



WAPS Carpark Midland Redevelopment

Client:
Midland Redevelopment

Location:
Midland Railway Workshops

Construction Period:
Jul 04 – Sep 05

Project overview

The Midland Railway workshops were originally constructed in 1904 and were an integral part of the Midland community, providing work for many local citizens. Crucial maintenance service was provided here for the WA Government's Railways. The workshops were closed in 1993. The Midland Redevelopment Authority (MRA) saw an opportunity to redevelop the site and surrounding areas with commercial and residential zones whilst restoring some existing structures.

We were engaged by the MRA to remediate the areas west of the factories and construct a carpark and commercial development. The site was heavily contaminated from decades of use for heavy industry waste and uncontrolled fill.

The works involved remediating the site by excavating and removing contaminated fill including solvents, hydrocarbons and rubbish. There was also a requirement to compact uncontrolled fill to a depth of up to 6m and create clean zone trenches for future service installation.

As an alternative to traditional excavation, carting offsite and import of clean fill, DM Civil utilised a high energy compaction technique. Uncontrolled fill up to 4m deep could be compacted at a significant cost saving to the client.

Significant achievements and benefits

The project site required exposure and treatment of hazardous materials including hydrocarbons, asbestos and solvents. With our mature safety, environment and quality systems, we successfully managed the project without risk to our employees, surrounding stakeholders and the environment.

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Contaminated material was successfully managed and removed to the correct landfill facility. Contaminates included rubble, molten steel slag, hydrocarbons and asbestos. Strict environmental measures were in place. This included exclusion zones and only employees with appropriate site specific training and PPE were allowed within work zones. Wash-down bays were established to ensure no cross contamination took place.

Approximately 5,000m³ of solvent contaminated material was relocated to a treatment area on site. After treatment, this material could be reused as fill material at depth. This reduced the volume of material removed from site. Not only did this result in a cost saving but the impact of frequent truck movements on the surrounding community was minimised.

The majority of the site contained uncontrolled fill, up to 4m deep in some areas. DM Civil offered to use an innovative compaction technique over excavation, exposure and treatment or disposal of the material. A high energy compaction unit was rolled across the site. This method could penetrate the full 4m, filling voids around rubble and waste. The car park pavement was constructed on top of this area.

A clean sand fill layer was placed over the remediated level providing a Class 1 structural platform to build and construct facilities. As extra protection, a grid mesh layer was placed at the interface of the clean sand layer and the remediated fill below. This provided a visual and physical barrier, preventing excavation beyond the sand layer.

DM Civil is proud of our involvement in remediating and improving this historic site. The proper management of contaminants ensured the adjacent Helena River was protected. This project won the 2006 Category 2 Case Earth Awards.

Contact DM Civil to discuss your land development projects.

GUARANTEED PERFORMANCE

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