

Considered: _____

WATER PERMIT NO. 5027-3

MAP No. 5027-3

Name of Applicant Lake Byron Water She'd District

Post Office Address 201 Farmers and Merchants Building Huron 57350

Amount of Water Claimed 12.00 3400 ac ft ann Total Acres _____

Source of Water Supply James River

Water to be used for MPL (Lake Stabilization) County BD

About 12 1/2 miles NE of Huron.

PROOF OF PUBLICATION: Received 11-2-84 Not Received _____

APPLICATION: Approved 12-5-84 Subject to _____

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

PRIORITY 6/14/84 Date Received 6/14/84 Fee 900.00 Remarks pump water from the James River to Lake Byron

Corrected Application Received Aug 10, 1984 Period of Annual Use _____

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

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

Diversion Point NW 1/4 SW 1/4

Section 33-T113N-R61W

Land to be Irrigated _____

	34				
x					

Well Log: Driller _____ Licensed YES _____ NO _____

Depth of Well _____ REMARKS _____

Type of Map drawn PREPARED BY Larry S Doss PE Reviewed and the Number assigned on 8/10/84 By Betty Westlund

Betty Westlund NRA III

cc: Nelson & Harten

No. <u>5027-3</u>	Hydrologic Unit <u>10160006</u>
Map No. <u>5027-3</u>	Basin <u>James River</u>
Newspaper <u>Daily Plainsman</u>	

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

Type of Application: Check one or more of the following;

New ☒ Vested Right ☐ Future Use ☐☐ Application to amend Permit No. _____ with old priority date retained☐ Change diversion point(s) ☐ Add diversion point(s) ☐ Change acreage ☐ Other ☐☐ Application to: ☐ Change use ☐ Change diversion point(s) ☐ Add diversion point(s)☐ Add Acreage ☐ Increase diversion rate ☐ Other _____ See Permit No. _____☐ Application to: ☐ Use ☐ Transfer water reserved by Future Use Permit No. _____1. Name of Applicant LAKE BYRON WATER SHED DISTRICT Phone No. 352-1857Post Office Address 201 Farmers & Merchants Building - Huron State S.D. 57350
(Street, RR or Box) Zip Code 573502. Amount of water claimed (c.f.s) 12.0 cfs Total acres irrigated Not to exceed 3400 per yr.3. Source of Water supply JAMES RIVER4. Location of point of diversion JAMES RIVER mile 234.25- plus or minus- 1640 ft N., 4440 W of SE corner section 33, Township 113 N.-Range 61 WCounty BEADLE5. Counties where water will be used BEADLE6. Annual period during which water is to be used When flow is greater than 20 cfs over 3rd street dam.

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

Land Description	No. Acres Irr.

Land Description	No. Acres Irr.

Attach sheet if more space is needed

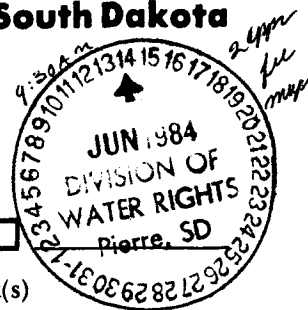
8. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

The project involves the pumping of water from the James River to Lake Byron to provide for the stabilization of water levels of the Lake & to provide for the storage of water which could be returned to the James River to provide a supplemental source of water for the City of Huron.

SEE ATTACHMENTS: Preliminary Report
Hydrological Study

Maps

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 Beadle) ssI, Pat Schubert, Chairman 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 Pat SchubertSubscribed and sworn to before me this 13th day of June 1984M. Mary Schubert
8/24/87

WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. 5027-3
Lake Byron Watershed Dist. 201 Farmers & Merchants Bldg Huron
(Applicant) (Post Office Address)
South Dakota 57350 With the following qualifications.
(State) (Zip Code)

See Attachment A

Date of first receipt of application June 14, 1984

Date of return to applicant for correction, amendments or changes required , 19

Date of receipt of corrected application , 19 Approved December 5, 1984

The Water Management Board hereby approves this Water Permit No. 5027-3 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:

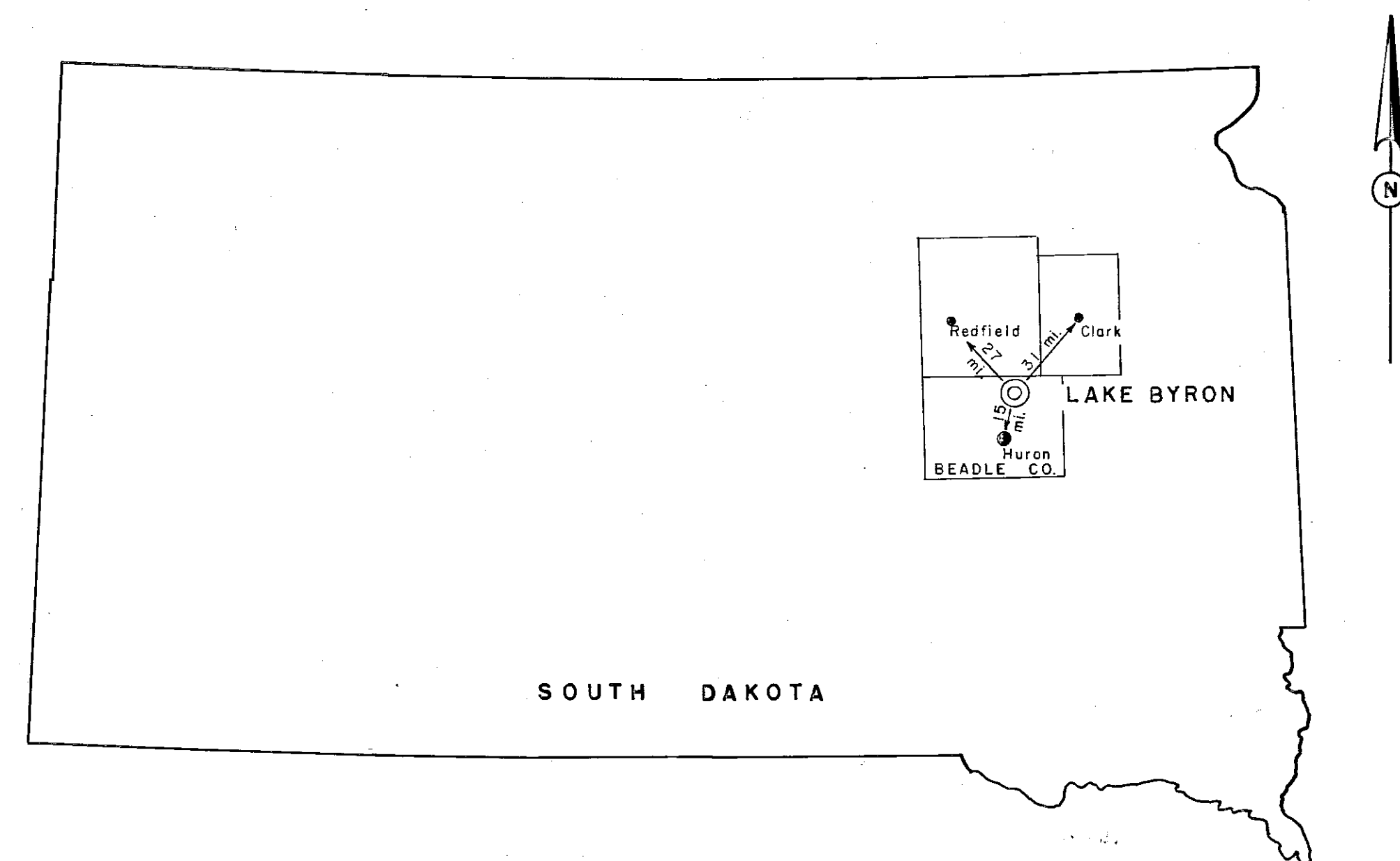
1. The date from which applicant may claim right is June 14, 1984
2. One-fifth of the work is to be completed on or before June 5, 1987
3. The whole of said work is to be completed on or before December 5, 1989
4. The time limit for proof of beneficial use of water is December 5, 1993
5. The water appropriated shall be used for the purpose of Lake Stabilization
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 3400 acre feet per year ~~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. For irrigation purposes said appropriation must be limited to not more than 2 acre feet per acre per year and be limited to not more than one-seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually and beneficially applied for irrigation on or before December 5, 1993; said water to be used during the following described annual period: Jan. 1 To December 31

WATER MANAGEMENT BOARD

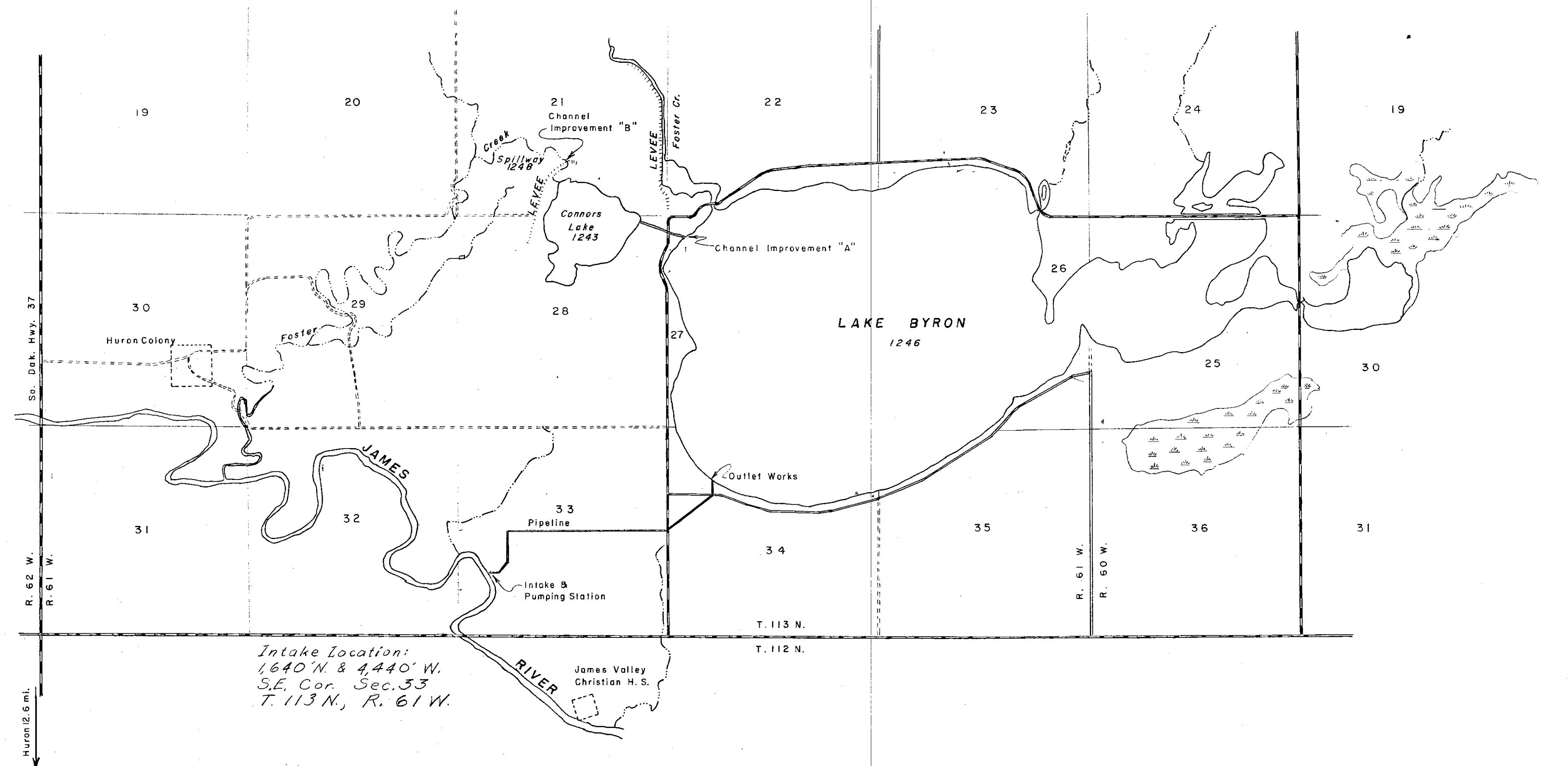
By: John H. Hatcher
Chief Engineer

Division of Water Rights
 Dept. of Water and Natural Resources

January 3, 1985



LOCATION MAP
Scale: 1/2,700,000

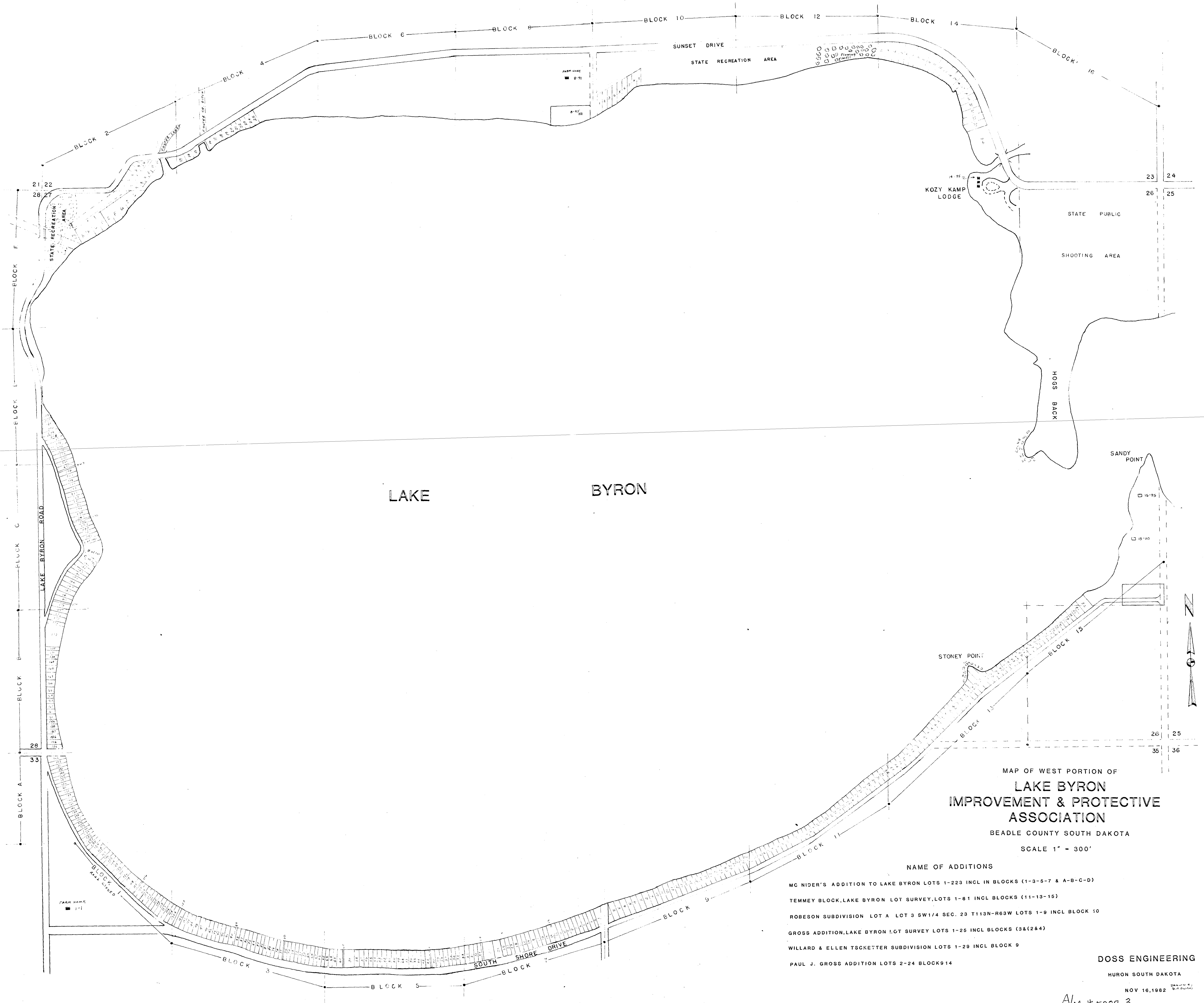


VICINITY MAP
Scale: 1/24,000

*Larry S. Doss, P.E.
S.D. Reg. No. 1457
February 10, 1984*

DOSS ENGINEERING COMPANY Sioux Falls, South Dakota		
LAKE BYRON OFF STREAM STORAGE PJT.		
Project Location and Vicinity Maps		
Drwn. by: Larry Doss, P.E.	App. by:	Sheet
Scale: as noted	Date: February 3, 1984	of

A/M # 5027-3 map # 1



MAP OF WEST PORTION OF
LAKE BYRON
 IMPROVEMENT & PROTECTIVE
 ASSOCIATION
 BEADLE COUNTY SOUTH DAKOTA
 SCALE 1" = 300'

- NAME OF ADDITIONS
- MC NIDER'S ADDITION TO LAKE BYRON LOTS 1-223 INCL IN BLOCKS (1-3-5-7 & A-B-C-D)
 - TEMMEY BLOCK, LAKE BYRON LOT SURVEY, LOTS 1-81 INCL BLOCKS (11-13-15)
 - ROBESON SUBDIVISION LOT A LOT 3 SW 1/4 SEC. 23 T113N-R63W LOTS 1-9 INCL BLOCK 10
 - GROSS ADDITION, LAKE BYRON LOT SURVEY LOTS 1-25 INCL BLOCKS (3&2&4)
 - WILLARD & ELLEN TSCKETTER SUBDIVISION LOTS 1-29 INCL BLOCK 9
 - PAUL J. GROSS ADDITION LOTS 2-24 BLOCK 914

DOSS ENGINEERING
 HURON SOUTH DAKOTA
 NOV 16, 1982

A/M # 5027-3

ATTACHMENT A

Permit No. 5027-3, Lake Byron Water Shed District

1. Low flows as needed for downstream domestic use and prior water rights must be bypassed. The minimum bypass at Huron for domestic use is 20 cfs. During the period of April 1 through June 30 of each calendar year, diversions are authorized only when 60 cfs or more are by-passed after diversion for domestic use or prior water rights, unless a lower flow by-pass based upon the need for water in Lake Byron versus the need for water downstream, is authorized by the Chief Engineer. This permit does not authorize diversion of water from the James River after June 30th of each calendar year unless written orders have been so issued by the Chief Engineer. In the management of the James River under this permit, flows will be monitored at all gaging stations, and cutoffs will be timed to insure water supplies for domestic use and prior water rights.
2. This Permit is approved subject to a yearly report being submitted by January 31 to the Chief Engineer on the quantity of water diverted each month in the previous calendar year.
3. Before a controlled release of water occurs, the Lake Byron Watershed District shall collect water quality samples from Lake Byron and the James River, have an approved laboratory analyze the samples, and submit the laboratory results to the Chief Engineer for review by the Division of Environmental Quality. If the results are satisfactory, the Chief Engineer may approve a controlled release of water if:
 - a. The quality of the Lake Byron water will not violate James River Stream Standards during a controlled release; or
 - b. The quality of water in Lake Byron is equal to or better than the James River water quality.

If, at any time during the controlled release, the James River Stream Standards are violated due to the discharge, the Chief Engineer will require the controlled release of water to cease.

4. The elevation of outlet control structures for Lake Byron and Connors Lake may not exceed elevation 1248.1 feet msl.

PROJECT DESCRIPTION

LAKE BYRON OFF STREAM STORAGE PROJECT

Delivery System

A submerged 33" intake line located on the east bank of the James River (approximate river mile 234.25) will divert river flow, by gravity, to a pump station located 140 feet, more or less, from the diversion point. The pump station will deliver water through a pipeline and outlet works at Lake Byron, 6,950 feet distant via the selected route. The pipeline diameter shall not be greater than 27 inches. Water shall be delivered at a rate of 12 cubic feet per second, and shall provide 1,440 acre feet of volume in a 60 day pumping period. A report, Hydrological Study-Lake Byron, Beadle Co., South Dakota, is attached and explains the selection of pumping rate and desired volumes.

Return System

A gravity flow return system has been proposed. The basic features include construction of flow control structures between Lake Byron, Connors Lake, and Foster Creek; and, grading of 26,000 feet of Foster Creek from Connors Lake to the James River. A report, Preliminary Engineering Report-Lake Byron Off Stream Storage, is attached and explains the over all project concept; this report proceeded further work establishing the general pipeline route shown on the attached drawing "Project Location and Vicinity Maps." The return flow is at the confluence of Foster Creek and the James River, approximate river mile 236.85, a point approximately 1,180' S. & 600" W. of the N.E. Corner of Sec. 31, T. 113 N., R. 61 W.

Attachments:

- 1) Report "Hydrological Study-Lake Byron, Beadle Co., South Dakota", Doss Engineering Co., 1983.
- 2) Report "Lake Byron Off Stream Storage", Doss Engineering Co., 1982
- 3) Map Lake Byron Off Stream Storage Project-Project Location and Vicintiy Maps, 1984.

HYDROLOGICAL STUDY
LAKE BYRON, BEADLE CO., SOUTH DAKOTA

for

LAKE BYRON DEVELOPMENT ASSOCIATION

by

DOSS ENGINEERING COMPANY

October 12, 1983

* * * * *

PURPOSE

The purpose of this study is to determine reasonable pumping rates and pumping periods which should be incorporated into the design of the Lake Byron Off Stream Storage project. In a previous report, it was assumed that atleast 120 days of pumping per year, on the average, would be a reasonable period; however, the assumption needed to be tested for accuracy and either accepted or rejected and replaced with a new number prior to design.

SCOPE

The scope of this study is limited to considering Lake Byron hydraulics embodying a number of assumptions presented in the aforementioned preliminary report. Also, James River hydraulics, using actual flow records from the USGS gaging station at Huron, SD, were considered. Lake hydraulic information was used to determine the amounts of water required to replenish volume, thus level, and probable frequency of the need for such replenishment. The river hydraulic information was used to accomplish the purpose of this study according to the methods described herein.

METHODS

A mass balance for Lake Byron under normal and "dry year" conditions were made and presented graphically in Figures 1, Normal Year Mass Balance, and Figure 2, Dry Year Mass Balance. As in the previous study, it was assumed that the percent chance of runoff is the same as for Firesteel Creek.

A statistical analysis of days of pumping was made from flow records at Huron, SD, from the period of 1963 through 1981, by identifying periods when pumping might be permitted and arranging the information into a frequency series and determining the recurrence interval for such events. The analysis was made using recognized methods of analysis for flood events and substituting days of pumping for peak flow data.

The days of pumping were determined graphically by transposing actual flows over an annual grid based on the following flows by-passing Huron, SD:

<u>Month</u>	<u>Required Flows*</u>
April	115 cfs
May	100 "
June	95 "
July	105 "
August	70 "
All Others**	50 "

* required flows = probable required by-pass
+ 20 cfs (cubic feet per sec)

**no pumping anticipated in December through February.

RESULTS AND DISCUSSION

Figure 1, Normal Year Mass Balance, shows that precipitation, evaporation and inflow contribute to the lake volume or "recharge" it from January through June. Beyond that period, net losses occur resulting in the average year loss of 799 acre feet of volume. If the lake is full or nearly full during the recharge period, overflow occurs. Alternately, if the lake is down substantially, no overflow occurs and the situation is aggravated going into the next year. This is substantiated by the fact that flows into the lake balance only 38% of the time or about 4 out of every 10 years.

Figure 2, Dry Year Mass Balance, shows recharging only from January through April. The net loss in this event is 3,404 acre feet of volume. It is generally considered that there is an 80% chance of this occurrence in any given year.

Table 1, Annual Pumping Days for Lake Byron, shows the days of pumping in the form of a frequency histogram. The first two columns show the year of record and the days of pumping as determined by previously described methods. The forth column shows the recurrence interval. For example, in 1965 there were 80 total days during which pumping would have been possible, and a similar situation could reasonably be expected to occur once in every 2.7 years. Likewise, the probability of having 80 total days of pumping in a given year is 37.04% as shown in the last column of the table. The mean number of total pumping days in any given year is 73 as shown at the bottom of the table.

Using similar methods, Table 2, Pumping Days Per Event, shows that, on the average, any pumping event, may last 37 days. Also, the number of events average 1.95 per year.

NORMAL YEAR

	Precip. in	Evap. in	Precip * Ac. Ft.	Evap * Ac. Ft.	Inflow Ac. Ft.	TOTAL Ac. Ft.	
January	0.43	0.33	63	48	35	50	50
February	0.75	0.41	109	60	33	82	132
March	1.07	1.00	156	146	418	428	560
April	1.96	2.21	286	322	498	462	1022
May	2.75	3.28	401	478	175	98	1120
June	3.76	4.62	548	674	197	71	1191
July	2.23	6.19	325	403	6	- 572	619
August	1.98	6.39	289	932	22	- 621	- 2
September	1.78	5.73	260	836	25	- 551	- 553
October	1.53	3.15	223	459	11	- 225	- 778
November	0.67	1.00	98	146	8	- 40	- 818
December	0.53	0.49	77	71	13	19	- 799
	19.44	34.80	2,835	5,075	1,441	- 799	

* Assume 1750 Acres - no ground water interchange

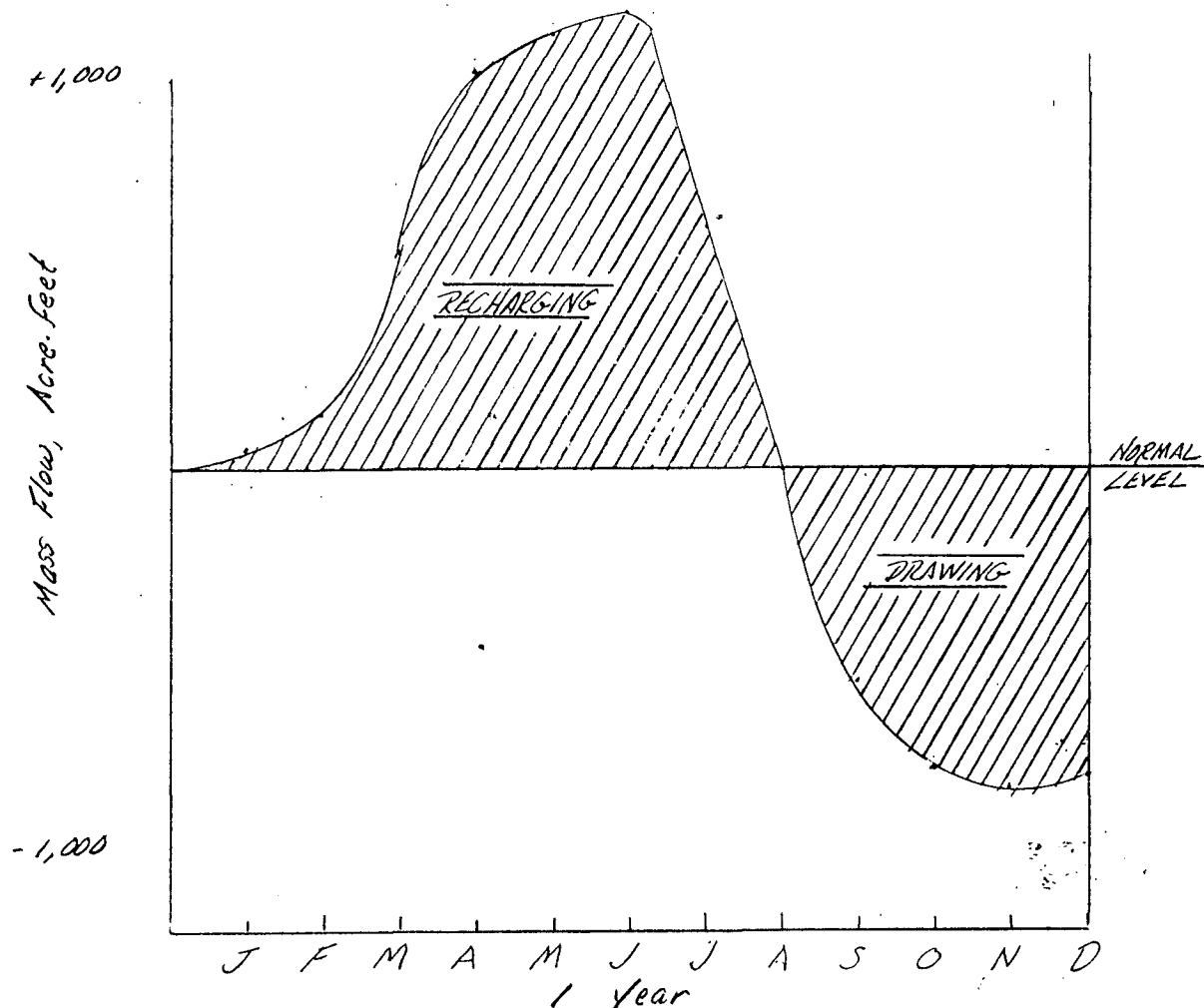


FIGURE 1: NORMAL YEAR MASS BALANCE

"Dry Year" -

	0.8 Precip Ac.-Ft	1.2 Evap Ac.-Ft	1.0 Flow Ac.-Ft	TOTAL	
January	50	58	10	2	2
February	87	72	10	25	27
March	125	175	122	72	99
April	229	386	145	-12	87
May	321	574	51	-202	-115
June	438	809	57	-314	-429
July	260	1084	2	-822	-1,251
August	231	1118	6	-881	-2,132
September	208	1003	7	-788	-2,920
October	178	551	3	-370	-3,290
November	78	175	2	-95	-3,385
December	62	85	4	-19	-3,404
	2,267	4,090	419	-3,404	

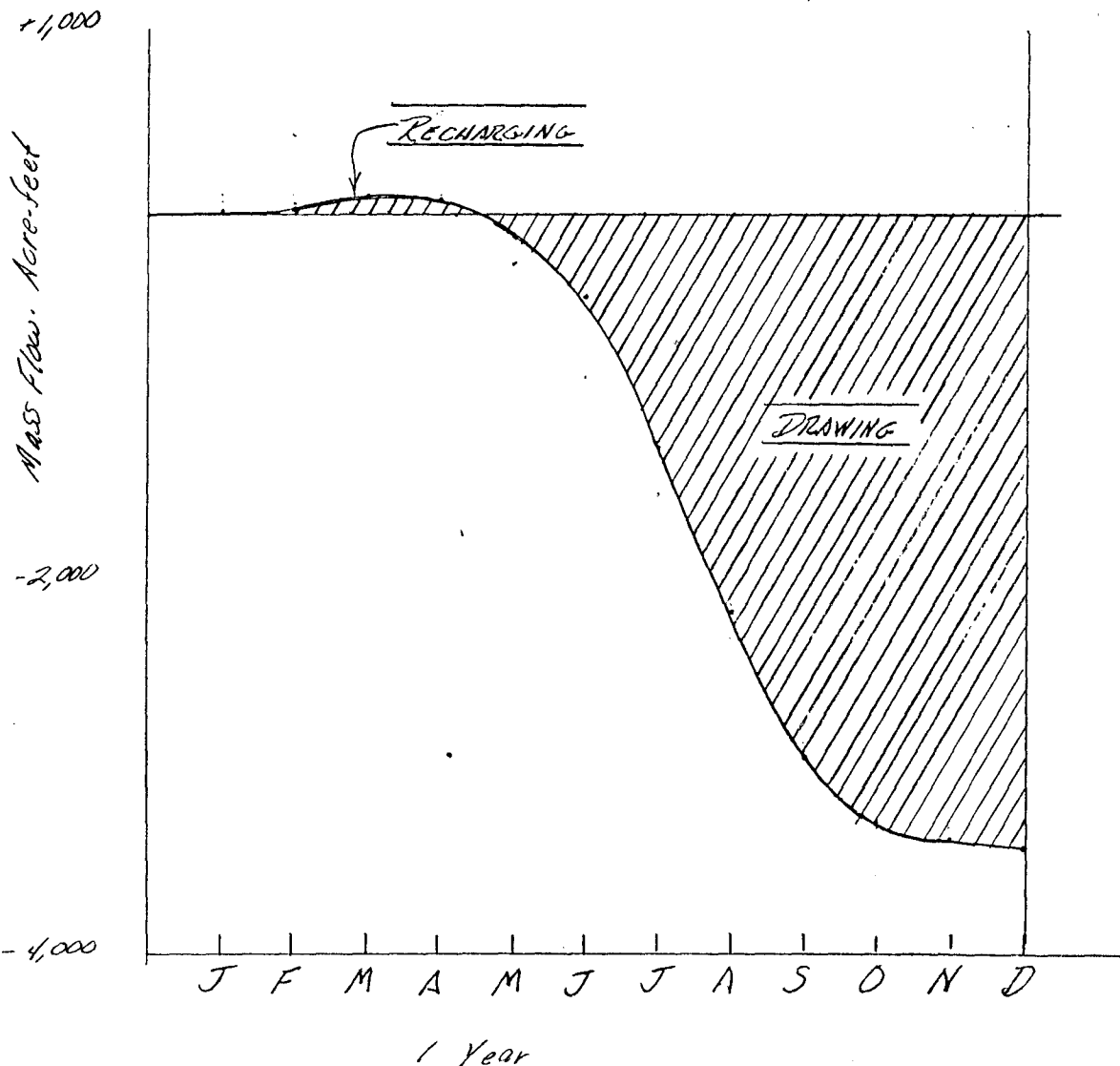


FIGURE 2: DRY YEAR MASS BALANCE

Annual Pumping Days for Lake Byron - Huron, S.D. Flows

Data	Year	Days of Pumping X	m	t, yr	$X - \bar{X}$	$(X - \bar{X})^2$	P
	1976	169	1	19	96	9,216	0.0526
	1975	164	2	9.5	91	8,281	0.1053
	1963	152	3	6.3	79	6,241	0.1587
	1969	115	4	4.8	42	1,764	0.2083
	1980	106	5	3.8	33	1,089	0.2632
	1964	94	6	3.2	21	441	0.3125
	1965	80	7	2.7	7	49	0.3704
	1978	76	8	2.4	3	9	0.4167
	1968	73	9	2.1	0	0	0.4762
	1973	67	10	1.90	-6	36	0.5263
	1966	66	11	1.73	-7	49	0.5780
	1972	60	12	1.58	-13	169	0.6329
	1979	53	13	1.46	-20	400	0.6849
	1971	50	14	1.36	-23	529	0.7353
	1967	25	15	1.27	-48	2,304	0.7874
	1974	15	16	1.19	-58	3,364	0.8403
	1970	12	17	1.12	-61	3,721	0.8928
	1977	9	18	1.06	-64	4,096	0.9434
	1981	0	19	1.00	-73	5,329	1.0000
sum		1,386				47,089	
mean		73					

TABLE 1: ANNUAL PUMPING DAYS FOR LAKE BYRON

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



Event	Duration	n	Ir	P
28	164	1	37	0.0270
30	109	2	18.5	0.0540
15	85	3	12.3	0.0813
32	76	4	9.2	0.1087
7	69	5	7.4	0.1351
1	60	6	6.2	0.1613
6	60	7	5.3	0.1887
29	60	8	4.6	0.2174
13	57	9	4.1	0.2439
4	54	10	3.7	0.2703
33	53	11	3.4	0.2941
10	45	12	3.1	0.3226
25	42	13	2.8	0.3571
5	34	14	2.6	0.3846
34	34	15	2.5	0.4000
16	30	16	2.3	0.4348
23	30	17	2.2	0.4545
36	30	18	2.0	0.5000
3	23	19	1.95	0.5138
9	21	20	1.85	0.5405
21	21	21	1.76	0.5682
20	20	22	1.68	0.5952
24	20	23	1.61	0.6211
11	19	24	1.54	0.6494
18	19	25	1.48	0.6757
14	16	26	1.42	0.7042
2	15	27	1.37	0.7299
17	12	28	1.32	0.7576
18	11	29	1.28	0.7812
19	11	30	1.23	0.8130
22	9	31	1.19	0.8403
31	9	32	1.16	0.8621
35	9	33	1.12	0.8928
27	8	34	1.09	0.9174
26	7	35	1.06	0.9434
37	7	36	1.03	0.9709
12	6	37	1.00	1.000
Sum	1,386			
mean	37.45			

TABLE 2: PUMPING DAYS PER EVENT

The data upon which Tables 1 and 2 are based are attached and also show distribution of days and events in progress on a monthly basis. This data shows the most likely period for pumping is in the time between March 1 and June 31, but occasional opportunities occur at 15% and 21% frequencies for late summer to early winter pumping.

Natural effects make lake levels and river flows dynamic and there is no method short of instantly transferring masses of water from point to point that would guarantee absolutely stable conditions. However, in view of the data presented, and the fact that precipitation and evaporation are unpredictable and uncontrollable events for any particular location, it is reasonable to deliver not less than one average year inflow, 1440 ac-ft, to the lake. This quantity is recommended because it exceeds the normal requirement to balance the deficit of 800 ac-ft per year. Thus, the lake could be brought to a totally recovered condition within two years of the theoretical dry year event. For example, 1440 ac-ft pumped reduces the 3400 ac-ft dry year loss to 1960 ac-ft. The following year (if normal) contributes 1440 ac-ft by natural inflow leaving only a 520 ac-ft pumping requirement. Furthermore, this amount can feasibly be delivered to the lake in the years of low runoff as will be discussed later.

The pumping period is somewhat more difficult to ascertain. However, if there is a 62% chance that flows are insufficient to maintain hydraulic balance in the lake, it is reasonable to assume that the number of days of pumping be not less than the number corresponding to the same percentage as presented in Table 1. In this case, the pumping period should not be more than 60 days.

Under the criteria of volume and period, the minimum recommended pumping rate is:

$$\frac{1440 \text{ ac-ft}}{60 \text{ days}} \times \frac{43560 \text{ cu.ft.}}{1 \text{ ac-ft}} \times \frac{7.48 \text{ gal}}{1 \text{ cu.ft.}} \times \frac{1 \text{ day}}{1440 \text{ min}} = 5,430 \text{ gpm}$$

This rate exceeds the originally proposed rate of 4,810 gpm by 13% thus provides a safety factor and increased reliability from the onset.

CONCLUSIONS AND RECOMMENDATIONS

In view of the foregoing analysis the following recommendations are presented for adoption.

- 1) The Lake Byron Development Association or its assigns should initiate application for water right for the dry year quantity of 3400 acre feet. This amount, at the minimum rate, could be pumped in 142 days; there is a less than 20% chance that this could be achieved in any given year, but is not an unreasonable request considering that pumping would be accomplished primarily outside

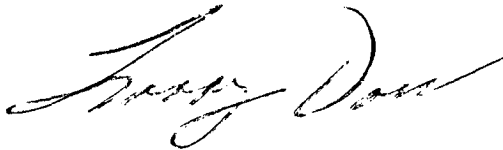
the period of crop irrigation.

2) Also, a request for monitoring the annual inflows into Lake Byron should be made to the appropriate agency, such as Soil Conservation Service. Such information would be incorporated into a pumping management program.

3) Similarly, a lake level monitoring program should be initiated through appropriate agencies such as the Department of Water and Natural Resources, also for management purposes.

4) The Board should authorize the engineer to proceed with the Schematic Design Phase, including surveys.

Respectfully Submitted

A handwritten signature in cursive script, appearing to read "Larry Doss".

Larry Doss, P.E.

YEAR (days)	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1963 (152) ^v	30	30	(30)			15 w 2	1 3	26 ⁴ 4	30	20		
1964 (94) ^v								24 w 15	10	26	30 w 26	4
1965 (80) ^v							19	30 w 17	30	7 w 28	4	
1966 (66) ^v						20 w 19	1 w 11	21 w 210	24			
1967 (25) ^v						19 w 11			6 w 212			
1968 (73) ^v							8	30 w 113	19		2 w 214	14
1969 (115) ^v							25	30 w 115	30		30 w 216	
1970 (12) ^v						12 w 117						
1971 (50) ^v						19 w 118			11 w 219			20 w 320
1972 (60) ^v						12 w 121	4	9 w 222	19 w 323	11		
1973 (67) ^v		20 w 124				5	30 w 224	12				
1974 (15) ^v						7 w 125			8 w 226			
1975 (164) ^v							14	30	30	30	30	30
1976 (169) ^v	30	30				30	30	30	19	127 w 28		
1977 (9) ^v								228 w 30				
1978 (76) ^v						9 w 13031	12	30	30	4		
1979 (53) ^v								30 w 13233	23			
1980 (106) ^v	30	30				9 w 234	228 w 335	7 w 36	4	36 w 37		

PROJECT DESCRIPTION

LAKE BYRON OFF STREAM STORAGE PROJECT

Delivery System

A submerged 33-36" intake line, located on the east bank of the James River - approximate river mile 234.25, will divert river flows by gravity to a pump station located 140 feet, more or less, from the point of diversion. The pump station will deliver water through a pipeline and outlet works at Lake Byron, 6,950 feet distant via the selected route. The pipeline diameter shall not be greater than 27 inches. Water shall be delivered at a rate of 12 cubic feet per second, and shall provide 1,440 acre feet of volume in a 60 day pumping period. It is presently anticipated that this portion of the project will be accomplished in 2 phases, the pumping station being the first, and the pipeline as the second.

Return System

A gravity return system is proposed. The basic features include construction of flow control structures between Lake Byron, Connors Lake, and Foster Creek; and, grading of approximately 26,000 feet of the flow line of Foster Creek to achieve a more efficient hydraulic configuration. The flow line grading will eliminate existing pools and channel restrictions and will not involve straightening of the present channel route.

Attachment: PROJECT LOCATION & VICINITY MAP

RECEIVED

JUN 21 1981

SOUTH DAKOTA DEPARTMENT OF
WATER AND NATURAL RESOURCES
SIOUX FALLS, S.D. 57106

PRELIMINARY REPORT

~~—PROPOSED—~~

LAKE BYRON
OFF STREAM STORAGE

FOR

THE CITY OF HURON, SOUTH DAKOTA

BY

DOSS ENGINEERING

HURON, S. D.

SEPTEMBER, 1982

REPORT NO.

SUMMARY AND CONCLUSIONS

THIS STUDY HAS BEEN UNDERTAKEN FOR THE CITY OF HURON TO UPDATE COST ESTIMATES OF A PIPELINE FROM THE JAMES RIVER TO LAKE BYRON AS PRESENTED IN A 1977 REPORT TITLED "REHABILITATION OF LAKE BYRON." IN THAT REPORT, IT WAS PROPOSED THAT A 36" PIPELINE BE CONSTRUCTED AT A COST OF \$456,300 PUMPING AT A RATE OF 103 ACRE-FEET PER DAY WITH ANNUAL OPERATING AND MAINTENANCE COSTS OF \$10,800. BASED ON CURRENT COSTS, THE SAME PROJECT WOULD COST APPROXIMATELY \$670,000, AND OPERATING AND MAINTENANCE COSTS WOULD EXCEED \$17,000. HOWEVER, THE RATE OF PUMPING WAS BASED ON FILLING THE LAKE QUICKLY WHEREAS THE FUNDAMENTAL BASIS OF THIS REPORT IS THAT PUMPING SHOULD BE ACCOMPLISHED DURING THE 120 DAY PEAK FLOW OF THE JAMES RIVER AND AT A LOWER RATE OF 21.3 ACRE-FEET PER DAY.

BASED ON NECESSARY SIMPLIFYING ASSUMPTIONS, IT HAS BEEN ESTIMATED THAT NORMAL AVERAGE NET LOSSES FROM LAKE BYRON MAY BE 5.5 INCHES PER YEAR BUT MAY EXCEED 23.3 INCHES PER YEAR IN A DRY YEAR. THUS, IT WAS CONCLUDED THAT A PUMPING FACILITY CAPABLE OF DELIVERING THE AVERAGE LOSS OF 5.5" AND THE CITY'S DESIRED 12" OVER A 120 DAY PERIOD WOULD BE SUFFICIENT TO MEET STATED GOALS. SUCH AN OPERATING PLAN RECOGNIZES THAT THE PUMPING PERIOD MAY BE EXTENDED OR REDUCED; THAT SIGNIFICANT INFLOWS FROM THE DRAINAGE BASIN MAY OCCUR IN ANY GIVEN YEAR; AND, THAT THE CITY MAY NOT REQUIRE THEIR ENTIRE 12" STORED RESERVE EACH AND EVERY YEAR. THE AFOREMENTIONED PUMPING RATE CONVERTS TO 4,810 GALLONS PER MINUTE OR 10.7 CUBIC FEET PER SECOND, AND THE TOTAL 120 DAY PUMPING VOLUME IS 2,551 ACRE-FEET.

COST ESTIMATES OF A DELIVERY SYSTEM CONSISTING OF INTAKE WORKS, PUMPING FACILITIES, PIPELINE AND OUTLET WORKS AND OF A RETURN SYSTEM CONSISTING OF GRAVITY FLOW CONTROL STRUCTURES ON THE LAKE BYRON AND FOSTER CREEK SIDES OF CONNORS LAKE AND CHANNEL IMPROVEMENTS TO FOSTER CREEK WERE DEVELOPED. SEVERAL COMBINATIONS OF PIPELINE SIZE AND ASSOCIATED PUMPING REQUIREMENTS WERE INVESTIGATED BASED AROUND A THEORETICALLY MOST EFFICIENT SIZE OF 22" DIAMETER AND A VELOCITY OF 4.0 FEET PER SECOND. A 24" DIAMETER PIPELINE APPEARED TO BE THE MOST ECONOMICAL BECAUSE OF A FAVORABLE COST TREND AS PUMPING TIME WAS EXTENDED BEYOND 120 DAYS. THE ESTIMATED COST OF THE PROJECT IS \$433,100, AND THE ESTIMATED OPERATION AND MAINTENANCE COSTS ARE \$10,800 PER YEAR BASED ON 120 DAYS OPERATION. THE ESTIMATED COST OF RESULTING STORAGE IS 5.4¢ PER 1,000 GALLONS.

EXISTING DATA AND REPORTS CONCERNING QUALITY PARAMETERS WERE REVIEWED, AND IT WAS CONCLUDED THAT CHEMICAL QUALITY WOULD MOST LIKELY IMPROVE BY THE ADDITION OF JAMES RIVER WATER. AT TIMES, INDICATOR BACTERIA HAVE BEEN FOUND PRESENT, BUT NO CONCLUSIONS ARE PRESENTED HEREIN REGARDING EITHER THE SOURCE OR SOLUTION. IF THIS IS FOUND TO BE A SIGNIFICANT PROBLEM, THE SITUATION WILL UNDOUBTEDLY NEED TO BE ADDRESSED. LIKEWISE, SEDIMENTATION HAS BEEN SITED AS A MAJOR PROBLEM IN LAKE BYRON AND WILL REQUIRE PRUDENT CONTROL MEASURES.

SOILS AND GEOLOGY WERE REVIEWED AND NO UNUSUAL CONDITIONS WERE DETECTED. GROUND WATER WILL VERY LIKELY BE ENCOUNTERED DURING CONSTRUCTION OF FACILITIES NEAR THE JAMES RIVER.

SPECIAL DESIGN CONSIDERATION WILL BE NECESSARY FOR PROJECT FEATURES PARTICULARLY HIGHWAY CROSSINGS AND PIPELINE CONTROL VALVES ON PRIVATE PROPERTY. ALSO, CARE MUST BE EXERCISED IN DESIGN OF PUMPING FACILITIES SINCE THAT PORTION OF THE PROJECT IS WITHIN A FLOOD PRONE AREA.

QUANTITY NEEDS

THE TWO ENTITIES STATING QUANTITY GOALS FOR THE LAKE INCLUDE THE LAKE BYRON ASSOCIATION AND THE CITY OF HURON. THE LAKE BYRON ASSOCIATION DESIRES THAT THE LAKE BE MAINTAINED AT ITS NORMAL LEVEL. THE CITY OF HURON HOPES TO UTILIZE APPROXIMATELY 12 INCHES OF THE LAKE DEPTH FOR OFF STREAM STORAGE TO SUPPLEMENT JAMES RIVER STORAGE CAPACITY BETWEEN THE THIRD STREET AND DIVERSION DAMS. THE EXISTING CAPACITY IN THAT REACH OF THE RIVER IS ESTIMATED TO BE 2,700 ACRE-FEET.

SOUTH DAKOTA DEPARTMENT OF GAME FISH AND PARKS STATISTICS FOR LAKE BYRON ARE AS FOLLOWS:

PLANIMETERED LAKE ACERAGE	1,749 ACRES
ACRES GREATER THAN 5 FEET DEEP	1,430 "
" " " 9 " "	454 "
TOTAL VOLUME	11,710 ACRE-FEET
AVERAGE DEPTH	6.7 FEET

THUS, THE CITY IS CONSIDERING APPROXIMATELY 1,750 $\pm$ ACRE-FEET OR 15% OF THE EXTIMATED LAKE VOLUME FOR IT'S PURPOSES. THIS POOL REPRESENTS AN INCREASE OF 65% OVER THE POOL IN THE RIVER. THE NEEDS OF THE LAKE BYRON ASSOCIATION ARE NOT SO SIMPLY STATED, SINCE THE QUANTITY REQUIRED VARIES FROM YEAR TO YEAR AND DEPENDS ON MANY COMPLEX VARIABLES. THE VARYING QUANTITY IS ADDRESSED IN THE FOLLOWING DISCUSSION.

QUANTITY INPUTS AND INTERCHANGES

QUANTITY INPUTS AND INTERCHANGES INCLUDE CONSIDERATION OF DRAINAGE BASIN RUN-OFF, PRECIPITATION, EVAPORATION, AND GROUND WATER INPUTS OR LOSSES.

THE FOSTER CREEK DRAINAGE BASIN LIES WITHIN BEADLE, SPINK AND CLARK COUNTIES AND INCLUDES ROUGHLY 115,350 ACRES SUPPORTING LAKE BYRON. THE AVERAGE ANNUAL RUN-OFF WAS ESTIMATED FOR THIS STUDY BY RELATING AVERAGE RUN-OFF IN THE REGION TO THE GENERAL CONFIGURATION OF THE ACTUAL DRAINAGE AREA AND HAS BEEN ASSUMED TO BE 0.15 INCHES ANNUALLY. IT HAS ALSO BEEN ASSUMED THAT THE PROBABILITY DISTRIBUTION OF ANNUAL RUN-OFF IS THE SAME AS THAT DETERMINED FOR FIRESTEEL CREEK WHICH HAS BEEN GAGED IN PREVIOUS YEARS. A FURTHER ASSUMPTION IS THAT A DRY YEAR REFERS TO AN ANNUAL RUN-OFF WHICH MAY BE EXPECTED 80% OF THE TIME.

THE AVERAGE ANNUAL PRECIPITATION FOR THE AREA IS ASSUMED TO BE 19.4 INCHES PER YEAR. IT IS ALSO ASSUMED THAT VARIANCE OF ANNUAL PRECIPITATION IS 20%; THUS, DRY YEAR PRECIPITATION OF 15.6 INCHES CAN BE EXPECTED.

THE AVERAGE ANNUAL EVAPORATION FOR THE AREA IS ASSUMED TO BE 34.8 INCHES PER YEAR. SIMILAR TO PRECIPITATION, VARIANCE IN ANNUAL EVAPORATION IS 20%; THUS, DRY YEAR EVAPORATION OF 41.8 INCHES CAN BE EXPECTED.

GROUND WATER INTERCHANGES ARE ASSUMED TO BE NEGLIGIBLE BECAUSE GROUND WATER LEVELS IN THE VICINITY OF THE LAKE TEND TO BE ABOVE THE NORMAL DEPTH AND MAY BE ARTESIAN.

COMPUTATIONS OF VOLUME REQUIREMENTS TO MAINTAIN THE LAKE LEVEL IN AN AVERAGE YEAR AND A DRY YEAR ARE AS FOLLOWS:

NORMAL RUN-OFF

$$0.15" \times 115,350 \text{ ACRES} = 17,302 \text{ AC-IN}$$

LESS NET EVAPORATION

$$\begin{array}{r} 34.8" \text{ EVAP} \\ -19.4" \text{ PRECIP} \\ \hline 15.4" \text{ NET} \end{array}$$

$$15.4" \times 1,749 \text{ ACRES} = 26,935 \text{ AC-IN}$$

$$\text{NET VOLUME LOSS (AVERAGE)} \quad \underline{\underline{9,633 \text{ AC-IN}}} \quad 803 \text{ AcFt}$$

DRY YEAR RUN-OFF:

$$\text{INTERPOLATED} \quad = \quad 5,040 \text{ AC-IN}$$

LESS DRY YEAR EVAPORATION

$$\begin{array}{r} 41.8" \text{ EVAP} \\ -15.6" \text{ PRECIP} \\ \hline 26.2" \text{ NET} \end{array}$$

$$26.2" \times 1,749 \text{ ACRES} = 45,824 \text{ AC-IN}$$

$$\text{NET VOLUME LOSS (DRY YR.)} \quad \underline{\underline{40,784 \text{ AC-IN}}} \quad 3399 \text{ AcFt.}$$

[NOTE: 9,633 AC-IN = 5.5" AND 40,784 AC-IN = 23.3" OVER 1,749 ACRES.]

IN AN AVERAGE YEAR, THE LAKE MAY LOSE 5.5" OF WATER AND AS MUCH AS 23.3" IN A DRY YEAR AS SHOWN BY THE COMPUTATIONS. ALSO, ANNUAL RUN-OFF BALANCES NORMAL EVAPORATION LOSSES ONLY 38% OF THE TIME ACCORDING TO RUN-OFF FREQUENCY DISTRIBUTION. THE FOREGOING DEMONSTRATES THAT, LEFT AS IS, THE LAKE TENDS TO DRY UP AND DEPENDS ON EXCEPTIONAL RUN-OFF TO RE-FILL. THUS, PUMPING WATER FROM THE JAMES RIVER, OR SOME OTHER SOURCE IS UNQUESTIONABLY NECESSARY TO STABILIZE THE LAKE LEVEL.

QUALITY PARAMETERS

LAKE BYRON HAS BEEN THE SUBJECT OF SEVERAL STUDIES WITH RESPECT TO CHEMICAL, BACTERIOLOGICAL AND SEDIMENTATION EFFECTS.

CHEMICAL PARAMETERS REPORTED AS THE RESULT OF ANALYSIS OF TWO COMPOSITE

SAMPLES FROM THREE LAKE SITES IN 1977 ARE SUMMARIZED IN PART AS FOLLOWS:

TOTAL PHOSPHOROUS	0.534	MG/L
TOTAL KJELDAHL NITROGEN . . .	2.02	"
TOTAL SOLIDS	1418	"
SUSPENDED SOLIDS	11.5	"
DISSOLVED SOLIDS	1407	"
TOTAL ALKALINITY	273	"
CHLORIDE	113	"
SULFATE	694	"
TOTAL HARDNESS	490	"
CONDUCTIVITY	1840	MO @ 23°C
PH	8.7	

SUBSEQUENT SAMPLING BY THE SOUTH DAKOTA DEPARTMENT OF WATER AND NATURAL RESOURCES REVEALED VARIATIONS IN SEVERAL OF THE ABOVE PARAMETERS WHICH DEMONSTRATES THE DYNAMIC CHARACTER OF NATURAL WATER CHEMICAL COMPOSITION. IT IS SOMEWHAT DIFFICULT TO DRAW ANY CONCLUSIONS FROM THE DATA RELATIVE TO DRINKING WATER OTHER THAN ADDITION OF JAMES RIVER WATER AND PERHAPS RUN-OFF SHOULD RESULT IN A DILLUTION EFFECT THUS IMPROVING WATER QUALITY.

EXAMINATION OF A NUMBER OF LAKE SAMPLES TAKEN AND ANALYZED BY DWNr IN 1981 AND 1982 INDICATED PRESENCE OF FECAL COLIFORM BACTERIA. THE PRESENCE OF THE BACTERIA INDICATES THAT BODILY WASTES OF WARM BLOODED ANIMALS ENTERS THE LAKE AND THAT OTHER BACTERIA MAY BE PRESENT. REMOVAL OF SUCH BACTERIA OCCURS NATURALLY THROUGH VARIOUS MECHINISMS AND IS ALSO A PRIMARY FUNCTION OF WATER TREATMENT FACILITIES. HOWEVER, SUCH CONTAMINATION OF PUBLIC WATER SUPPLIES SHOULD BE AVOIDED TO THE EXTENT POSSIBLE.

A 1981 REPORT "SOIL EROSION AND SEDIMENT YIELD STUDY IN LAKE BYRON WATERSHED" BY THE SCS INDICATES THAT THE LAKE RECEIVES APPROXIMATELY 13,829 TONS OR 10.58 ACRE-FEET OF SEDIMENT ANNUALLY. THIS REPRESENTS A 0.09% ANNUAL LOSS OF LAKE VOLUME. APPROXIMATELY 68.7% OF THE TOTAL LOAD IS THE RESULT OF CROP AND GRASSLAND EROSION; 16.5% RESULTS FROM STREAM EROSION; AND, 14.8% OF THE CONTRIBUTION IS ATTRIBUTED TO LAKE SHORE EROSION.

IT IS ASSUMED THAT APPROPRIATE MEASURES WILL BE TAKEN TO MINIMIZE BACTERIOLOGICAL AND SEDIMENTATION LEVELS IN THE LAKE APART FROM CONSIDERATIONS OF THIS REPORT.

SOILS AND GEOLOGY

SOILS IN THE FOSTER CREEK WATER SHED ARE GENERALLY WELL DRAINED LOAMY SOILS FORMED IN GLACIAL TILL. IN THE IMMEDIATE VICINITY OF THE LAKE, THE SOILS ARE GENERALLY DEEP WELL DRAINED TO MODERATELY WELL DRAINED, NEARLY LEVEL TO GENTLY ROLLING LOAMY SOILS FORMED IN GLACIAL TILL ON UPLANDS. THE SOIL ALONG FOSTER CREEK BELOW CONNERS LAKE IS A POORLY DRAINED LOAM.

LAKE BYRON LIES AT THE SOUTHERN END OF THE PHISIOGRAPHIC AREA KNOWN AS THE LAKE DAKOTA PLAIN OF THE JAMES BASIN. THE LANDFORMS RESULTING FROM THE PLEISTOCENE GLACIAL DEPOSITS IN THE VICINITY OF LAKE BYRON INCLUDE

GROUND MORaine, LACUSTRINE DEPOSITS AND ALLUVIUM. LAKE BYRON ITSELF IS LOCATED IN WHAT IS KNOWN AS THE LAKE BYRON CHANNEL, A FORMER DRAINAGE WHICH HAS BEEN PARTLY BURIED BY GLACIAL DRIFT.

NEITHER SOILS OR GEOLOGY APPEAR TO PRESENT ANY UNUSUAL DIFFICULTIES TO THE PROPOSED PROJECT.

PROPOSED PROJECT

THE OVERALL PROJECT GOAL IS TO PUMP WATER INTO LAKE BYRON FOR EVENTUAL RETURN TO THE JAMES RIVER AUGMENTING THE STORAGE POOL BETWEEN THIRD STREET AND DIVERSION DAMS. THE GENERAL PROJECT FEATURES INCLUDE A DELIVERY SYSTEM CONSISTING OF INLET WORKS AND PUMPING FACILITIES NEAR THE RIVER, THE PIPELINE, AND OUTLET WORKS AT THE LAKE; AND, A RETURN SYSTEM CONSISTING OF FLOW CONTROL WORKS ENTERING AND LEAVING CONNORS LAKE AND CHANNEL IMPROVEMENTS TO FOSTER CREEK. THE PROPOSED LAY OUT IS SHOWN ON THE ATTACHED DRAWING TITLED PROPOSED LAKE BYRON OFF-STREAM STORAGE.

THE INLET WORKS, FOR PURPOSES OF THIS REPORT, CONSIST OF A HEADWALL AND SCREEN AT THE RIVER, A 95 FOOT GRAVITY LINE FROM THE HEADWALL TO A PUMP SHAFT, THE PUMP SHAFT BEING A VERTICAL 26' DEEP 9' DIAMETER PIPE RISING TO A HEIGHT ABOVE THE FLOOD PLAIN, AND AN EQUIPMENT AND CONTROL BUILDING. THESE FEATURES WERE NOT MATERIALLY EFFECTED BY PIPELINE SIZE FOR ESTIMATING PURPOSES. PUMPS AND CONTROLS, ALSO PART OF THE INLET WORKS, CONSIST OF MAIN PUMPS SIZED FOR EACH HYDRAULIC CONDITION PRESENTED BY VARYING PIPE DIAMETERS AND A START-UP PUMP FOR INITIAL LINE FILLING.

THE PIPELINE CONSISTS OF 5,800 LINEAR FEET OF CONCRETE PRESSURE PIPE AND APPURTENANCES INCLUDING VALVES, AIR RELEASE VALVES AT HIGH POINTS AND LOW PRESSURE RELEASE VALVES NEAR THE OUTLET WORKS, AND CLEAN-OUT DRAINS AT LOW SPOTS IN THE LINE. IT WAS ASSUMED THAT 4' OF COVER WOULD BE SUFFICIENT TO PROTECT THE PIPE UNDER NORMAL CIRCUMSTANCES IN OPEN COUNTRY.

THE OUTLET WORKS CONSISTS OF A DISCHARGE HEADWALL AND A 100 FOOT RIPRAPPED SECTION INTO THE LAKE. OUTLET WORKS COSTS ARE NOT MATERIALLY EFFECTED BY PIPELINE COSTS FOR ESTIMATING PURPOSES.

THE GRAVITY RETURN SYSTEM, FOR PURPOSES OF THIS REPORT, CONSISTS OF LOWERING THE EXISTING DRAIN BETWEEN LAKE BYRON AND CONNORS LAKE FOR A LENGTH OF APPROXIMATELY 1300 FEET AND CONSTRUCTING A NEW DRAIN BETWEEN CONNORS LAKE AND FOSTER CREEK. EACH CHANNEL WOULD BE PROVIDED WITH FLOOD CONTROL STRUCTURES TO FACILITATE LOWERING LAKE BYRON 1 FOOT; THUS, PROVIDING THE CITY'S REQUIREMENTS. THE FOSTER CREEK CHANNEL APPEARS IRREGULAR WITH NUMEROUS DIPS AND RIDGES, SO, IT IS FURTHER PROPOSED THAT 26,000 FEET OF THE CHANNEL BE GRADED TO A UNIFORM HYDRAULIC CONFIGURATION TO IMPROVE FLOW CHARACTERISTICS FROM THE LAKES TO THE JAMES RIVER.

THE AVERAGE AMOUNT OF WATER TO BE DELIVERED TO LAKE BYRON WAS BASED ON THE NEEDS OF 12" DEPTH FOR THE CITY OF HURON AND AN AVERAGE 5.5" DEPTH TO OFF-SET AVERAGE ANNUAL WATER LOSSES. IT WAS ASSUMED THAT SUCH PUMPING COULD BE ACCOMPLISHED DURING A 120 DAY PERIOD OF NORMAL MAXIMUM RIVER FLOW.

THE TOTAL AMOUNT OF WATER DELIVERED COULD THEN BE COMPUTED AS FOLLOWS:

$$\left[\frac{12'' + 5.5''}{12''/\text{FT}} \right] \times 1,749 \text{ ACRES} = 2,551 \text{ AC-FT}$$

THE RATE OF DELIVERY WOULD BE 10.7 CFS OR 4,810 GPM DURING THE 120 DAY PERIOD.

THE FOUR ALTERNATIVE PIPELINE DIAMETERS AND ASSOCIATED PUMPING HEADS ARE LISTED AS FOLLOWS:

PIPELINE DIA. IN.	PUMPING HEAD FT.
18	60.5
21	39.0
24	30.0
27	25.2

THE RESULTING COST ESTIMATE OF EACH ALTERNATIVE IS PRESENTED IN FIGURES 1, 2, 3 AND 4.

AN ECONOMIC COMPARISON OF THE ALTERNATIVES IS SHOWN IN FIGURE 5. THE COMPARISON IS BASED OF A 20 YEAR PERIOD AND AN 11% INTEREST RATE. FURTHER CONSIDERATION OF THE AVERAGE ANNUAL COST OF THE 24" PIPELINE ALTERNATIVE SHOWS THAT THE COST OF STORAGE FOR THE CITY IS APPROXIMATELY

$$\frac{12''}{17.5''} \times \frac{\$ 62,220}{8.3119 \times 10^8 \text{ GAL}} \times \frac{100\text{¢}}{1\$} \times \frac{10^3 \text{ GAL}}{1000 \text{ GAL}} = \underline{\underline{5.4\text{¢}/1000 \text{ GAL}}}$$

THE 24" PIPELINE WAS SELECTED FOR CONSIDERATION BECAUSE POWER COSTS WERE LEAST AMONG THE SMALLER LINES WHILE MAINTAINING CONSIDERABLY LOWER ANNUAL COSTS THAN THE LARGER 27" LINE. THE RATIONALE BEHIND THIS DECISION IS THAT OF THE ANNUAL OPERATING COST ELEMENTS, POWER TO OPERATE PUMPING FACILITIES IS PAID OUT REGULARLY AND MOST SUBJECT TO CHANGE WHEREAS ANNUAL MAINTENANCE MAY VERY WELL BE DEFERRED UNTIL THE PROJECT HAS ACCUMULATED USAGE. ANOTHER CONSIDERATION IS THAT AS THE PUMPING PERIOD IS INCREASED, THE ECONOMICS OF THE SYSTEMS TENDS TO FAVOR LARGER LINES.

FIGURE 1

COST ESTIMATE USING 18-INCH PIPELINE

FEATURE	\$ Cost	SALVAGE VALUE 20 YR
INLET WORKS		
INLET HEADWALL	\$ 7,200	
AQUADUCT	7,200	
PUMP SHAFT	20,600	
EQUIPMENT BUILDING	<u>8,800</u>	
SUB-TOTAL	\$ 43,800	\$ 17,520
OPERATING PUMP & CONTROLS	\$ 34,600	
START-UP PUMP & CONTROLS	<u>2,200</u>	
SUB-TOTAL	\$ 36,800	-0-
PIPELINE		
18" CONCRETE PRESSURE PIPE	\$ 167,700	\$ 67,080
OUTLET WORKS		
OUTLET HEADWALL	\$ 3,600	
CHANNEL TO LAKE	<u>5,600</u>	
SUB-TOTAL	\$ 9,200	\$ 3,680
RETURN SYSTEM		
CHANNEL IMPROVEMENTS	\$ 3,700	
LAKE SIDE CONTROLS	7,500	
CREEK SIDE CONTROLS	5,000	
CREEK CHANNEL IMPROVEMENTS	<u>30,100</u>	
SUB-TOTAL	\$ 46,300	\$ 18,520
ACCESS TO PUMP SITE	<u>\$ 2,000</u>	-0-
TOTAL COST OF CONSTRUCTION	<u>\$ 305,800</u>	
CONTINGENCIES @ 10%	\$ 30,600	
ENGINEERING @ 12%	36,700	
ADMINISTRATION @ 1%	3,100	
POWER SUPPLY TO PUMPS	4,200	
<u>LAND AND EASEMENTS</u>	<u>2,800</u>	<u>\$ 2,800</u>
TOTAL PROJECT COST	<u>\$ 383,200</u>	
TOTAL SALVAGE VALUE IN 20 YEARS		<u>\$ 109,600</u>

FIGURE 2

COST ESTIMATE USING 21-INCH PIPELINE

FEATURE	\$ COST	SALVAGE VALUE 20 YR.
INLET WORKS		
INLET HEADWALL	\$ 7,200	
AQUADUCT	7,200	
PUMP SHAFT	20,600	
EQUIPMENT BUILDING	<u>8,800</u>	
SUB-TOTAL	\$ 43,800	\$ 17,520
OPERATING PUMP & CONTROLS	\$ 29,000	
START-UP PUMP & CONTROLS	<u>2,200</u>	
SUB-TOTAL	\$ 31,200	-0-
PIPELINE		
21" CONCRETE PRESSURE PIPE	\$ 194,700	\$ 77,880
OUTLET WORKS		
OUTLET HEADWALL	\$ 3,600	
CHANNEL TO LAKE	<u>5,600</u>	
SUB-TOTAL	\$ 9,200	\$ 3,680
RETURN SYSTEM		
CHANNEL IMPROVEMENTS	\$ 3,700	
LAKE SIDE CONTROLS	7,500	
CREEK SIDE CONTROLS	5,000	
CREEK CHANNEL IMPV.	<u>30,100</u>	
SUB-TOTAL	\$ 46,300	\$ 18,520
ACCESS TO PUMP SITE	\$ <u>2,000</u>	-0-
TOTAL COST OF CONSTRUCTION	<u>\$ 327,200</u>	
CONTINGENCIES @ 10%	\$ 32,700	
ENGINEERING @ 12%	39,300	
ADMINISTRATION @ 1%	3,300	
POWER SUPPLY TO PUMPS	4,200	
LAND AND EASEMENTS	<u>2,800</u>	\$ <u>2,800</u>
TOTAL PROJECT COST	<u>\$ 409,500</u>	
TOTAL SALVAGE VALUE IN 20 YEARS		\$ <u>120,400</u>

FIGURE 3

COST ESTIMATE USING 24-INCH PIPELINE

FEATURE	\$ Cost	SALVAGE VALUE 20 YR
INLET WORKS		
INLET HEADWALL	\$ 7,200	
AQUADUCT	7,200	
PUMP SHAFT	20,600	
EQUIPMENT BUILDING	<u>8,800</u>	
SUB-TOTAL	\$ 43,800	\$ 17,520
OPERATING PUMP & CONTROLS	\$ 27,300	
START-UP PUMP & CONTROLS	<u>2,200</u>	
SUB-TOTAL	\$ 29,500	-0-
PIPELINE		
24" CONCRETE PRESSURE PIPE	\$ 215,600	\$ 86,240
OUTLET WORKS		
OUTLET HEADWALL	\$ 3,600	
CHANNEL TO LAKE	<u>5,600</u>	
SUB-TOTAL	\$ 9,200	\$ 3,680
RETURN SYSTEM		
CHANNEL IMPROVEMENTS	\$ 3,700	
LAKE SIDE CONTROLS	7,500	
CREEK SIDE CONTROLS	5,000	
CREEK CHANNEL IMPV.	<u>30,100</u>	
SUB-TOTAL	\$ 46,300	\$ 18,520
ACCESS TO PUMP SITE	<u>\$ 2,000</u>	-0-
TOTAL COST OF CONSTRUCTION	<u>\$ 346,400</u>	
CONTINGENCIES @ 10%	\$ 34,600	
ENGINEERING @ 12%	41,600	
ADMINISTRATION @ 1%	3,500	
POWER SUPPLY TO PUMPS	4,200	
LAND AND EASEMENTS	<u>2,800</u>	\$ 2,800
TOTAL PROJECT COST	<u>\$ 433,100</u>	
TOTAL SALVAGE VALUE IN 20 YEARS		<u>\$ 128,760</u>

FIGURE 4

COST ESTIMATE USING 27-INCH PIPELINE

FEATURE	\$ Cost	SALVAGE VALUE 20 YR
INLET WORKS		
INLET HEADWALL	\$ 7,200	
AQUADUCT	7,200	
PUMP SHAFT	20,600	
EQUIPMENT BUILDING	<u>8,800</u>	
SUB-TOTAL	\$ 43,800	\$ 17,520
OPERATING PUMP & CONTROLS	\$ 27,000	
START-UP PUMP & CONTROLS	<u>2,200</u>	
SUB-TOTAL	\$ 29,200	-0-
PIPELINE		
27" CONCRETE PRESSURE PIPE	\$ 261,700	\$104,680
OUTLET WORKS		
OUTLET HEADWALL	\$ 3,600	
CHANNEL TO LAKE	<u>5,600</u>	
SUB-TOTAL	\$ 9,200	\$ 3,680
RETURN SYSTEM		
CHANNEL IMPROVEMENTS	\$ 3,700	
LAKE SIDE CONTROLS	7,500	
CREEK SIDE CONTROLS	5,000	
CREEK CHANNEL IMPV.	<u>30,100</u>	
SUB-TOTAL	\$ 46,300	\$ 18,520
ACCESS TO PUMP SITE	\$ <u>2,000</u>	-0-
TOTAL COST OF CONSTRUCTION	\$ <u>392,200</u>	
CONTINGENCIES @ 10%	\$ 39,200	
ENGINEERING @ 12%	47,100	
ADMINISTRATION @ 1%	3,900	
POWER SUPPLY TO PUMPS	4,200	
LAND AND EASEMENTS	<u>2,800</u>	\$ <u>2,800</u>
TOTAL PROJECT COST	\$ <u>489,400</u>	
TOTAL SALVAGE VALUE IN 20 YEARS		\$ <u>147,200</u>

FIGURE 5

ECONOMIC COMPARISON OF ALTERNATIVES

	INTEREST FACTOR	18" PIPELINE	21" PIPELINE	24" PIPELINE	27" PIPELINE
CAPITAL COST		383,200	409,500	433,100	489,400
INTEREST DURING CONSTRUCTION	0.01000	3,832	4,095	4,331	4,894
PRESENT WORTH OF SALVAGE VALUE	0.12403	-13,593	-14,933	-15,970	-18,257
TOTAL PRESENT WORTH		373,439	398,662	421,461	476,037
AVE. ANNUAL EQUIVALENT COST	0.12557	46,893	50,060	52,923	59,776
ANNUAL MAINTENANCE @ 1% CONST.		3,058	3,272	3,464	3,922
LABOR ²		1,400	1,400	1,400	1,400
POWER		11,520	7,488	5,904	4,792
TOTAL AVERAGE ANNUAL COST		62,871	62,220	63,691	69,890

1 LABOR COSTS ARE BASED ON PART TIME OPERATION AND ROUTINE VISITS TO THE PUMP FACILITY

2 POWER COSTS ARE BASED ON A RATE OF \$16.50 PER CONNECTED HORSEPOWER PLUS
\$ 0.037 PER KILOWATT.

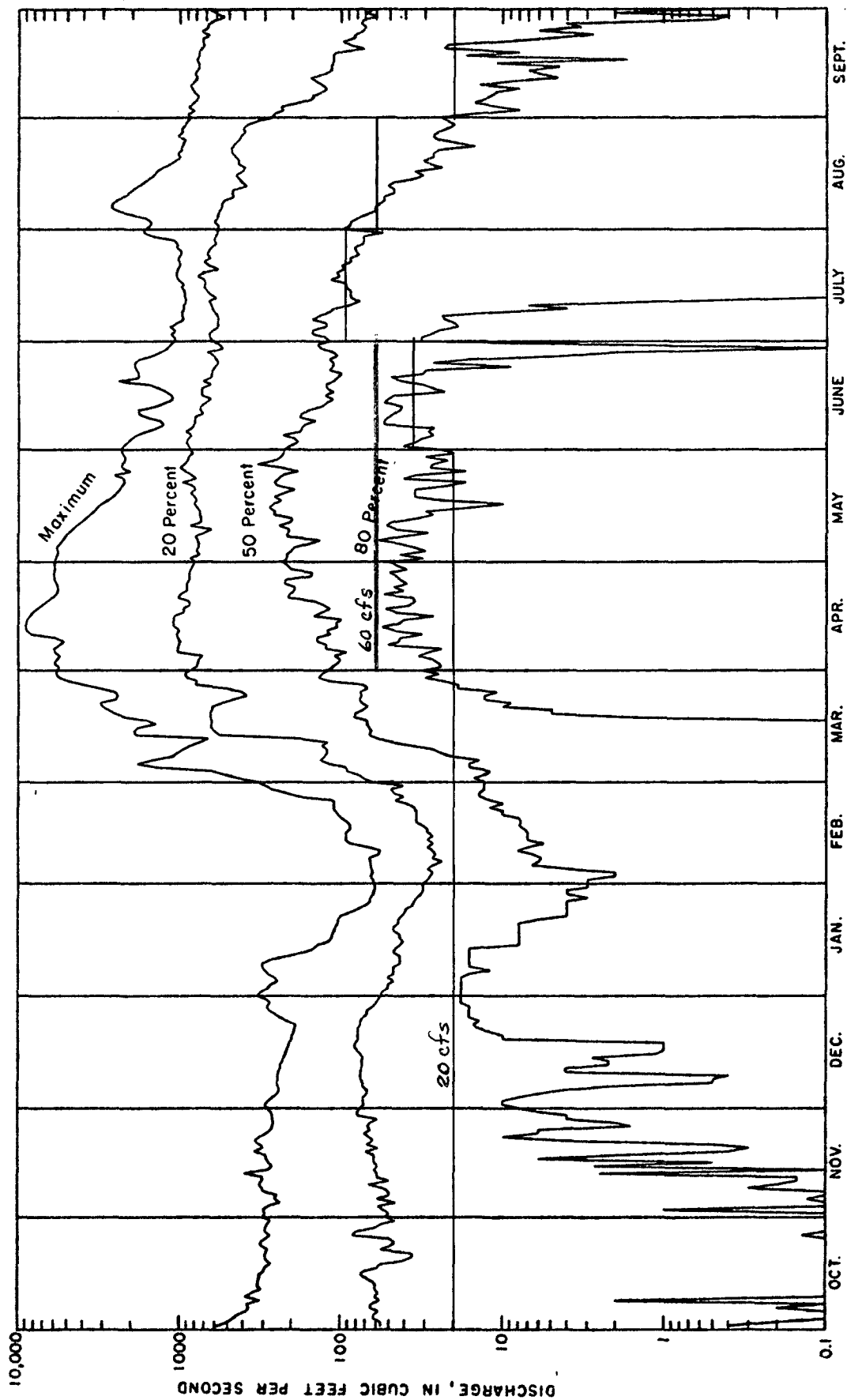


Figure 1 --Duration hydrograph for the James River at Huron, S. Dak., water years 1953-81.

Water Rights Division
605 773-3352

July 5, 1984

Lake Byron Development Ass'n
ATTN: Pat Arluthart, Chairman
201 Farmers & Merchants Building
Huron SD 57350

Ms. Arluthart:

We are in receipt of the application for the Lake Byron Pumped storage project. The correct fee for 3400 acre feet per year is \$900.00. It is calculated as follows:

First 120 acre feet or portion thereof	\$150.00
Second 120 acre feet or portion thereof	75.00
Eadh additional 120 acre feet or portion thereof	25.00

We have receipted your check for \$883.00 and when we receive the additional \$17.00 we will continue processing your application.

Thank you,

KEVIN C LARSON
Water Resources Engineer

KCL:ks

SOUTH Dakota Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol

Pierre, South Dakota 57501-3181

WATER RIGHTS DIVISION

(605) 773-3352

July 17, 1984



Lake Byron Development Association
201 Farmers & Merchants Building
Huron, South Dakota 57350

ATTENTION: Pat Arbuthnot

Dear Ms. Arbuthnot:

I am in receipt of your check for \$27.00, however, the amount requested was only \$17.00. I am returning your check and you can send us the correct amount of \$17.00. I think this will be the fastest way to handle this. If we receive the check before July 30 it will not affect the processing of your application. If you have any questions please contact me.

Thank you,

Kevin C. Larson

Kevin C. Larson
Natural Resources Engineer

KCL:ms
Enc.

Sony this is late but our treasurer has been on a 2 wk vacation and was unable to get ck out. Hope it is possible to complete this application.

Thank you

Equal Opportunity Employer

RECEIPT

Division of Water Rights

Nº 4 9689 -

South Dakota Department of Water and Natural Resources

Pierre, June 15, 1984

RECEIVED OF Lake Byron Development Ass'n Inc, Huron SD 57350

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

Fee for Application for Permit No. 5027-3 to Appropriate Water, to construct works and to put water to beneficial use	883	00
Fee for Application for Permit No. to Appropriate Water for Future Use		
Fee to retain Future Use Permit No. after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No.		
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	883 00

By John Hatch
Chief Engineer JOHN HATCH

ks

RECEIPT

Division of Water Rights

No 4 9733

South Dakota Department of Water and Natural Resources

Pierre, August 9, 1984

RECEIVED OF Lake Byron Development Assn., Inc. 201 Farmers & Merchants Bldg., Huron, SD
the following amount in fees for services rendered as provided for by law: 57350

Fee for Application for Permit No. <u>5027-3</u> to Appropriate Water, to construct works and to put water to beneficial use	17 00 (add'l 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	17 00

By John Hatch
Chief Engineer

JOHN HATCH/MS

Report on Application No. 5027-3
Lake Byron Watershed District
September 16, 1984

Introduction: The Lake Byron Watershed District Application No. 5027-3 proposes to divert James River water to maintain water levels in Lake Byron. The project includes a provision for storage of water which could be returned to the James River as a supplemental source of water for the City of Huron. The application requests the diversion of 12.0 cfs not to exceed 3,400 acre feet per year.

Discussion: Existing water rights downstream from the proposed project include withdrawals for the City of Mitchell, the City of Huron, industrial use, and irrigation. Mitchell is allowed to divert water at a rate of 29 cfs when 110 cfs or more is bypassed during May through September and 20 cfs or more is bypassed during October thru April. Total diversion is limited to 8,430 acre feet per year.

Diversion rates for the city of Huron and the industrial uses are the average cfs withdrawals based on actual pumpage by the City of Huron and adding the industrial use water right withdrawals. These are as follows:

January	4.56 cfs	July	6.64 cfs
February	4.55	August	6.73
March	4.50	September	5.12
April	4.47	October	4.28
May	4.67	November	4.33
June	5.45	December	4.30

Total approved diversion rates for irrigation water rights on the James River by reach below Huron are as follows:

Huron to Forestburg	17.5 cfs
Forestburg to Mitchell	72.8
Mitchell to Scotland	<u>118.5</u>
TOTAL	208.8 cfs

Department of Water and Natural Resources, James River Hydrologic Study (1954-1978), conducted in 1980 of irrigation usage on the James River showed the percentage of the total irrigation diversion rates as follows: April - 9%, May - 7%, June - 15%, July - 38%, August - 26%, September - 4%, October - 1%. Using 1 cfs per 70 acres, the acreage irrigated with 208.8 cfs of water equals 14,616 acres. Using 14 inches of water per acre per year, 17,052 acre-feet would be diverted for irrigation. This is based on peak use with actual James River Diversions from the Irrigation Questionnaire.

If 17,000 acre feet of water are utilized for irrigation season below Huron, the average cfs rate by month amounts to: April - 26 cfs, May - 19 cfs, June - 43 cfs, July - 105 cfs, August - 72 cfs, Sept. - 11 cfs, Oct. - 3 cfs.

The bypass requirement must meet the needs of the City of Mitchell, City of Huron, and other existing water rights minus inflow to the river below Huron. Table 1 compares flows at the Huron, Forestburg, and Scotland Gages. Progressing downstream, the increased drainage area produces additional runoff and increased flow in the river. This is most apparent during the months of

April and June. April produces runoff from snowmelt and June produces runoff from rainfall. Depending on the increased flow from the downstream drainage area, the bypass requirement at Huron can be reduced. The present bypass requirement is 20 cfs for the entire year.

Based on a 70% chance of occurrence for the reach from Huron to Scotland, April produces 82 cfs additional runoff, May - 62 cfs, June - 36 cfs, July - 9 cfs, August - 14 cfs, Sept. - 13 cfs, Oct. - 19 cfs. Using these figures, the irrigation depletion figures, Mitchell's water right and a 20 cfs minimum bypass at Huron, the required monthly bypass, at Huron is as follows:

April - 20 cfs	August - 58 cfs
May - 20 cfs	September - 20 cfs
June - 36 cfs	October - 20 cfs
July - 96 cfs	

Note: No water is bypassed for Mitchell beyond June 30.

Figure 1 is a duration hydrograph for the Huron Gauge with the bypasses plotted for each of the computed months. The hydrograph indicates water would be available for Lake Byron from April through June more than 70% of the time. The other months of the year water would be available 50% or less of the time.

Subject to Future Use Permit held by the Oahe Conservancy Sub-District: A future use water permit has been issued to the Oahe Conservancy Sub-District to construct a ring dike near Bath, SD. The ringdike water storage is proposed for 46,000 acre feet and the anticipated yearly water consumption amounts to 25,000 acre feet. If the ringdike is developed, less water will be available for the Lake Byron Project.

Normal and lower flow years will not provide enough water to satisfy the Lake Byron Project plus serving the existing uses. Higher flow years will not cause any problem. Table 2 makes an estimate of the water that would be available to Lake Byron with and without the ringdike. At a diversion rate of 12 cfs, the Lake Byron Project is limited to diverting 720 acre feet per month.

Deferred Applications on the James River Two deferred future use applications are on file. The Lower James Conservancy Sub-District application is for 10,000 acre feet of water annually for irrigation of lands within the Sub-District area. There is no specific project outlined. It states that 510,000 acres within the Sub-District area have the potential for irrigation development. The Oahe Conservancy Sub-District deferred application is for 10,000 acre-feet of water annually of the James River to irrigate lands within the Sub-District. This application states that 270,000 acres of land have the potential for irrigation.

These applications should remain in deferred status because (1) neither of the applications propose storage of the larger flows that occur in the spring of the year (2) neither of the applications relate to a specific project and (3) both applications are dependant upon additional flows in the River from the Garrison Unit return flows, augmented flows, as well as flows that may occur with the development of a project such as the Garrison Extension. Water availability from such a project has not been established.

These applications will remain in deferred status until such time as it is determined whether or not additional water will be available from a project such as the Garrison Extension. Both applications were submitted with the idea that the potential existed for increased flows into the James River from proposed diversions of Missouri River water into the James River Valley. If these two deferred future use applications are eventually approved and the reserved water applied to beneficial use, priorities when applicable would be senior to Application No. 5027-3 for Lake Byron.

Project Features

A submerged 33" intake line located on the east bank of the James River will divert the water to a pump station. From the pump station the water will move through a 27" pipeline to outlet works at Lake Byron a distance of 6,950 feet.

The gravity flow return system includes the construction of flow control structures on the drainage canal between Connors Lake and Lake Byron and between Connors Lake and Foster Creek. Foster Creek will carry the water to the James River.

The existing drain between Lake Byron and Connors Lake would be lowered. Presently, a sand bar exists in the drain at elevation 1248.99 which restricts the flow from Lake Byron. The sand bar is 1 foot above the outlet structure elevation on Connors Lake. October 23, 1984 the lake level in Byron was 1248.45 and the lake level in Connors was 1247.91. The spillway elevation is 1248.1.

Water Quality Considerations for Return to Huron

Certain impacts should be addressed relative to the City of Huron's water supply when allowing releases out of the lake. The gravity return system includes constructing control structures to facilitate lowering Lake Byron 12 inches to provide a supplemental supply of water from Huron. The Foster Creek channel will be graded to a uniform hydraulic configuration to improve the flow characteristics from the spillway to the James River.

The controlled release of water from Lake Byron and Connors Lake must not cause the James River water quality standards to be exceeded. In order to insure that the standards are not exceeded, the Lake Byron Watershed District should be responsible for water quality monitoring. An acceptable method of monitoring should be worked out between the Watershed and the Division of Environmental Quality. This will determine when releases can be made to supplement Huron's water supply.

Watershed Runoff Calculations

Using the SCS method of determining annual yield, the runoff from the watershed on a percent chance basis was calculated. Isogram map for area equals 2 1/4", Q_N=70, Watershed Area = 115,350 acres, Lake Volume = 11,710 Ac. Ft., Lake Area = 1,749 acres.

<u>Percent of Time Equalled or Exceeded</u>	<u>Runoff Yield (inches per acre)</u>	<u>Total Runoff (Acre-Feet)</u>
80%	0.08	770
50%	0.24	2,307
20%	0.79	7,594
10%	1.45	13,938

Average evaporation equals 34.8 inches minus 19.4 inches rainfall equals 15.4 inches net evaporation. Therefore 2,245 Acre Feet can be lost to evaporation.

From the above data, a median year (50%) should maintain lake levels, a 1.25 year (80%) recurrence runoff would cause depletion of lake levels, a 5 year (20%) recurrence interval will add approximately 3 feet. to the lake level. It appears that only during low runoff years will it be necessary to divert water to maintain the lake level.

Conclusions and Recommendations:

The flow diversion hydrograph, Figure 1, indicates that water will be available to this project more than 70% of the time in the months of April through June, and available at times during the other months of the year. The project would be junior in priority to the Future Use Water Permit of the Oahe Conservancy Sub-District if the ringdike project is developed. The Lake Byron project will still have water available, but the frequency could be reduced significantly as shown by Table 2.

The required bypass of flows at the Huron Gaging Station will be 20 cfs for domestic use plus the flows as needed for downstream prior appropriations. The Division of Water Rights closely monitors the flows of the James River. Diversions under this permit must be regulated in a manner which will not adversely impact these prior rights.

Controlled releases from Lake Byron to the James River must meet the water quality standards criteria unless the water quality in Lake Byron is equal to or better than the James River water quality.

It is recommended that the Water Management Board approve Application No. 5027-3 with the following qualifications:

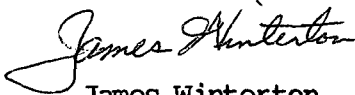
1. Low flows as needed for downstream domestic use and prior water rights must must be bypassed. The minimum bypass at Huron for domestic use is 20 cfs. During the period of April 1 through June 30 of each calendar year, diversions are authorized only when 60 cfs or more are by-passed after diversion for domestic use or prior water rights, unless a lower flow by-pass based upon the need for water in Lake Byron versus the need for water downstream, is authorized by the Chief Engineer. This permit does not authorize diversion of water from the James River after June 30th of each calendar year unless written orders have been so issued by the Chief Engineer. In the management of the James River under this permit, flows will be monitored at all

gaging stations, and cutoffs will be timed to insure water supplies for domestic use and prior water rights.

2. This Permit is approved subject to a yearly report being submitted by January 31 to the Chief Engineer on the quantity of water diverted each month in the previous calendar year.
3. Before a controlled release of water occurs, the Lake Bryon Watershed District shall collect water quality samples from Lake Byron and the James River, have an approved laboratory analyze the samples, and submit the laboratory results to the Chief Engineer for review by the Division of Environmental Quality. If the results are satisfactory, the Chief Engineer may approve a controlled release of the water if:
 - a. The quality of the Lake Bryon water will not violate James River Stream Standards during a controlled release; or
 - b. The quality of water in Lake Byron is equal to or better than the James River water quality.

If, at any time during the controlled release, the James River Stream Standards are violated due to the discharge, the Chief Engineer will require the controlled release of water to cease.

4. The elevation of outlet control structures for Lake Byron and Connors Lake may not exceed elevation 1248.1 feet msl.



James Winterton
Water Resources Engineer
Division of Water Rights

*TABLE 1

Mean Flow Values Developed by USGS for Duration Hydrograph

Comparison of flows between Huron Gauge, Forestburg Gauge & Scotland Gauge
(Cubic Feet Per Second)

<u>APRIL</u>	Percentage of Occurrence	<u>High</u>	<u>.10</u>	<u>.20</u>	<u>.30</u>	<u>.50</u>	<u>.70</u>	<u>.80</u>	<u>.90</u>	<u>Low</u>
Huron		5510	2634	1032	479	187	76	48	24	1.4
Forestburg		6284	3551	1026	520	206	107	92	32	4.8
Scotland		8188	4224	1816	1141	283	158	114	77	18
<u>MAY</u>										
Huron		3379	1521	1000	500	232	75	31	4	0
Forestburg		3881	2028	1255	585	282	88	63	12	6
Scotland		5003	2200	1500	900	334	137	104	42	8
<u>JUNE</u>										
Huron		1380	1088	751	515	124	84	56	0	0
Forestburg		2919	1151	746	576	168	89	58	12	0.4
Scotland		7101	1700	1509	885	297	120	68	20	5
<u>JULY</u>										
Huron		954	856	692	398	96	36	7	0	0
Forestburg		1413	855	631	339	116	50	14	1.0	0
Scotland		3845	1141	767	561	158	45	23	12	1
<u>AUGUST</u>										
Huron		1333	742	425	202	37	6	0	0	0
Forestburg		1375	830	425	278	40	8	4	0	0
Scotland		1436	776	527	284	68	20	10	4	0
<u>SEPTEMBER</u>										
Huron		746	206	112	53	11	0	0	0	0
Forestburg		747	234	122	54	16	3	1	0	0
Scotland		887	299	203	92	39	13	8	5	0.3
<u>OCTOBER</u>										
Huron		313	119	57	26	3	0	0	0	0
Forestburg		325	124	60	40	11	4	3	2	0
Scotland		529	126	94	51	24	9	5	3	0

TABLE 2

Water Available for Lake Byron

	A	B	C	D	E	F	G	H	I	J	K	Without Ring Dike	With Ring Dike
1	FLows AT	HURON	ACRE-FEET	PER MONTH	USGS	RECORDS							
2	YEAR	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER		
3	1950	555	11070	78050	171700	168600	64750	29620	3660	1300	446	OK	OK
4	1951	163	5380	34980	45660	32340	8290	1740	0	22	109	OK	OK
5	1952	528	10420	235900	130300	48150	21780	2280	91	192	0	OK	OK
6	1953	720	44120	21100	27360	20600	55990	82000	6280	1580	1070	OK	OK
7	1954	3810	5760	4530	5780	7150	11560	2300	672	74	48	OK	NO
8	1955	114	21440	11110	3660	3670	1750	5360	8.7	0	0	630 AF/SHORT	NO
9	1956	0	428	2880	4800	5400	8950	12450	342	28	328	OK	NO
10	1957	321	2220	10110	15750	18610	11310	704	358	553	1210	OK	NO
11	1958	1930	13080	28410	13950	7400	4940	55	0	0	0	520 AF/SHORT	NO
12	1959	0	285	82	0	0	0	0	0	0	0	NO	NO
13	1960	0	18550	156700	29720	9880	4400	2010	461	0	0	520 AF/SHORT	OK
14	1961	4	4690	551	1430	1240	0	0	0	800	64	2680 AF/SHORT	NO
15	1962	208	31250	130800	61500	82130	52630	44740	44410	16680	6500	OK	OK
16	1963	1880	3010	4800	11290	11930	9940	379	0	13	367	OK	NO
17	1964	853	753	2740	14960	5570	24750	19630	1470	29	361	OK	NO
18	1965	0	202	12740	45230	30670	4240	723	1960	5780	5650	OK	OK
19	1966	2330	75320	98880	71570	44690	42520	26150	11610	3520	1940	OK	OK
20	1967	1620	33460	31290	44020	46260	24470	6120	778	212	443	520 AF/SHORT	NO
21	1968	477	396	4560	13390	7330	4830	3120	1290	309	2140	520 AF/SHORT	NO
22	1969	472	4170	327900	207800	65600	58670	45640	11810	4410	7890	OK	OK
23	1970	2640	30420	28500	30720	18560	2220	0	0	0	97	520 AF/SHORT	NO
24	1971	218	6810	3460	1920	3350	5930	3030	3160	2260	2960	OK ?	NO
25	1972	1130	56060	61420	93520	52760	10110	9800	3340	1230	3030	OK	OK
26	1973	3670	31500	6750	1670	173	0	0	0	0	39	1240 AF/SHORT	NO
27	1974	800	1970	3830	4620	5020	2800	2210	1360	13	110	520 AF/SHORT	NO
28	1975	0	721	5830	22840	35770	43840	60700	33630	19280	16370	OK	OK
29	1976	4700	7470	14880	14300	5870	411	0	0	0	0	OK	NO
30	1977	0	25190	2500	61	0	0	0	0	0	0	1980 AF/SHORT	NO
31	1978	0	76670	171600	74700	33050	26560	24040	6680	3050	3090	OK	OK
32	1979	539	4550	37640	103500	64760	47930	28100	12240	7350	14850	OK	OK
33	1980	1130	3530	13500	4350	3640	1010	65	0.1	0	0	600 AF/SHORT	NO
34	1981	803	772	1450	232	0	0	693	0	4	0	NO	NO

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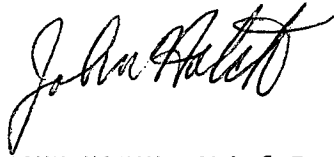
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RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT

APPLICATION NO. 5027-3, Lake Byron Water Shed District

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. 5027-3, Lake Byron Water Shed District, 201 Farmers & Merchants Building, Huron SD.

The Chief Engineer is recommending DEFERRAL of Application No. 5027-3 because more time is needed to determine the impact of artificially maintaining Lake Byron water levels and the effect of flood runoff from natural drainage into the lake and the flow of excess water out of the lake.

A handwritten signature in black ink, appearing to read "John Hatch", with a stylized, cursive script.

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

REVISED RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT

APPLICATION NO. 5027-3, LAKE BYRON WATER SHED DISTRICT

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. 5027-3 Lake Byron Water Shed District, 201 Farmers and Merchants Building, Huron, South Dakota.

The Chief Engineer is recommending APPROVAL of Application No. 5027-3 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. Low flows as needed for downstream domestic use and prior water rights must be bypassed. The minimum bypass at Huron for domestic use is 20 cfs. During the period of April 1 through June 30 of each calendar year, diversions are authorized only when 60 cfs or more are by-passed after diversion for domestic use or prior water rights, unless a lower flow by-pass based upon the need for water in Lake Byron versus the need for water downstream, is authorized by the Chief Engineer. This permit does not authorize diversion of water from the James River after June 30th of each calendar year unless written orders have been so issued by the Chief Engineer. In the management of the James River under this permit, flows will be monitored at all gaging stations, and cutoffs will be timed to insure water supplies for domestic use and prior water rights.
2. This Permit is approved subject to a yearly report being submitted by January 31 to the Chief Engineer on the quantity of water diverted each month in the previous calendar year.
3. Before a controlled release of water occurs, the Lake Byron Watershed District shall collect water quality samples from Lake Byron and the James River, have an approved laboratory analyze the samples, and submit the laboratory results to the Chief Engineer for review by the Division of Environmental Quality. If the results are satisfactory, the Chief Engineer may approve a controlled release of water if:
 - a. The quality of the Lake Byron water will not violate James River Stream Standards during a controlled release; or
 - b. The quality of water in Lake Byron is equal to or better than the James River water quality.

If, at any time during the controlled release, the James River Stream Standards are violated due to the discharge, the Chief Engineer will require the controlled release of water to cease.

4. The elevation of outlet control structures for Lake Byron and Connors Lake may not exceed elevation 1248.1 feet msl.

See attached report for additional information.


JOHN HATCH, Chief Engineer
November 30, 1984

5027-3

First action to Newspaper. Further first publication at the same time as the first action on October 25, 1984. With 2nd publication 1 week later. The applicant is responsible for payment.

**NOTICE OF HEARING on Application No. 5027-3 to Appropriate Water
and/or to Amend Water Permit or Water Rights No. _____**

Notice is hereby given that the Lake Byron Water Shed District whose mailing address is 201 Farmers & Merchants Bldg., Huron, South Dakota has made an application for a permit to appropriate 12.00 cubic feet per second of water, not to exceed 3400 acre feet annually from the James River. The water will be pumped from the James River to Lake Byron to provide for the stabilization of water levels in Lake Byron and to provide for the storage of water which could be returned to the James River to provide supplemental water for the City of Huron. The project includes inlet works and pumping facilities near the James River with the diversion point located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Sec 33, T113N, R61W and a pipeline to and outlet works at Lake Byron. The proposed gravity flow return system would be through Connors Lake to Foster Creek to the James River. The return system construction would consist of lowering the existing drain between Lake Byron & Connors Lake, constructing a new drain between Connors Lake & Foster Creek. Flood control structures will be constructed to facilitate lowering Lake Byron one foot.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends
Deferral of Application No. 5027-3 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.~~ more time is needed to determine impact of artificially maintain-
ing Lake Byron water levels and the effect of flood runoff from natural drainage into the lake
and the flow of excess water out of the lake.

This application will be considered by the Water Management Board at Joe Foss Building
Room 216, 523 E Capitol, Pierre SD on December 5 19 84 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 November 23, 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, DWRN, 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 November 23, 1984.

PRINTER'S AFFIDAVIT



STATE OF SOUTH DAKOTA,
COUNTY OF BEADLE: ss.

I, Rod Hays
being duly sworn on oath, say that THE DAILY PLAINSMAN is a daily paper published at Huron, Beadle County, South Dakota, and that said newspaper has a bona fide circulation of at least 250 copies daily; that said newspaper has been published within said county for fifty-two consecutive weeks immediately prior to this date; that said newspaper is printed in whole or in part, in an office maintained at said place of publication; that I

am publisher

of said newspaper
and know the facts herein stated. The annexed notice headed

Notice of Hearing on Application No. 5027-3

to Appropriate Water

was published for two successive weeks once each week, the same day each week, in said newspaper, and not in any supplement of the said newspaper, the first publication on the 25th day of

October, 1984, and the last publication on the 1st

day of November, 1984. That the full amount of the fee charged for publishing the same, to-wit:

seventy-six and 70/100 Dollars inures to the benefit of the publisher of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever.

Rod Hays

Subscribed and sworn to before me this 1st day of November,

1984

James H. Henn
Notary Public, South Dakota

My term expires 12/22/91

F.P. 10-25-84 L.P. 11-1-84
NOTICE OF HEARING ON
APPLICATION NO. 5027-3 TO
APPROPRIATE WATER

Notice is hereby given that the Lake Byron Water Shed District, whose mailing address is 201 Farmers & Merchants Bldg., Huron, South Dakota, has made an application for a permit to appropriate 12.00 cubic feet per second of water, not to exceed 3400 acre feet annually from the James River. The water will be pumped from the James River to Lake Byron to provide for the stabilization of water levels in Lake Byron and to provide for the storage of water which could be returned to the James River to provide supplemental water for the City of Huron. The project includes inlet works and pumping facilities near the James River with the diversion point located in the NW 1/4 SW 1/4 Sec. 33, T113N, R61W and a pipeline to and outlet works at Lake Byron. The proposed gravity flow return system would be through Connors Lake to Foster Creek to the James River. The return system construction would consist of lowering the existing drain between Lake Byron &

Connors Lake, constructing a new drain between Connors Lake & Foster Creek. Flood control structures will be constructed to facilitate lowering Lake Byron one foot. Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends Deferral of Application No. 5027-3 because more time is needed to determine impact of artificially maintaining Lake Byron water levels and the effect of flood runoff from natural drainage into the lake and the flow of excess water out of the lake.

This application will be considered by the Water Management Board at Joe Foss Building, Room 216, 523 E. Capitol, Pierre, SD on December 5, 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 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 November 23, 1984. The petition may be informal, but it must include a statement describing the petitioner's 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.

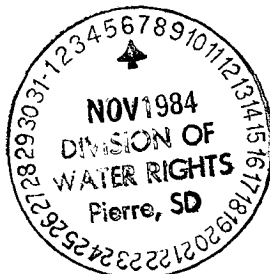
This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17, 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

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, DWNRR, 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 November 23, 1984.

No. 507 (adv.)

13" x 2.95-76.70



November 2, 1984

MEMO TO: John Hatch, Director
Division of Water Rights

FROM: Jim Nelson, Director
Division of Environmental Quality



SUBJECT: Recommended conditions on Lake Byron Watershed District application
for water rights (No. 5027-3)

The following are the Division of Environmental Quality's recommended conditions on the Lake Byron water rights application:

1. James River instream flow recommendations:

Low flows needed for maintenance of the fishery must be bypassed. The minimum bypasses at Huron for maintenance of the fishery are:

60 cfs for April
60 cfs for May
60 cfs for June
20 cfs for July

2. Limitations on Lake Byron discharge to the James River:

Any controlled release of water from Lake Byron¹ shall not cause the James River water quality standards to be exceeded. In order to insure that the standards are not exceeded, the Lake Byron Watershed District shall monitor the water quality of Lake Byron and the James River before and during a controlled release of water. The Watershed District shall inform DWNR of its intentions to release water. At that time, DWNR will inform the Watershed District which parameters need to be sampled.

Before a controlled release of water occurs, the Lake Byron Watershed District shall collect water quality samples from Lake Byron and the James River, have an approved laboratory analyze the samples, and submit the laboratory results to DWNR. DWNR will approve a controlled release of water if:

¹ All references to Lake Byron include Connors Lake.

- a. The quality of the Lake Byron water will not violate James River Stream Standards during a controlled release; or
- b. The quality of water in Lake Byron is equal to or better than the James River water quality.

After DWNR approves a controlled release of water to the James River, the Lake Byron Watershed District shall, at a minimum, conduct the following monitoring schedule:

- a. A James River downstream sample shall be taken not less than 1/4 mile downstream from the point of discharge and not more than 1/2 mile downstream from the point of discharge.
- b. A James River upstream sample shall be taken during the controlled release not less than 1/2 mile upstream from the point of discharge.
- c. A sample will be taken from the discharge before entering the waters of the James River.
- d. Samples will be taken at all these locations weekly during the discharge period.

If, at any time during the controlled release, the James River Stream Standards are violated due to the discharge, DWNR will require the controlled release of water to cease. All sampling and laboratory analysis will comply with Quality Assurance procedures.

WATER RIGHTS DIVISION
(605) 773-3352

November 30, 1984

Pat Arbuthnot, Chairman
Lake Byron Water Shed District
201 Farmers & Merchants Building
Huron, South Dakota 57350

Dear Ms. Arbuthnot:

Enclosed is a revised Recommendation and Report to Approve the Lake Byron Water Shed District Water Permit Application No. 5027-3. We have not received any written protests for this Application scheduled for hearing at 10:00 a.m., December 5, 1984.

Very truly yours,

John Hatch, Chief Engineer
Water Rights Division

JH:ms
Enc.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Water Rights Division
605 773-3352

February 11, 1985

Pat Arbuthaut
Lake Byron Water Shed District
201 Farmers & Merchants Bldg.
Huron SD 57350

Dear Ms. Arbuthaut:

Enclosed herewith is your Water Permit No. 5027-3 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. 5027-3.

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

**SOUTH Dakota Department of
Water & Natural Resources**

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

June 30, 1989

NOTICE

Lake Byron Watershed District
201 Farmers and Merchants Bldg.
Huron, SD 57350

ATTN: Pat Arbuthnot

Water Permit No. 5027-3 for diversions from the James River to Lake Byron by the Lake Byron Watershed District contains a June 30 cutoff date. If you wish to continue pumping beyond June 30, you must request the Chief Engineer of the Division of Water Rights to authorize the diversion.

The James River flow are declining steadily but have held up better than expected. We will allow you to continue pumping from the James River until July 7, 1989. After July 7, 1989 your diversions must cease.

Let us know of you have any questions or comments.

Very truly yours,



James Winterton
Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division
605 773-3352



CERTIFICATION

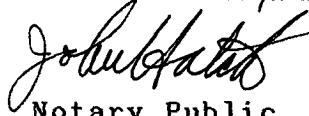
I hereby certify that on June 30, 1989 I have personally deposited with the U.S. Mail postage prepaid envelopes containing a Notice addressed as follows:

Lake Byron Watershed District
201 Farmers & Merchanges Bldg.
Huron SD 57350


KAREN SCHLAACK
Senior Secretary

STATE OF SOUTH DAKOTA)
) SS
COUNTY OF HUGHES)

Sworn to, before me, this 5th day of July, 1989.


Notary Public



Department of Water & Natural Resources

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

April 6, 1990

NOTICE OF SHUTOFF ORDER

5027-3

TO: Pat Arbuthnot
Lake Byron Watershed District
201 Farmers and Merchants Bldg
Huron, South Dakota 57350

FROM: *for* John Hatch, Chief Engineer
Water Rights Division
(605)773-3352

SUBJECT: Shut Off Order for Water Right No. 5027-3

The flows in the James River are below 20 cubic feet per second (cfs) at most of the gaging stations. Therefore to protect the City of Huron's prior rights from diversions above Huron and domestic uses (livestock watering) on the river below Huron, effective immediately, no pumping of water from the James River is authorized under Water Right No. 5027-3 until further notice.

Water Right No. 5027-3 authorizes diversions during the period of April 1 through June 30 when 60 cfs or more are by-passed after diversion for domestic use or prior water rights. This permit does not authorize diversion of water from the James River after June 30th unless written orders have been so issued by the Chief Engineer. Shutoff notices have also been issued to James River irrigators.

Unless flow conditions change, it appears that no pumping will be allowed for 1990 from the James River. If conditions do improve, notices will be issued, based on senior priority dates, to allow pumping.

Sand Lake Wildlife Refuge is approximately one foot below the full level. The Refuge is entitled to the flows from North Dakota under a senior water right. The flows from North Dakota are expected to decrease due to the lack of snow pack. The storage levels in the Jamestown and Pipestem Reservoirs are down with no expected releases.

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

Date	Ludden	Columbia	Ashton	Huron	Forestburg	Scotland	Yankton
3/28/90	----	----	----	----	----	----	30.2
4/2/90	----	3.5	8.0	0	6.0	15.0	----
4/4/90	51.0	10.0	10.0	0	5.4	22.0	----

If you have any questions, please contact Del Brosz, Division of Water Rights, Joe Foss Building, Pierre, SD 57501, phone (605) 773-3352.

cc: City of Huron, Water Superintendent



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

April 14, 1992

NOTICE OF SHUTOFF ORDER

5027-3

TO: PAT ARBUTHNOT
LAKE BYRON WATERSHED DIST
FARMERS/MERCHANTS BLD
HURON, SD 57350

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

SUBJECT: Shut Off Order to All James River Water Right Holders
Above Huron, Effective Immediately.

The flows in the James River are below 20 cubic feet per second (cfs) at the gaging stations above Huron. Therefore to protect the City of Huron's prior rights from diversions above Huron and domestic uses (livestock watering) below Huron, effective immediately, no pumping of water from the James River above Huron is authorized until January 1, 1993 or until further notice.

Unless flow conditions change, it appears that no pumping will be allowed for 1992 from the James River above Huron diversion dam. If conditions improve, notices will be issued, based on senior priority dates, to allow pumping by water users.

Due to the continuing drought, the James River basin, in both North Dakota and South Dakota, is receiving below normal runoff.

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

Date	Ludden	Columbia	Ashton	Huron	Forestburg	Scotland
4/7/92	83	.4	9	32	40	57
4/10/92	54	.6	7	20.5	---	57
4/13/92	6	.6	4	20.5	---	55

If you have any questions, please contact Norma Job or Del Brosz, Division of Water Rights, 523 East Capitol, Pierre, SD 57501, phone (605) 773-3352.

cc: City of Huron, Water Superintendent



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

June 22, 1992

RESCISSION OF SHUTOFF ORDER

5027-3

TO: Lake Byron Water Shed District
Pat Arbuthnot
PO Box 831
Huron, SD 57350

FROM: *for* John Hatch, Chief Engineer *Delvin D. Brosz*
Water Rights Division
(605) 773-3352

SUBJECT: Rescission of April 14, 1992 Shutoff Order
to James River Water Right Holders above the
Huron Third Street Dam to Ashton.

As per your telephone conversation with Del Brosz on June 19, 1992, the Shutoff Order of April 14, 1992 is rescinded, effective immediately, for James River Water Right Holders between the Huron Third Street Dam and Ashton. We will continue to monitor the flows of the James River through the summer. **The present increase in flow may only be temporary.** If present flow conditions continue, pumping will be allowed under Water Permit No. 5027-3 until the mandatory June 30 shutoff date. Pumping after the June 30 shutoff date will require written approval from the Chief Engineer.

If you have any questions, please contact Norma Job or Del Brosz, Division of Water Rights, 523 East Capitol, Pierre, SD 57501 Phone (605) 773-3352.

cc: City of Huron, Water Superintendent



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 2, 1992

Lake Byron Watershed District
Attn: Pat Arbuthnot
PO Box 831
Huron, SD 57350

Dear Ms. Arbuthnot:

In response to your telephone call requesting an extension to pump from the James River, You are hereby authorized to continue to divert into Lake Byron from the James River under Water Permit No. 5027-3 beyond the mandatory June 30 shutoff date.

This authorization is subject to the Water Permit No. 5027-3 qualification requiring a 60 cfs bypass. We will continue to monitor flows in the James River. If the flow at the Huron 3rd Street dam drops below 60 cfs or if adequate flow for senior water rights is not available, you will be required to cease pumping.

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

Date	Ludden	Columbia	Ashton	Huron
6/26/92	11	6	118	422
6/29/92	25	18	268	450
7/01/92	35	40	313	554

If you have any questions, please contact Norma Job or Del Brosz at phone (605) 773-3352.

Very Truly Yours,

John Hatch, Chief Engineer
Division of Water Rights

Conversation or File Documentation

NAME OF PERSON OR FILE: Lake Byron Watershed DistrictADDRESS: % Pat Arbutnot P.O. Box 831 COUNTY BeadleDATE: 8-12-92 TELEPHONE Huron 50RE: Status of thier pumping

COMMENTS:

Spoke with Pat Arbutnot and asked her if they were still pumping into Lake Byron. She said they had shut off last weekend, but the water level was still high in that area. I told her that Ashton gage read 4.0 cfs today and that the Huron 3rd Street dam read 128 cfs.

I asked her if she had planned on pumping again in the near future. She said only if it got real hot and lowered the lake level some. I told her to call this office and ask us for permission again if they needed to pump again this year.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME: Norma C. Job



5027-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 26, 1993

SECOND NOTICE

Pat Arbuthnot
Lake Byron Watershed District
PO Box 831
Huron, SD 57350

Dear Ms. Arbuthnot:

Pursuant to a qualification on Water Permit/Right No(s). 5027-3, we requested in our December 23, 1992 letter that the Lake Byron Watershed District 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

3,839 hrs. total of all three pumps
250000 GPM

1992 = 176

UBM

5027-3



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 13, 1994

Pat Arbuthnot
Lake Byron Watershed District
PO Box 831
Huron, SD 57350

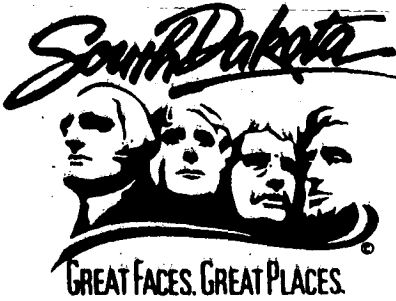
Dear Ms. Arbuthnot:

Pursuant to a qualification on Water Permit/Right No. 5027-3, I am requesting that the Lake Byron Watershed District report the amount of water diverted from the James River during each month in 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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 28, 1994

SECOND NOTICE

Pat Arbuthnot
Lake Byron Watershed District
PO Box 831
Huron, SD 57350

Dear Ms. Arbuthnot:

Pursuant to a qualification on Water Permit/Right No. 5027-3, we requested in our January 13, 1994 letter that the Lake Byron Watershed District report the amount of water withdrawn from the James River each month during 1993. 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, Environmental Scientist, at (605) 773-3352.

Sincerely,

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

Permit # 5027-3

Lake Byron Watershed District Never
Pumped any water in 1993.

Barry A. McLarry

3-15-94



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 15, 1996

5027-3

Ron Wheeler
P.O. Box 1363
Huron, SD 57350

Dear Mr. Wheeler:

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. 5027-3, 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.

WHEELER LAW OFFICE

1507 DAKOTA AVE. SOUTH
P.O. BOX 1363
HURON, SOUTH DAKOTA 57350

RONALD J. WHEELER
KAARIN LONG

PHONE: 605/352-7154
FAX: 605/352-7157

April 24, 1996



Ms. Cheryl F. Frost, Secretary
Department of Environment & Natural Resources
Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181

Re: Lake Byron Watershed
Water Permit No. 5027-3

Dear Ms. Frost:

Enclosed please find a check in the amount of \$50.00
for payment of the license for the Water Permit No. 5027-3.

Thank you very much.

Very truly yours,

WHEELER LAW OFFICE

Ronald J. Wheeler

RJW/sk

Enclosure

RECEIPT

414931

Division of Water Rights

South Dakota Department of Environment and Natural Resources

Pierre, _____ April 25, 19 96

RECEIVED OF Lake Byron Watershed District, Huron, SD 57350

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>5027-3</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 (Signature)
Chief Engineer

Permit No. 5027-3
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, 9-26-95 made a thorough examination of the water use system constructed by Lake Byron Water Shed District of P.O. Box 1363, Huron, SD 57350 holder of Permit No. 5027-3, bearing the priority of June 14, 1984 authorizing the diversion of 12.0 cu. ft. per second and not to exceed 3400 acre feet per year of the waters of James River for lake stabilization purposes, in Beadle County.

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

A. Works used to divert the water:

Three Cornell pumps, model no. 6RB60-4 with a capacity of 2700 gpm each and three Marathon motors, model no. SC364TTDSA22SAN, 60 hp each.

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

6400 feet of 14 inch steel pipe

C. Works used to apply water to beneficial use:

System is used to stabilize Lake Byron water level. Water returns to the James river through an outlet at elevation 1248.1 fmsl.

The system is in the following condition **good**. The point of diversion is located 1490 feet north and 940 feet east of the SW¹/₄ corner Section 33, T113N, R61W. The works are capable of diverting and conveying to the place of use 18.0 cu. ft. per second of water and/or storing 3400 acre-feet of water which is to be used for lake stabilization. Water has been put to beneficial use to the maximum extent as follows:

Water is used for lake stabilization for Lake Byron.

The license should be issued for 12.0 cfs and/or 3400 acre-feet of storage.

Applicable permit qualifications have been complied with: yes

Exceptions to compliance are: none

Lynn Beck
Lynn Beck

Natural Resources Engineer
DENR, Water Rights Program

4-11-96
Date

REPORT ON INSPECTION OF PERMIT NO. 5027-3

DATE OF INSPECTION: 9-26-95

Other permit(s) associated with the project: none

NAME & ADDRESS OF INSPECTION CONTACT: Don Hatton, P.O. Box 1324, Huron, SD 57350

RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE: pump operator

NAME & ADDRESS OF PERMIT HOLDER: Lake Byron Water Shed District, current president: Don Wheeler, P.O. Box 1363, Huron, SD 57350

DIVERSION POINT LEGAL LOCATION: 1490 feet north and 940 feet east of the SW corner Section 33, T113N, R61W; NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 33.

Pump:

- 1) Make 3 - Cornell pumps
- 2) Model 6RB60-4
- 3) Size #
- 4) Capacity 2700 each GPM

Motor:

- 1) Make 3 - Marathon motors
- 2) Model No. SC364TTDSA22SAN
- 3) Horsepower rating 60 each hp

DISTRIBUTION LINES OR CANALS:

- 1) Type steel
- 2) Size 14 inches
- 3) Length 6400 feet

SYSTEM TYPE: Lake Byron off stream storage system.

PERMIT QUALIFICATIONS AND REGULATIONS:

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

STATE OF SOUTH DAKOTA

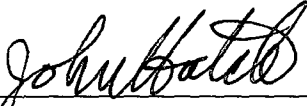
WATER LICENSE NO. 5027-3

(1) Lake Byron Water Shed District, PO Box 1363, Huron SD 57350 made Application No. 5027-3, June 14, 1984 for a water permit authorizing diversion of 12.0 cubic feet of water per second (cfs) and storage of 3,400 acre-feet of water annually from the James River, Beadle County, South Dakota for lake stabilization purposes. Permit No. 5027-3, with a priority date of June 14, 1984 was approved December 5, 1984 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before December 5, 1989 and for the application to beneficial use of said water on or before December 5, 1993.

(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 12.0 cfs and store 3,400 acre-feet of water for beneficial use. The location of the diversion point is 1,490 feet north and 940 feet east of the SW 1/4 corner of Section 33-T113N-R61W (NW 1/4 SW 1/4).

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use for lake stabilization for Lake Byron.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Lake Byron Water Shed District, PO Box 1363, Huron SD 57350 the holder and/or owner of Water Permit No. 5027-3 is issued a license to appropriate water, the right to divert 12.0 cfs and store 3400 acre-feet of water from the James River with a priority date of June 14, 1984 from the location specified in (2) of this license, for lake stabilization purposes. This license is subject to any limitations or qualifications listed in Water Permit No. 5027-3 and subject to South Dakota State Law.



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

JUL 8 1996

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUL 8 1996

5027-3

Ron Wheeler
P.O. Box 1363
Huron, SD 57350

Dear Mr. Wheeler:

Enclosed is Water License No. 5027-3 and Receipt No. 414931 for \$50.00 which was assessed for an inspection and issuance of the license. Water License No. 5027-3/ 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

ks
enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 8, 1996

Ron Wheeler
Wheeler Law Office
P.O. Box 1363
Huron, SD 57350

RE: Written Order to Allow Diversion from James River

Dear Mr. Wheeler:

In response to your telephone request for authorization to divert from the James River under Lake Byron Watershed District's Water Right No. 5027-3. The District is authorized to divert into Lake Byron from the James River under Water Right No. 5027-3 beyond the mandatory June 30 shutoff date. This written authorization expires December 31, 1996.

This authorization is subject to Water Right No. 5027-3 qualification requiring a 60 cfs bypass. The flow at the Third Street dam on August 7, 1996, was 1,112 cfs. We will monitor flows in the James River. If the flow at the Huron Third Street dam drops below 60 cfs or if adequate flow for senior water rights is not available, you will be notified to cease pumping.

A copy of Water Permit No. 5027-3 is enclosed for your information. If you have any questions, please contact Del Brosz at phone (605) 773-3352.

Very truly yours,

John Hatch, Chief Engineer
Water Rights Program

enclosure



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 16, 2003

5027-3

NOTICE OF SHUT OFF ORDER

To: Lake Byron Watershed District
Ron Wheeler
PO Box 1363
Huron, SD 57350

From: Garland Erbele, Chief Engineer
Water Rights Program, DENR
(605) 773-3352 *Garland Erbele*

Subject: Shut Off Order for James River Water Permit No. 5027-3, Effective Immediately.

The flows in the James River have dropped to 37 cfs at Huron SD. In order to protect existing domestic use and senior water rights from the James River, effective immediately no pumping from the James River is authorized until January 1, 2004 or until further notice.

If you have any questions, please contact Mark Rath or Don Stroup with the Water Rights Program, phone (605) 773-3352.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

May 06, 2003

RESCISSION OF SHUTOFF ORDER

No. 5027-3

TO: Lake Byron Watershed District
Ron Wheeler
PO Box 1363
Huron, SD 57350

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

SUBJECT: Rescission of Water Right No. 5027-3 April 16, 2003 James River Shutoff Order

The April 16, 2003 Shutoff Order for Water Right No. 5027-3 is being **rescinded immediately**. Recent precipitation in the area and a decision by Sand Lake National Wildlife Refuge (NWR) to draw Sand Lake down have changed the short term outlook for the James River. Sand Lake NWR has started to lower the water level in the refuge to re-establish vegetation destroyed during the high water level periods in the 1990s. The release of water from Sand Lake and precipitation in the James River basin have sufficiently increased the James River flow to the point diversions under Water Right No. 5027-3 can be resumed.

We will continue to monitor James River conditions and if flows remain favorable, diversions will be allowed until the mandatory June 30th shutoff date qualified in Water Right No. 5027-3. If after June 30th you wish to continue pumping from the James River, you will need to make a written request for an extension of time with the Chief Engineer, DENR Water Rights Program.

If you have any questions, please contact Mark Rath or Don Stroup with the Water Rights Program, phone (605)773-3352.



**DEPARTMENT of ENVIRONMENT
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www.state.sd.us/denr

June 24, 2003

5027-3

Ronald J. Wheeler
MORGAN, THEELER, WHEELER, COGLEY & PETERSEN, L.L.P.
PO Box 1363
Huron, SD 57350

Dear Mr. Wheeler:

This letter is in reference to your written request for the Lake Byron Watershed District for an extension to the June 30th shutoff date to pump from the James River. Flows in the James River continue to be good therefore you are authorized to continue pumping from the James River for irrigation under Water Permit No. 5027-3 until August 10, 2003. If at that time you wish to continue irrigating beyond August 10, you will need to contact this office and request another extension. Upon receipt of the request, we will reevaluate water availability conditions, and make a determination if another extension is warranted.

If river flow conditions drastically change between now and August 10, such that downstream senior water rights and domestic use are being adversely impacted, you will be contacted and a shutoff order may be issued at that time.

If you have any questions, please contact Mark Rath of the Water Rights Program at phone (605) 773-3352.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program

MORGAN, THEELER, WHEELER, COGLEY & PETERSEN, L.L.P.
LAWYERS
OFFICES IN MITCHELL AND HURON, SOUTH DAKOTA

MEMBER OF MERITAS
LAW FIRMS WORLDWIDE

MITCHELL OFFICE

221 EAST THIRD AVE., PO BOX 1025
MITCHELL, SD 57301-7025
TEL: (605) 996-5588
FAX: (605) 996-6129

JACK THEELER
RONALD J. WHEELER
JOHN F. COGLEY
DON E. PETERSEN
TRUDY A. MORGAN
PATRICIA B. ERICKSON
DOUGLAS M. DAILEY

HURON OFFICE

1507 DAKOTA AVE. S., PO BOX 1363
HURON, SD 57350-1363
TEL: (605) 352-7154
FAX: (605) 352-7157

CHESTER L. MORGAN (1891-1963)
HARRY T. FULLER (1914-1970)
GLENN A. FINGERSON (1934-2001)

OF COUNSEL
JOHN L. MORGAN

Reply to: Huron Office

June 23, 2003

Garland Erbele, Chief Engineer
DENR Water Rights Program
Dept. of Environment and Natural Resources
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3182

Re: Lake Byron Water Shed District
Water Right No. 5027-3

RECEIVED

JUN 24 2003

WATER RIGHTS
PROGRAM

Dear Mr. Erbele:

I am writing to you on behalf of the Lake Byron Water Shed District to request the right to continue to pump from the James River after June 30, 2003.

As I am sure you are aware, the water at Lake Byron is quite low, and we would like to continue pumping for at least an additional 60 days.

Please advise at your convenience.

Thank you very much.

Sincerely,
MORGAN, THEELER, WHEELER,
COGLEY & PETERSEN, L.L.P.



Ronald J. Wheeler
Huron Office

MORGAN, THEELER, WHEELER, COGLEY & PETERSEN, L.L.P.
LAWYERS
OFFICES IN MITCHELL AND HURON, SOUTH DAKOTA

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MEMBER OF MERITAS
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Reply to:
 Huron Office

HURON OFFICE

1507 DAKOTA AVE. S., PO BOX 1363
 HURON, SD 57350-1363
 TEL: (605) 352-7154
 FAX: (605) 352-7157

JACK THEELER
 RONALD J. WHEELER
 JOHN F. COGLEY
 DON E. PETERSEN
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 DOUGLAS M. DAILEY

CHESTER L. MORGAN (1891-1963)
 HARRY T. FULLER (1914-1970)
GLENN A. FINGERSON (1934-2001)
 JOHN L. MORGAN (retired)

March 15, 2005

Mr. Garland Erbele, Chief Engineer
 Water Rights Program
 Dept. of Environment and Natural Resources
 Joe Foss Bldg.
 523 East Capitol
 Pierre, SD 57501-3182

RECEIVED

MAR 16 2005

WATER RIGHTS
 PROGRAM

Re: Lake Byron Watershed District
 Water Right No. 5027-3

Dear Mr. Erbele:

I am writing to you on behalf of the Lake Byron Watershed District, concerning the question of whether or not the Watershed District could obtain a temporary assignment of water rights from the City of Huron, so that we could continue to pump out of the James River in the event that your office would issue a shut off order to us.

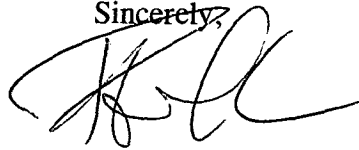
I have conferred with Huron City officials and they are reviewing this matter and no determination has yet been made on the issue. However, I thought it would be appropriate to write your office to initiate some preliminary discussions.

I know that the City still has need for pumping from the James River, but has changed their position with respect to the James River Diversion Dam, and is now obtaining water from Mid-Dakota Rural Water. Therefore, we are hopeful that some water rights may be available.

Mr. Garland Erbele
March 15, 2005
Page Two

We would appreciate your thoughts on the matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'RJW', written over the word 'Sincerely,'.

RONALD J. WHEELER

Chairman

Lake Byron Watershed District

RJW/pjt

cc: Mary Pearson, Mayor
David McGirr, Utilities Commissioner
Ralph Borkowski, City Administrator
Ron Klock, Park and Recreation Dept.
Denis Drake, Watershed Board Member
Jim Nelson, Watershed Board Member
Paul Flanagan, Watershed Board Member
Ed Matthews, Watershed Board Member

wclake.05a



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 6, 2005

Ronald J. Wheeler
PO Box 1363
Huron SD 57350-1363

Dear Mr. Wheeler:

I am writing in regard to your inquiry as to whether the Lake Byron Watershed District (District) may obtain temporary assignment of James River water rights from the city of Huron. The District would like to pump James River water for lake stabilization under the city's senior water rights during those periods when the District's junior rights are issued shut-off orders.

The city of Huron holds Water Right No. 1022-3 for 2600 acre feet of storage for municipal use in the 3rd Street Dam with a priority date of 1936. It is this water that the District would like access to during periods when diversions from the James River are shut-off. State water law has no provisions that allow for a direct assignment of a water right on a temporary basis.

An alternative, assuming the city is agreeable, is for the city to amend their senior water right to add lake stabilization as a use, and add the District's pump site as a diversion point to their existing water right. An application to amend the city's water right would need to be filed, reviewed by the Water Rights Program and public noticed for a hearing before the Water Management Board. The amendment cannot increase either the diversion rate or annual volume.

I should caution that the standard of review for such an amendment may be a difficult hurdle to cross. The standard of review is that the amendment may be granted only if the change does not unlawfully impair existing rights, is for a beneficial use and is in the public interest. While the proposed amendment would certainly be a beneficial use, I believe there is a question of whether it would impair existing users or be in the public interest. Two applicable statutes you should consider are SDCL 46-2A-12 and 46-5-30.4.

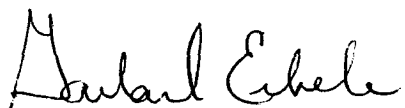
Most water rights on the James River have an automatic shut-off date of August 10th, unless a written order extending this date is issued. Shut-off orders are also issued any time flow over the 3rd Street Dam drops to less than 20 cfs. Allowing the District to divert under the city's permit would impact the timing of the 20 cfs threshold and impact existing users.

The other issue is one of public interest. Allowing the District to divert water to maintain a lake level when all other diversions on the river are shut-off may not serve the public interest. The city is allowed to pump because their use includes domestic use which is the highest use of water under South Dakota water law.

Hopefully this provides some guidance. Should the District choose to submit an application, it is my responsibility as Chief Engineer to make a recommendation to the Water Management Board. I must be candid with you and tell you it would be difficult to recommend favorably for the District. However, the Board makes their own decisions and is in no way bound by my recommendation.

Please feel free to contact Eric Gronlund or myself if you would like to discuss this further.

Sincerely,

A handwritten signature in cursive script, reading "Garland Erbele". The signature is written in dark ink on a white background.

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

cc: Ralph Borkowski, City of Huron

Water Rights Program - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Water Right No. 5027-3

ADDRESS: COUNTY: Beadle

DATE: May 2, 2005 TELEPHONE:

RE: Storage of Water for the City of Huron

COMMENTS:

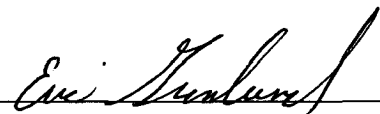
Ronald Wheeler sent an e-mail inquiring why Water License No. 5027-3 was issued solely for lake stabilization and the storage of water to provide supplemental water to the city of Huron was removed.

In reviewing the file it is apparent that Water Permit No. 5027-3 was issued for lake stabilization and to provide for the storage of water which could be returned to the James River to provide a supplemental source of water for the city of Huron. Historically, the municipal component of the water right has not been utilized.

During licensing the water right was issued citing the use as being lake stabilization. While lake stabilization is the primary use, the storage component to provide water to Huron has likely been maintained for standby purposes as set forth in ARSD 74:02:01:37.02.

The license should be reissued to reflect both uses.

NAME:

_____



**DEPARTMENT of ENVIRONMENT
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523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

MAY 19 2005

5027-3

Ron Wheeler
Lake Byron Water Shed District
PO Box 1363
Huron SD 57350

Dear Mr. Wheeler:

Enclosed is Reissued Water License No. 5027-3.

The original water license was issued solely for lake stabilization. The license has been reissued to include providing supplemental water for the City of Huron.

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

Sincerely,

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

enclosure

STATE OF SOUTH DAKOTA

REISSUED WATER LICENSE NO. 5027-3

(1) The Lake Byron Water Shed District, PO Box 1363, Huron SD 57350 was issued Water License No. 5027-3, July 8, 1996 for a water right to divert 12.0 cubic feet of water per second with storage of 3,400 acre-feet of water annually from the James River, Beadle County, South Dakota for lake stabilization purposes. Water License No. 5027-3, with a priority date of June 14, 1984 was issued to the applicant for diversion of water with construction of the described water supply system completed and the application to beneficial use of said water completed.

The original application requested use of water from the James River to Lake Byron to provide for lake stabilization and to provide for storage of water which could be returned to the James River to provide for supplemental water for the City of Huron.

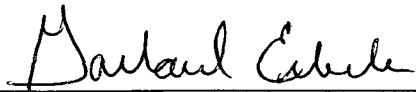
The water license was originally issued solely for lake stabilization. Lake stabilization is the primary use; however the storage component to provide water to the City of Huron has likely been maintained for standby purposes as set forth in ARSD 74:02:01:37.02. The water license is being reissued to include providing supplemental water for the City of Huron.

(2) It is certified that the permit holder 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 12.0 cubic feet of water per second with storage of 3,400 acre-feet of water annually for beneficial use. The location of the diversion point is 1,490 feet N and 940 feet E of the SW corner of Section 33, T113N, R61W (NW ¼ SW ¼).

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use. The water is diverted from the James River to Lake Byron to provide for stabilization of water levels in the lake and to provide for storage of water which could be returned to the James River to provide supplemental water for the City of Huron.

(4) Pursuant to South Dakota Water Law 46-5-30.1 the Lake Byron Water Shed District the holder and/or owner of Water Right No. 5027-3 is issued a license to appropriate water, the right to use 12.0 cubic feet of water per second with storage of 3,400 acre-feet of water from the James River with a priority date of June 14, 1984 from the location specified in (2) of this license.

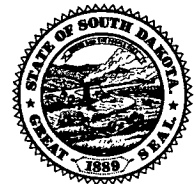
This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 5027-3.



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

MAY 19 2005

date



NOT TO SCALE

NOT TO SCALE



Prepared by:
Lynn Beck
Lynn Beck
Natural Resources Engineer
DENR, Water Rights Program
5-11-94

113-61



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 7, 2006

**JAMES RIVER WATER RIGHT QUALIFICATION REMINDER
WATER RIGHT NO(s). 5027-3**

To: LAKE BYRON WATERSHED DIST
PO BOX 1363
HURON SD 57350

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

Subject: James River Qualification Reminder for Permit No(s). 5027-3

Qualifications on you water right indicate that you are not authorized to divert James River water after June 30th. Please, consider this a reminder and cease diversion if you have not already done so. You may resume diversion on the date stated in the qualifications on your water right.

MORGAN, THEELER, WHEELER, COGLEY & PETERSEN, L.L.P.
LAWYERS
OFFICES IN MITCHELL AND HURON, SOUTH DAKOTA

MITCHELL OFFICE

221 EAST THIRD AVE., PO BOX 1025
MITCHELL, SD 57301-7025
TEL: (605) 996-5588
FAX: (605) 996-6129

MEMBER OF MERITAS
LAW FIRMS WORLDWIDE

Reply to:
Huron Office

HURON OFFICE

1507 DAKOTA AVE. S., PO BOX 1363
HURON, SD 57350-1363
TEL: (605) 352-7154
FAX: (605) 352-7157

JACK THEELER
RONALD J. WHEELER
JOHN F. COGLEY
DON E. PETERSEN
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PATRICIA B. ERICKSON
DOUGLAS M. DAILEY
TIM G. BOTTUM

CHESTER L. MORGAN (1891-1963)
HARRY T. FULLER (1914-1970)
GLENN A. FINGERSON (1934-2001)
JOHN L. MORGAN (retired)

July 11, 2006

RECEIVED
JUL 12 2006
WATER RIGHTS
PROGRAM

Attn: Garland Erbele, Chief Engineer
Water Rights Program, DENR
Dept. of Environment and Natural Resources
PMB 2020 - Joe Foss Bldg.
523 E. Capitol
Pierre, SD 57501

Re: James River Qualification Reminder for Pert No(s) 5027-3

Dear Garland:

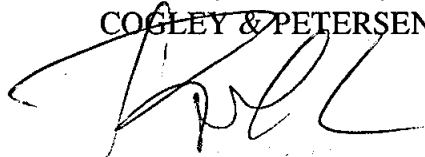
Thank you for your letter dated July 7, 2006, concerning our Lake Byron Watershed District permit.

We have not been pumping this year, thanks to some timely rains in May, but we were looking at starting the pumps up now. Therefore, I am writing to see whether or not we can get authority to resume diversion of water from the James River at this time.

Thank you for your consideration.

Sincerely,

MORGAN, THEELER, WHEELER,
COGLEY & PETERSEN, L.L.P.



Ronald J. Wheeler
Huron Office



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 13, 2006

5027-3

Ronald J Wheeler
Morgan, Theeler, Wheeler, Cogley & Petersen, L.L.P.
PO Box 1363
Huron, SD 57350

Dear Mr. Wheeler:

This letter is in reference to your July 11, 2006 letter requesting authority to pump from the James River under water permit No. 5027-3 beyond the cutoff date. Flows in the James River upstream of Huron are low and are projected to continue to drop. Because there is not sufficient flow in the James River, I am denying your request to allow pumping by extending the shutoff date for your water permit out of the James River at this time.

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

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 11, 2007

TO: All James River Water Right Holders

FROM: Garland Erbele, Chief Engineer
Water Rights Program, DENR *Garland Erbele*

SUBJECT: Proposed Amendment to Conditions on James River Water Rights

As Chief Engineer of the Water Rights Program, I am proposing amending conditions placed on many James River water rights in order to provide consistency for the period when pumping is authorized from the river. Please find enclosed the Chief Engineer's recommendation and a notice being published in newspapers along the James River in South Dakota. The notice schedules a May 9th hearing before the Water Management Board regarding the amendment.

Water Rights on the James River contain a variety of shutoff dates and by-pass flow qualifications. To facilitate the administration of James River water rights, the Chief Engineer is recommending that the Water Management Board amend water rights to provide a standard August 10th shut-off date and bypass conditions relative to USGS gaging stations. Real time flows can easily be accessed via USGS's website at <http://waterdata.usgs.gov/sd/nwis/>. The proposed amendments will not impose any condition more restrictive than currently in place and all water rights will remain subject to senior water rights and any written orders issued by the Chief Engineer.

Please review the enclosed recommendation and public notice. If your water right is among those that will be amended the section in the recommendation dealing with your water right is highlighted. If there is no highlighted section in your enclosure, then there is no proposed change to your water right. If you have any questions about the proposed changes, I encourage you to contact Lynn Beck or Mark Rath at (605) 773-3352.

enclosure

Instruction to Newspaper - Publish first Notice on April 12, 2007 with the second publication 7 days later. The Water Rights Program is responsible for payment.

NOTICE OF CHIEF ENGINEER'S RECOMMENDATION FOR JAMES RIVER WATER RIGHTS

Notice is given that the Water Rights Program, Department of Environment and Natural Resources, 523 E Capitol Avenue, Pierre SD proposes to amend conditions placed on many James River water rights in South Dakota. The objective is to bring consistency among water rights for the period when pumping is authorized from the river. This requires the modification to the conditions placed on a number of existing water rights. The amendments will not increase the authorized diversion rate or number of irrigated acres authorized under existing James River water rights. Water rights held by cities for municipal use will not be amended by this proposed action.

Currently, water rights differ in the date that pumping must cease and the amount of water that must bypass a United States Geological Survey's gaging station to pump. The Water Rights Program has reviewed all James River water rights and determined that they can be modified to a standard shut-off date of August 10th of each calendar year. In addition, it is proposed that the bypass condition along the river is best managed in three segments identified by USGS gaging stations as follows.

North Dakota Border to the Ashton gage (northern segment)
Ashton gage to Huron gage (central segment)
Huron gage to gage near Scotland (southern segment)

Water rights that currently have a bypass condition within each segment will be conditioned with a 20 cfs bypass.

The proposed amendment will not impose any conditions more restrictive than the conditions currently in place on any water right. James River water rights holders will be provided personal notice of the proposed amendment to their water right.

The Chief Engineer recommends that the Water Management Board approve deletion of the existing shut-off and bypass conditions on applicable water rights and add the following qualifications to those James River water rights as set forth above.

1. This permit does not authorize diversion of water from the James River after August 10th of each calendar year, or at any time the river's flow is obviously low, unless written orders have been so issued by the Chief Engineer. Diversions under this permit are subject to senior water rights and any written orders issued by the Chief Engineer.
2. This permit does not authorize diversions from the James River when there is less than 20 cfs by-passing the USGS gaging station at Ashton SD (or Huron and Scotland).

Any person interested in opposing or supporting this proposed amendment change shall file a written petition with the Chief Engineer. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)". A petition filed by either an interested person or water right holder must be filed by April 30, 2007. The petition may be informal, but must include a statement describing the petitioner's interest, the petitioner's reasons for opposing or supporting the proposed change, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

The Water Management Board hearing to consider the amendment to delete and add the above qualifications will be held at 11:00 AM, May 9, 2007 in the Floyd Matthew Training Center, 523 E Capitol Avenue, Pierre SD. The hearing will be held pursuant to the provisions of SDCL 46-1-14 and 46-2-17.

The Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) defer, or 3) deny the amendment changes based on the facts presented at the public hearing. The Board has legal authority and jurisdiction to consider this matter pursuant to SDCL 46-2-9 and 46-2-11.

The May 9, 2007 hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from any interested person opposing the amendments. The request for an automatic delay must be filed by April 30, 2007.

Any hearing will be an adversary proceeding. Any person filing a petition has the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by April 30, 2007, at the above Water Rights Program address to request copies of information pertaining to this action. Notice is further given to individuals with disabilities that this hearing is being held in a physically accessible place. Please notify the Water Rights Program if you have special needs for which special arrangements can be made.

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

REPORT ON AMENDMENT OF JAMES RIVER WATER PERMITS/RIGHTS

April 24, 2007

Purpose of this Study

The James River historical appropriations show a variety of shut-off and by-pass qualifications adopted at different times. It is the purpose of this study to bring the shut-off and by-pass qualifications of active permits in line with the intentions of the Water Management Board as adopted at the April 1980 and May 1987 Board Meetings. In addition, the study shows that future appropriations of water from the James River can also be administered as stated above.

Historical Summary of James River Water Permits/Rights

During the 1960's the Water Resources Commission (predecessor to the Water Management Board) set a 300 cubic feet per second (cfs) limit and an August 10th cutoff date for appropriations from the James River. It was also determined that 20 cfs of water should by-pass Huron, SD to provide for downstream domestic use. The diversion limit was further defined as a combined 200 cfs of water above Huron and in addition permits having a combined 300 cfs of water could be approved above the SD Hutchinson-Yankton county line.

The Commission set limit was reached in 1968 and applications were deferred until 1975 when cancellations and underdeveloped appropriations allowed for deferred applications to be approved until the 300 cfs limit was reached. Applications were once again deferred until 1979 when a similar situation allowed James River diversions to be approved. In 1980 appropriations on the James River were once again opened and based on studies of actual irrigation development and use, it was projected that a maximum of 50-percent of permitted acres were irrigated at any one time. In 1987 a recommendation was made to the Water Management Board to change the qualifications on those active water permits upstream of Huron, SD requiring alignment with the August 10th cut-off date and the 20-cfs by-pass at the Third Street Dam, and for those water permits downstream of Huron, SD to the August 10th cut-off date.

Most recently, in 2003 Water Rights Program Staff completed on-site surveys of James River water rights that had reported non-use for periods greater than three (3) years. These surveys resulted in forfeiture for non-use of twenty-four (24) James River water rights. To date the Water Rights Program periodically reviews James River water rights for non-use status and possible cancellation. Currently there is unappropriated water in the James River.

See Attachment 1 for a detailed historical review of James River shut-off and by-pass qualifications.

Review of James River Water Permits/Rights

Past inspections of James River water permits/rights have resulted in updates to the number of permits and amounts of water appropriated from the river. See Attachment 2 for a map of the James River permits/rights and Attachment 3 for a list of James River Water Rights including their use and qualifications.

Presently there are eighty-six (86) water rights on the James River reach from the North Dakota (ND) border to the SD Hutchinson-Yankton county line with 231.81-cfs total diversions. These

water rights are for direct diversion of water from the James River during the normal irrigation season. The James River reach from Huron, SD to the ND border presently has fifty-one (51) water rights with 144.83-cfs total diversions. The majority of these water rights are in Spink (25) and Beadle (16) Counties with 124.94-cfs total diversions. At this time there are no water rights in effect for direct diversion of water from the James River upstream of the James River Columbia, SD U.S Geological Survey (USGS) gaging station. Currently 68.19-cfs is available for appropriation on the James River from the ND border to the Hutchinson/Yankton County line, of which, not more than 55.17-cfs is available for appropriation above the USGS gage at Huron due to the 200-cfs limit.

This leaves thirty-five water rights with 86.98-cfs direct diversion from the James River during the normal irrigation season on the stretch below Huron to the Hutchinson/Yankton County line. The majority of these water rights are in Davison (10) and Hutchinson (13) counties with 64.66-cfs total diversions. Currently up to 68.19-cfs is available for diversion below Huron.

Water Availability at Current Appropriation

Currently 231.81-cfs is appropriated on the James River from the ND border to the Hutchinson/Yankton County line, of which, **144.83-cfs** is appropriated above the USGS gage at Huron and **86.98-cfs** is appropriated below Huron to the Hutchinson/Yankton County line. A study was conducted, by water rights staff, to determine the probability that water would be available during the irrigation season until August 10 of each calendar year if existing water permits/rights are brought in line with a common August 10 shut-off date.

The James River was divided into three river reaches between USGS gaging stations, ND border to the USGS gage at Ashton, SD; USGS gage at Ashton, SD to the USGS gage at Huron, SD; and USGS gage at Huron, SD to USGS gage near Scotland, SD. The water appropriated for irrigation and other uses for each of the three river reaches was calculated, see table below.

RIVER REACH	IRR	OTH	TOTALS
ND border to Ashton	16.85	6.5	23.35
Ashton to Huron	95.2	26.28	121.48
TOTAL	112.05	32.78	144.83
Huron to HT/YA Co. ln.	54.2	32.78	86.98
TOTAL	54.2	32.78	86.98

Once these values were obtained, a formula for actual water use at current appropriation was developed.

Stated under, **Historical Summary of Shut-Off and By-Pass Qualifications, 1980 – 1984**, in Attachment 1, the actual irrigation development and use on the James River were found to be a maximum of 50-percent. This conclusion was reached after Water Rights Staff conducted detailed hydrographic surveys of the availability of water in the river and studies of the anticipated effects of approving water permits based on projected development and use by appropriators. A similar study was conducted with current irrigation diversions on the James River. Irrigation questionnaires from 1996 – 2006 were reviewed to estimate maximum

pumping at any one time during the irrigation season. The maximum found in each river reach is as follows:

ND border to the gage at Ashton, SD	52%
Gage at Ashton to gage at Huron, SD	42%
Gage at Huron, SD to HT/YA Co. line	29%

Therefore, the 50-percent value is still applicable today.

Since reporting for other uses is limited, 100-percent pumping is assumed. In addition 20-cfs for domestic use was added. The resulting formula for maximum use is as follows:

$$0.5(\text{IRR cfs}) + 1.0(\text{OTH cfs}) + 20 \text{ cfs} \quad \text{IRR} - \text{irrigation use} \quad \text{OTH} - \text{other uses}$$

RIVER REACH	IRR	50%IRR	OTH	DOM	NEEDED	% CHANCE AVAIL. AUG 10
ND border to Ashton	16.85	8.42	6.5	20	34.92	65
Ashton to Huron	95.2	47.6	26.28	20	93.88	56
Huron to HT/YA Co. ln.	54.2	27.1	32.78	20	79.88	57

In order to bring existing water permits/rights in line with a common August 10 shut-off date the percent chance that water will still be available August 10 must be calculated. This was done using James River flows based on 50 or more years of USGS stream flow data for each of the three river reaches. There is a 65% chance, or better, of flow being available in the reach from the ND border to the Ashton gage; 56% chance, or better, in the reach from the Ashton gage to the gage at Huron; 57% chance, or better, in the reach from the gage at Huron to the Scotland gage. A bar graph representing the above percent chance of water being available August 10th can be found in Attachment 4.

There are factors of safety built into the computations. All of the percent probabilities that water will be available at current appropriations were calculated using flow data collected from the James River during years pumping occurred. Also, while using a 50% figure for simultaneous irrigation pumping it is assumed that 100% of all other uses will be pumping at the same time.

Water Availability at Full Appropriation

In addition, the study shows that future appropriations of water from the James River can also be administered as stated above. Using estimates for future appropriations calculations showed that there is a 63% chance, or better, of flow being available in the reach from the ND border to the Ashton gage; 50% chance, or better, in the reach from the Ashton gage to the gage at Huron; 56% chance, or better, in the reach from the gage at Huron to the Scotland gage. A bar graph representing the above percent chance of water being available August 10th can be found in Attachment 5.

The same factors of safety apply to the calculations at full appropriation as those for calculations at current appropriations.

Proposed Amendment of James River Water Rights

The present appropriations from the ND-SD border to the Hutchinson-Yankton County line total 231.81-cfs. The present total appropriations are less than the 300-cfs limit set by the Water Resources Commission in 1965 and below the June 1985 appropriation total of 254.07-cfs that brought about the Water Management Board's adoption of qualification changes during the May 1987 meeting.

To facilitate the judicious administration of the use of James River water, the protection of the in-stream beneficial uses of the river for recreational use and as a fishery, to maintain good quality water as well as sufficient quantity and velocity of water, and bring the shut-off and by-pass qualifications of active permits in line with the intentions of the Water Management Board as adopted at the April 1980 and May 1987 Board Meetings; it is proposed that appropriations of water from the James River be administered by similar qualifications adopted at the May 1987 meeting without the prior right qualification for Future Use Permit No. 1067-3. Diversions will still be subject to senior water rights and any written orders by the Chief Engineer.

Although the James River is involved in Future Use Permit No. 1067-3, Oahe Conservancy Sub-District, this permit is predicated or conditioned upon Missouri River water being delivered to the James River through the Oahe Project. Presently Future Use Permit No. 1067-3 is allotted 6500-cfs of such water from the James River, but the status of the permit is questionable since the Oahe Project has been terminated.

The Chief Engineer, Water Rights Program, proposes that the Water Management Board take action as stated in the Chief Engineer's Recommendation.



Lynn Beck
Natural Resources Engineer Specialist



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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**CHIEF ENGINEER'S RECOMMENDATIONS FOR WATER RIGHTS
ON THE JAMES RIVER IN SOUTH DAKOTA**

Chief Engineer's Recommendation for Water Rights Above Huron:

The Chief Engineer is recommending that the Water Management Board amend the following permits/rights located above Huron as described:

ND Border to the gage at Ashton, SD

Water Permit No. 6427-3:

Delete: Qualification No. 1

1. Diversion of water from the James River shall be in accordance with the following criteria:

- When pumping from the James River, low flows as needed for down stream domestic use, including livestock water and prior water rights must be by-passed.
- From March 1 to March 31, diversions from the James River are authorized only when the flow at the Huron Third Street Dam is at least 29 cfs while pumping under this Permit.
- From April 1 to June 30, diversions from the James River are authorized only when the flow at the Huron Third Street Dam is at least 63 cfs while pumping under this Permit.
- From July 1 - October 1, diversions from the James River are not authorized unless by written orders issued by the Chief Engineer.
- Diversion under this Permit shall be in accordance with any written orders issued by the Chief Engineer.

The Chief Engineer is also recommending that the Water Management Board approve the following Qualifications as standard for existing James River permits issued from the ND border to the gage at Ashton, SD.

Add:

- This permit does not authorize diversion of water from the James River after August 10th of each calendar year, or at any time the river's flow is obviously low, unless written orders have been issued by the Chief Engineer. Diversions under this permit are subject to senior water rights and any written orders issued by the Chief Engineer.
 - This permit does not authorize diversions from the James River when there is less than 20-cfs by-passing the gage at Ashton, SD after pumping.
-

Gage at Ashton, SD to the gage at Huron, SD

Water Right No. 5027-3:

Delete: Qualification No. 1 "Low flows as needed for downstream domestic use and prior water rights must be bypassed. The minimum bypass at Huron for domestic use is 20 cfs. During the period of April 1 through June 30 of each calendar year, diversions are authorized only when 60 cfs or more are by-passed after diversion for domestic use or prior water rights, unless a lower flow by-pass based upon the need for water in Lake Byron verses the need for water downstream, is authorized by the Chief Engineer. This permit does not authorize diversion of water from the James River after June 30th of each calendar year unless written orders have been so issued by the Chief Engineer. In the management of the James River under this permit, flows will be monitored at all gaging stations, and cutoffs will be timed to insure water supplies for domestic use and prior water rights."

Water Permit No. 5737-3:

Delete: Qualification No. 1 "When pumping from the James River into the storage pond, low flows as needed for downstream domestic use, including livestock water, and prior water rights/permits must be by-passed. From March 1 – March 31, diversions from the James River are authorized only when the flow at the Huron Third Street Dam is at least 29 cfs while pumping under this Permit. From April 1 – June 30, diversions from the James River are authorized only when the flow at the Huron Third Street Dam exceeds 63 cfs while pumping under this Permit. From June 30 until November 30, diversions from the James River are not authorized unless allowed by written orders issued by the Chief Engineer. Diversion under this Permit shall be in accordance with any written orders issued by the Chief Engineer."

Water Right Nos. 6182-3 & 6183-3; Water Permit Nos. 6398-3, 6400-3, & 6505-3:

Delete: Qualification No. 1

1. Diversion of water from the James River shall be in accordance with the following criteria:

- When pumping from the James River, low flows as needed for down stream domestic use, including livestock water and prior water rights must be by-passed.

- From March 1 to March 31, diversions from the James River are authorized only when the flow at the Huron Third Street Dam is at least 29 cfs while pumping under this Permit.
- From April 1 to June 30, diversions from the James River are authorized only when the flow at the Huron Third Street Dam is at least 63 cfs while pumping under this Permit
- From July 1 - October 1, diversions from the James River are not authorized unless by written orders issued by the Chief Engineer.
- Diversion under this Permit shall be in accordance with any written orders issued by the Chief Engineer.

Water Permit Nos. 6375-3, 6588-3, 6589A-3, 6589B-3, 6590-3, 6613-3, 6614-3, 6614A-3, & 6738-3:
Delete: Qualification No. 1

1. Diversion of water from the James River shall be in accordance with the following criteria:

- When pumping from the James River, low flows as needed for down stream domestic use, including livestock water and prior water rights must be by-passed.
- From April 1 to June 30, diversions from the James River are authorized only when the flow at the Huron Third Street Dam is at least 63 cfs while pumping under this Permit
- From July 1 - October 31, diversions from the James River are not authorized unless by written orders issued by the Chief Engineer.
- Diversion under this Permit shall be in accordance with any written orders issued by the Chief Engineer.

The Chief Engineer is also recommending that the Water Management Board approve the following Qualifications as standard for existing James River permits issued below the gage at Ashton, SD to the gage at Huron, SD.

Add:

- This permit does not authorize diversion of water from the James River after August 10th of each calendar year, or at any time the river's flow is obviously low, unless written orders have been issued by the Chief Engineer. Diversions under this permit are subject to senior water rights and any written orders issued by the Chief Engineer.
- This permit does not authorize diversions from the James River when there is less than 20-cfs by-passing the gage at Huron, SD after pumping.

Water Right Nos. 1734-3, 1735-3, 1943-3, 1979-3, 2129-3, 2386-3, 2629-3, 4066A-3, 4066B-3, 4071-3, 5651-3, 5925-3, & Water Permit No. 6081-3.

Delete: "flowing over James River Dam" from Qualification No. 2.

Chief Engineer's Recommendation for Water Rights Below Huron:

Gage at Huron, SD to the gage near Scotland, SD

The Chief Engineer is recommending that the Water Management Board amend the following permits/rights located below the gage at Huron, SD as described:

Water Right Nos. 607-3 & 608-3:

Delete: "This permit is granted allowing withdrawal of water whenever 25 cfs or more is flowing past your diversion point."

Add: "This permit does not authorize diversions from the James River when less than 20 cfs is by-passing the gage near Scotland, SD after pumping."

Water Right Nos. 690-3 & 699B-3:

Delete: "Use of water under this water right is subject to flows in the James River of 15 cfs or more past your diversion point."

Add: "This permit does not authorize diversions from the James River when less than 20 cfs is by-passing the gage near Scotland, SD after pumping."

Water Permit No. 6534-3:

Delete: "July 15th" from Qualification No. 1.

Add: "August 10th" to Qualification No. 1.

Contact Lynn Beck, Water Rights Program staff engineer at (605) 773-3352 if you have questions regarding this recommendation.



Garland Erbele, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

April 25, 2007

Attachment 1

HISTORY OF JAMES RIVER WATER PERMITS/RIGHTS QUALIFICATIONS

April 9, 2007

Historical Summary of Shut-Off and By-Pass Qualifications:

1965 - 1979

In 1965 the South Dakota (SD) Water Resources Commission, a predecessor to the SD Water Management Board, placed a 300 cubic feet per second (cfs) total diversion limit on the James River with a maximum combined total diversion limit of 200-cfs from Huron, SD to the North Dakota border. Due to Missouri River backwater into the James River, the 300-cfs restriction has been applied from the North Dakota border to the SD Yankton-Hutchinson County Line. The Water Resources Commission also set an automatic August 10th diversion shutoff date unless a written order from them or their legal representative was issued to the holder of a James River water right.

In May of 1968 the 300-cfs limit was reached and the SD Water Rights Commission, also a predecessor to the SD Water Management Board, adopted the policy of automatically deferring without advertising further water permit applications until it was determined that non-appropriated water was available in the James River.

It was determined at the November 1975 Water Rights Commission Meeting that water permits could again be issued for James River water within the 300-cfs limit because of prior permit cancellations. Permits were issued at that time to bring the total appropriations back to the 300-cfs limit.

Applications for James River water received after November 1975 were advertised and officially deferred at the January and March 1979 Water Rights Commission Meetings. The James River was withdrawn from further appropriations for one year at the March 1979 Water Rights Commission Meeting until further studies could be made to determine if there was non-appropriated James River water available.

1980- 1984

The James River was again opened for appropriation of water at the January 1980 Water Rights Commission Meeting. The following items pertaining to James River water use were noted in the July 1980 Findings of Fact, Conclusions of Law, and Final Decision resulting from this meeting:

- The Water Rights Staff had conducted detailed hydrographic surveys of the availability of water in the river and studies of the anticipated effects of approving water permits based on projected development and use by appropriators,
- Based on such studies of actual irrigation development and use, it is projected that a maximum of 50-percent of permitted acres will be irrigated at any one time,
- Based on such surveys and studies, there is non-appropriated water available during the spring and through July 15th of normal years,
- The determination of non-appropriated water availability was based strictly on naturally occurring flows and not on anticipated flows diverted into the river from the proposed Garrison Project,
- The Water Quality Staff conducted a detailed study of the river as a fishery,

- Citizens of South Dakota, as well as other states, make substantial use of the river for recreational fishing as well as other in stream beneficial uses,
- Those portions of the river below Huron, SD support a variety of fish and aquatic life as well as acting as a spawning ground for fish in the Missouri River,
- Protection of the in stream beneficial uses of the river requires good quality of water as well as sufficient quantity and velocity of water, and
- Protection of the in stream beneficial uses of the river could be accomplished while still approving additional permits for appropriation by imposing certain by-pass requirements on those issued for use downstream of Huron, SD.

1985 - 1987

In the spring of 1985 examinations were completed by Water Rights Program personnel to update the status of appropriations from the James River. As a result of the examinations, twenty-five (25) water permits were cancelled for non-development or forfeited for non-use. The actual appropriation amount of several other water permits were also reduced to the actual amount of water being used by the appropriator. As of June 1985 there were total appropriations of 254.07-cfs from the James River.

A recommendation was made to the Water Management Board at the May 1987 meeting to change the qualifications on those active water permits upstream of Huron, SD requiring alignment with the August 10th cut-off date and the 20-cfs by-pass at the Third Street Dam, and for those water permits downstream of Huron, SD to the August 10th cut-off date.

At the May 1987 Water Management Board Meeting it was proposed that for those James River permits downstream of Huron, SD the following qualifications be deleted:

- No diversions after July 15th of each year, or in periods of obvious low flow without a written order of the Water Management Board or its legally appointed representative. Diversions shall be in accordance with written orders, if any, of the board or its representative.
- To maintain instream flows for instream and domestic purposes, the permit does not authorize diversions when there is less than the following cubic-feet-per-second bypassing the Scotland Gaging Station:
 - (a) less than 80-cfs during any month of April,
 - (b) less than 70-cfs during any month of May,
 - (c) less than 50-cfs during any month of June, and
 - (d) less than 20-cfs during the remainder of the year.

and replaced with the following:

- This permit does not authorize diversion of water from the James River after August 10th of each calendar year, nor at any time when the river's flow is obviously low, unless written orders have been so issued by the Chief Engineer. Diversions under this permit shall be in accordance with any written orders issued by the Chief Engineer.

For those permits upstream of Huron, SD it was also proposed that the following qualifications be deleted:

- No diversions after July 15th of each year, nor in periods of obvious low flow without a written order of the Water Management Board or its legally appointed representative. Diversions shall be in accordance with written orders, if any, of the Board or its representative.
- Prior water rights on the James River contain an August 10th cut-off date, and the additional requirement that diversions cannot be made when 20-cfs are not by-passing the Third Street Dam in Huron, to provide for downstream domestic use. In the management of the James River under these permits, flows will be monitored at all gauging stations, and cut-offs will be timed to insure water supplies to fulfill the prior water rights and domestic qualification.
- The Oahe Subdistrict has priority rights to portions of this water to the limited extent they may exist under Future Use Withdrawal Permit No. 1067-3. This application is approved subject to these prior rights if or when the Oahe Subdistrict develops the reserve supply.

and replaced with the following:

- This permit does not authorize diversion of water from the James River after August 10th of each calendar year, nor at any time when the river flow is obviously low, unless written orders have been so issued by the Chief Engineer. Diversions under this permit shall be in accordance with any written orders issued by the Chief Engineer.
- This permit does not authorize diversions from the James River when water is not by-passing the James River Dam north of Huron or when less than 20-cfs of water is by-passing the Third Street Dam in Huron.
- Prior rights may exist for portions of this water to a limited extent under Future Use Withdrawal Permit No. 1067-3. This permit is subject to these prior water rights if or when the reserved water supply is developed.

These proposals were adopted by the Water Management Board at the May 1987 meeting.

2003 - Present

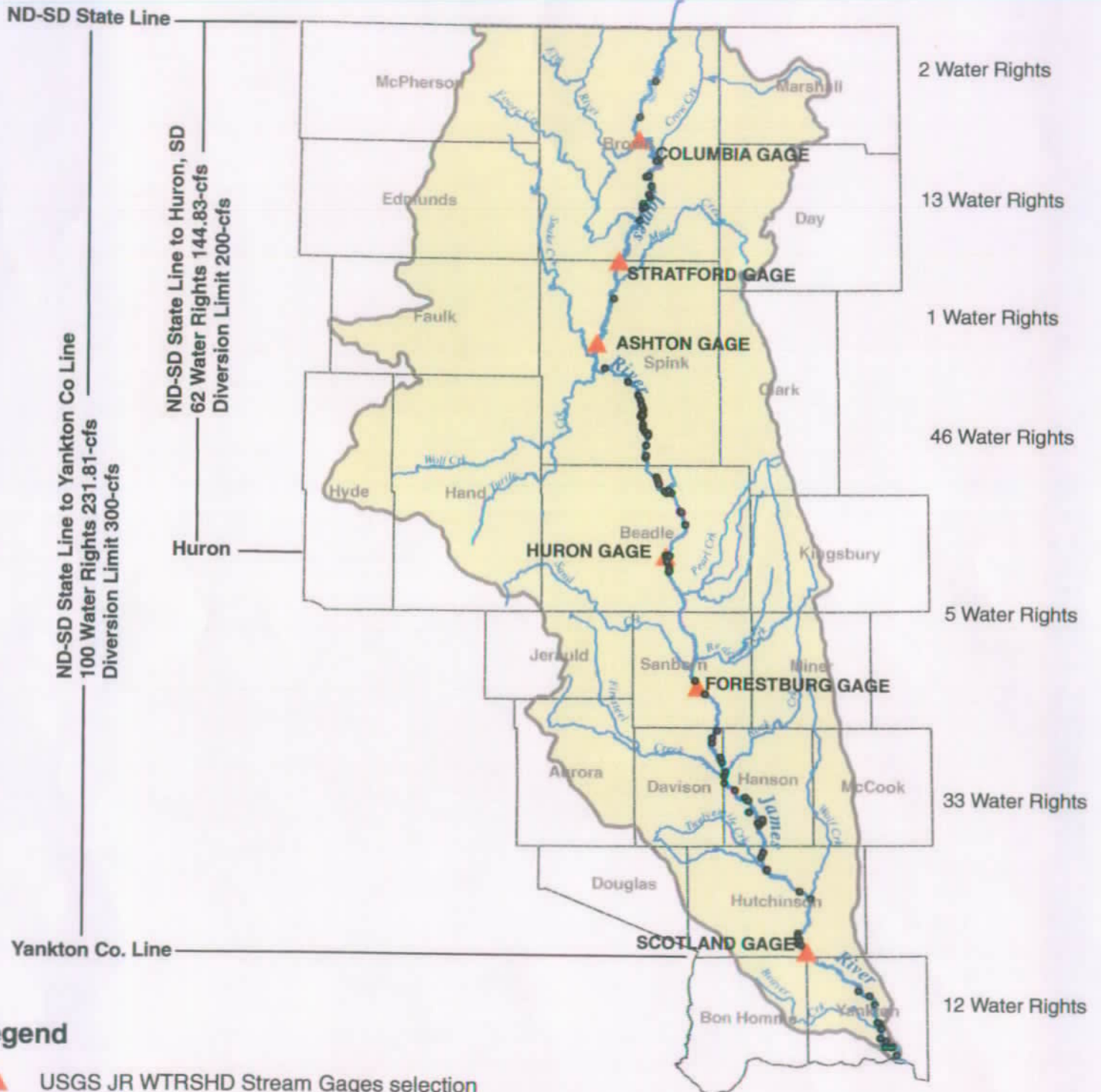
In 2003 Water Rights Program Staff completed on-site surveys of James River water rights that had reported non-use for periods greater than three (3) years. These surveys resulted in forfeiture for non-use of twenty-four (24) James River water rights. To date the Water Rights Program periodically reviews James River water rights for non use status and possible cancellation.

Presently there are eighty-six (86) water rights on the James River reach from the North Dakota (ND) border to the SD Hutchinson-Yankton county line with 231.81-cfs total diversions. These water rights are for direct diversion of water from the James River during the normal irrigation season. The James River reach from Huron, SD to the ND border presently has fifty-one (51) water rights with 144.83-cfs total diversions. The majority of these water rights are in Spink (25) and Beadle (16) Counties with 124.94-cfs total diversions. At this time there are no water rights in effect for direct diversion of water from the James River upstream of the James River Columbia, SD U.S Geological Survey (USGS) gaging station.

This leaves thirty-five water rights with 86.98-cfs direct diversion from the James River during the normal irrigation season on the stretch below Huron to the Hutchinson/Yankton County line. The majority of these water rights are in Davison (10) and Hutchinson (13) counties with 64.66-cfs total diversions.

Attachment 2 JAMES RIVER BASIN, SOUTH DAKOTA

Map showing James River Basin and water rights located between streamflow-gaging stations in South Dakota.
April 24, 2007



Legend

- ▲ USGS JR WTRSHD Stream Gages selection
- James River Water Rights
- ▲ USGS James River Stream Gages
- James River Watershed in SD

JAMES RIVER WATER RIGHTS BY GAGING STATION

WRTN ORD – Can't pump after the date without a "Written Order" from the Chief Engineer.

ABOVE HURON:

WR's above Columbia Gage: 2

PERMIT NO	CO	GAGE NO	PRIOR DATE	STATUS	CUR CFS	FL QUAL1	FL QUAL WRTN ORD	USE 1	USE 2	USE 3
US1-3	BN	1	10/16/1934	LC	0.000			FWP	DOM	REC
5516-3	BN	1	03/08/1991	LC	0.000	110 CFS AT DIV		FWP		
total					0.000					

WR's above Stratford Gage: 13

PERMIT NO	CO	GAGE NO	PRIOR DATE	STATUS	CUR CFS	FL QUAL1	FL QUAL WRTN ORD	USE 1	USE 2
27-3	BN	2	03/31/1941	LC	0.500			FWP	REC
1817-3	BN	2	01/01/1935	LC	0.000	VR		REC	
5924-3	BN	2	04/03/1996	PE	0.000	FLOOD FLOWS		FWP	
1125-3	BN	2	08/19/1964	LC	1.980	20 CFS		IRR	
1491-3	BN	2	01/15/1968	LC	1.940	20 CFS		IRR	
6427-3	BN	2	06/26/2003	PE	6.000	20 CFS	WRTN ORD 7/1	FWP	
4066A-3	BN	2	09/03/1976	LC	0.680	20 CFS	WRTN ORD 8/10	IRR	
4066B-3	BN	2	09/03/1976	LC	0.650	20 CFS	WRTN ORD 8/10	IRR	
5925-3	BN	2	04/09/1996	LC	2.000	20 CFS	WRTN ORD 8/10	IRR	
5277-3	BN	2	01/25/1989	LC	2.300	20 CFS	WRTN ORD 8/10	IRR	
6081-3	BN	2	05/27/1998	PE	2.220	20 CFS	WRTN ORD 8/10	IRR	
2629-3	BN	2	11/17/1975	LC	1.440	20 CFS	WRTN ORD 8/10	IRR	
1841-3	BN	2	01/01/1935	LC	0.000	VR		IRR	
total					19.710			REC	

WR's above Ashton Gage: 1

PERMIT NO	CO	GAGE NO	PRIOR DATE	STATUS	CUR CFS	FL QUAL1	FL QUAL WRTN ORD	USE 1
4071-3	SP	3	01/20/1977	LC	3.640	20 CFS	WRTN ORD 8/10	IRR
total					3.640			

ND to Ashton appropriated cfs = 23.35. 50% irrigation pumping plus 100% other use pumping and 20 cfs for domestic use, current needed cfs = 34.92.

WR's above Huron Gage: 46

PERMIT NO	CO	GAGE NO	PRIOR DATE	STATUS	CUR CFS	FL QUAL1	FL QUAL WRTN ORD	USE 1	USE 2
1172-3	SP	4	03/08/1965	LC	1.500	20 CFS	WRTN ORD 8/10	IRR	
1421-3	SP	4	06/15/1967	LC	0.670	20 CFS	WRTN ORD 8/10	IRR	
2129-3	SP	4	10/10/1974	LC	1.690	20 CFS	WRTN ORD 8/10	IRR	
1943-3	SP	4	05/30/1972	LC	1.890	20 CFS	WRTN ORD 8/10	IRR	

PERMIT NO	CO	GAGE NO	PRIOR DATE	STATUS	CUR CFS	FL QUAL1	FL QUAL WRTN ORD	USE 1	USE 2
1735-3	SP	4	02/16/1970	LC	1.940	20 CFS	WRTN ORD 8/10	IRR	
6589A-3	SP	4	02/04/2005	PE	2.290	63 CFS	WRTN ORD 7/1	IRR	
6587-3	SP	4	11/04/1968	PE	1.910	20 CFS	WRTN ORD 8/10	IRR	
1733-3	SP	4	10/12/1967	LC	3.770	20 CFS	WRTN ORD 8/10	IRR	
6400-3	SP	4	02/10/2003	PE	6.860	63 CFS	WRTN ORD 7/1	IRR	
6590-3	SP	4	02/04/2005	PE	1.560	63 CFS	WRTN ORD 7/1	IRR	
1734-3	SP	4	11/04/1968	LC	3.750	20 CFS	WRTN ORD 8/10	IRR	
6589B-3	SP	4	02/04/2005	PE	2.290	63 CFS	WRTN ORD 7/1	IRR	
1450-3	SP	4	10/12/1967	LC	4.440	20 CFS	WRTN ORD 8/10	IRR	
6588-3	SP	4	02/04/2005	PE	0.000	63 CFS	WRTN ORD 7/1	IRR	
1538-3	SP	4	03/19/1968	LC	4.000	20 CFS	WRTN ORD 8/10	IRR	
2396-3	SP	4	10/10/1975	LC	1.880	20 CFS	WRTN ORD 8/10	IRR	
5737-3	SP	4	12/17/1992	PE	1.880	63 CFS	WRTN ORD 8/10	IRR	
6375-3	SP	4	01/02/2003	PE	5.350	63 CFS	WRTN ORD 7/1	IRR	
6738-3	SP	4	07/05/2006	PE	2.890	63 CFS	WRTN ORD 7/1	IRR	
2386-3	SP	4	09/24/1975	LC	1.280	20 CFS	WRTN ORD 8/10	IRR	
6398-3	SP	4	02/24/2003	PE	0.610	63 CFS	WRTN ORD 7/1	IRR	
1979-3	SP	4	03/27/1973	LC	3.760	20 CFS	WRTN ORD 8/10	IRR	
6182-3	SP	4	02/22/2000	LC	7.030	63 CFS	WRTN ORD 8/10	IRR	
6183-3	SP	4	02/22/2000	LC	7.830	63 CFS	WRTN ORD 6/30	IRR	
616-3	SP	4	06/06/1959	LC	1.140			IRR	
1027-3	BD	4	01/01/1936	LC	0.000	20 CFS		MUN	
6505-3	BD	4	04/26/2004	PE	1.560	63 CFS	WRTN ORD 7/1	IRR	
6613-3	BD	4	03/31/2005	PE	6.680	63 CFS	WRTN ORD 7/1	IRR	
6614-3	BD	4	03/31/2005	PE	1.890	63 CFS	WRTN ORD 7/1	IRR	
6614A-3	BD	4	03/31/2005	PE	0.000	63 CFS	WRTN ORD 7/1	IRR	
5651-3	BD	4	04/01/1947	LC	0.180	20 CFS	WRTN ORD 8/10	IRR	
2387-3	BD	4	12/12/1966	LC	3.500	20 CFS	WRTN ORD 8/10	IRR	
2390A-3	BD	4	09/26/1975	PE	1.890	20 CFS	WRTN ORD 8/10	IRR	
2390-3	BD	4	09/26/1975	LC	1.890	20 CFS	WRTN ORD 8/10	IRR	
5027-3	BD	4	06/14/1984	LC	12.000	60 CFS	WRTN ORD 6/30	REC	MUN
1276-3	BD	4	01/01/1949	LC	2.220	VR		IRR	
4866-3	BD	4	01/01/1949	LC	1.560	20 CFS	WRTN ORD 8/10	IRR	
2643-3	BD	4	02/06/1976	LC	1.620	20 CFS	WRTN ORD 8/10	IRR	
5321-3	BD	4	04/27/1989	LC	0.030	20 CFS	WRTN ORD 8/10	COM	
2049-3	BD	4	02/13/1974	LC	2.000	20 CFS	APRIL MAY JUNE	MUN	REC
9-3A	BD	4	03/31/1950	LC	5.000			MUN	
9-3	BD	4	04/22/1914	LC	5.000			MUN	

PERMIT NO	CO	GAGE NO	PRIORDATE	STATUS	CUR CFS	FL QUAL1	FL QUAL WRTN ORD	USE 1	USE 2
37A-3	BD	4	11/04/1942	PE	0.000	20 CFS		MUN	
37-3	BD	4	11/04/1942	LC	2.250			IND	
755-3	BD	4	12/23/1960	LC	0.000	2-15 CFS		MUN	
1022-3	BD	4	01/01/1936	LC	0.000	VR		MUN	
total					121.480				

Ashton to Huron appropriated cfs = 121.48. 50% irrigation pumping plus 100% other use pumping and 20 cfs for domestic use, current needed cfs = 93.88.

BELOW HURON:

WR's above Forestburg Gage: 5

PERMIT NO	CO	GAGE NO	PRIORDATE	STATUS	CUR CFS	FL QUAL1	FL QUAL WRTN ORD	USE 1
550-3	BD	5	09/10/1958	LC	0.600	20 CFS		IRR
559-3A	BD	5	12/03/1958	LC	2.010	15 CFS		IRR
US552-3	BD	5	04/25/1946	LC	0.000			IRR
5385-3	BD	5	01/01/1955	LC	1.360		WRTN ORD 8/10	IRR
5357-3	SA	5	01/01/1936	LC	0.000			REC
total					3.97			

WR's above Scotland Gage: 33

PERMIT NO	CO	GAGE NO	PRIORDATE	STATUS	CUR CFS	FL QUAL1	FL QUAL2	FL QUAL WRTN ORD	USE 1
5500-3	SA	6	03/06/1991	LC	0.250			WRTN ORD 8/10	IRR
1422-3	DN	6	01/02/1968	LC	2.000			WRTN ORD 8/10	IRR
305-3	DN	6	09/22/1956	LC	0.890				IRR
1917-3	DN	6	12/22/1971	LC	1.740			WRTN ORD 8/10	IRR
5207-3	DN	6	04/20/1957	LC	5.580				IRR
5022-3	DN	6	06/19/1984	LC	2.900	20 CFS PST DIV			IRR
4354-3	DN	6	04/06/1978	LC	29.000	20 CFS PST DIV			RWS
690-3	DN	6	03/02/1960	LC	0.860	15 CFS PST DIV			MUN
699B-3	DN	6	03/02/1960	LC	1.630	15 CFS PST DIV			IRR
280-3	DN	6	01/01/1955	LC	0.890				IRR
1693A-3	DN	7	08/04/1969	PE	1.330				IRR
5121-3	HS	7	01/28/1987	LC	0.880			WRTN ORD 8/10	IRR
1900-3	HS	7	09/16/1971	LC	1.550			WRTN ORD 8/10	IND
436-3	HS	7	04/05/1945	LC	1.050			WRTN ORD 8/10	IRR
4656-3	HS	7	09/16/1971	LC	5.820			WRTN ORD 8/10	IRR
608-3	HS	7	05/05/1959	LC	0.380	25 CFS PST DIV			IRR
1902-3	HS	7	09/16/1971	LC	4.750			WRTN ORD 8/10	IRR
4717A-3	HS	7	09/16/1971	LC	1.670			WRTN ORD 8/10	IRR
2411-3	HS	7	10/20/1975	LC	2.000			WRTN ORD 8/10	IRR
607-3	HT	7	05/05/1959	LC	0.660	25 CFS PST DIV			IRR
6534-3	HT	7	08/17/2004	PE	2.780			WRTN ORD 7/15	IRR
6125-3	HT	7	02/01/1999	PE	1.560			WRTN ORD 8/10	IRR

PERMIT NO	CO	GAGE NO	PRIOR DATE	STATUS	CUR CFS	FL QUAL1	FL QUAL2	FL QUAL WRTN ORD	USE 1
5970-3	HT	7	12/13/1996	LC	1.440			WRTN ORD 8/10	IRR
4072-3	HT	7	01/24/1977	LC	0.480			WRTN ORD 8/10	IRR
2385-3	HT	7	09/23/1975	LC	1.300			WRTN ORD 8/10	IRR
6131-3	HT	7	03/22/1999	LC	0.770			WRTN ORD 8/10	IRR
5392A-3	HT	7	03/01/1990	LC	1.340			WRTN ORD 8/10	IRR
6506-3	HT	7	04/26/2004	PE	0.000			WRTN ORD 8/10	IRR
5391-3	HT	7	03/01/1990	LC	2.610			WRTN ORD 8/10	IRR
6132-3	HT	7	03/22/1999	LC	0.850			WRTN ORD 8/10	IRR
6082-3	HT	7	06/02/1998	PE	0.570			WRTN ORD 8/10	IRR
2631A-3	HT	7	11/25/1975	LC	1.700			WRTN ORD 8/10	IRR
6083-3	HT	7	06/02/1998	PE	1.780			WRTN ORD 8/10	IRR
total					83.01				

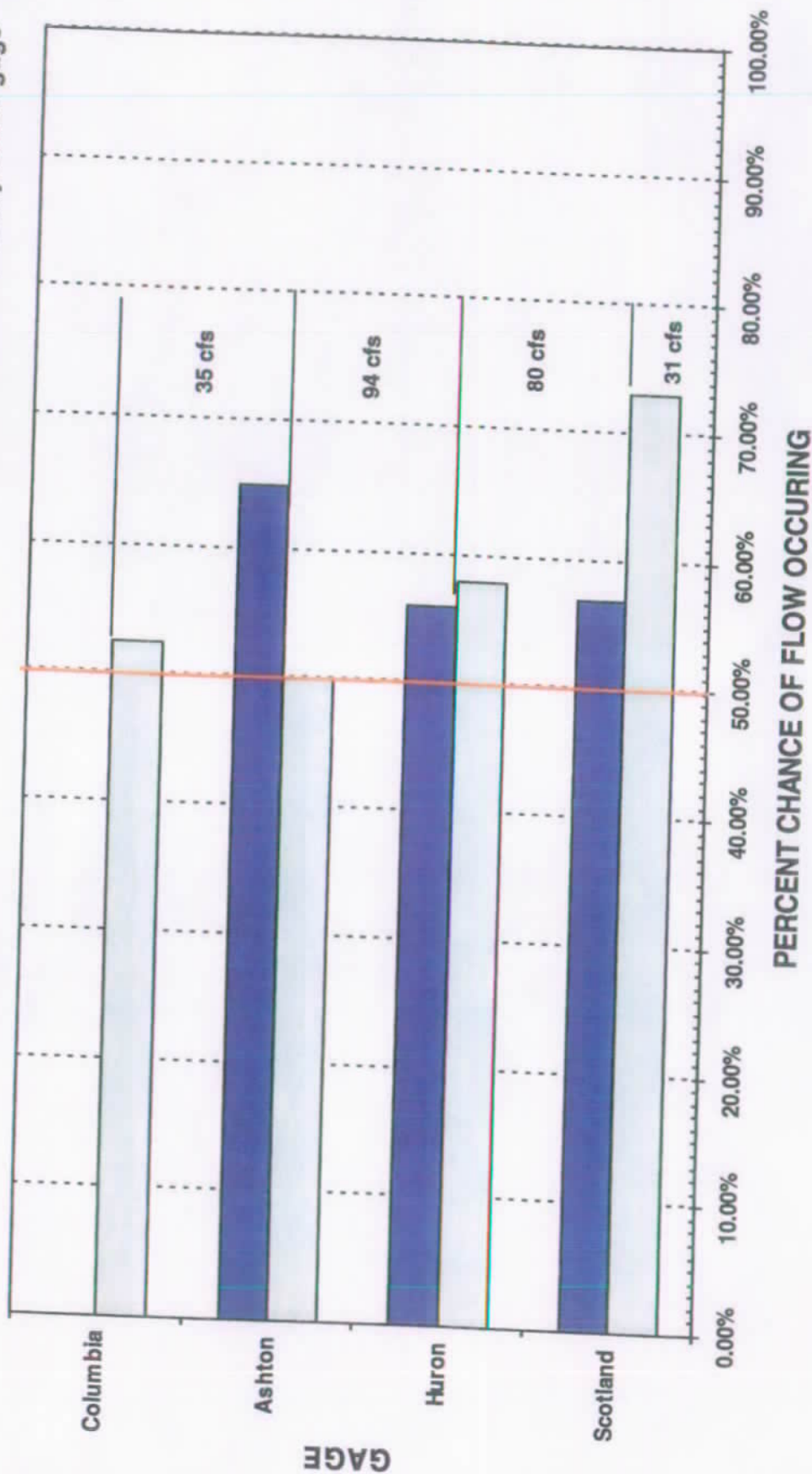
Huron to Scotland appropriated cfs = 86.98, 50% irrigation pumping plus 100% other use pumping and 20 cfs for domestic use, current needed cfs = 79.88.

% CHANCE OF FLOW BEING AVAILABLE FOR DIVERSION THRU AUGUST 10TH

Cfs values are at 50% irrigation pumping and 100% other use diversion at current appropriation plus 20 cfs domestic.

■ % chance to satisfy above gage

□ % chance to satisfy below gage

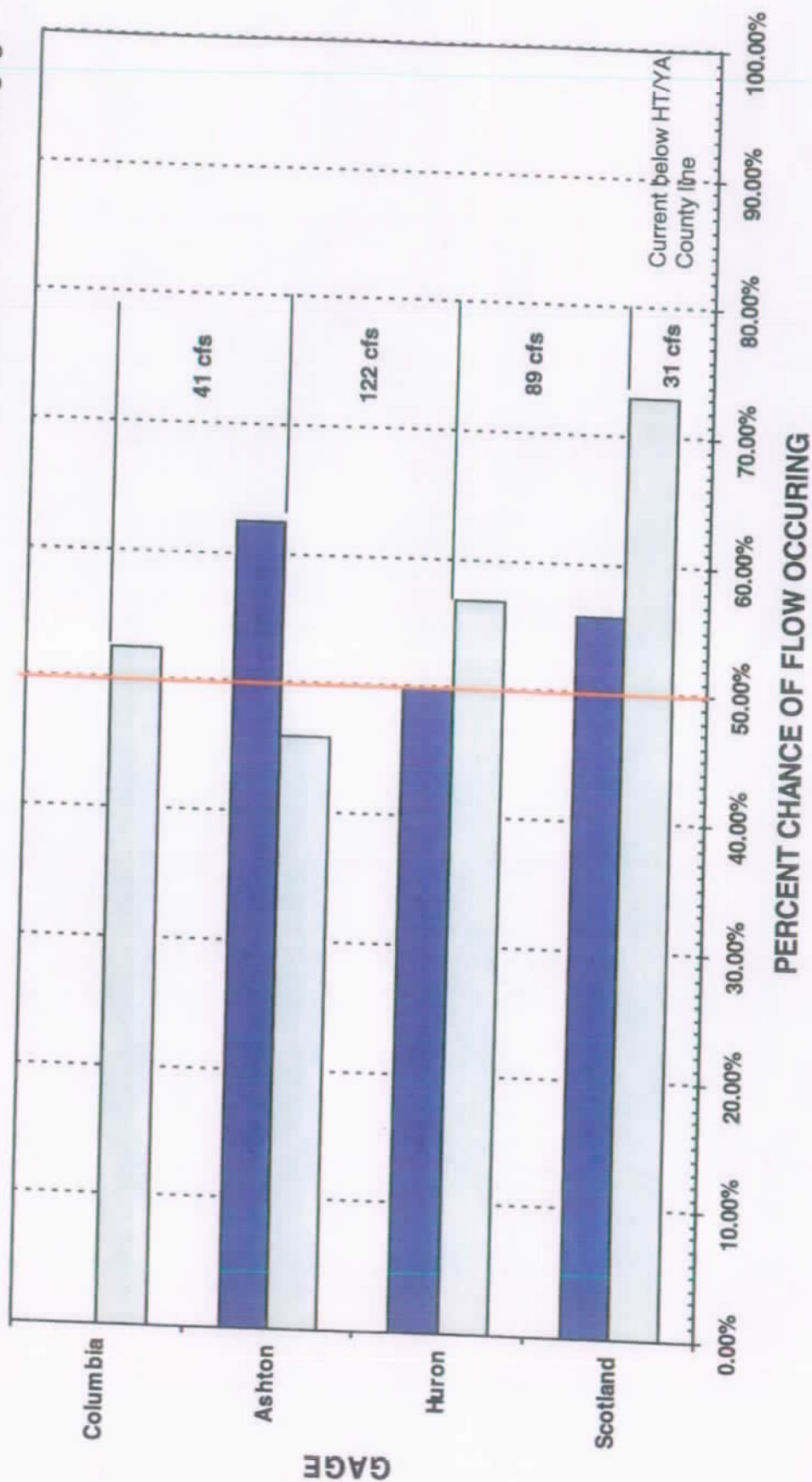


% CHANCE OF FLOW BEING AVAILABLE FOR DIVERSION THRU AUGUST 10TH

Cfs values are at 50% irrigation pumping and 100% other use diversion when fully appropriated plus 20 cfs domestic.

■ % chance to satisfy above gage

□ % chance to satisfy below gage





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

May 21, 2007

NOTICE

TO: RON WHEELER
LAKE BYRON WATERSHED DISTRICT
PO BOX 1363
HURON SD 57350

FROM: Garland Erbele, Chief Engineer
Water Rights Program, DENR

SUBJECT: Amendment to Qualifications on Water Right No. 5027-3

On May 9th, the Water Management Board amended qualifications to Water Right No. 5027-3. This action was taken as set forth in notice sent to you on April 11, 2007 and published in James River basin newspapers and the staff report mailed to you on April 25, 2007.

Attached is a listing of the qualification as amended to reflect the Board's action regarding the District's water right. Please file this with your water right records. All other qualifications listed on your water permit were not changed by the Board's action and remain in effect. For example, the District is still required to annually report the amount of water diverted from the James River.

If you have any questions about the Board's action or the amendment, please contact Lynn Beck at 605 773-3352.

Enclosure

Attachment to Water Right No. 5027-3

Amended Qualifications set by the Water Management Board on May 9, 2007

Qualifications as amended to Water Right No. 5027-3

- This permit does not authorize diversion of water from the James River after August 10th of each calendar year, or at any time the river's flow is obviously low, unless written orders have been issued by the Chief Engineer. Diversions under this permit are subject to senior water rights and any written orders issued by the Chief Engineer.
- This permit does not authorize diversions from the James River when there is less than 20-cfs by-passing the gage at Huron, SD after pumping.

Deleted qualification No. 1 on Water Right No. 5027-3

Low flows as needed for downstream domestic use and prior water rights must be bypassed. The minimum bypass at Huron for domestic use is 20 cfs. During the period of April 1 through June 30 of each calendar year, diversions are authorized only when 60 cfs or more are by-passed after diversion for domestic use or prior water rights, unless a lower flow by-pass based upon the need for water in Lake Byron verses the need for water downstream, is authorized by the Chief Engineer. This permit does not authorize diversion of water from the James River after June 30th of each calendar year unless written orders have been so issued by the Chief Engineer. In the management of the James River under this permit, flows will be monitored at all gaging stations, and cutoffs will be timed to insure water supplies for domestic use and prior water rights.

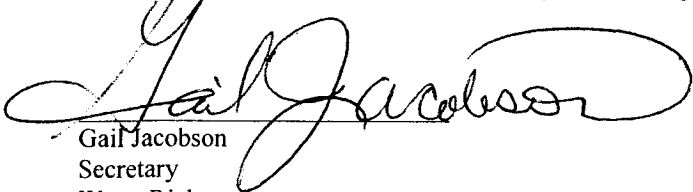
CERTIFICATION

I hereby certify that on May 21, 2007, I have personally deposited with the United States mail at Pierre, South Dakota, first class postage, prepaid envelopes containing a Notice dated May 21, 2007 regarding Amendment to James River Qualifications addressed as stated below:

Marke Grasse, 38313 131st St, Aberdeen SD 57401
Ron Wheeler, Lake Byron Watershed, PO Box 1363, Huron SD 57350
Floyd Peterson, 18892 390th Ave Hitchcock SD 57348
Reed Bixler, Bixler Farms, 39477 184th St, Hitchcock SD 57348
Ruben Endander, 18239 398th Ave, Frankfort SD 57440
Lyle Arden Bendenagel, 39586 176th St, Frankfort SD 57440
Arne Svarstad, 13797 392nd Ave, Aberdeen SD 57401
Alfred Locken, 39643 137th St, Bath SD 57427
Jon & Loren Locken, 13755 396th Ave, Bath SD 57427
Keith Kettering, 39064 156th St, Mellette, SD 57461
Roger Locken, Locken Ag, 39643 137th St, bath SD 57427
Orrin Roth, 26752 421st Ave, Parkston SD 57366
Loren Roth, 42051 262nd St, Alexandria SD 57311
Don Barber, 41321 Hwy 38, Mitchel SD 57301
Mary K Puetz, 910 Firesteel Dr, Mitchell SD 57301
Russ Werning, 1543 Parkview Dr, Watertown SD 57201
Harvey Wollman, 40004 184th St, Frankfort SD 57440
John Wipf, Spink Colony, 18206 Spink Ln, Frankfort SD 57440
Jerry Kleinsasser, Glendale Colony, 17866 Glendale Dr, Frankfort SD 57440
Sam Waldner, Huron Colony, 40068 Huron Colony Ln, Huron SD 57350

A copy of the above described Notice was sent Inter-office to:

Diane Best, Assistant Attorney General, Capitol Building


Gail Jacobson
Secretary
Water Rights

STATE OF SOUTH DAKOTA)

) SS

COUNTY OF HUGHES)

Sworn to, before me, this 21st day of May, 2007.



Karen Schlaak

Notary Public

My Commission expires April 1, 2013



5027-3
**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

August 6, 2012

**JAMES RIVER WATER RIGHT QUALIFICATION REMINDER
WATER RIGHT NO(s). 5027-3**

To: LAKE BYRON WATERSHED DIST
40338 SOUTH SHORE RD
HURON SD 57350

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

Subject: James River Qualification Reminder for Permit No(s). 5027-3

Qualifications on your water right indicate that you are not authorized to divert James River water after August 10th. Please, consider this a reminder and cease diversion if you have not already done so. No diversion can take place after August 10th unless under written orders by the Chief Engineer. You may resume diversion on the date stated in the qualifications on your water right.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

October 4, 2012

Lake Byron Watershed District
% Dennis Drake
40460 South Shore Dr
Huron, SD 57350

Dear Mr. Drake:

In response to your telephone call on October 3, 2012 requesting an extension to pump from the James River beyond the August 10th cutoff, you are authorized to pump under Water Right No 5027-3 subject to the following:

- Flows remain available for downstream domestic users and prior water rights
- Flows past the Huron gaging station remain above 20 cubic feet per second after pumping
- You authorized to only operate one of your three pumps at a time.

We will continue to monitor the James River and if conditions warrant, you may be with no prior notice given. The US Geological Survey has an Internet site showing real-time river flows at 155 stream gauging stations across the state including several gaging stations on the James River. To access this information go to <http://waterdata.usgs.gov/sd/nwis/rt> and click on the link "Statewide Streamflow Current Conditions Table".

If you have any questions, please contact Lynn Beck or Mark Rath at (605) 773-3352.

Sincerely,

A handwritten signature in black ink, appearing to read "Garland Erbele".

Garland Erbele, Chief Engineer
Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

May 27, 2021

Dear James River Water Right Holder:

I am writing to water right holders and operators who use water from the James River that river flow is much lower this year and to let them know that shutoff orders are possible this summer.

South Dakota law gives the highest priority to domestic use, including livestock watering. There is generally adequate water available to meet both domestic use and other needs. However, once water availability reaches critical low levels, other uses will begin to interfere with domestic use. If river levels become critically low, the department may be forced to issue shutoff orders to protect domestic use, including livestock watering and those water rights that are most senior.

We are only cautioning that shutoff orders may become necessary. **This not a shutoff order.** This letter is only intended to give you advanced warning that your ability to divert water may be cut short this year. If shutoff orders are issued, you will receive another letter from the department. In the meantime, water right holders can help by closely monitoring water usage and avoid wasting water.

If you are interested, the US Geological Survey has an Internet site showing river flows at 164 stream gauging stations across the state. To view the latest realtime stream flow, go to:

<https://waterdata.usgs.gov/sd/nwis/current/?type=flow>

Thank you for your cooperation. If you have any questions, please contact Mark Rath, Blaise Hansen, or Nakaila Steen at (605) 773-3352.

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

August 16, 2021

Dear James River Water Right Holder:

I am writing to water right holders and operators who either use water from the James River or tributaries under permits with the August 10 shutoff date qualification.

Water rights containing this qualification requires a mandatory compliance and pumping under your permit must cease after August 10th unless you contact the Water Rights Program and receive permission to continue to divert water.

Water Rights staff drove along the James River last week after the August 10 shutoff date to spot-check whether water right holders were complying with this qualification. This spot-check found multiple water right holders diverting water in violation of this qualification.

Again, I remind you, compliance with this shutoff qualification is required unless you request and receive permission from the Water Rights Program to continue pumping. Permission may be granted based upon water availability.

Thank you for your cooperation. If you have any questions, please contact Mark Rath, Blaise Hansen, or Nakaila Steen at (605) 773-3352.

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program