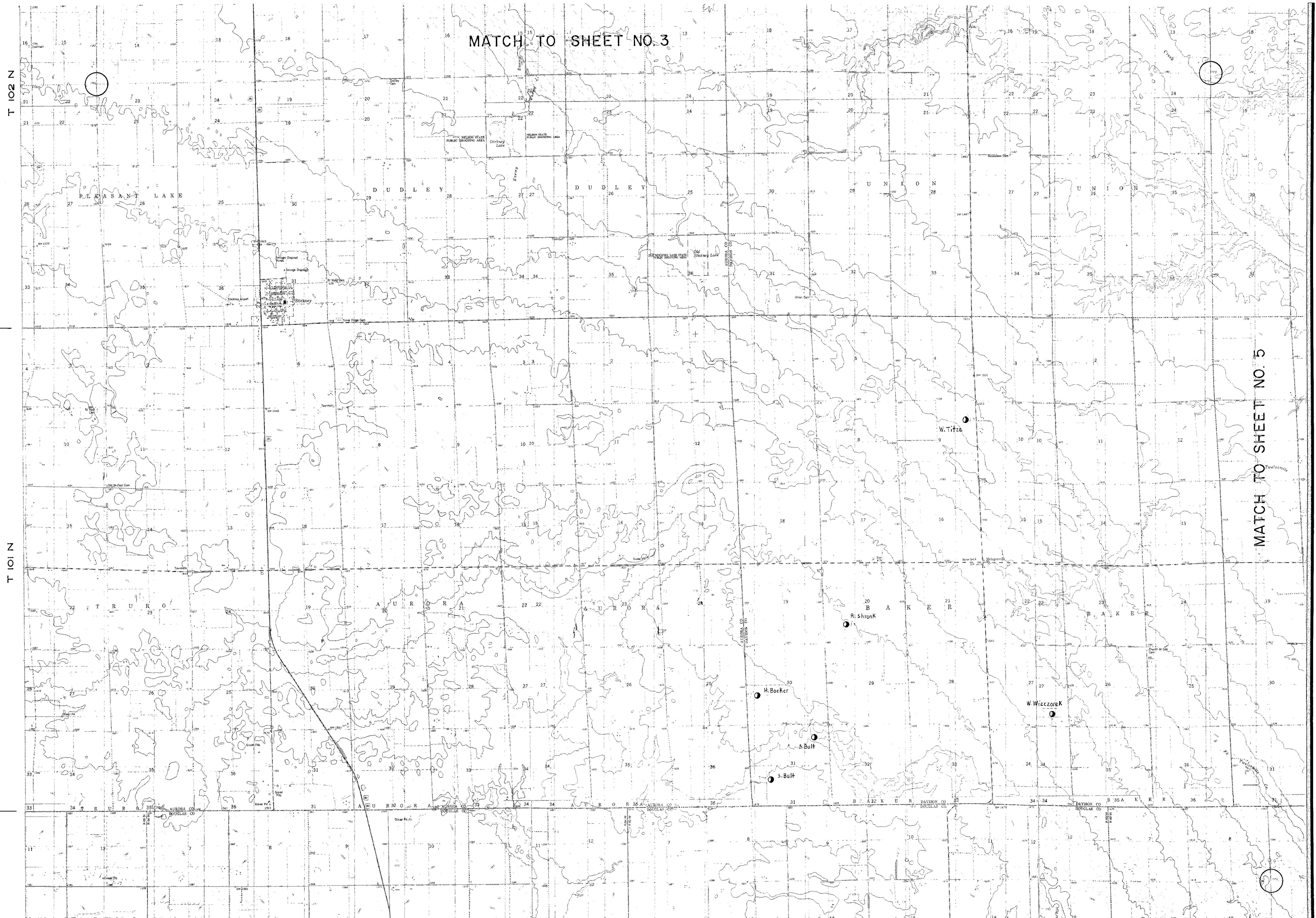
I, Davison Rural Water System the applicant, certify that I have read the foregoing application, have examined the attached map and that the matters therein stated are true and that I intend, and am able to complete the necessary construction.

Signed

Subscribed and sworn to before me this 18th day of June, 19 84

My Commission Expires Aug. 1, 1987.

Notary Public (or other qualified officer)



DAVISON RURAL WATER
MITCHELL, S.DAK.

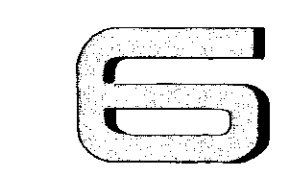
DISTRIBUTION SYSTEM
I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota, and that I am competent to prepare this document.
By [Signature] Date March 1, 1937

Date March 1, 1937
By [Signature]
Lij:
Approved
Revised

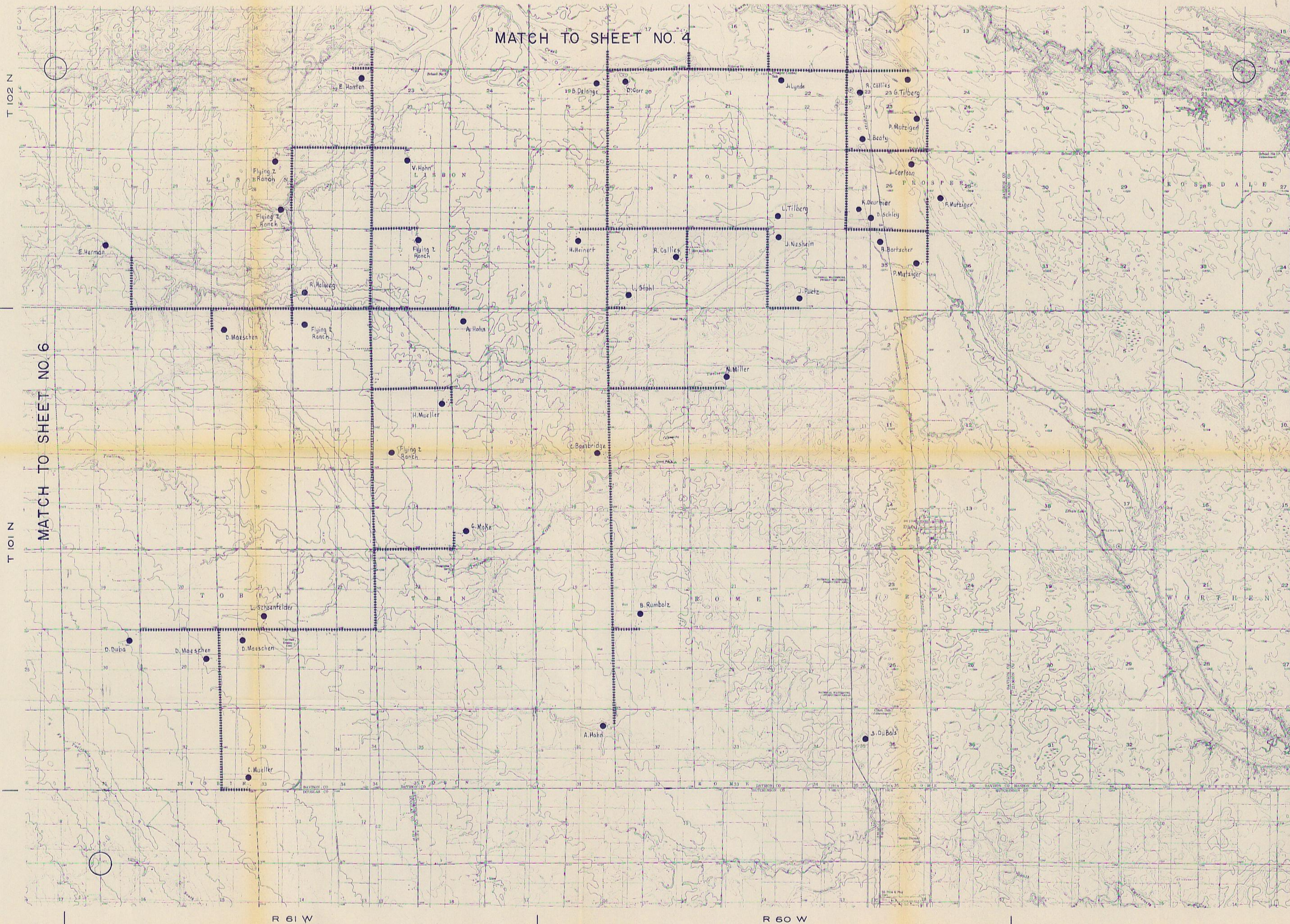
DEWILD GRANT RECKERT & ASSOC.
SCHMUCKER PAUL NOHR & ASSOC.

DGR
SPN

Project Number
Sheet



5022-3



DAVISON RURAL WATER
MITCHELL, S. DAK.

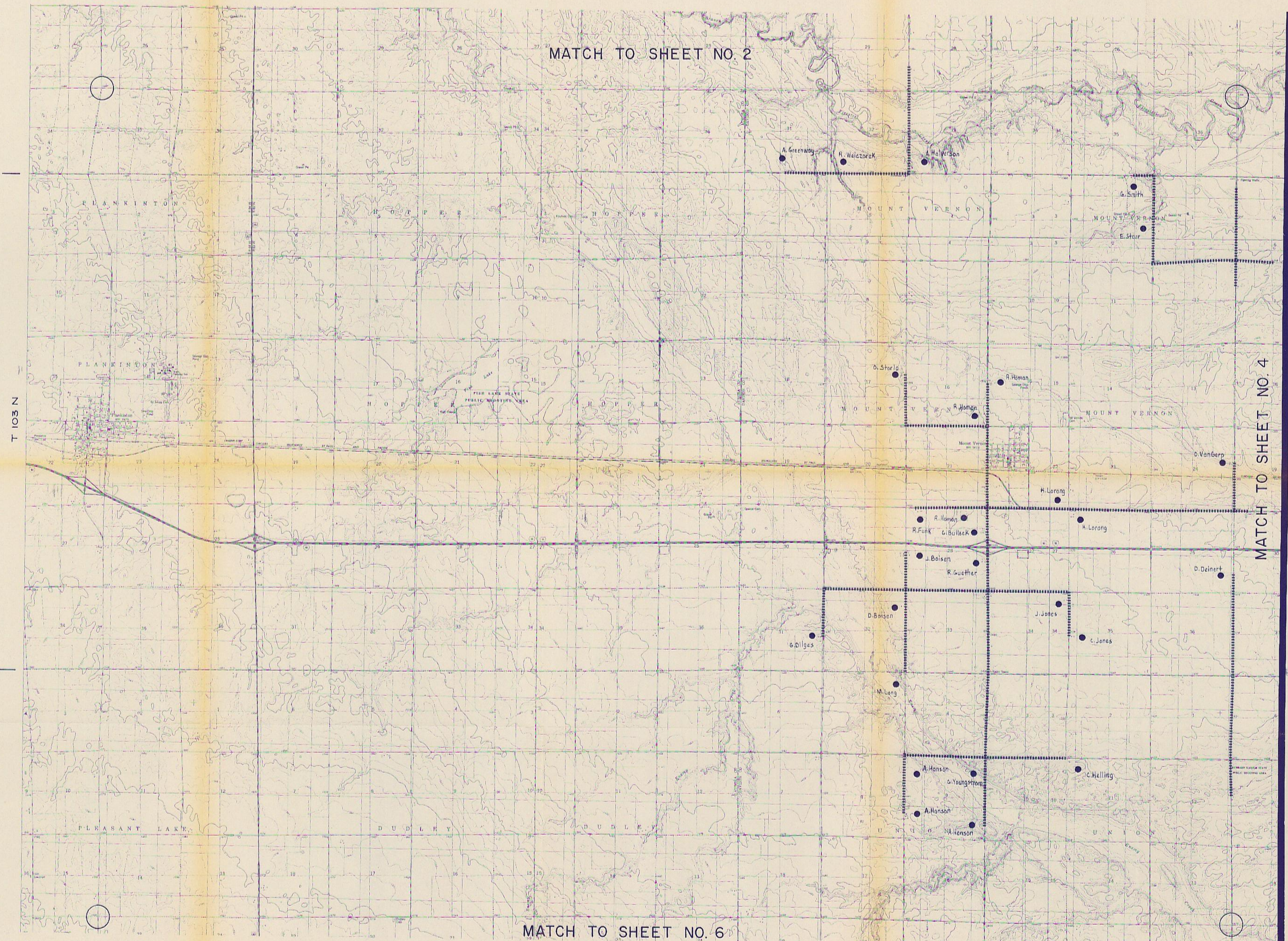
DISTRIBUTION SYSTEM
By *[Signature]* Date *Jan 10 1987*

Date
Drawn By
Approved
Reviewed

DEWILD GRANT RECKERT & ASSOC.
SCHMUCKER PAUL NOHR & ASSOC.

DGR
SPN
Project Number
Sheet

5022-3



MATCH TO SHEET NO. 2

MATCH TO SHEET NO. 4

MATCH TO SHEET NO. 6

R 63 W

R 62 W

DAVISON RURAL WATER
MITCHELL, S.DAK.

DISTRIBUTION SYSTEM
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of South Dakota, and that I am competent to prepare this document.
Registration No. 3812 Date Jan. 10, 1984
By *Paul Nohr*

Date
Drawn By
Approved
Reviewed

DEWILD GRANT RECKERT & ASSOC.

SCHMUCKER PAUL NOHR & ASSOC.

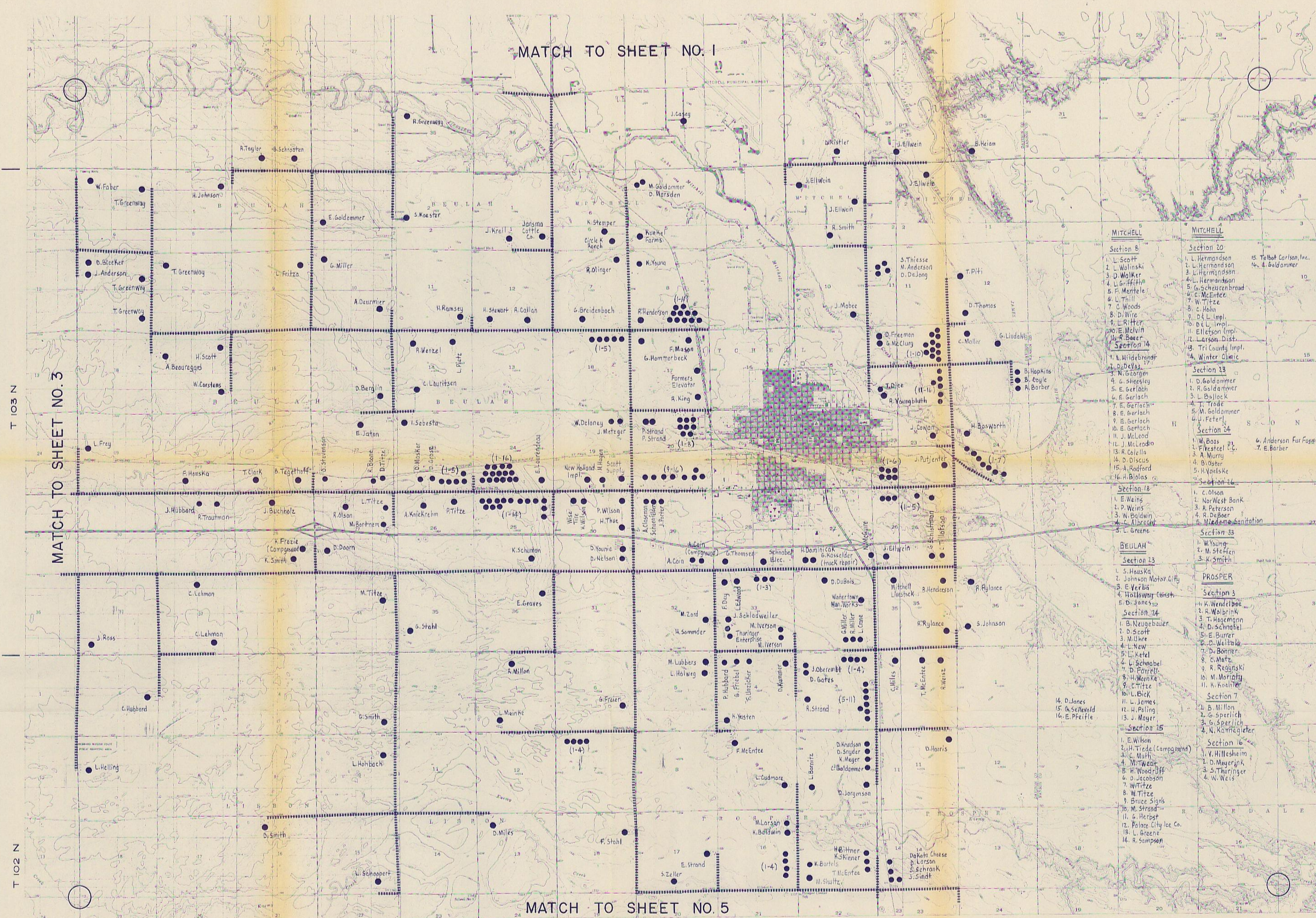
DGR
SPN

Project Number

Sheet

W

5022-3



DAVISON RURAL WATER
MITCHELL, S.DAK.

DISTRIBUTION SYSTEM

DEWILD GRANT RECKERT & ASSOC.
SCHMUCKER PAUL NOHR & ASSOC.

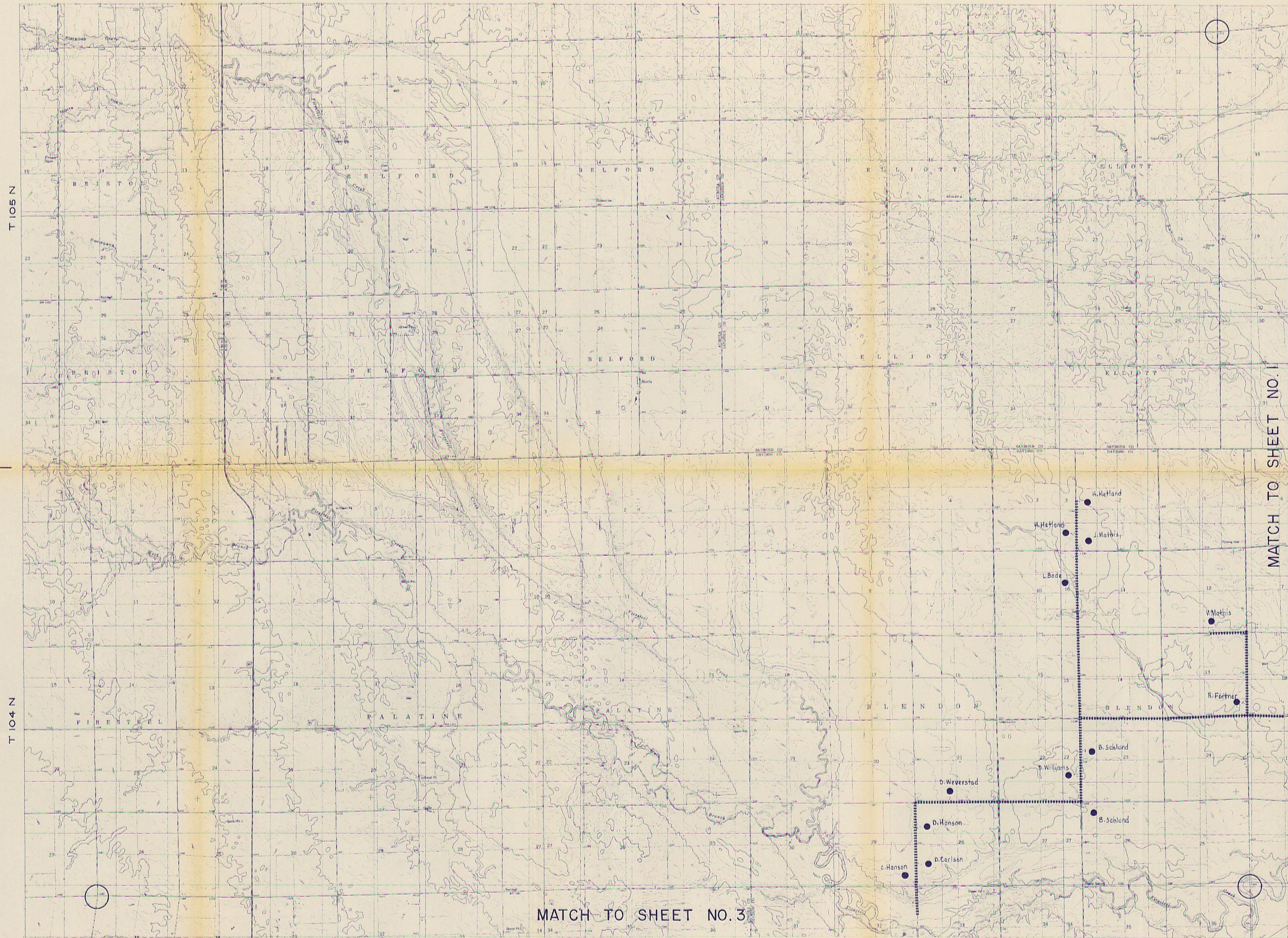
DGR
SPN
4

Project Number
Sheet

Date
By
Approved
Revised

I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota. I am duly Licensed in the State of South Dakota. Date: 10/10/1994
Signature: *[Signature]*

5022-3



DAVISON RURAL WATER
MITCHELL, S. DAK.

DISTRIBUTION SYSTEM
I hereby certify that this plan, specification or report was prepared by me or under the direct supervision of me and that I am a duly Licensed Professional Engineer under the laws of the State of South Dakota.
Date: 10/10/1912
By: [Signature]

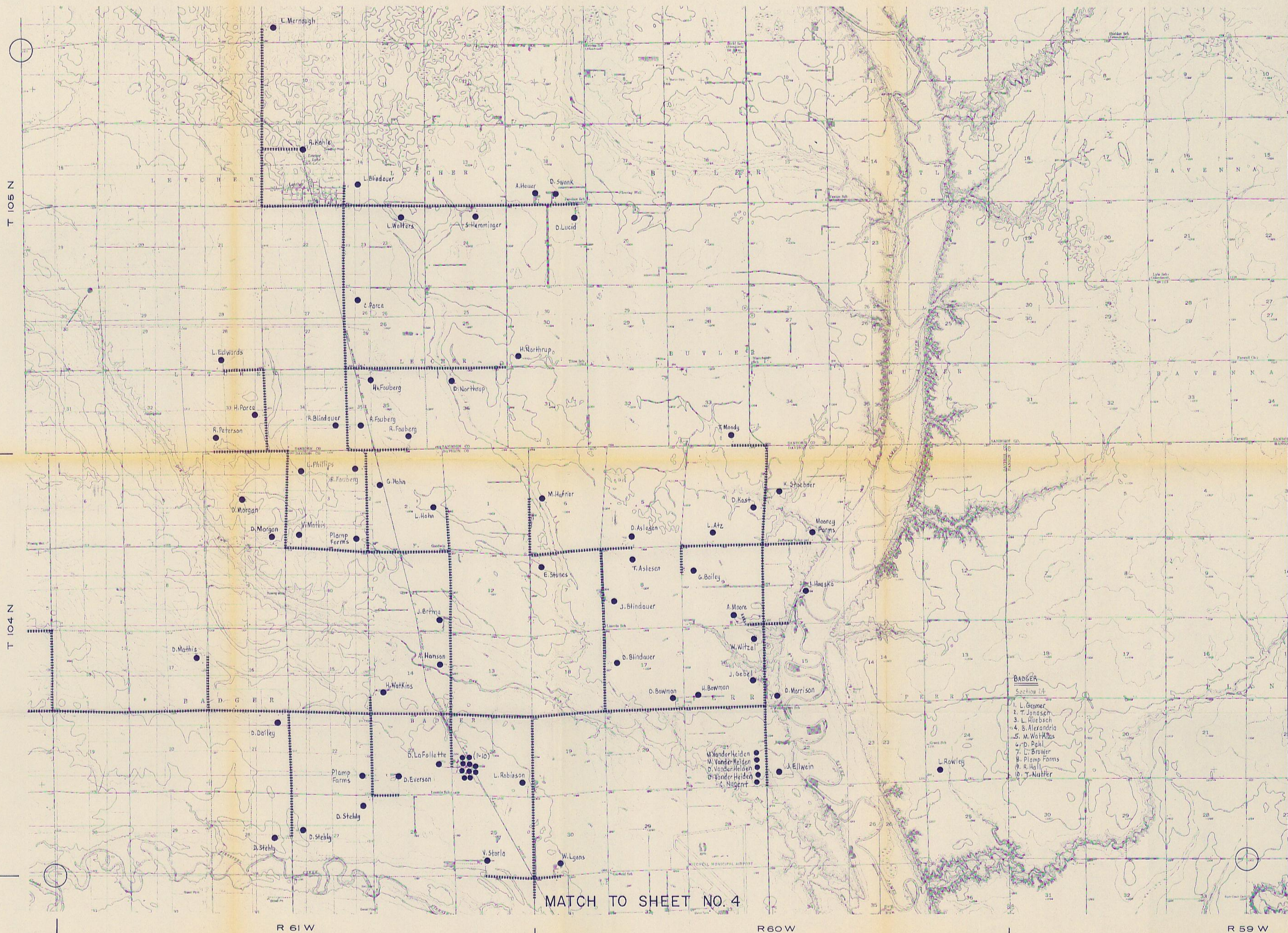
Date
Drawn by
Approved
Revised

DEWILD GRANT RECKERT & ASSOC.
SCHMUCKER PAUL NOHR & ASSOC.

DGR
SPN
Project Number
Sheet

5022-3

MATCH TO SHEET NO. 2



MATCH TO SHEET NO. 4

DAVISON RURAL WATER
MITCHELL, S. DAK.

DISTRIBUTION SYSTEM
I hereby certify that this plan, specification or report was prepared by me, or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.
Signature: *[Signature]* Date: *11/10/1984*
By: *[Signature]*

DEWILD GRANT RECKERT & ASSOC.
SCHMUCKER PAUL NOHR & ASSOC.

DGR
SPN
1

Project Number
Sheet

5022-3

WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. 5022-3
Davison Rural Water System Box 445 Mitchell
(Applicant) (Post Office Address)
South Dakota 57301 With the following qualifications.
(State) (Zip Code)

1. Water Permit No. 5022-3 authorizes diversions from the James River only when 110 cfs or more of water is by-passed, after diversion, during the May thru September period, only when 20 cfs or more of water is by-passed, during the October thru April period.
2. Water Permit No. 5022-3 does not authorize diversions from Lake Mitchell unless there is a contractual agreement between the City of Mitchell and the Davison Rural Water System.

Date of first receipt of application June 19, 1984
 Date of return to applicant for correction, amendments or changes required —, 19—
 Date of receipt of corrected application —, 19—. Approved September 26, 1984

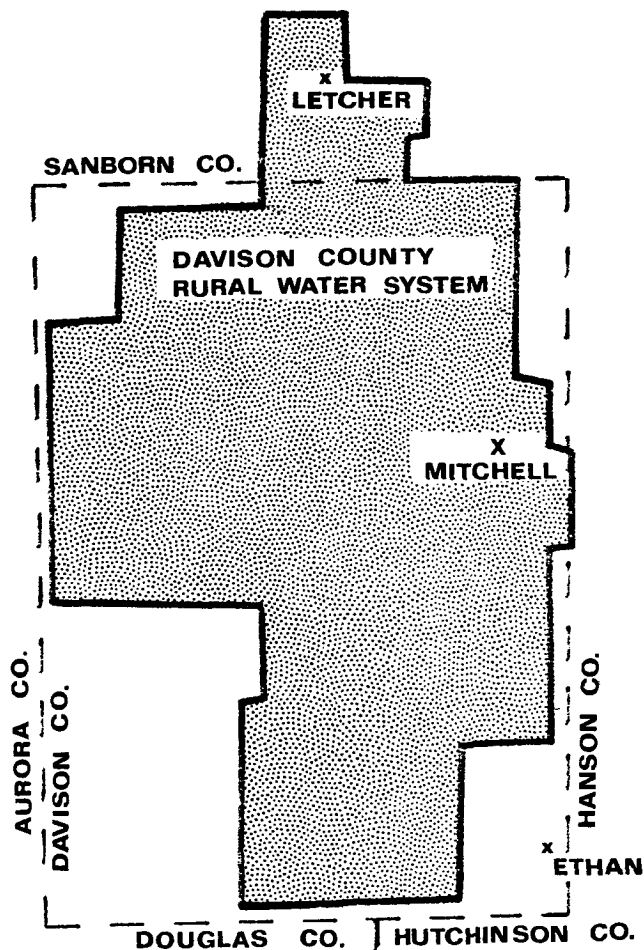
The Water Management Board hereby approves this Water Permit No. 5022-3 authorizing the construction of the water use system and the placing of water to beneficial use as stated in the Application and as qualified in the Water Permit approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is June 19, 1984
2. The equivalent of at least one-fifth of the specified work is to be completed on or before March 26, 1987
3. The whole of said work is to be completed on or before September 26, 1989
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is September 26, 1993
5. The water appropriated shall be used for the purpose of Rural Water System (RWS)
6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be unlawfully impaired by this appropriation.
7. The amount of the appropriation herein granted shall not exceed 2.9 cubic feet per second; neither shall it exceed the capacity of the above described water supply system nor shall it exceed the amount of water needed for beneficial uses served and to which water is actually and beneficially applied for RWS on or before September 26, 1993; said water to be used during the following described annual period: CONTINUOUS

WATER MANAGEMENT BOARD
 By: John H. Hark
Chief Engineer
 Division of Water Rights
 Dept. of Water and Natural Resources
October 23, 1984

WATER ACCOUNTING ANALYSIS FOR LAKE MITCHELL MITCHELL, S. D.

JUNE 1984



OFFICE OF WATER DEVELOPMENT
DEPARTMENT OF WATER AND NATURAL RESOURCES
PIERRE, SOUTH DAKOTA

Summary

A water accounting analysis was performed at Mitchell to determine the availability of water for the Mitchell and Davison County Rural Water System. A scenario that included Mitchell, Davison County Rural Water System and Ethan was also performed. Ethan was included in the event that Ethan is included in the Davison County Rural Water System. A 30 year water accounting analysis was performed on Lake Mitchell, which is fed by Firesteel Creek and supplemented by the James River when required. Mitchell's and Ethan's projected water needs for the year 2000 were used in the analysis. The analysis assumed the Davison County Rural Water System will be connected to Mitchell's proposed new water treatment plant to be constructed in 1985. The 30 year water accounting analysis, using conservative figures with Mitchell, Davison County Rural Water System and Ethan on line, showed that the lake approached a level which in the past has caused concern for the city of Mitchell only two times in the 30 years of operation.

Introduction

This water accounting analysis at Mitchell was performed to determine whether sufficient water will be available to support Mitchell and the Davison County Rural Water System with Ethan. Concern has been expressed that with the water system on line, Lake Mitchell could possibly not provide the needed water. Since 1976, when Firesteel Creek was unable to provide sufficient flows to supply Lake Mitchell, water has been pumped to the lake from the James River. This pumping generally takes place in the spring. In 1976, Lake Mitchell became low, dropping to 3,900 acre feet capacity. Concerns have been directed toward similar years with the water system on line. For this reason, a 30 year water accounting analysis with projected water needs for year 2000 was conducted with Mitchell, Ethan and Davison County Rural Water System using Mitchell's water supply. From this it can be determined if Firesteel Creek and the supplemental water from the James River will be able to maintain a proper supply.

The purpose of this report is to outline the Davison County Rural Water System and the steps involved in the water accounting analysis.

The report will address the following:

1. Davison County Rural Water System
2. Mitchell's Water Right
3. Water accounting analysis

Davison County Rural Water System

The Davison County rural community has a need for a good water source. For that reason the Davison County Rural Water System was proposed. The water system will serve all of Davison County and the two Sanborn County townships of Butler and Letcher. Cities included in the water system are: Letcher, Loomis and Mount Vernon along with approximately 475 rural connections.

Table 1
Davison County RWS Needs
Gallons per day

	<u>Livestock</u>	<u>Domestic</u>	<u>Total</u>
Rural North	85,000	28,000	113,000
Rural South	110,000	67,000	177,000
Letcher		30,000	
Total	195,000	125,000	320,000
Acre feet	0.6	0.39	1.0

(1) (365) = 365 acre feet annually

1 acre foot = 325,900 gallons

The water system investigated different possible sources for their proposed system:

1. City of Mitchell
2. B-Y Water District
3. Groundwater
4. Other adjacent rural water systems

The South Dakota Geological Survey reviewed groundwater sources in the water system area and determined that there would not be an adequate source of groundwater in the area. There are two rural water systems in the area; the Hanson and Aurora-Brule systems, and neither have the capacity to bring Davison County Rural Water System on line.

Both the B-Y Water District and the City of Mitchell are viable alternatives. The B-Y water supply would have an approximate cost of 4.5 million dollars. Missouri River water would be used in this alternative and the water would be treated at the surface water treatment plant in Yankton County. The Mitchell alternative, on the other hand, draws water from Lake Mitchell and water would be treated through the proposed new water treatment plant to be constructed at Mitchell in 1985. The estimated cost of this alternative is 3.1 million dollars. Figure 1 shows the general facilities location plan for the Davison County Rural Water System.

The water system has determined that the Mitchell alternative is the most economically feasible. Davison County Rural Water System and the City of Mitchell are in the process of negotiating a contract for the purchase of treated water. Schmucker, Paul, Nohr and Associates are working on behalf of

PRELIMINARY
SERVICE AREA

LETCHER

TOWN SERVED

SANBORN CO.

DAVISON CO.

LOOMIS

PROPOSED
MITCHELL
PUMPING
STATION &
RESERVOIR

MOUNT VERNON

MITCHELL

NORTH

5 MILES

PIPELINE MOST
AFFECTED
BY CHOICE OF
WATER SUPPLY

AURORA CO.

DAVISON CO.

DAVISON CO.

HANSON CO.

ETHAN

DOUGLAS CO.

DAVISON CO.

HUTCHINSON CO.

ALTERNATE
B-Y PUMPING
STATION &
RESERVOIR

FIGURE 1

Davison County Rural Water System with the city to draft a contract that will be acceptable to both parties.

Mitchell's Water Right

In order to maintain an adequate water supply, Mitchell will, in some years, need to pump from the James River to supplement the inflows from Firesteel Creek. For this reason, the City of Mitchell has a water right on the James River. The City of Mitchell was granted a 16.5 cfs water right for the James River on May 12, 1975, and a 12.5 cfs additional permit on January 31, 1979. Restrictions on the permit are that 110 cfs or more water must be by-passed May thru September and 20 cfs or more by-passed October thru April. The water right also restricts total diversions of water from the James River under this permit to 8,430 acre-feet per year. A copy of Mitchell's water right for the James River is included at the end of this report.

Flow Frequency Analysis

A water accounting analysis for the years 1953-1982 inflows was performed on Lake Mitchell. Projected water use for the year 2,000, shown in Table 2, was used in this analysis.¹ Monthly water need was found by proportioning projected yearly flows for the year 2000 into monthly flows.

¹Data received from Mark Steichen, Office of Drinking Water, Department of Water and Natural Resources.

Table 2

	<u>year</u>	<u>population</u>	<u>ac-ft/year</u>
Mitchell	2000	15,000	2799.0
Ethan	2000	500	36.2
Davison RWS			365.0

A water accounting analysis using three scenarios was performed: Mitchell; Mitchell and Davison County Rural Water System; and Mitchell and Davison County Rural Water System with Ethan. Table 3 shows the results of the water accounting analysis.

There were two basic assumptions made in the analysis:

- 1) Capacity of Lake Mitchell = 9,200 ac-ft²
- 2) Lake Mitchell was at capacity in 1953

The water accounting analysis was performed and is shown in Table 3. In the analysis, water was pumped from the James River, when sufficient flows were being by-passed, to maintain the lake at full capacity.

In this case water can only be pumped from the James River when 6545 ac-ft/month is by-passed May-September and 1190 ac-ft/month October-April is by-passed for downstream water rights.

There is no set rule when pumping from the James River will begin. Usually water is pumped from the James River in the spring when studies indicate Firesteel watershed will not produce sufficient flows. If Lake Mitchell is filled to capacity it contains a two and a half year supply for the City of Mitchell.

²In 1962 the lake capacity was 10,082 ac-ft and since has silted to 9200 ac-ft (capacity information from Larry Little, City Engineer, Mitchell).

The water accounting analysis for each of the three scenarios is shown in Table 3. At no point in any of the three cases did Lake Mitchell's supply go below 4,000 ac-ft. In 1976, the lake lowered to 3,900 acre feet under existing conditions. Conservative conditions were used in this analysis. Under proper management and careful regulation of Lake Mitchell, the lake will be able to be maintained near capacity. Figure 2 shows water elevations of Lake Mitchell for the 30 year analysis with 1982 Mitchell conditions compared with the Mitchell and Davison Rural Water System analysis for the year 2000. Proper management refers to making optimum use of the James River. This means that anytime the lake is below capacity and water is available, James River water will be pumped to bring the lake to capacity.

Table 3 shows the data from the three scenarios. In each case the monthly inflow for Firesteel Creek, water pumped from James River and capacity of the lake is shown for the given year. The proposed water use for the year 2,000 is shown under the month. At anytime Lake Mitchell goes below 100% of capacity, water is pumped from the James River if sufficient flows are being by-passed. The criteria of using James River water whenever the lake is below 100% of capacity was made to simplify the analysis and does not necessarily reflect the operating procedure of the lake.

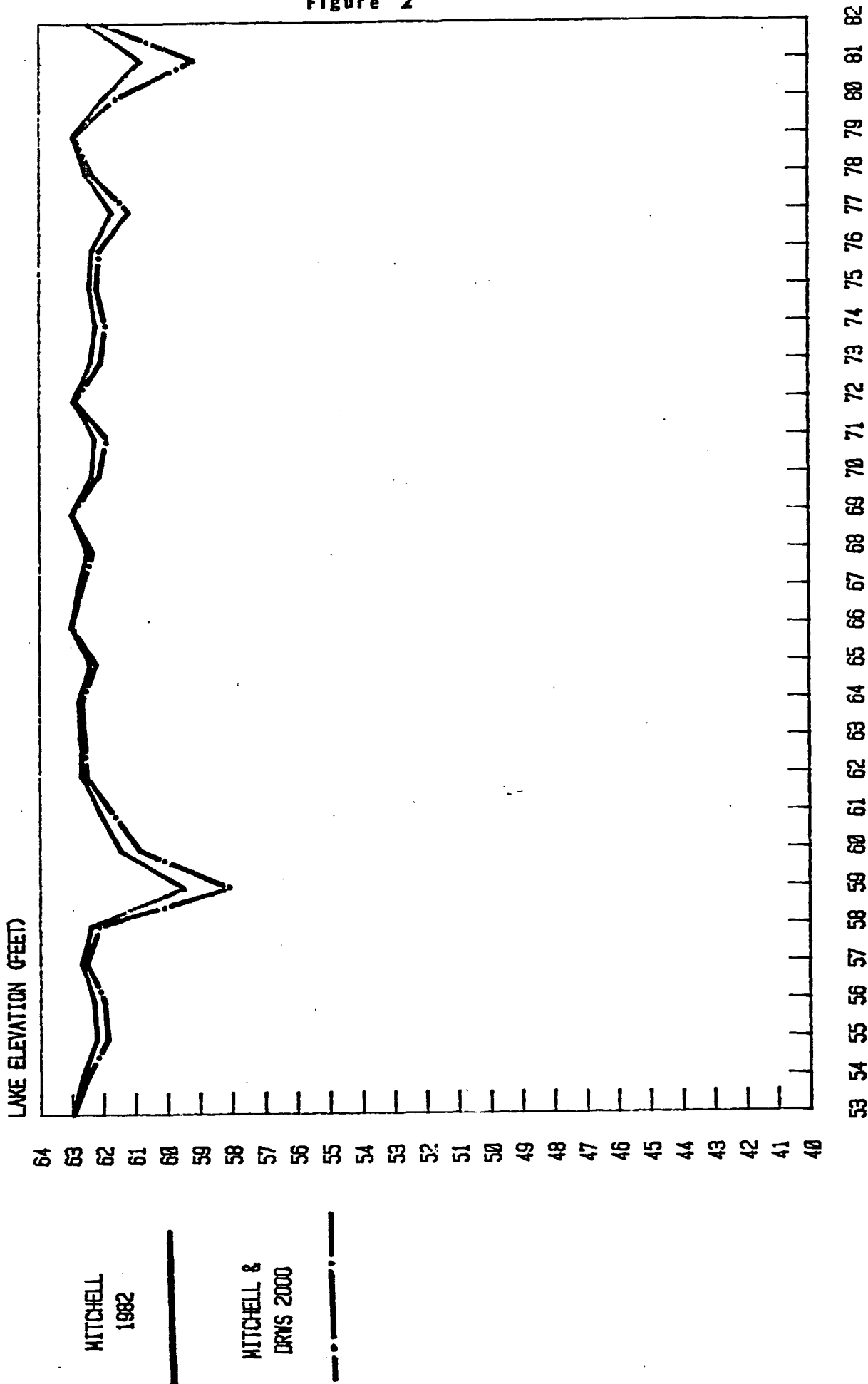
Conclusions and Recommendation

A 30 year water accounting analysis of Lake Mitchell showed sufficient water for the needs of Mitchell, and Davison County Rural Water System with Ethan. The lake, which is supplied by Firesteel Creek and supplemented by the James River will always have water available for the three sources of drawdown if proper management practices are followed.

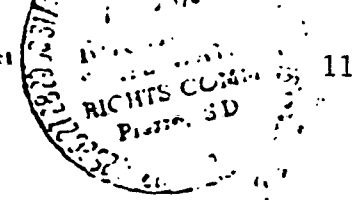
ELEVATION OF LAKE MITCHELL

1953 - 1982 WATER ACCOUNTING ANALYSIS

Figure 2



YEAR (1900)



APPLICATION FOR PERMIT

To Appropriate Water within the State of South Dakota

(NOTE—Draw a line through items not applicable)

1. Name of Applicant City of Mitchell
Postoffice address Mitchell State South Dakota
If a corporation show date and place of incorporation _____
2. Method of accomplishing work (contract, employment of others, or by direct labor) Contract
3. Name of diversion work James River to Lake Mitchell Pump Station & Pipeline
4. Amount of water claimed (cubic feet per second) 16.5cfs existing permit 12.5 additional required.
5. Source of water supply James River with the same flow limitations as on water right application No. 2281-3.
6. Location of point of diversion SW 174 Section 1, T103N, R60W
County Davison

7. Annual period or periods during which water is to be used year around as available and needed.
8. Use to be made of water (irrigation, industrial, municipal, commercial, recreation, etc.) Municipal
9. For irrigation use, _____
Total number of acres to be irrigated _____

List below each forty-acre subdivision, or fraction thereof, and show number of acres to be irrigated in each

Land Description	No. Acres	Land Description	No. Acres

Attach sheet if more space is needed.

10. Time required to complete construction of water supply system 0 years. Additional time required to complete application of water to the proposed beneficial use 0 years.
11. Choice of newspaper for Notice of Intent to Appropriate water publication Mitchell Daily Republic
12. Principal features of the Proposed Water Supply System.

A. Works proposed to divert water from its natural source.

Pumping Station

B. Works proposed to transport water to place of use.

30 inch steel pipeline plus storage of water in Lake Mitchell

C. Works proposed to apply water to beneficial use.

City of Mitchell Water Treatment and Distribution System

Estimated Total Cost \$ 900,000

Attachment: Attach Form 2A if diversion from a river or deposit, or if storage of water, is proposed. Attach map.
(See instructions concerning preparation.)

STATE OF SOUTH DAKOTA

County of Davison

I, W. E. Phillips, the applicant, certify that I have read the foregoing application and have examined the attached map and that the matters therein stated are true and that I intend, and am able to comply, with the necessary construction.

Signed W. E. Phillips

WATER RIGHT APPLICATION APPROVAL

The Water Rights Commission hereby approves Water Right Application No. 4354-3City of Mitchell
(Applicant)By 278 office of the Mayor
(Post Office Address)South Dakota 57301
(State)

With the following modifications.

This Water Permit No. 4345-3 authorizes diversions only when 110 c.f.s. or more of water is by-passed, after diversion, during the May thru September period, and only when 20 c.f.s. or more of water is by-passed, after diversion, during the October thru April period.

Total diversions of water under this Permit shall not exceed 8,430 acre feet per year as outlined in the Bureau of Reclamation report on Mitchell Unit, South Dakota James Division, Missouri River Basin Project, dated October, 1968.

Date of first receipt of application APRIL 6 19 78Date of return to applicant for correction, amendments or changes required 19Date of receipt of corrected application 19Approved JANUARY 31 19 79 Recorded in Book 20 Page 175WATER RIGHT PERMIT NO. 4354-3

The Water Rights Commission hereby grants and issues this Water Right Permit No. 4354-3 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as modified in the Water Right Application approval, subject, however, to the following limitations and conditions.

1. The date from which applicant may claim right is APRIL 6 19 78
2. The equivalent of at least one-fifth of the work above specified is ~~to be~~ completed 19
3. The whole of said work is ~~to be~~ completed on or before 19
4. The limit of time from onset of beneficial use of water appropriated in accordance herewith is COMPLETED
5. The water appropriated shall be used for the purpose of ~~irrigation~~ MUNICIPAL USE

6. The prior right of all persons who by compliance with the laws of the State of South Dakota have acquired a right to the use of water must not be injuriously affected by this appropriation.

7. The amount of the appropriation herein granted shall not exceed 12.5 cubic feet per second neither shall it exceed the capacity of the above described water supply system, nor shall it exceed the amount of water needed for ~~irrigation~~ irrigation and it for the irrigation purpose said appropriation must be limited to not more than ~~four~~ four cubic feet per acre per year and be ~~limited to not more than 1750 of the subject land of water per acre of the~~ used for municipal purposes ~~of the~~ THIS DATE ~~of the~~ CONTINUOUSLY and water to be used during the following described annual period:

Witness my hand this 27th day of FEBRUARY 19 79

WATER RIGHTS COMMISSION

By

John H. Hild
Executive Officer

WATER LICENSE NO. 4354-3

(1) WHEREAS, On the 6th day of April A. D. 19 78
the City of Mitchell
 made Water Right Application No. 4354-3 for a permit to use 29.0 cubic feet per second of the waters
 of the James River
 County of Devision State of South Dakota, for municipal
purposes; and
 (2) WHEREAS, On the 6th day of April A. D. 19 78
 Permit No. 4354-3 with a date of priority of *12.5 cfs from April 6, 1978 & 16.5 cfs from May 12,
 was issued to said applicant a for the diversion of said water, and provided for the completion of construction of the water
 supply system therein described on or before the xxxxxx xxxxxx xxxxxx 1975
 and for the
 location to beneficial use of said water on or before the xxxxxx xxxxxx xxxxxx

and.

(3) WHEREAS, It is hereby certified that the applicant has complied with the provisions of the laws of the State of South Dakota
 relating to completion of the construction of the water supply system and is entitled to divert 29.0 cubic feet
 per second of water for beneficial use and.

(4) WHEREAS, It is hereby certified that the applicant has complied with the provisions of the laws of the State of South Dakota
 relating to the application of water to beneficial use of the following extent.

water to used for municipal purposes for the City of Mitchell. Water is pumped from
the James River to Lake Mitchell to augment supplies as needed.

* The applicable portions of Permit No. 2281-3 have been incorporated into this
Water License, and Permit No. 2281-3 has been placed in a cancelled status.

(5) NOW, THEREFORE By the virtue of the authority vested in us by the laws of the State of South Dakota, We hereby grant and confer to the City of Mitchell

XX South Dakota

the holder and owner of said permit No. 4354-3 a water right, dating from 16.5 cfs from May 12, 1975
& 12.5 cfs from April 6, 1978 to use of 29.0 cubic feet per second of the waters
of the James River

in the County of Davison and State of South Dakota, or so much thereof as may be necessary for the
purposes hereinbelow mentioned, to be diverted at a point in the SE 1/4, Section 1, T103N, R63W

and conducted ~~to and upon~~ thru the City of Mitchell's distribution system

for the purpose of municipal use

Subject to any limitations listed in Water Right Permit No. 4354-3 and subject to the laws of the State of South Dakota

WITNESS, My hand and seal of our office at Pierre, South Dakota
this 7th day of July A D
Nineteen Hundred and Eighty

WATER MANAGEMENT BOARD

By:

John Hatch
Chief Engineer, Executive Officer
JOHN HATCH

**PRELIMINARY ENGINEERING REPORT
AND
FEASIBILITY STUDY**

**DAVISON
RURAL WATER SYSTEM
MITCHELL, SOUTH DAKOTA**

JANUARY 1984

DeWild Grant Reckert & Assoc. Co.

|SPN

**SCHMUCKER PAUL NOHR
AND ASSOCIATES**

DeWild Grant Reckert & Associates Co.

Architecture Engineering Planning

315 First Avenue
Rock Rapids, IA 51246
Telephone 712 472 2531

June 25, 1984

South Dakota Department of Water & Natural Resources
Water Rights Division
Joe Foss Building
Pierre, South Dakota 57501-3181

Attention: Kevin Larson

Re: Davison Rural Water System

Dear Kevin:

Please find enclosed one (1) copy of our preliminary engineering report for the Davison Rural Water System. This information is for your files relative to the Water Right Application for the Davison Rural Water System.

Please contact us if we can provide additional information.

Sincerely,

DEWILD GRANT RECKERT
& ASSOCIATES COMPANY


Bruce Jennings, P.E.

BJ:kld

cc: Harlan Quenzer

Enclosures



PRELIMINARY ENGINEERING REPORT
AND
FEASIBILITY STUDY

DAVISON RURAL WATER SYSTEM
MITCHELL, SOUTH DAKOTA

January 1984

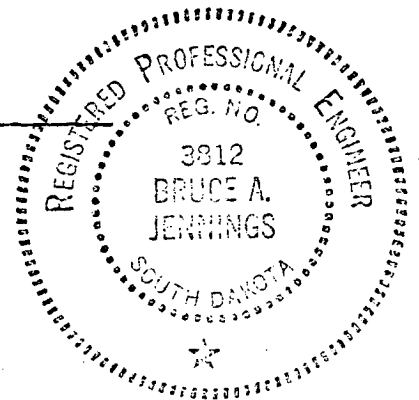
I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota.

By Bruce Jennings
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Date January 11, 1984

DGR Project No. 33133



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PRELIMINARY ENGINEERING REPORT
AND
FEASIBILITY STUDY
DAVISON RURAL WATER SYSTEM
MITCHELL, SOUTH DAKOTA

I. GENERAL INFORMATION

The geographical area included in this study encompasses the majority of Davison County and a small portion of Sanborn County as shown in Figure 1. The proposed system is generally bounded by existing rural water systems with Hanson Rural Water System on the east, B-Y Water District and Randall Community Water System on the south and Aurora-Brule Rural Water System on the west.

The area included in the proposed system extends a maximum distance of 30 miles from north to south and 18 miles from west to east.

The main topographic feature of the proposed service area is the James River which runs along the eastern edge of the service area generally north to south and provides drainage for the entire area. Mean sea level elevations range from 1,250 feet along the river bottom to 1,500 feet on the west.

The Davison Rural Water Steering Committee has conducted general informational meetings through the area, a mail campaign and a personal contact survey of the project area and has collected a \$25.00 preliminary sign-up fee from the people interested in the formation of a rural water system. The committee has also solicited preliminary sign-up fees from those towns and cities that desired consideration as wholesale customers of the system.

At the time of this report, data sheets requesting service had been received from 475 rural locations within the study area. Of those locations, 10 are located beyond what is normally considered to be the feasible limits of the system; however, the cost estimates which follow use the total 475 potential services in anticipation of some late sign-ups. Ten of the rural locations are within the unincorporated community of Loomis.

In addition to the rural users, the proposed system has received a request for service from one potential wholesale customer, the town of Letcher.

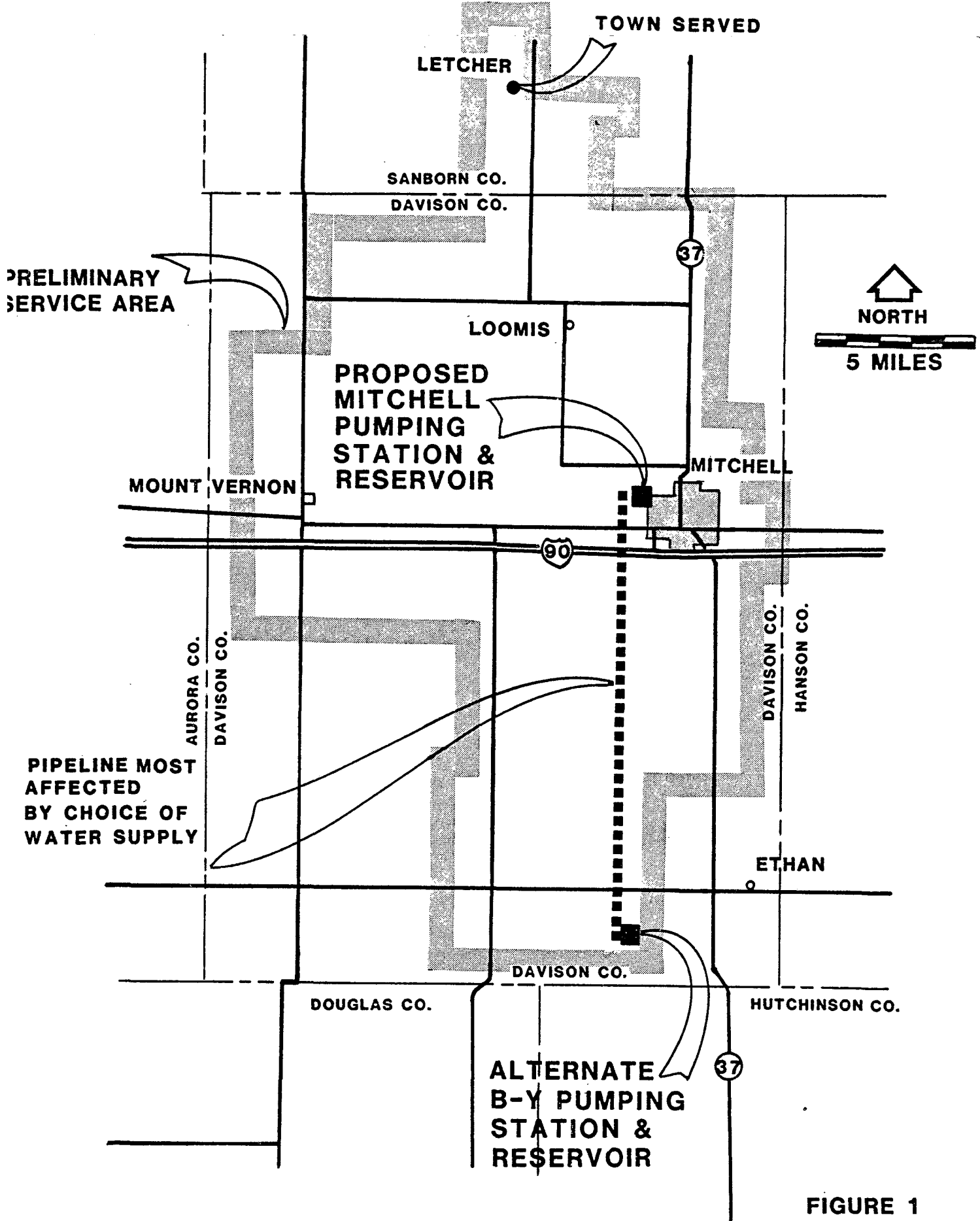


FIGURE 1



DeWild Grant Reckert & Associates Co.
Architecture Engineering Planning
Rock Rapids, Iowa
Sioux City, Iowa
Sioux Falls, South Dakota

Date *1-7-84*
Drawn By *DPL*
Approved *BT*
Revised

**GENERAL FACILITIES
LOCATION PLAN
DAVISON RURAL WATER
MITCHELL, SD**

II. ORGANIZATION

A. Preliminary Organization:

As a result of several meetings sponsored by the Lower James Conservancy Subdistrict and the Extension Service in 1982, an informal steering committee was formed and the first informational meeting of Davison Rural Water was scheduled in Mitchell on September 22, 1982. Because of the interest shown, a mail survey of the area was conducted. The result was formation of the formal Davison Rural Water System Steering Committee in June 1983. Sign-up meetings were conducted within the project area. Throughout the sign-up, additional members were added to the Steering Committee from within the area being surveyed.

B. Official Organization:

The Davison Rural Water System is organized as a non-profit corporation under South Dakota law. As a corporate body the Board of Directors has authority to conduct the business and the affairs of the system including the storage, distribution and utilization of water resources; borrowing of money and incurring indebtedness; and retiring such indebtedness from the revenue and income of the system. The water system has no powers of taxation.

III. WATER NEEDS

A. Rural Use:

The rural component of the projected water use was based on data obtained from the water use survey sheets completed by each rural user.

The rural domestic requirement in gallons per day (gpd) is based on expected use of 200 gpd per rural connection. The livestock design usage in gpd is based on delivery of water for livestock numbers as reported by the individual water user and the following daily unit demands for each kind of livestock:

<u>Type of Use</u>	<u>Water Use Per Unit gallons per day</u>
Domestic	200
Livestock	
Feeder and beef cattle	8
Hogs and sheep	3
Dairy cattle	12
Poultry	.05

In addition, some prospective water users indicated non-livestock water demands such as light commercial activities which were provided for. In general, it is expected that water for livestock will be delivered over a full day delivery period and that on-farm storage such as stock tanks will be used during periods of peak water use.

B. Town Use:

The town component of the water supply requirement is based on the estimated water requirement for the Town of Letcher. Fire flow requirements were not included nor considered.

Town water delivery flow rates in gallons per minute (gpm) were calculated to provide peak day flows delivered over 20 hours.

Connections within the community of Loomis were provided for at the same capacity as described for rural connections above.

IV. WATER SOURCE

A. General:

The Rural and Town Water Use is presented in Table 1. Using the total flow requirement of approximately 350,000 gallons per day as a guide, the water source desired must provide acceptable water quality and adequate quantity as well.

TABLE 1
SYSTEM WATER NEEDS

	<u>Gallons per Day</u>		<u>Total</u>
	<u>Livestock</u>	<u>Domestic</u>	
Rural North*	85,000	28,000	113,000
Rural South	110,000	67,000	177,000
Letcher		<u>30,000</u>	<u>30,000</u>
Total	195,000	125,000	320,000

*Including Loomis

In identifying a potential water source, the following possible sources were considered in order of probable quality, quantity and location relative to the proposed system needs:

1. City of Mitchell.
2. B-Y Water District.
3. Groundwater
4. Other adjacent rural water systems.

The possible groundwater sources were reviewed in consultation with the South Dakota Geological Survey (SDGS). It was generally agreed that there is no known adequate groundwater source within the Davison Rural Water system area.

Relative to the surrounding rural water systems, both the Hanson and Aurora-Brule systems have completed their respective distribution systems in the area and do not have sufficient capacity for Davison Rural Water. Information developed by the B-Y Rural Water District for the TM Rural Water District in Turner and McCook Counties was extrapolated to assess the potential of a B-Y water source for Davison Rural Water. B-Y uses a surface water treatment plant in Yankton County and draws water from the Missouri River.

Connection to the City of Mitchell water system was also evaluated. Mitchell draws water from Lake Mitchell and proposes a new water treatment plant in 1985.

B. Quantity:

Using average day demands plus an allowance for water loss and future expansion, it is estimated that between 250 and 400 acre-feet per year will be required depending on town and livestock use. It appears that either the City of Mitchell or the B-Y water source have adequate capacity to meet water demands.

C. Quality:

Using available water quality data from developed water systems in the area, the water quality of the proposed source can be compared to the existing water supply.

Table 2 presents the reported water quality information. Use of either the Mitchell or B-Y source will provide a substantial improvement in water quality for the area.

D. Summary:

The City of Mitchell or B-Y Rural Water appear to be the only known potential sources of water providing the desired quality but the capacity to meet joint rural and town needs. The remainder of this report will deal specifically with those sources and the resulting proposed system.

It should be noted that limited groundwater aquifers not yet adequately identified may be a potential water source. Should water exploration be initiated, identification and development of a satisfactory groundwater source in the project area may be advantageous depending upon the water quality and quantity.

V. PRELIMINARY DESIGN

A. General:

Having selected the water sources to be considered, the distribution hydraulics were reviewed with regard to required flow rates, delivery pressures and user elevations. Assuming that water from the City of Mitchell would be taken at the west edge of the City and water from B-Y rural water would be taken at the south edge of the Davison system, it was determined that, with either option, the entire service area could be served by a single pumping station located at the source delivery point.

TABLE 2

COMPARATIVE WATER QUALITY**

Quality Parameter	Recommended Maximum Units	Mitchell (Current Raw)	Mitchell (Projected Treated)	Letcher (Treated)	Ethan (Raw)	B-Y R/W (Treated)
Total alkalinity, ppm	---	132	52	130	124	38
Calcium, ppm	---	84	47	322	323	31
pH	6.5-8.5	7.9	8.5	7.5	7.4	9.2
Iron, ppm	0.3	0.1	0.0	0.1	1.6	0.05
Manganese, ppm	0.05	0.4	0.0	0.08	0.11	0.03
Chlorides, ppm	250	18	24	64	125	15
Sulfates, ppm	250	233	227	1200	1210	181
Fluoride, ppm	2.4*	0.5	1.5	1.6	1.5	1.1
Nitrate (N), ppm	10*	<1	<1	<1	<0.1	0.3
Sodium, ppm	20	55	70	168	159	61
Potassium, ppm	1000	13.1	13	20	24	5
Total solids, ppm	500	575	448	2124	2288	359
Hardness, gpg	---	15.6	9-12	64.9	66.6	7.6
Biocarbonate, ppm	---	161	63	159	151	31
Magnesium, ppm	---	12	8	73	81	10

*Maximum Contaminant Level.

**Data Source - South Dakota Department of Environmental Protection, "Public Water Supply Chemical Data" (1976) and B-Y Water District (6/83).

Figure 1 presents the general location of the proposed facilities and main line pipe routing. "Appendix A - Facilities and Summary and Cost Estimates" provides specific information regarding the proposed facilities. Preliminary pipeline route drawings are attached hereto.

B. Pumping:

Pumping for pressurization is required to serve the system membership. The pumping station would draw water from an adjacent storage reservoir filled by the supply system (Mitchell or B-Y) and pump as necessary to meet distribution requirements. The station would be designed to maintain constant pressure on the distribution system regardless of flow rates.

C. Storage:

Storage requirements relative to the proposed system were generally selected on the basis of providing one day storage. Rural maximum day and town average day water demands were considered. Existing town storage is adequate to meet maximum day demands. A reservoir capacity of 500,000 gallons is proposed. This storage capacity will allow maximum flexibility with delivery rates and times from the selected water supplier.

D. Distribution:

Complete hydraulic calculations using the maximum demand rate per rural customer and peak day flow rates for town demands have been made to determine the best arrangement and most economical sizes of pipes to serve the proposed area. The distances and ground elevations were obtained for this feasibility report from maps published by the United States Geological Survey and maps developed for this study (see Appendix C for Distribution Maps). The hydraulic calculations were made with the aid of a computer and are not a part of this report. The friction losses for the system were computed using the Hazen-Williams formula with a "C" value of 150 for polyvinylchloride (PVC) pipe.

There is a surface relief differential of about 250 feet in vertical elevation across the proposed system and because of this and the length of pipelines required, it is not feasible to design a system with a very narrow range of working pressures. The design utilized in the proposed system will supply water to customers with the following pressures:

1. Rural Customers - A minimum residual pressure of 20 pounds per square inch (psi) to each user. The average residual pressure will be in the range of 40 to 50 psi. The maximum pressure under static or low flow conditions will not exceed 150 psi which will be regulated to 50 psi by individual pressure reducing valves.
2. Town Customers - A minimum residual pressure at peak flow equal to reported high tower level or current operating pressure.

Valves will be installed to enable the isolation of sections of pipe in the event of line breaks or for maintenance. Main line cleanouts and hydrants will be installed for flushing and draining the system.

At high points (elevation) where there are no adjacent customers, air relief valves will be installed to prevent entrapment of air in the pipelines.

Pipeline installation will be primarily in glacial till and clay soils. For this report, it has been assumed solid rock outcropping and other construction obstacles can be avoided in the area to be served. During final design further observation may reveal construction obstacles and it may be necessary to realign the pipeline to fit field conditions. The lines will be installed with a minimum of 60 to 72 inches of cover to protect them from freezing.

Crossings of primary paved roads and railroads will be made inside steel or plastic pipe encasements which are bored and jacked in place. All borings will be a minimum of 72 inches below the pavement or railroad ties.

Crossings of secondary paved roads will be made by boring and installing pipe without casing. Unimproved roads will be crossed by open cut, or bored at the contractor's option.

The location of the pipelines with respect to the road right-of-ways will be determined by the Engineer at the time of the final survey. The lines will, in general, be placed on private property. If it is impossible to locate on private land because of the terrain or lack of easement, the pipelines will be placed with the public right-of-way with permits obtained from the appropriate governing agency.

Service will be provided to customers per the following:

1. Rural Customers - Each service connection will be made by means of a saddle tee. Standard service meters (3/4-inch frost-proof meters with bronze or plastic case) will be furnished with necessary fittings and valves. Individual pressure regulators will be installed at each service ahead of the meter to control excessive pressures. The meters will be installed in meter pits with double steel covers where basements are not usable or not available. It is estimated that 20% of the services will be in meter pits.
2. Town Customers - The service connection will be made at a location mutually convenient to the town and the proposed system via a stub and isolating valve provided by the town. The service connection will include a meter, a pressure sustaining valve, a check valve, and if required, a pressure reducing and/or relief valve.

VI. BENEFITS

A. Health:

Based on Federal and State Standards, treated public water supplies in the area are somewhat below standard. Existing sources are being used because better supplies are either not feasible to develop or do not exist in the immediate vicinity.

Private water supplies of individual rural users generally are of poorer if not unsafe quality due to limited or non-existent treatment capability. Availability of alternate water sources is extremely limited due to the restricted geographical area available to each individual rural resident and to the lack of suitable aquifers in the area. Many of the rural residents presently haul water or purchase hauled water for household use.

A rural water system will bring many benefits to the area relative to health and sanitation. Collectively the rural and town users can address a mutual problem of inadequate quantity and substandard quality of water.

B. Economic:

The construction and operation of the Davison Rural Water System will provide both direct and indirect economic gain to the rural and municipal users and the State of South Dakota. Costs and projected returns are extremely difficult or impossible to quantify as the cost and resulting benefit of the system will vary from user to user depending upon their individual operation needs and desires. Benefits of an adequate supply of good quality water resulting in economic gain include but are not limited to the following:

1. Increase of net farm and agri-business incomes because of increased sales of livestock, supplies and services needed to accommodate greater amounts of livestock being retained on farms or being brought into the project area for finishing.
2. Sale values of land are likely to increase. South Dakota State University quotes a Kansas State University Study that showed sales values of land increased \$43.50 an acre on one rural water system.

A separate study conducted by the Economics Department of South Dakota State University shows a rural water system can increase property values by \$2,000 to \$5,000 where poor quality water or poor wells are present.

3. New jobs will be created in the area. Short term employment possibilities (1-1/2 or 2 years) will be realized during construction and initial operation with 10-25 jobs likely. Long term employment possibilities would include one to two jobs relating to operation, maintenance and administration of the system.
4. Expansion of existing facilities or new construction is likely for expansion of livestock production. Most facilities will be taxed as real estate. Often times water is the major consideration over feed supplies to increasing production.
5. Livestock production and sales will increase as the livestock mortality rate declines.
6. Small family farms may remain operational, stabilizing population and the tax base.
7. Reduced energy consumption will result in a savings to all users.

- a. The need for rural users to haul water for domestic and livestock purposes will be eliminated.
 - b. Energy associated with the operation of existing rural and municipal wells will be replaced by more energy efficient operation of the rural water system.
 - c. Energy currently used by individuals and communities to condition their water will be reduced or eliminated. For example, the operation of a water softener can be significantly reduced when comparing the operating costs of treating 60 gpg hardness to that of 20 gpg hardness or less.
8. Improved water quality will result in other savings including:
- a. Less maintenance on water related equipment such as plumbing, fixtures, softeners, washing machines, water heaters, dishwashers and sprayers.
 - b. Reduced cost of soaps and/or salt associated with hard water and softening.
 - c. Increased fabric life.
9. Operational costs associated with water production and treatment will be reduced by the economy of scale and efficiency associated with the Davison Water system.
10. City/town services will be stabilized with the need for new source development and/or treatment capability eliminated.
11. Although the Davison Rural Water system is not designed for fire flow, flushing hydrants capable of filling tanker trucks will be located within the system offering the potential for increased fire protection or at least minimizing fire damage.

VII. COSTS

A. Project Costs:

Estimated project construction and related costs are summarized in Table 3. The cost estimates were developed by the Engineer on the basis of the described preliminary design and recent bid prices for similar

TABLE 3

ESTIMATED PROJECT COSTS

	<u>Mitchell Supply</u>	<u>B-Y Supply</u>
<u>Construction Costs</u>		
Pumping station	\$ 200,000	\$ 200,000
Reservoir, 500,000 gallons	250,000	250,000
Distribution pipeline	1,640,000	1,804,000
Miscellaneous items, valves, etc.	246,000	270,000
Subscriber services		
Basement	114,000	114,000
Meter Pits	<u>67,000</u>	<u>67,000</u>
Subtotal	\$2,517,000	\$2,705,000
<u>Other Costs</u>		
Land	\$ 10,000	\$ 15,000
Legal	25,000	30,000
Engineering	173,000	185,000
Inspection	60,000	70,000
Contingencies	126,000	135,000
Construction interest	<u>189,000</u>	<u>203,000</u>
Subtotal	\$ 583,000	\$ 638,000
<u>Extra Costs</u>		
Piping and related items required to increase the size of B-Y Water District facilities to serve Davison Rural Water	<u> </u>	<u>\$1.0-1.5 million</u>
ESTIMATED TOTAL PROJECT COST	\$3,100,000	\$4,343,000 to \$4,843,000

construction. The Engineer can not and does not guarantee that cost of construction of the project will be within the estimate described. Future changes in the scope of the project, such as addition or deletion of water users during final sign-up will affect the project cost.

Costs reflect service to 475 rural users by completion of construction. Letcher is the only town user included. Flow adequate to meet the existing rural and town maximum day demands was planned.

The estimated cost of \$1.0-1.5 million for increasing the size of B-Y Water District facilities to serve Davison Rural Water was calculated using a description of re-sizing costs developed by B-Y for the TM Water District in Turner and McCook counties. The TM proposal was adjusted to reflect differences in flow rate and delivery location for Davison Rural Water. Because the B-Y option does not appear economically justified at this time, a detailed evaluation of B-Y size increases was not made.

B. Operation and Maintenance Costs:

Construction of the Davison Rural Water System will create a new small business. A part of the project therefore is creating the appropriate management and operation entity which will assure reliable operation of the system and administer the collection of revenue to support the operation and maintenance of the system.

For purposes of this report, it is assumed that a separate operating entity will be formed for the Davison Rural Water System. The principle effort will be system management and office activities such as radio dispatch, telephone and accounting. Day to day operations will be assigned to field men with specific areas of responsibility.

The projected initial operation and maintenance budget is given in Table 4. Costs which do not vary with water production are listed as annual fixed costs. Personnel and travel requirements were estimated using data from operating rural water systems in this region and with consideration for the size of the project area. Office expenses include secretarial and accounting services, billing services and office building and equipment. Maintenance costs were based upon experience of other rural water systems and recommendations of equipment manufacturers. Miscellaneous annual costs include insurance, directors' expenses, memberships and dues, etc.

TABLE 4

ESTIMATED OPERATION AND MAINTENANCE COSTS

Annual Fixed Cost:

1.	Personnel	
	a. Manager-operator	\$ 25,000
	b. Part-time clerk	10,000
2.	Transportation, 20,000 miles @ \$0.30	\$ 6,000
3.	Maintenance	
	a. Storage	\$ 3,000
	b. Pumping	3,500
	c. Pipeline	4,000
4.	Office	\$ 5,000
5.	Miscellaneous	<u>\$ 20,000</u>
	Total	\$ 76,500
	Estimated Water Sales	50,000 Kgal*
	a. Rural Sales - 45,600 Kgal	
	b. Town Sales - 4,400 Kgal	
	Estimated Annual Fixed Cost/Kgal	\$1.53/Kgal

Variable Production Costs:

1.	Pumping @ \$0.075/KWH	\$0.10/Kgal
2.	Miscellaneous	<u>\$0.05/Kgal</u>
	Estimated Variable Production Cost/Kgal	\$0.15/Kgal
	Total Estimated Costs without Purchase Price, per Kgal**	\$1.68/Kgal
	Total Estimated Annual Costs per Year	\$ 83,500

*1,000 gallons = 1 Kgal.

**purchase price of water from Mitchell or B-Y Rural Water is not included.

Variable or water production dependent costs for this system are rechlorination chemicals, pumping energy and maintenance of pumping machinery.

Total initial water sales were estimated using information gathered from the sign-up forms and past experience. Annual average town use is estimated at 4,400,000 gallons (12,000 gpd) and annual average rural use at 45,600,000 gallons (8,000 gallons per rural connection per month).

Operation and maintenance costs must be charged and recovered from the revenue associated with water sales.

C. Purchased Water Costs:

The City of Mitchell water system presents the most economical potential water source for the Davison Rural Water System. The water system has requested water service from the City. While the terms of that service have not been agreed upon, the existing City rate schedule rate for water in large volume is approximately \$0.90 per thousand gallons. The rural water system budget should be set up to anticipate purchase of approximately 20 percent more water than will be sold to allow for unaccounted-for losses in the distribution system.

D. System Financing:

Past projects of this nature have been financed by a variety of sources including:

1. Applicant contribution.
2. Farmer's Home Administration (FmHA) Loans.
3. Farmer's Home Administration (FmHA) Grants.
4. State administered Community Development Block Grants (CDBG).
5. State water facilities construction loans.
6. State rural water grants.
7. Conservancy Subdistrict grants.
8. Others.

Required construction loans have generally been secured using revenue and service contracts:

1. Revenue pledged for debt service payment has been the traditional means of securing rural construction loans.
2. Service contracts have usually been written between the rural water system and the individual town user in securing the necessary construction loans for facilities to serve the town. The service contract would generally extend the same terms available to the rural water system for any loan required.

E. Proposed Water Rates:

Depending on the final number of rural users and individual town users to be served, the final rate structures may vary. Based on current rural and town users, the following potential rate structure is presented:

1. Rural Rates - As previously noted, revenue from water sales will need to generate cash flow for operation and maintenance costs and debt service. Providing a potential rate structure requires several assumptions concerning the construction loan such as the amount, interest rate and term. Using the assumption that the project could receive approximately 60 percent grant and with an applicant contribution of \$120,000, a loan of \$1,120,000 would be required. If the loan were offered at 7-1/4 percent interest for 38 years, debt service payment would be about \$87,500 per month. Together with the estimated operation and maintenance costs of \$83,500 per year and water purchase cost of \$45,000 per year, a total annual revenue of \$216,500 will be required or approximately \$39.00 per month per user. Generating \$39.00 per month per user with an estimated average use of between 7,000 and 8,000 gallons would require a rate structure similar to the following:

Monthly Rural Rate:

Minimum, no water	\$20.00 minimum
First 6,000 gallons	\$ 3.00/1,000 gallons
Next 4,000 gallons	\$ 2.00/1,000 gallons
Next 10,000 gallons	\$ 1.50/1,000 gallons
Over 20,000 gallons	\$ 1.25/1,000 gallons

Annual Rural Rate (Pasture Taps and Seasonal Cottages):

Annual Minimum	\$240.00 minimum
First 24,000 gallons	\$ 3.00/1,000 gallons
Next 16,000 gallons	\$ 2.00/1,000 gallons
Next 40,000 gallons	\$ 1.50/1,000 gallons
Over 80,000 gallons	\$ 1.25/1,000 gallons

2. Town Rates - The water rate charged to the town user must reflect the cost of operation and maintenance from Table 4 consistent with average monthly usage and debt service on construction loan related to facilities serving the respective town. A rate structure similar to the following appears adequate at this time:

No use up to average monthly gallons	\$2.68/1,000 Gallons Minimum
Over Average Monthly Gallons	\$1.50/1,000 Gallons

The rate for water over 20,000 gallons per month for the rural connections and over average monthly use for the town connection is particularly sensitive to purchased water cost and may require adjustment depending upon the final terms of a water purchase agreement.

F. Final Sign-Up Fees:

1. Rural - To provide the estimated applicant contribution and provide the necessary working capital for water exploration and water source development a final sign-up fee of \$300.00 per rural user has been established by the Board.
2. Town User - A final sign-up fee of \$1,500 for the Town of Letcher is recommended.

VIII. OTHER CONSIDERATIONS

A. Engineering:

The engineering has been completed for the preliminary design on the basis of the described design criteria. If the Engineer finds conditions which require major revisions in the system or in the estimated costs at the time of preparation of detailed plans, the approval of such changes will be obtained from the system and the various funding agencies before the final plans are completed.

All completed plans and specifications will be submitted to the appropriate agencies for their respective reviews prior to advertising for construction bids.

B. Construction Bidding Procedures:

Competitive bids for construction of the proposed work will be requested and contracts awarded for all phases of the project. Contracts are usually awarded to the lowest responsible bidder subject to the approval of the appropriate funding agencies.

All bidders are required to post a certified check or bid bond as bid security at the time of submitting bids, and the successful Contractor or Contractors will be required to file a Performance Bond and Payment Bond in the amount of 100 percent of the contract amount. These Bonds guarantee completion of the project and workmanship and materials for a period of one year after completion and acceptance of the project.

C. Land Requirements:

Land will be required for the proposed pumping station and reservoir. The site can be acquired through purchase or obtaining perpetual easement.

D. Easements:

Easements will be required from members and non-members prior to construction. An easement is desired 15 feet either side of the pipeline normally immediately adjacent to the road right-of-way. Where easements from property owners can not be obtained, permission from governmental authorities to use public right-of-way will be necessary.

E. Permits:

Permits will be filed with the State, County, railroad companies or other agencies at locations where pipeline must cross their properties or rights-of-way.

F. Life of Facilities:

With proper construction and maintenance the system should, with the exception of pumps, motors and paint coatings, have a useful life of not less than 40 years. Repainting of exposed steel can probably be expected about every 10-15 years and replacement of the working parts of pumps and motors within about 20 years.

IX. SUMMARY AND RECOMMENDATIONS

A. Summary:

The need for a rural water system in the project area exists. Less than desirable water quality and a lack of sufficient quantity is apparent throughout the entire area. Many of the developed sources exceed the recommended standards for iron, manganese, sulfates and total solids. The proposed rural water system presents a joint solution to the area-wide water quality and quantity problem at an estimated cost which with appropriate financing, is within the financial capabilities of the membership.

The Mitchell water source appears most attractive for the water system membership. The City of Mitchell maintains a diversion system on the James River which assures an adequate water supply. The City plans a new water plant in 1985 which will have adequate capacity to serve the rural water system.

B. Recommendations:

1. Funding -

- a. Submit a pre-application for Federal assistance based upon the estimated project cost of \$3,100,000.00 (Mitchell supply alternative). The pre-application should request loan and grant funds for the rural water system.
- b. Coordinate with the State of South Dakota and submit required applications for:
 - (1) State rural water grants.
 - (2) State loans for construction of water resources projects.
- c. Coordinate with Davison County, the Town of Letcher and the Department of Water and Natural Resources regarding eligibility and submission requirements for CDBG funds and submit the necessary application.
- c. Coordinate with the Town of Letcher gaining a letter of intent to be served by the rural water system and assist as necessary to complete overall funding arrangements.

2. Final Sign-Up -

- a. Coordinate and schedule final sign-up as soon as possible for rural and town.
- b. Review and verify existing rural and town water use data.

3. Other -

- a. Obtain final agreement with the City of Mitchell for a water supply.

APPENDIX A

APPENDIX A

FACILITIES COST ESTIMATES

Facilities Selection:

Preliminary design of the Davison Rural Water system included selection of the most cost-effective methods and materials for water system operation.

Estimating Procedure and Accuracy:

Cost estimates for water system facilities were developed as a part of the preliminary design. The cost estimates are based upon information provided by equipment and material suppliers and upon recent bid prices for similar work on nearby rural water systems.

All cost estimates were developed without the benefit of final design drawings or field work. Final water system design will identify locations where changes from preliminary designs will be necessary. These changes may change project costs up or down.

Since the Engineer has no control over the cost of labor, materials or equipment, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, the estimates of construction costs presented herein were made on the basis of the Engineer's experience and qualifications. The estimates presented herein are the Engineer's best judgment of anticipated project costs as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that bids received or the project construction cost will not vary from cost estimates prepared by him.

Water Storage Structure:

The ground storage structure will be welded steel, bolted steel or concrete, depending upon price and availability.

Tank details and cost estimates are as follows:

Ground reservoir

Capacity	500,000 gallons
Estimated Cost	\$250,000

Pumping Station and Water Supply:

One pumping station is proposed to provide pressurization associated with the system water. Pumping station costs for the Mitchell and B-Y alternatives are approximately the same.

Operating conditions and cost estimates are as follows:

Estimated Pumping Station Costs

Design maximum flow rate, gallons per minute	475
Discharge pressure, psi	130
Construction costs	
Equipment, piping	\$ 80,000
Electrical and control	\$ 50,000
Supply connection	\$ 10,000
Building and site work	<u>\$ 60,000</u>
Total Construction Cost	\$200,000

Pipeline:

Pipelines were sized to provide the most economical combination of pipe sizes which would serve the needs of the water system users both rural and wholesale users. Pipeline materials were selected based on availability, pressure rating and relative costs. In general non-ferrous materials were used because of lower initial cost, resistance to corrosion and smoother pipe surfaces for less friction loss. Pipe materials selected, design pressure ratings and sizes are as follows:

<u>Material</u>	<u>Design Pressure Rating</u>	<u>Sizes Nominal Inches</u>
PVC ASTM 2241 Class 200	150	1.5-10
PVC ASTM 2241 Class 160	120	2-10

APPENDIX A

PRELIMINARY PIPELINE DESIGN QUANTITIES

Mitchell Supply

<u>Pipe Size</u>	<u>Class</u>	<u>Quantity (ft.)</u>	<u>Estimated Unit Price</u>	<u>Estimated Total Cost</u>
2"	160	156,000	\$0.75	\$ 117,000.00
2-1/2"	160	133,600	0.90	120,240.00
3"	160	66,100	1.10	72,710.00
4"	160	149,400	1.50	224,100.00
5"	160	47,700	1.95	93,015.00
6"	160	13,250	2.85	37,762.50
8"	160	18,550	4.25	78,837.50
10"	160	5,300	5.85	31,005.00
1-1/2"	200	390,600	0.75	292,950.00
2"	200	121,000	0.85	102,850.00
2-1/2"	200	34,500	0.95	32,775.00
3"	200	8,650	1.15	9,947.50
4"	200	65,000	1.60	104,000.00
5"	200	6,250	2.15	13,437.50
6"	200	31,800	3.15	100,170.00
10"	200	10,600	6.25	66,250.00
1-1/2"	200 Service	<u>143,100</u>	1.00	<u>143,100.00</u>
Total		1,401,400		\$1,640,150.00

B-Y Supply

2"	160	149,650	\$0.75	\$ 112,237.50
2-1/2"	160	78,750	0.90	70,875.00
3"	160	48,350	1.10	53,185.00
4"	160	62,950	1.50	94,425.00
5"	160	37,100	1.95	72,345.00
10"	160	11,800	5.85	69,030.00
1-1/2"	200	402,000	0.75	301,500.00
2"	200	131,200	0.85	111,520.00
2-1/2"	200	60,300	0.95	57,285.00
3"	200	20,050	1.15	23,057.50
4"	200	86,200	1.60	137,920.00
5"	200	33,450	2.15	71,917.50
5"	200	31,800	3.15	100,170.00
8"	200	10,600	4.65	49,290.00
10"	200	53,800	6.25	336,250.00
1-1/2"	200 Service	<u>143,100</u>	1.00	<u>143,100.00</u>
		1,361,100		\$1,804,107.50

DRAWINGS

oversized
documents

*Engineer
File Copy*

AN ORDINANCE AUTHORIZING THE TREATED WATER FROM THE MUNICIPAL WATER SUPPLIES OF THE CITY OF MITCHELL TO DAVISON RURAL WATER SYSTEM, INC.

BE IT ORDAINED by the City Council of the City of Mitchell, South Dakota, as follows:

1. That the City shall provide treated water to the Davison Rural Water System, Inc. from the City of Mitchell municipal water supply, pursuant to the terms and conditions of the agreement hereinafter set out in Section 2 of this Ordinance.

2. That the agreement pursuant to which the City of Mitchell shall supply such treated water to the Davison Rural Water System, Inc. is as follows:

AGREEMENT

THIS AGREEMENT made and entered into this 19th day of November, 1984, by and between the CITY OF MITCHELL, SOUTH DAKOTA, a municipal corporation, P.O. Box 278, Mitchell, South Dakota, hereinafter referred to as the "CITY", and the DAVISON RURAL WATER SYSTEM, INC., P.O. Box 655, Mitchell, South Dakota, hereinafter referred to as the "SYSTEM";

WITNESSETH:

WHEREAS, the System is organized and established as a non-profit corporation under the provision of SDCL Chapter 47-22, for the purpose of constructing and operating a water supply distribution system serving water users primarily within Davison County and certain areas in Sanborn County; and to accomplish this purpose, the System will require a supply of treated water; and

WHEREAS, the City owns and operates a water supply, treatment and distribution facility, and it is anticipated that the City will have a sufficient supply and treatment capability to meet foreseeable future water needs for all of its municipal purposes, and the estimated number of water users to be served by the System; and

WHEREAS water supply analysis has been conducted by the State of South Dakota Department of Water and Natural Resources which concludes that Lake Mitchell, which is supplied by Firesteel Creek and supplemented by the James River will

always have water available to meet the anticipated draw-down demands of the City of Mitchell and the Davison County Rural Water System; and

WHEREAS, it is the desire of the parties hereto that an agreement be entered into in writing setting forth the terms and conditions of the agreement between the parties;

NOW, THEREFORE, in consideration of the foregoing and mutual agreements hereinafter set forth, it is hereby agreed by and between the parties hereto as follows:

A. The City Agrees:

1. Quality and Quantity. To provide water to the System from the City of Mitchell water supply, at the point of delivery hereinafter specified, subject to all of the terms and conditions herein contained. That said water shall be potable treated water meeting applicable purity standards of the South Dakota Department of Water and Natural Resources in such quantity as may be required by the System, but in no event shall such quantity per day exceed ten percent (10%) of the per day production capacity of the water treatment system of the City, or 700,000 gallons per day, whichever is less.

2. Point of Delivery and Pressure. That water will be furnished at existing water main pressure from an existing 12-inch main supply at a point located near the intersection of 23rd Street NW and Ohlman Street. Additional tap locations, if required, are to be mutually agreed upon by both parties hereto in the future. If a greater pressure than that which may be at any time normally available at the point of delivery is required by the System, the responsibility of providing such pressure shall be borne by the System. Emergency failures of pressure or supply lines shall excuse the City from this provision for such reasonable period of time as may be necessary to restore service. City agrees that System may install plastic water lines and mains from the above specified delivery points, or point, to System's water storage area, and City agrees that all of said equipment, water lines and mains, and storage facilities provided and/or installed by the System shall remain the separate property of the System, and said items shall remain severed from the real property upon which they may be installed.

3. Billing Procedure. To furnish the System at the above address not later than the 5th day of each month with an itemized statement and billing for the amount of water furnished the System during the preceeding billing period. In the event System shall have more than one delivery point, the amount of water furnished at each delivery point shall be billed separately.

4. Control Valve. The City shall purchase and install a water control valve which may be used to control the flow of water to the System. The ownership and control of such valve shall be and shall remain exclusively within the City.

B. The System Agrees:

1. Rates and Payment Rate. To pay the City, not later than the 20th day of each month, for water delivered at a rate to be 110% of the City's adopted water rate schedule as provided for in Section C.3.

2. Metering Equipment. To furnish, install, operate, and maintain at its own expense at the point of delivery the necessary metering equipment, including a meter house or pit, and required devices of standard type for properly measuring the quantity of water delivered to the System and to calibrate such metering equipment whenever requested by the City, but not less frequently than once every sixty (60) months. The metering equipment, metering house or pit and all related items shall conform to the specifications and requirements of the City. A meter registering more than two percent (2%) above or below the test meter disclosed by test to be inaccurate shall be corrected for the six (6) months previous to such test in accordance with the percentage of inaccuracy found by such tests. If any meter fails to register for any period, the amount of water furnished during such period shall be deemed to be the amount of water delivered in the corresponding period for the year immediately prior to the failure, unless City and System agree upon a different amount. The metering equipment shall be read on the 15th day of each month. The City Engineer, and the City Water Superintendent, or such person as either of them shall so direct, at all reasonable times, shall have access to the meter for the purposes of verifying its readings.

3. Connection Costs. To pay all costs needed to connect the City's system with the system of the System's, and all costs incurred for the installation of the necessary metering equipment including a meter house or pit backflow preventor and required devices of standard type for properly measuring the quantity of water delivered to the System. All of said installation work and items of equipment shall meet the specifications of the City.

4. The System agrees that it shall keep on file at the office of the City Auditor of the City of Mitchell, evidence of its corporate status and that the same shall be in good standing in the State of South Dakota, and a current list of the directors, officers and managers of the System. Communication by the City or any of its representatives to any such designated officer or manager shall be deemed as communication to the System. Any written notice of any kind given or required to be given by the City to the System, mailed by certified mail to the System at its address of P.O. Box 655, Mitchell, South Dakota, or such other place as the System shall hereafter designate in writing to the City Auditor, shall be deemed notice upon the System.

5. Delivery Rate. To purchase and install a flow control device meeting the City's specifications which limits the

rate of water delivered to a maximum rate of 500 gallons per minute.

C. It Is Further Mutually Agreed By And
Between The Parties Hereto As Follows:

1. Term of Agreement. That this agreement shall extend for a term of forty (40) years from the date of the initial delivery of any water as shown by the first bill submitted by the City to the System, and thereafter may be renewed or extended for such term, or terms, as may be agreed upon by the City and the System.

2. Delivery of Water. That sixty (60) days prior to the initial delivery of water, the System will notify the City in writing.

3. System's Rate. The System's cost of water will be equal to the City's municipal general user rate to industrial users as may be determined from time to time by the City Council with an added surcharge of ten percent (10%). This provision shall not affect the ability of the City to negotiate a special rate with any water user or users, and such special negotiated rate shall not be the basis of establishment of the rate to the System.

4. Service Area Limitations. The System shall not provide water service to any point of connection or service within two hundred feet (200 ft.) of a watermain owned by the City existing as of the effective date of this Agreement; nor shall the System supply any water to any users or customer within the boundaries of the city limits of the City of Mitchell; nor shall the System supply water to any parcel of property which is surrounded or enclosed by City owned watermain.

5. Annexation. It is understood by and between the parties hereto that the City may conduct annexation proceedings pursuant to 1967 SDCL Chapter 9-4, without any obligation or liability to the System, and upon annexation, the City may proceed pursuant to 1967 SDCL 9-47-17, to acquire water mains laid within said annexed territory, all in accordance with the applicable law.

6. Agreement Amending or Terminating. It is further agreed that this Agreement may be terminated or amended from time to time upon mutual agreement of both parties.

7. Regulatory Agencies. That this Agreement is subject to all rules, regulations, laws or court decisions as may be applicable to such Agreement in this State, and any provision of this Agreement found at any time to be in violation of any such rule, regulation, law or court decision shall be void. The City and the System shall cooperate in obtaining such permits, certificates or the like as may be required to comply with any rules, regulations or laws, or require to implement the terms and material provisions of this Agreement.

8. Restrictions. If the City shall at any time impose water usage restrictions upon city water users, the delivery of water by the City to the System shall also be restricted by an equivalent percentage portion, based on water use by the System for the same period of time in the previous year, in accordance with any restrictive measures adopted by the City implementing water use restrictions. The City will provide a minimum of 48 hours notice before imposing any restrictions, except that in cases of emergency, no prior notice will be necessary.

9. Miscellaneous. That the construction of the water supply distribution system by the System is being financed by a loan made or insured by and/or grant from, the United States of America, acting through the Farmers Home Administration of the United States Department of Agriculture, and the provisions hereof pertaining to the undertakings of the System are conditioned upon the approval, in writing, of the State Director of the Farmers Home Administration.

10. Successor to the System. That in the event of any occurrence rendering the System incapable of performing under this Agreement, any successor of the System, whether the result of legal process, assignment, or otherwise, shall succeed to the rights of the System hereunder, provided that any such successor assumes and satisfies in total any unsatisfied obligation of the System to the City.

11. Compliance. The City reserves the right to discontinue water service at any time that the System fails to comply with any of the provisions of this Agreement, or shall become delinquent or default in any of its payments to be made to the City pursuant to this Agreement.

12. The System hereby covenants and agrees that it will hold harmless and indemnify the City from any action or claim resulting either directly or indirectly from claims of the customers of the System or from any claim or cause of action of any resident or customer of the said City's water system, which claim or cause of action results from the City's participation in this contract, including all costs in connection with defending the same. The City agrees that all of its contracts with any of its customers shall be subject to all of the terms and conditions of this Agreement; and neither the System nor its customers shall obtain any property right by and through this Agreement, or through any suit or action at law, in and to the City's water right, water storage, treatment and distribution system, and provided further that the City shall bear no liability to either the System or any of its customers because of failure of water delivery due to shortage or exhaustion of water supply, or mechanical breakdown of water treatment or distribution system.

13. Nothing in this Agreement shall limit or abridge the right and obligation of the City or its governing body to apply its water resources to secure the health, safety and welfare of the citizens of the City of Mitchell.

IN WITNESS WHEREOF, the parties hereto acting under the authority of their respective governing bodies, have caused

this Agreement to be duly executed in six (6) counterparts, each of which shall constitute an original.

CITY OF MITCHELL, SOUTH DAKOTA

By: _____
Its: _____

ATTEST:

Auditor
(SEAL)

DAVISON RURAL WATER SYSTEM, INC.

By: _____
Its: _____

ATTEST:

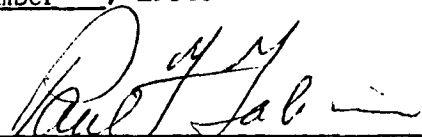
Its: _____

This Agreement is approved on behalf of the Farmers Home Administration this _____ day of _____, 1984.

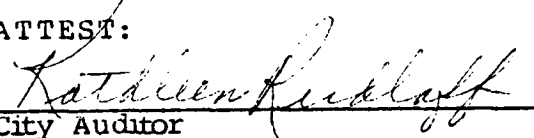
By: _____
Its: _____

3. The Mayor and City Auditor of the City of Mitchell are authorized to enter the foregoing agreement on behalf of the City of Mitchell, South Dakota.

Dated this 19th day of November, 1984.



Mayor

ATTEST:


City Auditor
(SEAL)

First Reading: November 5, 1984
Second Reading: November 19, 1984
Adoption: November 19, 1984
Publication: November 23, 1984

REPORT AND RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT

APPLICATION NO. 5022-3

Application No. 5022-3 is to appropriate 843 acre feet of water per year at a diversion rate of 2.9 cfs from Lake Mitchell and the James River through the City of Mitchell's storage, piping, pumping facilities and water treatment plant. The diversion points are the same as Mitchell's diversion points in Water Rights No. 426-3 and 4354-3. The water will be delivered by the City of Mitchell to the Davison Rural Water System under contractual agreement between the City and the Rural Water System. Application No. 5022-3 is necessary because SDCL 46-1-5 (2) provides that Mitchell may not acquire or hold water rights for other than its own purposes. If approved, Permit No. 5022-3 will have a June 19, 1984 priority date.

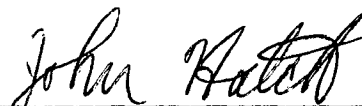
There is unappropriated water in the James River under the same conditions as stated in Mitchell Water Right No. 4354-3. The availability of water from Lake Mitchell is subject to a contractual agreement between the City and the Rural Water System.

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources, concerning Water Permit Application No. 5022-3, Davison Rural Water System, P.O. Box 445, Mitchell, South Dakota.

The Chief Engineer, is recommending APPROVAL of Application No. 5022-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest with the following qualifications:

1. Water Permit No. 5022-3 authorizes diversions from the James River only when 110 cfs or more of water is by-passed, after diversion, during the May thru September period, and only when 20 cfs or more of water is by-passed, after diversion, during the October thru April period.

2. Water Permit No. 5022-3 does not authorize diversions from Lake Mitchell unless there is a contractual agreement between the City of Mitchell and the Davison Rural Water System.



JOHN HATCH, Chief Engineer
Water Rights Division
August 6, 1984



Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Water Rights Division
605 773-3352

October 23, 1984

Davison Rural Water System
PO Box 445
Mitchell SD 57301

Dear Sir:

Enclosed herewith is your Water Permit No. 5022-3 as approved by the Water Management Board authorizing you to construct your water diversion system and the water to beneficial use, not exceeding the limits as specified in said Water Permit No. 5022-3.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that your Water License may be issued to you, thus completing your acquisition of a Water Right.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

JH:ks

enclosure

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period-i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.

RECEIPT

Division of Water Rights

No 4 9695

South Dakota Department of Water and Natural Resources

Pierre, June 19, 1984

RECEIVED OF Davison Rural Water, PO Box 445, Mitchell, SD 57301

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct works and to put water to beneficial use _____	350	63
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	350 63

By

Chief Engineer

John Hatch
JOHN HATCH/ms

RECEIPT

Division of Water Rights

No 4 9696

South Dakota Department of Water and Natural Resources

Pierre, June 22, 1984

RECEIVED OF Davison Rural Water, PO Box 445, Mitchell, SD 57301

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct works and to put water to beneficial use _____	24	37 (ADD. FEE)
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	24 37

By

Chief Engineer

John Hatch
JOHN HATCH/ms

Water Rights Division
605 883-3352

June 19, 1984

Schmucker, Paul, Nohr & Asso.
ATTN: Harlan Quenzer
Box 398
Mitchell SD 57301

Mr. Quenzer:

I am in receipt of the permit application for the Davison Rural Water System. The correct fee for this application is \$375.00. It is calculated as follows:

First 120 acre feet per year or portion thereof	\$150.00
Second 120 acre feet per year or portion thereof	75.00
Each additional 120 acre feet per year or portion thereof	25.00

We will keep your check in the amount of \$350.63 but we will need an additional \$24.37 in order to process this application. If you have any further questions, please contact this office.

Thank you,

KEVIN C LARSON
Water Resources Engineer

KCL:ks

Instruction to Newspaper - Publish first publication of the following Notice on or before **August 16, 1984** with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. **5022-3** to Appropriate Water
~~and/or to Amend Water Permit or Water Rights No. _____~~

Notice is hereby given that **the Davison Rural Water System** whose mailing address is **PO Box 445, Mitchell**, South Dakota has made an application for a permit

to appropriate **843 acre feet of water per year at a diversion rate of 2.9 cubic feet per second of time from Lake Mitchell and the James River through the City of Mitchell's storage, piping, pumping facilities and water treatment plant. The points of diversion are the same as Mitchell's diversion points in Water Rights No. 426-3 and 4354-3. The diversion points are located in the SE $\frac{1}{4}$ Section 9, T103N, R60W (Lake Mitchell) and the SW $\frac{1}{4}$ Section 1-T103N-R60W (James River). The water will be for the purpose of providing water supplies for rural water system use.**

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends

APPROVAL of Application No. **5022-3** because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) is in the public interest.

This application will be considered by the Water Management Board at **Civil Defense Room, Capitol Building, Pierre, South Dakota, September 26** **1984** at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to make a determination on this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the Applicant and the Chief Engineer by **September 14, 1984**. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reason for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17, 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12; ~~(ground) 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, (future use) 46-5-38 thru 46-5-40, (transfer lands) 46-5-30.4, 46-5-33 thru 46-5-35, (10,000 AFA) 46-5-20.1, 46-5-8.1; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; (future use) 74:02:01:24 thru 74:02:01:25; (10,000 AFA) 74:02:01:15:02 thru 74:02:01:15:05.~~

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNr, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by **September 14, 1984**.

No. 5022-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Sanborn) ss.

I, Gerald W. Klaas hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Artesian Commonwealth

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

Artesian Commonwealth of Artesian, South Dakota

County of Sanborn and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

August 16, 1984

August 23, 1984

Gerald W. Klaas
(Signature)

Antisha
(Title)

August 23, 1984
(Date Signed)

**NOTICE OF HEARING ON
APPLICATION NO. 5022-3 TO
APPROPRIATE WATER**

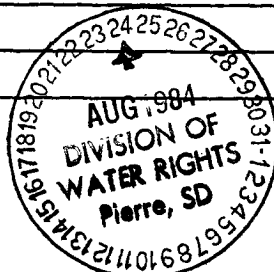
Notice is hereby given that the Davison Rural Water System whose mailing address is PO Box 655, Mitchell, South Dakota has made an application for a permit to appropriate 843 acre feet of water per year at a diversion rate of 2.9 cubic feet per second of time from Lake Mitchell and the James River through the City of Mitchell's storage, piping, pumping facilities and water treatment plant. The points of diversion are the same as Mitchell's diversion points in Water Rights No. 426-3 and 4354-3. The diversion points are located in the SE 1/4 Section 9, T103N, R60W (Lake Mitchell) and the SW 1/4 Section 1-T103N-R60W (James River). The water will be for the purpose of providing water supplies for rural water system use.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5022-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) is in the public interest.

This application will be considered by the Water Management Board at Civil Defense Room, Capitol Building, Pierre, South Dakota, September 26, 1984 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to make a determination on this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-

Cost of Printing: \$41.38



examine witnesses according to SDCL 1-26, must file a written petition with BOTH the Applicant and the Chief Engineer by September 14, 1984. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reason for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

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

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWRN, Joe Foster Bldg, Pierre, SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by September 14, 1984.

Form 8 - Proof of Publication - Notice of
Intent to Appropriate Water

No. _____

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Davison) ss.

I, Helen Kent, Accountant hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Daily Republic

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

Daily Republic of Mitchell, S.D.

County of Davison and State of South Dakota;
that the said notice was published in said newspaper on the following
two dates:

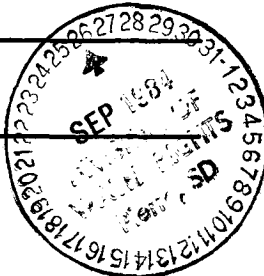
August 17, 1984

August 10, 1984

Helen Kent
(Signature)

Accountant
(Title)

8/20/84
(Date Signed)



Cost of Printing: 10.9" @ \$3.85 per column

inch = \$41.97 x 2 runs = \$83.94

WNR-808-7/79
Proof of Publication

NOTICE OF HEARING
on Application No. 5022-3
to Appropriate Water

Notice is hereby given that the Davison Rural Water System whose mailing address is P.O. Box 655, Mitchell, South Dakota has made an application for a permit to appropriate 843 acre feet of water per year at a diversion rate of 2.9 cubic feet per second of time from Lake Mitchell and the James River through the City of Mitchell's storage, piping, pumping facilities and water treatment plant. The points of diversion are the same as Mitchell's diversion points in Water Rights No. 426-3 and 435-3. The diversion points are located in the SE 1/4 Section 9, T103N-R60W (James River) and the SW 1/4 Section 1-T103N-R60W (James River). The water will be for the purpose of providing water supplies for rural water system use.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5022-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) is in the public interest.

This application will be considered by the Water Management Board at Civil Defense Room, Capitol Building, Pierre, South Dakota, September 26, 1984 at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to make a determination on this application after it reaches its conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the Applicant and the Chief Engineer by September 14, 1984. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reason or the petitioner's opposition to or support of the application, and the petitioner's name and mailing address. The petitioner or his legal counsel if legal counsel is obtained, must file a petition.

This application is made pursuant to the provisions of SDCL 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17, 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12 thru 46-2A-15; ARSD 74:02:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a Petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and the State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNR, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by September 14, 1984.

5022-3



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

February 14, 1989

Francis Mason, Manager
Davison Rural Water System
P.O. Box 445
Mitchell, SD 57301

Dear Mr. Mason:

Pursuant to the annual amount of water approved for Water Permit No. 5022-3, we are requesting Davison Rural Water System to report the amount of water pumped from the James River during 1988. Water Permit No. 5022-3 authorizes pumping from the James River of up to 843 acre-feet annually.

If you have any questions concerning this or other water rights questions, please contact Susan Bowar, Water Rights Engineer, (605) 773-3352.

Very truly yours,

A handwritten signature in black ink, appearing to read "John Hatch". The signature is written in a cursive, flowing style.

JOHN HATCH, Chief Engineer
Water Rights Division





Davison Rural Water System, Inc.

P.O. Box 655
Mitchell, South Dakota 57301
(605) 996-2266



February 16, 1989

John Hatch, Chief Engineer
SD Dept of Water & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Dear Mr. Hatch:

This is in response to your letter dated February 14, 1989 concerning the Water Permit No. 5022-3. The amount of water Davison Rural Water System purchased from the city of Mitchell for the year 1988 was 60,383,500 gallons.

Sincerely,

Francis Mason, Manager
Davison Rural Water System, Inc.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

April 2, 1991

5022-3

Davison Rural Water Sys.
Mitchell, SD 57301

Dear Sir :

I am contacting irrigators and water users on the James River to advise of the low flow conditions in the James River and potential of shut off orders being issued. Due to the continuing drought, the James River basin, in both North Dakota and South Dakota, is supplying the river with below normal runoff.

The following is the latest flow (cfs) information on the river:

Date	Ludden	Columbia	Ashton	Huron	Forestburg	Scotland
3/28/91	79.1	0.0	6.6	2.3	19.2	23.7
3/29/91	79.1	0.0	6.3	13.0	17.9	22.8
4/01/91	79.1	0.0	6.1	11.1	18.5	10.0

Note: The flow at Ludden is from in stream ice melt with little or no runoff occurring.

We will continue to closely monitor the flow in the river. Unless flow conditions improve in the next two to three weeks, shut off orders may have to be issued to all James River water users except for the City of Huron, which has senior water rights.

If you have any questions, feel free to contact Mark Rath or Del Brosz. Phone (605) 773-3352.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division
(605) 773-3352



5022-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

January 7, 1992

Davison Rural Water System
Francis Mason
P.O. Box 445
Mitchell SD 57301

Dear Mr. Mason:

Pursuant to a qualification on Water Permit/Right No(s). 5022-3, we are requesting that the Davison Rural Water System report to the Chief Engineer the amount of water withdrawn for the year 1991. Please respond by February 10, 1992.

If you have any questions concerning this or other water rights questions, please contact Don Frye, Natural Resources Analyst, (605) 773-3352.

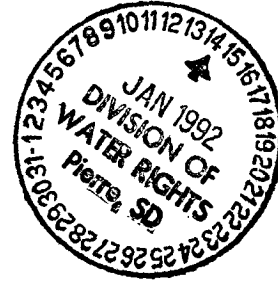
Very truly yours,

Ron Duvall,
Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division



Davison Rural Water System, Inc.

P.O. Box 655
Mitchell, South Dakota 57301
(605) 996-2266



January 10, 1992

Ron Duvall
Natural Resources Engineer
Dept of Environment & Natural Resources
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Dear Mr. Duvall:

RE: Water Permit/Right No. 5022-3

The amount of water Davison Rural Water System purchased from the City of Mitchell for the year 1991 was 69,284,000 gallons.

The City of Mitchell pumped 870,981,000 gallons from the James River.

Sincerely,


Francis Mason
Manager

FM/cs



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

December 23, 1992

Francis Mason
Davison Rural Water System
P.O. Box 445
Mitchell SD 57301

Dear Mr. Mason:

Pursuant to a qualification on Water Permit/Right No(s). 5022-3, I am requesting that the Davison Rural Water System report the amount of water diverted under the permit(s) during 1992. Please respond by January 15, 1993.

If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, (605) 773-3352.

Very truly yours,

RON DUVAL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

January 26, 1993

SECOND NOTICE

Francis Mason
Davison Rural Water System
P.O. Box 445
Mitchell, SD 57301

Dear Mr. Mason:

Pursuant to a qualification on Water Permit/Right No(s). 5022-3, we requested in our December 23, 1992 letter that the Davison Rural Water System report the amount of water withdrawn during 1992. We have not received a reply and would appreciate your earliest response.

If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, at (605) 773-3352.

Very truly yours,

RON DUVALL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division



DAVISON RURAL WATER SYSTEM, INC. MITCHELL, SOUTH DAKOTA 57301

For The Month Of 12 Month Ended 12/31/92

CODE	# OF INSTALLATIONS	DISCONNECTS	# OF ACTIVE USERS	PAID BILLS	PAID Y-T-D
1 Farm	329	19	310	324	3580
2 Pasture	26	5	21	8	137
3 Household	299	14	285	291	3255
4 Business	48	4	44	45	494
5 Cities	2	1	1	1	12
TOTAL	704	43	661	669	7478

CURRENT MONTH			YR TO DATE			LAST YR TO DATE
Gals	\$	Ave/tap	Gals	\$	Ave/tap	Ave/tap
WATER PURCHASED 5191500			74163900			

WATER SOLD:							
1 Farm	2891000	60.6	9326	34527000	53.8	9663	10040
2 Pasture	10000	0.2	476	697000	1.0	3139	3466
3 Household	1320000	27.7	4632	19424000	30.3	5932	6429
4 Business	194000	4.0	4409	4094000	6.3	7753	8355
5 Cities	351000	7.3	351000	5346000	8.3	445500	445833
TOTALS	4766000	100.0	7210	64088000	100.0	8422	8922

TOT WTR PURCHASED	5191500	74163900	69284000
TOT WTR SOLD	4766000	64088000	62397000
WATER LOSS (unaccountable)	425500	10075900	6887000
WATER LOSS percentage)	8.20	13.59	9.94

	Current Month	Last Month
CASH & SAVINGS ON HAND BEGINNING	\$ 68044.02	61024.66
CASH RECEIPTS	\$ 27927.75	31813.31
LESS EXPENDITURES	\$ 26707.21	24793.95
TOTAL CASH & SAVINGS END	\$ 69264.56	68044.02
Number of Delinquent Accounts	60	
NUMBER OF WATER LINE BREAKS: THIS MONTH	0	YTD 6
NUMBER OF FREEZE-UPS : THIS MONTH	0	YTD 2

Disconnect Vern Mathis Sr - code 1.
Disconnect L.K. Mathis - code 1.
Add Ted Tilberg - code 2.

5022-3



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

January 13, 1994

Francis Mason
Davison Rural Water System
P.O. Box 445
Mitchell, SD 57301

Dear Mr. Mason:

Pursuant to an annual water use limit on Water Permit/Right No. 5022-3, I am requesting that the Davison Rural Water System report the total amount of water diverted from the James River and Lake Mitchell during 1993. Please respond by January 31, 1994.

If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, (605) 773-3352.

Sincerely,

RON DUVALL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

01/17/94

The total amount of water withdrawn for 1993 was 77,293,000 gallons.

NO Amount withdrawn from Jim River.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

December 29, 1999

5022-3

Francis Mason
Davison Rural Water System
PO Box 445
Mitchell, SD 57301-0445

Dear Mr. Mason:

Pursuant to an annual water use limit on Water Right No. 5022-3, I am requesting that the Davison Rural Water System report the total amount of water diverted from the James River and Lake Mitchell during 1999. Please respond by January 28, 2000.

If you have any questions concerning this or other water rights questions, please contact Genny McMath at (605) 773-3352. Water use data and/or questions may also be forwarded to Genny via email at genny.mcmath@state.sd.us.

Sincerely,

Ron Duvall, Natural Resources Engineer
for John Hatch, Chief Engineer
Water Rights Program

Total gallons of water purchased from the City of Mitchell for the year 1999: 110,005,000

CHANGE OF ADDRESS:
Dan Schroeder, Manager
Davison Rural Water System, Inc.
P.O. Box 668
Mitchell, SD 57301-0668

337.6 ac ft

REPORT ON INSPECTION OF PERMIT NO. 5022-3

Other permit(s) associated with the project: 426-3 & 4354-3 (City of Mitchell).

DATE OF INSPECTION: March 20, 1996

NAME OF INSPECTION CONTACT: Francis (Buzz) Mason, Mgr. of Davison Rural Water System and Al Shermann, Water Superintendent for the City of Mitchell.

NAME & ADDRESS OF PERMIT HOLDER: Davison Rural Water System, PO Box 445, Mitchell, SD 57301

DIVERSION POINT LEGAL LOCATION: #1: (Mitchell Lake) 1850 feet S and 245 feet E from the NW corner of Section 10; T103N R60W (SW1/4 NW1/4); #2: (James River) 1190 feet E and 130 feet N from the SW corner of Section 1; T103N R60W (SW1/4 SW1/4).

DAVISON RWS BOOSTERS: (Section 17)

Motors: (3)

- 1) Make General Electric
- 2) Frame No. LT54TP12
- 3) Horsepower rating 15 HP

Pumps: (3)

- 1) Make Layne
- 2) Model No. 103928 thru 103930
- 3) Capacity 200 GPM

Motor: (1)

- 1) Make General Electric
- 2) Frame No. L213TP10
- 3) Horsepower rating 5 HP

Pump: (1)

- 1) Make Layne
- 2) Model No. 103927
- 3) Capacity 100 GPM

SYSTEM TYPE:

Rural Water System

Water is used to serve the Davison County area; water transported, stored, treated, and delivered by the City of Mitchell through their diversions under Water Permit Nos. 426-3 and 4354-3.

PERMIT QUALIFICATIONS AND REGULATIONS:

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

- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period N/A

COMMENTS:

The Davison Rural Water System shall not exceed 843 AF/YR under Water Permit No. 5022-3. These two diversions are owned and operated by the City of Mitchell.

There is a 500,000 gallon storage tank in the NW1/4 of Section 17 and a 50,000 gallon storage tank in the SW1/4 of Section 2; both in T103N R60W and are owned and operated by Davison Rural Water.

The James River diversion is only used to fill Lake Mitchell. The Lake Mitchell diversion is used to pump water to the City of Mitchell's water treatment plant.

Permit No. 5022-3
James River - Water District

Report Of Examination Of Works And/Or Application of Water To Beneficial Use

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

I have this day, **March 21, 1996**, made a thorough examination of the water use system constructed by **Davison Rural Water System** of **PO Box 445, Mitchell, SD 57301** holder of Permit No. **5022-3**, bearing the priority of **June 19, 1984** authorizing the diversion of **2.90** cu. ft. of water per second not to exceed **843** af/yr from **Surface water (James River & Mitchell Lake)** for **Rural Water** purposes, in **Davison** County.

NOTE:

The James River diversion is only used to fill Lake Mitchell. The Lake Mitchell diversion is used to pump water to the City of Mitchell's water treatment plant.

I have to report on the conditions of the same as follows:

A. Works used to divert the water:

The city of Mitchell's pumps at the James River and at Lake Mitchell.

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

A combination of various sizes of underground pipe along with 2 water storage tanks.

C. Works used to apply water to beneficial use:

Users on the Davison Rural Water System.

The system is in the following condition **excellent**. The point of diversion is located **#1: (Mitchell Lake) 1850 feet S and 245 feet E from the NW corner of Section 10; T103N R60W (SW1/4 NW1/4); #2: (James River) 1190 feet E and 130 feet N from the SW corner of Section 1; T103N R60W (SW1/4 SW1/4).** The works are capable of diverting and conveying to the place of use **2.90** cu. ft. of water per second not to exceed **843** af/yr which is to be used for **Rural Water Use** and the license should be issued for **2.90** cfs or **843** acre-feet/year.

The Davison Rural Water System shall not exceed 843 AF/YR under Water Permit No. 5022-3. These two diversions are owned and operated by the City of Mitchell.

There is a 500,000 gallon storage tank in the NW1/4 of Section 17 and a 50,000 gallon storage tank in the SW1/4 of Section 2; both in T103N R60W and are owned and operated by Davison Rural Water.

The James River diversion is only used to fill Lake Mitchell. The Lake Mitchell diversion is used to pump water to the City of Mitchell's water treatment plant.

Applicable permit qualifications have been complied with: Yes **X** No

Exceptions to compliance are: **None** Date Report Completed: **April 22, 1996**

Barry A. McLaury

Barry A. McLaury

Natural Resources Scientist

DENR, Water Rights Program

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
WATER RIGHTS PROGRAM

DATE: April 22, 1996

RE: **Change in location of diversion for Water Permit No. 5022-3, Davison Rural Water System.**

An inspection of Permit No. **5022-3** found the diversion point in a location not authorized by the permit. SDCL 46-5-13.1 provides that a point of diversion may be changed or additional points of diversion may be approved without application or publication of a notice of hearing if the additional point of diversion is from the same source of water, no additional water is appropriated and the Chief Engineer makes a finding that the change does not increase the potential for interference with existing diversions.

Water Permit No. **5022-3**, approved in **September 26, 1984**, appropriates **2.90** cubic feet of water not to exceed **843 AF/YR** from **surface water** for **rural water use**. The diversion point was to be located in the **SE1/4** of **Section 9; T103N R60W (Mitchell Lake)**. An inspection of Water Permit No. **5022-3** found the City of Mitchell's diversion points from the **James River** and from **Mitchell Lake** being used for the rural water system. Water is transported, stored, treated, and delivered by the City of Mitchell. The Mitchell Lake diversion is located in the **SW1/4 NW1/4** of **Section 10; T103N R60W**.

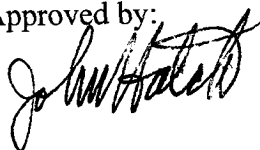
A review of existing diversions within a one mile radius of **Section 10** was conducted based on Water Rights Program records. This review showed that there are no other existing diversions from **Mitchell Lake**.



Barry A. McLaury
Environmental Scientist
Water Rights Program

The Chief Engineer makes a finding that this change in location does not increase the potential for interference with existing diversions. In making the finding "does not increase the potential for interference" is interpreted to mean potential for adverse interference. Water Permit No. **5022-3** may be licensed without requiring an application or publication of a notice of hearing pursuant to SDCL 46-2A-4 for a change of diversion point.

Approved by:



John Hatch, Chief Engineer
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

April 24, 1996

5022-3

Francis (Buzz) Mason, Manager
Davison Rural Water System
P.O. Box 445
Mitchell, SD 57301

Dear Mr. Mason:

The inspection of your water use system and the inspection of the extent of application of water to beneficial use, as developed under Water Permit No. 5022-3, has been completed. Your final water right document, the Water License, can now be issued.

Statutes require that we charge a \$50.00 fee for the inspection and issuance of the Water License. Upon receipt of the \$50.00 fee from you, we will begin processing your Water License.

Please remit fee to:
Department of Environment & Natural Resources
Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Program
(605) 773-3352

NOTE: On check or money order, please specify your permit number. This will insure proper handling of the fee.

RECEIPT

414955

Division of Water Rights

South Dakota Department of Environment and Natural Resources

Pierre, _____ May 10, 19 96

RECEIVED OF Davison Rural Water, P.O.Box 668, Mitchell, SD 57301

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use _____		
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>5022-3</u>	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	50 00

By John Hatch 
Chief Engineer

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 5022-3

(1) Davison Rural Water System, PO Box 668, Mitchell SD 57301-0668 made Application No. 5022-3, June 19, 1984 for a water permit to divert 2.90 cubic feet of water per second (843 acre-feet annually) from the James River and Mitchell Lake, Davison County, South Dakota for rural water system purposes. Permit No. 5022-3, with a priority date of June 19, 1984 was approved September 26, 1984 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before September 26, 1989 and for the application to beneficial use of said water on or before September 26, 1993.

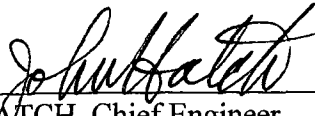
The diversion point authorized under Water Permit No. 5022-3 was to be located in the SE $\frac{1}{4}$ Section 9, T103N, R60W (Mitchell Lake). An investigation of the water use system found the City of Mitchell's diversion points from the James River and Mitchell Lake being used for the rural water system. Water is transported, stored, treated and delivered by the City of Mitchell.

Pursuant to SDCL 46-5-13.1, the Chief Engineer made a finding that the change in location does not increase the potential for interference with existing diversions.

(2) It is certified that the applicant has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 2.90 cubic feet of water per second (843 acre-feet annually) for beneficial use. The location of the diversion points are: Mitchell Lake - 1,850 feet south and 245 feet east from the northwest corner of Section 10 (SW $\frac{1}{4}$ NW $\frac{1}{4}$) and the James River - 1,190 feet east and 130 feet north from the southwest corner of Section 1 (SW $\frac{1}{4}$ SW $\frac{1}{4}$); all from T103N-R60W.

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use for rural water system use in the Davison County area.

(4) Pursuant to South Dakota Water Law 46-5-30.1 the Davison Rural Water System, PO Box 668 Mitchell SD 57301-0668 the holder and/or owner of Water Permit No. 5022-3 is issued a license to appropriate water, the right to use 2.90 cubic feet of water per second (843 acre-feet annually) from the James River and Mitchell Lake with a priority date of June 19, 1984 from the locations specified in (2) of this license, for rural water system purposes. This license is subject to any limitations or qualifications listed in Water Permit No. 5022-3 and subject to South Dakota State Law.



JOHN HATCH, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUL 2 1996

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181

JUL 2 1996

5022-3

Francis (Buzz) Mason, Manager
Davison Rural Water System
P.O. Box 668
Mitchell, SD 57301-0668

Dear Mr. Mason:

Enclosed is Water License No. 5022-3 and Receipt No. 414955 for \$50.00 which was assessed for an investigation and issuance of the license. Water License No. 5022-3 is the final document which completes the process of obtaining a water right.

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.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Program
(605) 773-3352

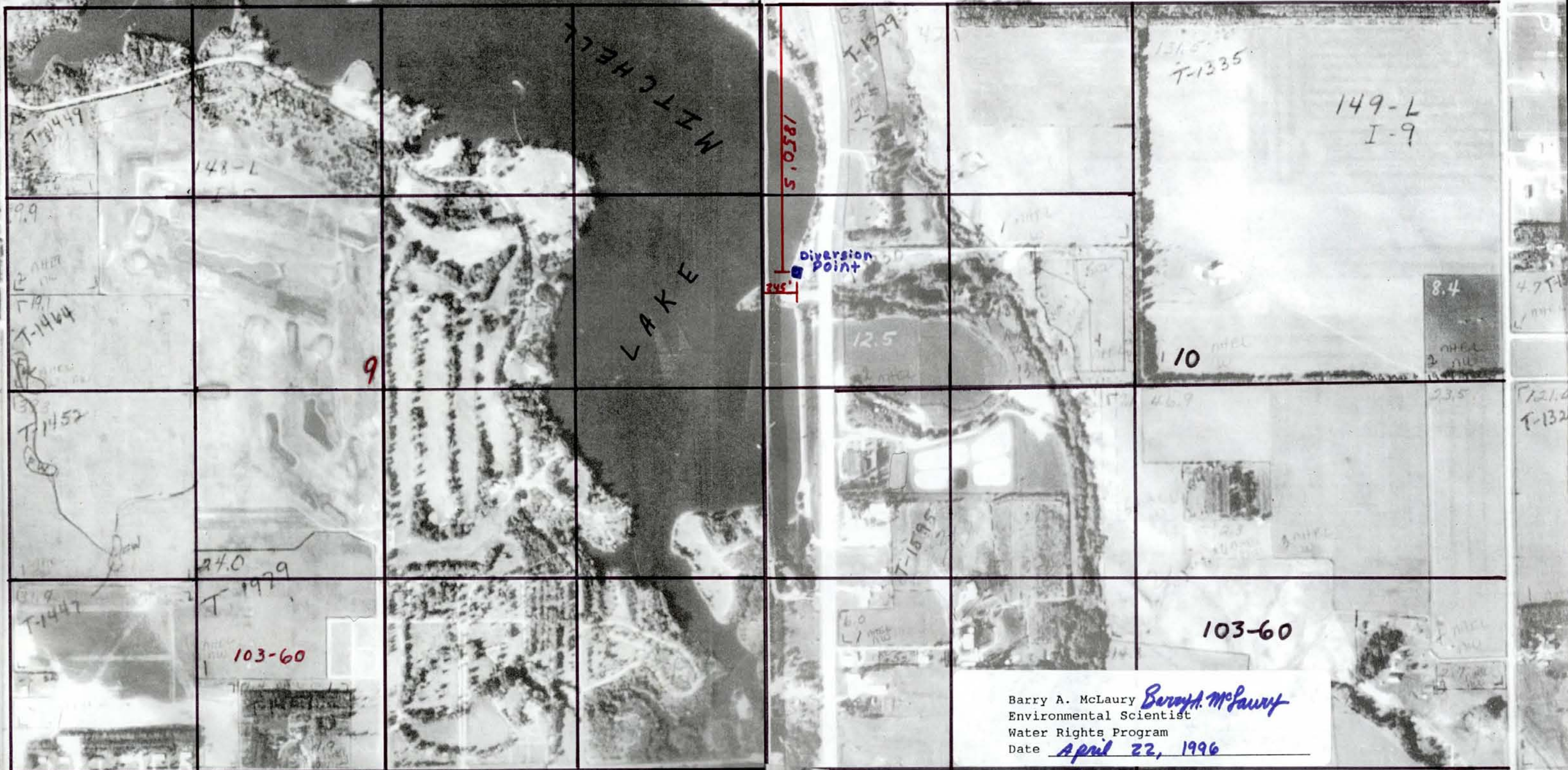
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NOT TO SCALE



NOT TO SCALE



Barry A. McLaury *Barry A. McLaury*
Environmental Scientist
Water Rights Program
Date April 22, 1996

5022-3

DAVISON RWS
5022-3

I-10
150-L

TRANSFERRED

Hanson County

T-1351

JAMES

RIVER

Barry A. McLaury
Environmental Scientist
Water Rights Program
Date April 22, 1996

1190' E

Diversion
Point

103-60

5022-3

DAVISON RURAL WATER SYSTEM
MITCHELL, SOUTH DAKOTA



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 1, 2006

NOTICE OF SHUTOFF ORDER

TO: DAVISON RWS attn DAN SCHROEDER, MNGR
PO BOX 668
MITCHELL SD 57301

FROM: GARLAND ERBELE, Chief Engineer
Water Rights Program

SUBJECT: James River Shutoff Order

Shutoff Order for Water Right No(s). 5022-3

To protect domestic use on the James River, the department is issuing shutoff orders to water right holders on the James River from the Yankton-Hutchinson county line north to the North Dakota border. Effective immediately, no diversions of water from the James River will be allowed. Previous to this Order, shutoff orders were issued for water right junior to January 1, 1975 located upstream of Huron.

Flow in the James River continues to decline to the point where domestic use of water, which includes livestock watering from the river, has become a concern. USGS gaging stations over this entire river reach are measuring flow levels at or below 20 cubic feet per second, the required bypass for downstream domestic use. This order will remain in effect until the end of the calendar year. If after September 1, flows in the river improve and stabilize at over 20 cfs, you may make a written request to the Chief Engineer asking for permission to pump.

The USGS maintains a website where you can view real-time stream flow measurements at several sites along the river, the web address is:

<http://waterdata.usgs.gov/sd/nwis/rt>

I am asking for your cooperation in complying with this shutoff order. The ongoing drought is creating hardship for all the water right holders along the river.

If you have any questions, please contact Lynn Beck or Mark Rath with the Water Rights Program at (605) 773-3352. Thank you.