

MINUTES

North Dakota State Water Commission
Oakes, North Dakota

August 24, 1982

The North Dakota State Water Commission held a meeting at the Eagles Club in Oakes, North Dakota, on August 24, 1982. Governor-Chairman, Allen I. Olson, called the meeting to order at 1:00 p.m., and requested Secretary, Vernon Fahy, to present the agenda.

Mr. Paul Lindell, Mayor of the city of Oakes, welcomed the Commission members to the city. Ms. Lillian Mullen, Canadian Consultant, was introduced.

MEMBERS PRESENT:

Allen I. Olson, Governor-Chairman
Florenz Bjornson, Member from West Fargo
Ray Hutton, Member from Oslo, Minnesota
Garvin Jacobson, Member from Alexander
Guy Larson, Member from Bismarck
Henry Schank, Member from Dickinson
Bernie Vculek, Member from Crete
Vernon Fahy, State Engineer and Secretary, North Dakota
State Water Commission, Bismarck

MEMBERS ABSENT:

Alvin Kramer, Member from Minot
Kent Jones, Commissioner, Department of Agriculture, Bismarck

OTHERS PRESENT:

State Water Commission Staff Members
Approximately 25 persons interested in agenda items

The attendance register is on file in the State Water Commission offices (filed with official copy of minutes).

The proceedings of the meeting were recorded to assist in compilation of the minutes.

CONSIDERATION OF MINUTES
OF JUNE 17 AND 18, 1982 MEETING -
APPROVED

The minutes of the June 17 and 18, 1982 meeting were approved by the following motion:

It was moved by Commissioner Schank, seconded by Commissioner Bjornson, and unanimously carried, that the minutes of June 17 and 18, 1982 be approved as presented.

BRIEFING ON ETSI LAWSUIT

Mr. Gary Helgeson briefed the Commission members on the current status of the ETSI lawsuit and its potential impacts.

CONSIDERATION OF REQUEST FROM
MOUNTRAIL COUNTY WATER RESOURCE
DISTRICT FOR COST PARTICIPATION
IN FLOOD HAZARD STUDY FOR EAST
BRANCH OF SHELL CREEK
(SWC Project No. 1577)

Secretary Fahy presented a request from the Mountrail County Water Resource District for cost participation in a flood hazard analysis study for the East Branch of Shell Creek.

The study will provide base flood elevation information along the East Branch of Shell Creek which flows through the City of Parshall, North Dakota. The study will then become the basis for floodplain management regulation along the creek, and implementation of floodplain regulations should result in a reduction of future flood damages.

The estimated cost of the study is \$18,000, of which 80 percent of this cost will be covered by the Soil Conservation Service. The local cost will be \$3,600.

It was recommended by Secretary Fahy that the State Water Commission contribute 40 percent of the local cost not to exceed \$1,440.

It was moved by Commissioner Jacobson, seconded by Commissioner Schank, and unanimously carried, that the State Water Commission participate in 40 percent of the local costs in a flood hazard analysis study for the East Branch of Shell Creek in Mountrail County not to exceed \$1,440. This motion is contingent upon the availability of funds.

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CONSIDERATION OF REQUEST
FROM CITY OF VALLEY CITY
FOR SWC TECHNICAL AND
FINANCIAL ASSISTANCE IN
FLOOD ANALYSIS STUDY FOR CITY
(SWC Project No. 1751)

Secretary Fahy indicated that a request had been received from the Valley City Commission and the Valley City Flood Committee for technical and financial assistance in a flood analysis study for the community of Valley City.

This assistance would be provided from the State Engineer as provided for in the 1981 North Dakota Floodplain Management Act. The study will provide the base flood information and a regulatory floodway through the community for the purpose of regulating future floodplain development. The study will then become their basis for meeting the requirements of the National Flood Insurance Program. Secretary Fahy noted that this study was requested due to problems which arose and could not be resolved during the Federal Emergency Management Agencies initial Flood Insurance Study for the city. These problems relate to survey data and hydraulic profile determination methods.

The cost of the study is estimated at \$20,000 with Valley City providing 25 percent, or \$5,000 towards the project. It was the decision of the State Engineer to provide funds and technical assistance for this study, not to exceed 75 percent or \$15,000, under the authority of the State Floodplain Management Act of 1981.

After a brief discussion, the State Water Commission concurred with the State Engineer's decision to provide technical and financial assistance in a flood analysis study for the city of Valley City.

STATUS REPORT ON RED
RIVER DIKE LITIGATION
(SWC Project No. 1638)

Mr. Joe Cichy, Legal Counsel for the State Water Commission, briefed the Commission members on the status of the Red River dike litigation. Mr. Cichy

said that action was filed against the Minnesota landowners in June, 1982. The defendants removed the case to Federal Court. A motion has been filed to remand the case back to State Court and a brief has been filed in support of that motion. The defendants are to respond to the motion by August 27, 1982. Mr. Cichy stated that the legal staff is in the process of answering interrogatories and developing interrogatories to serve on the defendants.

UPDATE ON SOUTHWEST
PIPELINE PROJECT
(SWC Project No. 1736)

Mr. Robert Dorothy, Project Manager for the Southwest Pipeline Project, reported that several meetings have been held recently with the Natural Interim

Committee, the Budget Section of the Legislative Council, and the Legislative leadership to explain the project. Meetings have been scheduled to date with approximately 16 service area cities, beginning in early September, to discuss the water service contracts.

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The draft final reports have been completed and were delivered to the State Water Commission office on July 15, 1982. Mr. Dorothy indicated that the staff is in the process of reviewing and commenting on the draft prior to the final printing in September.

A briefing paper for the draft final reports was distributed to the Commission members, attached hereto as APPENDIX "A". Mr. Bruce McCollom, Project Manager for the Engineering Consultants, explained that three separate plans based on three levels of water service to the area cities are provided in the report. All three plans use the same route and require 365 miles of pipeline. The difference in the plans is the pipeline capacities and the amount of water available to the cities during a 24-hour period. The level of water service for rural areas is the same for all three plans.

PLAN A - This plan would provide total water service to the cities from the Southwest Pipeline and would not require a local water source to meet peak demands. The pipeline would be sized to provide 250 percent of the average daily water use, but would operate at only 30 percent of its capacity for much of the year. It would not operate at full capacity until a summer peak occurred when the population had reached its projected level for the year 2025. However, Plan A would have the capability of delivering approximately 12,000 acre-feet of off-peak water annually at Dickinson for other uses, provided off-peak storage is made available.

PLAN B - This plan would provide 150 percent of the average daily water demand and would be able to supply 92 percent of the annual water requirements for the year 2025 projected population. Local water supplies would be required to furnish peak demand requirements during a short period each summer. The size of the pipeline could be reduced significantly from Plan A and would not be under-utilized as often as Plan A. Construction costs would be reduced appreciably due to the smaller pipe diameter. Plan B would furnish nearly all the water demands until the population increases to near the projected 2025 level and the rural water distribution systems are operational.

PLAN C - This plan would be designed to provide 75 percent of the average daily demand and would furnish 73 percent of the annual water requirements for the 2025 population. Local water sources would be required to augment pipeline deliveries for approximately six months each year. This plan would require the smallest diameter pipeline of the three plans studied and would result in the lowest construction cost.

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Mr. McCollom indicated that the economic cost of pipeline water for the projected water demand is essentially the same for Plans B and C and is about 10 percent higher for Plan A. The average water quality, for the towns, is best for Plan A, decreases for Plan B, and decreases further for Plan C. Plan A has the largest capacity, Plan B intermediate capacity, and Plan C has the least capacity. Therefore, Mr. McCollom said that Plan B is judged to provide the greatest value of the three alternative capacity plans which have been analyzed. Mr. McCollom noted that financial feasibility has not been considered in this conclusion.

Mr. McCollom then discussed a water pricing policy that has been developed based on the objectives and principles approved by the Advisory Committee and the State Water Commission for water service contracts, which is further explained in APPENDIX "A".

Mr. Michael Dwyer, distributed and discussed the third draft of the proposed water service contract, attached hereto as APPENDIX "B". Mr. Dwyer also discussed the proposed legislation outline for the Southwest Pipeline Project, attached hereto as APPENDIX "C".

Discussion pursued relative to the recommendation of an operating entity once the project is built. Secretary Fahy indicated that his original thought, as outlined to the Commission several months ago, was that the project should be operated by the people in the area through a water authority that would vest in them the power to operate the system. However, the surveys by the Financial Consultants indicate that the people interested in buying the bonds and rendering legal opinions to support any bonds that might be sold, recommend that the State Water Commission be the operating entity. Secretary Fahy stated that although he was hopeful that the findings would lean more to a local authority, he recognizes that is not the case after reviewing the reasons for it and is prepared now to accept the fact that from the technical and legal aspects the State Water Commission is the agency that should operate the system, at least in the formative years.

It was moved by Commissioner Schank, seconded by Commissioner Jacobson, and unanimously carried, that a recommendation be made to the Legislature that the State Water Commission be designated as the operating agency for the Southwest Pipeline Project.

In discussion of the three plans presented for pipeline capacities and the amount of water available to the cities during a 24-hour period, it was the recommendation of the State Engineer that the State Water Commission consider Plan B as the preferred plan to be recommended to the Legislature.

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Commissioner Schank indicated that the Advisory Committee for the Southwest Pipeline Project recommended Plan B as the preferred plan to present to the Legislature.

It was moved by Commissioner Schank, seconded by Commissioner Bjornson, and unanimously carried, that the State Water Commission recommend Plan B to the Legislature as the preferred plan for consideration.

Secretary Fahy indicated that it will be necessary for the Commission to make several decisions relative to this project in September; therefore, the date of September 16 was scheduled for the next meeting to be held in Bismarck. It was requested by the Governor, and was the consensus of the Commission members, that background material and option papers be forwarded to the Commission members prior to September 9 on items requiring Commission action.

Secretary Fahy stated that the Legislative Council will be meeting on November 9 to discuss the Southwest Pipeline Project and suggested that the Commission consider scheduling a meeting for November 8. This would give the Commission members an opportunity to also attend the Legislative Council's meeting on the following day. It was the consensus of the Commission members to schedule a meeting on November 8 in Bismarck.

APPEARANCE OF REPRESENTATIVES
OF GENERAL CONTRACTORS-
ASSOCIATION OF NORTH DAKOTA TO
DISCUSS LABOR SITUATION AT COAL
CONVERSION PLANTS IN MERCER COUNTY

The following were introduced: C. W. McCoy and Kurt Peterson, representing the Association of General Contractors of North Dakota; Lloyd Thompson, President of Border States Construction Company of Fargo; Andrew Wagner, President of Wagner Construction Company of Reeder, ND; Bob Knutson, President of Warner Construction Company of Minot, ND; and Mr. John Kelly, Attorney, representing the Association of General Contractors.

Mr. John Kelly reviewed the established North Dakota state policy regarding labor relations and emphasized the long-standing tradition in North Dakota of 'freedom of choice to make the decision to be associated with or without a union' that was adopted not to protect the employers, but to protect the workers.

Mr. Kelly then discussed some of the labor problems that have resulted at the coal conversion plants in Mercer County. He filed with the Commission members petitions from contractors in the state regarding the labor problems at the plants.

Mr. John Graham, ANG Coal Gasification Company, expressed concern relative to the State Water Commission getting involved in this area, and offered to meet with all parties concerned to

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discuss these problems as expressed by Mr. Kelly. It was the consensus of the Commission members that Mr. Graham's suggestion would be the appropriate approach to take on this matter.

**DISCUSSION OF PROPOSED FEDERAL
COST SHARING GUIDELINES AND
REVISIONS TO THE 1902
RECLAMATION ACT**

bill limiting acreage eligible for federal water to 960 acres. Both bills have passed and the reclamation legislation now goes to the House/Senate Conference Committee.

Secretary Fahy updated the Commission members on the revisions to the 1902 Reclamation Act. The Senate introduced a bill that has an ownership limit of 1208 acres, and the House introduced a

bill limiting acreage eligible for federal water to 960 acres. Both bills have passed and the reclamation legislation now goes to the House/Senate Conference Committee.

Secretary Fahy updated the Commission members on the Administration's new cost sharing policy, noting that a Cabinet-level recommendation has been made. Recently, Senator Burdick and others have introduced an amendment to an existing bill that says the cost sharing guidelines shall be effective only after approved by Congress. The Cabinet-level recommendation lists the following cost sharing percentages for various water project purposes:

<u>PURPOSE</u>	<u>NON-FEDERAL SHARE</u>
Urban and Rural Flood Control, and Rural Drainage	35% or more
Agricultural	35% or more, depending on user benefits
Recreation	50% of joint and separable costs
Municipal	100%
Navigation	Subject to pending legislation
Fish & Wildlife Mitigation	100% allocated in proportion to project costs
Fish & Wildlife Enhancement	100%
Industrial	100%
Hydroelectric -	
- public financed	100%
- privately financed	Federal falling water charges

**CONSIDERATION OF AGENCY
FINANCIAL STATEMENT**

cover expenditures and the agency is operating well within the percentage of time allocated for expenditures in the biennium.

Secretary Fahy distributed copies of the agency's financial statement and indicated there are adequate funds to

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STATUS REPORT ON STATE
WATER COMPREHENSIVE PLAN
(SWC Project No. 322)

Secretary Fahy updated the Commission members on the progress of the State Water Comprehensive Plan as outlined in APPENDIX "D" attached hereto.

CONSIDERATION OF RESCISSION
OF FUNDS ALLOCATED FOR
IRRIGATION STUDY IN DUNN COUNTY
(SWC Project No. 1275)

At the April 6, 1982 meeting, the Commission unanimously agreed to approve cost participation in 40 percent of the costs for a pilot project study in Dunn County to

investigate the irrigation potential within that county, in an amount not to exceed \$8,000. The motion was contingent upon the availability of funds.

On April 12, 1982, a letter was received from the Secretary of the Dunn County Water Resource District acknowledging the Commission for their consideration of the request for monetary help in the irrigation potential survey but stated that due to lack of interest for irrigation from Dunn County operators, the District has decided to curtail the investigation at the present time.

Based on this information, it was requested by the State Engineer that the Commission rescind the allocation of \$8,000 to Dunn County and make it available for General Contract Fund expenditures.

It was moved by Commissioner Larson, seconded by Commissioner Hutton, and unanimously carried, that the State Water Commission rescind the \$8,000 allocation approved to Dunn County for a pilot project study to investigate the irrigation potential within that county and return this allocation to the General Contract Fund.

STATUS REPORT ON
ENGLISH COULEE DIVERSION
PROJECT
(SWC Project No. 1351)

Dave Sprynczynatyk reported that on August 20, 1982, bids were opened for the first phase of the English Coulee Diversion Project, which is the portion north of Highway 82. The bids were

slightly higher than expected and the staff has been working with city officials to see if there is a possibility of eliminating two bridges which were the costly items in this phase of the project. It is anticipated that something can be worked out with the city, bids can be awarded, and that construction can begin this fall.

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SWC CONSIDERATION FOR SUPPORT
OF PROJECT REPORT FOR FLOOD
CONTROL AT ENDERLIN, ND
(SWC Project No. 1657)

Dave Sprynczynatyk briefed the Commission members on the Corps of Engineers detailed Project Report for Flood Control at Enderlin, North Dakota. The Corps is proceeding with final design and construction

of the project that will provide flood control for the community of Enderlin. This project has been supported by the community. Comments from the Governor and the State Engineer in support of the project have been forwarded to the Corps of Engineers. It was suggested that the State Water Commission likewise consider favorable support for the project.

It was moved by Commissioner Vculek, seconded by Commissioner Hutton, and unanimously carried, that the State Water Commission resolves to support the Corps of Engineers Project Report for Flood Control at Enderlin, North Dakota.

STATUS REPORT ON
CONTRACT FUND
(SWC Project No. 1)

Dave Sprynczynatyk reported on the current status of the Contract Fund, noting a balance of \$59,370 of unobligated funds.

It was suggested that the State Water Commission not obligate all of this money at this time since an emergency could occur either this fall or during the 1983 spring runoff with any of the water resource projects in the State. It was suggested to have a balance of at least \$50,000 through the 1983 spring runoff season for any unforeseen situations.

After discussion, it was the consensus of the Commission members to concur with this recommendation for handling contract funds.

It was moved by Commissioner Hutton, seconded by Commissioner Bjornson, and unanimously carried, that the meeting adjourn at 4:45 p.m.

Mr. Joe Marcotte, Bureau of Reclamation, was introduced. Mr. Darrel Krull, Bureau of Reclamation, briefed the Commission members on the Oakes test area project, and after the briefing, the Commission members inspected the area.

On August 25, 1982, the Commission members participated in the Oakes irrigation tour.


Allen I. Olson, Governor-Chairman

ATTEST:


Vernon Fahy, State Engineer and Secretary

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NORTH DAKOTA STATE WATER COMMISSION

REGISTER

ATTENDANCE AT State Water Commission Meeting

DATE August 24, 1982 PLACE Oakes, ND

PROJECT NO. _____

Your Name	Your Address	Who do you Represent? (Or Occupation)
CHUCK RIFE	P.O. BOX 1073 BISMARCK	N.G.P.L.
JFW Apler	RR Box 72 Howard ND	ND. Rural Water Systems
Lowell A. TRIPP	PO Box 7 OAKES, ND	N.D. GAME & FISH DEPT
Mike Rindahl	Hillsboro, N.D.	Observer
Paul Lindell	Oakes, N.D.	City of Oakes - Mayor
Bar Al Olson	Bismarck	
Bernard W. Cretz	Cretz	
Joyd Ferguson	Fargo	Border states paving
Joe Maweth	Billings MT.	Bureau of Reclamation
Darrell Krell	Bismarck	" " "
Luis Behovsky	Oakes N.D.	H.D.C.D.
W.A. Henderson	Fargo ND	S.D.C.D.
DON ZIMBLEMAN	FULLERTON N.D.	DIST 26 Rep
Harold F. Horn	Bismarck	140E 49
Gregory J. [unclear]	Bismarck, N.D.	W. Park Building Trades
Fletcher Poling	"	Basin Electric Power Coop
James Buchanan	Corrington	S.D.C.D. (500/6-77)

APPENDIX "A"

BRIEFING PAPER FOR
DRAFT FINAL REPORTS
SOUTHWEST PIPELINE PROJECT

NORTH DAKOTA
STATE WATER COMMISSION

AUGUST 12, 1982

CONSULTANTS

Engineering Report

Prepared by a joint venture of Bartlett & West
Consulting Engineers and Boyle Engineering
Corporation, 500 North 3rd Street, Bismarck, ND
Bruce F. McCollom, Project Manager

Financial Report

Prepared by Chiles, Heider & Company
1300 Woodmen Tower, Omaha, Nebraska
James G. Bullock, Vice President

Bond Counsel Report

Prepared by Ohnstad, Twichell, Breitling,
Arntson & Hagen, 901 13th Ave. East,
West Fargo, North Dakota
Jon M. Arntson, Bond Counsel

AUTHORIZATION

The Southwest Pipeline Project study was authorized and funded by Senate Bill No. 2338 adopted by the 47th Legislative Assembly. The bill appropriated \$983,000 to the State Water Commission "...to contract for preliminary designs for a water supply facility for supplementation of the water resources of Dickinson and the area of North Dakota south and west of the Missouri River for multiple purposes including domestic, rural water district, and municipal uses". S.B. 2338 further stipulated that the plan should utilize a pipeline delivery system and that the preliminary design be furnished to the Legislative Council on or before October 1, 1982.

PUBLIC INVOLVEMENT

Advisory Committee

A Southwest Pipeline Advisory Committee, consisting of nine citizens representing various potential water user entities and geographic areas within the service area, was formed in August, 1981 to provide local input into the project planning. The Committee has held eight meetings to date and has provided valuable guidance to the planning effort.

Information to the Public

Public meetings were held in Mott, Hettinger, Bowman, Dickinson, and Halliday in September, 1981 to describe the alternate pipeline routes that were being considered and to receive public comments relative to the alternative routes. Water Commission staff members have discussed the scope and progress of the Southwest Pipeline Project at more than fifty meetings with public and private agencies and associations. The news media has shown strong interest in the study progress and has provided widespread dissemination of information on the pipeline study. Progress reports of the study have been included in each issue of the Oxbow, a bi-monthly newsletter published by the Water Commission and distributed to a comprehensive state-wide mailing list.

SERVICE AREA

The area to be served by the Southwest Pipeline Project was determined based on a survey of municipalities and rural areas south and west of the Missouri River. Agreements of Intent to Purchase Water were executed by 17 cities, 2 counties (Grand and Golden Valley), and the South West Water Cooperative, which includes the cities and rural areas in Slope, Bowman, Adams, and Hettinger Counties. In total, the service area includes 32 cities and rural areas in 9 counties. The current population to be served is estimated to be 48,000. Two additional rural water cooperatives are now in the final stages of organization, one in Golden Valley County and the other in Stark-Dunn-Billings Counties.

POPULATION PROJECTIONS

Based on estimated future oil and coal development, various private, state, and federal agencies have projected significant population increases within the service area. The City of Dickinson is projected to grow from a 1980 population of 15,924 to a population of 36,000 by the project design year of 2025. The Southwest Pipeline is being designed to serve a service area population of 70,600 and 217,000 animal equivalents in the year 2025.

DESCRIPTION OF PIPELINE SYSTEM

The Southwest Pipeline is designed as a "wholesale" water supply facility for area cities and rural water cooperatives. The cities and cooperatives will have the responsibility to distribute the water to their individual customers through their own distribution systems.

The pipeline as now designed will consist of 365 miles of buried pipe. The water source will be an intake structure located in Lake Sakakawea at a point north of Beulah, North Dakota. Pipe diameters will range from a maximum of 33 inches to a minimum of 6 inches. Pipe diameters were determined so as to minimize the capital and operating costs over the life of the project. As now conceived, all pipeline water would be processed through a water treatment plant to be located near the water source. Several pumping plants and storage reservoirs would be required along the pipeline to provide the required pressures and operational storage.

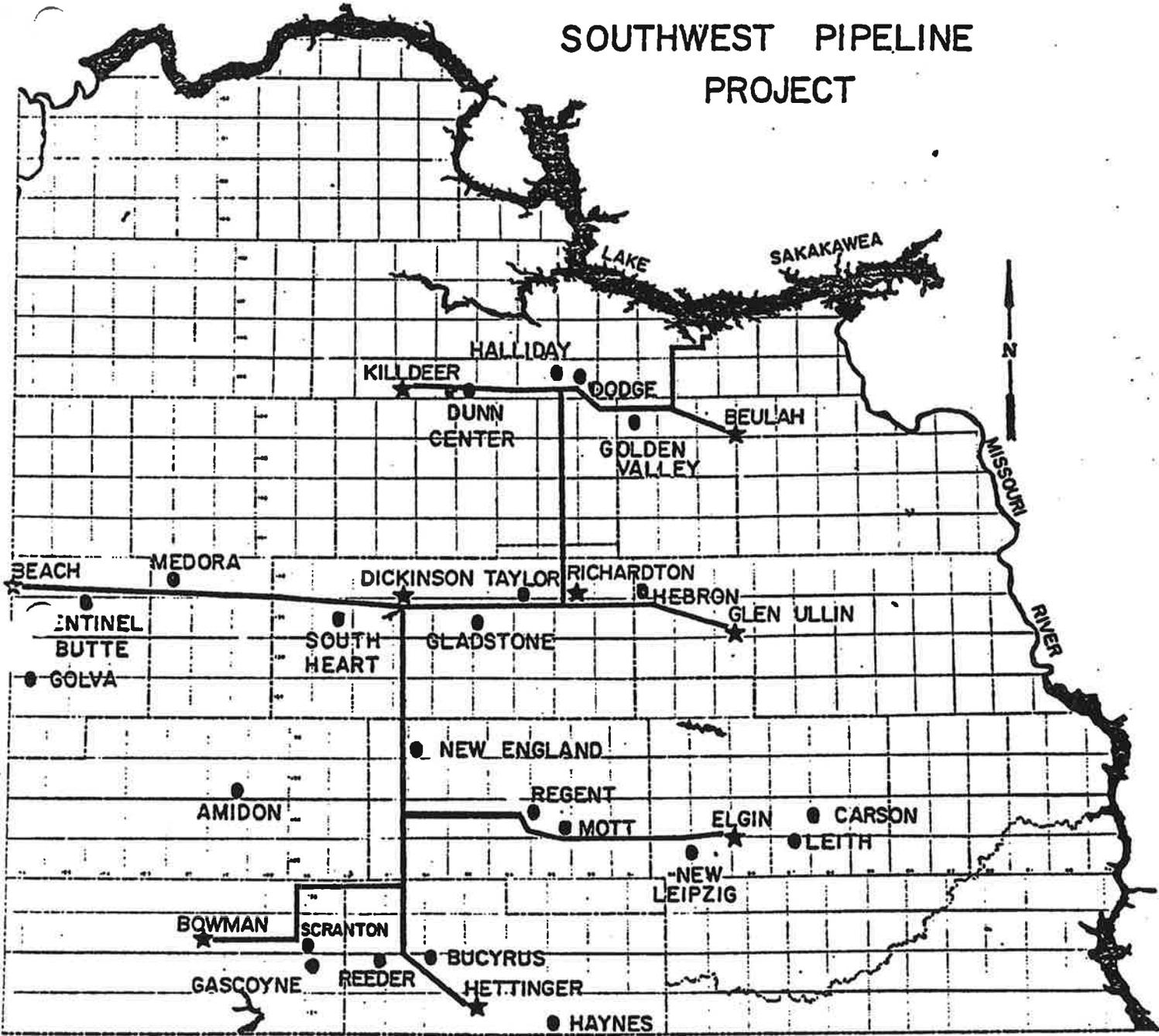
The main line will extend south and west from the intake to a point near Halliday, North Dakota, where it will extend south along Highway 8 to Richardton. From Richardton it will parallel old Highway 10 westward to Dickinson and then south along Highway 22. Extensions from the main line will extend to Beulah, Killdeer, Glen Ullin, Beach, Elgin, Bowman, and Hettinger. The attached map shows the general location of the pipeline system.

Except for a reach through the badlands near Medora, the pipeline will parallel and be adjacent to major roads and highways. In most cases the pipeline will be located on private property adjacent to road and highway right-of-ways. In cases where the pipeline traverses leased coal lands or where buildings, shelterbelts, or other obstructions prevent construction on private land, the pipeline will be located within the highway right-of-way.

INTAKE STRUCTURE

Three locations have been studied for an intake structure in Lake Sakakawea. Originally it was contemplated that arrangements could be made to share the ANG-Basin Electric intake now constructed in Renner Bay north of Beulah, North Dakota. Negotiations have been ongoing with ANG-Basin to arrive at cost of sharing their intake structure and although

SOUTHWEST PIPELINE PROJECT



there has not been a mutual agreement on costs to this point, negotiations will continue. The Nokota Company and the State Water Commission have shared the cost of an alternate study for the design of a new intake structure at either of two separate locations in Renner Bay. Construction cost estimates for these alternate intake structures will provide a sound basis for further negotiations with ANG-Basin.

A comparison of costs for the intake structures studied is as follows:

Intake Site	Cost Estimate \$1000		
	Plan A	Plan B	Plan C
Basin/ANG Cost Share	\$11,761	\$7,844	\$4,929
Alternate Site No. 1	3,842	3,669	3,456
Alternate Site No. 2	4,694	4,200	3,920

A fourth potential intake site exists north of Halliday, North Dakota at the point where Highway No. 8 terminates at Lake Sakakawea. This site was examined by the consultants and could result in a reduction in pipeline miles and a savings in construction costs. However, the site is located within the Fort Berthold Indian Reservation and questions relative to water rights, right-of-way, and related matters have not been resolved with Tribal officials. In view of the unresolved issues, this intake site is not addressed further in this report.

WATER TREATMENT

Senate Bill 2338 did not specifically address water treatment as a component of a "water supply facility"; however, it is recognized that water from Lake Sakakawea must be treated to meet State Health Department standards before it can be used for domestic purposes. Comparative cost estimates were developed for both the capital and operating costs for a centralized water treatment plant near the pipeline intake versus several smaller treatment plants throughout the service area. Although the construction costs were nearly equal for either concept, the annual operating costs for the single plant were about half those of the multiple plant concept. The Advisory Committee recommended the single treatment plant concept and this recommendation was approved by the State Water Commission. All costs associated with the treatment plant are shown as separate line items in the report and can be deleted from the project costs if it is determined that water treatment is not a valid component of the pipeline project.

ALTERNATE PLANS

Three separate plans based on three levels of water service to the area cities are provided in the report. All three plans use the same route and require 365 miles of pipeline. The difference in the plans is the pipeline capacities and the amount of water available to the cities during a 24-hour period. The level of water service for rural areas is the same for all three plans.

Plan A

This plan would provide total water service to the cities from the Southwest Pipeline and would not require a local water source to meet peak demands. The pipeline would be sized to provide 250% of the average daily water use, but would operate at only 30% of its capacity for much of the year. It would not operate at full capacity until a summer peak occurred when the population had reached its projected level for the year 2025. However, Plan A would have the capability of delivering approximately 12,000 acre-feet of off-peak water annually at Dickinson for other uses, provided off-peak storage is made available.

Plan B

Plan B would provide 150% of the average daily water demand and would be able to supply 92% of the annual water requirements for the year 2025 projected population. Local water supplies would be required to furnish peak demand requirements during a short period each summer. The size of the pipeline could be reduced significantly from Plan A and would not be under-utilized as often as Plan A. Construction costs would be reduced appreciably due to the smaller pipe diameter. Plan B would furnish nearly all the water demands until the population increases to near the projected 2025 level and the rural water distribution systems are operational.

Plan C

Plan C would be designed to provide 75% of the average daily demand and would furnish 73% of the annual water requirements for the 2025 population. Local water sources would be required to augment pipeline deliveries for approximately six months each year. This plan would require the smallest diameter pipeline of the three plans studied and would result in the lowest construction cost.

Economic Comparison of Plans

For the projected water demand, the economic cost of pipeline water is essentially the same for Plans B and C and is about 10% higher for Plan A. The average water quality, for the towns, is best for Plan A, decreases for Plan B, and decreases further for Plan C. Plan A has the largest capacity, Plan B intermediate capacity, and Plan C the least capacity. Therefore, Plan B is judged to provide the greatest value of the three alternative capacity plans which have been analyzed. (Financial feasibility has not been considered in this conclusion.) There is uncertainty in the projected water demands.

Economic Cost Comparison of Alternate Capacity Plans

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
Basic Capital Cost Southwest Pipeline (\$Million)	134.4	110.5	89.0
Reduction Alt. No. 1 ANG (\$Million)	7.9	4.2	1.5
Capital Cost Southwest Pipeline (\$Million)	126.5	106.3	87.5
Town Connection Cost (\$Million)	0.6	1.3	5.5
Total Capital Cost (\$Million)	127.1	107.6	93.0
Present Value 40 yr. OM&R Cost (\$Million)	38.6	37.4	34.7
40 yr. Life Cycle Cost (\$Million)	165.7	145.0	127.7
Pipeline Water Sold (Billions Gallons)	124.8	119.4	106.6
Economic Cost of Pipeline Water (\$/1000 gallons)	1.33	1.21	1.20

Blending of Waters

Blending of water from the Southwest Pipeline with existing local sources is judged to be a feasible method of meeting peaking requirements in excess of pipeline capacity. Such blending is required with Plans B and C. However, there are potential stability problems associated with the blending of softened waters.

Initial analysis indicates the problems are not serious if the Southwest Pipeline water is softened. It would be necessary to match the pH of the waters being blended as closely as possible and polyphosphate addition may be helpful. Additional laboratory studies are recommended to better identify potential problems and solutions. It is believed that any problems will not add significantly to the cost of using the pipeline water.

Comparison of Plans

	<u>Plan A</u>	<u>Plan B</u>	<u>Plan C</u>
System Capacity (Million gallons/day)	22.87	15.24	9.57
% Average Daily Demand	250%	150%	75%
Total Miles of Pipeline	365	365	365
Range of Pipe Diameters	33"-6"	30"-6"	27"-6"
Number of Pumping Plants	15	13	10
Storage Reservoirs	16	13	10
Water Treatment Plants	1	1	1
Construction Costs (\$Million) ^{1/}	\$126.457	\$106.300	\$87.554
OM&R Costs/1000 gal. ^{2/}	\$0.90	\$0.86	\$0.89

^{1/} Based on using Alternative Site No. 1 Intake Structure

^{2/} Based on 100% of projected demand

System Capacity in Million Gallons Per Day

<u>Plan</u>	<u>Dickinson</u>	<u>Other Towns</u>	<u>Rural</u>	<u>Total</u>
A	11.70	7.78	3.38	22.87
B	7.02	4.85	3.38	15.24
C	3.51	2.69	3.38	9.57

A drawing showing the relationship of the three plans to the seasonal water use pattern for the City of Dickinson is attached.

WATER USE CRITERIA

Daily water requirements for cities in determining pipeline capacities varied between 100 gallons per day per capita (GPDC) to 150 GPDC and was based on historic water use patterns. For rural customers a capacity of 793 gallons per day per hookup was used.

DESIGN STANDARDS

The construction cost estimates developed in the report are based on construction standards that are in accordance with American Water Works Association (AWWA) standards. AWWA standards are commonly used for the construction of municipal water systems and use of these standards normally results in a high quality water system. Rural water systems are usually constructed to standards less stringent than AWWA standards because of the predominant use of smaller diameter pipe in rural systems and the need to maintain economic feasibility.

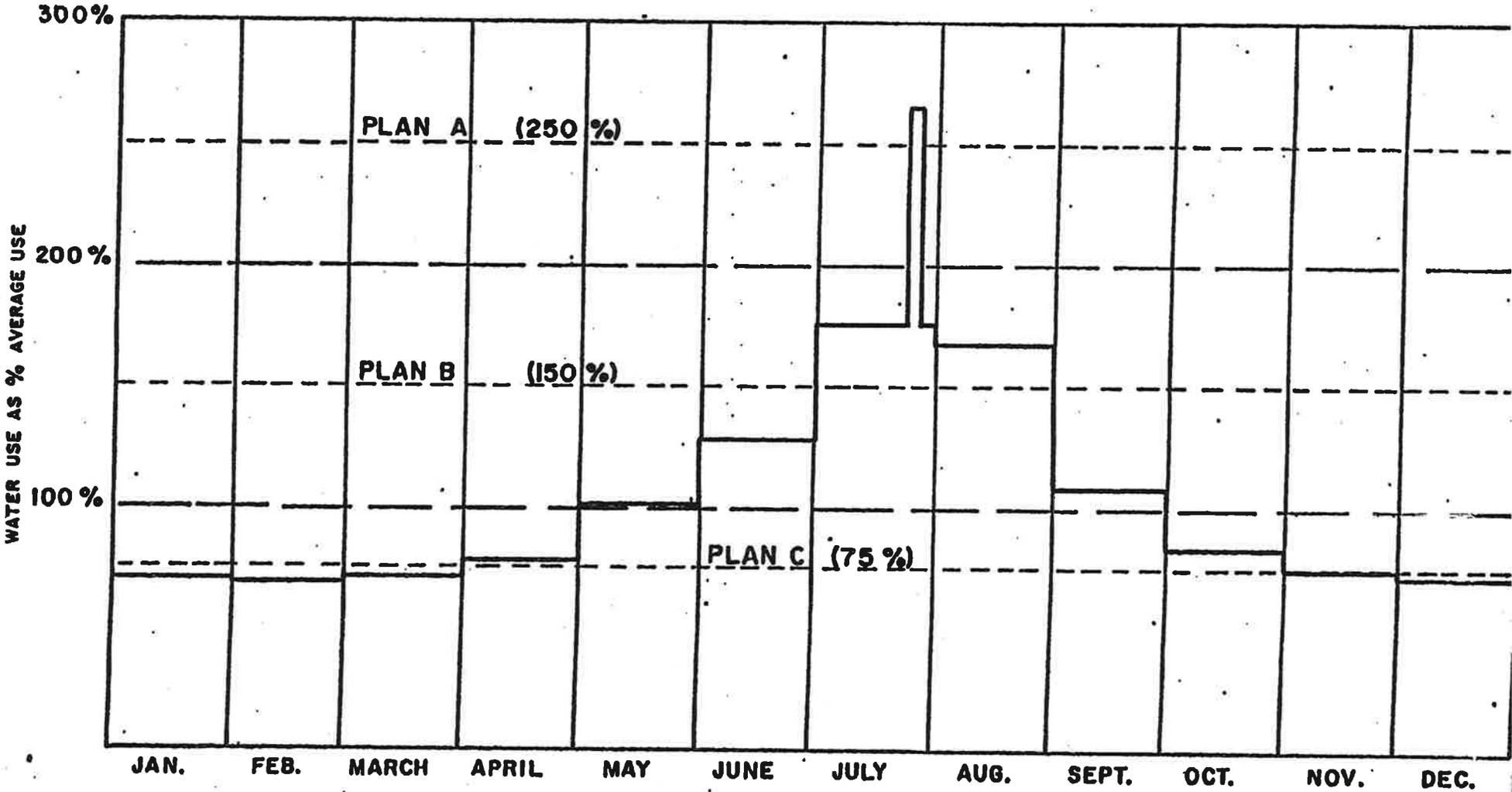
It is possible that a "hybrid" construction standard containing elements of both the AWWA and rural water standards could be used for the Southwest Pipeline to provide reductions in the construction cost. Application of the hybrid construction standard to pipe diameters 6" through 12" for the Southwest Pipeline Project could result in capital cost reductions of \$8,244,000, \$7,882,000, and \$7,361,000 for Plans A, B, and C, respectively. The reduction in costs will have to be weighed against the decrease in system reliability.

CONSTRUCTION COSTS

Construction costs have been estimated for the three plans included in the study and are shown in the table below. The costs are based on 1982 prices and include all costs associated with the final design and construction of the project except the financing costs. The costs shown include the cost of a centralized water treatment plant.

	<u>Using ANG/Basin Intake</u>	<u>Using Alternate Intake</u>
Plan A	\$134,376,000	\$126,457,000
Plan B	110,475,000	106,300,000
Plan C	89,027,000	87,554,000

SEASONAL WATER USE AS PERCENT OF AVERAGE
CITY OF DICKINSON FOR PERIOD 1970 - 1980



OPERATION AND MAINTENANCE COST

The annual cost for operation, maintenance, and replacement of the 365 mile pipeline and the water treatment plant has been estimated to be \$2,937,000 or approximately \$0.86 per thousand gallons when the pipeline is operating at full capacity to serve the projected population in the year 2025. However, in the early years the system will be operating below design capacity due to lower population levels. The maintenance cost in those early years will remain approximately the same but the operating costs will be reduced because less electrical energy will be required for pumping and less chemicals will be needed for water treatment. The table below illustrates the approximate relationship between water delivery quantities and OM&R costs for Plan B.

Operation, Maintenance & Replacement Costs per 1,000 gallons (Plan B)

	System Demand Condition			
	25%	50%	75%	100%
Energy for Pumping	\$0.33	\$0.32	\$0.38	\$0.39
Water Treatment	0.47	0.35	0.30	0.27
Other	0.76	0.39	0.27	0.20
Total OM&R Cost	\$1.56	\$1.06	\$0.95	\$0.86

It is estimated that a minimum of 19 permanent employees will be required to operate and maintain the pipeline system resulting in an annual payroll of \$350,000.

NOKOTA ALTERNATIVE

The Nokota Company has retained engineering consultants to develop a preliminary design and cost estimate for an enlarged Southwest Pipeline from the intake site to the proposed methanol plant site near Dunn Center, North Dakota, known as the Dunn-Nokota Project. This alternate plan would provide a pipeline with sufficient capacity to transport water for both the Southwest Pipeline and the Nokota Company needs between those points.

If the Nokota Alternative were to be implemented, the pumping plant space requirements for the Southwest Pipeline plus Nokota would exceed the physical space available in the ANG/Basin intake structure. It would then be necessary to construct an alternate intake such as Alternate Site #1 to accommodate the flow requirements.

Revisions to Plan B to accommodate the Nokota Alternative include increasing the initial pipe diameter from 30" to 42", increasing the size and capacity of two pumping plants, shifting the location of a third pumping plant, adding one regulating reservoir, and increasing the size and capacity of the water treatment plant.

The combined ultimate average annual water demand (year 2025) of Nokota and the Southwest Pipeline Project is 10,417 GPM + 7,958 GPM = 17,375 GPM (15.0 MGD). Nokota's peak design flow of 14,200 GPM when

combined with the Southwest Pipeline Project Plan B design flow of 8,239 GPM results in a combined total peak intake flow of 24,790 GPM (35.70 MGD). Water delivery to the Nokota facility is proposed to be at a constant 24 hour rate, same as for the Southwest Pipeline Project customers.

The cost for enlarging the pipeline and related facilities to serve the Dunn-Nokota Project is estimated to be \$26,835,000. There is a potential for a significant cost savings to the State through this alternate. Before this alternate could be implemented, legislative approval would be required and appropriate contractual arrangements negotiated.

SOUTH DAKOTA PARTICIPATION

During the formation of the South West Water Cooperative in Bowman, Slope, Adams, and Hettinger Counties, the South Dakota cities of Lemmon and Bison and rural residents in the Lemmon-Lodgepole area paid membership fees to the Cooperative in the hope of eventually securing a water supply from the Cooperative. Because the Southwest Pipeline Project study is funded with state funds and was conceived to benefit North Dakota citizens, no capacity was included in the pipeline design to serve South Dakota needs. Contacts with South Dakota state officials resulted in an agreement between engineering consultants and the South Dakota West River Conservancy Sub-District for an alternate study for a preliminary design and cost estimate of enlarging the Southwest Pipeline from Lake Sakakawea to Hettinger, North Dakota to accommodate South Dakota water needs. The Sub-District has funded the entire cost of the study.

Revisions to Plan B to accommodate the South Dakota Alternative include increasing the flow capacity of the pipeline by 391 GPM which results in a 4% increase at the intake and an 84% increase at Hettinger. The small increase in flow would not change the size of pipe in the upper reaches of the pipeline but pipe diameters would have to be increased from near New England to the terminal point near Hettinger. One regulating reservoir would require sizeable enlargement while others would require only minimal increases in storage capacity. Greater headlosses would occur in the upper portion of the pipeline resulting in higher energy requirements for pumping.

The cost of enlarging pipeline to provide capacity for South Dakota customers is estimated to be \$2,749,000. Before South Dakota's requirements could be included in the Southwest Pipeline water deliveries there would be requirements for legislative approval and arrangements for payment of capital and operating costs.

FINANCIAL DATA

The draft financial report prepared by Chiles, Heider, Inc. examines the population, present water expenses, outstanding bonded indebtedness and per capita income within the project area to:

- measure and assess the ability and willingness of the water users to repay project costs
- assist in developing a water pricing policy
- identify sources of repayment
- develop alternative financing plans
- recommend a financing and operating agency

Ability and Willingness to Pay for Water

The 1980 weighted average per capita median income for the project service area is \$6111 compared to a state weighted average of \$6643. Comparatively, the average person in the service area has eight percent less ability to pay than the average North Dakotan.

Present Indebtedness and Additional Bonding Capabilities

Based on experience with Midwest communities, it is concluded that a community with \$1,000 or less per capita debt can issue bonds at a reasonable and affordable rate. While the cities as a group pass the \$1,000 per capita debt test, Dodge, Golden Valley, and South Heart do not. Any debt assigned to the service area cities as a result of the project will limit the capabilities of additional debt for future capital improvements.

Present Cost of Water

Water department operation and maintenance expenses for service area cities were compared with water department expenses for 22 North Dakota cities with a range of population and geographical location. The weighted average expense for cities within the service area was determined to be \$0.77 per 1,000 gallons as compared to \$0.68 per 1,000 gallons for the comparison cities.

Willingness to Pay

An assessment of the willingness to pay for a pipeline water supply by service area residents was performed through personal interviews and questionnaires. The majority of responses indicated the realization that project water would be expensive and would result in increased water rates. The responses also indicated that residents are willing to pay more for water providing the additional cost is equitable and can be extended over a long time period.

Water Pricing Policy

A water pricing policy was developed based on the objectives and principles approved by the Advisory Committee and the State Water Commission for water service contracts and include the following:

1. Water users shall be required to pay the total project operation and maintenance cost each year.
2. The capital repayment of project costs by water users shall be maximized to the greatest extent possible within the water user's ability to pay.
3. Determination of "ability to pay" will be based on a combination of:
 - a. Wholesale water rates currently in effect for similar water supply systems within the region.
 - b. Capital repayment by users as a percentage of median income.
4. Water rates for capital repayment shall be adjusted periodically to reflect changes in repayment ability.

Data on water rates, debt service payments, median incomes, water sales, and water purchases was obtained from a number of large water supply systems in North Dakota, South Dakota, Minnesota, and Iowa and the data was compared with similar data from within the service area. It was concluded that a capital repayment component of \$0.55 per 1,000 gallons of water based on 1981 prices would result in city users paying 0.24% of the median income for the debt service component of the water service charge.

The \$0.55 per 1,000 gallon debt service component is exactly the same as the weighted average debt service charge in effect in the comparable systems studied in North Dakota, South Dakota, and Minnesota which sell water to cities.

<u>State</u>	<u>Number of Systems Studied</u>	<u>Number of Cities Served</u>	<u>Weighted Average Debt Service Charge/1000 Gallons</u>	<u>Weighted Average Debt Service Percent of Income</u>
North Dakota	4	14	\$0.74	\$0.24
South Dakota	6	16	0.41	0.22
Iowa	1	4	—	0.17
Minnesota	1	5	0.59	0.23
Weighted Average			0.55	0.23

A comparison of the wholesale water rate (the operation and maintenance component plus the debt service component) proposed for the Southwest Pipeline Project with the 1980 wholesale water rate for other regional supply systems who sell water to cities is shown below.

<u>State</u>	<u>Weighted Average Wholesale Water Rate Per 1,000 Gallons</u>
North Dakota	\$1.58
South Dakota	1.28
Minnesota	1.19
Weighted Average for 3 states	1.37
Southwest Pipeline Project (Plan B)	1.61

Source of Funds

Of all the federal agencies studied, the Bureau of Reclamation and the Corps of Engineers appear to be two agencies that could provide funds for construction. Congressional authorization and fiscal appropriations would be required before they could participate. The Farmers Home Administration is authorized to provide loans and grants to rural water systems and communities under 10,000 population but drastic cut-backs in funding this program results in the program being of little use for a large water supply project at this time.

A review of state funding sources indicates that several state agencies have funds available for water projects but not in the amounts to fund a project as large as the Southwest Pipeline Project. A Resources Trust Fund was established by the 47th Legislative Assembly to be funded by 10% of the oil extraction tax. The fund is dedicated to the planning and construction of water supply facilities and to energy conservation projects.

There is a possibility for joint use with or water sales to industrial developments which could provide significant assistance in project financing. However, there are no definite prospects for industrial users at this time.

Project Financing Considerations

The Financial Consultant examined several plans for financing construction of the pipeline project including long term financing, short term financing, pay-as-you go, and financing for a phased construction schedule. It was determined that the combination of revenues from water user fees and revenues projected to accrue to the Resources Trust Fund would not be adequate to retire the debt service and that financial assistance from some other source in an amount ranging from \$36 to \$45 million would be required to meet debt service requirements, depending on the financing plan selected.

Financing Structure and Issuing Entity

A number of potential entities have been reviewed to determine their ability to construct, operate and maintain the project. Included in the review were the State Water Conservation Commission, Water Resource Districts, Conservancy Districts, Counties, Regional Water Authorities, Rural Water Cooperatives and the Industrial Commission. Provided it had the necessary legislative authority, any of the entities, with the exception of Rural Water Cooperatives, could issue tax exempt bonds to finance the project. No matter which entity or combination of entities would be selected to construct, operate and maintain the project, it would be necessary for enabling legislation to be enacted by the North Dakota Legislature. After reviewing the various entities, it was determined the Water Conservation Commission is the proper entity to construct, operate and maintain the project. The Commission is the only state agency that has the technical qualifications for and experience in the construction, operation and maintenance of the water projects.

Because of the size of the project, a centralized state agency must control the project. The Commission now has the authority and the expertise necessary to construct and operate the project and, with legislation, it will have the necessary bonding authority to finance it.

Usually, revenue bonds are issued to finance a project such as the Southwest Pipeline Project. Such bonds are repaid from the revenues generated by the utility constructed with the bonds. Here, however, there will be insufficient revenues generated from the delivery of water to repay the principal and interest on the bonds. Thus some additional form of state funding will be necessary. The bonds used to finance the project will be repaid from the revenues of the project and a special fund created for that purpose. The source of revenue for the special fund is a decision for the Legislature.

The interest on the bonds will be exempt from federal and state income taxes. If industrial users such as Nokota or American Natural Gas are involved in the project, the bonds may be categorized as "Industrial Development Bonds". Provided the Internal Revenue Code and Treasury Regulations are complied with, the interest income would remain tax exempt even if the bonds were categorized as industrial development bonds.

The security for the payments to be made on the bonds, as well as the source of payments, must be fully disclosed to prospective bond purchasers. Any concerns about the adequacy of the security or the source of payments must also be disclosed, as such information will directly affect the marketability of the bonds. Such information as the source of payment, water rights and permits, land ownership and easements, rate regulation, potential Indian claims, potential mining disruptions, and contracts with municipal users or industrial users are all items that must be closely reviewed and disclosed to potential bond purchasers.

It will be necessary for legislation to be enacted authorizing the issuance of bonds, providing for a source of payment, and amending the Water Conservation Commission law to insure that it has the authority to finance, construct, operate, and maintain the project. Such legislation, together with the present Commission law, must insure the Commission will have the power to construct and operate a water delivery system; that it has access to an adequate source of water; the power to sell or deliver water to public and private users; the power to enter into long-term contracts for the sale or delivery of water (in addition to the power of municipalities to enter into such contracts with the Commission); and the power to issue bonds for water projects and pledge the proceeds of user charges to the payment thereof. The legislation would also have to provide for a source of payment for the bonds in addition to the revenues generated by the project.

Since the bonds will not be repaid solely from revenues generated by the project, it will be necessary to test the law as enacted by the legislature in the North Dakota Courts. The bonds will be repaid through a special fund. The North Dakota Supreme Court has previously approved the Special Fund Doctrine, thus exempting such bonds from any

Constitutional debt limitation, and the Court will be asked to apply the Special Fund Doctrine to the bonds to be issued to finance the project. Although the North Dakota Supreme Court has not ruled on the Special Fund Doctrine as it would apply to this project or a similar project, courts of other states have approved the Doctrine and its application to projects of this type.

THIRD DRAFT
AUGUST 17, 1982

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SOUTHWEST PIPELINE PROJECT

CONTRACT NO. _____

WATER USER ENTITY _____

WATER SERVICE CONTRACT

I. PARTIES

This contract is by and between the North Dakota State Water Commission, a state agency and public corporation created and existing pursuant to Chapter 61-02, North Dakota Century Code, hereinafter called the Commission, acting through the North Dakota State Engineer; and the City of _____, duly incorporated and existing as a municipality pursuant to the laws of the State of North Dakota, hereinafter referred to as the City.

II. INTRODUCTION

1. Under the authority of the Act of the North Dakota Legislative Assembly of 1981 (1981 N.D. Sess. Laws 613, §3), the Commission was directed to develop preliminary designs for a water supply pipeline facility for supplementation of the water resources of Dickinson and the area of North Dakota south and west of the Missouri River for multiple purpose, including domestic, rural water district, and municipal users. This water pipeline facility is known as the Southwest Pipeline Project.

2. It is the recommendation of the Commission that the Southwest Pipeline Project be authorized by the North Dakota Legislative Assembly, substantially in accordance with Plan _____ of the Engineering Preliminary Design Final Report for the Southwest Pipeline Project, State Water Commission Project No. 1736, dated October 1, 1982; and that the Southwest Pipeline Project be constructed, operated, and maintained by the Commission pursuant to such authorization.

3. The Commission currently has the authority, by virtue of Chapter 61-02, North Dakota Century Code, to enter into water service contracts for the delivery and distribution of water and the collection of rates, charges, and revenues from such delivery of water.

4. The City desires to enter into a water service contract, pursuant to the laws of the State of North Dakota, for a water supply from the Southwest Pipeline Project for distribution by the City to its customers, for which the City will make payment to the Commission upon the basis, at the rates, and pursuant to the conditions set forth in this contract.

5. This water service contract contains a condition precedent, which is the approval and authorization of the Southwest Pipeline Project by the North Dakota Legislative Assembly, substantially in accordance and consistent with the recommendations of the Commission and the terms of this contract.

NOW, THEREFORE, in consideration of the mutual covenants contained in this contract, it is mutually agreed by and between the parties to this contract as follows:

III. DEFINITIONS

1. "Additional water" means water purchased by the City in addition to its minimum annual water purchase.

2. "Capital costs" means all costs incurred by the Commission which are properly chargeable, in accordance with generally accepted accounting practices, to the construction of and the furnishing of equipment for the Project, including the costs of surveys, engineering studies, exploratory work, designs, preparation of construction plans and specifications, acquisitions, acquisition of lands, easements and rights-of-way, relocation work, and essential legal, administrative and financial work in connection therewith.

3. "Estimated water rate for operation, maintenance, and replacement" means the estimated rate per each 1,000 gallons of water for the operation and maintenance of the Project and for the accumulation and maintenance of a reserve fund for replacement purposes. This rate is determined by dividing total costs the Commission estimates it will incur during a year for operation, maintenance, and replacement by the total number of one thousand gallon units of water which the Commission estimates it will sell to water user entities during the same year.

4. "Manager" means the person employed by the Commission to be in charge of and supervise the operation and maintenance of the Project.

5. "Maximum flow rate" means the maximum number of gallons of water which may be delivered through the Project by the Commission to a water user entity during any one minute time period.

6. "Minimum annual water purchase" means the minimum amount of water which a water user entity agrees to purchase and pay for during a year.

7. "Operation, maintenance and replacement costs" means all necessary operation costs incurred by the Commission, including all necessary energy costs incurred by the Commission for pumping water through the Project, for the treatment of water, for the maintenance and administration of the Project, and for any amounts that the Commission determines are necessary to

establish reserve funds to meet anticipated replacement costs. Operation, maintenance and replacement costs shall be referred to in this contract as OM & R costs.

8. "Project" means Plan _____ of the Engineering Preliminary Design Final Report for the Southwest Pipeline Project, State Water Commission Project File #1736, dated October 1, 1982. Authorization of the Southwest Pipeline Project by the Legislative Assembly, substantially in accordance with Plan _____ of such Engineering Report, as recommended by the Commission, shall constitute the "Project" as it is defined herein.

9. "Qualifying water supply facilities" means water supply facilities determined by the Commission to qualify for a credit against payments for water by the City for capital costs and shall include such things as surface water reservoirs, wells, raw water pumps, water transmission pipelines from the source to the distribution system, water treatment plants, and pipelines and controls necessary to connect the City's distribution system to the delivery point for Project water.

10. "Total annual water sales" means the summation of the actual annual water delivery or the minimum annual water purchase, whichever is greater, for each water user entity which has executed a water service contract, for all water service contracts.

11. "Unallocated capacity" means the capacity of the pipeline which is not allocated and contractually committed to individual water user entities by virtue of water service contracts.

12. "Water rate for capital costs" means the rate per each 1,000 gallons of water to be paid by water user entities for capital costs of the Project.

13. "Water user entities" means those municipalities, rural water cooperatives, and other entities who have entered into and executed water service contracts with the Commission for the purchase of water from the Project.

14. "Year" means the period from January 1 through December 31, both dates inclusive.

IV. TERM OF CONTRACT

1. Effective Date. This contract shall become effective, and the mutual obligations and terms of this contract shall be binding on the parties to this contract, upon the approval of the Project by the North Dakota Legislative Assembly substantially in accordance with Plan _____ of the Engineering Preliminary Design Final Report for the Southwest Pipeline Project, State Water Commission Project #1736, dated October 1,

1982. This contract shall remain in effect for forty (40) years after the date of the first water delivery to the City.

2. Renewal. Under terms and conditions mutually agreeable to the parties to this contract, renewals of this contract may be made for successive periods not to exceed forty (40) years each.

V. CONDITION PRECEDENT

This contract shall not be effective, nor shall the terms and obligations of this contract be binding on either party, unless the Project is approved and authorized by the North Dakota Legislative Assembly, substantially in accordance with Plan _____ of the Engineering Preliminary Design Final Report for the Southwest Pipeline Project, State Water Commission Project #1736, dated October 1, 1982. It is agreed that the foregoing condition precedent shall be the only condition precedent to this contract. It is also agreed that in the event the total minimum annual water purchase of all water service contracts for any segment of the Project is not sufficient to justify the construction of primary or secondary lines for such segment, authorization of the Project excluding such segment of the Project shall be considered to be substantially in accordance with the recommended plan (Plan _____ of the Engineering Preliminary Design Final Report for the Southwest Pipeline Project, State Water Commission Project #1736, dated October 1, 1982), and the condition precedent shall be satisfied. It is also intended by the parties to this agreement that authorization and approval of the Project, resulting in any other modification to Plan _____ of the Project as recommended by the Commission, but which does not require amendment of this contract, will satisfy the condition precedent to this contract, whereby the contract will become effective and binding.

VI. WATER SERVICE: DELIVERY OF WATER

The Commission and the City agree that water will be delivered to the City in accordance with the following terms and provisions:

A. Quality of Water. All water delivered to the City pursuant to this contract, or any renewal, extension, or modification thereof, shall be potable treated water which meets applicable water quality standards of the North Dakota Department of Health.

B. Quantity of Water and Flow Rate.

1. Minimum Annual Water Purchase. The City hereby agrees to purchase and make payment for not less than _____ thousand gallons per year (minimum annual water purchase) during the entire term of this contract.

2. Maximum Flow Rate. The maximum flow rate to be provided by the Commission to the City shall not exceed _____ gallons per minute.

C. Point of Delivery and Pressure. The Commission will furnish water to the City at a pressure range of _____ psi to _____ psi at a point located _____

If greater pressure than the range specified herein at the point of delivery is required by the City, the cost of providing such greater pressure shall be borne by the City.

D. Additional Water. The Commission will deliver to the City any additional water which the City desires to purchase, at a flow rate not to exceed the flow rate specified in this contract. If there is unallocated capacity in the Project, the Commission may allow delivery of water at a flow rate greater than the maximum flow rate specified in this contract. The City shall have no contractual right to any unallocated capacity which it purchases as additional water, and delivery of such additional water shall not contractually or in any other way obligate the Commission to deliver water at a greater flow rate than the maximum flow rate specified in this contract. If the City desires to secure a contractual right to a greater maximum flow rate than specified in this contract, this contract must be amended to provide a greater minimum annual water purchase.

E. Water Shortages.

1. No Liability for Shortages. In no event shall any liability accrue against the Commission or any of its officers, agents, or employees for any damage or inconvenience, direct or indirect, arising from any water shortages or other interruptions in water deliveries resulting from accident to or failure of Project works and facilities, whether or not attributable to negligence of officers, agents, or employees of the Commission, or from any other cause. The contractual obligations of the City under this contract shall not be reduced or altered by reason of such shortages or interruptions.

2. Proportional Sharing of Water Shortage. The Commission shall have the right during times of water shortage from any cause to allocate and distribute the available water supply to water user entities on a proportionate basis with respect to the proportion that the minimum annual water purchase of each water user entity bears to the total minimum annual water purchase of all water service contracts for the Project.

F. Curtailment of Delivery for Maintenance Purposes. The Commission may temporarily discontinue or reduce the amount of water to be furnished to the City for the purpose of maintaining, repairing, replacing, investigating or inspecting any of the facilities and works necessary for the furnishing of water to the City. To the extent possible, the Commission will give to

the City reasonable notice in advance of any such temporary discontinuance or reduction. No advance notice will be required to be given in the case of an emergency. In no event shall any liability accrue against the Commission or any of its officers, agents, or employees for any damage or inconvenience, direct or indirect, arising from such temporary discontinuance or reduction for maintenance and repair purposes.

G. Measurement of Water. The Commission shall furnish, install, operate, and maintain, at its own expense, at the point of delivery, the necessary metering equipment, including a meter house or pit, and required devices of standard type for properly measuring the quantity of water delivered to the City. If the City believes the measurement of water delivered to the City to be in error, it shall present a claim of error, in writing, to the manager of the Project, either in person or by mailing by certified mail to the address of the manager. Upon presenting its claim of error in the measurement of water, the Commission will cause the meter to be calibrated, upon payment to the Commission by the City the actual cost of the calibration. However, if the meter is found to over-register by more than two percent (2%) of the correct volume, the City's payment for the cost of calibration will be refunded to the City. A claim of error presented after a claim has become delinquent shall not prevent discontinuance of service as provided in this contract. The City agrees to continue to make payments for water service after a claim of error has been presented, however, it may do so under protest, and such payments will not prejudice the City's claim of error.

If the calibration of any meter establishes that the previous readings of such meter over-registered by more than two percent (2%) the correct volume of water delivered to the City, the meter readings for that meter shall be corrected for the _____ months previous to the calibration by the percentage of inaccuracy found in such tests. The amount of any overpayment by the City because the meter over-registered the amount of water delivered to the City, for the period of time for which the correction is applied, shall be applied first to any delinquent payments for water service, and any remaining amounts shall, at the option of the City, be refunded to the City or credited upon future payments for water service by the City in the ensuing years. If any meter fails to register for any period, the amount of water delivered during such period shall be deemed to be the amount of water delivered in the corresponding period immediately prior to the failure, unless the Commission and the City shall agree upon a different amount. An appropriate official of the City shall have access to the meter at all reasonable times for the purpose of verifying its readings.

H. Responsibility for Distribution and Use of Water. The City shall be responsible for the control, distribution, and use of all water delivered to the City by the Commission under this contract, beyond the point of delivery, and all services,

maintenance, and repair of the City's distribution system. The City shall hold the Commission, its officers, agents, employees and successors and assigns harmless from every claim for damages to persons or property, direct or indirect, and of whatever nature, arising out of or in any manner connected with the control, distribution, and use of water delivered under this contract, and the operation, maintenance and replacement of the City's distribution system. The City's distribution system includes all works extending from the point of delivery of water to the City by the Project.

VII. WATER SERVICE: WATER RATES AND PAYMENT FOR WATER

The City agrees to make payment for water and water service in accordance with the following terms and conditions:

A. Notice of First Delivery of Water and Beginning of Water Service Payments. Thirty (30) days prior to completion of the Project, the Commission shall notify the City, in writing, by certified mail, the date when water will be first available to the City. The City will make payments for water and water service, in accordance with the terms of this contract, beginning at the expiration of the thirty (30) day notice, or beginning at such time when water is available to the City, whichever is later in time. The minimum payment for water for the first payment shall be pro-rated on a per day basis over a one month period, ending on the last day of the month in which water is first available to the City.

B. Payment for Water Service. The City's water service charge for each month shall equal the sum of the following:

1. The City's proportionate share of the operation, maintenance and replacement costs.

2. The component for payment of capital costs.

C. Minimum Annual Water Purchase: Minimum Payments. The City will make payment for the minimum annual water purchase specified in this contract in accordance with the rates and terms for payment of water specified in this contract, regardless of whether or not the City actually uses the minimum annual water purchase.

D. Payment for Operation, Maintenance and Replacement (OM & R). The City will make monthly payments to the Commission for its share of the OM & R for the Project. The amount of such payment will be determined as follows:

1. Prior to January 1 of each year, the Commission shall establish and adopt a budget for O M & R for the Project for the immediate ensuing year. The Commission shall have the authority to include in such budget for each year an amount to be accumulated and maintained in a reserve fund for the purpose of

replacements and for extraordinary maintenance of project works. The reserve fund shall be accumulated and maintained in an amount to be determined by the Commission. The reserve fund shall be deposited and maintained in a separate account in accordance with the laws of the State of North Dakota.

2. The Commission will then estimate the total annual water sales for the immediate ensuing year, and calculate the "estimated water rate for operation, maintenance, and replacement" for the Project by dividing the amount of the estimated budget for OM & R for the immediate ensuing year by the estimated total annual water sales for such ensuing year.

3. The monthly payment to be made by the City to the Commission for OM & R shall be determined by multiplying the amount of water actually delivered to the City for each month, or the monthly minimum water purchase (minimum annual water purchase divided by 12) whichever is greater, times the estimated water rate for OM & R.

4. At the end of each year, the Commission shall prepare a statement of the actual total cost for OM & R for that same year.

5. The Commission will then determine the adjustment to be applied to the City's payment for OM & R for the previous year. The adjustment shall be calculated by first dividing the amount of water actually delivered to the City by the Commission during the previous year, or the minimum annual water purchase, whichever is greater, by the previous year's total annual water sales, to determine the City's proportionate share (fraction) of the OM & R costs for the previous year. This fraction shall then be multiplied times the actual total cost for OM & R for the previous year, which shall be the amount of the City's proportionate share of OM & R costs for the previous year. The Commission shall then subtract the total amount of the City's proportionate share of OM & R costs for the previous year from the total amount actually paid by the City for OM & R during the previous year, which shall be the adjustment to be applied to the City's water service payments for the next ensuing year.

If the City's proportionate share of OM & R costs for the previous year is greater than the total amount actually paid by the City during the previous year for OM & R, the difference shall be owed by the City to the Commission. The amount due and owing to the Commission by the City as a result of such adjustment shall be paid in one payment or shall be applied to and added to the City's monthly payments for water for the first four (4) months of the immediate ensuing year in four (4) equal monthly installments.

If the City's proportionate share of OM & R costs for the previous year is less than the total amount actually paid by the City during the previous year for OM & R costs, the dif-

ference shall first be applied to any delinquent payments of the City for water service, and the remaining sum, if any, shall, at the option of the City, be refunded to the City or credited upon future payments for water service by the City in the ensuing year.

E. Payment for Capital Costs. The City will pay to the Commission a water rate for capital costs of the Project. The revenues realized from this water rate shall be deposited by the Commission as directed by the Legislative Assembly.

1. Water Rate for Capital Costs. The base water rate for capital costs shall be _____ per each 1,000 gallons of water.

2. Adjustment of Water Rate for Capital Costs. The Commission shall have the authority to increase or decrease the water rate for capital costs each year. Any adjustment to the water rate for capital costs shall be determined by the increase or the decrease in the consumer price index (CPI). The formula for determining the annual adjustment to the water rate for capital costs is as follows: The CPI for October 1 of each year shall be divided by the base CPI (_____), and the result shall be multiplied by the base water rate for capital costs (_____ per each 1,000 gallons of water). The product of this formula will be the water rate for capital costs for the next year. Notwithstanding the foregoing basis for adjusting water rates for capital costs, the Commission shall have the authority to lower the adjustment to water rates for capital costs if data on changes to the median incomes of project water users, substantial increases in OM & R costs, and other factors makes it appropriate and necessary.

3. Monthly Water Payment for Capital Costs. The amount of payment each month by the City to the Commission for capital costs shall be calculated by multiplying the water rate for capital costs times the amount of water actually delivered to the City each month, or the monthly minimum water purchase (minimum annual water purchased divided by 12), whichever is greater, minus any credits approved by the Commission pursuant to paragraph 4 of this section.

At the end of each year, if the amount of water actually delivered to the City is less than the amount of water for which the City has paid for during that year, but greater than the minimum annual water purchase, the City shall receive a refund in the amount equal to the difference between the amount of water actually delivered to the City and the amount of water actually paid for by the City during that year multiplied times the water rate for capital costs. The refund shall first be applied to any delinquent payments of the City for water service, and the remaining sum, if any, shall at the option of the City, be refunded to the City or credited upon future payments for water service by the City in the next ensuing year.

4. Credit for Existing Water Supply Facility Debt Service Cost. A credit for debt service costs of the City's existing water supply facilities shall be applied to the monthly water payment for capital costs, upon approval by the Commission. The amount of such monthly credit shall be determined by dividing the total annual debt service cost for "qualifying water supply facilities" in the immediate ensuing year by twelve (12). However, in no event shall any credit exceed the total monthly water payment for capital costs, nor can any credit be transferred or assigned to any other water user entity. In order to receive a credit as provided herein, the City must submit a Request for Credit, with supporting documentation, to the Commission, no later than October 1 of each year in which a credit is to be applied. The Commission will terminate all credits in _____ years.

F. Billing Procedure. The Commission will furnish to the City, at the address shown on the signature page of this contract, not later than the _____ day of each month, an itemized statement of the payment due from the City for water service for the preceding month. The metering equipment at the point of delivery to the City shall be read on _____.

G. When Payments are Due. All payments for water service under this contract, for operation, maintenance, and replacement, and for capital costs, shall be made no later than the _____ day of each month. Payments not made by such date shall be considered delinquent and in default.

H. Delinquent Payments and Default: Suspension of Water Service. The City shall cause to be levied and collected all necessary taxes, assessments, and water charges, and will use all of the authority and resources available to it to meet its obligations under this contract, and will make in full all payments to be made pursuant to this contract on or before the date such payments become due. In the event of any default by the City in making payments as required under this contract, the Commission in its discretion may suspend delivery of water to the City through the project during the time when the City is in default. During any period when the City is in default, the City shall remain obligated to make all payments required under this contract. Any action of the Commission pursuant to this section shall not limit or waive any remedy provided by the contract or by law for the recovery of money due or which may become due under this contract.

In the event of any default by the City in the payment of any money required to be paid under this contract, the City shall levy a special ad valorem tax on all of the property taxable or subject to assessment by the City. The tax shall be levied only at a rate sufficient to raise the amount delinquent, and shall be used only to reduce the liability of the City. This tax shall be levied and collected pursuant to the provisions of the North Dakota Century Code.

I. Penalty for Late Payment. Upon every payment of money required to be paid by the City to the Commission under this contract which shall remain unpaid after the same shall have become due and payable, there shall be imposed a penalty of _____ per month of the amount of such delinquent payment from and after the date when the same becomes due and payable, provided that no penalty shall be chargeable against any adjustment made pursuant to Section _____.

J. Refusal of Water. The City's failure or refusal to accept delivery of water to which it is entitled under this contract shall in no way relieve the City's obligation to make payments to the Commission as provided in this contract.

VIII. GENERAL PROVISIONS

A. Rules and Regulations. The Commission shall have the authority to develop and adopt such rules and regulations as the Commission may deem proper and necessary to carry out this contract and to govern the administration of this contract. Such rules and regulations shall not be inconsistent with this contract. The City agrees to comply with such rules and regulations.

B. Access to and Inspection of Books and Records. Each party shall have the right, during normal business hours, to inspect and make copies of the other party's books and official records relating to matters covered by this contract.

C. Remedies Not Exclusive. The use by either party of any remedy specified herein for the enforcement of this contract is not exclusive and shall not deprive the party using such remedy of, or limit the application of, any other remedy provided by law.

D. Amendments. This contract may be amended at any time by mutual agreement of the parties, except insofar as any proposed amendments are in any way contrary to applicable law. The Commission shall make available to the City at all times during the normal hour of business at the Commission offices for the City's inspection copies of all contracts now or hereafter executed by the Commission with all other water user entities and of any amendments thereof.

E. Waiver of Rights. Any waiver at any time by either party hereto of its rights with respect to a default or any other matter arising in connection with this contract, shall not be deemed to be a waiver with respect to any other default or matter.

F. Notices. All notices that are required either expressly or by implication to be given by any party to the other under this contract shall be signed for the Commission and for the City by such officers as they may, from time to time,

authorize in writing to so act. All such notices shall be deemed to have been given and delivered if delivered personally or if enclosed in a properly addressed envelope and deposited in a United States Post Office for delivery by registered or certified mail. Unless and until formally notified otherwise, all notices shall be addressed to the parties at their addresses as shown on the signature page of this contract.

G. Assignment. The provisions of this contract shall apply to and bind the successors and assigns of the respective parties, but no assignment or transfer of this contract, or any part hereof or interest herein, shall be valid until and unless approved by the Commission. The Commission shall not approve any assignment or transfer to any water user entity unless and until the water user entity to which it is proposed that this contract be transferred or assigned has the necessary ability to satisfy the obligations of this contract. It is intended by the parties that, when appropriate and upon application by the respective rural water cooperative in the Project service area and proof of ability and authority to satisfy the requirements and obligations of this contract, this contract will be assigned to such respective rural water cooperative.

Prior to approval of such assignment, the Commission shall approve any contract or subcontract entered into by and between the City and a rural water cooperative.

H. Validation. Promptly after the execution and delivery of this contract, the commission shall file and diligently prosecute to a final decree in a court of competent jurisdiction a proceeding in mandamus or other appropriate proceeding or action for the judicial examination, approval, and confirmation of the proceedings of the Commission and the City leading up to and including the making of this contract and the validity of the provisions thereof.

IN WITNESS WHEREOF, the parties execute this contract on the date specified below.

NORTH DAKOTA STATE WATER COMMISSION

Address: _____

By: _____

Title _____

Date _____

Adopted and approved by resolution of the State Water
Commission this _____ day of _____, 1982.

Secretary

CITY OF _____

Address: _____

By: _____

Title _____

Date _____

Adopted and approved by resolution of the City of
_____ this _____ day of _____, 1982.

Prepared for State Water Commission
By: Michael Dwyer
Date: August 12, 1982

LEGISLATION OUTLINE FOR THE SOUTHWEST PIPELINE PROJECT

A. Bill Draft One: Authorization of the Southwest Pipeline Project.

Section 1: Authorization of Selected Plan, i.e. "The Southwest Pipeline Project is hereby authorized in substantial accordance with Plan _____ of the Engineering Preliminary Design Final Report for the Southwest Pipeline Project" etc.

Section 2: Water Treatment.

Section 3: Intake Structure.

Section 4: Secondary Transmission Mains.

Section 5: Industrial Capacity.

Section 6: South Dakota Capacity.

Section 7: Pipeline Construction Standards; i.e. "The State Water Commission shall determine the standards to be utilized for the Southwest Pipeline Project, after considering such factors as cost, maintenance, life of pipelines, etc."

Section 8: Operation and Maintenance: Designation of State Water Commission as Operating Entity. Either here or in Bill Draft Three it will be necessary to provide for a reserve fund for replacement purposes, and the manner in which such reserve fund will be handled.

Section 9: Deposit of Revenues from Capital Water Rates; i.e. to be deposited as directed by the Legislative Assembly.

Section 10: Authorization for Appropriation, with specific language that actual appropriation is to be provided elsewhere.

Section 11: Regulatory Permit Waiver. This would include siting act.

B. Bill Draft Two: Financing, Appropriations, and Resources Trust Fund.

Section 1: Initial Appropriation for Final Design, Right-of-Way, Permits, etc. (Estimate \$5 to \$10 million).

Section 2: Appropriation for Construction. The legislature may choose to make an appropriation of funds for actual construction.

Section 3: Bond Issue: Authorization for State Water Commission to make necessary bond issue. Notwithstanding § 61-02-46, specific authorization may be necessary; specific provision may also be necessary for bond issue reserve fund, as well as continuing appropriation to secure retirement of bond issue.

Section 4: Approval of Water Service Contracts.

Section 5: Request for Supreme Court confirmation of bond issue, appropriations necessary to secure bond issue, and water service contracts.

Section 6: Amendment of Resources Trust Fund.

1. First, establish procedure for water projects to be presented for financial assistance from Resources Trust Fund.
 - a. Present to State Water Commission.
 - b. Recommendations by State Water Commission to Legislature.
2. Direct and authorize State Water Commission to establish eligibility rules and criteria for review of water projects which seek Resources Trust Fund financial assistance.
3. Rural Water Systems: Definition of "Water Supply Facility." Both alternatives could be included, i.e. supply and distribution.

*The foregoing proposal for amendment of the Resources Trust Fund does not include any provision for determining what percentage of Resources Trust Fund should be grant and what percentage should be loan. However, we have previously discussed including a provision on appropriating funds for water supply facility feasibility studies on a grant basis from the Resources Trust Fund. The first draft will include such a provision for consideration.

C. Bill Draft Three: Miscellaneous

1. Various amendments to State Water Commission Statutes.
2. Water use fee amendments.
3. Other.

NORTH DAKOTA STATE WATER COMMISSION

OFFICE MEMO

APPENDIX "D"

MEMO TO: Vern Fahy, State Engineer
FROM: LeRoy Klapprodt, Water Resource Planner
DATE: August 17, 1982
SUBJECT: Planning Process Status - SWC Project #322

The planning staff completed the fourth round of meetings with the seventeen Citizens Advisory Boards (CAB's) in late June and is currently working up a draft plan report. As in our earlier meetings, the CAB members have demonstrated a keen interest in the planning process and most have participated very actively. The primary purpose of the latest meetings was to allow the CAB members and the public to further refine statements regarding water problems and development opportunities and to make a first cut in selecting plan recommendation. In addition, the staff presented several informational reports including a statewide irrigable soils map, a future without plan, a wetland values paper, a recreation demand paper, and a paper explaining the effects of deteriorating water quality on North Dakota's fisheries.

Like most of our past meetings, the latest round was advertised as open to the public and we encouraged people to attend and express their ideas. Public response to this invitation was the best that we've had to date. As we've said before, we feel it is essential to get broad input into the planning process if the new State Water Plan is to be implemented and effective. Generating public interest in the development of the new plan is very challenging and our success has varied from area to area across the State. Utilizing the CAB's to work within local communities in each of the Public

Involvement Regions has proven very helpful in getting better public response. The State Game and Fish Department did a very good job in notifying sportsmen groups so they would attend our meetings and represent their interests.

As indicated earlier, the planning staff is currently developing a draft plan report. The report will contain the normal background information explaining the planning process and describing the study area. Most importantly the report will present the goals and objectives developed early in the planning process; the problem and opportunity statements; a three account analysis of project/program proposals; and the plan recommendations.

Our design for the planning process had scheduled a fifth round of public meetings to review and correct, if necessary, the package of recommendations developed in the fourth round meetings. We were then to hold another round of meetings across the State to accept testimony on the contents of the draft plan prior to forwarding it to the commission for final approval and eventually to the legislature. Due to time and money constraints, we are modifying our original design to handle work intended for the fifth round meetings through the mail. We will then combine the fifth and sixth round meetings thus eliminating the cost in time and travel to hold an extra round of meetings. Our last meetings are now scheduled to run between the first and tenth of November. You will be made aware of the time and place of meetings near you through the Waterways newsletter.



LeRoy Klapprodt
Water Resource Planner

LK:mb

NORTH DAKOTA STATE WATER COMMISSION

REGISTER

ATTENDANCE AT State Water Commission Meeting

DATE September 15, 1982 PLACE Bismarck, N. Dak.

PROJECT NO. _____

Your Name	Your Address	Who do you Represent? (Or Occupation)
Bob Dorothy	Bismarck	SWC
Jim Bullock	Omaha	CHILSTEIDER + Co.
Bruce F. McCollon	Bismarck	Barlett West / Boyle Engineers
DAVE HARDAN	Bismarck	Barlett West / Boyle Engr. Corp.
GALEN ANDERSEN	BISMARCK	NOKOTA
KEN KARLS	BISMARCK	NOKOTA CO.
ALAN AUSTAD	MANDAN	ND ASSOC. of REC'S
Lenny + Emma Rowan	Mandan, ND	Farmer
Jim Eastgate	Bismarck	Burleigh County W'RD
GREG TUROSAK	Bismarck	TRIBUNE
Clayton Hoffman	Bismarck	KBM, Inc
Dean Torreson	Dickinson	Dakota Resource Council
Richard Schilt	New Town	Three Affiliated Tribes
Joe Cichy	Bismarck	SWC
Rosy Sand	Bismarck	SWC