

# BATHURST INTEGRATED MEDICAL CENTRE



AERIAL VIEW FROM NORTH

BIMC

GSC

## ENVIRONMENTAL ASSESSMENT REPORT

IN SUPPORT OF DEVELOPMENT APPLICATION FOR 250 HOWICK ST BATHURST NSW





BATHURST INTEGRATED  
MEDICAL CENTRE  
ENVIRONMENTAL ASSESSMENT

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# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### PROJECT DESCRIPTION

The Bathurst Integrated Medical Centre (BIMC) & George St Carpark (GSC) project proposes two new major buildings within the Bathurst CBD. The project site is encompassed by Howick, George, Russell and Rankin Streets and is the redevelopment of the former Clancy Motors site and the existing Council George St carpark. The total cost for the development, estimated to be in the order of \$70m, will provide a major stimulus to the Bathurst economy and greatly enhance the regional status and significance of the Bathurst CBD. The project will assist in reversing the pattern of declining health infrastructure in regional NSW and create a gravitational effect within Bathurst for greater healthcare.

BIMC is a proposed six storey fully integrated medical centre, modelled on the successful Gardens Medical Centre's in Albury and the Bloomfield Medical Centre in Orange. The centre will provide brand new infrastructure to expand and to retain important Bathurst medical resources and specialties. It will include state of the art modern facilities with a Private Hospital, General Practice, Specialist Practice, Radiology, Pathology, Allied Health, Pharmacy and Café, forming an effective single destination for a majority of health needs.

In doing so, the BIMC will provide an opportunity for additional medical professions not currently working within the Bathurst Medical landscape to “plug and play”, creating essential opportunities to expand and strengthen the Bathurst medical collaboration.

GSC is a proposed associated multi-deck car park constructed alongside the BIMC and replacing the Council's existing on grade George St carpark with a brand-new space providing a substantial increase in car parking for the CBD. Allocation of the new car spaces will be to the general public (Council spaces), RSL Club members and BIMC patrons.

The existing site contains approximately 310 general use car spaces. Initial parking estimates for the GSC project are to increase to approximately 915 cars. The design of the GSC will be such that additional floors can also be added in future to easily increase parking capacity.

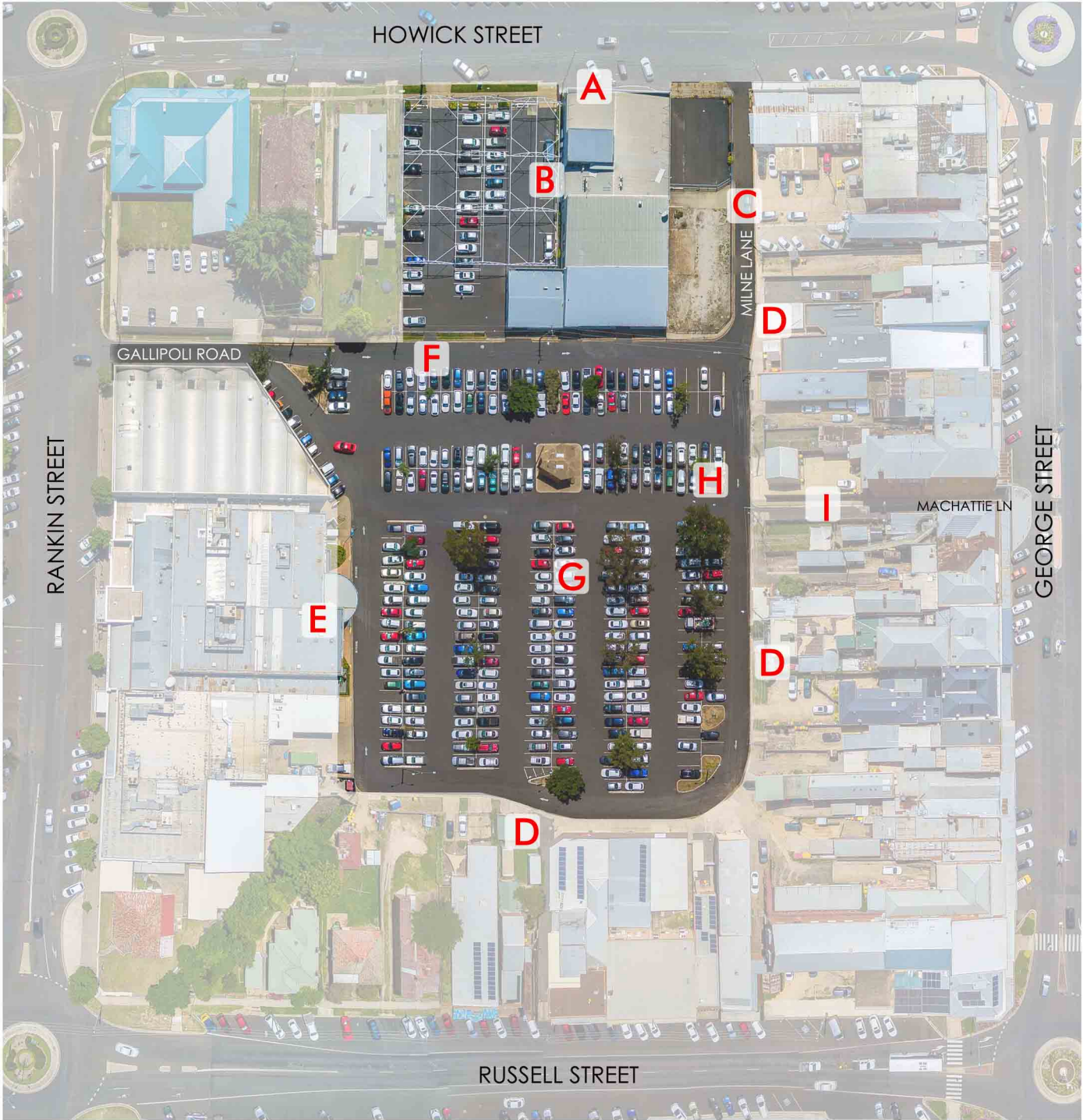
This significant increase in CBD parking provided by the GSC will provide a valuable epicentre around which the Bathurst CBD can be supported and continued to grow for the future. Additionally, those spaces are provided in a way that longer stay cars, such as for employees within the CBD, are not utilising ground level retail access spaces, thus assisting surrounding retail opportunities.

AERIAL VIEW FROM EAST



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT



SITE PLAN



### SITE CONSTRAINTS

The proposed site contains several design constraints that need to be met, so that a complying and appropriate design is achieved. Major issues are:

- A. Positioning of the building should be facing Howick St. This will be the known address of the BIMC. It is set back in its main bulk 3260mm from the front boundary.
- B. Orientation is aligned with Howick St but must face all directions . Maximum natural light is a major objective of the project. The primary building entrance is therefore oriented to the north for light and amenity as well as to create a pedestrian promenade.
- C. Milne Ln access must be maintained. This will be secondary arrival points for the GSC.
- D. Several properties to the rear of George and Russell Streets have access to this site. These need to be maintained.
- E. The RSL site in the SW corner needs access and servicing to be maintained.
- F. Gallipoli Rd access needs to be maintained. This will be the primary access point for the GSC.
- G. Current ground floor parking for approximately 320 cars is to be maintained, with the additional cars on levels above
- H. A substation on site needs to be maintained
- I. Pedestrian traffic network, mainly east west needs to be promoted through the site



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

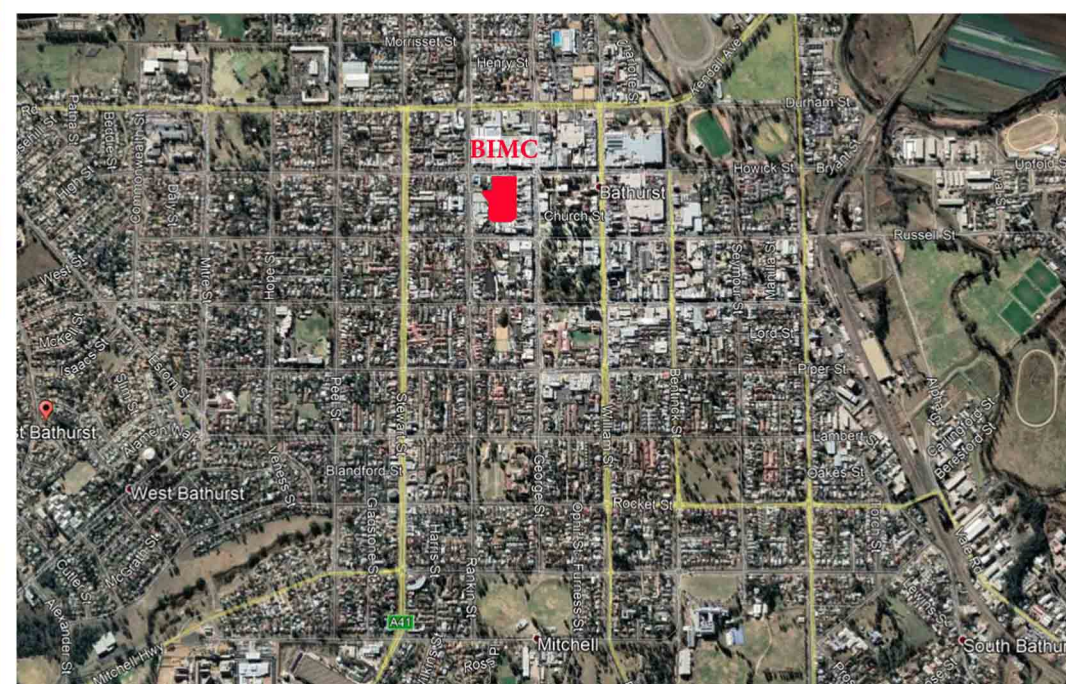
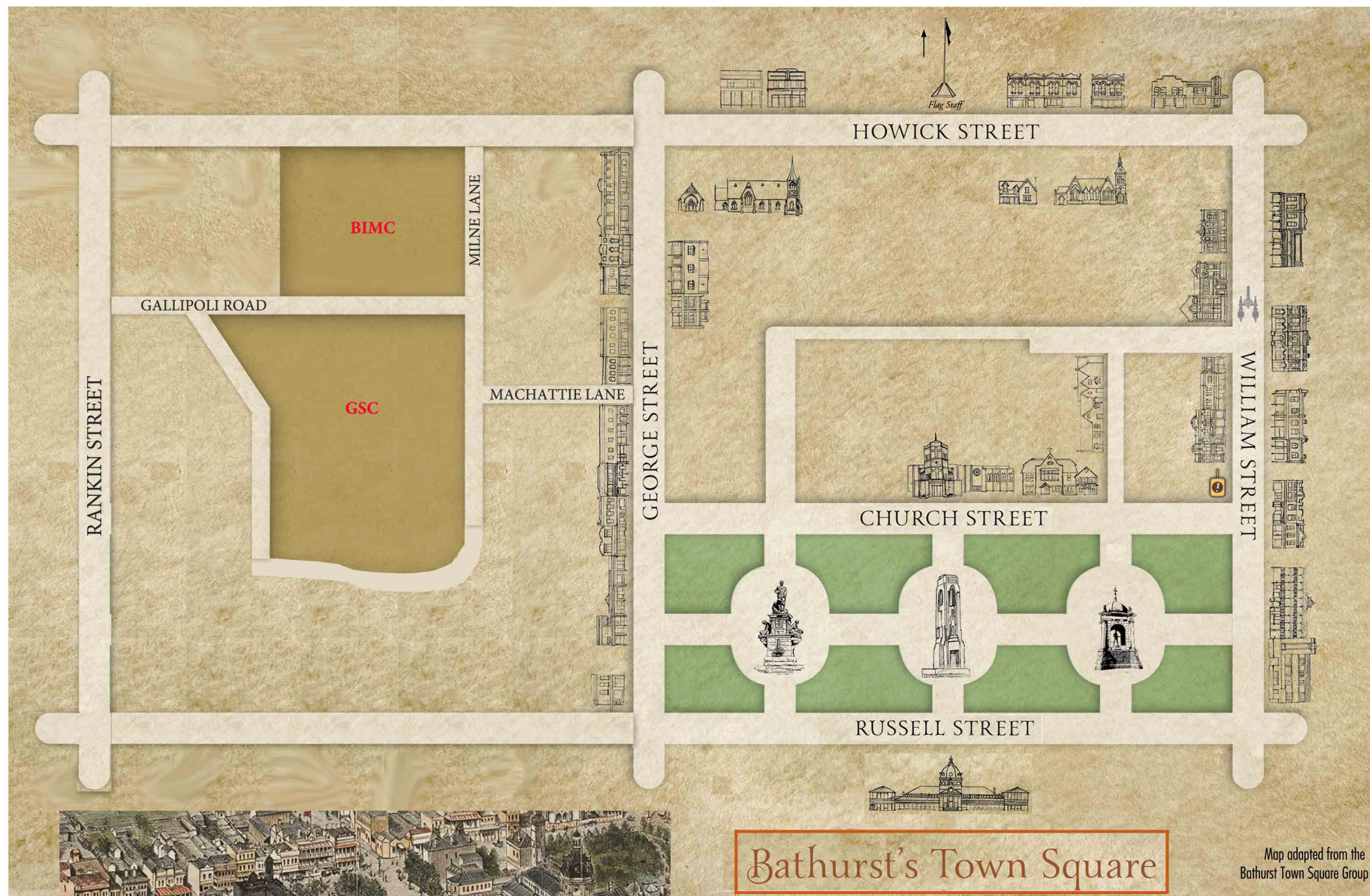
### HISTORICAL CONTEXT

Bathurst is Australia's oldest inland city and it has evolved from a settlement driven by convicts and their military overseers to a hugely successful service centre for the surrounding rich agricultural area and then to a major administrative centre and, most recently, an important regional academic centre with a number of prominent schools and the main campus of Charles Sturt University. But Bathurst is more than this.

It has an impressive array of historic public and private buildings; is surrounded by fascinating historic villages; has excellent restaurants, museums and was home to one of the country's most humble and beloved Prime Ministers. Ben Chifley, the son of a blacksmith and the prime minister of Australia from 1945-1949, was born at Bathurst in 1885. It is also the home to the country's most prestigious motor race – the Bathurst 1000.

Prior to the arrival of Europeans, the Bathurst area was home to the Wiradjuri Aboriginal people. The first Europeans to cross the Blue Mountains were Gregory Blaxland, William Wentworth and William Lawson in May. 1813. This led, almost immediately, to settlement beyond the Cumberland Plains. They were followed later that year by surveyor George Evans who named the plains after Lord Bathurst, British Secretary of State for War and the Colonies. The town was subsequently named Bathurst by Governor Lachlan Macquarie.

Bathurst, the first major centre west of the Blue Mountains, is located 670 m above sea-level and 205 km west of Sydney via the Great Western Highway.



MAP OF BATHURST NTs



zauner  
construction

EXISTING CONDITIONS  
Site Location B2

LEFFLER SIMES ARCHITECTS



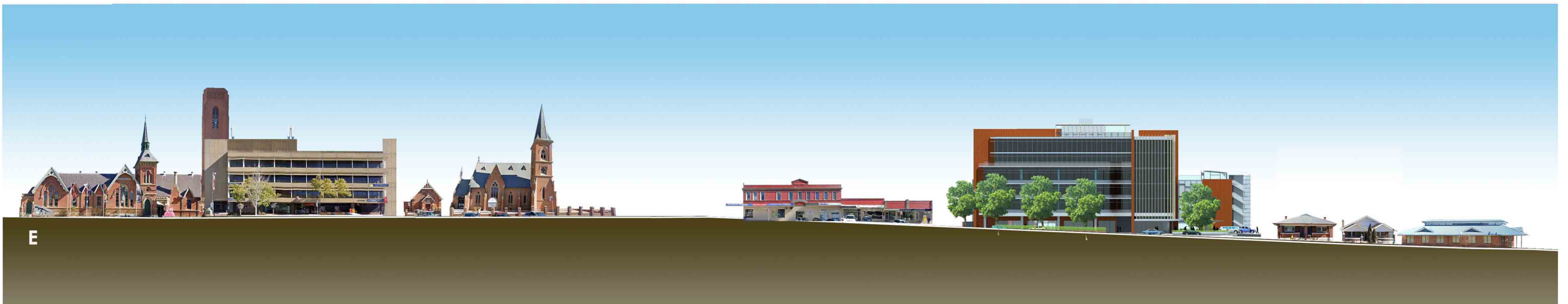


# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### LEGEND

- A. War Memorial Carillon King's Parade
- B. Fossil & Mineral Museum on Howick St
- C. View to west on Howick St with Bathurst Presbyterian Church
- D. Bathurst Courthouse on Russell St
- E. Elevation view on Howick St showing BIMC in context to the existing urban fabric
- F. Typical street view showing 19<sup>th</sup> Century 2-3 storeyed buildings
- G. Ibid





# BATHURST INTEGRATED MEDICAL CENTRE

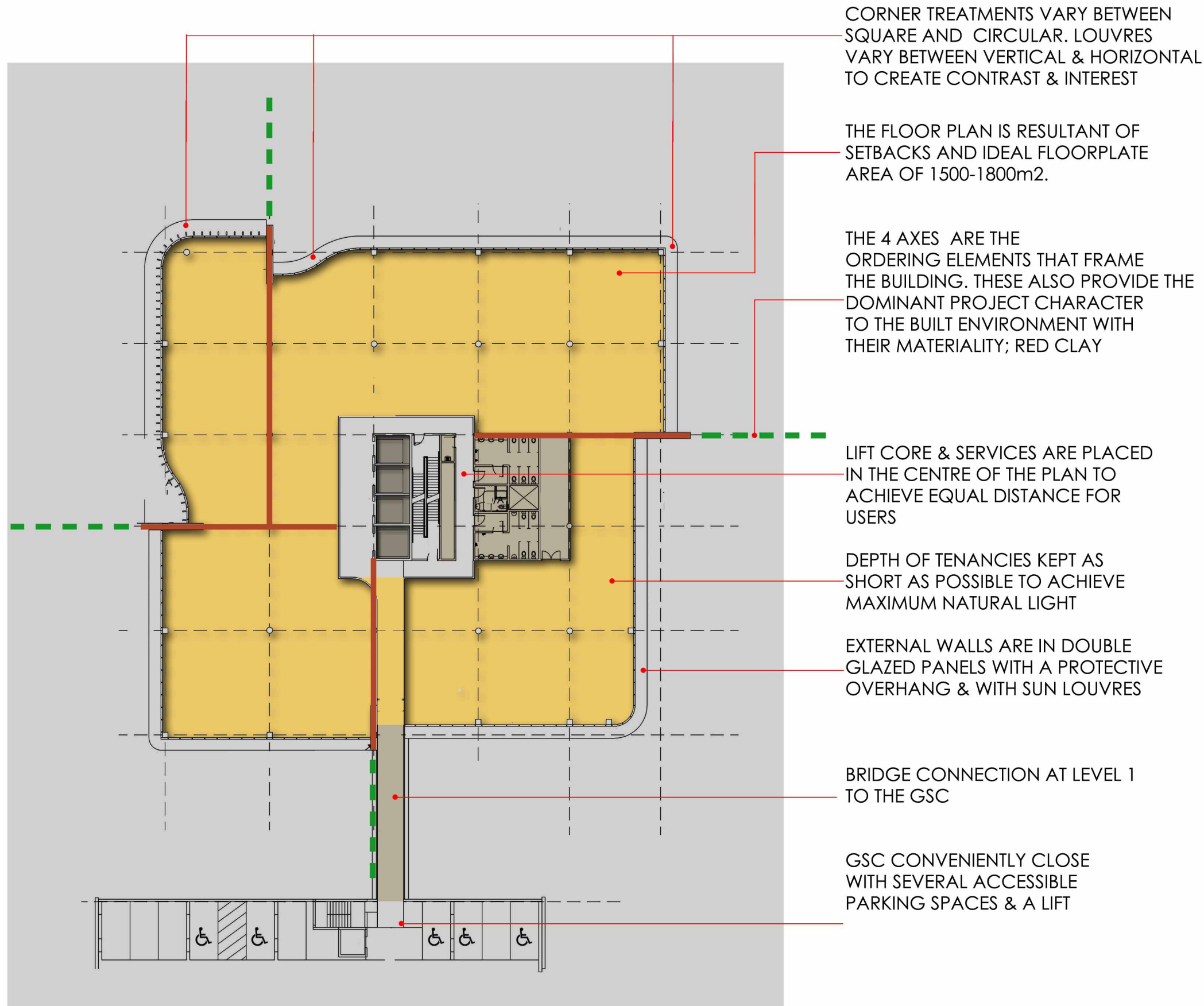
## ENVIRONMENTAL ASSESSMENT

### BUILDING DESCRIPTION & USES

The proposed BIMC extends over 6 levels with an estimated gross floor area (GFA) of ~10,200m<sup>2</sup> and a height of ~23.5m to roof level. The ground floor shopfront is set back from Howick Street approximately 7m to create a sheltered pedestrian walkway approximately 3.5m wide fully around the building. Levels 1, 2 & 3 extend vertically above this and Levels 4 and 5 are set back further, to best present the building to Howick Street and enhance the streetscape when viewed from this and surrounding directions.

The potential use of the respective floors are notionally as follows, although the building is designed with flexibility allowing for many uses as may be desired for Bathurst's health environment. This layout and structure of the BIMC is supported by the successful outcomes achieved in Albury's Gardens Medical Centre and Orange's Bloomfield Medical Centre by the same Development Manager.

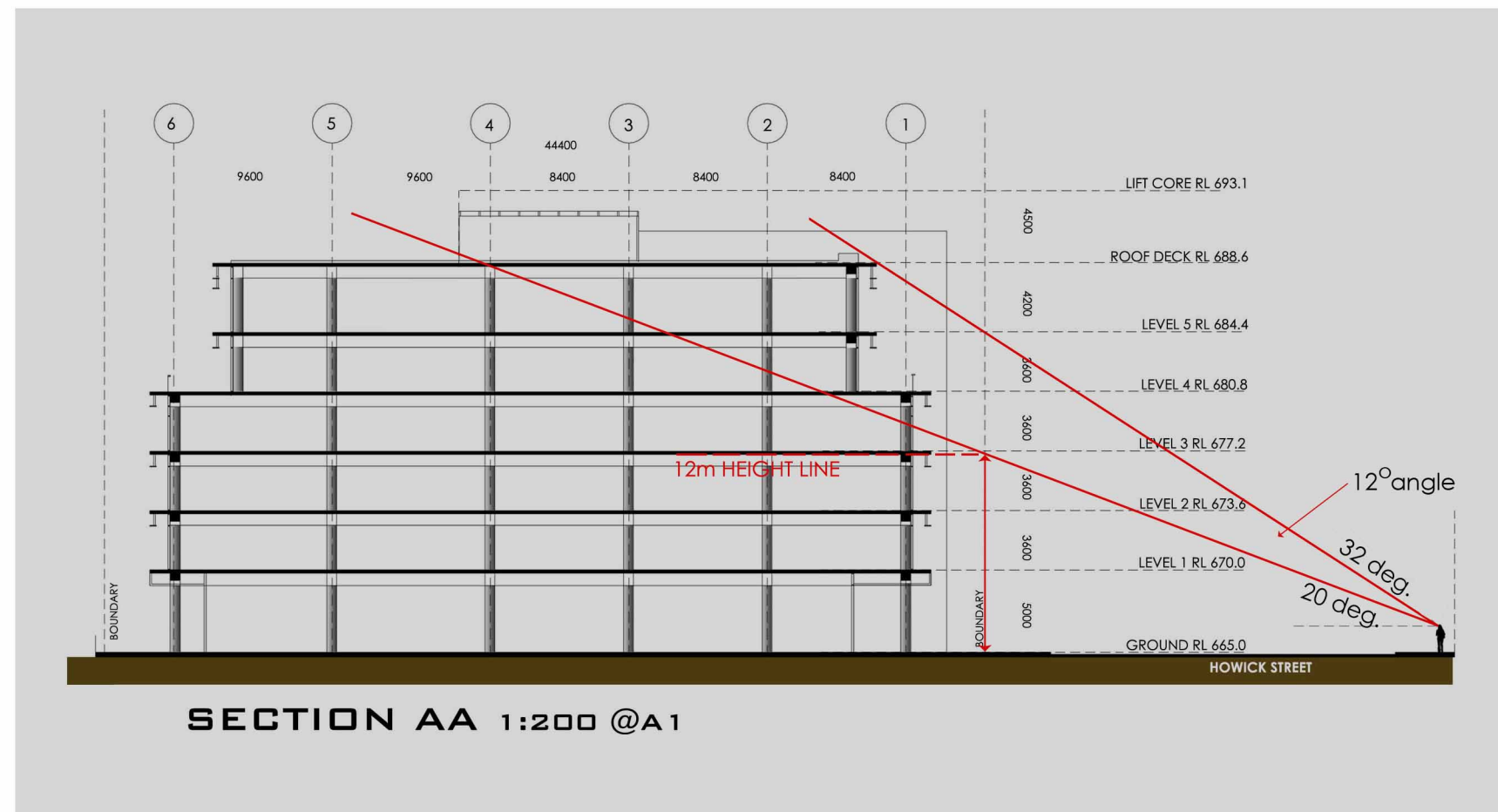
- Ground Floor
  - Pharmacy
  - Pathology
  - Radiology
  - Café
- Level One
  - General Practice Medical Centre
  - Allied Health
- Level Two
  - Allied Health, such as Dentistry, Physio, Occupational Therapy, Dietician, etc
  - Potential Allied Health and/or teaching space, such as for a university
- Level Three
  - Medical Specialists and Surgeons consulting rooms
- Level Four
  - New Private Hospital with 20 recovery ward rooms
- Level Five
  - New Private Hospital including three theatres and CSSD
- Rooftop
  - Rooftop garden space and plant room







VIEW ON HOWICK ST LOOKING WEST



SECTION AA 1:200 @A1

# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### SITE CONTEXT

The building form has evolved from its primary need as a medical centre with all its required functions, to its reaction in the local urban fabric.

The existing conditions of Howick St are characterised by low rise traditional structures that are mainly commercial and also residential.

The proposed site is on the very edge of the town precinct which contains the traditional and larger buildings of the city. The site adjoins the original town square, as discussed before in this report, and it is not unreasonable to argue that this site is part of this town centre fabric. In reality the BIMC will bookend the town centre and create an arc entry to the built form.

The BIMC integrates well into Bathurst Town Square both in scale and in fabric. It is located downhill to the west of the Town Centre so it will not dominate, despite its scale. This is best illustrated in the adjoining view taken from Howick St looking west which highlights how the distance from the Town Square reduces significantly the dominant effect of the BIMC.

Further, the judicious placement of the main terracotta blade facing east, serves as an effective frame and bookend to the precinct.

Being located downhill, and at a good distance and also screened by extensive major landscaping, the glass content is also minimised from undue impact.

The BIMC is an expression of 21<sup>st</sup> century needs and techniques. It must be a genuine reflection of its context while at the same time taking into consideration the significant history of its context, Bathurst.

It is our belief that this has been achieved.



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### Building Height

The drafted Town Centre Master Plan (TCMP) Rev 4, February 2021, identifies the key heritage streets and areas appropriate for increased height and density limits within the Bathurst CBD. The TCMP identifies that future height increases should be positioned to be largely out of sight at street level from the heritage streets. In that regard, Figure 62 of the TCMP identifies George Street, in yellow, as the nearest heritage street to the BIMC and GSC site at Howick Street as well as Howick Street between George and William.

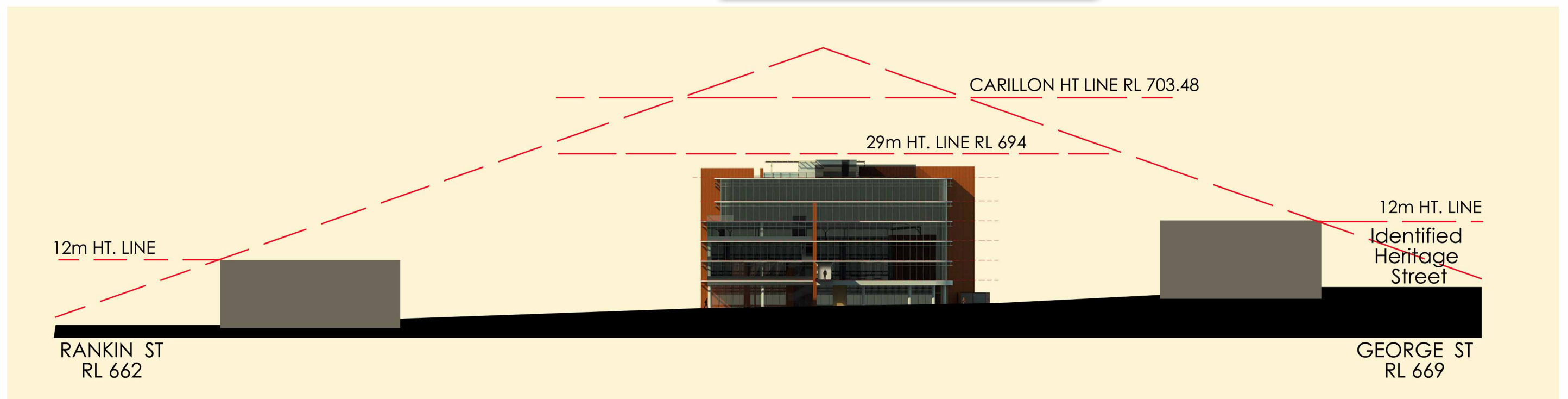
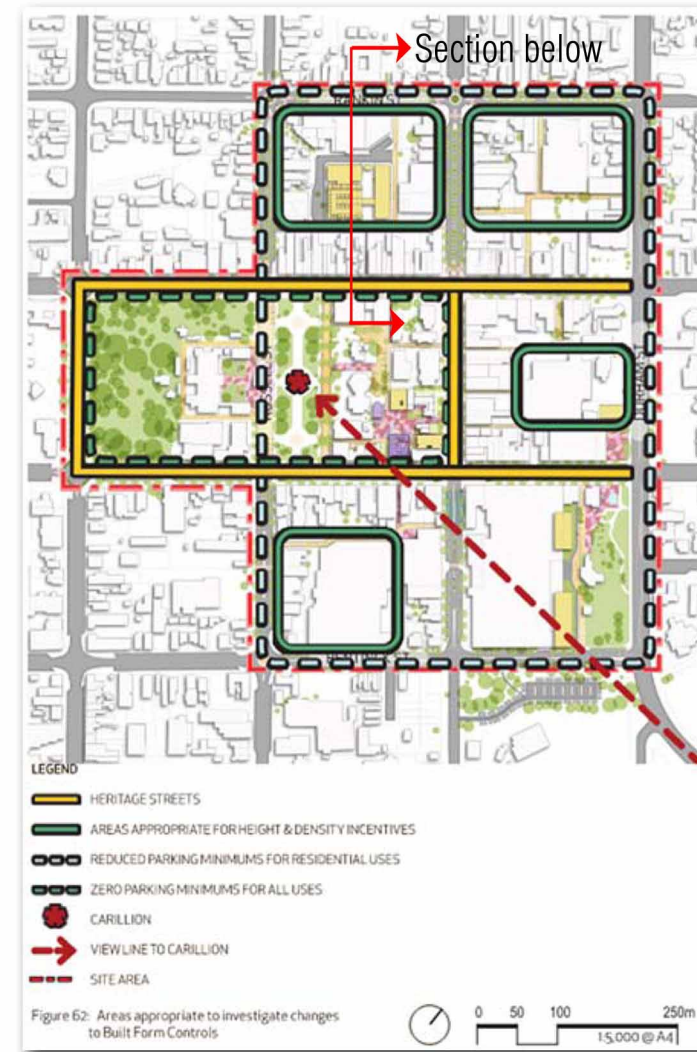


FIGURE 63 ANALYSIS EAST WEST SECTION



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

The draft TCMP provides one potential methodology for establishing new height controls for further development sites. It states (emphasis added);

*“The recommended methodology to consider changes to built form controls is a viewshed approach, with height increases tested to ensure they are positioned largely out of sight from the designated heritage streets. Using this approach, which is illustrated on the next page, involves drawing a view line from the eye level height of an average adult (1.6m) standing on any point of the heritage street to the current LEP height control.”*

An example of this methodology is then provided in the draft TCMP at Figure 63, describing a view plane of a pedestrian level view intersecting with the site boundary at 12m high (existing LEP control) and extending upward to the mid-block, but remaining approximately one storey below the datum of the Carillon.

The BIMC designers have taken this methodology into account when designing the proposed buildings. Taking the view from the nearest heritage street (George) and extending this section through to Rankin Street, the *below* sectional drawing clearly shows the proposed BIMC and GSC are well within these parameters when viewed from the heritage location at George Street.

Council’s document “Futureproofing our CBD – Council’s Response to the Bathurst Town Centre Master Plan” provides Council’s support for the yet to be adopted draft TCMP. This document states inter alia: *“Increases to building scale along street fronts may also be appropriate, where there is already poor street form and provided the height responds to the predominant scale of Bathurst streets through significant upper-level setbacks.”*

The BIMC design considers the draft TCMP as well as Council’s response, by utilising the viewshed methodology and accounting that the Clancy site is already one identified as having poor urban form. The design therefore includes significant ground level and upper level setbacks from Howick Street to minimise the viewing angle when directly across the road, say at 223 Howick, where the viewing angle is approximately 20 degrees as shown in the section on page C2

The net effect of the viewing angle in this location is therefore 12 degrees greater than if using the 12m methodology shown at figure 63 of the TCMP. It is considered that the minor additional 12 degrees from this viewpoint is an acceptable outcome as this view is not taken from a heritage street and the net effect of the project is a revitalisation of an otherwise obtrusive and unattractive site, leading to the rejuvenation of the area and delivery of improved medical services to Bathurst.



Step 3: Reduce any building heights that exceed the datum of the Carillon

Figure 63: Viewshed methodology for establishing appropriate height and density increases



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### 1. Building Setbacks

The BIMC includes ground level boundary setbacks from Howick Street of 3.5m-6.5m and from Milne Lane of 6.5m-9.5m. These are provided to;

- reduce bulk and scale at ground level or when viewed from across the street,
- provide a covered pedestrian walkway parallel to Howick St,
- allow space adjacent Milne Lane for waste handling and loading areas away from the primary pedestrian thoroughfares to the north and west,
- minimise overshadowing of neighbours.

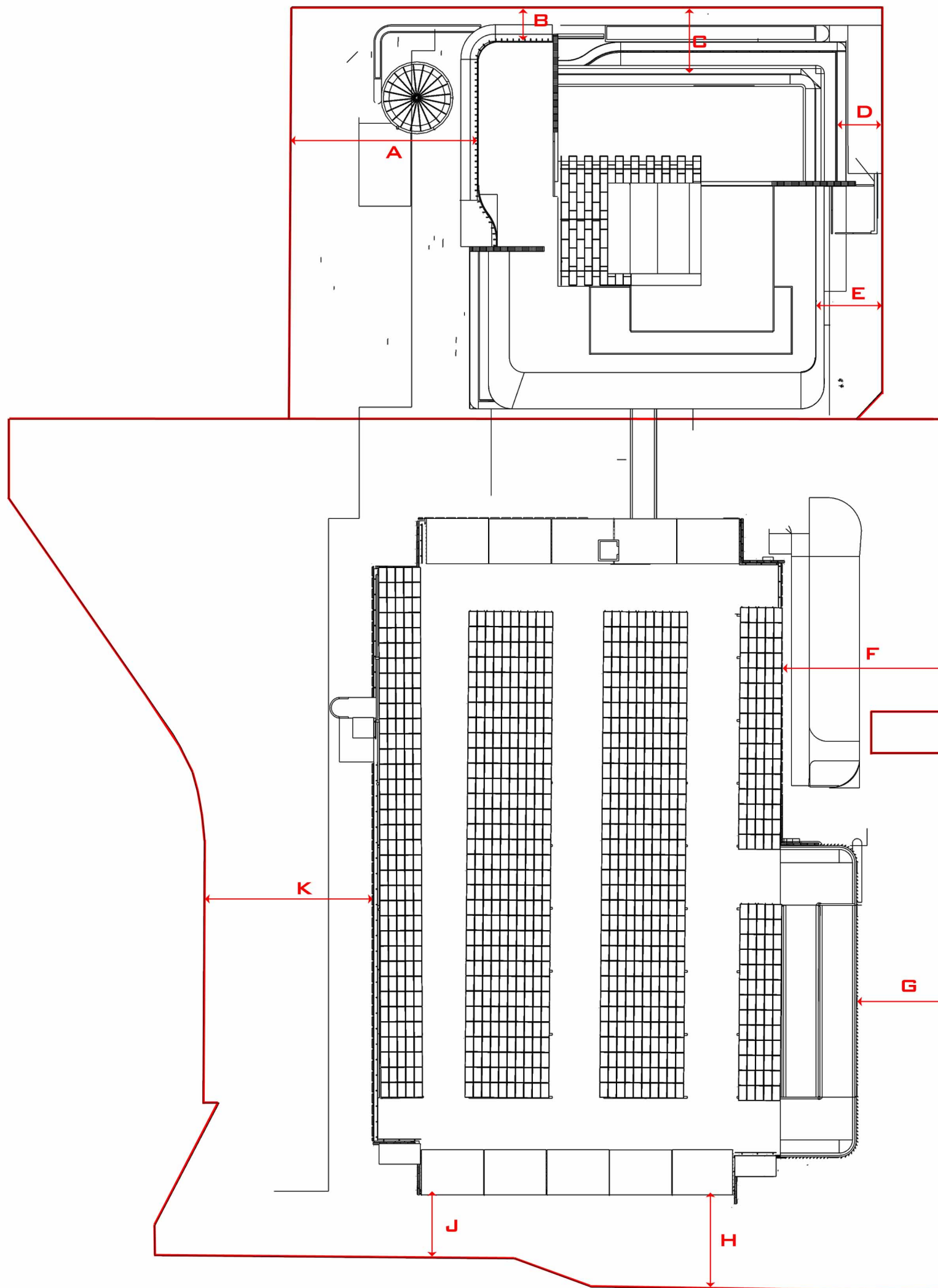
The George St Carpark proposal has retained substantial setbacks of approximately 20m east, 14m south and 23m west, with the intent of;

- maximising natural light and amenity to surrounding properties,
- retaining the vehicle circulation road around the car park perimeter,
- ensuring that access is maintained to the rear driveways of surrounding properties.

A design consideration was made during the planning phase toward having a car park building of lower height which was spread over a greater footprint, however this would have required the perimeter circulation road to be within the building footprint and the building extending closer to the boundaries. The reduced car park height made a minor difference to the height of the building but resulted in a substantial negative impact on neighbour's amenity so was deemed unsuitable, particularly given the mid-block location of the car park being best suited for increased height, as anticipated by the draft Town Centre Master Plan.

### SETBACKS METRES

A.....	24.6
B.....	3.38
C.....	6.92
D.....	6.00
E.....	8.35
F.....	19.78
G.....	10.01
H.....	14.5
J.....	10.4
K.....	23.2



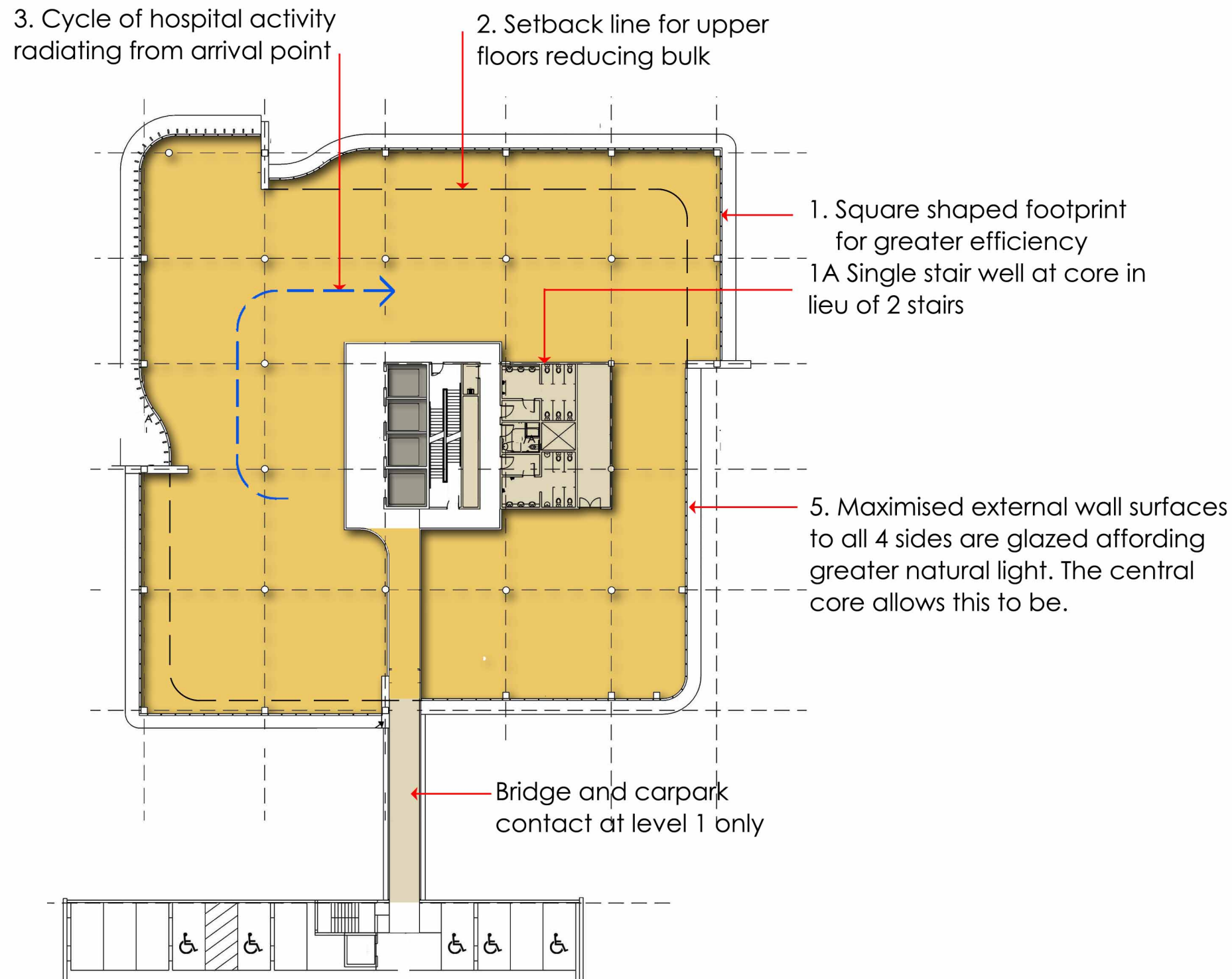


# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

The BIMC footprint of approximately 1,800m<sup>2</sup> and roughly square shape is based on:

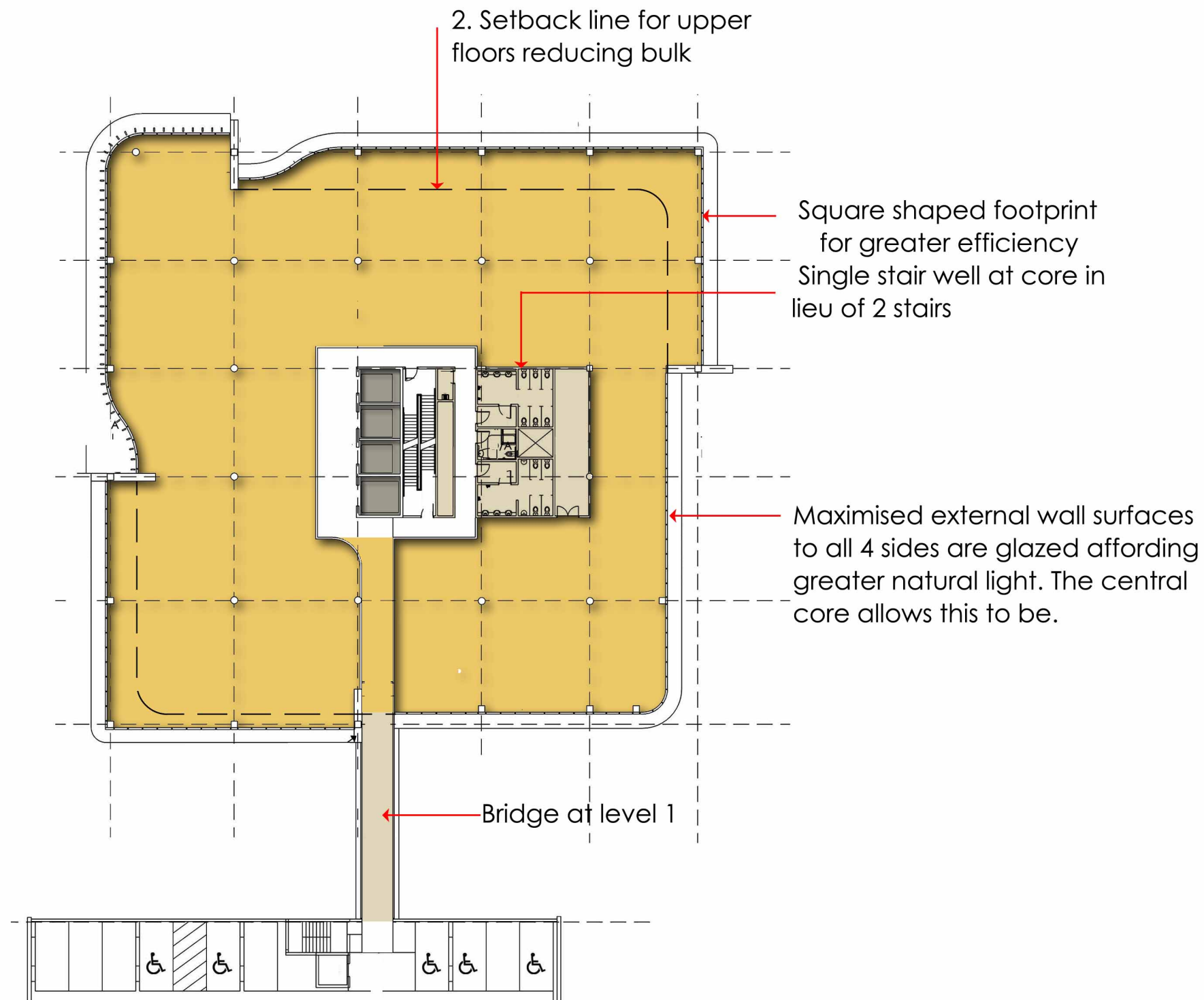
1. Maximising construction efficiency by using a single central fire stair and lift core system, where a larger floor area or a rectangular shape would require a second stair core as the fire escape distances would exceed the National Construction Code regulations.
2. Including reduced floor sizes and greater northern setbacks at levels 4 and 5 to achieve an articulated appearance and reduce bulk when viewed from a pedestrian scale.
3. Optimal layout for the private hospital tenancy. A hospital is best arranged for the spaces to function in a largely 'circular' movement. Patients arrive at a central location via the lifts, progress to a check in and pre-op zone, then to operating theaters, then to first stage recovery, second stage recovery and finally to either check out or to ward rooms. The square shape allows for this efficient patient and staff workflow and avoids the need for lengthy corridors as would exist in a rectangular building form.
4. Providing greater external area to enhance the quality of public green space, as described above.
5. Maximising access to natural light around the building perimeters.
  - a. The building shape allows the consulting rooms, ward rooms and doctor's offices to be on the perimeter with natural light as well as the ability to introduce fresh air. Back of house functions, storage areas, amenities and the like can then be located inward.
  - b. Sufficient natural light is also a building code requirement and a reason why some floors cannot be constructed below ground as has been put forward in some community feedback received.
  - c. The taller building design allows a significantly increased area of facade. While a three storey building of the same total floor area could achieve ~3,000m<sup>2</sup> of facade, the proposed six storey design achieves ~4,400m<sup>2</sup>, an almost 50% increase.





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

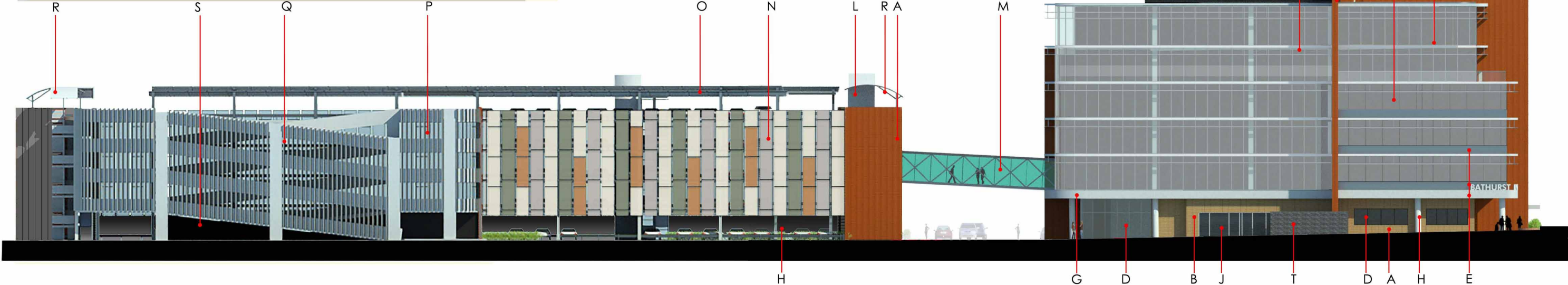


The viability of the project is dictated by achieving efficient construction methodology in order to achieve economic merit. This required efficiency influenced the design in aspects such as;

- The vertical vs flatter configuration allows for building services to be run vertically at the core, to “stacked” plant rooms and amenities located one above the other.
- The smaller ground contact (from vertical design) reduces the number of footings needed under columns.
- The building shape utilises the fire stair and lift core as a single bracing structure at the centre. This reduces the amount of structural concrete wall needed by sharing a common wall between the stair and lifts.
- A more rectangular footprint would require a second fire stair structure, significantly impacting cost as well as spatial efficiency by requiring more corridors to access the second fire stair.
- As an approximately square building, the maximum internal floor area is achieved for the minimum external façade requirement when compared to a rectangular format.



LEGEND	ITEM	SELECTION
A	TERRA COTTA WALL TILES 1	Tonality 300mm wide tile with a single groove; lengths in minimum 600mm units; “Brick Red” colour
B	TERRA COTTA WALL TILES 2	Tonality 300mm wide tile with a single groove; lengths in minimum 600mm units ; “Sand” colour
C	CONCRETE SLAB EDGES	Paint KEIM white 9516
D	GLAZING	Double Glazed aluminium panels. Glass with light green tinge ; frames in powdercoat Dulux Duratec Zeus Grey Satin
E	SPANDREL PANELS	Solid 3mm aluminium panels in powdercoat Dulux Duratec Zeus Grey Satin
F	GLASS BALUSTRADES	Frameless glass panels fixed into concrete with aluminium metal capping. Glass with light blue tinge. Aluminium Powdercoat finish Dulux Duratec Eternity Nickel Pearl
G	GROUND LEVEL SPANDREL/CANOPY	Equitone fibre cement panels cut in faceted sections at curves. Colour; “Natura” N164 (white)
H	CONCRETE COLUMNS	Paint KEIM white 9516
J	LOUVRE SCREENS	Aluminium louvres 100mm deep; Powdercoat finish Dulux Duratec Eternity Nickel Pearl
K	SUN LOUVRES	Steel or aluminium horizontal sections 400mm deep in powdercoat finish Dulux Duratec Zeus Grey Satin
K1	LOUVRES VERTICAL	200 x 50 Aluminium fins offset 150mm from wall. Finish in Ever Art Wood Palette; random distribution 60% Neikiddo-Moku & 40% Oku
L	LIFT TOWER	Concrete walls paint finish KEIM 9486 Grey
M	BRIDGE	Steel trusses in paint finish KEIM 9516; steel framed floors and roof.
N	CARPARK WALL SCREENS	Metal perforated sheet metal with selected penetration of 60% open area. Powdercoat finish with 4 colours distributed as shown Dulux Dune, Anotec Off-white, Pale Eucalupt & Copper Coin Pearl.
O	ROOFDECK SHADE STRUCTURE WITH PV CELLS	Proprietary supplied system with steel columns and joists decked with PV cells
P	RAMP SIDE SCREENS	Vertical independent louvres 300 deep in perfmatal finish by Arcadia. Powdercoat finish 60% Dulux Electro “Fresh Gold Flat” & 40% Dulux Electro “Silver Reign Flat”
Q	CONCRETE COLUMNS AND RAMP SIDES	Paint finish KEIM 9486 grey
R	SHADE STRUCTURE	Steel framed structures with fabric roof in white.
S	UNDER RAMP WALL	Masonry walls in paint finish KEIM 9541 black
T	BRICK SCREEN WALL	Face brick wall; Austral Everyday Life “Red Brick”.
U	SIGNAGE	Selected signage locations in designed panels and 3D letters
V	ROOFTOP PERGOLA	Aluminium beams in Aliwood finish “Snowgum”
X	CAFÉ PARASOL	Timber ribs radiating; glass roof



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

Another important material is terracotta tiling. This is a high quality material made from red clay, similar to the red face brickwork prevalent in Bathurst. Features of this selection are:

- It is a precise and industrially crafted material which has been used extensively throughout the world. The current selection comes in a 200 or 300 mm high x 1200-1800mm long size.
- Because of its scale, it is a more sympathetic material than a normal face brick.
- 2 colours have been selected; red brick colour for the vertical blades and a sand colour for the ground floor solid walls. The diversity of this selection will assist in the proper scalar presentation of the building.
- It is consistent with Bathurst’s health infrastructure, being used at the Bathurst Health Services adjacent to significant heritage buildings.

The building is a concrete framed building which includes columns and floor slabs. This material provides good solidity, fire protection and good sound insulation. The slabs will project past the glass and have a paint finish.

The carpark building is also a concrete framed building. The walls are in perforated metal sheeting. This allows for

- good natural ventilation thru the perforations. A minimum degree of natural ventilation is required for the extraction of car exhaust
- visual penetration. It will be possible to discern the outer environment from within through the perforations thereby giving users openness and transparency.
- Safety protection on all levels to prevent falls. The roof deck area has a balustrade height as required by the BCA.

### MATERIALITY

As previously mentioned, the material selections have been an important part of the design process and produced in consultation with Bathurst Regional Council and staff. These materials have been selected and developed on the basis of functional necessity and locality integration.

Each elevation takes on a different treatment to react most appropriately to the climatic conditions of that elevation.

The most prevalent material is glass. This is a necessary inclusion because of the need for natural light within the building.

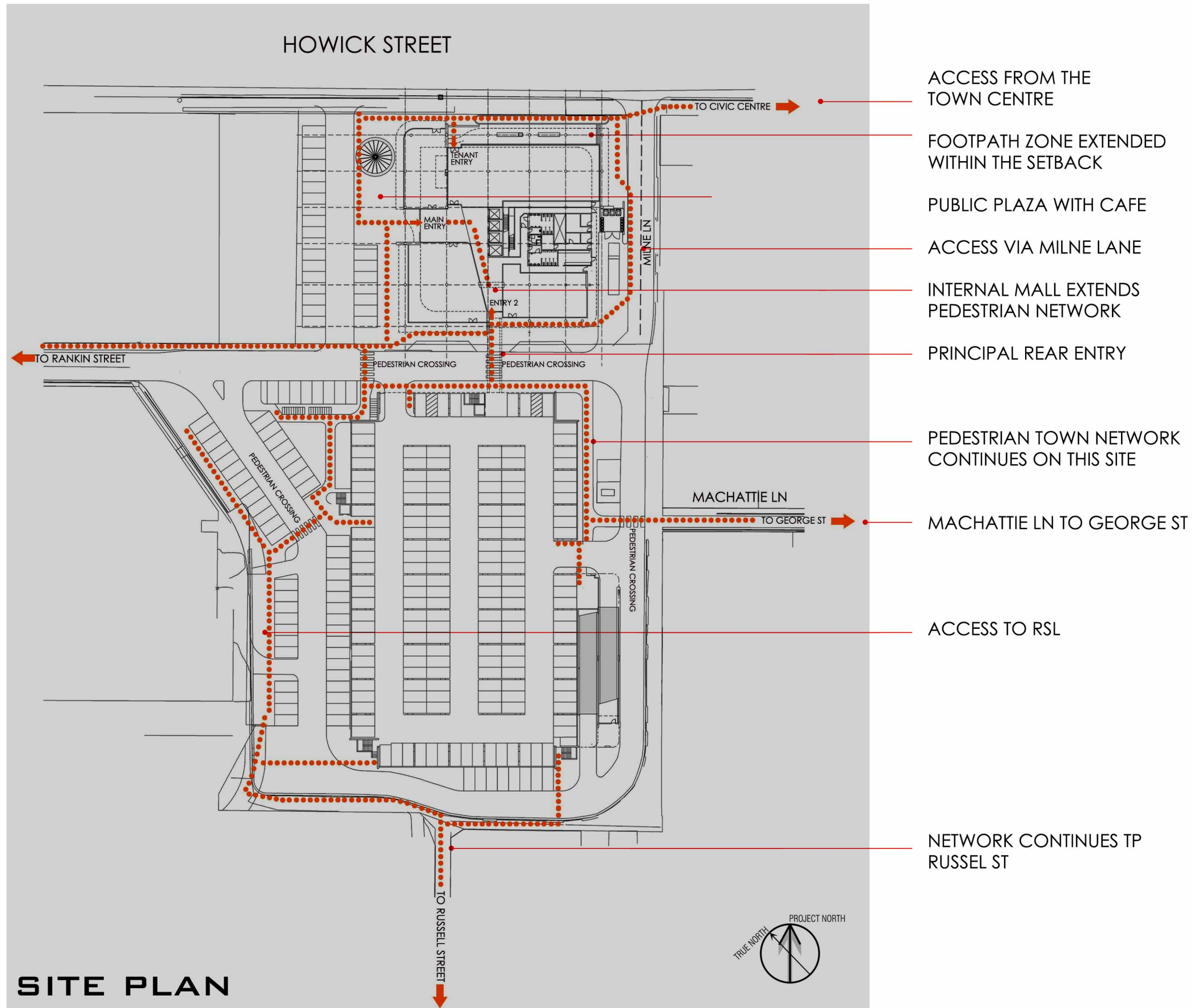
Important aspects of the glass facades are:

- All glass panels are double glazed so as to provide appropriate insulation as well as acoustic protection. This is a high quality, high cost material.
- It is framed in aluminium powdercoat finish coloured in the bronze/silver range.
- On the relevant elevations, sun protection elements are included. These take the form of either vertical or horizontal louvres. These louvres are in aluminium. The vertical louvres will be finished in a timber look to appear as wood and not metal.
- Concrete slabs also project beyond the glass line. This affords a means of cleaning the glass and also fire separates each floor. These also provide positive shading as passive climate control.
- Some glass is floor to ceiling while others are spandrel height (0.6m to 1m) to ceiling, thereby creating contrast and diversity.



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT



### PEDESTRIAN NETWORK

The overall site environment and experience for pedestrian traffic is a key consideration of the project. As indicated by the Council's TCMP, the Clancy and George St car park site has been envisioned as a potential gathering space for people to meet on their way between surrounding businesses.

The project team have given serious consideration to this and in consultation with Council have included important sight lines and connectivity points through the site for creation of a pedestrian promenade landscape. Key pedestrian locations include the Machattie Lane entry at the south, the future podium space from Howick St on the north of the BIMC site and the RSL entry point at the south side of that premises. To this end, the landscape is designed with a naturally winding pathway that connects these three key locations. This promenade pathway:

- Will be well lit by streetlights throughout,
- Can include provision for CCTV if desired by Council as part of any existing streetscape CCTV systems.
- Can include water points such as a bubbler/bottle refill station if desired by Council,
- Will be physically separated from vehicle circulation pathways, with pedestrian crossings where required,
- Will include resting points with seating and benches at locations selected for the best sight lines to the surrounding streetscape,
- Will have tree cover for shade as well as low planting in garden beds for green softening,

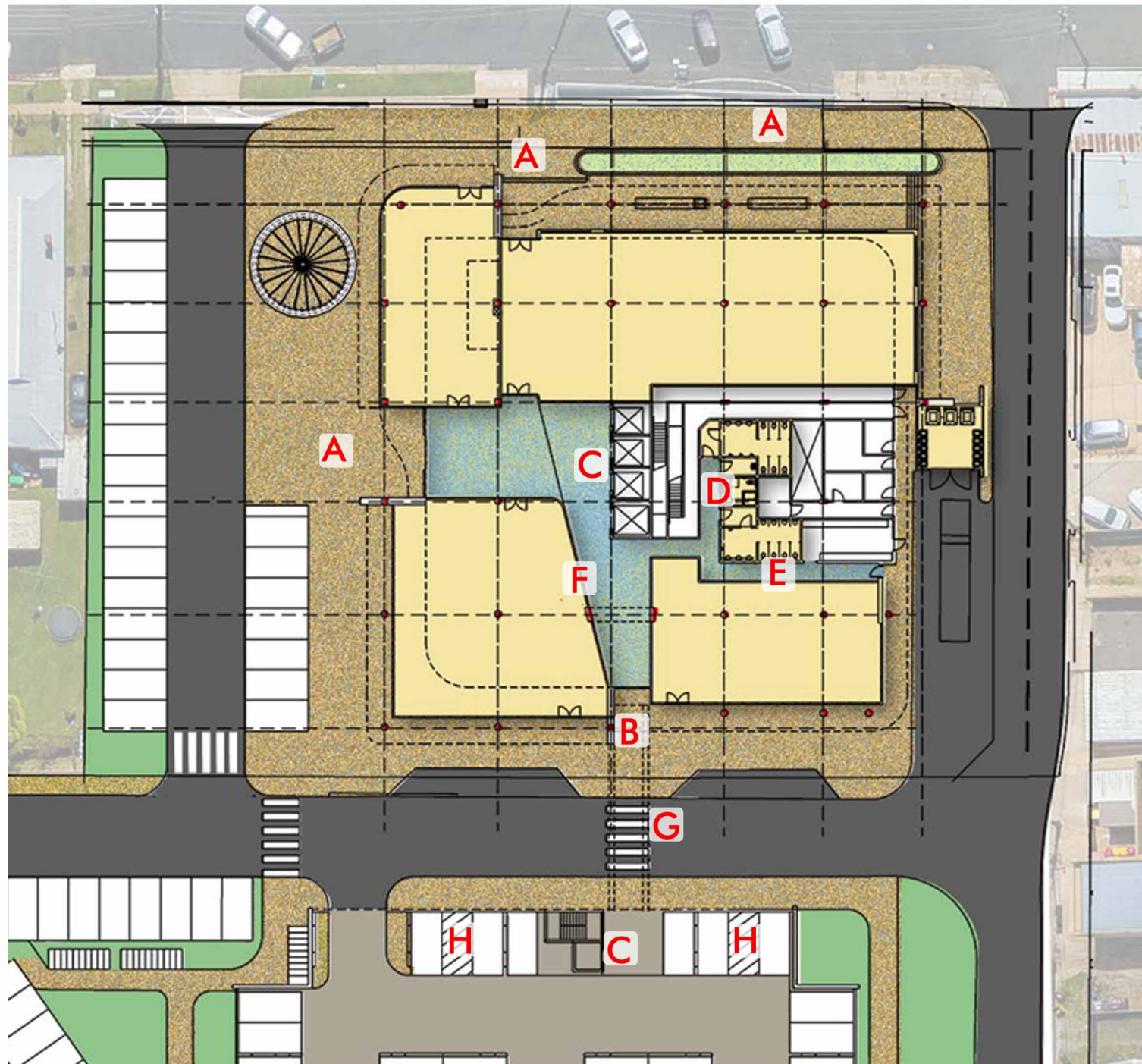
As the pedestrian pathways through the site are of critical importance to the ultimate success of the project for the community, these will undergo further careful consideration alongside Council at the detail design stages of the project.

**SITE PLAN**

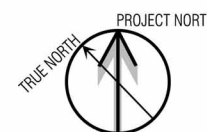


# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT



GROUND FLOOR PLAN



### ACCESSIBILITY

Apart from the regulatory requirements of the Accessibility Standards, the BIMC must be especially sensitive to these needs. Naturally all requirements will be met and, in some cases, exceeded. Some of these features include:

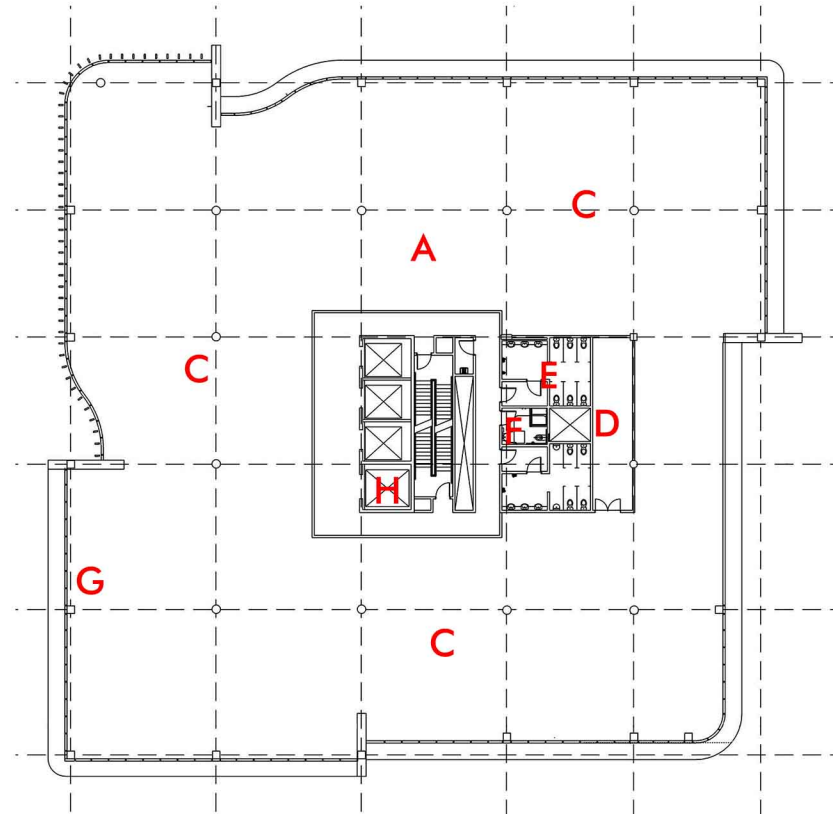
- A. The main entry off the plaza is flat ground and accessible to wheelchair users
- B. The rear entry off the carpark is flat ground and accessible to wheelchair users.
- C. Lifts service every habitable space in the development including the carpark. Ramps are not required.
- D. Accessible facilities in accordance with AS 1428 are located on every floor of the BIMC.
- E. Corridor widths are over minimum size allowing for wheelchairs to pass each other
- F. Signage is to be made clear and legible to facilitate way-finding.
- G. A bridge links the carpark to the BIMC to facilitate access to the medical suites. The slope of the ramp is 1:20, flatter than the minimum 1:14 requirement.
- H. Accessible parking spaces are well distributed and well marked near lifts.

In summary everything has been done to make accessible travel within the precinct equal to the fully-abled people.

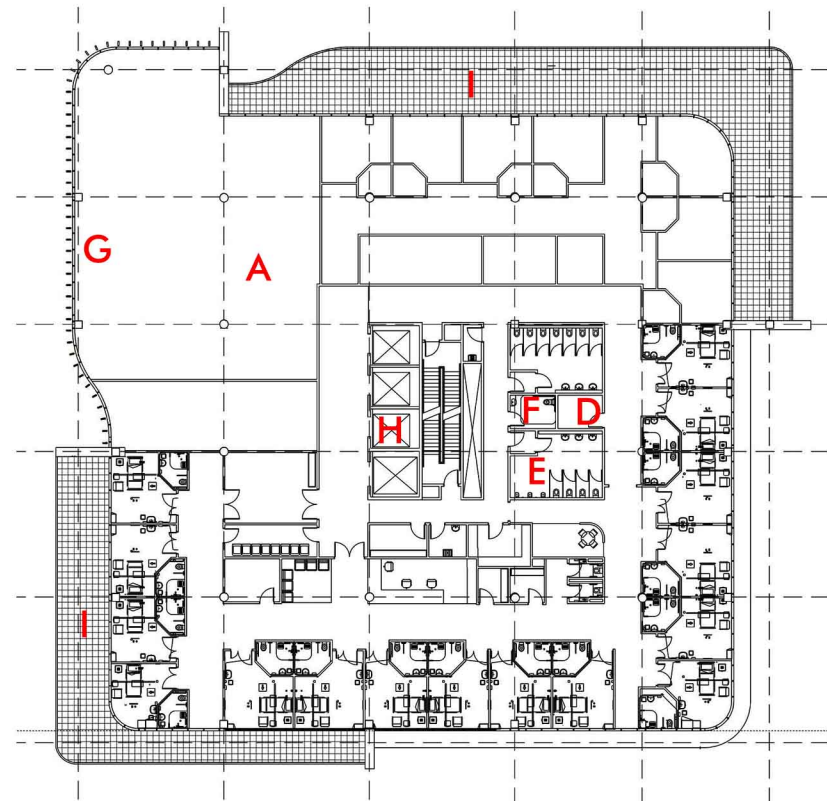


# BATHURST INTEGRATED MEDICAL CENTRE

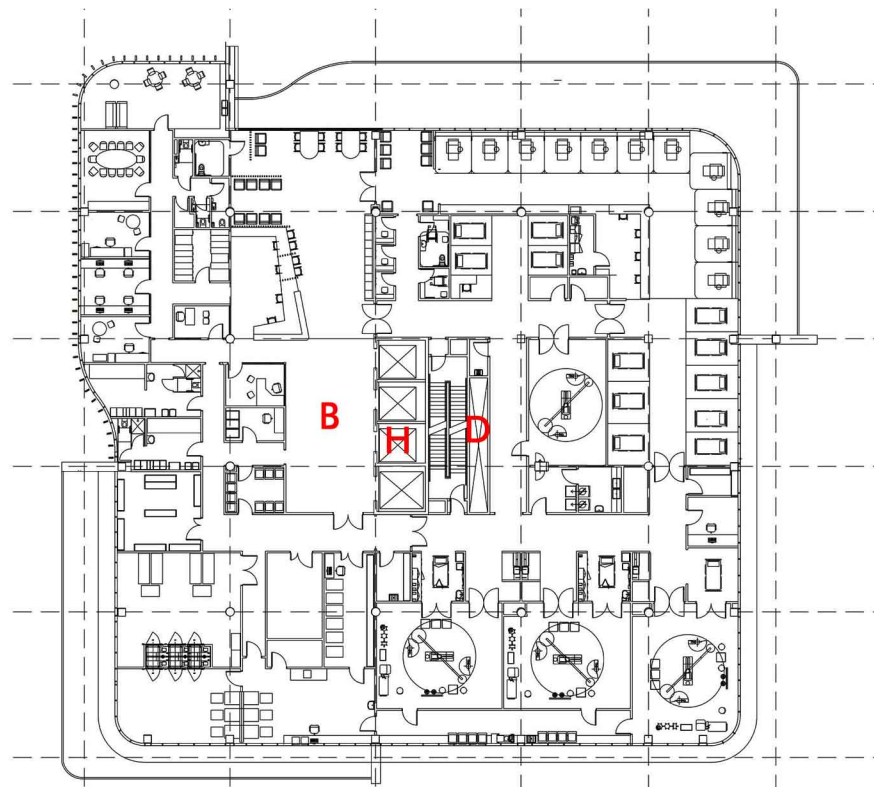
## ENVIRONMENTAL ASSESSMENT



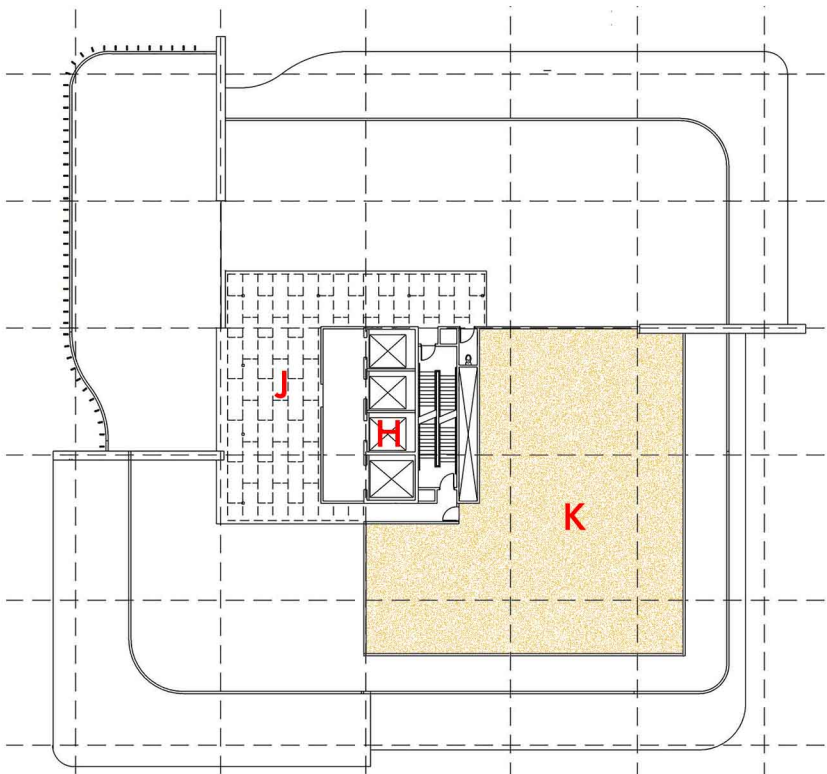
TYPICAL FLOOR



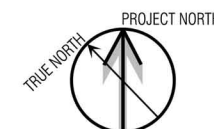
LEVEL 4 PRIVATE HOSPITAL



LEVEL 5 PRIVATE HOSPITAL



ROOF



### SPATIAL QUALITY

The proposed BIMC will be a very comfortable and well-appointed high-tech environment offering comfort, ease of access, generous facilities and fully complying with the highest Australian Standards. The various levels shown here will have the following features:

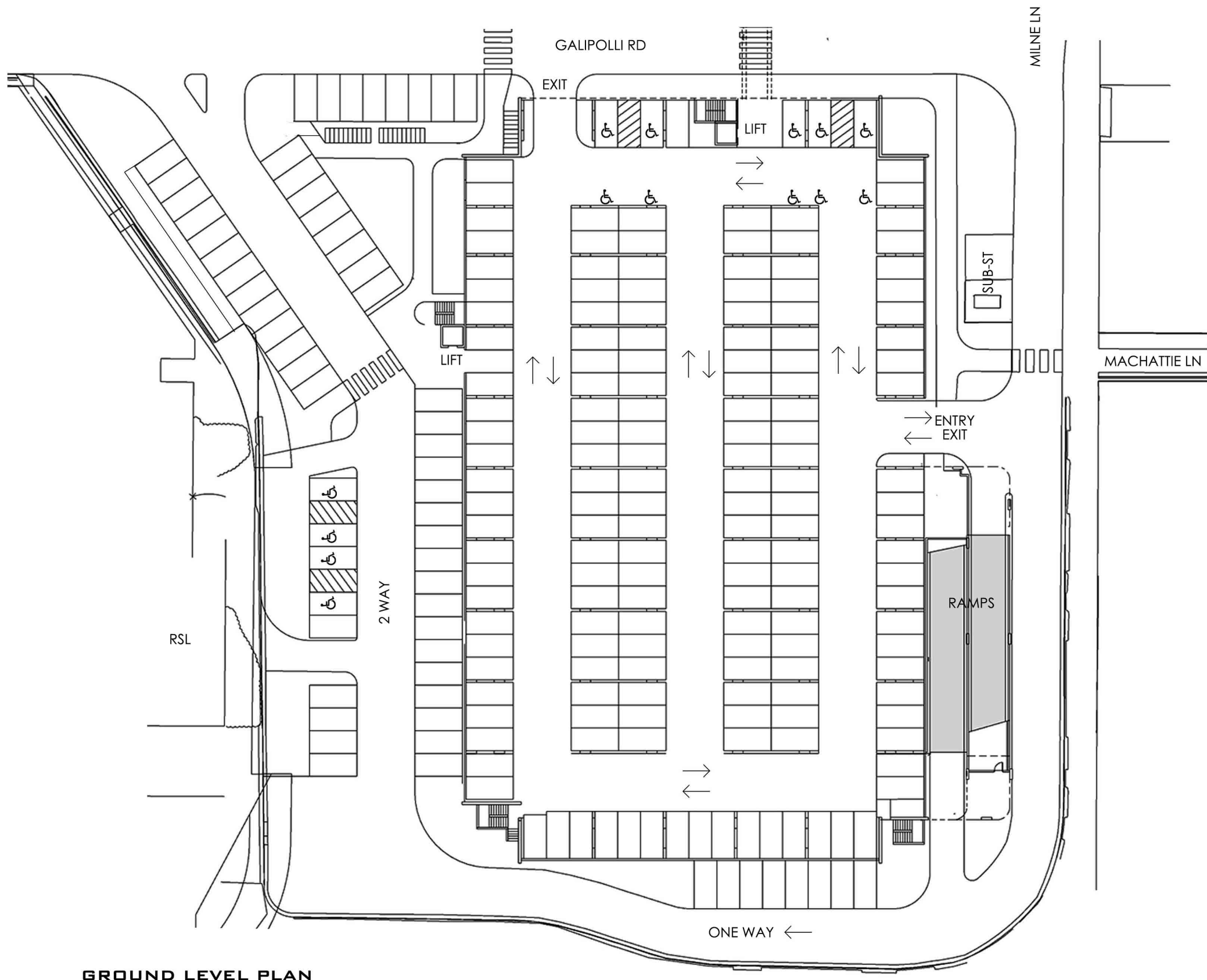
- A. A floor-to-floor height of 3.6m with ceilings generally at 2.7m throughout the building
- B. A floor-to-floor height of 4.2m with ceilings generally at 3.0m for the private hospital.
- C. Low distances to natural light, with maximum at 15.5m, resulting in good distribution of natural light
- D. A central core which results in minimal travel to any destination
- E. Centrally located facilities which are generous and well designed
- F. Accessible facilities including a shower on every level
- G. Climate control measures to all glazed external walls thereby minimizing glare and heat load
- H. High speed and generous lifts allowing for rapid access and low waiting times.
- I. Balconies provide a good setback to the upper levels and also outdoor recreational areas for tenants
- J. Patio area on roof level with pergola and landscaping for all building tenants
- K. Plant room for the building with air conditioning, power and water equipment, all well shielded and screened for visual privacy.

In summary, the BIMC is a facility that could be held at the highest standards, anywhere.



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT



GROUND LEVEL PLAN

### GEORGE ST CARPARK

The existing George St carpark contains approximately 320 car spaces on grade and available to the public. Critical to the success of the project is to maintain this number of available spaces for the public as well as to provide new and additional spaces for the public, RSL patrons and BIMC patrons.

The final car space numbers per floor are targeting approximately 250 cars at ground level and 165 cars per suspended level. The total number targeted is approximately 915 cars. The design also provisions for additional floors to be added in future subject to owners wishes. The design and construction will also provision for future addition of elements such as vehicle counting systems and electric vehicle chargers.

The break up of car spaces is:

- Ground floor under cover = 163
- Ground floor outdoor = 89
- Level 1 = 166
- Level 2 = 165
- Level 3 = 166
- Level 4/R = 166



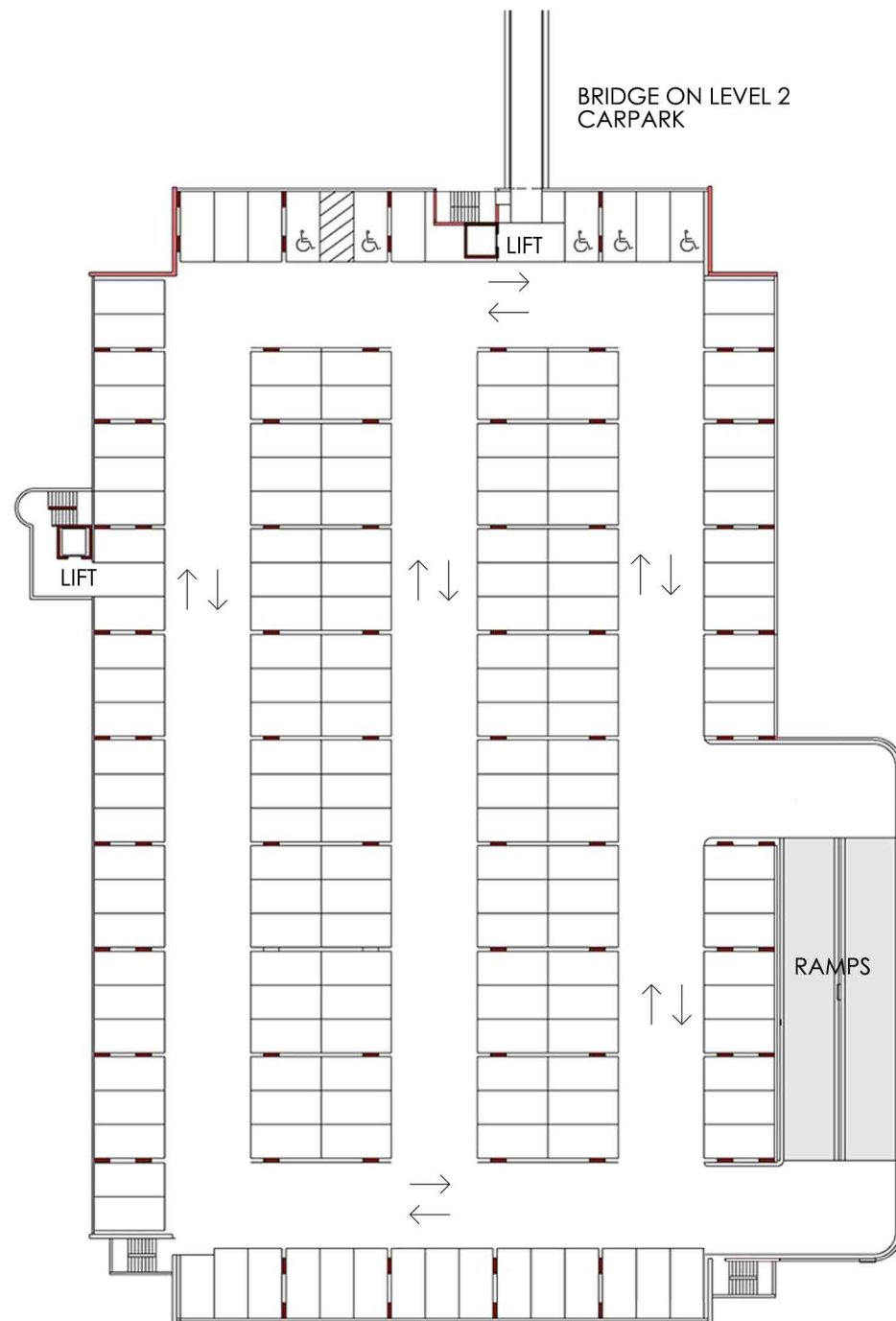
# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

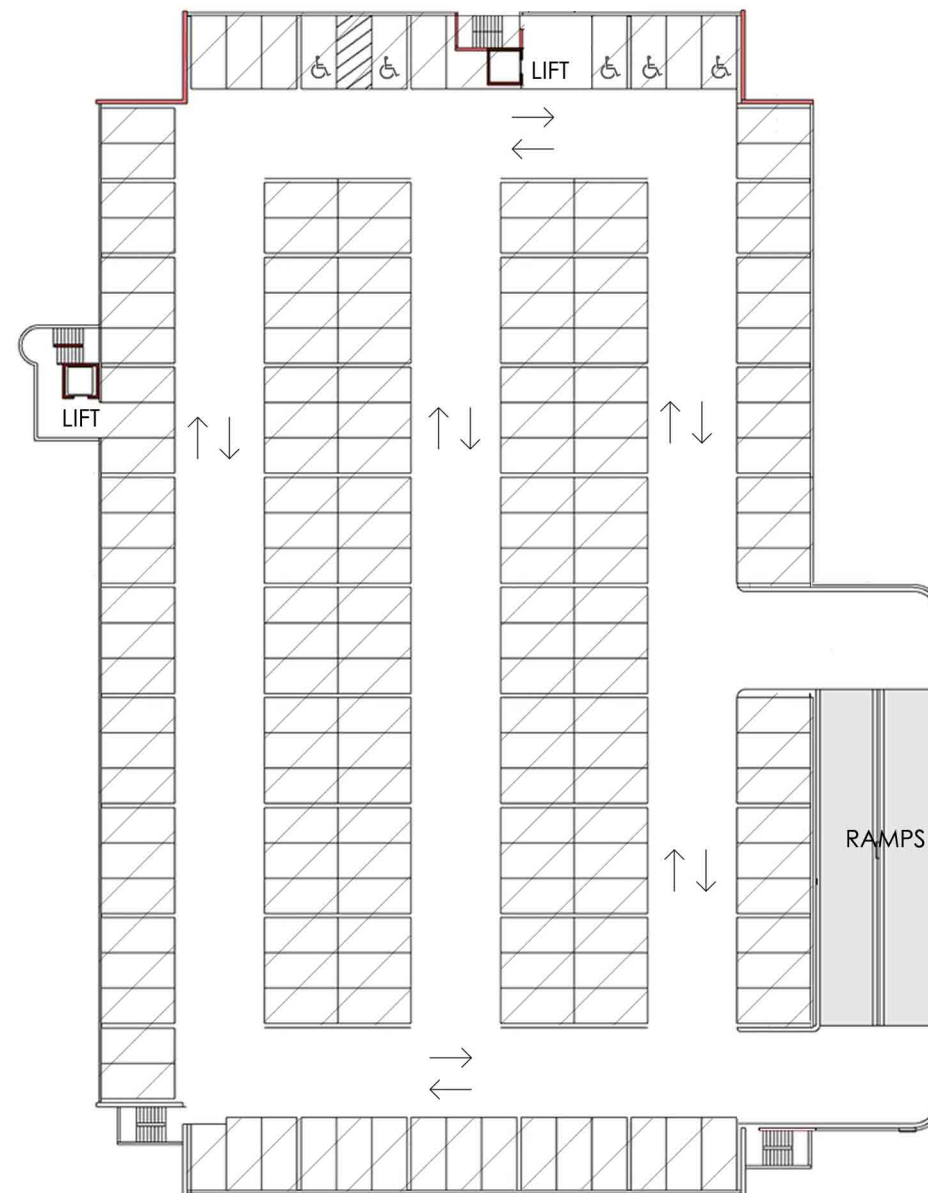
All floors of the GSC will be serviced by a minimum of two lifts and multiple stairwells to ensure patron's easy access and egress. Vehicle ramps and pathways are designed to minimise cross-traffic, utilising one way up and one way down directional movement. Individual car spaces will be large sizes for the ease of parking and vehicle circulation.

Electric vehicle chargers and bicycle parking will be provided to encourage the use of low environmental impact travel and to future proof the site for evolving vehicle technologies. To assist in the charging of vehicles, as well as powering the site, a future solar generating rooftop structure can be provided to the full top floor carpark, with the added benefit of shading cars. At level two a pedestrian footbridge connection will be made to the BIMC building, allowing patients and staff to access directly from the carpark and out of the weather.

In the interests of minimising impacts during construction, a modular construction methodology will be considered, allowing for materials and sections to be manufactured off site and minimising the onsite construction period. Furthermore, the development syndicate will work with Council on short term re-allocation solutions so that as many car spaces can be available in the vicinity during construction. This may include the construction of temporary parking on the Clancy site while the new carpark is built.



LEVELS, 1,2,3 FLOOR PLAN



ROOF PLAN





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

RANKIN STREET

HOWICK STREET

GEORGE STREET

RUSSELL STREET

### 9 AM SHADOWS

Actual Shadows cast by building

Existing allowable shadow at boundaries at 12m height limit

Potential shadows at boundaries with proposed 29m & 21m height limits

#### SHADOWS

Inevitably, structures of the scale of the BIMC and the GSC will cast significant shadows in winter time. The attached diagram indicates the greatest extent of shadowing during the year on the winter solstice, when the sun is at its lowest point. The extent of this overshadowing is as follows:

- 9 AM. Commercial premises (about 5) facing Russel St will be affected at the rear of their properties, mainly garaging and servicing areas. This does not appear to affect lifestyle or amenity of the commercial users
- 12 NOON. Commercial premises (about 10) facing George St will be affected at the rear of their properties, mainly garaging and servicing areas. This does not appear to affect lifestyle or amenity of the commercial users and the incursion is minor
- 3 PM. Commercial premises (about 10) facing George St will be affected at the rear of their properties, to a greater extent than at noon of course but still mainly garaging and servicing areas. This does not appear to affect lifestyle or amenity of the commercial
- The placement of the GSC was carefully considered to achieve maximum setbacks from neighbouring properties and maximum light exposure while still achieving the design brief of over 900 cars

.../over





# BATHURST INTEGRATED MEDICAL CENTRE

ENVIRONMENTAL ASSESSMENT

RANKIN STREET

HOWICK STREET

GEORGE STREET

RUSSELL STREET

## 10 AM SHADOWS

Actual Shadows cast by building

Existing allowable shadow at boundaries at 12m height limit

Potential shadows at boundaries with proposed 29m & 21m height limits

It is notable from the comparison of the actual proposed shadows (red line) to the existing allowable shadows using the 12m height limitation (blue line), that the additional encroachment of shadows cast by these new buildings through the course of the day on the winter solstice is almost nil before 1pm and from 2pm to 3pm is only marginally greater than the existing limitation. By virtue of the designed building setbacks, the shadowing created is therefore kept to a minimum and does not extend anywhere near as far as the potential shadow cast by an imagined wall at the new height limits at the boundaries.

In conclusion, we consider the effects of the shadows to be minor and not affecting the local amenity in any significant way, especially as residential properties are not affected.



**zauner**  
construction



**EXISTING CONDITIONS**  
Shadows 10am D5

LEFFLER SIMES ARCHITECTS



# BATHURST INTEGRATED MEDICAL CENTRE

ENVIRONMENTAL ASSESSMENT

RANKIN STREET

HOWICK STREET

GEORGE STREET

RUSSELL STREET

## 11 AM SHADOWS

Actual Shadows cast by building

Existing allowable shadow  
at boundaries at 12m height limit

Potential shadows at boundaries with  
proposed 29m & 21m height limits



**zauner**  
construction



**EXISTING CONDITIONS**  
Shadows 11am D6

LEFFLER SIMES ARCHITECTS



# BATHURST INTEGRATED MEDICAL CENTRE

ENVIRONMENTAL ASSESSMENT

RANKIN STREET

HOWICK STREET

GEORGE STREET

RUSSELL STREET

## 12 PM SHADOWS

Actual Shadows cast by building

Existing allowable shadow at boundaries at 12m height limit

Potential shadows at boundaries with proposed 29m & 21m height limits





# BATHURST INTEGRATED MEDICAL CENTRE

ENVIRONMENTAL ASSESSMENT

RANKIN STREET

HOWICK STREET

GEORGE STREET

RUSSELL STREET

## 1 PM SHADOWS

Actual Shadows cast by building

Existing allowable shadow at boundaries at 12m height limit

Potential shadows at boundaries with proposed 29m & 21m height limits



**zauner**  
construction



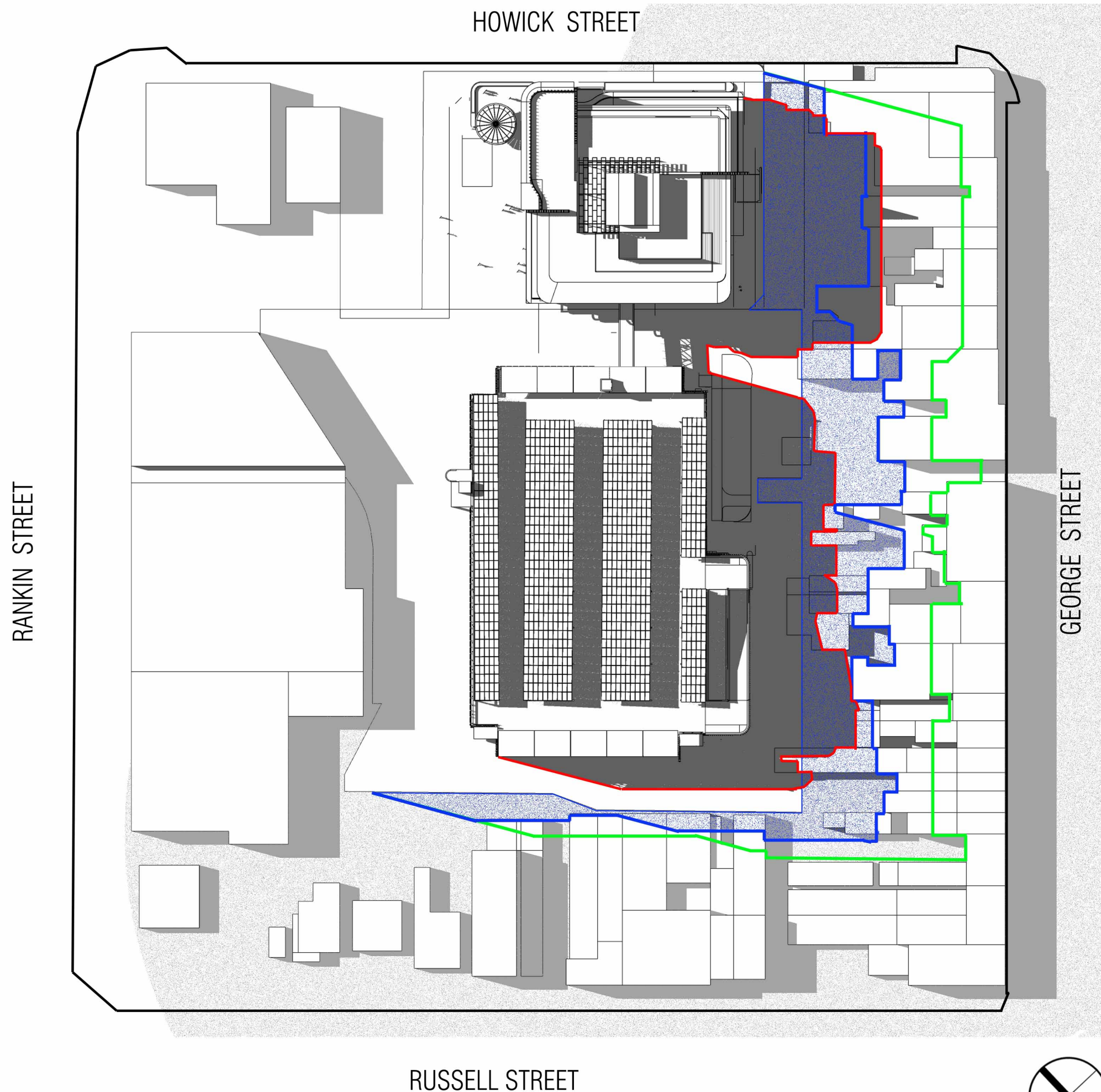
**EXISTING CONDITIONS**  
Shadows 1pm D8

LEFFLER SIMES ARCHITECTS



# BATHURST INTEGRATED MEDICAL CENTRE

ENVIRONMENTAL ASSESSMENT



**2 PM SHADOWS**  
Actual Shadows cast by building

Existing allowable shadow  
at boundaries at 12m height limit

Potential shadows at boundaries with  
proposed 29m & 21m height limits



**zauner**  
construction



**EXISTING CONDITIONS**  
Shadows 2pm D9

LEFFLER SIMES ARCHITECTS



# BATHURST INTEGRATED MEDICAL CENTRE

ENVIRONMENTAL ASSESSMENT







EXISTING



PROPOSED



PROPOSED HT LIMITS

VIEW 1

# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### VISUAL IMPACT

It is important to consider the effect of a building of this size on the immediate environment. The BIMC will face Howick St but will occupy , together with the George Street Carpark (GSC) a large block of land to the south, currently used as a surface carpark.

While the effect of the building at its façade on Howick St is fairly evident, how will a building of this scale impact the surrounding areas? From where in town will this building be seen and have an effect?

We have prepared photomontages which estimate, to a fair degree of accuracy, the actual visual presentation from these.

- **View 1** is taken from Howick St in the main shopping strip and adjoining the Presbyterian Church and the Australia Post building. The BIMC is downhill from here and fairly distant. It provides, in our opinion, a positive bookend closure to the precinct, especially with the red clay terracotta wall which is a dominant element of the building. It is not overbearing, does not cast vast shadows on useable areas and is an attractive modern building.

The position of the BIMC maintains and improves the existing view lines from Howick Street to the centre block of George Street, rather than creating a visual blockage by constructing the medical centre over a wider extent of the Howick St frontage. This view line provides visual softening of both new buildings by the landscaped promenade and the green space at the northern part of the car park site. This provides a continuous soft landscaped pathway connection to the key pedestrian movement points of Howick, Machattie and the RSL Club. As well as external landscaped view lines, the proposed height of the BIMC will create the opportunity for new views of the Bathurst landscape from within the building. The building design and views (as well as synergies of co-location of medical practitioners) serve to assist in the attraction and retention of medical specialists for Bathurst.





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

- **View 2** is taken from King's Parade adjacent to George St. While it does surpass the existing roof line of the 2 storied shops, it is not overbearing. In fact it could be seen as a variety in the roof scape providing a slight offset and thereby creating interest. Note that the red clay element is visible from here and is again a major element.



**VIEW 2**





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT



EXISTING

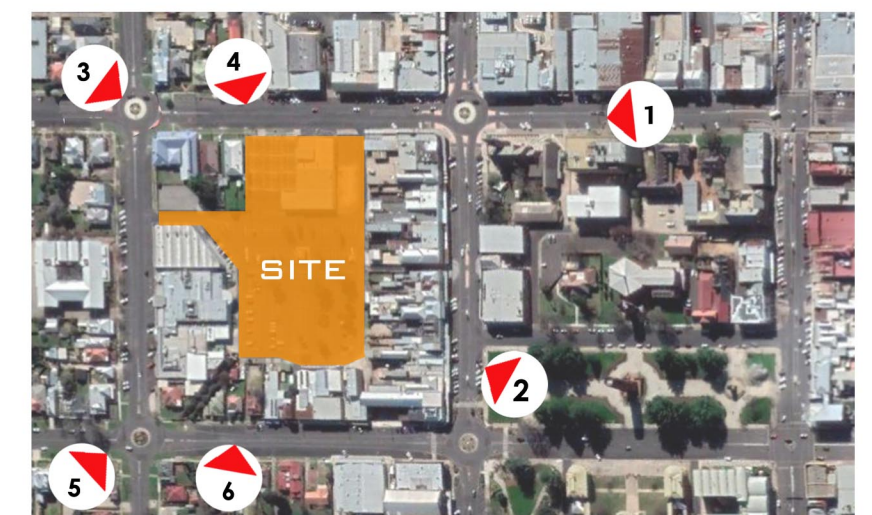


PROPOSED



PROPOSED HT LIMITS  
VIEW 3

- **View 3** is taken from the west on Rankin Street. This view shows that both BIMC and GSC will be visible from here. We would suggest that the town centre precinct has now grown and has been extended west. We would further argue that the new structure is not unattractive and is highly symbolic of the growth of Bathurst as a major centre.
- Note that photomontages are representative of existing conditions for accuracy, however it is considered that additional street trees or similar landscape treatments could be used in ameliorating the visual presence of the development. Trees have been shown in realistic locations to show their effect.





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

Viewed from the northern side of Howick Street, the BIMC provides a blend from the traditional to the new, providing an architectural statement representative of Bathurst's history and it's future. The carefully thought out terraced design of the upper floors and the verticality of the terracotta blade walls provides visual interest while minimising impact on the streetscape. The new buildings will provide an extension of the CBD westward into Howick St, and the proposed landscaping will also have a strong positive impact that will modulate the impact of the building. The glass and terracotta contrast will also add a positive and attractive structure to Bathurst.

The ground floor elevations are enhanced by shopfront window treatments inset into the terracotta walls. The combination of inset windows and defined framing creates a subtle texture through recesses and shadow lines and a visual connectivity to the adjacent shopfronts on Howick St.

EXISTING

PROPOSED



PROPOSED HT LIMITS  
VIEW 4

29m ht.

12m ht. extg.

21m ht.



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

Viewed from Rankin and Russell corner, the proposed buildings have a low impact. Although a long structure, the height lines are marginally above the residential parapet lines and very close to the commercial RSL buildings. The skyline stepping pattern is not unattractive. It provides a visual interest and also announces the edge of a CBD structure. Street trees also provide partial screening. The majority of the GSC volume does not exceed the existing 12 metre height limit; only the shade structures and lift towers are above this height line. The overall impact is minimal.



EXISTING



PROPOSED



PROPOSED HT. LIMITS  
VIEW 5





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

The view from Russell St provides a backdrop to the existing mainly red brick façade. The general massing effect is minimal, in that the GSC height line coincides well with the street's parapet line. The coloured perforated metal screen also provides a pleasing contrast to the street historical brickwork. The BIMC is a good distance to the north and does not have a significant impact on the street urban character. Glimpses of the terracotta coloured screens come through and provide integration and fit within the city fabric. As the eye moves up Russell Street towards George Street, the parapet line of the existing houses are higher and block the views of the GSC.

EXISTING



PROPOSED



PROPOSED HEIGHT LIMITS

VIEW 6





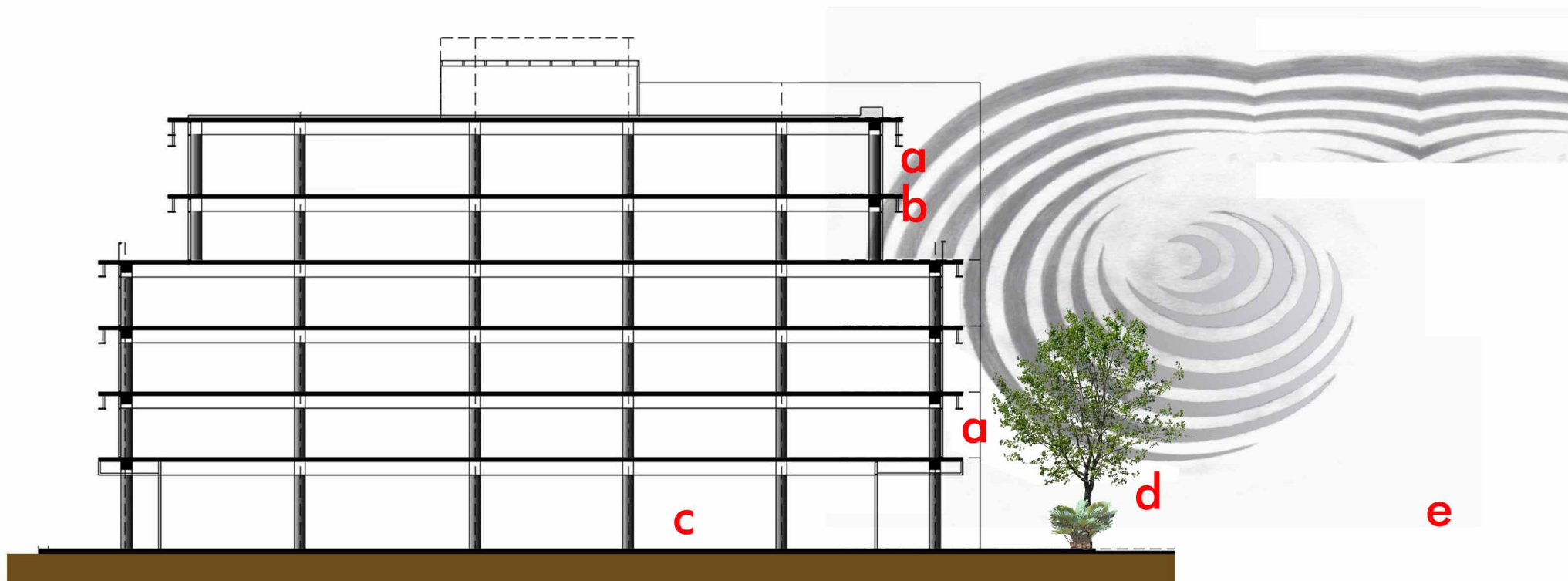
# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### WIND IMPACT

There are three main wind effects created by buildings: Downwashing, channeling, and corner acceleration. A brief summary of these effects are as follows:

- A. **Downwashing;** The downwash effect happens when there is a tall building surrounded by lowzmer buildings. The tall building captures the wind at higher levels and then redirects it towards the ground, causing a three-dimensional flow moving downwards. In turn, this effect often creates a large recirculation at the ground level, causing greater wind activity.
- B. **Channeling** (also known as Venturi) effect happens when buildings are located in close proximity to one another. The effect is perpetuated by a reduction of wind pressure, resulting in wind acceleration through the tight channel created between the buildings. This effect can create high winds that can even be unsafe for pedestrians
- C. **Corner acceleration** happens when the wind reaches the vertical edge of a tall building. This effect is mainly created from sharp building shapes, causing acceleration around the corners. These corners of tall buildings are the regions that can create the highest discomfort in a built environment
- D. **Conclusions & Remedies**
  - a. *The walls are not sheer glazed surfaces. There are horizontal louvres, concrete overhangs and balconies that will break down the vertical wind vortex.*
  - b. *The upper floor building setback mitigates the wind movement from the higher levels down to the ground.*
  - c. *Entries are away from corners thus avoiding corner acceleration*
  - d. *The extensive landscaping and especially major trees will greatly assist in breaking down wind motion.*
  - e. *As a stand alone building with much open space around it, the amount of generated wind will be minimal*





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

**BETTER PLACED** is a strategic document developed by the NSW Government in collaboration with the Government Architect to ensure that while cities grow, they also grow better. Seven principles have been developed to specifically address the important design issues. This would ensure that architectural aspirations are met for the benefit of both the stakeholders and the public. The proposed development of the BIMC and GSC addresses the principles outlined in 'Better Placed' as detailed below.

- **BETTER FIT.** The BIMC can effectively adapt to the existing physical environment of the Bathurst CBD. The massing of the building follows the existing urban fabric of a building addressing the main street. It relates strongly to the heritage character of the Bathurst historical town square to its east side. The sympathetic materials, the articulated form and the comparable scale of some of the buildings places the BIMC as a building that integrates harmoniously with the existing fabric. The BIMC will sit at the fringe of one of the main blocks within the CBD and book-end the existing assembly of buildings in historic Bathurst. Further, the BIMC will make a significant contribution to the growth pattern that it will generate. The proposals' scale, materials and modernity are a strong guide to future development in the precinct. The well-proportioned architectural features of this building will contribute to the developing character of Bathurst.

- **BETTER PERFORMANCE.** The BIMC is a large and significant proposal in the Bathurst context. It will meet a significant demand in the locality for health services, encompassing substantial infrastructure and materiality. Also included in the proposal is a multi storey carpark to be located on an existing surface carpark. This has been identified as a vital component in the projected success of the development. The vehicular infrastructure will also assist existing facilities surrounding the site and within the broader CBD. The carpark will have a direct pedestrian bridge link on Level 1 with the medical facility building, thus reducing the travel distance and lift activity needed as the bridge is accessible by stairs. Further energy saving aspects include:

- Significant natural light to all activities within BIMC thereby enhancing the quality of lifestyle & professional activity within.
- Double glazing throughout, providing good thermal performance & acoustic insulation.
- Solar metal louvre protection to all glazing, thereby providing reduced heat loads and glare to the working environment. This also reduces the load of mechanical climate control which must be provided in such a specialised setting.
- Roof mounted PV cells which generate energy for the building directly without placing over loads on the grid.
- Materials that are in keeping with the heritage character of Bathurst, particularly the terracotta red clay tiles which echo the red brick hues in the town, in a contemporary way.

- **BETTER FOR COMMUNITY.** The BIMC precinct will be a significant landmark and service for the community and will attract a good deal of activity. Access will be via public transport, vehicles, cycling and pedestrian. All these means of travel have been considered and catered for within the proposal. The provision of attractive outdoor spaces, which are non-existent in the locality at the moment, will further enhance the attractive nature of this locality. Significant features include:
  - A good degree of movement within the landscaped areas and internal public spaces on different levels
  - The retail facilities on the ground floor will provide a counterpoint to the health activities on the upper levels. The café and shop, potentially a pharmacy, will be attractions in themselves. The café will provide for a very desirable outdoor dining area facing north.
  - The total activities will generate the need for substantial employment in professional and supporting fields.
  - The Bathurst pedestrian network has been carefully considered and incorporated within this proposal. Pedestrian travel from the eastern and southern town squares have been connected to the BIMC. This will be a positive contribution to the network as it passes through areas protected from vehicular traffic.
  - The introduction of new publicly accessible green areas will also add to the attractiveness of the enlarged locality
- **BETTER FOR PEOPLE.** The BIMC has been designed on the basis of human activity and needs. The operations, movements, activity spaces and infrastructure have formed the design direction that have led to this design. A variety of climatic experiences are included within the design. People can choose from outdoor space, sheltered spaces or indoor areas to enjoy their experience within the complex. The public spaces will provide quality fittings and furniture such as seating, lighting, water provision and rich landscaping. The internal spaces are also designed for the best human comfort. Thermal comfort is a high priority with state-of-the-art energy efficient mechanical systems. Acoustic comfort is also provided with designed insulation, absorbent floor finishes and appropriate ceiling materials. The BIMC will contribute significantly to the health and well being of local users and visitors.
- **BETTER WORKING.** The BIMC has been designed to be practical and purposeful. Any spatial waste has been fully minimized and the basic layout has been designed to meet the working needs of the stakeholders. The fundamental square shape of the footprint allows for good distribution and equal distancing between activities. The centrally located lift and stair core is simple and equidistant to most spaces, thereby reducing inefficient circulation. The very specific requirements of a health facility ensure that space is used to its best advantage, a benefit to both users and stakeholders. The design also lends itself to day and night use, thereby enhancing the safety and activity of the after hours activities. Special attention is paid to the quality and extent of general lighting in both internal and external environments. Well designed and energy efficient fittings are selected to create a warm and safe after-hours environment.

- **BETTER VALUE.** The BIMC will definitely increase the social, economic and environmental benefits to the local community. Economically, the project will undoubtedly generate financial flows that do not currently exist. Further, the newly developed precinct will allow for the heightened enjoyments of the public through its landscaped parks, pedestrian paths and recreational facilities. The proposed materials and finishes are of a high quality, planned to last for decades and require little maintenance. These will have a minimum 30 year life cycle. The visible materials will clad a solid reinforced concrete structure that meets the fire resistant qualities required by the BCA. From a visual point of view, the BIMC demonstrates a good deal of inventiveness and specialised design. The terracotta blades are a significant element in achieving a sense of place and identification. This contemporary use of red clay, a visual landmark in Bathurst, will provide a unique artistic addition to the heritage urban fabric. The contrast between the clay and glass, along with the concrete overhangs will provide a significant aesthetic contribution to the streetscape.
- **BETTER LOOK AND FEEL.** The BIMC will be a precinct that draws people in because of its features and interest. The main features of this significant health infrastructure are:
  - The architecture has a clear aesthetic intent. It combines strong vertical blades in terracotta with distinctive horizontal glass and concrete. The composition of these planar elements will form a geometrical language that will resonate with traditional and contemporary architecture in the locality.
  - The scale of the project when the carpark is included, will become a place of connection providing interest and legibility to the built environment.
  - The scale and proportion of the building have been carefully considered. There is a defined and willful articulation of the facades consisting of overhangs, setbacks and human scale breakdown of elements. This articulation echoes the sculptural treatment of the traditional 19<sup>th</sup> century buildings in Bathurst. Colour is also an important factor where the red clay provides a very strong contrast with the glass, metal sunshades and concrete framing. Texturally, there is also an interplay of materials between the roughness of the clay and the smoothness of the glass.
  - The design process has been characterised by the aim to achieve design excellence for a specialised urban environment such as Bathurst. A balance has been sought from the start to provide a building that is sympathetic to its urban context while at the same time achieving a distinctive modernist structure that responds to the highly technical requirements of today's health sector.



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT



LANDSCAPE SITE PLAN

PEDESTRIAN NETWORK  
& PLAZA WITHIN SETBACK

LANDSCAPE RETURNS ON  
MILNE LN

GALLIPOLI RD BECOMES  
A RECOGNISABLE STREET

GSC IS WELL SCREENED

EDGE TREATMENTS SOFTEN  
THE IMPACT OF THE  
MASSING

### PUBLIC SPACE

The existing site consists of an ex-car yard, now defunct which was solely for private commercial use. It is characterised by an industrial building facing Howick St surrounded by large swathes of bitumen. These hard surfaces are also facing Howick St although the major portion is located in the centre of the precinct which contains a surface carpark for about 320 cars.

The total site in questions is approximately 1.3 hectares and contains no public or landscaped space. Apart from a few trees dispersed along a sea of cars, the precinct is not "people-friendly".

The proposed BIMC & GSC buildings bring with them an extensive area of landscaping and public space scattered throughout the site. The total area of public space and landscaping comes to approximately 2000m<sup>2</sup>.

In other words, the project will be offering the community a large body of public space, landscaping and amenity that does not exist at present. Further, these spaces will be well designed and furnished with quality inclusions; a clear benefit to the locality.

.../over

- LAWN
- GARDEN BEDS ON GRADE
- TREES TO BE REMOVED
- EXISTING TREES
- PROPOSED TREES
- SEATING BENCHES
- DRINKING / WATER STATION
- TERRACOTTA COLOURED CONCRETE AREAS
- BRUSHED CONCRETE PAVEMENTS WITH CRACK JOINTS AND EXPANSION JOINTS
- 600MM HEIGHT FACE BRICK PLANTER BOXES TO HOWICK STREET



**PUBLIC PLAZA**

These spaces will be integrated within the Bathurst pedestrian network which already contains many fine walks for pedestrians. The extension of this pedestrian network is a clear benefit to the town and enhances its reputation as a nature friendly environment. Other features of the public spaces are:

- | ID                   | Botanical Name                           | Common Name                   |
|----------------------|--|-------------------------------|
| <b>Trees</b>         |  |                               |
| MIP                  | Malus ioensis 'Plena'                    | Iowa Crab Apple               |
| LInB                 | Lagerstroemia indica 'Biloxi'            | Biloxi Crepe Myrtle           |
| PCh                  | Pistachio chinensis                      | Chinese Pistachio             |
| LY                   | Lagerstroemia indica x L. fauriei 'Yuma' | Yuma Crepe Myrtle             |
| RIN                  | Raphelopsis indica 'Spring Time'         | Indian Hawthorn               |
| AcD                  | Acer davidi                              | Maple                         |
| API                  | Acer platanoides 'Crimson Sentry'        | Maple                         |
| <b>Shrubs</b>        |  |                               |
| CBS                  | Ceanothus 'Blue Sapphire'                | Blue Ceanothus                |
| WLH                  | Westringia fruticosa 'Low Horizon'       | Coastal Rosemary              |
| SBr                  | Salvia officinalis 'Broadleaf'           | Broadleaf Sage                |
| CB                   | Rosmarinus officinalis 'Blue Lagoon'     | Rosemary 'Blue Lagoon'        |
| RpL-1                | Campanula porschchayana                  | Serbian Bellflower            |
| SSG                  | Sedum selskianum 'Goldilocks'            | Sedum selskianum 'Goldilocks' |
| LNo                  | Laurus nobilis                           | Sweet Bay                     |
| <b>Ground Covers</b> |  |                               |
| CaTo                 | Cerastium tomentosum                     | Snow-In-Summer                |
| GeR                  | Geranium 'Rozanne'                       | Cranesbill                    |
| BBW                  | Bergenia 'Bressingham White'             | Bressingham's Elephant Ears   |
| OA                   | Origanum vulgare 'Aureum'                | Golden Marjoram               |
| AD5                  | Artemisia dracunculis 'Sativa'           | French Tarragon               |
| ThyPz                | Thymus nummularis                        | Pizza Thyme                   |
| RMP                  | Rosmarinus officinalis 'Prostratus'      | Prostrate Rosemary            |
| BMP                  | Brachyscome multifida 'Pink'             | Pink Cut Leaf Daisy           |
| PGrE                 | Pachysandra terminalis 'Green Carpet'    | Green Carpet Japanese Spurge  |
| <b>Grass</b>         |  |                               |
| DCbB                 | Dianella caerulea 'Cassa Blue'           | Paroo Lily, Blue Flax-lily    |
| LLD-1                | Lomandra 'Lime Divine'                   | Matt Rush                     |
| DCb                  | Dianella caerulea 'Breeze'               | Paroo Lily, Blue Flax-lily    |
| DPu                  | Dierama pulcherrimum                     | Angel's Fishing Rod           |
| PT                   | Phormium tenax                           | New Zealand Flax              |
| DrCV                 | Dianella revoluta 'Coolvista'            | Spreading Flax Lily           |



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT



### PERMEABILITY E3

Another conceptual characteristic of the building layout is its permeability, especially at ground level, which is where most people will experience the environment. The BIMC can be accessed on all 4 sides. North, south and west to the public and the east side for servicing and egress. The main public entry is to the north east side (named east on the documents) which faces;

- A newly created plaza that contains extensive landscaping, public amenities, café seating, a small allocated car park and importantly the most favourable climate outlook in a northerly aspect.-
- To Howick St, a major tenancy will have an entry. This also faces a landscaped zone with public amenities.
- To the south, on Gallipoli Rd is located probably the most frequented side as it faces the large carpark where up to 915 cars can be located. A public ground floor entry is provided which links up to the main west side entry via a mall. Also provided is a bridge access which links level 1 of the BIMC and level 2 of the carpark.
- The east side is reserved for servicing such as deliveries.
- An ambulance bay is provided to the south side.

Other important features of the BIMC include:

- A rooftop garden for the BIMC users
- Balconies at level 4
- A high level of ESD inclusions
- Creation of Gallipoli Rd as a new urban environment
- Allowance for pedestrian flow right through the site from the main town precinct via Machattie Lane.



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### ESD Strategies

The following strategies are considered in the design:

#### Selection of non-toxic finishes to improve Indoor Environmental Quality (IEQ).

- Efficient fittings, fixtures and appliances to minimise water demand.
- Use of recycled water to reduce mains water consumption.
- Load reduction, passive design, energy-efficient building services and smart controls to reduce energy consumption.
- Promotion of healthy and active living through design and education strategies
- Enhanced commissioning and tuning practices to translate design intent into actual performance.
- Environmental and waste management during demolition and construction.
- Incorporation of crime prevention through environmental design (CPTED).

### Environmentally Sustainable Design (ESD) Approach

#### Metering and Monitoring

A best practice metering and monitoring strategy will be implemented to track and monitor energy and water use in the buildings. This will ensure that they are on track to achieving the performance targets, and promptly identify any leaks, faults or excessive consumption. Sub-metering will be provided for all major energy and water uses, supplying data to the Building Management System (BMS).

#### Construction Environmental Management

A best practice Environmental Management Plan (EMP) will be developed and implemented by the head contractor, to assist in managing environmental performance, conditions, and impacts arising from excavation, demolition and construction.

#### Operational Waste

A Waste Management Plan (WMP) will be provided for building operations. This will provide building management and occupants with guidance on how to manage waste in order to divert it from landfill. Facilities will be provided for collection and separation of major waste streams for collection by the relevant waste contractor in operation. Dedicated storage space will be clearly labelled for recycling and easily accessible by waste collection services.

#### Indoor Air Quality

The ventilation systems will be designed with consideration of maintenance access and minimum separation distances between pollution sources and outdoor air intakes. Ductwork will be protected during construction to minimise contamination with debris and moisture prior to occupation. Medical facilities and other sources of significant contamination will be separately exhausted without recirculation to minimise contamination at the source. In order to minimise indoor air contamination and promote occupant health, preference will be given to paints, adhesives, sealants and floor coverings which have low Volatile Organic Compound (VOC) emissions, and engineered wood products with low formaldehyde emissions.

### Acoustic Comfort

Acoustic comfort will be improved through the following strategies:

- Design of internal ambient noise levels to be no more than 5dB(A) above the "satisfactory" sound levels in Table 1 of AS/NZS 2107:2000 in key spaces.
- Target acceptable reverberation levels and consider providing acoustic noise separation between sensitive enclosed spaces.

### Visual Comfort

Glare control mechanisms such as internal blinds or curtains will help maximise visual comfort. Design will consider availability of daylight and maintain excellent connections to external views. Artificial lighting will consider appropriate colour perception and lighting levels, reduced glare from lamps and uniformity.

### Thermal Comfort

Occupant thermal comfort will be improved through solar control glass, shading and careful design of air-conditioning systems

### Energy

The design will seek to reduce energy consumption, and thereby greenhouse gas (GHG) emissions, by combining a well-designed facade with high-efficiency systems, services and appliances as well as smart controls to ensure key services are only operating when required by occupants.

### National Construction Code (formerly Building Code of Australia)

The National Construction Code/Building Code of Australia (BCA) Section J sets minimum energy performance requirements for all new developments, which cover air-conditioning, ventilation, lighting, power and hot water, as well as building fabric considerations including thermal construction and insulation, building sealing, glazing and shading. The proposed design will be developed to meet the BCA energy efficiency requirements.

### Energy Saving

The following strategies could be used to achieve the project's energy saving and GHG emissions targets. These are subject to change as the design develops.

- High-performance façade incorporating low-e solar control glazing with appropriate shading;
- Efficient heating, ventilation and cooling (HVAC) systems including:
  - High efficiency chillers
  - Variable speed pumps;
  - Variable speed ventilation fans (including EC motors);
- Sensible heat recovery for high occupancy areas;
- Common area ventilation to include efficiency controls such as zoning, motion sensors, and time clock control;
- Comprehensive BMS systems to monitor and control HVAC systems.
- Efficient lighting systems including LED lighting throughout, with efficiency controls such as zoning, motion sensors, daylight dimming and time clock control.
- PV Cells operated hot water;
- Renewable energy generation will be installed. This is to comprise photovoltaic panels on the roof of the parking structure.

### Water

Mains water use will be minimised for the project by selecting efficient fittings, fixtures and appliances to reduce demand, and by utilising recycled water for non-potable uses.

### Water strategies

The following strategies could be used to achieve the project's water saving targets. These are subject to change as the design develops.

- Water efficient fittings, fixtures and appliances
- Drip irrigation with moisture sensor override will be used for all landscaping;

### Waste Management Plan

The development team are committed to operating this project site in an environmentally responsible and friendly manner that prevents damage to the environment and considers the effective handling of waste as a result of site works and during occupation.

### In Construction

During construction, all trades activities will take all reasonable precautions to prevent dust, dirt, water, waste and noise becoming objectionable to any member of the public or other persons on site. Demolition activities will see as much of the existing materials being recycled/repurposed as possible. These include the steel portal frames, concrete, masonry and asphaltic materials, VENM or ENM spoil and timber and steel components of the demolished buildings. Where possible, concrete and masonry will be crushed for reuse on site.

### In Occupation

A dedicated and secure waste area is provided at the east side of the building including facilities for separation of recyclable materials, general waste and medical waste, allowing all waste streams to be appropriately disposed according to their category. Offices will utilise paper and cardboard recycling, as well as being paperless where practical. Contractual engagements will be made with local waste disposal firms to undertake regular rubbish pickups to prevent buildup of waste in the bin enclosure. The removal of sanitary and medical waste shall be undertaken by accredited professionals and comply with local legislative requirements.



# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

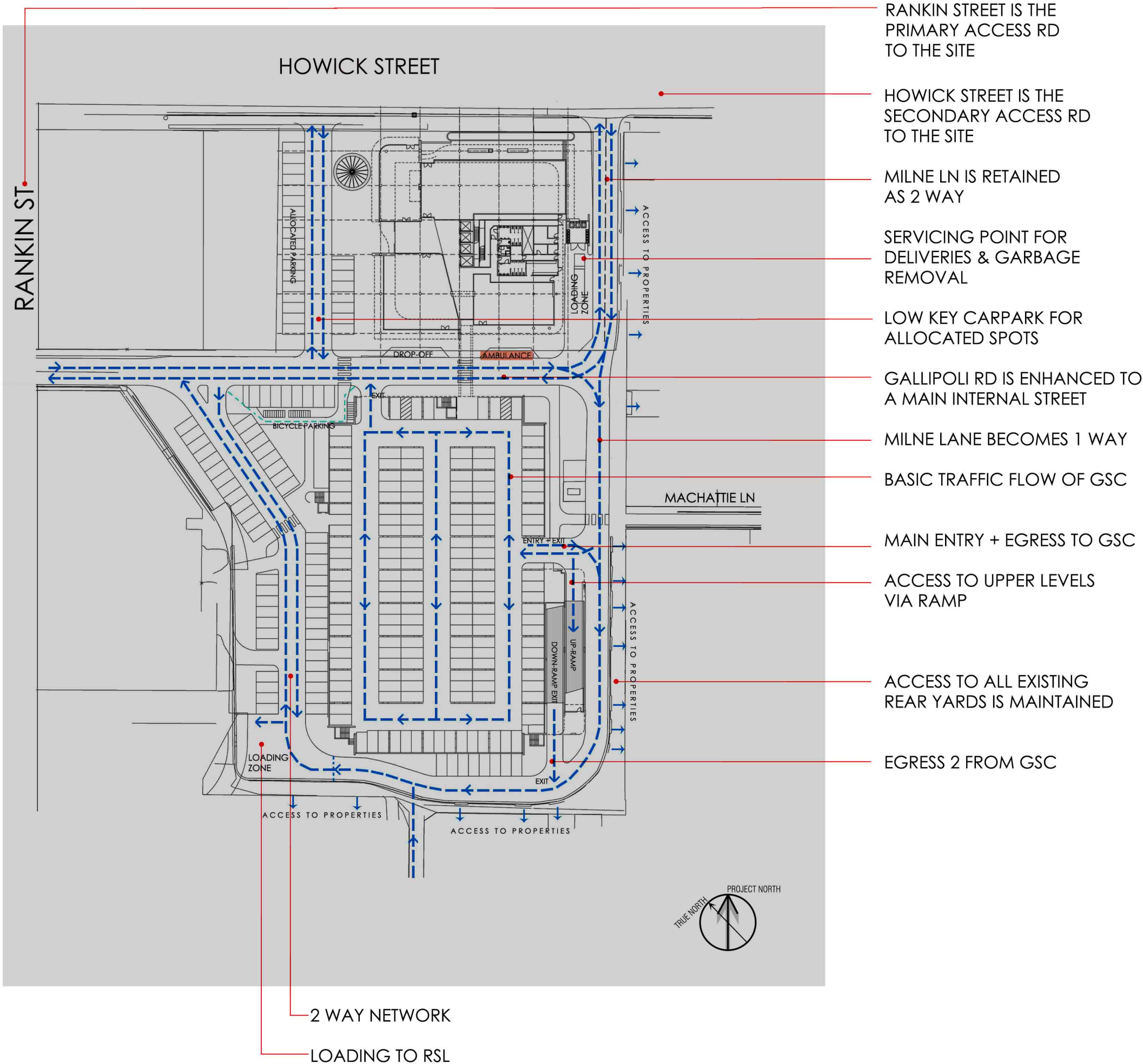
### VEHICULAR NETWORK

A detailed traffic study has been undertaken as part of the project design development. Initial vehicle studies by Council to inform the study and further count's and onsite assessment will be undertaken as needed. The traffic engineer will provide a detailed report for inclusion in the DA submission to inform Council and stakeholders of traffic outcomes. It is anticipated that all vehicle outcomes will be taken into consideration in the design of roadway connectivity between the George Street carpark and Howick, Rankin and Russell Streets.

Gallipoli Road and Milne Lane are seen as the primary road connection points, meeting at an internal roundabout or T intersection, from where drivers can travel into the new multi-deck carpark or remain on ground and travel westward around the perimeter to the RSL club. Primarily the internal roadway circulation is expected to be one way to the benefit of vehicle safety and ease of circulation.

An onsite survey has been undertaken by Premise surveyors, which identifies all existing vehicle access points throughout the site. The carpark design will ensure that all property rear access points are retained, including for service vehicles to the RSL loading dock. This is achieved by maintaining the perimeter 'ring road' around the main carpark structure.

Traffic studies for carpark turning paths have been undertaken to allow design for the largest vehicle being a 12m rigid truck typically used for garbage collections. As far as is practical, accommodation will be made for larger trucks to access the site on infrequent and coordinated occasions if needed, by means of rollover kerbs at more restricted corners. This will be subject to final traffic engineering by the Zauner design team.





# BATHURST INTEGRATED MEDICAL CENTRE

## ENVIRONMENTAL ASSESSMENT

### SERVICING & WASTE

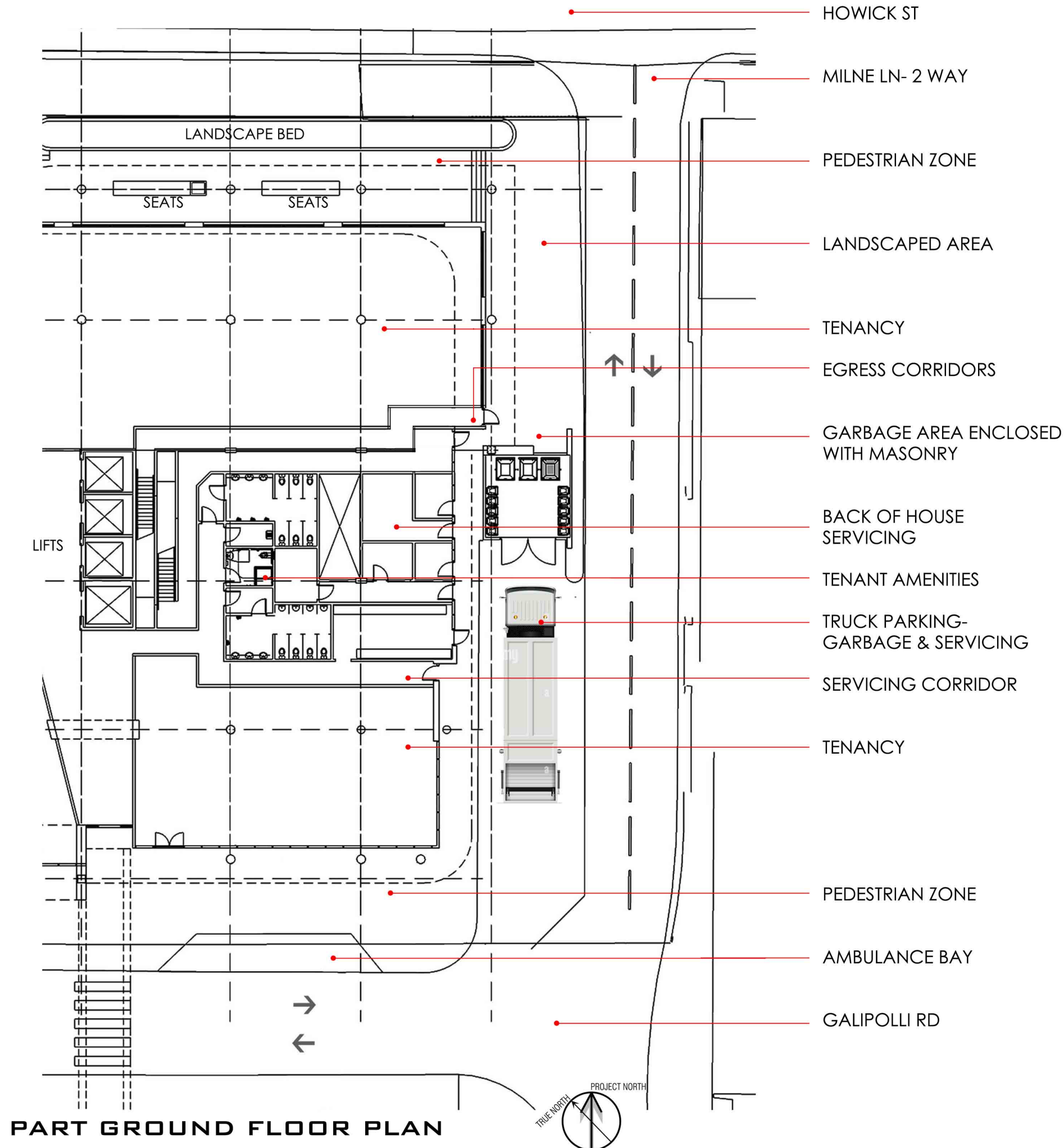
The BIMC has been designed and arranged so that separate zones such as public, private and servicing have been well defined and made discrete. This applies in particular to the servicing zone which has been located at the eastern side of the building along Milne Lane. This side could be considered the least "prestigious" side as it faces a narrow lane and has no long-distance vista onto it.

The garbage collection which is an important operational aspect of a medical centre of this scale, has been located here and is to be fully enclosed by a masonry wall that integrates with the building architecture. It will be gated and not accessed unless in operation. Refuse will be taken down from the building and delivered to the enclosure via a servicing corridor. A garbage collection service will take away refuse from a designated parking location.

Other servicing will also take place from this location, which will not impede traffic on Milne Lane.

Other activities in this zone include fire egress corridors, power and servicing rooms, amenities and a sprinkler maintenance room.

An ambulance bay is designated to the south side of the building for efficient access to side and rear doors.



PART GROUND FLOOR PLAN