



# Midland Pig Producers Limited

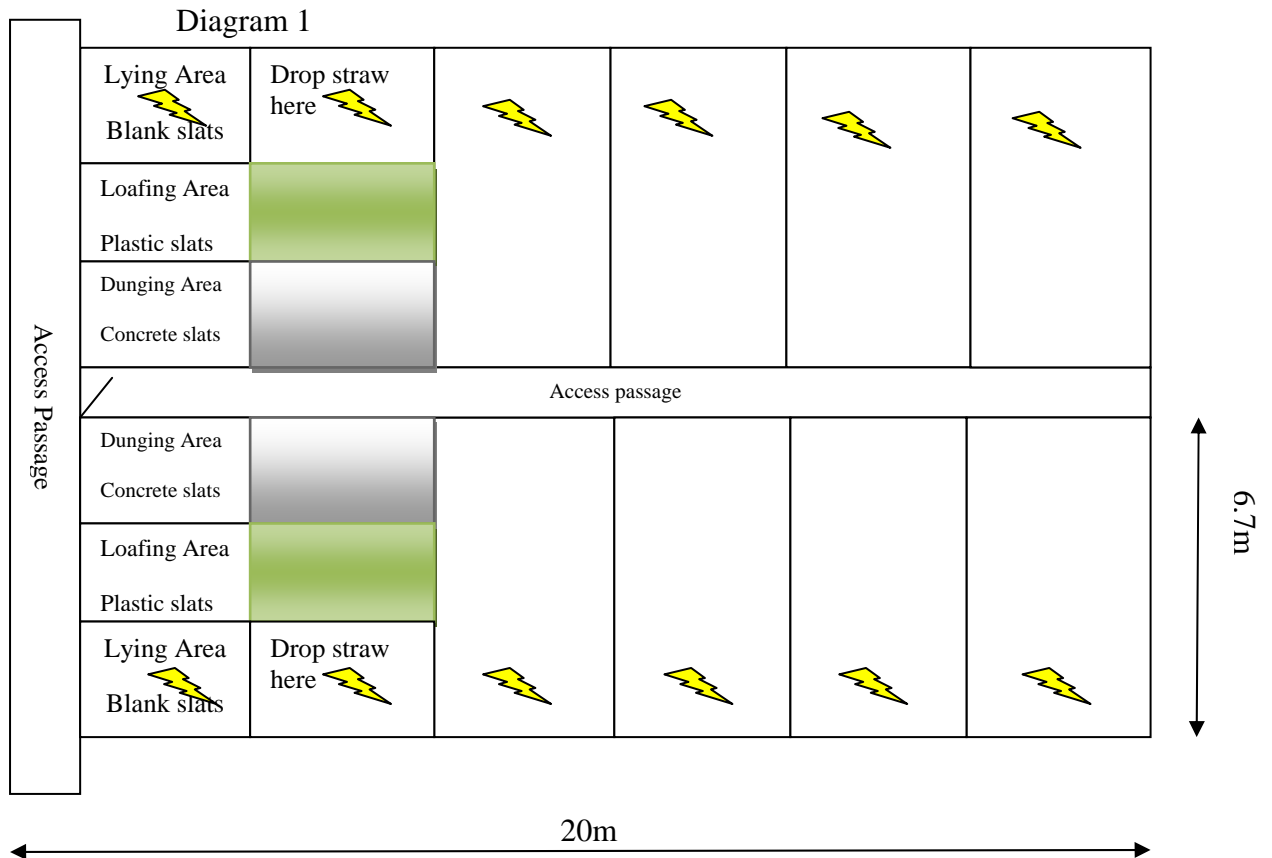
## CHOPPED STRAW DELIVERY SYSTEM SPECIFICATION

### Objectives

1. To create indoor pig accommodation in which pigs can grow efficiently without need to remove teeth and tails.
2. To deliver sufficient product, *probably chopped straw mixed with feed*, to each pen in the shed to allow rooting and foraging behaviour. The latter requires some ingestion, hence the feed element.

### Assumptions

1. 2 buildings
  - a) Building 1 (10 rooms of 300 pigs in pens of 25 @ 0.8m/pig)
  - b) Building 2 (5 rooms of 300 pigs in pens of 25 @ 0.8m/pig)  
+ (9 rooms of 300 pigs in pens of 50 @ 0.4m/pig)
2. The system needs to be relatively quiet and deliver small amounts of product regularly. Probably from a ceiling mounted dispenser, dropping on a specific lying area of the pen (see diagram 1)



### Method

A straw chopper feeding into a buffer style bulk bin with a trickle feed type delivery system may work. A plastic pipe of 100mm to snake around the building with a wire up the centre and plastic discs attached at say 300mm spacing. Above each pen a dispenser would be flood filled with the chopped product, so each dispenser would overflow to the next, until all the dispensers are full, which triggers the opening of the dispensers. Close the dispensers and start again. The delivery pipe would return to the top of the bulk bin in a continuous loop. (see diagram 2)



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Diagram 2

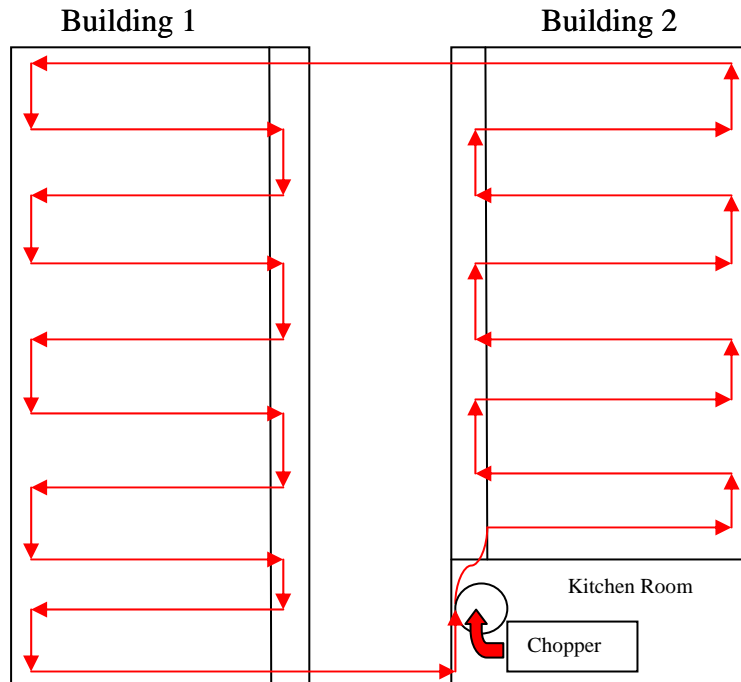


Diagram 2 shows the position of the buildings and the kitchen area where feed is milled and straw chopper etc. could be situated. It is not intended to show all the pens, just the flow potential. A couple of bags of cheap feed could be augured and mixed into the bulk hopper as the chopper runs, this would aid flow and meet the foraging requirement to eat some of the foraged material.

Diagram 3

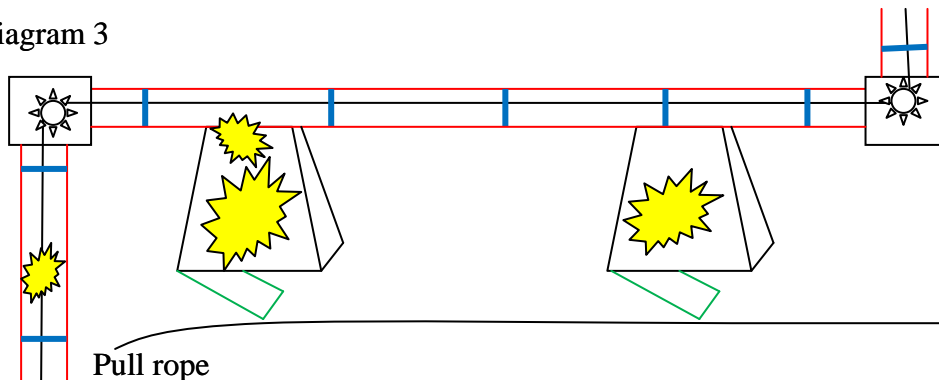


Diagram 3 shows the potential hopper design, a 10 litre plastic bucket connected to the delivery pipe. It also shows the cog wheel design for each corner. Some could be motorised to reduce tension in the whole system. The wire “pull through” cord would run slowly to reduce friction and fire risk.

The spring loaded door on the bottom of each bucket could be connected to a rope operated release mechanism on a timer control to allow the whole system to drop three or four times per day. A wire running the length of the passage, with other ropes connected to it from each room, allowing one pull at the end to release the whole shed. As the system is a continuous loop it would run continuously and return to the main bulk hopper to allow the timing of the droppers to be relatively flexible.