KU KANSAS GEOLOGICAL SURVEY
The University of Kansas

July 13, 2009

Don Hellar, P.E.
EBH & Associates. P.A.
303 S. Main
Pratt, KS 67124

RE: Project to make water distribution system improvements for the City of Goodland, Kansas

Dear Mr. Hellar,

The Kansas Geological Survey (KGS) has received your letter dated July 7, 2009, requesting environmental review comments for the above referenced project.

A review of regional geologic information and project information provided with the request indicates that there are no unduly adverse geologic conditions that should affect this project. Site-specific conditions may need to be considered prior to commencement of the project. A completed request-for-comments form is enclosed.

This assessment was based on regional geologic and project information available to the KGS at the time of the review and should not be used for a detailed site characterization. Other geologic conditions, not discussed herein, or for which the KGS has no knowledge, may affect the feasibility of this project. It is the responsibility of the applicant to provide any necessary site characterizations, geotechnical or environmental testing, or design by a licensed professional geologist or engineer to complete the project.

If you have questions please do not hesitate to contact me at my office (785 864-2068).

Sincerely yours,

P. Allen Macfarlane

Project Review Form
Water System Improvements
Goodland, Kansas

The following form may be used by the Review Agency/Commission for comments in response to the request for clearance from the proposed Public Water Supply Loan Fund Project.

_____	Army Corps of Engineers
_____	Kansas Biological Survey
_____	State Conservation Commission
_____	Kansas Corporation Commission
_____	Division of Water Resources/Kansas Department of Agriculture
X	Kansas Geological Survey
_____	Kansas State Historical Society, State Historic Preservation Office
_____	Kansas Water Office
_____	Kansas Department of Wildlife & Parks
_____	US Dept. of Agriculture – Natural Resources Conservation Service
_____	Kansas Department of Health and Environment
_____	US Dept. of the Interior – Fish and Wildlife Service

Agency Review Comments: (to be completed by reviewing agency and returned to applicant contact person at name and address shown below.)

Comments: See attached letter

Recommended Action: (to be completed by the review agency and returned to applicant contact person at name and address shown below.)

X	Clearance of project should be granted
_____	Clearance of project should not be granted
_____	Clearance of project should be delayed until the issues or questions have been clarified.
_____	Clearance of Project should not be delayed, by the applicant (in the application) address or clarify the questions or concerns indicated above.)

P. Allen MacFarlane	KGS	7/13/05
Reviewer's Name	Division/Agency/Commission	Date

Project Title: Public Water Supply Loan Fund Application

Applicant: City of Goodland, Kansas

Contact Person: Don Hellar, P.E.

Address: 306 S. Main St.

City, State, Pratt, KS Zip 67124 Phone: 620-672-1112

HP 3180 Fax

Fax Log for
Kansas Geological Survey
17858645317
Jul 13 2009 3:51p

Last Transaction

Date	Time	Type	Station ID	Duration	Pages	Result
Jul 13	03:50p	Fax Sent	816206721909	1:00	2	OK

EBH
& Associates
Evans - Bierly - Hutchison & Associates, P.A
306 S. Main
Pratt, Kansas 67124
(620) 672-1112
FAX (620) 672-1309

ENGINEERS • SURVEYORS

E-Mail: alan@ebhengineering.com

July 7, 2009

Kansas Geological Survey
University of Kansas
1930 Constant Ave., Campus West
Lawrence, KS 66047

Re: City of Goodland, Kansas
Kansas Public Water Supply Loan Fund
Water System Improvements

Dear Sir,

The City of Goodland, Kansas is preparing an application to the Kansas Department of Health and Environment for a loan from the Kansas Public Water Supply Loan Fund for a water system improvement project. The Project Description, Site Map, Opinion of Probable Cost and Project Review Form are enclosed.

Due to the nature of the stimulus funding and completion of this assessment in a timely manner, I request your immediate consideration of this request. Please return the review form to my attention as soon as possible, as indicated on the Project Review Form. You can fax me your response at 620-672-1112 and mail the original to me at 306 S. Main St., Pratt, KS 67124. Should you have any questions or need additional information, please e-mail my office at donh@ebhengineering.com or call me at 620-672-1112.

Sincerely,

Don Hellar

Don Hellar, P.E.
EBH Engineers

encl.

PROJECT DESCRIPTION
WATER SYSTEM IMPROVEMENTS
GOODLAND, KANSAS

Pipe Installation:

Well 6, 10 & 13 to 6th & Kansas Avenue:

1. Well 10 to Well 6 – Install 6" waterline from Well 10 South to the South side of 18th Street. Install waterline West on South side of 18th Street to East side of Cherry Street. From 18th Street South on East side of Cherry Street to North side of 18th Street. From Cherry Street West on North side of 18th Street to West side of Caldwell Avenue. From 18th Street on the West side of Caldwell Avenue to North side of 19th Street. From Caldwell Avenue on the North side of 19th Street to Well 6.

2. Well 7 to 17th Street & Cattletrail Avenue - Install 6" waterline from Well 7 Southwest to North side of 17th Street. Install waterline West on North side of 17th Street to Cattletrail Avenue.

3. Well 6 to 17th Street & Cattletrail Avenue – Install 8" waterline from Well 6 West on North side of 19th Street to East side of Cattletrail Avenue. From 19th Street North on East side of Cattletrail Avenue to North side of 17th Street.

4. 17th Street & Cattletrail Avenue to 10th Street & Cattletrail Avenue – Install 10" waterline North on East side of Cattletrail Avenue from North side of 17th Street to South side of 10th Street.

5. Well 13 to 10th Street & Cattletrail Avenue – Install 6" waterline from Well 13 West on South side of 10th Street to East side of Cattletrail Avenue.

6. 10th Street & Cattletrail Avenue to 6th Street & Kansas Avenue – Install 10" waterline North on East side of Cattletrail Avenue to North side of 8th Street. From Cattletrail Avenue East on North Side of 8th Street to West side of Kansas Avenue. From 8th Street North on West side of Kansas Avenue to North side of Sixth Street.

Well 3 & 5 to 6th Street & Kansas Avenue:

1. Well 5 to Sherman Avenue & 6th Street – Install 6" waterline from Well 5 West on North side of 6th Street to East side of Sherman Avenue.

2. Well 3 to Sherman Avenue & 6th Street – Install 6" waterline from Well 3 West to East side of Sherman Avenue. Install waterline North on Sherman Avenue to North side of 6th Street.

3. Sherman Avenue & 6th Street to 6th Street & Kansas Avenue – Install 8" waterline from Sherman Avenue West on North side of 6th Street to West side of Kansas Avenue.

6th & Kansas Avenue to 4th & Kansas Avenue:

1. 6th & Kansas Avenue to 4th & Kansas Avenue – Install 12" waterline North on West side of Kansas Avenue to South side of 4th Street.

North Wells to 4th & Kansas Avenue:

1. Well 8 to Well 9 & 11 – Install 6" waterline North on East side of Caldwell Avenue from existing 8" waterline from Well 8 to existing 10" waterline from Well 9 & 11 crossing Caldwell Avenue.

2. Well 8, 9 & 11 to Well 12 - Install 10" waterline West from existing 10" waterline at Spruce Road & Cottonwood Road to West side of Cottonwood Road. From Spruce Road South on West side of Cottonwood Road to South side of 4th Street.

4th Street & Kansas Avenue to Building:

1. 4th Street & Kansas Avenue to Building – Install 16" waterline West from West side of the intersection of 4th Street & Kansas Avenue to building.

2" Pipe from Building to Evaporation Ponds:

1. 2" Pipe from Building to Evaporation Ponds – Install 2" pipe East to West side of Kansas Avenue. Install pipe South on West side of Kansas Avenue to North side of 8th Street. From Kansas Avenue West on North side of 8th Street to East side of Cattaltrail Avenue. From Cattletrail Avenue Southwest to East side of Kansas Highway 27. Install pipe South on East side of Kansas Highway 27 approximately 700 feet and then cross to the West side of Kansas Highway 27. Continue South on West side of Kansas Highway 27 approximately 1720 feet and then continue West approximately 1420 feet to new Evaporation Ponds.

Treatment Building Site

The treatment building will be located in block 4, on the south side of fourth street (to be constructed), on the west side of Kansas Avenue. This lot is located in Section 18, Township 8 S., Range 39W.

Evaporation Pond Site

The evaporation ponds will be located in the northwest three lots in the industrial park. These lots are located in Section 24, Township 8, Range 40 W.

See the attached drawing for the location of the proposed water improvements.

OPINION OF PROBABLE COST:

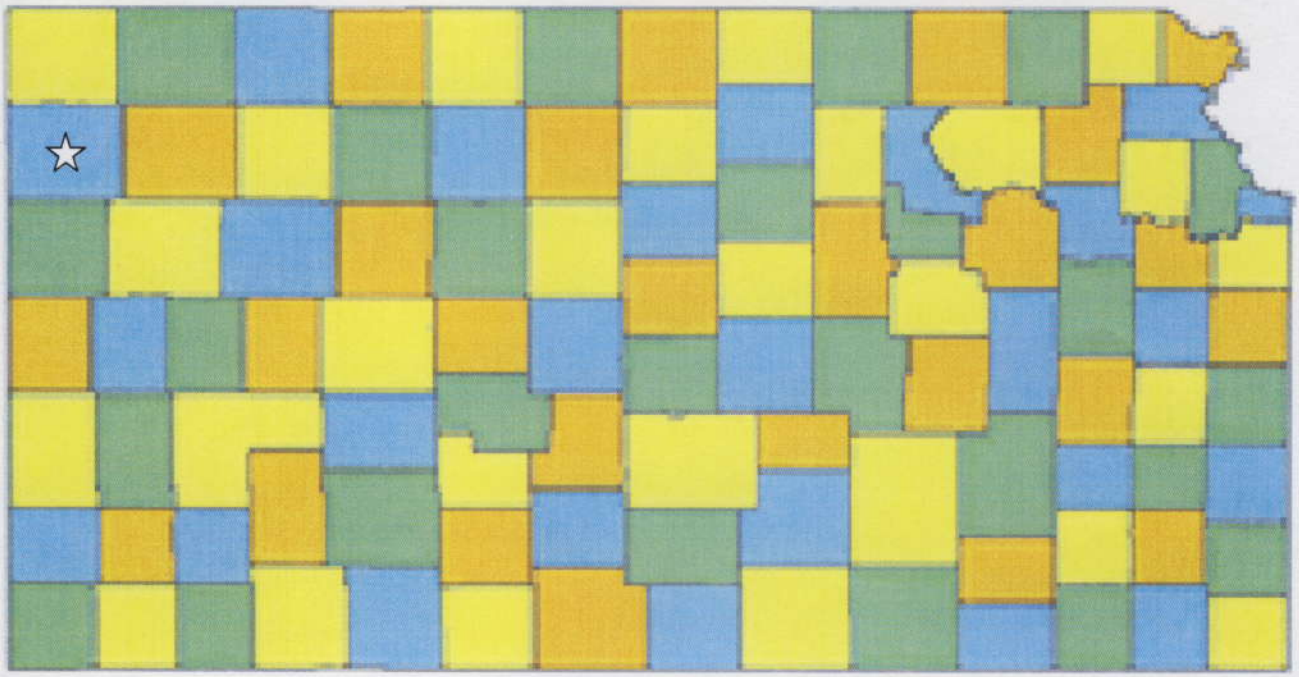
The Opinion of Probable Cost for implementing the recommended solution outlined above is **$5,296,348.85** The attached **Opinion of Probable Costs** presents a breakdown of these anticipated costs.

Goodland Water Improvements **June 22, 2009**

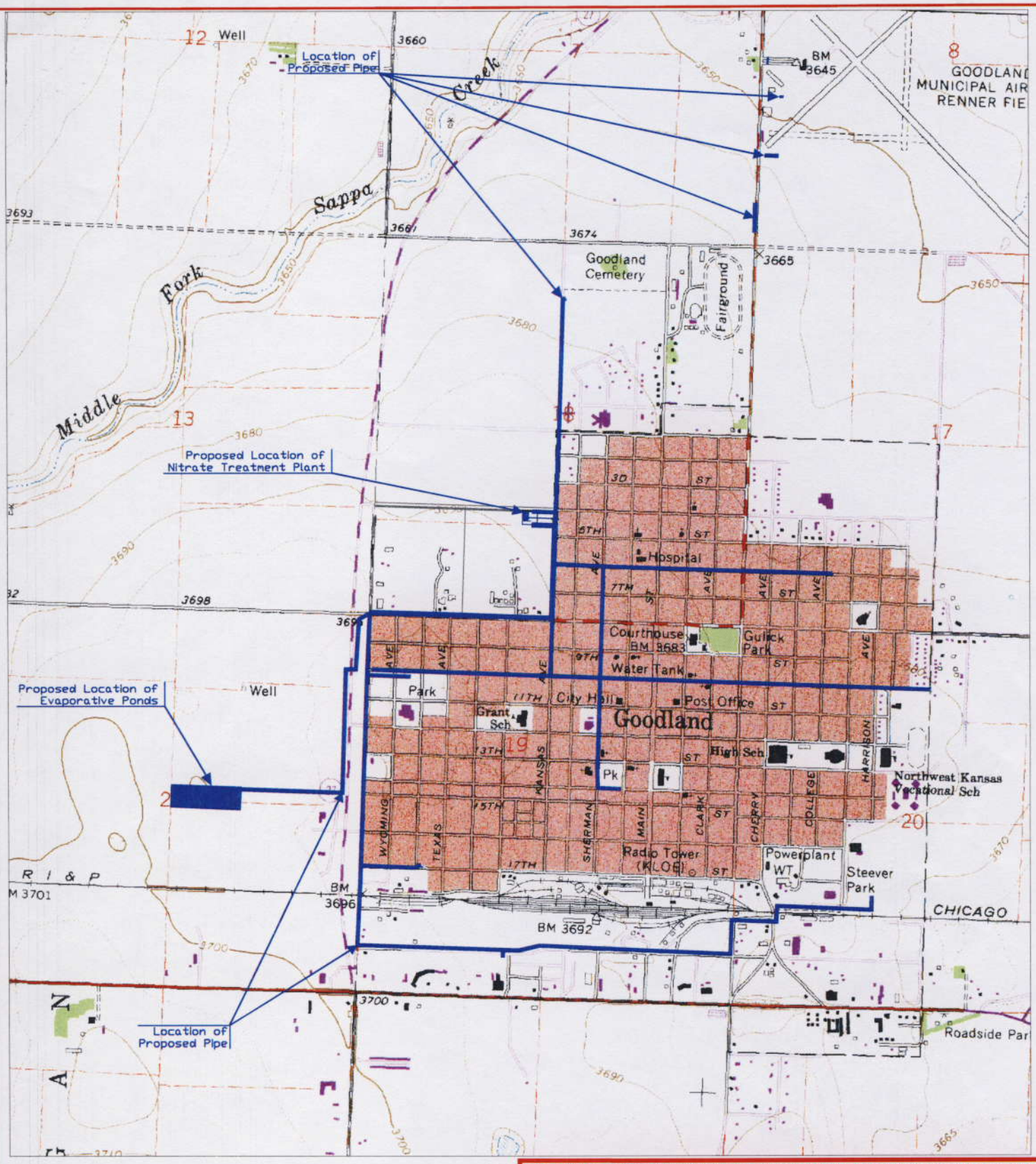
Central Location & Treatment at Well 12 and Distribution System

Well 6, 7, 10 & 13 to 6th and Kansas	Well 10 to Well 6						**$ 200,500.00**
		disconnect at Well 10	1	ea	$ 4,000.00	$	4,000.00
		6" PVC	5770	lf	$ 30.00	$	173,100.00
		bore 6"	80	lf	$ 75.00	$	6,000.00
		bore and case 6"	150	lf	$ 100.00	$	15,000.00
		6" valve	3	ea	$ 800.00	$	2,400.00
	Well 7 to to 17th & Cattletrail						**$ 35,900.00**
		disconnect at Well 7	1	ea	$ 4,000.00	$	4,000.00
		6" PVC	660	lf	$ 30.00	$	19,800.00
		bore 6"	140	lf	$ 75.00	$	10,500.00
		6" valve	2	ea	$ 800.00	$	1,600.00
	Well 6 to 17th & Cattletrail						**$ 112,900.00**
		disconnect at Well 6	1	ea	$ 4,000.00	$	4,000.00
		8" PVC	2930	lf	$ 30.00	$	87,900.00
		bore 8"	70	lf	$ 90.00	$	6,300.00
		bore and case 8"	100	lf	$ 120.00	$	12,000.00
		8" valve	3	ea	$ 900.00	$	2,700.00
	17th & Cattletrail to 10th & Cattletrail						**$ 130,300.00**
		10" PVC	2280	lf	$ 35.00	$	79,800.00
		bore 10"	420	lf	$ 115.00	$	48,300.00
		10" valve	2	ea	$ 1,100.00	$	2,200.00
	Well 13 to 10th & Cattletrail						**$ 26,750.00**
		disconnect at Well 13	1	ea	$ 4,000.00	$	4,000.00
		6" PVC	530	lf	$ 30.00	$	15,900.00
		bore 6"	70	lf	$ 75.00	$	5,250.00
		6" valve	2	ea	$ 800.00	$	1,600.00
	10th & Cattletrail to 6th & KS						**$ 241,700.00**
		10" PVC	2900	lf	$ 35.00	$	101,500.00
		bore 10"	1200	lf	$ 115.00	$	138,000.00
		10" valve	2	ea	$ 1,100.00	$	2,200.00
Well 3 & 5 to 6th & Kansas	Well 5 to Sherman/6th						**$ 126,800.00**
		disconnect at Well 5	1	ea	$ 4,000.00	$	4,000.00
		open trench 6"	2640	lf	$ 30.00	$	79,200.00
		bore 6"	560	lf	$ 75.00	$	42,000.00
		6" valve	2	ea	$ 800.00	$	1,600.00
	Well 3 to Sherman/6th						**$ 132,800.00**
		disconnect at Well 3	1	ea	$ 4,000.00	$	4,000.00
		open trench 6"	2840	lf	$ 30.00	$	85,200.00
		bore 6"	560	lf	$ 75.00	$	42,000.00
		6" valve	2	ea	$ 800.00	$	1,600.00
	Sherman/6th to 6th/Kansas						**$ 36,900.00**
		open trench 8"	540	lf	$ 30.00	$	16,200.00
		bore 8"	210	lf	$ 90.00	$	18,900.00
		8" valve	2	ea	$ 900.00	$	1,800.00
6th & K	6th & KS to 4th & KS						**$ 27,500.00**
		12" PVC	700	lf	$ 35.00	$	24,500.00
		12" valve	2	ea	$ 1,500.00	$	3,000.00
North Wells to 4th & KS	Well 8 to Well 9/11						**$ 18,000.00**
		open trench 6"	450	lf	$ 30.00	$	13,500.00
		6" valve	3	ea	$ 1,500.00	$	4,500.00
	Well 8-9-11 to Well 12						**$ 153,500.00**
		disconnect at Well 9	1	ea	$ 4,000.00	$	4,000.00
		disconnect from potable system	4	ea	$ 4,000.00	$	16,000.00
		potable system reconnects	4	ea	$ 5,000.00	$	20,000.00
		open trench 10"	3100	lf	$ 35.00	$	108,500.00
		10" valve	2	ea	$ 1,500.00	$	3,000.00
		disconnect at Well 12	1	ea	$ 2,000.00	$	2,000.00
4th & K	4th & KS to Bldg						**$ 15,250.00**
		16" PVC	350	lf	$ 35.00	$	12,250.00
		16" valve	2	ea	$ 1,500.00	$	3,000.00
Common	Tank and High Service Pumps						**$ 360,000.00**
		100,000 gal tank	1	ea	$ 225,000.00	$	225,000.00
		High service pumps with VFD	3	ea	$ 30,000.00	$	90,000.00
		Inlet piping	1	ea	$ 22,500.00	$	22,500.00
		Discharge piping	1	ea	$ 22,500.00	$	22,500.00
	Central Location						**$ 1,834,185.00**
		Building	4800	sf	$ 65.00	$	312,000.00
		Nitrate Removal Equipment	1650	gpm	$ 388.60	$	641,185.00
		Chlorine equipment	1	ea	$ 32,000.00	$	32,000.00
		Discharge piping	1	ea	$ 100,000.00	$	100,000.00
		Controls	1	ea	$ 30,000.00	$	30,000.00
		Office Equipment	1	ea	$ 22,000.00	$	22,000.00
		Evap Ponds	5.2	ac	$ 85,000.00	$	442,000.00
		Pump to Evap Ponds	1	ea	$ 25,000.00	$	25,000.00
		Pipe to Evap Ponds - 2"	8300	lf	$ 20.00	$	166,000.00
		Fence	2400	lf	$ 25.00	$	60,000.00
		Seeding	1	ea	$ 4,000.00	$	4,000.00
	Distribution Upgrade to Accommodate New Configuration (10th St)						**$ 1,759,500.00**
		open trench 16"	7800	lf	$ 100.00	$	780,000.00
		bore 16"	1400	lf	$ 100.00	$	140,000.00
		16" valve	60	ea	$ 2,500.00	$	150,000.00
		open trench 20"	2450	lf	$ 50.00	$	122,500.00
		bore 20"	140	lf	$ 100.00	$	14,000.00
		20" valve	6	ea	$ 3,500.00	$	21,000.00
		Fire Hydrants	12	ea	$ 3,500.00	$	42,000.00
		service connections	100	ea	$ 2,500.00	$	250,000.00
		Connection to existing watermains	24	ea	$ 10,000.00	$	240,000.00
		Controls Upgrades	1	ls	$ 75,000.00	$	**75,000.00**
	Construction					$	**4,721,035.00**
	Design Engineering					$	236,051.75
	Construction Engineering					$	236,051.75
	Survey					$	25,000.00
	Construction Staking					$	5,000.00
	O&M Manual					$	15,000.00
	Notice of Intent					$	3,000.00
	Loan Administration					$	55,210.35
						$	**5,296,348.85**

Water System Improvements 2009
Goodland, Kansas



General Location Map



CITY OF GOODLAND, KS

WATER SYSTEM IMPROVEMENTS 2009

DATE 7/7/09

JOB NO. 4209035

EBH & Associates
ENGINEERS, PLANNERS & SURVEYORS
Evans-Bierly-Hutchison & Associates, P.A.
Offices in Kansas
Great Bend, Cimarron, Goodland, Neodesha & Pratt

SHEET NO. 1 OF 1