

Terminal A in Operation

UPGRADED SHUTTLE LOADER PROVIDES WEST-CON ACCESS TO THE UNION PACIFIC RAILROAD



**Western Consolidated
Cooperative**
Appleton, MN • 800-368-3310

Founded: 1983
Storage capacity: 21 million bushels
at four locations
Annual volume: 10 million bushels
Number of members: 1,250
Number of employees: 140
Crops handled: Corn, soybeans,
dark northern spring wheat, hard red
winter wheat
Services: Grain handling, drying,
and merchandising; agronomy; fuel;
transportation

Key personnel:

- Dean Isaacson, general manager
- Paul Mattson, grain department manager
- Todd Fenske, location manager

Supplier List

Aeration fans.....Rolfes@Boone
Bearing sensors..... CMC Industrial Electronics
Belting Goodyear Conveyor Belting, Price Rubber Corp.
Bin sweeps Springland Mfg.
Bucket elevators.....S-M Enterprises
Bulk weigh scales.....C&A Scales
Bulk weigh scale controls..... CompuWeigh Corp.
Catwalk.....Warrior Mfg. LLC
Cleaner..... InterSystems
Contractor CEEC, Inc.
Conveyors.....S-M Enterprises, Inc., Hi Roller Conveyors
DistributorSchlagel Inc.
Dust collection systemS-M Enterprises
Electrical contractor...Knobelsdorff Electric, Inc.
Elevator buckets..... Maxi-Lift Inc.
Engineering..... VAA LLC



Starting in fall of 2014, West-Con upgraded Terminal A, its Appleton, MN shuttle-loading facility, with 1.2 million bushels of steel storage and an improved loadout and rail system to accommodate 110-car shuttle trains. Aerial photo courtesy of West-Con.

Western Consolidated Cooperative (West-Con), Holloway, MN, in 2002 purchased Benson-Quinn Commodities' Terminal A shuttle-loading facility in Appleton, MN, after leasing the site since 1992 with a plan to renovate and develop the 400,000-bushel grain elevator into the coop's third shuttle loader.

After numerous minor upgrades, West-Con broke ground



Dean Isaacson

in fall 2014 on its third major project at Terminal A since 2012. The project was completed in time for the 2015 harvest.

General Manager Dean Isaacson explains that Terminal A's location provides the four-site cooperative with access to new markets via the Twin Cities & Western Railroad short-line, which connects to the Union Pacific (UP) railway.

"We wanted to develop Terminal A to give us a way to access the UP main line," says Isaacson.

Grain Department Manager Paul Mattson explains that the coop now is able to ship its wheat and soybeans to terminals on the Mississippi River and facilities in Chicago, IL. It also can ship corn to the Pacific Northwest or to feed markets in the West and South. West-Con also operates shuttle loaders in Holloway and Twin Brooks, SD.

Project Details

After sending out bid packages, CEEC,

Facility automation Knobelsdorff Electric, Inc.
Fall protection Fall Protection, Inc.
Grain dryer Zimmerman Grain Dryers
Level indicators BinMaster Level Controls
Liner Tandem Products/Rhino Hyde Div.
Millwright..... CEEC, Inc.
Motion sensors CMC Industrial Electronics
Railroad construction ...MGA Railroad Construction, Inc.
Samplers Gamet Mfg. Inc.
Steel storage GSI, Meridian Mfg. Group
Steel tank erection Cross Country Construction
Tower support system..... Warrior Mfg. LLC
Truck probe..... Gamet Mfg. Inc.
Truck scale..... Rice Lake Weighing Systems
Truck scale automation..... CompuWeigh Corp.

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• Knobelsdorff Electric Inc., Goodhue, MN (651-923-4970), served as the electrical contractor and installed a facility automation system.

• MGA Railroad Construction, Inc., Aurora, SD (605-690-1030), added 7,200 feet of railroad track to accommodate 110-car shuttle trains.

Before the upgrade, Terminal A could handle just 54 cars at a time.

• VAA, LLC, Plymouth, MN (763-559-9100), provided engineering services.

• Cross Country Construction, Elbow Lake, MN (218-685-6410), erected more than 1.2 million bushels of GSI steel storage, including:

–A 710,500-bushel tank, measuring 105 feet in diameter, 116 feet at the peak, and 88 feet at the eave.

–A 360,800-bushel tank, measuring 72 feet in diameter, 117 feet at the peak, and 99 feet at the eave.

–Two 55,000-bushel hopper tanks, each measuring 36 feet in diameter, 86 feet at the peak, and 76 feet at the eave.

The 105-foot and 72-foot tanks are equipped with Springland Mfg. 16-inch, 10,000-bph bin sweeps; Bin-Master level indicators; and CMC Industrial Electronics motion sensors.

A set of four Rolfe@Boone 30-hp fans supply the 105-foot tank with 1/10



Trucks are sampled by a Gamet probe before proceeding to a Rice Lake inbound scale.

cfm per bushel of aeration through in-floor ducting. The 72-foot tank has four 50-hp fans for 1/7 cfm per bushel of aeration also through in-floor ducting.

Mattson says “the additional storage allows us to carry more grain ► and significantly reduces our risk of storing grain outside in the fall.

“Terminal A also is designed to be expanded easily in the future, as it becomes necessary,” he adds.

Terminal A Site Layout

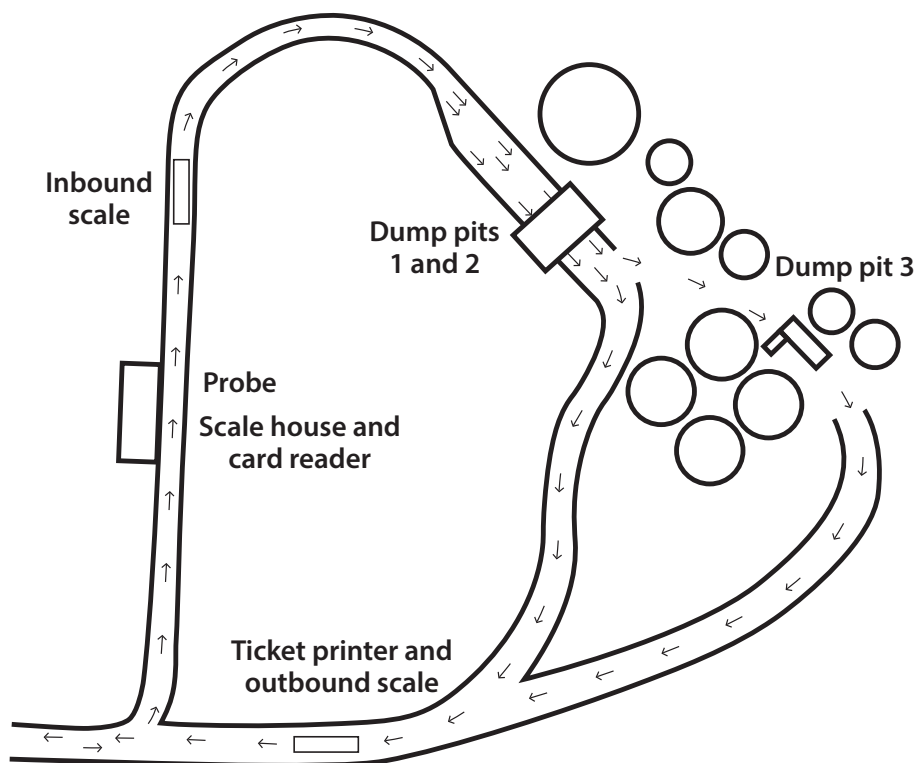


Diagram of Terminal A's new site layout showing how trucks travel through the facility. Inbound trucks turn left to be probed and identified by a unique RFID card before moving forward to the inbound scale. After being weighed, trucks proceed to one of three dumping lanes. After dumping, trucks are weighed by a fully-enclosed outbound scale, where drivers receive automatically printed scale tickets before exiting the facility. Diagram courtesy of West-Con.

Dual Scale System

Inbound trucks first are probed by a Gamet Mfg. Apollo truck probe and each truck's unique RFID card is scanned by a CompuWeigh SmartTruck system. Trucks then proceed to a Rice Lake 80-foot inbound scale to be weighed automatically and directed to the correct dump pit by the CompuWeigh system. Once scanned and weighed, truck information is processed automatically to begin the scale ticket process for the scale operator, as trucks move to one of three dump pits.

Pits 1 and 2 are new 1,000-bushel mechanical dump pits that feed two new S-M Enterprises 20,000-bph receiving legs. The new pits are equipped with S-M Enterprises dust collection systems and R.C. Peterson Electric mineral oil systems. The coop's existing 15,000-bph receiving leg also will be used during times of high demand.

The two new receiving legs are equipped each with 852 Maxi-Lift 20x8 CC-Max heavy duty buckets on 22-inch Price Rubber MSHA nitrile belts. Three new Schlager 20-inch rotary distributors – 6-hole, 7-hole, and 8-hole models, respectively – were added to route grain to storage or loadout.

After dumping, trucks proceed to a new, fully-enclosed Rice Lake 80-foot outbound scale and are identified by their RFID card, before receiving automatically printed scale tickets.

Additional Renovations

West-Con also installed a Zimmerman 7,000-bph, propane-fired tower dryer for five points of moisture removal to replace an old dryer.

The terminal also replaced its 20-year-old, 30,000-bph bulk loadout system with an 80,000-bph system featuring a C&A Scale 80,000-bph bulk weigh scale equipped with a CompuWeigh scale controller and a Gamet bulk sampler.

A pair of Meridian 5,000-bushel truck-loading surge tanks were added above pit 1.

Tucker Scharfenberg, associate editor



West-Con added a pair of 1,000-bushel mechanical dump pits.