# LYONS SALT COMPANY

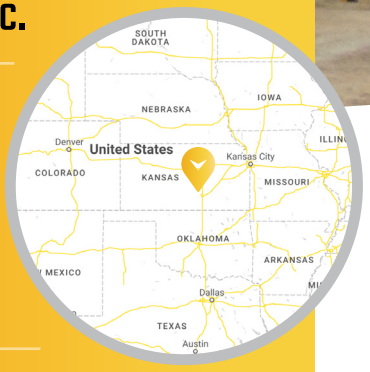
## CASE STUDY

SAND + SALT APPLICATIONS

BUILDING NAME
**Lyons Salt Company**

OWNER
**BSC Holding Inc.**

LOCATION
**Lyons, KS**




MARKET SECTOR
**Salt Mining**

APPLICATION
**Salt Mining & Storage**

SIZE
**162 x 300'**
**48,600 SF**

SPECIAL FEATURES
**HDG frames, interior with cavity ventilation & access points, purlin caps & solid bracing rods**

INSTALLATION
**Legacy in-house crews**

**LYONS SALT COMPANY** is a Kansas-based company that mines and produces deicing salt and agricultural feed salt products. Because Kansas law requires salt to be kept under cover, they use flat storage buildings to store equipment and bulk salt.

Lyons had a fabric structure on an open web truss system that was severely corroded due to fine dust particles settling on the exposed hollow tube trusses. Lyons specified a fabric structure for the new enclosure – metal buildings corrode too quickly when exposed to massive quantities of salt, and wood buildings are too expensive to be cost effective.

LEGACY BUILDING SOLUTIONS


When searching for an alternative to the open web truss system, a web search brought them to Legacy Building Solutions. One of the things that most impressed Lyons was the range of options Legacy offered to prevent corrosion. A clear fabric liner on the inside of the steel frame was particularly influential. “None of us had seen or heard of a fabric liner before,” said Stephanie Murphy, Project Superintendent at Lyons Salt Company. “Others were trying to sell us on coatings, but our concern was that the salt would chip away at the coatings and contaminate the product. It is very obvious the liner will help in reduction of dust resting on our trusses.”

> **“No one else was able to complete the project in the same timeframe... and most importantly, it was done safely.”**

The interior liner system by Legacy also includes access panels so that the staff at Lyons can inspect the frame periodically. The cavity between the liner and the exterior of the building has a separate and complete ventilation system to prevent moisture build-up, another common source of corrosion.

The building includes several other features designed to prevent corrosion, including a hot dip galvanized steel frame. Hot dip galvanizing permanently changes the make-up of the steel, providing lifelong protection as opposed to coatings which are prone to wearing off.

The purlins used to brace the building are individually capped to prevent salt dust from settling into the purlin. And instead of bracing cables, stability comes from solid threaded rods. The rods are the same size as the cables, but they are made of the hot dip galvanized steel and do not contain small areas where salt dust can build up and cause corrosion.

Legacy crews demolished the old building and installed the new one in about a month. “No one else was able to complete the project in the same timeframe,” said Murphy. “And most importantly, it was done safely.” Because Lyons is a mining site, they are required to meet MSHA safety standards in addition to the standard OSHA procedures.

The new building is adjoined to an existing fabric structure with a sealed fabric connection. The older building was constructed in 2009 and uses the same open web truss system as the structure replaced with the Legacy building. Both buildings are the same height at the eaves and peak and use white polyethylene fabric with blue trim. As the older building nears the end of its lifespan, Lyons is planning to replace it with a rigid frame building with a liner.

Overall, with a longer life in the corrosive salt environment and expedited construction allowing Lyons Salt Company to use the building sooner and spend less time on replacement and maintenance, the new building will have a faster ROI than possible with a traditional building.