

STATE WATER CONSERVATION COMMISSION  
Minutes of Meeting  
Held in Chamber of Commerce Meeting Room, Tioga  
November 5, 1963

MEMBERS PRESENT:

Governor William L. Guy, Chairman  
Oscar Lunseth, Vice Chairman, Grand Forks  
Einar Dahl, Member from Watford City  
Henry Steinberger, Member from Donnybrook  
Richard P. Gallagher, Member from Mandan  
Gordon Gray, Member from Valley City  
Milo W. Hoisveen, Secretary and Chief Engineer, State Engineer, Bismarck  
Fred J. Fredrickson, Planning Coordinator, Valley City

OTHERS PRESENT:

Victor E. Ziegler, Operations Engineer, State Water Commission, Bismarck  
Arnold Blikie, Tioga  
Milton Harm, C. R. Anthony Co., Tioga  
D. A. Severson, Severson's Jewelry, Tioga  
G. C. Anderson, The Bank of Tioga, Tioga  
Morris W. Wilson, Tioga School District, Tioga  
Frank Foster, Engineer, Williston  
R. H. Berquist, Ben Franklin Store, Tioga  
F. G. Heinle, Heinle Drug Co., Tioga  
A. C. Lindsay, Tioga  
Bob Mowby, Tioga  
Don Pederson, City Water Commission, Tioga  
Ted Blikie, Montana-Dakota Utilities, Tioga  
Francis Carron, Water Superintendent, Tioga  
H. W. French, Gambles, Tioga  
Willard Webster, Consulting Engineer, Williston  
Olaf Giske, City Auditor, Tioga  
Fred W. Norton, Signal Oil & Gas, Tioga  
Dale Flaig, Tioga Super Valu, Tioga  
C. Peterson, Attorney, Tioga  
C. E. Elsbernd, Northwestern Bell Telephone Co., Tioga  
Chris Houser, Tioga Tribune, Tioga  
C. H. Rodewald, President, City Commission, Tioga

Governor Guy called the meeting to order  
at 12:45 p.m. All members were present except Commissioner Math Dahl.

MINUTES OF OCTOBER 8, 1963  
MEETING APPROVED

among the membership, the reading of the minutes be dispensed with. The motion was seconded by Commissioner Gray and unanimously carried.

OCTOBER FINANCIAL  
STATEMENT APPROVED

Secretary Hoisveen read the financial statement for October and commented upon the status of the funds remaining unencumbered for future use to the Commission. He implied that the funds were being

expended at a rate that would permit the Commission to meet its obligations through the end of the current biennium. Commissioner Lunseth moved that the financial statement be approved. The motion was seconded by Commissioner Gallagher and approved by the Commissioners present.

**U. S. TOPOGRAPHIC SURVEY  
FUND**

Governor Guy commented on the fact that a portion of the Commission's cooperative fund with the U. S. Geological Survey in

the amount of \$6,200 had been terminated on August 1st, inasmuch as the U. S. Geological Survey had failed to submit its billing. He further stated that the U. S. Geological Survey billed the Water Commission on August 12th for this amount. This made it necessary for the Commission to apply to the Emergency Commission for replacement of the fund in this amount. He stated that the Emergency Commission had allowed the request at its most recent meeting and the Commission could proceed to meet the billing made by the Topographic Branch of the U. S. Geological Survey.

**CORPS OF ENGINEERS - PARTICIPA-  
TION IN WILDWOOD LAKE  
RESTORATION PROJECT**

A letter was read from the Omaha District Engineer of the Corps of Engineers indicating that the Corps of Engineers had been liberal in extending the use of the

\$35,000 fund which had been appropriated to that agency for use in connection with the restoration of Wildwood Lake. The Corps implied they had given the Water Commission extensions amounting to 17 months in which to obtain the necessary easements and commence project activities. They requested that the Commission enter into a contract with the Corps indicating their desire to complete the project at an early date. Commissioner Gallagher stated that considerable difficulty had been encountered in obtaining easements for the project. The local proponents had now successfully negotiated the purchase of considerable land around the lake and he believed that the work of obtaining easements would possibly be accelerated.

Commissioner Gray stated that many of the residents in the Bismarck-Mandan area and the central part of North Dakota had served their Boy Scout training at the camp located on the shore of the lake. He suggested that a committee consisting of Messrs. Gallagher, Ziegler, Hoisveen and himself be appointed to carry on further negotiations regarding the project. It was moved by Commissioner Lunseth and seconded by Commissioner Steinberger that this committee be authorized to function and carry on activities that might culminate in the construction of the project. Carried.

**TIMBER CREEK DAM COST  
PARTICIPATION (Pishek Dam)**

Commissioner Einar Dahl stated that the Timber Creek Dam, frequently referred to as Pishek Dam which is located north of

Arnegard, had become in a state of bad repair. He indicated that a Commission staff engineer had inspected the project and estimated the cost of repair to be \$4,400. He recommended and moved that the Commission cooperate with the County Commissioners of McKenzie County to the extent of 50% of the cost of the project and that it be undertaken at the earliest possible date. The motion was seconded by Commissioner Gallagher and approved.

**RESOLUTION-DECLARATION OF POLICY  
ACQUIRING LAND SURROUNDING  
RESERVOIRS FOR RECREATIONAL  
PURPOSES**

Governor Guy read a resolution pertaining to acquiring land surrounding reservoirs for recreational purposes. The resolution reads as follows:

R E S O L U T I O N 63-11-204

Declaring State Water Commission's  
Policy in acquiring land surrounding  
reservoirs for recreational purposes

WHEREAS, recreation is becoming an increasingly more important consideration in the acquisition of land for the construction and development of reservoirs; and

WHEREAS, the State Water Commission recognizes that it is impracticable to establish unalterable rules and regulations to be strictly followed in the acquisition of land for such purposes.

NOW, THEREFORE, BE IT RESOLVED, by the North Dakota State Water Commission at its November 5, 1963 meeting that it shall hereafter be the policy of the State Water Commission when acquiring land for, or participating financially in, the construction and development of reservoirs to take into consideration the acquisition of sufficient land to adequately accommodate all anticipated public use of the immediate area for recreational purposes; and

BE IT FURTHER RESOLVED, that in all cases where the use of the immediate surrounding area for different recreational purposes conflicts such uses shall conform to the following order of priority:

- (1) General public use,
- (2) Organized camp groups' use (Boy Scouts, Girl Scouts, etc.),
- (3) Club site use (Eagles, Elks, employees' groups, etc.), and
- (4) Private seasonal cabin site use.

BE IT FURTHER RESOLVED, that the State Water Commission shall use, but shall not be limited to, the following criteria in determining how much land shall be acquired for recreation purposes in connection with a reservoir constructed by or with the cooperation of the Commission:

- (1) Zones of Influence
  - A. Areas the reservoir will serve,
  - B. Population of municipalities within such service areas, and
  - C. Direction population centers are in relation to the reservoir.
- (2) Competing influences such as existing parks, lakes, or reservoirs within zone of influence,
- (3) Type of terrain bordering the reservoir,
- (4) Accessibility,
- (5) Existing plantings,
- (6) Types of use reservoir will be put to, and
- (7) Available parking area.

BE IT FURTHER RESOLVED, that in acquiring land for recreational purposes the State Water Commission shall exercise its judgment as influenced by the facts in each individual case and this declaration of policy is intended only

as a guide and need not be strictly adhered to.

Dated this 5th day of November, 1963.

NORTH DAKOTA STATE WATER COMMISSION  
By:

s/ William L. Guy  
Governor and Chairman

ATTEST:

s/ Milo W. Hoisveen  
Secretary and Chief Engineer

It was moved by Commissioner Gray and seconded by Commissioner Lunseth and carried that the resolution be adopted.

**HILLSBORO CITY DAM REPAIR**

Secretary Hoisveen informed the Commission that the Hillsboro Dam, located east of that city, has shown considerable deterioration during the past few years and the Commission had been requested to proceed with the repairing of this structure. He implied that the cost of repairing the project would approximate \$8,000. The City of Hillsboro would participate to the extent of 50% of the cost. It was moved by Commissioner Lunseth and seconded by Commissioner Gray that the Commission proceed with the repair work on the Hillsboro City Dam. Motion carried.

**PEMBINA COUNTY DRAIN #16**

It was pointed out that Pembina County Drain #16 is an old existing drain in Pembina County and is in need of rehabilitation and the county drain board had requested the Commission to participate to the extent of 40% of the cost of the construction features of the drain. Commissioner Lunseth moved that the Commission participate to the extent of \$6,265.47. The motion was seconded by Commissioner Steinberger and carried.

**CITY OF MINOT MUNICIPAL  
WATER SUPPLY**

It was called to the attention of the Commissioners that Minot City officials were apprehensive over what appeared to be a rapid withdrawal of water from the aquifer which is used to supply that city with its municipal water. Secretary Hoisveen stated that a meeting was held in the office of the Commission with officials from the Groundwater Branch of the U. S. Geological Survey, the City of Minot and representatives of the Commission. It was agreed that every effort possible should be made to ascertain the quantity of water available in the aquifer so that Minot could plan its withdrawal of water and regulate its usage. It was stated that it would be necessary to construct an analog model of the aquifer to best evaluate the groundwater supply and regulate usage. Secretary Hoisveen notified the Commission that the U. S. Geological Survey would be in a position to expend \$10,000 towards the project and the City of Minot agreed to meet one-fourth of the estimated \$20,000 and it was hoped by the interested parties that the Commission would participate in the remaining one-fourth. Commissioner Steinberger moved that the Commission approve the expenditure of \$5,000 in connection with the proposed project. The motion was seconded by Commissioner Lunseth and carried.

This project is determined as a special

groundwater study above and beyond the contemplated Ward County groundwater study.

DISSOLUTION OF FREMONT  
TOWNSHIP WATER  
MANAGEMENT DISTRICT

The Commission reviewed the dissolution request of the Fremont Township Water Management District. This district is located in Cavalier County. The district

has expressed a desire to be dissolved in order that the boundary of the present Cavalier County Water Management District could be modified to include this district in the major district.

Hearings were held in the Fremont Township area to ascertain whether there were objections to the dissolution of the district. It was found that no objectors existed and the district board desired to follow the above procedure.

Commissioner Lunseth moved that the Fremont Township Water Management District be dissolved and the district be so notified. The motion was seconded by Commissioner Gray and approved by the members.

HANSEN DAM  
Project #342

Commissioner Gray stated that Operations Engineer Ziegler and he had recently inspected the Hansen Dam south and west

of Valley City. The dam showed the need of repair which resulted from the fact that no reinforced steel had been used in the structure. A vertical crack had appeared in the center of the spillway. Water has been progressing through the crack at a moderate rate. The repair work needed would involve the removal of a portion of the earth behind the dam to permit the maintenance crew to seal off the existing crack. Commissioner Gray moved that the Commission participate in the repair work to the extent of 50% of the job which was estimated to be \$3,800. The motion was seconded by Commissioner Einar Dahl and unanimously approved by the Commission.

WATER RIGHTS

#1100

The application of Andrew C. Mork, Jr., of Mandan, North Dakota to divert 760

acre-feet of water from the Missouri River for the purpose of irrigating 379.9 acres of land was presented by the Secretary to the Commission for consideration. The State Engineer, Milo W. Hoisveen, having considered the application and made his recommendation thereon for 760 acre-feet to irrigate 379.9 acres, it was moved by Commissioner Dahl and seconded by Commissioner Lunseth and carried that the application be approved and the permit granted for the diversion of 760 acre-feet to irrigate 379.9 acres.

#1104

The application of the Larimore Golf Club of Larimore, North Dakota to divert

90 acre-feet of water from the Turtle River for the purpose of irrigate 45 acres of land was presented by the Secretary to the Commission for consideration. The State Engineer, Milo W. Hoisveen, having considered the application and made his recommendation thereon for 78.8 acre-feet to irrigate 45 acres, it was moved by Commissioner Lunseth and seconded by Commissioner Einar Dahl and carried that the application as modified by the recommendation of the State Engineer be approved and the permit granted for the diversion of 78.8 acre-feet to irrigate 45 acres of land.

#1105

The application of Ray Olson, Cartwright, North Dakota to divert 70 acre-feet of water from the Yellowstone River for the purpose of irrigating 35.5 acres of land was presented by the Secretary to the Commission for consideration. The State Engineer, Milo W. Hoisveen, having considered the application and made his recommendation thereon for 70 acre-feet to irrigate 35.5 acres, it was moved by Commissioner Einar Dahl and seconded by Commissioner Lunseth and carried that the application be approved and the permit granted for the diversion of 70 acre-feet to irrigate 35.5 acres of land.

#1106

The application of Leo W. Schiermeister of Hazelton, North Dakota, to divert 477 acre-feet of water from the Missouri River and underground sources for the purpose of irrigating 238.6 acres of land was presented by the Secretary to the Commission for consideration. The State Engineer, Milo W. Hoisveen, having considered the application and made his recommendation thereon for 477 acre-feet to irrigate 238.6 acres, it was moved by Commissioner Einar Dahl and seconded by Commissioner Lunseth and carried that the application be approved and the permit granted for the diversion of 477 acre-feet to irrigate 238.6 acres of land.

meeting adjourned.

There being no further business the

Respectfully submitted,

*Milo W Hoisveen*

Secretary

ATTEST:

*William L. Berg*  
Governor

## AERIAL TOUR OF WATER COMMISSION PARTICIPATING PROJECTS

November 5, 1963

(1) The project to be reviewed is the Mandan project which consists of the levee on the left bank of the Heart River extending from U. S. Highway 10 west of Mandan to the Northern Pacific Railway south branch line; a levee on the right bank from the Northern Pacific railway to the high ground; a west closure levee between U. S. Highway 10 and the Northern Pacific Railway to bridge; a stop log structure on U. S. Highway 10, highway bridges, railroad blanketing, drainage culverts; bank protection flood wall and interior drainage. The project which was authorized by the Flood Control Act of 1946 and modified by the same Act of 1950 was completed in 1959 and turned over to local interests for operation and maintenance. Total Federal cost of the improvement was \$677,000. In addition it was estimated that local interests expended \$155,600 for land and relocation. The State Water Commission participated to the extent of \$50,000 in this project.

(2) Froelich Dam was constructed through contract issued by the State Water Commission. The water depth will be 39 feet, cover 176 surface acres and store 2,250 acre-feet. The project cost \$60,000 of which the State Water Commission participated to the extent of \$33,000. The remaining costs were borne by the State Game and Fish Department and local entities, such as Sioux County. It is principally a recreation project.

(3) The Scranton Flood protective works was constructed to protect that city from floods occurring on Buffalo Creek, a tributary of the Grand River. It consists of one mile of channel improvement and one mile of levee work together with necessary railroad improvements and appurtenant works. The project was constructed under authority of Public Law 685 at a Federal expense of \$103,000 and in addition it was estimated that local interests spent \$34,500 to provide lands and certain structures. The State Water Commission participated to the extent of \$15,000.

(4) The Bowman-Haley Project was authorized in 1962. It is anticipated that construction may be started in 1964. The project will be constructed by the Corps of Engineers. The structure will be 79 feet high, with storage capacity of 73,000 acre-feet below the emergency spillway crest. Approximately 16,000 acre-feet would be used for conservation purposes and 4,000 acre-feet at the reservoir would be allocated for sediment storage. A 53,000 acre-foot allocation would be exclusively for flood control. The total estimated cost of the project is \$4,185,000 of which \$2,670,000 would be required for immediate construction of the dam and reservoir. Approximately \$743,000 will be required from local sources. The State Water Commission has pledged \$50,000 to this project. The local community has endeavored to obtain this project since the year 1906. As a consequence, 3,600 acres of land were removed from settlement for use as a reservoir site. This situation still exists.

(5) The major portion of the Marmarth flood protective works is located on the west bank of the Little Missouri and Little Beaver Creek at Marmarth. Existing levees at Marmarth were inadequate for flood protection. The project consisted of raising the existing levees around Marmarth and extending the protection to include the Browning addition north of the railroad. The project which was authorized by the Flood Control Act of 1954 was completed in December of 1959 and turned over to local interests for operation and maintenance. Total Federal cost of the improvement was \$169,500. In addition certain local structures were needed at a cost of \$20,000. The State Water Commission participated in this project to the extent of \$8,600.

(6) Odland Dam north of Beach, North Dakota. The project was originally undertaken by the Works Progress Administration during the drouth period of the 30's. Since then the State Water Commission has participated in raising the dam, sealing off seepage veins and placing it in a state of good repair. The cost to date on the part of the Commission has approximated \$8,000. The



reservoir has a surface area of 125 acres which impounds 730 acre-feet. It is a prominent recreation spot for this area.

(7) The State Water Commission has cooperated with McKenzie County in maintaining the Jackson Dam structure. To date \$10,000 has been spent by the Commission in keeping it in a state of good repair. The 12 foot dam creates a 90 acre reservoir.

(8) The Cartwright Irrigation Project has approximately 700 acres of irrigable land within its boundaries, of which 450 have been developed and are being irrigated at present. The source of water supply is two wells located on the right bank of the Yellowstone River. The quality of the water obtained from the wells is practically identical to that of the Yellowstone River; however, a well drilled as a test well towards the center of the project contained water which was highly mineralized. The project was financed by the Commission and the Cartwright Irrigation District has now paid its obligation to the Commission.

(9) The Sioux Irrigation Project was started by the State Water Commission in 1938. It contains approximately 1100 acres of land, of which 700 are being irrigated. Water is pumped directly from the Yellowstone River by a pump having a capacity approximating 25 cubic feet per second. The motor is fueled by natural gas furnished by the Montana-Dakota Power Company. Degradation occurring in the Missouri River has also influenced the Yellowstone River. As a result water is not always available at the pump site of the Sioux Irrigation Project. Three years ago the State Water Commission obtained a supplemental supply of water through groundwater supplies. A well capable of producing upward to 3,000 gallons per minute was installed toward the center of the project. This has greatly relieved the water problem which frequently harassed this project. The State Water Commission financed the project through its guarantee bond fund. The district has maintained its payments to the Commission.

(10) The Buford-Trenton Project was constructed by the Bureau of Reclamation and consists of approximately 14,000 acres of irrigable land. Approximately 3,000 acres may be adversely affected when the Garrison Reservoir reaches elevation 1850. Several years ago the Corps of Engineers installed a channel straightening project which detoured the channel to such a degree that the water supply for the Buford-Trenton project was inadequate. The State Water Conservation Commission took this matter up with the Corps and they are now endeavoring to care for the matter by intake corrections. The Commission installed a pump intake on Lake Trenton during this past summer. Two pumps having a capacity of 25 c.f.s. will be placed on the structure to provide supplemental water. The engineering was performed by the Commission Staff.

(11) The Lewis and Clark Irrigation Project was constructed by the State Water Commission through the use of WPA labor in the late 30's and early 40's. It consists of 5,000 acres of irrigable land. It has been a very successful project but will be adversely affected by the Garrison Reservoir when the pool level reaches elevation 1847. As a consequence the Corps of Engineers has purchased this project and leases it back to some of the original owners. The project was purchased by the Corps of Engineers at a cost of approximately \$2,000,000 which contains some upland purchases.

(12) Blacktail Dam was constructed in 1959. The reservoir, much to everyone's surprise, filled in the spring of 1960. Blacktail Dam consists of rolled earth embankment with natural spillway for emergency use and a small trickle tube spillway for normal use. Runoff of melting snow and rain that is stored in the reservoir will be allowed to drain out gradually through an 18 inch corrugated metal pipe trickle tube. The embankment contains 235,000 cubic yards of selected rolled earth fill and rises 55 feet above the old stream bed. The dirt work was accomplished by an independent contractor under Commission supervision. 6,500 yards of rock riprap were placed during the winter of 1959 and 60 under

contract. The impoundment created by this dam has a surface area of 123 acres with maximum depth of over 40 feet and a capacity of 1800 acre-feet of water. The cost of the storage is approximately \$45 per acre-foot. This reservoir is fed by many springs which maintain the level at or very near spillway elevation throughout the season. The project provides excellent facilities for water sports, fishing and for waterfowl habitat. Total cost of the project was \$80,000 which was shared by Williams County, the State Game and Fish Department and the Water Commission. The Commission has participated in some of the recreation features of the project.

(13) For several years the city council of Tioga has considered the construction of the Tioga Dam as a supplemental municipal water supply. They currently obtain their water supply from wells; however, their constantly growing population has shown signs of depleting this source. The Commission, several years ago, investigated the feasibility of constructing the dam which was completed this fall. The dam was constructed at a cost of \$64,000. The cost was borne equally by the city and the State Water Commission. The earthwork and the rock riprap were placed on contract. The reservoir, when filled, will have a surface area of 65 acres and impound 620 acre-feet. The city is installing an intake system on the south edge of the reservoir which will be used as a forebay for pumpage purposes. The Commission suggested the installation of a beach to the east of the intake. The city agreed to cooperate in this venture which will be included within the \$64,000 cost. LUNCH will be at Tioga with the local Chamber of Commerce. A short Commission meeting will be held immediately following the luncheon. An on-site tour will also be held at the Tioga Reservoir. Time of arrival- 11:17 a.m.

(14) Shmisek Lake is one of the finest and cheapest bodies to be constructed by the Commission. It has a surface area of 200 acres and impounds 2200 acre-feet. The water is exceptionally cold as a result of the many springs that

feed into the reservoir. The earth fill to the southwest of the body of water was installed at a cost of \$15,000. A natural spillway is used in caring for surplus and flood water. No concrete was needed. As a result the cost was exceptionally low. The State Water Commission, the Burke County Water Management District and the Game and Fish Department cooperated in this endeavor.

(15) Short Creek Dam was constructed in 1962, at a cost of \$55,000. It will, when filled, have a surface area of 113 acres and impound 1,260 acre-feet of water. It consists of a chute spillway made of reinforced concrete. The cost of the structure was borne equally between the Game and Fish Department, the Burke County Water Management District and the Commission. Its major use will be for reclamation purposes. The depth of the maximum impounded water is 34 feet.

(16) The Antler Dam constructed by the Commission in 1962 is a combination dam and road. The project was a cooperative endeavor between the Bottineau Board of County Commissioners and the Water Commission. This was performed at a cost of \$36,000. It has a relatively small area being confined to 25 acres and impounds 160 acre-feet. It provides the city with a source of water for flood protection inasmuch as it replaces a railroad dam which furnished water for steam locomotives. The water system was installed by the Great Northern and was donated to the city when diesel came into permanent use. A recreation center has been established in the community park.

(17) Sharpe Lake Dam was constructed as a joint venture between the Commission, the Game and Fish Department and the Oak Creek Water Management District. Negotiations for the work were carried on by the Oak Creek Water Management District with Canadians. The dam is actually in Canada. It impounds 7700 acre-feet of active storage water and covers a surface area of 1,188 acres. A considerable quantity of water has been released for use by Lake Metigoshe. In other words the water stored in Sharpe Lake is used in maintaining Lake

Metigoshe as close as possible to the spillway crest of that lake. The Commission also participated in the construction of the dam at the south end of Lake Metigoshe. Lake Metigoshe has a surface area of 1,710 acres. Lake Metigoshe probably would have had some hazardous years if the Sharpe Lake structure had not been constructed and water used for Lake Metigoshe maintenance. More work is needed in the way of improving the Lake Metigoshe water shed to assure additional flow into the Lake. It has been indicated that over 700 cottages have been constructed on Lake Metigoshe.

(18) Armourdale Dam was a cooperative endeavor between Towner County, the Game and Fish Department and the State Water Commission. It was accomplished at a cost approximating \$63,500. Its purpose is recreation and fish and wildlife enhancement. The reservoir area is 80 acres and it has a capacity of 1,130 acre-feet when at a maximum depth of 34 feet. The chute spillway has a drop of 39 feet. It is constructed from reinforced concrete. The earth embankment contains 68,000 cubic yards. It was installed by the county under the direction of the State Water Commission. As yet, we have not had sufficient runoff to fill the structure, although it does have a drainage area of 33 square miles. The Commission participated in the cost of the well and several other recreational requirements.

(19) Activities in the nature of constructing a flood protective dam on the Pembina River commenced in 1935. Since that date the project has had its ups and downs. Recently it was found necessary to invite Canadian participation into the project in order that all the benefits accrued from Pembilier Dam could be used in obtaining a satisfactory benefit cost ratio. The dam, as currently proposed, would be 150 feet in height and would consist of a compacted earth embankment with 20 foot wide crest at elevation 118, and a minimum conservation pool at elevation 1017, a storage volume of 10,000 acre-feet would be provided for sediment storage and preservation of fish life. About 146,000 acre-feet

of storage would be occupied at spillway crest elevation 1093.0 and approximately 221,000 acre-feet would be utilized in passage of a spillway designed flood which would attain elevation 1112.0. The spillway would be located in the right abutment of the proposed dam. The spillway would include a concrete lined chute and a stilling basin having a full elevation of 963.0. The spillway would be designed to pass a maximum flood of about 95,000 second feet with five feet of free board. It would be a multiple purpose structure recognizing the use of water for 10,000 acres of irrigable land in the United States and a similar amount in Canada. It would provide municipal water supply for several cities in the basin as well as much needed flood protection. Total estimated capacity is 390,000 acre-feet with a reservoir area of 63,000 acres. Estimated cost is 15 million dollars.

L.H.

NORTH DAKOTA STATE WATER COMMISSION  
MONTHLY REPORT OF APPROPRIATIONS AS OF NOVEMBER 30, 1963  
1963 - 1965 APPROPRIATIONS

FUND -2770	AVAILABLE FUNDS		DISBURSEMENTS		FUND BALANCES		
	APPROPRIATION	RECEIPTS	TO DATE	NOV '63	UNEXPENDED	ENCUMD.	UNENCUMD.
1.COMM PD & EXP -15	6,500.00	.00	1,749.56	561.00	4,750.44	450.00	4,300.44
2.ADMINISTRATION -301	70,000.00	320.38	13,731.91	3,031.53	56,588.47	2,100.00	54,488.47
3.MTCE OF DAMS -302	150,000.00	44,022.36	84,379.49	40,212.39	109,642.87	13,700.00	95,942.87
4.INT'L & INT. -303	10,000.00	.00	2,448.63	919.19	7,551.37	.00	7,551.37
5.TOPOGRAPHIC, USGS-304	30,000.00	6,210.42	16,210.42	6,210.42	20,000.00	20,000.00	.00
6. HYDROGRAPHIC, USGS-305	27,500.00	2,750.00	5,894.54	5,894.54	24,355.46	12,855.46	11,500.00
7.ENGR & GEOL, USGS -306	60,000.00	9,116.53	30,547.02	9,786.22	38,569.51	24,700.00	13,869.51
8.COOP W/US DEP, ETC -307	60,000.00	6,000.00	13,889.12	3,242.29	52,110.88	500.00	51,610.88
9.ENGR INVESTIGATIONS-308	45,000.00	1,000.00	25,744.68	5,536.72	120,255.32	3,500.00	116,755.32
10.ADM WATER RIGHTS-309	10,000.00	.00	4,044.62	8.68	5,955.38	.00	5,955.38
	569,000.00	69,419.69	236,639.99	75,402.98	439,779.70	77,805.46	361,974.24

NOTE - \$10,000 TRANSF. FROM #304 TO #305, 306, & 307.

\$6,210.42 TRANSF. FROM EM COMM TO #304.

SWC FILE 05-1.2

NORTH DAKOTA STATE WATER COMMISSION  
STATUS OF CONTINUING APPROPRIATIONS  
AS OF NOVEMBER 30, 1963

FUND	AVAILABLE FUNDS APPROPRIATION	RECEIPTS	DISBURSEMENTS TO DATE	NOV '63	FUND BALANCES		
					UNEXPENDED	ENCUMB.	UNENCUMB.
20. MULTIPLE PURPOSE CARRIED FWD-3770	500,000.00 337,928.21	43,099.78	49,386.62	2,308.68	831,641.37	541,439.21	290,202.16
21. CONST BOND GUAR-8770	90,000.00	20,386.59	20,539.00	.00	89,847.59	.00	89,847.59

NOTE- FUND #21 RECEIPTS ARE OBTAINED FROM RETIREMENT OF AND INTEREST ON SECURITIES THAT WERE IN THE COMMISSION'S SINKING FUND IN EXCESS OF THE AMOUNT REQUIRED TO RETIRE THE SERIES "J" BOND ISSUE ON DECEMBER 10 '57. ORIGINAL DISBURSEMENTS FROM FUND #21 WERE MADE DURING THE EARLY 1940'S IN ACCORDANCE WITH SECTION 61-02-56 OF THE CENTURY CODE WHICH PROVIDES THAT THE COMMISSION MAY GUARANTEE OR INSURE, OR AGREE TO PAY, THE INTEREST ON AND PRINCIPAL OF COMMISSION REVENUE BONDS, NOT EXCEEDING 20% OF THE PAR VALUE OF ANY SUCH BONDS.

SCHEDULE OF BONDS & INTEREST RECEIVABLE - FUND #21 "8770"

TYPE	DUE DATE	INTEREST RATE	INTEREST REC. TO MATURITY	PRINCIPAL	TOTAL INCOME ANTICIPATED
U. S. SERIES K BONDS	5-65	2.76%	\$ 62.10	\$1,500	\$1,562.10
U. S. SERIES K BONDS	4-67	2.76%	193.20	2,000	2,193.20
U. S. TREASURY BONDS	12-68	2.50%	412.50	3,000	3,412.50
SIOUX IRRIG DIST BONDS	1984 SERIALY	2.25%	4,533.75	16,000	20,533.75
			\$5,201.55	\$22,500	\$27,701.55
			FUND BALANCE . . . . .		89,847.59
			LESS ORIGINAL APPROPRIATION.		-90,000.00
			EXCESS . . . . .		\$27,549.14



NORTH DAKOTA STATE WATER COMMISSION  
PAYROLL - NOVEMBER 30, 1963

SALARIED EMPLOYEES

NAME	POSITION	PAY GRADE	REMARKS	SALARY NOV' 63	WITH. TAX	SOC. SEC.	INS	BONDS	NET
HOISVEEN, MILO W.	STATE ENGR	Q-10	INC JUL' 63	1,125.00	172.50		15.00	131.25	806.25
BAESLER, GORDON	DRAFTSMAN	G-8	INC JUL' 63	443.67	61.00	16.08			366.59
COOPER, VERNON S.	ASST SECY	1-7	INC NOV' 63	275.34	35.00	9.98	15.00		215.36
ENGELHARDT, MIKE	ENGR AID	E-2	STA OCT' 63	274.67	39.70	9.68			225.29
ENGSTROM, VIRGLE	RODMAN	D-3	INC AUG' 63	238.50	32.80	8.65	2.70		194.35
FREDRICKSON, FRED	COORDINATOR	I-9	INC JUL' 63	700.00	96.00		15.00		589.00
FROELICH, LARRY	GEOLOGIST	G-9	INC JUL' 63	454.67	41.00	14.72	14.65		384.30
GLOVER, DALE	HYDROLOGIST	J-9	INC JUL' 63	640.67	108.80				531.87
HILAND, LEONE	CH STENO	F-10	INC JUN' 63	402.17	53.80	14.58	2.80		330.99
JOB, RHODA	FILE CLERK	D-6	INC JUN' 63	258.75	26.80	9.38	13.25		209.32
JOCHIM, CLIFF	ATTORNEY	K-6	INC NOV' 63	251.67	58.80		15.00		177.87
KNUTSON, LEWIS	DRILLER	H-2	INC AUG' 63	429.17	47.40	15.56			366.21
LINDVIG, MILT	ENGINEER	H-8	STA NOV' 63	196.06	31.80	7.11			157.15
LIVERSAGE, KAY	STENO	C-9	INC JUN' 63	237.67	32.80	8.62	2.70		193.55
NELSON, G. P.	ENGINEER	L-4	INC MAR' 63	672.17	108.80				563.37
PUTZ, ROY	OFF ASST	C-5	INC JUN' 63	214.67	18.50	7.78	2.70		185.69
RIVINIUS, MERRIL	ENGINEER	J-5	INC MAR' 63	578.67	102.60		2.95		473.12
SACKMAN, EUGENE	SURVEYOR	H-2	INC AUG' 63	429.17	37.40	15.56	14.65		361.56
SANDWICK, HAZEN	ENGINEER	M-5	INC DEC' 62	747.67	83.20		15.00	37.50	611.97
SCHANTZ, GEORGE	ENGR AID	D-5	STA OCT' 63	250.00	25.40	9.06			215.54
SCHMID, ROGER	GEOLOGIST	H-7	INC JUL' 63	491.67	48.20	3.96	.25		439.26
SCHULZ, DELTON	ENGINEER	K-4	INC JUL' 63	617.67	101.60		2.95		513.12
SCHULZ, JIM	ACCOUNTANT	J-8	INC JUL' 63	625.17	81.60		.25		543.32
SCHWEIGERT, CALVIN	RODMAN	D-1	STA OCT' 63	225.00	30.70	8.16			186.14
UGLAND, DONNA	STENO	D-6	INC NOV' 63	258.75	46.80	9.38			202.57
VOELLER, PIUS	FOREMAN	G-5	INC MAR' 63	410.67		14.89	14.65		381.13
WALTERSON, HOWARD	CONST SUPT	H-5	INC MAR' 63	466.67	64.60	6.02	10.00		386.05
WALTERSON, JEAN	DRAFTSMAN	F-5	INC JUL' 63	354.67	44.10	12.86			297.71
ZIEGLER, VICTOR	ENGINEER	M-7	INC JUL' 63	787.67	120.40		15.00		652.27
SWC - GROUP INSURANCE	2005			100.00			100.00		.00

NORTH DAKOTA STATE WATER COMMISSION  
PAYROLL - NOVEMBER 30, 1963

HOURLY EMPLOYEES

NAME	POSITION	PAY GRADE	REMARKS	SALARY NOV '63	WITH TAX	SOC. SEC	INS	BONDS	NET
BUECHLER, LARRY	OPERATOR	1.70	INC JUN '63	369.75	57.00	13.40			299.35
HILZENDAGER, DENNIS	OPERATOR	1.60	INC JUL '63	346.40	53.60	12.57			280.23
KNUTSON, LANNY	DRILLER	2.00	INC APR '63	331.00	50.50	11.99			268.51
PETERSON, JOHN	OPERATOR	2.15	INC APR '63	443.98	70.70	16.09			357.19
RIPPLINGEL, ED	LABORER	1.50	STA NOV '63	33.00	3.70	1.20			28.10
SENGER, ANTON	OPERATOR	2.15	INC AUG '63	388.08	60.40	14.07			313.61
VOELLER, PIUS	FOREMAN	2.25	MO. NOV '63	266.63	9.40	9.67			247.56
WEIGEL, JOE	OPERATOR	1.90	INC JUL '63	387.55	60.60	14.05			312.90
				15,724.69	2,118.00	295.07	274.50	168.75	12,868.37