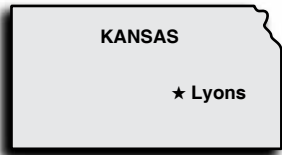


Country Truck House

KANSAS COOPERATIVE BUILDS AN ELEVATOR CONVENIENT TO ETHANOL PLANT, RAIL TERMINAL



MKC

Moundridge, KS • 620-345-6328

Founded: 1965

Storage capacity: 35 million bushels at 41 locations

Annual volume: 35 million bushels

Annual revenues: \$500 million

Number of members: 9,400

Number of employees: 325

Crops handled: Corn, soybeans, sorghum, hard red winter wheat, sunflowers

Services: Grain handling and merchandising, feed, agronomy, energy, risk management, precision ag

Key personnel at Rice County:

- Steve Peterson, vice president-northern operations
- Matt Long, location manager
- Ty Hazen, location service specialist

Supplier List

Aeration fans:Tiernan Aeration

Bin sweepsSioux Steel Co.

Bucket elevators..... InterSystems

Catwalks.. Frisbie Construction Co. Inc.

Concrete tanks.....McPherson Concrete Storage Systems

Contractor/millwrightFrisbie Construction Co. Inc.

Control system..... Kasa Controls

Conveyors InterSystems

Distributor.....Schlagel Inc.

Dockage tester Mid-Continent Industries

Elevator buckets Maxi-Lift Inc.

Grain temperature system .. Rolfes@Boone

Level indicators..... BinMaster Level Controls

Manlift..... BarnesCo Inc.

Moisture meter..DICKKEY-john Corp.

Portable belt conveyor Allatooona Machinery Co. Inc.

Steel storage..... MFS/York/Stormor

Temporary storage Union Iron

Truck probes..... Gamet Mfg. Inc.

Truck scales.... Mettler Toledo, LLC



The new MKC Rice County country elevator south of Lyons, KS includes a little over 1 million bushels of upright storage and another million in a temporary pile. Aerial photo courtesy of McPherson Concrete Storage Systems.

When MKC (Mid Kansas Cooperative) decided to build a new country elevator in Rice County, it couldn't have found a much better site for the project.

According to Steve Peterson, vice president-northern operations, the 40-acre site, purchased from a local farmer, is located four miles south of Lyons, KS along well-maintained State Highway 14-96. The site is less than a mile from a Kansas Ethanol plant and a little over a half hour drive from a large new MKC rail terminal at Canton, KS.

The Rice County facility, a jumpform concrete elevator holding a little over 1 million bushels in upright storage and another million in a temporary bunker, has been in operation since May 2014 and has seen two large wheat harvests, says Peterson. (He came to MKC 12 years ago, after working for a cooperative in Manhattan, KS.)

After taking bids, MKC awarded the construction contract to Frisbie Construction Co. Inc., Gypsum, KS (785-536-4288). McPherson Concrete Storage Systems, McPherson, KS (800-999-8151), built the jumpform concrete tanks.

Also participating in the project, Myers Electrical Inc., Sterling, KS (620-278-3794), served as electrical contractor, installing an automation system from Kasa Controls, Salina,



Superintendent Ty Hazen (left) and Steve Peterson, vice president-northern operations. Ground level photos by Ed Zdrojewski.

KS (800-755-5272). Jon Brown, a project manager for MKC, did the engineering work.

Construction on the \$6.5 million elevator began in October 2013. Thanks to relatively mild weather in central Kansas, crews were able to work through the winter.

Grain Storage

Upright storage consists primarily of three McPherson concrete tanks standing 64 feet in diameter and 128 feet tall. Each flat-bottom tank holds 350,000 bushels. The site has plenty of space to build more storage, as needed. ►



View from the elevator roof of the facility office and grain grading lab, with inbound and outbound Mettler Toledo truck scales and a pair of Gamet Apollo truck probes.

Each tank is equipped with heavy-duty Daay bin paddle sweeps, 18-cable Rolfes@Boone grain temperature monitoring systems, and BinMaster level indicators. A set of four 75-hp Tiernan Aeration centrifugal fans per tank supply 1/6 cfm per bushel on coarse grains or 1/10 cfm on small grains.

In addition, the facility includes a 30,000-bushel MFS/York corrugated steel hopper tank to store wet grains for blending. This tank stands 30 feet in diameter and 59 feet tall at the eave.

In addition to upright storage, the facility includes a 1-million-bushel Union Iron TempStor temporary storage system. The oval-shaped bunker is 140 feet wide x 540 feet long, with 6-foot perforated steel sidewalls, a packed kiln dust floor, and ten 10-hp Tiernan axial aeration fans. Trucks

deliver grain to the pile through an Allatoona drive-over belt conveyor, and the pile is unloaded by front-end loaders.

Grain Routing

Incoming trucks are sampled with one of two Gamet Apollo truck probes, one between a pair of 80-foot METTLER TOLEDO pitless truck scales for inbound and outbound traffic, and the other about 100 feet ahead of the scales. Which to use depends on the traffic that day. Samples are graded in the facility office building's grain lab using a GAC 2500 moisture meter and a Mid-Continent Industries MCI Kicker dockage tester.

Trucks then proceed to one of two open-air 1,000-bushel mechanical receiving pits. Each pit feeds a 15,000-bph InterSystems leg equipped with a single row of Maxi-Lift CC-MAX heavy-duty 18x8 buckets mounted on a 20-inch 4-800 rubber belt.

The legs feed a six-duct Schlagel swing-type double distributor. In turn, grain from the distributor travels via 30,000-bph overhead InterSystems drag conveyors out to storage or down a gravity spout to the wet tank.

The concrete storage tanks are equipped with sidedraw spouts. Below that level, they empty onto 15,000-bph InterSystems drags in above-ground tunnels that run back to the receiving legs. A pair of 2,000-bushel overhead surge tanks at the receiving pits also can be used for truck loading.

The Rice County elevator currently has no drying capacity, but a dryer could be added in the future, as needed.

Ed Zdrojewski, editor