

Project Profile

Adelaide Botanic High School Redevelopment Demolition, Civil and Scaffolding Works



Client	Lendlease
Location	Adelaide, SA
Duration	May 2017 - October 2018
Contract	Lump Sum Construct Only
Cost	\$3.6 million

Project Overview

The \$100 million Adelaide Botanic High School will open from Term 1 2019, providing 1,250 students from inner-city suburbs with greater access to high quality secondary learning. The school will start with year 8 and 9 students initially, growing to 1,250 students by 2021.

Adelaide Botanic High School is the first vertical school in South Australia. The design features the completely refurbished Reid building which will have six learning levels plus a basement and open-planned plaza space at ground level. This building is linked by a glass atrium to a brand new seven-storey building also with a basement and rooftop terrace.

Leadlease as the Principal Contractor for the project engaged McMahon Services to undertake various works on site including asbestos remediation and internal strip out demolition of the Reid building, scaffolding and access solutions and site earthworks and stormwater works.

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Demolition and Asbestos Remediation

The demolition scope included external plant enclosure, external façades, ground floor northern balcony and link-way floor penetrations, internal basement and ground demolition and internal demolition of level 1 to 5. Other works included removal of the level 6 and 7 plant, removal of a basement wall, removal of a slab and retaining wall on the northern and eastern sides of the site, and coring and cutting of penetrations for new services. Over 730t of brick and concrete, 140t of construction and demolition waste and 90t of scrap metal were removed and sent offsite for recycling. The project achieved a 95% recycling for demolished materials.

Asbestos remediation included internal sheeting, floor and vinyl tiles, removal of windows and sealants containing asbestos, grinding and infill of existing concrete floors to remove asbestos adhesives and removal of cement sheeting. Over 50t of asbestos containing materials were remediated from site, double wrapped in encapsulating 200µm plastic sheeting then trucked to EPA licenced asbestos receiving stations.

Due to the restricted access within the Reid building, all works were undertaken by hand using manual demolition techniques. Due to the fast-tracked delivery program, works were run on rolling 10-hour day and night shifts comprising of work crews of up to 40 personnel per shift.

Scaffolding

Scaffolding works included full height scaffold to the north and south elevations, building encapsulations for asbestos removal works, construction of a 30m drop chute for removal of demolition waste and scaffolding on the internal atrium levels. Over 3000m² of scaffolding was erected across the construction phases utilising McMahon Service's Layher Modular and Ringlock scaffolding systems. Building Code of Australia compliant edge protection was installed with all scaffolding.

Bulk Earthworks and Stormwater

Civil works included all services identification, isolation and disconnections, diversion of the existing stormwater system, pavement and underground tank demolition, clear and grub, bulk earthworks, construction of a temporary access road, construction of all hardstands comprised of compacted subgrade and 150mm crushed rock, earthworks to prepare for piling platforms with a 400kPa bearing capacity, basement earthworks, temporary retaining wall construction, excavation of pile caps and footings, landscaping earthworks, stormwater and drainage.

Civil demolition works included stripping grass and disposal, stripping 100mm of topsoil and stockpiling for reuse, removal of existing kerbing, asphalt and concrete, tree removal, removal of existing street furniture such as fencing, benches and bike racks, and the removal of two concrete tanks.

Bulk earthworks for the basement included preparing piled platform for piling rig, removal of the platform and stockpiling surplus material on site, bulk excavation to bench level for basement and stockpiling surplus material on site, trim and compaction of basement, supply and placement of 150mm PM 2/20 for basement, backfilling basement around the retaining wall with site won material, Agri pipe and screenings, and retrimming and compacting basement ready for detailed excavation.

Bulk earthworks for the ground level and gym area comprised of trimming and compacting ground floor and set down area, bulk fill to bench levels, supply and placement of 150mm PM 2/20, retrimming and compaction of ground level ready for detailed excavation.

Stormwater system works included the supply and installation of pits, pipes and hydro-system, backfill with Sa-C sand and site won material, supply and installation of two pump stations including rising main system.

Other works included the construction of access roads with concrete and spray seal, the construction of access paths, excavation of pile caps and all footings in the basement, backfilling pipe caps and dewatering.

Earthworks totalled 22,000m² and stormwater totalled 300m of reinforced concrete and uPVC pipe installed. The project required extensive traffic management and the detailed application of staged works in a restricted and tight workspace.

