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Self-guided Walking Tour featuring Building Stones through Brisbane CBD

Friedrich von Gnielinski and John Siemon

Welcome to the self-guided walking tour through the heart of Brisbane, featuring the use of building stones from the early days of European settlement to the modern expansion of Australia's third largest city. The guide gives an earth scientist's perspective on the history and cultural heritage of the subtropical capital of Queensland.

Building Brisbane in stone began with the arrival of the first European settlers in 1823 who brought with them the skills of using sandstone and granite which, along with tuff, were soon found locally. Plentiful supplies of clay for bricks were also found close to the city. However, the early builders did face some shortages of building supplies: adequate supplies of lime were scarce until coral was found in Moreton Bay.

Although some local stone is still used today, imported stone has been widely used in many of the modern buildings because it costs less and is considered attractive.

HOW TO USE THIS GUIDE

This guide highlights important and interesting uses of building stones in several precincts in Brisbane CBD. The examples listed demonstrate the use of local stones in important heritage buildings and a wide variety of local and imported stones in the city's many new developments. A map showing the distribution of Queensland Building & Monumental Stones mentioned in this booklet is located on the inside back cover.

Each entry summarises some history of the building and its approximate construction or renovation date, followed by geological information. Detailed historical information is available from the references listed.

The guide covers 12 precincts and three geological outcrops that are readily accessible on foot, by ferry/CityCat or by bus (see map on centre spread). Not all buildings or all stones in each precinct are listed. Descriptions are limited to the external facade, but many arcades and shopping complexes in the city also have interesting stone. Tours are available for some buildings.

ACKNOWLEDGEMENTS

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FURTHER INFORMATION

Richards, H.C., 1918: The building stones of Queensland. Proceedings of the Royal Society of Queensland. Volume XXX., No 8, pp 97-157.

Treize, D.L., 1990: Building stones. Queensland Resource Industries Review Series. Department of Resource Industries, Queensland.

Wolff, K.W., 1957: Queensland building and monumental stones. Geological Survey of Queensland Publication 287.

www.queenslandhistory.org.au

A database with more details about many of the historic sites can be accessed at:

<https://www.derm.qld.gov.au/chimsi/basicSearch.html>

1 VICTORIA BRIDGE PRECINCT

1a. Victoria Bridge (1894–97): Melbourne Street, South Bank,

This is a portion of the southern abutment of the second Victoria Bridge which was completed in 1897 and demolished in 1969. The remnant structure carries a pedestrian arch, a short remnant of the tram track and a memorial to Hector Vasyli, a boy killed in a traffic accident while greeting servicemen returning from World War I.

The abutments and bays of the bridge were built of Brisbane Tuff, whereas the superstructure consists of alternate courses of brown and white sandstone from Pearson's quarry, Helidon. Decorative polished panels on the arch (see inset) are of red Peterhead granite, imported from Aberdeenshire, Scotland.



1b. Old Commissariat Store (1828–29): bounded by 115 William Street and Queen's Wharf Road

The Commissariat Store, built when Brisbane was a convict settlement, is the second oldest structure in the CBD. Brisbane Town was founded on the north bank of the Brisbane River in 1825 and this building, built in 1828, was one of four housing the military personnel and convicts' food, clothing and other goods.

The 0.6 m thick walls constructed of hammer-dressed coarse freestone are made from Brisbane Tuff from Kangaroo Point quarry. The footings, base course, quoins, sills and lintels are pale brown sandstone from Goodna. The importance of this government building and its river frontage was emphasised by the addition of the royal cipher of King George IV in white marble under the gable. Part of the Commissariat Store included a wharf on the river bank known in 1838 as Kings Wharf (later Queens Wharf) which was made of Brisbane Tuff blocks.

Tours information www.queenslandhistory.org.au

2 BANKING AND GOVERNMENT PRECINCT

2a. Old Bank of New South Wales (1928–30): corner of George and Queen Streets

The present building replaced Queensland's first bank building on the same site, which opened in 1850. Its imposing Queen Street facade, with tall Ionic sandstone columns, conveys strength and reliability, prominent features of bank design throughout the 19th and early 20th centuries.

The cladding is Helidon Sandstone covering a steel frame. The base of the building, stairs and some portals are clad with Enoggera (or Blackbutt) Granite. The Queen Street entrance is framed in red granite (probably from New South Wales) and at least seven different varieties of marble which were probably imported from Rockhampton or New South Wales. The entrance to the bank chambers on Queen Street is framed in light grey Enoggera Granite.



2b. Treasury Building (1887–89, 1890–93, 1922–28): bounded by William, Elizabeth, George and Queen Streets

The Treasury Building was erected in three sections between 1885 and 1928 on the site of the first colonial treasury which itself had replaced the convict-era military barracks. Its classic (16th century) Italian Renaissance style, and its function and grandeur make it one of the most noteworthy government buildings in Brisbane. During the depression in the early 1890s the building was the focus of several demonstrations by Brisbane's unemployed. In 1901, one of the most momentous events in Queensland history took place here when the Governor read the Queen's proclamation making Australia a Commonwealth. Since 1995 the refurbished building has housed a casino.

The exterior has undergone cleaning and restoration several times. Restoration work included marble steps to the main Queen Street entrance and repairs to the stonework and re-pointing.

First wing of Treasury Building: facing William and Queen Streets (1887–89):

This wing's pale grey sandstone from the Highfields quarry, near Spring Bluff in the Lockyer Valley, and Pearson's quarries near Helidon, takes on a rosy hue when illuminated after dark. The Highfields sandstone was a



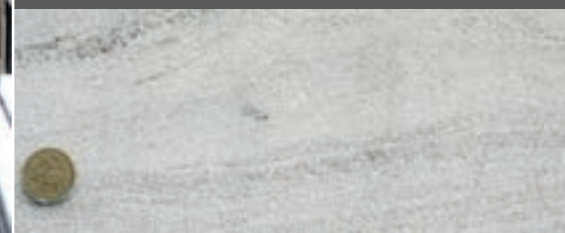
poor choice for a building stone: it is soft and therefore prone to weathering which has resulted in white colour that discolours easily and quickly appears dirty. The foundation is Brisbane Tuff from the O'Connelltown quarry, Fortitude Valley. The steps and floors of the Queen Street entrance, added in the 1950s are white marble (possibly from Rockhampton or New South Wales) and fossiliferous black marble (possibly from Windellama, New South Wales).

Second wing of Treasury Building: facing George and Elizabeth Streets (1890–93)

This wing was built of Helidon Sandstone from Jude's quarry. The stone ranges from white through pink to pale brown, and has common sedimentary laminae and liesegang patterns. The builder also used a small amount of sandstone from Pearson's quarry, Helidon, and used Murphys Creek sandstone for the columns on the George Street frontage. The foundation is Brisbane Tuff from the O'Connelltown quarry, Fortitude Valley.

Third stage of Treasury Building: facing Queen and George Streets (1922–28):

The final stage of construction began in 1922 and the Queen and George Street frontages were officially opened in 1928. This stage also used Helidon Sandstone, with the external walls sitting on a plinth of Brisbane Tuff.



2c. Old State Government Insurance Building (1913–22): corner of George and Elizabeth Streets

Brisbane's first government high-rise (eight-storey) office building was constructed over a seven-year period from 1913 to be the headquarters for the Queensland Government Savings Bank (QGSB). However, the building was never occupied by that institution because the State Government transferred the bank's accounts and assets to the Commonwealth Bank in 1920 and the QGSB ceased to exist. The building was first occupied by the State Government Insurance Office (a mosaic still shows the government insurance crest on the floor of the corner entrance). It then consecutively housed the State Taxation Office, the Public Service Commission, then the Department of Health and Family Services. From 1925, Queensland's first official radio station, 4QG, operated from the building.

The main body consists of Helidon Sandstone from Wright's quarries. Among the many ornamental carvings are the government crest and two female figures representing Commerce and Industry, indicating the building's original purpose. The medium-grained sandstone has a warm brown appearance, showing common concentric iron bands (liesegang rings).

The base course is built with grey biotite granodiorite from Greymare, west of Warwick. The marble used for the internal mural decorations is from the Springhill, Broca Dilla, King Edward and Caleula quarries in New South Wales.



2d. Old Administration Building (1899–1901): George and Elizabeth Streets

This building was designed by the Queensland Government's chief architect Thomas Pye in the Edwardian Baroque style. Foundation preparation work commenced in 1899 and the main construction was completed in 1901. Both entrances contain sculpture and stained glass. A marble plaque in the George Street vestibule displays a message from King George V on 25 April 1916 commemorating the first anniversary of the Gallipoli landing.

From its opening in 1905 until 1971, the building housed the offices of the Premier and the Executive Council and was called the Executive Building, although it was originally built to house the Lands and Survey Department. The building now houses the Treasury Heritage Hotel.

The principal elevation of the building towards Queens Park supports a colonnade of giant Ionic columns made from Yangan sandstone from near Warwick. Granite used as the base course and plinth is Enoggera Granite (light grey) and Karana Quartz Diorite from Mount Crosby (dark grey). The main structure comprises Helidon Sandstone from Wright's quarries.



Queens Park: between George, Elizabeth and William Streets

Queen Victoria statue (1906)

The steps and base are Enoggera Granite (light grey) and Karana Quartz Diorite (dark grey). The pillar is Helidon Sandstone.

RAAF War Memorial (1996)

The panels on the octagonal base of the memorial are made of red, coarse-grained granite (probably from New South Wales) edged with black gabbro or diorite (origin unknown).



2e. Old Government Printery Buildings (1885–1912): between George and William Streets

Two buildings of different style make up the former Queensland Government Printery complex. The building on William Street was designed in a quasi-Victorian gothic revival style combining Romanesque, Gothic, Renaissance and French elements. On the George Street building, sandstone gargoyles on the exterior facade represent printer's devils in allusion to the printing trade.

This building comprises a well-proportioned three-storey brick structure with a roof of Welsh slate imported to cover the relatively steep roof along the William Street frontage. The sandstone used for the plinth and columns was quarried near Breakfast Creek (worked between 1860 and 1875) and later from Jones Siding, Grantham.

At the main entrance on George Street, the brown sandstone came from Wright's quarry, Helidon. The sandstone was laid on a base of Enoggera Granite and Brisbane Tuff from the O'Connelltown quarry, Fortitude Valley.



2f. The Mansions (1889): corner of George and Margaret Streets

The Mansions are a set of six three-story terrace houses built for residential use during 1889. The classic Italian design was created by architect George Addison using plain red bricks and white limestone.

The white Oamaru Limestone was imported from Waitake, South Island of New Zealand. The pillars, ornamental facings and the cat sculptures on the parapets are made from the porous and soft limestone which over time has decayed due to acid rain. Major restoration work was carried out to replace crumbled limestone with new material from Oamaru. This limestone typically comprises abundant bryozoa, echinoderms and foraminifera in a very soft grainstone of low bulk density, high porosity and high water absorption. These characteristics do not make it an ideal building stone.

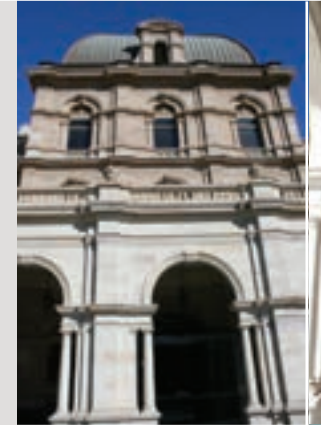


2g. Parliament House (1865–67, 1878, completed 1889): southern end of George Street, opposite the Botanic Gardens

After Queensland separated from New South Wales in 1859, the parliament met in the former convict barracks in Queen Street. Three years after laying the foundation stone in 1864, the Queensland Parliament building was opened. Construction continued, delayed by financial constraints, on the colonnades (complete in 1878) and on the Alice Street frontage (completed in 1889). A portico was added to the George Street frontage in 1976.

The main structure consists of pale brown Bundamba Sandstone from Jeay's quarry, Goodna (within the grounds of the old Woogaroo Asylum). Jeay's quarry was worked chiefly in 1860–70, after which Breakfast Creek sandstone began to be used. In 1890, sandstone from Moggill was used in part of the Alice Street frontage and colonnade (originally built in 1878). When this stone became unstable it was replaced in 1898 by white sandstone from Murphys Creek. Parts of this wall were replaced in 2010 with sandstone from Stanwell near Rockhampton. Helidon Sandstone from Wright's quarry was also used in the building. The colonnade facing George Street, which was constructed in 1887, is also built of sandstone from Murphys Creek. In some footings and the perimeter walls, the base rocks are Brisbane Tuff. Some outside floor pavers are dark grey slate with unidentified textures. Doorsteps commonly are a dark grey sandy siltstone.

Tours information www.parliament.qld.gov.au



3 QUEEN STREET MALL PRECINCT

3a. Queen Street Mall (1982 and 1988): Queen Street, between George and Edward Streets

The first stage of the Queen Street Mall from Edward Street to Albert Street was opened in time for the Brisbane 1982 Commonwealth Games. The second stage extended it to George Street to coincide with Brisbane's hosting of World Expo in 1988. In 1999, the terracotta tile footpath was replaced with granite pavers.

The granite pavers are foliated porphyritic biotite granite with characteristic feldspar 'augen' made from Sybella Granite which was quarried near Mount Isa. The dark grey diorite feature tiles are of unknown origin.



3b. Myer Centre (1988): Queen, Albert and Elizabeth Streets

The Myer Centre is bounded by the Queen Street Mall, Albert and Elizabeth Streets. Originally four historic buildings stood on this site: Hotel Carlton (1885), New York Hotel (1860), Newspaper House and the Barry & Roberts department store. The facades of those buildings have been retained and restored.

The facades along the Queen Street side of the Myer Centre are original, but the facings on the street level were probably imported, for example the striking pinkish-brown marble breccia.

Beijing House (refurbished 1988): 45 Queen Street

The internal ceilings and chandeliers in the shops within this building were restored to its original design. Modern claddings were added to the ground level shop fronts, while the original facade was restored on the upper levels.

The column claddings on the shopfronts comprise black and red feldspar biotite granite probably imported from Scandinavia.



3c. Chifley Hotel at Lennon's (late 1960s; refurbished 1988): 66-78 Queen Street

The Chifley Hotel building was refurbished in 1988 when all marble and granite facing and paving to the basement and shop fronts, internal walkways and escalator foyers were installed.

The main facade towards Queen Street features a blackish-green serpentinite marble breccia with numerous carbonate veins. The origin of the serpentinite is uncertain. Four different types of intrusive rocks were used as floor pavers and facing stones around the inner court and the elevator lobby. Pale grey medium-grained biotite granite, pink, medium-to-coarse-grained granite and a fine-to-medium-grained diorite have been used to create symmetrical patterns on the floor and court panels. The elevator lobby is encased in brownish-red, medium-grained granite. The origin of all of these stones is probably Asia.



3d. Queen Adelaide Building and Burnett Lane

Queen Adelaide Building (refurbished in 1988): 90-112 Queen Street

The Queen Adelaide Building is on the site of former convict barracks and now houses Sportsgirl and other retail outlets.

Ornamental facing stones on columns and floors are a pale brown limestone of unknown origin. The floor is tiled with fine-grained white limestone with well-developed stylolites.

Burnett Lane (refurbished in 2010): between George and Albert Streets

Burnett Lane is steeped in history dating back to the 19th century, but by the start of the 21st century it had become a back alley for local traders to store their rubbish bins. In 2008 the Lord Mayor's Vibrant Laneways and Small Spaces project improved the lane usage, including a new painted road surface.

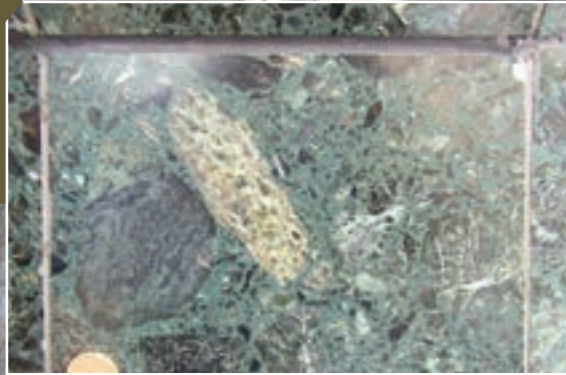
At the intersection of Burnett Lane with the Queen Adelaide Building there is a star motif of pavers of pale grey, coarse- and fine-grained granite and dark grey diorite. These are similar to those used in King George Square and were imported from India.



3e. Broadway on the Mall (1989): 170 Queen Street through to Adelaide Street

The Broadway on the Mall building was constructed in 1989 to provide four levels of shops.

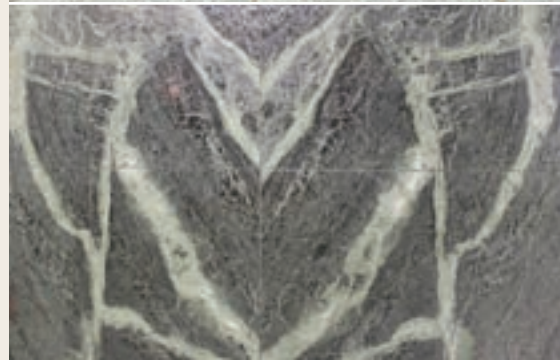
The stone used at the base of the entrance pillars is a breccia of serpentinite marble. The panels on the columns are a light brown to cream coloured marble breccia. The floor comprises vari-coloured terrazzo-style tiles.



3f. Brisbane Arcade (1923; refurbished 1995): 160 Queen Street through to Adelaide Street

Brisbane Arcade was built in 1923 for its owners Dr James Mayne, and his sister Mary Emelia Mayne. It was designed by Richard Gailey (Junior), one of Queensland's most important early architects. Architectural details of interest include the Edwardian Baroque style street facades, original terrazzo stairs, balustrades and dado paneling. The arcade was refurbished in 1995 to retain its original style.

Highly contorted pink to grey biotite orthogneiss with sporadic clasts of banded amphibolite is used for pillars and at the entrance. The orthogneiss was probably imported from India. The floors and light-coloured panels are terrazzo-style stone.



3g. Tattersall's Club (1926; refurbished 1990): corner of Queen and Edward Streets

In 1926 Tattersall's Club moved into these premises designed by Hall and Prentice, architects of the Brisbane City Hall. A feature of the club's design is a series of horse sculptures by Daphne Mayo that lined the original Queen Street entrance. When the club was refurbished in 1990, the sculptures were moved to line the arcade leading into the club's entrance foyer from Queen Street.

Brecciated and veined green serpentinite marble was imported from Italy and is used at the base of the external pillars and as features in the arcade floor. Ulam marble from Rockhampton is used in the main dining room in the Club (no public access).

3h. The Regent Cinemas (1929, refurbished 1979): 167 Queen Street

The Regent Theatre was a multi-screen picture palace completed in 1929 and operated by Hoyts. It introduced the opulence and grandeur of the great Hollywood era to Queensland. The interior decoration was a mixture of Spanish Gothic and Romanesque. The mezzanine foyer contained a white marble staircase. The cinemas were closed in 2011 and the internal structures demolished to make way for a 40-storey tower.

The remaining foyer of the building has cream marble on facade pillars. The white marble used for the box-office counters and internal marble staircase is probably from Queensland.



4 CITY HALL PRECINCT

4a. Brisbane City Hall (1920–30, refurbished 2010–ongoing): facing King George Square between Adelaide and Ann Streets

The start of City Hall's construction was hampered by hazards and delays because the location was a former swamp. An initial foundation stone was laid in 1917. A second foundation stone in 1920 raised more enthusiasm for the construction. By 1927 the first Council workers were already using parts of the building and the first Council meeting was held in 1928. The building was finally completed in 1930. It is currently closed for renovation to address several problems including subsidence and concrete cancer.

The building is constructed of concrete, brick and steel, with a base of Samford Granodiorite from Camp Mountain. The grey biotite granodiorite has common mafic microdiorite enclaves. Above the granite base courses, the east, north and west sides and the clock tower are clad in Helidon Sandstone from Wright's quarry. The interior includes two marble columns that support an arch above a white marble staircase.



4b. King George Square (1960, refurbished in 2009): between Ann and Adelaide Streets

Originally this was a much narrower area between Ann and Adelaide Streets called Albert Square. In the late 1960s premises on the square opposite the City Hall were acquired by the Council, demolished and the area leveled to form a larger square. A reconstruction of the square was completed in 2009 to include an underground bus station.

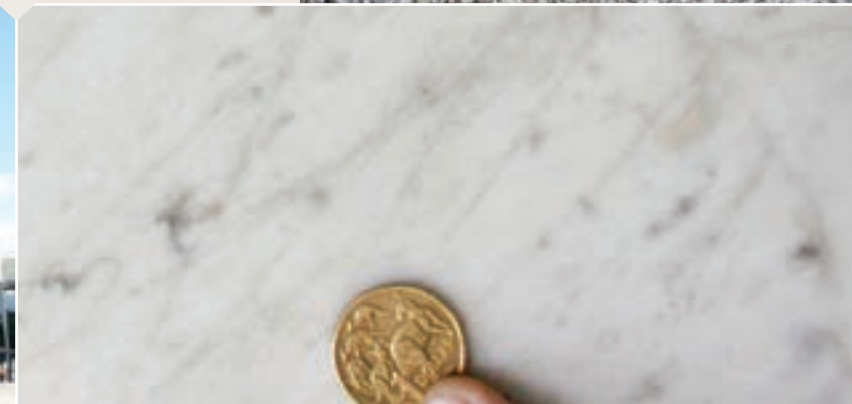
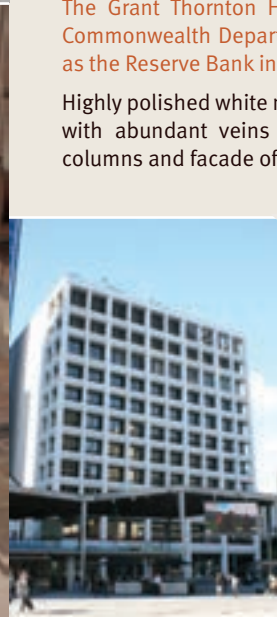
The square's dominant pavers are porphyritic, garnet biotite granite imported from India. This rock was selected because it has a similar appearance to the pavers in Queen Street Mall which originated from the Sybella granite quarries near Mount Isa that had ceased operations in the late 1990s. The Indian granite lacks the intense foliation of the Sybella Granite, but contains abundant garnet.

Pale grey granite, grey microdiorite, dark grey porphyritic basalt and a dark grey aphyric basalt have been used to break the monotony of the porphyritic granite; all are thought to be Indian.

4c. Grant Thornton House (1973): 102 Adelaide Street

The Grant Thornton House was built by the Commonwealth Department of Works to serve as the Reserve Bank in 1973.

Highly polished white marble (probably Italian) with abundant veins is used for facing the columns and facade of the entire building.



5 WINDMILL PRECINCT

5a. Windmill (1820s): Wickham Terrace

The windmill is the oldest remaining convict building and possibly the oldest building in Queensland; it is also the oldest windmill tower in Australia. It played a role in the Moreton Bay convict settlement by milling flour and was later used as a steamer signal station, fire spotting observation tower and site for pioneering telecommunication experiments.

The windmill is a rendered stone and brick tower. A retaining wall in its vicinity is made of freestone blocks of Brisbane Tuff, probably from Kangaroo Point, New Farm or the O'Connelltown quarry, Fortitude Valley. Retaining walls in King Edward Park and beside the Jacob's Ladder stairway adjoining the Windmill used hornfelsed metasediments (Bunya Phyllite) from the Mount Coot-tha quarry.



5b. Dental Hospital (1940) Turbot Street

The Dental Hospital was designed by architect Raymond Nowland in 1940 as part of a Turbot Street Development Scheme. This attractive neo-Georgian building was opened in 1941 and it still serves as a dental clinic and college. Some interior refurbishments took place in the 1990s, including the external glass lift alongside the steep entry stairs.

Gracemere quartz diorite from Allen & Sons Gracemere quarry near Rockhampton was used for the base plinth. This stone is a bluish-grey, mafic biotite hornblende quartz diorite which darkens on polishing. White sandstone columns at the entrance are probably from Helidon.



6 ANZAC SQUARE PRECINCT



6a. ANZAC Square and War Memorial (1918): between Ann and Adelaide Streets

This historic site features the Shrine of Remembrance with the Eternal Flame. In the subway beneath the stairs is the Shrine of Memories and Crypt with war memorials, honour rolls, unit plaques and artefacts from various war cemeteries. The stairs linking the Shrine with the square number 19 on one side and 18 on the other to represent the year World War I ended.

The rotunda and 18 columns, upper walls and lower walls towards Ann Street are mainly Helidon Sandstone with some minor material from other quarries. The walls towards the Adelaide Street side of Anzac Square are made of colourful variations of Brisbane Tuff.

The Boer War Monument at the Adelaide Street side of Anzac Square has a distinctive hypabyssal microgranite, which may originate from South Africa, a token to those who fought there.



WALKING TOUR MAP

KEY

VICTORIA BRIDGE PRECINCT

- 1a. Victoria Bridge
- 1b. Old Commissariat Store

BANKING & GOVERNMENT PRECINCT

- 2a. Old Bank of New South Wales
- 2b. Treasury Building
- 2d. Old Administration Building
- 2e. Old Government Printery Buildings
- 2f. The Mansions
- 2g. Parliament House

QUEEN STREET MALL PRECINCT

- 3a. Queen Street Mall
- 3b. Myer Centre
- 3c. Chifley Hotel at Lennoxs
- 3d. Queen Adelaide Building
- 3e. Broadway on the Mall
- 3f. Brisbane Arcade
- 3g. Tattersall's Club
- 3h. The Regent Cinemas

CITY HALL PRECINCT

- 4a. Brisbane City Hall
- 4b. King George Square
- 4c. Grant Thornton House

WINDMILL PRECINCT

- 5a. Windmill
- 5b. Dental Hospital

ANZAC SQUARE PRECINCT

- 6a. ANZAC Square and War Memorial
- 6b. Old State Government Buildings
- 6c. Rothbury-on-Ann

ST JOHN'S CATHEDRAL PRECINCT

- 7a. St John's Cathedral
- 7b. St Martins House

CUSTOMS HOUSE PRECINCT

- 8a. Customs House
- 8b. Petrie Bight retaining wall
- 8c. The Marriott Hotel

GOLDEN TRIANGLE PRECINCT

- 9a. Riparian Plaza
- 9b. 111 Eagle Street
- 9c. Riverside Centre Plaza
- 9d. Emirates House
- 9e. CUA Building
- 9f. Stamford Plaza Hotel
- 9g. Waterfront Place

GENERAL POST OFFICE PRECINCT

- 10a. General Post Office building
- 10b. The Manor Apartments
- 10c. Queensland National Bank
- 10d. MacArthur Chambers
- 10e. St Stephen's Cathedral

CITY BOTANIC GARDENS PRECINCT

- 11a. Walter Hill Fountain
- 11b. Albert and Edward Street gates and Botanic Gardens fence and Botanic Gardens fence
- 11c. Ships' ballast
- 11d. Old Government House

ROMA STREET PARKLANDS PRECINCT

- 12a. Roma Street Parklands
- 12b. Queensland Police Headquarters

GEOLOGICAL OUTCROPS

- 13a. Adelaide Street
- 13b. Roma Street Parklands
- 13c. Kangaroo Point Cliffs



Train



Ferry



Bus interchange



Busway station



Public toilet

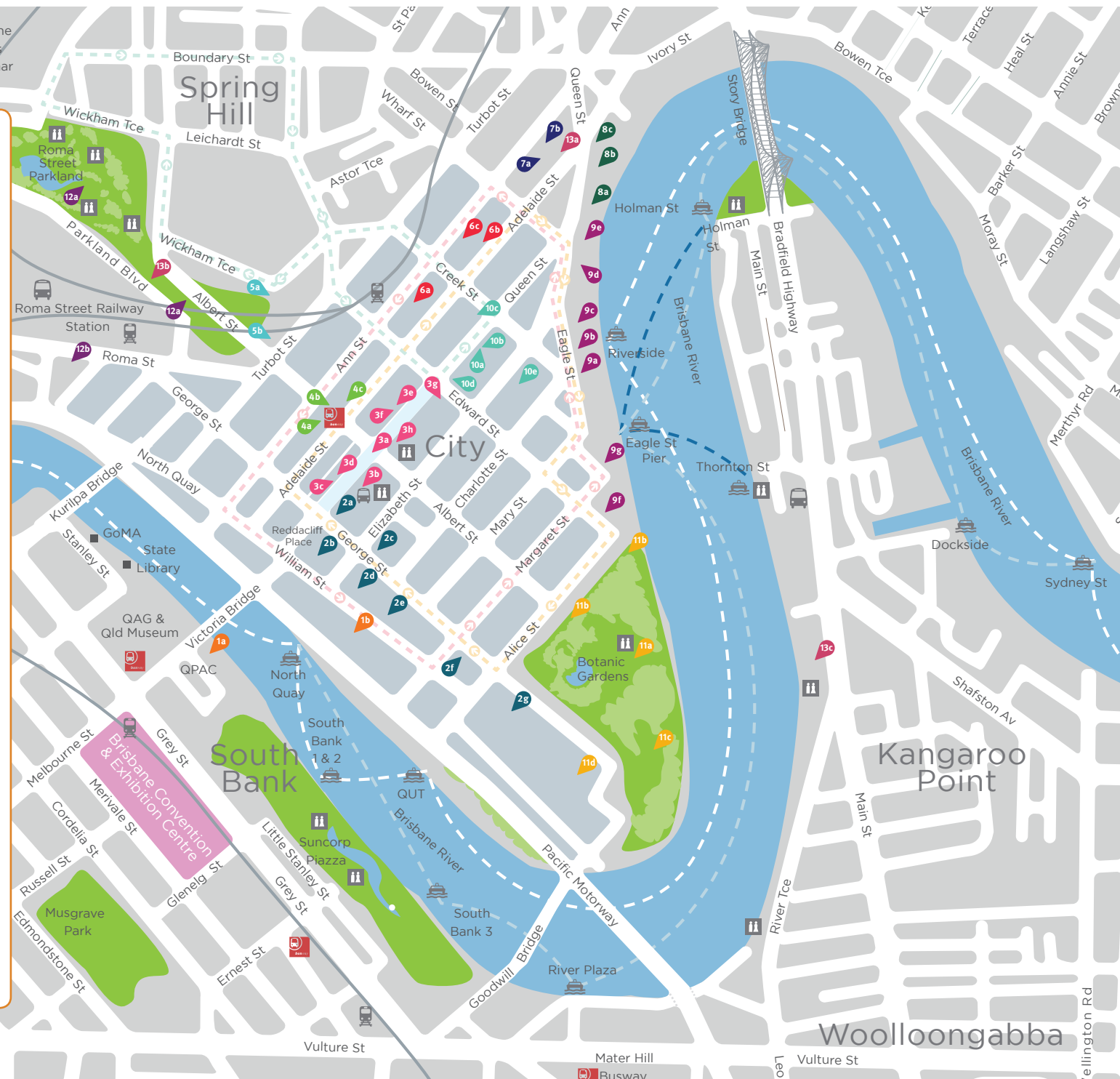
CityCat

Cross river ferry

Inner-city ferry

Free Loop buses

(including direction of travel and approximate stop locations)



6b. Old State Government Buildings—the Residences (1918; refurbished 1999–2000): 200–210 Adelaide Street

These buildings were built by the Queensland Government to house various departmental offices. Refurbishment to convert them to residential units was completed in 2000.

The lower facade of these buildings is Helidon Sandstone. The base and plinth and various columns are Blackbutt Granite. Strongly textured marble from Ulam (near Rockhampton) and Texas (near the Queensland–NSW border) was used for floors and panels.



6c. Rothbury-on-Ann (1932): 301 Ann Street

This building, originally Shell House, was erected in 1932 as offices for the Shell Company of Australia Ltd. After a refurbishment in 1997 the building was opened as residential apartments.

The dominant building material is so-called Benedict stone, made locally from 1928 onwards using crushed rock and coloured cement to resemble Brisbane Tuff. (For more information about Benedict stone, see 10b. Colonial Mutual Building.)

Columns and the basement facade are pink, fine-grained granite or syenite and red, coarse-grained biotite granite, both of which probably came from New South Wales.



7 ST JOHN'S CATHEDRAL PRECINCT

7a. St John's Cathedral (1906–2010): 373 Ann Street

This Gothic-revival building is the Anglican cathedral of Brisbane and the metropolitan cathedral of the ecclesiastical province of Queensland. Its first stage of construction began in 1906 but the cathedral took more than 100 years to complete. The final stage began in 1989 and was completed in 2009. It contains the only fully stone-vaulted ceiling in Australia.

The stones used in the building's initial stages were Brisbane Tuff, Hawkesbury Sandstone from Sydney (New South Wales), Helidon Sandstone from Wright's quarry, Footscray Basalt (Victoria) and Harcourt Granodiorite (Victoria). Blast furnace slag from Newcastle, New South Wales, was used in the concrete floor. Some floor materials and the christening font are green and black fossiliferous marble from Frosterley in the United Kingdom.

The final stage was completed using Brisbane Tuff and Helidon Sandstone. The granite steps facing Ann Street were recycled from the Holy Name Cathedral site in Fortitude Valley.

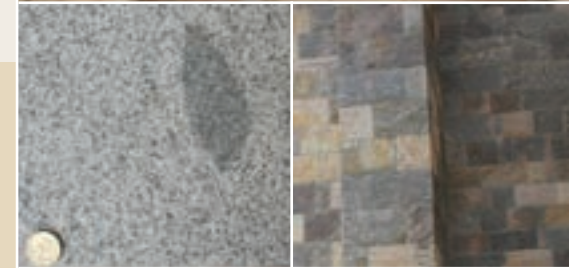
Tours information www.stjohnscathedral.com.au



7b. St Martins House (1911): 373 Ann Street

St Martins House was built in 1919 as a war hospital in honour of those who served in World War I. It served as a hospital until 1971.

The base is made of blocks of Brisbane Tuff. The main structure is built with Helidon Sandstone from Wright's quarry. There are well-developed bedding laminations and overprinted liesegang rings typical for this sandstone.



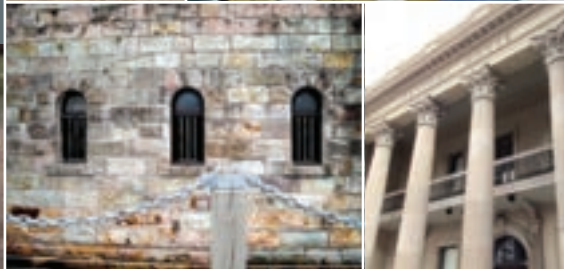
8 CUSTOMS HOUSE PRECINCT

8a. Customs House (1889, refurbished 1991–94): 399 Queen Street

Customs House with its copper dome and sandstone columns has been a recognisable Brisbane landmark since its construction in 1889. The Victorian classical building was originally used for collection of customs duty, but became defunct when port facilities moved to the Port of Brisbane in 1988. The University of Queensland acquired the building and refurbished it in 1991–94 as an events and function centre.

Dominant parts of the building including the Corinthian columns are built of sandstone from Murphys Creek. Along the riverside, the low wall is constructed with Brisbane Tuff freestone. The front entrance floor and steps were paved with black and white marble that was probably imported from Carrara, Italy.

Tours information www.customshouse.com.au



8b. Petrie Bight retaining wall (1881–82; refurbished 1998): Queen Street between Customs House and the Marriott Hotel

This retaining wall was built in 1881–82 to assist with the levelling of Queen Street; it still serves its original purpose. The riverside area was originally a wharf. Redevelopment along the river in the late 1990s transformed the area into landscaped terraces.

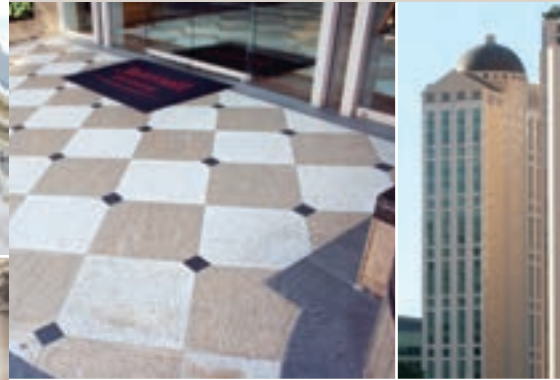
The wall is constructed with blocks of variably coloured Brisbane Tuff sourced from local quarries.



8c. The Marriott Hotel (1998): 515 Queen Street

This 28-floor building was built in 1998.

The hotel's external facade and flowerbed perimeter are decorated with white leucogranite, pink biotite granite and greenish black gabbro that were probably imported. Combinations of the same rocks are used for the chequered floor at the main entrance and in the main foyer. At the base of the walls in the main foyer, brownish-black marble with white calcite veining abuts orange granite framing the chequered floor space. The main doorway arch into the reception area is made from pale brownish-white marble.



9 GOLDEN TRIANGLE PRECINCT

The following buildings are part of the 'Golden Triangle', the financial and commercial precinct of the Brisbane CBD.

9a. Riparian Plaza (2005): 71 Eagle Street

This skyscraper, designed by noted Australian architect Harry Seidler, has 53 storeys and rises 200 m ground to roof. It is a mixed use building, with car park, commercial and residential levels.

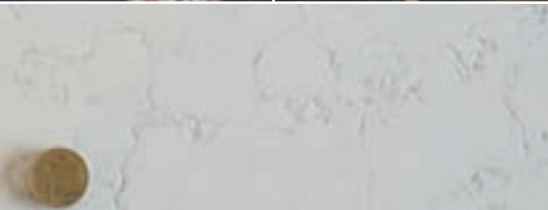
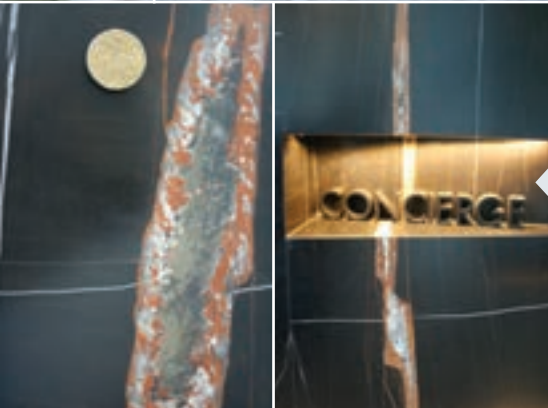
The walls and pillars of the building are clad in red, coarse-grained biotite granite imported from China or India. A highly porous, cream travertine is used in the foyer. The cobble stones and pavers around Riparian Plaza, 111 Eagle Street, Riverside Plaza and the pier area are brownish, rhyolitic ignimbrite from near Herberton (Rogina quarry). Elongate fiamme are visible in these stones.



9b. 111 Eagle Street (2012)

This 44-floor skyscraper has a chilled beam technology air conditioning system, because the building has no external shading, and full-height glazing to provide views of the Brisbane River and CBD.

The building's internal and external cladding is cream, porous limestone from Sardinia. Off-white fossiliferous marble also from Orosei, Sardinia, has been used for the internal floor on level 1. Black marble with red and white calcite veins from the Atlas Mountains in Tunisia was used on the lower foyer including the reception desk and the entry stairs to the building.



9c. Riverside Centre Plaza (1986): 123 Eagle Street

This skyscraper, designed by Harry Seidler, has 40 storeys and is 146 m high. The heritage-listed building houses the Brisbane Stock Exchange.

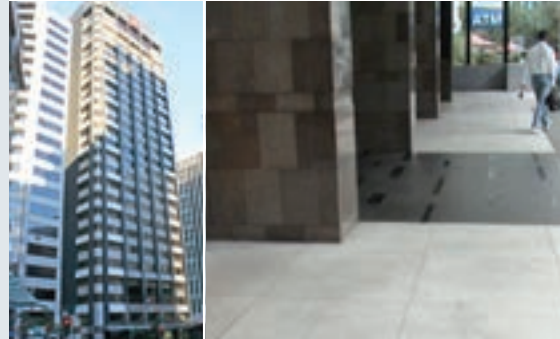
The cladding and pillars at the Riverside Centre are pale grey biotite granite, probably from Asia. Internal wall panels in the foyer are cream travertine.



9d. Emirates House (1973, refurbished 1996): 167 Eagle Street

The building was completed in 1973 and is predominantly used as office accommodation. In a refurbishment of the building in 1996 the facade and roof top levels were significantly transformed.

The main pillars at the front end of the building are faced with polished brownish-grey crystal-rich ignimbrite similar to that used as paving in the precinct, and probably from the same source near Herberton. Black fine-grained diorite enhances the entrance and contrasts with the white leucogranite floor around the rest of the building perimeter (both stones are probably imported).



**9e. CUA Building (2002):
175 Eagle Street, corner of Queen,
Eagle and Wharf Streets**

The 19-storey office development was completed in 2002. A feature of the front of the CUA building is an artwork of two large metal hands.

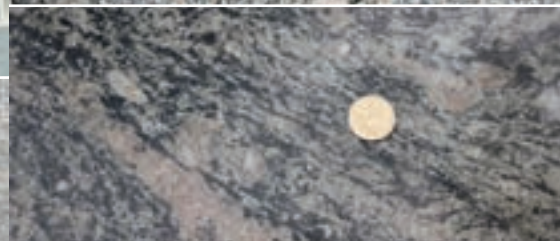
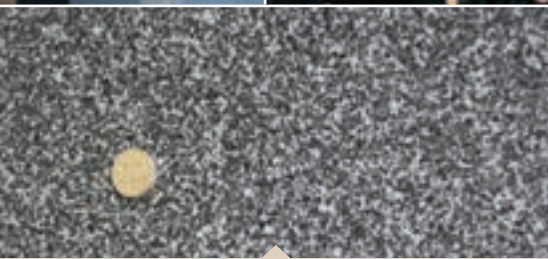
The main pillars of the CUA building are pale grey biotite granite. Internal stones are white marble and a dark grey, fine-grained diorite. The internal floors are brown granite and black gabbro. External pavers are green-grey felsic porphyry from Rogina quarry near Herberston.



**9g. Waterfront Place (1989):
1 Eagle Street**

This 40-storey tower is one of Brisbane's landmark office buildings. The elliptical shape of the building maximises the views to the river and city.

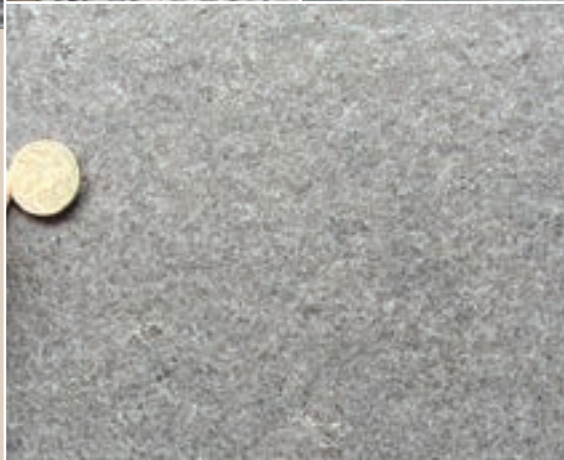
The building is reinforced concrete clad with double glazed (nickel sulphate) solar-tinted window panels. The building has an extensive facade clad with greenish porphyritic granitic gneiss in rough and polished finish. Surrounding retaining walls and ornaments are also made of this stone, which is called Verde Maritaka and imported from Brazil. The small cobble stone pavers are green, altered microgranite.



**9f. Stamford Plaza Hotel (1990):
corner of Edward and Margaret
Streets**

A prominent building (height 80m) along the Brisbane waterfront with 22 floors housing a five-star hotel.

The front facade and entrance, as well as the Margaret Street facade are clad with greenish-black, fine- to medium-grained quartz diorite, probably imported from Asia.



10 GENERAL POST OFFICE PRECINCT



10a. General Post Office building (1872, 1876–79, refurbished in 2011): 261–285 Queen Street

The original northern wing of this colonial building was erected in 1872 by John Petrie. The southern wing and central archway were erected between 1876 and 1879. The green cast iron hitching post in front of the GPO is a remnant of early mail delivery by horse. The GPO was the first user of electricity in Brisbane.

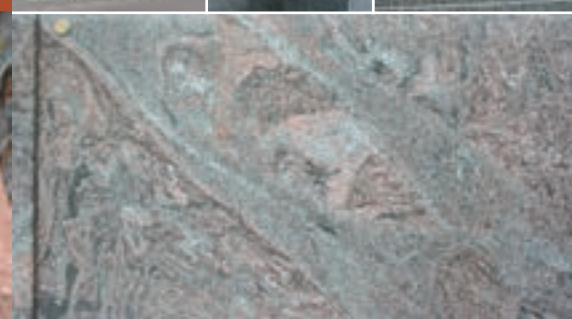
Freestone for the GPO facade, arcades and Corinthian columns is sandstone from Murphys Creek and Albion Heights. The base layers are cream to pink Brisbane Tuff.



10b. The Manor Apartments (1930–31, refurbished 1994): 289 Queen Street

The Colonial Mutual Life Assurance Society (CML) erected this building, originally called the Colonial Mutual Building, in 1930–31. It was designed by architects Hennessy and Hennessy. Its features include a large number of gargoyles and the ornamental motifs of lions, owls and eagles.

Like the Rothbury-on-Ann (6c), this building is noteworthy for its use of the artificial Benedict stone, comprising coloured cement and crushed rocks such as Brisbane Tuff and Enoggera Granite. The stone was produced at the Benedict Stone Works at Newstead under licence to Catholic Archbishop Duhig from the parent company in the USA. It ranges from green to pink.



10c. Queensland National Bank building (1885): corner of Queen and Creek Streets

The former Queensland National Bank building is a three-storey brick structure with sandstone facings, built in the Classical Revival style. The building displays Palladian influence with large Corinthian columns that rise through the upper two storeys. The Queensland National Bank became the National Australia Bank, who still own the heritage-listed building

The building was constructed from sandstone from Murphys Creek. Parts of the upper storey are Helidon Sandstone from Pearson's quarry. The columns are Oamaru Limestone from New Zealand. Granite steps lead into the main foyer, which has white marble floors and ornate plaster panels in the ceiling.



10d. MacArthur Chambers (1931–34, refurbished 2008): corner of Queen and Edward Streets

MacArthur Chambers is an English Renaissance-style building constructed to be the headquarters of the Australian Mutual Provident Society (AMP). In July 1942, the building became the headquarters for General Douglas MacArthur, Commander-in-Chief of Allied Forces in the Pacific. A three-figure statue above the portico entrance of the Queen Street facade, sculptured in Sicilian marble by Fred Gowan represents 'Strength, Plenty, Production & Growth'.

The MacArthur Chambers building shell is constructed from Helidon Sandstone on a steel frame. The fine-grained red granite pillars originated from Cedar Creek near Samford, and the pale grey medium- to coarse-grained hornblende granodiorite is from Camp Mountain.

Panels on the lower facade of the new development of Macarthur Central comprise a highly contorted pink to grey biotite orthogneiss, probably from India.

Tours information

www.macarthurmuseumbrisbane.org

**10e. St Stephen's Cathedral
(1863–74; extended and restored
1989–2000) and Chapel (1850,
restored 1997–98):
249 Elizabeth Street**

This Cathedral, built by Benjamin Backhouse, is one of the cornerstones in the history of the Catholic community in Brisbane. St Stephen's is a Gothic Revival cathedral with a cruciform shape in plan.

The main structure was erected using Brisbane Tuff from Skyring's quarry near All Hallows Convent on Ann Street. External sandstone facings were sourced from Petrie's quarry at Breakfast Creek. The belfry was constructed of Oamaru Limestone from New Zealand.

St Stephen's Chapel was designed by notable English architect, A.W. Pugin (designer of the Houses of Parliament in London), and built in 1850. It is one of the oldest buildings in Brisbane.

The dominant building stone used was Goodna Sandstone from Geary's quarry, but some imported Sydney sandstone (Pyrmont) was also used on the exterior of the Chapel. The Goodna Sandstone deteriorated badly and the chapel underwent extensive restoration and was re-dedicated in 1999.



11 CITY BOTANIC GARDENS PRECINCT

In 1828 a Government Garden was established and partly used as the settlement's food gardens. When the penal colony closed in 1840 and free settlement commenced, the Government Garden was retained. The City Botanic Gardens were established on the site in 1855 and used to trial local and exotic plants with the potential to be useful as crops in the new colony. These included mangoes, sugar cane, pineapples, papaws, custard apples, tobacco, ginger and many types of nuts and grape vines. The Gardens are on the floodplain of the Brisbane River and have endured nine major floods. Each time important collections and trees have been lost, but some trees planted in the 1850s still remain. The Gardens include many rare and unusual botanic species and feature a special collection of cycads, palms, figs and bamboo.

The City Botanic Gardens and their environs contain examples of interesting and important uses of stones.

11a. Walter Hill Fountain (1867)

Built in 1867 to commemorate the construction of the Enoggera Reservoir to provide drinking water for Brisbane and later renamed in honour of Walter Hill, the first curator of the Gardens, this was the first ornamental drinking fountain in Queensland. It was designed by Queensland's colonial architect Charles Tiffin, and built by stonemason John Petrie.

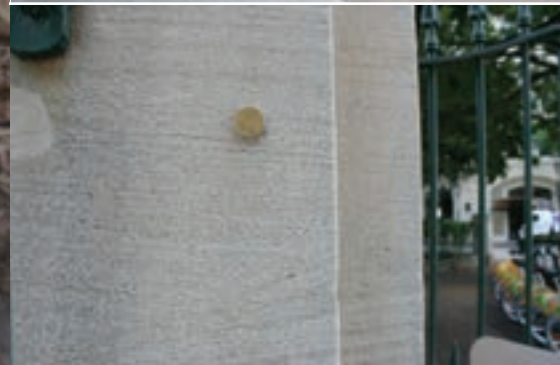
The fountain was constructed using Helidon Sandstone and marble inlays from Gladstone.



11b. Albert and Edward Street gates and Botanic Gardens fence (1865)

A perimeter wall was built in 1865 including prominent gates at the Edward and Albert Street entrances. In 1916, the Alice Street fence with its iron palisades was erected, using the wall and convict-cut stone from the demolition of Brisbane jail.

The base of the Alice Street wall comprises Brisbane Tuff and sandstone from Jeay's quarry, Goodna, and was recycled from a retaining wall at the old jail in Petrie Terrace. The gateposts on Alice Street and Edward Street are of sandstone from Murphys Creek with bases of Brisbane Tuff. In places, coloured concrete was used for later repairs.



11c. Ships' ballast (1860s) in walkway retaining walls near the City Gardens Cafe

During the 1860s, wheat was shipped from Brisbane to South America. Ships returning to Brisbane were ballasted with augen gneiss which can be seen along the paths, mixed with coral from St Helena Island or dredged from a small reef in Moreton Bay. The coral was burnt to produce lime for construction of stone and brick buildings. The former ballast was used to create retaining walls along some pathways near the caretaker's cottage (now the City Gardens Cafe).

Two major rock types were used in the retaining walls: well-foliated, biotite gneiss with feldspar augen is thought to have come from Brazil; the other rocks are coral from Moreton Bay, in particular from St Helena Island.



11d. Old Government House (1860–62, modified 1870s): west side of Botanic Gardens

Old Government House, a substantial two-storey sandstone building, was designed by colonial architect, Charles Tiffin, and constructed in the Classical revival style. It was the home of the Governors of Queensland until 1910. Modifications in the 1870s resulted in a more pronounced Queensland-style, including the addition of roofing over the first-floor balconies. In 1909 the house was donated to the newly established University of Queensland. It is now within the Queensland University of Technology campus.

Locally sourced stone used in construction included Goodna Sandstone from Jeay's quarry and Brisbane Tuff from the Windsor quarry. White sandstone from Murphys Creek was used for the portico.

Tours information www.ogh.qut.edu.au



12 ROMA STREET PARKLANDS PRECINCT

12a. Roma Street Parklands

The world's largest subtropical garden in a city centre was created in 2001 on the site of the former Roma Street rail yards. Themed gardens include the Spectacle Garden, Wall of Epiphytes and Garden of 1000 Lilies. Numerous artworks and sculptures are featured in the park, and several use stone materials.

Near the Albert Street entrance, 'Water blocks' by Hew Chee Fong and Loretta Noonan consists of three massive blocks of black diorite from near Adelaide in South Australia that appear to mimic a water fountain.

A cube artwork called 'S.P.Q.R.' by Luke Roberts, located near the Celebration Lawn symbolises a link between past and present. It comprises North African red granite panels.

'Stone Wall Carvings' by Rhyl Hinwood represent plant species in the Spectacle Garden. These are carved in Helidon Sandstone, as is the 'Sir Thomas Brisbane Seat' at the City View Saddle.

In the Wall of Epiphytes, water cascades over pink biotite granite (Enogerra Granite) from Wagner's quarry along Settlement Road.

Tours information www.romastreetparklands.com



12b. Queensland Police Headquarters (1989–1990): 200 Roma Street

The building was designed by Brisbane architect Noel Robinson to house the new headquarters for the Queensland Police Service. The building also houses the Queensland Police Museum.

This building has extensive cladding of green, altered granitic gneiss in rough and polished finish over the lower facade walls. The stone, which is imported from Brazil, is called Verde Maritaka. This stone is also used at Waterfront Place (9g).

Tours information www.police.qld.gov.au/aboutUs/facilities/tour and Queensland Police Museum www.police.qld.gov.au/aboutUs/facilities/museum

13 GEOLOGICAL OUTCROPS IN THE BRISBANE CBD

Brisbane's older geological events are represented within the CBD area by several prominent outcrops.

13a. Adelaide Street (near St John's Cathedral)

The earliest rocks formed by accumulation of thick layers of deep ocean sediment and some volcanic rocks off the unstable eastern edge of the Australian continent, in the Late Devonian and Carboniferous (290–370 million years ago). Subsequently, the sediments were folded and uplifted and are exposed in the Brisbane area as the Neranleigh–Fernvale beds and their more highly deformed counterpart, the Bunya phyllite.

A cutting at the northern end of Adelaide Street, at the back of St John's Cathedral exposes the steeply dipping, fine-grained sandstone and cleaved shale of the Neranleigh–Fernvale beds.



13c. Kangaroo Point Cliffs: Riverside walkway from South Bank or by Thornton Street ferry

The second major geological event involved intrusion of granite magma and eruption of volcanoes as the continental margin was stabilised during the Triassic, about 220–240 million years ago.

One outpouring of rhyolitic ash flow tuff or ignimbrite filled a former valley and is now preserved as the north-trending ribbon of Brisbane Tuff through the city. The tuff is well exposed at the Kangaroo Point Cliffs, which were created by convicts quarrying building stone for the early settlement.



13b. Roma Street Parklands: enter via Roma Street Station (Platform 10)

Another outcrop of the Neranleigh–Fernvale beds is visible near the rear entrance to Platform 10 at Roma Street Railway Station and along the Roma Street Parkland entrance from Upper Albert Street.





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