

SANTA SOPHIA LANDSCAPE DESIGN

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COUNTRY /cumberland plains / Dharug.

1.0 Introduction

1.1. Overview

This Landscape Design Report has been prepared by McGregor Coxall on behalf of the Catholic Education Diocese of Parramatta c/TSA Management Pty Ltd (the Applicant).

It accompanies an Environmental Impact Statement (EIS) in support of State Significant Development Application (SSD 18_9772) for the new Santa Sophia Catholic College on the corner of Fontana Drive and the future road 'B', between Red Gables Road and Fontana Drive, in Box Hill North (the site).

The new school will cater for approximately 1,920 primary and secondary school students, inclusive of a 60 student Catholic Early Learning Centre. The school will have 130 full-time equivalent staff.

The proposal seeks consent for approximately 15,000sqm of floor space across a part five and part six storey building. The building will present as three main hubs connected by terraced courtyards and garden spaces.

The school will include:

- Catholic Early learning centre for 60 students;
- General Learning Spaces for years Kindergarten to 12;
- Community Hub – knowledge centre and cafe;
- Creative Hub – art and applied science;
- Performance Hub – multipurpose hall and music, dance and drama spaces;
- Professional Hub – administrative space;
- Research Hub – science and fitness;
- Associated site landscaping and open space, including a fence and sporting facilities;
- Bus drop off from Fontana Drive;
- Pick-up and drop-off zone from future road 'B';
- Pedestrian access points from Red Gables Road north, Fontana Drive and future road 'B';
- Staff parking for 110 vehicles provided off site in an adjacent location;

- Short term parking for pick up and drop off for Catholic Early Learning Centre from Red Gables Road; and
- Digital and non-digital signage to the school.

The purpose of this Landscape Concept Design Report is to outline the design considerations and ambitions for the outdoor spaces of the Santa Sophia Catholic School and to illustrate the concept designs for each level of the school.

1.2. Response to SEARs

The Landscape plans (Appendix A) and this report contain the relevant SEARs requirements:

- Landscape architectural drawings showing key dimensions, RLs, scale bar and north point, including:
 - o integrated landscape plans at appropriate scale, with detail of new and retained planting, shade structures, materials and finishes proposed including articulation of playground spaces
- Detailed site-wide landscape strategy, including consideration of equity and amenity of outdoor play spaces, and integration with built form, security, shade, topography and existing vegetation.

1.3. Background

The Gables precinct, including the Santa Sophia school, is being realised within the Cumberland Woodland Plains, of Sydney's western hinterland. Before being developed by colonial Australia as pastures and farmland, the region was the home country of the Dharug people, who lived in the area for tens of thousands of years. Beyond their places of settlement, the Dharug cultivated the landscape to create open grassed spaces amongst stands of trees and creek lines. These spaces and places were used by the Dharug for resources, gatherings, ceremonies and

seasonal events. The elements within that landscape, open grassland, stands of trees, the materials within a tree's trunk, the riparian corridors and the creeks – these assumed cultural, economic and social significance.

In the landscape design for Santa Sophia school, we express these layers of history and the strong connection to the landscape, creating both a sense of place founded in the local, and an educational environment rich in sensory information and learning experiences. The principles of the landscape design connect to the Diocese's values and objectives of care, custodianship and consideration, while providing spaces for learning, play, congregation and reflection, in which spirituality and sustainability are intertwined. The landscape will provide a network of spaces, moments and opportunities informed by a sensibility of place, local ecologies and the natural environment, while providing evocative environments in which to enact all the rituals of school and childhood.

1.4. Structure

This Concept Design report forms the basis for the next stages of the design, in which the Design will be further developed, detailed and documented. The structure of this design report is as follows:

- In section 2 the Master Plan and the position of the school within its wider context is described.
- In section 3 the conceptual approach to the design is discussed.
- In section 4 the main design principles are discussed.
- Sections 5 and 6 contains the level by level development themes and designs for the school's outdoor areas.
- In section 7 and 8 the material and planting palette is discussed.
- Section 9 contains the proposed secure line for the school.



1. Creek



2. Grasslands



3. Tree/roots



4. Tree/canopy



FONTANA DRIVE

SANTA SOPHIA
CATHOLIC SCHOOL

EVENTS &
ACTIVITIES

SOUTHERN
DRIVEWAY

CIVIC
PLAZA

THE CORSO

RED GABLES ROAD

ROAD A

SPORTS FIELD

THE FORESHORE

THE LAKE

NATURAL ECOSYSTEM

RIPARIAN CORRIDOR

2.0 Landscape

2.1. Context Plan

The Santa Sophia Catholic School has a central position in the Master Plan for the wider development of The Gables (developed by Aecom). The central square, or Civic Plaza, extends and connects the public domain with the school grounds. The surrounding landscapes offer outdoor learning, sporting and playing opportunities for the students, such as sports and event spaces, community gardens, a natural creek system and an urban plaza.

These spaces highlight the opportunity to connect and embed the school within its wider environment and community. The illustration on the left page is based on Aecom's Master Plan and shows the potentials the wider environment has to offer and how the school is embedded within its surroundings.



Gardens



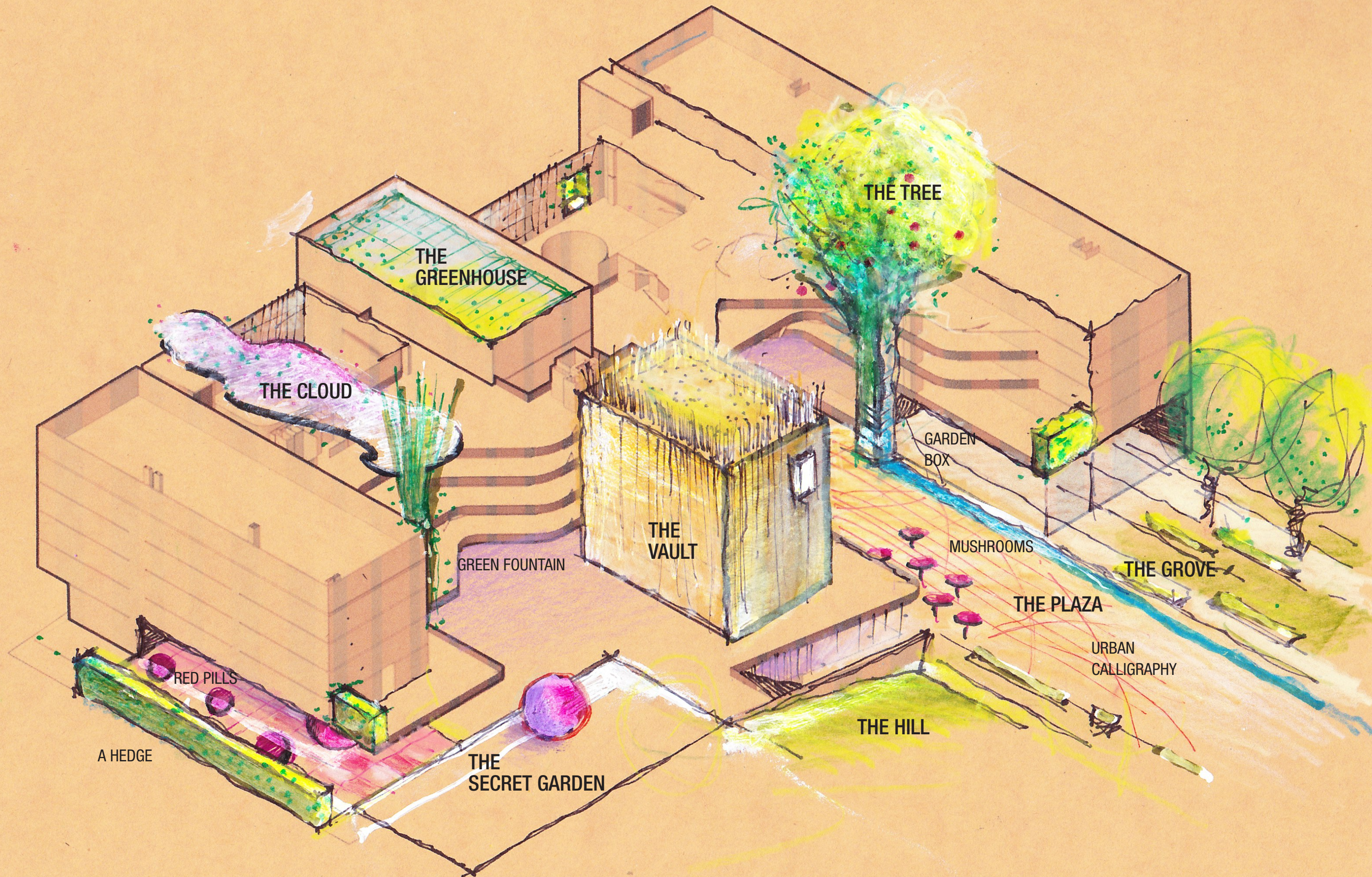
Fields



Creek



Plaza



3.0 Concept

3.1. Vertical evolution

The Tree is a vertical evolution of design elements from ground plane (roots) through to sky (canopy). In addition to responding to and supporting the vertical hierarchy of the learning stages groupings, the vertical concept is also structural, and frames circulation through the school, of students, light, rainwater and vegetation. This vertical evolution is reflected in the form and deployment of elements within the open spaces, which progresses from a chaotic scattering in the early learning developmental stages (the cloud of creation), through to increasing refinement of forms and organisation relative to school elements and tectonic geometries, culminating in senior level deployment of tech pods (with power, data ports, etc) with a celestial orientation to the intellectual heart of the school, the Library.

The main 'ecologies' are illustrated on the left page and consist of:

The Plaza

The Plaza is the civic heart of the school, encompassing the entries, central courtyard and major public functions and spaces of the school: the Hall, the Kitchens (both café and food labs), the Workshops (the science and art maker spaces), the Stage (the large stair/amphitheatre linking Plaza and Pod levels) and the Foyers (entry spaces from bus and car zones, and Hall vestibule). Key considerations include activation and integration via large doors opening Kitchens, Workshops and Hall to the Plaza, and aggregating amenity, facilities and utility features around the perimeter of the Plaza.

The library

The Library is the intellectual heart of the school, an inscrutable jewel in the composition, which must be entered to experience its richness. Key considerations should include material presence within the Plaza, a community clock (bio clock), and ancillary garden or study spaces on each level.

The Pod

The early learning arena, in which overscaled playful elements (pods, seeds, mini-planets) are deployed across a constellation of soft fall and grassed areas. Other elements include inhabited hedges, learning gardens near the Library, and a slide/seed pod linking levels 1 and 2.

The Vines

The two circulation stairs to north and south, considered as vertical movement spaces, with water and vegetation incorporated. The north vine springs from a pod, while the south vine evolves from a mini-amphitheatre. They are the same, but different, reflecting the ecologies from which they spring and connect to rising through the building.

The Tree

The Tree is the central stair and vertical void running through the building, linking the subterranean art studios and the rooftop. This element, a structural counterpoint to the vertical tower of the Library, combines vertical structure, stairs, stopping points, vertical planting, water reticulation and lighting. Along with the Library, it creates the emblematic heart of the school.

The Skygarden

The Skygarden on level 4 consists of a screen/cage/arbour encompassing the canopy of the south Vine, screening and planting around the basketball court, planting, roof and water collection at Muscle Beach (the science-fitness centre), the school garden/community farm/agricultural research zone, and the running track.

The Uncommon Room

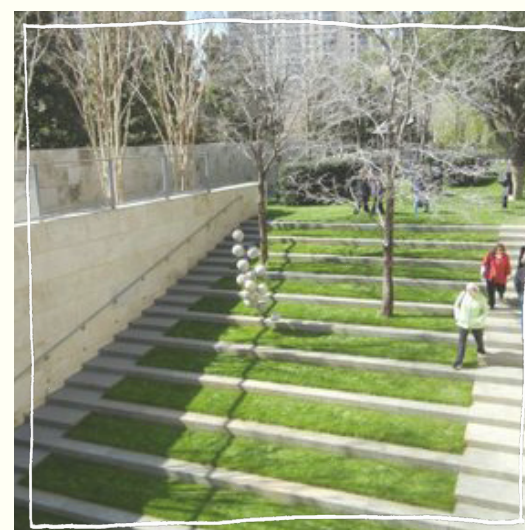
The Uncommon Room on level 5 is a screened enclosure adjacent to the Library plant, dedicated to an exotic educational garden, tended by the senior students, containing botanical oddities and delights: succulents, flowers, carnivorous plants, butterflies, apiaries, etc.

The Cloud

The Cloud is the rooftop canopy over the senior student outdoor areas, providing shelter and dappled light, water collection (to distribute down the Tree), solar collection, sensual planting (colour and scent), soundscapes, lightscares and WiFi. Programmed and operated by the year 12 students.



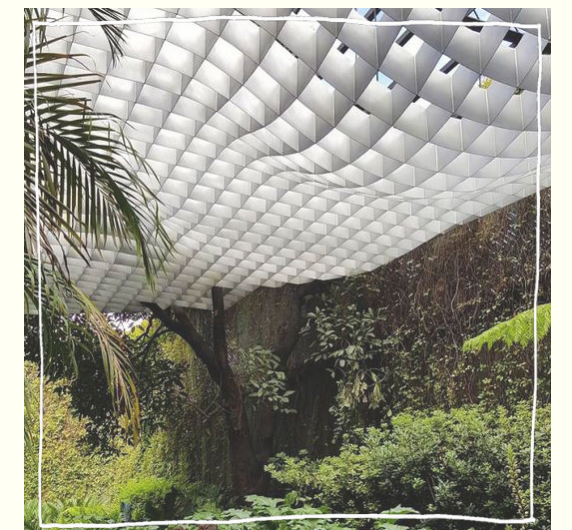
Urban Plaza



The Hill



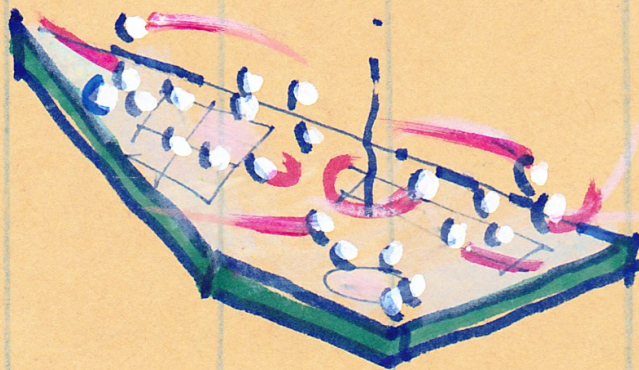
3. The Tree



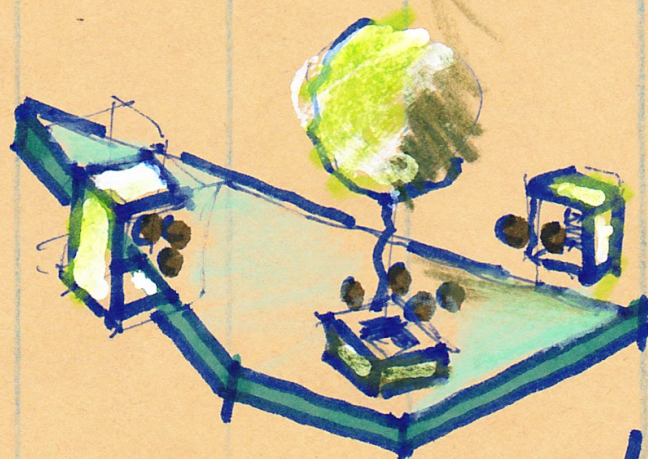
4. The Cloud



LOLA



PLAY



LANDSCAPE

4.0 Principles

4.1. Educational urbanism

In this design we approach the school as an urban landscape, or as a city, with its communities, inhabitants, spaces, streets, parks/gardens, landmarks and squares. Through this approach a richness of places starts to form: quiet spaces for contemplation, spaces for congregation, spaces for play and spaces for learning.

4.2. Natural Systems

By incorporating natural processes and systems in the design, opportunities for play and learning start to form. Natural processes and their opportunities become visible and experiential. Where does the rainwater go after a storm? How is energy produced? How do you grow your own food? By teaching the students about these everyday processes, they learn to care for their environment and about custodianship.

WATER MANAGEMENT

In the design it is proposed to collect, store, treat and re-use water throughout the school and into the public domain. Rain- and stormwater is collected from roofs and decks, with visible storage for use in sky garden and legible reticulation of vertical movement (downpipes, rainwater heads, drip irrigation down tree/stairs). Rainwater will be collection in the Civic Plaza, which include climatic mitigation under the Cloud and within the grove, water play on the Plaza, rain gardens on the edge of the Plaza and an abstracted water channel leading towards the creek catchment across the Civic Space.

FOOD

Bees pollinate the garden, rainwater tank irrigates it, the sky garden grows food for use in café and food technology area, green waste from students and café returned to compost station to fertilise the garden, or to the chickens at the early learning.

ENERGY

Mitigation of sunlight and use of solar energy to create power – productive sun shading, on cloud, skygarden, protecting exposed open spaces. Cool the spaces through evaporation (water) and shade from planting; this reduces the energy bill - less air-conditioning required.

4.3. 1m² = 3m²

For a vertical school, space is limited. To maximise the space and its utility, we follow the principle that every aspect of the design offers learning opportunities, play opportunities and adds amenity. Everything in the design is multi-functional. By doing so, every m² becomes 3m².

As described in section 3, the main concept of the vertical school is embodied in 'The Tree': a vertical evolution of design elements from ground plane (roots) through to sky (canopy), responding to and supporting the vertical hierarchy of the learning stages groupings. In this section the designs for each of the levels will be discussed. Throughout the school moments of reflection will be created.

EDUCATIONAL URBANISM / school as city



Spaces for: Learning



Landmarks



Streets



Gardens

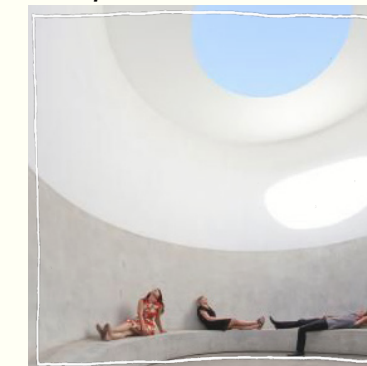
EDUCATIONAL URBANISM / addresses & spaces.



Spaces for: Learning



Spaces for: Play

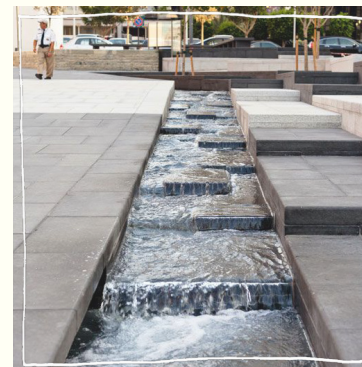


Spaces for: Contemplation



Spaces for: Congregation

NATURAL SYSTEMS / operations & education.



Water: Reticulation & Re-use



Sun: Power & Shading



Waste: Recycling & Re-use



Planting: Food & Fancy



5.0 Development Themes

The design and spatial organisation of the school and the spaces for the different year groups, follow a strong concept of vertical hierarchy and growth.

The youngest children will have their classrooms and outdoor spaces at the bottom of the school, where it all starts. From here they grow into the next stages and move up through the school, until they reach the top floor in year 11-12:

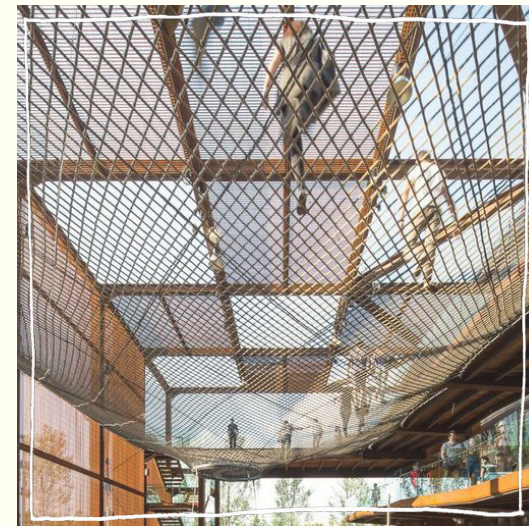
- **Genesis**/ beginnings (YR: EL-2)
- **Curiosity & Inquiry**/ openings (YR: 3-4)
- **Connections**/ intersections (YR: 5-8)
- **Challenge**/ outlooks (YR: 9-12)



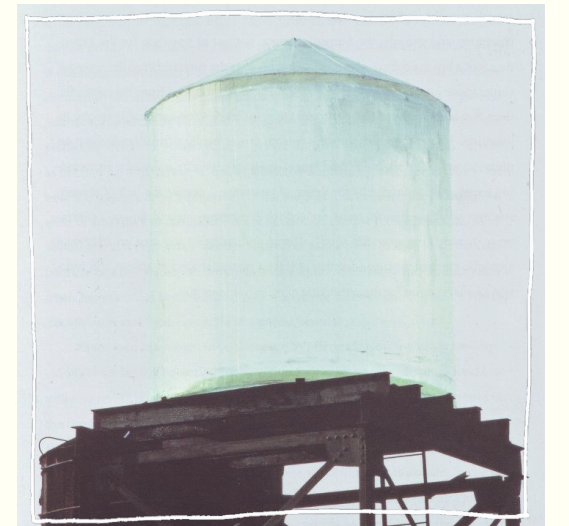
K-2: Genesis: *In the beginning...*



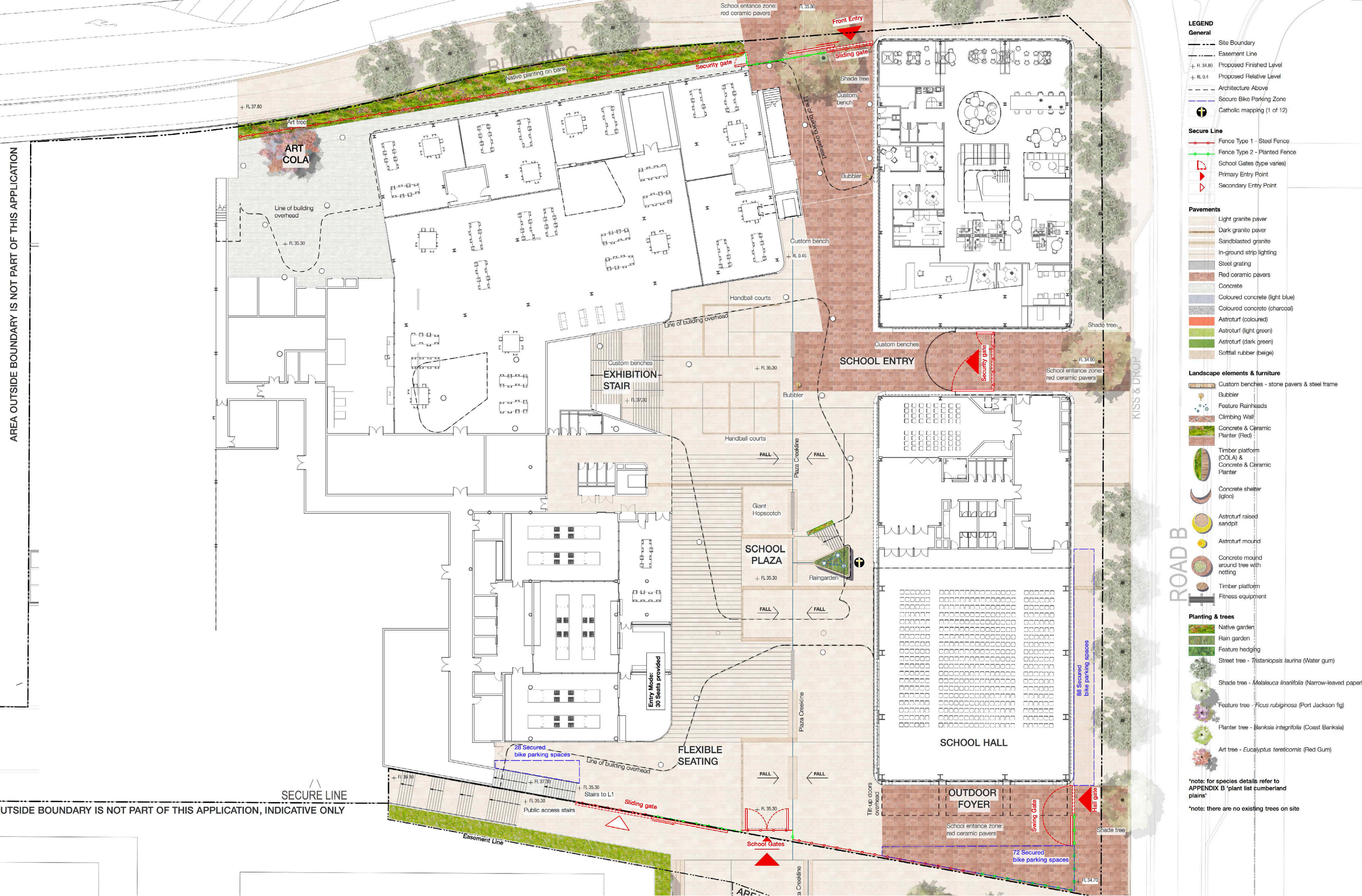
3-4: Curiosity & Inquiry: *Things come apart..*



5-8: Connections: *Projects & teamsus*



9-12: Challenge: *Knowledge & custodianship*



AREA OUTSIDE BOUNDARY IS NOT PART OF THIS APPLICATION

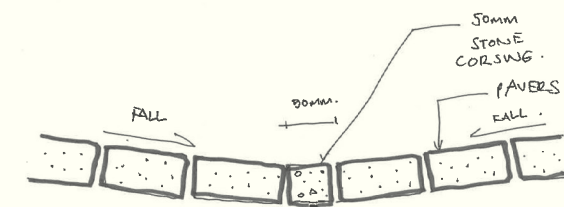
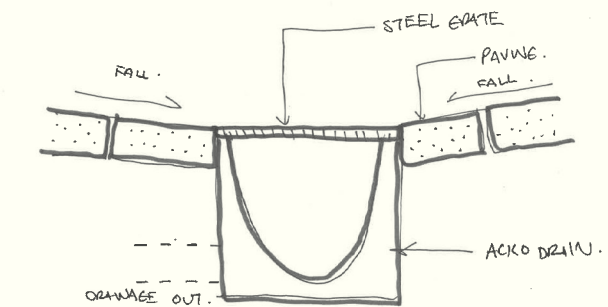
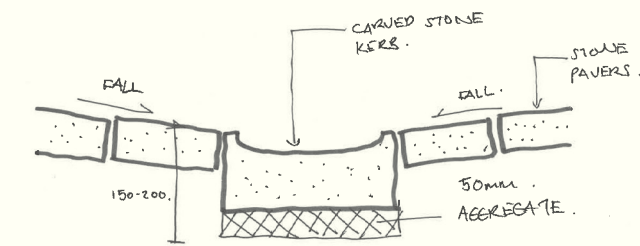
OUTSIDE BOUNDARY IS NOT PART OF THIS APPLICATION, INDICATIVE ONLY

LEVEL 0 /public domain & ground plane.

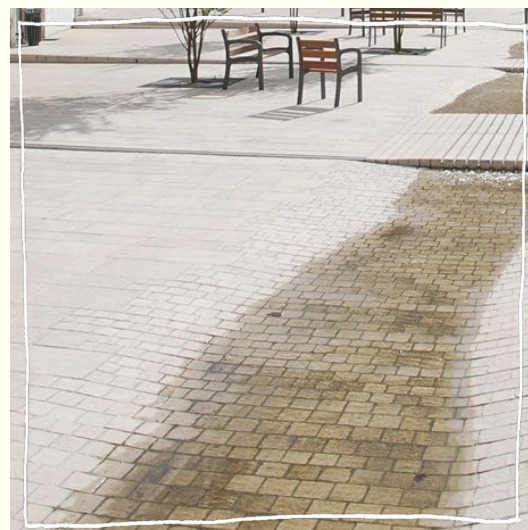
6.0 Design Response

6.1. Level 0 / public domain and ground plane

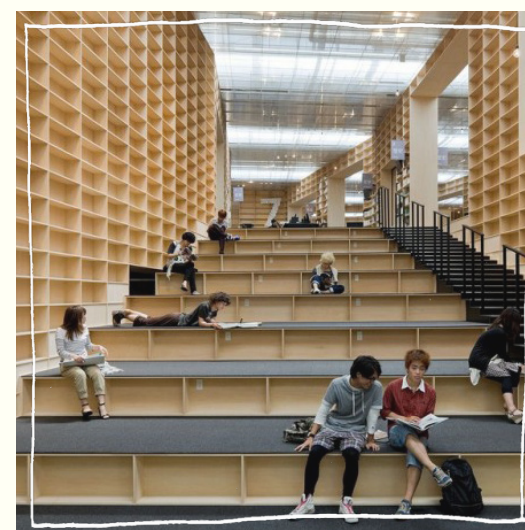
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Urban Creek detail investigations



Urban Creek



Great Stair



Active Edges



The Grove

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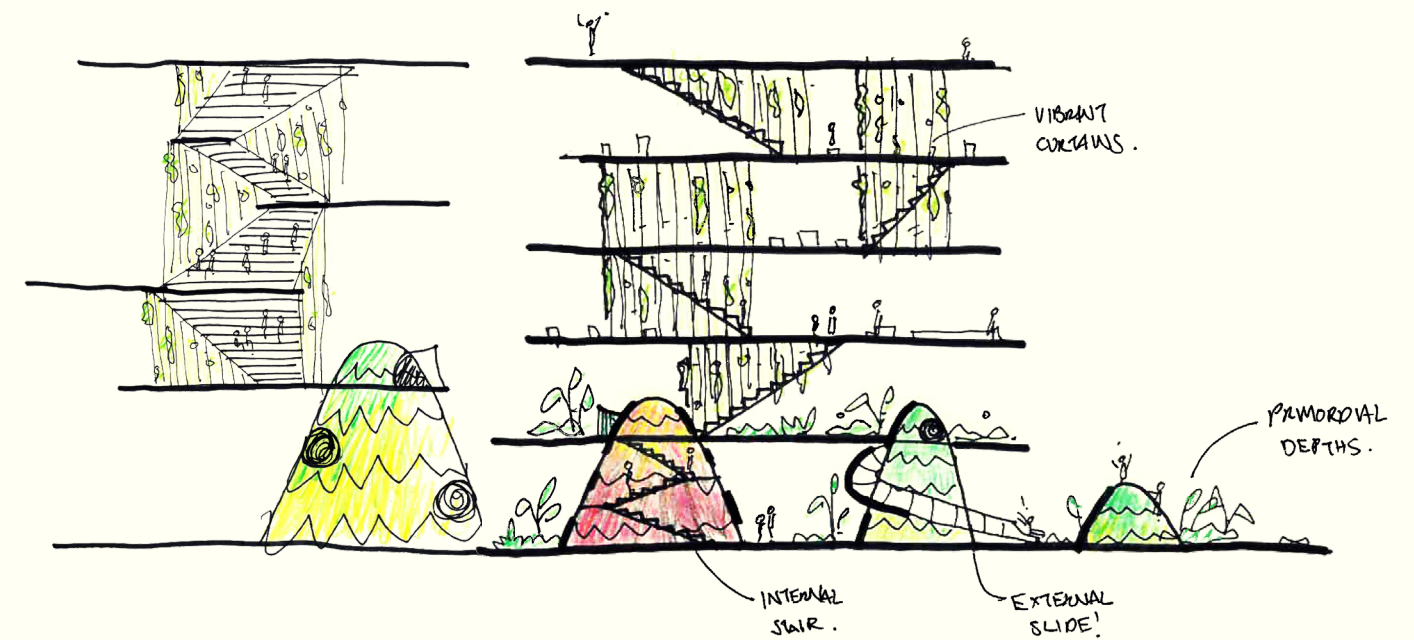
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- LEGEND**
- General**
- Site Boundary
 - Easement Line
 - + H. 34.80 Proposed Finished Level
 - + RL 0.4 Proposed Relative Level
 - Architecture Above
 - Secure Bike Parking Zone
 - Catholic mapping (1 of 12)
- Secure Line**
- Fence Type 1 - Steel Fence
 - Fence Type 2 - Planted Fence
 - School Gates (type varies)
 - Primary Entry Point
 - Secondary Entry Point
- Pavements**
- Light granite paver
 - Dark granite paver
 - Sandblasted granite
 - In-ground strip lighting
 - Steel grating
 - Red ceramic pavers
 - Concrete
 - Coloured concrete (light blue)
 - Coloured concrete (charcoal)
 - Astroturf (coloured)
 - Astroturf (light green)
 - Astroturf (dark green)
 - Softfall rubber (beige)
- Landscape elements & furniture**
- Custom benches - stone pavers & steel frame
 - Bubbler
 - Feature Rainheads
 - Climbing Wall
 - Concrete & Ceramic Planter (Red)
 - Timber platform (COLA) & Concrete & Ceramic Planter
 - Concrete shelter (igloo)
 - Astroturf raised sandpit
 - Astroturf mound
 - Concrete mound around tree with netting
 - Timber platform
 - Fitness equipment
- Planting & trees**
- Native garden
 - Rain garden
 - Feature hedging
 - Street tree - *Tristanopsis laurina* (Water gum)
 - Shade tree - *Melaleuca linariifolia* (Narrow-leaved paperbark)
 - Feature tree - *Ficus rubiginosa* (Port Jackson fig)
 - Planter tree - *Banksia integrifolia* (Coast Banksia)
 - Art tree - *Eucalyptus tereticornis* (Red Gum)
- *note: for species details refer to APPENDIX B 'plant list cumberland plains'
- *note: there are no existing trees on site

6.2. Level 1: early learning / pods & perimeters

The spaces for the Early Learning, Kindergarten and YR 1+2 are characterised as "genesis," or the beginning of things. Hence the giant seeds or pods, but also large, primordial elements: huge-leafed plants, sandpit as volcano, buried things, things on ceiling and wall surfaces. The levels between Early Learning and Kindergarten will be connected by a giant pod with slide.



Pods: Seed Pods-inhabitable elements



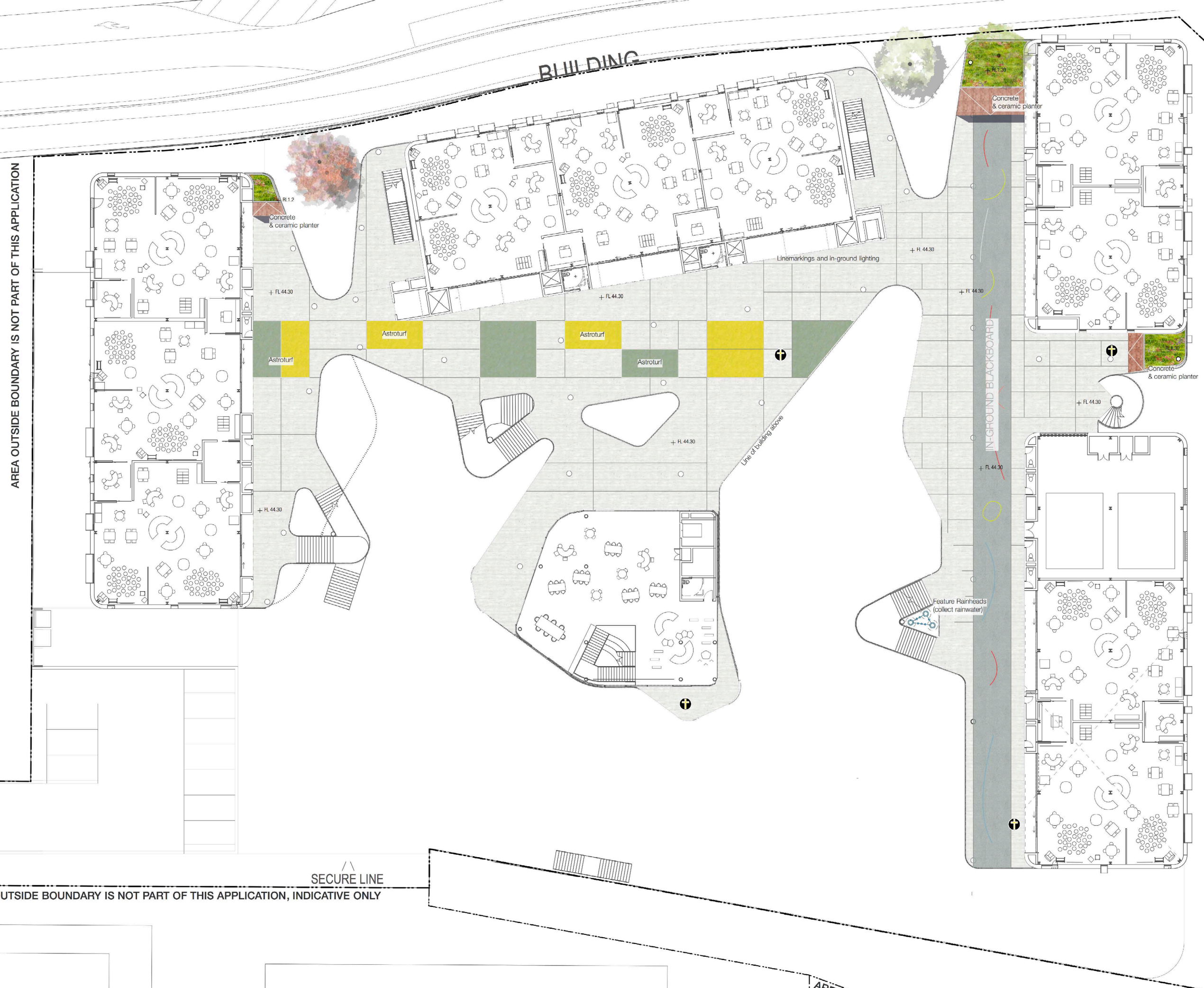
Hills: Pegs-climbable walls



Curves: Holes- giant openings










Pit: Lines & Shapes- playable surfaces








LEGEND

General

- | | |
|---|------------------------------------|
|  | Site Boundary |
|  | Easement Line |
|  | + H. 34.80 Proposed Finished Level |
|  | + RL 0.4 Proposed Relative Level |
|  | Architecture Above |
|  | Secure Bike Parking Zone |
|  | Catholic mapping (1 of 12) |













Secure Line

-  Fence Type 1 - Steel Fence
-  Fence Type 2 - Planted Fence
-  School Gates (type varies)
-  Primary Entry Point
-  Secondary Entry Point

Pavements

- | | |
|---|--------------------------------|
|  | Light granite paver |
|  | Dark granite paver |
|  | Sandblasted granite |
|  | In-ground strip lighting |
|  | Steel grating |
|  | Red ceramic pavers |
|  | Concrete |
|  | Coloured concrete (light blue) |
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|  | Astroturf (coloured) |
|  | Astroturf (light green) |
|  | Astroturf (dark green) |
|  | Softfall rubber (beige) |

Landscape elements & furniture

- | | |
|---|---|
|  | Custom benches - stone pavers & steel railing |
|  | Bubbler |
|  | Feature Rainheads |
|  | Climbing Wall |
|  | Concrete & Ceramic Planter (Red) |
|  | Timber platform (COLA) & Concrete & Ceramic Planter |
|  | Concrete shelter (igloo) |
|  | Astroturf raised sandpit |
|  | Astroturf mound |
|  | Concrete mound around tree with netting |
|  | Timber platform |
|  | Fitness equipment |

Planting & trees

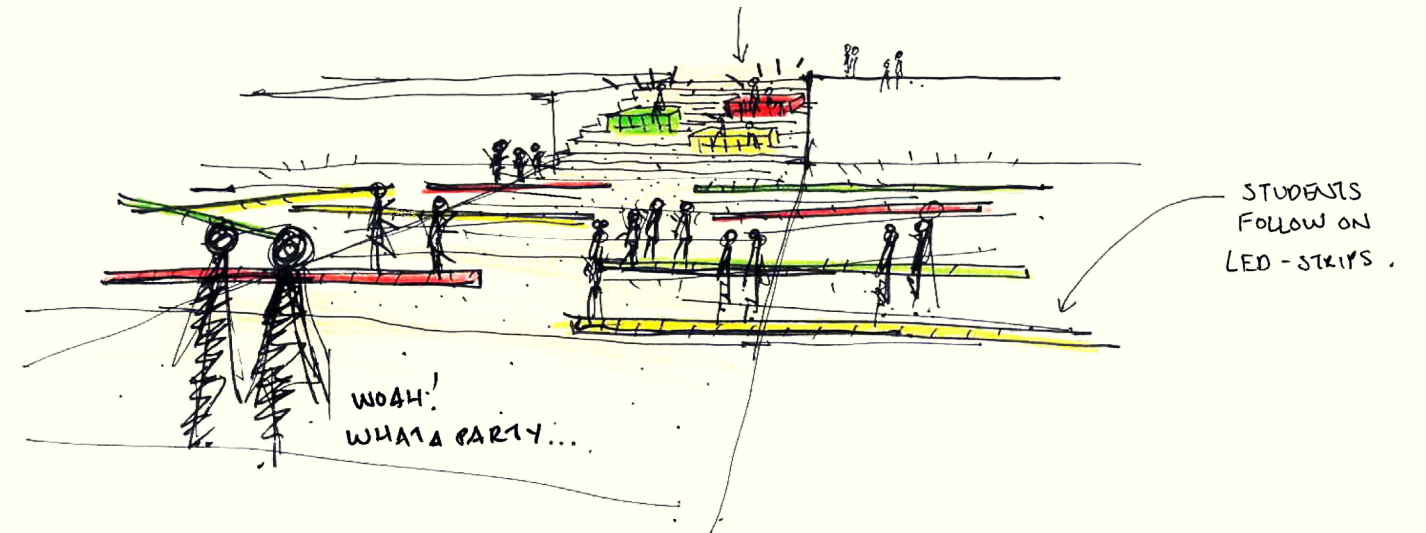
- Native garden
- Rain garden
- Feature hedging
- Street tree - *Tristaniopsis laurina* (Water gum)
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- Planter tree - *Banksia integrifolia* (Coast Banksia)
- Art tree - *Eucalyptus tereticornis* (Red Gum)

*note: for species details refer to APPENDIX B 'plant list cumberland plains'

*note: there are no existing trees on site

6.3. Level 2: primary / arcs & lanes

The spaces for year 3 and 4 are characterised as “foundations”, in which curiosity and inquiry play a central role. Things open up, or separate, so that there are interior spaces to explore, to hide in, to tell secrets in. Things start to make more sense and order starts to form in the chaos. Spatially this is translated into an ordered and mathematical basis for deployment of large scale elements (seating, play elements, calligraphy). For this age group numbers and letters that are bigger than kids will be provided. Within the larger spaces, smaller spaces are created; the inhabitable hedges.



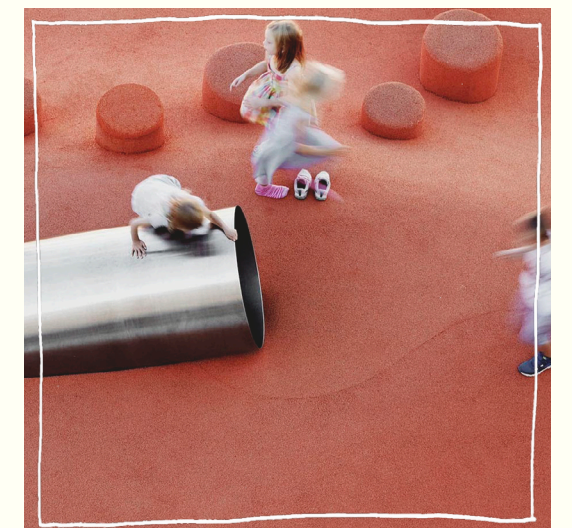
Pods: Window boxes-inhabitable hedges



Planted seating: Urban Calligraphy



Ordered Seating: Small spaces-intimate encounters



Found objects: playable furniture