

Terminal in Two Parts

COOP BUILDS SLIPFORM CONCRETE RAIL LOADER, ADDS ANNEX A YEAR LATER



Fessenden Coop Association
Fessenden, ND • 701-547-3291

Founded: 1943
Storage capacity: 10.5 million bushels at seven locations
Annual volume: 25 million bushels
Annual revenues: \$200 million
Number of members: 800
Number of employees: 75
Crops handled: Hard red spring and winter wheat, durum wheat, soybeans, corn, barley, pinto and black beans, sunflowers, canola, flax, oats, peas, millet
Services: Grain handling and merchandising, agronomy, seed cleaning, custom application, feed, crop scouting

Key personnel at Hamberg:

- Mark Hovland, general manager
- Mark Pederson, location manager
- Stan Trenary, superintendent
- Jeff Knutson, grain originator
- Tessie Buckman, bookkeeper
- Carrie Bauerle, scalemaster
- Jeff Lindgren, operations
- Terry Wentz, operations
- Jeff Hawn, operations

Supplier List

- Aeration fans.....** AIRLANCO
- Aeration system** North American Equipment Co. Inc.
- Bearing sensors..** 4B Components Ltd.
- Bucket elevators.....** GSI
- Catwalk.....** Vigen Construction Inc.
- Control system...** Hope Electric Inc.
- Conveyors (belt).....** Hi Roller
- Conveyors (drag)** GSI
- Distributors** Schlager Inc.
- Elevator buckets** Tapco Inc.
- Engineering (design)** Vigen Construction Inc.
- Engineering (structural)** VAA, LLC
- Fall protection** Fall Protection Systems Corp.
- Gates.....** Tom-Cin Metals
- Grain dryer ..** Zimmerman Grain Dryers



The Hamberg, LLC 2013 rail terminal in Hamberg, ND is a joint venture between CHS and Fessenden Coop Association. One-million-bushel slipform concrete annex at right was completed at the beginning of 2015. Aerial photo courtesy of Vigen Construction Inc.

For the last 15 years, Fessenden Coop Association, Fessenden, ND has been loading shuttle trains on the Canadian Pacific Railroad two rail-loading terminals.

However, the coop has never had a rail-loading location on the Burlington Northern Santa Fe (BNSF) Railway, the other Class I railroad serving North Dakota. That was the impetus behind the construction in 2013 of a 1.8-million-bushel slipform concrete terminal in Hamberg, ND (701-547-2000), followed by a 1-million-bushel concrete annex in 2014-15. Fessenden Coop had owned



General Manager Mark Hovland (standing) and Location Manager Mark Peterson. Ground level photos by Ed Zdrojewski.

- Grain temperature system.....**Integris
- Manlift.....** Schumacher Elevator Co.
- Millwright.....**Vigen Construction Inc.
- Motion sensors** 4B Components Ltd.
- Scale automation**Cultura Technologies LLC
- Truck probe**Gamet Mfg. Inc.
- Truck scales.....**Fairbanks Scales

a small wood crib elevator in Hamberg since 198X.

The business has been booming ever since, according to General Manager Mark Hovland.



The Hamberg terminal operates five bucket elevators seen in alcove and a 7,000-bph Zimmerman tower dryer at left.

“We loaded 26 corn trains at 110 cars each in 2015,” says Hovland, who came to his present position in 2013 after 10 years with ADM Benson-Quinn.

To help finance and organize the

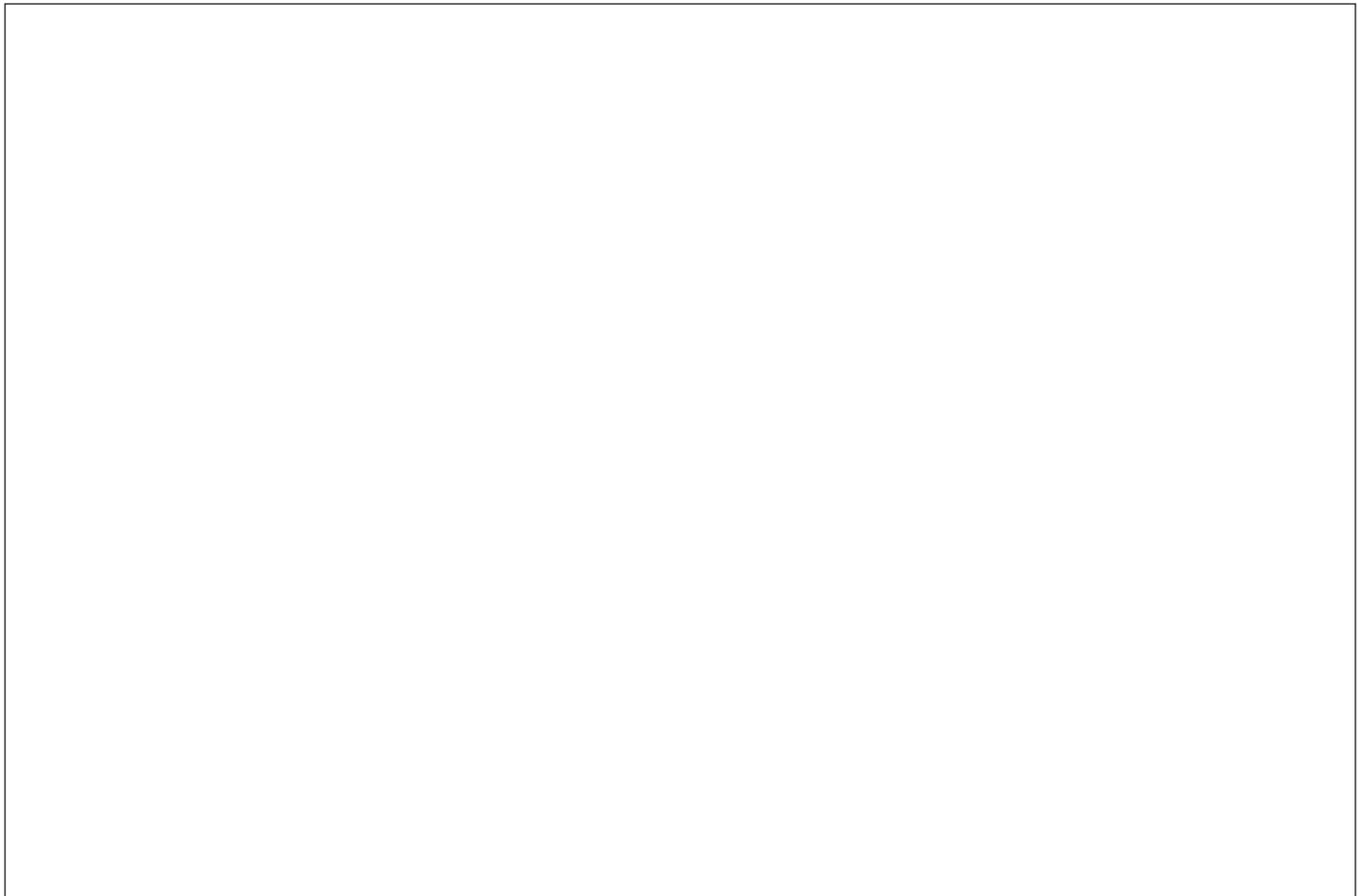


Twin 20,000-bph receiving legs and eight-hole rotary distributors feed grain into overhead 20,000-bph drag conveyors for transport to storage.

project, Fessenden Coop teamed up with CHS in 2012 to form Hamberg, LLC, a joint venture with Fessenden as the managing partner. The venture, in turn, hired Vigen Construction Inc., East

Grand Forks, MN (218-773-1159), as general contractor and millwright to build the elevator.

“We went with concrete for better longevity and less maintenance,” Hov-





Inbound truckload of wheat is sampled as the truck sits on an inbound scale before being routed to one of two receiving pits.

land says. “Vigen is the predominant concrete builder in our area. We have a past history with them, and they have a good record of taking care of any problems that may arise.”

VAA, LLC, Plymouth, MN (763-559-9100), performed structural engineering on the terminal. Hope Electric, Hope, ND (701-945-2460), was the electrical contractor and supplied the automation and electronic monitoring systems. Northern Plains Railroad, Fordville, ND (XXX-XXX-XXXX),

constructed an 8,000-foot loop track.

The cost of the project remains confidential.

2013 Elevator

Work on the main facility began in spring 2012 and was completed by August 2013.

The 2013 elevator includes a 10-pack of 110,000-bushel grain storage tanks, four 25,000-bushel interstices, another smaller interstice, and five other overhead tanks positioned over cleaners, the bulkweigher, and truck loadout.

The big tanks stand 36 feet in diameter and 136 feet tall, with Kanalsystem aeration and unloading floors. Each tank has a five-cable Integris moisture and temperature monitoring system and radar-type level monitors supplied by Hope Electric. A set of five AIRLANCO 5-hp centrifugal fans supply a minimum of 1/5 cfm per bushel, with each fan covering two tanks.

Incoming trucks are weighed on a 110-foot Fairbanks pit-type scale adjacent to the facility office, a single-story structure. A Gamet Apollo truck probe next to the scale takes samples.

After the samples is weighed and graded, the facility’s Cultura oneWeigh scale automation system routes drivers to one of two 800-bushel mechanical receiving pits. Drivers then proceed to a 110-foot Fairbanks outbound scale where they receive their scale tickets through a scaleside printer.

The pits feed a pair of GSI 20,000-bph receiving legs



Fessenden Coop operated this old wood crib elevator, seen from the roof of its new rail terminal in Hamberg, ND, until 2010.

equipped with 20x8 Tapco heavy-duty buckets mounted on a 22-inch Fenner Dunlop belt.

The legs deposit grain into a pair of Schlagel eight-hole rotary distributors, which in turn, place grain onto one of three overhead 20,000-bph GSI drag conveyors running out to storage.

With air assist from the Kanalsystem floors, the tanks empty through side sump onto 60,000-bph Hi Roller enclosed belt conveyors in a below-ground tunnel. These feed a pair of GSI 30,000-bph shipping legs featuring two rows of Tapco 16x8 buckets mounted on 36-inch Fenner Dunlop belts.

The legs feed a 70,000-bph Inter-systems bulk weigh loadout scale with oneWeigh software. During train loading, Jamestown Grain Inspection Inc. sends a team to conduct origin grading. Workers atop railcars during loading are protected by a Fall Protection Systems trolley unit running the length of five cars.

Location Manager Mark Pederson estimates that it takes 6-1/2 hours to load a wheat train, seven hours for soybeans, and eight hours for corn.

In addition, the facility also includes a 7,000-bph Zimmerman tower dryer, supplied from an adjacent 30,000-gallon propane tank outfitted with a vaporizer. The dryer is loaded using a 10,000-bph GSI wet leg and empties onto a 10,000-bph GSI drag running back to the receiving legs.

2014-15 Annex

Vigen returned in the spring of 2014 to break ground on a 1-million-bushel slipform concrete annex. The annex was ready for operation on Jan. 1, 2015.

The annex consists of two standalone 500,000-bushel tanks standing 76 feet in diameter by 136 feet tall. These tanks also have KanalSystem floors powered by four 50-hp AIRLANCO centrifugal fans servicing both tanks. Pederson

notes that these tanks are not yet outfitted with grain temperature cables but were constructed so that cables can be added later.

A new set of 20,000-bph overhead GSI drag conveyors fill the new tanks, which in turn, empty onto a new set of 60,000-bph Hi Roller belt conveyors for reclaim.

Ed Zdrojewski, editor