

# Welcome

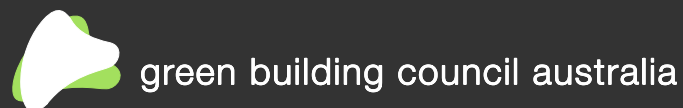
TO MEET THE STARS

## GREEN BUILDING- EDUCATION REVOLUTION

Hosted by

Adam Beck

QLD/NT State Manager & Green Star  
Communities Project Leader



# Today's Speakers



## KEYNOTES

**John Hooper- BROAD Construction**

**Richard Kirk- Richard Kirk Architects**

## PANEL

**Gary Rasmussen- Queensland University of  
Technology**

**Prof George Earl- Bond University**

# SEQ PPP Schools Project

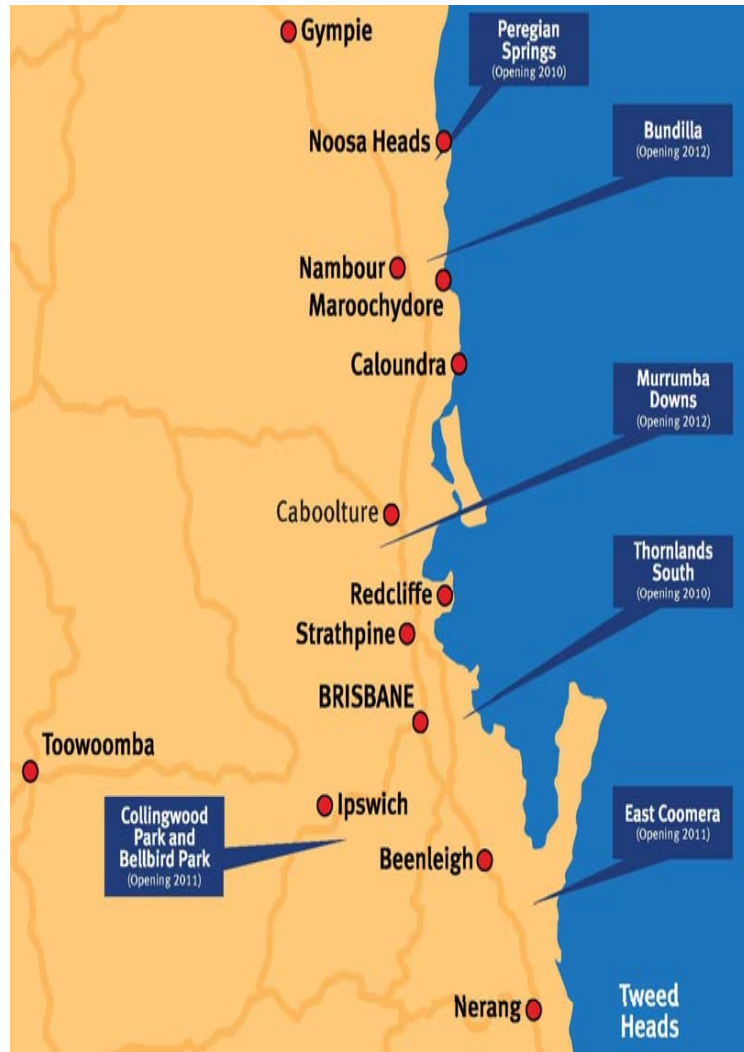
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- SEQ Schools Public Private Partnership
- Brief
- Green Star Education V1 2008 Targets
- Project Management
- Progress
- Future



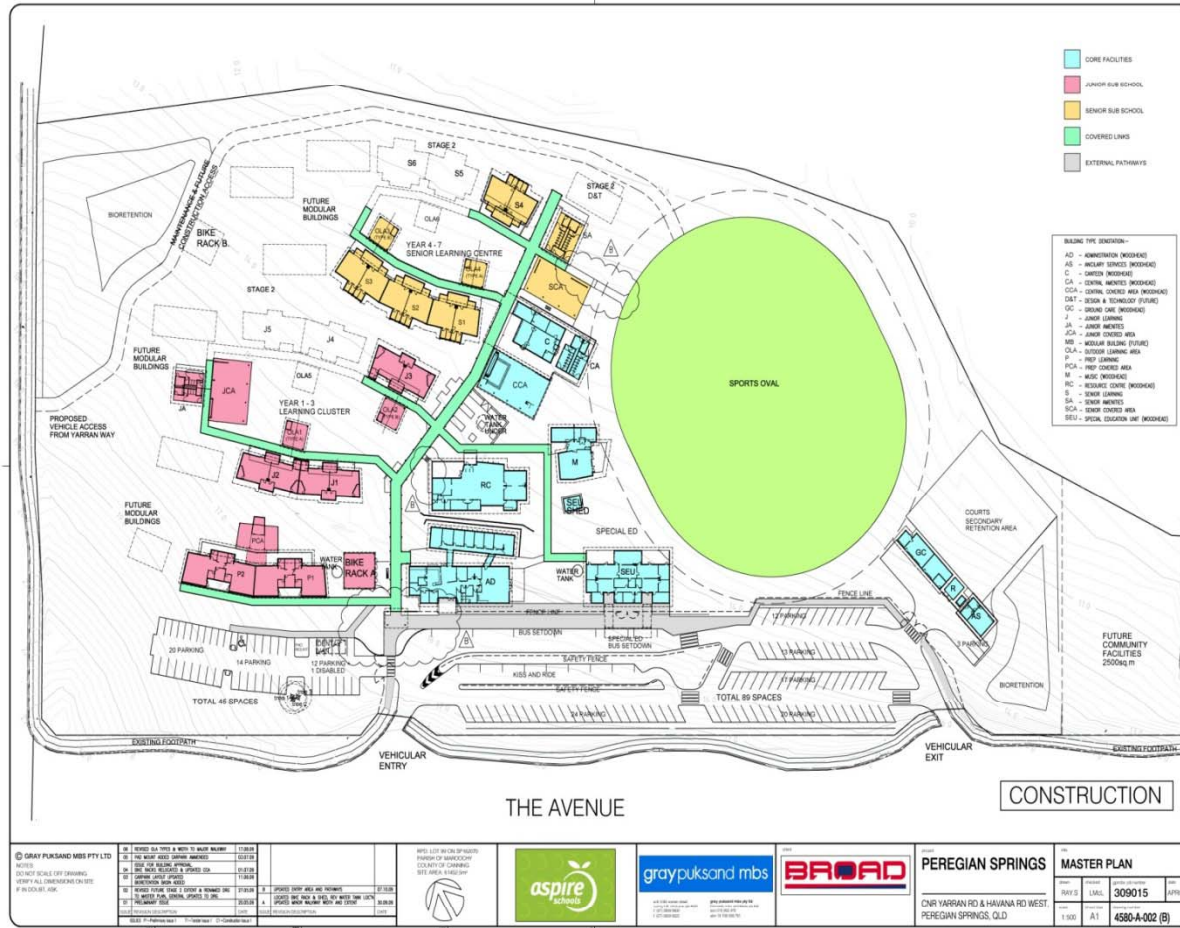
# Location and Timescale



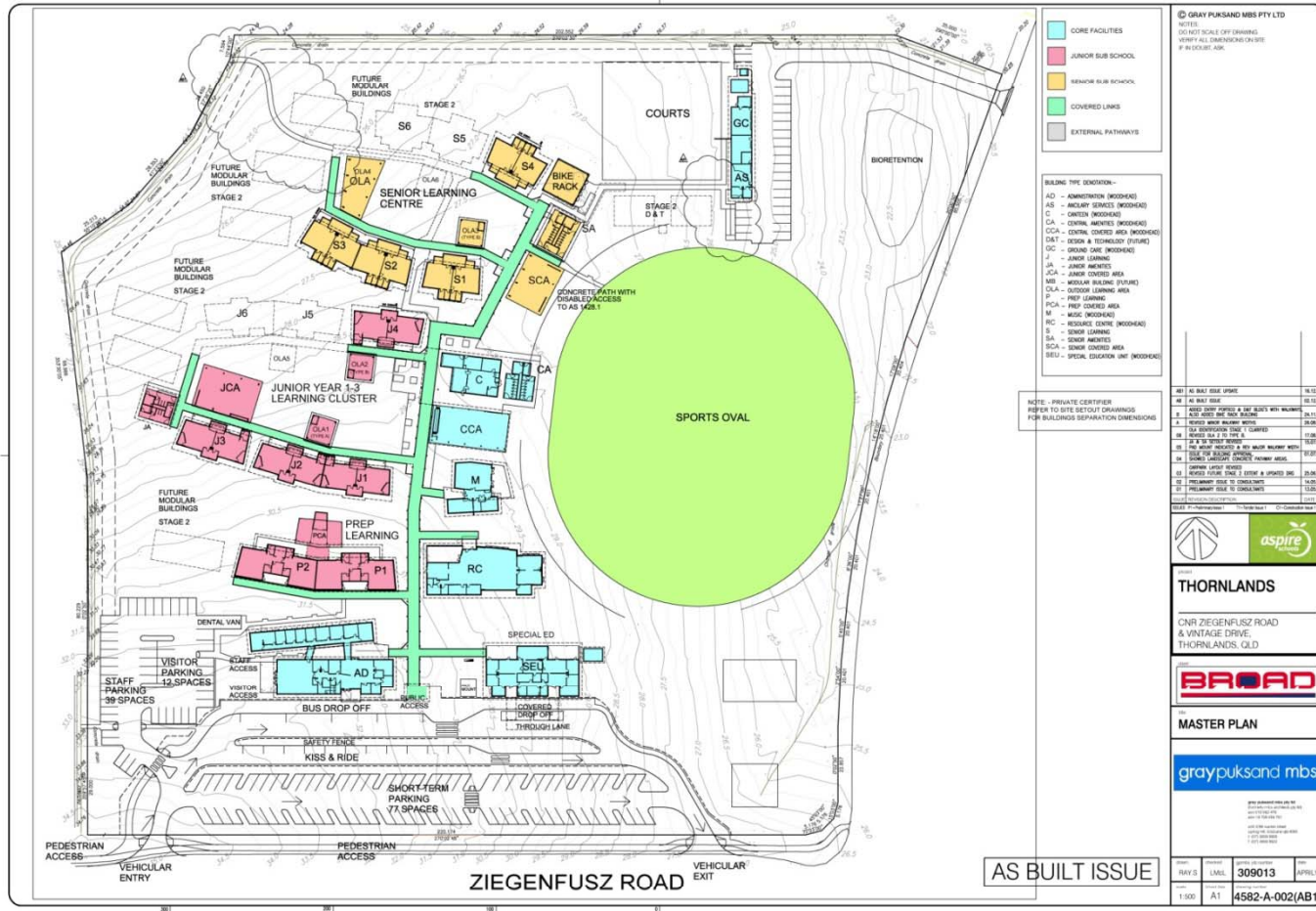
School Facilities	Local Council / Lot Number	Date for Practical Completion Stage 1A	Date for Practical Completion Stage 1B	Date for Practical Completion Stage 2
Peregrin Springs P-7 Primary School	Sunshine Coast Regional Council / Lot 99 on SP162070	16 <sup>th</sup> November 2009	15 <sup>th</sup> January 2010	1 <sup>st</sup> January 2012
Thornlands South P-7 Primary School	Redlands City Council / Lot148 on SL12849	18 <sup>th</sup> November 2009	15 <sup>th</sup> January 2010	1 <sup>st</sup> January 2012
Collingwood Park P-7 Primary School	Ipswich City Council / Portion of Lot 998 on Plan SP170613	31 <sup>st</sup> October 2010	1 <sup>st</sup> January 2011	1 <sup>st</sup> January 2013
East Coomera P-7 Primary School	Gold Coast City Council (Division 2) / Lots 139 & 140 on RP170747	31 <sup>st</sup> October 2010	1 <sup>st</sup> January 2011	1 <sup>st</sup> January 2013
Murrumba Downs 7-12 High School	Moreton Bay Regional Council / Portion of Lot 1 on SP113276 and Lot 941 on CP837977	31 <sup>st</sup> October 2011	1 <sup>st</sup> January 2012	1 <sup>st</sup> January 2014
Peregrin Springs P-7 Primary School	Sunshine Coast Regional Council / Lot 99 on SP162070	16 <sup>th</sup> November 2009	15 <sup>th</sup> January 2010	1 <sup>st</sup> January 2012
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# Peregian Springs State School



# Bayview State School



# SEQ Schools Design Team Principal Consultants

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- **GSAP** Floth Sustainable Building Consultants
- **Architects** GrayPuksand MBS  
PDT  
Woodhead
- **Civil Engineer** Bornhorst and Ward
- **Structural Engineer** Opus
- **Services Engineer** Floth Sustainable Building Consultants
- **Landscape Architect** RPS



# ESD Objectives and Green Star Targets

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- **Guiding Principles**
  - Passive Design
  - Minimal Artificial Lighting
  - Localised Hot Water Storage
  - Water Conservation
  - Sustainable Materials, Equipment and Construction
  - Natural Ventilation
- **Green Star Category targets**
  - Management 14/14
  - IEQ 10/25
  - Energy 15/28
  - Transport 5/13
  - Water 9/11
  - Materials 5/21
  - Land Use and Ecology 1/8
  - Emissions 6/14
- Overall Weighted Score 54.05  
Green Star 4 Star






# Submission Checklist

GEORGE FLOTH PTY. LIMITED									
Thornland - Green Star Submission Check List									
Issue 2 17th April 2009									
Title	Credit No.	Points Available	Points Achieved	Documentation	Responsibility	Draft	Final	Comments	
Green Star Accredited Professional	Man-1	2	2	Copy of nominated GSAP accreditation certificate. Copy of GSAP's letter of appointment which lists his/her scope of works. Extract from minutes of meetings List of project meetings attended by GSAP	GF Broad GF/Broad GF/Broad				
Commissioning Clauses	Man-2	2	2	Extract from Mechanical Specification that describes the project's commissioning processes required. Extract from Electrical Specification that describes the project's commissioning processes required. Extract from Hydraulic Specification that describes the project's commissioning processes required. Most recent issue & transmittal of the project time-line with the commissioning period included in the time line. Signed statement from the building owner committing to the incorporation of the commissioning requirements. Copy of document to be provided by design team to building owner describing the design intent of the building. Extract from main bldg contract which lists contractor's requirements wrt. as-installed drawings, commissioning report & training.	GF GF GF Broad Aspire/Broad GF Broad				
Building Tuning	Man-3	1	1	Extract from Mechanical Specification where the requirement for a minimum 12 month commissioning process is described. Extract from Electrical Specification where the requirement for a minimum 12 month commissioning process is described. Extract from Hydraulic Specification where the requirement for a minimum 12 month commissioning process is described. Most recent issue and transmittal of the project time-line with the commissioning period included in the time line. Signed statement from the building owner committing to the incorporation of the building tuning requirements.	GF GF GF Broad Aspire/Broad				
Independent Commissioning Agent	Man-4	1	1	Written commitment from building owner to appoint a commissioning agent listing the responsibilities of the agent- CV of agent OR CV of the in-house facilities manager and role and responsibilities document.	Aspire/Broad				
Building Guides	Man-5	2	2	Copy of Building Users Guide containing the information described in Additional Guidance. Copy of contract between bldg owner & members of design team demonstrating that the BUG is included in their commission. Draft maintenance guide	GF/Broad GF/Broad GF				
Environmental Management	Man-6	2	2	Copy of the EMP demonstrating compliance with Section 4 of the NSW Environmental Management System guidelines (1998) Copy of Broad construction Pty Ltd ISO 14001 certificate Confirmation letter from the contractor re adherence of subcontractors to ISO 14001 requirements	Broad Broad Broad				
Waste Management	Man-7	2	2	Extract from contract conditions stipulating that the contractor is required to recycle 80% of construction and demolition waste. Copy of the project specific Waste Management Plan. Extract from tender documentation requiring recycling of 80% of construction and demolition waste.	Broad Broad Broad				
Learning resources	Man-10	1	1	Short report describing three learning resource initiatives, communicating and display mechanism. Extract from Electrical Specification that describes the project's commissioning processes required. Extract from Hydraulic Specification that describes the project's commissioning processes required. Extract from Landscape Specification that describes the project's commissioning processes required. Extract of electrical drawings Extract of hydraulics drawings Extract of landscape drawings	GF/Conics GF GF Conics GF GF Conics				
Maintainability	Man-11	1	1	Short report describing how the recommendations in the design review report have been considered in the building design. Letter of appointment from building owner confirming appointment of independent facilities manager to perform a design review Letter from facilities manager demonstrating previous experience in maintenance of building services, external building features and cleaning Preliminary design review report conducted at preliminary design stage.	GF Aspire/Broad FF&E				
<b>Total</b>		<b>14</b>	<b>14</b>						
Ventilation Rates	IEQ-1	3	0	Minimum outside air interpretation from AS 1668 2-1991 Extract from Mechanical Specification where minimum outside-air rate of the system is stipulated. Mechanical design drawings for the building showing the minimum outside supply air to each space.					Credit Not targeted. No documentation required.
Air Change Effectiveness	IEQ-2	2	0	Drawings and schedule of areas that nominate type of ventilation system Mechanical design drawings showing each typical system modelled Report including CFD analysis and modeling results for each typical space					Credit Not targeted. No documentation required.
Carbon Dioxide Monitoring and Control	IEQ-3	1	0	Extract from Mechanical Specification describing operation of the CO <sub>2</sub> monitoring and control system. Extract from Mechanical Specification specifying minimum outside air rate. Short report describing the mechanical ventilation system and details of how the Credit Criteria are achieved. Table describing design minimum (IEQ-1) outside air rate and CO <sub>2</sub> maximum outside air rates. Schematics showing location of CO <sub>2</sub> sensors for the air handling plant. Typical floor layouts showing CO <sub>2</sub> sensor locations.					Credit Not targeted. No documentation required.

# Submission Checklist

<b>BROAD</b>	SEQ PPP ASPIRE SCHOOLS PROJECTS <small>VOC Monthly Report</small>			
<b>Broad Construction Services Phone No:</b> (07) 3514 6137 <span style="float: right;"><b>Month</b> <b>Year</b></span>				
<b>Company Name:</b>				
<b>Project:</b>				
<b>Address:</b>				
<b>Phone:</b>				
<b>Facsimile:</b>				
<b>Email:</b>				
Will your works require the use of adhesives, sealants, paints or floor coverings? <span style="float: right;">Yes/No (Please Circle)</span> Products that are not low VOC will not be permitted to be used on site during the contract? If Yes please fill out the schedule below, attach VOC Datasheets and Supplier Delivery Dockets (if less than a tonne use 0.1 for 100kg, 0.2 for 200kg etc. and 0.01 for 10kg, 0.02 for 20kg, etc.) VOC Content: g/L				
<b>Manufacturer</b>	<b>Product Name</b>	<b>Type of Product e.g. Paint, Adhesive, Carpet, Sealant Etc.</b>	<b>Qty Used L/m2</b>	<b>VOC Content g/L</b>
<b>Contractors Sign Off:</b>				
<b>Person Responsible:</b>				
<b>Signature:</b>				
<b>Date:</b>				
<b>Notes:</b>				
The Sub-contractor is aware that these records are to detail only quantities used in this project. The Sub-contractor is aware that these records will form part of the Green Star submission and any misleading information will be the responsibility of the above signed. VOC Data Sheets from the supplier must be attached for each product and signed by the Sub-contractor. Copies of Delivery Dockets must be attached.				





GREEN BUILDING COUNCIL OF AUSTRALIA  
Green Building Education Revolution – Thursday, 24 June  
2010

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WILSTON RESIDENCE

RICHARDKIRK ARCHITECT



RICHARDKIRK ARCHITECT

WILSTON RESIDENCE





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HIGHGATE HILL HOUSE





RICHARDKIRK ARCHITECT

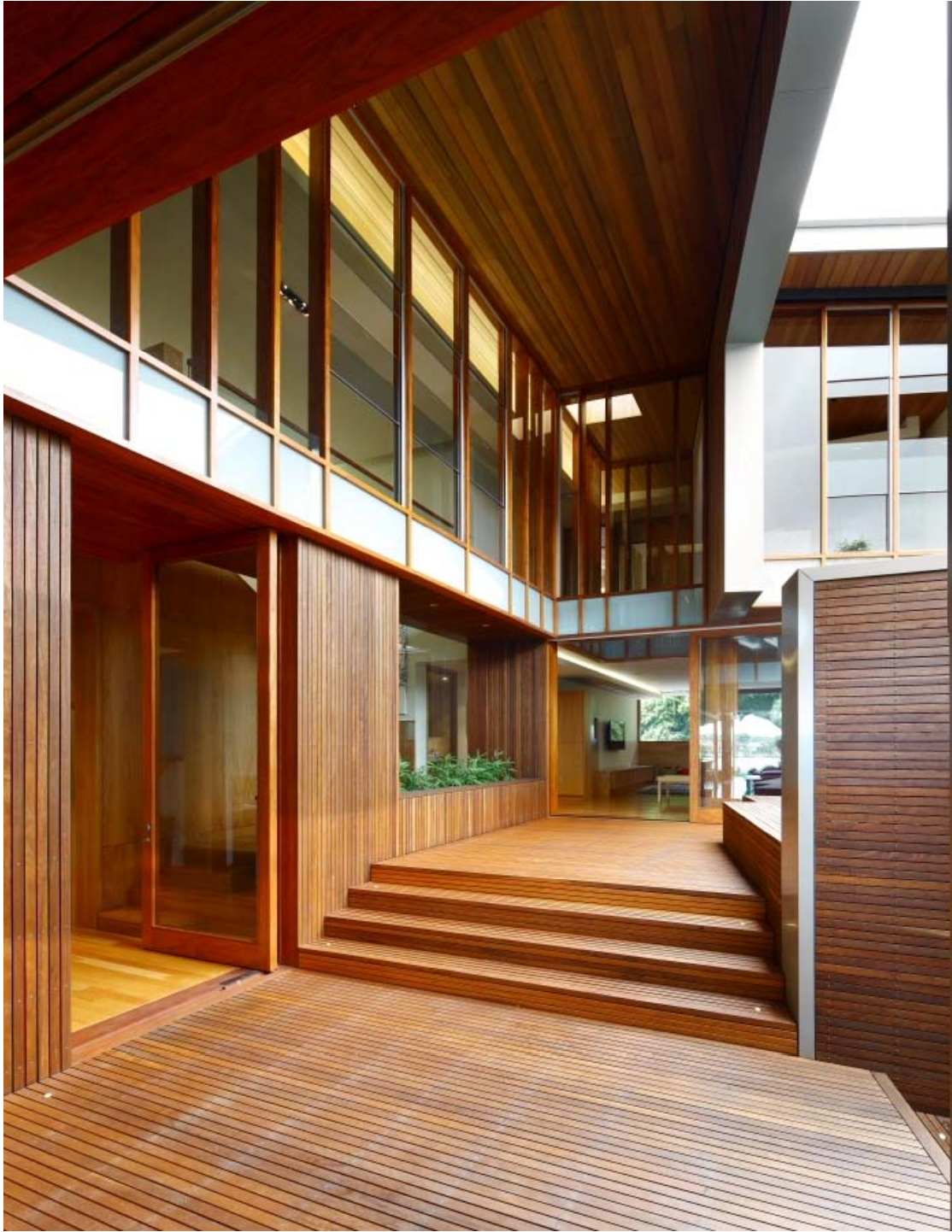
ARBOUR HOUSE





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ARBOUR HOUSE



RICHARDKIRK ARCHITECT

ARBOUR HOUSE







RICHARDKIRK ARCHITECT

ARBOUR HOUSE



















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CUTTING EDGE





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CUTTING EDGE





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CUTTING EDGE





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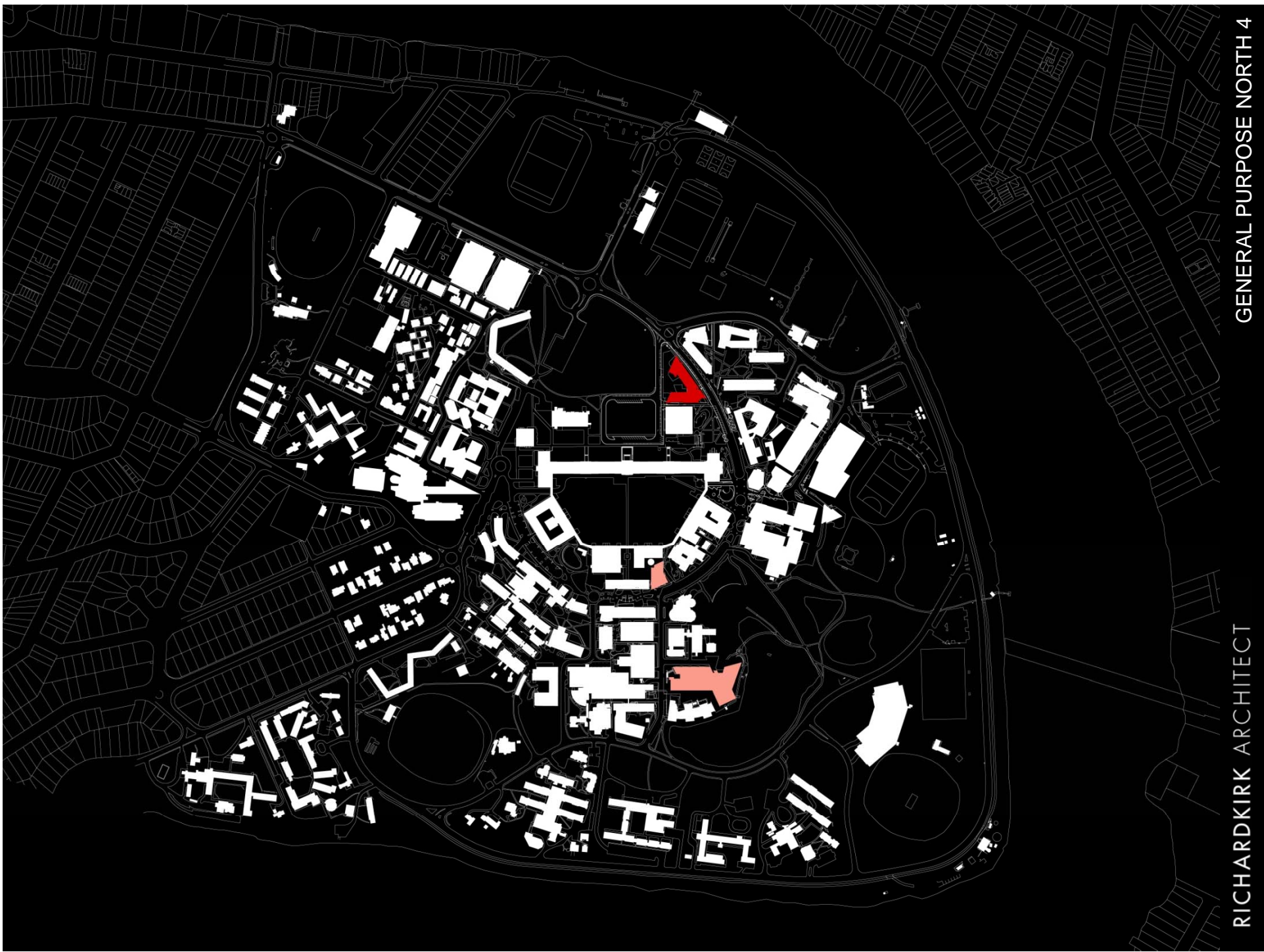
CUTTING EDGE





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CUTTING EDGE







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GENERAL PURPOSE NORTH 4



RICHARDKIRK ARCHITECT

GENERAL PURPOSE NORTH 4





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GENERAL PURPOSE NORTH 4

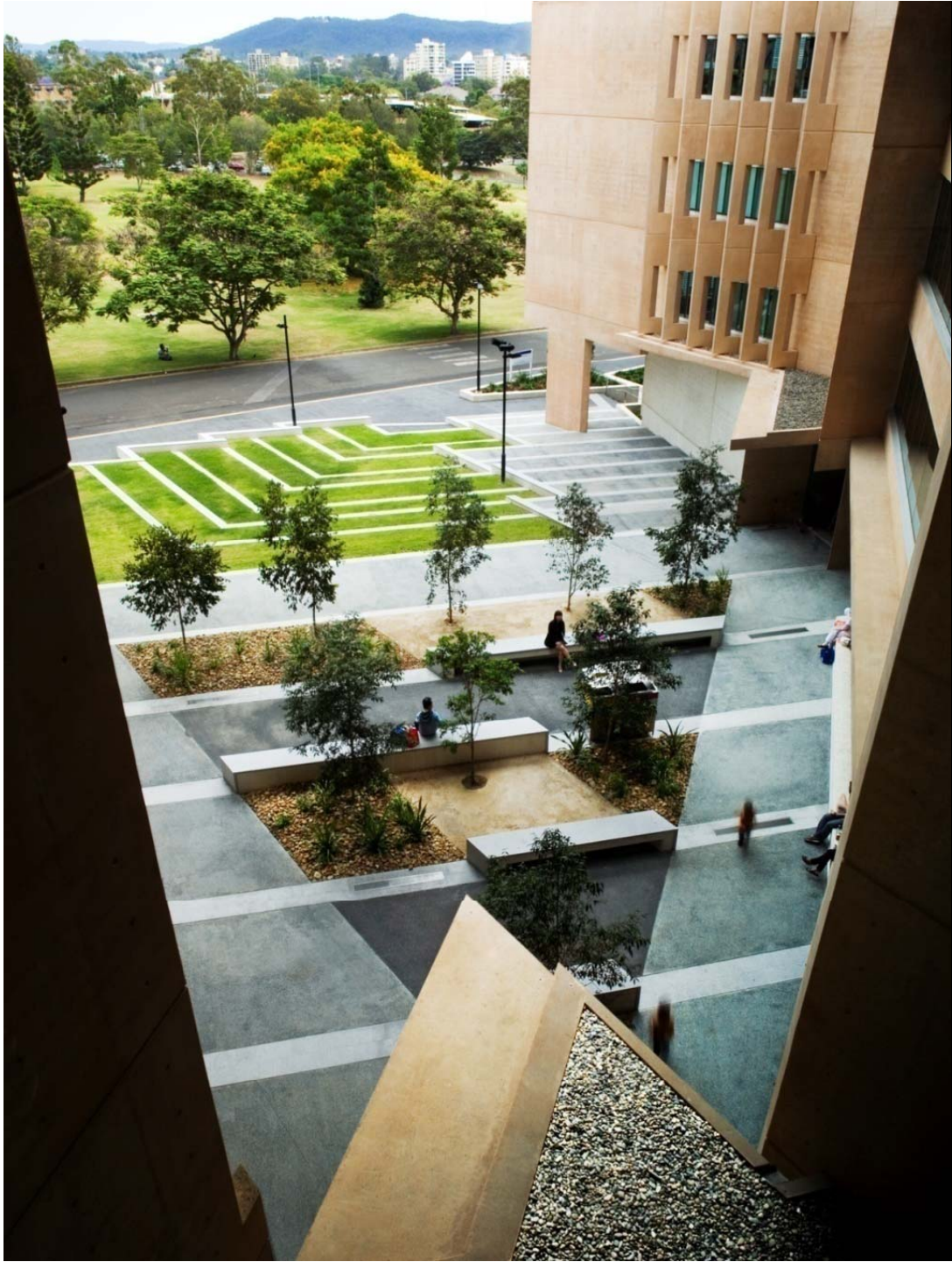




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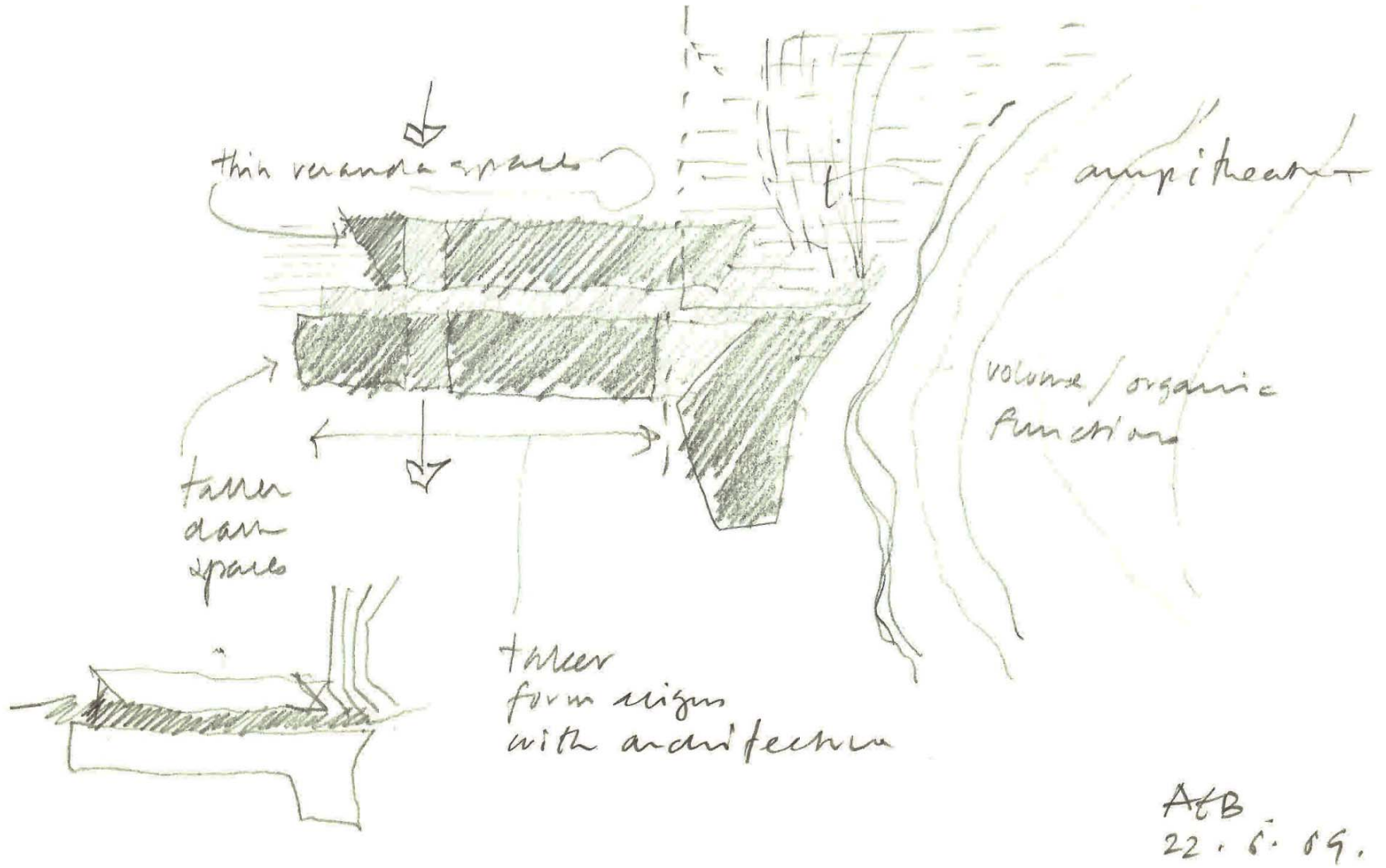
GENERAL PURPOSE NORTH 4















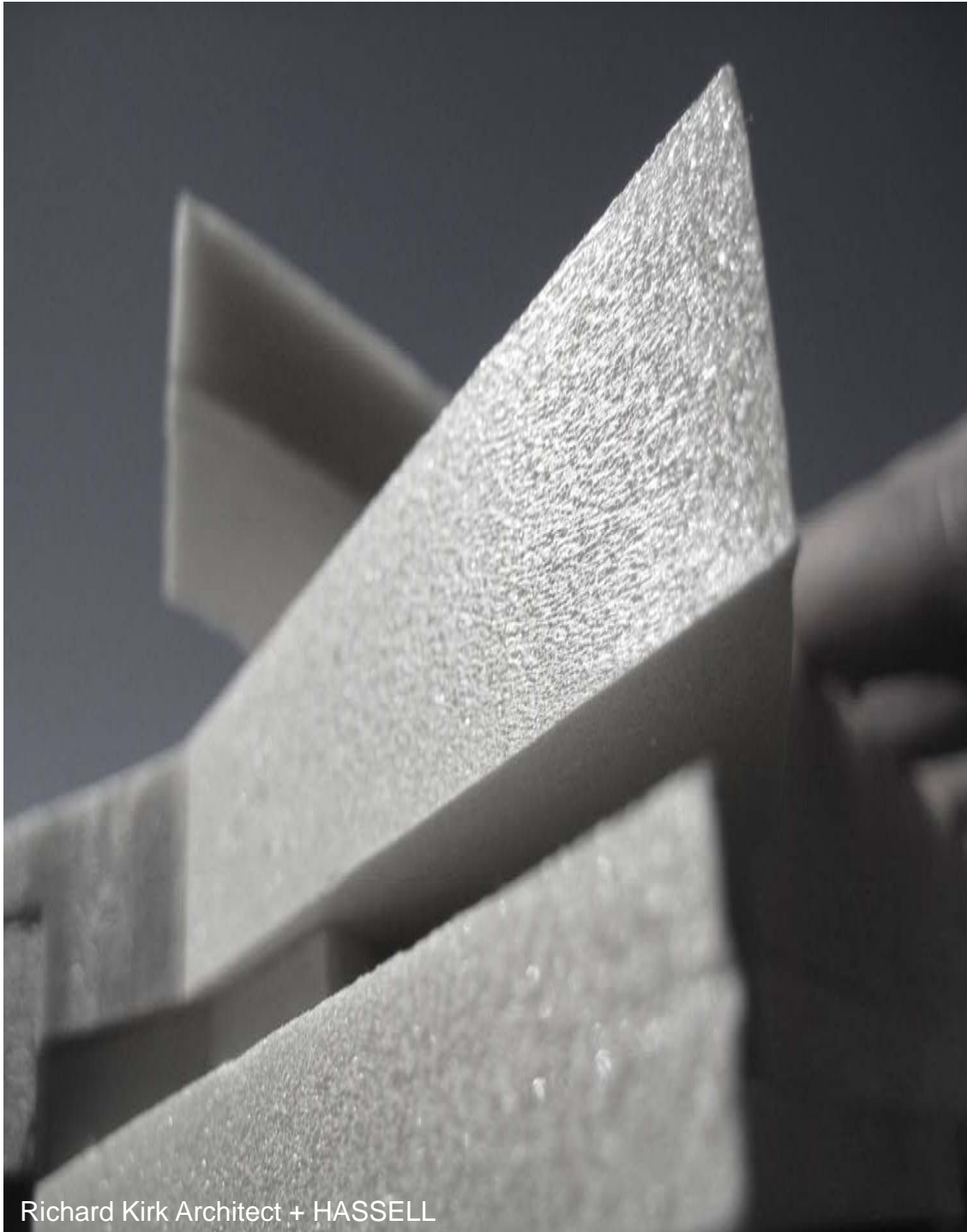




Richard Kirk Architect + HASSELL

\_\_transparency of function





Richard Kirk Architect + HASSELL

\_\_expression of form

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integration of place

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Richard Kirk Architect + HASSELL

\_\_passive nature



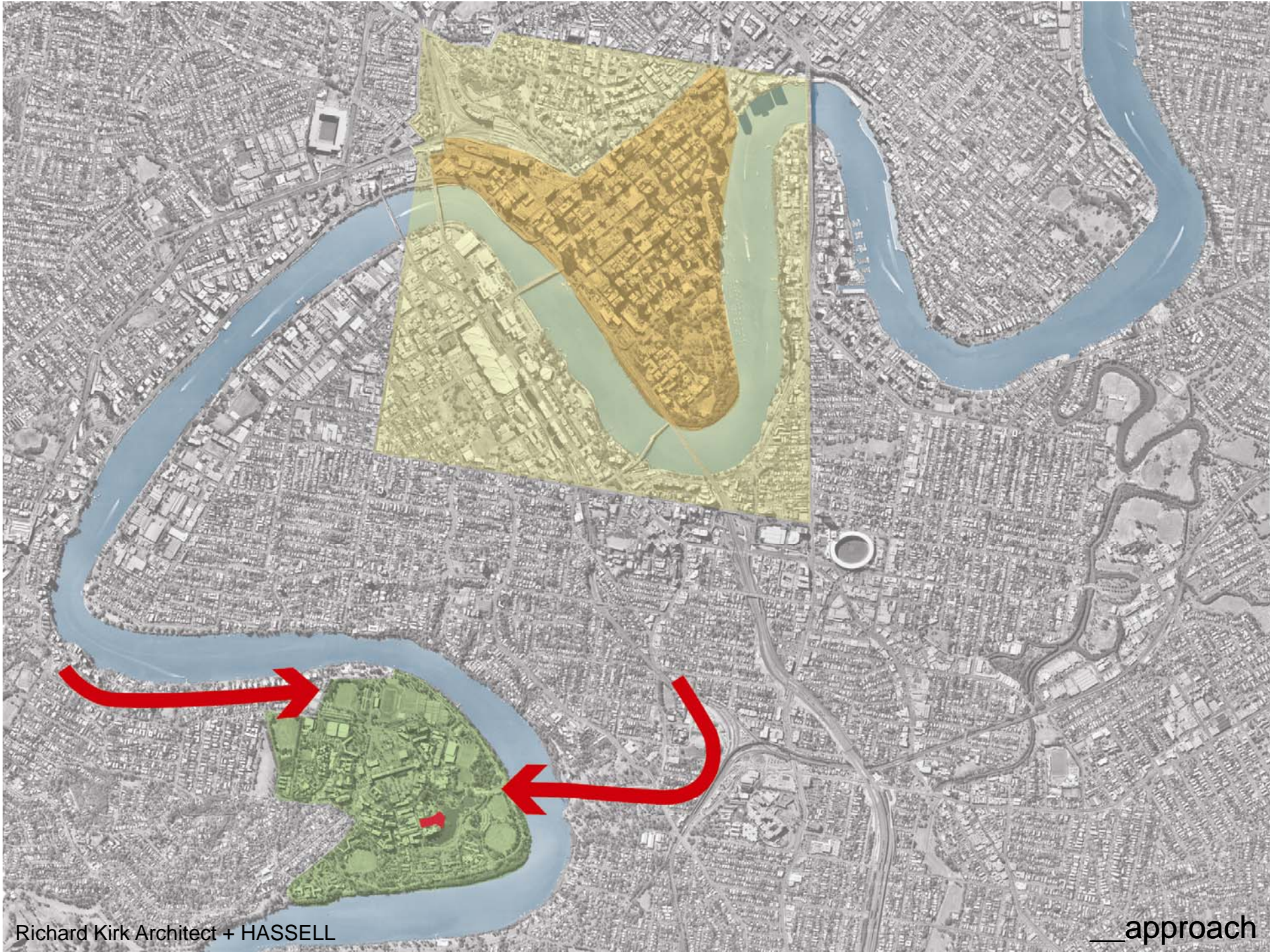


Richard Kirk Architect + HASSELL

\_\_social community

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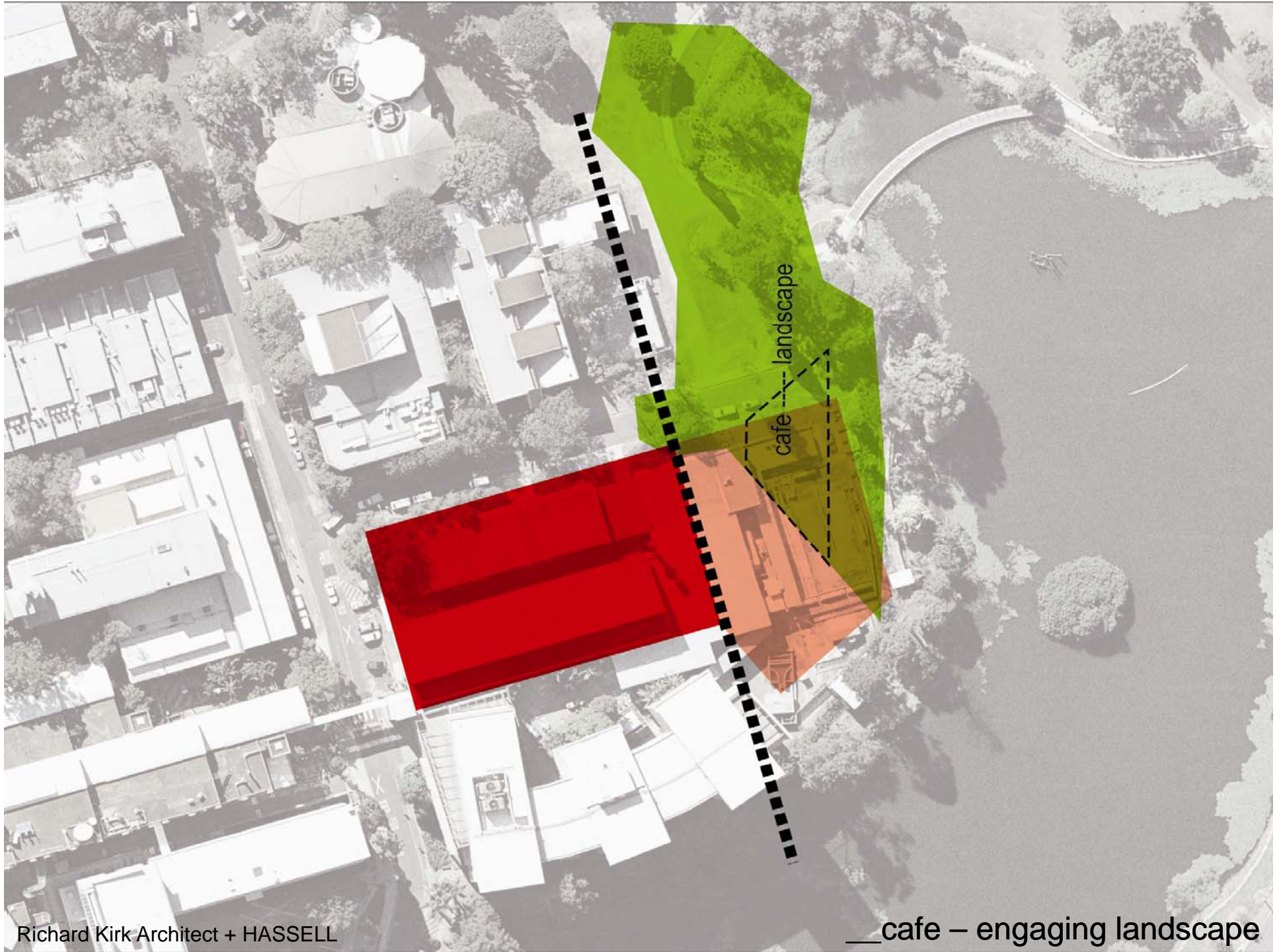
buried green / rock base

low organic floating object

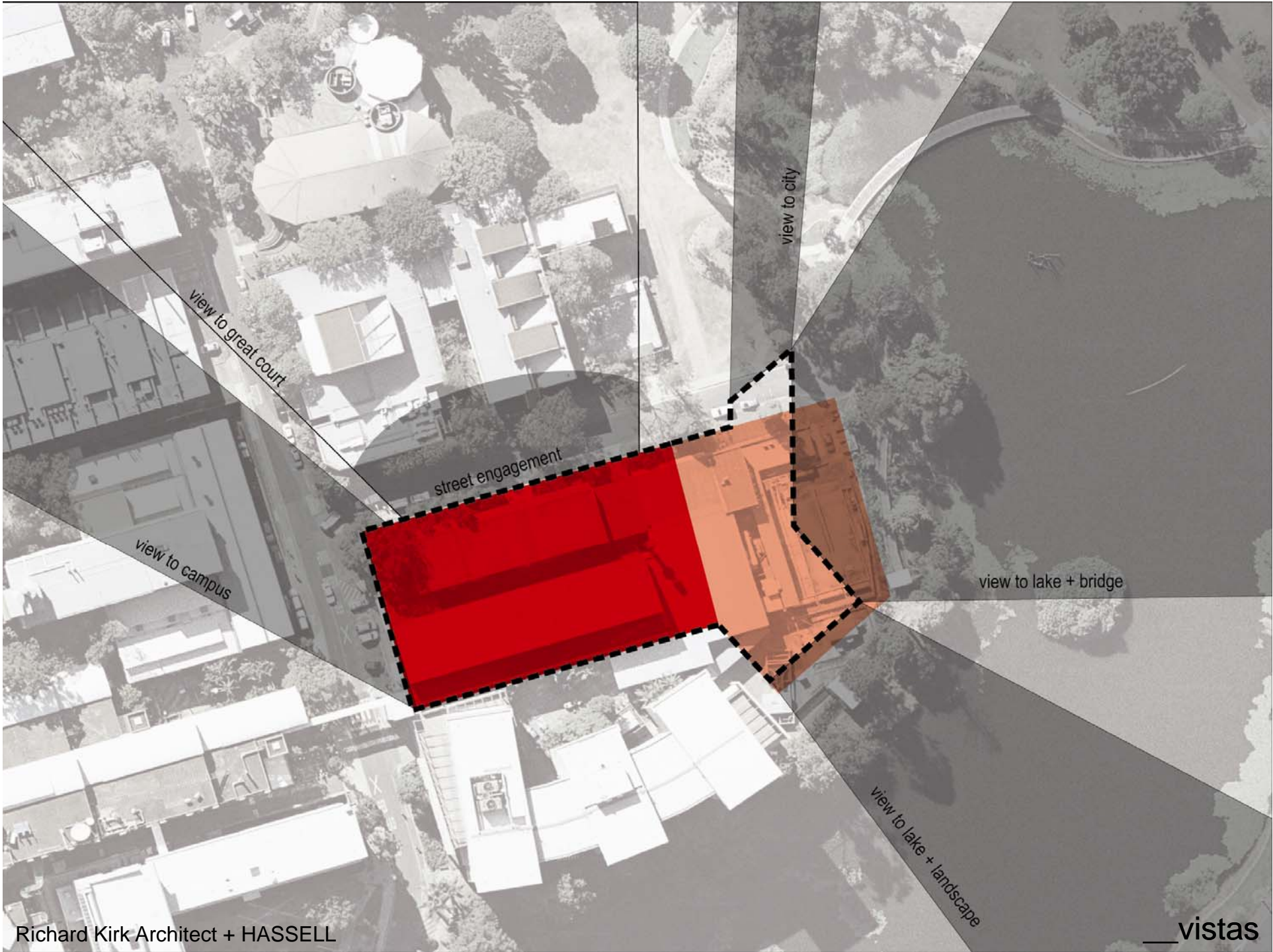
urban / higher orthogonal

\_\_urban + landscape interface

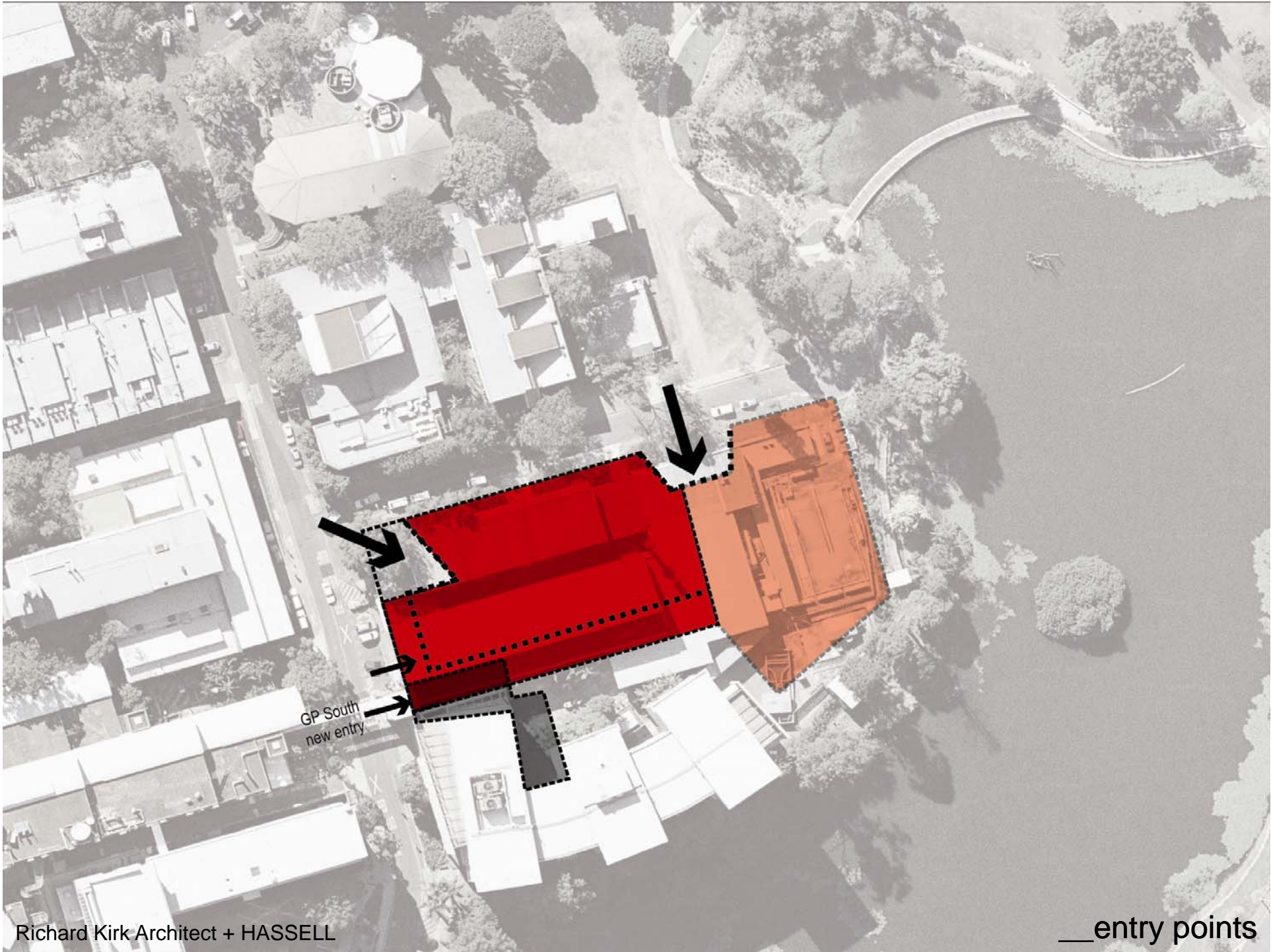




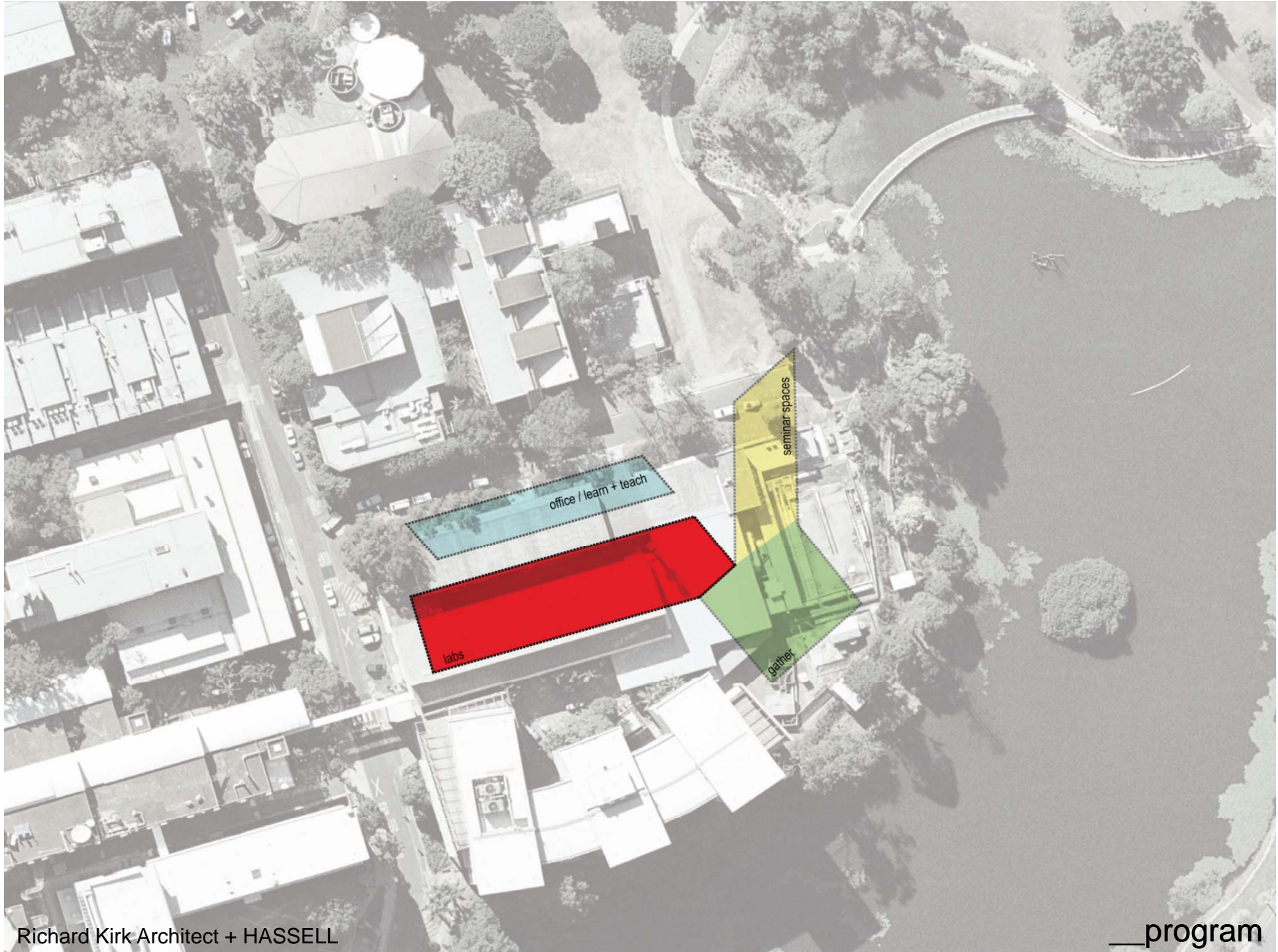






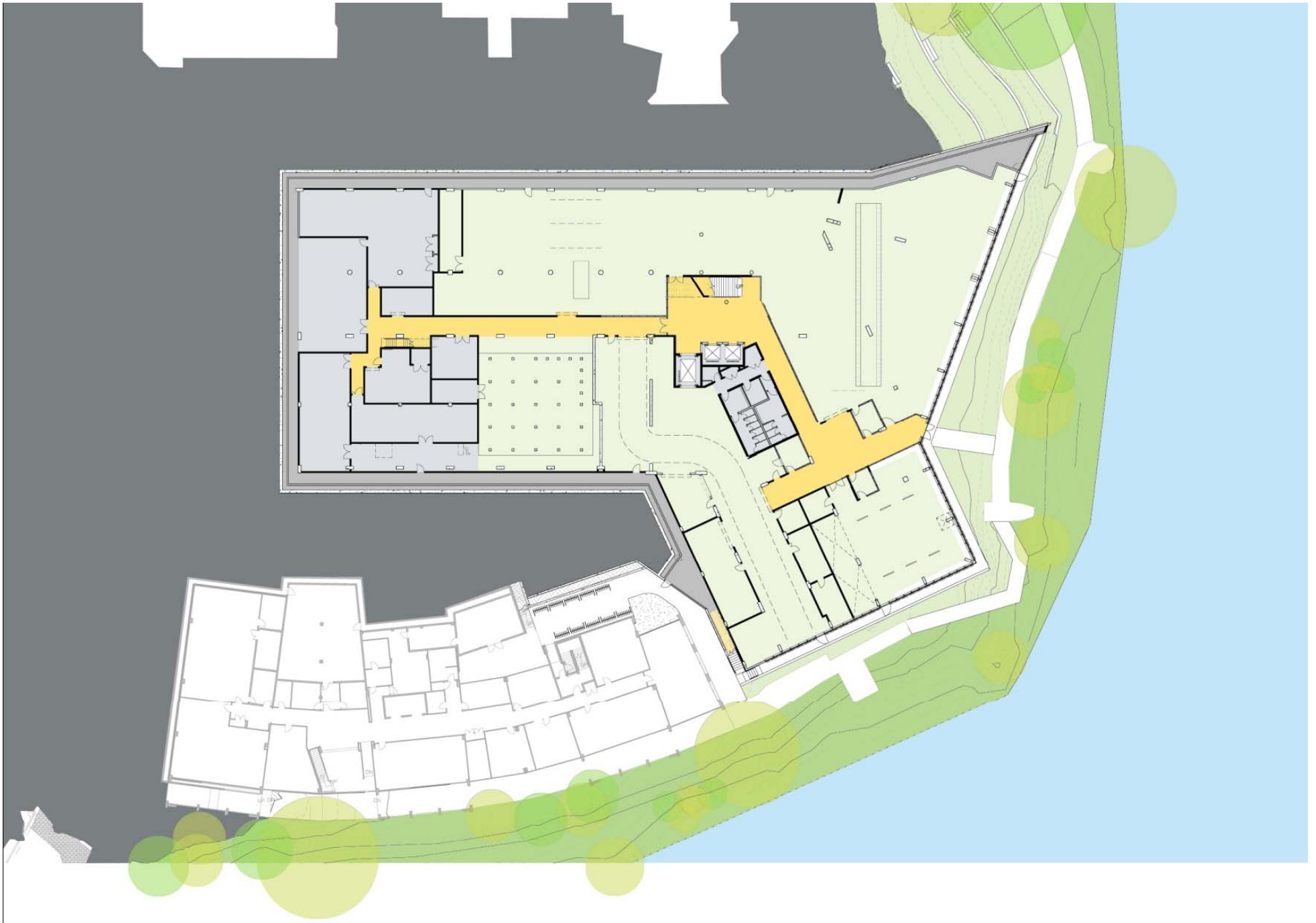




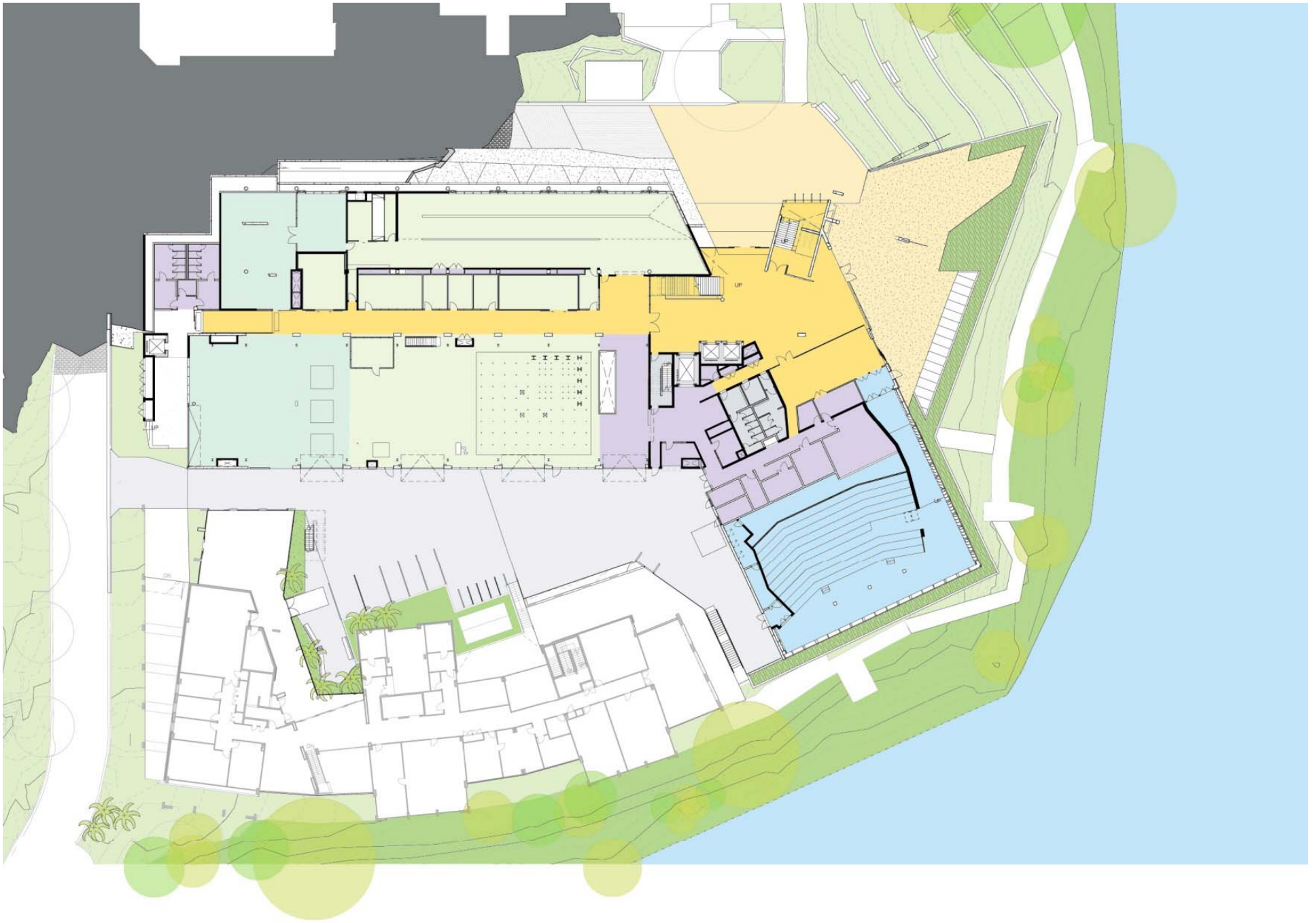


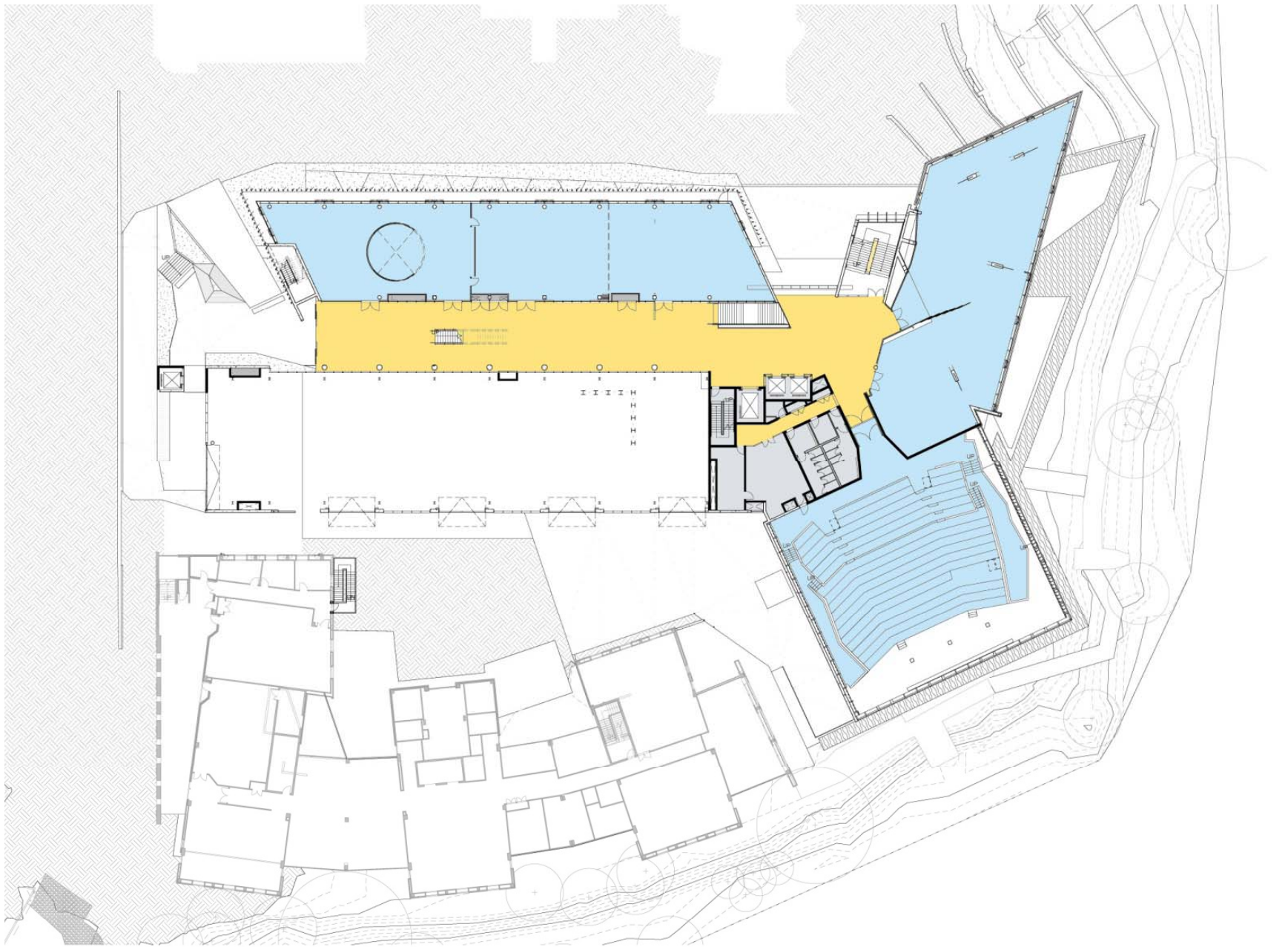




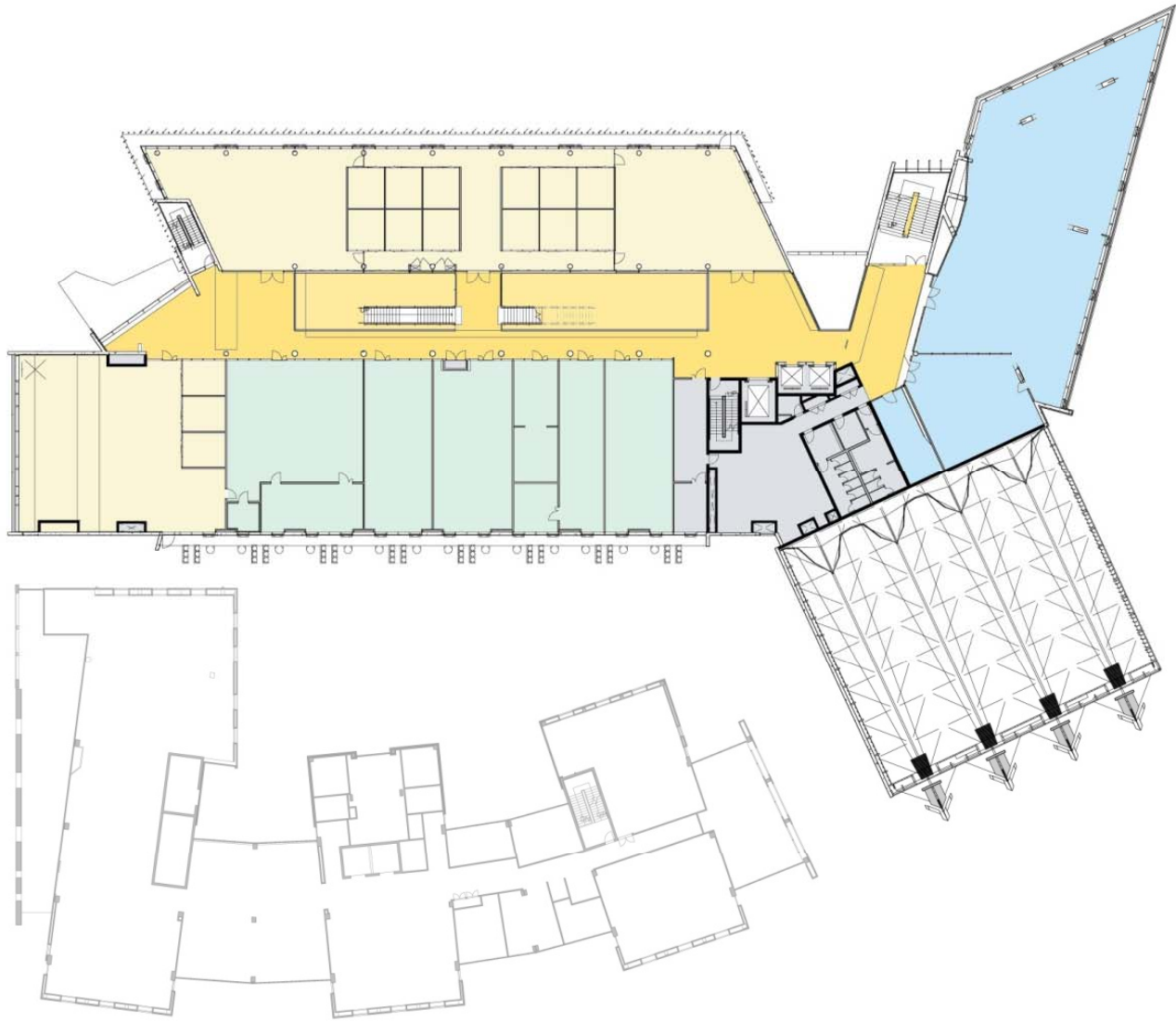


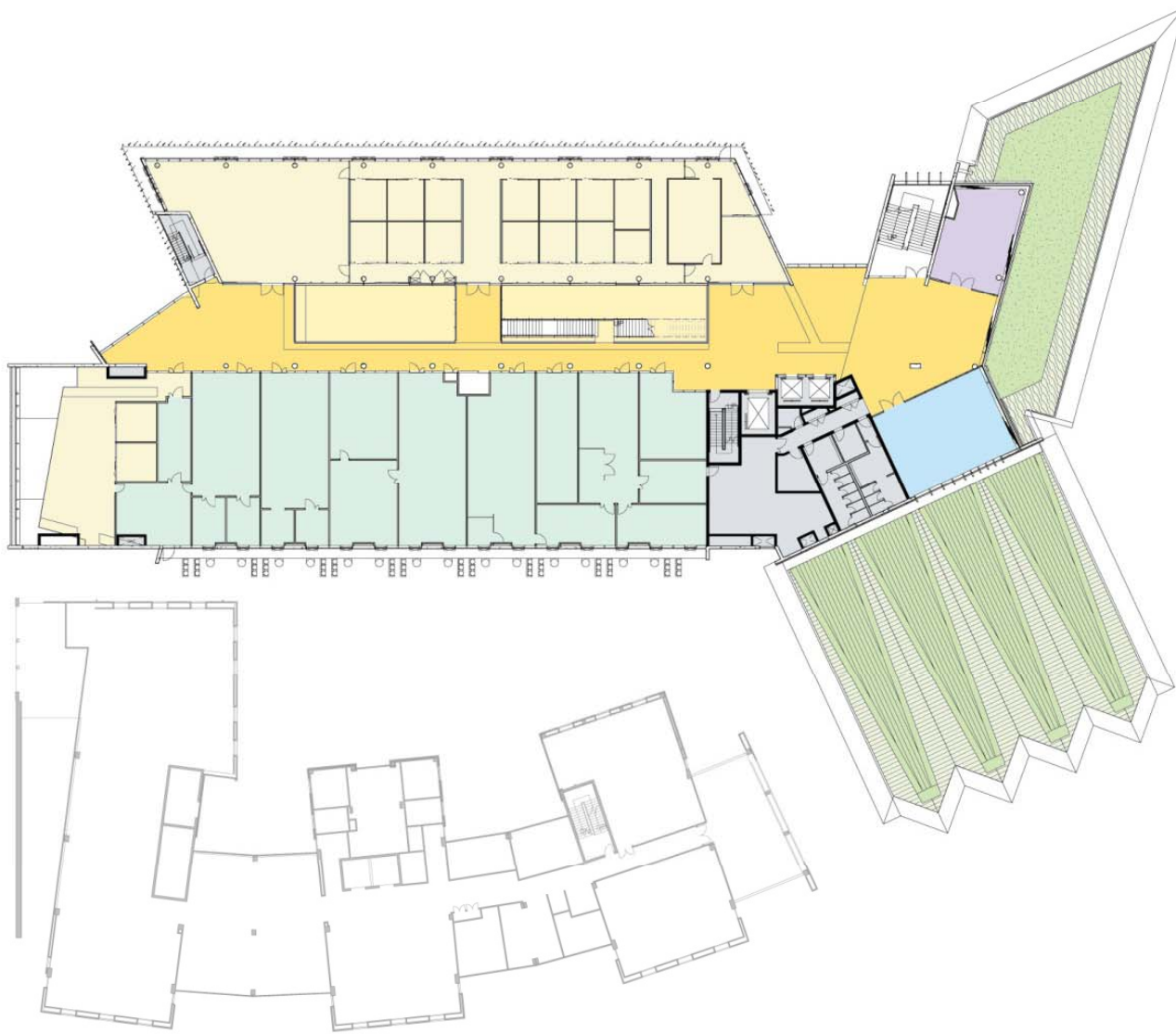




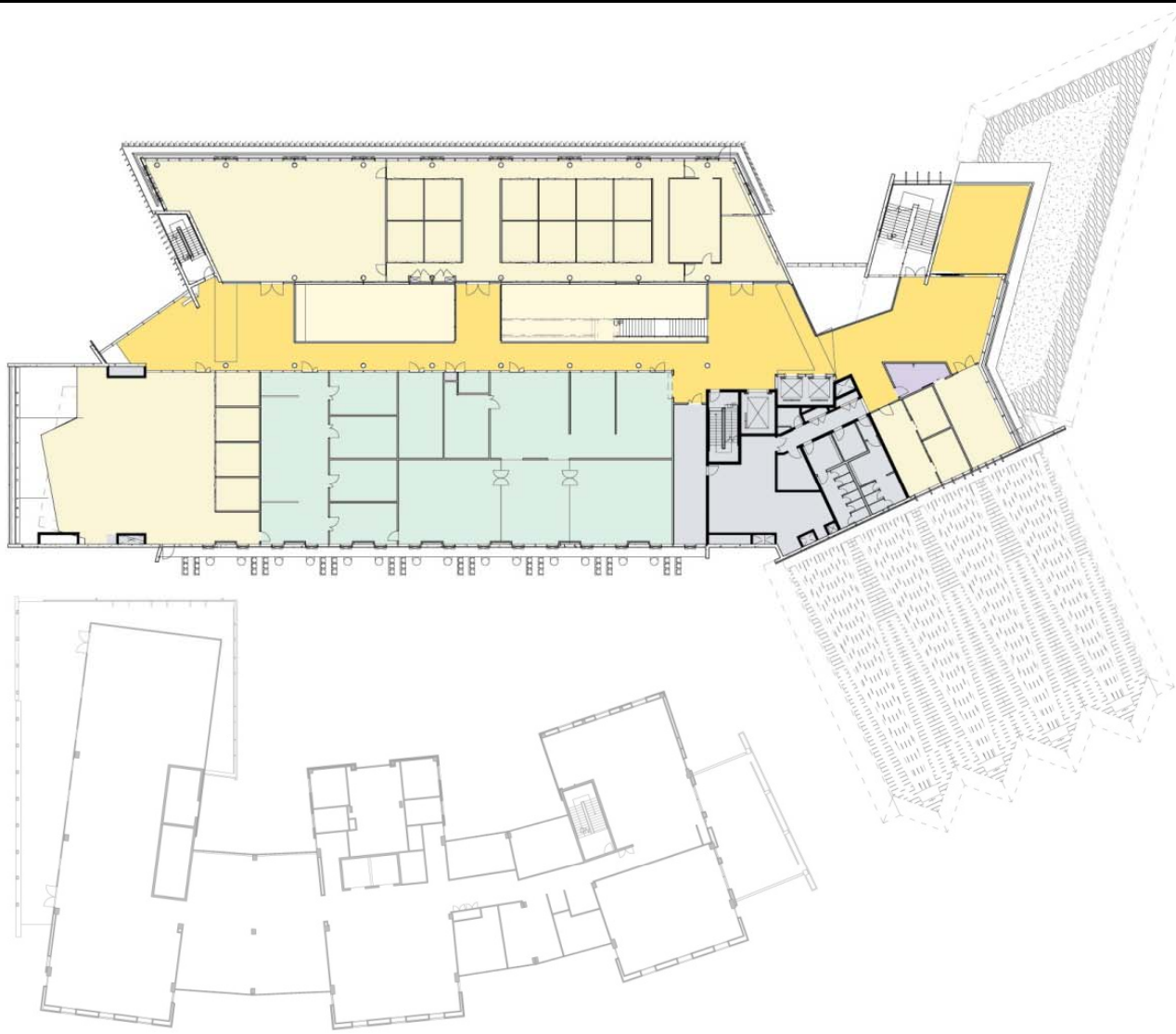






























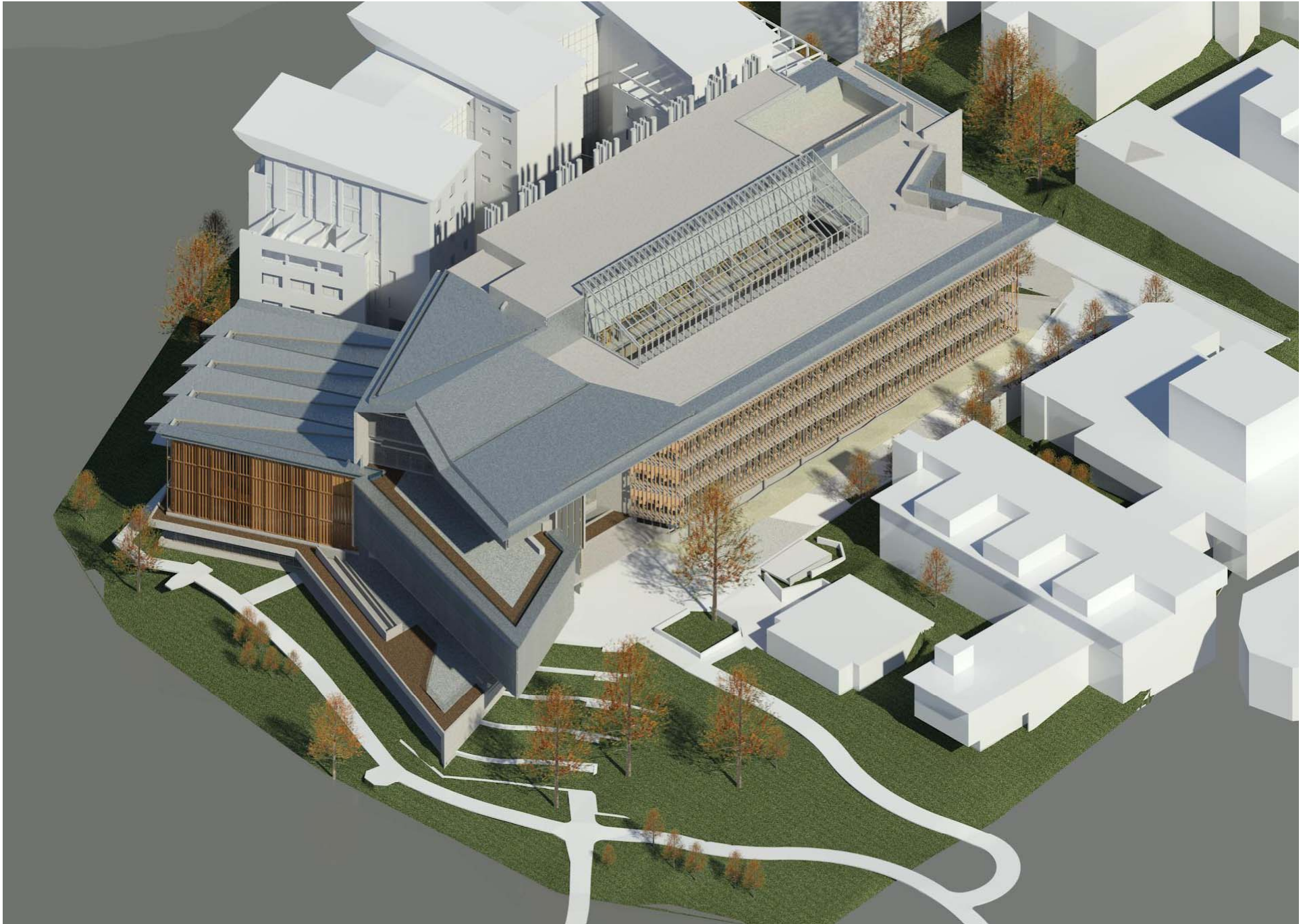




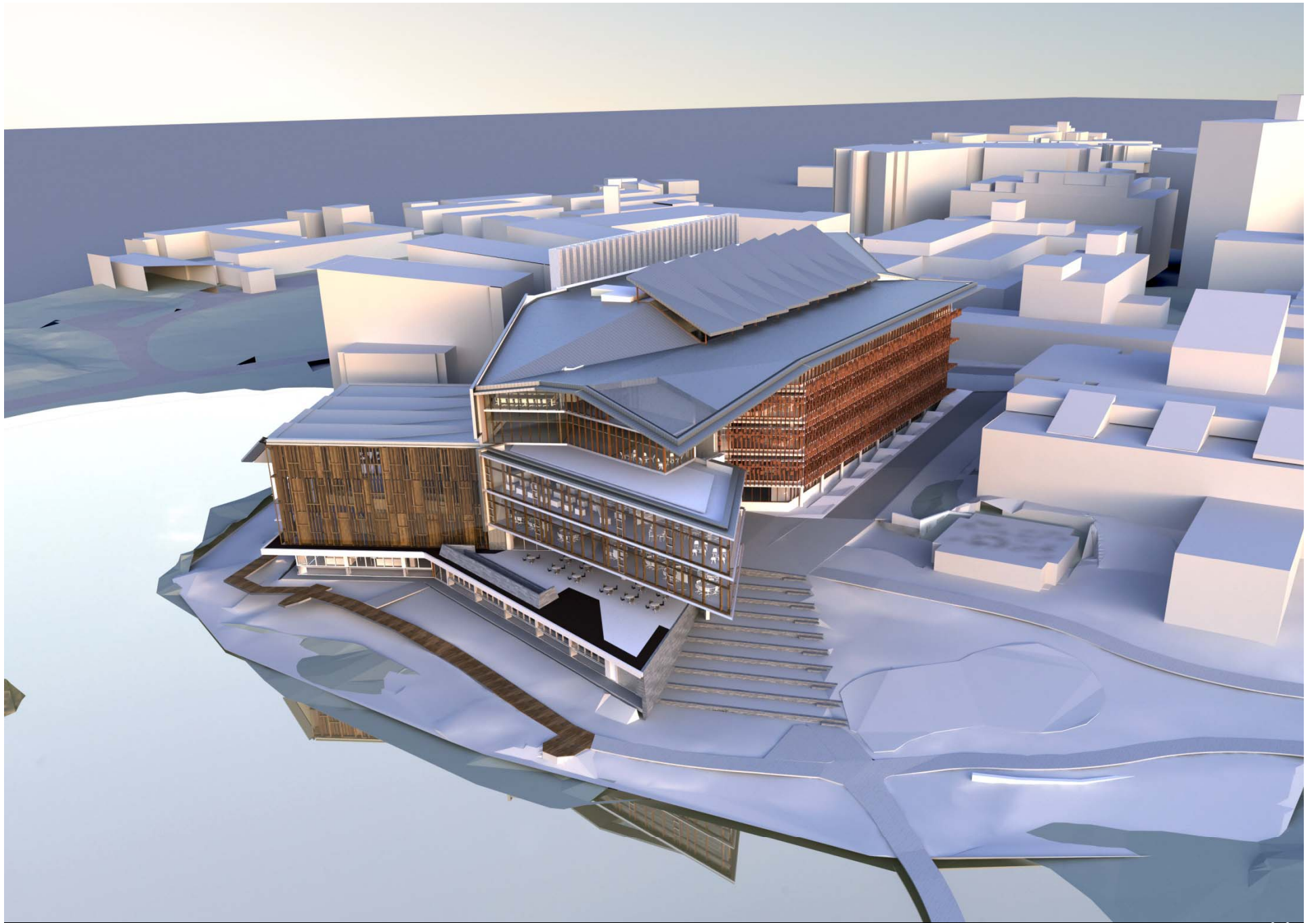






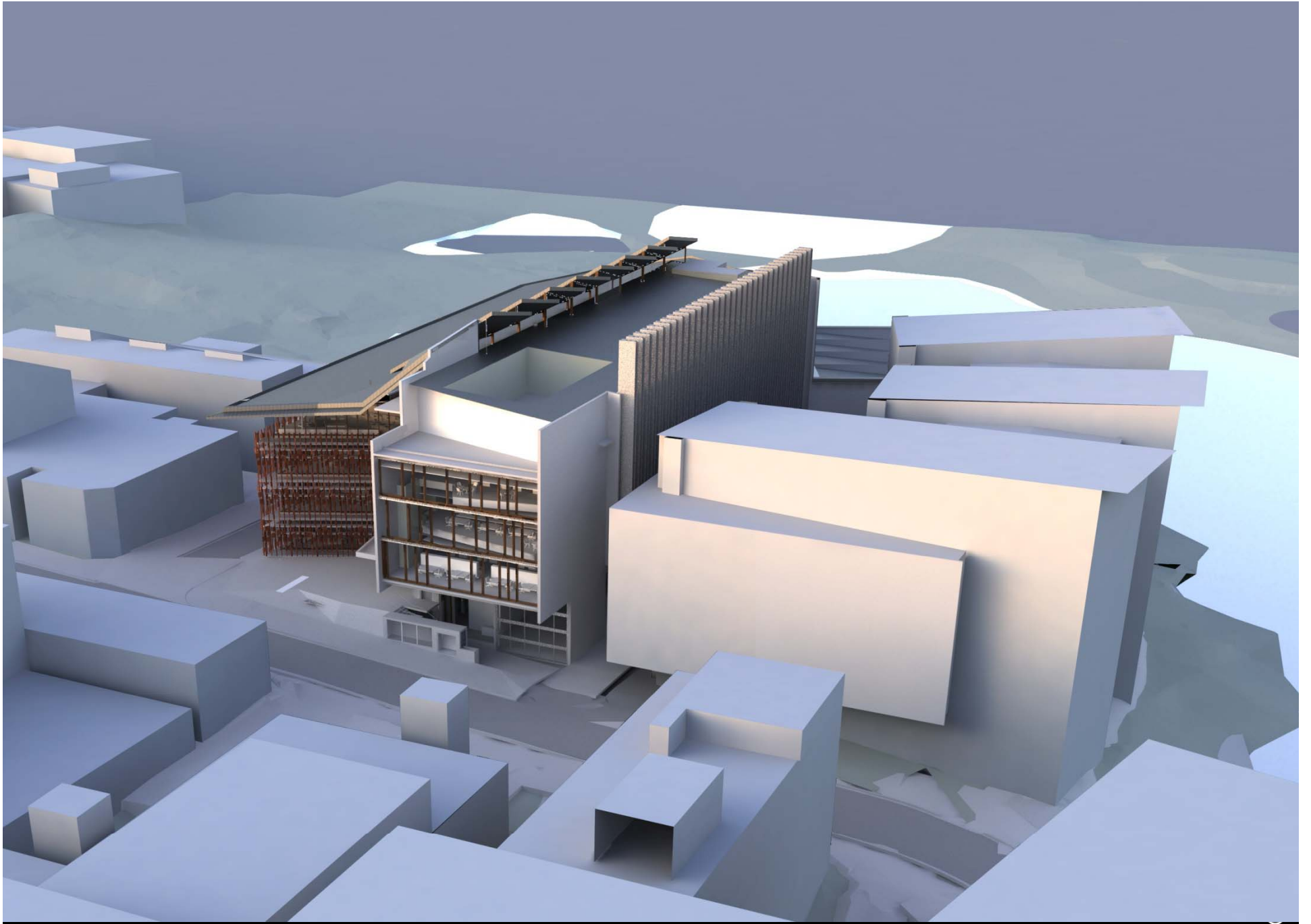






















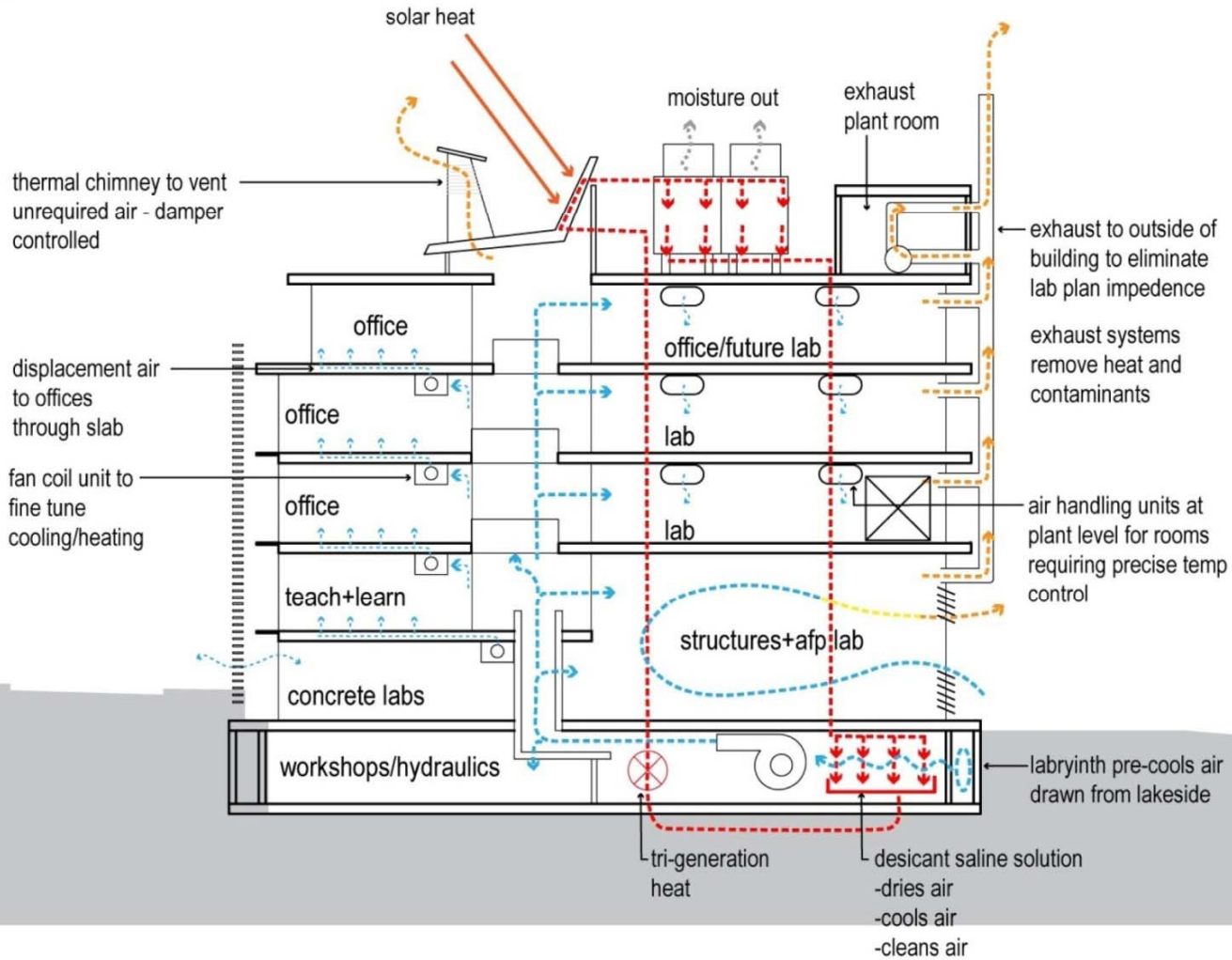




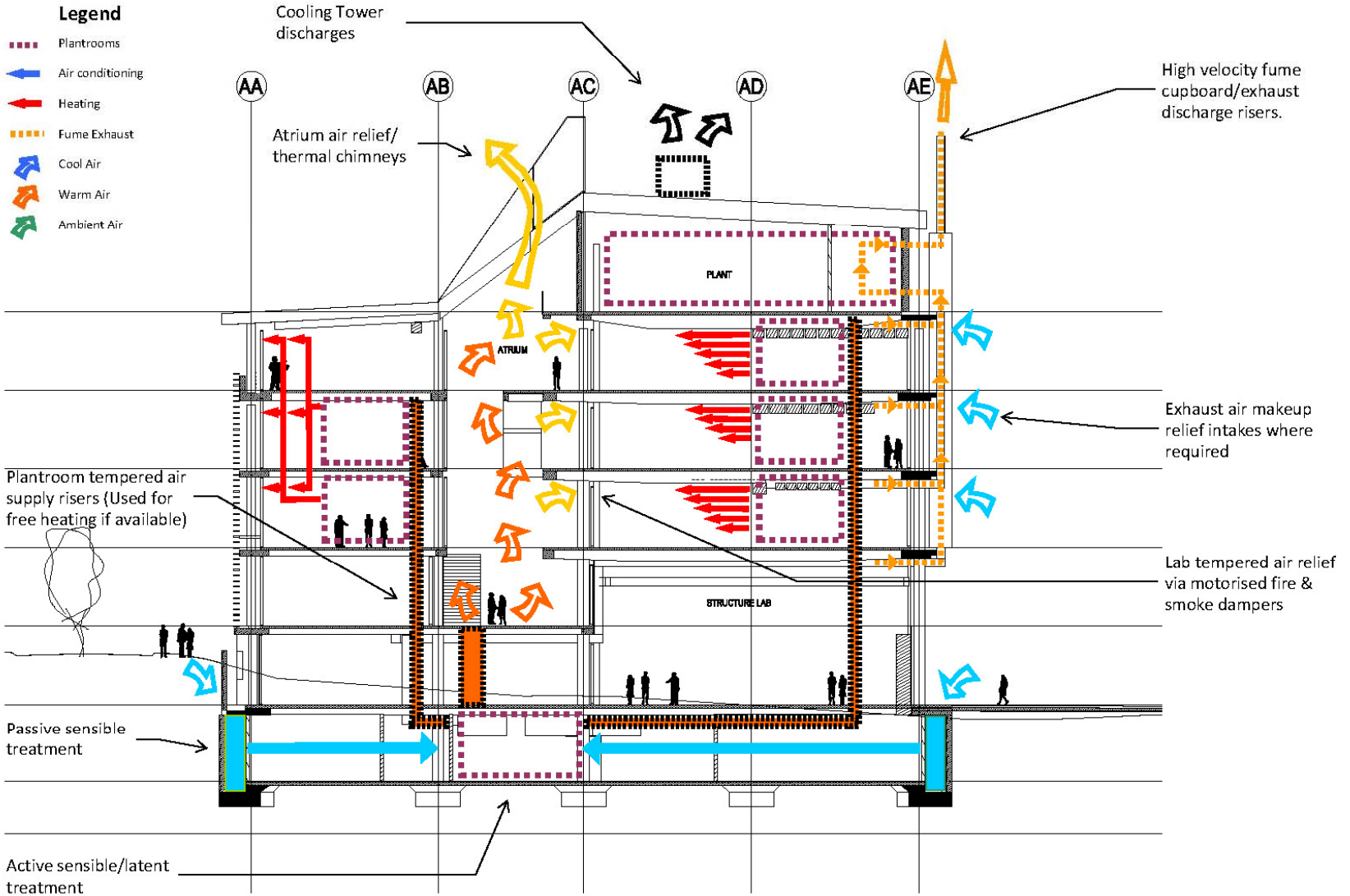


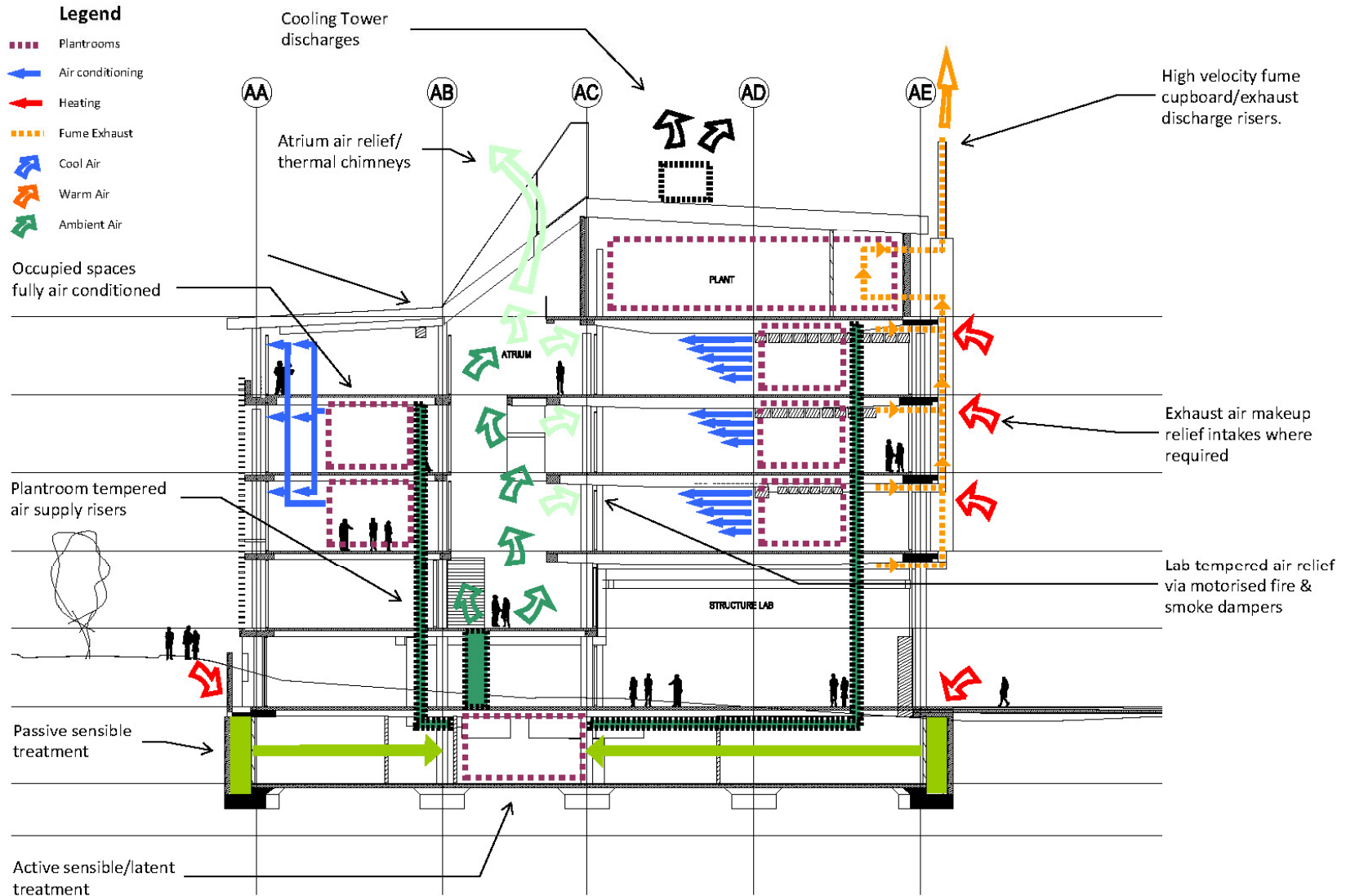




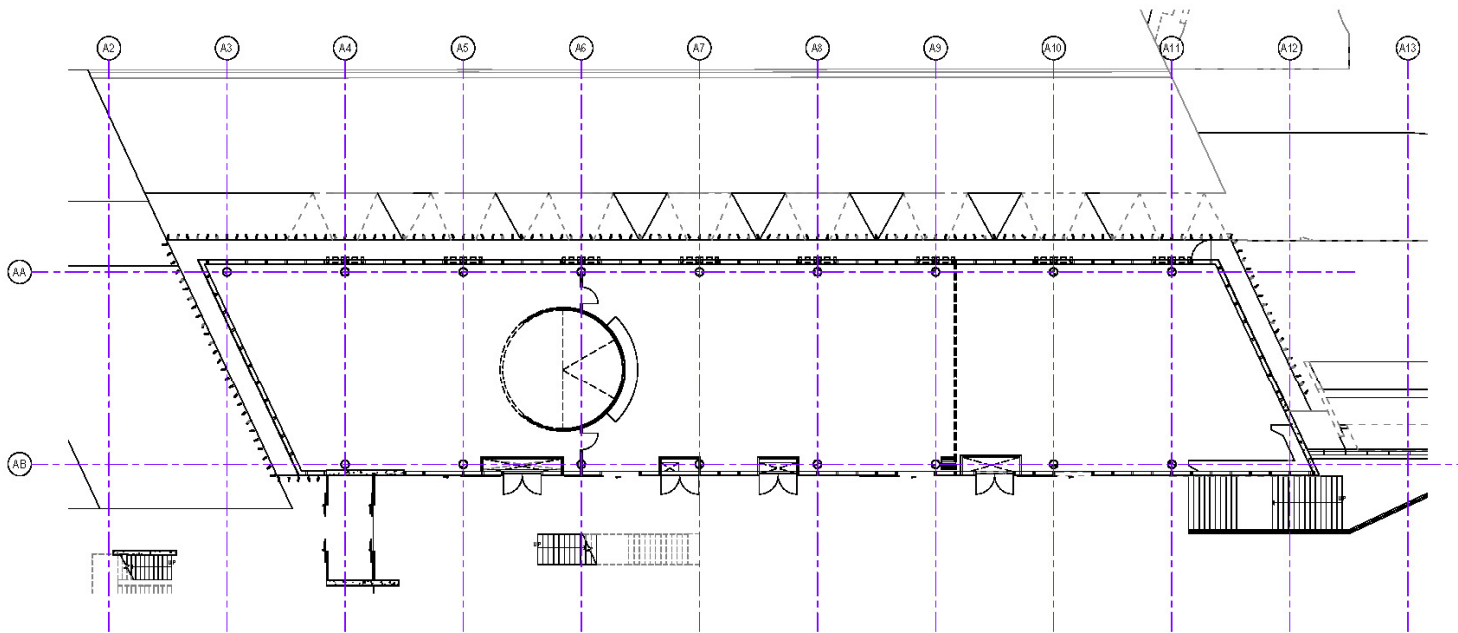




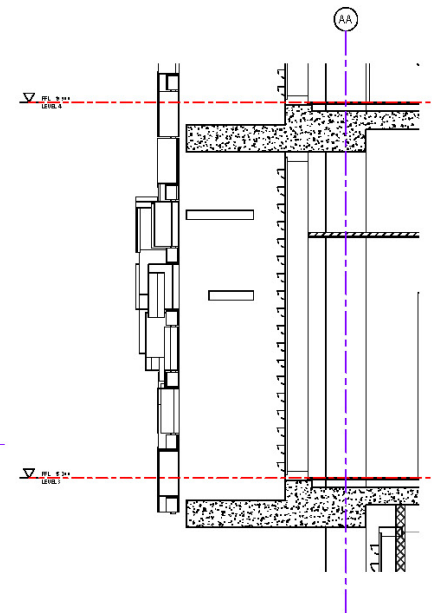




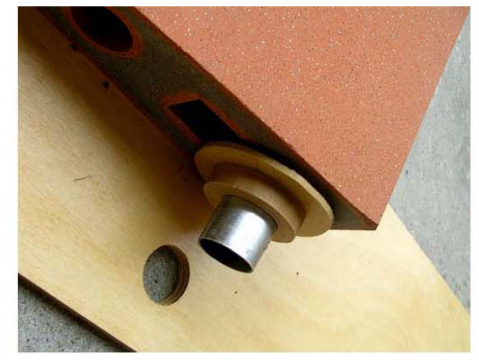
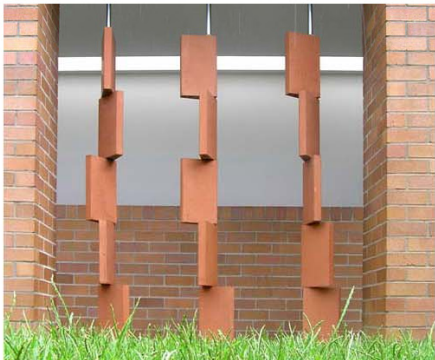




1 FLOOR PLAN - TERRACOTTA FACADE  
1/32"



2 WALL SECTION - TERRACOTTA FACADE  
1/32"



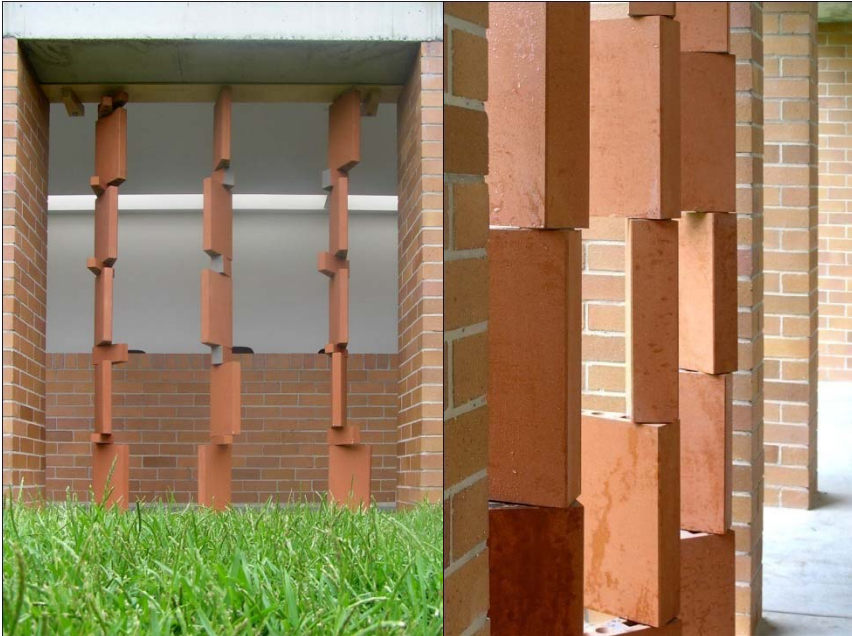


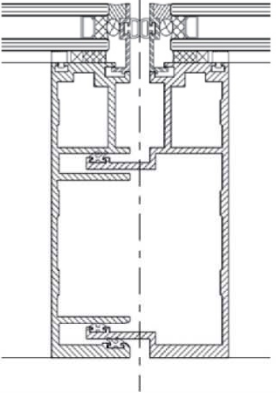
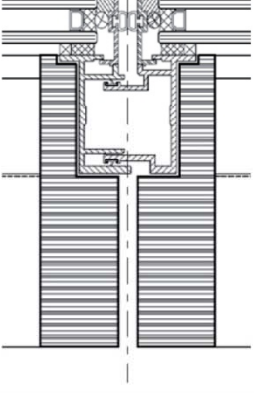
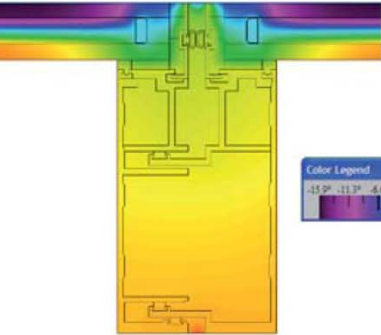
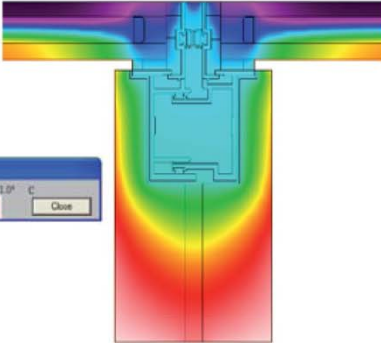
Richard Kirk Architect + HASSELL

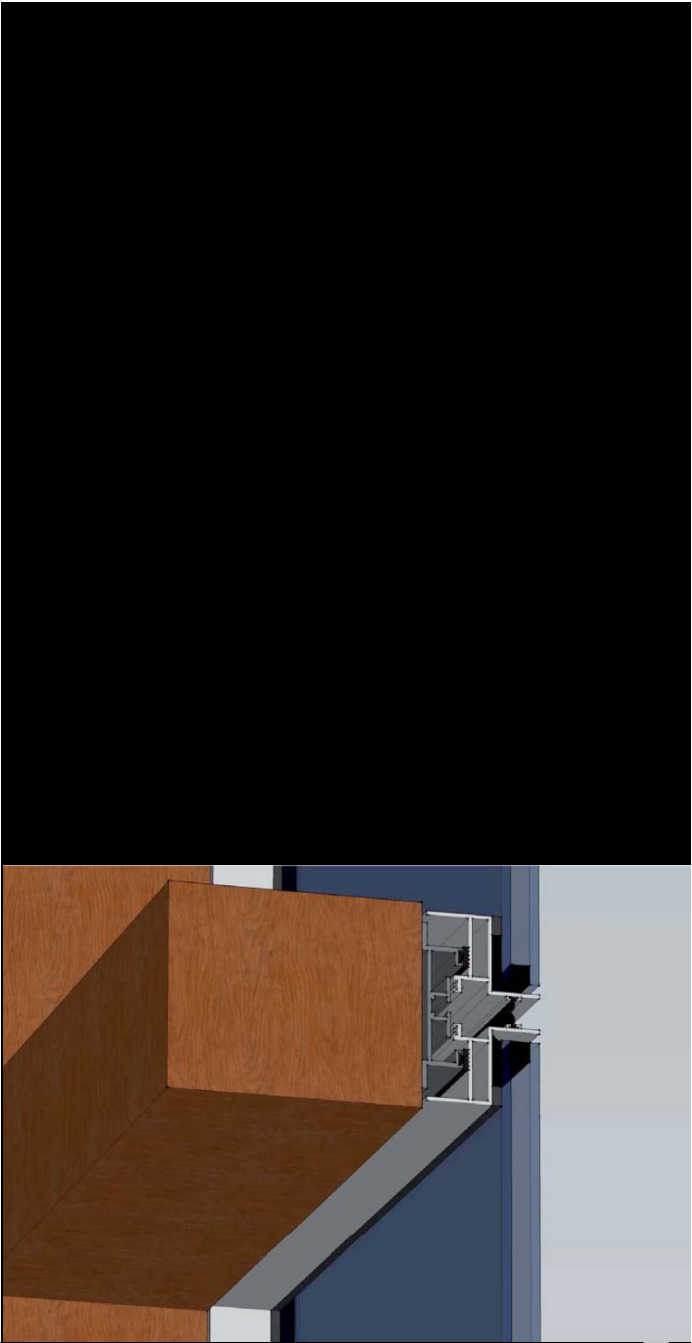


\_\_terracotta facade studies





	Traditional aluminium framed curtainwall mullion	Laminated bamboo (or timber) framed curtainwall mullion
Mass Aluminium (kg/m <sup>2</sup> )	5.7	2
Mass Timber (kg/m <sup>2</sup> )	-	5
Mullion U-value (W/m <sup>2</sup> K)	10.3	5.1
Panel U-value (W/m <sup>2</sup> K)	2.38	1.77
Embodied carbon of mullions (kgCO <sub>2</sub> /m <sup>2</sup> )	46.7	19.3
Embodied energy of mullions (MJ/m <sup>2</sup> )	878	314
Sketch of mullion *		
Therm output showing isotherm gradients		



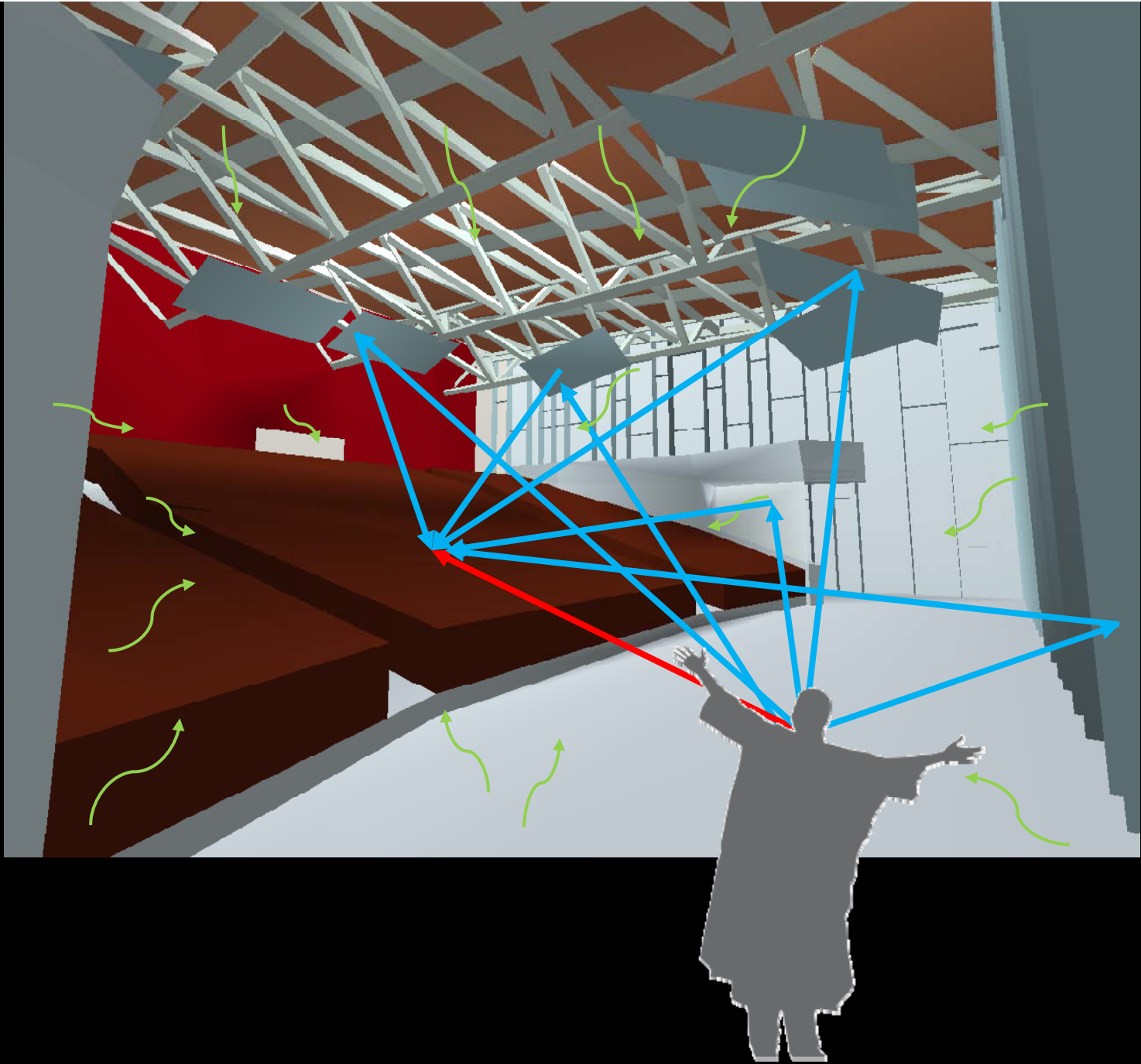


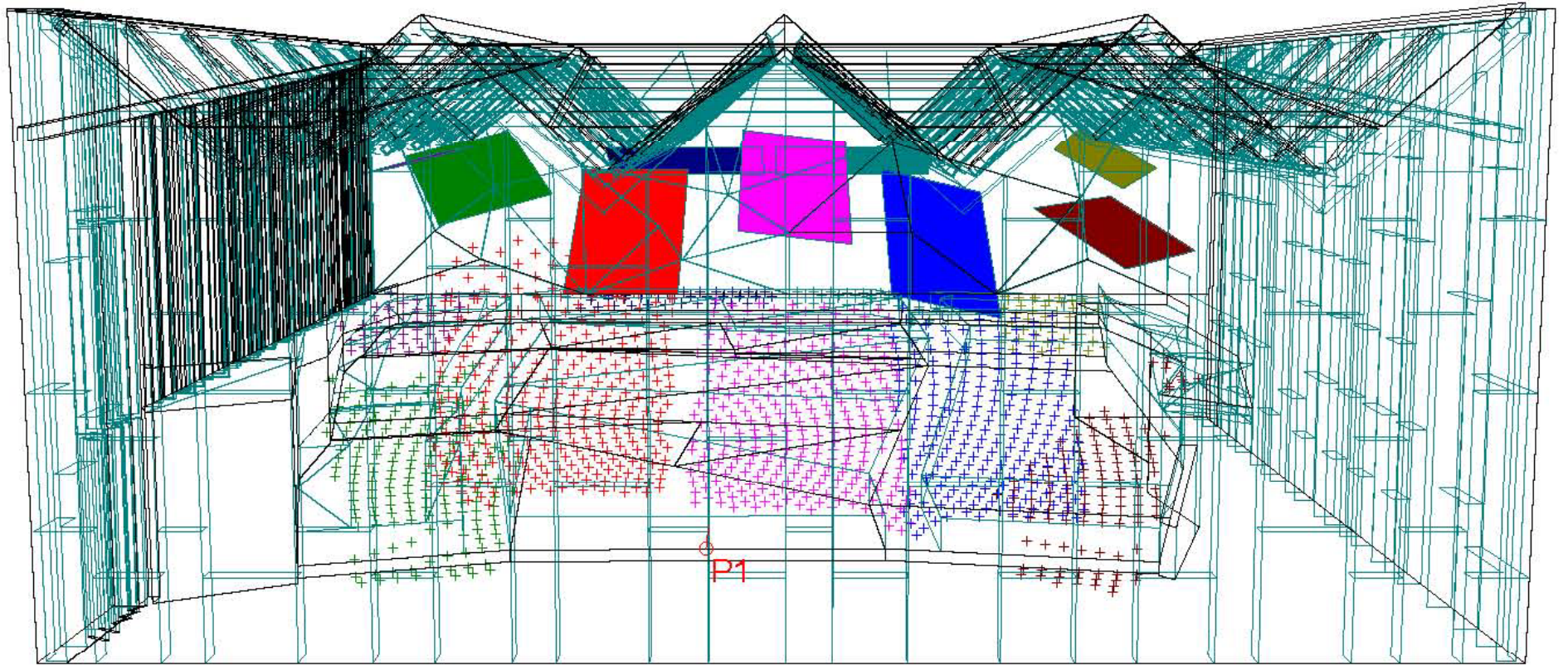
















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AIICS – MULTI PURPOSE SCHOOL



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ABC QUEENSLAND HEADQUARTERS





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ABC QUEENSLAND HEADQUARTERS





RICHARDKIRK ARCHITECT

ABC QUEENSLAND HEADQUARTERS

# Today's Speakers



## KEYNOTES

**John Hooper- BROAD Construction**

**Richard Kirk- Richard Kirk Architects**

## PANEL

**Gary Rasmussen- Queensland University of  
Technology**

**Prof George Earl- Bond University**



# Thank You

TO OUR SPEAKERS....

**John Hooper- BROAD Construction**

**Richard Kirk- Richard Kirk Architects**

**Gary Rasmussen- Queensland University of  
Technology**

**Prof George Earl- Bond University**

# Today's Projects

## LOT 12

### 4 Star Green Star Industrial Pilot

Cassie Eivers  
Trade Coast Central



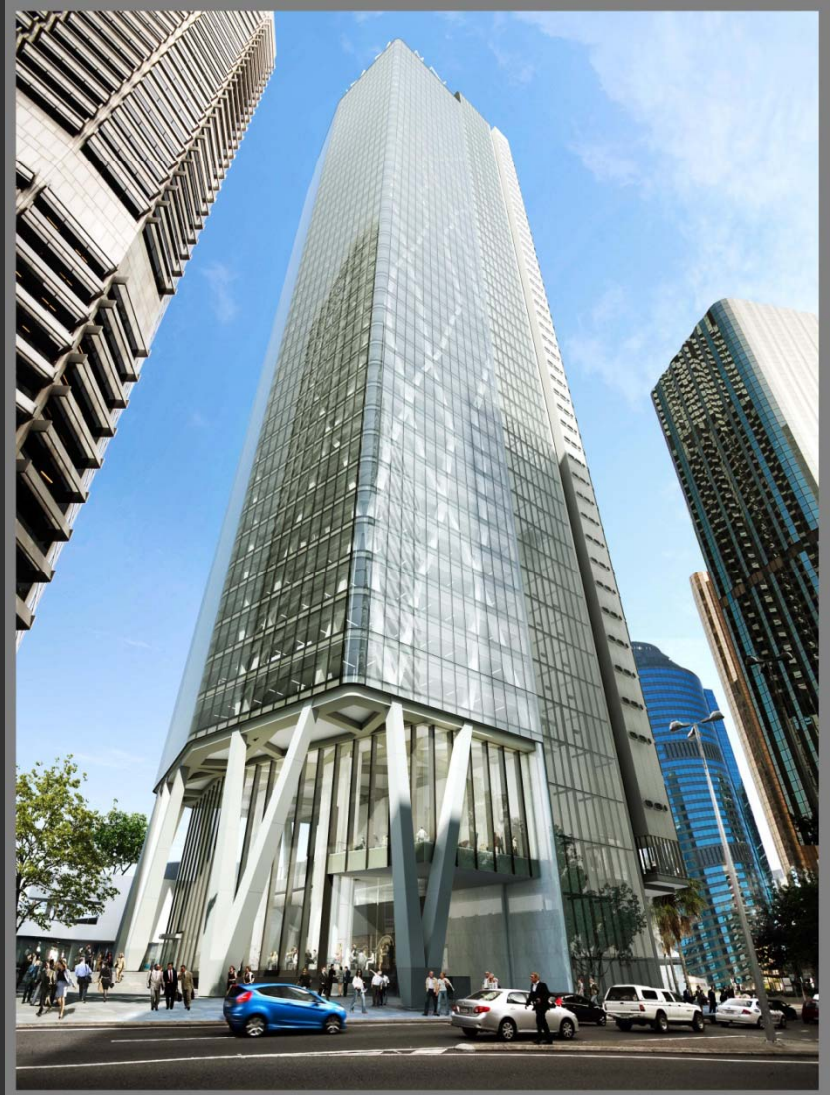


# Today's Projects

**One One One Eagle St**

**6 Star Green Star  
Office Design v2**

**Greg Mannes  
The GPT Group**



# Thank You

## Corporate Sponsor



**LEIGHTON PROPERTIES**



**TAKE  
YOUR GREEN  
BUILDING  
QUALIFICATIONS  
TO A NEW  
LEVEL**



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WIN**



**A RETURN TRIP  
TO THE**

**USA**



**Join us at a GBCA event between 1 March and 31 August 2010 and you could be on your way to US Greenbuild 2010!**

**GBCA events include Leading Green Thinkers, Meet the Stars and Member evenings in your state or territory. The more of these events you attend, the greater your chance of winning!  
Details at [www.gbca.org.au](http://www.gbca.org.au)**



**green building council australia**



# Thank You

Further information  
on GBCA

[www.gbca.org.au](http://www.gbca.org.au)

