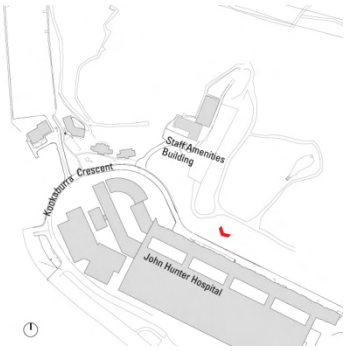
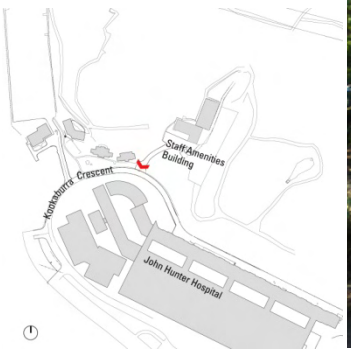
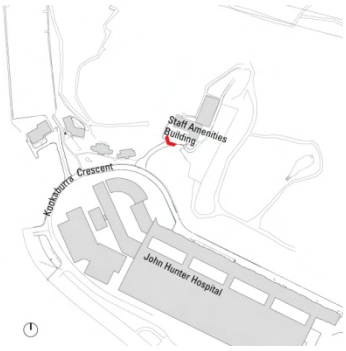


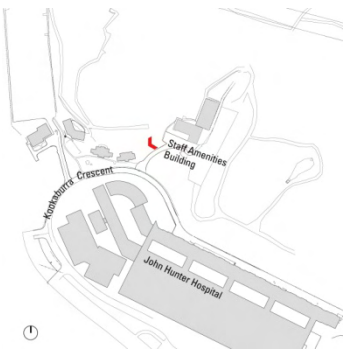
Photograph 9: View of John Hunter Hospital from proposed HMRI car park.



Photograph 10: View of John Hunter Hospital from entry road of existing car park.



Photograph 11: View of John Hunter Hospital from existing car park.



Photograph 12: View of Yallarwah and Kookaburra Cottages

2.2 Site Planning

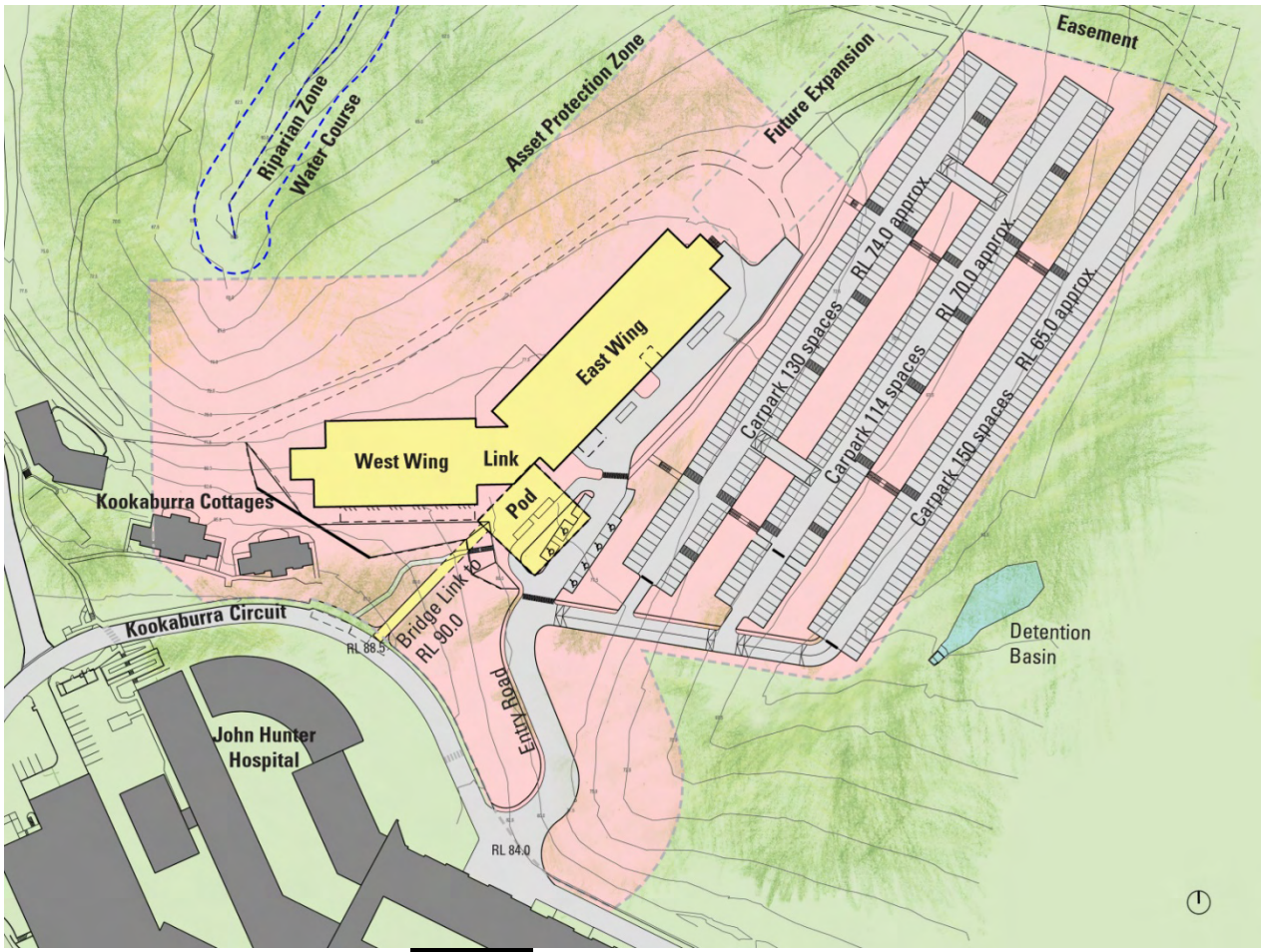
Site constraints have led to the development of the preferred Master Plan, which has been further enhanced and refined during the Schematic Design Stage.

The water course to the west and associated Riparian Zone, Bushfire Protection Zones, ecology and adjacent buildings were all taken into consideration. Potential entry points and linkages to the adjacent John Hunter Hospital and the HMRI need for future expansion and carparking requirements generated a master plan, which contained two asymmetrical wings joined by a central link. This circulation node also provided the entry to the building via a bridge or elevated walkway back to Kookaburra Circuit.

The two wings are an extrusion of the preferred width of a Tripartite Laboratory building with their length being determined by the number and requirements of the different User Groups to be housed in the new complex.

Due to possible mine subsidence and the potentially onerous conditions that would be imposed by the Mining Subsidence Board, the building was kept to four levels plus a roof top plant level. The topography generated the angle of the wings which align with the ridge of the existing hill whilst providing views through the treetops and beyond over the western creek. To the north, the site is constrained by the existing electrical easement.

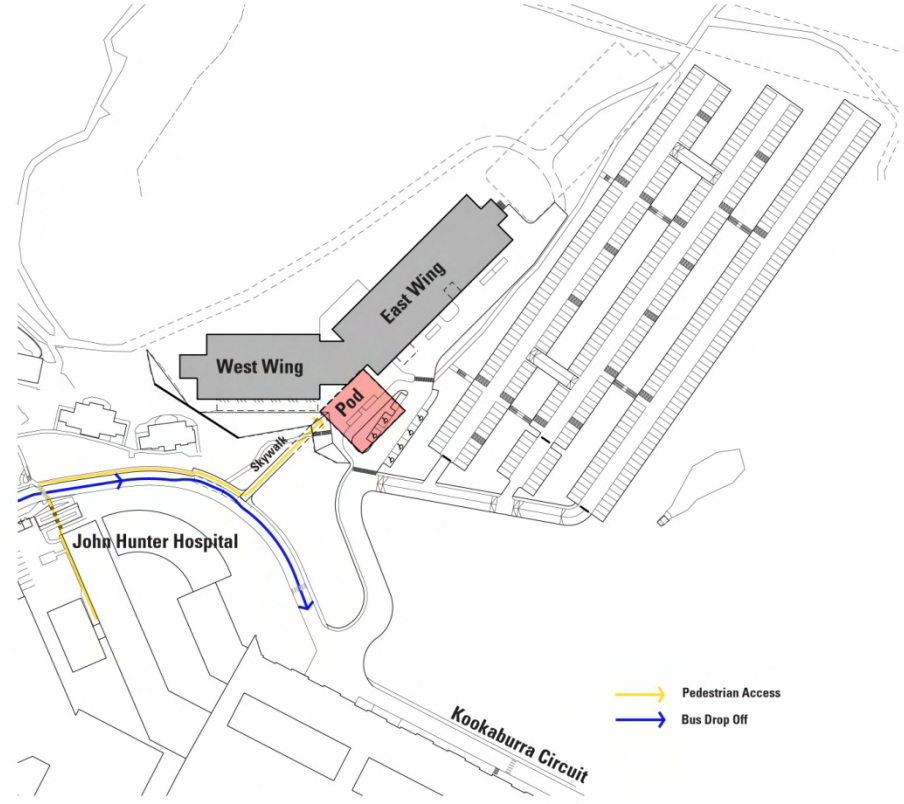
During Schematic Design, the East and West Wings have developed as a response to the functional requirements of the different User Groups and to the site constraints of existing buildings and the site topography. The adjacent Kookaburra cottages formed a smaller West Wing that allowed the East Wing to expand lengthwise along the existing ridge line. The central circulation node developed into the Link building and a two-storey 'Pod' emerged to provide an entry statement and identity for the complex.

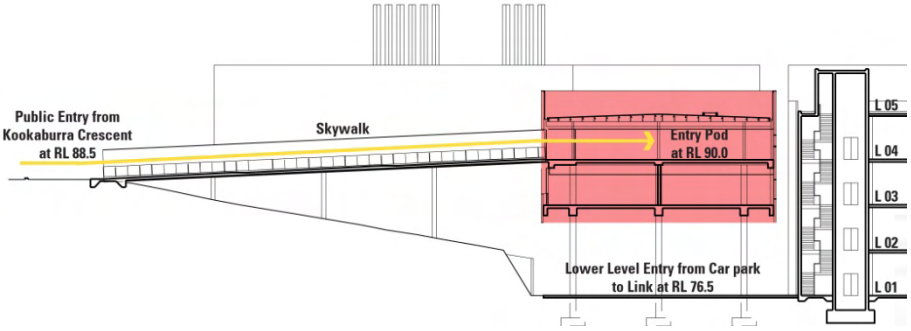


2.3 Skywalk and Public Entry

The public entry to the building is via the 'skywalk' which is a bridge link to connect the new complex back to Kookaburra Circuit. An extended footpath along the Circuit is proposed to connect the entry of the skywalk back to the existing pedestrian crossing and entry to the John Hunter Hospital. A bus and car drop off is proposed along Kookaburra Circuit directly adjacent to the skywalk entry. The carspaces lost due to the drop-off and extended footpath have been replaced with an additional short-term carpark located on the second tier of the new carpark at the lower level.

The skywalk connects to the top level (Level 4) of the building via the entry 'Pod'. This is intended as the public entry and 'face' of the HMRI building. The Pod contains the Reception and acts as a gateway to control public access into the complex. Clinical Trial Rooms are housed in the Pod to ensure that Clinical Research Participants are kept separate from the daily workings of the complex. The Interactive Spaces including Lecture Theatre and Breakout Spaces are located adjacent the entry Pod on Level 4, allowing for ease of access for visitors to these spaces as required.



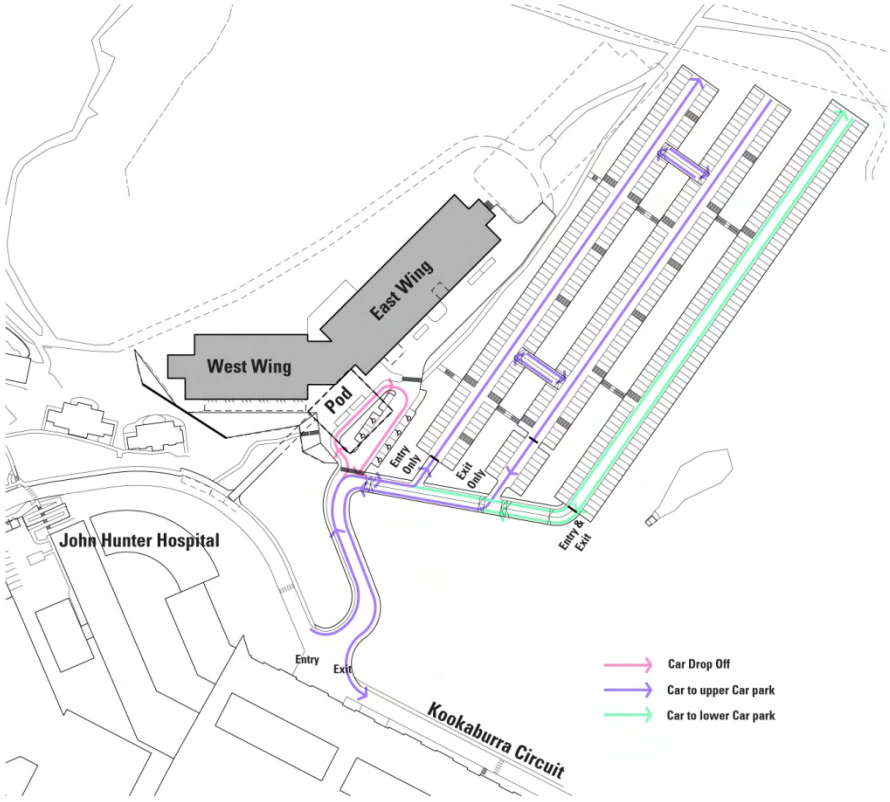


2.4 Entry Road and Car Park

Due to the height difference of approximately 9 metres between Kookaburra Circuit and the ground level of the complex, a single entry road designed for both service vehicles and car access is proposed. Clinical Research participants and visitors arriving by car can be dropped off under the Entry Pod. Visitor access is controlled via one of the central lifts in the Link. A front and rear opening lift combined with key card access controls visitors up to Level 4 Reception in the Pod. Staff access is directly adjacent the visitor entry into the Link which is the central circulation zone of the complex allowing ease of access for all staff.

The carpark can be directly accessed off the main entry drive without proceeding through the drop-off loop under the Pod. Cars that have dropped off visitors can also proceed from the drop-off into the carpark as required. Parking for people with disabilities is located close to the entry at the same level for ease of access. Motorcycle parking is also provided.

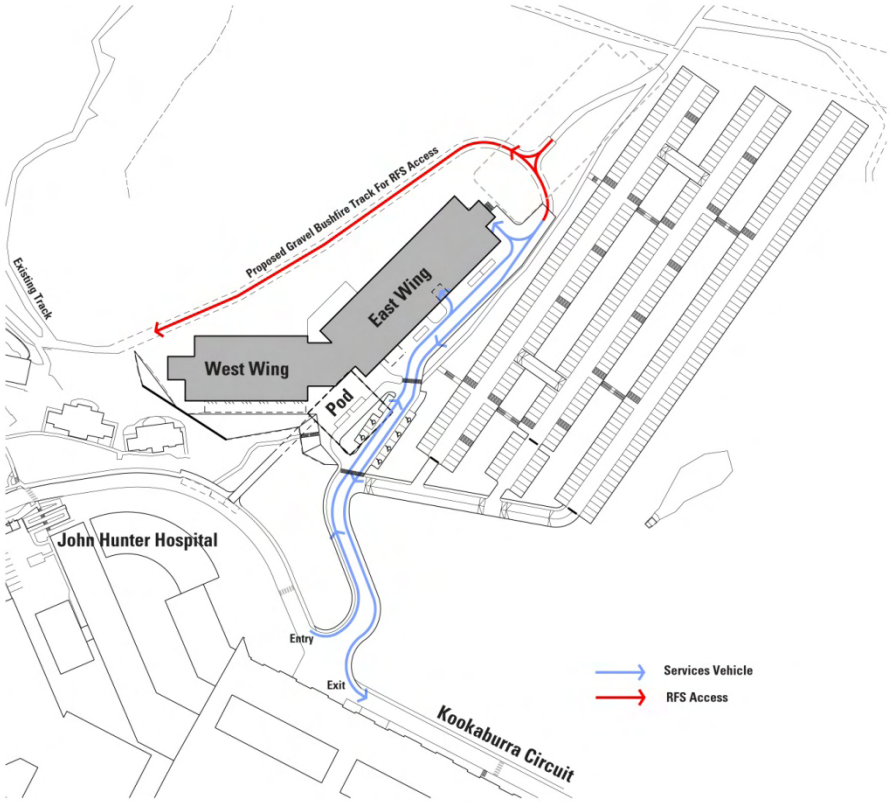
The carpark is made up of three tiers which follow the contours of the site to minimise excavation and retention where possible. The top two tiers closest to the complex contain 250 car spaces for HMRI while the bottom tier of 150 car spaces is for a replacement carpark for the existing cars lost on the site as a result of the siting of the new building.



2.5 Loading and Services Zone

Access to the Loading Dock and Services Zone is at ground on Level 1 of the east wing. The entry to the carparks has been separated from the Loading Dock to minimise disruption for deliveries during peak operating times of the carpark.

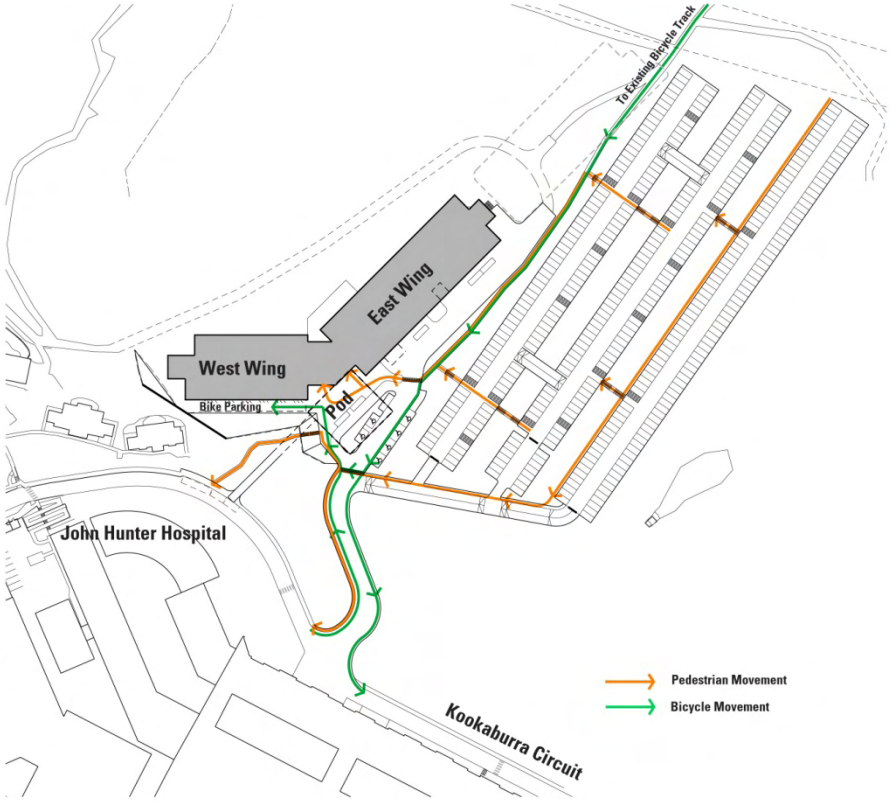
The Loading Dock allows for service vehicles to easily turn around and exit via the entry road. A four-wheel drive track is also provided which connects to the existing track, which links to the existing western carpark. This track is not a service road as such, but will be able to be used by NSW Rural Fire Services in an emergency.



2.6 Pedestrian and Bicycle Paths

The new HMRI building is intended to be pedestrian friendly with the main entrance accessible via a pedestrian bridge known as the 'skywalk', due to the outlook through the treetops as the visitor crosses the elevated walkway. Other paths are planned in the landscape works to link the carparks to the facility and to possibly connect the lower carpark back to the hospital through the engineering department.

Bicycle parking is to be provided on the ground level adjacent the West Wing with Change Rooms and Shower Facilities also provided on the same level. Bicycle paths will connect the facility into existing bicycle and pedestrian networks such as the Rankin Park to Broadmeadow Farmers Market bicycle path which will run adjacent the new building before linking into Kookaburra Circuit via the new entry road.



Future Expansion

Expansion capability has been allowed for as an extension to the east wing. Expansion is limited by the electrical easement to the north. A staggered expansion block was shown in the initial Master Plan in order to allow for the 40% expansion required by HMRI. The expansion block is aligned with the East Wing, which is preferable to maintain direct links for corridors and circulation. Due to the topography of the site whereby the ground slopes away from the east wing, the expansion building could contain another lower level whilst still matching the relative level of the proposed Level 1. This would produce a five level expansion block, which could easily accommodate the required 40% expansion.

3.1 Design Approach

The natural setting of the building dictated that this would be a building set into the landscape, which will be viewed from above as well as below. The design seeks to blend into the landscape, rather than to dominate it. As well as responding to the site, the building needed to respond to its function and its important purpose as a world-renowned Medical Research Institute.

HMRI is at the forefront of international medical research and as such their new building should reflect the importance of the work being carried out within. The design seeks to convey 'clarity of expression' through simple but confident forms. The intended building is to be bold, but not ostentatious so that it will always be enduringly timeless.

The HMRI building is intended to architecturally stand apart, both from the immediately adjacent hospital and associated buildings. It needs to be a significant building in its own right that provides a memorable experience for visitors and staff alike.

The design seeks to capitalise on the unique natural setting and enhance how the visitor will perceive the site and the experience of entering and working within the building. Following entry into the building the experience should continue in the form of circulation and workspaces being light, bright and open, with maximum possible external outlook into the landscape.

Internal circulation with visual connection between levels is important to reinforce a sense of community while acting as a significant wayfinding device to orientate visitors and staff through the building. Circulation zones are to be used to encourage interaction whereby chance meetings can lead to exchange of ideas and future collaboration which is so important in the field of medical research.

The Interactive Spaces offer further opportunities to provide a memorable experience to facilitate the exchange of ideas whilst providing a highly desirable place to work and visit.

3.2 The Design

The Design needed to consider the following:

> An address point off the ring road (Kookaburra Circuit)

> Close pedestrian links to the adjacent John Hunter Hospital

> Defined levels of security where visitors and particularly Clinical Research Participants could be kept separate from the main laboratory building

> Circulation and ease of access for staff while maintaining the required level of laboratory containment barriers and levels of security

> Maximise external outlook while minimizing excessive solar gain for improved environmental performance

> Consider ongoing maintenance, particularly in façade design that responds to the site conditions

3.3 Design Philosophy

The new building is conceived as two wings of solid elements linked together by a glass link circulation zone with an entry Pod building to highlight the entrance and provide an identity for the new Hunter Medical Research Institute Building.

The solid wings are further broken down into longitudinal blades as a response to their tripartite function. The offices to the north of the wings are one blade, the generic laboratories are the second or central blade and the laboratory support functions are the third blade. In this way, the form of the building directly responds to the function within.

Externally, the rooftop plant forms a central services spine which acts as an anchor to support the two side blades. Made from silver perforated metal, this central spine is higher and lighter in appearance than the adjacent blades, blending it into the sky and reducing what would otherwise be a dominant feature.

The side blades are deliberately darker in colour to allow them to recede into the landscape. The ground floor is set back to allow the building to float above and to settle comfortably into the landscape. The side blades are further broken down into a series of sculptural plates which float over the landscape and lighten the overall composition. This language of blades and planar elements is an intended metaphor for the microscope slides used in medical research. Articulation of the 'slides' continues into the terrace and helps to define the edges of the Link by providing a dramatic series of framed views from within.

Form responding to function is further developed in the elevations whereby a single slot of glazing which responds to the office function provides a continuous slit of panoramic view through the tree-tops and across the creek zone beyond. The natural setting, whereby spider spinning webs and other creatures cause maintenance problems dictated a smooth curtain walling approach with minimal external horizontal projections. This limited opportunities for external sun protection, so glazing was reduced to the minimum requirement for the internal functions whilst providing maximum impact in the form of capturing panoramic views. Internally, floating light shelves help to bounce natural light into the space and act as an internal sun-shading device.