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WOODS BAGOT

10.12.21

Sydney Olympic Park New High School
Architectural Response to SDRP Report

Acknowledgment of Country

The SOPHS Precinct is on Wangal Country. The area is at the intersection of Burramattagal and Wangal Country, with Duck River widely accepted as the border between the two.

We would like to acknowledge the Burramattagal and Wangal People, the traditional custodians of this land and pay our respects to the Elders both past and present.

Each and every project is an opportunity to engage and respond to Aboriginal cultural connections to Country. By respecting and celebrating the value and significance of both Aboriginal heritage and contemporary Aboriginal culture our built environment is enriched and anchored into its specific location, its stories and varied experiences.

Contents

Country

Item E1
A whole-of-project approach to Connecting with Country

Authority: State Design Review Panel

Item: E1

Comment: Whole-project approach – Integrate Connecting with Country as a whole of site and whole of project approach. Demonstrate how consultation with Traditional Custodians has informed all aspects of design both in the landscape and architectural responses.

Interpretations of Country have permeated the school's design since the project's earliest stages. During the bid phase, the design team worked closely with Balarinji to develop an understanding of the place and its history of use and habitation. As the design has developed, Country has informed all aspects of the architectural and landscape design. Consultation with the AECG has highlighted the importance of gathering places in the school – spaces to come together, to share stories and ideas, and to engender community cohesion. The AECG has also sparked the exploration of a more curvilinear formal language in the design – softer, welcoming forms drawn from and sympathetic to the natural landscape.

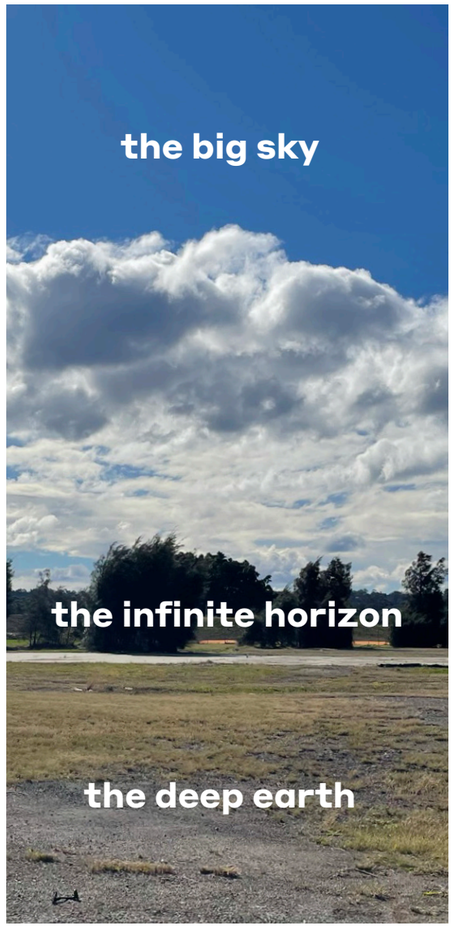
The most recent comments by the SDRP have pointed to an overall lack of cohesion between the numerous expressions and interpretations of Country that saturate the project. With this feedback in mind, the design team has chosen to frame its approach to Connecting with Country in terms of a singular concept: the tripartite division of the deep earth, infinite horizon and big sky.

This division – based on the three elements that define the experience of visiting the site – explores three significant physical domains of Country. The earth, to which our bodies are inexorably drawn, exerts a grounding, centering force – it provides shelter, comfort and assurance. The sky, by contrast, opens up above us, mysterious and ever changing – it provides guidance and inspiration. The horizon is the zipper that links the earth and the sky – a threshold between domains that connects, gathers and aggregates.

Spaces within the school reflect certain characteristics of the earth, horizon and sky. Entranceways and thresholds provide a sense of welcoming and nurturing, linking to the deep earth. Gathering spaces, whether formal or informal, large or small, internal or external, promote the mixing of people – they are connective spaces, like the horizon. The most extroverted spaces in the school – those that provide an outlook to the city, river and natural landscape beyond – link to the all-encompassing sky. Not all spaces, however, can be distinguished so cleanly – multiple elements often define a space.

The design of landscape elements too is based on this conceptual exploration of the earth, horizon and sky. As a largely terrestrial component, the landscape is conceived primarily as an expression of the deep earth. The landscape design comprises forms and shapes that draw inspiration from the winding river, and from the rippling tidal mudflats that are understood to have characterized the site prior to European occupation and land reclamation activities.

Connecting with Country is understood less as a target or endpoint for the project, and more as an ongoing process of listening, learning, adapting and improving. As the project moves towards detailed design and construction, the project team hopes to continue to receive guidance from traditional owners and other First Nations voices. The team is currently working with Balarinji to further develop and crystallise expressions of Country embedded in the project.



EVOLUTION OF PLACE

Item E2
Traditional gathering spaces

Authority: State Design Review Panel

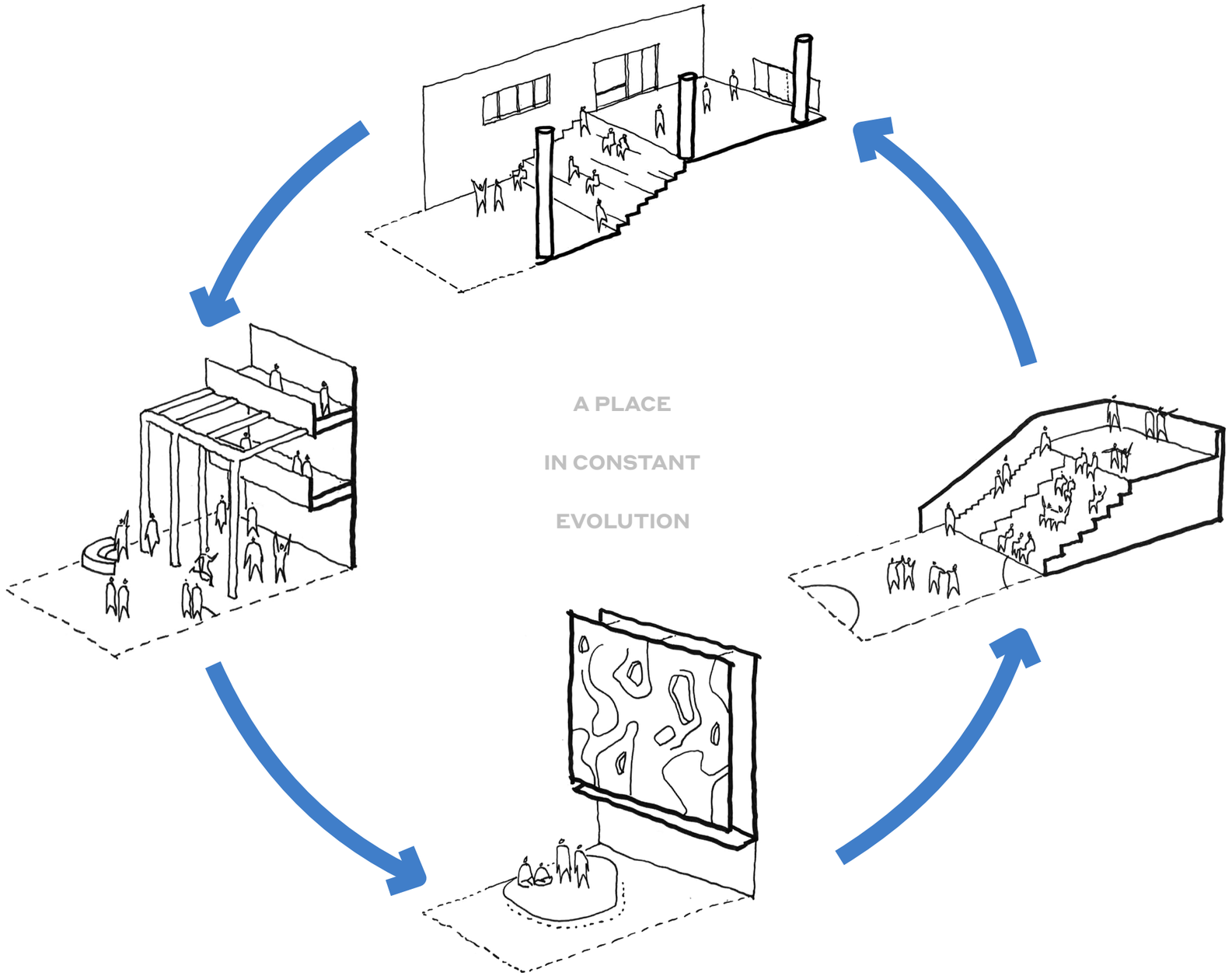
Item: E2

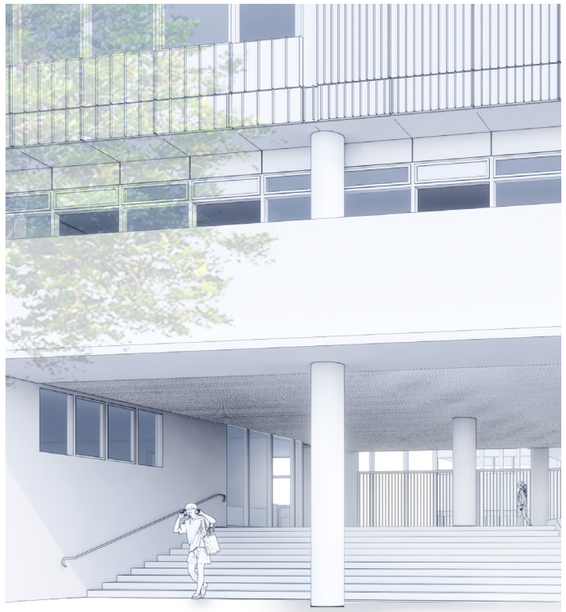
Comment: Traditional gathering places – Elaborate on how Connecting with Country and modes of traditional gathering are referenced in the landscape design.

The design has further developed the identities for the different gathering spaces within the school playground. The evolution of these spaces has focused on achieving a clarity of their scale, character and place within the project's overall narrative of Connecting to Country. Places to gather are now connected as elements within a site-wide tapestry that reflect the undulations of the mudflats that once characterised the site, and the arching, twisting forms of the Parramatta River.

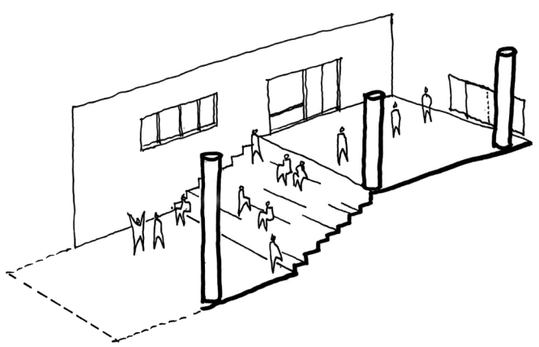
The design approach continues by providing a variety of small, medium and larger spaces, though there is a renewed emphasis on rounded and circular spaces. Like traditional yarning circles, such spaces are inherently democratic and promote the sharing of stories and ideas. The grassed hummocks that define the central courtyard, for instance, have been reduced in size and reconfigured with ovoid geometry, engendering various modes of informal gathering. In addition, the reduction in size of the of the bicycle parking lot has created opportunities for a larger First Nations productive garden. Its geometries are no longer rectilinear and rigid, but sinuous and curving – in tune with the character of the site-wide landscape tapestry.

This overall intent is enhanced by the landscape design which provides a range of small, medium and large gatheric spaces set within local indigenous planting. The planting selection for the site has been chosen to be sensitive of local ecosystems with a majority of species being chosen within local communities including the Sydney Turpentine-Ironbark Forest and Swamp-oak Floodplain Forest that are endemic to the area (refer to planting plans and schedule which highlight native and endemic plant species).

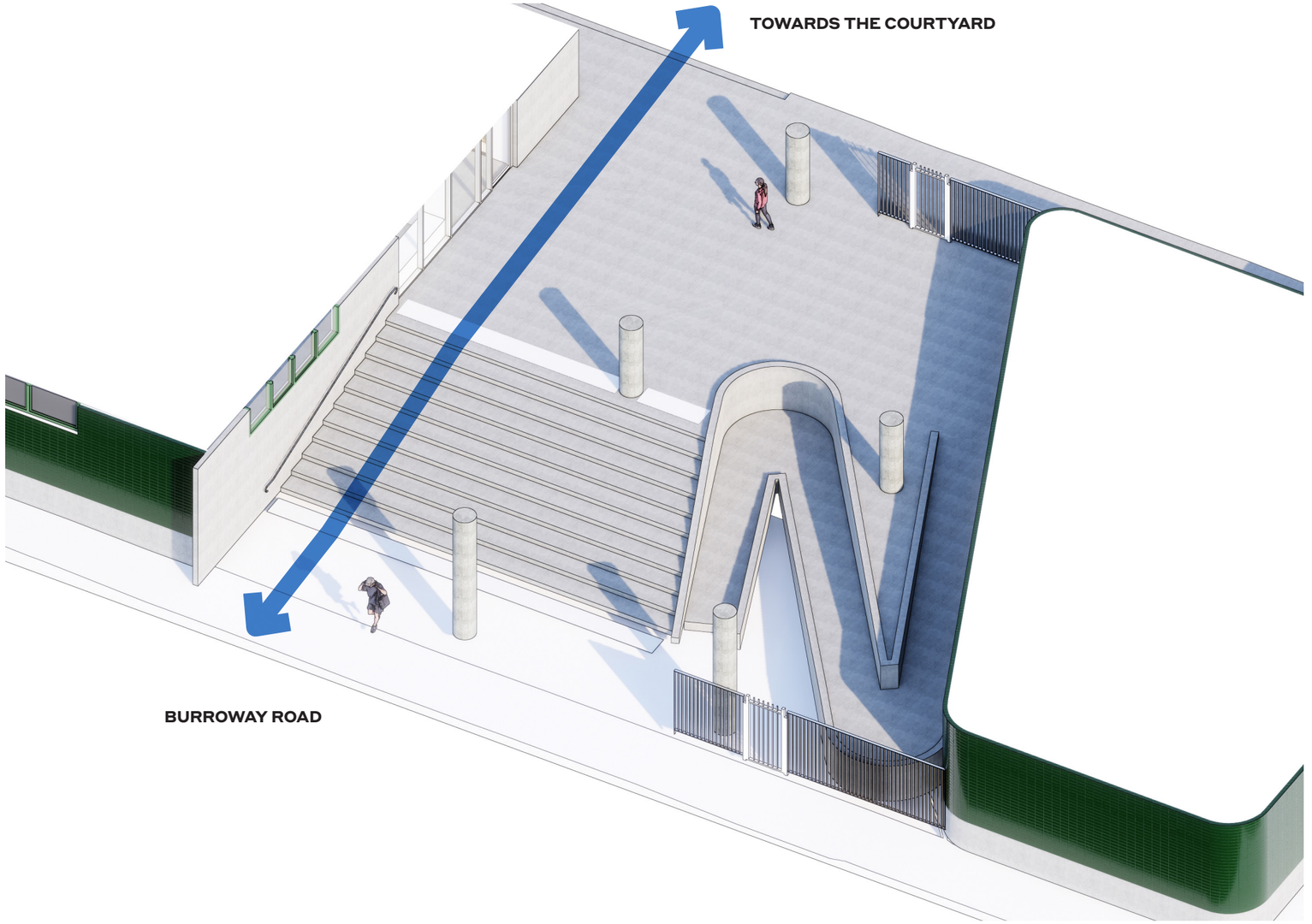




View from Burroway Road, the widest steps throughtout the site. The deeper threads enact the feeling of slowing down. An informal large space connecting the site to the street.

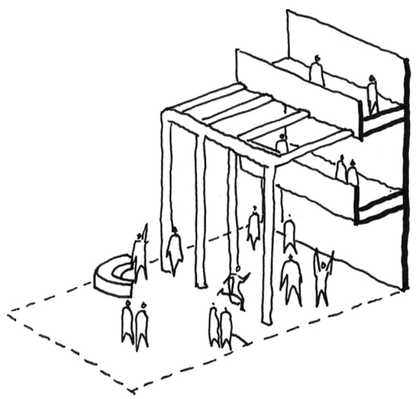


Informal chats among students, staff and parents under a shelter. A protected space acting as a treshold where knowledge is shared and learned.

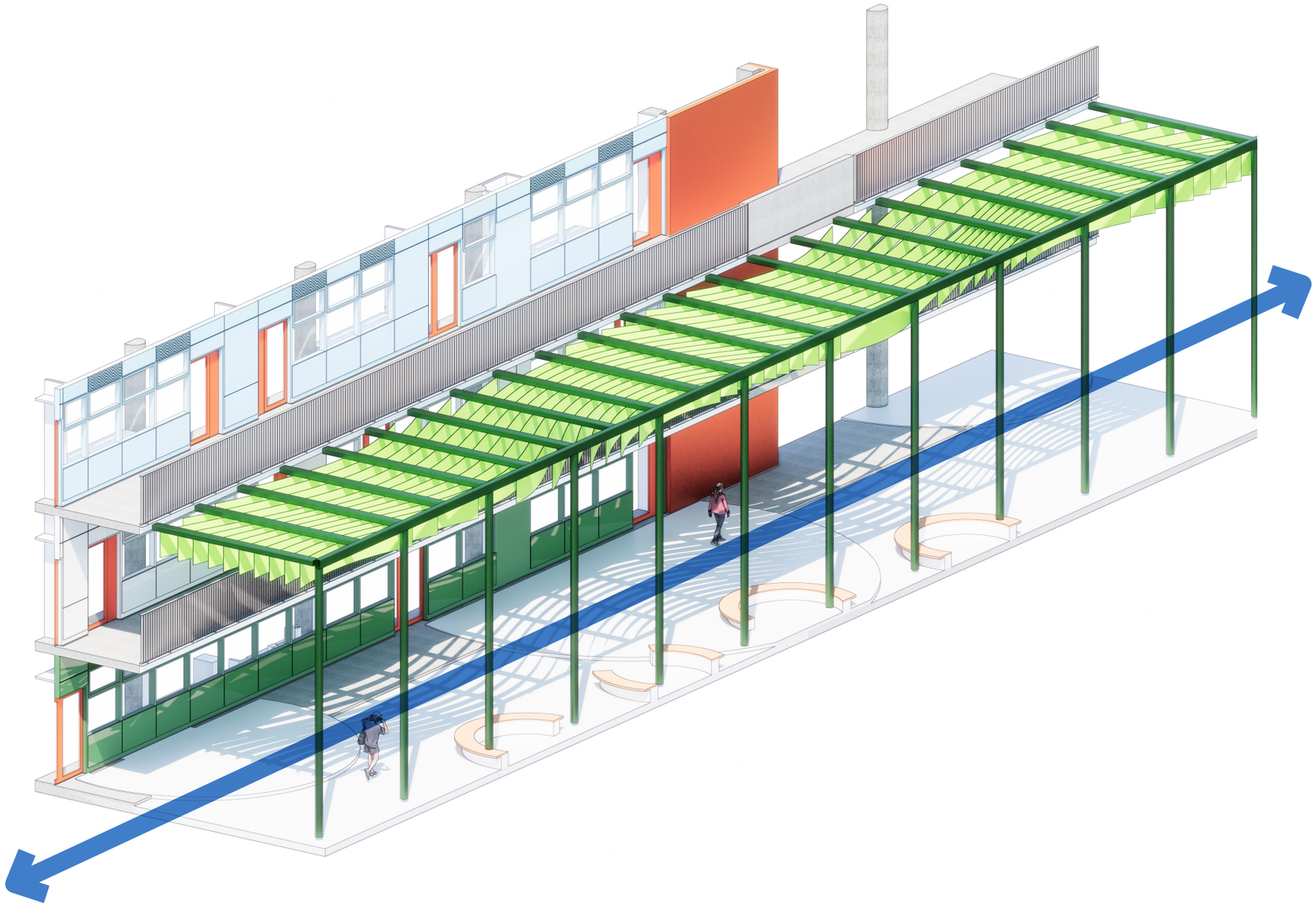


The main entry consists of a series of steps for informal and formal interactions. It is the largest protected space, which offers an equal access for all involved. The purpose of this entry is to establish a welcoming and democratic access point for an evolving generation.

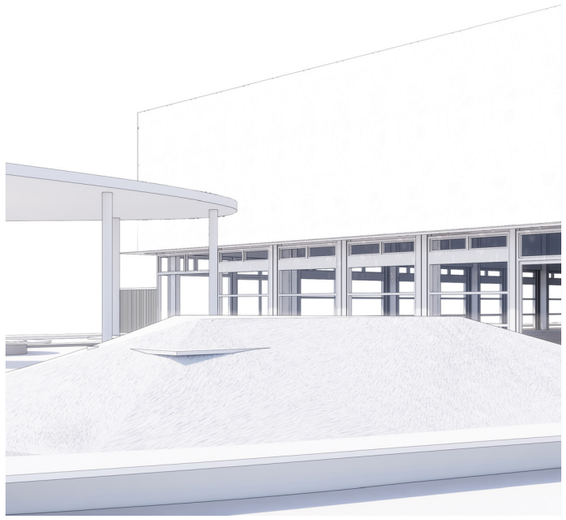
View along the corridor - Blurring the enclosure



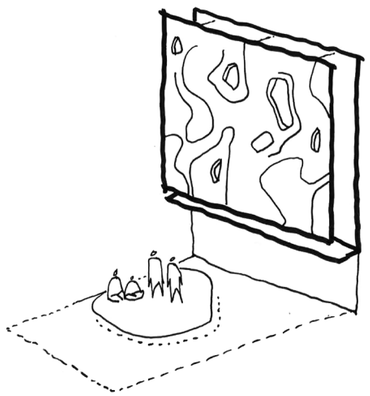
Gathering spaces around the Arbour



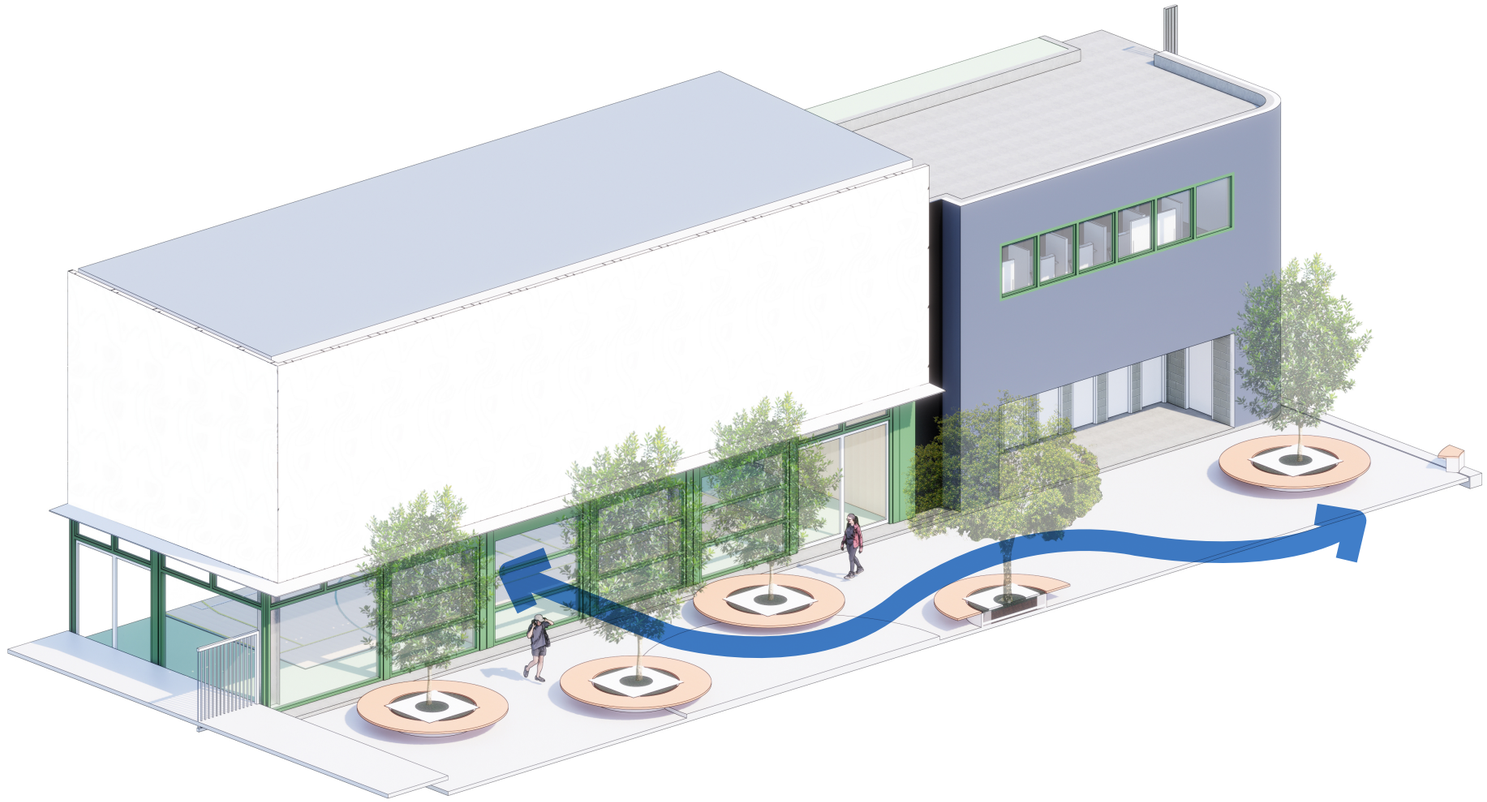
Overall structure showing pattern shadow on Ground. A protected space which connects other informal spaces such as the Terrace, the Courtyard and the



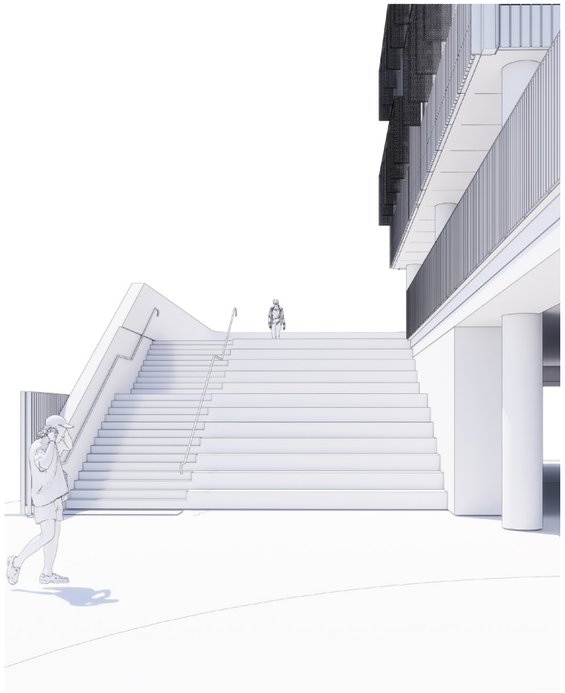
View from the Courtyard facing Gymnasium south facade



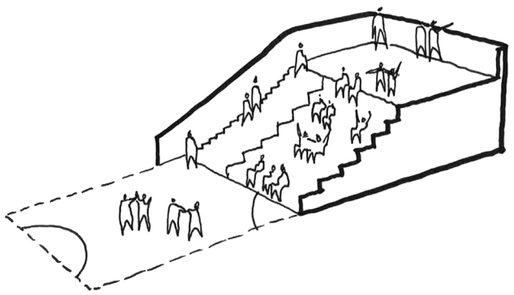
Association of facade as a place for shelter



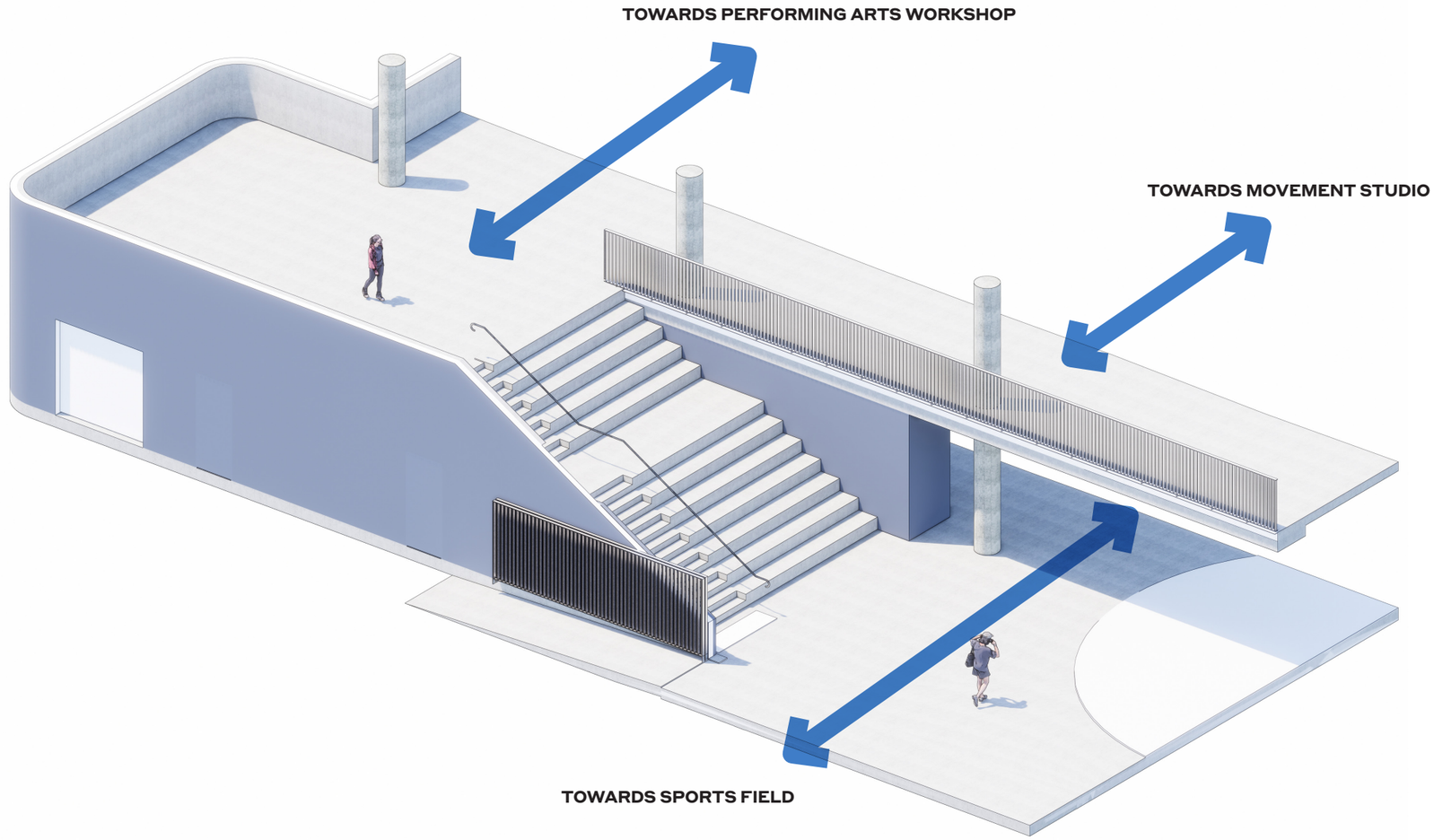
Overall structure allows a communication between the activities indoors and outdoors.



From the terrace, students will gain an overall view of the adjacent street as well as an extended view towards the river. A rich and ongoing interaction to the surroundings.



A place for presentations, a friendly chat, a space to connect with others.



The terrace area presents an opportunity where informal knowledge can be shared among students. This location is not the end nor the start of the journey along the Ground, instead it acts as a key anchor point for the different activities possible around the school.

Landscape strategy

Item E3
Planting within the view corridor

Authority: State Design Review Panel

Item: E3

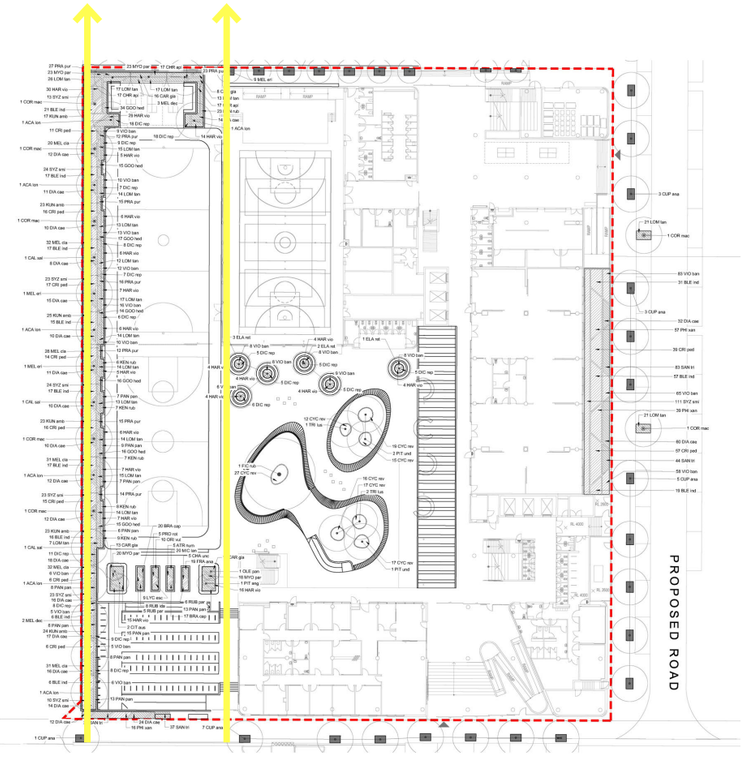
Comment: View corridor – Demonstrate that the proposed planting will not interrupt the view corridor along the western boundary.

The view corridor that continues the alignment of Wentworth Place is not a current planning control – it is an artefact of an earlier precinct masterplan involving a roadway in this zone. As such, there is no formal requirement to maintain an unobstructed view across to the parklands. It should be noted the school ground is at a different level to the footpath along Burroway Rd in order to accommodate the capping and compaction layer.

Regardless, the design team has chosen to avoid placing any built form along the ~23m wide zone against the western boundary. In addition, the planting strategy seeks to frame the western boundary with taller planting and proposed planting along the street frontage is to be low lying shrubs that do not obstruct the view into the site.

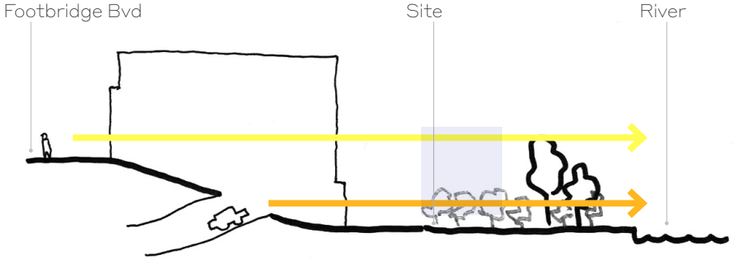
The true view towards the river is achieved from the highest level along Wentworth Place.

View towards the river is achieved from the highest level of Wentworth Place. Therefore, no pedestrian visibility to the river will be affected by the proposed planting nor the building .



View towards Wentworth Place from the site showing the increase of road levels.

View towards the river it is achieved from the highest level of Wentworth Place. In close proximity to the site, the view is interrupted by the carpark exits.



The new planting along the western boundary as well as the main building will not block the existing view.

Item E4
Soft landscaping

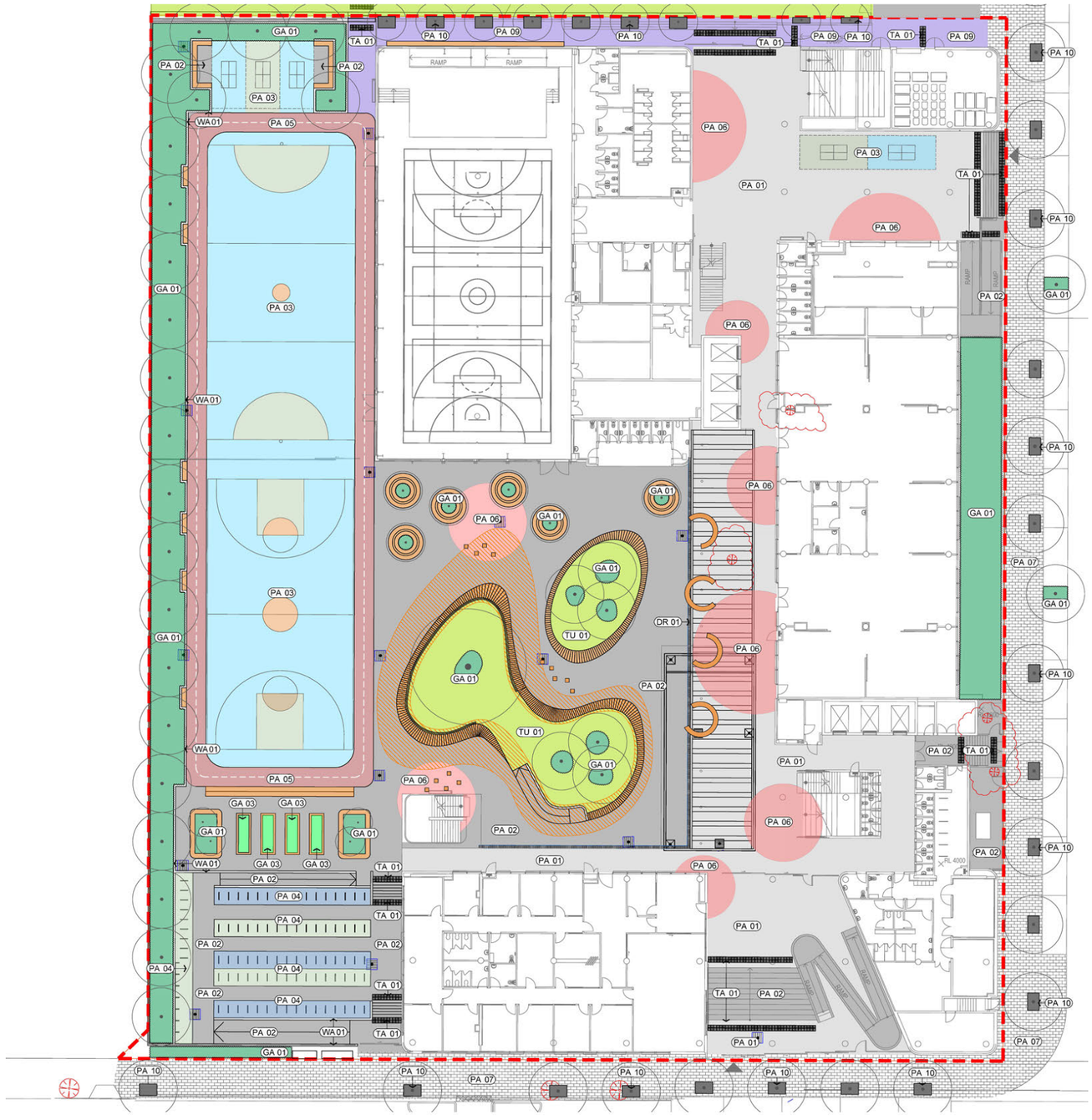
Authority: State Design Review Panel

Item: E4

Comment: Soft landscape – Review the areas of soft landscape to ensure the appropriate balance between green amenity and gathering spaces, particularly in the central courtyard.

Additional canopy trees have been added along the northern and western boundary. The central courtyard design has been refined, the raised lawn platform footprints have been reduced to provide additional paved areas for circulation and gathering.

The current raised lawn areas provide adequate soil depth and volume for the proposed small and large canopy trees above the capping layer.



Item E5
Spaces for passive recreation and small groups

Authority: State Design Review Panel

Item: E5

Comment: Character – Illustrate opportunities for passive recreation and small group gathering areas to be incorporated within the landscape, in particular along the north and west boundary edges.

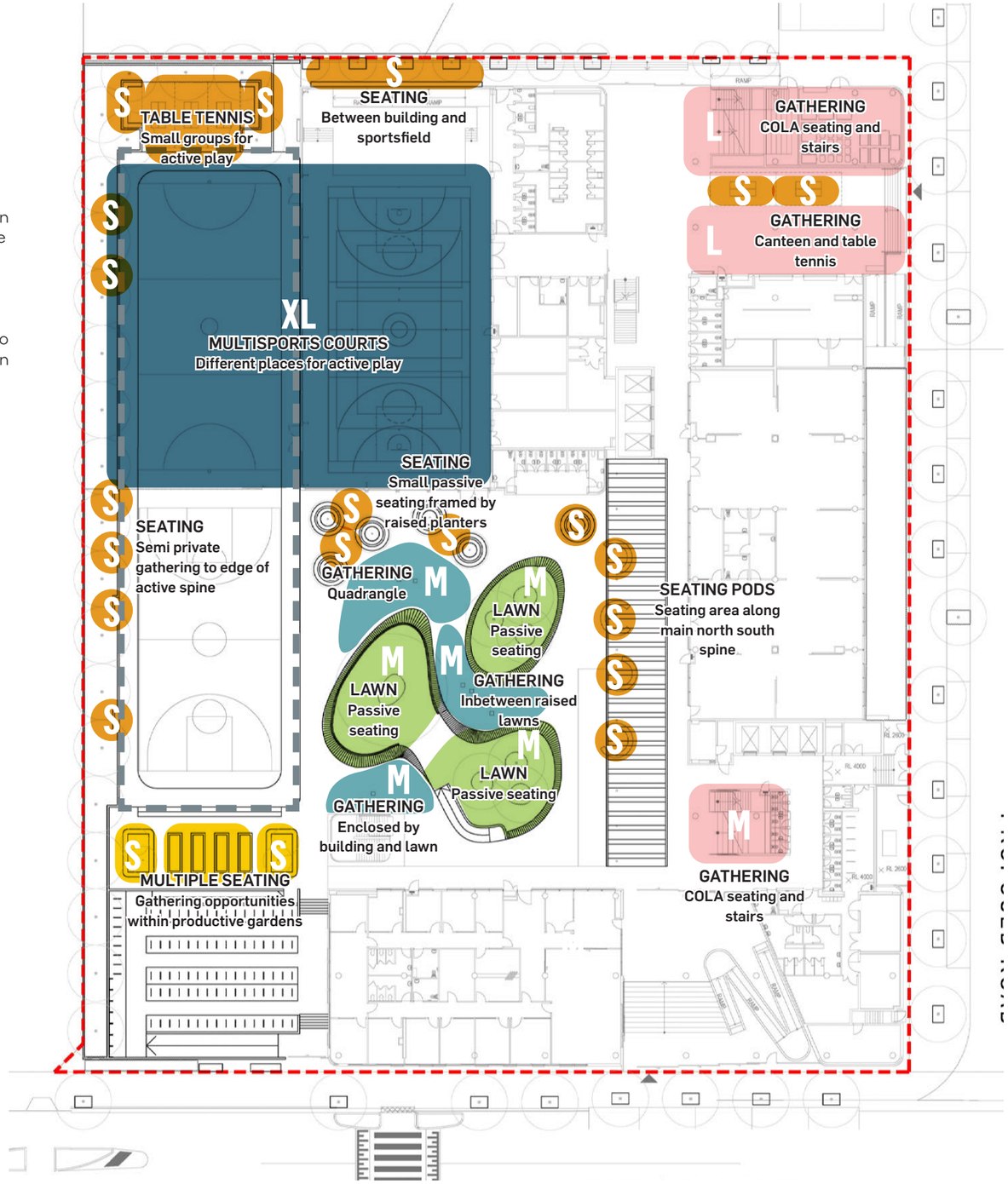
The landscape design provides opportunities for a variety of gatherin spaces at different sizes and scales. These spaces cater for a wide range of uses including formal and informal gathering and social zones, learning programs an play areas.

Two table tennis tables have been removed from the northern boundary (relocated to the northern COLA) to provide two passive recreational gathering areas for small groups.

Seating benches have been added along the western boundary to provide opportunities for respite on the edge of the courts for small groups.
Urbis have updated the Gathering Spaces diagram to illustrate the character and programs of the gathering spaces, this includes the reduction of the bicycle parking which has provided an opportunity to create an enhanced First Nations productive garden and passive recreation.

LEGEND:

- XL Gathering - Gym and External Sports Court
- XL Gathering - 2 External Sports Court
- Sports Field and Seating Area
- Stair / Amphitheatre Gathering COLA
- Covered Arrival Forecourt
- Medium Flexible Gathering - Learning, Play and Social Spaces
- Landscape Learning Spaces - Productive Gardens, Kitchen Gardens, Biodiversity Roof
- Small Scale Gathering / Meeting Places
- Medium Gathering - Raised Lawn



Item E6
Gathering spaces - modes of use and capacities

Authority: State Design Review Panel

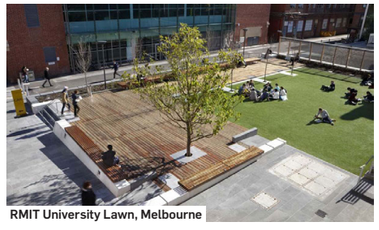
Item: E6

Comment: Gathering spaces – Illustrate the modes of use and number of people that can be accommodated in the various gathering spaces and open areas, particularly in the central courtyard.

Urbis have added a Gathering Spaces Use and Number of People diagram to illustrate the capacity of the small, medium, large and extra-large spaces.

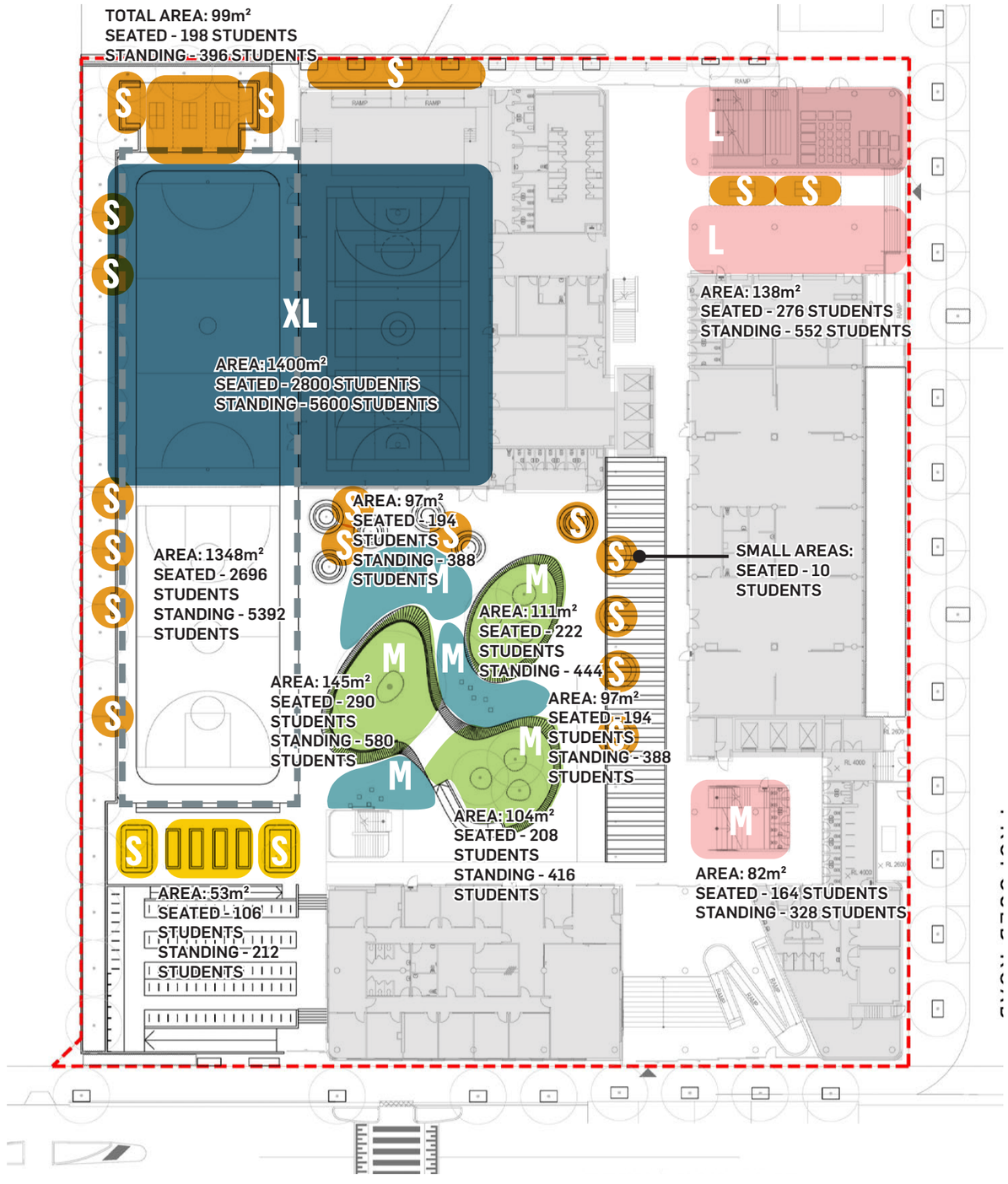
GATHER SPACES NUMBERS

UTS Alumni Green, Sydney



RMIT University Lawn, Melbourne

309 Kent Street, Sydney



Streetscape and urban context

Item E7
Boundary conditions

Authority: State Design Review Panel

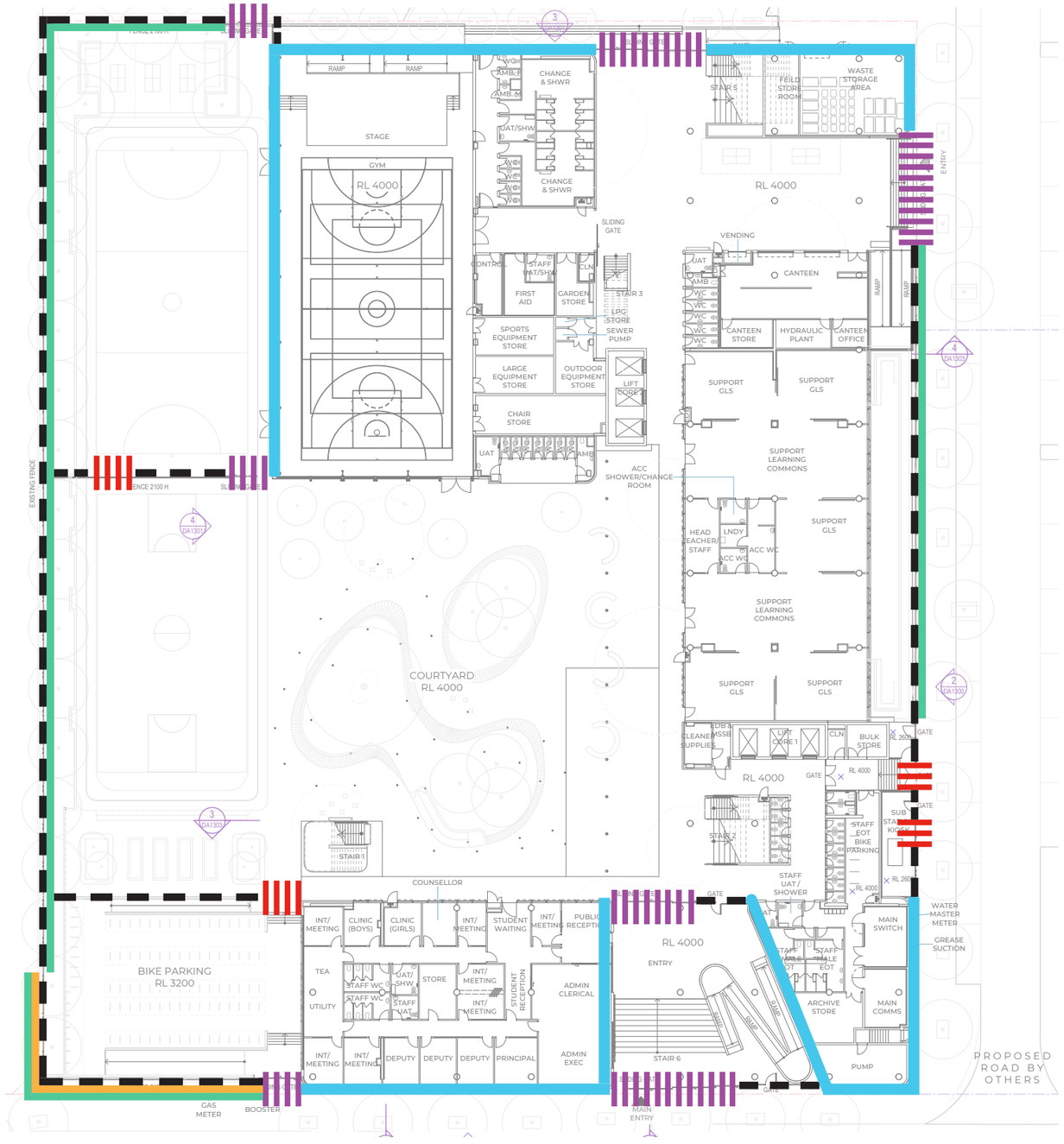
Item: E7

Comment: Building as boundary – The fences along the boundary of Eastern Road appear unwelcoming and are an inappropriate urban response. Undertake further design development to enable the building to define the urban edge. Provide a diagram clearly indicating the extent, height and character of all proposed fencing lines.

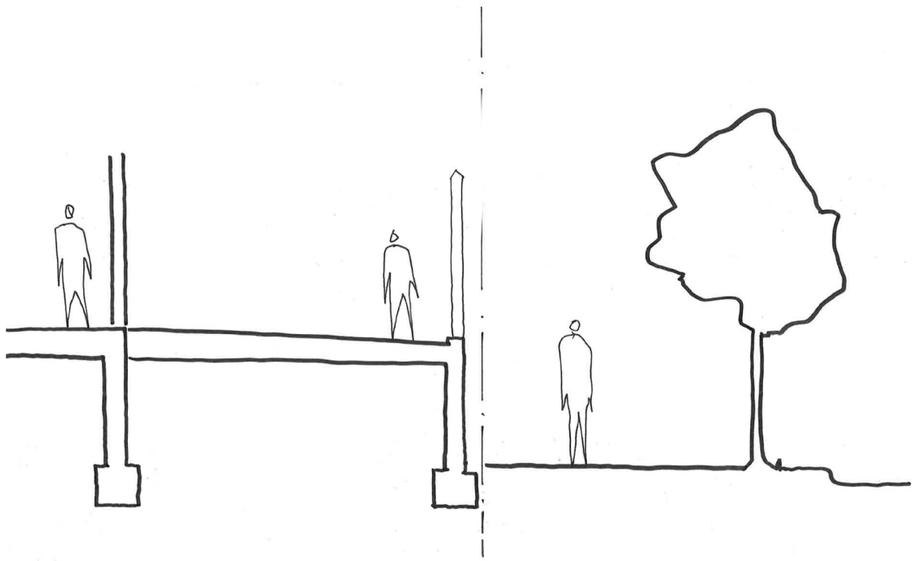
The design has evolved since the SSD submission.
The builing is setback from the boundary ensuring a large distance from the eastern road.

As the design evolved, there is no longer a requirement for a dedicated support learning play area, but instead a need for a better integration to the main building.
The removal of the retaining wall which was supporting this outdoor play area – an unarticulated, opaque barrier – allows a generous planting while also defining the school's interface with the eastern road. The result is an edge condition that is better scaled and more sympathetic to pedestrians. The landscaped area acts as a generous buffer between the support learning unit and the public domain.
The palisade fence remains as a requirement for school security – it protects the windows of the support learning unit, which are too close to the ground to be properly secured.

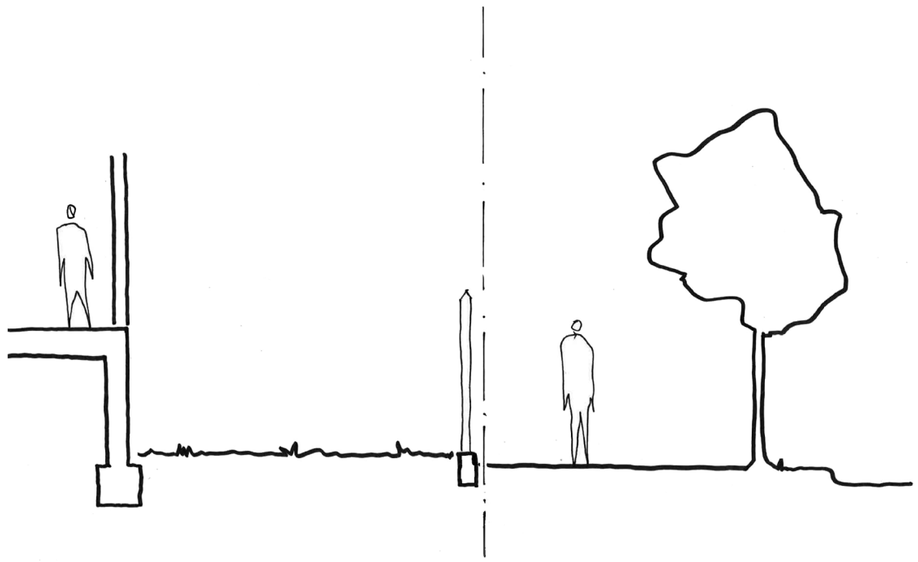
Another change along the eastern road boundary is the removal of the projecting canopy over the school entry point at the north-east corner of the site. The canopy is now a simple undercroft, aligned with the building at the canteen and support learning unit. As a result, the entry point is now a clearer and more legible element within the overall massing.



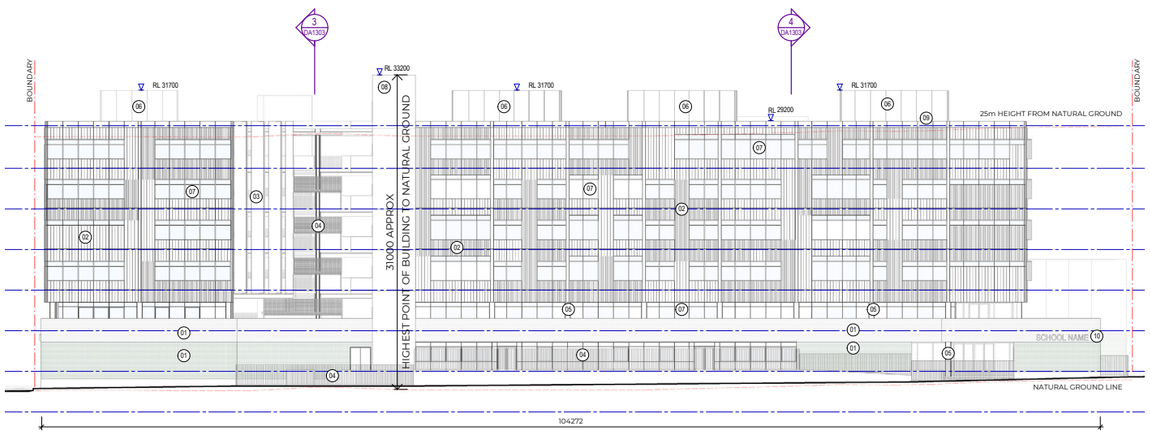
Building as boundary
Soft landscape
Retaining wall
Fence boundary
Sliding gate
Swing gate



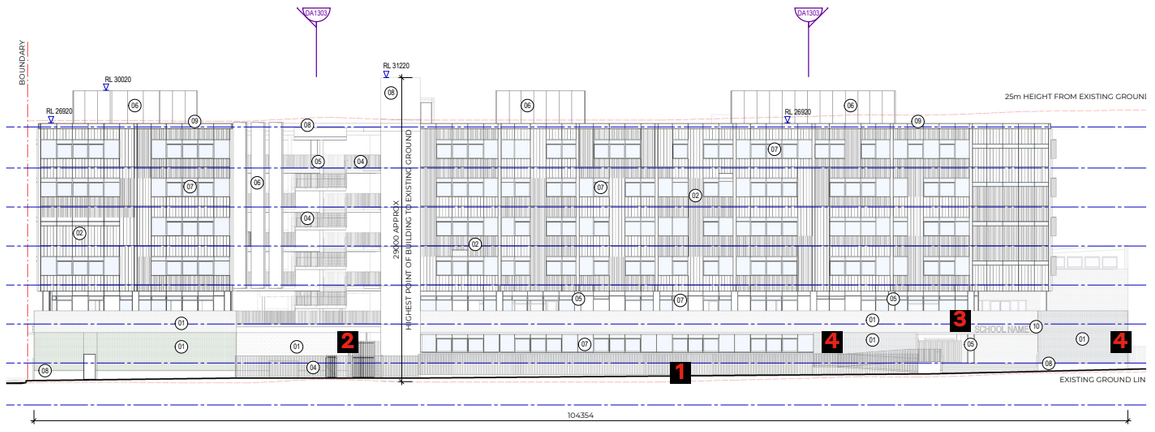
Elevated external slab presented a hard surface to the eastern road.



Current layout reduces the inclusion of hard surfaces facing pedestrians along the street. Current road levels changes will mitigate and improve scale interaction between the external facade and the street.



Previous layout elevation showing fences and high retaining walls along the eastern road.



1 - Current layout elevation showing removal of high retaining wall and inclusion of soft landscape

2 - Introduction of a see-through access from the eastern road into the Quadrangle.

3 - Rationalization of awning above Eastern entry.

4 - Use of different masonry colour to accentuate each building and break down the horizontality of the facade at Ground.

Item E8a
Interface with sports field

Authority: State Design Review Panel

Item: E8a

Comment: Sports field – Resolve the interface between the school grounds and the sports field to the north. Indicate the location, size and extent of fences and gates and opportunities for connectivity. Consider extending the perimeter planting along the northern setback of the hall.

The interface between the school and future sports field has been further developed in order to minimise the length of fencing required, allowing the building to mark the secure line where possible.

The design progression explained in the series of diagrams, show current resolution for the northern interface.
The design response is to allow the northern walls of the gym and waste store to act as the school's secure line.
Also noting the SDRP's suggestion, planting has been extended along this boundary, where appropriate.

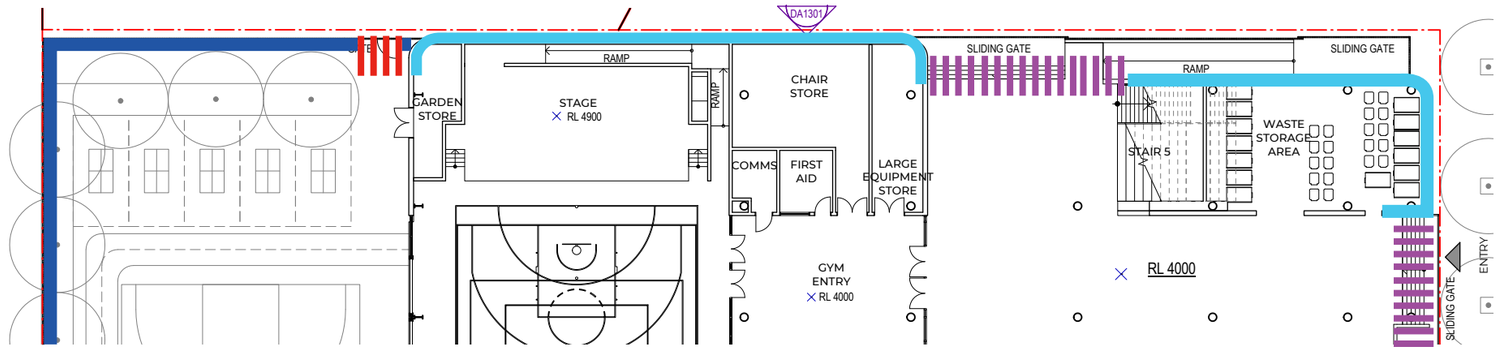
The design of the gymnasium building has evolved to express the gym (to the west) and movement studio (to the east) as distinct elements. The movement studio and changerooms beneath it are marked by a brickwork facade, while the adjacent gym facade features a band of graffiti-resistant green glazed bricks at low level with an artwork wall above. What had previously been a large, unrelieved wall has now been given more definition and variation of materials, presenting a more engaged face to the sports field.

Building line

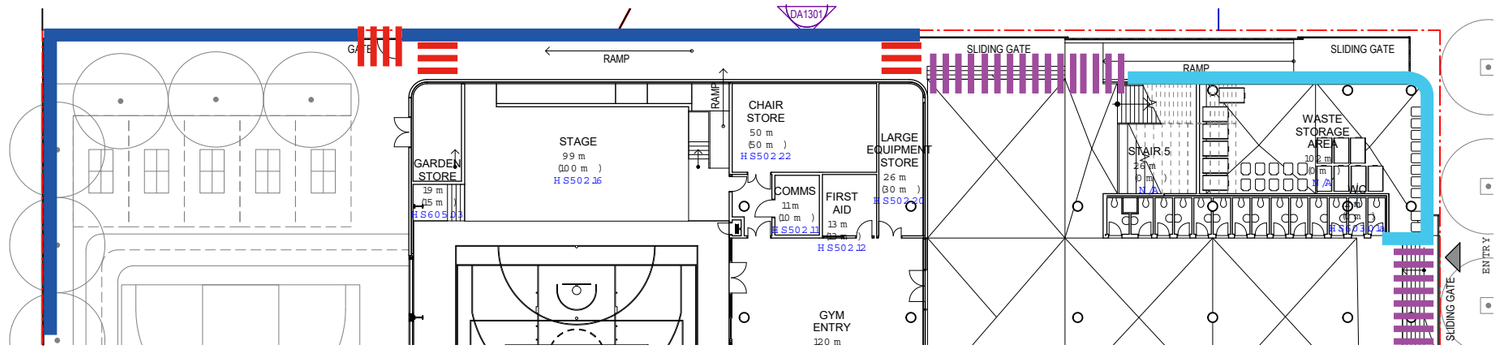
Fencing

Sliding gate

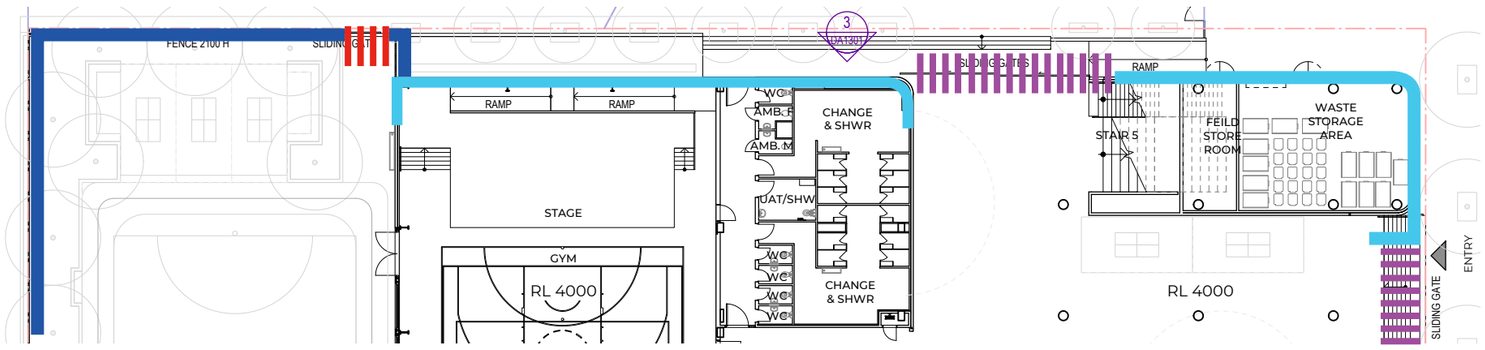
Swing gate



SCHEME AS SUBMITTED FOR SSDA



CONDITION AT SDRP 03 REVIEW



AMENDED RESPONSE

Item E8b
Interface with primary school

Authority: State Design Review Panel

Item: E8b

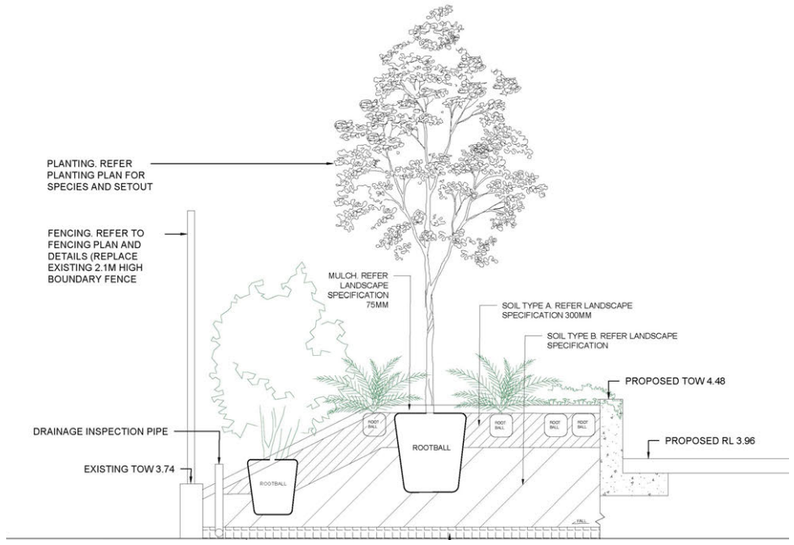
Comment: Public primary school - Consider the height, material and landscaping of the fence along the western boundary. Plan for and illustrate future connections, both visual and physical, with the adjacent public school.

The existing palisade fence along the western boundary with the primary school is to remain while still achieving the requirement to separate the two schools.

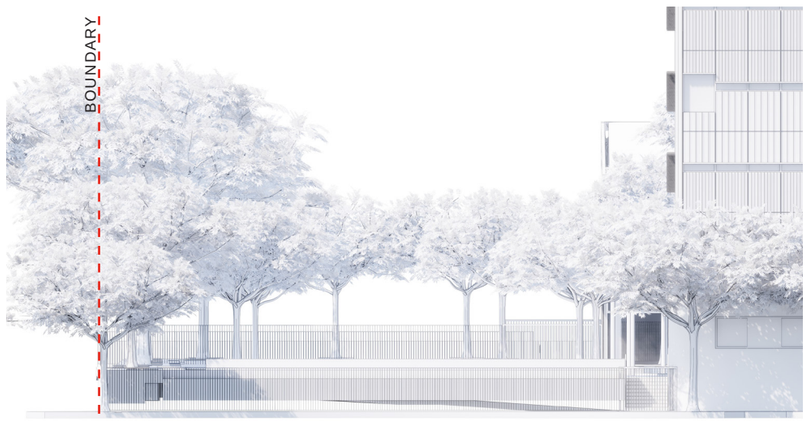
A 2.4m high Sportscourt fence has been added to the boundary and is integrated with a 3m wide garden bed with low planting between the fence and the sports court (Issue Item A3.5m - soften boundary to WPPS). Future connections are highlighted on the plan.

From the existing fence, a landscaped embankment rises gently up to meet a low retaining wall that marks the edge of the high school sports courts. This embankment smooths the transition of levels, and the retaining wall is set at a height to suit informal seating and will contain wayward balls from any sporting activity taking place.

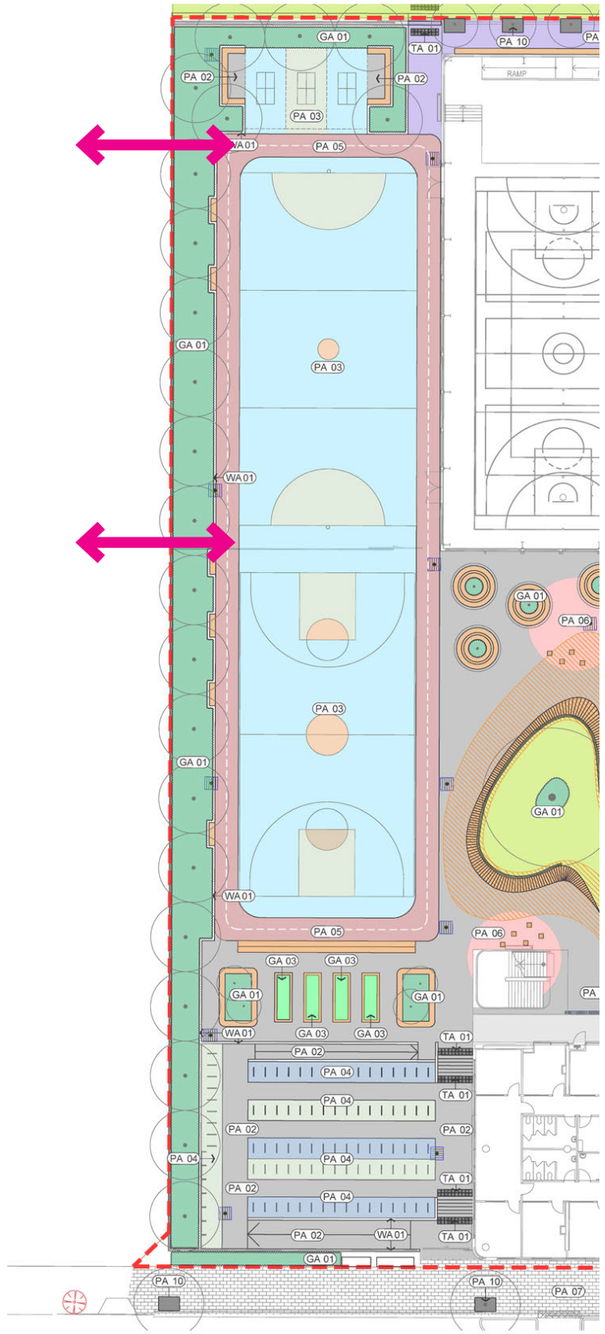
In the future, the existing fence may be removed, or punctuated by gates to provide controlled access between schools. Such future connections are earmarked for two key locations: at the northern edge of the northern sports court, and between the north and south courts (on the southern side of the fence). Such alignments would allow movement between schools without interrupting games taking place on the courts.



TYPICAL SECTION - WESTERN BOUNDARY



VIEW WESTERN BOUNDARY



Entry and movement

Item E9
Undercroft entry

Authority: State Design Review Panel

Item: E9

Comment: Undercroft entry – Illustrate this area in greater detail to demonstrate how the height and width constraints have been mitigated through lighting, materiality, surface treatments and other strategies.

The school's main entry from Burroway Rd (the undercroft entry) has been reconfigured by widening the opening into the school courtyard. Previously, the opening on the northern side of the undercroft was 5.86m in width; this opening is 13.35m in width. This increase ensures that the entrance will be capable of managing the volume of students that move through the space as they arrive at and depart from the school. It dramatically enhances a sense of welcome and openness from Burroway Rd, bringing substantially more daylight in from a northern aspect. It also provides new glimpses of the staircase rising up to level one.

The arrangement of the stair and ramp in the undercroft has been simplified to improve the flow of students through the undercroft. The ramp is now located on the eastern edge of the space, taking up a more compact footprint than previously. A wide stair inhabits the western side of the undercroft, creating a generous, axial thoroughfare that is at minimum 9m in width.

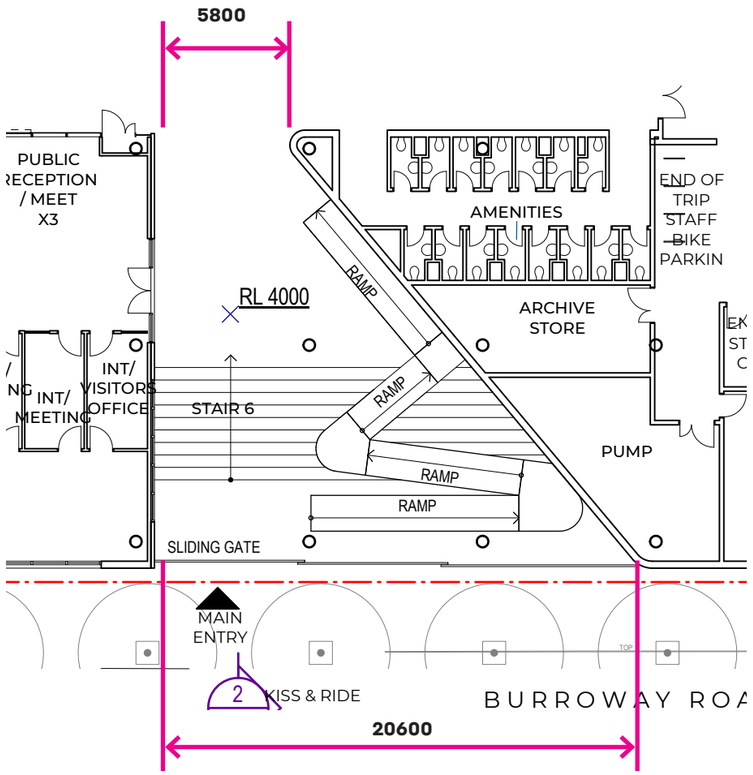
Finishes

Floor: precast concrete pavers/in-situ concrete

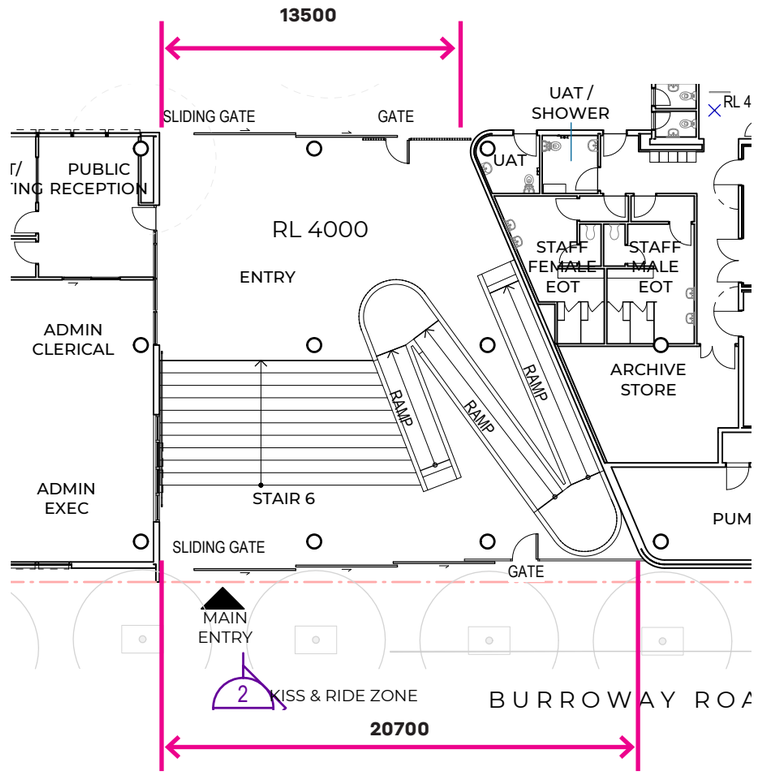
Western wall: precast concrete, glazed windows

Eastern wall: green glazed brick

Soffit: coloured perforated corrugated metal (acoustically-lined)



Condition at SDRP 03 Review

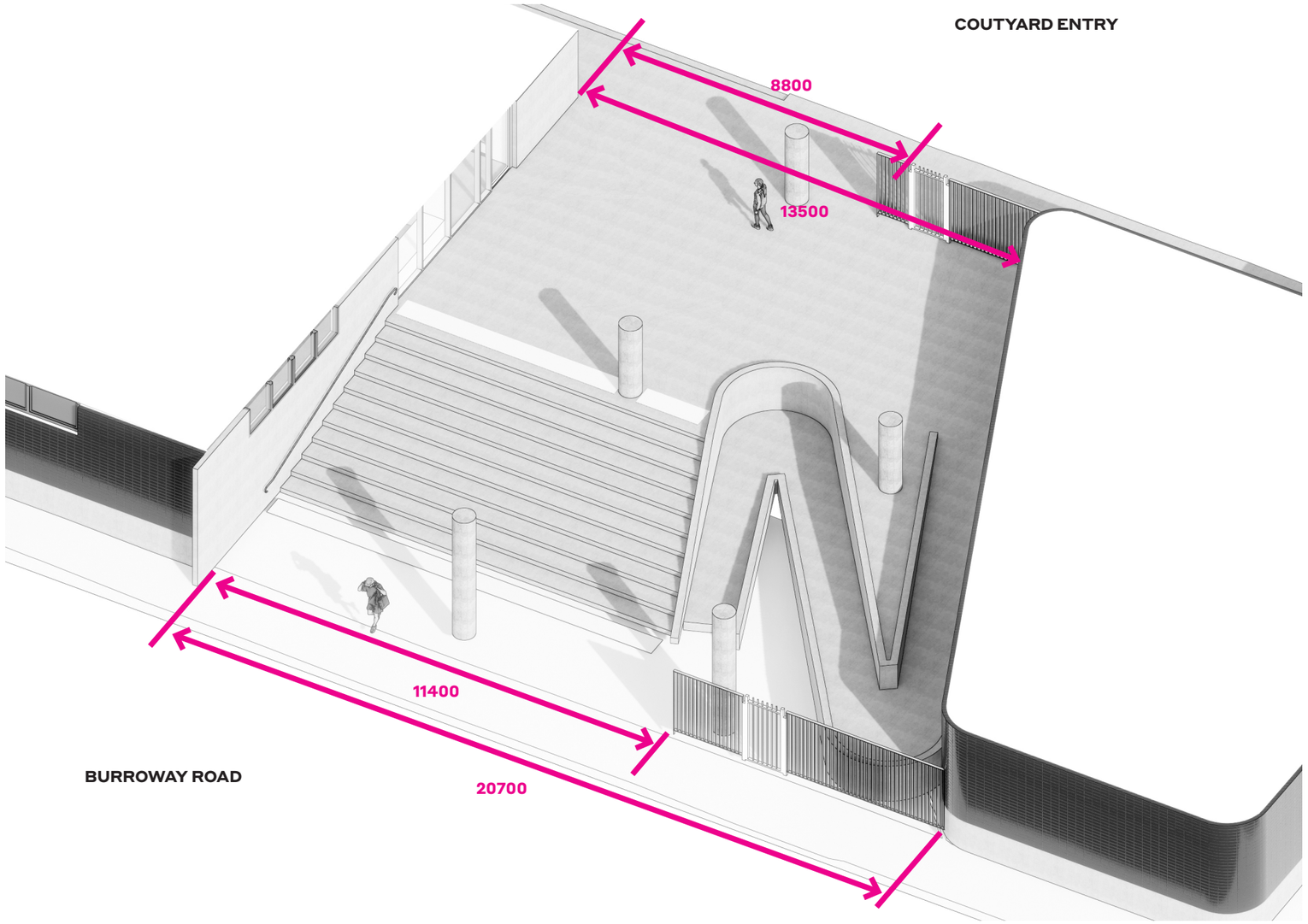


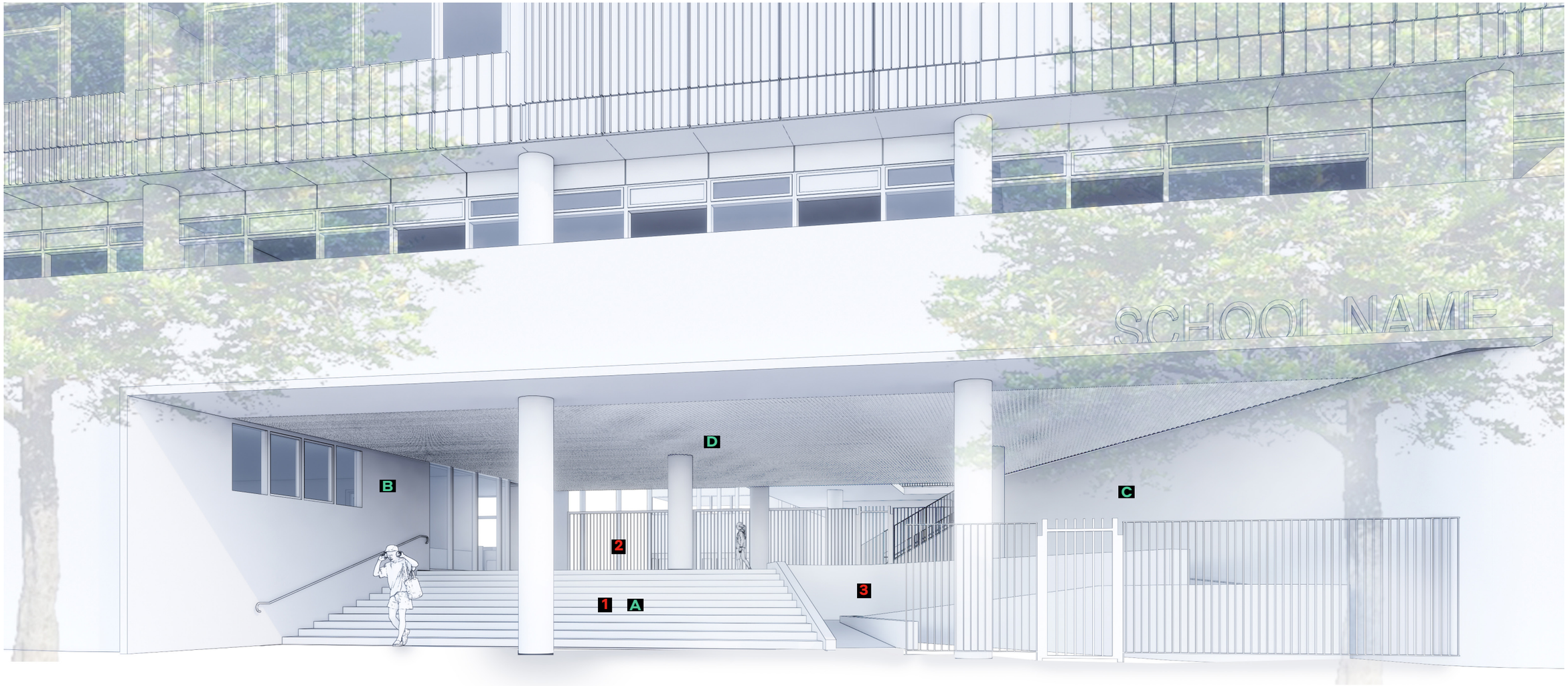
Design evolution showing increased entry widths and new selected ramp

Item 09
Undercroft entry

The main entry consists of a series of steps for informal and formal interactions. It is the largest protected space, which offers an equal access for all involved.
The purpose of this entry is to establish a welcoming and democratic access point for an evolving generation.

The total area of this space is approximately 310m².





1 - Stairs have been widened to portrait a more welcoming.
2 - Secured lines both at the base as well as the top of arrival area.
3 - Simplified ramp layout with entry facing Burroway Road.

A - Precast concrete pavers and in-situ concrete
B - Precast concrete and glazed windows
C - Green glazed masonry
D - Coloured perforated corrugated metal.

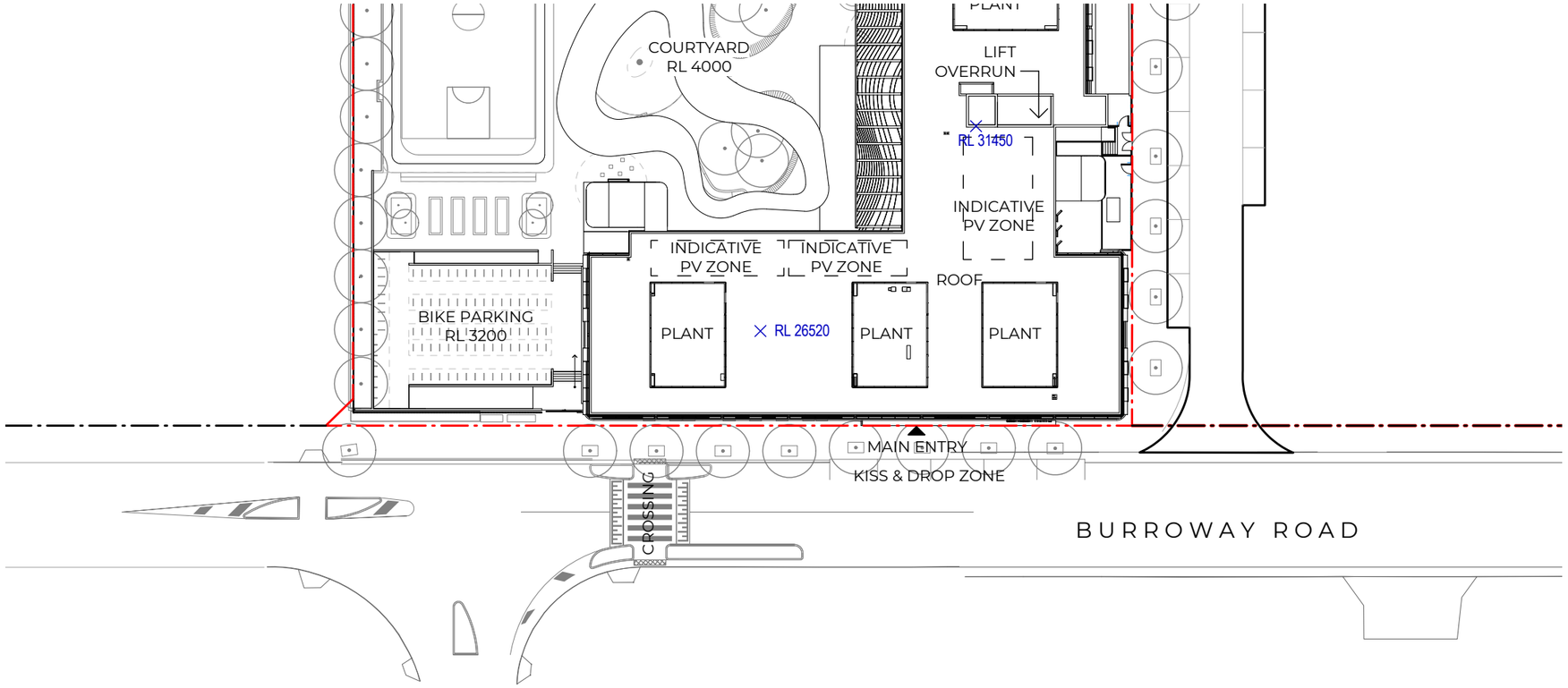
Item E10
Footpath along Burroway Rd T-junction

Authority: State Design Review Panel

Item: E10

Comment: Footpath width – The footpath at the roundabout on Burroway Road is too narrow and poses a safety risk. Confirm resolution of this area to enable shared access for cyclists and pedestrians during peak periods.

The roundabout at the intersection of Burroway Rd and Wentworth Place will be replaced by a give-way T-intersection. The footpath will be infilled at the intersection, creating a continuous footpath approximately 3-4m in width, matching the line of existing kerbs to the east and west of the intersection.



Item E11
Physical and visual connectivity

Authority: State Design Review Panel

Item: E11

Comment: Access and connectivity – Illustrate the physical and visual connections through the school site for both the school community and the external community.

Architectural and landscape elements along school's perimeter have been shifted to enhance physical and visual connections between the school and its urban context, and to provide optimal flexibility and usefulness in operation.

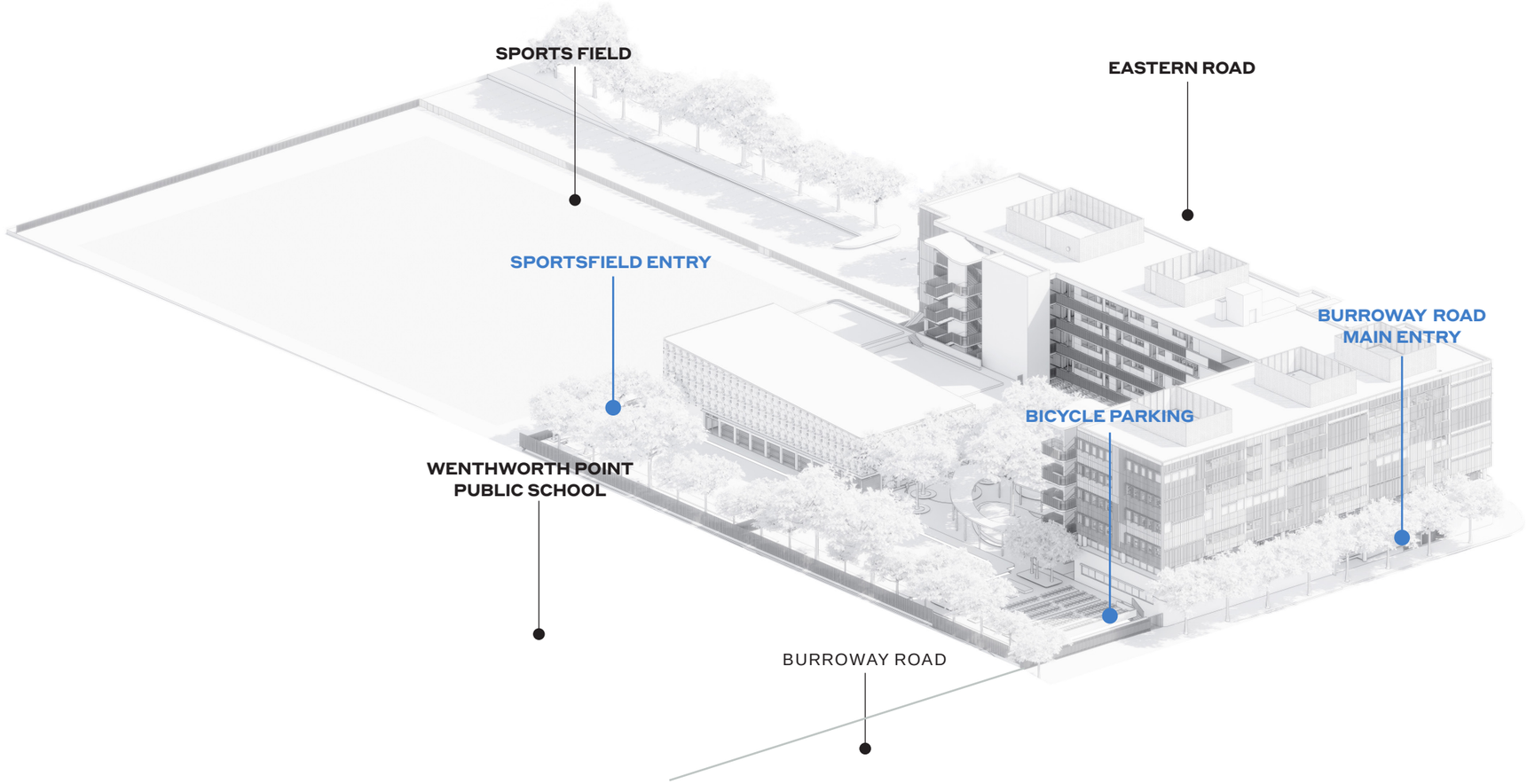
As noted in the response to items E7, E8a and E8b, changes along the interface to the neighbouring primary school and sports field have simplified boundary conditions, removed fencing and enabled future connections to be made.

As noted in the response to item E9, the width of the undercroft opening onto the school courtyard has been more than doubled, significantly increasing views through the space.

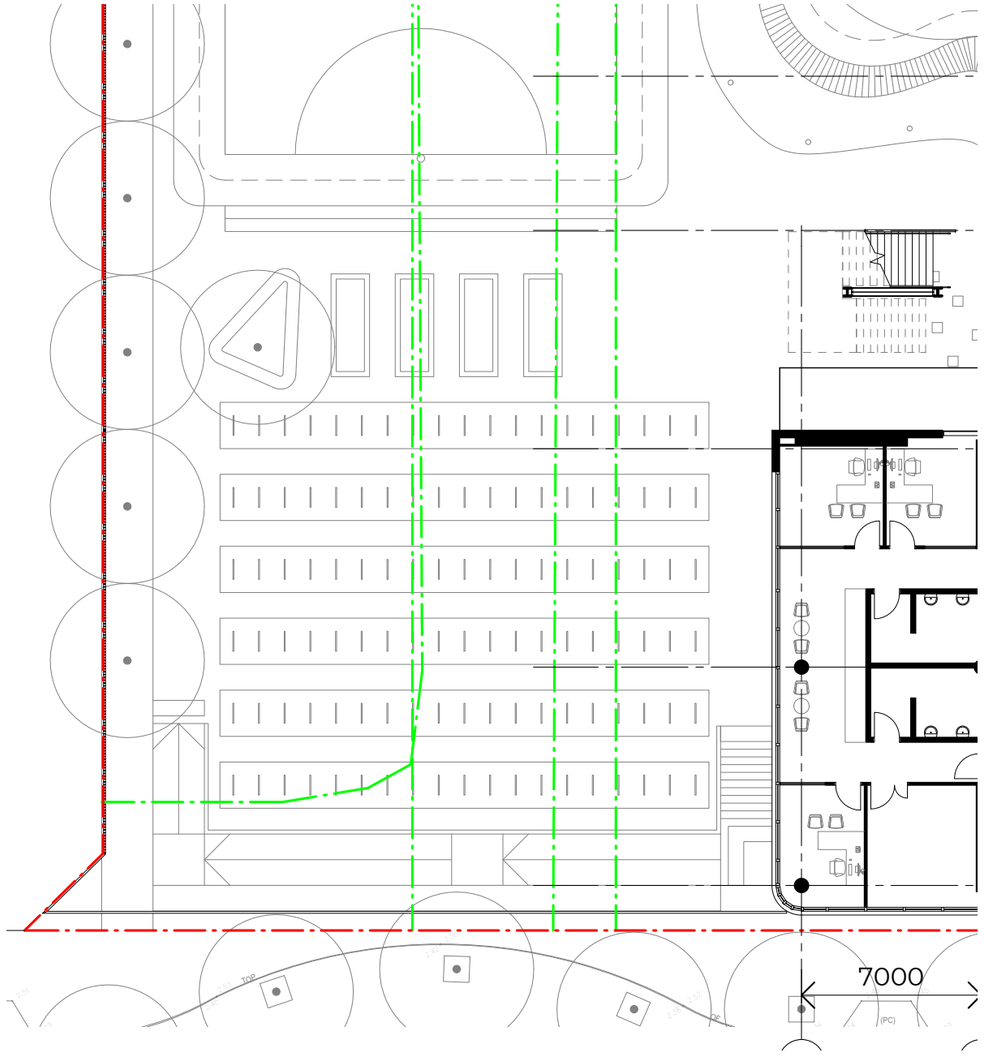
The bicycle parking facility at the south-western corner of the site has been physically lowered, halving the height of the retaining wall required on the footpath edge and promoting views to the playground beyond. Physical access to the bicycle store has been widened to better serve students entering the school in this location, and the mitigate the risk of collisions between cyclists and pedestrians.

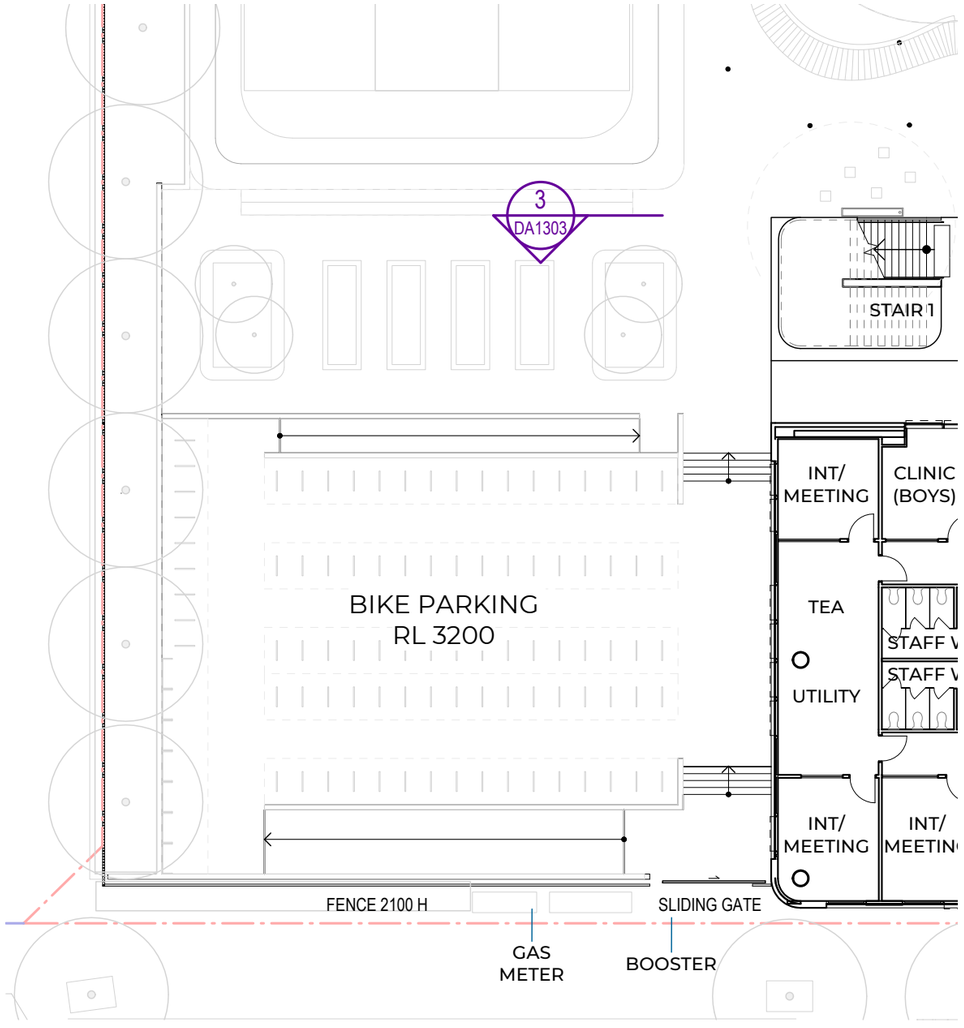
The gym and northernmost sports court have been re-configured to facilitate controlled access to these amenities outside of school hours. A fence and sliding gate have been added between the western boundary and gym building. During school hours, the sliding gate is held in open position to maintain a unified playground for students. After hours, the sliding gate is closed, and a second gate on the boundary with the sports field can be opened to give access to the sports court. In this mode, the gym can remain secure, or can be made accessible as well.

The change rooms and toilets attached to the gym have been rearranged to allow similar flexibility of use. These facilities are placed along a corridor with lockable doors at each end, one of which opens directly onto the sports field. On weekends and after hours, the field-side door can be opened to permit access to the change rooms and toilets, while the other door remains locked to secure the rest of the school grounds.



Bike parking
Previous and amended layout

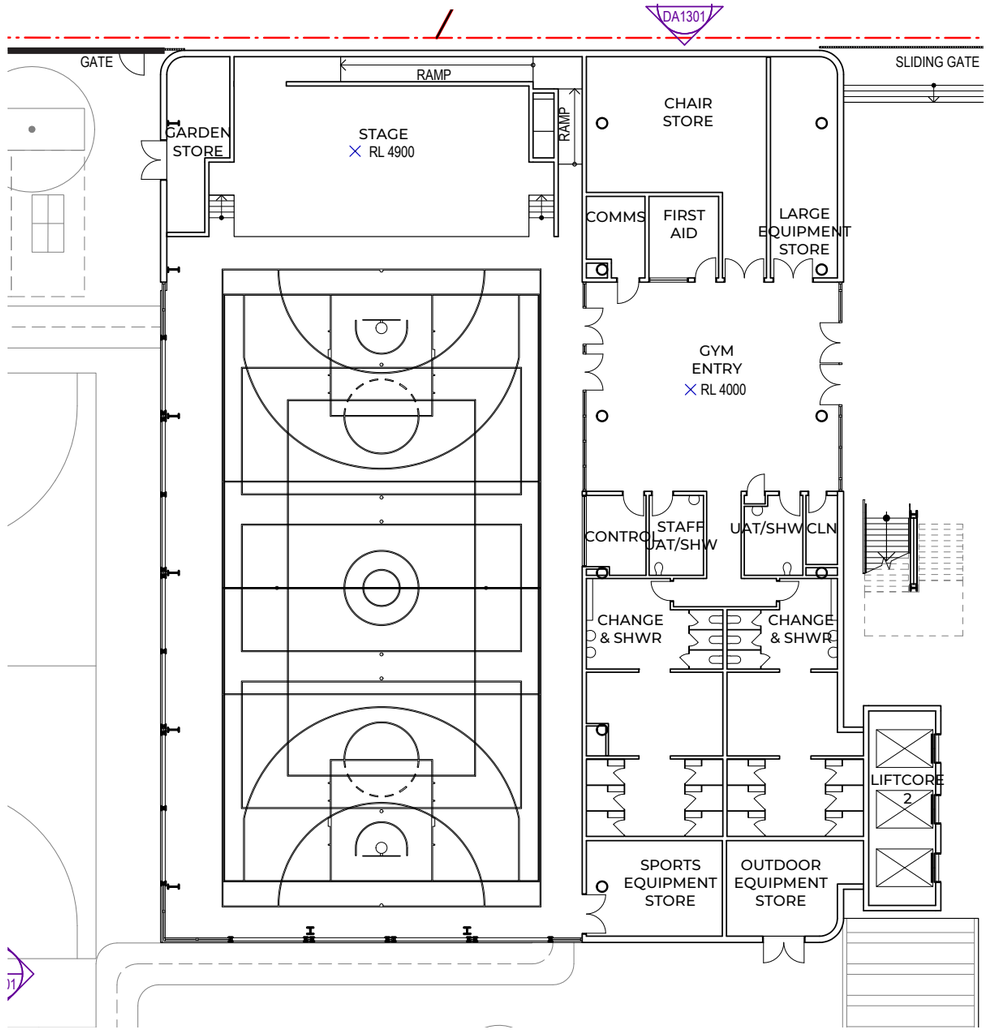




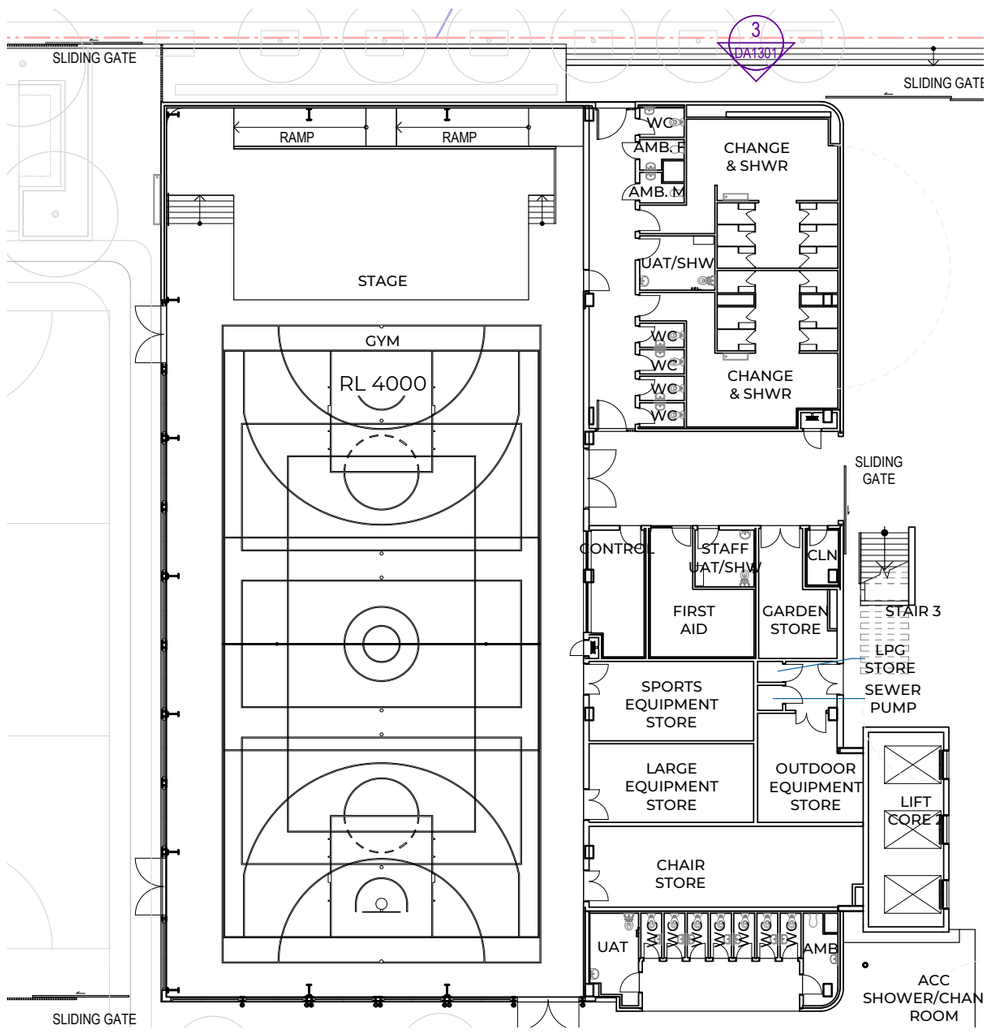
SCHEME AS SUBMITTED FOR SSDA
Parking layout as per SDRP 03 review lacked the necessary space for accessibility.

AMENDED RESPONSE
New layout considers a better transition space between the parking and the entry access.
In addition, the ramps place the parking at different level, thus reducing a visual impact to the street

Change rooms & toilets
Previous and amended layout

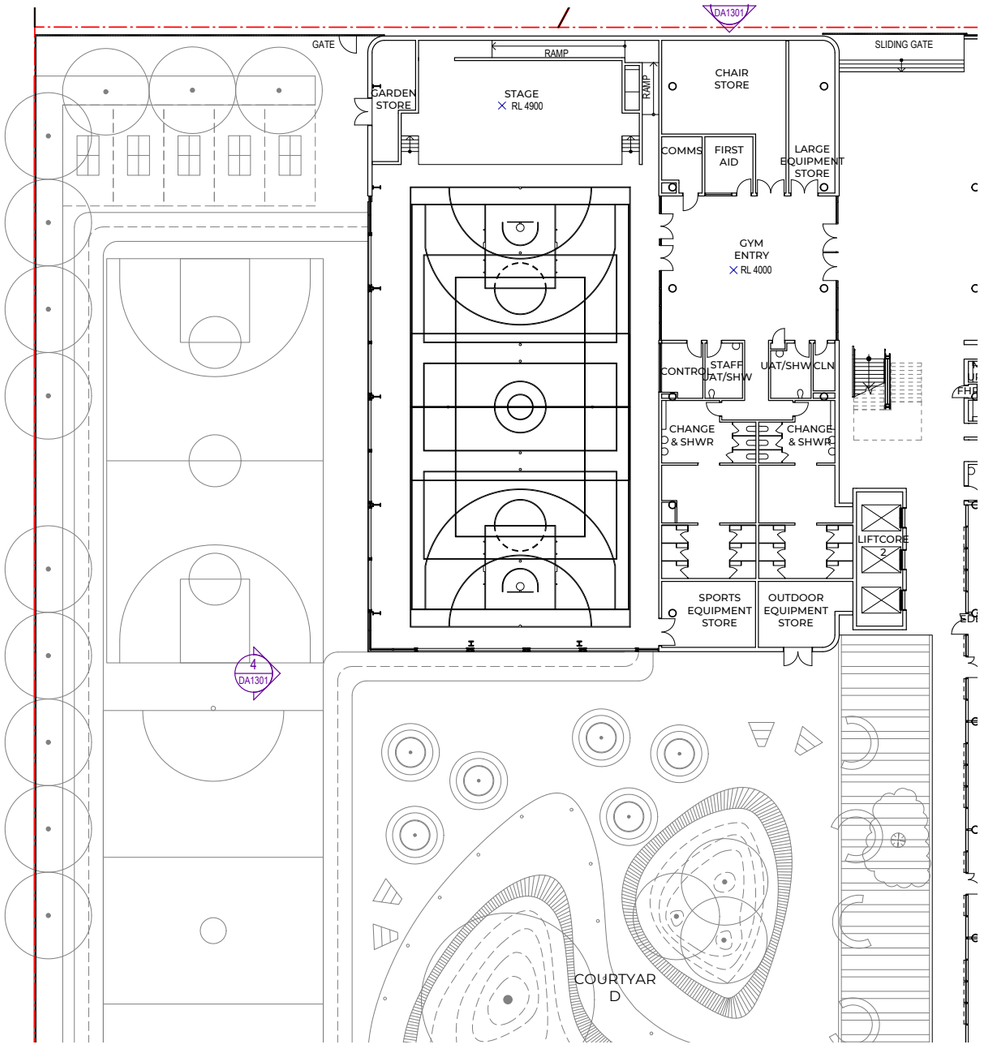


SCHEME AS SUBMITTED FOR SSDA



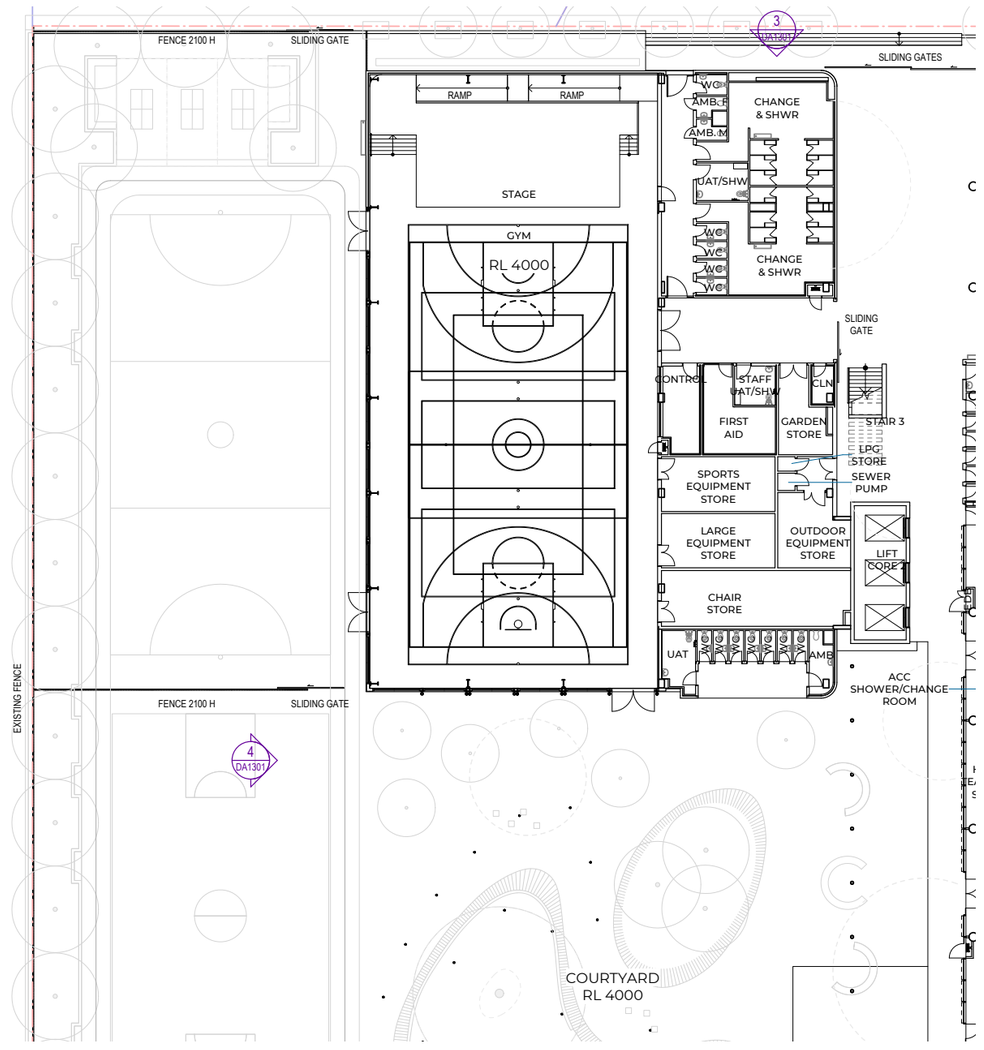
AMENDED RESPONSE

Community access
Previous and amended layout



SCHEME AS SUBMITTED FOR SSDA

Previous access points limited use of the basketball court for possible community use.



AMENDED RESPONSE

Current layout provides opportunity to access to the Basketball court opposite to the Gymnasium as well as the toilets for use community use. A fence line limits possible access from the community into other areas.

Facade treatments and architectural expressions

Item E12
Articulation of external facades

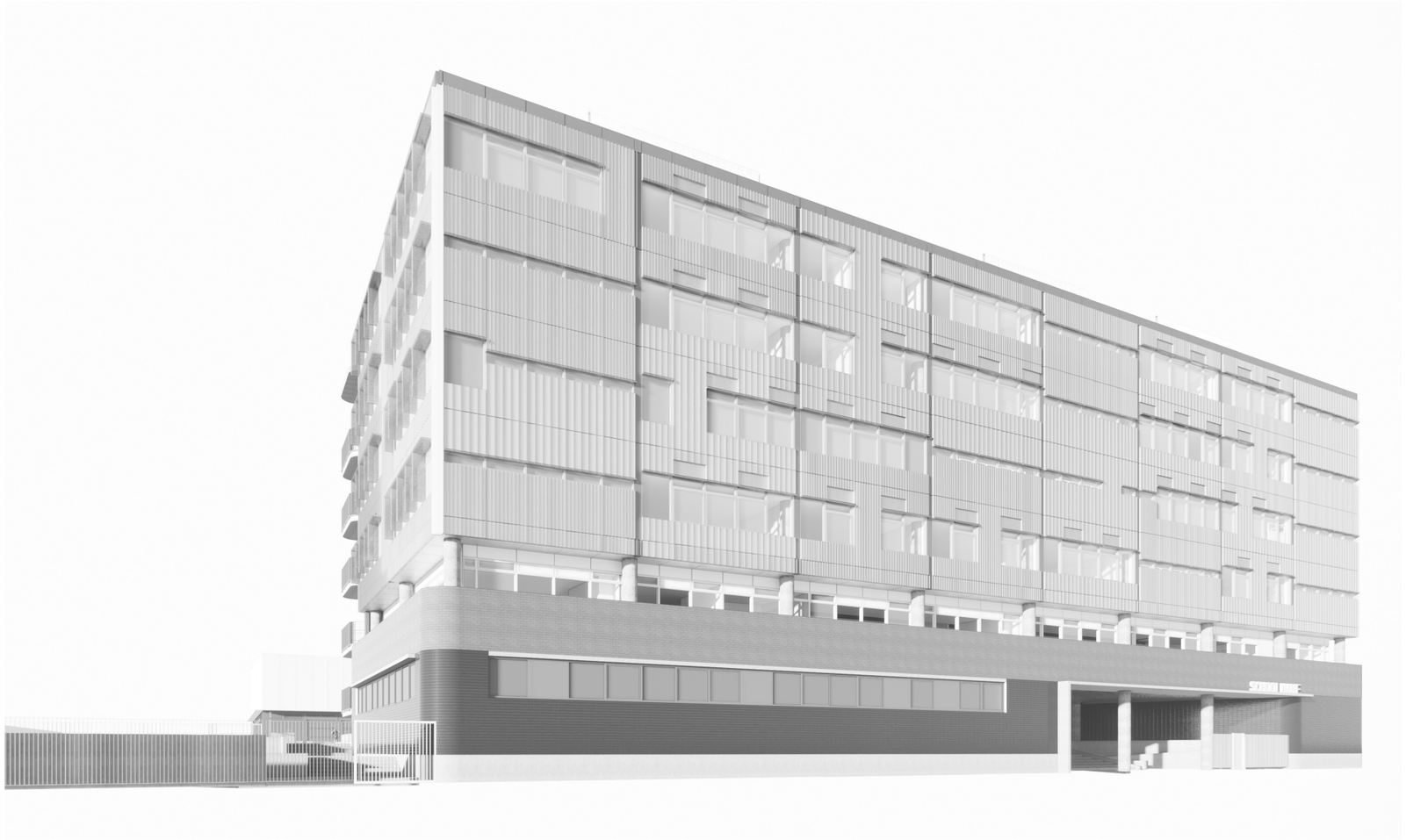
Authority: State Design Review Panel

Item: E12

Comment: Façade articulation – The building presents a rich and colourful façade to the interior while presenting an austere façade to the surrounding context. Articulate the external façades to mitigate this condition, providing glimpses into the school grounds from the public domain and further reinforcing the civic and community presence of the school.

Since the early stages of this project, a central aspect of the design concept has been for external façades to pragmatically express the needs of internal spaces. Each space within the building has varying requirements for daylight and ventilation, based on use and orientation. Accordingly, the façade module attached to each classroom, laboratory or storeroom takes on a differing expression, modulated in terms of window size, sun shading device, louvred vent panels, and so on. The result mix of façade modules combine to create intriguing and serendipitous compositions, resisting a sense of uniformity or rigidity settling into the southern and eastern elevations.

The façade, with its mix of metal and glass, its relief, diversity and texture, enters into a dialogue with the “big sky” – it shimmers, distorts and reflects the ever-changing Wentworth Point sky. Taking into consideration the concern expressed by the SDRP regarding the perceived austerity of the street-facing facades, the design team stands behind the original design intent. The anodised aluminium cannot be seen as a stand-alone material – it is inseparable from the sky that defines it from all angles. Texturally, the aluminium panels are varied, with different aluminium profiles and integrated perforated panels used for natural ventilation. Horizontal and vertical shading fins, along with operable awning windows, add depth and add a play of shadow into the façade’s appearance. In addition, the anodised aluminium constitutes a highly robust material, well suited to the harsh estuarine environment in this location.



Item E13
Facade detailing

Authority: State Design Review Panel

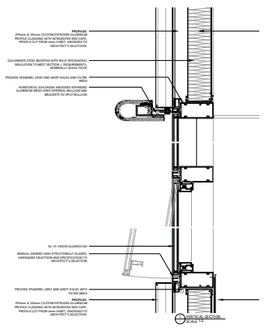
Item: E13

Comment: Façade detailing – Illustrate development of the façade in relation to patterning and articulation.

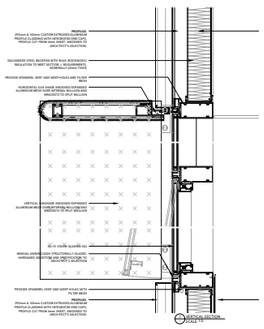
The design of external (i.e. street-facing) facades has been developed to enhance the level of articulation, patterning and visual interest. Previously, the head of all windows on external facades were set at a consistent datum. By lowering all highlight windows by approximately 400mm, the head datum has been broken; windows appear to step up and down serendipitously, adding complexity and greater visual interest to the composition of the façade.

As part of the project's mixed-mode ventilation strategy, intake and relief louvres are required to bring outside air into teaching spaces where operable windows are not suitable. These louvres, which are distributed along external and courtyard facades, contribute to a more articulated and finely patterned façade.

In addition, shading elements have been incorporated into curtain wall glazing with each window having a horizontal sunshade profile or a horizontal and vertical sunshade projection. The remaining areas of cladding are opaque extruded aluminium cladding which incorporate extruded vertical ribs which provide self shading to the facade.

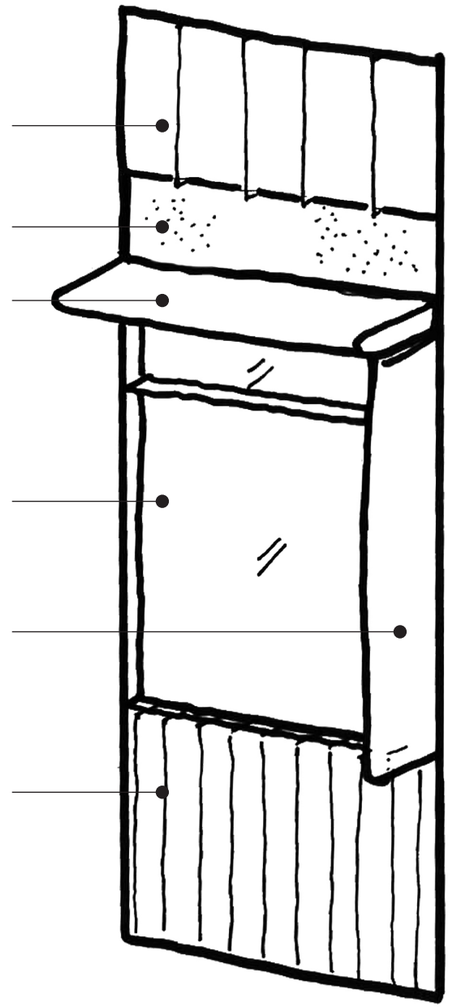


SW FACADE

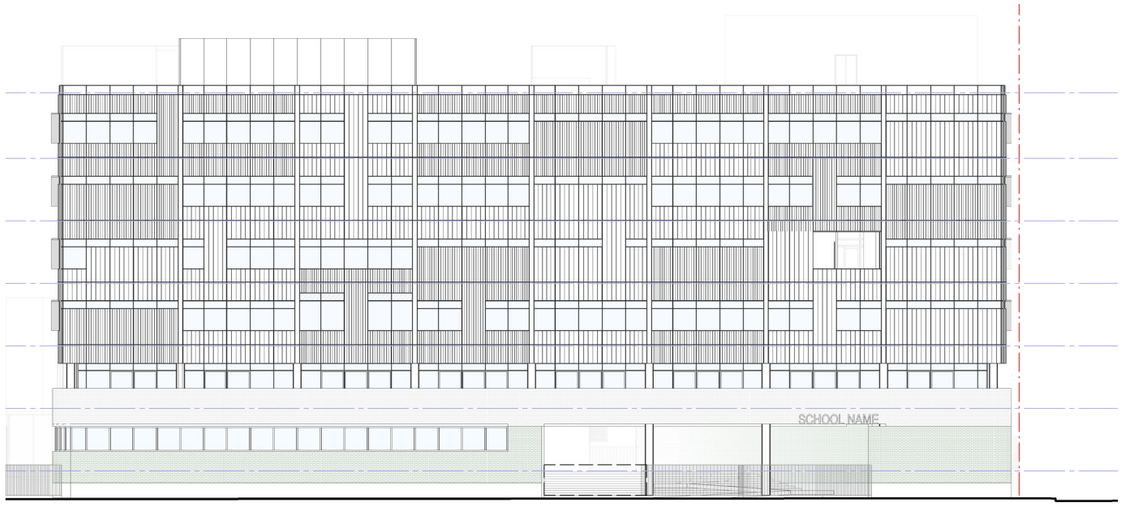


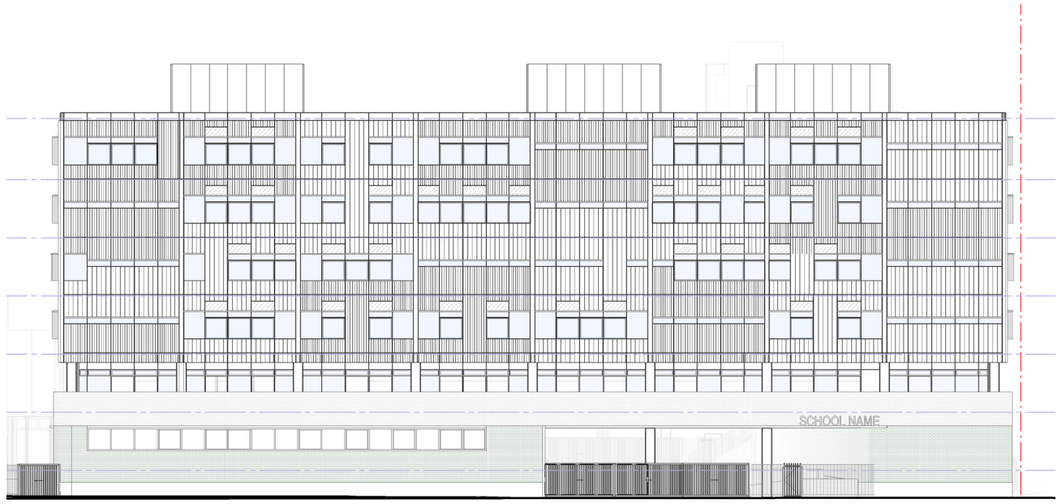
SE, NE & NW FACADES

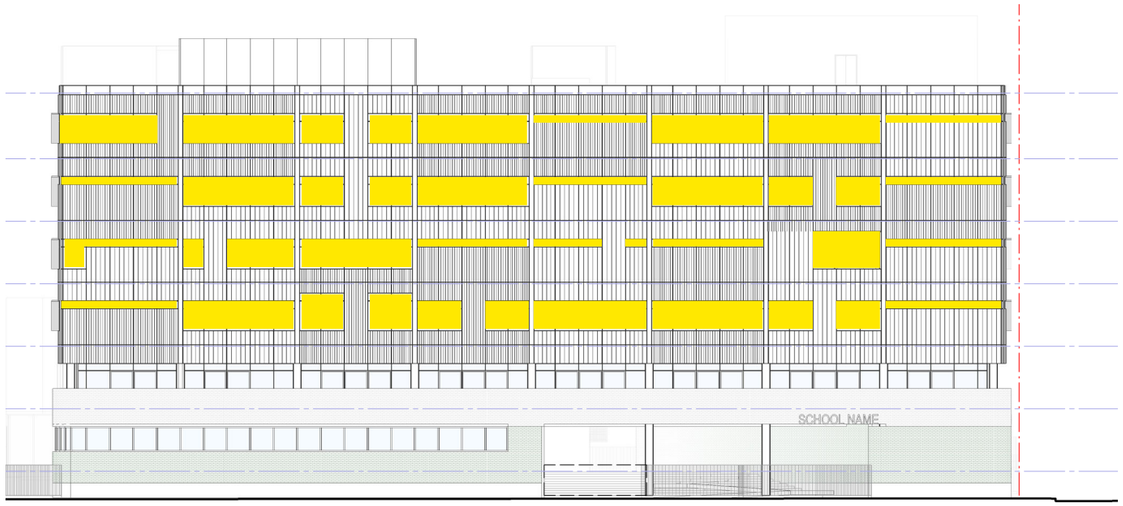
TYPICAL EXTERNAL FACADE ARTICULATION

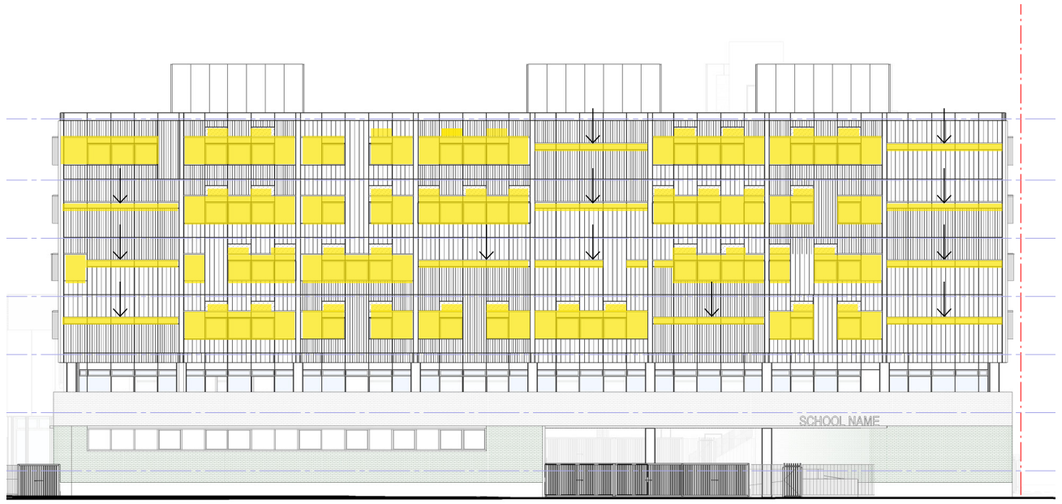


TYPICAL MODULE MATERIALITY





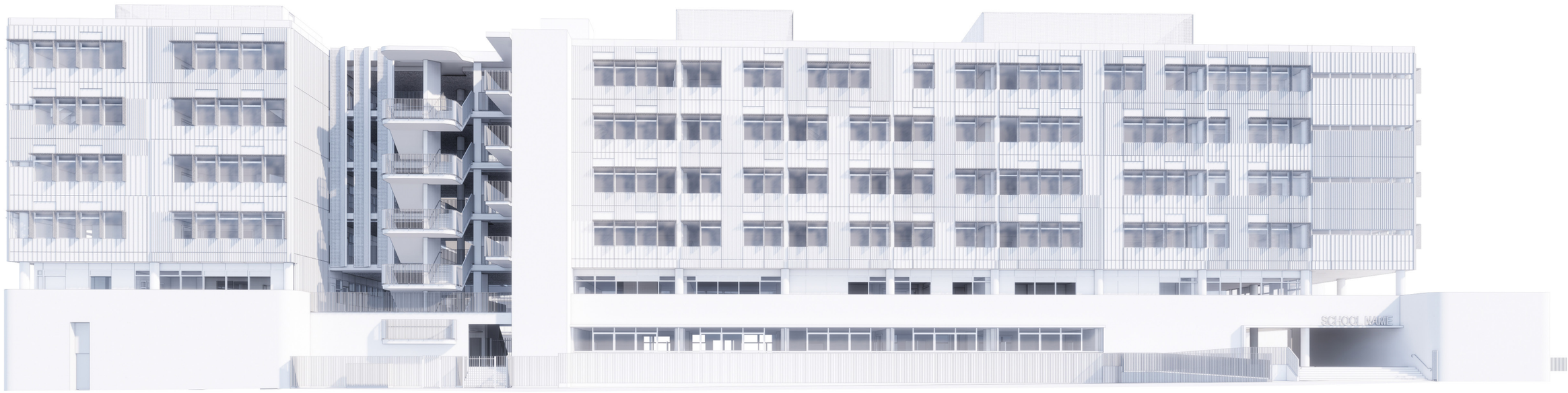




DESIGN AS PER CONDITION AT SDRP 03 REVIEW

CURRENT DESIGN

BURROWAY ROAD ELEVATION



EASTERN ROAD ELEVATION

Item E14
Courtyard facades

Authority: State Design Review Panel

Item: E14

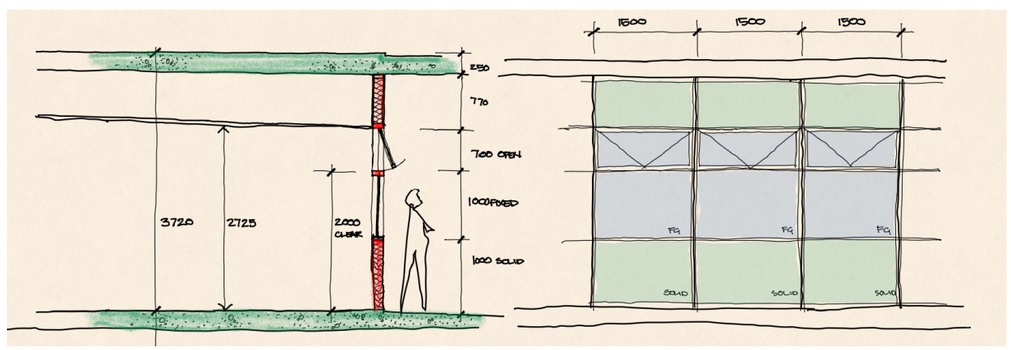
Comment: Courtyard facades – Provide further detail of the materials and form of the internal courtyard elevations, including the classroom facades and the external walkways.

Courtyard-facing facades have been developed through the integration of perforated vent panels, refinement of the colour scheme, and the placement of operable awning windows to animate the facade.

High bay windows will benefit the articulation of the facade as well as the prevention of students hitting them.

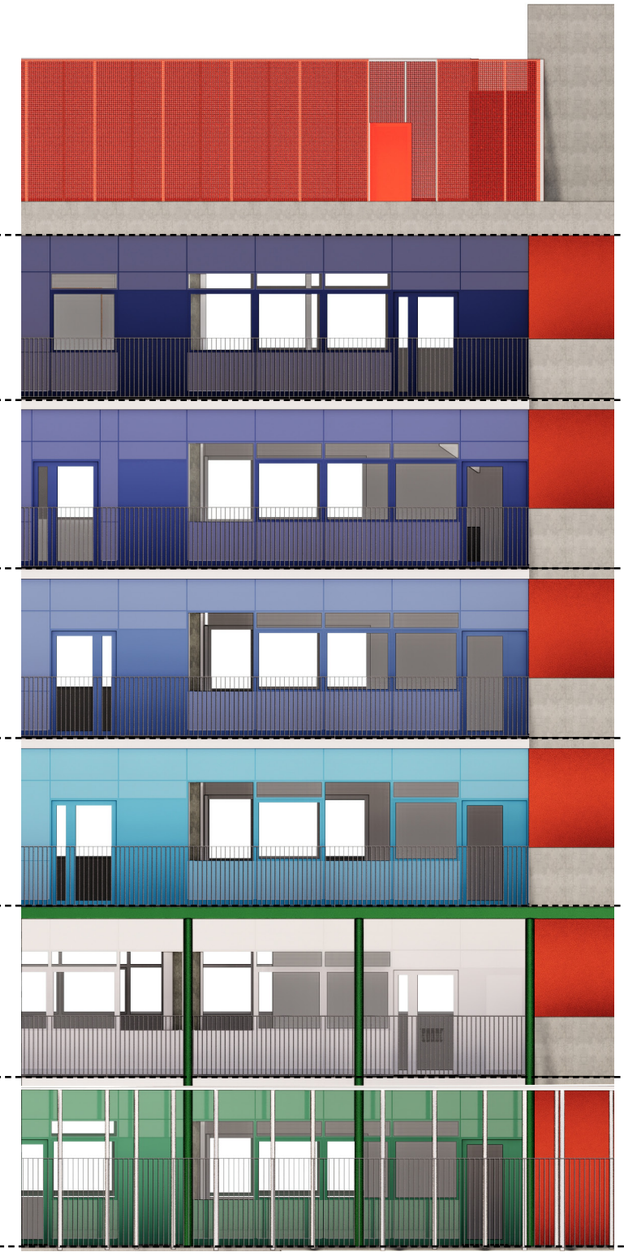
Inclusion of louvres along the facade add an extra layer of articulation.

Internal courtyard facade - Corridor view



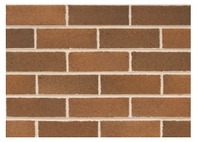
Internal courtyard facade - Typical arrangement

Facade
Quadrangle palette

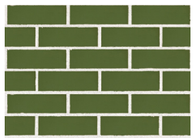


MASONRY - OPTIONS

LOHAS
Crystal - Pearl Range



BOWRAL
Brown



BURLESQUE
Deepening Green

BOWRAL
Blue

LA PALOMA
AZUL

RAL COLOUR - OPTIONS

COLOUR
CHART

EXTERNAL - COMPLIMENTARY
2004 - Pure Orange
226/83/3

LEVEL 05 ✳
5002 - Ultramarine Blue
0/56/123

LEVEL 05
5005 - Signal Blue
0/83/135

LEVEL 05
5010 - Gentian Blue
0/79/124

LEVEL 04
5017 - Traffic Blue
0/91/140

LEVEL 04 ✳
5019 - Capri Blue
0/94/131

LEVEL 03 ✳
5015 - Sky Blue
0/124/176

LEVEL 02
5012 - Light Blue
0/137/182

LEVEL 02
5024 - Pastel Blue
96/147/172

DULUX PAINT (OPTIONAL)

LEVEL 02 ✳
S35H1 - Shimmer
136/202/233

LEVEL 01 ✳
9003 - Signal White
236/236/231

LEVEL 01
9016 - Traffic White
241/240/234

GROUND
6035 - Pearl Green
25/77/37

GROUND
6000 - Patina Green
25/77/37

GROUND ✳
6001 - Emerald Green
54/103/53

GROUND
6002 - Leaf Green
50/89/40

GROUND
6010 - Grass Green
77/111/57

✳ POSSIBLE SELECTION

Item E15
Solar protection

Authority: State Design Review Panel

Item: E15

Comment: Solar protection – Illustrate how the facades, awnings and external walkways provide protection to teaching spaces from direct sun during school hours.

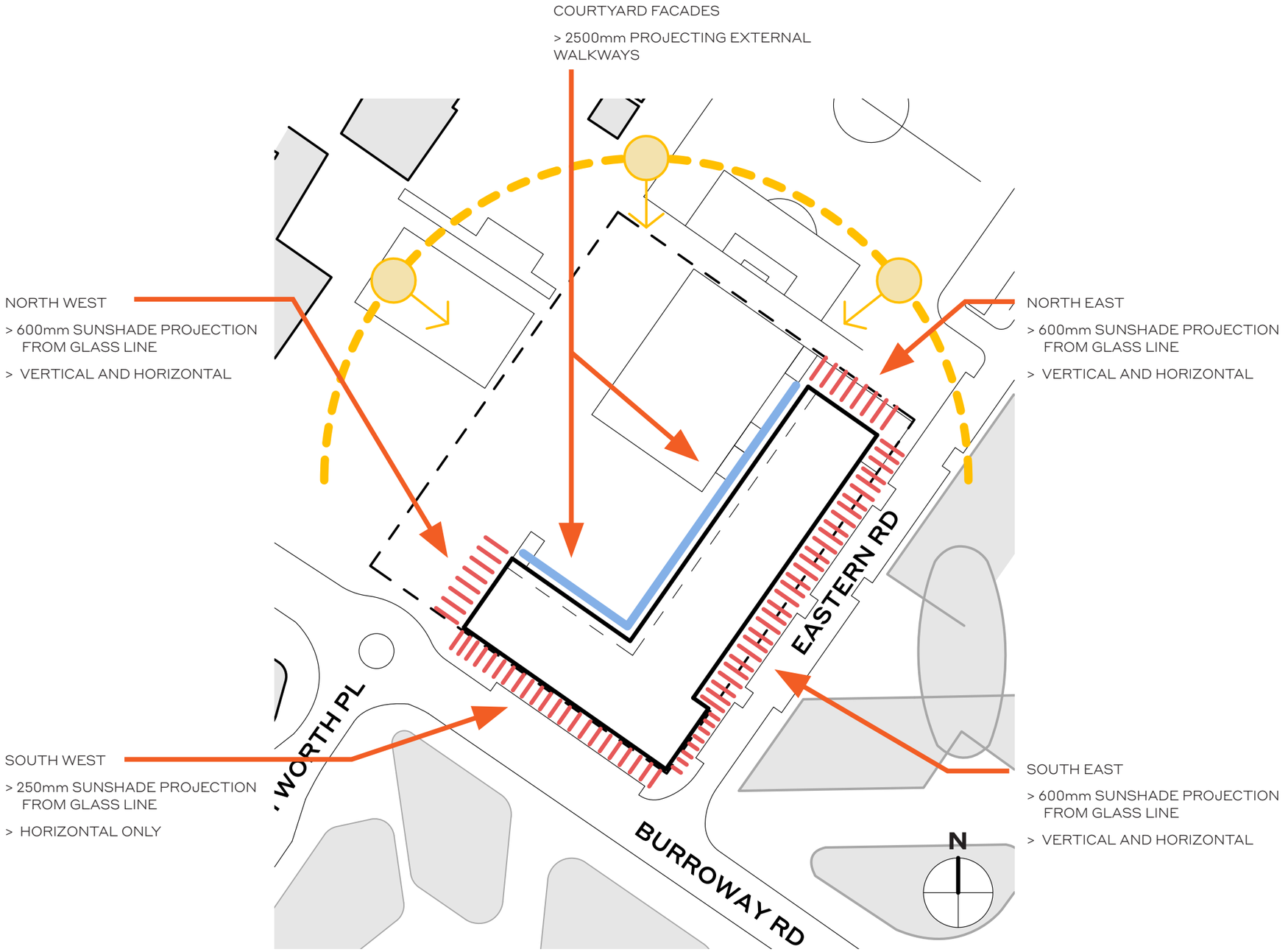
The building's facades have been designed to optimise solar protection and daylighting to internal spaces. To summarise the project's strategy for solar protection, there are three façade types within the project.

The first comprises 2500mm-deep, projecting concrete external walkways; these are located along the long facades overlooking the school courtyard. This type covers the majority of the façade area within the project that is exposed to harsh northern sun.

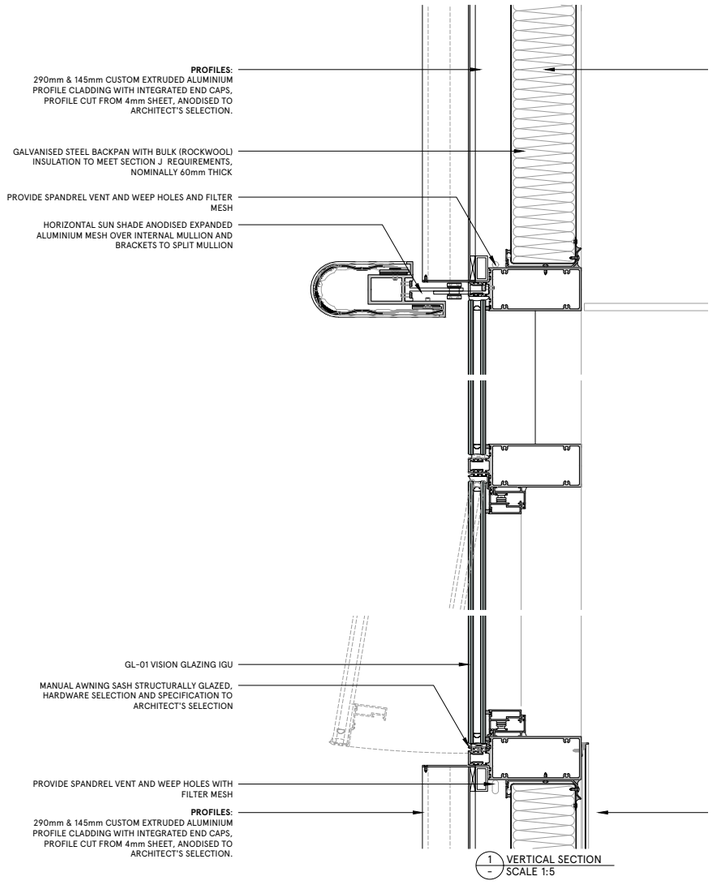
The second comprises a combination of vertical and horizontal sun shades, each projecting 600mm from the façade, and matching the dimension of each window. This type is located on the north-east and north-west façade (the "ends" of the teaching blocks), and on the south-east façade overlooking the proposed eastern road.

The third comprises a horizontal sun shade projecting 250mm from the head of each window. This type is located only on the south-west facade that overlooks Burroway Rd.

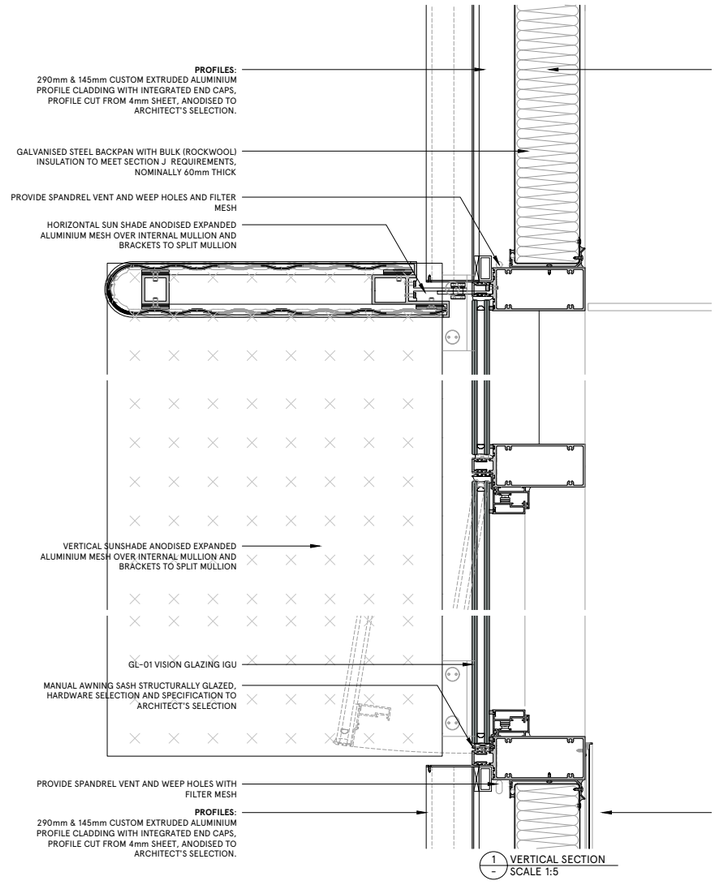
The design of these sun shading devices (their placement, orientation and dimension) is based on detailed analysis by the project's ESD consultant.



Item E15
Solar protection



SW FACADE



SE, NE & NW FACADES

Sustainability

Item E16
Green Star certification

Authority: State Design Review Panel

Item: E16

Comment: Green Star - The goal of 4-star Green Star rating is low considering the advantages of the site and association with Sydney Olympic Park. Demonstrate a robust set of sustainability strategies and performance targets to be achieved in the project. Consider and illustrate the following:

– Daylighting to all internal spaces

– Natural and mixed-mode ventilation

– Energy efficiency and thermal performance

– Material selection

– Net-zero strategies, e.g. decarbonisation, electrification, renewable energy sources

– Water capture, recycling and WSUD

Refer to ESD Consultant responses.

4 Star Green Star DAB v1.3 rating is the base level compliance, as instructed by SINSW during Planning Phase and by Roberts during ECI.
We have incorporated buffer points in the Green Star Compliance pathway to satisfy the EFSG ESD requirements.

– Daylighting to all internal spaces - Modelling is currently underway and is expected to achieve GS target of DF 2.0 for all learning spaces.

– Natural and mixed-mode ventilation - Ventilation strategy establsihed includes mixed mode and natural ventilation to all occupiable spaces.

– Energy efficiency and thermal performance - a minimum 10% improvement on NCC Section J 2019 is targeted and is set to be demonstrated with Energy modelling of building fabric and systems.

– Material selection - Materials compliance is set to meet Green Star standards for Portlance Cement reduction, Lower embodied carbon Steel manufacturing processes, best practive PVC, and the tracking of these items by volume and cost within the project.

– Net-zero strategies, e.g. decarbonisation, electrification, renewable energy sources

- This will be a direction of SINSW (currently gas is selected for domestic hot water and VET kitchens.
All other building services are electrified. 99kwP Solar PV system array is proposed, as the highest sized system SINSW will entertain.

– Water capture, recycling and WSUD - See previous notes on RW capture and reuse for irrigation.

Item E18
Tree canopy

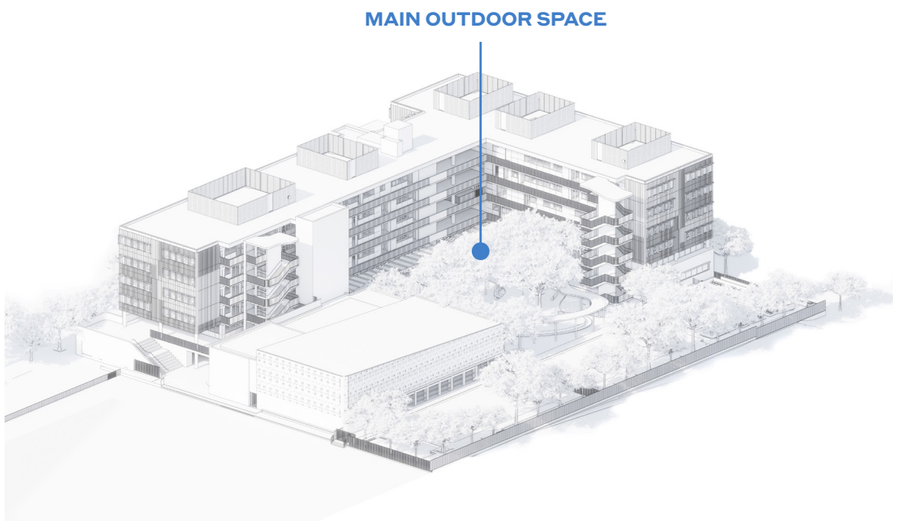
Authority: State Design Review Panel

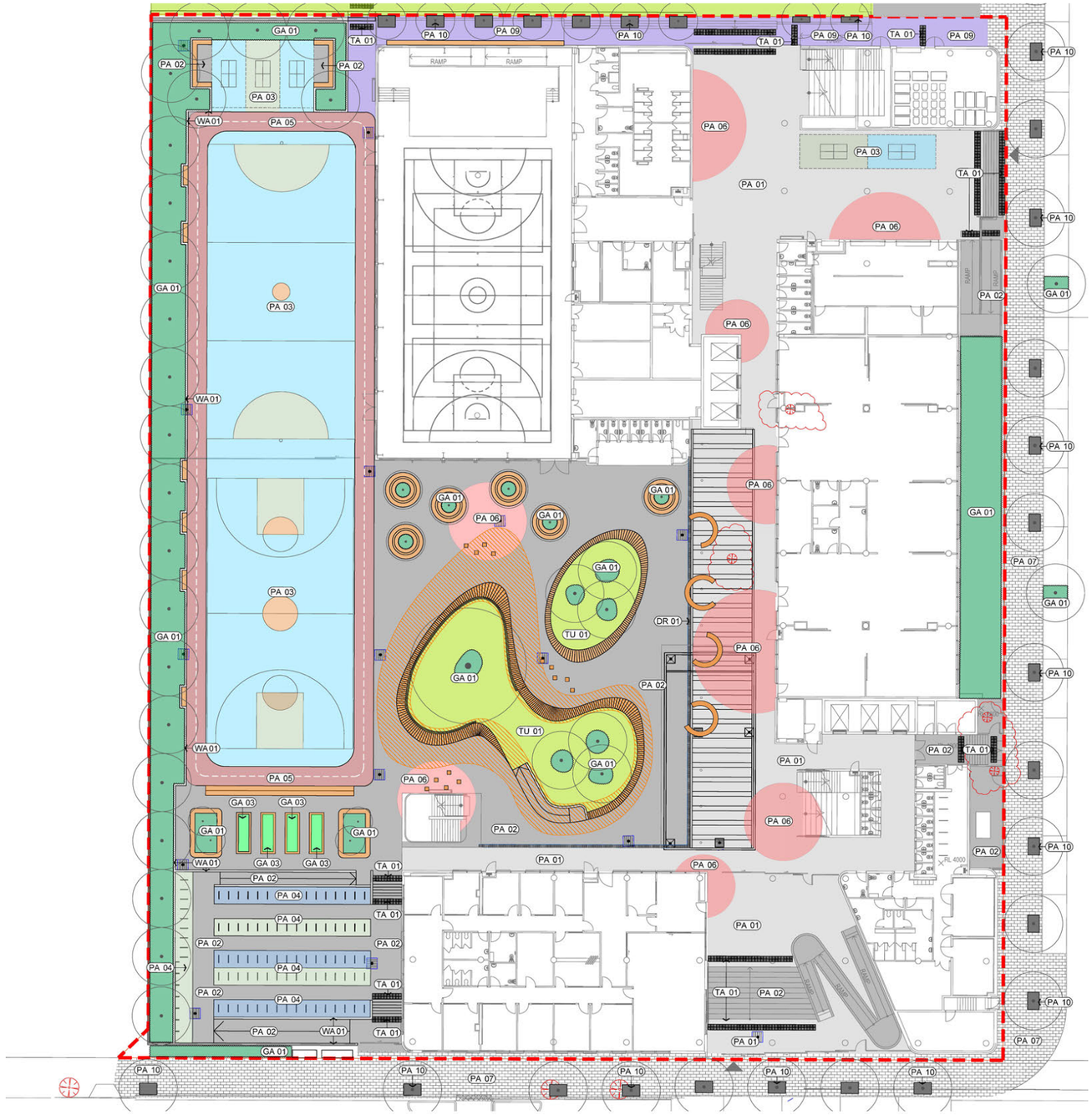
Item: E18

Comment: Provide a detailed landscape strategy including tree canopy cover and planting palette. A minimum target of 30% tree canopy cover is encouraged.

Within the site boundary the current landscape design proposes an increased tree canopy cover of 23% of total outdoor open space. The inclusion of architectural arbours and shade canopies increase the total canopy cover by an additional 5%. An additional 3% ground level COLA is proposed by architects. Total 31% cover.

A detailed planting plan and schedule have been provided.





14.0 INDICATIVE PLANT SCHEDULE

Planting selection for the site has been chosen to be sensitive of local ecosystems, with a majority of species being chosen from within local communities including endangered communities of the Sydney Turpentine-Ironbark Forest and Swamp-oak Floodplain Forest that are endemic to the area around Wentworth Point and Sydney Olympic Park.

Specialised planting has also been incorporated for the use on a green roof and the edible garden. Within these groupings there are native and endemic species that can contribute to education within the school and local community, such as the inclusion of native food sources within the edible garden.

The current scheme sits at 92% native species with 73% endemic to the local area excluding specialised planting for the productive garden

N = Native

CS = Endemic to Coastal Saltmarsh

TI = Endemic to Sydney Turpentine-Ironbark Forest

SF = Endemic to Swamp-oak Floodplain Forest

E = Exotic

* Appears in multiple locations

STREET INTERFACE

Street Trees

	Botanic name Common name	Mature HxW(m)		Pot	/m²
Burroway Road					
1	*Cupaniopsis anarcardioides* Tuckeroo (to match existing)	10 x 5	SF	400 L	
2	*Platanus 'Digitata'* Plane Tree (match existing)	15 x 12	E	400 L	
Eastern Road					
3	*Melaleuca ericifolia* Swamp Paperbark	9 x 5	SF	400 L	
4*	*Callistemon salignus* Willow Bottlebrush	8 x 8	TI	400 L	
61	*Corymbia maculata* Spotted Gum	25 x 10	N	400 L	

Street Groundcovers

5*	*Carpobrutus glaucescens* Pigface	0.3 x 1.5	N	200 mm	4
6	*Chrysocephalum apiculatum* Yellow Buttons	0.3 x 0.5	N	200 mm	4
7*	*Dianella caerulea* Flax Lily	0.4 x 0.4	TI SF	200 mm	4
8	*Lomandra longifolia 'Tanika'* Lomandra Tanika	0.5 x 0.5	TI SF	200 mm	4

BIODIVERSITY GREEN ROOF

Green Roof

	Botanic name Common name	Mature HxW(m)		Pot	/m²
40*	*Carpobrutus glaucescens* Pigface	0.3 x 1.5	N	200 mm	4
41*	*Dichondra repens* Kidney Weed	0.1 x 0.4	TI	140 mm	12
42	*Goodenia hederacea* Forest Goodenia	0.2 x 0.8	TI	200 mm	8
43*	*Kennedia rubicunda* Dusky Coral Pea	0.2x 1	TI	140 mm	8
44	*Myoporum parvifolium* Creeping Myoporum	0.3 x 1.5	N	140 mm	8
45	*Oxalis exilis* Yellow Sorrel	0.1 x 0.3	TI	100 mm	12
46*	*Pratia purpurascens* Purplish Pratia	0.1 x 0.5	TI	140 mm	12
47*	*Viola banksii* Native Violet	0.1 x 0.3	SF	140 mm	12

WESTERN BOUNDARY

Large Trees

	Botanic name Common name	Mature HxW(m)		Pot	/m²
9	*Eucalyptus paniculata* Grey Ironbark	25 x 15	TI	400 L	
10	*Syncapria glomulifera* Turpentine	16 x 8	TI	400 L	

Small Trees and Hedging

11	*Acacia implexa* Hickory Wattle	10 x 6	TI	45L	
12	*Acacia longifolia* Golden Wattle	6 x 4	TI	45L	
13	*Allocasuarina torulosa* Rose She-oak	10 x 7	TI	45L	
14	*Casuarina glauca* Swamp She-oak	12 x 7	SF	45L	
15	*Kunzea ambigua* White Kunzea	3 x 2	TI	200 mm	
16	*Melaleuca 'Claret Tops'* Honey Myrtle	1.2 x 1	N	200 mm	
17	*Melaleuca decora* White Feather Myrtle	6 x 4	TI	45L	
18	*Waterhousea floribunda* Weeping Lilly Pilly	10 x 8	N	45L	

PRODUCTIVE GARDEN

Productive Garden

	Botanic name Common name	Mature HxW(m)		Pot	/m²
48	*Aloysia triphylla* Lemon Verbena	3 x 3	E	45L	
49	*Citrus hystrix* Kaffir Lime	6 x 3	E	45L	
50	*Dwarf citrus* Dwarf Lemon	2 x 0.5	E	45L	
51	*Citrus australasica* Finger Lime	6 x 3	N	45L	
52	*Olea paniculata* Native Olive	10 x 5	N	45L	
53	*Pittosporum angustifolium* Gumbi gumbi	6 x 4	N	45L	
54	*Rubus parvifolius* Native Raspberry	2 x 1	TI	45L	
55	*Syzygium smithii* Lilly pilly	5 x 2.5	SF	45L	
56	*Brassica oleracea capitata* Red Cabbage	0.3 x 03	E	200 mm	
57	*Fragaria x ananassa* Strawberry	0.2 x 0.2	E	200 mm	
58	*Lycopersicon esculentum* Cherry Tomato	1 x 0.4	E	200 mm	
59	*Microseris lanceolata* Murnong	0.3 x 0.3	N	200 mm	
60	*Origanum vulgare* Oregano	0.5 x 0.4	E	200 mm	

CENTRAL COURTYARD

Small Trees

	Botanic name Common name	Mature HxW(m)		Pot	/m²
19*	*Callistemon salignus* Willow Bottlebrush	8 x 8	TI	400 L	
20	*Elaeocarpus reticulatus* Blueberry Ash	10 x 4	TI	400 L	
21	*Tristaniopsis 'Luscious'* Water Gum	12 x 5	N	400 L	
22	*Pittosporum undulatum* Native Daphne	12 x 7	TI	400 L	

Feature Tree

23	*Ficus rubiginosa* Port Jackson Fig	20 x 20	N	Ex Ground	

Grasses and Groundcovers

24	*Blechnum indicum* Silver Lady Fern	0.9 x 1.2	SF	300 mm	2
25	*Crinum pedunculatum* Swamp Lily	1.5 x 1	SF	300 mm	2
26*	*Dianella caerulea* Flax Lily	0.4 x 0.4	TI SF	200 mm	4
27	*Hardenbergia violacea* Purple Coral Pea	0.5 x 2	TI	200 mm	4
28*	*Pratia purpurascens* Purple Pratia	0.2 x 0.5	TI	200 mm	8

Accent Planting & Shade

29*	*Blechnum indicum* Silver Lady Fern	0.9 x 1.2	SF	300 mm	2
30*	*Dianella caerulea* Flax Lily	0.4 x 0.4	TI SF	200 mm	4
33	*Philodendron* Philodendron Xanadu	0.7 x 1	E	200 mm	4
34	*Sansevieria trifasciata* Mother in Laws Tongue	0.5 x 0.3	E	200 mm	8

Cascading & Edge Planting

35*	*Dichondra repens* Kidney Weed	0.1 x 0.5	TI	140 mm	8
36	*Dichondra agrentea* Silver Falls	0.1 x 0.5	E	140 mm	8
37	*Viola banksii* Native Violet	0.1 x 0.3	SF	140 mm	12

Climbers

38	*Kennedia rubicunda* Dusky Coral Pea	0.2 x 1	TI	140 mm	8
39	*Pandorea pandorana* Wonga Wonga Vine	0.3 x 1.5	TI	140 mm	8

GROUND FLOOR PLANT SCHEDULE

TREES

KEY	BOTANIC NAME	COMMON NAME	SIZE	POT	SPACING	QTY.
ACA lon	Acacia longifolia	Golden Wattle	6m x 10m	45L	AS SHOWN	7
CAL sal	Calistemon salignus	Willow Bottlebrush	8m x 8m	400L	AS SHOWN	3
CIT aus	Citrus australascia	Finger Lime	6m x 3m	45L	AS SHOWN	2
COR mac	Corymbia maculata	Spotted Gum	25m x 10m	400L	AS SHOWN	10
CUP ana	Cupaniopsis anarcardioides	Tuckeroo	10m x 5m	400L	AS SHOWN	28
ELA ret	Elaeocarpus reticulatus	Blueberry Ash	10m x 5m	400L	AS SHOWN	6
FIC rub	Ficus rubigonosa	Port Jackson Fig	14m x 12m	Ex Ground	AS SHOWN	1
MEL dec	Melaleuca decora	White Feather Myrtle	6m x 4m	45L	AS SHOWN	5
MEL eri	Melaleuca ericifolia	Swamp Paperbark	9m x 5m	400L	AS SHOWN	11
OLE pan	Olea paniculata	Native Olive	10m x 5m	45L	AS SHOWN	1
PIT ang	Pittosporum angustifolium	Gumbi Gumbi	6m x 4m	45L	AS SHOWN	1
PIT und	Pittosporum undulatum	Native Daphne	12m x 7m	400L	AS SHOWN	3
TRI lus	Tristaniopsis 'Luscious'	Water Gum	15m x 7m	400L	AS SHOWN	3

SHRUBS

KEY	BOTANIC NAME	COMMON NAME	SIZE	POT	SPACING	QTY.
ATR num	Atriplex nummularia	Old Man Saltbush	1.5m x 1m	200mm	500 mm	5
BLE ind	Blechnum indicum	Silver Lady Fern	0.9m x 1.2m	300mm	500 mm	239
CHA unc	Chamelaucium uncinatum	Raspberry Ripple	1.5m x 1m	200mm	500 mm	5
CRI ped	Crinum pedunculatum	Swamp Lily	1.5m x 1m	200mm	500 mm	197
CYC rev	Cycas revoluta	Sago Palm	2m x 2m	200mm	500 mm	96
KUN amb	Kunzea ambigua	White Kunzea	3m x 2m	200mm	580 mm	135
MEL cla	Melaleuca 'Claret Tops'	Honey Myrtle	1.2m x 1m	200mm	500 mm	174
PHI xan	Philodendron 'Xanadu'	Philodendron Xanadu	0.7m x 1m	200mm	500 mm	112
PRO rot	Prostanthera rotundifolia	Native Oregano	2m x 1m	200mm	500 mm	5
RUB par	Rubus parvifolius	Native Raspberry	2m x 1m	200mm	500 mm	11
SYZ smi	Syzigium smithii	Lilli Pilli	5m x 2.5m	45L	580 mm	251
VIO ban	Viola banksii	Native Violet	0.1m x 0.3m	140mm	290 mm	287

GROUNDCOVERS

KEY	BOTANIC NAME	COMMON NAME	SIZE	POT	SPACING	QTY.
BRA cap	Brassica oleracea capitata	Red Cabbage	0.3m x 0.3m	200mm	290 mm	37
CAR gla	Carpobrutus glaucescens	Pigface	0.3m x 1.5m	200mm	410 mm	51
CHR api	Chrysocephalum apiculatum	Yellow Buttons	0.3m X 0.5m	200mm	410 mm	51
DIA cae	Dianella caerulea	Flax Lily	0.4m x 0.4m	200mm	410 mm	344
DIC rep	Dichondra repens	Kidney Weed	0.1m x 0.5m	140mm	350 mm	140
FRA ana	Fragaria x ananassa	Strawberry	0.2m x 0.2m	200mm	290 mm	19
GOO hed	Goodenia hederacea	Forest Goodenia	0.2m x 0.8m	200mm	350 mm	127
HAR vio	Hardenbergia violacea	Native sarsaparilla	1m x 1.5m	200mm	410 mm	183
KEN rub	Kennedia rubicunda	Dusky Coral Pea	0.2m x 1m	140mm	350 mm	60
LOM tan	Lomandra 'Tanika'	Lomandra Tanika	0.5m x 0.5m	200mm	410 mm	336
LYC esc	Lycopersicon esculentum	Cherry Tomato	1m x 0.4m	200mm	410 mm	9
MIC lan	Microseris lanceolata	Murnong	0.3m x 0.3m	200mm	290 mm	20
MYO par	Myoporum parvifolium	Creeping Myoporum	0.3m x 1.5m	140mm	350 mm	84
ORI vul	Origanum vulgare	Oregano	0.5m x 0.4m	200mm	410 mm	10
PAN pan	Pandorea pandorana	Wonga Wonga Vine	0.3m x 1.5m	140mm	350 mm	94
PRA pur	Pratia purpurascens	Purple Pratia	0.2m x 0.5m	140mm	350 mm	134
RUB ida	Rubus idaeus	Thornless Raspberry	0.8m x 0.4m	200mm	410 mm	8
SAN tri	Sansevieria trifasciata	Mother in Laws Tongue	0.5m x 0.3m	200mm	350 mm	194

LEVEL 2 ROOFTOP PLANT SCHEDULE

BIODIVERSITY GREEN ROOF

KEY	BOTANIC NAME	COMMON NAME	SIZE	POT	SPACING	QTY.
CAR gla	Carpobrutus glaucescens	Pigface	0.3m x 1.5m	140mm	350 mm	240
DIC rep	Dichondra repens	Kidney Weed	0.1m x 0.5m	140mm	350 mm	359
GOO hed	Goodenia hederacea	Forest Goodenia	0.2m x 0.8m	140mm	350 mm	359
KEN rub	Kennedia rubicunda	Dusky Coral Pea	0.2m x 1m	140mm	350 mm	359
MYO par	Myoporum parvifolium	Creeping Myoporum	0.3m x 1.5m	140mm	350 mm	240
OXA exi	Oxalis exilis	Yellow Sorrel	0.1m x 0.3m	140mm	350 mm	240
PRA pur	Pratia purpurascens	Purple Pratia	0.2m x 0.5m	140mm	350 mm	359
VIO ban	Viola banksii	Native Violet	0.1m x 0.3m	140mm	350 mm	240

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KEY PLAN

REV	DESCRIPTION	DWN	CHK	DATE
A	SSDA RTS	YV	MK	09/12/2021

PROJECT NAME & ADDRESS
SYDNEY OLYMPIC PARK
NEW HIGH SCHOOL

.

PROJECT DIRECTOR: MK

DRAWING TITLE
PLANT SCHEDULE
.

ISSUE: SSDA
PROJECT NO.: P0033179

SCALE

DRAWING NO.: L001
REVISION: A

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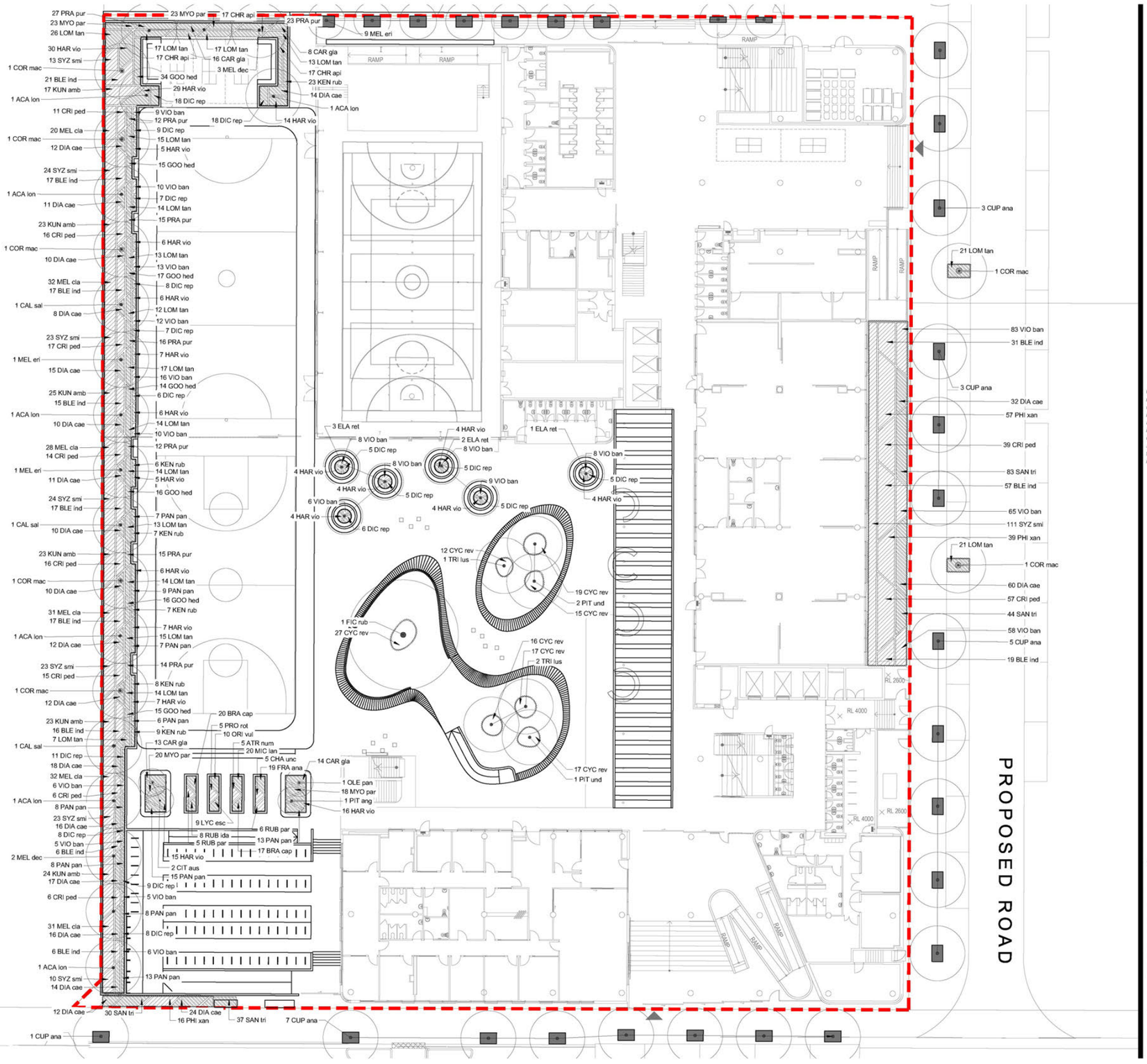

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KEY PLAN

REV	DESCRIPTION	DWN	CHK	DATE
A	SSDA RTS	YV	MK	09/12/2021

PROJECT NAME & ADDRESS
SYDNEY OLYMPIC PARK
NEW HIGH SCHOOL

PROJECT DIRECTOR: MK

DRAWING TITLE
PLANTING PLAN
GROUND FLOOR

ISSUE
SSDA

PROJECT NO.
P0033179

SCALE
1:200 @ A1 1:400 @ A3
0 2 4 6 8 10m

DRAWING NO.
L501

REVISION
A

Item E21
Setback to northern boundary

Authority: State Design Review Panel

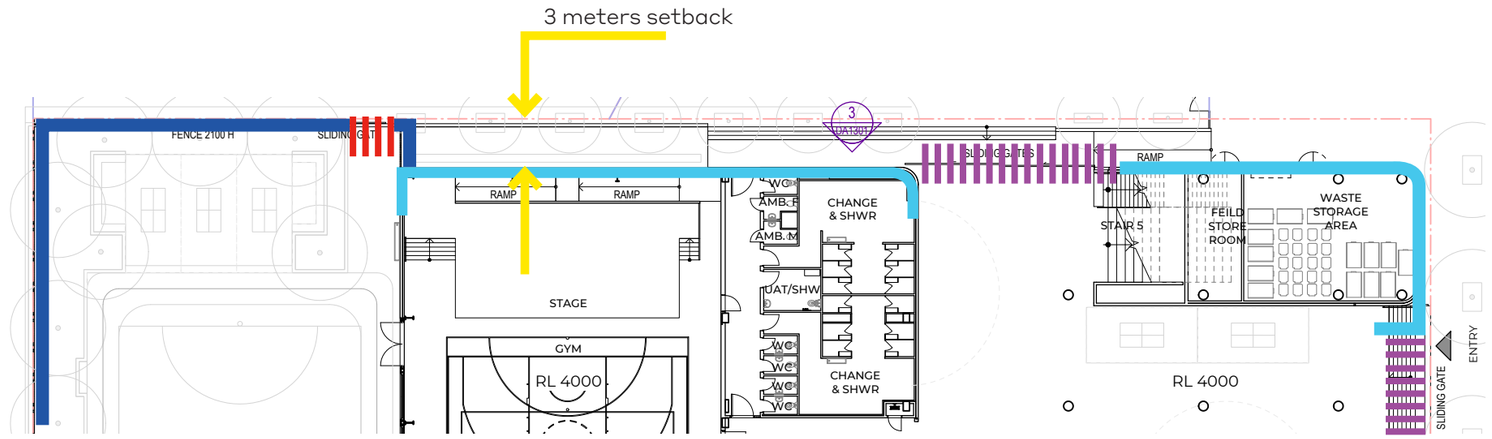
Item: E21

Comment: Provide an update on the northern boundary setback and any subsequent impact on available play space.

Refer to Item E8a

Urbis have added trees to the northern boundary within the setback zone with porous pavement (to address Issue item A3.2)

The reduction fo the bicycle parking has provided an opportunity to create an enhanced First Nations productive garden and passive recreation area to the play space.



AMENDED RESPONSE

Building line

Fencing

Sliding gate

Swing gate

Item B 5.3
Glass spec to mitigate risk of bird strike

Authority: Sydney Olympic Park Authority

Item: B5.3

Comment: Address risk of bird-strike in building design by incorporating low-reflectivity glass and other appropriate design innovations.

Birds fly into windows they "see" a clear flight path, such as office building facades. In contrast, the facade of the building presents a consistent series of sunshades, which eliminate or minimize reflections as well as transparencies. Thus, the articulation of the facade reinforces the three-dimensionality of the building by creating relief and shadows.
In addition, the design incorporates a glazing product with low external reflectivity significantly lower than the typical 20% reflectivity limit for exterior facade elements, and glazed windows comprise only 40-45% of the overall façade area.

While assessing the risk of bird strike currently falls outside the agreed scope of the project, characteristics of the current façade design are likely to mitigate against this risk.