

SUMMER 2015

DESIGN-BUILD



Solutions

ESI specializes in food processing and distribution center design and construction.



ABOVE: This food distribution facility's west side was severely damaged by an EF-3 tornado in 2014.

RIGHT: Uplift pressure ripped a column support from its base.

Courtesy of ESI Group USA

How to Rebuild when Mother Nature Strikes

ON APRIL 28, 2014, an EF-3 tornado struck the US Foods' distribution center in Pearl, Miss. The tornado, which spanned 400 yards and traveled with winds of 155 miles per hour, produced serious damage to the warehouse's walls, roof and overall structure. Fortunately, all employees were safe and accounted for.

Fast forward to today, just over a year later, and the new facility is up and running. Here's

how design-build firms such as ESI Group USA, Hartland, Wis., help customers respond to a crisis and rebuild for if, and when, Mother Nature strikes again.

When Mother Nature speaks

"Mother Nature will always find a way in, be it air, water, ice or wind," says Tim Gibbons, vice president of ESI Design Services.

The Force of Nature

- The uplift broke the concrete at the base, which is 40" in diameter. The top section is 24" in diameter by 48" high.
- It supported a column that weighed a minimum of 600 lbs and the concrete would have weighed a minimum of 2500 lbs. That does not include the roof.

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**Private Label Manufac-
turers Association**
Booth TBA
Rosemont, IL | Nov. 15-17 2015

► *Mother Nature Continued...*

"The best way to combat this is to assume she will get in and be prepared with a backup system to combat this intrusion. Also, educating clients on how to properly maintain the building and what to look for during the life span of the building is extremely important to assure [the building's] longevity."

In order to swiftly formulate next steps, ESI was on site four hours after being notified of the incident by US Foods to assess damages and mobilize a field construction manager and small carpentry/iron crew to stabilize structures and help with product removal.

"When a facility is affected by Mother Nature, it is most important to account for all employees first and then activate your business continuity plan," says Gibbons. "This plan lays out the step-by-step process for notifying the proper parties, corresponding with clients and handling media inquiries."

Going the extra mile

"The central Mississippi area has a history of being affected by strong thunderstorms, tornadoes and hurricanes," says Art Roman, director of design and construction of US Foods. "Given this history, it made sense to go the extra mile with our new facility and utilize a higher wind-resistant roofing design, lightning protection and equipment anchoring.

"We also installed a full electrical generator backup system, which is a very valuable option, especially for a business storing perishable items," he adds. "US Foods regularly acts as an important resource for food during widespread disaster situations, so having a generator backup system is vital to our business."



Highly Controlled
Plasma Logistics Center.

© Courtesy of American Aerial Photos, LLC.

ESI Builds Plasma Logistics Center

ESI Group recently completed the construction of Grifols North Plasma Logistics Center in Clayton, North Carolina. The Plasma in this facility is a key component for the manufacturing of the Grifols' products used to treat rare, chronic diseases such as a neurological disorder, immune deficiencies, hemophilia and genetic emphysema. This highly controlled -35 degree Celsius Plasma Logistics Center supplies the world's largest and one of the most technologically advanced plasma fractionation facilities, increasing production capacity in Clayton from 3.2 million liters of plasma annually to 6 million liters when in full operation.

The logistics center footprint is 83,500 square feet, including a 17,160-square-foot Automated Storage and Retrieval System (AS/RS)—a rack-supported structure utilizing three AS/RS Storage Retrieval Machines and stands 90 feet tall. This critically controlled tempered space is refrigerated with an R507 refrigeration system with a Nitrogen backup and has double redundant power supply. The AS/RS is capable of storing 5,000+ pallet positions.

"We are pleased to have played a key role in the construction of a facility that will positively influence the health and wellness of others as well as bring economic benefits to the Clayton area," says Brad Barke, President of ESI Group.

View the project Video and Highlights for the Grifols Plasma Logistics Center at:
<http://www.esigroupusa.com/projects/group/automated-storage-retrieval>

In addition to safe guarding its building, US Foods consulted with FEMA and local governmental authorities to identify safe zones within the building for employee protection during fast-developing storms and evacuation plans for storms with advance warning.

Regardless of the event, ESI Group helps



R507 refrigeration
system with
Nitrogen backup.

© Courtesy of Xfinigen Media

customers develop sites that can withstand excessive snow loading, high winds and even disastrous Mother Nature elements. **ESI**

Content provided by Art Roman, Director of Design and Construction at US Foods, Inc. and Tim Gibbons, Vice President of ESI Design Services.