

Second Rail Terminal

COOPERATIVE PRODUCERS, LANSING TRADE GROUP COLLABORATE ON NEBRASKA FACILITY



CPI-Lansing, LLC

Hastings, NE • 402-463-5148

Founded: 2008

Storage capacity: 5.5 million bushels at two locations

Annual volume: 25-30 million bushels

Annual revenues: \$100 million+

Number of employees: 13

Crops handled: Commercial and white corn, soybeans, hard red winter wheat, sorghum

Services: Grain handling and merchandising

Key personnel at Fairmont:

- Bob Fifield, CEO/CPI
- Bill Krueger, CEO/Lansing
- Calvin Diehl, Fairmont location mgr.

Supplier List

Aeration fans.....Rolfes@Boone

Aeration installation..... Drake Inc.

Aeration system.....North American Equipment Co. Inc.

Bearing sensors...4B Components Ltd.

Bin sweep.....The GSI Group

Bucket elevators.....Intersystems

Bulk weigh scale.....Intersystems

Bulk weigh software.....Cultura Technologies Inc.

Catwalk..... LeMar Industries Corp.

Cleaner.....Intersystems

Contractor.....Todd & Sargent Inc.

Conveyors.....Intersystems

Dust collection system.. MAC Process

Elevator buckets.....Maxi-Lift Inc.

Engineering.....Todd & Sargent Inc.

Grain dryer..Zimmerman Grain Dryers

Grain temp system...Rolfes@Boone

Level indicators.....Monitor Technologies LLC

Magnets.. Industrial Magnetics, Inc.

Manlift.....Schumacher Elevator Co.

Millwrights.....Todd & Sargent Inc., PMI Nebraska LLC

Motion sensors..4B Components Ltd.

Sampler.....Intersystems

Steel storage.....The GSI Group

Tower support system.....LeMar

Truck probe.....Intersystems

Truck scales..... Fairbanks Scales

Truck scale software.. Cultura Technologies



CPI-Lansing' LLC's 2-million-bushel rail terminal outside of Fairmont, NE, the company's second shuttle-loading operation. Aerial photos by JH Photography, Spencer, IA.

In 2008, a new joint venture between Cooperative Producers Inc. and Lansing Trade Group called CPI-Lansing LLC built a rail-loading elevator in Red Cloud, NE.

Five years later, CPI-Lansing has opened a second rail terminal 84 miles to the northeast at Fairmont, NE (402-268-2926), a fully automated, 2-million-bushel elevator combining concrete and steel storage and a loop track just under 9,000 feet long.

“Lansing did a market analysis and found that there was no shuttle loader within 30 or 40 miles of Fairmont,” says CPI CEO Bob Fifield, who has been with the Nebraska cooperative since 2007. (Prior to that, he worked for Farmway Coop and Archer Daniels Midland Co.)

“A lot of bushels are produced with a lot of center-pivot irrigation in this part of the state. This site is served by the BNSF (Burlington Northern Santa Fe Railway), and we have soybean markets as close as Lincoln and Hastings (NE). We’re near the intersection of two major highways, U.S. 81 and 6. So it’s a good site for a shuttle loader.”

CPI-Lansing purchased the 240-acre site

from two local farmers who continue to farm the valuable acreage inside the loop track, complete with a center-pivot rig.

The venture took bids on what turned out to be a \$22 million project and awarded the construction contract to Todd & Sargent, Inc., Ames, IA (515-232-0442).

“They came in on-time and on-budget,” says Fifield, who notes that construction began in February 2012 and was completed by April 2013. The facility had been receiving grain, when *Grain Journal* visited in May 2013, but



From left: CPI CEO Bob Fifield; Fairmont Location Manager Calvin Diehl; CPI Chief Operating Officer Dan Olson. Ground-level photos by Ed Zdrojewski.

had not yet loaded any trains.

Other major participants in the project included Canton Construction, Canton, SD (605-987-4626), which constructed the single steel storage tank at the facility; PMI Nebraska LLC, Grand Island (308-382-5454), which served as millwright on the steel tank and dryer portions of the facility; and Muth Electric Inc., Mitchell, SD (605-996-3983), which installed the automation systems. Todd & Sargent also served as millwright primarily on the concrete portion of the facility.

Grain Storage

CPI-Lansing opted for a mix of slipform concrete and corrugated steel upright storage at Fairmont. CPI Chief Operating Officer Dan Olson explains that a slipform concrete workhouse has the durability for the constant loading and unloading associated with rail shipping, while the steel tank provides a cost-effective option for longer-term corn storage making it possible to respond better to basis moves in the market.

The 1.2-million-bushel concrete workhouse includes eight large tanks and three interstices. The large tanks stand 42



Higher-altitude photo shows the facility's nearly 9,000-foot loop track and its switch with a Burlington Northern Santa Fe main line.

feet in diameter by 130 feet tall holding approximately 140,000 bushels each.

Because of the fast turnaround, these tanks have no grain temperature monitoring. However, they are equipped with North American Equipment Co. Kanal-System air-assist-unloading floors with side sumps, installed by Drake Inc. A single 60-hp Rolfes@Boone centrifugal fan per tank delivers 1/9 cfm per bushel of air when utilized for aeration.

For steel storage, the venture installed a 750,000-bushel GSI corrugated steel tank standing 105 feet in diameter and 92 feet tall at the eave. This flat-bottom tank is equipped with outside stiffeners, 16-inch GSI Series II sweep auger, and 26-cable Rolfes@Boone grain temperature monitoring system. A set of six 60-hp Rolfes@Boone centrifugal fans provide 1/7 cfm per bushel of aeration.

Grain Movement

Incoming trucks stop first at a probe station with an Intersystems truck probe, which sends samples into the wood frame office building for grading. Meanwhile, the driver uses an ID card activating oneWeigh software from Cultura Technologies that identifies the vehicle weight and owner. The driver then proceeds to an 80-foot Fairbanks pitless truck scale adjacent to the office building. A one-Weigh message board directs the driver to one of two 1,200-bushel enclosed mechanical receiving pits. (The facility also has available a railcar receiving pit, for use as needed.) Truckers then proceed to an 80-foot Fairbanks outbound scale, where they receive their scale tickets from an outdoor printer.

Both receiving pits feed a dedicated 30,000-bph Intersystems leg outfitted with two rows of Maxi-Lift 20x8 Tiger-Tuff buckets mounted on a 44-inch Goodyear belt, with one also fed by rail receiving.

The legs deliver grain to a series of overhead 30,000-bph Intersystems drag conveyors running out to the concrete storage. An additional 30,000-bph

Intersystems enclosed belt conveyor takes grain from the concrete workhouse to the steel tank. The conveyors are mounted on an extra large, 16-foot-wide LeMar catwalk, which provides extra space to add more conveyors, as the facility grows and adds more storage.

Grain can be sent via gravity spout to a natural-gas-fired 5,000-bph Zimmerman grain dryer, which empties dried grain into a 5,000-bph Intersystems dry leg. Location Manager Calvin Diehl notes that the dryer has seen little use yet.

Storage tanks empty onto a series of 60,000-bph Intersystems enclosed belt conveyors. These run above-ground from the steel tank into the concrete workhouse, then into spacious below-ground tunnels designed to make it easy for workers to perform housekeeping, maintenance, and repairs.

Rail Shipping

The facility's loop track has the capacity to hold 140 covered hopper cars. BNSF leaves the locomotive with the train for the CPI-Lansing crew to operate during loadout operations.

Elevator operators utilize a 60,000-bph Intersystems shipping leg outfitted, with three rows of Maxi-Lift 20x8 buckets on a 64-inch Goodyear belt, for rail loading. In addition, one of the two receiving legs can be diverted to shipping.

The shipping leg empties grain into a 60,000-bph Intersystems bulk weigh loadout scale equipped with oneWeigh software that interfaces with the company's AGRIS grain accounting system from Cultura Technologies. The system makes use of an RF tag reader to obtain weight limits on each railcar. Inspectors from Hastings Grain Inspection, an independent third-party agency, use an Intersystems sampler in the bulkweigher to obtain samples for grading during train loading.

During loadout operations, workers on top of railcars are protected by wearing full body harnesses and lanyards that connect to a Micada trolley-type fall protection system runing the length of three cars.

"We're using automation to make this facility as user-friendly as possible to the customers and as easy as possible to run," Diehl comments. "We're also up to code on our safety monitors."

Ed Zdrojewski, editor



Railcar-loading site includes a 60,000-bph Intersystems bulk weigh loadout scale (top center) and a heavy-duty MAC baghouse dust collection system.