

Project for application for USDA Rural Development Assistance

Applicant: City of Ellis
Water supply treatment and softening facility

Contact Person: David E. Barber
Address: USDA Rural Development
2715 Canterbury Drive
Hays, KS 67601

Sent to the Kansas Geological Survey for environmental review.

Agency Review Comments:

Cities in Kansas that supply chemically hard water to residents but that do not soften the water typically have wastewaters with substantially greater dissolved solids, especially higher sodium and chloride concentrations, than in the supply water. Many residents use conventional water softeners in their homes; the softeners involve the use of salt (halite or sodium chloride) to regenerate the exchange media in the water softener. The waste discharge from the water softener is saline and, thus, increases the salinity of the wastewater in the sewer system. The proposed improvements to the treatment of the water supply will include softening of the hard water supply. Thus, the residents will either not need water softeners or will not need to regenerate the exchange media as often if they continue to use home softeners. This will have a beneficial effect of reducing the salinity of the treated wastewater discharged from the City. In addition, the residents with water softeners will not have to spend as much on home softening and replacement of water heaters as before, which will make it easier for them to pay the increased water supply charge to the City. The long-term benefits of the improved water quality, both to the residents and industry and to the waters receiving the treated wastewater of the City, are expected to offset any short-term adverse impacts during construction of the water-supply system improvements.

Recommended Action:

- ☒ 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, but the applicant (in the application) should address or clarify the questions or concerns indicated above
- ☐ Request the opportunity to review final application prior to submission to the federal funding agency.

Donald Whittemore
Reviewer's Name

Geohydrology Section, Kansas Geological Survey
Division/Agency

9/9/2005
Date


Reviewer's Signature



**United States Department of Agriculture
Rural Development**

August 16, 2005

KS Geological Survey
Dr. Lee Allison, Director
1930 Constant Ave
Lawrence, KS 66047

Subject: Agency Review Transmittal Form

City of Ellis has submitted an application to USDA, Rural Development, 2715 Canterbury Drive, Hays, KS 67601 to construct a water treatment and softening facility and the possibility of replacing distribution lines.

The project will comply with appropriate State laws concerning the application.

I have enclosed an "Agency Review Transmittal Form" for your response back to this office. You may also contact this office if you have any questions regarding the proposed project.

USDA, Rural Development will not obligate funds for this project until after the 30 days have expired and until we have completed an Environmental Assessment of the project. You may fax your response back to us at (785) 625-6065. Thank you for your attention to this matter.

Sincerely,

David E. Barber
Area Specialist

Enclosure

DEBarber:lz

2715 Canterbury Drive • Hays, KS 67601
(785) 628-3081 • Fax (785) 625-6065 • www.rurdev.usda.gov/ks

Committed to the future of rural communities

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City of Ellis has made application for a USDA loan/grant for purpose of constructing a water treatment and softening facility of municipal water. The city has rights for eight (8) wells, however we are operating only five (5) and most of the time four (4). Two of those five wells rely solely on rainfall and during these drought conditions we use them only sparingly, thus we have three (3) wells to serve our community of approximately 1900 citizens as well as local businesses. The City Council implemented Stage II of our water conservation plan in May 2003 which calls for no outside watering from noon-7:00 p.m. year round. Citizens receive a report of usage weekly in the newspaper.

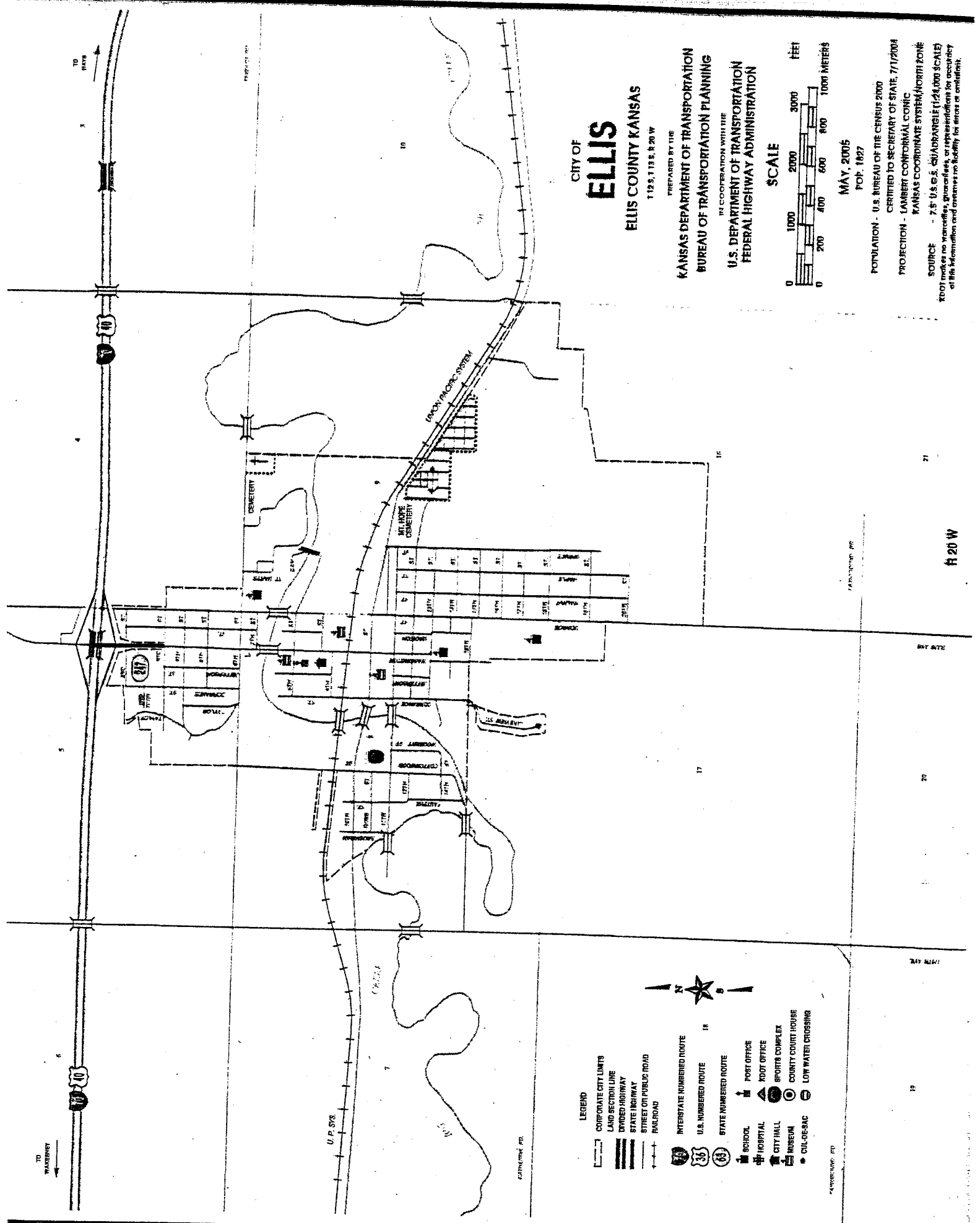
The state prohibits us from drilling any new wells in the Big Creek aquifer so we are in the process of moving our water rights from current well locations to new locations. The City does not currently use three of its wells due to high iron and manganese concentration. Our city water is also very hard which is very corrosive to plumbing, appliances, etc.

We believe our best solution to this dilemma is to treat and soften the water. The process would be two-step. Step one would be a plant that removes the iron & manganese as well as arsenic from the water through a filter system. The second phase would be a softening plant to reduce the hardness in our water. We have been working with Layne-Western on this process system and plans are to do a pilot treatment plant in the near future.

The City is considering two different locations for this plant site. Option A is located at 15th & Washington in the vicinity of the elevated water tower currently at that site. Option B would be in the area of the swimming pool located at 3rd & Taylor located on the north side of town. Option B could prove to be more attractive to help equalize water pressure, as our community is located on two hills with a valley between, which at times results in pressure problems in the community, similar to a siphon when there is a water leak in the "bottom" of town.

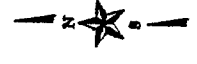
Our City water mains are in need of replacement in the older part of the community, however the city council believes the water treatment process is higher priority than replacement of mains.

Our current water rates are \$2.75 per thousand gallons of water, regardless of amount used plus the monthly service charge. Billing for 5,000 gallons of usage (with $\frac{3}{4}$ " meter charge of \$6.10) totals of \$19.85. We are in the process of conducting Low to Moderate surveys to be used for possible grant funding for various projects. Preliminary reports indicate we will meet the KDOCH LMI guidelines at 51-52% Low to Moderate income.



LEGEND

- CORPORATE CITY LIMITS
- LAND SECTION LINE
- DIVIDED HIGHWAY
- STATE HIGHWAY
- STREET OR PUBLIC ROAD
- RAILROAD
- INTERSTATE NUMBERED ROUTE
- U.S. NUMBERED ROUTE
- STATE NUMBERED ROUTE
- SCHOOL
- HOSPITAL
- POST OFFICE
- CITY HALL
- SPORTS COMPLEX
- MUSEUM
- COUNTY COURT HOUSE
- CUL-DE-SAC
- LOW WATER CROSSING

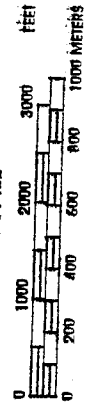


CITY OF
ELLIS
ELLIS COUNTY KANSAS

1125, 1135, R 20 W

PREPARED BY THE
KANSAS DEPARTMENT OF TRANSPORTATION
BUREAU OF TRANSPORTATION PLANNING
IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

SCALE



MAY, 2005
POP. 1927

POPULATION - U.S. BUREAU OF THE CENSUS 2000
CERTIFIED TO SECRETARY OF STATE, 7/1/2004
PROJECTION - LAMBERT CONFORMAL CONIC
KANSAS COORDINATE SYSTEM/NORTH ZONE
SOURCE - 7.5' U.S. G.S. QUAD R20W11E124,000 SCALE
XDOT makes no warranties, guarantees, or representations for accuracy
of this information and assumes no liability for errors or omissions.

H 20 W