

STATE WATER CONSERVATION COMMISSION  
MINUTES OF MEETING  
Held in Office of State Water Commission  
Bismarck, North Dakota  
August 4, 1960

A regular meeting of the North Dakota State Water Conservation Commission was called to order on August 4, 1960 in the office of the Commission, State Capitol Building, to consider routine business matters. The following were present:

MEMBERS OF THE STATE WATER COMMISSION:

Earle F. Tucker, Vice Chairman, Bismarck  
Einar Dahl, Member from Watford City  
A. R. Weinhandl, Member from Minot  
W. W. Corwin, Member from Fargo  
Math Dahl, Commissioner of Agriculture & Labor, Bismarck  
Fred J. Fredrickson, Planning Coordinator, Washington, D. C.  
Milo W. Hoisveen, Secretary & Chief Engineer, State Engineer, Bismarck

OTHERS PRESENT:

Paul M. Sand, Assistant Attorney General	Angus Falconer, Bismarck
Herbert Lyons, Jamestown	O. T. Solberg, Bismarck
R. B. Katts, Ypsilanti	T. S. Kopseng, Bismarck
Jim Davis, Ypsilanti	C. J. Reff, Bismarck
George Dodge, Jamestown	O. G. Drawner
Wilbur Boldt, Game & Fish Dept., Bismarck	Mrs. H. Tatley, Bismarck
Albert Bossert, Sterling	Sam Merritt, Bismarck
Loren Duemeland, Bismarck	Norman Rolfson, Bismarck
Anna Mae Folmer, Wing	R. E. Nelson, Bismarck
Russell Folmer, Wing	Mike Victor, Bismarck
Alvin Roth, Sterling	Clem Casey, Bismarck
Judge Wm. Falconer, Bismarck	Jake Swenson, Bismarck
Edward Taix, Bismarck	Mr. Brotse, Wing
Fred R. Victor, McKenzie	Mr. Adams
Clifford Nygard, Bismarck	Alfred Thompson, Bismarck
Henry Larson, McKenzie	Mrs. Roth, McKenzie
Harry M. Falconer, Bismarck	Clair Michels, Bismarck

The meeting was called to order by Vice Chairman Earle Tucker at 9:30 a.m. with Commissioners Einar Dahl, Math Dahl, A. R. Weinhandl, W. W. Corwin and Secretary Hoisveen present.

APPROVAL OF MINUTES

It was moved by Commissioner Einar Dahl and seconded by Commissioner Math Dahl that the minutes of the June 30, 1960 meeting be approved and filed in the office of the State Water Commission. All Commission members voted aye and the motion was carried.

FINANCIAL STATEMENTS FOR JUNE AND JULY 1960

Commissioner Corwin made a motion that the financial statements for June and July, 1960 be approved, which motion was seconded by Commissioner Math Dahl. Upon voice vote all members voted aye. Motion carried.

**COMMISSION PARTICIPATION IN IMPROVEMENT OF SPRINGS NEAR NOME** Secretary Holsveen read a letter received from State Senator Gilbertson of Barnes County regarding the rehabilitation and improvement of a spring approximately 12 miles from Nome, North Dakota, that is used by Commercial haulers of water to provide Nome and other small communities water for domestic use. Recently the flow from the spring at the point where the commercial water haulers fill their tanks was greatly reduced, apparently because of the failure or deterioration of a 12 inch perforated pipe that the highway department had installed to convey the water from the spring through a slough into the Sheyenne River. It was estimated that the cost of the rehabilitation work required to improve the spring would be between \$500 and \$1000 and Senator Gilbertson suggested in his letter that the highway department may be interested in this project in view of their original development of the spring. It was also suggested that perhaps the city of Nome would be interested in participating in this project.

It was the opinion of the Commission that Secretary Holsveen should investigate this project to determine the feasibility of improving the spring, the participation that could be expected on a local level, and the responsibility of the State Water Conservation Commission to participate in a project such as this.

**REQUEST FOR ASSISTANCE FOR PARK RIVER CHANNEL CHANGE, PEMBINA COUNTY** Secretary Holsveen read a letter received from Mr. William Sturlaugson, County Auditor of Pembina County, in behalf of the Pembina County Water Conservation and Flood Control District requesting the Commission to participate in the costs of a river channel change on the north branch of the Park River between Sections 26 and 27, Township 156, Range 55. Mr. Sturlaugson indicated that the water conservation and flood control district contemplated installing a new bridge across the river in connection with this project. Secretary Holsveen informed the Commission that participation had been allowed for a similar project in Pembina County a year ago. It is estimated that the Commission's share of this project if approved would be \$300. It was pointed out that the proposed channel change would assist in alleviating flood conditions and it would work in well with the watershed program for the Park River that is being planned by the SCS. It was also recommended that if the Commission participates in this project the participation should not be for the cost of the bridge but specifically for the channel improvement work. It was moved by Commissioner Weinhandl and seconded by Commissioner Corwin that the Commission participate in this channel change on the north branch of the Park River in an amount not to exceed \$350, with the understanding that the Commission's participation would be limited to the actual channel change work and would not be available for participation in the construction of a bridge. All Commission members voted aye and motion carried.

**REQUEST FROM STUTSMAN COUNTY FOR COST PARTICIPATION IN CHANNEL CHANGE ON PIPESTEM RIVER** Secretary Holsveen informed the Commission members that the Board of County Commissioners of Stutsman County appeared in the Commission office recently requesting assistance in a proposed channel change on the Pipestem Creek. This project is located about three miles south and two miles west of Buchanan. The County Commissioners contend that it is necessary because the banks are being badly eroded and threaten to destroy some agricultural land.

The channel change would, in effect, place the channel of the Pipestem Creek in the middle of the valley and would relieve some flooding in this vicinity. Secretary Holsveen stated this is a similar project to that which the Commission had participated in in Pembina County and was previously authorized in Stutsman, Grant and Steele Counties. He pointed out that there is no survey available at this time; however, an investigation will be made which will be available to the Commission. It was the opinion of the Commission that action on the request from the Stutsman County Board of County Commissioners for participation in the channel change on Pipestem Creek be deferred until the investigation had been completed and the cost estimate presented.

**REPAIR OF EPPING DAM  
SPILLWAY**

Secretary Holsveen reported on the repairs that were needed to the Epping Dam spillway that was originally constructed as a WPA project and was extensively repaired by the State Water Conservation Commission in 1943 in cooperation with Williams County and the State Game and Fish Department. He stated that because these repairs were made during the war years, reinforcing steel was not available and the repair job was accomplished by using plain concrete. The life expectancy of these repairs had been reached and with the heavy runoff that was experienced last spring it became apparent that further repairs would be needed or the spillway would be destroyed in the next heavy runoff. Secretary Holsveen stated that approximately \$12,200 would be required to repair the spillway. The County Commissioners of Williams County have indicated they will participate to the extent of one-third of the costs and the Game & Fish Department has indicated they will pay one-third. Secretary Holsveen stated in view of the emergency nature of the repairs needed for this project that work had actually been commenced in accordance with the policy of the Commission, that the Chief Engineer has the authority to proceed in making such emergency repairs if the seriousness of the situation so dictates. Commissioner Corwin made a motion, which was seconded by Commissioner Einar Dahl, that the State Water Conservation Commission pay one-third of the construction costs of repairing the Epping Dam spillway based on an estimated cost of \$12,200 for the project. Upon voice vote all members voted aye, and the motion was carried.

**REQUEST FOR OAK CREEK  
WATERSHED INVESTIGATION**

A letter from Glenn Swanson, secretary and attorney for the Oak Creek Water Conservation and Flood Control District to the State Water Conservation Commission asking the commission to investigate the conditions at the outlet of Oak Creek at the Souris River on the lower Souris Refuge was read. It is contended that, because of the construction of roads on the refuge and the chain of waterways and the operating level of the refuge pools, it was causing damage along Oak Creek. The water conservation and flood control district also requested that after the Commission had made such investigation they negotiate with the various agencies concerned to attempt to eliminate the problems that exist. Mr. Swanson pointed out in his letter that the Oak Creek Water Conservation and Flood Control District feels that a definite program for flood control in the Oak Creek watershed is needed. It was the opinion of the Commission that consideration of the program for flood control in the Oak Creek watershed be held in abeyance until more interest is shown on the part of the landowners in the area. Commissioner Weinhandl suggested that the Commission investigate this alleged flood damage to determine whether or not Fish and Wildlife Service is responsible for the frequent flooding and if so, that the Secretary be directed to contact the Fish

and Wildlife Service to see if this situation could be corrected. Secretary Hoisveen requested that representatives of the Fish and Wildlife Service, the Oak Creek Water Conservation and Flood Control District and the landowners be made a part of this investigation. The commission recommended that such a joint study be made.

**KELLY SLOUGH DRILLING  
OPERATIONS**

Secretary Hoisveen reported on a meeting held recently in Grand Forks, attended by the proponents of Kelly Slough Project, Vic Ziegler and himself. The meeting was held to discuss a theory advanced by the Agricultural Research Service concerning the effect that the Improvement of Kelly Slough might have on the alkalinity of surrounding land. Secretary Hoisveen stated that the Agricultural Research Service is in the process of making a study of this area on the salinity of this soil and evidently had called the attention of the landowners to the possibility that additional land in this area might be adversely affected if the water level in Kelly Slough is raised because of the increased hydraulic head. Secretary Hoisveen stated that at the time the Commission was making its borings relative to the foundation studies at the damsite for the Kelly Slough project, a heavy flowing artesian well was opened and was closed only after considerable difficulty. He pointed out that the quality of the water from this well was very poor and that the source of the artesian flow was definitely connected with the Dakota sandstone formation. Secretary Hoisveen contended that in his opinion this artesian pressure would more than counteract the increased hydraulic head that might result by placing more water in the Kelly Slough. He said that further investigation, in the form of test drilling, was necessary to ascertain whether the situation actually exists or not and that in view of the fact that any aggravation of the alkalinity of the soil around Kelly Slough would probably be attributed to the improvement of the lake, he thought it advisable to complete this test drilling from Kelly Slough almost to the Red River before the project was started. Secretary Hoisveen stated that the total cost of the test drilling would be approximately \$1000 and if such survey were to be conducted the local people were to contribute \$500 towards its cost. He said that the test holes could be drilled this summer, although it would interrupt the present schedule of the ground water survey crew. It was the opinion of the commission that the test drilling of the Kelly Slough area should be accomplished.

**REPORT -CARTWRIGHT  
IRRIGATION PROJECT**

Commissioner Einar Dahl reported that the Commission had drilled and installed a well on the Cartwright Irrigation Project in McKenzie County. It was now being used to furnish a water supply for 150 to 200 acres of the project land and is now being pumped at a rate of about 1200 gallons per minute. He stated that the Commission had installed this well during the course of its investigations as an experimental well. The district has acquired a pump-motor and pipe that is being used and has arranged with the REA for a power supply. The well was drilled to a total depth of approximately 40 feet and the water level in the well is approximately 28 feet. The pump is operated by a 30 horse power motor. The district borrowed the money to purchase the pump and motor and other equipment for the project locally and have arranged for their own financing for this project. They are well satisfied with the well and are presently planning to install additional wells because of the success they are experiencing with this installation.

## YPSILANTI DAM

Messrs Herb Lyons, R. B. Katts, Jim Davis and George Dodge of Stutsman County and Mr. Wilbur Boldt, Assistant Commissioner of the Game and Fish Department appeared before the Commission relative to the repairs to Ypsilanti Dam. Mr. Lyons stated that this dam was built by the CCC and is a part of a recreational area in the Ypsilanti vicinity that serves people from approximately four townships. He said that the dam is in urgent need of repair or it will be lost. Mr. Lyons stated that he understood that the Stutsman County Commissioners had agreed to participate in the cost of the repair and they would like to have the State Water Conservation Commission and the Game and Fish Department also participate in this project. The cost of the repairing of the dam would amount to approximately \$3400 for each of the participating groups. Mr. Boldt indicated that the State Game and Fish Department was interested in such projects but that all of their funds appropriated for this purpose have been committed to other projects and they will not be able to participate in further projects until the 1961 biennium. He also pointed out that the Game and Fish Department has unpaid commitments to the State Water Conservation Commission for other projects such as the McVilleville dam which will amount to approximately \$12,000. He asked if repairs to this dam could be delayed until July 1, 1961, when their new funds would be available. Mr. Lyons stated that it was his opinion it was essential to fix this dam this summer or it might be totally destroyed next year. Mr. Boldt stated that if someone could finance the Game and Fish Department's share until the next biennium they would then reimburse that entity. This matter was discussed by the Commission members. Mr. Fredrickson referred to the Act appropriating \$200,000 to the State Water Conservation Commission in its multiple purpose funds and the purposes for which this money could be used. He indicated that the Commission could use funds from the multiple purpose fund for this project. Commissioner Corwin made a motion, which was seconded by Commissioner Weinhandl, that the State Water Conservation Commission participate in the repair and rebuilding of the Ypsilanti Dam in Stutsman County with Stutsman County, the State Game and Fish Department and the State Water Conservation Commission each paying one third of the cost, not to exceed \$3,486 for each entity, and that the repair work for this project be financed from the State Water Conservation Commission multiple purpose fund and the repayments to be deposited to the credit of this fund. Upon voice vote, all commissioners voted aye and the motion carried.

## TEST DRILLING IN KIDDER COUNTY AND LOGAN COUNTY

Mr. Lyons recommended that a series of test wells be drilled in the aquifers located south of the city of Tappen in Kidder County to Napoleon in Logan County for the purpose of stimulating the interest in irrigation development from these ground water aquifers. Secretary Hoisveen indicated that the local interest should be stimulated so that if such wells were installed their use for irrigation purposes could be assured.

## APPLE CREEK HEARING

A delegation of about 30 landowners and interested persons appeared before the Commission relative to water shortages in Apple Creek. Secretary Hoisveen stated that Paul Sand of the Attorney General's office had been assigned to the Commission by Mr. Burgum to advise the Commission on this matter in view of Mr. I. A. Acker's illness.

Secretary Hoisveen stated that he had numerous complaints from residents along Apple Creek about the use of water from that stream and the acute shortage now confronting riparian owners. Several complaints resulted from the fact that the Patterson Land Company constructed a dam on Apple Creek without a water right or authorization and is using water from this impoundment for irrigation. Secretary Hoisveen stated that Judge William

Falconer has also been adamant in his criticisms of the Apple Creek Country Club and feels he should get water from that impoundment any time he needs it. Secretary Holsveen stated that a partial solution to the problem can be provided through the re-establishment of Rice Lake, which is a tributary to Apple Creek. If Rice Lake were made into a storage area and the water released during periods of low flow from Rice Lake into Apple Creek the needs of the riparian owners, under most circumstances, would be satisfied.

Secretary Holsveen stated he felt the Commission members should be acquainted with the situation as it merited drastic action. It was suggested that the State Water Commission should curtail the issuance of any additional water rights from Apple Creek. The use of water from Apple Creek has been a matter of controversy for some time. There have been objections to the use of water for some specific purposes. Some of these objectors oppose the granting of water to some valid holders of water rights of long standing. Their claims are most legitimate. North Dakota law recognizes both the riparian and the appropriation doctrine. As a consequence, water for domestic and stockwater purposes have priority over many other uses. The stream flows very heavy during the spring of the year following the snow melt. During the summer months, such as last summer and the present summer, shortages occur during the extended drought periods. Secretary Holsveen recommended that methods of correcting this situation be considered. The meeting was then opened to the group for discussion.

Mr. Nygard stated that he owned the SW $\frac{1}{4}$  of Section 32, which Apple Creek runs through. He stated Mr. Larson had told him that a dam had been built on Apple Creek and that he should investigate it and see if he had water for his livestock. He stated that upon investigation he found only a very small pothole remaining and in about ten days he will have to move his cattle because there will not be enough water for them. He felt that it was important that minimum flows on Apple Creek be maintained.

Mr. Kopseng stated he had a section and a quarter which Apple Creek runs through. He stated there is considerably less flow in the creek this year as compared to last year. One pasture, a half a mile east of the creek, has no water at all.

Mr. Holsveen inquired as to whether more water was leaving the creek than was flowing into it.

Mr. Kopseng stated that there was 6 or 7 inches last year, three or four feet by the bridge all summer long; could fish out of a boat by the bridge, but you couldn't do it this year.

Mr. Oliver Roth stated that the creek does dry up a little every year but since Rice Lake was drained it has been worse.

Mr. Holsveen stated that the Isak Walton League showed an extreme interest in re-establishing Rice Lake somewhere near its previous elevation. He felt that if an impoundment was created in Rice Lake it would increase the flow of Apple Creek. Controls could be installed

to permit the water to flow downstream during the periods of low flow. A project of that nature could be multi-purpose in scope.

Mr. Rolfson stated that Rice Lake is a project of the Isak Walton League. They are interested in restoring this presently dry lake as a wild life habitat, not a refuge but a shooting area. The League has purchased about 200 acres of Rice Lake. The Burleigh County Park Board is now in the process of condemning the remaining land that is needed. The Water Commission has been doing most of the survey work on this project. He felt there should be no objection to raising the water level of Rice Lake to any feasible height but it should not be drained below a specific elevation - roughly 1845-1846. He felt the water they impounded would be stored from the spring floods. He stated they would impound about 1000 acre feet of water.

Secretary Holsveen stated the 1000 acre feet of water would mean a great deal to the riparian owners along the creek. Surveys indicate that Rice Lake will have the following capacities, at various elevations: 1846 shows a storage of 580 acre feet; 1848 shows storage of 2270 acre feet; 1850 shows storage of 4470 acre feet. The present elevation of the lake is 1846. There are 28 square miles of drainage area into the Rice Lake watershed. It would have to be established through hydrology how much of a yield could be anticipated from the drainage area. There have not been any water right filings for this project. Secretary Holsveen pointed out that the Commission would not recognize any water right filings that would jeopardize the rights of the riparian or downstream owners. Secretary Holsveen felt the added storage might enhance the stream flow of Apple Creek during periods of low flow, such as were being felt now. It would afford limited irrigation. Secretary Holsveen stated he did not think the water commission would consent to any further irrigation from the stream. Several water right applications have been rejected.

Mr. Rolfson inquired as to whether it was Secretary Holsveen's opinion that increasing the water level of Rice Lake would take water from Apple Creek. Mr. Rolfson stated he would assume that it would add to the water in Apple Creek because of the establishment of the higher water level. The Isak Walton League has no objection to a higher level.

Secretary Holsveen stated there could be times during very critical periods when water might be taken from Apple Creek. He also stated he would assume that during critical periods everyone would agree that if the stockwater was being impaired they would prefer to see the cattle get the water.

Mr. Rolfson stated they would want to satisfy everyone. The major program for the Isak Walton League is to provide a habitat for wildlife for shooting and hunting.

Secretary Holsveen stated there were certain periods when releases of water would have to be made in order to accommodate riparian owners.

The raising of Rice Lake also involves the flooding of valuable hayland and some of the people present were not in favor of this. The land is so flat it would have to cover a good many acres. They fear that the water would become stagnant and there would also be a large loss through evaporation.

Mr. Swenson inquired as to how many creeks or coulees there were in this 28 square mile. Mr. Thompson said that there were two major streams coming in - one from the northeast towards Arena and the other comes in from the north side of the lake. The land in that area is all flat.

Mr. Duemeland stated he was the owner of the Patterson Land Company. He stated he had three and a half miles of good creek on his land that lies below Rice Lake. He was not in favor of raising Rice Lake. He stated there were a number in the area who had signed petitions opposing the Rice Lake project. They have valuable barley land they do not want covered with water. He also stated he had a dam that may be causing some of the complaints. He further stated there was another dam located on his land they had always maintained. Some of the water from this dam had been used to sprinkle his crops. He stated he did not have a water right. Mr. Duemeland also owns all of section 5 some of which would be affected by Rice Lake but he did not know what portion of it would be inundated. He stated that the Burleigh County Park Board owned a half section and recently had recorded their quit claim deed.

Mr. Roth stated that Rice Lake is underlaid with gravel. Mr. Bossert stated that they went down 150 feet and found nothing but blue clay but that in the middle of the lake bed there is gravel. Mr. Roth also stated that when the lake went out in the spring much of the land was flooded. He felt that because of this gravel deposit if they had a high dam at the Rice Lake outlet it would improve the flow of Apple Creek.

Mr. Nygard stated he was of the opinion that the spring flooding was helpful because it irrigated the land and improved the land.

Secretary Hoisveen asked Mr. Nygard if he would oppose a dam at the Rice Lake outlet and he stated he would oppose anything that would drowned out the land and crops.

Mr. Tucker stated that the State had laws governing the drainage of meandered lakes. He said the Commission is interested in doing something that will be of the most good to the most people.

Judge Falconer stated that he had about a mile and a half of creek on his land. He stated that after the Yegen dam was constructed on the Creek where the Apple Creek Country Club is now, the Creek went dry. He stated he has about 50 head of cattle and there is no water in the Creek for them to drink. He contended that if a series of dams were constructed on the Creek starting at the mouth and continuing upstream there would be plenty of water for livestock. He stated he has to depend on that water in Apple Creek for stock water. He said the Apple Creek Country Club had a bill passed so they didn't have to pay taxes. Mr. Falconer stated that the lawyer he hired to look into the right of the Apple Creek Country Club to maintain this dam had informed him that the downstream landowners can make them release the water from the reservoir. He said that at one time the Creek provided an adequate supply of water and was an asset to the landowners but now it is nothing but a swamp of weeds and filthy water. He said the only water in the Creek comes from the sewage discharge from Fort Lincoln. He thought that if they started at the mouth of the Creek, where Asbridge has a crossing, and put a proper dam in there and then placed another

one higher up that would take care of the situation. Secretary Hoisveen inquired as to whether or not the sewage problem had not been taken care of through the installation of the sewage lagoon last year. Mr. Falconer said it had. He stated that the condition of the Creek has been poor since the country club built the dam and other dams upstream have been built on the creek.

Mr. Tucker stated that the Commission realizes something should be done; however, this situation has never been brought to the attention of the Commission.

Secretary Hoisveen stated that he and Judge Falconer had discussed the situation in that particular area. He also discussed this with the County Commissioners relative to putting in a combination bridge and dam. Judge Falconer felt that the proper thing to do was to start down at the Asbridge place and put in a proper dam and have it go up stream instead of starting at the upper end of the stream and coming down. He also felt a series of little dams would do a lot of good.

Mr. Duemeland stated that they were all here for the same interest, to give constructive ideas as to what should be done to benefit the most people.

Secretary Hoisveen said there would have to be storage such as can be provided in Rice Lake which would provide an impoundment of considerable size, in order to make releases to the downstream riparian owners. It might be that the Commission would want to make further investigation to see how many acre feet of water can be impounded in excess of existing water rights and determine what water could be released over a period of time to better afford the equal distribution of the water.

Mr. Casey said that the Creek was dry at his ranch now and he felt that it would not do any good to talk about dams if there was any chance of getting water from the Garrison Dam. We would have the same situation as we have now - nothing but muck. His place has already been surveyed. He stated there was a drop of approximately 9 feet from one end to the other - 9 to 11 feet. It would be good to have this high water in the Creek at all times. He felt the only thing to do was import water into Apple Creek. If the flow was regulated they would get the water. He stated that dams on Apple Creek were not the answer because the water impounded would have a high salt solution and be unuseable. One solution is to install wells. Some of the land, he said, is suitable for irrigation.

Mr. Weinhandl stated that if this situation had been going on for a period of 50 years that no immediate solution would be found. These problems have been created over a great length of time, but that some solution could be worked out to the satisfaction of everyone.

Mr. Hoisveen stated that everyone involved could all work toward a solution. Possibly a citizens' committee should be appointed from this group to work with the Commission and come up with some recommendations that might alleviate the situation before consideration is given to obtaining water through the Garrison Diversion Unit, which appears to be a long way off.

Judge Falconer stated that all he was interested in was getting his share of the natural flow of Apple Creek and he thought he should have it. He stated that he had hired an attorney and the attorney says there

are supreme court decisions to support the riparian owner's right to the natural flow of water downstream. The country club group has a big impoundment and evaporation is more than it would be if there were smaller dams.

Mr. Reff stated that the gates in the country club dam were all open, that no water was being held back. He suggested that Judge Falconer come over to the country club and he would show him the situation. He also stated that if Mr. Casey had no water at his place, then there was no water in the creek. He stated again that the valves were open now, that the country club was not trying to take the water.

Mr. Nygard stated that Roger Bliss of McKenzie could not be present at the meeting and desired that his name be included in those appearing at the hearing. He felt that with a number of good rains the dams would fill and there would be plenty of water.

Mr. Rolfson stated that he wanted to make the position of the Isak Walton League clear. It is not attempting to do anything to harm any one. They merely are restoring the lake that was once there. It would be beneficial to have the lake built up to its original height before it was drained.

Mr. Weinhandl stated that he thought the suggestion of Mr. Holsveen was good, to have a citizens' committee appointed to see if something could be done to remedy the situation.

Mr. Roth stated he was against a dam. Mr. Holsveen stated that no Federal agency would be interested in a small project such as this would be. Mr. Duemeland felt that if the water could be held in the spring it would be better than the flooding.

Mr. Holsveen called the attention of the group to the fact that the State Water Commission is required to take a broad look at the situation. The Commission is not an agency devoted to one particular function and that they faced budget and personnel limitations in working on problems such as this. The activities of the Commission are not confined to Burleigh County but are directed to problems all over the state. Mr. Holsveen called the attention of the group to the county wide ground water survey that was being conducted and pointed out that this could provide a possible solution to some of the problems on Apple Creek.

Judge Falconer stated there was a fish hatchery on Apple Creek that something should be done about. Mr. Holsveen said that no one had called this to the attention of the Commission.

Mr. Sand stated that as far as any one using water without a water right, the Commission can, in its own right, insist that persons have a water right, but as far as the rights of riparian owners downstream that becomes a personal matter with him and he can go to the courts if damages have resulted. The Commission can stop a person from using water from a stream for beneficial use if he does not have a water right.

Mr. Casey made a motion that the Commission appoint a committee large enough to represent the area in dispute and work out a feasible program to submit to the water commission. The motion was seconded by Mr. Duemeland. Upon being put to a vote all present voted aye and the motion was carried.

Mr. Duemeland requested that some assurance be given that Rice Lake would not be extended to hold the back water.

Mr. Duemeland introduced Mr. Clair Michels, executive secretary of the N. D. Stockmen's Assn., which organization passed a resolution opposing the Rice Lake Project. Mr. Thompson stated that Mr. Duemeland had gone to the Stockmen's Association meeting and had the resolution passed by the Association relative to the Rice Lake Project. Actually, he said, the southwestern part of the state should have no interest in this project.

Mr. Michels stated that the resolution that was passed was to the effect that the association opposed the creation of any water fowl refuge in the state by flooding agricultural lands. Rice Lake was not singled out.

Mr. Sand stated that in the statement he made, he did not want to infer that there was no other way of stopping the use of water, if a person did not have a water right, than through the commission. This is a misdemeanor and he could go to the state's attorney and seek criminal action against the individual. Not all the action has to come through the commission. The commission could stop him but that is not the only remedy when water is used unauthorized.

Mr. Tucker inquired as to how many should be on the committee and it was agreed that seven would be large enough.

Secretary Hoisveen stated that a survey should be made on Apple Creek to determine the quantity of water being stored in order to determine how much they should actually get and actually use and then make recommendations in accordance with water rights. The commission members agreed to such a survey.

The commission appointed the following committee to study the Apple Creek situation: Judge William Falconer, Carl Reff, Henry Larsen, Norman Rolfsen, T. Clem Casey, Jake Swenson and Loren Duemeland.

The meeting recessed at 1 p.m. and reconvened at 1:50 p.m.

CURTAILMENT IN ISSUING  
WATER RIGHTS ON APPLE  
CREEK, CEDAR, CANNONBALL  
GRAND AND GREEN RIVERS

The matter of water shortage on the Cedar, Cannonball, Grand and Green Rivers and Apple Creek and the issuance of water rights on these streams in the future was discussed. Commissioner Corwin made a motion which was seconded by Commissioner Einar Dahl that the issuance of further water rights on the Cedar, Cannonball, Grand and

Green Rivers and Apple Creek be curtailed until water conditions on these streams are improved through storage or importation of water from other sources. Upon voice vote all commission members voted aye. Motion carried.

**SIOUX IRRIGATION PROJECT  
WELL INSTALLATION**

Mr. Einar Dahl reported that the irrigators on the Sloux Irrigation Project each year experienced critical water shortages when the Yellowstone River was low, which made it necessary for them to curtail their irrigation operations. He pointed out that a similar situation existed on the Lewis and Clark and Buford-Trenton Projects located on the Missouri River. That the Commission had arranged with the Corps of Engineers for additional releases from Fort Peck that alleviated the water supply problems for these projects. In connection with the Sloux Project, he said the investigation of the ground water sources that the commission had authorized on this project had been completed and that a well had been installed that could be used in augmenting the project water supply. He said the Sloux Irrigation District directors would like to install a pump and motor on this well and use it for their project and would like to have the commission assist them in financing this installation. He pointed out that there is \$18,500 still due to the commission from the bond issue the district made for the original installation of the irrigation facilities. The total original bond issue was \$25,000. Commissioner Einar Dahl stated that bids for the pump and motor for the project would be opened in the office of the Commission on August 5 and the directors of the Sloux Irrigation District would be in Bismarck at that time. In reply to an inquiry from Commissioner Corwin, as to whether or not the district had exhausted all other means of borrowing money before requesting the commission to finance this installation, Secretary Holsveen stated that according to information that he had received the Bank of North Dakota could possibly provide some assistance, although they indicated they were not looking for any additional loans at this time. It was also suggested that the Rural Rehabilitation Corporation might consider financing this installation. Commissioner Earle Tucker, who is a director of the Rural Rehabilitation Corporation, stated the corporation presently had funds invested in land on the Missouri River which they were trying to sell and also had a considerable amount of money invested in farm home loans through the Farm Home Administration. He indicated that it may be possible for the commission to obtain funds from the Rural Rehabilitation Corporation for financing irrigation projects. Commissioner Einar Dahl inquired as to whether or not a grant could be given by the commission to the Sloux Irrigation District for a part of this installation. It was the opinion of the commission members that such an action would not be advisable, in that it would be setting a precedent that would have to be followed in other districts. It was also the consensus of opinion of the commission that an effort should be made to obtain Rural Rehabilitation Corporation funds for use of the commission in a revolving fund to finance irrigation development. Mr. Fredrickson suggested that consideration be given to the drafting of legislation that could be presented to the next session of the Legislature providing the needed authority to use the Rural Rehabilitation Corporation funds in this manner. The matter of loaning money to the Sloux Irrigation District was discussed. It was the opinion of the commission members that if any money were loaned to the district to finance the cost of this project that it should be repaid to the commission with interest. Secretary Holsveen stated that possibly the commission could follow the same procedure they did in making funds available to finance certain construction on the Lewis & Clark Project, whereby the

Irrigators on that project would repay the commission the amount advanced at 4% interest.

Commissioner Weinhandl made a motion, which was seconded by Commissioner Einar Dahl, that if the Sioux Irrigation District is unable to obtain financing for the well installation from other sources that the commission advance funds from the multiple purpose fund for the purchase of the pump and motor and well installation to the district, which would be repaid to that fund at 4% interest under a similar agreement as was used in connection with the Lewis & Clark Project. Upon voice vote, all commissioners voted aye. Motion carried.

LEGISLATION DEALING WITH  
RURAL REHABILITATION  
FUNDS

It was recommended that proposed legislation be prepared by the counsel for the State Water Commission and Mr. Fredrickson that would be introduced in the next session of the Legislature authorizing the transfer of Rural Rehabilitation funds to the State Water Conservation Commission for a revolving fund that could be used in the development of irrigation and water resources projects.

SMALL RECLAMATION PROJECTS  
ACT

Secretary Hoisveen stated that if the State Legislature appropriated sufficient funds to the State Water Conservation Commission for development of small reclamation projects the Commission will be able to stimulate the interest in and development or rehabilitation of projects such as the Sioux Project. He said that through the Small Reclamation Projects Act passed by Congress and administered by the Bureau of Reclamation, a Federal interest free loan up to 80% of the total project costs can be obtained for approved projects. The remaining 20% would have to be obtained locally.

PROPOSED LEGISLATION FOR  
1961 LEGISLATURE

Mr. Fredrickson suggested that the Commission authorize the drafting of legislation dealing with the water laws that should be presented to the 1961 Legislature for consideration. Mr. Fredrickson suggested that a committee be designated to act as a legislative committee and draft such legislation and present it to the commission for approval.

It was moved by Commissioner Weinhandl and seconded by Commissioner Corwin that a legislative committee be set up, consisting of Mr. Fredrickson, Secretary Hoisveen and Mr. Cooper. All commission members voted aye and the motion was carried.

Secretary Hoisveen stated that a committee had been appointed to consider amendments to the drainage and water conservation and flood control district law. Mr. Manfred Ohnstad, of West Fargo, is chairman. Other members are: Paul M. Sand, Attorney General's office, Richard Gallagher, Mandan, Norton Hatlie, Wahpeton, F. E. Foughty, Devils Lake, Glenn Swanson, Bottineau, F. W. Greenagle, Legislative Research Committee, all who are attorneys for irrigation districts and flood control districts or state officials.

INTERNATIONAL JOINT  
COMMISSION

Secretary Holsveen reported that the International Joint Commission will visit North Dakota August 23, 24 and 25. They will tour the Pembina Valley on August 24 and review the proposed Pembillier Dam. Arrangements that have been made with local people by Secretary Holsveen and Mr. Fredrickson and Mr. J. A. Griffiths, the Canadian representative, include a dinner and reception at Grand Forks the evening of August 23, the tour of Pembina River area on the 24th with lunch at Walhalla, a reception and dinner at Winnipeg, on the evening of the 24th and the meeting of the International Joint Commission at Winnipeg on August 25. Secretary Holsveen stated this tour and meeting could be helpful in securing support for the Pembillier project from Canadian officials.

## 1961-1963 BUDGET

Secretary Holsveen presented the 1961-1963 budget for the State Water Conservation Commission to the Commission for review and consideration. Commissioner Einar Dahl made a motion that the 1961-1963 budget as prepared by the Secretary be approved, which motion was seconded by Commissioner Weinhandl. Upon voice vote all commissioners voted aye. Motion carried.

FLOOD PROTECTION ON  
SHEYENNE RIVER

Secretary Holsveen stated that Mr. Fredrickson, Commissioner Corwin and himself had met with members of the Southeast Cass Water Conservation and Flood Control District relative to necessary and appropriate action for the initiation and construction by the United States Army Corps of Engineers of a project to provide for the protection from floods along the Sheyenne River in an area extending from Richland County-Cass County line to the confluence of said Sheyenne River with the Red River of the North. The district has filed a resolution with the Commission, which is attached hereto and marked Appendix A. The district desires the State Water Commission to request the Corps of Engineers to review their studies of the flood conditions in the Southwest Fargo area and make further recommendations as to how this condition might be alleviated. They also expressed a desire to have the State Water Conservation Commission make further studies as to solution of drainage problems between highways #94 and #10. It was moved by Commissioner Weinhandl and seconded by Commissioner Corwin that the State Water Commission cooperate with the State Highway Department to study remedial measures needed to correct drainage problems between U. S. Highway #10 and #52 and Interstate Highway #94, including interruption of drainage on Cass County Drains #45 and #40 and that the Secretary be authorized to contact the Corps of Engineers relative to a review of its studies dealing with the flood problems along the Sheyenne River in Cass County. All commission members voted aye. Motion carried.

## WATER RIGHTS

#864

Christensen-Thompson of Minot request the right to divert 320 acre feet of water from underground sources to irrigate 160 acres. It was moved by Commissioner Einar Dahl and seconded by Commissioner Corwin that Christensen-Thompson be granted 200 acre feet of water from underground sources to irrigate 160 acres. The commission members voted aye. Motion carried.

#865

Leo or Laverne Grewe of Washburn request the right to divert 894 acre feet of water from the Missouri River to irrigate 447 acres. It was moved by Commissioner Einar Dahl and

seconded by Commissioner Corwin that Leo or Laverne Grewe be granted the right to divert 894 acre feet of water from the Missouri River to irrigate 447 acres subject to an easement for ditching or laying pipes across the land for irrigation purposes with Mr. Richard Gappert, which easement is now on file in the office of the State Water Commission. All members voted aye. Motion carried.

#866

Maurice Wick of Valley City requests the right to divert 15 acre feet of water from the Sheyenne River for a gravel washing plant. It was moved by commissioner Einar Dahl and seconded by Commissioner Corwin that Maurice Wick be granted the right to divert 15 acre feet from the Sheyenne River for a gravel washing plant, with the understanding that the water is to be returned to the Sheyenne River as clean as possible and that the State Water Conservation Commission will make an on site inspection of the operations unless Mr. Wick has made arrangements for detention of the water through these of lagoons. If this is not done the commission will more than likely institute such action. All commissioners voted aye. Motion carried.

#868

Henry Hoadley of Towner requests the right to divert 800 acre feet of water from underground sources to irrigate 400 acres. It was moved by Commissioner Einar Dahl and seconded by Commissioner Corwin that Henry Hoadley be granted the right to divert 500 acre feet of water from underground sources to irrigate 400 acres. All commission members voted aye and the motion was carried.

The meeting adjourned at 3 p.m.

Respectfully submitted,

Milo W. Hoisveen  
Milo W. Hoisveen, Secretary

ATTEST:

John E. Davis  
John E. Davis, Governor

## APPENDIX "A"

RESOLUTION

BE IT RESOLVED by the Southeast Cass Water Conservation and Flood Control District of Cass County, North Dakota, meeting in special session in the office of its Secretary, Daniel R. Twichell, in the West Fargo State Bank Building, Southwest Fargo, North Dakota, this 27th day of July, 1960, at eight o'clock a.m., that the North Dakota State Water Conservation Commission be, and it is hereby requested to take necessary and appropriate action for the initiation and construction by the United States Army Corps of Engineers of a project for the protection from floods on the Sheyenne River in an area extending from the Richland County-Cass County line to the confluence of said Sheyenne River with the Red River of the North, all in Cass County, North Dakota.'

BE IT FURTHER RESOLVED that this Resolution be transmitted by mail to the North Dakota State Water Conservation Commission, Bismarck, North Dakota.

APPROVED:

ATTEST:

Howard Emerson

Howard Emerson, Chairman

Daniel R. Twichell

Daniel R. Twichell, Secretary

STATE OF NORTH DAKOTA

ss

COUNTY OF CASS

I, Daniel R. Twichell, the duly appointed, qualified and acting Secretary of the Southeast Cass Water Conservation and Flood Control District, do hereby certify that the foregoing is a full, true and correct copy of the Resolution adopted by said Southeast Cass Water Conservation and Flood Control District Commissioners at a special meeting held on July 27, 1960, and that such Resolution is now a part of the permanent records of the Southeast Cass Water Conservation and Flood Control District as such are filed in the office of the said Secretary.

IN WITNESS WHEREOF, I have hereunto set my hand this 3rd day of August, 1960.

Daniel R. Twichell

Secretary

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
 MONTHLY REPORT OF APPROPRIATIONS AS OF AUGUST 31, 1960  
 1959 - 1961 APPROPRIATIONS

FUND	AVAILABLE FUNDS		DISBURSEMENTS		FUND BALANCES		
	APPROPRIATION	RECEIPTS	TO DATE	AUG '60	UNEXPENDED	ENCUMD.	UNENCUMD.
1. COMM PER DIEM & EXPENSES	6,000.00	.00	2,924.71	6336	3,075.29	687.81	2,387.48
2. ADMINISTRATION	49,200.00	3525.3	26,898.17	1,716.45	22,654.36	319.74	22,334.62
3. MAINTENANCE OF DAMS	115,000.00	95,214.02	174,051.90	7,918.43	36,162.12	7,295.12	28,867.00
4. INT'L & INTERSTATE EXP	10,000.00	.00	3,467.06	.00	6,532.94	389.40	6,143.54
5. TOPOGRAPHIC SURVEYS, USGS	30,000.00	.00	12,727.13	.00	17,272.87	17,272.87	.00
6. HYDROGRAPHIC SURVEYS, USGS	27,500.00	900.00	16,899.42	4,800.85	11,500.58	11,500.58	.00
7. ENGR & GEOL SURVEYS, USGS	57,500.00	.00	27,488.19	6,506.99	30,011.81	27,824.30	2,187.51
8. COOP WITH U. S. DEPT, ETC	57,000.00	.00	28,268.76	3,907.60	28,731.24	6,089.76	22,641.48
9. ENGINEERING INVESTIGATIONS	138,000.00	.00	78,340.56	7,076.74	59,659.44	1,203.78	58,455.66
10. ADMIN OF WATER LAWS	6,000.00	.00	1,052.50	229.00	4,947.50	198.25	4,749.25
11. OASIS CONTRIBUTIONS	6,500.00	.00	4,516.28	.00	1,981.72	.00	1,981.72
20. MULTIPLE PURPOSE "CAR FWD"	178,751.98 200,000.00	9,146.09	140,541.74	20,566.63	247,356.33	234,095.58	13,260.75
21. CONST BOND GUAR "CAR FWD"	77,056.64	3,274.10	.00	.00	30,330.74	.00	30,330.74
	<u>958,508.62</u>	<u>108,986.74</u>	<u>517,178.42</u>	<u>52,686.05</u>	<u>550,216.94</u>	<u>306,877.19</u>	<u>243,339.75</u>

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
 MONTHLY REPORT OF APPROPRIATIONS AS OF AUG 31 1960  
 1957-1959 APPROPRIATIONS

FUND	AVAILABLE FUNDS		DISBURSEMENTS		FUND BALANCES		
	APPROPRIATION	RECEIPTS	TO DATE	UNEXPENDED	ENCUMB.	UNENCUMB.	
1. COMM PER DIEM & EXP	6,000.00	.00	6,000.00 #	.00	.00	.00	.00
2. ADMINISTRATION	47,000.00	2,797.33 &	49,579.27	.00	218.06	.00	218.06
3. MAINTENANCE OF DAMS	105,000.00	101,910.58	206,910.58	.00	.00	.00	.00
4. INT'L & INTERSTATE EXP	8,000.00	14.85	7,997.33	.00	17.52	.00	17.52
5. TOPOGRAPHIC SURVEYS, USGS	30,000.00	.00	30,000.00	.00	.00	.00	.00
6. HYDROGRAPHIC SURVEYS, USGS	27,500.00	.00	27,500.00	.00	.00	.00	.00
7. ENGR & GEOL SURVEYS, USGS	37,500.00	5,306.81	42,806.81	.00	.00	.00	.00
8. COOP WITH U. S. DEPT, ETC	50,000.00	10.00	50,004.93	.00	5.07	.00	5.07
9. SMALL PROJECTS, ETC	113,000.00	2,374.98	120,374.98 @	.00	.00	.00	.00
10. ADM OF WATER LAWS	6,000.00	.00	6,000.00	.00	.00	.00	.00
11. OASIS CONTRIBUTIONS	3,800.00	4,541.24 %	8,341.24	.00	.00	.00	.00
	<u>438,800.00</u>	<u>116,955.79</u>	<u>555,515.14</u>	<u>.00</u>	<u>240.65</u>	<u>.00</u>	<u>240.65</u>

# INCL TRANSFER TO FUND #2 -\$523.62  
 @ INCL TRANSFER TO FUND #2 -\$97.57  
 & INCL TRANSFER FROM FUND #1-\$523.62 & FUND #9-\$97.57  
 % TRANSFER FROM EMERGENCY COMM -\$4,541.24

3-31-60

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
PAYROLL - AUGUST 31, 1960

PERMANENT EMPLOYEES

NAME	NAME	POSITION	PAY GRADE	REMARKS	SALARY AUG' 60	WITH. TAX	SOC. SEC.	HOSP. INS.	BONDS ETC	NET PAY
HOISVEEN, MILO W.		STATE ENCR	O-8	INC JUL' 60	927.67	139.20		17.20	18.75	752.52
ANDERSON, LARRY		RODMAN	C-7	INC JUL' 60	196.67	25.60	5.90			165.17
BAESLER, GORDON		DRAFTSMAN	F-6	INC JUL' 60	364.17	45.50	10.93			307.74
DISCHOF, DON		ENGR AID	C-9	STA MAY' 60	222.33	30.70	6.67			184.96
COOPER, VERNON S.		ASST SEC'Y	M-6	INC JUL' 60	383.84	71.00	11.52	17.20		284.12
FREDRICKSON, FRED		COORDINATOR	G-4	INC JUL' 60	399.67	41.30	11.99			346.38
GEHRING, EDNA		FILE CLERK	C-7	INC JUL' 60	226.17	40.70	6.79	7.05		171.53
GRINDBERG, ALAN		ENGINEER	I-6	INC JUL' 60	536.67	105.40	16.10	7.05		408.12
HILAND, LEONE		CH STENO	F-6	INC JUL' 60	364.17	45.50	10.93	7.05		300.69
KAMONI, AHMED		DRILLER	F-2	PER AUG' 60	558.22	55.80	16.75			485.67
KREESDACH, JOE		INST MAN	F-9	RES AUG' 60	57.00	1.64	1.71			53.65
MOSER, IRVIN		RODMAN	C-9	INC JUL' 60	206.67	27.10	6.20			173.37
NELSON, C. P.		ENGINEER	K-2	INC JUL' 60	632.34	87.00	18.97			526.37
PEDERSON, GARY		ENGR AID	A-9	STA JUN' 60	185.00	23.50	5.55			155.95
PUTZ, ROY		TECH ASST	A-10	INC JUL' 60	189.50	14.20	5.69	7.05		162.56
REITER, DANIEL		FOREMAN	H-1	INC APR' 60	416.67	33.80	12.50	17.20	18.75	334.42
SACKMAN, EUGENE		INST MAN	G-1	INC MAY' 60	366.67	15.60	11.00	17.20		322.87
SANDWICK, HAZEN		ENGINEER	K-7	INC JUL' 60	668.67	68.80	6.64	17.20	37.50	538.53
SCHOCK, LOREN		RODMAN	C-7	INC JUL' 60	196.67	25.60	5.90			165.17
SCHULZ, JIM		ACCT	C-2	INC JUL' 60	377.67	58.40	11.33	17.20		290.74
SCHWINKENDORF, DON		INST MAN	E-6	INC AUG' 60	306.67	45.40	9.20			252.07
SILBERNAGEL, DARLENE		TYPIST	D-1	RES SEP' 60	225.00	30.70	6.75	17.20		170.35
TIMM, ROBERT J.		ASST ST ENG	K-9	INC JUL' 60	702.67	76.00		17.20		609.47
WALTERSON, HOWARD		FOREMAN	H-1	INC APR' 60	416.67	53.80	12.50	17.20		333.17
WALTERSON, JEAN		DRAFTSMAN	D-5	INC JUL' 60	252.00	25.40	7.56			219.04
ZIEGLER, VICTOR		ENGINEER	J-7	INC JUL' 60	609.67	91.60	18.29	17.20	25.00	457.58
					<u>9,989.12</u>	<u>1,279.24</u>	<u>237.37</u>	<u>200.20</u>	<u>100.00</u>	<u>5,172.31</u>

NORTH DAKOTA STATE WATER CONSERVATION COMMISSION  
PAYROLL - AUGUST 31, 1960

TEMPORARY EMPLOYEES

NAME	POSITION	PAY GRADE	REMARKS	SALARY AUG' 60	WITH. TAX	SOC. SEC.	HOSP. INS.	BONDS ETC	NET PAY
DURKHARDSMEIER, A.	OPERATOR	2.00	INC APR' 60	448.00	71.60	13.44			362.96
HIGHLEY, ERNEST	ASST DRILLER	1.85	STA APR' 60	382.03	59.00	11.47			311.56
JOHNSON, GEORGE	OPERATOR	1.90	INC APR' 60	483.55	77.90	14.52			391.13
KIRCHOFFNER, LEO	LABORER	1.50	STA AUG' 60	60.00	2.95	1.80		8.65	46.60
KNUTSON, LEWIS	ASST DRILLER	2.05	INC JUL' 59	524.81	85.10	15.75			423.96
LAUNGER, ANTON	OPERATOR	2.00	INC AUG' 60	449.48	71.60	13.48			364.40
LEE, JEROME	OPERATOR	1.80	INC JUN' 60	404.10	54.00	12.12			337.98
MCMASTER, GEORGE	DRILLER	2.65	INC JUL' 59	678.41	104.00	20.36			554.05
NEWGARD, DENNIS	OPERATOR	1.85	INC JUL' 60	424.58	68.00	12.73			343.85
PETERSON, JOHN	OPERATOR	1.90	INC JUL' 60	463.48	74.30	13.90			375.28
ROMDALVIK, GARY	LABORER	1.50	STA JUL' 60	76.50	10.90	2.30			63.30
VOELLER, PIUS	OPERATOR	1.80	INC AUG' 60	99.00		2.97			96.03
WILSON, DALE	LABORER	1.60	STA JUL' 60	282.75	20.70	8.48			253.57
WOLFE, ROGER	LABORER	1.50	STA AUG' 60	112.50	17.30	3.38			91.32
				<u>4,889.19</u>	<u>717.35</u>	<u>146.70</u>	<u>.00</u>	<u>8.65</u>	<u>4,016.49</u>