

CASE STUDY
Project: 171 COLLINS STREET
Builder: Brookfield Multiplex
Architect: Bates Smart

Baron Forge specialises in commercial stonemasonry, tiling and civil landscaping. We supply the finest local and imported natural marble, granite, limestone and ceramic tiles to be manufactured at our plants across Australia. We also source, supply and install glass splashbacks when stone benchtops are installed.

Whilst our reputation and expertise has grown and evolved in Melbourne, now with our national footprint many of Australia's leading commercial builders have sought out Baron Forge to assist them in completing their tiling and stone requirements for projects interstate.

One of the other advantages of working with Baron Forge is our manufacturing capability. We have manufacturing plants in every mainland capital city. The capacity of the plant in Melbourne enabled us to maintain a challenging production schedule to keep up with the tight installation program at 171 Collins Street.

Scope of works

- ❖ Over 6000m² of 30mm stone Travertine wall cladding utilising a mechanical fixing method.
 - Ground floor wall cladding including atrium, entrances and lift lobbies
 - Tower lift lobby wall cladding (levels 2-8)
 - BHP office wall cladding
 - Mayfair Building 1 -8 lift lobbies wall cladding
- ❖ Over 300 m² vanity stone hobs & reception / concierge cladding
- ❖ Over 3500 m² of floor paving – 30mm thick– stone Granite
 - Ground floor lobby and lift lobbies paving
 - Tower lift lobby – paving (levels 2 – 18)
 - BHP office floor paving
 - Mayfair Building 1 -8 lift lobbies paving
 - Internal stair surrounds
- ❖ Over 600 m² of stone paving (Granite) over pedestal system for balconies and terraces
- ❖ Light troughs @ floor and wall junction around ground floor perimeter
- ❖ Over 4000 m² porcelain fully vitrified tiles to floor and walls to all toilet areas

Brookfield Multiplex Constructions (BMPX) liaised with us during the project design phase for this project as the wall cladding was identified by BMPX as a particularly challenging and integral part to the overall appearance and feel for the building.

We demonstrated early on to both the architect and builder that we could meet the challenges that the project presented. The decision to appoint the right stonemason and tiler for this project was not just a financial decision but there was technical and quality competencies that were paramount in this project; to deliver the architects / developers concept.

Paul Ritchie – BMPX Project Manager for 171 Collins Street commented “The wall cladding throughout the project was technically very challenging due to the huge expanse of stone, as well as the necessity to match and blend the product consistently in order to meet the strict quality requirements of the project. One of the main considerations when awarding this stone and tiling contract was the ability of the subcontractor to procure and process the large quantities of natural material from Europe, while still providing the attention to detail expected by all parties. We were confident that Baron Forge would not only meet the challenging construction program but also meet the technical aspects of this project.”

The sentiment of Paul was echoed by Associate Director of Architects Bates Smart – Grant Filipoff. “Working with Baron Forge from the tendering stage of the project gave me confidence in their ability to be able to meet the tight design constraints for the stonemasonry on this project.”

Once BMPX won the contract to build 171 Collins Street, they requested samples for the project. As part of the sample submission process Kash Panchal (Baron Forge Project Manager for 171 Collins Street) visited Italy to source suitable wall cladding options that met the criteria of the project. This included colour, ensuring quality controls from the quarry were in place and sufficient stocks to meet the project requirements.

On this trip Kash visited 6-7 different quarries. At the conclusion of the trip a quarry was selected and there was an extensive presentation of samples and photos to BMPX.

Subsequent to the initial trip and presentations; BMPX and Bates Smart along with Baron Forge visited the quarry again to go through the final selection and approval of the material.

As the lobby had more than 3000 pieces (30 containers) there was a need to match carefully the colours to ensure the continuity and blend across this vast area. This was not something that can be done just from photos, it required a hands on approach necessitating several more trips to Italy during the project to ensure quality, volume and the colour continuity was maintained.

Floor Stone

The floor stone selection was equally challenging as the wall cladding. Initially the nominated stone was travertine; this material is not the most suitable stone for floor applications. Kash worked with Bates Smart and together it was agreed that Granite was the correct material for this project.

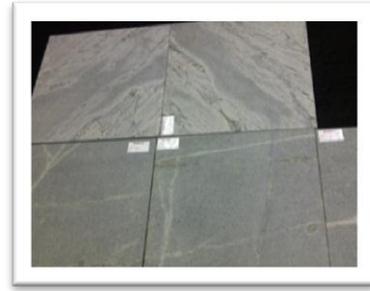
Baron Forge again travelled overseas to source the correct material; this time the quarry was located in China. Bates Smart set strict selection criteria for this product. Excessive veining in the stone was not acceptable; meaning wastage for this product was a factor when selecting appropriate stones for the job. Sample stones were permanently displayed in the factory at Brooklyn to assist with meeting the selection criteria. Each stone was individually assessed at the Brooklyn factory and then allocated to specific areas.



Quarry



Slab Photos



QA Sample Board

Quality of construction

The whole job was shop drawn by ourselves to ensure the correct sequencing and batching of the stone to ensure continuity of colour. Every piece was individually numbered to ensure the colour and blend flowed across the wall. This was challenging because the builder split the job into different zones and stages and often walls were left half completed and not restarted for many weeks this stretched the quality program from a continuity of colour etc.

We also designed, supplied and installed the secondary structural steel for the Atrium East Wall (ground floor) cladding system as part of the scope of works.

The entire project was a bespoke construction process meaning each of the 3000 pieces were individually measured on site then cut and fabricated in our Brooklyn manufacturing facility and then installed via mechanical fixings. This ensured the high level of precision and quality was maintained throughout the project.

Grant Filipoff from Bates Smart noted “through the communication of all parties – Brookfield Multiplex, Baron Forge and Bates Smart meant that the architectural intent and quality process put in place ensured the end result was of the highest quality.”

BMPX Project Manager Paul Ritchie stated “Baron Forge’s workmanship and attention to detail on this project was impeccable. The entire team from procurement through to the installation were professional at all times and proved to be true craftsmen.

During the project Baron Forge demonstrated excellent attention to detail. The quality management program they implemented delivered both colour uniformity and consistent bedding planes which provided an outstanding outcome for us and our client.”

The floor paving was one of the last processes during construction to preserve the integrity of the stone.

The architect had a vision for the client of what the wall and floor would look like. These were developed as part of their concept renders. At the concept render stage the intent of the design was purely theoretical. Baron Forge was able to meet the design brief exactly with the profiling of the wall. The architectural renders and the photo of the completed lobby from the same angle demonstrate this perfectly.



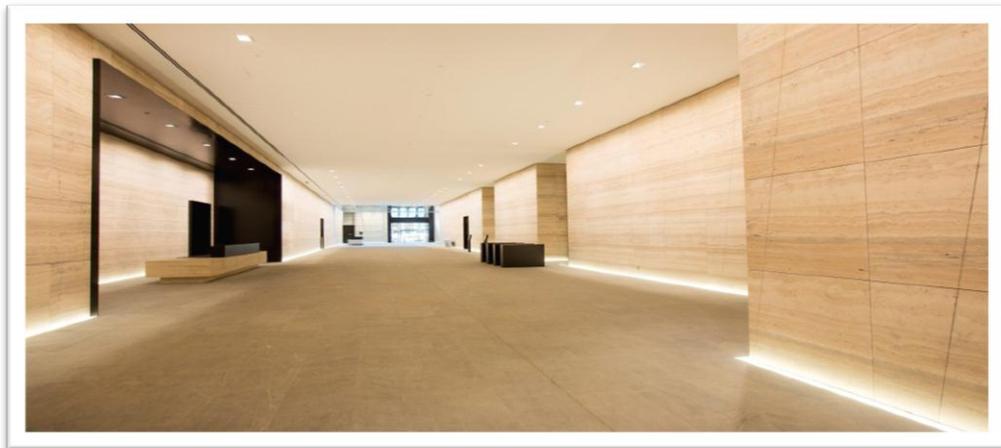
Concept Render



Completed Project

Channel Lighting

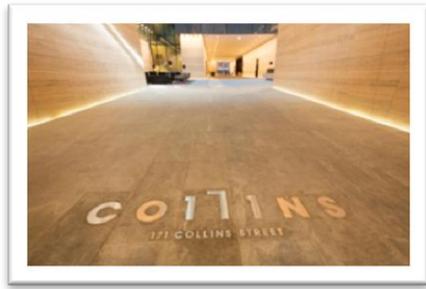
One of the finishing touches that really highlight the beauty of the stonework in the ground floor area was the light troughs that Baron Forge installed around the perimeter walls of the entire ground floor. The installation involved the creation of 'U' shaped trough. The trough was then fitted with a 2 piece angle where LED lights were fitted with 10mm low iron toughened glass covering the top of the channel. This lighting trough provides a soft lighting effect that not only serves as an effective mode of lighting to the corridors and atrium area it also really highlights the natural grain and texture of both the wall cladding and floor paving.



Channel Lighting

Signage

The signage on the wall (engraving) and floor (stainless lettering) was a specialised process. Once the architect agreed the font and lettering size; the stone was then cut by water jet cutter. The alignment and layout took considerable planning and coordination to ensure it all met the approval of the architect. This was then dry laid in the factory signed off by the architect and builder before being installed on site.



Installed Signage

The quality of construction was a 3 way partnership with Bates Smart, BMPX and Baron Forge. Starting at the tendering stage and then all the way through construction there was constant dialogue, trips to the quarry overseas plus meetings on site, and at Baron Forge's factory to ensure the highest standards and expectations of quality we continuing to be achieved. The partnership and mutual respect all parties had for each other meant the goals of all parties were aligned early and the highest quality of stonemasonry and tiling was achieved for this project.

4. Project Management

Baron Forge maintained the challenging program that BMPX set for this project. Towards the end of the project the program focussed on the ground floor area. In the final weeks of the project we worked 24 hours a day both on site and in the factory to complete the program by the deadline set by BMPX; which we achieved.

Client relationship

The relationship and reputation we developed with BMPX during the construction of 171 Collins can best be described by Project Manager Paul Ritchie.

"From the outset it was evident that Baron Forge were a professionally run business with a great team of people dedicated to ensuring the project was delivered on time and to the highest quality. They deserve the highest consideration when judging the MBA 2014 Excellence in Construction Awards for the Best Specialist Contractor."

Bates Smart's Grant Filipoff was equally impressed with the relationship and end result for 171 Collins Street. "The finished product really highlights the skills and craftsmanship that the trade of stonemasonry can bring to a building and provide one of the "wow" factors for this building."

Degree of difficulty

As mentioned above in the description of the project there were several pressure points and the entire wall cladding and paving had high degrees of difficulty. Equally this is what sets us apart from other tiling and stonemasonry contractors. We thrive on a challenge and as previously commented on by both Paul from BMPX and Grant from Bates Smart the systems we put in place and the attention to detail has truly delivered a "wow" factor for 171 Collins Street.

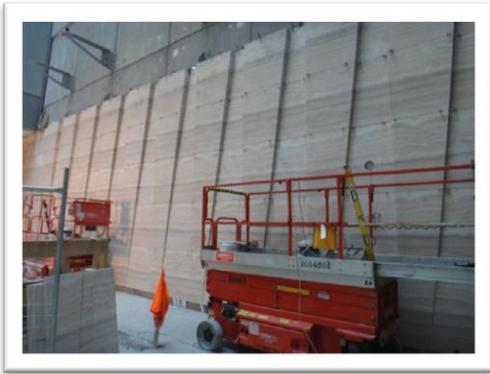
Innovation

To achieve the 3 dimensional effects in the lobby area there was a number of steps required to achieve this effect. This included developing mock up models that were presented and approved by

the architect and builder. The fixing system developed used the conventional fixing systems and modified this to provide the 3D effect. A full set of shop drawings were developed to ensure this modelling was replicated during installation.

This innovative fixing system challenged conventional construction methods for stone and it also meant traditional installation methodologies were rewritten to achieve this effect.

Innovation was a major factor in being able to achieve the architect and developers vision for 171 Collins Street. Particularly the innovative stonemasonry practices we utilised helped achieve a truly remarkable outcome. It really highlights the skills and craftsmanship that the trade of stonemasonry can brought to 171 Collins Street Project.



Construction