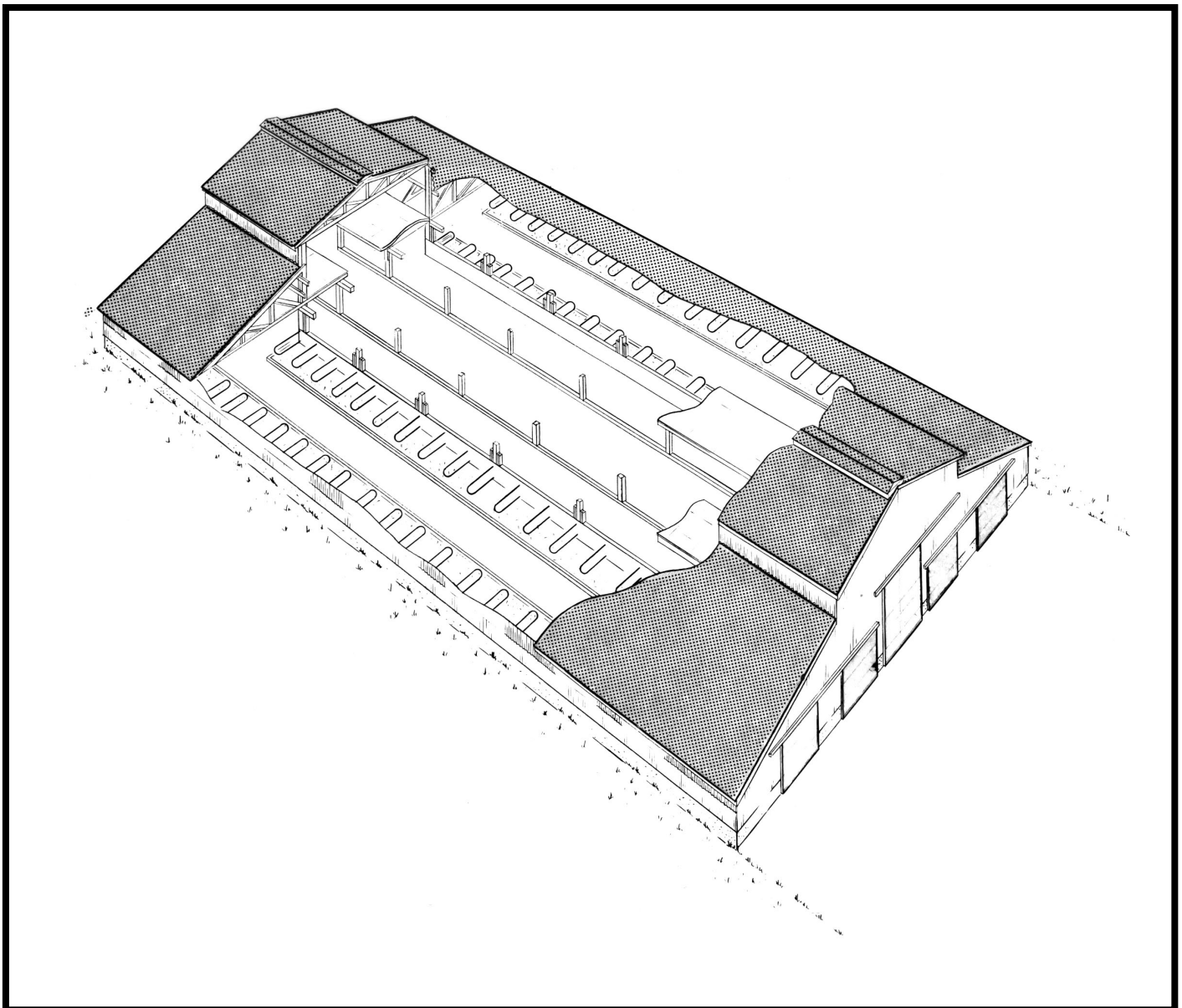


FREE STALL DAIRY SYSTEM - DRIVE THROUGH FEED BUNK, 100 COWS AND REPLACEMENTS



321-20

FREE STALL DAIRY BARN DRIVE THROUGH FEEDING SYSTEM

This is a detailed plan set for a free stall barn to house, feed, and milk a herd of dairy cows.

Basically, the plan consists of a 100 foot wide semi-clear span building with two rows of free stalls on either side of a centre drive-through feed alley. This system enables the herd to be divided into groups according to size and production. Loft space is provided on either side of the feed alley for hay storage of approximately 1 1/2 tons per head. A large door at each end of the barn allows hay trucks to drive into the barn to off load hay.

MILKING SYSTEM

The milking centre (Plan 324-6) is shown in alternate locations at one end of the barn. The milking parlour can be a herringbone layout. The milking centre also includes tie stalls and box pens in an adjacent area for breeding and veterinary purposes.

FEEDING SYSTEM

The main feature of this barn is the drive-through feed alley. This allows all types of feed (greenchop, silage,

chopped hay, hay cubes and concentrates) to be delivered to the cows with a self-unloading power box in amounts desired.

VENTILATION

The building is designed as a relatively cold, modified environment building. Temperatures will be only 2° - 10°C. warmer than outside temperature during the winter months. Air changes in the building must rely on natural air convection. Cool air enters the building through a slot under the eaves. As the air warms slightly, moisture is picked up and the warm air rises to be exhausted through a continuous slot in the roof ridge. The open eave and open ridge ventilation system can be supplemented by moveable panels along each side wall of the building.

MANURE HANDLING

Manure is scraped from the cow alleys by means of a tractor mounted scraper or a mechanical scraper. Manure can then be scraped, conveyed or pumped into a manure storage structure.