

# Lake Charles' Concrete Annex

EXPANSION ALLOWS PORT TERMINAL TO HANDLE A WIDER MIX OF GRAINS, OILSEEDS



Lake Charles Harbor &  
Terminal District  
Lake Charles, LA • 337-439-3661  
www.portlc.com

Founded: 1924  
Elevator storage capacity: 1.035  
bushels at one location  
Annual agricultural volume: Over  
1 million tons  
Number of employees: 130  
Crops handled: Rice, corn,  
soybeans, grain sorghum, flour,  
corn meal, feed ingredients

#### Key personnel:

- Harry T. Jordan, managing director
- Nathan Sukiennik, director of operations
- Ralph Griffen, director of sales and marketing

#### Supplier List

Aeration fans .... Pacific Pneumatic  
Concrete tank builder . Hoffmann  
Inc.  
Consulting engineers ..... Meyer &  
Associates, River Consulting  
Contractor ..... F. Miller & Sons  
Conveyors ..... Buhler Inc.  
Conveyor belting .. Georgia Duck &  
Cordage Mill  
Dust collection system .. Conveying  
Techniques  
Dust filters .... Alanco Environmental  
Grain temperature system .....  
Temputer Inc.  
Insurance ... Zurich Insurance Co.  
Liner ..... Hoffmann Inc.  
Motors ..... Reliance Electric  
Roof coating/painting ... Universal  
Industrial Service, Morgan Roofing



Grain elevator serving the Lake Charles Harbor & Terminal District in Lake Charles, LA. New six-tank, 270,000-bushel jumpform concrete annex can be seen at right. Photo courtesy of Hoffmann Inc.

The mix of grains grown and handled for both domestic and export use has been getting more complicated in recent years. It's not all U.S. No. 2 yellow corn any more – today's world markets demand hybrids and varieties of grains and oilseeds tailored for specific end uses, such as high-oil corn that boosts the energy gained in livestock rations without the addition of more expensive soybean meal. There's even a growing demand overseas for crops that can be certified that they haven't been genetically modified.

With these changes in the marketplace, publicly-owned port terminals along the Gulf Coast such as Lake Charles Harbor & Terminal District in Lake Charles, LA, have been under pressure to boost their capabilities of handling a wider variety of crops. In the case of Lake Charles, there was further pressure to expand storage capacity due to the addition of an automated bag filling house earlier in 1999 and the impending completion of a bag

loading facility in December 2000.

At Lake Charles, that meant a project to expand total storage capacity from 800,000 to 1.035 million bushels by adding a six-tank jumpform concrete annex in 1999, according to Ralph Griffen, director of operations.

"We've been handling a lot of cargo related to U.S. Department of Agriculture foreign aid programs," he says. "We realized there would be a need to be able to bag grains for overseas commercial millers who might not have access to bulk handling facilities."

The Port of Lake Charles completed its bagging house in March 1999. The house is a three-story, 17,000-sq.-ft. steel building that contains four bagging lines, capable of handling 50 to 60 tph (1,500 to 2,000 bph) of corn, sorghum, and other grains. The bagging house, a multimodal facility accessible both by rail and truck, includes a 4,500-foot covered canopy for truck and container loading and unloading.

### **Concrete Annex**

Lake Charles Terminal hired F. Miller & Sons Inc., a local contractor based in Lake Charles (337-439-4552/www.fmillerinc.com), as general contractor on the bulk storage expansion. The consulting firms of Meyer & Associates Inc. and River Consulting Inc. assisted with the design of the annex. Hoffmann Inc., Muscatine, IA (319-263-4733/www.hoffmanninc.com), was hired as the jumpform concrete tank builder.

Work began shortly after completion of the bagging house in 1999 and was finished in time for the 1999 harvest.

The Hoffmann crews built six concrete tanks standing 34 feet in diameter and 80 feet tall, each holding 45,000 bushels. Although the public elevator at Lake Charles had a mix of concrete and steel storage, the terminal managers went with concrete on this project for its strength, durability, and relative ease of maintenance.

The tanks are outfitted with steel hopper bottoms, eliminating the need for sweep augers or for workers to enter the tanks, and with three-cable per tank

Temputer grain temperature monitoring systems.

Each tank also is equipped with a 10-hp Pacific Pneumatic centrifugal fan, capable of supplying at least 1/10 cfm per bushel of aeration, and 2-hp vent fans on the roof.

Carrying grain to the annex is a 450-tph (15,000-bph) Buhler drag conveyor. The tanks empty onto a 550-tph (18,000-bph) belt conveyor outfitted with Georgia Duck belting.

The belt conveyor returns grain to existing legs, where it can be sent either to the bagging house or direct to bulk shiploading. The terminal utilizes an existing Buhler shiploader that moves on rails along Berth No. 10 on Contraband Bayou.

### **Automated Bag Handling**

Currently, bag handling at the Port of Lake Charles is labor-intensive, utilizing traditional labor to move cargo from transit sheds to docks to ships. This process is being

streamlined with the aid of automated rail car unloading and an automated palletizer.

By December 2001, an automated bag handling system will be completed. This system will enable the Port to handle bagged cargo using a mix of traditional labor and automation. The automated loading system will consist of two automated bag shiploaders and associated depalletizer and palletizer stations, conveyors, railcar loaders, and electrical systems. A metal transit shed will house all equipment and provide over 150,000 square feet of cargo storage.

Two spiralveyor cranes will allow for the automated loading of bagged cargo onto ships at a rate of 100 tph per crane.

Finally, a 1,000-linear-foot berth connecting the bagging house with the berth and transit shed is expected to be completed in about two years, according to a press release from the port authority.

*Ed Zdrojewski, editor*

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