

KANSAS GEOLOGICAL SURVEY

The University of Kansas
1930 Constant Ave
Lawrence KS 66047-3726
phone 785-864-3965
fax 785-864-5317
www.kgs.ku.edu

July 5, 2006

Mr. Bruce Boettcher, P. E.
BG Consultants, Inc.
2508 W. 15th Avenue
Emporia, Kansas 66801

Re: Nemaha County Construction and Demolition Landfill

Dear Mr. Boettcher,

I have received your request for comment by the Kansas Geological Survey (KGS) on a permit application for the expansion of the construction and demolition landfill for Nemaha County. The landfill site is located within NE ¼ of S36 T2S R13E, southeast of Oneida, Kansas and east of Seneca, Kansas.

Your letter included a portion of the USGS 7½-minute topographic map showing the location of the C&D Landfill. Additionally, I examined a 2002 orthophotograph a geohydrology map and report for Nemaha County (Ward, 1974), and the water well completion records available in the WWC5 database at the KGS web site (www.kgs.ku.edu). The landfill location is in a large region of glacial drift. Drift includes glacial till (heterogeneous clay through boulder deposits), glacial fluvial deposits (alluvium), and glacial lacustrine deposits (lake deposits). In general, till and lacustrine deposits are not aquifers; however, glacial fluvial deposits can be important aquifers in the glaciated areas of northeastern Kansas. Ward's report (Figures 3 and 4) shows a paleovalley (pre-glacial valley filled with glacial deposits) that contains glacial-fluvial deposits. The deepest part of the paleovalley is about a mile east of the landfill site, but the edges of the valley may extend under the landfill. Water well completion records for monitoring wells in section 36 indicate that sand and gravel layers do exist under or near the landfill site. Protection of ground-water resources in this area should be a consideration during expansion planning and design for the construction and demolition landfill.

The Kansas Geological Survey has no knowledge of landslide, karst, or other geologic concerns at this landfill site.

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 countywide 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.

References:

Ward, J. R., 1974. Geohydrology of Nemaha County, northeastern Kansas: Kansas Geological Survey, Ground Water Series #2, 19 p.

If you have any questions about my comments, feel free to contact me at (785) 864-2194 or ohlmac@kgs.ku.edu.

Sincerely,

A handwritten signature in black ink, appearing to read 'G. Ohlmacher', with a long horizontal flourish extending to the right.

Gregory C. Ohlmacher, P.G.
Engineering Geologist

June, 19 2006
04-093M

Re: Nemaha County C&D Landfill

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

Dear Sir or Madam:

Nemaha County Kansas is proposing to vertically and horizontally expand the Construction and Demolition Landfill (C&D Landfill) within the limits of the counties existing landfill property. I have enclosed a USGS map showing the approximate location of the proposed C&D Landfill site. The new C&D Landfill site will be expanded North of the existing facility. The proposed area to be used is currently being utilized for borrow material. The County's current permitted footprint for the C&D Landfill has been dwindling in size and with new regulations going into effect, we feel that an expansion is both necessary and cost effective at this time. Should your agency require additional information or wish to make a comment regarding the proposed C&D Landfill, please respond back to our office in writing by July 17, 2006.

Sincerely,



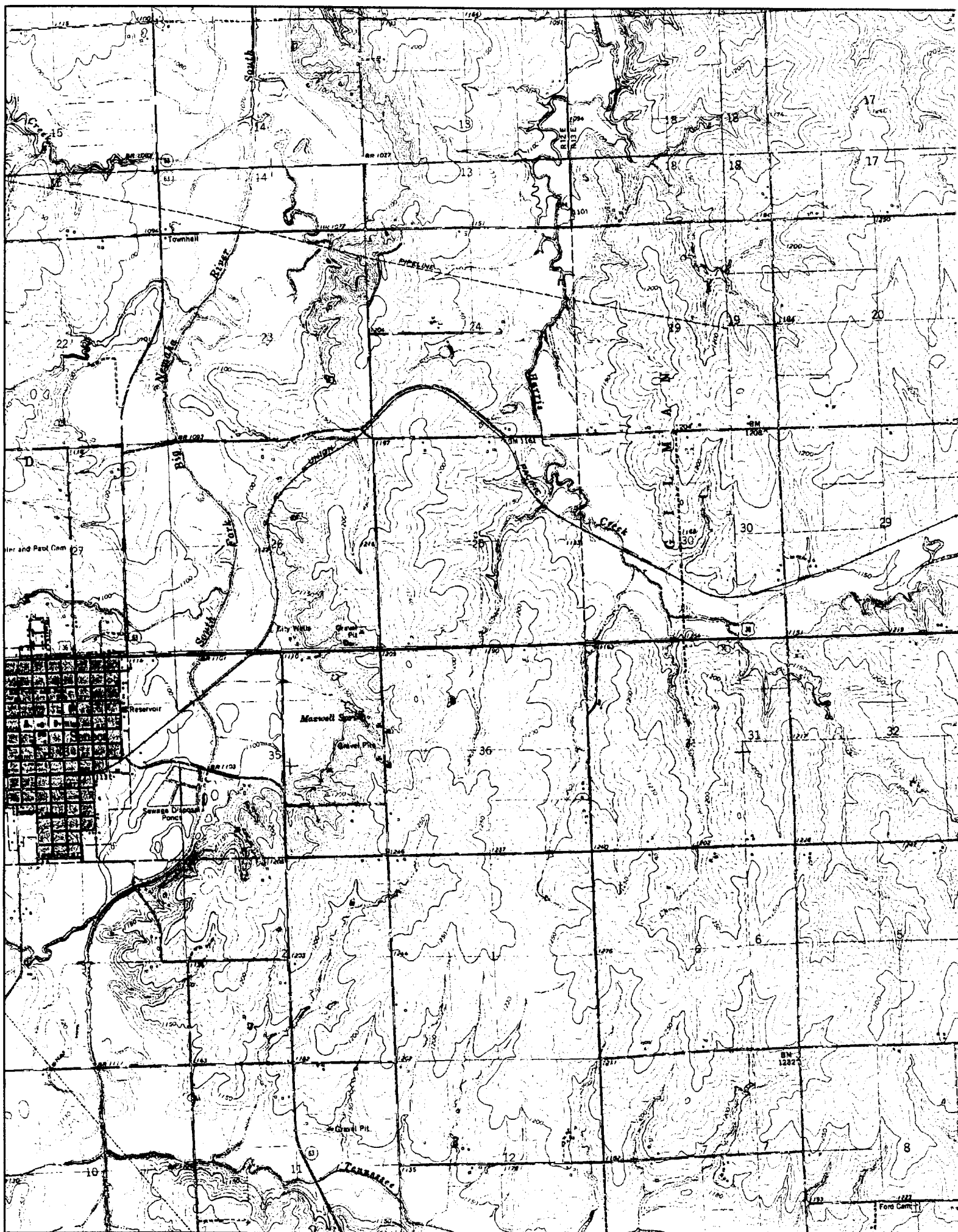
Bruce Boettcher, P.E.
Office Manager

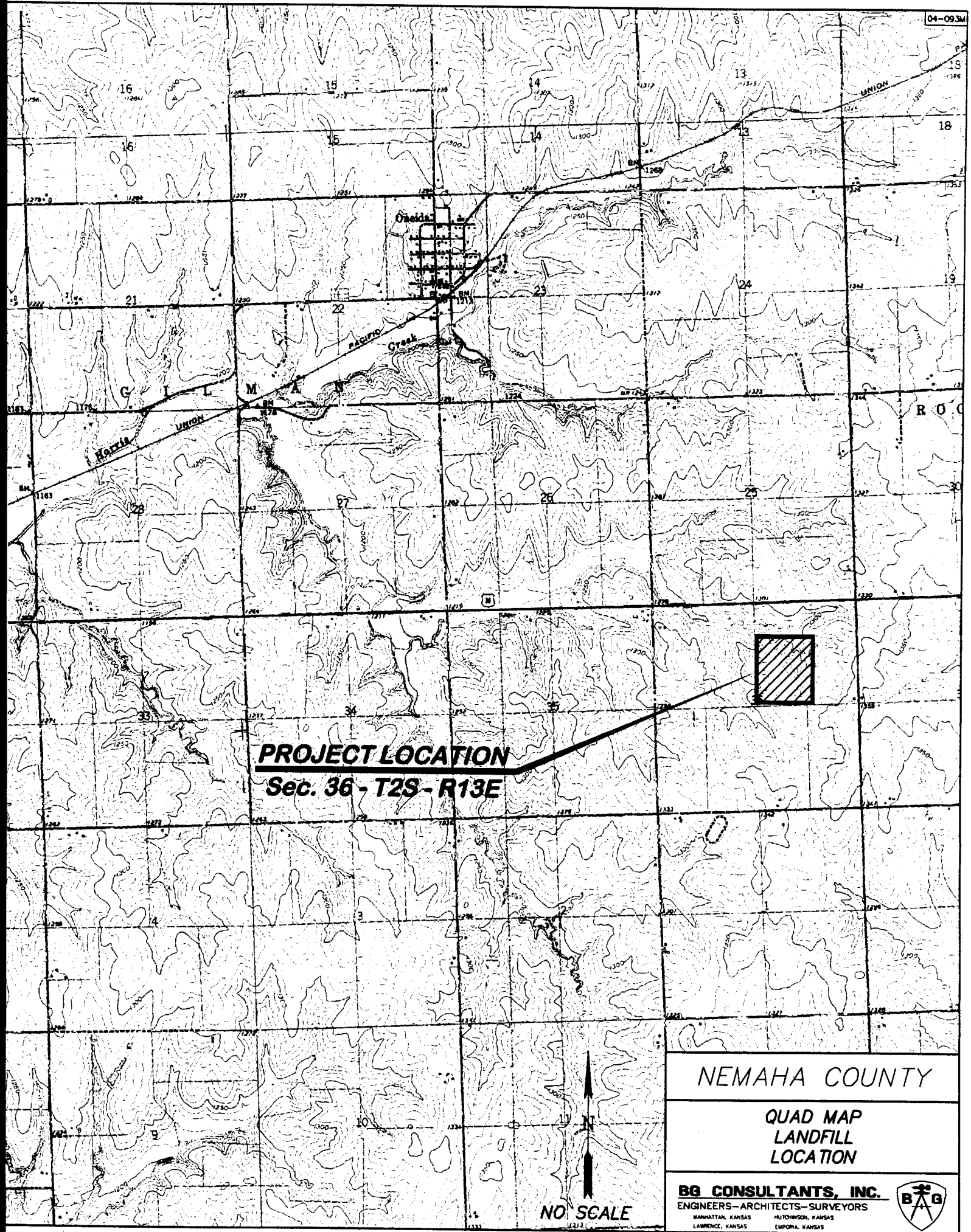
cc: file
enc.



Also

Lawrence, Ks. • Hutchinson, Ks. • Manhattan, Ks.





PROJECT LOCATION
Sec. 36 - T2S - R13E

NEMAHA COUNTY

QUAD MAP
LANDFILL
LOCATION

BG CONSULTANTS, INC.
ENGINEERS-ARCHITECTS-SURVEYORS
MANHATTAN, KANSAS
LAWRENCE, KANSAS
HUTCHINSON, KANSAS
EMPORIA, KANSAS

