

February 9, 2008

Donna J. Crawford
Governmental Assistance Services
905 Joseph Drive
Lawrence, Kansas 66049

Re: Environmental Review - Water System Improvements
 Circleville, KS

Dear Ms. Crawford:

The Kansas Geological Survey (KGS) has received Governmental Assistance Services January 17, 2008, request for comments on behalf of the City of Circleville. Circleville has received a \$370,000 CDBG grant and Rural Development funding to upgrade the city's public water supply system. The grant will finance, in part, a new 50,000 gallon water tank, 7,600 linear ft of water lines, fire hydrants, as well as, replacement of a defective meter and removal of existing standpipe. The project is located within Section 21, T6S, R14E in Circleville, KS.

A review of regional geologic information along with the project summary and site maps provided by Governmental Assistance Services indicates that there are no unduly adverse geologic conditions that should affect this project. However, destruction and removal of Circleville's old water tank could have environmental considerations associated with historical maintenance to the tank. Refurbishing and painting large metal structures can displace lead paint, if present, sometimes leading to elevated lead levels in surface soil around the structure. Additionally, WWC-5 water well records indicate that there is an environmental-related site with numerous monitoring wells along the proposed water line route at Grant and Lincoln St (fig. enclosed). Depending on the proximity of the site to the water line, trenching activity sometimes may either encounter off-site contaminant migration or monitoring wells. Monitoring wells are usually installed in road right-of-way easements or on private property, but exact locations cannot be verified from WWC-5 records.

An agency review form was not included with the environmental request, so the recommended action with regard to the above comments is that clearance of the project should not be delayed. However, the applicant should be aware that an environmental site, its associated monitoring wells, and surface soil around the old water tower may need to be addressed during construction activities.

This letter is an assessment based on the regional geologic conditions available at the KGS at the time of writing and cannot be used in substitute of a detailed site

Donna J. Crawford

February 8, 2008

Re: Environmental Review - Water System Improvements, Circleville, KS

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characterization. Other geologic conditions, not discussed herein, or for which the KGS has no knowledge, may affect the viability or safe operation of this facility or property. It is the responsibility of the applicant to provide any necessary characterization, geotechnical or environmental testing, or design by a licensed professional geologist or engineer to complete the project.

Sincerely,

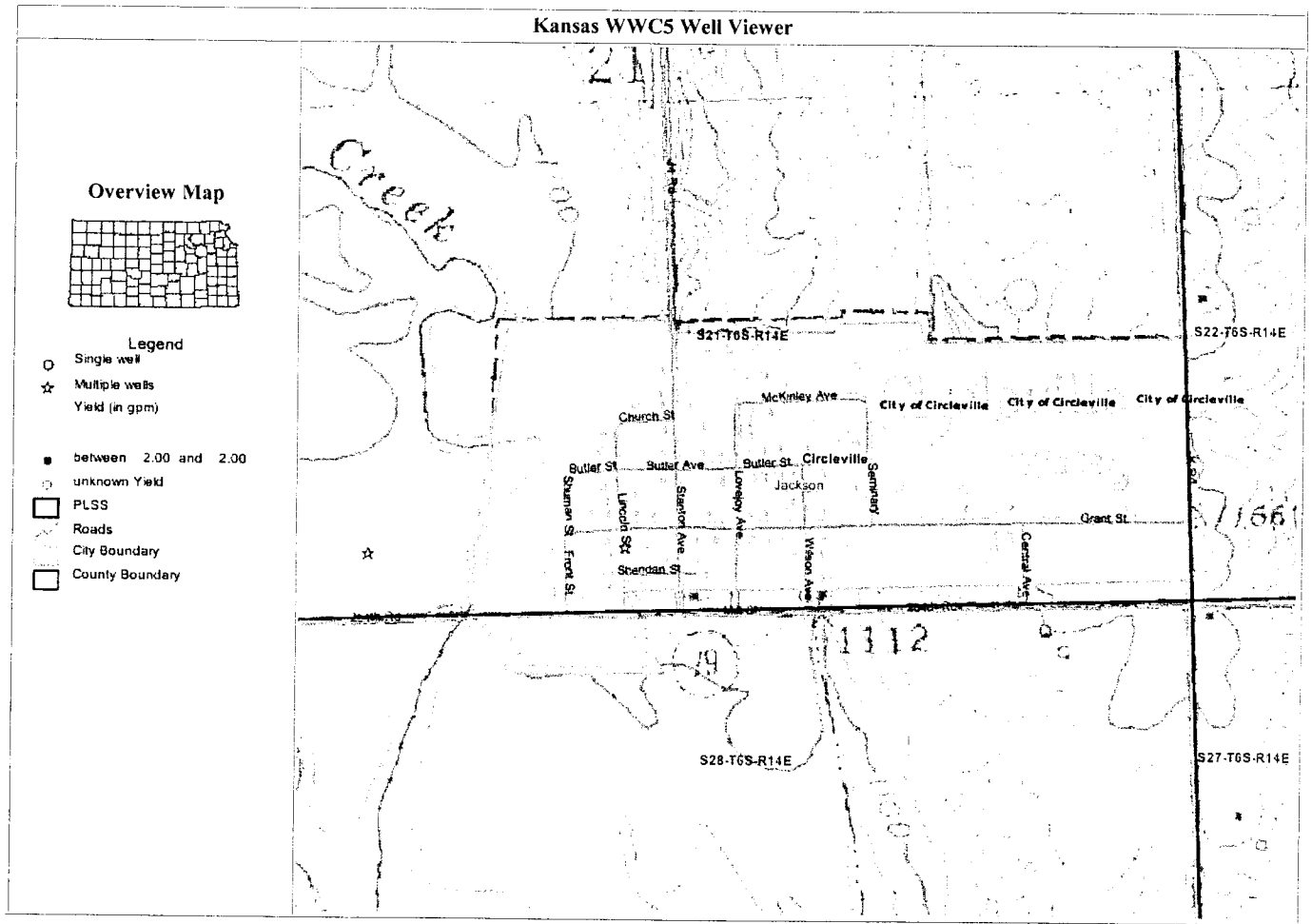
A handwritten signature in black ink, appearing to read "Sh Lyle", written in a cursive style.

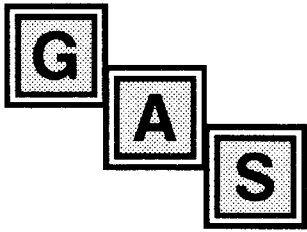
Shane Lyle, RG

Geology Extension Coordinator

Enclosures

cc: Dan Suchy, KGS Data Resources Library





Governmental Assistance Services

905 Joseph Drive

Lawrence, Kansas 66049

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Toll Free 888-832-3335

e-mail: gasdonnaa@sunflower.com

January 17, 2008

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

RE: Environmental Review - Circleville, KS – Water System Improvements

Dear Dr. Harrison:

The City of Circleville, Kansas has received a 2008 CDBG grant for \$370,000 and Rural Development funding to complete \$804,060 of water system improvements. Improvements will be in Township 6 S, Range 14 E, Section 21.

The planned scope of work is to construct a new 50,000 gallon elevated storage tank, installation of 7600 LF of water lines, 14 fire hydrants, replacement of defective meter, and removal of the existing standpipe.

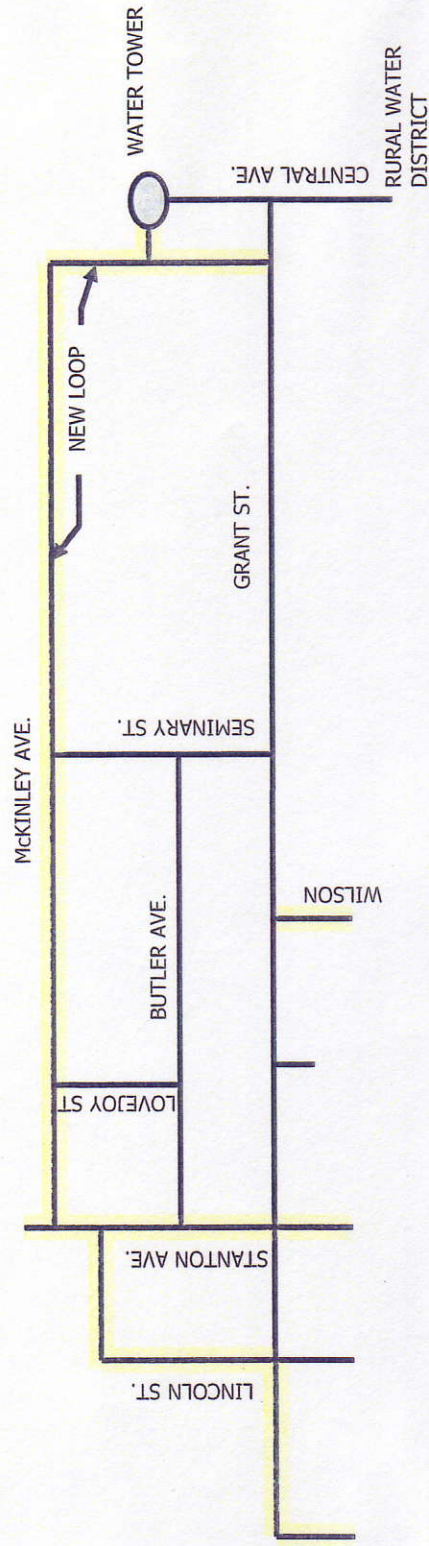
I am attaching BG Consultants' schematic map, USGS map, estimate of costs, project alternatives, and explanation of the scope of work. Please submit all comments either negative or positive to: Governmental Assistance Services, 905 Joseph Dr., Lawrence, KS 66049.

If you need additional information please call Monty Prescott, PE, BG Consultants, at 785-537-7448.

I will appreciate your response.

Sincerely,

Donna J. Crawford
Grant Administrator



NEW OR REPLACED
WATERLINES

Proposed Cost of Project \$804,060

CDBG \$370,000 Grant, \$195,327 USDA-RD Grant, \$238,733 USDA-RD Loan

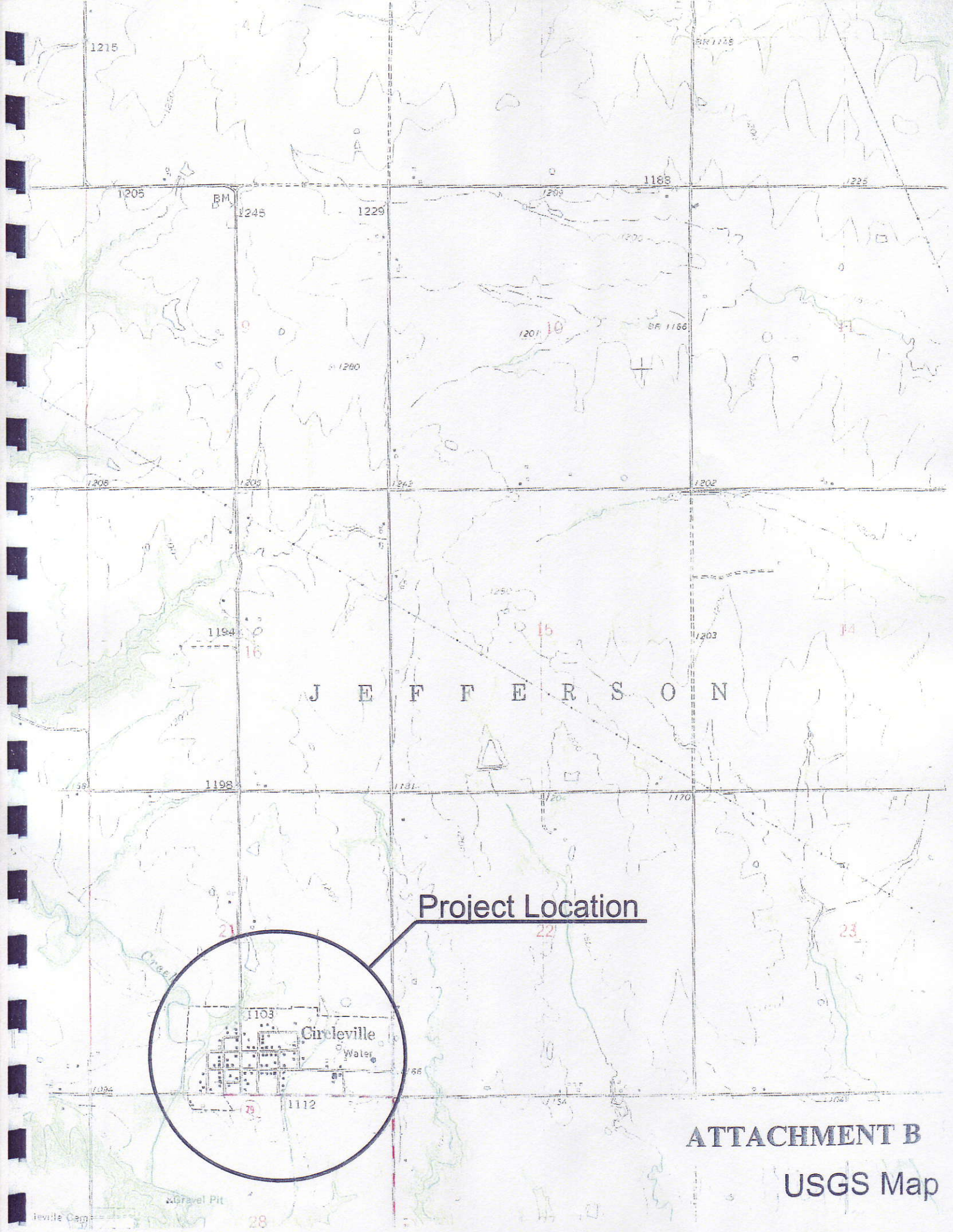
Total amount of money to collect \$43,600 per year

New Base Rate \$15.00 First 1000 gal.

New Usage \$11.00/1000 gal.

Average Increase 40%

5000 gallon per month user would pay \$39.00, now \$30.00



Project Location

ATTACHMENT B
USGS Map

**Opinion of Probable Cost
City of Circleville, Kansas
September 1, 2007**

WATER TOWER

ITEM	ESTIMATED QUANTITY	UNIT PRICE	TOTAL PRICE
1 Mobilization	Lump Sum	\$3,000.00	\$3,000.00
2 Clearing and Grubbing	Lump Sum	1,000.00	1,000.00
3 New 50,000 gal. Elevated Storage Tank	Lump Sum	238,000.00	238,000.00
4 Meter Vault, meter and Control Valve	Lump Sum	23,000.00	23,000.00
5 6' Chain Link Fence	Lump Sum	3,500.00	3,500.00
6 Access Road	Lump Sum	1,000.00	1,000.00
7 Remove Existing Tank	Lump Sum	7,000.00	7,000.00
8 Seeding	Lump Sum	1,000.00	1,000.00
Subtotal for Water Tower			<u>\$277,500.00</u>

WATER DISTRIBUTION

1 Mobilization	Lump Sum	\$7,500.00	\$7,500.00
2 Clearing and Grubbing	Lump Sum	7,000.00	7,000.00
3 6" PVC Waterline	7600 Lin. Ft.	28.00	212,800.00
4 6" Gate Valves	23 Each	900.00	20,700.00
5 Fire Hydrant Setting w/ Gate Valve	14 Each	2,800.00	39,200.00
6 Connection to Existing Waterlines	5 Each	1,000.00	5,000.00
7 Surfacing Replacement (In Kind)	Lump Sum	28,000.00	28,000.00
8 Road Crossings	8 Each	750.00	6,000.00
9 Seeding	Lump Sum	7,209.09	7,209.09
Subtotal for Water Distribution			<u>\$333,409.09</u>
Subtotal for Water Tower			<u>\$277,500.00</u>
Subtotal Construction			<u>\$610,909.09</u>
Construction Contingency			<u>\$61,090.91</u>
Total Construction Cost			<u>\$672,000.00</u>
Contingency, Design, Const. Adm., Legal Financing, etc.			<u>\$132,060.00</u>
Opinion of Probable Cost			<u>\$804,060.00</u>

ENGINEERING REPORT

WATER SYSTEM STUDY



CITY OF CIRCLEVILLE

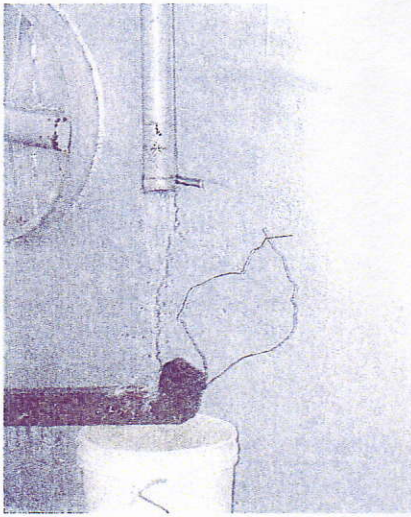
September 2007

04-062M

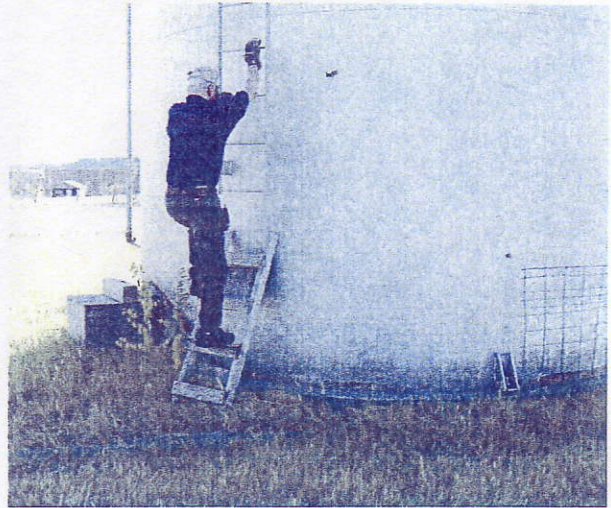


BG CONSULTANTS, INC.
Engineers - Architects - Surveyors





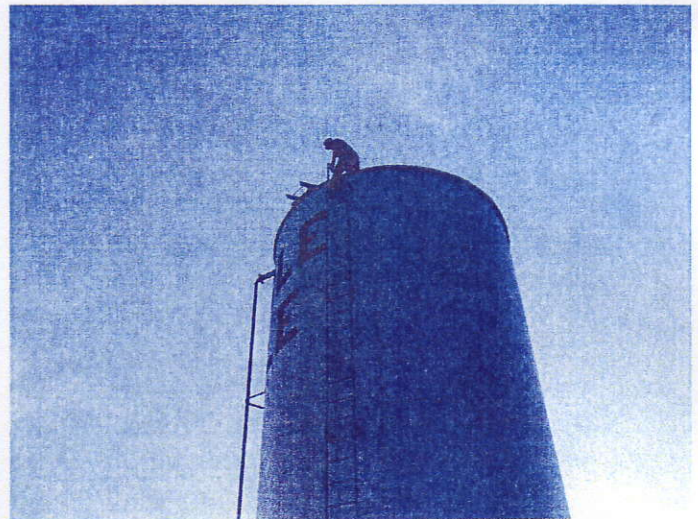
Overflow from water tower being to full.



Starting to climb up the tower.



Climbing the tower, mid-way up.



At the top of the tower with no safety equipment.



Also

Lawrence, KS. • Hutchinson, KS • Emporia, KS

local water rates would climb above \$70 a month. None of our citizens can afford these exorbitant rates.

The city needs you for gap financing to complete the proposed project. Rural Development has stated they will participate in the project if the city receives the grant of \$370,000.

2. Project Alternatives

A. Alternatives

In January 2002 Olsson Associates completed an engineering study to determine alternatives which would solve the deficiencies of the city's water system. Their engineering report did not address the very low pressure problems of the rural water deliverance to the city. It did not exist during their study.

B.G. Consultants was hired to update Olsson's report and to submit a grant request in 2005 & 2006. The city was not awarded. Therefore, in July 2007 the city requested BG Consultants to re-evaluate their previous update of the water system defects. The following defects were identified: pressure problems of less than 50 psi for water deliverance from the rural water district, OSHA violation of tower ladder, undersized antiquated water tower and distribution system. The pressure deliverance problem was the new issue identified during the last review.

Alternatives considered for the water tower were:

A new standpipe. The standpipe will work for water pressure but the city will have excess water in the standpipe that will not be used. The standpipe will store approximately 64,000 gallons of which the upper portion of the tower will only be used for creating water pressure. Disinfecting the water will become an issue because the additional storage would be for firefighting and other domestic uses.

Second, **construct a 50,000 gallon elevated water tower.** The elevated water tower will provide adequate water pressure. The storage tank will be the proper size and will not have excess.

Even though the standpipe was estimated by Olsson Associates to cost less than the 50,000 gallon elevated tank, it was determined the operation & maintenance costs would be less per year on the 50,000 gallon elevated tower. The city does not wish to disinfect water they were purchasing at such an expensive rate.

Alternatives considered for water line replacement:

- **Cleaning of existing water lines:** This has been termed pigging and is not effective when the waterlines are too small to begin with. The water losses in the model indicate that the small diameter waterlines will not provide adequate flows.

The waterlines are also very old and brittle. Cleaning or pigging of the waterlines is not an option.

- **Pipe Bursting:** Pipe bursting is normally used in the sanitary sewer industry but can be applied to water lines. This method involves waterlines being replaced by pulling a new waterline through the old and shattering the old line. The shattered pieces are thrust into the adjacent soil. The water connections are also broken during the process and have to be replaced. This is not the preferred alternative because it is expensive and would cause the surrounding property owners to be without water while the broken water service connections are repaired. A temporary water supply can be built above the ground to supply normal water while the pipe bursting is completed.
- **No Action.** This option would obviously be the least expensive but is not a worthy solution because water pressures are currently below the KDHE minimum of 20 psi.
- **Build adjacent waterlines:** This alternative would build a new waterline adjacent to the existing waterline. The old waterline would remain in service while the new one is installed and services would be connected when the new waterline is completed. This is the preferred alternative because it is the least expensive solution and will correct the problems.

Estimates have changed since Olsson Associates completed their report. B.G. estimated in 2005 that the elevated storage tank would cost \$257,000. The water distribution upgrades would cost \$483,669.01. A total project estimate would be \$740,669.01. Materials costs have increased from 2005 to the current date. Therefore, B.G. estimates total project costs of \$804,060.

There is approximately a \$90,000 difference in the standpipe versus the elevated storage tank. The city still concludes the elevated storage tank is the best choice to prevent disinfection measures which would have to be expedited on their very expensive water purchase per 1,000 gallons of water.

The choice of the scope of work is the best solution to the problem and in the end will be much more cost effective.

The water supply pressure increase to 50 psi deliverance had only one alternative. The city could not afford to make upgrades to the rural water district system. The water supply contract agreement stated the RWD will supply water at a rate of 25 gpm and at a pressure of 50 psi at the connection point. The pressure of 50 psi is very important because without a 50 psi the proposed water tower cannot be filled. RWD #3 has agreed to honor their contract and complete the necessary improvements to supply the 50 psi prior to the completion of the city's proposed water system improvements. The rural

water district will save the city approximately \$271,000. The total the city will finance is \$804,060.

Financial alternatives were investigated as well. If the city financed the project with KDHE revolving loan funds water rates would have to be increased by approximately \$29.81 for a total rate for 5,000 gallons for \$68.81.

A Rural Development grant/loan scenario was the only acceptable alternative combined with a grant award. RD will not participate without your gap financing.

The proposed financial package is your \$370,000 grant, a Rural Development grant of \$195,327 and a \$238,733 Rural Development loan. The average water bill for 5,000 gallons of water usage per month will be \$59.00. This represents an increase from \$39 per month for an approximate 51% increase. This alternative is the most cost effective. The citizens of Circleville agree they will endure this expense to acquire safe healthy drinking water.

B. Scope of Work

If funded, the city will construct a new 50,000 gallon elevated storage tank, demolish the old tank, install 7600 LF of 6" PVC water lines to replace the crumbling distribution system while replacing 5 connections to existing lines. 23 new 6" water control valves will be added so the entire town does not have to be without water when line leaks occur. Other miscellaneous upgrades will be: replacement of 14 fire hydrants, settings with gate valves, surface & road crossing replacement, grubbing, removal of the existing standpipe and other appurtenance upgrades.

Your grant funds will fund \$351,750 of the tower and line upgrades and \$18,250 to pay administrative costs or \$2,000 per beneficiary for the CDBG portion of the project. Rural Development funds have been requested to pay construction, Eng. Design & Inspection, staking, publications, interim financing and legals. A total of \$434,060 will be spent on the above line items.

Upon awarding of the grant the city will be prepared to request the release of funds. Rural Development's requirement of completing an environmental assessment has been completed. Release of funds should be approved by March 15, 2008, design completed by April 1, 2008, design approved by KDHE May 1, 2008, bid advertisement May 15, 2008, bid opening June 15, 2008, begin construction July 15, 2008 and construction completion July 2009.

C. Force Account Labor

The above scope of work will be completed by a general contractor. No force account labor will be used on this project.