

## MEMORANDUM

To: Programs, Projects and Operations Subcommittee  
From: Brian L. Henkel, Groundwater Management Engineer  
Date: September 30, 2009 Updated: October 6, 2009  
Re: Davis Prairie Data Shack

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Dr. Alan Kolok, Director of the University of Nebraska at Omaha's (University) Aquatic Toxicology Laboratory requests funding for the construction of an environmental science laboratory on the Elkhorn River. The Davis Prairie Data Shack (DPDS) would be located at the T. L. Davis Prairie on The University of Nebraska Foundation property on 240<sup>th</sup> Street, South of Q Street (Figure 1). The DPDS would serve as a three season laboratory for real time data collection and distance education.

The Papio-Missouri River Natural Resources District (District) participates in water quality monitoring of both surface and groundwater as part of District programs. The DPDS would supplement our current programs and give the District an opportunity to assist with the development of a laboratory to research emerging contaminants through state of the art techniques.

The University has indicated that a permanent easement at the DPDS location may be possible for construction of a canoe access point on the Elkhorn River. The District would need to complete further assessment of the location to determine the feasibility and work with the University on the easement prior to proceeding with design of the access point.

- **Staff recommends that the Programs, Projects and Operations Subcommittee recommend to the Board of Directors that the General Manager be authorized to enter into an agreement with the University of Nebraska at Omaha to provide 50% cost share on the Davis Prairie Data Shack Project, up to a maximum District contribution of \$60,000, and also work with the University on providing river access to the public at this location, if feasible, all subject to approval as to form by District legal counsel.**



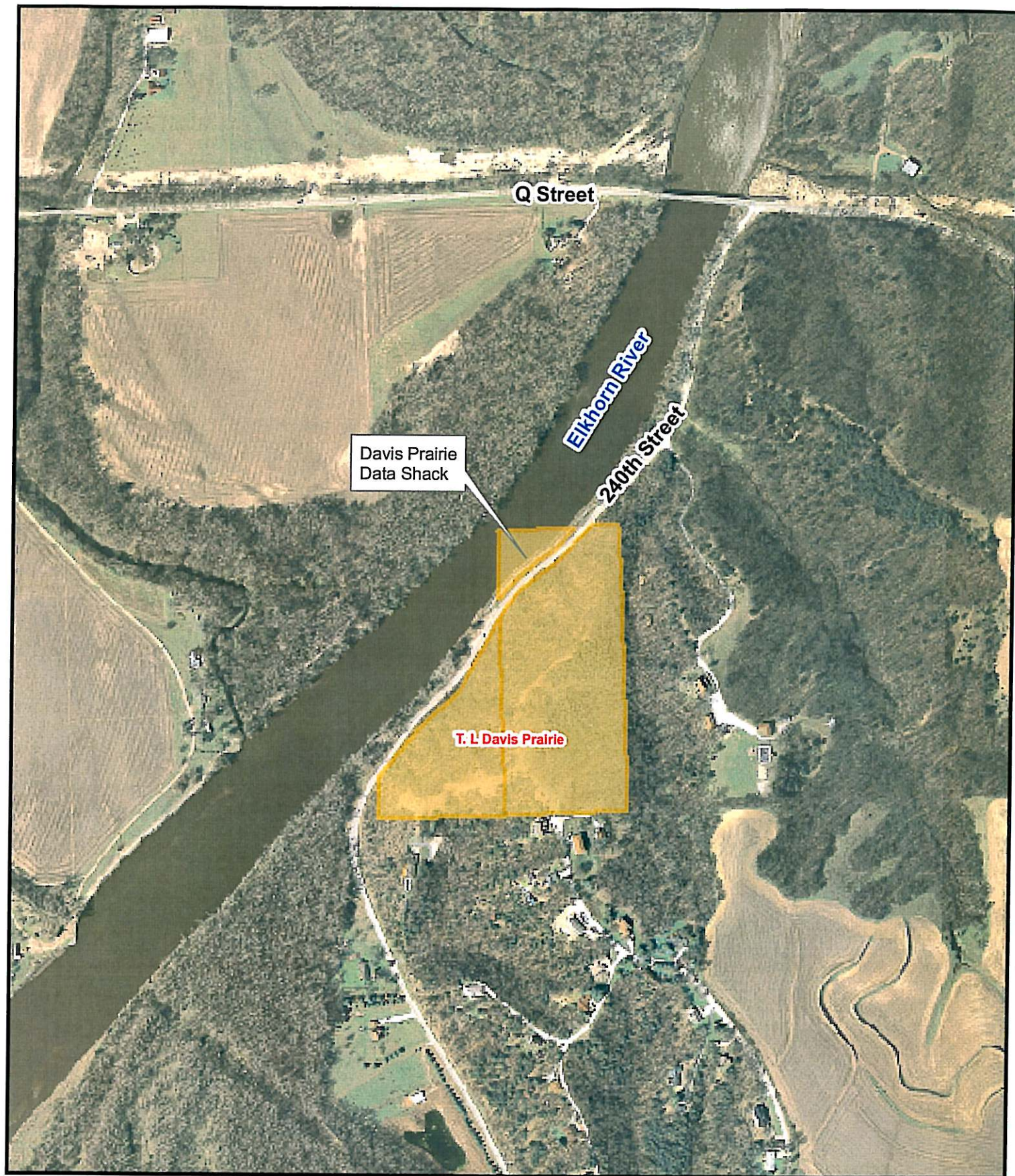
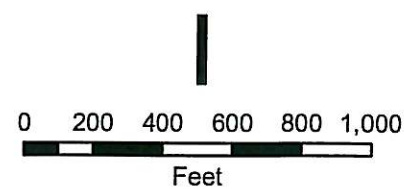


Figure 1  
Davis Prairie Data Shack Location







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October 2, 2009

This letter serves as the official funding request from the Board of Regents of the University of Nebraska, doing business as the University of Nebraska at Omaha (UNO) to the Papio-Missouri River Natural Resource District (NRD). This request will focus on the design, construction and operation of the **Davis Prairie Data Shack (DPDS)**, a 200 sq.ft. building located at Davis Prairie, a parcel of land in Douglas County owned and operated by UNO. The DPDS will be located immediately adjacent to the Elkhorn River, one of the major river systems within Nebraska.

Many of the major waterways within the United States, as well as in the state of Nebraska, are currently under risk of contamination with emerging contaminants, that is contaminants that have not traditionally been considered as such. Personal care products, veterinary and human pharmaceuticals, disinfectants and antibiotics are all examples of emerging contaminants. With respect to this new class of contaminant, the Elkhorn River watershed may be one of the most vulnerable watersheds within Nebraska. The upper and middle reaches of the watershed drain a landscape dominated by agriculture use, whereas the lower portion of the river is soon to be surrounded by suburban development, making the area a location of particular concern. It is also a unique, and timely opportunity, as the location is ideal for the establishment of a data shack, that is, an out building expressly designed for use in community-based research, education and outreach focusing on issues of water quality.

While the DPDS will have a fairly unobtrusive on-site presence, it will act as a data acquisition station and a masthead for a much larger, interactive virtual environmental science laboratory. The data acquisition system employed at the DPDS will allow for continuous streaming of data from the DPDS back to UNO. These data, along with streaming video presentations will then be made available to the Omaha community through a UNO website originating in the Department of Biology at UNO. We envision that the DPDS will have a substantial presence in the Omaha community, as the first-of-its-kind fully integrated, electronic data acquisition laboratory.

Development of the DPDS will occur in three phases, with anticipated costs for each of the three phases being roughly \$40,000, for a total projected cost of \$120,000. Phase I will include parcel and topographic surveys of the site, feasibility studies and design. Phase II will include construction of the pylons that will support the building as well as

the building itself. In Phase III, the building will be outfitted with electronic equipment that will allow for continuous, on-line data streaming from the DPDS to UNO.

Table 1. DPDS phases and costs.

|  | Anticipated costs | Projected costs to P-MR NRD |
|--|-------------------|-----------------------------|
| Phase I - design                       | \$40,000          | \$40,000                    |
| Phase II - construction                | \$40,000          | \$20,000                    |
| Phase III - electronic instrumentation | \$40,000          | \$0                         |

UNO is requesting support from the Papio-Missouri NRD for this project, with the NRD cost-share not to exceed \$60,000 (Table 1). Currently UNO has secured \$20,000 for this project--\$10,000 for the DPDS from the College of Arts and Sciences and an additional \$10,000 from the Nebraska University Foundation. UNO is committed in its effort to procure an additional \$40,000, which would make the overall project budget a 50:50 cost-share between UNO and NRD. UNO has discussed the DPDS with other potential regional partners and firmly believes in the "if you build it, they will come" philosophy toward this project.

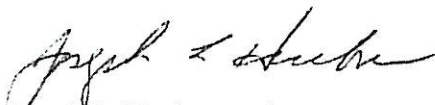
Once completed, the DPDS will be a masthead for a highly visible program focusing on emerging contaminants in a Nebraska watershed that neighbors the largest population community within the state. This state-of-the-art data shack will be as the center of a program that will have statewide, and indeed, national recognition, and will be the first of its kind anywhere within the mid-west region of the US. The partnership of Papio-Missouri NRD and UNO will certainly lead to future DPDS projects that will continue to promote the quality of life for the regional community while enhancing its natural resources. As community concern for, and interest in the local environment becomes more sophisticated, we envision that the DPDS is destined to play a pivotal role in research, education and outreach activities within the Omaha area for years to come.

Thank you for your consideration of this request.

Yours truly,



Alan S. Kolok  
Director, Aquatic Toxicology Laboratory  
UNO



Joseph L. Huebner, Director of Finance/Controller  
University of Nebraska at Omaha  
For the Board of Regents of the University of Nebraska