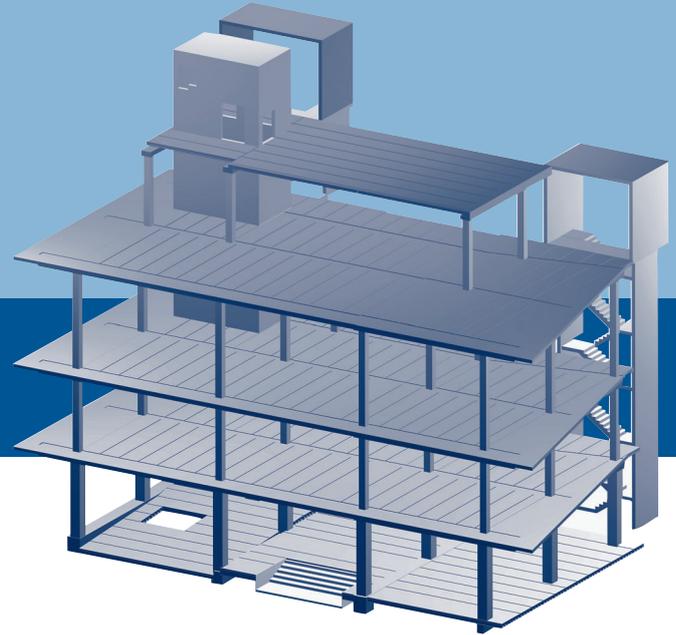


case study

GPO Melbourne

The redevelopment of the historic Melbourne GPO is an exciting project, currently in progress. The nineteenth century structure is preserved in the facades facing the Bourke Street mall and Elizabeth Street, while the interior will reflect a grand, *belle époque* atmosphere enhancing the fashionable boutiques and shop tenancies planned for the site. A new 6-level building housing restaurants, shops and offices, will connect with the original GPO. The new building, although connecting foot traffic and services with its historic partner, is structurally separate so as not to impact the structural integrity of the original structure.

The new building, which will have all-glass exteriors, was originally conceived as in-situ construction due to the architectural requirement of cantilevers on three sides and the lack of wall panels to provide structural rigidity. However, the builders (St. Hilliers) and consulting engineers (Arup) in conjunction with Hollow Core Concrete Pty. Ltd. decided prior to the commencement of the project that there would be considerable advantages to the use of pre-cast components, and asked Hollow Core to suggest appropriate construction techniques. The project team agreed to proceed down this path, and the Company has provided all of the precast components required for the project, including precast columns, beams, hollow core planks, solid cantilevered planks and lift panels for the new building, as well as the stair panels and stair flights for the original building.



The striking North West corner of the new GPO structure at the corner of Elizabeth Street and Little Bourke Street. Note the requirement of a cantilevered floor in two directions.

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Constructed almost entirely out of precast components, the new building has approximately 2300m² of hollow core plank floor area. The floor planks make sliding contact with the steel structure of the old building ensuring that the two building components are entirely separate structurally.

The builder, St. Hilliers, cites speed of construction and the rapid access available to following trades as the major advantages for using precast components. Overall, some six weeks in time were saved and this could have been higher but for unavoidable design requirements. There are other advantages to this method of construction, which Hollow Core Concrete pointed out: As the architectural design calls for angled, cantilevered terrace and floor sections facing both Elizabeth Street and Little Bourke Street, the solution was found in the use of solid cantilever sections cantilevering from the precast beams. Also the structural rigidity was obtained by providing a precast moment frame at the Elizabeth Street end of the building.

The construction method is economical in terms of material and labour costs. Savings relative to on-site concrete pour construction vary but can be as high as 15%.

*Client: Wetherby Capital
Project Manager: Baracon Group
Architects: Williams Boag
Engineers: Arup
Builders: St Hilliers Contracting*



Typical footprint of the GPO structure during construction.



Artist's impression of the GPO Melbourne Project.

For further information, please contact:

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case study

Cost Saving Carparks

Hollow Core Concrete's 17m span plank is ideally suited to carpark design.

The use of the long span planks result in:

- The elimination of beams and columns
- Reduced on site labour costs
- Utilising floor area for high density parking
- Elimination of formwork and scaffolding
- Early access to following trades; and
- Speed of construction.

The cross section and load carrying characteristics of the new 400 deep Hollow Core plank is shown on the accompanying diagram.

Precast beams, columns and floors have proven to reduce labour and erection costs where design requirements don't allow the use of the 17m planks.

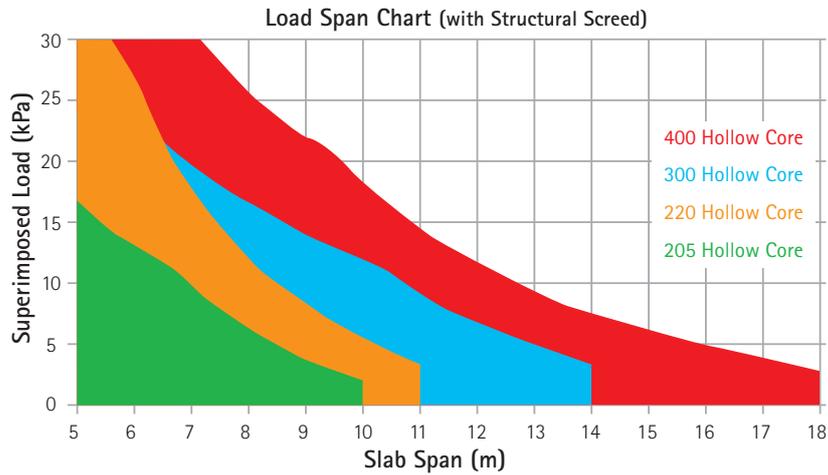
With the assistance of our own specialist in-house design team, we are able to provide clients and their project consultants with design and feasibility solutions which utilise Hollow Core's precast components. By combining our renowned expertise with the use of precast products, Hollow Core is able to deliver a total precast structural solution that meets specific construction needs.



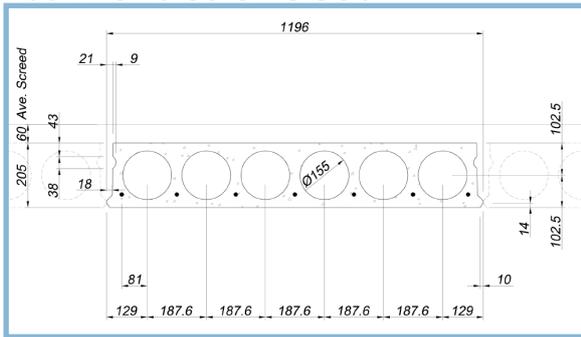
Maximum flexibility is obtained in floor layouts by eliminating loadbearing components.



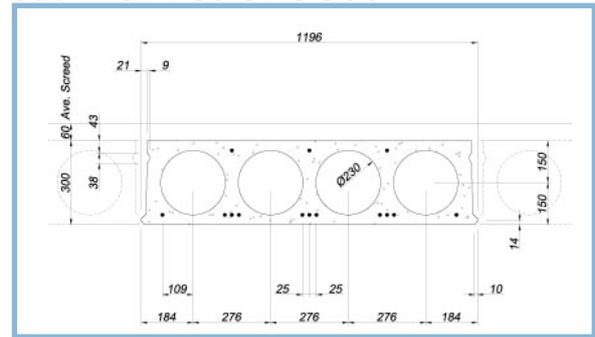
Spans up to 17m give clear, uncluttered space.



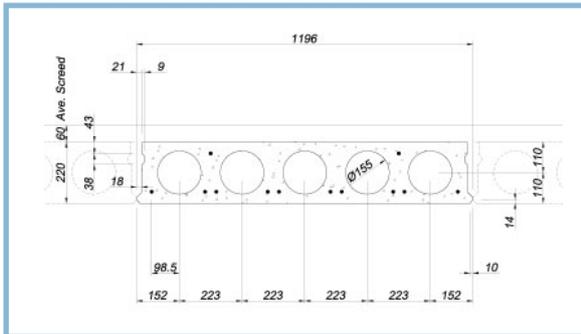
205 Thick 6 Core HC Slab



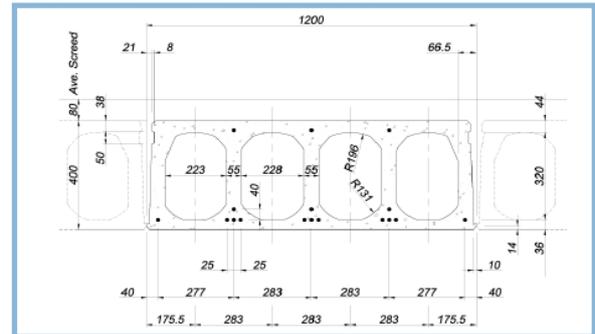
300 Thick 4 Core HC Slab



220 Thick 5 Core HC Slab



400 Thick 4 Core HC Slab



Hollow Core's range of precast concrete products include:

- Floor planks: Hollow Core & MiniSlabs (thin flat slabs)
- Precast / prestressed beams and columns
- Precast reinforced stairs & landings
- Precast / prestressed piles
- Precast / prestressed stadium seating units
- Acoustic panels: both Absorptive SoundTrap® and reflective noise panels
- Termodeck® Hollow Core floor planks



Precast columns and beams used to complement the long span Hollow Core planks.

For design assistance or further information, please contact the Technical Department:

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