DESIGN VERIFICATION STATEMENT

Reference: Better Schools – A design guide for schools in NSW

Catherine McAuley Catholic College
507 Medowie Road & 2 Kingfisher Close
Medowie NSW 2318

Figure 01 - Perspective illustrating proposed Senior College Entry
(Architect's concept impression only)

30 NOVEMBER 2018
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Associate Directors Tim Hayes
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Project Overview

Project Name:	Catherine McAuley Catholic College
Project Address:	507 Medowie Road & 2 Kingfisher Close, Medowie NSW
Architect's Name:	Jon Webber
Registration No.	NSW ARB No 6830

Description of the Project:

The project is the development of a new Catholic College at Medowie which includes a seven stream high school, three stream primary school, early learning centre and Chapel. A statement from the Catholic Schools Office, Director's Office is contained in Appendix 1 outlining the community consultation process which has been undertaken in the development of this project.

Design process undertaken:

Webber Architects secured this project via a Design Competition run by the Catholic Schools Office. Four architects were invited to prepare a design for a seven stream high school on the site at 507 Medowie Road. The focus of the brief was the high school however consideration was to be given to the inclusion of a two stream primary school, place of worship and early learning centre at some future date.

Each Architect presented their design on Friday 14th October 2016 to a panel of stakeholders who assessed the designs against a number of selection criteria. This feedback was then reviewed by a 6 person Project Evaluation Committee, who made a recommendation to the Bishop. The Bishop then signed off on the recommendation and Webber Architects were appointed to the project. Webber Architects competition presentation panels can be found in Appendix 2.

Following appointment to the project Webber Architects have been involved in a number of stakeholder meetings and Project Implementation Committee meetings which have involved an iterative and collaborative process of reviewing the competition master plan, obtaining feedback, developing additional or alternate ideas, then meeting again and repeating the process.

Key design considerations:

The original brief for the Competition was a well considered document which outlined functional requirements for the school as well as providing an ideological and pedagogical starting point. Included within the brief were the following requirements:

- *The Catholic Schools Office, (Diocese of Maitland – Newcastle, is committed to a vision in which current and future Catholic school needs are energetically met*
- *The new secondary school should be a bold statement from the Diocese, expressing its commitment to the stewardship of the environment and the promotion of Catholic education in our region. It should be built to reflect the adaptability and development of enabling technologies and be both highly functional and environmentally responsive.*"
- *The design must also be thoroughly adaptable so as to allow for the changing needs of the school over time.*
- *The school will be a place where: Learning is the core of the vision and purpose of the school; Learning should be student – focused; Learning spaces should be supportive of the curriculum, flexible, productive and rich in technological capacity; Learning spaces should not be limited to internal "classrooms" as integrated external teaching spaces are equally as important.*

Response to Education SEPP Design Quality Principles

1. Context, built form and landscape

The site is a large Greenfield site in Medowie which has a largely flat cleared area surrounded by constraints such as Koala Habitat, SEPP 14 wetlands, Endangered Ecological Communities, flood and bushfire prone land and an electrical easement located across the frontage of the site.
To the north of the site are large lot housing subdivisions, the Pacific Dunes Golf Course is located opposite on Medowie Road and there is an electrical substation located on the north east corner of the site.
The college has been situated in the cleared area of the site endeavouring to leave a 50m buffer to the ecology, limiting clearing requirements in order to create the required bushfire asset protection zone.
The existing streetscape consists mainly of widely spaced single and two storey residential properties and the College aims to fit in with this context limiting development to single and two storey forms.
An Aboriginal Heritage study is currently underway and a statement on the progress of this is contained in the EIS. In addition to this study the Catholic Schools Office has met with the Woromi Local Aboriginal Land Council to discuss the project and obtain their input. Additional consultation meetings are planned such that a collaborative approach to the integration of Aboriginal Heritage into the landscape, materials and colour palette can be taken. The Catholic Schools Office has reported that the Woromi Local Aboriginal Land Council are very receptive to this approach and thankful they have been included early in the design process.

Webber Architects sketches as included in this statement and the drawing package forming part of the EIS as follows: Location Analysis Plan, Site Analysis Plan, Site Plan & Part Site Plans	Reports: Ecology, Aboriginal Heritage, Historic Heritage, Bushfire, Landscape, Materials & Colour Palette Approach.

2. Sustainable, efficient and durable

The size of the College incorporating Primary School, High School, Early Learning Centre and Chapel is large and hence is broken down into a number of separate built forms to respond to the local climate. Attempts have been made to orient individual 'pods' toward north, incorporate substantial areas of glazing to enable cross ventilation and provide an aspect toward the ecology to the west, which is intended to form an integral part of the learning pedagogy of the College.
Materials to be used include precast concrete panels on walls facing circulation spaces for durability, lightweight cladding to breakdown the forms, large scale roof sheeting for economy of structure and batten screens providing shading. A landscape plan has been prepared incorporating Water Sensitive Urban Design principles.

Webber Architects sketches as included in this statement and the drawing package forming part of the EIS as follows: Site Plan & Part Site Plans	Reports: Landscape Plan & Report Materials & Colour Palette Approach

3. Accessible and inclusive

An electrical easement runs the full frontage of the site and limits the potential use of this zone. The large number of car parks required for the site means this easement is a natural location for these. The entry to the College and the streetscape is of great importance and efforts have been made to create an identifiable pedestrian circulation path from Medowie Road drawing people into the site. There is a desire to avoid the use of fencing along the street front and the car park creates a natural security buffer, providing clear lines of sight to the road. Secure lines have been incorporated behind the line of the building pods, with the play areas and socialisation spaces located away from the street frontage.
There are a diverse range of spaces encompassing one person nooks, spaces for small collaborative work, large project group work or whole group discussions and the ability to open learning areas up to each other to enable combined discussions with a number of groups together. These spaces can be used for learning, play and socialisation, and are located across the whole of the site in each of the stages of learning from Early Learning, Primary School, High School and Community use.
The master plan for the site contains a number of spaces which are envisaged for Community use; the Chapel is to become the Parish church utilised for mass, weddings, funerals; both the Primary School and High School halls can be utilised by the community after hours; the Sporting fields are available for Community Use on

Saturday mornings and the High School Canteen is located adjacent the Hospitality learning area hence can be utilised for functions associated with Community Use after hours.
The majority of the buildings on the site are single storey, hence conducive to accessibility requirements. Some of the high school is situated over two levels and includes a single accessible path of travel through the entry, around behind the tiered seating area of the Covered Outdoor Learning Area and up onto a covered walkway linking the first floor pods. There are also two lifts incorporated into the master plan.

Webber Architects Drawings: Site Plan & Part Site Plans	Reports: BCA and Accessibility Reports

4. Health and Safety

The bulk of the College has been broken down into individual 'pods' which enable separation of facades to optimise access to daylight, with glazed areas a combination of fixed and operable elements to enable ventilation and fresh air intake.
Vehicles have been limited to the frontage of the site, or perimeter where queuing lengths are required for drop off / pick up times, with clear pedestrian circulation zones through these into the College.
Each of the Early Learning Centre, Primary School and High School incorporate covered outdoor play spaces and learning areas and individual learning pods are linked via covered walkways.
The administration spaces for the Primary School and High School are located at the front of the site providing passive surveillance opportunities across the car park and street frontage.
Facilities designated for Community Use after hours are located at the front of the site and incorporate toilets and facilities to be self sufficient.
Toilet facilities are spread across the site, with visibility into hand washing areas enabling safe use by different age groups and genders.

Webber Architects sketches as included in this statement and the drawing package forming part of the EIS as follows: Site Plan & Part Site Plans	Reports: Crime Risk Assessment Report

5. Amenity

The site's location provides an ideal setting to incorporate the natural environment into learning and play. The learning pods are sited in circular forms giving a number of these an outlook to the Endangered Ecological Communities to the west. Individual learning pods are separated optimising access to sunlight and natural ventilation where possible.
Learning pods have breakout spaces either within, adjacent or between them. The Primary School Learning pods have a Common Learning area linking the individual learning spaces and this adjoins an outdoor learning space. High School learning pods either have an 'internal' breakout space or an external breakout space between pods. Both the Primary School and High School have large covered outdoor areas intended as learning tools in themselves. There is a diversity of learning spaces as outlined in item '3. Accessible and inclusive' above, which facilitate informal and formal uses and cater for a range of learning styles and group sizes.
Buffer planting across the front of the site has been incorporated where possible, however the large requirement for car parking which has been located in the electricity easement limits the amount able to be incorporated.
The site is large and has enabled the incorporation of a wide variety of outdoor playground spaces including: the highly regulated and controlled Early Learning Centre spaces; Primary School and High School play spaces include hardstand areas, formal basketball/netball courts, football fields and informal play and gathering spaces.
The approach taken to height and scale is outlined in item '1. Context, built form and landscape.'
The College is setback from the roadway and an Acoustic report has been prepared to further address acoustic requirements.

Webber Architects sketches as included in this statement and the drawing package forming part of the EIS as follows: Site Plan & Part Site Plans	Reports: Acoustic

6. Whole of life, flexible and adaptive	
The design of both the Primary School and High School learning pods are such that there is flexibility in the spatial arrangements - from small one person nooks, spaces for small collaborative work, large project group work or whole group discussions and the ability to open learning areas up to each other to enable combined discussions with a number of groups together accommodating demographic and pedagogical change. The site has been master planned for an Early Learning Centre, 3 stream Primary School, 7 stream High School and Chapel; which is planned to be built over the next 10 years. Although it is not envisaged that further expansion would be needed in addition to this, there is still potential on site if required. Investigations have been carried out in regards to ecology, flooding, bushfire, aboriginal heritage, historic, heritage, social impact, contamination, noise and traffic generation and the site master plan responds to these investigations. These reports have been submitted with the EIS. Facilities designated for Community Use after hours include the Primary and High School halls, Chapel, High School Canteen and Cafe and the sporting fields which can be utilised on weekends.	
Webber Architects sketches as included in this statement and the drawing package forming part of the EIS as follows: Site Plan & Part Site Plans	Reports Ecology, Aboriginal Heritage, Historic Heritage, Bushfire, Social Impact, Acoustic, Traffic, Contamination
7. Aesthetics	
The master plan of the College has been developed in consultation with the Catholic Schools Office, the Project Implementation Committee (members include: CSO, Diocese of MN, parent representatives, Parish representatives) and a large sub consultant team. The design aims to engage the people on the site (learners, educators & community) in the natural ecology surrounding the site and the built forms introduced to the site. The built forms are broken down into pods and arranged to provide external spaces of varying size and aspect. The landscape design undertaken by Moir Landscape Architecture sets out a variety of external spaces providing diverse learning opportunities for students of differing ages and interests. As noted under item '3. Accessible and inclusive' there are a large number of car parks required for the site and the easement along the street frontage is a natural location for these. Engagement of pedestrians along this street frontage is also important and efforts have been made to create pedestrian circulation paths from Medowie Road drawing people into the main entry points for the College – the Primary & High School administration buildings and the Chapel; with landscaping integrated into these spaces as much as possible. The mass and scale of the built form is kept to pods of one or two storeys only to respond to the surrounding low scale context. As outlined in item '3. Accessible and inclusive' there is a desire to avoid the use of fencing along the street front hence none is planned with secure lines to be incorporated behind the line of the building pods.	
Webber Architects sketches as included in this statement and the drawing package forming part of the EIS as follows: Webber Architects Site Plan & Part Site Plans	Report Landscape

Figure 02 - Perspective illustrating proposed 2 storey Senior College classroom pod
(Architect's concept impression only)

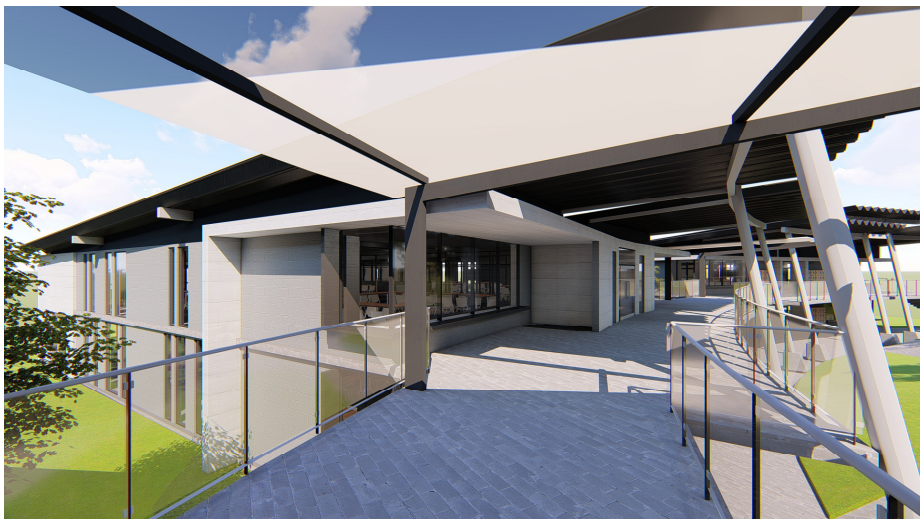


Figure 03 - Perspective illustrating proposed Senior College Walkway link
(Architect's concept impression only)

Figure 04 - Perspective illustrating proposed Junior College Entry
(Architect's concept impression only)

Figure 05 - Perspective illustrating proposed Junior College classroom pod
(Architect's concept impression only)

Figure 06 - Perspective illustrating proposed Early Learning Centre
(Architect's concept impression only)

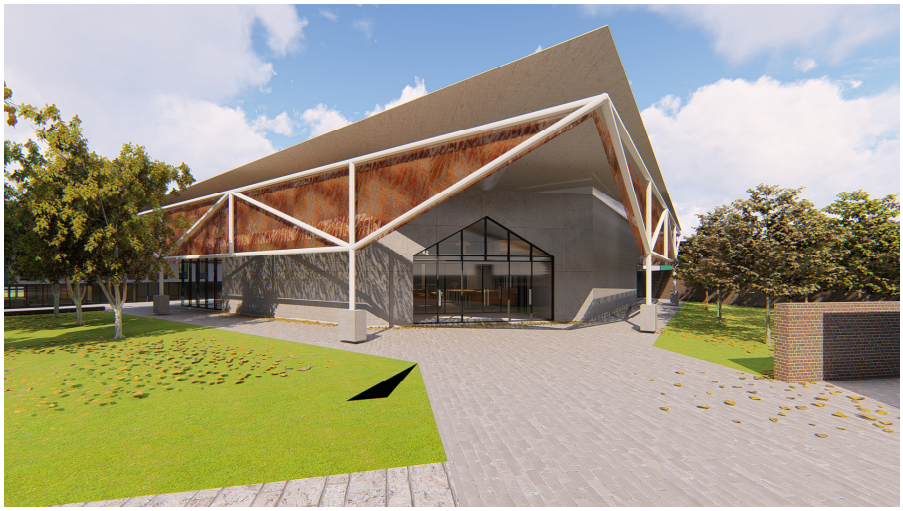


Figure 07 - Perspective illustrating proposed Chapel
(Architect's concept impression only)

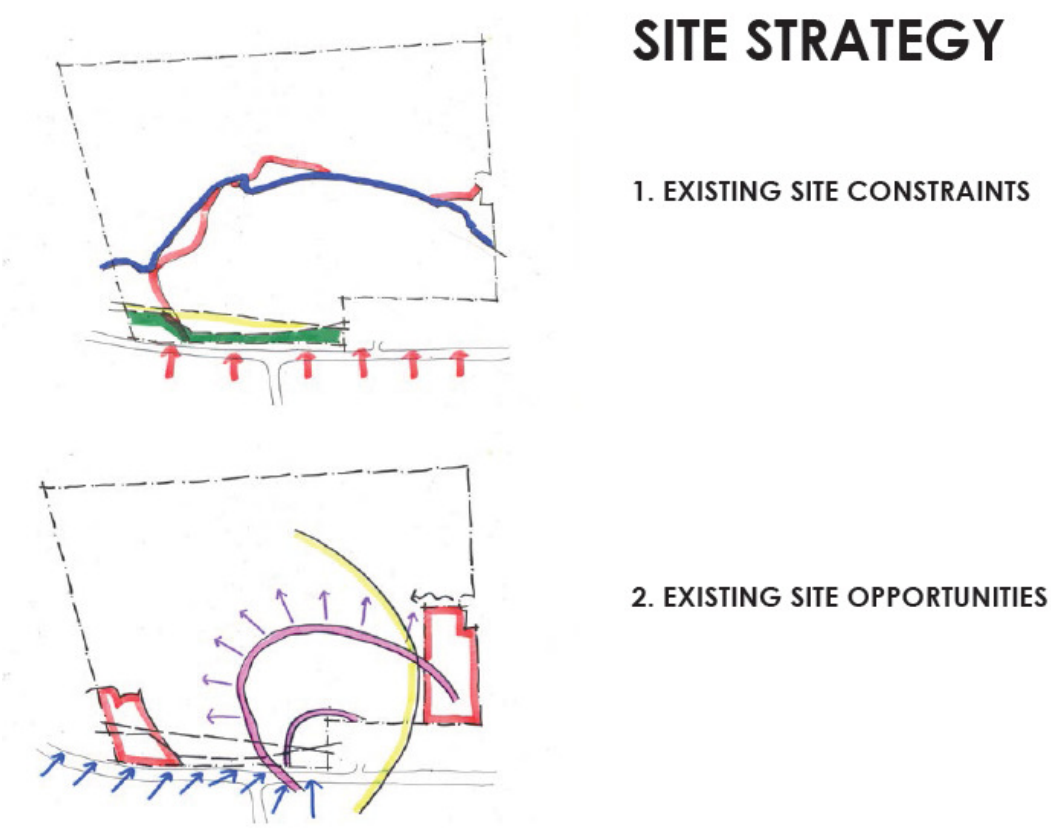


Figure 08 - Original Competition Concept Sketches 1 & 2

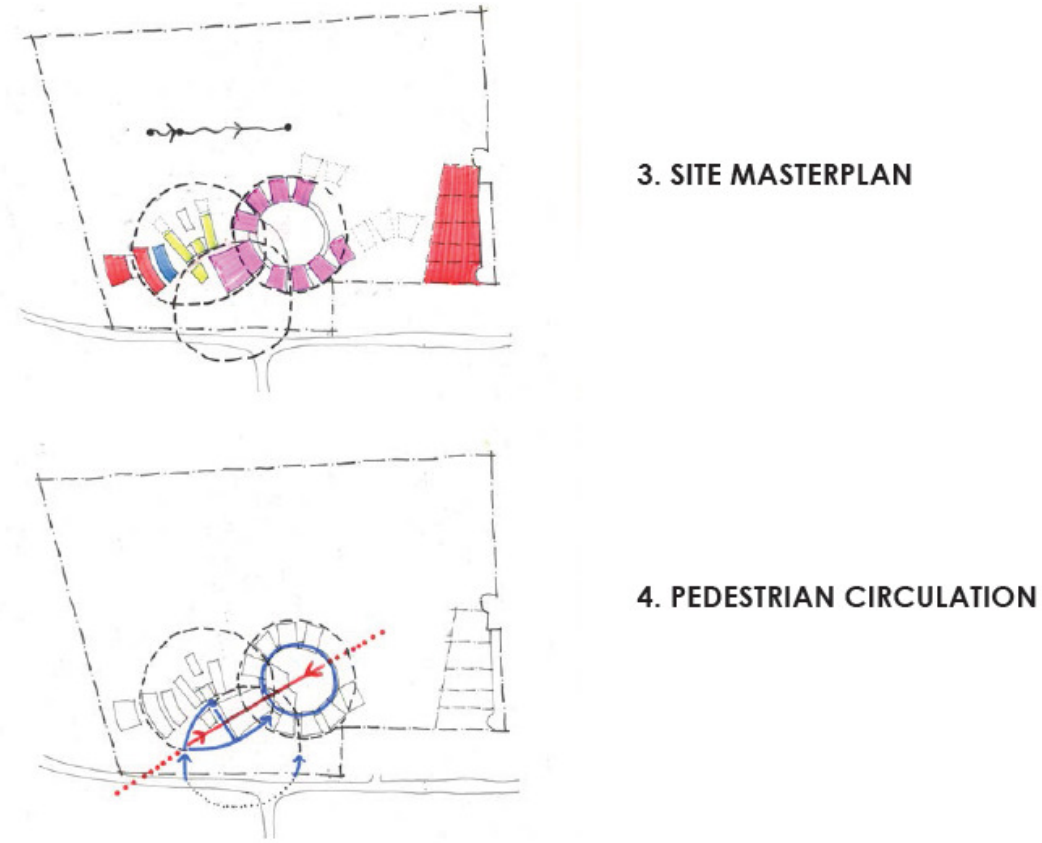


Figure 09 - Original Competition Concept Sketches 3 & 4

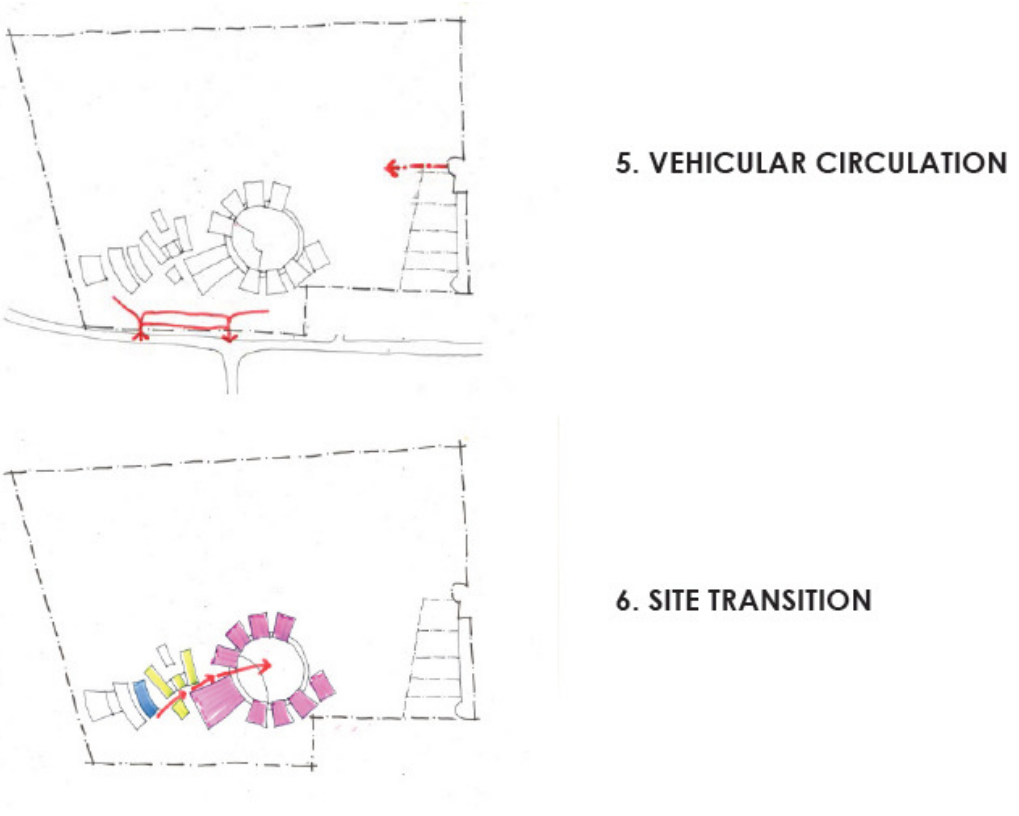


Figure 10 - Original Competition Concept Sketches 5 & 6

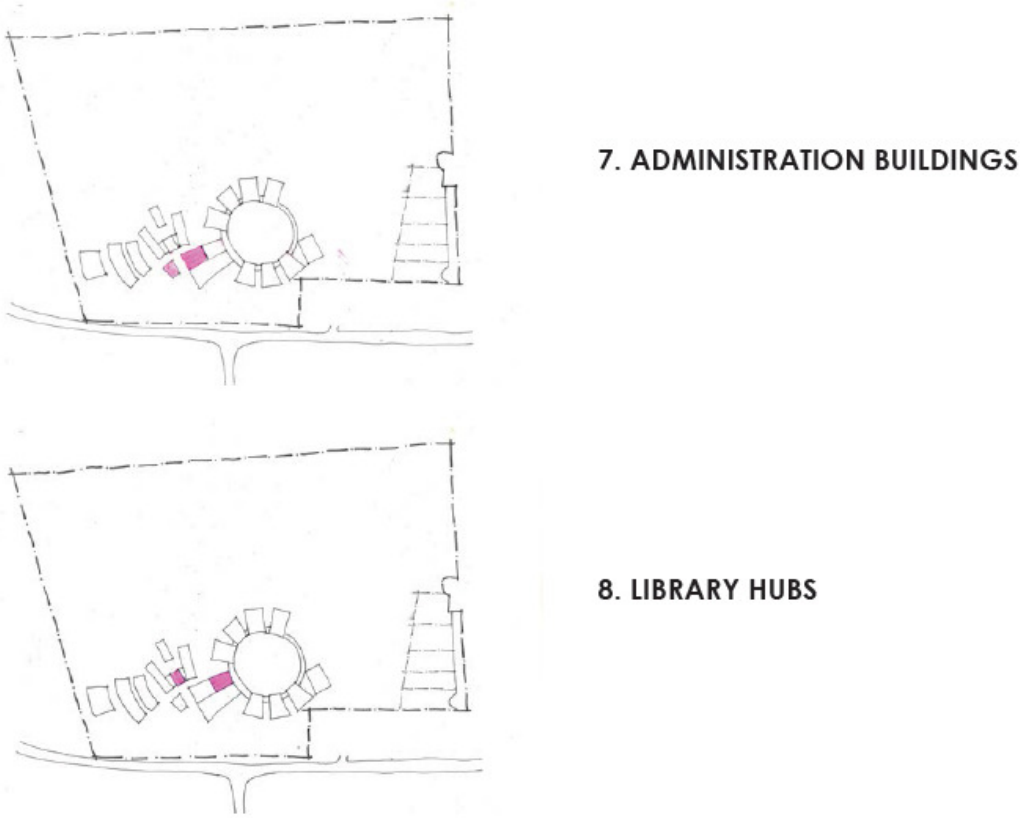


Figure 11 - Original Competition Concept Sketches 7 & 8

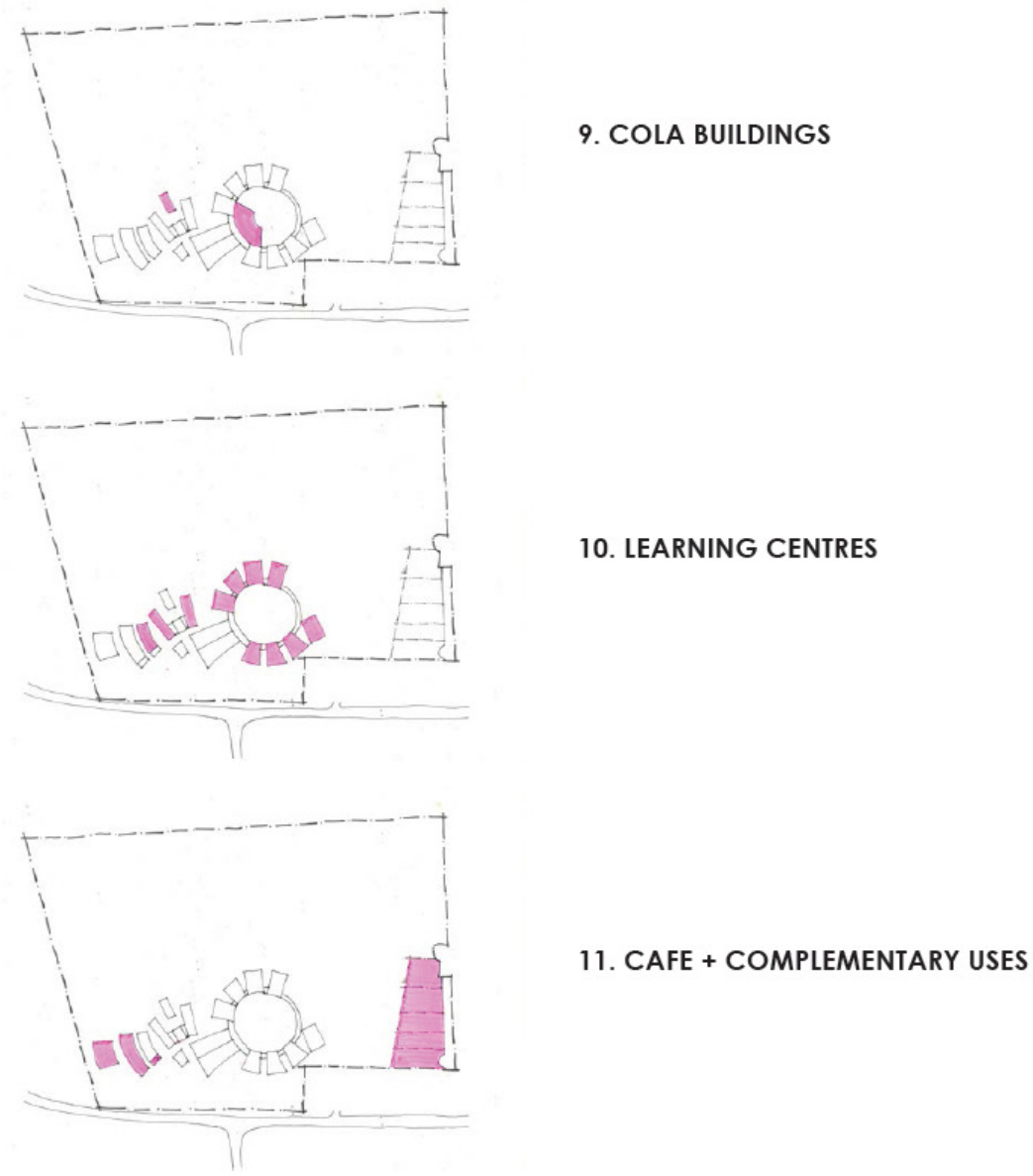
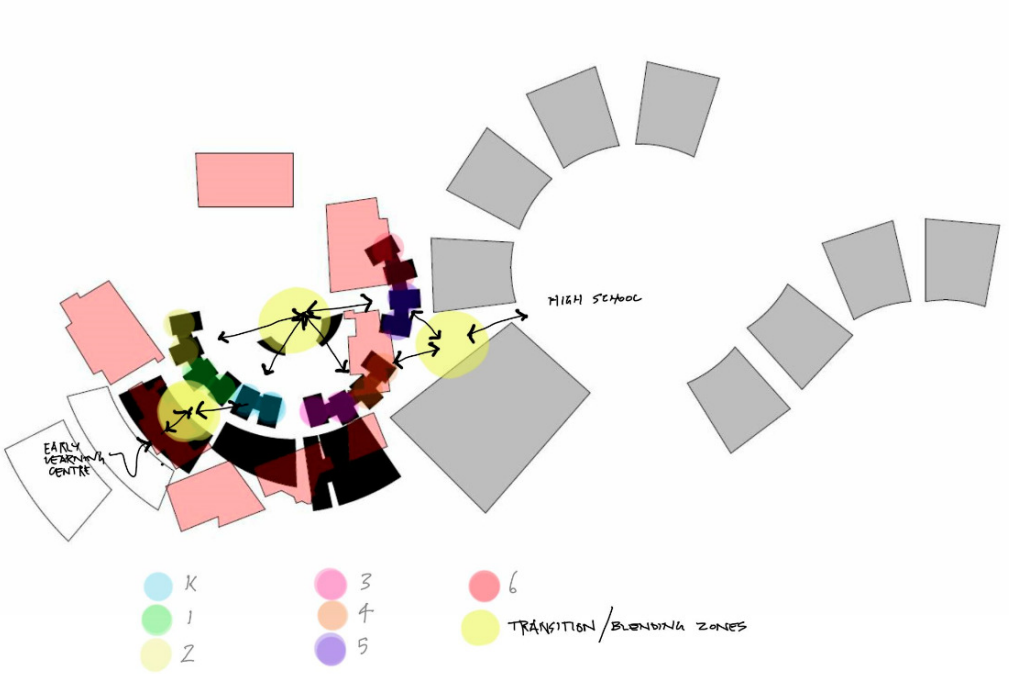


Figure 12 - Original Competition Concept Sketches 9, 10 & 11

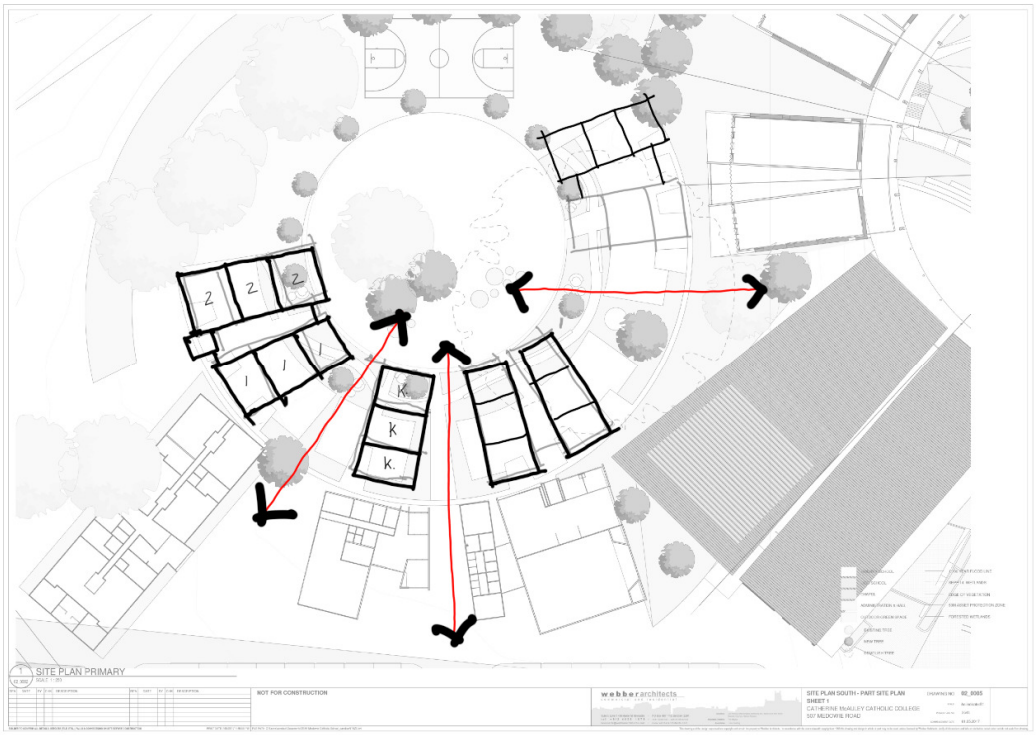
Figures 13a to m below – Sketches describing further Design Development from Design Competition phase

The strategy for the lower portion of the site was further developed during initial sketch design phases. This comprised of further client briefing and design development of the Primary School footprint to cater for an increase in student numbers from two stream to three stream, and removal of the Commercial component of the proposal due to site constraints on the lower portion of the site including bushfire, flooding and the riparian corridor associated with the drainage creek. These amendments were presented to the greater project stakeholder group over a series of meetings and the sketches below represent a small component of this design development.

The strategy for the High School area of the site remains largely unchanged from the competition sketches, with the exception of integration of the Chapel into the circular ring of High School buildings at the Bishop's request to signify integration of the Parish with the School community. The High School Administration & Hall layout was also mirrored at the client's request to aid greater supervision of the Carpark & Entry Plaza.



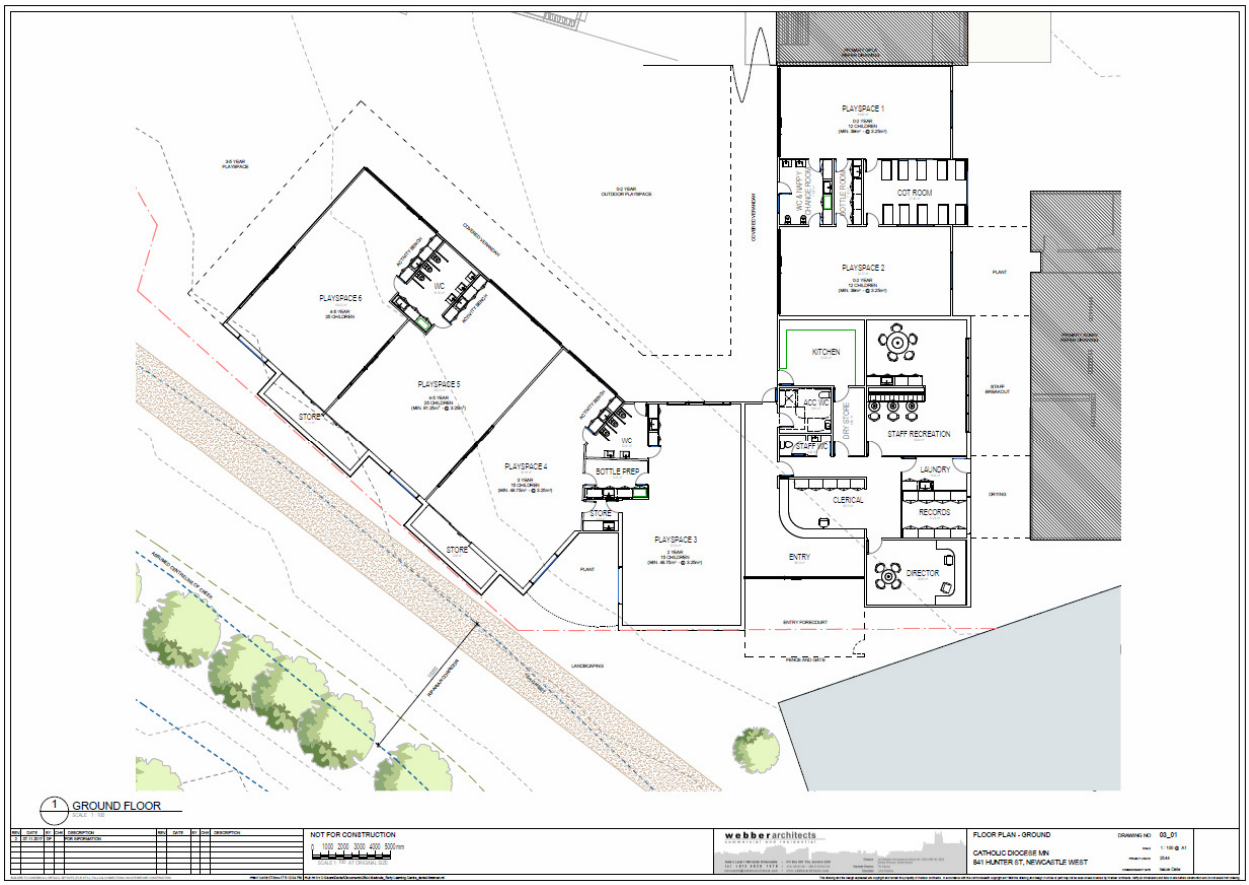
a. Figure ground analysis of proposed Primary School footprint (black) against overlay of a recently completed CDMN school development (red) to determine scale. The Primary School radial plan and cluster classroom layout was investigated following the Architect's initial engagement beyond the competition phase, as this briefing was not available at the time of the competition. The radial plan and central open playspace increases supervision throughout the site and the cluster classroom arrangement supports 21 Century pedagogical teaching practices.



b. An integral part of the Junior College design is the direct connection with the greater campus to enable interaction and transition of students between the Early Learning Centre, Primary School & High School, as well as the grouping of year classes in the Primary School Masterplan. The centrally located facilities (Hall, Admin, Library) and the site entry point coupled with the radial plan reduces circulation distances throughout the school.

c. Early site diagram showing the footprint of the Early Learning Centre, commercial development & carpark across the drainage creek, associated riprarian corridor, floodway and electrical easement as a result of the radial Primary School site arrangement and further site investigations.


PROPOSED PRIMARY SCHOOL
HS BLOCK I GPLA
HS BLOCK H GPLA
HS BLOCK G GPLA / TAS
PS BLOCK D GPLA
PS BLOCK M GPLA
PS BLOCK N GPLA
PS BLOCK C GPLA
HS BLOCK A ADMINISTRATION HALL/LIBRARY
PS ADMIN
PS HALL
EASEMENT
OVER HEAD POWERLINES
LOCATION PLAN
LEGEND
1 PART SITE PLAN - SOUTH
NOT FOR CONSTRUCTION
webber architects
PART SITE PLAN - SOUTH
SHEET 3 OF 3
CATHERINE McAULEY CATHOLIC COLLEGE
597 MEDOWIE ROAD
02_0005


PLAYSPACE 1
COT ROOM
PLAYSPACE 2
KITCHEN
STAFF RECREATION
LAUNDRY
RECORDS
DIRECTOR
ENTRY
CLERICAL
PLAYSPACE 3
PLAYSPACE 4
PLAYSPACE 5
PLAYSPACE 6
BOTTLE PREP
STORE
WC
1 GROUND FLOOR
NOT FOR CONSTRUCTION
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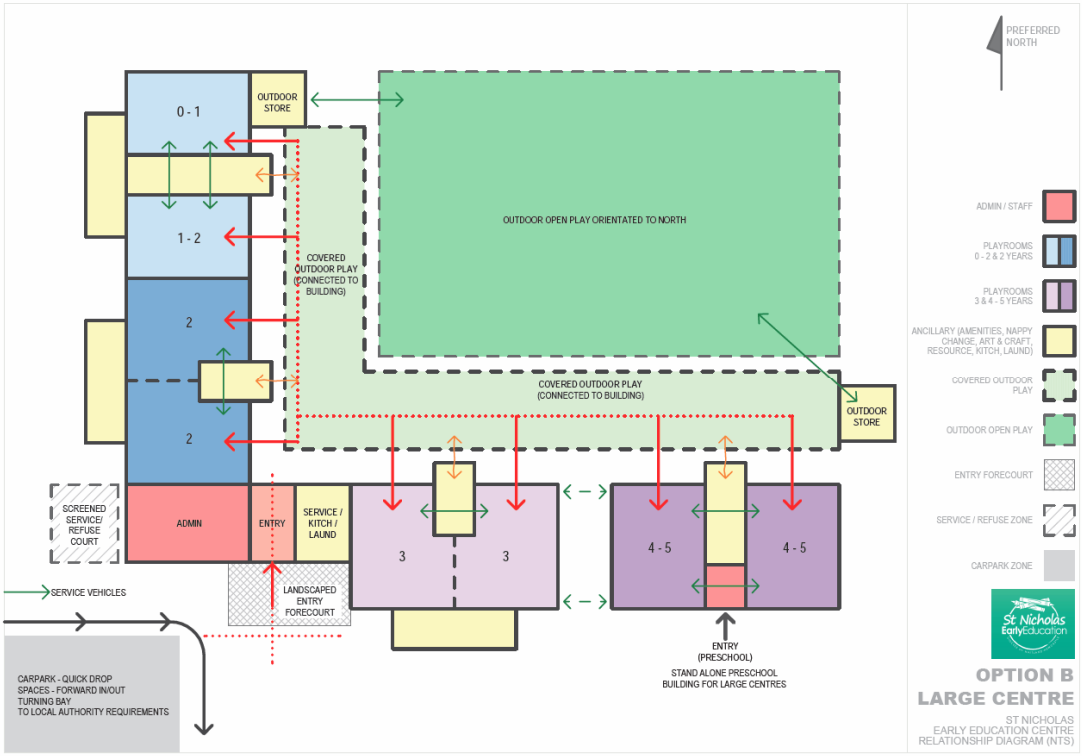
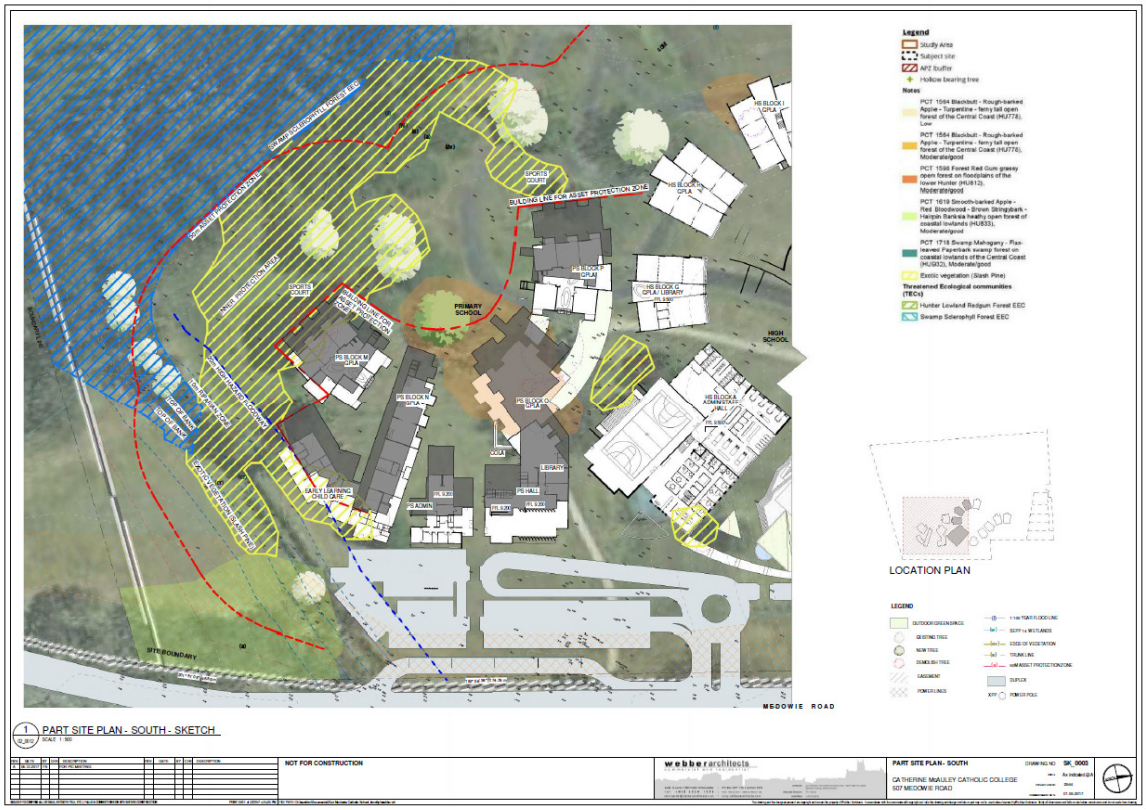
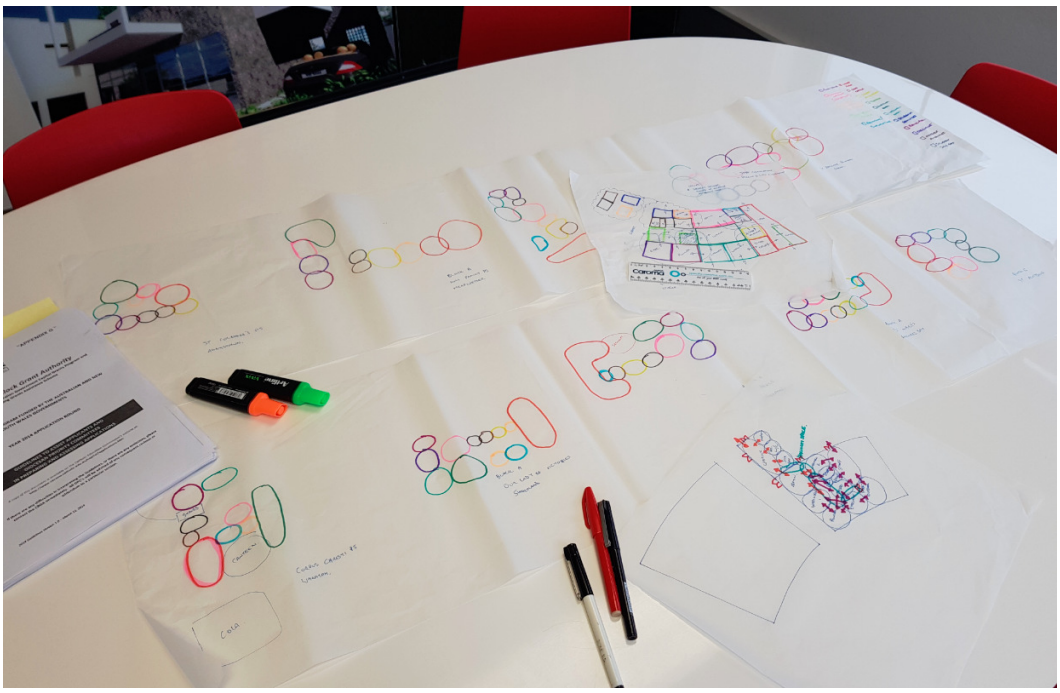
FLOOR PLAN - GROUND
CATHOLIC DIOCESE MN
841 HUNTER ST, NEWCASTLE WEST
02_01



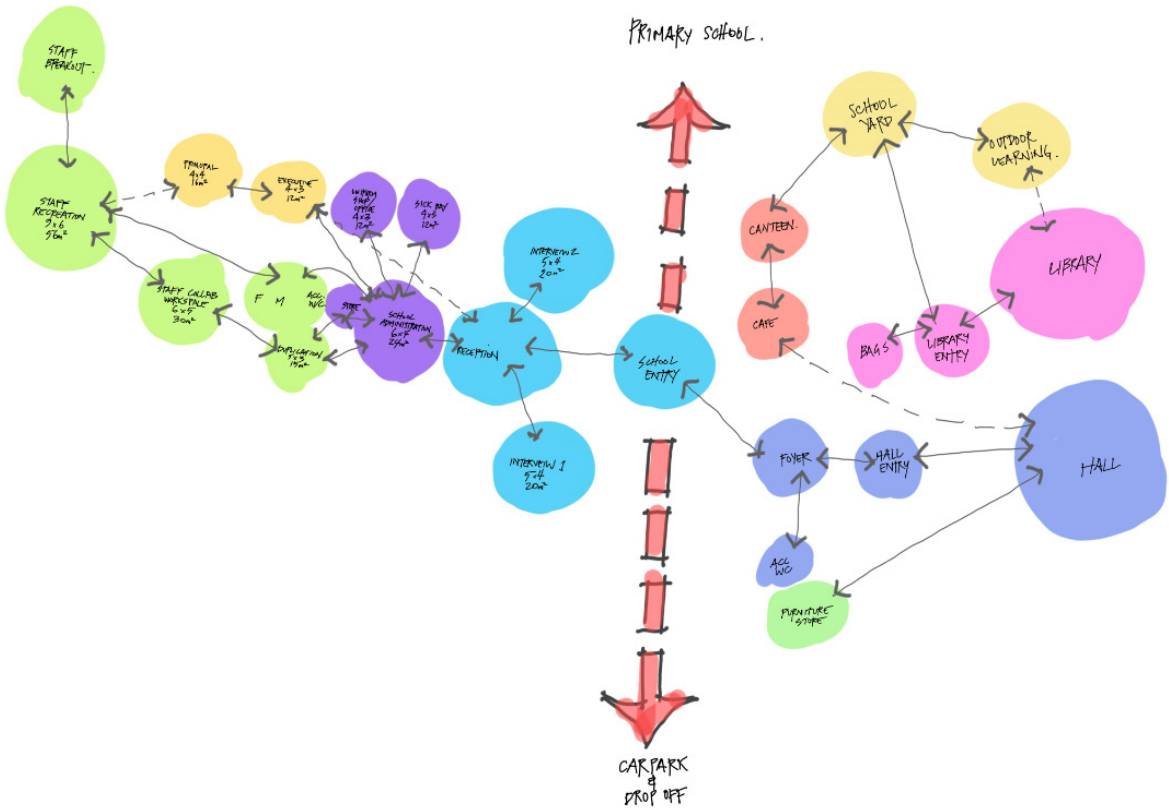
d. Exploration of cranked floor plate for the Early Learning Centre to i) avoid riparian corrior & floodway & ii) meet concept planning principles outlined in the Client's design standards for Early Learning Centre Developments (three images above)



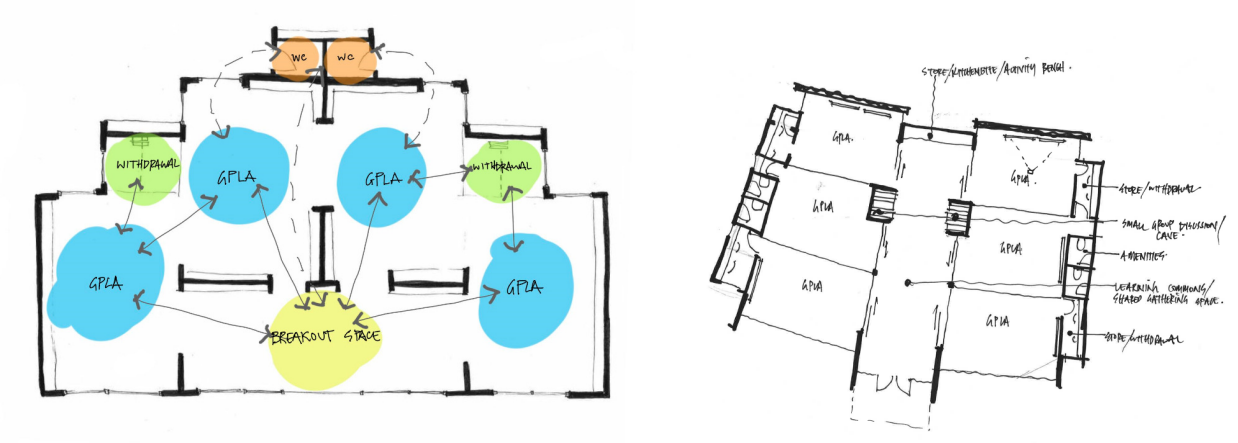
e. Constraints mapping to ensure the proposed fooprint achieves an acceptable balance of site design, ecology retention and bushfire asset protection zones.



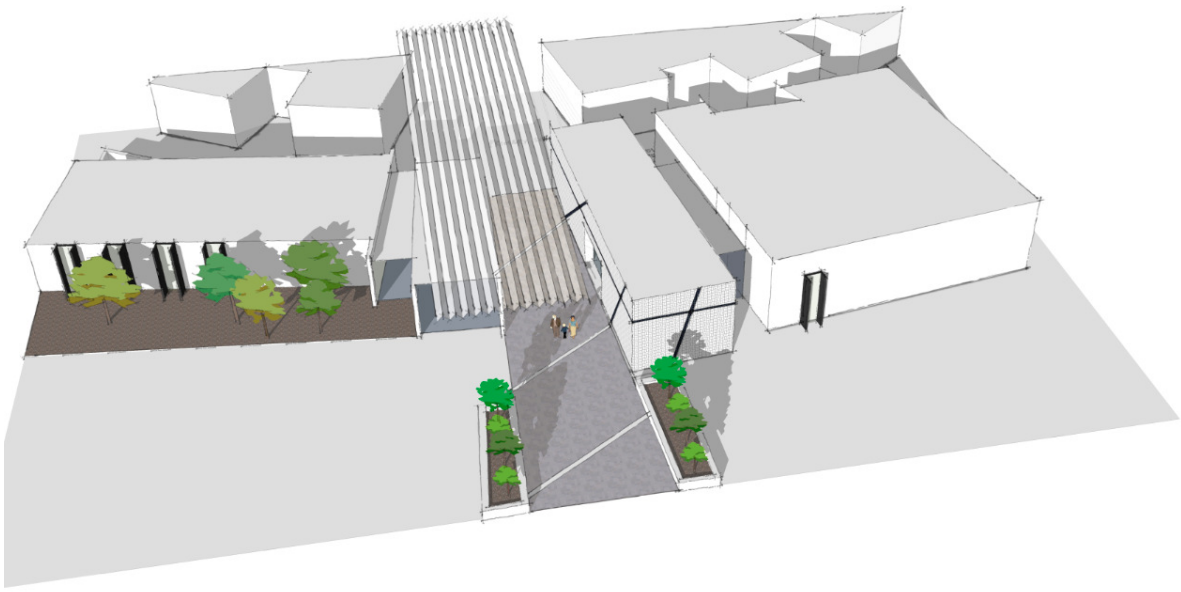
f. Internal workshop of Primary School Functional relationship diagrams during initial briefing & design development of the Junior College



g. Development of Primary School building functional relationship diagrams prior to the preparation of plan layouts



h. Development of Primary School GPLA functional relationship diagrams & preliminary cluster GPLA plan layouts increased from four to six classrooms to cater for an additional stream.



i. Early concept form studies of the Primary School Entry/Admin/Hall. Site design was continually revised to emilminate un-useable and un-supervisable spaces between buildings which were an original result of the radial site layout.

j. Final Design Image of the Primary School Entry/Admin/Hall. The controlled entry point allows passive surveillance of the School Entry, Carpark, Canteen, Library & Hall and facilitates after hours access to the Hall.

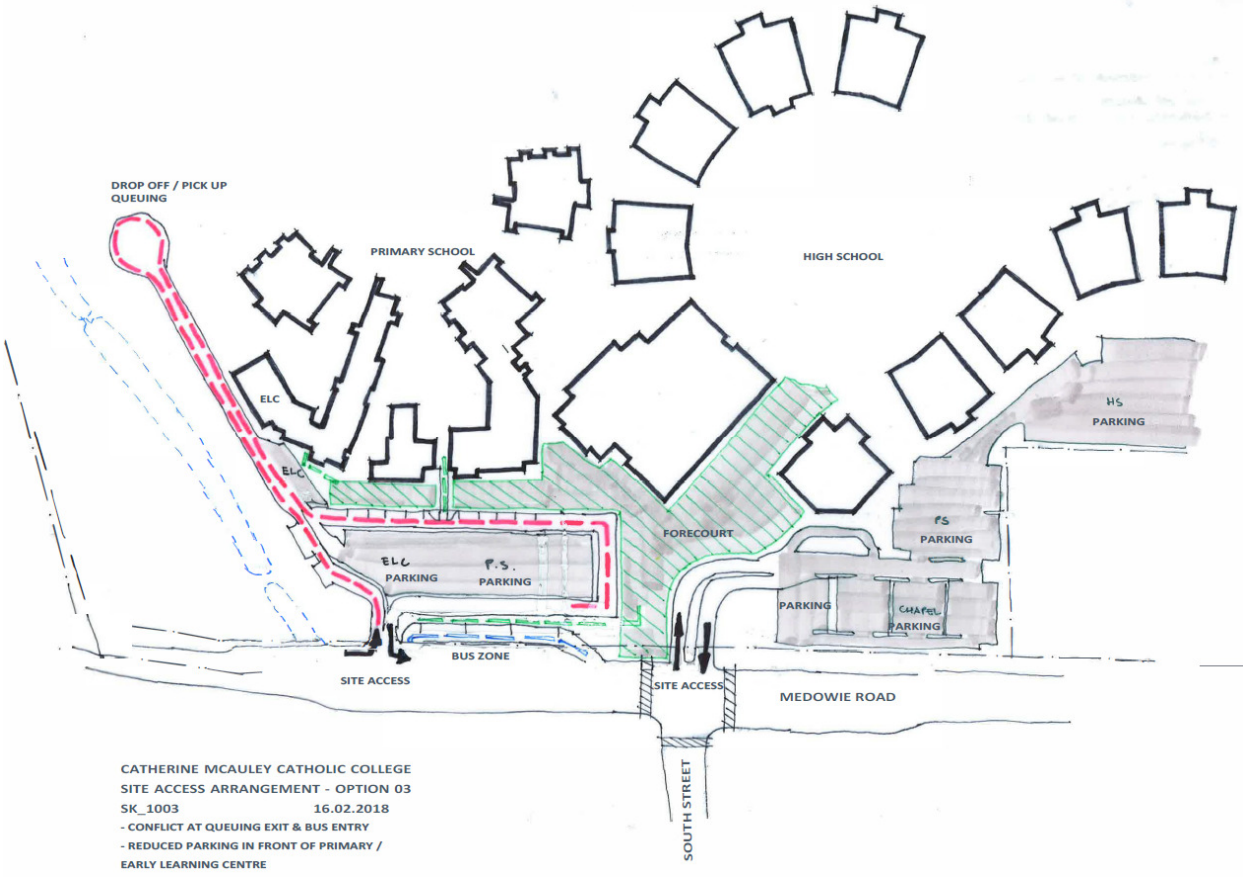
k. Final Design Image of the Primary School cluster GPLA buildings surronding the common external playspace. This orientation enables greater supervision, circulation & wayfinding.

l. Final Design Image of the Early Learning Centre. The building references the same architecural language for site continuity and ease of transition for students, while utilising materials & finishes specifications nominated by the Client's design standards. The Building operates as a separate commercial entity and requires an individual presence within the Campus at the front of the site.

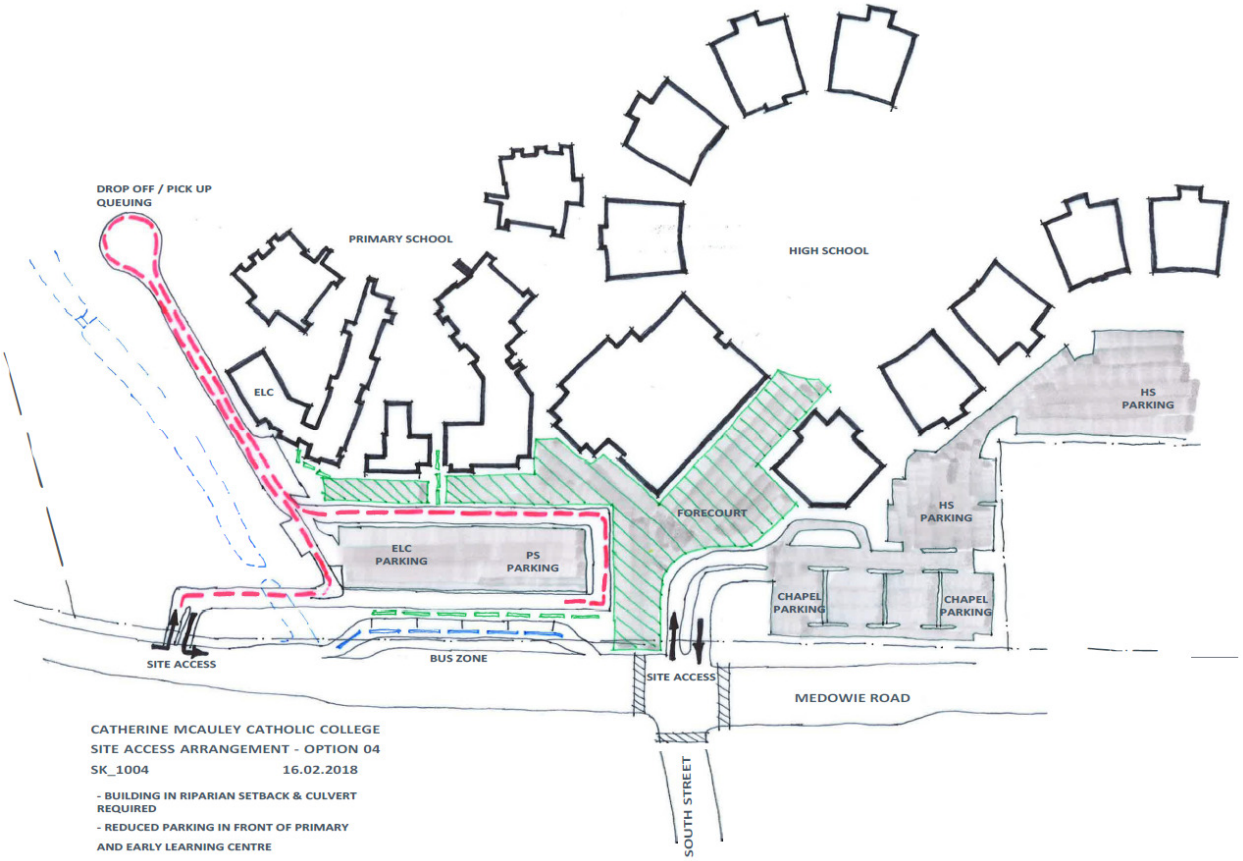
Car parking, Vehicle Queuing & Access Options Analysis

Commentary: SK1001 explores the division of the carpark and internal circulation roadway to allow for a unhindered pedestrian entry plaza as suggested by GANSW in our initial Pre-DA meeting. This results in two separate site access points. The lower carpark serves parent & visitor pick up and drop off as well as early learning centre & high school student parking, while the upper carpark serves high school staff & Chapel parking. This option was discredited on traffic engineering advice that a) sufficent on site bus holding cannot be provided b) deceleration lane length and exit from the High School Staff Carpark is insufficient and unsafe c) the roundabout proposal does not provide acceptable through traffic flow on Medowie Road at peak periods d) limited opportunity is available for safe school pedestrian level crossing of Medowie Road e) student pedestrian access from the bus drop off zone must traverse the carpark and vehicluar circulation network f) the High School carpark occupies the entire frontage of Medowie Road presenting an undesired visual appearance g) the internal vehicluar circulation passes through the carpark impacting on available site queuing lengths while parking manoeuvres are occuring. .

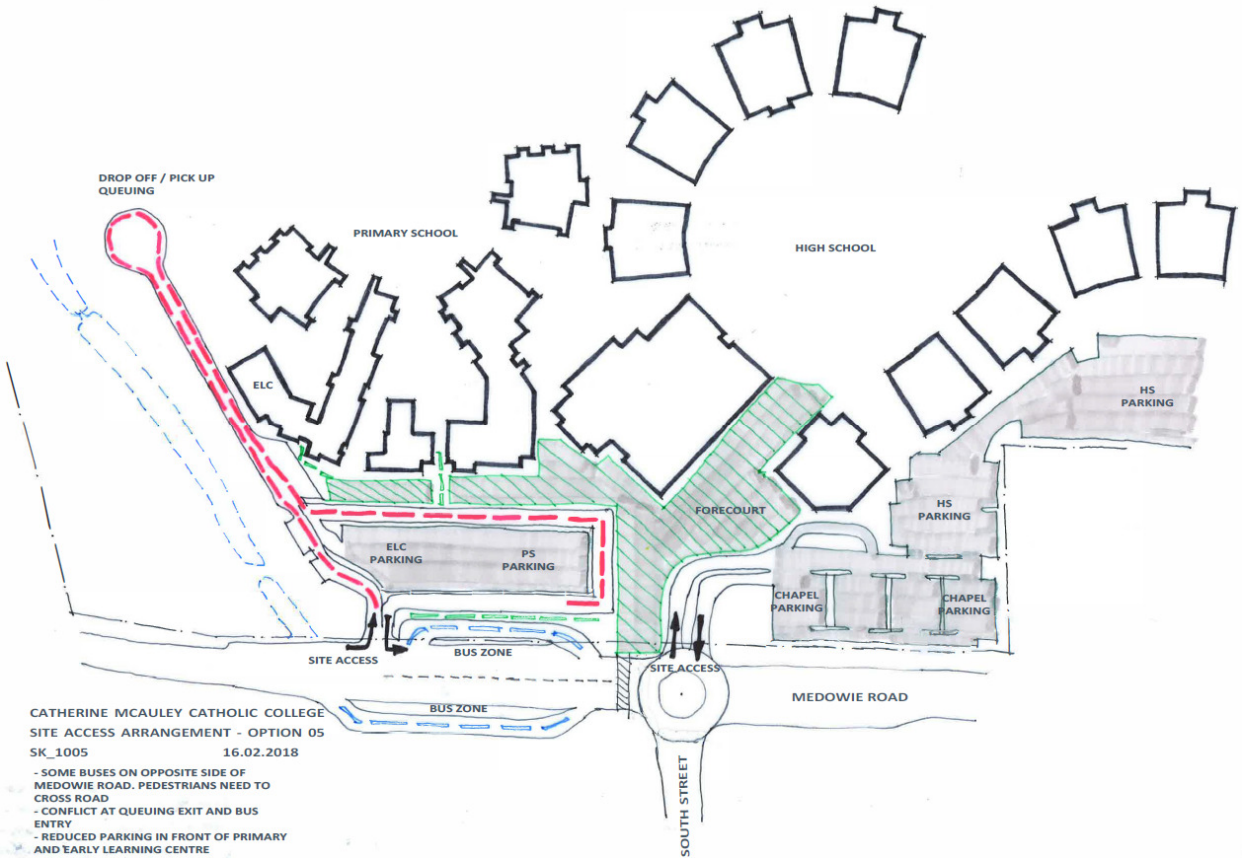
Commentary: SK1002 is a further development of SK1001 to introduce a traffic light intersection to provide safe pedestrian crossing of Medowie Road & limit the impact on through traffic of Medowie Road. The option also removes the secondary site access point to the High School staff carpark from Medowie Road therefore access to the upper carpark is by means of a shared zone or controlled vehicluar access point through the pedestrian plaza. The vehicular/pedestrian conflict is minimised by use of the second carpark by staff only, anticipating these vehicular movements will occur outside the peak pedestrian movements in & out of the site. The amount of walk/cycle movements to the site is predicted to be limited under the traffic engineer's advice due to the minimal housing stock or future urban release areas within a 1.8km walk/cycle radius. This option was discreditied as it does not address all of the issues raised in option SK1001.



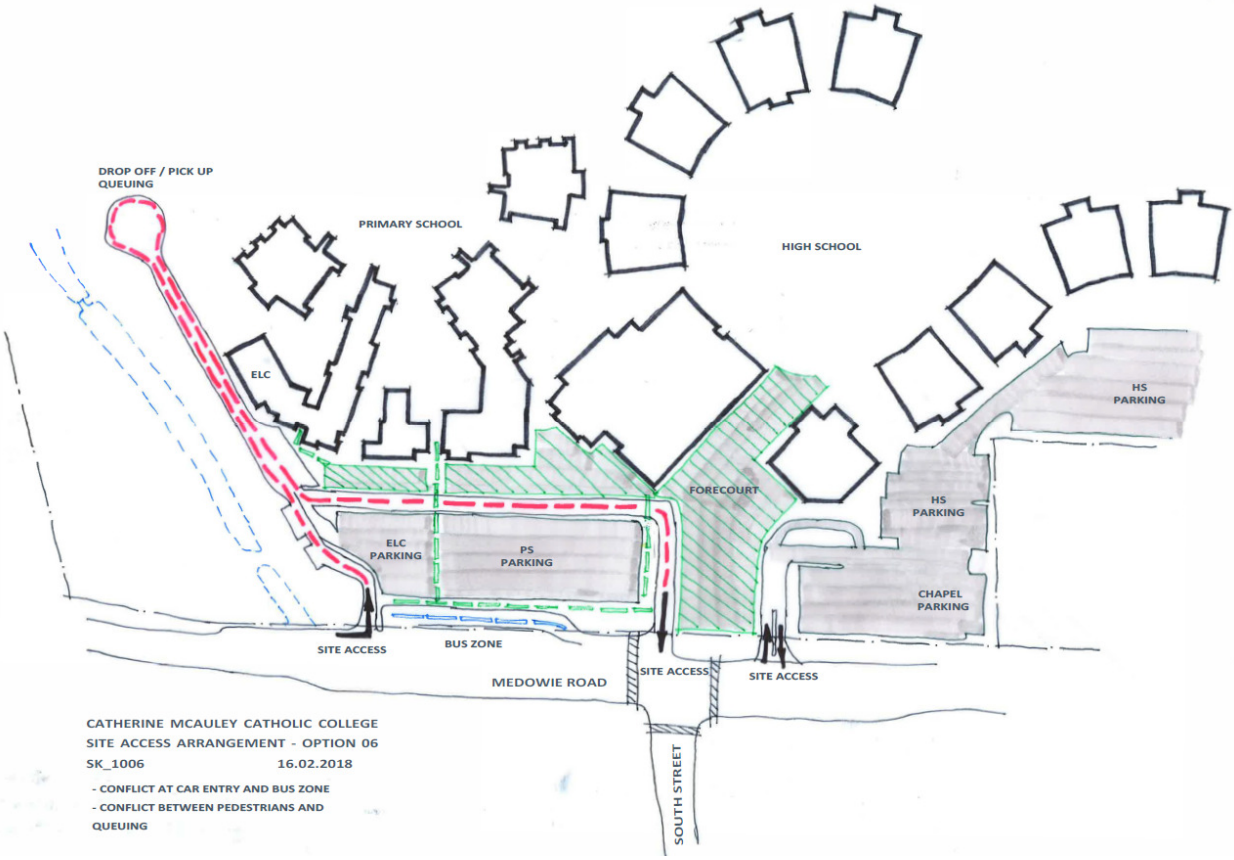
Commentary: SK1003 investigates the removal of the vehicle access and queuing loop road from the footprint of the lower carpark to minimise the impact of vehicular parking manoeuvres, while providing a secondary entry point to the upper carpark from the traffic light intersection and maintaining an unhindered pedestrian access forecourt with a direct connection to the bus zone drop off. This option was discreditied as it did not allow a right hand turn movement upon exiting the lower access carpark. While a manoeuvre into South Street to utilise a left turn onto Medowie Road via the South Street roundabout is possible, it is considered unsafe as the vehicle exiting the site must cross two lanes of traffic to turn right into South Street, and acceleration & deceleration distances are not considered sufficient. The traffic light intersection does not cater for the majority of movements in and out of the site (staff only). The option does not improve the capacity for bus holding on the site and conflict bewteen vehicles exiting the site and buses entering the bus zone occurs.



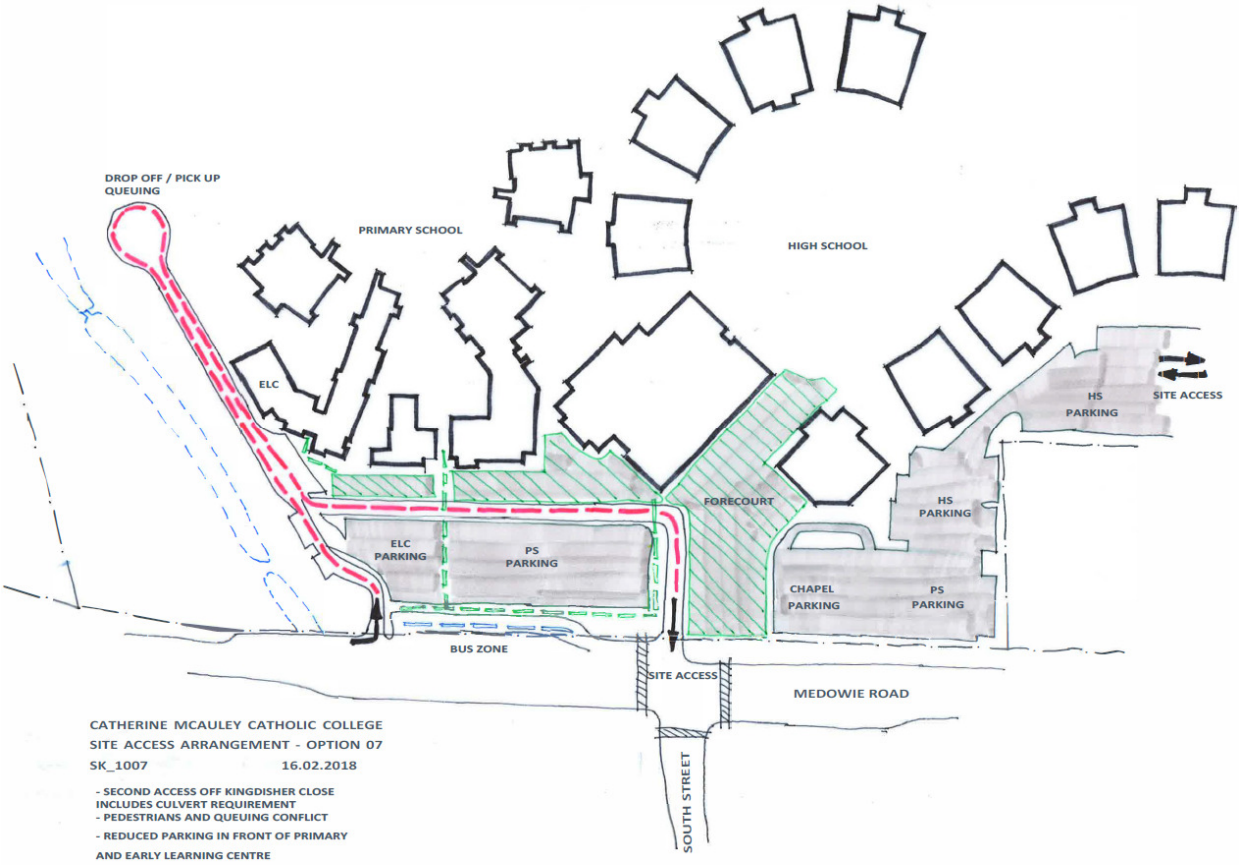
Commentary: SK1004 is a further development of SK1003 investigating the relocaton of the lower carpark entry /exit point further south along Medowie Road to enable greater distance for acceleration & decelaration for vehicles exiting the site & turning into South Street. This also avoids conflict between cars exiting the site and buses entering the bus zone. This option was discredited due to the items which remain unaddressed in SK1003, predominately the inability to exit the site travelling south from the lower carpark.



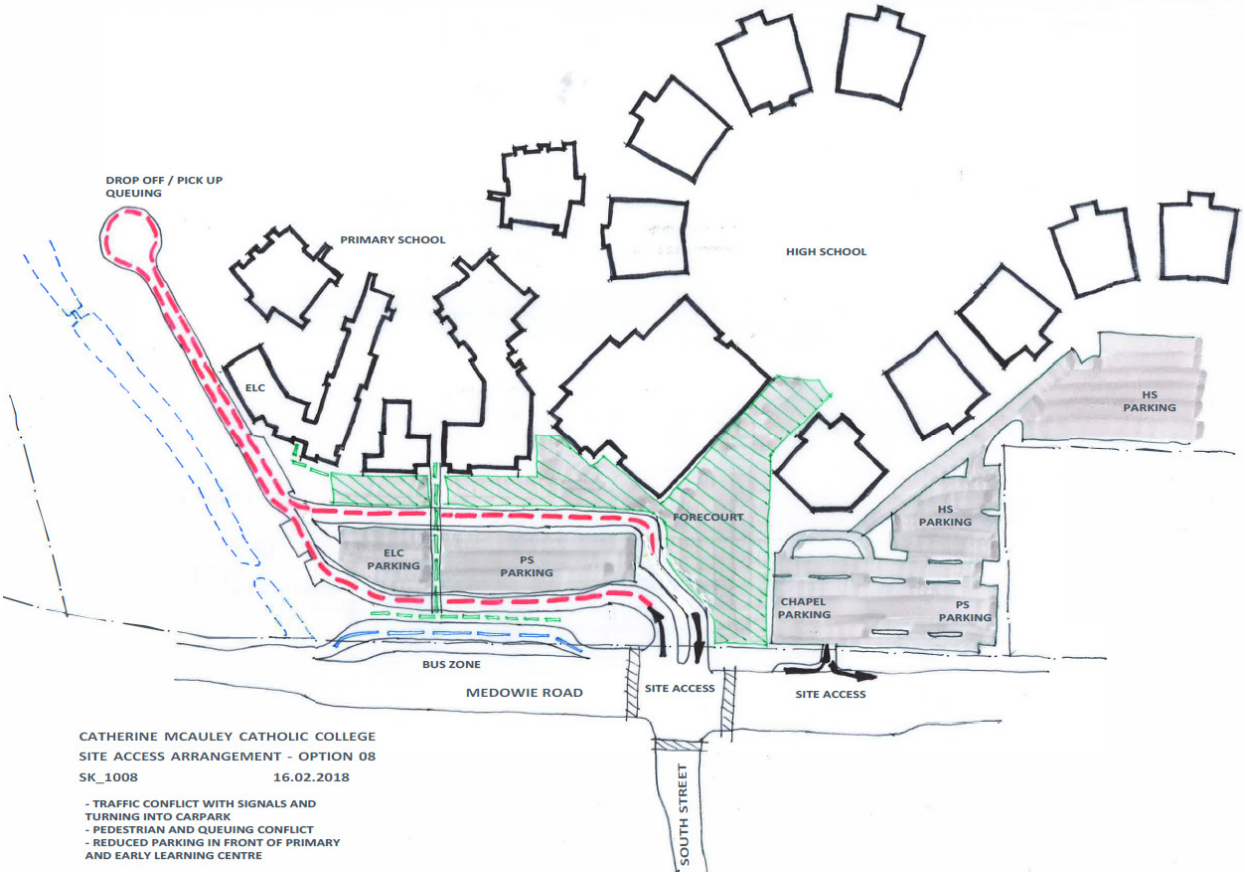
Commentary: SK1005 investigates the inclusion of additional bus drop off/pick up zones on the eastern side of Medowie Road to increase bus holding capacity. This option was discreditied due to a) consideration to safety of students crossing the road from the bus zone on the east side of Medowie road b) the proximity of the pedestrian crossing the the roundabout c) the impact of the roundabout on traffic flows travelling on Medowie Road at peak periods.



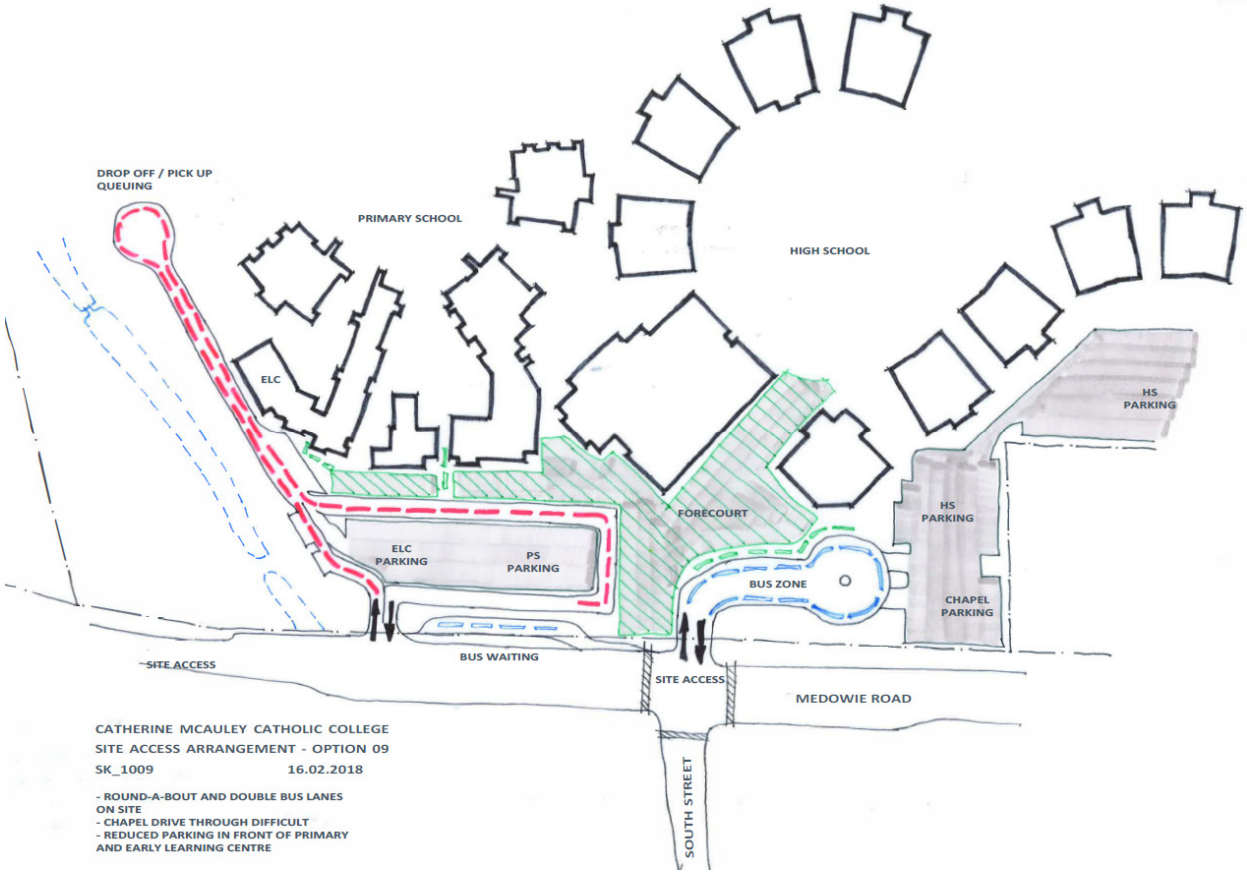
Commentary: SK1006 investigates introducing an exit point from the lower carpark onto Medowie Road to allow a safe exit for vehicles with the option to travel north or south along Medowie Road, whilst maintaining an unhindered pedestrian forecourt from the site boundary. This option was discredited due to a) insufficient bus holding capacity b) proximity of staff & chapel vehiclular entry/exit point to the intersection providing inadequate decelaration c) visual impact of parking areas across the site frontage d) student pedestrian access from the bus drop off zone must traverse the carpark and vehicluar circulation network



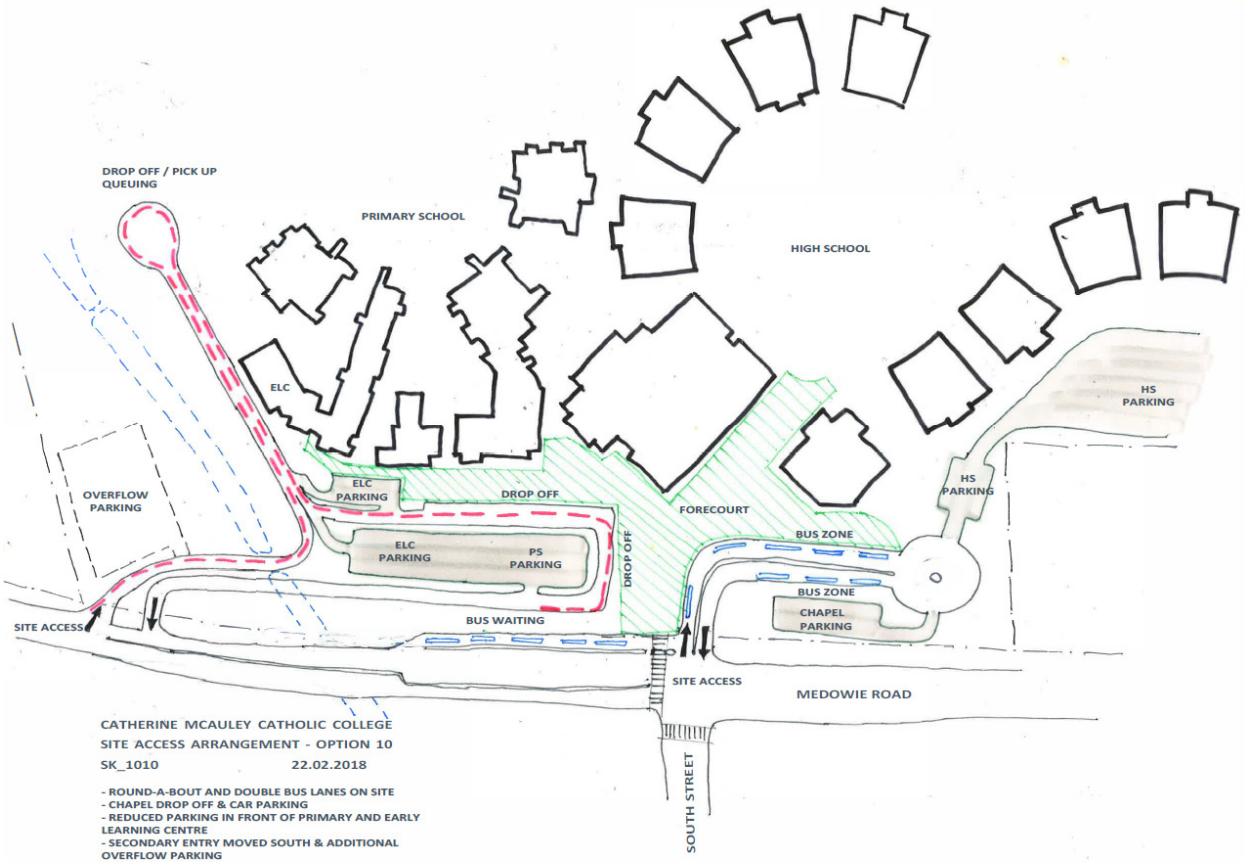
Commentary: SK1007 provides a reiteration of SK1006, exploring the option to relocate the staff & chapel parking vehicular access point from Medowie Road to Kingfisher Close. This option was discredited due to a) ecology and flooding constraints at the interface with Kingfisher Close b) impact of additional vehciles on Kingfisher Close and local residents (partly sealed narrow road) c) impact of additional vehicular traffic at the intersection of Blueberry Road (serving Kingfisher Close) and Medowie Road, which could result in a second intersection upgrade d) inadequate bus holding capacity and student pedestrian access from the bus drop off zone must traverse the carpark and vehicluar circulation network



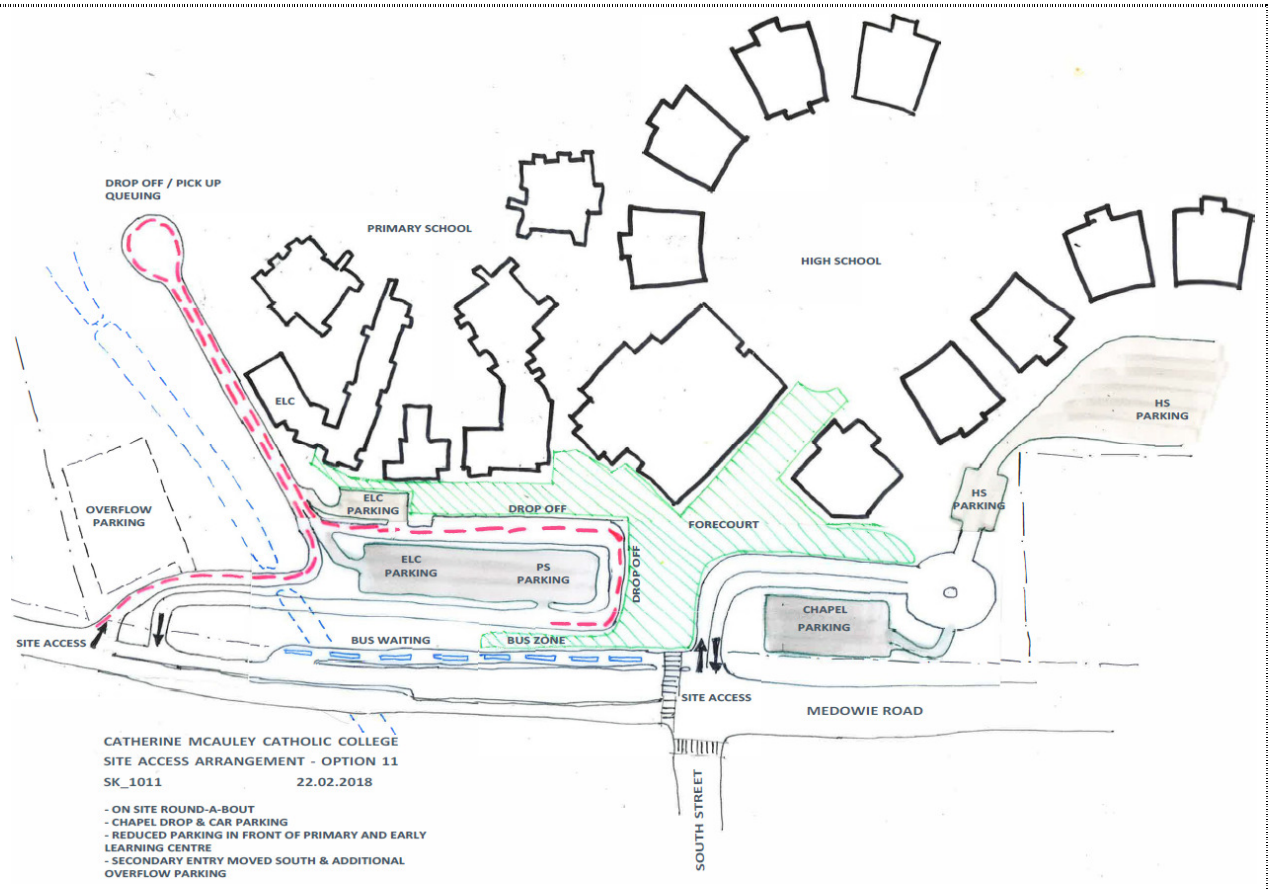
Commentary: SK1008 is a similar reiteration of SK1006 & SK1007 however explores an entry exit point for the lower carpark from the traffic light intersection. This option was dicredited due to similar design impacts associated with SK1006 & SK1007.



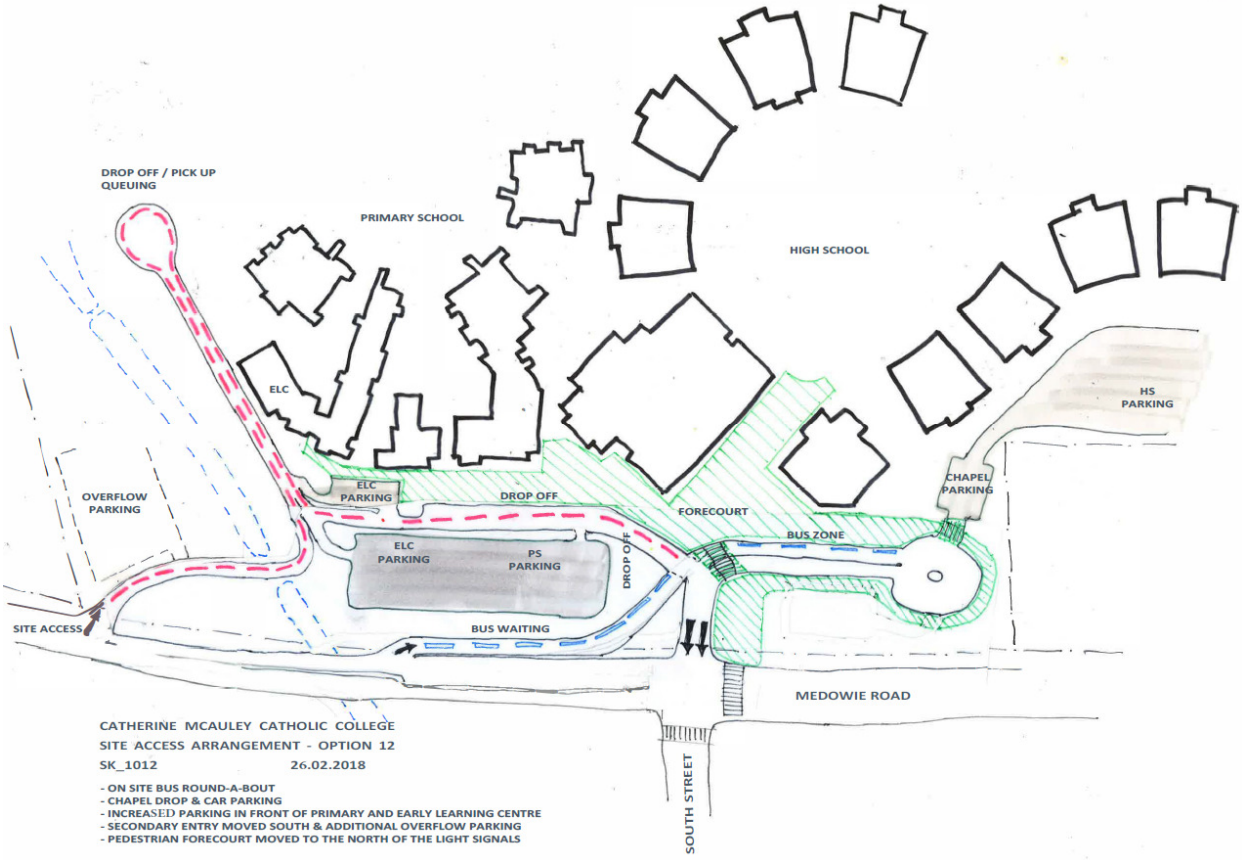
Commentary: SK1009 was the commencement of investigating the introduction of a bus zone within the site boundaries to increase bus capacity, and cater for buses travelling south to utilise the intersection as a right turn into the site. This option was discredited as the vehicular entry/exit point to the lower carpark has the same inherit design issues as SK1003.



Commentary: SK1010 provides for an increase in the bus holding capacity on the site by combining the two bus holding bays & lengthening the bus drop off loop road, while reducing the amount of upper site carparking along the street frontage. This option requires the separation of the lower carpark entry/exit point from the intersection. This option was discredited due to a) vehicular safety concerns for vehicles exiting the lower carpark as per option SK1004 b) implications around the interface of the pedestrian forecourt and the street boundary including conflict with the bus zone.



Commentary: SK1011 is a futher development of SK1010 however providing for bus zone drop off/pick up along the road frontage only. This option was dicreditied for the same reasons as SK1010 as well as the loss of prominence of the pedestrian forecourt along the frontage of the site intended to promote walk/cycle transport alternatives.



Commentary: SK1012 represents the previous preferred and current site planning option as a result of the above options analysis as it addresses the following contraints of the above options:

- The pedestrian forecourt extends from the school through to the site boundary to promote walk/cycle transport alternatives.

  While a level pedestrian crossing is required within the site to provide a vehicular site exit point at the traffic light intersection for both carparks, this conflct is minimised to buses and staff vehicles only. It is anticipated all staff arrival and departures will occur outside the peak periods of student arrival/departure, and the amount of walk/cycle movements to the site is predicted to be limited under the traffic engineer's advice due to the minimal housing stock or future urban release areas within a 1.8km radius. It is the RMS & traffic engineer's opinion that this crossover within a low speed network is low risk, acceptable and manageable.

- A singular vehicle site entry point serving both carparks is located in the southern corner of the site, where it's location is dictated by the required deceleration & turning lane lengths between the right turn in to the site from Medowie Road for vehicles travelling south, and the right turn into South Street for vehicles travelling north along Medowie Road.

  The right turn into the site via sheltered turning lane was discussed and deemed appropriate by Roads and Maritime Services (RMS) during initial pre –DA discussions due to adequate sight lines and the occurence of peak traffic flows coinciding with 40kmh school zone times.

- The traffic light intersection facilitates the movement of all vehicles to safely exit the site in a North or South direction along Medowie Road, or into South Street. The traffic light intersection also provides a safe level pedestrian crossing directly connected to the pedestrian entry forecourt.

- The visual appearance of the carpark has been minimised by locating all upper carparking to the North eastern corner of the site and increasing the opportunity for landscape buffering between the bus zone and the road frontage. Further design development has seen a number of Early Learning staff spaces relocated away from the frontage to the loop road to assist in the introduction of landscaping within the lower carpark.

- Adequate bus holding and drop off/pick up zones are catered for entirely within the site boundaries, with all

students travelling to site via bus or light vehilce dropped off directly at the school entry and are not required to traverse the carpark. It is anticipated that there will be a high level of dependance on bus travel to the school given the large catchment area and the efficiency of this facility has been considered and prioritised in the design to promote the use of bus travel to School.

Due to the required deceleration and turn lane queuing lengths between the site vehicluar entry points and traffic light intersection, and the onsite storage requirements for buses, a right turn in for buses travelling South along Medowie Road is not possible. Buses are required to proceed to the Richardson Road roundabout (approx 800m south) and approach from the south into the dedicated bus entry lane. A CDMN bus provider was consulted during the design phase and has confirmed that this would not affect the provision of bus services to the development.

- Conflict and confusion between site entry and exit points, and vehicular movements on Medowie Road (ie. bus & light vehicle conflict) are negated by the separation distance between the two vehicular entry points and one vehicular exit point.

- The scheme avoids the need for vehicles to utilise Kingfisher Close to enter/exit the site.

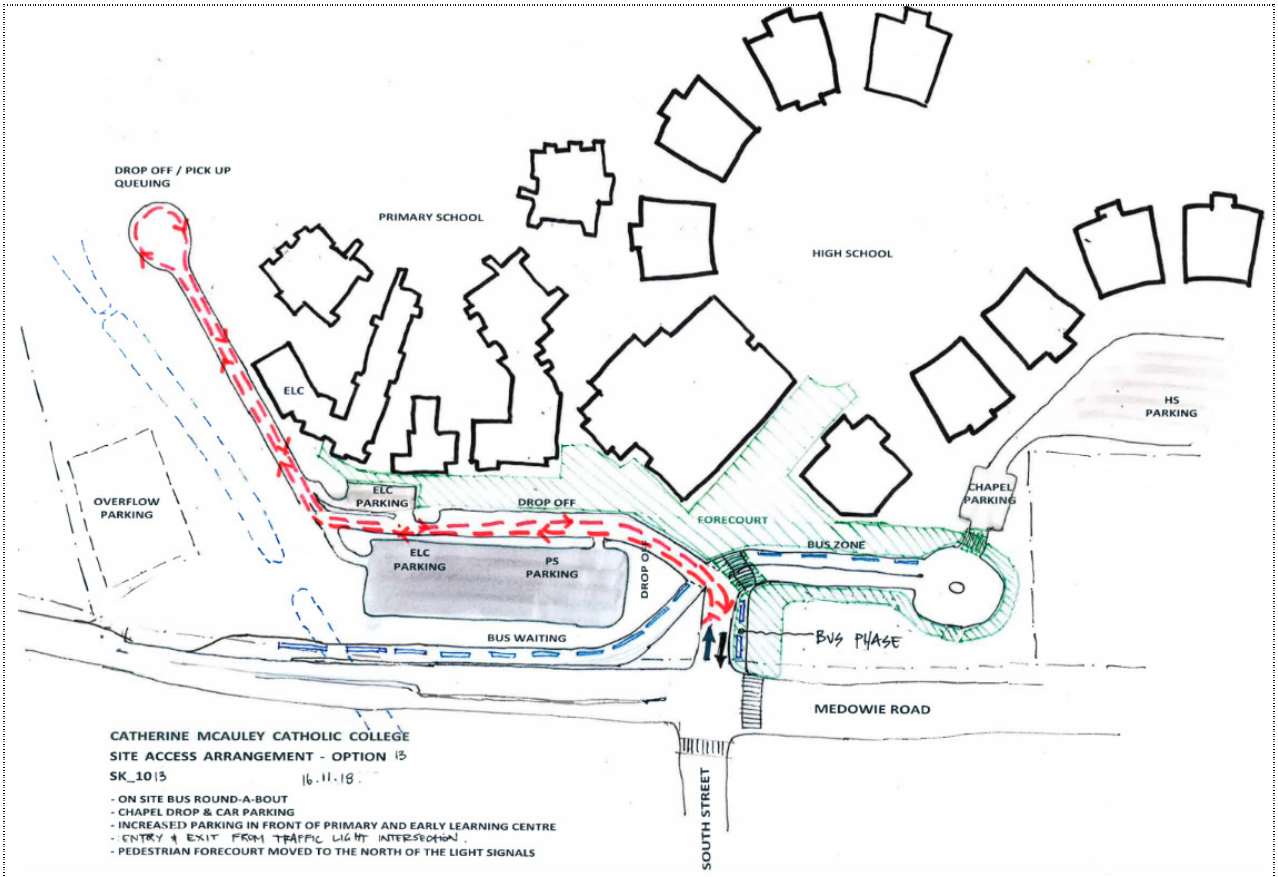
- The scheme maintains adequate light vehicle queuing distance for pick up/drop off in the lower carpark. The loop road is free from any vehicular manoeuvres which are likely to impact on queuing capacity. The traffic engineer consideres this an efficient internal network for drop off/pick up to facilitate use by the School community.

- Early Learning Centre parking is provided at the front door of the centre avoiding the need for parents and children to traverse the road network.

- The scheme makes use of the otherwise un-useable front portion of the site due to the overhead electrical easement. The relocation of additional vehicular parking and circulation elsewhere on the site would lead to impact on available indoor & outdoor environments and potential additional impacts on the adjoining areas of sensitive ecology.

- The scheme provides the minimum number of carspaces in accordance with Council DCP requirements for staff & students, plus an additional 44 spaces for school operational requirements, as the DCP requirement does not account for walk-in drop offs or visitor parking requirements associated with the Primary School and High School. At the Applicant's request, these car spaces have been provided in the lower carpark to facilitate infant walk in drop off/pick up, functions such as open days, school community partitipation in events, volunteering, parent attendance at morning assembilies and the like which is crucial in the creation of a School community. It is imperitive that these carparking spaces be provided within the lower carpark and within proximity to the entry points to the Schools for supervision and ease of access. Relocation elsewhere on the site is not practical.

  These additional visitor spaces also account for a concurrent function to occur in the Chapel during times of School occupation. There is no parking rate nominated in the Council DCP for a religious place of worship.

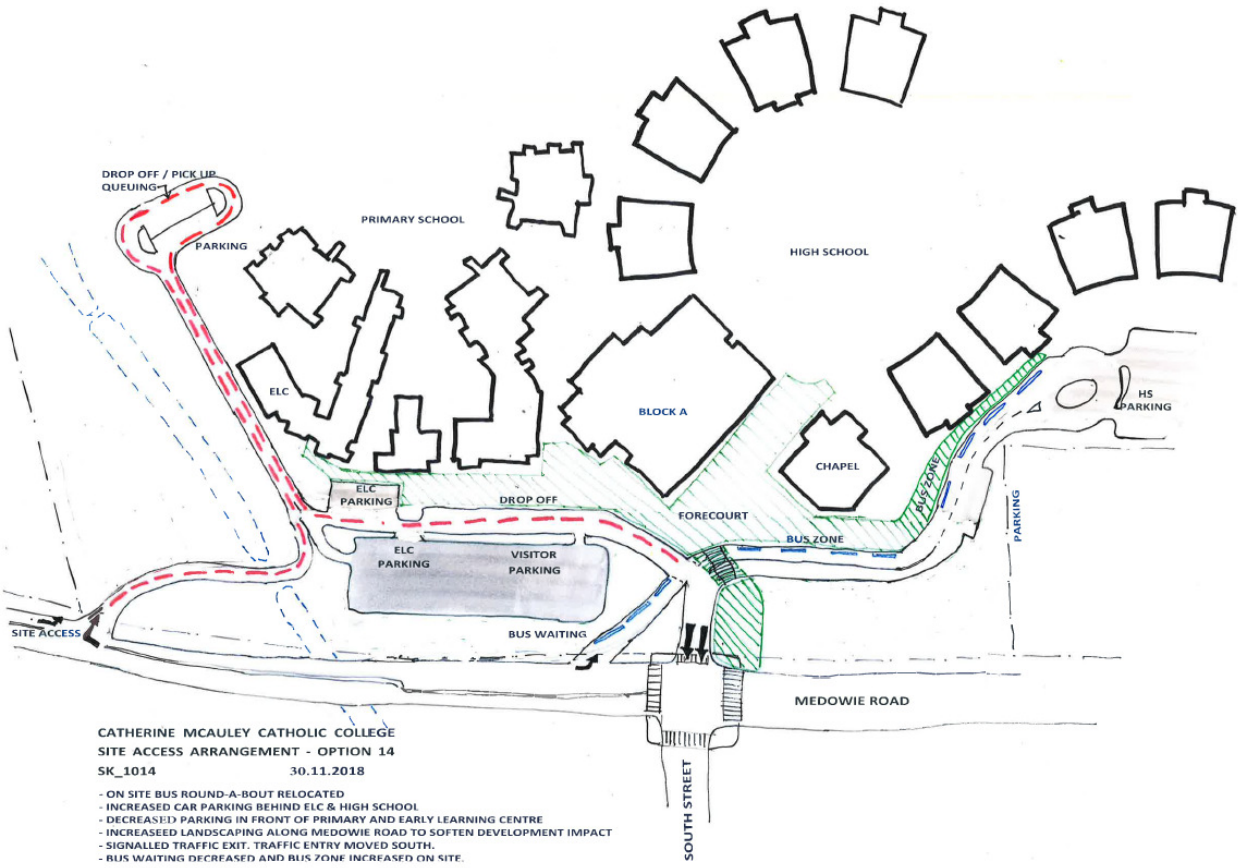


Commentary: SK1013 represents an investigation into and entry & exit off the traffic light intersection as a result of the meetings and formal comments made by Port Stephens Council.

The traffic engineer advises that while the alternative option solves some traffic items, such as increased bus storage, the anticipated additional load on the intersection phasing due to the turn right into the site travelling south along Medowie Road, and the bus phase would impact on traffic flow along Medowie Road and the operation of the signals.

The crossover of buses and light vehicles entering the site would not permit free flow of buses into the holding and drop off areas to the North of the intersection at peak times.

The arrangement would also permit an illegal turn right for light vehicles to bypass the loop road and enter the bus zone to drop off and pick up which is not desired.



Commentary: SK_1014 represents the evolution previous SK_1012 and the current site layout as a result of the comments received from RMS, GANSW and council, in consultation with the traffic and civil engineers.

- The vehicle egress signal intersection on Medowie Road is to meet RMS standards which now includes a four way pedestrian crossing.

- The north bound bus deceleration lane turning onto the site along Medowie Road has increased in length to meet RMS requiremnts, resulting in the removal of some bus waiting zones along Medowie Road.

- The removal of the on site roundabout and reconfiguration of the car park adjacent to the chapel has allowed for additional bus parking spaces to be accommodated on the site. The location of the bus drop off zones North of the chapel also provide passengers with safe and direct access to the school without crossing any internal road networks. The removal of the roundabout and replacement with landscaping has reduced the visual impact of the development from a public vantage point.

- Additional car parks have been included in the layout to meet the queuing requirements during the peak pick up / drop of periods to the front of the site. Consideration has been given to the landscape layout and additional landscaping spaces to mitigate visual and amenity impacts from Medowie Road. The visual appearance of the car park from the street frontage and has been softened by relocating car parks to the North and South of the site and increasing the opportunity for landscape and shading. The removal of the bus waiting zone along Medowie Road has increased the landscape buffering between the car park and the road frontage of the site.

Figure 14(b) - Overall site planning options considered

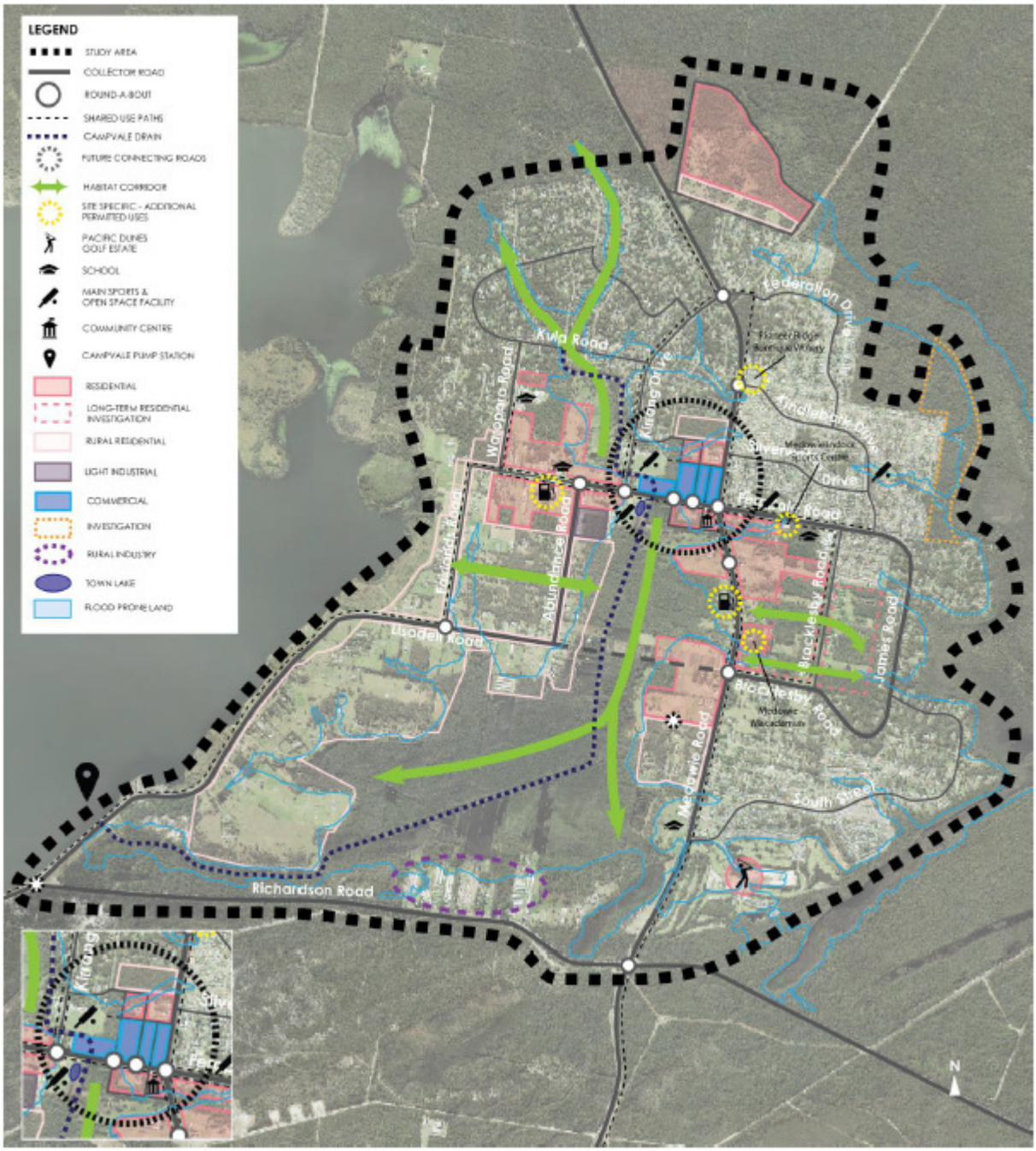


Figure 15: Strategy Map. Reference Medowie Planning Strategy Dated 13 December 2016

The Strategy Map in the Medowie Planning Strategy above shows the subject site as being identified for a school; the surrounding context including the Medowie town centre, existing and proposed residential areas, existing habitat corridors, Campvale Drain and flood prone areas, community use places and the limited shared use paths in the area.

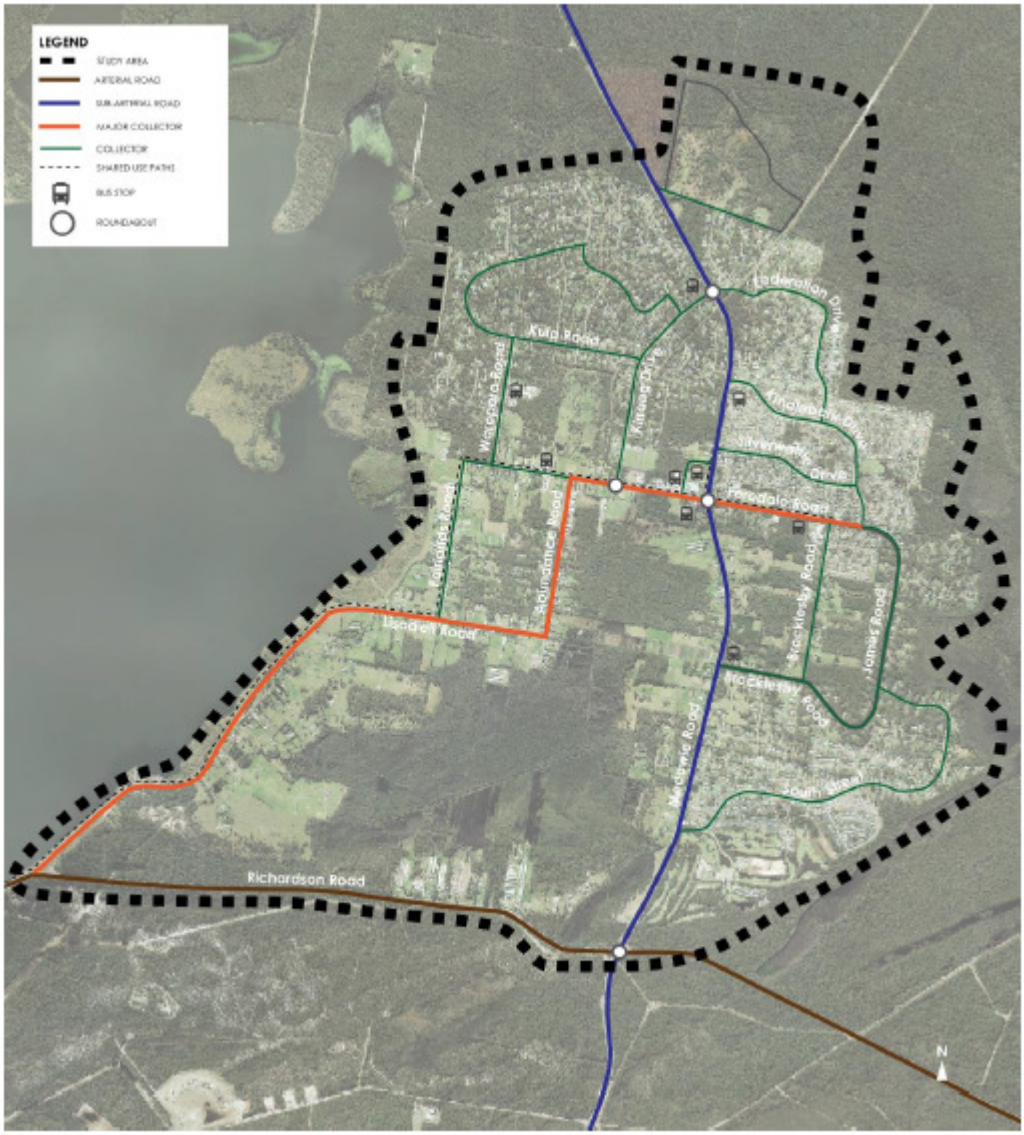


Figure 16: Existing Traffic and Transport. Reference Medowie Planning Strategy Dated 13 December 2016

The Existing Traffic and Transport map above from the Medowie Planning Strategy shows the road network in the area, shared use paths and bus stops surrounding the subject site.

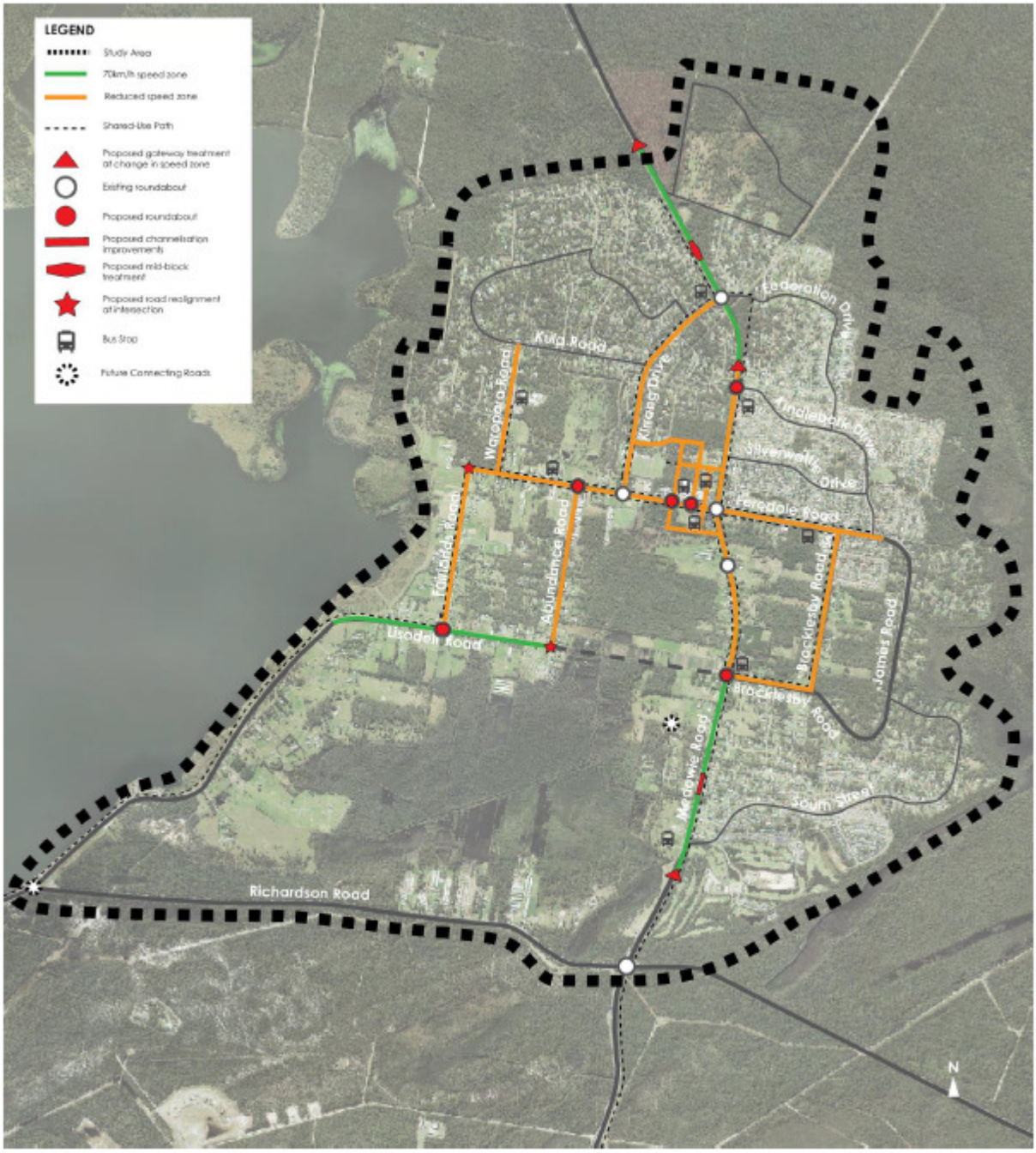


Figure 17: Future Traffic and Transport. Reference Medowie Planning Strategy Dated 13 December 2016

The Future Traffic and Transport map above from the Medowie Planning Strategy shows the proposed reduced speed zones in the Medowie Town Centre and near the subject site, illustrates proposed additional bus stops (including at the subject site) and additional shared use paths.

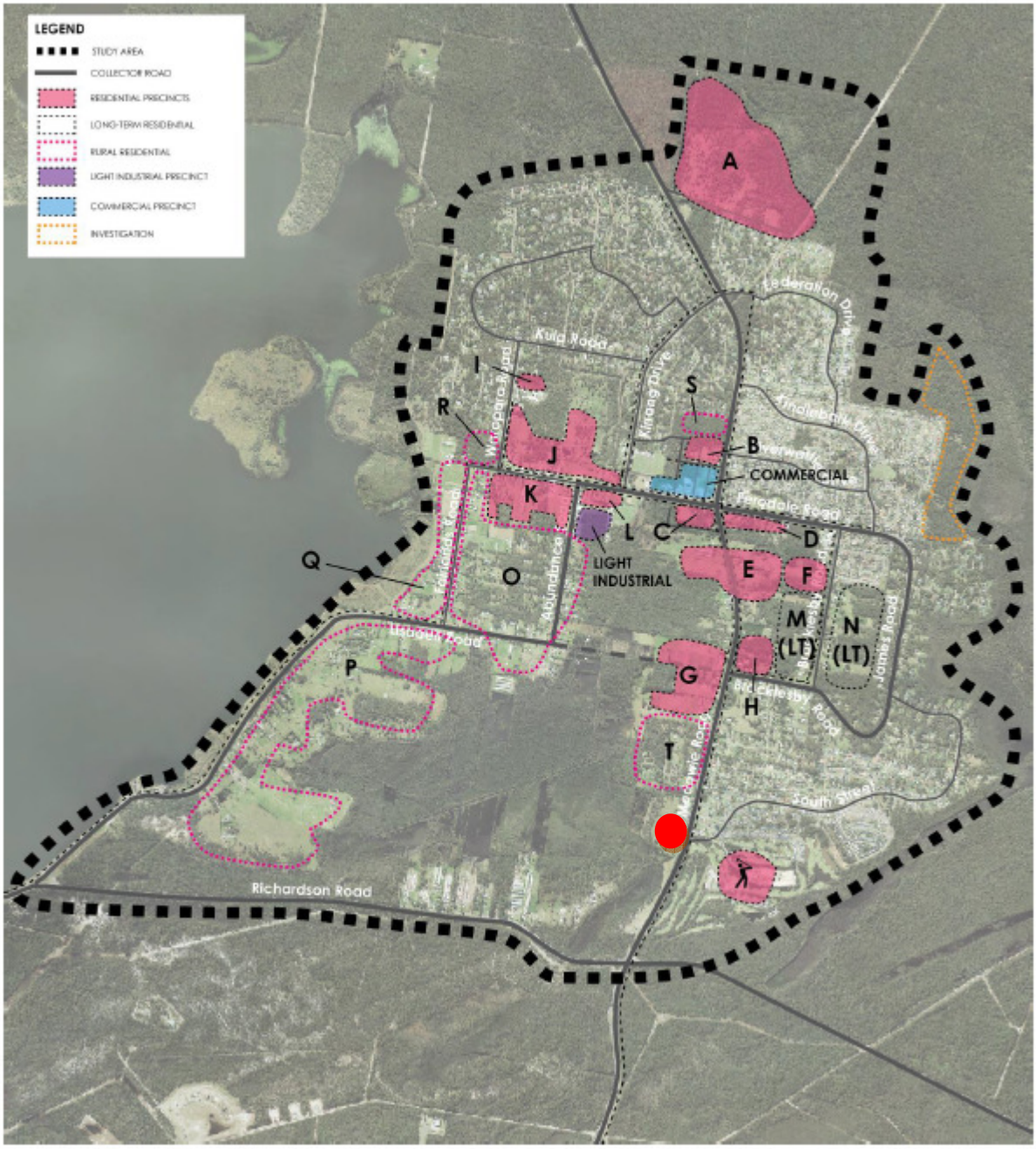


Figure 18: Planning Precincts. Reference Medowie Planning Strategy Dated 13 December 2016

The Planning Precincts map above from the Medowie Planning Strategy shows the varied precincts in the vicinity of the subject site (red dot) including existing and proposed residential areas, rural residential, light industrial and commercial areas, as well as investigation areas.

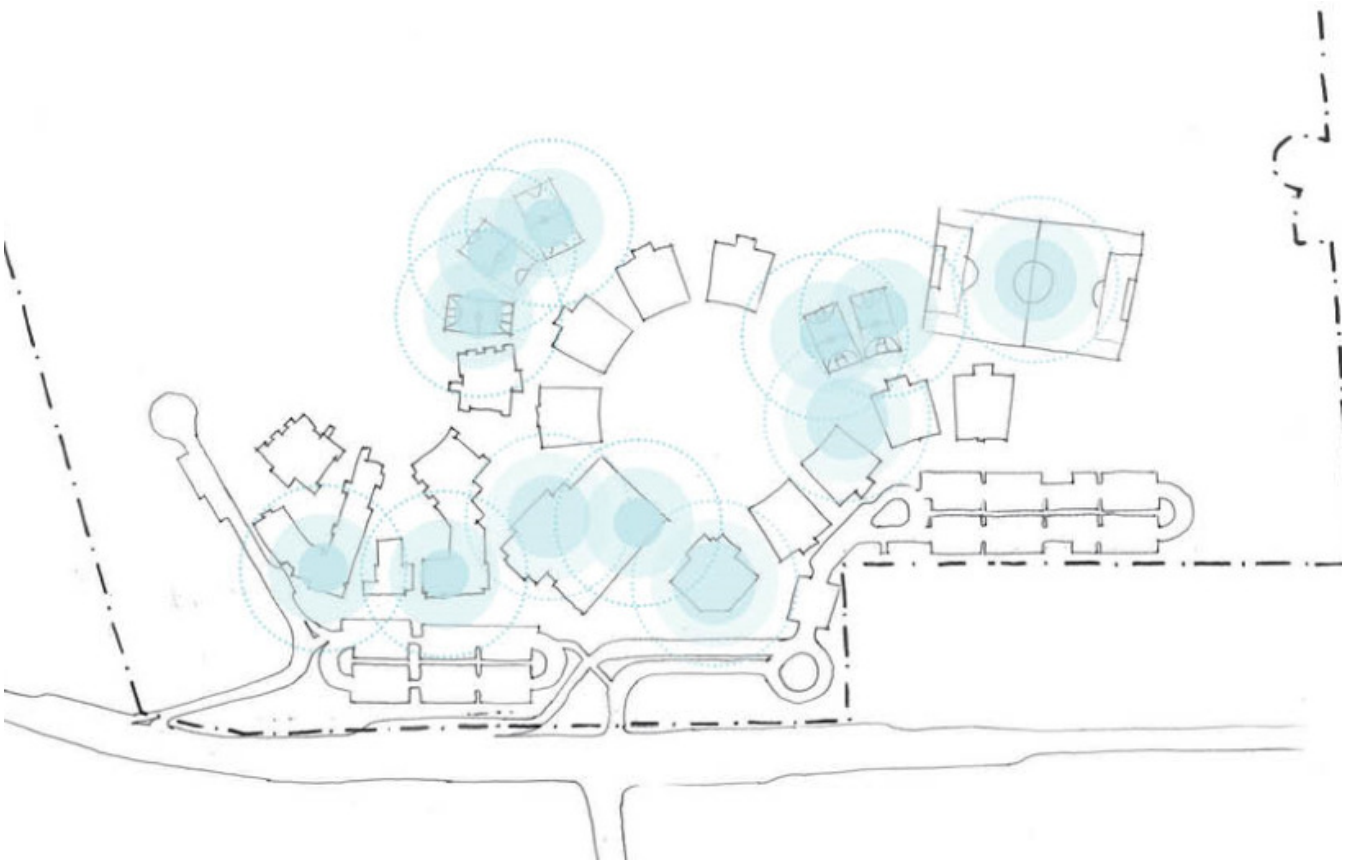


Figure 19: Site diagram illustrating afterhours and community uses.

Indicated in the above figure are the facilities on site which are designated for Community Use after hours. The built form of these are located on the frontage of the site for ease of access and also enable a secure line to be established behind the building line to prevent unwanted access into the site. These facilities include the Primary and High School halls, Chapel, High School Canteen and Cafe and the Early Learning Centre which has operating hours which extended beyond that of the school. The sporting fields and court located toward the rear of the site would be made available for use on Saturday mornings.

Figure 20: Relationship to bushland setting & natural environment

The figure above illustrates visual links through the College to the bushland setting on the western side of the site. Visual links between buildings are created by the circular set out of the site and also enable views from within the majority of the blocks to the ecology to the west. It is envisaged that there will be learning opportunities created by this link to the ecology with the Catholic Schools Office indicating the intention to integrate this in their pedagogical approach.

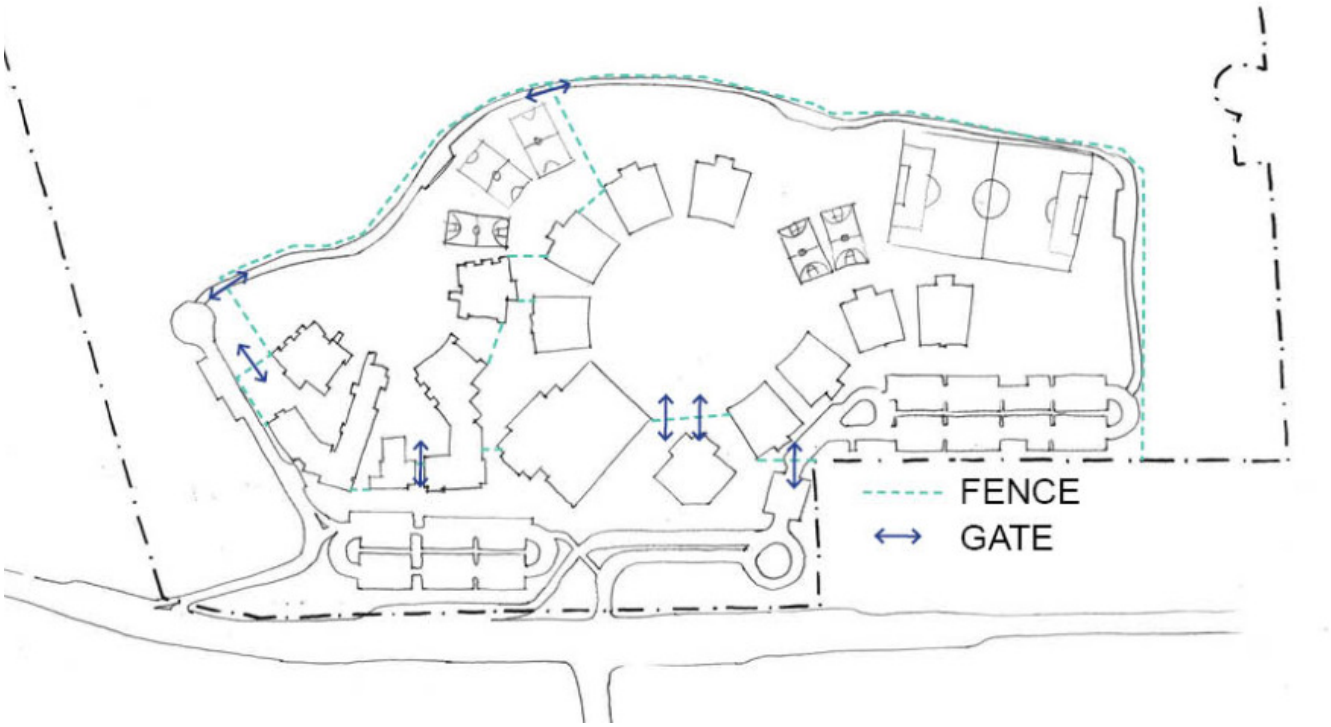


Figure 21: 'Secure' line behind building frontage and fences to perimeter

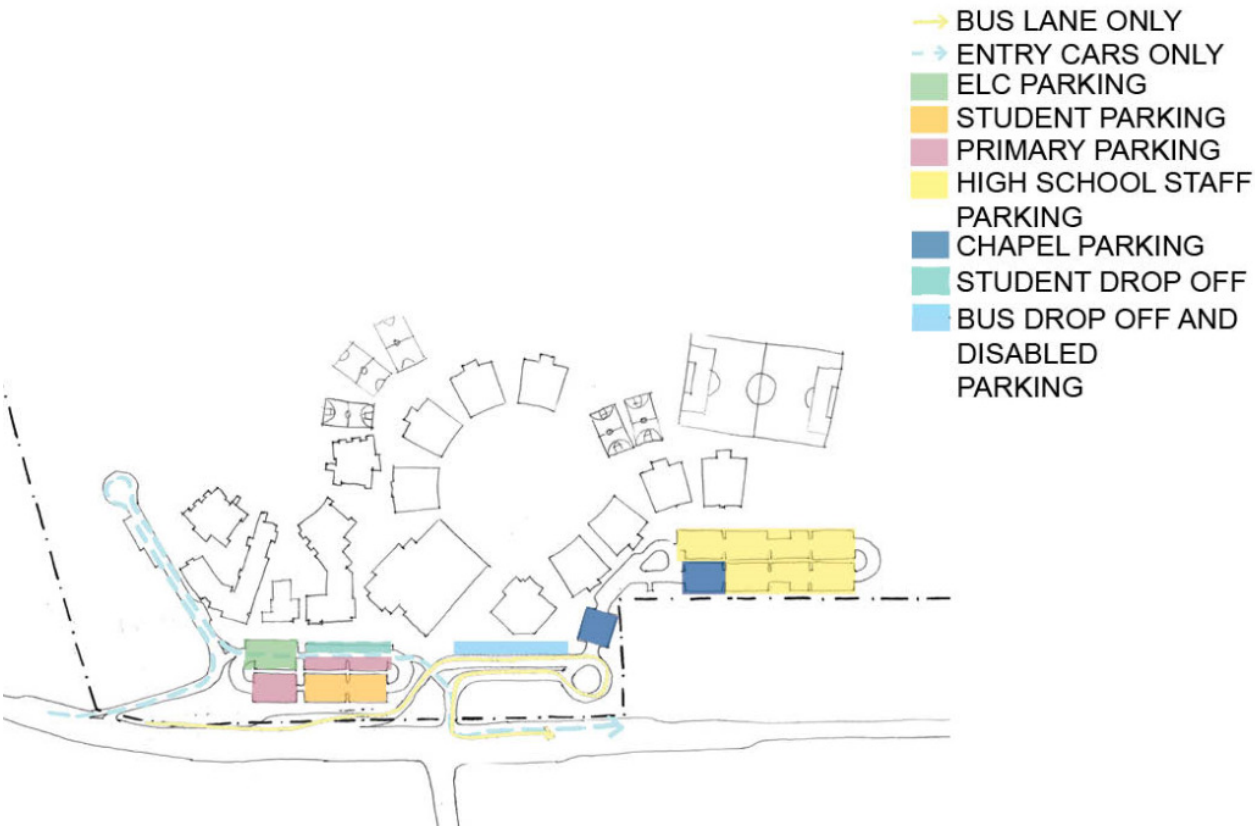


Figure 22: Site Vehicular site access and parking arrangement

The figure above illustrates the vehicular access points to the site, vehicular circulation to the periphery of the site and the various locations for car parking on the site divided into the various uses.

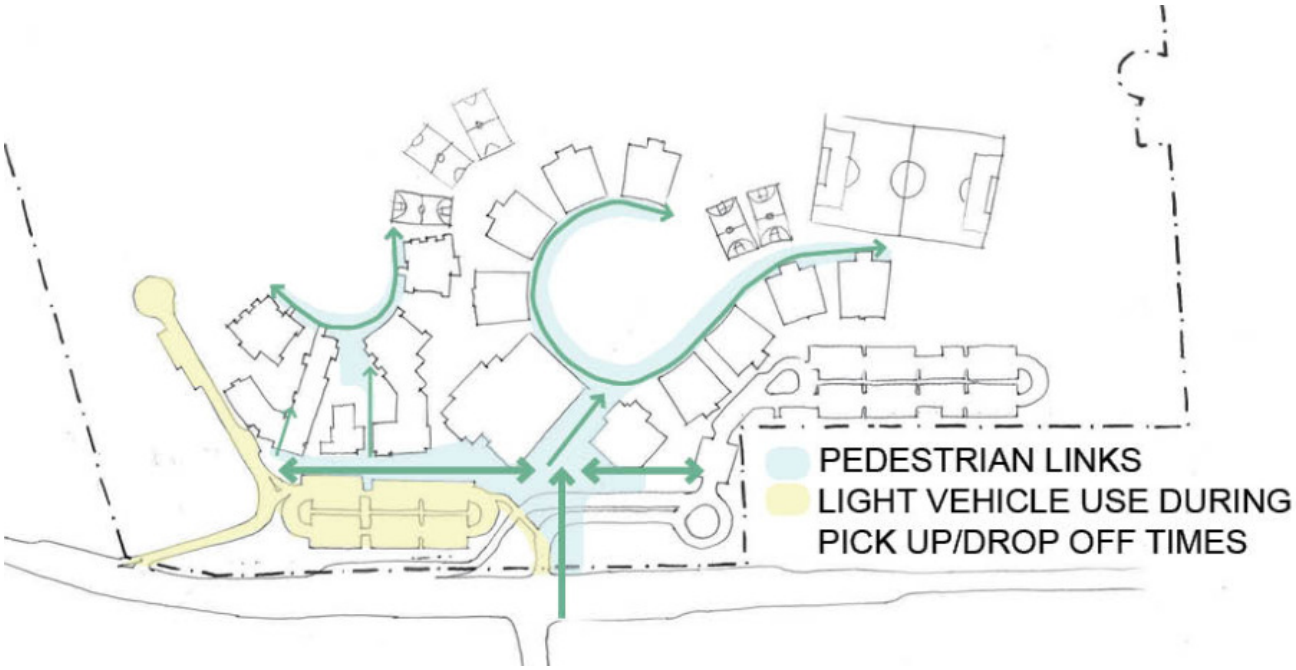


Figure 23: Pedestrian Site Access Diagram

The figure above illustrates the main pedestrian access paths in and around the site. Illustrating how the pedestrian paths have been kept separate from the vehicular paths.

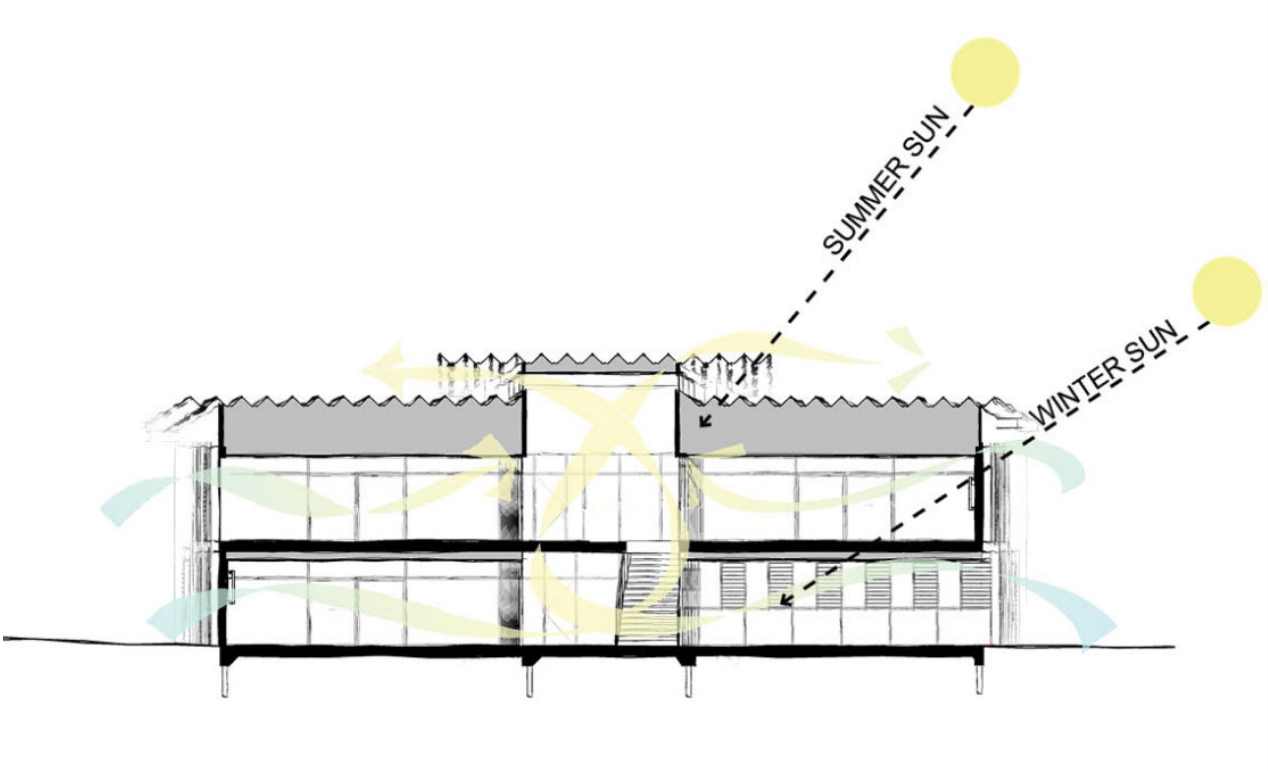


Figure 24: Typical High School Block Ventilation strategies and solar access

The design of the high school blocks incorporate operable windows at low and high level to encourage natural ventilation, roof overhangs and window awnings to block summer sun, while encouraging winter solar access. Other sustainability initiatives which are to be incorporated into the detailed design include rainwater reuse, solar panels and building monitoring systems which will form part of the pedagogical approach.

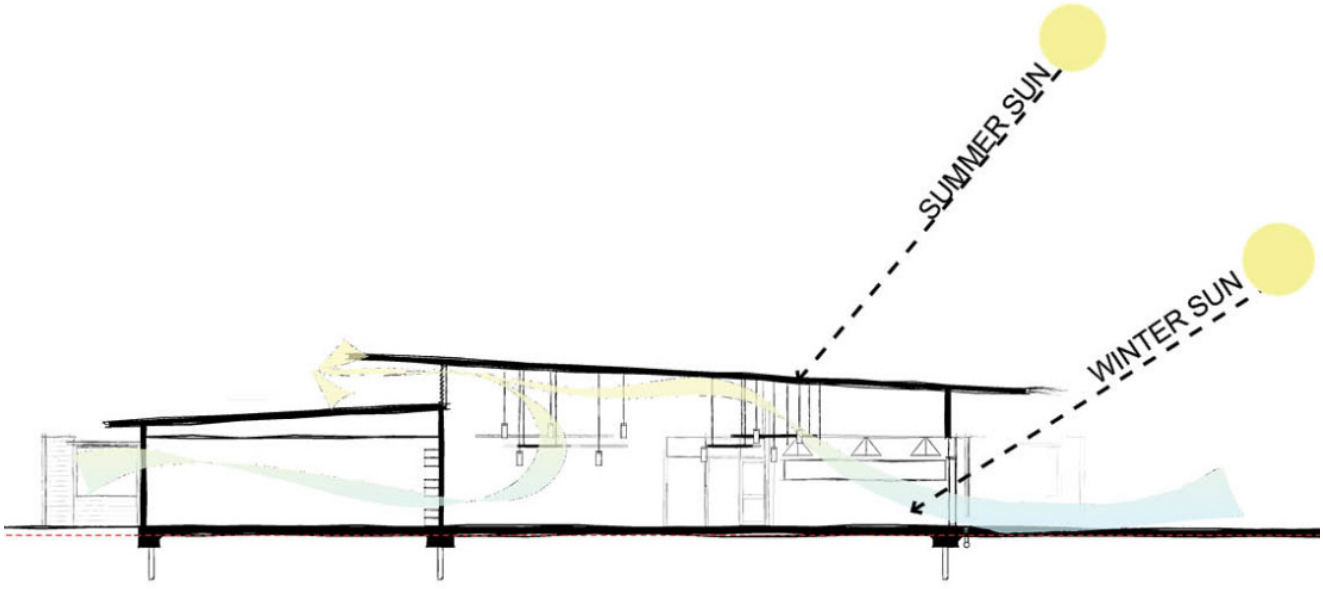


Figure 25: Typical Primary School Block Ventilation strategies and solar access.

The design of the primary school classrooms incorporate operable windows at low and high levels to encourage natural ventilation, roof overhangs, window awnings and operable louvre blades to block summer sun, while encouraging winter solar access. Other sustainability initiatives which are to be incorporated into the detailed design include rainwater reuse, solar panels and building monitoring systems which will form part of the pedagogical approach.

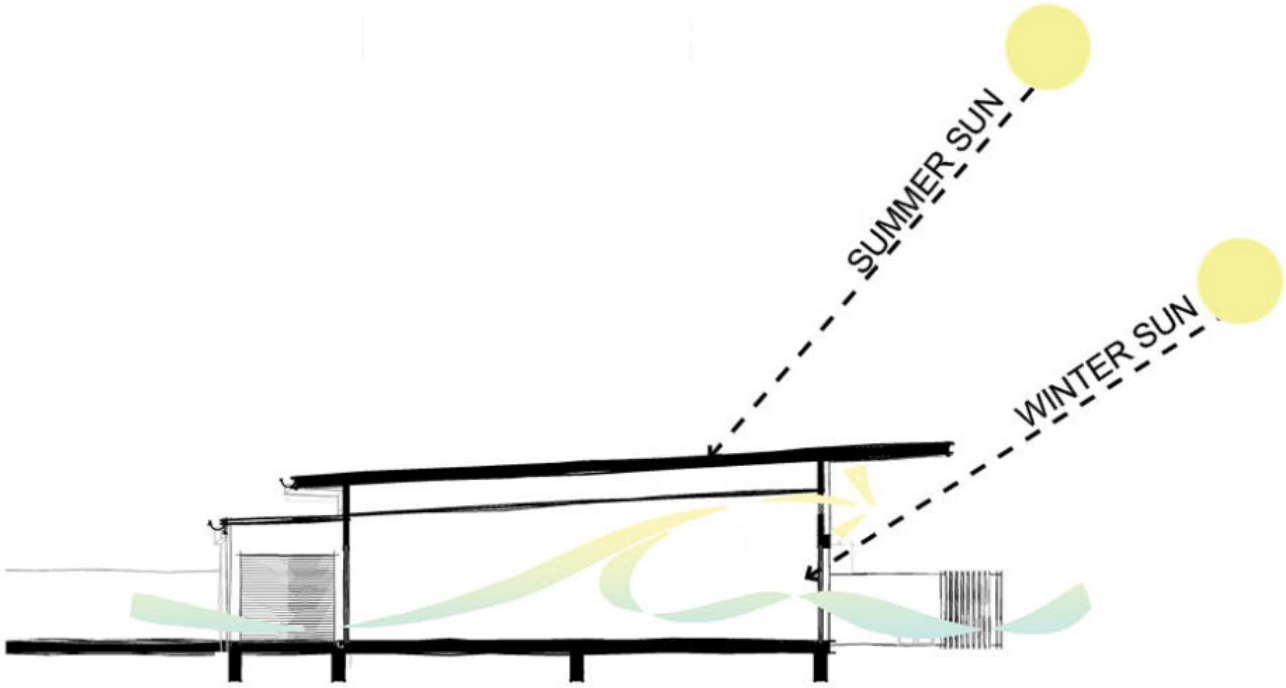


Figure 26: Early Learning Classroom Ventilation strategies and solar access.

The design of the Early Learning Centre incorporates a linear & narrow building form which promotes excellent cross flow ventilation and natural light. The use of building orientation, breezeways, large roof/verandah overhangs and high & low level louvre windows assists passive design principles. Raked ceiling forms within play spaces improve the internal environment, promote the stack ventilation effect and the suspended ceilings provide a void to assist in the thermal performance of the roof structure. Roof overhangs shade not only glazed areas but large wall expanses. Rainwater reuse, energy efficient plant, lighting & water fixtures will be incorporated in the detail design of the project. Sheltered and screened outdoor breakout areas are anticipated to be located directly off internal play spaces to increase building occupant amenity.

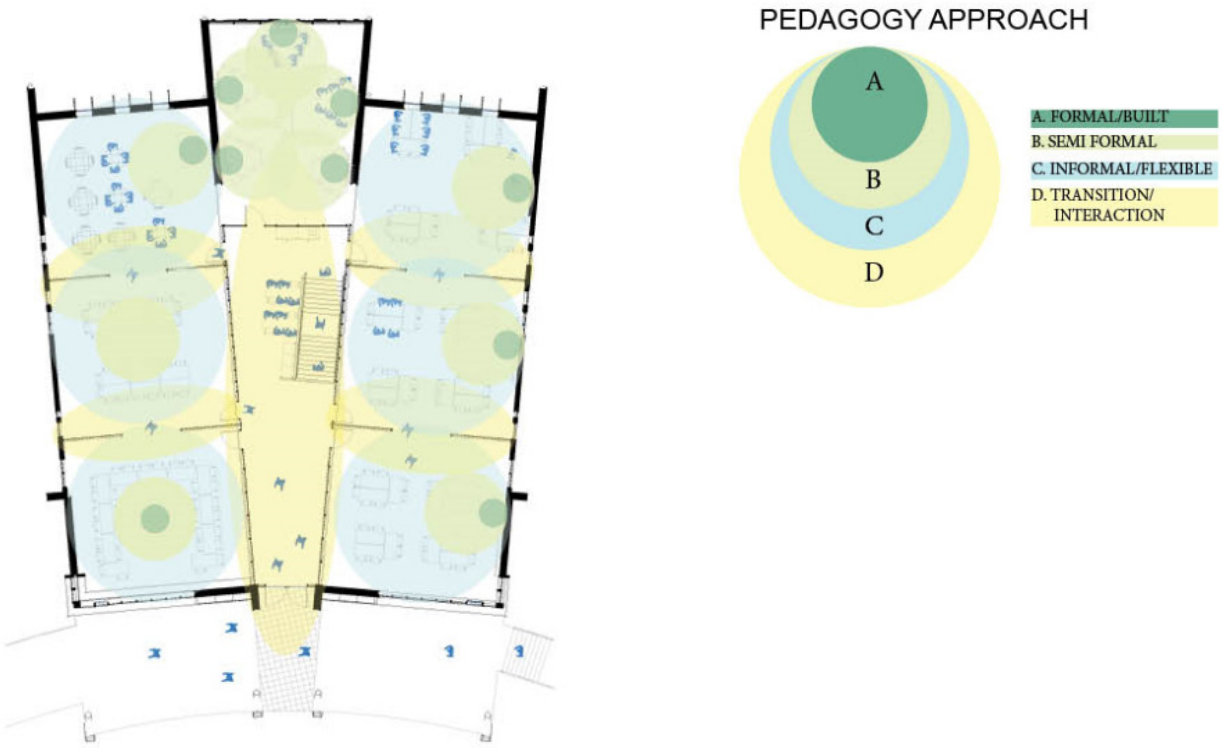


Figure 27: Typical High School Block Flexible Use Layout

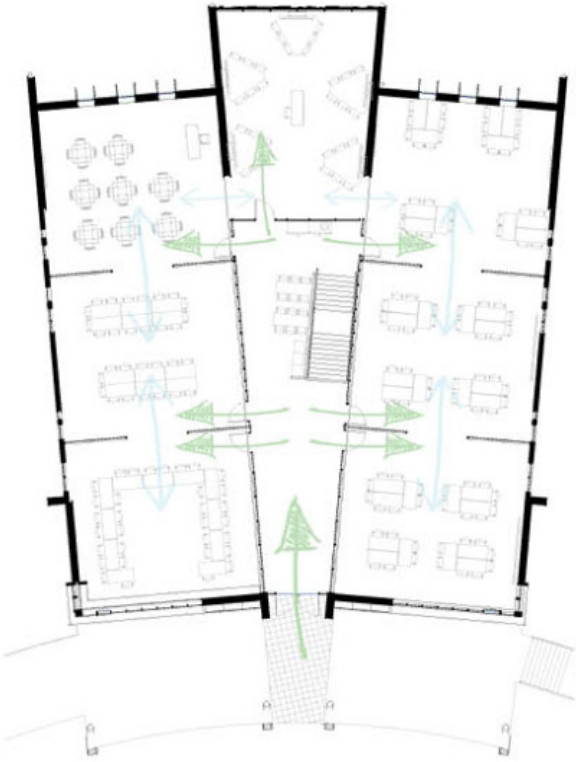


Figure 28: Typical High School Block Access & Operability Diagram

Figures 27 & 28 above illustrate the planned layout of a typical High School Block which is flexible in its usage providing spaces for the individual, small group work, large group work or opening up a number of classrooms together enabling team learning.

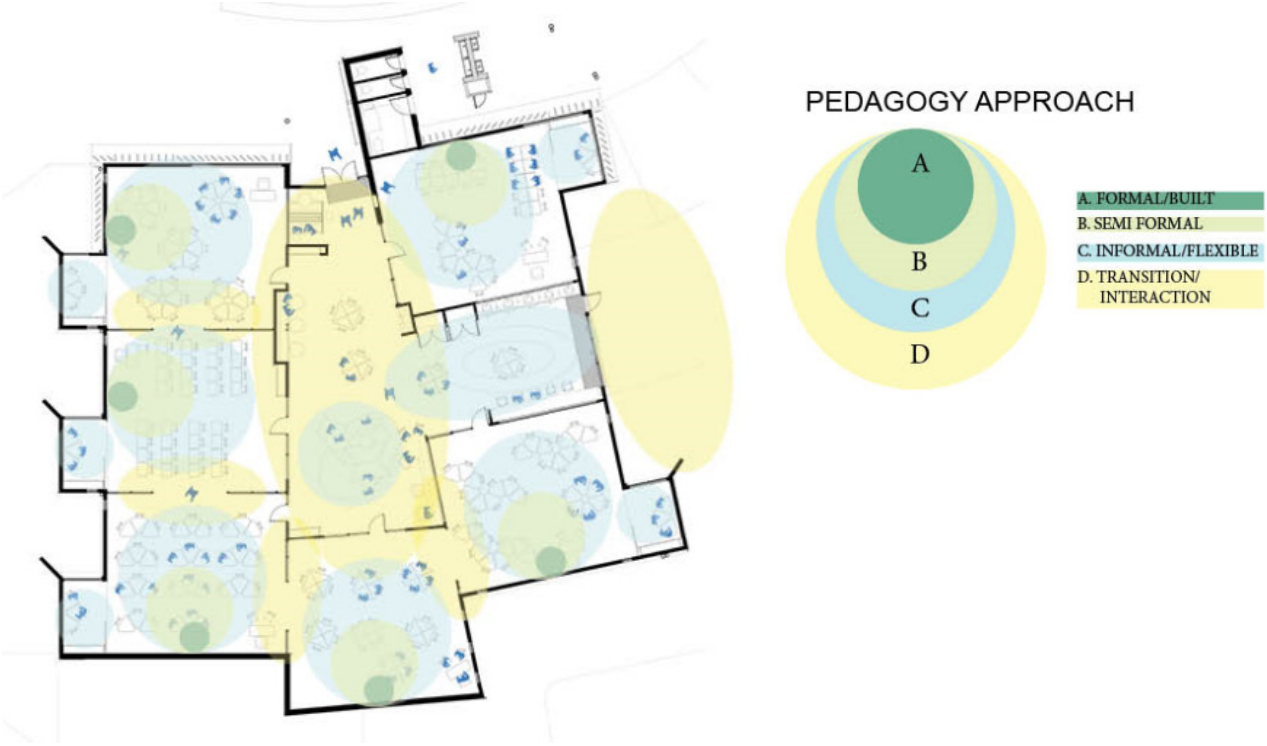


Figure 29: Typical Primary School Block Flexible Use Layout

Figure 30: Typical Primary School Block Access & Operability Diagram

Figures 29 & 30 above illustrate the planned layout of a typical Primary School Block which is flexible in its usage providing spaces for the individual, small group work, large group work or opening up a number of classrooms together enabling team learning.