

# Progress & Protection

— *Permitting a new water supply* —

## BACKGROUND

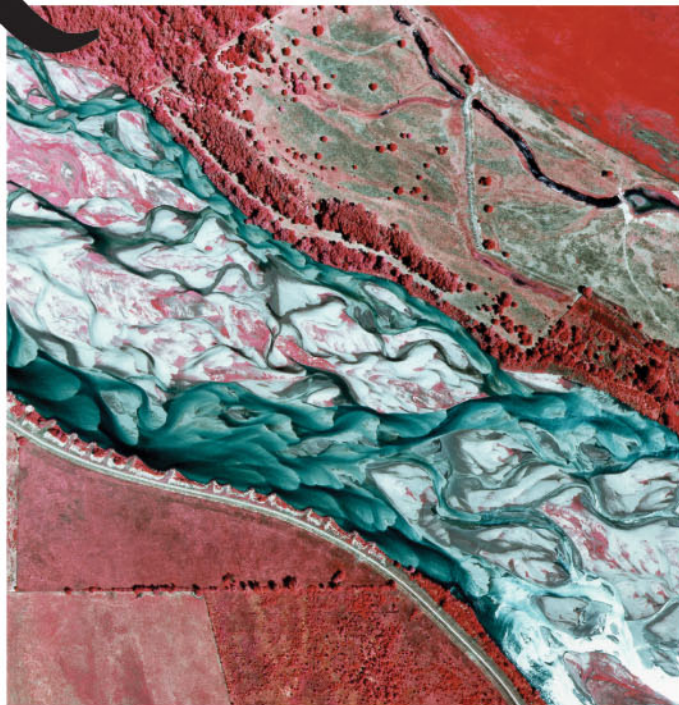
Omaha, Nebraska, is growing. Incentives for business, affordable housing, and a reputation for quality of life are boosting population — and demand for city services.

Omaha's Metropolitan Utilities District sought a Section 404 permit allowing construction of a water supply project to help meet the area's overall water needs — and serve rapidly growing suburbs at Omaha's western edge.

## CHALLENGES

The Metropolitan Utilities District and the U.S. Army Corps of Engineers, Omaha District, chose Burns & McDonnell to assess the water supply project's environmental impact. Planned to draw from two new well fields along the Platte River, the project would include a new treatment plant and 11 to 17 miles of 4.5' to 6' diameter water lines — crossing both the Platte and Elkhorn rivers.

Preparing the Environmental Impact Statement (EIS) required by the Corps necessitated studies including endangered species and wetlands surveys. Some landowners in the mostly agricultural area near the proposed well fields were also concerned about a potential fall in the water table. Would their ponds and their crops' access to groundwater be affected?



## SOLUTIONS

### *Wetlands Mapping*

To assess the impact to wetlands and provide a tool for ongoing monitoring, Burns & McDonnell GIS specialists mapped the river and adjacent land using special false-color infrared aerial photographs. (See above.) The images' red areas reveal growing vegetation in and along the river, indicating wetlands. The GIS map coordinates make it easy to locate the wetlands on the ground.

### ***Hydrological Modeling***

To address landowners' concerns, hydrologic modeling provided a snapshot of the water table. Monitoring wells will track the water table's rise and fall. Continued modeling will allow measurement of the cone of depression as groundwater is drawn and replenished, and help determine whether there are economic impacts, such as reduced crop yields.

---

***Burns & McDonnell wetlands biologists also looked for ways to lessen or mitigate the project's impact. They found areas of hydric soil — probably former wetlands converted to cropland — where creation, restoration, or enhancement of wetlands is likely to be successful.***

---

### ***Protecting Rare Species***

Inventorying some endangered species — such as the North American Burying Beetle — took ingenuity. Pairs of the beetles find the carcass of a field mouse or other small animal by smell, and bury it to create an underground nursery for their young. Project manager Fred Pinkney revealed biologists' techniques for using

gallon-size aluminum cans covered with special screens to trap the beetles.

“Biologists buy a package of chicken or liver — and throw it in the back of their truck for a couple days. It's like catching catfish — the stinkier the bait, the better,” Pinkney says. “Then, they bury the cans to ground level with the screen on top, adding the bait in the late evening. Early the next morning — before the sun heats up the trap — the biologists count and free any beetles that have fallen in.” Biologists also searched along the South Platte for active eagle nests, and habitat for species such as the least tern.

### **RESULTS**

Regulatory agencies were satisfied that environmental impacts of the project were thoroughly assessed by Burns & McDonnell experts. The Corps was able to grant the Section 404 permit request knowing that impacts would be avoided or compensated through mitigation, and that landowners will be treated fairly. Most importantly, Omaha area residents will soon benefit from an additional 50-million-gallon-per-day water supply.

*For more information, contact Bob Sholl, 816-822-3154.*

