

1930 Constant Avenue
Lawrence, KS 66047-3724
October 3, 2007

Estell Johnson, P. E.
Professional Engineering Consultants, P.A.
303 S. Topeka
Wichita, KS 67202

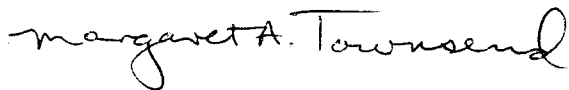
Dear Ms. Johnson:

I was asked to comment on the wastewater treatment plans for the city of McPherson. I have done some work in the area and know that there is a potential nitrate problem in some of the city wells in the area. In addition, the city uses the Equus Beds aquifer as its source of water and therefore the city is in a sensitive groundwater protection area.

I looked at the soils for the areas of interest and noted that most are silt loams or silt clay loams with somewhat low permeabilities. Based on the limited information provided to me, I am presuming that any expansion of the lagoons or the biosolids storage area would have a minimum of compacted clay and/or a liner (if appropriate) to prevent leakage from the facilities. My main concerns are leakage to the ground water either through cracks (if the soils tend to crack in drought situations) or runoff to the creek due to flooding of the facilities. If these two potential issues are addressed in your design then I have no other concerns with the expansion of the current WWT site or the development of the biosolids storage facility.

The above comments are based on regional geologic conditions and limited information available to the KGS at the time of writing and cannot be used in substitute for a detailed site characterization. Other geologic conditions, not discussed here, or for which the KGS has no knowledge, may affect the viability or safe operation of this facility or property. Geotechnical engineering and design are outside the purview of the KGS. It is the responsibility of the applicant to produce any detailed site characterizations, geotechnical or environmental testing, or design by a licensed professional geologist or engineer to complete the project.

Sincerely,



Margaret A. Townsend
Hydrogeologist
Geohydrology Section

McPherson Wastewater Treatment Facility Improvements Project Review Form
KWPCRF; Project No. C20-1474-01

☐ US Department of the Interior, Fish & Wildlife Service, Kansas State Office
☐ US Army Corps of Engineers, Kansas State Regulatory Office
☐ Kansas Dept. of Wildlife and Parks, Environmental Services Section
☐ Kansas Water Office
☐ Kansas State Historical Society, State Historical Preservation Office
☐ U.S. Department of Agriculture, Natural Resources Conservation Services
☐ Kansas Department of Agriculture, Division of Water Resources
☐ State Conservation Commission
☐ Kansas Biological Survey
☐ Kansas Corporation Commission, Conservation Division
☒ Kansas Geological Survey

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

Comments: _____

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

☒ 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.

Margaret Townsend KGS 10-26-07
Reviewer's Name Division/Agency/Commission Date

Applicant: The City of McPherson, Kansas
Contact Person: Estell Johnson
Address: Professional Engineering Consultants, P.A., 303 S. Topeka
City, State: Wichita Zip: 67202 Phone: 316-262-2691



Professional Engineering Consultants, P.A.

October 1, 2007

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

Reference: McPherson Wastewater Treatment Facility Improvements
KWPCRF Project C20-1474-01
PEC No. 34-06073-002-2045

Dear Dr. Harrison:

The City of McPherson is planning to improve their wastewater treatment facility and is preparing an application to the Kansas Department of Health and Environment for a loan from the Kansas Water Pollution Control Revolving Loan Fund for the project. The plant is designed to treat an average flow of 2.0 million gallons per day, and the improvements will have a construction cost of approximately \$12.7 million. The legal description of the Treatment Facility location is the NE ¼ of the NW ¼ of the SE ¼ of Section 33, Township 19S, Range 3W, McPherson County, Kansas. A new offsite Biosolids Storage Facility will also be included in the improvements. The legal description of the offsite facility is the NW ¼ of the NW ¼ of Section 2, Township 20S, Range 3W, McPherson County, Kansas.

The improvements include an expansion to the existing Administration Building, modifications to the existing Blower/Control Building, a new Biosolids Complex, Influent Pump Station, Headworks, and other improvements. Improvements also include a new Biosolids Storage Facility offsite. There will be demolition of existing structures at the existing site. The effluent from the plant will continue to be discharged into the Little Arkansas River via Turkey Creek via Dry Turkey Creek. The following drawings are attached for your reference:

- Aerial photograph of project site and offsite biosolids storage site
- USGS quadrangle map section

We would appreciate your review and any comments you may have no later than November 1, 2007. A project review form is enclosed for your use.

All responses may be sent to:

Estell Johnson, P.E.
Professional Engineering Consultants, P.A.
303 S. Topeka
Wichita, KS 67202

Please feel free to contact me at (316) 262-2691 if you have any further questions.

Very truly yours,

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

Tyler P. G. for
Estell Johnson, P.E.
Project Engineer

EJJ/tac

Encl: As noted

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7.5 MINUTE SERIES (TOPOGRAPHIC)

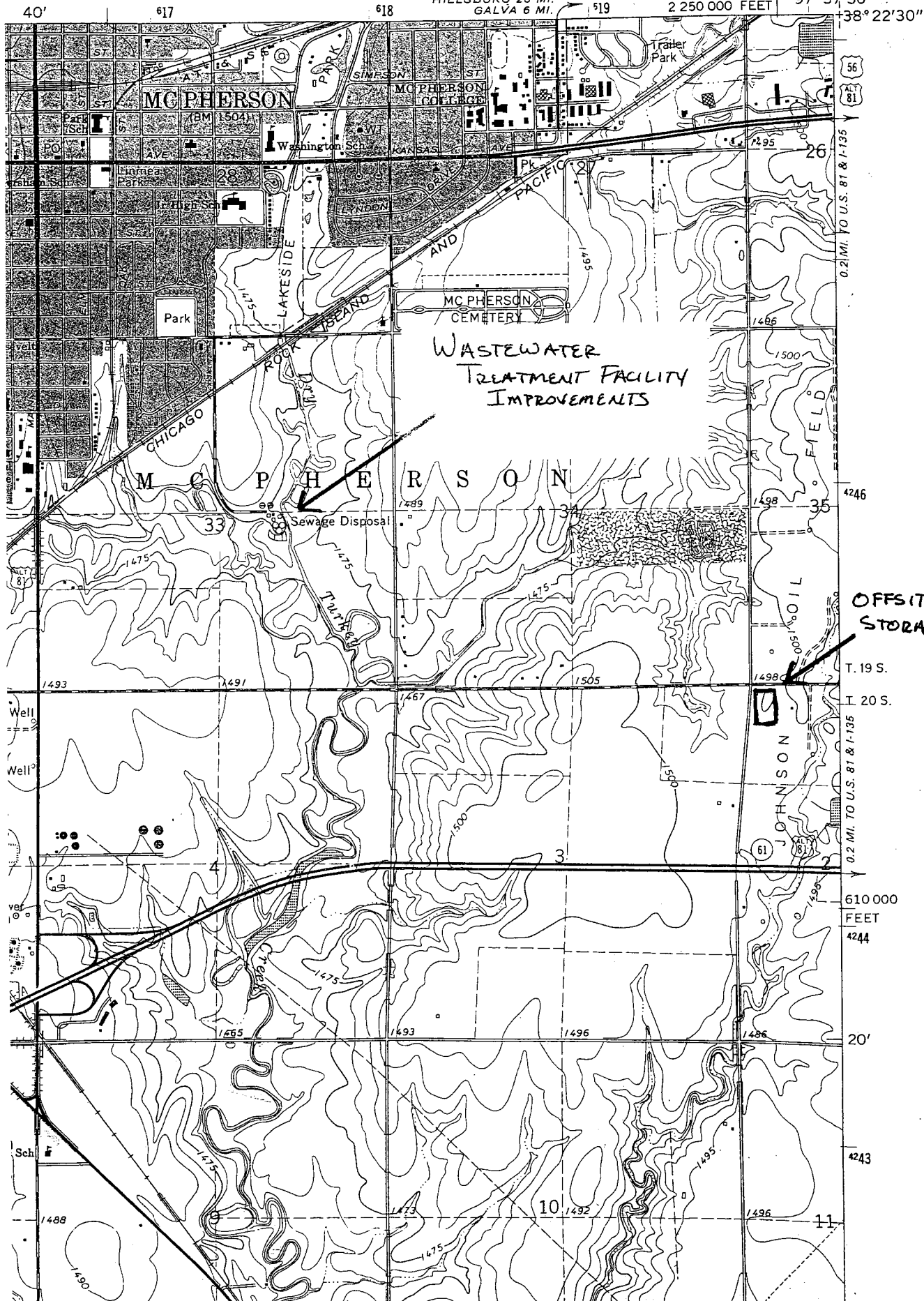
8460 1 NE
(GALVA)

HILLSBORO 26 MI.
GALVA 6 MI.

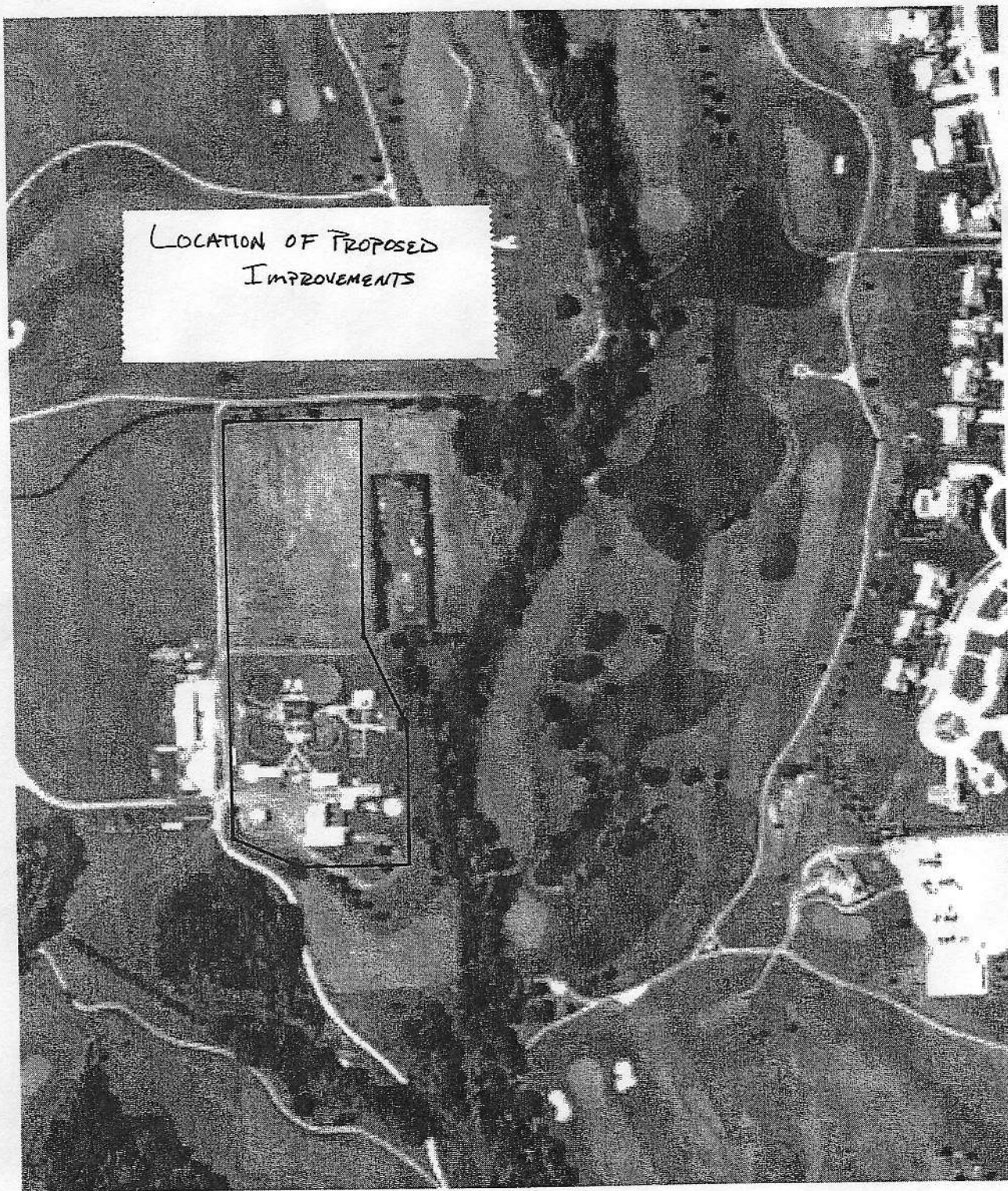
2 250 000 FEET

97° 37' 30"

38° 22' 30"



LOCATION OF PROPOSED
IMPROVEMENTS





LOCATION OF PROPOSED
OFFSITE BIOSOLIDS
STORAGE FACILITY

MAP LEGEND

	Area of Interest (AOI)		Soil Map Units
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MAP INFORMATION

Original soil survey map sheets were prepared at publication scale. Viewing scale and printing scale, however, may vary from the original. Please rely on the bar scale on each map sheet for proper map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: UTM Zone 14N

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: McPherson County, Kansas
Survey Area Data: Version 4, Dec 14, 2006

Date(s) aerial images were photographed: 1991

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

McPherson County, Kansas (KS113)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
2266	Tobin silt loam, occasionally flooded	256.5	20.4%
3403	Longford silty clay loam, 3 to 7 percent slopes	45.1	3.6%
3824	Crete silt loam, 0 to 1 percent slopes	391.1	31.0%
3825	Crete silt loam, 1 to 3 percent slopes	431.2	34.2%
3829	Crete silty clay loam, 1 to 3 percent slopes, eroded	84.4	6.7%
3890	Ladysmith silty clay loam, 0 to 1 percent slopes	4.5	0.4%
3921	Smolan silty clay loam, 1 to 3 percent slopes	47.3	3.8%
Totals for Area of Interest (AOI)		1,260.1	100.0%