PROJECT PROFILE
WATER MANAGEMENT

CLIENT
City of Hutchinson, Kansas

REVERSE OSMOSIS WATER TREATMENT TECHNOLOGY

Hutchinson, Kansas

SITUATION:

Located 39 miles northwest of Wichita, the City of Hutchinson, Kansas has a population of over 40,000. The public water supply is derived from 20 municipal wells, most of which have been installed and maintained by Layne. The City discovered that carbon tetrachloride and other Volatile Organic Compounds (VOCs) had contaminated one of its well sites. Further, high levels of inorganic chlorides (salts) were present. VOCs are typically treated by air stripping, however, this strategy was complicated by the chlorides, which cannot be removed through air stripping processes.

SOLUTION:

An engineering firm was brought in to devise a treatment strategy. The resulting facility treats water from the contaminated well, removing iron and manganese with manganese dioxide pressure filters, removing chlorides through Reverse Osmosis (RO), then removing CO2 and VOCs in a degasifier concealed in the clock tower. The resulting pure water is blended with city water, resulting in a peak production capability of 10 MGD. In June of 2007 Layne was awarded a contract from the General Contractor to assist in the design and fabrication of a 6 MGD RO system, including 5 micron cartridge filters, Clean-in-Place equipment, and chemical feed equipment. The four RO skids were fabricated in Layne's Lakeland, Florida manufacturing facility, while chemical feed equipment was fabricated in Layne's Kansas City facility. There are four RO trains comprised of 24 x 12 -7M arrays, using Hydranautics ESPA 2 membranes. Each train is capable of producing 1.5 MGD of permeate from 2 MGD of influent. The RO trains provide a combined 6 MGD of RO water from 8 MGD of feed.

SERVICES EMPLOYED:

+ Well Design and Construction
+ Well Maintenance
+ Water Treatment- Drinking Water
+ Filtration – LayneOx
+ Membrane – Reverse Osmosis, Fabrication, Water Management Services
+ Field Service Technician Group

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