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1 introduction

The Bendigo Hospital Precinct Structure Plan: Urban Design Technical Assessment has been prepared by Hansen Partnership on behalf of the City of Greater Bendigo (CoGB). It forms part of a suite of reports which will underpin a structure plan (SP) for the area around the Bendigo Hospital.

The recently commenced redevelopment of the Bendigo Hospital will comprise a significant program of building works to provide an expansion of the services provided and an increase in bed numbers. This is anticipated to attract increasing numbers of people to the precinct and generate greater employment, not only on the hospital site itself but through a range of associated uses and activities which may occur within the surrounding area. The Bendigo Hospital Precinct Structure Plan (BHSP) will seek to maximise opportunities that may be associated with this multi-million dollar redevelopment for the wider Bendigo community. Given the amount of activity which currently takes place on the hospital site itself but also within the wider precinct, it is important to carefully plan and manage how this redevelopment impacts on the broader area. In undertaking a structure plan, CoGB seeks not only to maximise the opportunities, but also to manage the potential negative impacts that may result.

To assist in planning for the area the following process is being followed:

- The documentation of existing conditions and issues in a suite of specialist reports covering the areas of urban design, infrastructure, best practice, economics and transport.
- The synthesis of these reports into a clear and concise report documenting key issues and opportunities.
- A collaborative ‘visioning’ for the precinct to underpin a conceptual Structure Plan for the area.
- A refined and resolved Structure Plan with a clear focus on implementation.

1.1 report aims

The Urban Design Technical Assessment provides a robust assessment of the existing conditions within the precinct and begins the process of identifying opportunities for the Structure Plan to have a positive influence on those who use the area. It looks at a wide range of things including where different types of activity are occurring in the precinct, what types of buildings have established, what contribution the streets and laneways make to the character of the area and where important heritage assets are located. Perhaps most importantly, it looks at how people move through and experience the precinct and how different areas of activity are connected. Specific objectives for this assessment are as follows:

- To assess the existing context, character and built form of the precinct.
- To identify opportunities to enhance the precinct’s development with urban design.
- To develop criteria that will identify and define the study area of the Health Precinct for development in the Structure Plan.
- To define sub-precincts within the area that contain complementary and specialist uses.
- To identify relative sensitivities (including cultural heritage sensitivities) to change of different areas within the precinct and corresponding built form/public realm response.

The following pages set out a series of observations derived from investigation of the study area and reinforced by review and discussion with key stakeholders and agencies. This analysis does not seek to be exhaustive in terms of documenting all associated urban design attributes, rather it seeks to identify the critical parameters that will have an influence on how the precinct develops with, and around, the hospital.
1.2 Urban context

Bendigo is a major regional city, located approximately 150 km northwest of the Melbourne CBD. It is the second largest inland city in Victoria, and the fourth most populous, with a population of approximately 100,000 including outlying smaller towns. Bendigo is one of the most significant Victorian era boomtowns in Australia where the gold rush brought a multicultural community from around the world and transformed the City from an outlying ‘station’ to a major urban settlement in the mid 19th century.

The Bendigo Hospital sits in a strategic location at the northern end of Bendigo City Centre, as one of the most recognised community assets. It operates across two sites which are generally contained within an area defined by Drought / Stewart Streets to the north, Barnard / Lucan Streets to the south, Hope Street to the west and Bayne Street to the east. The main towers on the hospital site rise to around eight storeys and are highly exposed, clearly signalling the presence of the hospital within its wider context. Similarly, the Anne Caudle Centre with its distinctive grand white building is clearly identifiable. While the hospital is located within a contained area, its influence is considerable and extends well beyond the boundaries of the identified hospital site.

In its urban context, the Study Area includes the abutting Bridge Street commercial corridor and Rosalind Park, which provide links to the broader City Centre grid. The proximity to the City Centre is one of the more critical elements of the precinct’s urban context and the relationship to the northern edge of the City Centre is carefully explored in the following pages. Indeed the hospital precinct may be considered as land that will, in due course, form part of the City Centre focus. Also important is the precinct’s location at the end of a number of important transport corridors which not only connects the northern growth areas of Bendigo to the City Centre, but also the broader northern region of Victoria.
The precinct is influenced by a number of key factors including:

- **The Bendigo City Centre:** the central business district including the main retail, service and entertainment activities for the urban area as well as major office developments.

- **Sports and recreation facilities:** Rosalind Park which has active and passive recreation facilities including a number of sporting fields, walkways and the conservatory garden and Lake Wendouree and the Regional Tennis Centre.

- **Education Centres:** Bendigo Senior Secondary College and Camp Hill Primary School within Rosalind Park, the senior campus of the Catholic College and health schools of Monash and LaTrobe University create a strong education focus.

- **Commercial activity:** the Bridge Street corridor is the commercial spine of the precinct that provides a strong physical and activity-based connection between the hospital site and the City Centre.

- **The Arts and cultural precinct:** around View Street including; the Bendigo Art Gallery, the Capital Theatre, as well as the Gaol theatre redevelopment and the Chinese Precinct.

- **Transport links:** specifically the bus and train interchange to the south of the City Centre, which is the key entry point to the City for many visitors.

Further strategic urban design influences relate to the existing development configuration and landscape setting of the precinct. Notably, the existing street and urban block pattern, distinctive topographical conditions and landscape features have a considerable bearing on the experience and potential of the precinct. It is notable also that considerable traditional building stock and heritage assets occur within the precinct. This will influence the capacity of the precinct to further evolve.

### 1.3 study area

The study area for the BHPSP is identified in Figure 4 (overleaf) and represents land not within the hospital itself but a periphery up to, and sometimes more than, 800m around the hospital redevelopment site. Given the focus of this project is understanding the sphere of influence of the considerable hospital redevelopment initiatives, it is relevant to examine and identify the suite of coexisting land uses that occur at the hospital’s periphery, including residential areas, institutional precincts, commercial land and open space and recreational nodes.

The starting point for the identification of the study area was an 800m radius from the centre of the hospital redevelopment precinct on Arnold Street. This represents a ‘walkable’ distance from the hospital and is a practical approach applied in activity centre planning across the state. Given the 800m radius extends well into the Bendigo City Centre, steps have been taken to refine the extent of the study area, so as to ensure limited duplication of land management measures and to achieve inclusion of a series of key destinations, land uses and assets.

The study area boundary has, therefore, been refined in response to the following criteria:

- Inclusion of key destinations within the periphery of the precinct;
- Recognition of key physical barriers to movement that limit activity between the precinct and its context; and
- Identification of areas that have existing relevant planning policy and guidelines.
To this end, the study area includes the defined Bendigo Hospital site and the following:

- New hospital accommodation site on Atkins Street to the north;
- Hustlers Reef Reserve to the north-west;
- The Catholic College located on the corner of Barkly and View Streets;
- Rosalind Park, including the primary school and secondary college and soon to be developed Bendigo theatre complex;
- The northern interface with Pall Mall, in particularly the area around Park Road and the Chinese Precinct to Bridge Street;
- The Bendigo Creek to the south-east;
- The Bendigo Tennis Centre and the southern extent of Lake Weeroona; and
- Residential areas to the north on rising topography leading towards the recently closed Bendigo North Primary School.

These key locations are shown on Figure 3, while the study area within its context is shown in Figure 4.
Informing this Urban Design Technical Assessment are a number of existing documents and projects which the Structure Plan will need to consider. The strategic development context of the hospital precinct and its surrounds is critical to an understanding of the potential of the broader precinct. It is noteworthy that the hospital development is one of a number of major investment and regeneration initiatives in central Bendigo. These strategic development projects are briefly summarised as follows.

bendigo hospital redevelopment

While the plans for this redevelopment were not available to the general public at the time of writing, key details of the plans have been released and form an important part of this assessment. In particular, an understanding of where and how people will be moving in and out of the hospital site in the future is crucial, as is an understanding of what uses associated with the hospital will be positioned where, given the size of the site (13 hectares).

The extent of the Bendigo Hospital redevelopment incorporates land bounded by Barnard Street, Drought Street, Hope Street and Arnold Street, including the Anne Caudle Centre and associated infrastructure. The redevelopment also affects land associated with the existing Bendigo Base Hospital between Arnold Street and Bayne Street. This area is referred to as the Bendigo Hospital site within this report.

bendigo CBD structure plan

The adopted CBD Structure Plan outlines the future aspirations for the CBD area which adjoin (and indeed overlap with) the precinct to the south. While the plan generally seeks a number of public space interventions and an intensification of the retail and residential uses within the area, specifically relevant are the directions provided for the area identified as Precinct E, which has been included within the study area for this assessment. The current ‘vision’ for this area is identified as follows:

This area will be a focus for visitor and tourist activities, complementing others that are provided within the remainder of the CBD. Being the primary entrance route for visitors driving by car, it plays an important role in projecting the image of Bendigo, enticing visitors to stop and spend time. The grand public buildings fronting Pall Mall will be appreciated in their setting, and the graciousness of Pall Mall will be returned with improved pedestrian space and traffic calming techniques. The Heritage Tram will continue to provide a unique experience, as well as access to locations along Pall Mall. The cultural attractions offered by the Chinese Golden Dragon Museum and Gardens will be enhanced with related events and activities. The picturesque landscape qualities of Rosalind Park will be respected by surrounding development, and opportunities for greater integration of the Park with the CBD will be developed, such as use of the Conservatory for events.

It seeks to improve integration between Rosalind Park and the CBD and to encourage the development of tourist accommodation in the buildings to the immediate south of the Chinese Precinct. It also seeks to see the establishment of additional activities such as a Hawkers Market, Farmers Market and other events in this area.

rosalind park precinct masterplan

A masterplan for Rosalind Park was completed in 2004. This masterplan sought to undertake a number of broad moves over a long time frame including:

• Expanding the lower gardens to the CBD edge;
• Developing more lawns and formal gardens;
Redeveloping landscaping around the two schools;  
- Expanding the park through the Tom Flood Velodrome area; and  
- Reinforcing the connection between the park and the CBD.

It is important to acknowledge that a process is underway to document an updated masterplan for the precinct. This masterplan will address issues of management and governance within the park as well as seeking to resolve the spatial organisation and improvements within the park. The relationship between that project and the BHSP is an important one. Given the importance of Rosalind Park as a link between the hospital and the City Centre, the Structure Plan will need to establish broad directions for the Rosalind Park precinct to be explored and resolved through the masterplanning process.

**bendigo gaol / theatre redevelopment**

The Bendigo Gaol / theatre redevelopment project is an initiative that is subject to major investment to the west side of Park Road within the Rosalind Park precinct. This project will see a large scale redevelopment of the Gaol site into a community theatre precinct. This redevelopment will see the site incorporate a 975 seat theatre, a range of associated studios and learning spaces, as well as extensive outdoor areas. Many of these outdoor areas will be shared and utilised by the students of the adjoining Bendigo Senior Secondary College. Important considerations for the urban design assessment include:

- Key plaza space to the south-west corner;  
- Drop off and vehicle circulation on the western side of the site, accessed via Gaol Road;  
- Main entrance from the north-eastern corner of the site; and  
- Associated car parking to the eastern side of Park Road.

Theatre redevelopment is a critical investment initiative to the south of the hospital precinct and strong synergies exist between the project in terms of identifying the destinations, uses, activities and movement patterns within and around Rosalind Park.

**eaglehawk and bendigo heritage study**

This study, undertaken in 1993 by Graham Butler and Associates, provides the assessment which had underpinned the application of a range of heritage controls across the wider Bendigo area. It includes both a broad thematic history of the Bendigo and Eaglehawk areas and also specific assessment within a range of different precincts. This study formed the basis of the existing heritage controls in the areas and the relevant findings are outlined in more detail in Section 6.

**bendigo integrated transport and land use strategy**

This project (which is in its early stages) will look at the transport needs across the full spectrum of transport users and the whole urban and rural systems of Greater Bendigo. In particular, it will focus on the appropriate higher level ‘moves’ and on the integration of all forms of transport (as opposed to previous transport studies which have tended to prioritise vehicular movement) and on the integration between land uses and transport connections. Particularly, given the regional importance of movement to the hospital precinct and the presence within the study area of a number of higher order roads, it will be important for the project team to maintain an awareness of this concurrent project and to consider where matters may be referred for consideration as part of this higher level study.

**reformed residential and commercial zones**

A range of new residential and commercial zones will be introduced to Victorian Planning Schemes in July 2013. While the current zoning controls for the area are illustrated in Figure 2, it is important to recognise that these will change over the course of this project. In particular we note the following implications that will need to be considered:

- There will be changes to allow a greater range of ‘as-of-right’ uses within the standard residential zone (General Residential Zone), particularly where there is access to a main road. Given the likely pressure for medical suites in the area and the number of main roads, this may have significant implications for how CoGB controls the proliferation of these uses in the study area.
- CoGB will have another opportunity to consider whether they will seek to introduce other new zones which will be available in the form of the Neighbourhood Residential Zone and the Residential Growth Zone.
- The consolidation of the existing business zones will mean the majority of the Bridge Street area will become a Commercial 2 Zone, while the large vacant corner lot at Arnold Street will become a Commercial 1 Zone (the equivalent of the existing Business 1 Zone.)

**greater bendigo cycling and walking strategy**

This strategy identified broader aspirations for pedestrian and cycle connections across the CoGB. These broader connections are important to understand in the context of this assessment. In addition to the connections identified in Section 9, the strategy highlights an aspiration to create a northern loop trail which runs along Iron Bark Gully to the immediate north of the study area and includes a ‘node’ at the Bendigo North Recreation Reserve.
bendigo hospital precinct structure plan  |  urban design technical assessment  |  hansen partnership pty ltd

existing planning controls

The majority of the precinct is in the Residential 1 Zone intended to reflect standard residential areas. Also notable within the precinct are large areas of public land (zoned either Public Park and Recreation Zone or Public Use Zone).

There are also some commercial areas within the precinct which utilise the existing suite of business zones. a small node on Arnold Street and land adjoining View Street and Pall Mall in the Business 1 Zone (which has predominately retail focus). Along the Bridge Street corridor the dominant zoning is Business 4, generally used to encourage ‘big-box’ or bulky-goods retail. Two sites within the Bridge Street corridor (at the intersections of Water and Arnold Streets) are zoned for different purposes, Business 3 Zone (office) and Business 5 Zone. Roads within the precinct subject to VicRoads control are zoned Road Zone Category 1 and Road Zone Category 2. It is important to note that business zones within the precinct will change upon the introduction of new commercial zones anticipated for July 2013. Residential zones may also change as CoGB considers the application of the new suite of residential zones.

A number of overlay controls are also present in the precinct. Most notable are the extensive Heritage Overlay controls which cover much of the western portion of the precinct. These comprise both individual and precinct overlays. In addition discrete areas of the precinct are also affected by a Neighbourhood Character Overlay, although these areas appear to have developed significantly since the application of that overlay. Also notable within the precinct is the Parking Overlay which affects Rosalind Park area and the Environmental Significance Overlay applied along the Bendigo Creek. Less relevant to the overall development of the precinct are Design and Development Overlay controls, associated with the implementation of the Bendigo CBD Strategy, which affect the southern parts of the study area and an Environmental Audit Overlay, which affects land at the edge of Bridge and Arnold Streets.

bendigo neighbourhood character study

A Neighbourhood Character Study was undertaken in 2003 which provided an assessment of the character elements that were present in the residential areas of Bendigo. It is important to note that the issue of neighbourhood ‘character’, while related to heritage elements, has different connotations in how it is approached from a planning perspective. The study identified two key precincts which affect the study area, as follows:

- Area CB1 affects the north eastern portion of the study area. The relevant characteristics identified by this assessment include:
  - Architectural era is predominantly Victorian and Inter-war with minimal infill development;
  - Front setbacks are predominantly small with side setbacks of 1-3 metres;
  - Front gardens are generally well established with exotic species;
  - Front fences are predominantly open style and of an average height;
  - A variety of dwelling materials including brick and timber with mixed roofs;
  - Roads are sealed with a kerb and generally have a footpath on both sides of the road; and
  - Street trees are predominantly exotic, and large in size with a regular planting pattern.

- Area CB2 affects the west of the precinct, however much of this area is affected by a Heritage Overlay and therefore only two small discrete areas around the Hustlers Reef Reserve and along Barnard Street are affected by related controls. The relevant characteristics identified by this assessment include:
  - Architectural style is predominantly Victorian and Inter-war with small amount of 1950s infill;
  - Front setbacks are generally small with some more standard setbacks and a small pocket of generous front setbacks;
  - Dwelling materials are mixed with small pockets of timber dwellings with iron roofs;
  - Front fences are predominantly open and are of an average height;
  - Established gardens with predominantly exotic vegetation with small pockets of exotic/native mix;
  - Roads are sealed and predominantly have kerbs and footpaths;
  - Street trees are medium to large in size and are either exotic or indigenous;
  - Small area around Barkly Terrace where there are large mansion style dwellings.

It should be noted that these character assessments affect a much larger area of inner Bendigo, with the affected areas within the precinct forming only a small part of the broader character areas.

hustlers reef conservation management plan

This report (completed in 2012) provides a comprehensive survey of the Hustlers Reef Reserve, analysis of the heritage elements and themes associated with the place and recommendations for how to manage the reserve going forward. These include nomination for Victoria’s Heritage Register and the application of a Heritage Overlay, preservation of existing elements and the introduction of signage, visitor shelters and other measures to promote and identify the historic importance of the sites within the broader context of Bendigo’s mining heritage.

Typical residential dwelling

Hustlers Reef Reserve

Bulky goods retail on Bridge Street
3  land use and activity

An analysis of the existing land use patterns within the precinct has been undertaken to inform planning for the precinct. This analysis has identified a number of different areas of influence and key clusters of activity. The land use framework and the associated planning regime is illustrated in Figures 5, 6 and 8.

3.1 hospital site

The existing hospital site forms the centre of the study area and comprises two separate precincts to either side of Arnold Street. Uses on the site at the time of writing include the hospital itself as well as support services and administration for the hospital. The site also accommodates two universities (Latrobe and Monash). The location of these uses is expected to change as part of the redevelopment of the hospital site. The specific locations of land uses within the site expected as part of the hospital redevelopment are detailed in Figure 14. Most importantly, the main hospital services are expected to move to the western portion of the site, decreasing activity on the eastern side. The education uses and the pub (the Rising Sun), located at the corner of Barnard and Arnold Streets, are expected to remain.

3.2 medical uses

One of the key land uses that this project will need to consider is the location of medical services constituting uses independent of the hospital site. These include consulting suites for private doctors and general practices, screening and pathology centres, mental and community health clinics and associated retail uses such as mobility aids and pharmacies. Several clusters of these uses are well established in the precinct. Notable among these is a cluster of consulting suites along Drought Street, wrapping around to Arnold Street and extending across to Stewart Street (see Figure 8). The other major cluster is to the south of the hospital site along Lucan Street where a number of pathology / radiology uses have established along with consulting suites. While some of these uses have established along Bridge Street, the predominance of consulting suites, in particular at the hospital periphery, indicate a trend for these uses to locate around the immediate interfaces of the hospital site.

3.3 education

Within the precinct are three separate school sites, as well as one former school site. Near the corner of View and Barkly Streets is the Catholic College (secondary campus), which fronts View Street and currently has around 600 students. Located more centrally, surrounded by Rosalind Park, are Camp Hill Primary School and the Bendigo Senior Secondary College (BSSC). These two sites accommodate in the order of 2500 students, as well as around 250 teachers. The BSSC also has a close relationship to the Bendigo Gaol site, with classrooms wrapping around the south and east of this complex. This relationship will strengthen as part of the Bendigo Gaol development with outdoor and cafeteria areas for the students integrated into that development.

3.4 open space

The precinct contains or abuts a number of areas of open space, including Rosalind Park (discussed below). Other areas of open space include the Hustlers Reef Reserve to the north and a series of smaller areas of informal public space (see Figure 8). This area is currently not formally utilised as recognised open space although local residents do use the site for passive recreation. Based on its historical importance, the site also offers opportunities for other uses, including
activities linked to the area’s history or tourism in the future. The Hustlers Reef Reserve area also relates to a couple of other areas of public open space to the north and south. To the south, adjoining the Catholic College, are two small triangular areas of open space within the road reserve, which are currently utilised for informal car parking. To the north, the North Bendigo Recreation Reserve and Bowls Club form part of a broader corridor of informal open space following an old creekline (Iron Bark Gully) that extends to beyond the railway line where it joins Long Gully before reopening the Bendigo creek corridor.

Rosalind Park is perhaps the most important site within the precinct after the hospital itself. While the park is undergoing a separate masterplanning process (as outlined in Section 3) the land uses occurring within this site are vital considerations and are unlikely to change significantly under the masterplan. These uses include significant recreation and sporting sites (Queen Elizabeth Oval, Swimming Pool, Bowls Club and Tennis Courts), tourism destinations, such as the poppet head and the conservatory in the south east corner, extensive areas of passive open space, and other destinations, such as the Camp Hill Playspace. There are also areas of underutilised land within the park, such as the wetland located centrally along the Barnard Street interface. Broadly, the park can be defined as accommodating active uses in the northern section and more passive uses in the southern section.

The former Bendigo Gaol site is the Bendigo Senior Secondary School and Park Road. This large site is subject to a significant renovation project which will see it developed as Bendigo’s primary community theatre hub. This project is detailed further in Section 3. Also part of Rosalind Park, but separated from the main area by Goal Road, is the Tom Flood Velodrome, used not only by cyclists but also as a training ground for some of the sporting groups. Immediately south of this is a very large area of asphalted land, mostly fenced off. This area is currently utilised as a school bus drop-off point, with some auxiliary car parking also provided as well as some training and education uses in the YMCA building on the site. A childcare centre to the south of this area is expected to relocate.

Around the edges of Rosalind Park a number of important land uses occur, including key cultural uses, such as the Art Gallery and Capital Theatre, which provide a transition to the boutiques, cafes and restaurants of View Street, and grand civic buildings accommodating the Visitor Information Centre and law courts to the south.

The study area has been expanded somewhat to the east to include another key area of open space, namely the regional tennis centre and Lake Weeroona. Lake Weeroona is a key area of passive open space with shared paths and the Boardwalk restaurant and cafe. Notably, beyond Lake Weeroona, along Napier Street, is a significant cluster of existing short term accommodation uses, including Comfort Inn, Tea House Motor Inn and Lakeview Motor Inn. To the other side of Nolan Street from the lake is the Regional Tennis Centre. These areas of open space are linked to Rosalind Park via the Bendigo Creek Trail.

3.5 city centre edge

To the south-east of the precinct, a separate pocket of uses has established between the Chinese Precinct (developed in 2008 and linking the Golden Dragon Museum with the Yi Yuan Gardens and Kuang Yin Temple) and the City Centre. This area accommodates a cluster of restaurants and nightclub, but much of the land remains underdeveloped or underutilised. Beyond this area, the Bendigo Tafe site does not provide much activation to Pall Mall and the northern side of Mundy Street and the southern side of Mundy Street lacks meaningful land uses (with car parking or side frontages providing the interface with the public realm). This compromises the street’s role as a key link to the activity of the City Centre (as provided by Bull and Williamson Streets).

3.6 bridge street corridor

Bridge Street itself is the key commercial area within the precinct. It is disconnected from the City Centre despite the relative proximity and there is not a discernible continuity of uses. Instead, the influence of the hospital precinct to the north is evident, with some retail uses in the area related directly to the hospital (e.g. aidcare). Other retail uses (such as Santons of Bendigo) have little relevance to the hospital. The area also contains some larger office uses, including the headquarters of Coliban Water and Spire (a planning consultancy). The medical-related uses discussed earlier, such as pathology, are also present in this commercial strip. Interestingly, the area retains a number of remnant residential uses in the form of detached dwellings, adding to the mix of uses (noting that some of the residential buildings have been converted for commercial purposes). The area contains a couple of significant parcels of vacant land at the intersection of Bridge and Arnold Streets and the intersection of Bridge Street and the Bendigo Creek. Within the area, Debbi’s Deli on Arnold Street and the Bridge Hotel at the intersection of Water Street, with its outdoor dining, are key areas of activity. At the intersection of Bridge and Chapel Streets (at the connection to the Chinese Precinct) a function centre and associated car parking space can be considered relatively non-active uses.

To the north of Bridge Street, leading up to Barnard Street, there are some examples of medium density development, amongst detached residential homes. The most notable use within this area is the newly constructed Ambulance Station. The area also contains a few parcels of vacant land. After Bridge Street crosses Arnold Street the uses become primarily residential, as would be expected under the current zoning. It is important to acknowledge however, that this area actually also contains a number of semi-industrial uses, or commercial uses such as the self-storage units.
3.7 residential areas

The remainder of the study area remains primarily residential. The majority of this residential activity is single dwellings, although there is a scattering of multi-unit development within the area, much of which appears to have established in earlier decades (80s and 70s). Within these residential areas there is a scattering of civic and community uses, such as the Girl Guides hall to the north, and a number of churches, as well as another pub (the Boundary Hotel) to the north-west near Hustlers Reserve. One of the churches is located at the corner of Arnold Street and Atkins Street, just above a cluster of non-residential uses which includes the Cambrian Hotel and the North Bendigo Post Office. More recent examples of other uses establishing in the area, include the Abode Apartments (short term accommodation) which extend between Stewart and Thunder Streets.

3.8 issues and considerations

In addition to the identification of issues and other considerations, this assessment has identified a number of key areas of activity within the precinct. Clearly identifying these key areas of activity will allow these to be considered in terms of linkages and connections among other considerations. These areas of key activity include:

- The areas around the new hospital building and the university (around Drought, Arnold, Mercy and Barnard Streets);
- Lake Weeroona and the short term accommodation adjoining it;
- The Hustler’s Reef Reserve and the doctor’s accommodation to the north of the precinct;
- The Catholic College;
- Rosalind Park sporting facilities along the northern portion of the park;
- School sites and the Gaol theatre within Rosalind Park, including the bus drop-off point;
- View Street cafes, shops and cultural facilities such as the Bendigo Art Gallery;
- The City Centre and associated services, shops and facilities; and
- The Chinese Precinct and restaurant / nightclub precinct near the intersection of Bridge Street and Pall Mall.

There is obviously a strong interrelationship between many of the uses occurring in the precinct and between the hospital site and uses establishing at the periphery. It will be important to consider both the best locations for identified land uses, but also to consider the likely impacts of these more broadly, to enable CoGB to address issues which may arise from these uses in a holistic manner.

Key issues for consideration or recommendations include:

- The composition of future commercial uses along Bridge Street needed to promote greater levels of activity.
- Identification of areas for more intensive residential development.
- Management and direction needed to guide location of medical suites close to the hospital site.
- Recognition of existing ‘residential areas’ currently accommodating a mix of uses and other clusters of non-residential activity.
- Opportunities to better utilise areas of open space, to connect these through the precinct.

- Building a relationship between areas of open space and hospital activities.
- Identifying appropriate areas and encouraging additional dining and café opportunities.
- Better utilisation of key areas of public space and provision of clear direction for key sites within the precinct, to prevent under-development.
KEY REFERENCES

Please refer to the following page for associated photographic references.

A. The Rising Sun pub on the hospital site
The hospital site already accommodates a range of other supporting land uses such as the pub.

B. Associated medical uses at the hospital interface
Within the precinct, a number of associated medical uses such as pathology and screening centres as well as consulting suites have established.

C. Camp Hill Primary School within Rosalind Park
An example of the range of educational uses that exist within the precinct.

D. The Catholic College site
Educational use in the precinct also includes private school uses such as the Catholic College senior campus.

E. Old Bendigo Gaol, subject to redevelopment
The existing use of the gaol is intended to transition over time to a more cultural focus as the theatre redevelopment evolves.

F. Office uses established along Bridge Street
A range of office, semi-industrial and commercial uses have established along Bridge Street.

G. Typical residential dwelling
The precinct is predominantly made up of single storey, detached dwellings.

H. Medium density residential development
There is a scattering of multi-unit development throughout the precinct, with a large proportion of them clustered around the hospital.

I. The Cambrian Hotel is a part of a pocket of commercial uses on Arnold Street

Legend:
- Bendigo Hospital site
- Medical
- Residential
- Medium density residential
- Vacant
- Underdeveloped public land
- Retail
- Commercial / office
- Medical retail
- Community / civic
- Industrial
- Accommodation
- Active recreation
- Open space
- Car parking
- Restaurant / entertainment
- Cultural
- Water body
A. The Rising Sun pub on the hospital site

B. Associated medical uses at the hospital interface

C. Camp Ian Primary School within Rosalind Park

D. The Catholic College site

E. Old Bendigo Gaol, subject to redevelopment

F. Office uses established along Bridge Street.

G. Typical residential dwelling

H. Medium density residential development

I. The Cambrian Hotel, part of a pocket of commercial uses on Arnold Street
4 built form and character

The existing diverse built form character within the study area is a result of the precinct’s evolution across residential, commercial and institutional uses. The broader precinct character is strongly defined by the street network and urban blocks, which are overlaid across varied topography with incumbent landscape contribution. These factors make for an urban character that is inconsistent in appearance, despite retaining the integrity and interest of traditional, heritage built form and strong urban landmarks.

The surrounds of the hospital precinct generally comprises of low-rise, one and two storey period homes with established gardens. These areas are dissimilar from other precincts to the south where there is a coexistence of commercial buildings in a ‘main street’ setting. Such strong urban landmarks exist in and around Rosalind Park, towards View Street.

The urban character of the broader precinct, in particular the residential sectors to the north and west, has also been influenced by the pattern of subdivision and re-subdivision. Disparate examples of multi-unit and medium density forms have occurred in a dispersed fashion across the residential area and reflect the natural evolution of residential areas from larger quarter acre blocks to a fine-grained development pattern. There is clear evidence of a tighter subdivision pattern in the south-east part of the study area beyond Lucan Street, compared to the more generous proportions of lots to the north-west on elevated ground.

One of the most distinct character traits within the study area is the ‘main street’ Bridge Street corridor, which links Arnold Street to the Chinese Precinct and the City Centre beyond. Some development within this area is of an attached form with a combination retail and showroom buildings that exhibit a very different urban character to the domestic surrounds.

The study area beyond Barnard Street to the south-west, incorporating the recreation node of Rosalind Park and its associated institutional forms, leading towards View Street, represents another very distinctive urban character. This ‘campus style’ arrangement with strong heritage attributes is also distinctive from the domestic context to the north-west.

It is acknowledged that through this analysis the Hospital site sits at the junction of distinctive and important character areas. The Hospital development, therefore, has the opportunity to mediate different attributes of varying residential districts. In due course, future development of the site has the capacity to influence varying degrees of changes at its edges.

4.1 character precincts

The hospital precinct comprises a number of different character precincts as illustrated in figure 9. The character descriptions below identify the extent of each precinct and the nature of building eras, types and scales which are identified as follows:

4.1.1 precinct 1: strong consistent heritage character

This area is defined as a large, mainly residential area to the west of the Hospital redevelopment site. It is bounded by Barnard Street to the south, Hope Street to the east, with lots fronting Niemann Street to the north and View Street to the west. It consists of a large area contained within Heritage Overlays, but is not completely comprised of heritage or traditional built form. The precinct consists of a suite of both pre-war and inter-war domestic forms, some of which are more stately mansions with a strong landscape emanating from the 19th century (contained within the Heritage Overlay).

To the north of the precinct, between the Drought Street and Niemann Street, the predominant built form consists of cottages of a more discreet form, whereas...
larger lots and more stately double storey buildings are located on higher ground around Drought and Anderson Streets adjacent to the Catholic College. The most exposed area of this precinct is its southern profile along Barnard Street, which consists of a range of single and double storey form with an outlook across Rosalind Park. Some buildings along this edge are aligned in a tighter composition, taking advantage of its excellent outlook. This precinct is affected by Heritage Overlay Schedule 1 (Barnard Street Precinct) and Schedule 4 (Drought Street Precinct). This area also includes a number of individual heritage listed buildings and established trees, as well as traditional buildings of character value (but not within the Heritage Overlay). Along the Barnard Street edge there are clear opportunities for infill development to create a strong interface along the western approach to the hospital precinct, in addition to celebration and demarcation of the gateway to the precinct at View Street.

4.1.2 precinct 2: mixed commercial forms

As distinct from the established residential areas, more traditional mixed uses occur both to the north and south of the hospital site. The Bridge Street and Arnold Street commercial areas represent a different built form typology and character, exhibiting retail tenancies, function centres and larger scale office buildings. The Bridge Street commercial corridor is an important traditional spine that was historically associated with the Chinese community and is strongly anchored to the Chinese Precinct to the south-west.

Today, whilst commercial in use, activity and image, it represents a particularly mixed presentation with significant potential for improvement. The existing profile of the streetscape is of 1 to 3 storey built form in both attached and detached form (and sometimes in a large format model), but what is most notable about the streetscape is its vacant undeveloped condition with open gaps and car parking that occur to either side of the streetscape. The disparate nature of commercial development along the street means that some buildings are set hard to the street front, while others are set back in an inconsistent manner. Similarly some premises include awnings and weather protection, while others have a more open profile to the street.

This disparate arrangement of buildings is representative of the very mixed nature of Bridge Street and of an evolving commercial spine. The corridor is also inhabited by a number of freestanding detached cottage buildings of a timber weatherboard profile and of single storey scale. While these may be perceived as underwhelming in a main commercial streetscape, they add to the visual interest and traditional quality of the Bridge Street corridor. To the eastern extent of Bridge Street and its corner with Arnold Street is a large undeveloped site which exposes the rear and side of either commercial forms from this critical junction.

The Bendigo Hospital Precinct contains smaller activity nodes along Arnold Street at the intersections of Barnard, Drought and Michelsen Streets. These nodes represent different built form typology and street edge condition, some with relatively larger building footprints set hard to the street, including shop awnings or at-grade car parking.

The commercial strip to the south of Rosalind Park, which is defined by MacCrae Street, Farmers Lane and Bridge Street, currently contains double storey commercial buildings with outdoor dining opportunities. The streetscape contains open gaps and at-grade car parking, fences/barriers at the street edge and back of shop condition which discourages the activation of the strip and creation of an active pedestrian link between Bendigo Hospital and City Centre. Corner of Bridge Street and Pall Mall provides opportunities to create a strong and activated pedestrian environment which extends both to the Main Street frontage as well as to the Farmers Lane.

4.1.3 precinct 3: domestic scale mix of eras

This precinct includes the residential neighbourhoods to the north and east of the Bendigo Hospital site. It includes a large area on elevated land defined by Norland Street, Smith Street, Norfolk Street and extending to the west around the Hustlers Reef Reserve close to Niemann Street.

The precinct is characterised by relatively consistent detached 1-2 storey forms of housing or from the 19th century and early 20th century with a number of infill examples of detached and multi-unit (villa unit) form from the 1950s 60s and 70's. While there is a diversity of dwelling stock in the precinct, reflecting the progressive growth of the settlement, dwellings area consistently setback from the streetscape and exhibit a predominant use of weatherboard and brick materials with pitched roofs. While this large precinct exhibits a consistency of domestic form, there are more discreet distinctions between particular corridors, edges and urban blocks. Most notably, the Arnold Street corridor leading to the north which leads to and through the hospital precinct is distinctive in that it represents an urban form abutting a main road corridor. Subsequently, this precinct exhibits a series of multi-unit forms, commercial and industrial buildings, and less consistency in streetscape image and presentation.

It is noteworthy that the urban block defined by Niemann Street, Arnold Street and Drought Street is subject to more considerable change due to its proximity to the hospital. Heritage and Neighbourhood Character Overlays also apply to land immediately abutting the hospital site. These currently have a bearing on the capacity for change. Unlike the residential precinct to the west, this precinct does not exhibit a strong landscape character, other than streetscape paintings occurring within the public realm. As illustrated in diagrammatic analysis, large areas behind dwellings remained undeveloped and land utilisation is sparse. There is clearly potential within this precinct for infill development in light of its proximity to the hospital.
It is also important to note that the residential blocks to the east of Hospital precinct, which can be defined by Bayne Street, Stewart Street, Nolan Street and Bridge Street, form a distinctive sub-precinct in terms of parcel size and proportions. The sub-precinct, located on a rising topography, includes lots with a depth of 22m. These parcel types are almost half in depth when compared to the parcels towards the north. This condition increases the intensity of the sub-precinct allowing little chance to subdivision or infill. It is however noted that there are a number of recent redevelopment sites with double frontages both to the north and southern streets. There is a considerable potential of redevelopment with double frontages creating potential through block north-south pedestrian links.

4.1.4 precinct 4: mixed typology and eras
A highly urban network occurs to the south of the hospital in close proximity to, and encircling, the Bridge Street commercial corridor. This mixed area is one that benefits from its proximity to both Lake Weeroona, the Bridge Street corridor and City Centre and Rosalind Park. It is an area that has already been subject to considerable change of a modest type and one that will be seriously implicated in the redevelopment of the hospital given its position abutting the City Centre, it’s relatively flat open condition and it’s orderly arrangement of lots and lanes. Although this precinct has a strong residential presence, it has a scattered land use pattern including both housing, industry, commercial, office, medical and retail uses which reflect a particularly diverse character. A range of health services are also provided in both purpose built forms but more typically in adapted residential dwellings along Barnard Street.

Features of this character precinct include it’s relatively flat open profile leading to the Bendigo Creek. This affords open views along the grid street network that is more akin to the CBD profile when compared to the more undulating landscape to the north. The landscape setting of this precinct is also notable, primarily in the form of established and traditional exotic plantings of street trees along both Barnard Street, abutting the hospital, and along Bridge Street. An opportunity for infill and consolidation exists on land adjoining Water Street, in between the Hospital and the Bridge Street corridor. This highly permeable precinct, which includes a new ambulance centre, incorporates a street network and laneway linkages that benefit from its notable attractions. Water Street is a critical corridor, due to its proximity to the Tom Flood Velodrome and its direct connection between Bridge Street and the hospital. It forms a link among the different character precincts.

4.2 other built form observations
The precinct character to the south of Barnard Street leading to View Street and the City Centre edge, comprise both the prevailing built form, landscape and open space attributes to comprise the precinct’s character. Rosalind Park is a key contributor to the City Centre as a regional destination and is central to its function and amenity as the urban ‘heart’. The northern reaches of Rosalind Park contain a number of recreational attributes, including the historic Queen Elizabeth Oval, and other destinations including the swimming pool, lawn tennis club, bowls club and Tom Flood Velodrome. These assets are framed also by a series of stately institutional buildings located in a ‘campus’ setting. These are subject to long range views from the major streetscapes of View Street and Barnard Street and are critical to the functioning an understanding of the study area. Strong but informal pedestrian connections have developed through the parkland to key landmark buildings.

Key forms, such as the Camp Hill Primary School, Old Gaol, Bendigo Art Gallery and the Capital Theatre occur within and at the periphery of this space and are critical ingredients in connecting the CBD activity with a destination that will emerge with the development of the new hospital. These buildings are also notably traditional in a civic / community sense, as they are prominent when viewed from the higher ground and on approach to, and through, Bendigo along Pall Mall.

The precinct contains a number of residential strips directly abutting public open spaces including Hustlers Reef, Bendigo Creek Trail and North Bendigo Reserve. The building forms and typologies presently vary in terms of their built form typologies and presentation to the public open spaces. Predominantly single storey cottages abutting Hustlers Reef contains significant rear yards and present a fenceline to the reserve as well as the residential dwellings along Bendigo Creek. The new medium density hospital accommodation at Atkins Street will include a different built form typology and edge condition to the reserve. The management of these interfaces can improve activation of the public realm and level of passive surveillance.

This analysis observes the changing angles and directions of key boulevard views, which impacts on view termination points. As identified in the character precincts analysis, these termination points have significant visual impacts on built forms, where side or rear elevations are exposed. Key view termination points include the intersections of Barnard & Arnold Streets and Drought & Arnold Streets as well as main hospital site entry points. At the eastern and western gateways of the hospital precinct along Barnard Street, as well as the northern approach at Niemann Street, the topographical conditions play a significant role in defining view termination points.
It is also noted that the properties which directly interface with the hospital site along Lucan Street to the south and Drought Street to the north indicate potential need and capacity for change in terms of encouraging the spill over of the supporting medical facilities. There are a number of examples of medical use forms which have been adapted from traditional residential form and scale as well as 1-3 storey contemporary purpose built specialty clinics. It can be anticipated that the transformation of the uses that have occurred over time along Lucan Street, will also affect Stewart Street and Barnard Street edges. As such, it will be important to consider the new built form, streetscape presentation and conflict management as these profiles evolve.

4.3 parcel sizes

Another influence on both the existing and the built form possible within the precinct is the size of land parcels. The existing subdivision and ownership patterns have an influence on a range of relevant matters including the sense of space within different areas, the proximity of dwellings to each other and the consequent sense of enclosure, but also their potential for future sub-division and the levels of landscaping possible within different areas.

Notable within the precinct are the larger parcel sizes to the north of the precinct which has contributed to a sprinkling of smaller lots where more recent sub-division has occurred. A finer grain of sub-division is also clearly visible in the south-east portion of the study area.

4.4 issues and considerations

Key issues for consideration or recommendation in the following stages of this project, arising from this assessment of built form and character, include:

- Protection of key views and aspects towards the key civic assets within Rosalind Park.
- The strengthening of the Bridge Street corridor as the connecting fabric between the hospital and the City Centre.
- The recognition of the heritage attributes of land to the north and west of the hospital on higher ground.
- The capacity at the periphery of the hospital to the north and east, and to a greater degree to the south, for infill.
- Potential of Barnard Street, at the edge of the hospital, to play a key role in connecting the hospital to the wider precinct, particularly in light of the Water Street link to Bridge Street.
- The recognition and capacity for infill development behind residential development on higher ground to the north, in the domestic scale mixed character area.
- Recognition of lots to the north with dual frontage in accommodating infill development in the domestic scale mixed character area.
- Consideration of the different types of infill that may be appropriate in areas with larger or smaller lots to promote appropriate and responsive design.
- The potential of the mixed typology and era’s precinct for consolidation given its abutals to the Bendigo Creek and its proximity to both Bridge Street and Lake Weeroona.
- Recognise the high visibility of lots fronting the Bendigo Creek and the existing mix of development that has occurred in this area.
- The potential for review of the Neighbourhood Character Overlays to the south-east in light of increasing development pressure associated with the hospital project.
KEY REFERENCES

Please refer to the following page for associated photographic references

A. Grand brick heritage buildings
Many of the grander residential buildings are found in the western part of the precinct.

B. Historic weatherboard cottages
Much of the remaining heritage building stock comprises more modest weatherboard cottage forms.

C. Scattered commercial forms
Within the residential areas, there remain a number of commercial forms which are set forward to the street frontage.

D. Newer medium density in townhouse form
More recent medium density development in the precinct is in double storey attached forms.

E. Older medium density in villa unit form
Much of the existing medium density development occurred in the 60s and 70s and is in a modest one storey villa unit format.

F. More recent commercial forms up to three storeys
Commercial forms established recently along Bridge Street comprise typical two and three storey forms set to the street frontage.

G. Lower scale commercial forms set back from Bridge Street frontage
Many older commercial forms along Bridge Street are lower scale and many are set back from the street frontage.

H. Grand civic architecture at the City Centre edge
Buildings along View Street and Pall Mall comprise grander civic architecture.

I. Landmark buildings within Rosalind Park
Along with the grand civic architecture at the City Centre edges, many significant forms such as the Camp Hill Primary School building are set within Rosalind Park.

Legend:
- Bendigo hospital site
- Key landmark forms
- Institutional forms
- Commercial/industrial built forms
- Single detached built forms
- Multi unit built forms
- Pavilions/grandstands & similar
- Key reference sites
- Vacant lots
- Underdeveloped public land
- At-grade car parking
- Heritage overlay precincts
- Neighbourhood character overlay
- Bendigo hospital brick walls
- Heritage wrought iron fencing
- Open space interfaces
- Key hospital precinct interface
- Proud heritage form interface
- Elevated heritage form interface
A Grand brick heritage buildings

B Historic weatherboard cottages

C Scattered commercial forms

D Newer medium density in townhouse form

E Older medium density in villa unit form

F More recent commercial forms up to three storeys

G Lower scale commercial forms set back from Bridge Street frontage

H Grand civic architecture at the City Centre edge

I Landmark buildings within Rosalind Park
5 heritage

5.1 the precinct’s history

Particularly important in this context is the Great Extended Hustlers Reef Quartz Gold Mine, one of the key reeflines which consolidated Bendigo as a gold mining centre. This reefline runs straight through the western portion of the study area on a north / south alignment (see Figure 1.2). The only remaining area which reflects this important reefline is the Hustlers Reef Reserve. The link between the mining history of the site and the hospital is a key one, with the hospital having been established originally to care for miners. Another key thread links the history of the hospital site with the Chinese Precinct to the south, with the Chinese community donating money to help fund the establishment of the hospital and continuing the tradition of donations today.

5.2 indigenous heritage

In addition to the European history of the study area, the existing controls for the precinct also include identification of the area along the line of the Bendigo Creek as having potential significance to the indigenous population. This includes part of all of the lots fronting this creek and has implications for the steps that need to be taken before any development of this land can occur. Potential cultural significance does not necessarily restrict development. Further assessment of the potential significance of these areas will be needed before development can proceed.

5.3 landscape and garden history

The themes of landscape which run through the history of Bendigo should also

One important urban design assessment criteria is the capacity for change. A significant limiting factor in this potential capacity is the occurrence and integrity of heritage stock. While the CoGB has a clear planning regime that sets out heritage requirements, it is important to appreciate the heritage context of the hospital precinct and, indeed, the hospital periphery in its own right. This is a fundamental factor in considering the potential for change within the study area.

This precinct has a rich social and cultural history in the field of health and community well-being. In addition to the provision of Western medical services for miners and then residents of Bendigo, the site of the hospital and its surrounds have other connections to the history of health within the Bendigo context. The hospital site was also utilised as a place for the treatment of mental illness, a practice that continues today, albeit with a very different treatment focus. The hospital site also has interesting links to the epidemiological history of the diseases and epidemics that were present on the goldfields, and the connection of Chinese miners and their medical traditions to the treatment of such diseases.

The Bendigo and Northern District Base Hospital in Lucan Street has played an important role in the history of the City. The first building, known as the Bendigo Gold District Hospital was constructed in late 1800s, which is significant as one of the earliest purpose-built hospital in the goldfields city of Bendigo. The development of this important regional Victorian hospital evolved over about 150 years, in a number of different phases. Although only a few significant early structures remain of the earliest phase of development (designed by notable architectural firm, Varland and Getzschmann), many new buildings have been added to the complex in the 20th century.
be considered in the formulation of the Structure Plan. While the heritage listing of areas of open space such as Rosalind Park and Lake Weeroona is one element of this, it is also important to acknowledge the historic tradition of street tree plantings which, within Bendigo, has traditionally included:

- Sugar gum
- Ironbark
- Crimson Flowering Gum
- Currajong
- Elm
- Plane
- Pine

5.4 heritage management

Many of the heritage assets within the precinct were identified in the Eaglehawk and Bendigo Heritage Study, 1993. While many of the mechanisms identified for the protection of heritage may have changed in the intervening years, nonetheless the identification of the sites remains a valid consideration.

Most of the key heritage assets (i.e. where there are individual buildings or features that have been identified as important) within the precinct are covered by existing overlay controls. Land to the west is affected by a ‘precinct’ based control, which assesses the wider streetscape, as well as the individual sites. One notable exception is the Hustlers Reef Reserve, which was recommended for inclusion under a Heritage Overlay and which has a Conservation Management Plan prepared but currently remains unprotected. While more recent heritage studies in applying a precinct based control have identified buildings that are important in their own right, buildings that are important in their contribution to the streetscape and those that are ‘non-contributory’, this has not been undertaken for the Study Area. This means that there is some lack of clarity as to which sites may be more suitable for redevelopment (within appropriate parameters) as opposed to those sites which need to be preserved.

The application of a Heritage Overlay is often seen by developers, and some residents, as an impediment to development through the introduction of an additional layer of control. Anecdotally, much of the development enquiry within the precinct have occurred within the northern and eastern portions where there are no heritage controls.

The Structure Plan will need to consider the commencement of a new project by the City of Greater Bendigo, the White Hills and East Bendigo Heritage Study. This will be the first study specifically undertaken for this area and is likely to lead to overlays being applied to either individual buildings or to sub-precincts. The area subject to this study is identified on Figure 12.

It will, therefore, be important that this project is able to provide some clear direction on how to manage the competing interests of preserving the important heritage of Bendigo’s inner urban areas, and the need to provide more intensive forms of development around key infrastructure assets, such as the hospital.

5.5 issues and considerations

Key issues for consideration or recommendation in the following stages of this project arising from this assessment of heritage include:

- The need for clear direction of appropriate approaches.
- Careful consideration of the appropriate balance between imperatives of heritage protection and development / consolidation opportunities within such a key area of inner-urban Bendigo.
- Opportunities to recognise and benefit from impressive heritage assets.
- How to reflect and convey identified threads and connections of history within the precinct’s public spaces.
One of the unique attributes of the BHPSP study area is the exclusion of the Bendigo hospital site itself at the very heart of the study area. This means that while there is analysis required of the periphery of the study area, there also needs to be a competent understanding of the interface between the proposed hospital and its immediate abuttals, including Barnard Street, Hope Street, Drought and Stewart Streets and Bayne Street.

6.1 broader precinct interfaces

At a macro level, the study area is defined and interfaces in the following manner:

- Pall Mall forms the southern extent of the study area at the interface between the Bendigo CBD grid and the open scenic profile of Rosalind Park and the Bendigo Creek. This edge is a highly urban profile which is anticipated to evolve into a mid-rise urban form as part of the CBD Structure Plan. This urban condition is one that strongly influences the capacity for urban intensification along Bridge Street to the north-east, connecting either along Arnold Street or Water Street towards the hospital.

- View Street forms the interface between Barnard Street and Pall Mall and is acknowledged as a strong and attractive heritage link. A significant number of landmark buildings which have an important role in the City’s history occur along this spine, such as Queen Elizabeth Oval Grandstand, Former Bendigo Fire Station, Capital Theatre, Bendigo Art Gallery, Trades Hall, Temperance Hall, Commercial Banking Company of Sydney, Union Bank, Bendigo Rifle Brigade Hotel and Bendigo Conservatorium of Music, presenting a proud built form interface that has been largely protected.

- The north-west at the edge of the study area includes the Catholic College and the Hustlers Reef Reserve and leads to the north to the Bendigo North Recreation Reserve and is associated with domestic dwelling stock of a suburban format. This residential profile extends on elevated ground to the north and east along Norfolk Street and Niemann Street leading around to Nolan Street. The interface of the study area with standard domestic form in these areas is of limited consequence in light of the likely limited degree of change and intensity at the edges of the study area.

- The southern interface of the study area to the east incorporates the edge of the Bendigo Creek corridor leading to Lake Weeroona. This is a notable barrier in the urban form and represents a critical definition. While this edge is a notable urban infrastructure, there is little evidence of significant change to either side of the Creek corridor.

6.2 hospital site interfaces

In addition to the broader interface areas within the hospital precinct, there is also an imperative to critically analyse the direct abuttals between the hospital site and the study area. There are effectively four critical hospital development precinct edges detailed within this section and illustrated in figure 14. With the broad concepts for the development on the hospital site understood, consideration of a number of key areas which will be affected by the changes proposed is needed.

These include careful consideration of where there are key entry points for vehicle traffic, including private vehicles, emergency services and delivery vehicles, as well as key ‘desire lines’ for pedestrians. ‘Desire lines’ are the paths taken by pedestrians which represent the most direct route between two key points, even where this may not be reflected by the presence of crossings or paths.
An understanding of the scale of built form at different interfaces and the landscape treatments proposed should also be developed to ensure that development at the periphery ensures the integration of the hospital site as part of the precinct, rather than as a separate element of the urban fabric. In considering this integration, it is also important to develop an understanding of the uses that will be occurring in different areas of the hospital site as this is another characteristic that can assist with managing the integration of the hospital site within the wider precinct.

An assessment of these and other factors at each of the hospital edges is provided below.

6.2.1 immediate southern interface
Barnard and Lucan Streets represent the southern profile of the proposed hospital development and the wider precinct. The proposed hospital redevelopment maintains a consistent profile of traditional wrought iron fencing and will continue to have an open profile to the streetscape. The capacity of land on the south side of Barnard / Lucan Streets is considerable given that it currently accommodates a combination of 1 and 2 storey detached forms and, in particular to the east, a series of adapted dwellings or purpose-built medical facilities. The profile of development on the south side of Barnard / Lucan Street is of a low intensity and is complemented by a strong landscape contribution in the form of significant street tree planting lining both sides of the streetscape. The important junction of Barnard / Lucan Streets with Arnold Street represent a critical opportunity to address both the hospital precinct and the development potential of its edge condition. Properties fronting Barnard / Lucan Street also benefit from rear access in the form of a streetscape / landscape at a lower profile which can assist in the facilitation of basement access or car parking.

The existing gateway to the south of the Anne Caulde Centre is likely to generate increased pedestrian movement, despite the proposed signalisation of the Mercy Street intersection, given it provides the most direct link to the City Centre, Rosalind Park and View Street. While some pedestrians are anticipated to use Mercy Street and the associated crossing to exit the hospital site, the Structure Plan will need to consider movement from the Anne Caulde gate also. The existing vehicular entry on Lucan Street is expected to remain and is likely to also provide access to the multi-deck car park and connect through to Arnold Street via an internal road. No major changes to the use or built form is anticipated along this interface on Barnard Street, however, it is understood that a child care centre is anticipated for the area closest to Lucan / Arnold Street and that serviced apartments will be developed near the intersection of Lucan and Bayne Streets. Connections between these serviced apartments and key areas of activity will need to be considered. It is understood car parking for both these uses will be accommodated within the hospital grounds.

6.2.2 immediate western interface
The western Hope Street interface between the hospital redevelopment and residential area is notable, due to the established heritage qualities of both the hospital site (notably the existing edge wall) and the abutting residential areas. Slope also plays a considerable role on Hope Street with its steep rising profile from south to north as well as its position at the peak of a rise from the east. The retention of the Anne Caulde Centre and the form of proposed redevelopment in the north-west corner of the hospital site will have a considerable bearing on the capacity of Hope Street. It is unlikely that considerable change can be realised on the west side of Hope Street in the residential threshold, however, careful management of existing traditional walling on the hospital site and particular sensitivities at the north-west corner of the hospital site at the corner of Drought and Hope Streets will require careful consideration, although it is understood built form at this interface will remain low scale. One matter which will require further investigation, however, is the identification of delivery bays associated with the hospital at this intersection, with possible implications for movement of commercial vehicles into the surrounding residential areas.

6.2.3 immediate northern interface
A key hospital interface to the north of the hospital site occurs along Drought and Stewart Streets. This streetscape should be considered in two parts, to either side of Arnold Street. In Drought Street, the hospital redevelopment is likely to develop a substantial urban form which will have a bearing on both opportunity and the profile of lots fronting Drought Street to the north. This is particularly pertinent to the corner lots on Arnold Street where there is further potential on both sides of the key junction to announce arrival at the hospital precinct. Drought Street also has very wide grassed verges along this interface. This Drought Street interface will also see significant changes in the uses occurring with the emergency department located at this interface, which will need to be considered in light of remaining residential properties and spillover activity. This interface will also service emergency vehicle movements and provide access to an underground car park and delivery bays, increasing vehicle movements in the area.

The Stewart Street profile has a narrower streetscape with a stronger landscape quality and a narrower profile of traditional housing lots (and associated surface car parking). A lesser intensity of hospital development is intended within the redevelopment site to the south of Stewart Street and it will again be pertinent to consider the potential for consolidation on the north side of Stewart Street, recognising its linkages to the east. The existing ambulance access along...
Stewart Street will not be retained and as such amenity measures and limited access may be a worthy consideration. However, a medical helicopter landing area is intended for the roof of the multi-deck car park proposed near the corner of Stewart and Arnold. Notably, the redevelopment will see an increase in commercial activity at the corner of Arnold and Stewart Streets, with a café wrapping the corner and a convenience store and conference centre also proposed in this area. Exploration of the opportunities to link the hospital site to the broader precinct through recognition of these uses should be undertaken.

6.2.4 immediate eastern interface
The eastern Bayne Street edge is one that can also accommodate change, but also one that is graced by both a more gentle topography and wide open streetscapes with excellent street tree planting. The existing edge wall, which is similar to that seen on Hope Street, acts as less of a barrier as a result of the more gentle topography. The intended hospital activities to the west side of Bayne Street include residential opportunities and it is entirely appropriate to consider the prospects for residential consolidation to the eastern side of the streetscape, stepping with slope. The south-east corner of the hospital site and the junction between Lucan Street and Bayne Street (at each corner) represents yet another opportunity to announce the hospital precinct. The capacity for modest redevelopment of these precincts should be considered in light of the neighbourhood character controls that currently exist.

6.3 issues and considerations
Key issues for consideration or recommendation in the following stages of this project arising from this assessment of interface management include:

- Recognition of the heritage importance of the western area beyond Hope Street.
- The opportunities afforded along the Barnard and Lucan Street corridor for an open profile of hospital redevelopment and the complementary intensity on the south side of the streetscape.
- The mixed profile of development and potential consolidation on Drought and Stewart Streets to the north in light of the potential configuration of the hospital.
- The critical announcement of the hospital precinct’s role and focus along Arnold Street at both Lucan Street and Stewart Street.
- Appropriate built form on the northern side of Drought Street opposite the taller built form on the hospital site.
- The bleeding of retail and commercial activities from the Arnold Street junction beyond the hospital site.
- Consideration of movement from the Anne Caudle gateway to key areas of activity.
- Impact of the emergency department and delivery bay on Drought Street and the helicopter landing site on Stewart Street on adjoining land uses.

Residential property at the intersection of Stewart and Bayne Streets

Existing development at the intersection of Stewart and Arnold Streets
A  Dwellings at the Bayne Street interface with the hospital site

B  Brick wall at Bayne Street interface, with wide street corridor

C  Converted buildings used for medical purposes at Lucan Street interface

D  Open profile fencing with landscape buffer on hospital site at Lucan Street interface

E  Open space interface with velodrome seating and Anne Caudle Centre in background

F  Strong barrier with fence and slope at Hope Street interface

G  Wide road reserve, open frontage and converted dwellings at Drought Street interface

H  Dwellings converted to medical uses on Arnold Street close to hospital site

I  Elevated residential buildings at Stewart Street interface
In considering how the hospital precinct will develop and be influenced by the hospital redevelopment, the patterns of access and movement into and through the precinct are vital to the functioning of the precinct and its capacity to maximise economic and other benefits. The hospital precinct’s location on undulating topography requires an integrated planning and urban design response which strikes the balance for a safe, health focused environment that is both accessible and legible for pedestrians with core emergency and service vehicle access needs.

7.1 broader access network

It is important firstly to understand how the precinct sits within the broader transport networks of the City. These networks operate at a range of different levels, including networks for the movement of freight, road transport, public transport, cycling, as well as pedestrian networks. While these are discussed in more detail within the Transport Assessment, the following key points are noted in relation to the broader network:

- Bendigo is situated within a regional network of cities, and as such is connected across Victoria via the main highways (the Calder, Loddon Valley, McIvor and Midland Highways all intersect in Bendigo)
- The hospital precinct connects to Whitehills, Epsom and Huntly to the north-east and beyond this up to Echuca along the Midland Highway.
- Arnold Street links the precinct to Long Gully and Eaglehawk to the north of Greater Bendigo’s urban area and beyond that to Kerang.
- Many people accessing the hospital from regional areas are likely to do so from the north, travelling either down Arnold Street to the site or coming in via Weeroona Avenue and Lucan Street.
- The road hierarchy of the City includes the identification of the ‘inner box’ which is intended to divert heavy vehicle movement away from the CBD to allow improvements to the pedestrian environment. This ‘inner box’ includes Myers Street to the south, Bridge Road and Arnold Street within the study area, as well as Barnard Street and Don / Myrtle Streets.
- Within and adjoining the study area, Barnard Street / Lucan Street / Weeroona Avenue, Arnold Street / Bridge Street and Pall Mall / McCrae Street are all classified as Category 1 Roads. Nolan Street (south of Lucan Street) and View Street (south of Barnard Street) are both classified as Category 2 Roads. These classifications both reflect the role the roads play in the broader networks listed above and denote management of these roads by VicRoads (as opposed to Council).
- Bendigo has an extensive existing (or already proposed) on and off road cycle network which links many of the outer-lying areas of Greater Bendigo to the precinct. These connections feed in primarily via on-road paths along Barnard and Arnold Streets as well as along the Bendigo Creek trail. Another broader connection which will influence the study area is a proposed loop path through Bendigo’s urban areas which utilises Iron Bark Gully to the immediate north of the precinct.

7.2 the street network

The street network within the study area sits within a broader network of central Bendigo which was laid out in a grid that becomes irregular given the significant topographical condition. In particular we note the presence of a more fine grained street network north of Rosalind Park and to the south and west of hospital where the street network is supplemented by a laneway system. These lanes

- Steps on the central Rosalind Park path
- Signalised pedestrian crossing on Barnard Street
have seen some sub-division but have a very different street profile to the more traditional arrangement and have been subject to some pressure as development around them has intensified. These laneways also provide the interface between the study area and the Bendigo Creek corridor, and the same development pressures can be seen here in the number of multi-unit developments. The broader grid pattern of streets can also be seen in the north of the study areas but the legibility of the network in this area is strongly influenced by topography which compromises understanding of wider connections. Also notable in relation to the network of streets within the area is the pattern of historic street closures which can be seen clearly on Niemann Street and also along some of the smaller laneways. These closures restrict vehicular movement but retain pedestrian permeability.

7.3 pedestrian networks and connections

One of the most important considerations in looking at the precinct are the connections between the hospital site and both the surrounding residential areas and identified key destinations. The issue of pedestrian movement within the precinct is emphasised by consideration of the existing and future users of the precinct. Key among these considerations are the very significant number of school aged children moving to and through the precinct, along with a significant number of university students. In addition to the high number of students the hospital itself is associated with a range of users for whom vehicular access is not possible, or is unlikely. These include people who are not able to drive due to illness, injury or disability, older people and people who have accessed the hospital site from other areas of the state, but who have arrived via public transport or other means and do not have local access to a private vehicle.

Key destinations are other sites within or around the precinct which could be expected to generate relatively high level of pedestrian movement. These have been identified as:

- The two school sites, Art Gallery, school bus drop-off site and Goal Theatre within Rosalind Park.
- The Catholic College.
- Lake Weeroona.
- The Bendigo CBD.

Perhaps the most crucial of these are connections from the hospital precinct to the City Centre which will include both connections along Bridge Street, Park Road, as well as connections through Rosalind Park. While Park Road appears to be the clearest north-south link between the City Centre and the hospital, the current configuration of this road, including the edge conditions, topography, and current vehicle use may be inhibiting pedestrian movement. It is noted, however, that this is one of the more well-lit connections.

Between Barnard Street and Gaol Road there is only one key connection (although it is noted that access is also available through the Queen Elizabeth Oval). Beyond Gaol Road however, there are three formal paths which lead towards the City Centre. However, two of these links contain stairways which will prevent movement by a range of pedestrians. To the south west within Rosalind Park a range of diagonal sloping paths provide another point of access to the City Centre, but this is a significant distance from the hospital site itself.

Links through to the retail core of the City Centre, while they can occur via Mundy Street, are currently directed towards Bull and Williamson Streets due to the level of activation on those streets and configuration of paths through Rosalind Park which provide direct access to those streets. While the possibility exists of a more direct link from the hospital via Park Road or Bridge Street, through the Chinese Precinct, this is not currently maximised and that area lacks activation.

One of the other key factors associated with pedestrian movement through the precinct is the availability of safe crossing points or barriers which exist which inhibit pedestrians due to safety risks (whether real or perceived). It is noted in particular that Barnard / Lucan Streets (due to its role as a heavy vehicle route identified above) can be a key barrier. Currently, crossing points on Barnard Street are provided:

- By the signalised intersections at Arnold Street and View Street;
- By the signalised pedestrian crossing between the wetland and bowls club;
- An additional signalised crossing is proposed at Mercy Street as part of the hospital redevelopment.

While a central median between View and Arnold Streets provides some potential pedestrian refuge, Lucan Street does not have a central median. There are however, some areas where pedestrian movement, and the relationship of this movement to vehicle movement, is problematic. In particular, we note the intersection of Water Street (which meets Barnard at a relatively awkward angle affecting sight lines) and the intersection of Bayne Street, where a wide road reserve, high volumes of traffic and lack of refuge compromise pedestrian movement. The informal nature of car parking currently occurring around the Catholic College has also been identified as a potential conflict point, given the high level of pedestrian movement likely to be associated with students in this area.
The role of topography in creating barriers to pedestrian movement is also particularly relevant to this assessment. The areas to the immediate west of the hospital site along Hope Street and extending down Barkly Street is a key example of this, however the topography of the area to the far north of the study area is such that the roads are quite steep, to the extent that some vertical separation of road lanes has occurred, along with associated vehicle barriers, which also inhibit pedestrian movement. Also notable is the area of separation which occurs on the northern side of Arnold Street, although it is understood this condition is likely to change under a VicRoads plan to duplicate Arnold Street in this location.

Most roads within the precinct have pedestrian paths on both sides. There are however, several areas within the precinct that do not have sealed footpaths which will need to be considered further. Within the broader urban area this affects primarily Niemann Street, however, in the south-eastern portion of the site many of the smaller laneways which have been subject to some re-subdivision do not have footpaths given their width. These include Uley Street and Joseph Street fronting the creek corridor.

Also important to note is the connections provided by the shared path along the Bendigo Creek. This trail plays a key role in connecting the broader network and The intersection of this creek corridor with Arnold Street is anecdotally subject to some conflict between pedestrians (and cyclists) and vehicles. This is partly due to the use of the south-eastern extent of Arnold Street as a shortcut through to the McIvor Highway to avoid the use of Bridge Street.

7.4 public transport

Public transport facilities in Bendigo in general include rail, bus, tram and local taxi services. Within the study area, the existing urban bus routes and school bus routes are outlined in Figure 12. These bus routes provide an adequate coverage within the area noting that issues of timetabling and frequency are beyond the scope of this assessment. Connections to the available train services will need to be considered although these are beyond comfortable walking distance and should therefore be addressed as part of the transport assessment.

In addition to the wider public transport, a tourist tram route runs from the Central Deborah mine site along Pall Mall / McCrae Street and turns up Nolan Street before finishing at the Bendigo Joss House Temple north of the study area.

7.5 vehicular access (Rosalind Park and hospital site)

One of the key issues which will need to be considered as part of this project and resolved through the Rosalind Park Masterplan is the issue of vehicular movement through and around Rosalind Park and how this interacts within movement patterns likely as part of the hospital redevelopment. The quantity of movements experienced within the Gaol Road / Park Road area during peak times associated with pick-up and drop off times needs to be considered in addition to the anticipated movement associated with any events at the new theatre, during major sporting events, as well as any intensification of activity within the Bridge Street corridor. The possible movement between this area and any large areas of car parking associated with the hospital and the need for further consideration of the movement patterns must influence any outcomes in the precinct. In particular the long term roles of Gaol and Park Roads and how movement in and out of this precinct interacts with the higher level roles corridors such as Barnard Street are supposed to play, are important considerations.

7.6 cycling

Within the study area on-road bike paths are provided along Barnard and Arnold Streets. Bendigo Creek Trail is another path that provides off street cycling opportunity. Even though Velodrome and Bendigo Creek Trail attract cyclists from the local and regional area, the area does not appear to have a strong cycling focus and this may be a result of the major links through the area being provided along routes which are also identified heavy vehicle routes. This potential or perceived conflict can often influence decision making in terms of cycling. There also does not appear to be very much infrastructure associated with either commuter or pleasure cycling (such as bike pumps, bike racks, storage / shower facilities etc) provided within the study area.

7.7 car and bus parking

While the distribution of car parking is identified on Figure 12 and documented in more detail within the traffic assessment, the following points are considered pertinent to the urban design assessment of this precinct:

- Number of smaller discrete pockets of car parking within Rosalind Park;
- The presence of a number of at-grade car parks operated by the hospital on the periphery which it is understood will remain following the redevelopment;
- The presence of a number of Council and private car parks along the Bridge Street spine;
- The presence of long bay and taxi parking at the bottom of Park Road;
- The intention to provide only limited car parking as part of the redevelopment of the gaol site, to the south of Tom Flood Velodrome; and
7.8issues and considerations

Key issues for consideration or recommendation in the following stages of this project arising from this assessment of access and movement include:

- The relationship between areas with good pedestrian conditions and higher densities of development and areas where improvements may be needed to the existing network.
- The potential to consolidate a number of discrete, smaller car parking areas owned by Council primarily within Rosalind Park and around Bridge Street, ensuring direct linkages to areas of key activity.
- The opportunities for improvement of existing or new pedestrian connections though Rosalind Park area, in particular the area around the Tom Flood Velodrome, and the future roles of Park and Goal Streets.
- The best location for the school bus services and the location of pick-up and drop-off areas associated with a range of uses occurring within the park.
- Broader connections from the northern area of the study areas and potential links via the Iron Bark Gully and down Arnold Street.
- The importance of the presentation of Arnold Street to the north of the hospital site, given the likely role as a key vehicular access route.
- The management of car parking associated with the Catholic College and the impact of this on the streetscapes and pedestrian safety in the area.
- Opportunities to improve levels of pedestrian activity through increased activity and amenity improvements along key routes.
- Improvements necessary to smaller streets / laneways to accommodate additional development.
A Barnard Street corridor

B Typical laneway in the north-eastern portion of the precinct

C Key pedestrian pathway through Rosalind Park, including steps

D Intersection between key Rosalind Park pedestrian / cycle path and Gaol Road

E Heavy vehicle traffic along Arnold Street at hospital interface

F Wide road crossing without pedestrian refuge at Lucan / Bayne Street intersection

G Cyclists using key pedestrian path in Rosalind Park leading towards Barnard Street

H Public transport along Barnard Street

I Informal car parking adjacent to the Catholic College senior campus
Landscape and public realm analysis of the Bendigo Hospital Precinct Structure Plan study area focuses on the key streetscapes, public realm and environmental features addressing recreational activities, vegetation, waterways, reserves and formal and informal gathering places.

8.1 open spaces

The study area comprises a combination of active and passive open spaces mainly located within a walkable distance to the hospital site, including Rosalind Park, Bendigo Tennis Complex, Lake Weeroona, Hustlers Reef Reserve and Bendigo North Recreation Reserve. The upper Rosalind Park is formally designated as an active open space containing a range of sporting facilities including Queen Elizabeth Oval, Bendigo Aquatic Centre, Croquet Club, Lawn Bowls and Lawn Tennis Club, netball courts and Tom Flood Velodrome, whereas Lower Rosalind Park is a passive recreation area including walking paths and Conservatory Gardens. Bendigo Tennis Complex and Lake Weeroona are important public open space assets that are accessed mainly through Lucan Street. It is noteworthy that Rosalind Park and North Bendigo Recreation Reserves are subject to individual masterplanning processes which are currently underway.

It is noteworthy that the Bendigo hospital site is in walking proximity to such a range of significant and diverse amounts open space. The active and passive recreational facilities are imperative to meet the need of the broader locale as well as the Bendigo Hospital users including patients, visitors, hospital staff, and students. It is therefore important to strengthen the links to the open spaces from the hospital and, more importantly, improve the quality of the public space, providing necessary safety and public amenity measures including street furniture, lighting, way finding, signage, shelters etc. Providing footpaths compliant with the Disability Discrimination Act is also necessary.

8.2 road reserves

Road reserves across the study area are consistent and characterised by 30m wide corridors. Wide nature strips as evident on Drought, Stewart and Norfolk Streets have an important role in the character of the hospital precinct study area and contributes to the streetscapes with an aesthetic value. In terms of the overall street tree planting provision, it is noted that the study area experiences a mix of street tree planting in terms of formality. Barnard and View Streets include central median trees in addition to regular street planting on both sides of the streets which create strong avenue effects. As identified, streets such as Water Bridge Street East and Frederick Streets have a strong sense of containment through the greater formal and regular street planting where less significant examples of formal street trees are evident. Other streets such as Drought, Arnold and Niemann Streets have a sense of openness derived from informal street tree plantings at inconsistent intervals. It is important to acknowledge the prominence of the street tree planting in terms of the place identity, attractiveness of the streetscape and screening effect to the built form.

8.3 public places

One of the important attributes of the public realm character of Bendigo Hospital precinct is important reference sites such as the Chinese Precinct and Hustlers Reef Reserve (former mining area transformed to a passive open space area). These key public places are important in protection of the stories of the City’s evolution which also have strong historical connections with the foundation of Bendigo Hospital. The study area provides opportunities to maintain and reinforce these thematic links overarched by ‘health’ and make them clearly readable by public through design detail. The relevant public realm improvement might
include thematic street tree planting, installation of information plaques as well as intensification of green volume of Hustlers Reef.

The study recognises the existing and potential gathering spaces as one of the most important attributes of the public realm. It is noted that key gathering spaces within the study area include the central space between university buildings, the space around the hospital’s emergency service and the school pick up/drop-off points around the Catholic College and Rosalind Park Schools. The Public Plaza between Rosalind Park and city centre and the outdoor dining spots along the commercial strip along MacCrae Streets are identified as gathering pockets to the southern end of the study area. Lower Rosalind Park and Lake Weroona also contains such gathering spaces at certain points. It is noteworthy that the playground located within lower Rosalind Park is the only playground within the study area. With the new hospital development, it is considered that the gathering needs of different users will increase. It is therefore considered that quantity and quality of the gathering points should be considered.

Finally, it is noteworthy that considerable public owned land exists within the hospital precinct as identified in Figure 15. Major public open spaces including Hustlers Reef Reserve, Tennis Complex and Rosalind Park and a considerable number of school lands are identified as crown owned land. It is also important to note that Council owns a notable number of parcels strategically located between the hospital site and City Centre including the public land between Park and Water Streets, the Chinese Precinct and relatively smaller pockets along Bridge and McCrae Streets which carries opportunities to achieve necessary public realm improvements to strengthen links between the hospital site, Rosalind Park and the City Centre.

8.4 entrances

What can be identified through landscape and public realm analysis is the key entrances to the hospital precinct. A key entrance corridor from the north to the hospital precinct is identified along Arnold Street. The beginning of steeper topography leading to the ridgeline north-west of the hospital site form a threshold where the visual and physical connections with hospital site begin to dissipate. Other important key gateways from east and west approaches to the hospital precinct are on intersections of Barnard and Hope Streets and Lucan and Nolan Streets. The Bridge Street and Arnold Street intersection is the key gateway to the hospital precinct from the south. The gateways are the key locations where it is possible to get the sense of the hospital. The possibilities exist in demarcating these corners not only through built form but also public realm. Public realm improvements should be made to emphasise the entrances to the hospital site without compromising the visual connections that currently occur.

8.5 boundary treatments

Another important element which defines the public realm edges are boundary walls and fencing treatments within the study area. The brick boundary walls of the hospital along the Hope, Mercy and Bayne Street boundaries have been identified as being of significance. The brick walls are largely intact, but have been knocked through or partially demolished in short lengths to form additional openings or allow for more development on the site. While this can be seen as a barrier to public realm and integration of the hospital uses, it is certainly one of the key contributors to the place identity of the precinct and therefore requires consideration of retention. Wrought iron fencing along Barnard Street, associated with granite gate lodge has also been identified as a significant boundary structure that allows permeability and views through the hospital site. Fencelines of Rosalind Park along Barnard Street frontage however are visually unpleasant and form a barrier to the pedestrian movement. These fencelines wrap individual sporting fields within Rosalind Park and compromise connectivity. As per the mixed character of the residential neighbourhoods, domestic fence and front garden treatments are highly mixed. While some dwellings have open frontages, majority of the housing stock incorporate low and landscaped fencing to the residential streets.

8.6 landscape and vegetation

The strong and consistent residential character of the neighbourhoods to the west and north of the study area reflects to the landscape character through formation of private vegetation clusters contained within the centre of residential blocks. As identified, the northeast of the hospital precinct consists of larger allotments which support the private canopy clusters. Residential precincts to the south and east are less significant when compared to the west and north western residential areas. Specifically the area defined by Smith Street to the north, Arnold Street to the west, Nolan Street to the east and Stewart Street to the south. It also includes the linear block between Arnold and Norfolk Streets. There are minor exceptions within the identified area which contain significant private canopy vegetation which are of heritage value. The private vegetation clusters of the residential neighbourhoods laying over the rising topography significantly form the town silhouette when viewed from the lower grounds to the south of Barnard Street The private canopy clusters that shape the townscape should be one of the key areas of attention in relation to the management of development pressure.
8.7 Topography

One of the most distinctive attributes of the study area is its variable topography and the manner in which the experience of passage to and through the study area changes according to the rise and fall of land and the location of particular peaks and troughs. It is important to acknowledge the importance of the key views in terms of their role in the precinct character. Any built form considerations should be linked to careful assessment of the topographic conditions and key views. The screening or the loss of the key views have implications regard to place making, wayfinding and orientation.

It is important to understand the nature of topography is one of the most important generators of the key views. The topography of the study area is one which generally rises from the south at and around Rosalind Park and the Bendigo Creek upwards to the north of approximately 40m, however significant variance in terms of a line of minor hills occurs in a circle or ring to the north of the Bendigo Hospital site. The chain of hills runs from the top end of View Street incorporates the whole Hustlers Reef Reserve and leads marginally to the north of Niemann Street to the east creating a significant natural threshold. The aspect and views to and from these locations are considerable.

8.8 Key Views

Key views from public vantage points towards the Bendigo city skyline across the open landscape of Rosalind Park and the suburban landscape of the hinterland is critical in an understanding of the place. In understanding and appreciating the aspect from this high ground, it is also noteworthy that views to the hospital site and its future developing form will also be relevant. Land of a flatter profile within the CBD and leading to either side of the Bendigo Creek will enjoy an open aspect to elevated land at the hospital site. Furthermore elevated views towards key landmarks such as the Sacred Heart Cathedral, Camp Hill Primary School, Poppet Head and other View Street landmarks will be implicated in an aspect towards the hospital development.

8.9 Boulevard Views

Most of the main roads within the study area experience key boulevard views, particularly along Barnard, Arnold and View Streets. Barnard Street from the eastern approach is a key movement corridor linked to regional towns and it is therefore important to consider the role of key views to the hospital site. Key boulevard views along relatively flat and wide Barnard Street corridor terminate at Arnold Street intersection leading towards east and west. Arnold Street is another important corridor that enjoys boulevard views. The ridgeline to the north of Niemann Street allows long range views along Arnold Street which similarly terminates at the Drought Street intersection and leads across Barnard Street intersection. A strong and more contained boulevard view along View Street is valued by the consistent strong heritage built form edge, side and central median planting and consistent streetscape structures.

8.10 Visual Prominence of Hospital

Another important type of view that are identified within the hospital precinct study area are open residential views which are experienced towards east west aligned residential streets from high elevated vantage points. Considerable streetscape views are also evident along some of the north south oriented streets namely along Bayne and Waterloo Streets which lead to Bendigo Creek and Rosalind Park respectively. The open residential streetscape views are generated by the significant topographical condition and take in characteristic streetscape features such as wide grassed wedges, canopied front gardens, formal or informal street planting. The buildings are screened behind the dense vegetation and recessive in appearance. It is, however, noted that overhead power lines are one of the elements that compromise the streetscape views throughout the study area.

The key views to the hospital site from key public vantage points are noted as equally important. These views generally originate from the lower grounds of the study area to the south of Barnard Street. The north south pedestrian laneways within Rosalind Park, Park Road Gool Road intersection and Water Street are key corridors that contain open or screened views to the hospital site. It is noted that these views are mediated by a strong vegetation layer within Rosalind Park and street planting along Barnard Street.

Finally, it is noteworthy that considerable open land in the form of recreation and open spaces occurs to the south side of Barnard Street. The open profile of this precinct, including the Queen Elizabeth Oval, the Aquatic Centre, the Tennis Courts and Bowls Club and the Tom Flood Velodrome all enjoy an open aspect to the north. Issues of solar access to these spaces as well as an aspect towards the hospital facility are important considerations.
8.11 issues and considerations

Key issues for consideration or recommendation in the following stages of this project arising from this assessment of public spaces include:

- Recognition of the unifying role of the public realm in linking different areas of activity or sub-precincts.
- Opportunities to improve the relationship between the Bendigo Hospital redevelopment and recreational facilities within the walking distance, including potential new activities such as playgrounds or fitness tracks.
- Importance to integrate public open spaces via removing the barriers and fences to improve public realm.
- Broader connections along the study area between two river corridors running along north and south of the hospital precinct through improving pedestrian connection and creation of a link of smaller parks / reserves.
- Opportunity to maintain wide grassed verges and street tree planting ensuring the valued residential streetscape character is protected.
- Potential to improve hospital precinct gateways with necessary landscaping and public realm improvements including signage and wayfinding to enable regional users to navigate between key destinations.
- Development of smaller informal spaces for gathering, resting and social interaction in the precinct.
- Considerations to the street furniture public amenity provision around the hospital precinct including public toilets, seating, shelter, lighting and the like to ensure convenience and safety of the Hospital staff, patients, visitors and other users.

- The opportunities to formalise street tree planting across the study area.
- Acknowledgement of the importance of the public and private canopy vegetation clusters that contribute to the overall character and silhouette of the townscape.
- Opportunities to protect and benefit from the line of hilltops, ridge lines and high point located within Hustlers Reef Reserve.
- Potential to improve the Barnard and Arnold Street intersection in recognition of the junction of key precinct entrance roads.
- The importance to protect views and key view points to landmarks.
- The management of higher built form so that it is not detrimental to view lines and the existing character of the area.
- Provision of design detailing in landscape and built form at view termination points.
- The management of the side and rear interface of built form along identified streets to avoid the appearance of blank, solid walls in view lines.
- The opportunity to enhance views to canopied streetscape across the strong consistent residential neighbourhoods.
- Recognition of treatments to respond to different gateways and entrance corridors within the precinct.
- The provision of underground powerlines within the hospital precinct.

Open profile wrought iron fencing along Lucan Street

Typical topography in northern residential areas
KEY REFERENCES

Please refer to the following page for associated photographic references.

A Public open space (Rosalind Park)
The key area of public open space within the precinct is Rosalind Park which includes a range for active uses closest to the hospital.

B Wide verges in residential areas
Wide verges are present throughout the residential areas, some grassed and many with either formal or informal street tree planting.

C Public plaza area at junction of Park Road, Farmers Lane and Pall Mall
This public plaza forms a key focal point in the connections between the City Centre and remainder of the precinct.

D Arnold Street presentation at Niemann Street
Presentation of this key corridor is currently not representative of its growing importance.

E Fenceline barriers around Rosalind Park
Existing fencing around Rosalind Park creates barriers and does not encourage integration of the park with the wider precinct.

F Vegetation within the public and private realm
A strong landscape character present in some areas of the precinct is influenced by both public and private landscaping.

G Steeply sloping paths in residential areas
Many of the residential areas in the precinct are steeply sloped which plays a key role in how the precinct is perceived.

H Views from within Rosalind Park to the key hospital buildings
Views to the hospital building, particularly from the north and from Rosalind Park, help people orientate themselves.

I Impressive boulevard street tree plantings along Lucan Street
Established street tree planting plays an important role in how some streets in the precinct feel, and screen views to buildings.
A. Public Open Space (Rosalind Park)

B. Wide verges in residential areas

C. Public plaza area at junction of Park Road, Farmers Lane and Pall Mall

D. Arnold Street presentation at Niemann Street

E. Fenceline barriers around Rosalind Park

F. Vegetation within the public and private realm

G. Steeply sloping paths in residential areas

H. Views from within Rosalind Park to the key hospital buildings

I. Impressive boulevard street tree plantings along Lucan Street
KEY REFERENCES

Please refer to the following page for associated photographic references

A View to south along Arnold Street (boulevard view)
Wide road corridor offering clear views of both hospital site parcels, little existing vegetation

B Lucan Street corridor entry to precinct
Contained boulevard view towards hospital precinct with mature canopy vegetation

C View from Hunters Reef Reserve to northern suburbs
Panoramic views available from high point to forest beyond northern suburbs

D Bernard Street boulevard views to west
Recent boulevard treatments including central median plantings on Bernard Street

E View from Chain of Hills (Barkly Terrace) to Rosalind Park
Views from high points in south-west residential area to city centre across intervening landscape

F View across Rosalind Park to private landscape
Views north of Rosalind Park reveal extent of private landscaping in south-west residential area

G View from Rosalind Park (central path) to hospital buildings
High visibility of main hospital building from key areas of public space

H Key landmark (Poppet Head)
Views to key landmarks play an important role in precinct character

I View to Bendigo Creek along Arnold Street corridor
South of Bridge Street, Arnold Street views become more contained with stronger canopy vegetation character
A View to south along Arnold Street (boulevard view)

B Lucan Street corridor entry to precinct

C View from Hustlers Reef Reserve to northern suburbs

D Barnard Street boulevard views to west

E View from Chain of Hills (Barkly Terrace) to Rosalind Park

F View across Rosalind Park to private landscape

G View from Rosalind Park (central path) to hospital buildings

H Key landmark (Poppet Head)

I View to Bendigo Creek along Arnold Street corridor (south of Bridge Street)
In assessing the overall matters which will influence this precinct, it is important to consider some factors which may constrain or place limitations on particular uses within the precinct. Developing an understanding of these will ensure the plan is able to respond appropriately to these matters from the first and the integrity of the overall vision is not compromised by these impacts later.

9.1 flooding and drainage

Foremost among these is the issue of flooding and drainage related impacts within the precinct. While there are currently no planning controls in place to identify areas affected by flooding, current modelling, which is expected to lead to changes to the planning controls in the precinct, are well advanced. These impacts can be split into two categories. The first of these are impacts associated with flooding of the Bendigo Creek which impacts on the southern part of the study area, most pertinently, the Bridge Street area. While modelling has yet to be finalised, it is clear that there are significant overland flows that are associated with any flood events. These impacts vary across a range of depths, which will mean different approaches may be required in different areas. However the local Catchment Management Authority has indicated in areas where there are significant flood impacts they would prefer to see no intensification of residential uses. It is not clear if this also applies to upper level residential uses and this matter will need to be further clarified. Within these areas, commercial uses (provided there are appropriate design responses to ensure that the flood impacts are managed) would still be possible.

Exacerbating the situation within the Bridge Street area is the second flood related issue which involves the overland flow of water. This flooding is different to the overflow of water from the drainage corridor, but can still have significant impact. These ‘overland’ flows relate to the areas where, during significant rainfall events, large amounts of surface water flows across the precinct to lower points. Much of this water flows down to the Bridge Street area as a result of the precincts topography. These flows will primarily affect existing residential areas but are likely to lead to the implementation of additional overlay controls to ensure that any new development within these flow paths are designed to ensure that they are sited to an appropriated level to avoid impacts and to ensure they do not impede the flow of water. While some of these impacts may be available to be managed through the introduction of Water Sensitive Urban Design element, the nature of the flows means that this will be limited and the design of buildings within these areas will still be important.

9.2 medical helicopter

Another matter which will need to be considered will be the broader impacts of the movement of the medical helicopter being relocated from the existing airfield to the hospital site. It is understood the helipad will be located on the top of the multi-deck car park identified for the corner of Arnold and Stewart Streets. In general, this type of facility is associated with some noise impacts and often height restrictions to ensure development does not compromise these important activities. It is understood that the areas likely to be impacted by the helicopter site will extend to the north and to the south of this site. The plan will need to assess how to respond to this changed condition, both when considering appropriate land uses, but also in assessing the built form response in these areas. While the presence of the helicopter site is not likely to be significantly restrictive in relation to the affected areas (in particular, based on the relatively low number of anticipated flights per week) it will still need to be considered.
At the conclusion of each chapter within this report, a series of key issues and considerations have been identified. These reflect not only urban design related issues which the Structure Plan may need to address but also the opportunities that are present within the precinct. While not all the matters identified will be addressed by the project moving into the following stages, their identification ensures they will be considered. These, in conjunction with similar considerations documented as part of other technical assessments will inform an Issues and Opportunities Report.

The Issues and Opportunities Report will be a summary document, which will allow stakeholders and other interested parties to obtain an overview of the key findings of the background assessments and will be available for review and discussion.

The Bendigo Hospital Precinct Structure Plan ‘visioning’ workshop will use this information to build a robust ‘vision’ for the precinct. The development of such a vision will ensure that the opportunities to maximise the benefits associated with the redevelopment of the hospital site are considered in an holistic manner. It will provide not only a conceptual framework for development but will provide clear guidance as to what uses will be encouraged in different areas and what built form outcomes will be supported. Importantly it will also identify and promote key improvements to public spaces within the precinct which can assist in achieving any identified vision.

While the precinct will grow and evolve over time, developing a coherent vision on the basis of careful assessment will allow decision makers to all work from the same page. In that way, seemingly disparate decisions made by a range of stakeholders can all contribute to the whole. The Structure Plan will ensure that appropriate controls are in place to manage development pressures and will provide a basis for decisions to be made.