

**FEED HANDLING PROJECTS**

GOLD EAGLE COOPERATIVE, Eagle Grove, Iowa

Design of structural framework for pallet mill and cleaner, 2001

FARMERS COOPERATIVE ELEVATOR ASSOCIATION, Greenleaf, Kansas

Structural evaluation of damage due to explosion and redesign of concrete feed mill, 2001

TRIPLE "F" COOPERATIVE, Urbandale, Iowa

Site observation following fire, report on condition of equipment and estimated cost of replacing damaged equipment, 2001

SULLY COOPERATIVE EXCHANGE, Sully, Iowa

Design of foundation and millwright design for steel grain bin, 2001

HEART OF IOWA COOPERATIVE, Gilbert, Iowa

Design of foundations for truck loadout bins, 1998.

Redesign of materials handling and new grinding area

EAGLE GROVE COOPERATIVE, Eagle Grove, Iowa

Feed mill redesign, 1998.

Redesign for 300 ton/hr. pelleting process and grain receiving.

THE OHIO STATE UNIVERSITY, Wooster, Ohio

Feed mill evaluation, 1995

Evaluation and cost estimate of remodeling vs. replacement of University feed milling system.

GEORGE A. ROLFES CO., Boone, Iowa.

Keelung Harbor Dust Collection Piping, 1991.

Independent design review of dust collector piping including elevator boot and head, conveyor, scale hopper, and scale garners.

IBBERSON INTERNATIONAL, Minneapolis, Minnesota.

Feed Mill Modernization Review, Vilnius, Lithuania SSR, 1990.

Independent review of Ibberson preliminary design and proposal for modernization of feed mill for Malyba Grain Processing Industrial Corporation.

CADCO INC., West Des Moines, Iowa.

Premix Ingredient Tank Structural Evaluation, 1990.

Site observation, evaluation and report on structural condition of support legs for premix feed ingredient storage bins.

IOWA STATE UNIVERSITY, Ames, Iowa.

Structural Evaluation of Feed Mill Structure, 1990.

Site observation, analysis and report on wall cracks on masonry-clad feed mill structure at the Ruminant Nutrition Research Station.

IOWA STATE UNIVERSITY, Ames, Iowa.

Feed Preparation Facility, Swine Nutrition and Management Research Center. 1989.

Preliminary and Final Drawings and Specifications for a feed preparation facility to serve a 200-sow farrow-to-finish swine research station. Features include a nominal 30x60 pre-engineered steel building, exterior bulk storage bins, custom steel support system for nine overhead bins, bulk ingredient receiving area, premix and mixing areas, secure ingredient storage area, and bagging area. Feed handling equipment includes horizontal mixers, electronic scale hopper, bucket elevator, drag conveyor, hammer-mill, feed distribution augers, and dust collection system.

KEMIN INDUSTRIES, INC., Des Moines, Iowa.

Feed Additive Manufacturing Plant, 1986.

Development of master plan and analysis of process equipment for handling of dry bulk solids.

MICHIGAN STATE UNIVERSITY, Kellogg Biological Station, East Lansing, Michigan.

Feed Center. 1985.

Design of electrical system including motor control center and controls for automation of feed processing system for dairy research center.

EASTMAN CHEMICALS DIVISION VALLEYBROOK FARM, Kingsport, Tennessee.

Feed Mill and Feed Centers, 1985.

Drawings and Specifications for a complete feed mill and two feed centers used to provide feed to approximately 1,000 research animals. All components of the system were designed to be completely automated, including electronic routing from the Feed Mill. Cleanout and avoidance of any contamination were emphasized throughout the design.

MONSANTO COMPANY, St. Louis, Missouri.

Feed Handling Facility, 1984.

Drawings and Specifications for an overhead bulk feed handling facility, consisting of 12 steel overhead bins, screw feeders, electronic scales, and pneumatic filling system. Structure was designed with 32 foot clear span truck drive below the overhead bins in a Seismic II zone.

MONSANTO COMPANY, St. Louis, Missouri.

Feed Processing Facility, 1984.

Preliminary design and drawings for a feed processing facility for research feeds. Features included mixing, grinding, rolling, and pelleting of complete feeds and feed products.