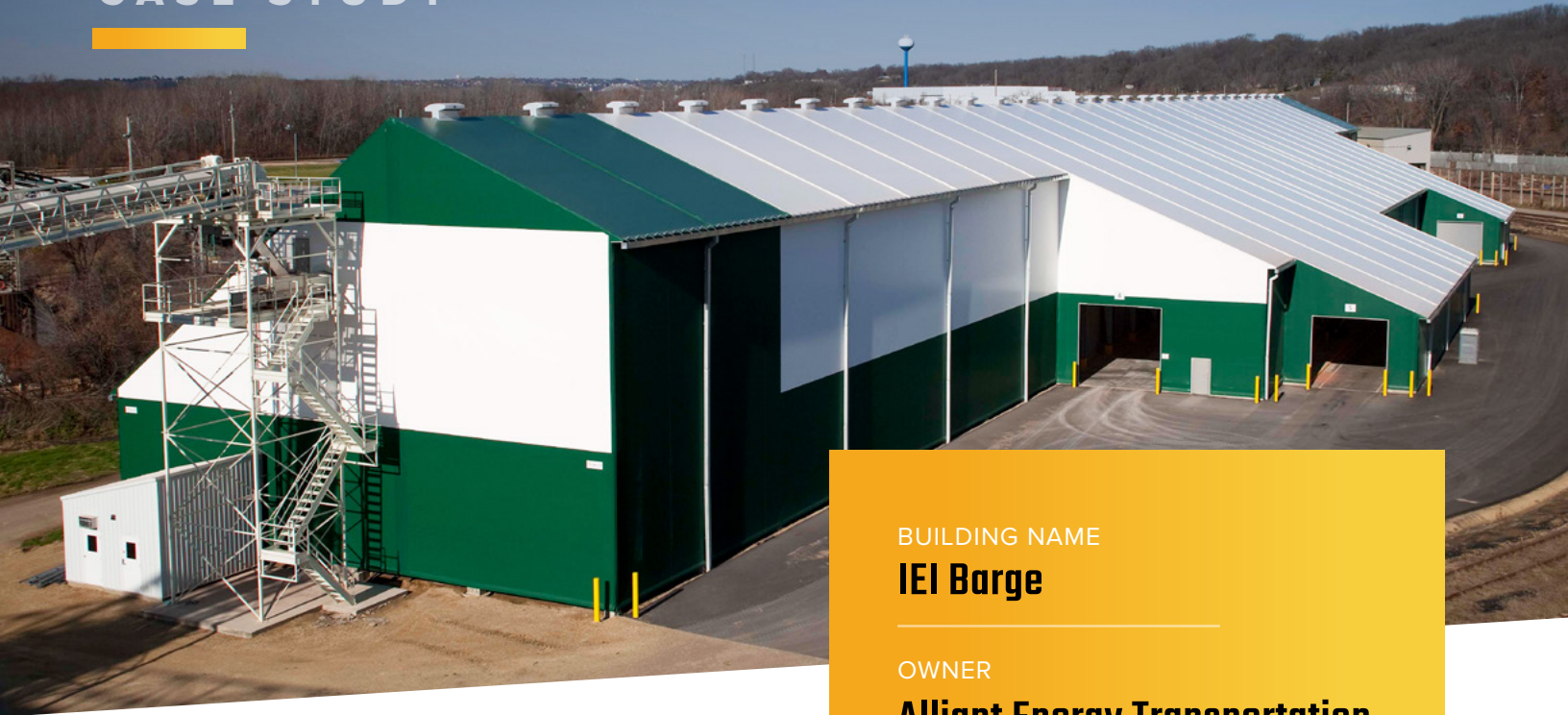


IEI BARGE

CASE STUDY

 **BULK STORAGE**
APPLICATIONS



IEI BARGE SERVICES is a bulk fertilizer storage, mixing and transloading facility along the banks of the Mississippi River. In 2015, they began shopping for a bulk storage building to accommodate business growth. Poor soil conditions, along with the requirements of loading and storing bulk product and withstanding constant exposure to corrosive fertilizer, made steel buildings impractical and prohibitively expensive. “Because of our soil issues, we simply couldn’t afford to construct a more traditional building,” said Joe Bitter, general manager of Alliant Energy/IEI Barge Services. “The lightweight design of our Legacy building allowed us to reach a compromise between soil conditions and cost.”

BUILDING NAME

IEI Barge

OWNER

**Alliant Energy Transportation
IEI Barge Services**

LOCATION

East Dubuque, IL

SIZE

**77 x 580' with three
lean-tos (63,010 sq ft)**



MARKET SECTOR

**Fertilizer
Storage**

APPLICATION

**Storage +
Distribution**

SPECIAL FEATURES

**Transloading equipment,
CIP foundation**

INSTALLATION

Legacy in-house crews





Legacy Building Solutions partnered with the building owner to design a fabric structure that measures 77 feet wide by 580 feet long, with an offset peak and three lean-tos. Working with Legacy's in-house design and construction teams gave IEI Barge the custom features they needed and the guidance to increase efficiencies at the site. Said Bitter, "Regarding the design and construction phases of the building, I can say that the process went exceptionally well. When I made eleventh-hour changes to the job, Legacy handled them with ease."

The new Legacy structure is engineered to withstand the rigors of turning over its full 27,000-ton capacity at least three times each year. With a 55-foot gable roof, the Legacy design allowed an overhead conveyor system to be installed—along with a catwalk for maintenance—that makes filling the building a quick process.

The building accommodates a complete range of commercial transportation. With product being transported to and from the facility by rail, river, and truck, easy access was critical. Branching out from the 77-foot x 580-foot main structure, Legacy strategically placed three lean-tos—measuring 40-feet x 340-feet, 25-feet x 130-feet, and 25-feet x 60-feet—to facilitate the flow of vehicular traffic. The lean-tos provide a

drive-through area and room for operations without compromising the clear area available for storage. Ventilation is via mesh soffits under the overhangs for intake and RV-3000 roof vents for exhaust.

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The conveyor load is designed for a fully loaded weight of 350 pounds per lineal foot. The building is optimized to receive product via rail, truck and barge. Inside the building are six concrete storage bays with bin lift gates. Each storage bin is a different size to accommodate the product, and the bins are made of pre-cast panels that can be reconfigured as needed.

After design and engineering was completed, Legacy's in-house construction crew traveled to the site and erected the building. "The Legacy construction crew was very professional and courteous. They finished the job well ahead of schedule, worked safely, and followed our stringent safety requirements to the letter."