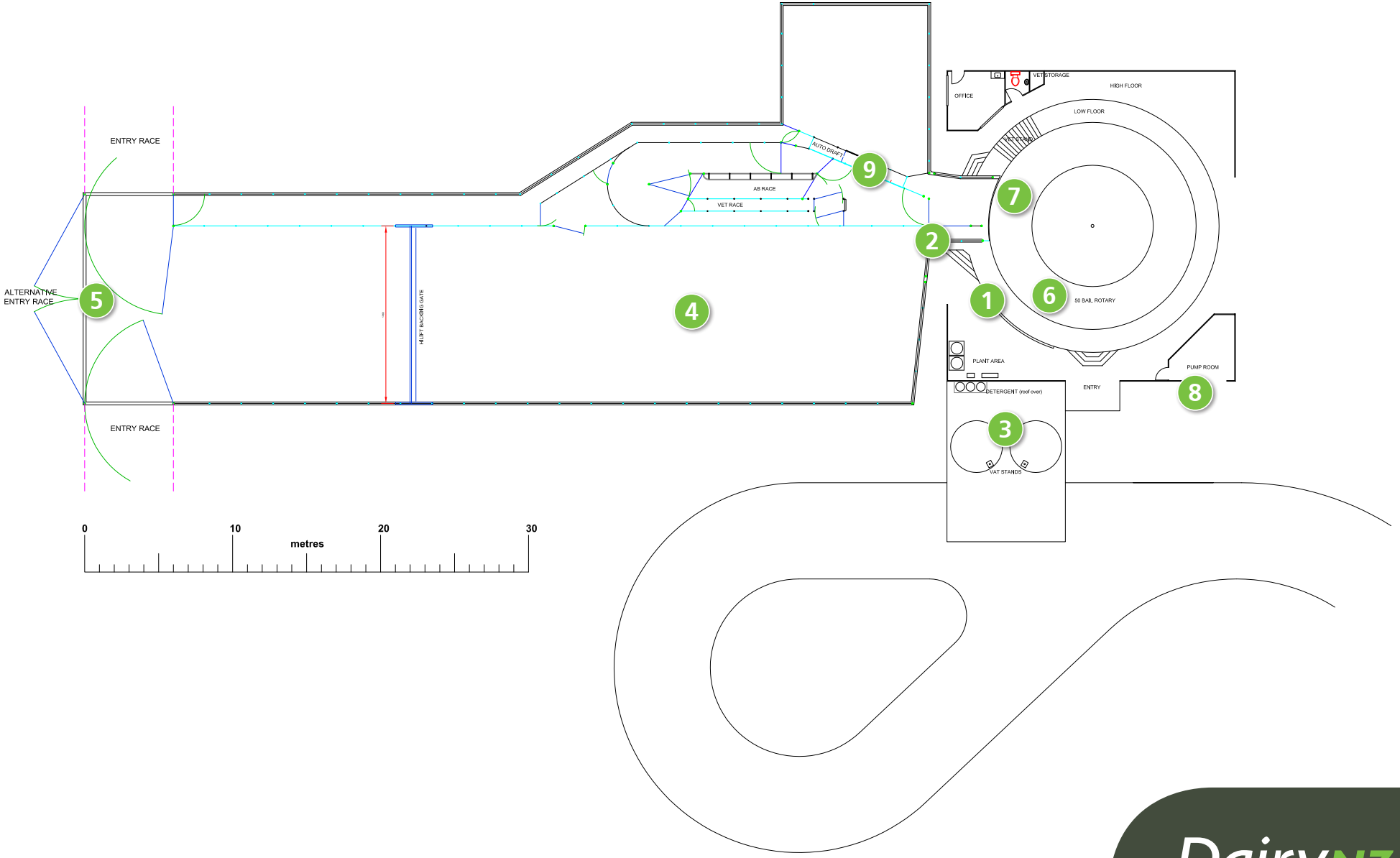
Rotary rectangular yard

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



The above blueprint is intended as a visual aid only, professional advice and building plans should be sought for your specific site requirements.

1 Cupping area

- Placing plant area/room closest to cups-on can allows easy access when milking
- Control console placed to the right side (left on clockwise rotaries) of the milker and orientated so that cows cannot see screens or flashing lights. Milker should be able to side step to use controls, without turning to face herd in the yard.
- Milker able to step back alongside bridge (2000mm) to encourage cows on without having to look at them, clear from obstructions (stairs, underpasses etc)
- Slipway into yard from cups-on area, approximately 2000mm from the bridge, to prevent scaring cows on the bridge when milker enters the yard
- Wide concrete stairs for safety. Add a no-slip surface if required
- Drain tanker pad, vat stand and plant area via an inspection drain in the cups on area to highlight errors
- Consider a mirror for checking cows in the yard and backing gate placement, rather than looking into or entering the yard (disrupting cows).

2 Entry to platform

- Bridge approximately two cows long (2000-3000mm)
- Bridge lead in is one cow wide at platform (around 900mm) to prevent fighting as cows enter platform
- Slightly flared entry (around 1200mm wide at yard), fence height around 1200mm
- 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)
- Safety switch for entering and exiting cows to prevent crushing (spring loaded for auto-restart)
- D-gate post positioned approximately 500mm from the platform edge, and gate should open 30° beyond parallel to the cow, so a cow can push into bail early, and 90° in opposite direction to allow a slow cow to exit safely
- Gap between bridge and platform no more than 40mm to avoid trapping feet
- Entry in the corner of the yard to help when training heifers.

3 Vat/tanker area

- Raised tanker pad to avoid stormwater intrusion. Pad must drain into effluent system
- Chemical shelter outside of plant room, with plumbing through wall
- Place milk silos on the south side of the building if this suits to minimise solar heating
- Check dairy company requirements (gradient, radius) for tanker loop and tanker park.

4 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. 1.2m^2 per cow for Jerseys, 1.5m^2 for large Friesians.
- 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.

5 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
- Avoid having cows walking in opposite directions on either side of a fence (bad for cow flow)

Sweeping corners for cow flow, avoid forcing cows to turn sharply on concrete. Rubber matting can help where this is hard to avoid.

6 Platform bail

- Breast rail should be approximately 800mm high. Feeders should be 200mm lower than the breast rail.
- Gap between bails (where clusters are hung) is minimum of 650mm
- Bail length 1500-1650mm long (too long allows heifers to stand too far forward).

7 Platform exit

- Bridge exit area a minimum of 3 bails wide, 4 for rotaries >60 bails
- Exit area at least 3000mm deep to allow plenty of room for cows to turn around to exit.

8 General building

- Open sides on sheltered walls allows for ventilation and natural light, but avoid prevailing wind direction
- Roller door for easy access/delivery into plant room
- Having dairy and yard at ground level, with a low pit can save earthworks on suitable sites
- Observe dairy company requirements for minimum distances for facilities such as feedpads, effluent storage, silage stacks and animal housing
- Effluent system designed by accredited designer in conjunction with dairy and yard design (before building commences).

9 Handling facilities

- Place office next exit area to minimise cable length to drafter and so computer is near vet stand
- Separate covered vet and AB area outside of milking area to avoid painful procedures in the dairy
- Having vet handling facilities between the yard and the exit race separates cows moving in opposite directions.

For more information on:

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

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