When more producers started taking corn for grain to country elevators instead of hauling high moisture corn and silage to feedlots in the area that Garden City Coop serviced, John McClelland, general manager for the cooperative, says that there was a need to expand storage capacity.

“With fewer producers taking grain to feedlots for silage and high moisture corn,” McClelland says, “there was an increase in demand for taking more bushels at country elevators.”

The 19-location coop in southwest Kansas met this need by building a new 1-million-bushel elevator at Plymell, 12 miles south of Garden City, KS on U.S. Highway 83.

He adds that the area around the Garden City Coop’s new elevator is in a highly productive area with sufficient water levels for irrigation. The new elevator can tap this area of irrigated production for increased grain originsations.

The Plymell project was awarded to HABCO, Inc., Salina, KS (785-823-0440), and was started in December 2012 and was completed Sept. 1, 2013.

The new elevator is one of many projects that HABCO has performed for Garden City in the last three years, McClelland says.

“We have added 3.4 million bushels of storage in the last three years,” McClelland says, “and HABCO has been the contractor on all but 800,000 bushels of it.”

HABCO is currently adding concrete storage to the coop’s Lowe elevator near Holcomb, KS and is building a new concrete elevator for Garden City Coop near Ulysses, KS.
Elevator Specifications

Upright storage at the Plymell elevator consists of five 200,000-bushel McPherson Concrete jumpform tanks standing 50 feet in diameter and 116 feet tall. The tanks are outfitted with a 36-degree concrete hopper bottom, sidedraw spouts, Monitor level indicators, and each sits on 42 concrete pilings. A Rolfes@Boone seven-cable system monitors grain temperatures in each tank. A set of five 25-hp Rolfes@Boone centrifugal fans per tank provide 1/8 cfm per bushel of aeration, with the assistance of three 2-hp roof exhausters.

Incoming trucks are routed to a 14-x-80-foot METTLER TOLEDO pitless scale adjacent to a scalehouse, where they are sampled with a JaHam truck probe.

From there, trucks are routed to one of two 500-bushel mechanical receiving pits. The pits feed two Intersystems receiving legs. One runs at 20,000 bph and is equipped with a single row of 20x8 Maxi-Lift CC-MAX buckets, and the other runs at 10,000 bph, with a single row of 12x8 Maxi-Lift CC-MAX buckets mounted on a 13-inch belt. The legs are enclosed by a 12-foot-by-12-foot-by-150-foot HABCO tower support system. A Sidney manlift provides access to the top of the elevator.

The 20,000-bph receiving leg empties grain onto a 20,000-bph Intersystems drag conveyor going to storage. The 10,000-bph receiving leg empties grain into a six-duct Hayes and Stolz rotary distributor which delivers grain to one concrete tank or the two Meridian 5,000-bushel overhead truck loadout bins.

Each tank can be emptied either via a sidedraw spout or by a cone-bottom unloading auger into a 10,000-bph above-ground Intersystems drag conveyor that runs back to the 10,000-bph leg.

From the leg, grain can be loaded into trucks via one of the two loadout bins. From there, trucks are weighed on an 11-1/2-x-80-foot METTLER TOLEDO outbound pitless scale.

The project included a natural gas-fired Zimmerman Model Z5046 tower dryer rated at 5,000 bph for five points of moisture removal. The dryer is loaded and unloaded by two 10,000-bph Intersystems legs. As of October, the dryer had not yet been used.

Alex Lord, associate editor