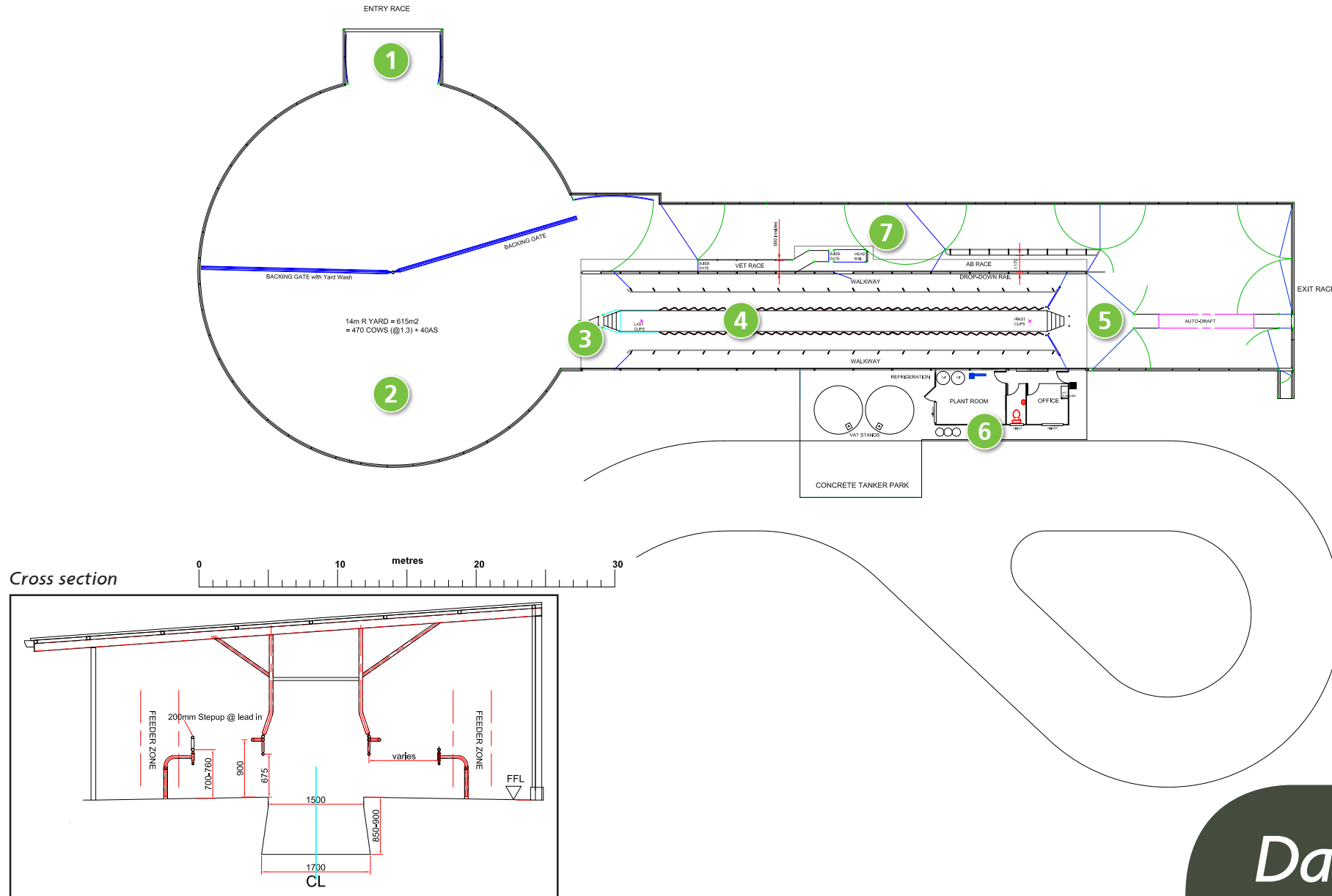


Herringbone round yard

A detailed description of each numbered area is on the following page.



1 Yard/race interface

- Yard entry same width as race, no sharp corners, and positioned as far as practicable from the dairy entry for efficient yard filling (cows enter yard facing dairy, with room to reshuffle into milking order)
- No change in height between race and yard level, nib 50-75mm high and 300mm wide
- Sweeping corners for cow flow, avoid forcing cows to turn sharply on concrete. Rubber matting can help where this is hard to avoid.

2 Yard

- Yard fall between 2 and 3% for ease of cleaning, but to avoid slipperiness
- Yard sized to hold the largest herd, with room for cows to move freely. 1.2m² per cow for Jerseys, 1.5m² for large Friesians.
- Yard offset from pit to help cows line up in the bail area
- Backing gate can double as a yard wash. Consider recycled or flood washing for water and time efficiency
- Backing gate fitted with hock rail, 500mm above ground- shouldn't form a wedge which may trap legs
- Consider placing an empty conduit pipe from the centre of the yard to the dairy for future technology.

3 Bail entry

- No places to hurt cows, e.g. protruding pipes and edges. Rail work should be flush across cow contact surfaces (vertical pipes on outside of horizontal rails)
- Have a lead in rail so 2-4 cows can line up facing forwards before the start of the milking bails
- Lead in rail height should be 900-1000mm high (~300mm on top of breast rail) and run from the last milking position to the end of the breast rail
- Rotating back rail to hold last cow in place.

4 Pit

- Exit and backing gate control access in multiple places in the pit
- Wide cluster spacing is better for cow flow- at least 700mm
- Pit depth between 850-950mm
- Distance from head gate to tip of the first zig-zag should be a cluster spacing+ 200mm
- Breast rail height 760mm for Friesian, 700mm Jerseys
- Breast rail, vertically and horizontally
- Height of top of rump rail 900mm high, kick rail 200mm below
- Rump rail in line with pit wall
- Distance between the rump and breast rail approximately 1450mm (for 600mm cluster spacing) to 1050mm (for 900mm cluster spacing)
- Nib on the side of pit wall
- Pit wall angled, with pit narrower at top than bottom so feet can be under the bail and milking can comfortably get close to the cow
- Drain tanker pad, vat stand and plant room via an inspection drain in pit to highlight errors
- Consider a mirror for checking yard situation and backing gate placement, rather than looking into or entering the yard (disrupting cows)
- Ensure area is well lit
- Any meal feeders divided into two sections so you can be feed half a row at a time.

5 Bail exit

- Exit gate needs to align with cow angle- i.e. match cluster spacing
- Pendulum or scissor type gates for exit gates (horizontal swing gates are harder to close from within the pit). Ensure there is at least 1400mm clearance (height) at the breast rail
- No places to hurt cows, e.g. protruding pipes and edges. Rail work should be flush across cow contact surfaces (vertical pipes on outside of horizontal rails)

- Access to the dairy buildings from the exit end of the pit, rather than the entry end, as it is less disruptive of cow flow
- Minimise narrowing of the exit to smaller than the bail width
- Sweeping corners for cow flow, avoid forcing cows to turn sharply on concrete. Rubber matting can help where this is hard to avoid
- Avoid having cows walking in opposite directions on either side of a fence (bad for cow flow).

6 General building

- Tanker pad raised to avoid stormwater intrusion. Pad must drain into effluent system
- Check dairy company requirements for tanker loop and tanker park
- Chemical shelter outside of pump room, with plumbing through wall
- Roller door for easy access/delivery into plant room
- Observe dairy company requirements for minimum distances for facilities such as feedpads, effluent storage, silage stacks and animal housing
- Place milk silos on the south side of the building if this suits to minimise solar heating
- Effluent system designed by accredited designer in conjunction with dairy and yard design,(before building commences).

7 Animal handling

- Separate covered vet and AB area outside of milking area to avoid painful procedures in the milking area.

For more information on:

- building a new dairy visit: dairynz.co.nz/dairy-blueprints
- herringbone design visit: dairynz.co.nz/herringbone-design
- the design of tracks, yards and handling facilities visit: dairynz.co.nz/tracks-yards