

KANSAS GEOLOGICAL SURVEY

1930 Constant Ave., Campus West
The University of Kansas
Lawrence, Kansas 66047-3726
phone 785-864-3965
fax 785-864-5317

RE: Environmental Review
Morris County RWD#1 – Water System Improvements

Submitted to the Kansas Geological Survey for review by Governmental Assistance Services

Contact individual: Donna J. Crawford, Project Coordinator
Address: Governmental Assistance Services
905 Joseph Drive
Lawrence, KS 66049

The three alternatives described for the RWD water system improvements involve mainly the installation of water lines, along with construction of a water storage standpipe or tank, and for option 2, a pumping station. In general, the long-term benefits of the improvements to the water-supply system should offset any short-term adverse environmental effects during the construction of the water lines and associated storage and/or pumping station.

An aspect missing in the environmental considerations is the sustainability of the quantity and quality of the water supply provided by the three wells of the District, and how potential changes in the sustainability might impact the proposed system improvement options. For example, no mention of such considerations as the location of the wells, ground-water source, long-term water-level responses, potential impact of nearby pumping wells on the long-term availability of the supply, the long-term water quality, and the potential impact of nearby contamination sources was included in the review materials. The District may wish to consider these potential impacts in the options that continue to use the District wells versus the option that relies on the Council Grove supply. Also, has the District considered whether the cost of Council Grove water will have any substantial increases in the long-term?

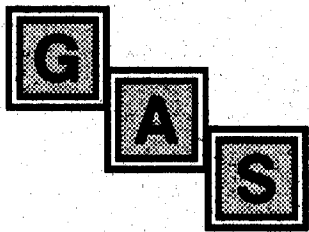
Donald Whittemore
Reviewer's Name

Geohydrology Section, Kansas Geological Survey
Division/Agency

6/23/06
Date

Reviewer's Signature

The above discussion represents our best assessment based on the information that the Kansas Geological Survey has about this locality and/or proposed project at the time of this writing. Other geologic conditions, not discussed herein, or for which the Kansas Geological Survey has no knowledge, may affect the viability or safe operation of this facility or property. The information provided in this letter is from regional or county-wide studies and should not be used as a substitute for detailed site characterization by a licensed geologist or engineer. It is the responsibility of the applicant to provide any required site characterizations.



Governmental Assistance Services

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Lawrence, Kansas 66049

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May 15, 2006

Dr. William Harrison
KS Geological Survey
University of Kansas
1930 Constant Ave. – Campus West
Lawrence, KS 66047

RE: Environmental Review – Morris County RWD #1 – Water System Improvements

Dear Dr. Harrison:

I am attaching all alternatives the rural water district is considering for their water system improvements. Option 3 has been chosen as the alternatives for the improvements. Please note the attached map. The section, township and range are printed on the map and improvements are marked to its relationship.

Please submit all comments to Governmental Assistance Services, 905 Joseph Dr., Lawrence, KS 66049. Please include any comments you may have regarding floodplain areas.

If you have questions regarding the project please contact the rural water district's engineer, Brad Lindstrom, Bartlett & West Engineers at 785-272-2252.

Sincerely,

Donna J. Crawford
Project Coordinator

Enc/ Engineer's Write-up
Project Map

2.2 Environmental Considerations

A complete environmental assessment has not yet been completed for this project. Any mitigating measures identified in the environmental assessment will be addressed in the plans and specifications generated for the construction of this project.

3.0 Existing Facilities

The District currently operates three water supply wells, two elevated storage tanks, and one booster pump station. The District also purchases water from the City of Council Grove to serve the far southeast portion of the system. The groundwater supply is treated with chlorination for disinfecting purposes. Iron and manganese are sequestered through the use of a polyphosphate. No other treatment of the water supply is required. All facilities are in good operating condition, meet the requirements of the Safe Drinking Water Act and Kansas Department of Health and Environment, and are adequate for the addition of the customers requesting service as a part of this project.

4.0 Project Need

The need for this project results from a lack of sufficient quantity and/or quality of existing groundwater supplies within the proposed project area. Many of the domestic wells are in limestone formations that, during extended periods of dry weather, cease to yield water. Domestic wells constructed in alluvium deposits may yield better during dry weather; however, these wells are vulnerable to agricultural contamination, as well as high iron and manganese levels.

5.0 Alternatives Considered

Three options were considered as part of this feasibility study. Option No. 1 involves extending the existing system from the north. Option No. 2 would include constructing a new connection to the City of Council Grove's distribution system. Option No. 3 would involve connecting the District's north system and south system and eliminating the existing Council Grove connection. Maps illustrating each option are included at the end of this study.

With Option No. 1, the existing 6-inch line which runs north and south along Highway 177 would not have enough capacity to serve these potential customers during peak demand periods. Due to the capacity restraints of this pipeline, the District has two options. Either replace the existing pipeline with a larger line or construct some type of storage in the area of the potential customers. Due to the

length of this 6-inch line, it appears to be more economical to construct storage rather than replacing line. For the purposes of this report, we have preliminary sized and located a 12'x115' standpipe in Section 16, Township 15, Range 9 East. The standpipe has been sized based on average day of approximately 20,000 gallons (see Table 1 in the Appendix for average day calculations) and having the top 25' of the standpipe being usable storage. Also with this option, approximately 5 miles of line that is included in the current system expansion project will need to be up-sized.

Option No. 2 involves serving the potential customers from the City of Council Grove's system. With this option, a pump station and storage tank would be required. The pump station has been preliminary located northeast of Council Grove. The standpipe has been located in the same place as Option No. 1. It should be noted that Bartlett & West has made no formal contact with the City of Council Grove involving this option. However, District personnel have visited with the City several times in the past regarding potentially serving additional customers in this area. Potential drawbacks with this option compared to Option No. 1 would be the added operation and maintenance costs associated with the pump station and also the District would be purchasing water rather than producing their own.

Option No. 3 is similar to Option No. 1 except that the new 6-inch line would be constructed further south to connect the north half and south half of the existing system. By connecting the two systems, the District could reduce or eliminate the amount of water it purchases from Council Grove. The current connection could be used as an emergency back up. Also with this option an elevated water storage tank has been assumed rather than a standpipe. The current system south of Council Grove currently averages approximately 27,000 gallons per day. It is estimated that the potential customers will use approximately 20,000 gallons per day. Based on these two average day usages, the elevated water storage tank has been preliminarily sized at 50,000 gallons. Should this option be considered further, the District may want look at constructing a larger tank to handle future growth. Again, no formal contact has been made to the City regarding these options.

6.0 Cost Estimates

Included on the following pages are preliminary cost estimates for each of the three options. The cost estimates are intended only to provide a general guideline as to the magnitude of the proposed project. Prices are based on general trends for this type of construction and the engineer's best judgment. Actual construction prices will vary from the estimates. The preliminary total project cost estimates include, to the best of our knowledge, all anticipated construction and administration costs associated with the project.

Table 6-1. Preliminary Cost Estimate

Option 1 - Service from Existing System

Item No.	Description	Quantity	Unit	Unit Price	Extension
1	6" Cl. 200 ASTM PVC Pipe	14,100	L.F.	\$ 5.75	\$ 81,075.00
2	4" Cl. 200 ASTM PVC Pipe	36,800	L.F.	\$ 4.00	\$ 147,200.00
3	3" Cl. 200 ASTM PVC Pipe	48,600	L.F.	\$ 3.50	\$ 170,100.00
4	2" Cl. 200 ASTM PVC Pipe	49,900	L.F.	\$ 3.00	\$ 149,700.00
5	1.5" Cl. 200 ASTM PVC Pipe	6,000	L.F.	\$ 2.75	\$ 16,500.00
6	Valves	1	LUMP SUM		\$ 21,200.00
7	4" Road Crossing	1	EA.	\$ 4,000.00	\$ 4,000.00
8	3" Road Crossing	4	EA.	\$ 3,500.00	\$ 14,000.00
9	2" Road Crossing	7	EA.	\$ 2,500.00	\$ 17,500.00
10	1.5" Road Crossing	28	EA.	\$ 1,500.00	\$ 42,000.00
11	Stream Crossings	1	LUMP SUM		\$ 27,500.00
12	Air Release Valves, Cleanouts, Etc	1	LUMP SUM		\$ 5,000.00
13	New Meter Setting	61	EA.	\$ 800.00	\$ 48,800.00
14	Standpipe	1	LUMP SUM		\$ 185,000.00
15	Telemetry	1	LUMP SUM		\$ 15,000.00
16	Control Vault	1	LUMP SUM		\$ 10,000.00
17	Existing PRV Modifications	1	LUMP SUM		\$ 5,000.00

CONSTRUCTION COST \$ 959,575.00

COST FOR UPGRADING CURRENT PROJECT \$ 73,500.00

TOTAL CONSTRUCTION COST \$1,033,075.00

Engineering \$ 71,000.00

Inspection (Owner Provided) \$ 41,300.00

Environmental Assessment \$ 3,500.00

Grant Administration \$ 10,000.00

Legal \$ 5,200.00

Land Purchase \$ 5,000.00

Contingencies (5%) \$ 51,700.00

TOTAL PROJECT COST \$1,220,775.00

FINANCING SUMMARY

Total Project Cost \$ 1,220,775.00

Estimated Rural Development Grant/CDBG Grant \$ 560,000.00

Cash Contribution per Customer \$ 2,000.00 \$ 122,000.00

Total Amount to be Financed \$ 538,775.00

Rural Development Annual Loan Payment @ 4.5% Interest \$ 29,278.73

Annual Debt Reserve \$ 2,927.87

Total Annual Payment \$ 32,206.60

Monthly Debt Service Charge per Customer \$ 44.00

Monthly Cost of Water per Customer (5,000 gal. @ \$2.40/1,000 gal.) \$ 12.00

Estimated Average Monthly Water Bill (based on 5,000 gallons usage) \$ 56.00

Table 6-2. Preliminary Cost Estimate

Option 2 - Service from Council Grove

Item No.	Description	Quantity	Unit	Unit Price	Extension
1	6" Cl. 200 ASTM PVC Pipe	30,600	L.F.	\$ 5.75	\$ 175,950.00
2	4" Cl. 200 ASTM PVC Pipe	19,500	L.F.	\$ 4.00	\$ 78,000.00
3	3" Cl. 200 ASTM PVC Pipe	50,400	L.F.	\$ 3.50	\$ 176,400.00
4	2" Cl. 200 ASTM PVC Pipe	51,600	L.F.	\$ 3.00	\$ 154,800.00
5	1.5" Cl. 200 ASTM PVC Pipe	6,000	L.F.	\$ 2.75	\$ 16,500.00
6	Valves	1	LUMP SUM		\$ 21,600.00
7	6" Road Crossing	2	EA.	\$ 4,500.00	\$ 9,000.00
8	4" Road Crossing	1	EA.	\$ 4,000.00	\$ 4,000.00
9	3" Road Crossing	4	EA.	\$ 3,500.00	\$ 14,000.00
10	2" Road Crossing	7	EA.	\$ 2,500.00	\$ 17,500.00
11	1.5" Road Crossing	28	EA.	\$ 1,500.00	\$ 42,000.00
12	Stream Crossings	1	LUMP SUM		\$ 27,500.00
13	Air Release Valves, Cleanouts, Etc	1	LUMP SUM		\$ 5,000.00
14	New Meter Setting	61	EA.	\$ 800.00	\$ 48,800.00
15	Standpipe	1	LUMP SUM		\$ 185,000.00
16	Booster Pump Station	1	LUMP SUM		\$ 50,000.00
17	Telemetry	1	LUMP SUM		\$ 15,000.00
18	Existing PRV Modifications	1	LUMP SUM		\$ 6,000.00

CONSTRUCTION COST \$ 1,047,050.00

Engineering \$ 77,500.00
 Inspection (Owner Provided) \$ 41,900.00
 Environmental Assessment \$ 3,500.00
 Grant Administration \$ 10,000.00
 Legal \$ 5,200.00
 Land Purchase (Two Sites) \$ 10,000.00
 Contingencies (5%) \$ 52,400.00

TOTAL PROJECT COST \$ 1,247,550.00

FINANCING SUMMARY

Total Project Cost \$ 1,247,550.00
 Estimated Rural Development Grant/CDBG Grant \$ 560,000.00
 Cash Contribution per Customer \$ 2,400.00 \$ 146,400.00
 Total Amount to be Financed \$ 541,150.00
 Rural Development Annual Loan Payment @ 4.5% Interest \$ 29,407.79
 Annual Debt Reserve \$ 2,940.78
 Total Annual Payment \$ 32,348.57

 Monthly Debt Service Charge per Customer \$ 44.19
 Monthly Cost of Water per Customer (5,000 gal. @ \$2.40/1,000 gal.) \$ 12.00

 Estimated Average Monthly Water Bill (based on 5,000 gallons usage) \$ 56.19

Table 6-3. Preliminary Cost Estimate

Option 3 - Connecting North and South Existing Systems					
Item No.	Description	Quantity	Unit	Unit Price	Extension
1	6" Cl. 200 ASTM PVC Pipe	73,800	L.F.	\$ 5.75	\$ 424,350.00
3	3" Cl. 200 ASTM PVC Pipe	44,150	L.F.	\$ 3.50	\$ 154,525.00
4	2" Cl. 200 ASTM PVC Pipe	54,400	L.F.	\$ 3.00	\$ 163,200.00
5	1.5" Cl. 200 ASTM PVC Pipe	6,000	L.F.	\$ 2.75	\$ 16,500.00
6	Valves	1	LUMP SUM		\$ 24,500.00
7	6" Road Crossing	2	EA.	\$ 4,500.00	\$ 9,000.00
8	3" Road Crossing	4	EA.	\$ 3,500.00	\$ 14,000.00
9	2" Road Crossing	7	EA.	\$ 2,500.00	\$ 17,500.00
10	1.5" Road Crossing	28	EA.	\$ 1,500.00	\$ 42,000.00
11	Stream Crossings	1	LUMP SUM		\$ 27,500.00
12	Air Release Valves, Cleanouts, Etc	1	LUMP SUM		\$ 5,000.00
13	New Meter Setting	61	EA.	\$ 800.00	\$ 48,800.00
14	50,000 Gallon Elevated Tank	1	LUMP SUM		\$ 250,000.00
15	Telemetry	1	LUMP SUM		\$ 15,000.00
16	Control Vault	1	LUMP SUM		\$ 10,000.00
17	Existing PRV Modifications	1	LUMP SUM		\$ 5,000.00
18	Pressure Reducing Valve Vault	1	LUMP SUM		\$ 6,500.00
19	Chlorination Building	1	LUMP SUM		\$ 30,000.00
CONSTRUCTION COST					\$ 1,263,375.00
COST FOR UPGRADING CURRENT PROJECT					\$ 73,500.00
TOTAL CONSTRUCTION COST					\$ 1,336,875.00
Engineering					\$ 93,500.00
Inspection (Owner Provided)					\$ 53,500.00
Environmental Assessment					\$ 3,500.00
Grant Administration					\$ 10,000.00
Legal					\$ 6,700.00
Land Purchase					\$ 5,000.00
Contingencies (5%)					\$ 66,800.00
TOTAL PROJECT COST					\$ 1,575,875.00
COST DIFFERENCE BETWEEN OPTION 1 AND 3					\$ (355,100.00)
FINANCING SUMMARY					
Total Project Cost					\$ 1,220,775.00
Estimated Rural Development Grant/CDBG Grant					\$ 560,000.00
Cash Contribution per Customer \$ 2,000.00					\$ 122,000.00
Total Amount to be Financed					\$ 538,775.00
Rural Development Annual Loan Payment @ 4.5% Interest					\$ 29,278.73
Annual Debt Reserve					\$ 2,927.87
Total Annual Payment					\$ 32,206.60
Monthly Debt Service Charge per Customer					\$ 44.00
Monthly Cost of Water per Customer (5,000 gal. @ \$2.40/1,000 gal.)					\$ 12.00
Estimated Average Monthly Water Bill (based on 5,000 gallons usage)					\$ 56.00

7.0 Funding Options

It is assumed that funding of these proposed improvements would be accomplished through a combination of the United States Department of Agriculture (USDA) and the Kansas Department of Commerce and Housing (KDHOC) grant and loan programs. KDHOC has a grant program called Community Development Block Grants (CDBG). To qualify for a CDBG grant, the low-and moderate-income (LMI) of an applicant must be above 51%. To determine the LMI percentage an income survey of all the potential beneficiaries must be completed. An 80% return rate is required by the grant program. Applicants can apply for \$2,000 per beneficiary up to a maximum of \$400,000. Under this program, rural water districts are not allowed to directly apply for the grant. The County, where the rural water district boundaries lie within, must apply on their behalf.

For the purposes of this report, it is assumed the District will qualify the CDBG grant. The District would be eligible for up to \$302,000 grant based on the estimated population shown in Table 1 in the Appendix. The remainder of the project would then be financed with a combination of grant and loan funds through USDA Rural Development.

8.0 Past and Projected Revenue and Operating Expenses

The tables on the following pages summarize past revenue and operating expenses for the District. The tables also summarize projected revenue and operating expenses for each of the three options investigated.

Table 8-1. Past and Projected Revenues and Operating Expenses

Option No. 1 - Service from Existing System

	Actual		Estimated	Estimated	
	2003	2004	2006	2007	
Water Sales	339,376	347,941	393,677	436,085	
					Assumed wholesale sales would be the same as 2004 and residential sales would increase by 61 customers using an estimated total of 20,000 gallons per day. Debt service for new customers remains at \$34.
Cost and Operating Expenses					
Personnel Costs	55,116	56,063	57,745	59,044	% increase 2%
Amortization	548	548	559	567	2%
Insurance	6,840	7,052	7,228	7,364	2%
Utilities	29,772	30,953	37,144	42,715	15%
Telephone	1,816	1,993	2,053	2,099	2%
Professional Fees	2,100	2,250	2,318	2,370	2%
Office Supplies	1,611	2,692	2,827	2,933	4%
Postage	1,479	1,266	1,329	1,379	4%
Repairs and Contract Labor	1,736	4,921	5,905	6,791	15%
Taxes	3,035	2,869	2,926	2,970	2%
Rent	6,754	6,025	6,146	6,238	2%
Mileage and Truck	6,898	6,947	7,642	8,215	8%
License and Fess	1,077	717	731	742	2%
Chemicals and Supplies	23,631	28,187	33,824	38,898	15%
Water Purchases	14,010	12,288	14,746	15,483	5%
Kansas Water Fees	3,302	3,251	3,316	3,366	2%
Misc.	2,913	1,964	2,062	2,140	4%
Total	162,638	169,986	188,500	203,313	
Income from Operations	176,738	177,955	205,177	232,772	
Non-Operating Revenues (Expenses)					
Interest Income	10,800	8,937	10,000	10,000	
Interest Expense	(122,103)	(121,020)	(166,000)	(198,500)	Added approx. \$32,500 to 2006. \$32,500 is the new debt payment (principal and interest) amount based on \$540,000 loan.
Flood Damage		(4,020)	0	0	
Other	1,200	2,400	0	0	
Total	(110,103)	(113,703)	(156,000)	(188,500)	
Income before Depreciation	66,635	64,252	49,177	44,272	

Table 8-2. Past and Projected Revenues and Operating Expenses

Option No. 2 - Service from Council Grove

	Actual		Estimated	Estimated	
	2003	2004	2006	2007	
Water Sales	339,376	347,941	393,677	436,085	
					Assumed wholesale sales would be the same as 2004 and residential sales would increase by 61 customers using a estimated total of 20,000 gallons per day. Debt service for new customers remains at \$34.
Cost and Operating Expenses					
Personnel Costs	55,116	56,063	57,745	59,044	% increase 2%
Amortization	548	548	559	567	2%
Insurance	6,840	7,052	7,228	7,364	2%
Utilities	29,772	30,953	37,144	48,287	30%
Telephone	1,816	1,993	2,053	2,099	2%
Professional Fees	2,100	2,250	2,318	2,370	2%
Office Supplies	1,611	2,692	2,827	2,933	4%
Postage	1,479	1,266	1,329	1,379	4%
Repairs and Contract Labor	1,736	4,921	5,905	6,791	15%
Taxes	3,035	2,869	2,926	2,970	2%
Rent	6,754	6,025	6,146	6,238	2%
Mileage and Truck	6,898	6,947	7,642	8,215	8%
License and Fess	1,077	717	731	742	2%
Chemicals and Supplies	23,631	28,187	33,824	34,501	2%
Water Purchases	14,010	12,288	14,746	24,608	5%
Kansas Water Fees	3,302	3,251	3,316	3,366	2%
Misc.	2,913	1,964	2,062	2,140	4%
Total	162,638	169,986	188,500	213,613	
Income from Operations	176,738	177,955	205,177	222,472	
Non-Operating Revenues (Expenses)					
Interest Income	10,800	8,937	10,000	10,000	
Interest Expense	(122,103)	(121,020)	(166,000)	(198,500)	Added approx. \$32,500 to 2006. \$32,500 is the new debt payment (principal and interest) amount based on \$540,000 loan.
Flood Damage		(4,020)	0	0	
Other	1,200	2,400	0	0	
Total	(110,103)	(113,703)	(156,000)	(188,500)	
Income before Depreciation	66,635	64,252	49,177	33,972	

Table 8-3. Past and Projected Revenues and Operating Expenses

Option No. 3 - Connecting North and South Existing Systems

	Actual		Estimated	Estimated	
	2003	2004	2006	2007	
Water Sales	339,376	347,941	393,677	436,085	
					Assumed wholesale sales would be the same as 2004 and residential sales would increase by 61 customers using a estimated total of 20,000 gallons per day. Debt service for new customers remains at \$34.
Cost and Operating Expenses					
Personnel Costs	55,116	56,063	57,745	59,044	% increase 2%
Amortization	548	548	559	567	2%
Insurance	6,840	7,052	7,228	7,364	2%
Utilities	29,772	30,953	37,144	42,715	15%
Telephone	1,816	1,993	2,053	2,099	2%
Professional Fees	2,100	2,250	2,318	2,370	2%
Office Supplies	1,611	2,692	2,827	2,933	4%
Postage	1,479	1,266	1,329	1,379	4%
Repairs and Contract Labor	1,736	4,921	5,905	6,791	15%
Taxes	3,035	2,869	2,926	2,970	2%
Rent	6,754	6,025	6,146	6,238	2%
Mileage and Truck	6,898	6,947	7,642	8,215	8%
License and Fess	1,077	717	731	742	2%
Chemicals and Supplies	23,631	28,187	33,824	38,898	15%
Water Purchases	14,010	12,288	14,746		0%
Kansas Water Fees	3,302	3,251	3,316	3,366	2%
Misc.	2,913	1,964	2,062	2,140	4%
Total	162,638	169,986	188,500	187,830	
Income from Operations	176,738	177,955	205,177	248,255	
Non-Operating Revenues (Expenses)					
Interest Income	10,800	8,937	10,000	10,000	
Interest Expense	(122,103)	(121,020)	(166,000)	(217,500)	
Flood Damage		(4,020)	0	0	
Other	1,200	2,400	0	0	
Total	(110,103)	(113,703)	(156,000)	(207,500)	
Income before Depreciation	66,635	64,252	49,177	40,755	
					Assumed wholesale sales would be the same as 2004 and residential sales would increase by 84 customers using 5,000 per month.
					75% of 2006. (61/84)
					Added approx. \$51,500 to 2006. \$32,500 is the new debt payment (principal and interest) amount based on \$540,000 loan for 61 customers and \$19,000 is new debt payment on additional \$355,100.

9.0 Estimated Project Timeline

Many steps are involved in this type of project, from securing funds through USDA Rural Development and Kansas Department of Commerce and Housing to completion of construction. The following outline would be an estimate for the quickest possible timeline.

<u>Item</u>	<u>Estimated Completion Date</u>
Presentation of Preliminary Engineering Report to Board of Directors	September 14, 2005
Submittal of Application to Rural Development	November 1, 2005
Perform Income Survey of Project Area	January 1, 2006
Obtain Easements and Land Acquisition	March 1, 2006
Public Hearings and Meetings	June 1, 2006
Submittal of CDBG Loan Application	October 1, 2006
CDBG Funds Announcement	January 15, 2007
Review of Project Design by Funding Agencies	April 1, 2007
Advertisement of Project	May 1, 2007
Opening of Bids	June 1, 2007
Award of Contracts	July 1, 2007
Construction Completion	December 31, 2007

Several delays are possible throughout the project, including unforeseen environmental issues, cost overruns, shortage of funds for obligation, and unexpected complications in design issues. It is not likely that the project will proceed faster than outlined above.

10.0 Summary

Based on Tables 8-1 through 8-3, it is recommended the District pursue either Option No. 1 or Option No. 3. Financially, both options are very similar. With Option No. 1, the District's long term debt would be the least and the year end cash surplus would appear to be the greatest. With Option No. 3, the District's long term debt would be the greatest and expenses the least. The increased debt is primarily due to the additional pipeline needed to connect the north and the south systems and the added cost for the elevated water storage tank. If the wholesale rates from Council Grove trend upward in the future, Option No. 3 would likely become the most financially appealing option.

It is recommended the District continue to pursue grant opportunities through Department of Commerce and Housing and Rural Development. First step in doing so would be to conduct a low and moderate income survey for the project area. If the survey comes back favorable, the next step would be to hire a grant administrator to assist the District in completing a formal grant application. The District should also pursue filling out a Rural Development funding application. Rural Development will also require that an environmental assessment be completed and submitted with the application. We would recommend the application and environmental assessment be started after the results of the income survey are known.

APPENDIX

ESTIMATED AVERAGE DAY USAGE FOR 61 CUSTOMERS

CUSTOMER NAME	PEOPLE	DAIRY CATTLE	CATTLE	HORSES	HOGS	SHEEP	AVE DAILY USE	BASE FLOW
A Birzer	4						200	0.0
A. Vogel	3		50				500	0.8
B. Boyce	2		16				212	0.0
B. Day	1						200	0.0
B. Goodman	6						300	0.3
B. Martin	4						200	0.0
C. Rhodes	4						200	0.0
C. Rhodes	4						200	0.0
G. Carpenter	4						200	0.0
D. Andres	6		50		4		666	1.3
D. Andres	2		10				200	0.0
D. Campbell	2						200	0.0
D. Kirk	4						200	0.0
D. Miller	2						200	0.0
D. Powell	2			1			200	0.0
D. Powell	2						200	0.0
D. Wainwright	3		80	15			815	1.7
D. Wilkerson	2		100				800	1.7
C.R. Wilkerson	1		100				750	1.5
C.R. Wilkerson	1		100				750	1.5
D. Wilkerson			100				700	1.4
D. Wilkerson			100				700	1.4
E. Knighton	4						200	0.0
E. Knighton	4						200	0.0
E. Knighton	2						200	0.0
E. Knighton	4						200	0.0
E. Knighton			40				280	0.2
E. Knighton	2						200	0.0
E. Knighton	2						200	0.0
E. Knighton	4						200	0.0
G. Sevenans							200	0.0
H. Slusher	2						200	0.0
H. Wright	4						200	0.0
J. Allen	2						200	0.0
J. Blin	2						200	0.0

CUSTOMER NAME	PEOPLE	DAIRY CATTLE	CATTLE	HORSES	HOGS	SHEEP	AVE DAILY USE	BASE FLOW
J. Boyce	4						200	0.0
J. Buchanan	2						200	0.0
J. Byrum	2		24				268	0.2
J. Holaday	3						200	0.0
J. Lerner	4		13				291	0.3
J. Litke	4						200	0.0
J. Titus-Sigle	2						200	0.0
J. White							200	0.0
J. White			100				700	1.4
K. Hiegert	2						200	0.0
K. Leiker			10				200	0.0
L. Pracht	1						200	0.0
L. Zerbe	1		20	4			218	0.1
M Barber	2						200	0.0
M. Kieffer	2						200	0.0
M. Amos			160				1,120	2.6
R. Nichols	4		20				340	0.4
R. Alexander	2		40				380	0.5
R. Gatton	2						200	0.0
R. McAfee	2						200	0.0
R. McAfee	2						200	0.0
R. Ragschke	1						200	0.0
S. Ochoa	4						200	0.0
S. Zerbe	2						200	0.0
T. Drummond	4						200	0.0
W. Dreese	6				15		360	0.4
W. Shipman	2		100				800	1.7
	151		1,233	20	19	0	19,150	

Large Plate
Not Scanned