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smart project delivery

Demonstrated Capabilities

- Detailed Design and Drafting
- Earthworks, Road and Drainage Design
- Safety in Design
- Project Management

McLevie Site Upgrade Bulk Earthworks and Drainage Detailed Design

Client CBH Group

Project Location Dalwallinu, Western Australia

Scope

Engenium completed the bulk earthworks and drainage detailed design for the upgrade of the McLevie grain receival, storage and transfer facility. The scope involved providing civil engineering for the McLevie site expansion including deliverables such as earthworks and drainage models, drawings, design reporting and documentation.

Business Objective

CBH Group required a detailed design for an additional six open bulkheads for grain storage at the McLevie grain receival, storage and transfer facility site and associated infrastructure. This included the installation of two new E-pits, a new sample hut, a new weighbridge, the design of a heavy vehicle marshalling area and two new site access intersections. CBH Group were looking to resolve the insufficient grain storage capacity at McLevie, due to the projected increases in harvest volumes, and to improve the operational efficiency of the site. A fit for purpose design was required to meet budget constraints. The site had a number of existing drainage basins that were incorporated into the drainage design.

Challenges to Overcome

Challenges encountered throughout the project included:

- Managing scope changes including the surfacing for the OBH's, concrete slab set-out revisions, change of weighbridge type, and genset pad and MCC layout changes.
- Sloping terrain and three road tie-ins to existing road levels made achieving a cut and fill earthworks balance difficult.
- Sloping terrain and E-pits at opposite ends of the works made ensuring drainage was directed away from the E-pits challenging.

Smarts

Any changes made by CBH Group were managed with regular communication and documented before work commenced. Multiple pavement designs tailored to the different uses, meant the pavement depth could be reduced in low trafficked areas and sections could be unsealed reducing costs.

Project Outcome

This was the largest grain receival facility upgrade completed by Engenium for CBH Group to date. Benefits included value engineering which resulted in cost savings.

Delivering Value. Delivering Results.