



Aerobelt Australia Pty Ltd

Millaquin Mill

Innovative new sugar cane feeder system a sweet success for Bundaberg Sugar

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The task

In November 2010 Bundaberg Walkers Engineering Ltd approached Aerobelt Australia Pty Ltd to design and develop a new system to increase sugar cane capacity at Bundaberg Sugar's plant from 330 t/h to 400 t/h. A new 60 m3 storage facility to hold up to 66 t of sugar cane from road deliveries was also required. A major impediment was that the slat chain conveyor, which was outdated and required costly maintenance, was used to feed cane arriving by rail and was also the delivery point for cane arriving by truck. The new system had to accept rail and road deliveries simultaneously and feed the plant from either hopper system independently. It also had to regulate tonnage into the shredder according to a downstream sugar crushing rate.

The solution

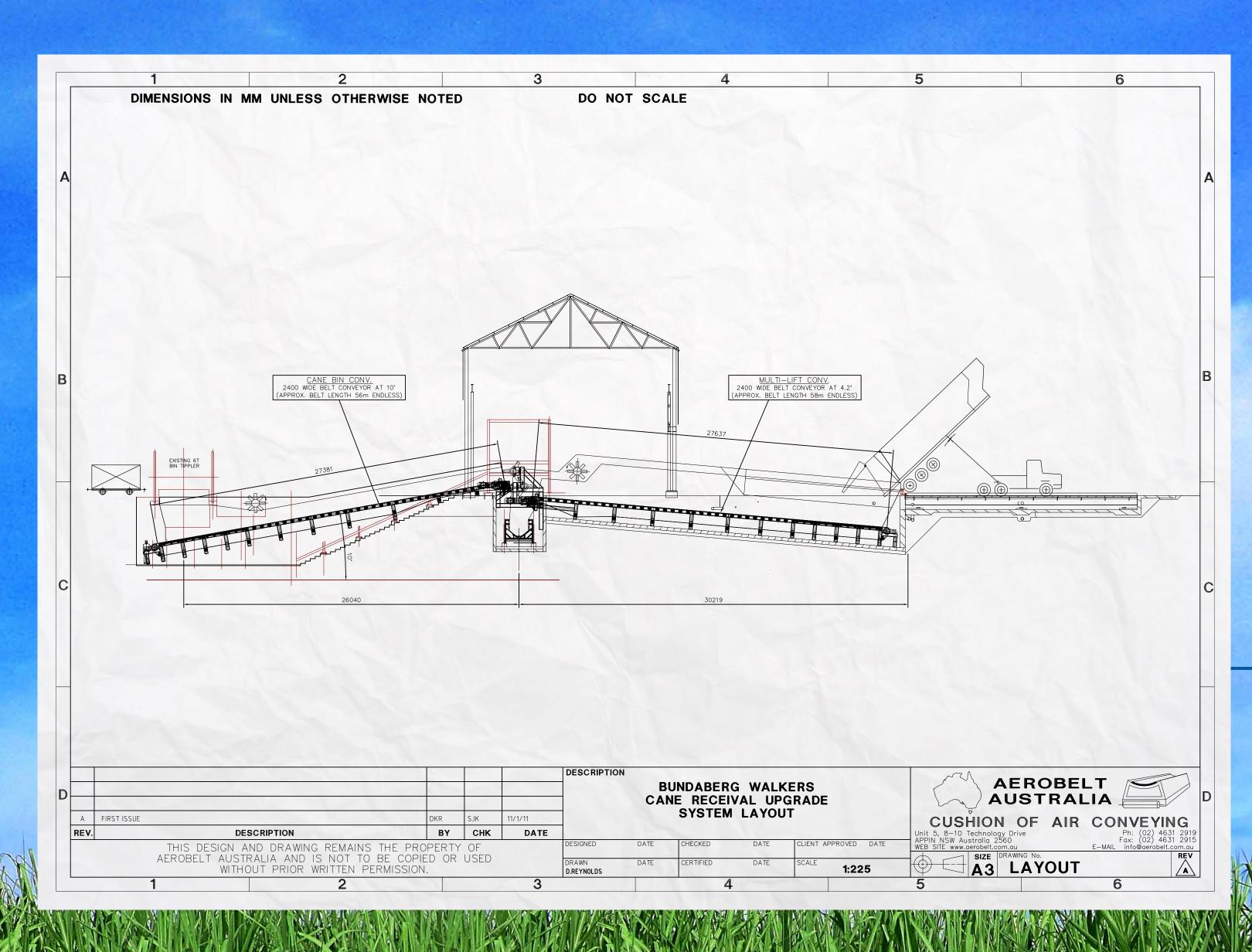
Aerobelt delivered a new system, which is the first of its type in Australia for processing sugar cane. Two new 2.4 m-wide flat feeder belts were added to the delivery system, with one positioned in the location of the original conveyor receiving rail deliveries and the other positioned opposite the rail conveyor, allowing storage of cane from road deliveries.

Impact points were designed with slider impact bars below these areas to ensure no power loss or belt damage would result from product delivery. Each feeder was controlled independently with a variable speed drive, delivering sugar cane into an 1800 mm-wide Aerobelt conveyor with a variable speed controller on the drive motor.

The high degree of control created allows sugar cane to enter the crushing system at the precise tonnage required, with the cane being fed onto the Aerobelt conveyor from either flat feeder conveyor at different times.

The outcome

Aerobelt's innovative new system has provided a higher crushing rate plus the flexibility and capability required to segregate sugar cane deliveries. Downtime is now negligible for this part of the sugar crushing system, with very little maintenance required to keep the new conveyors running 24 hours per day. Maintenance and labour costs for Bundaberg Sugar have been significantly reduced, while power demands for the new system are also lower than those of the slat chain system, providing yet another benefit to the mill.



New system - side elevation

