

2014 Exhibition of School Planning and Architecture

Sustainable Industries Education
Centre | SIEC (Tonsley TAFE)

Australasia

Adelaide, South Australia

SIEC



SIEC

SIEC: The Site – 61 hec

- Adaptive reuse of the former Mitsubishi car factory.
- A range of sustainable industries planned for the site
- SIEC occupies 3-4 hectares



LINK TO THE REST OF THE STRUCTURE

The new SIEC/Tonsley Tafe celebrates adaptive re-use of an industrial building, contrasting old with new.

The project has an extraordinary scale and a progressive educational plan to encourage innovation and provide an exemplary educational facility that maximises the opportunity for learning and teaching.

The educational objective is to provide flexible, adaptable and creative learning and teaching opportunities supported by the new and transparent architecture that is a learning tool with exposed services and structure.

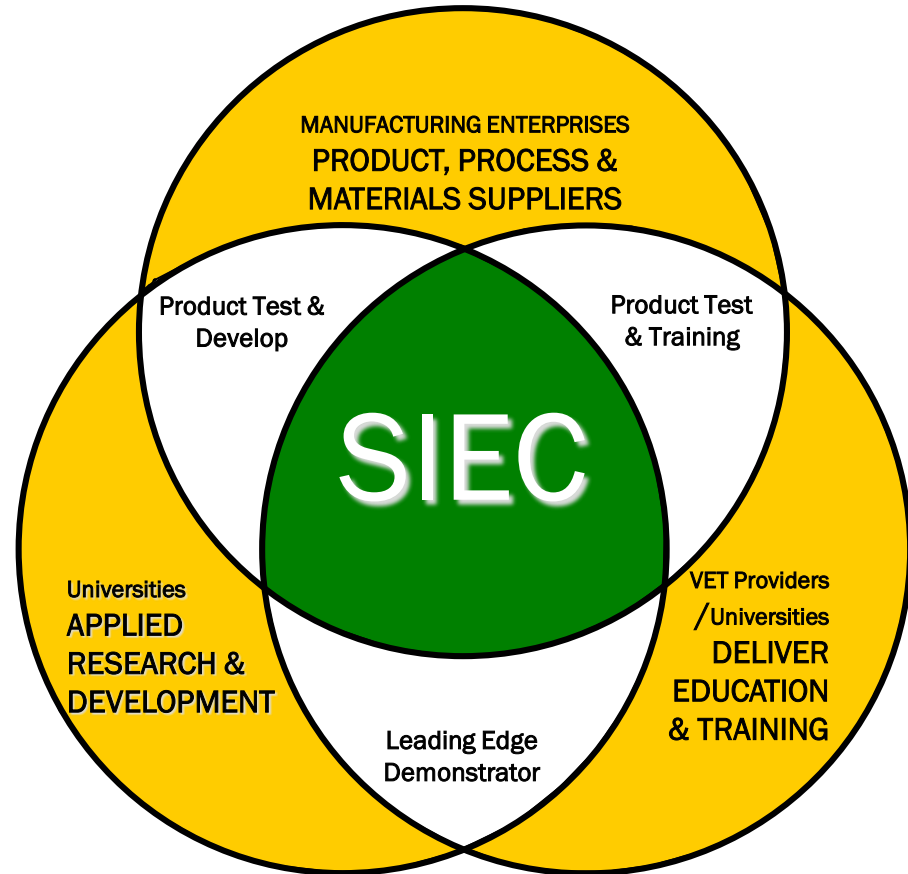
The adopted space planning approach is more akin to the planning of a city block, given the scale of the project, to give legibility of way finding and define pedestrian and vehicular movement.



A Tripartite Model

The project addresses the requirement for a contemporary trade training institution that provides a more responsive and up-to-date place to learn, teach and work with improved environmental quality and a sustainable built outcome. This consolidated facility absorbs, amalgamates and rationalises programs over five separate campuses into one, thereby maximising the synergy of building and construction programs. The SIEC intends to:

- Establish more formal links between higher education research and educational delivery and the training sector, pathways both ways, collaborative delivery
- Given the presence of enterprises on the wider Tonsley development and the co-location with training and higher education, specific products, processes and materials can be developed and tested and training requirements described all at the one location - SIEC



NEW EDUCATIONAL MODEL

With a selected core team of lecturers from TAFE and over 2 years, we put together a brief for a different educational model. It was a change management process in which these lecturers gave feedback to both their colleagues and their managers.

KEY ASSUMPTIONS FOR SPACE MODEL

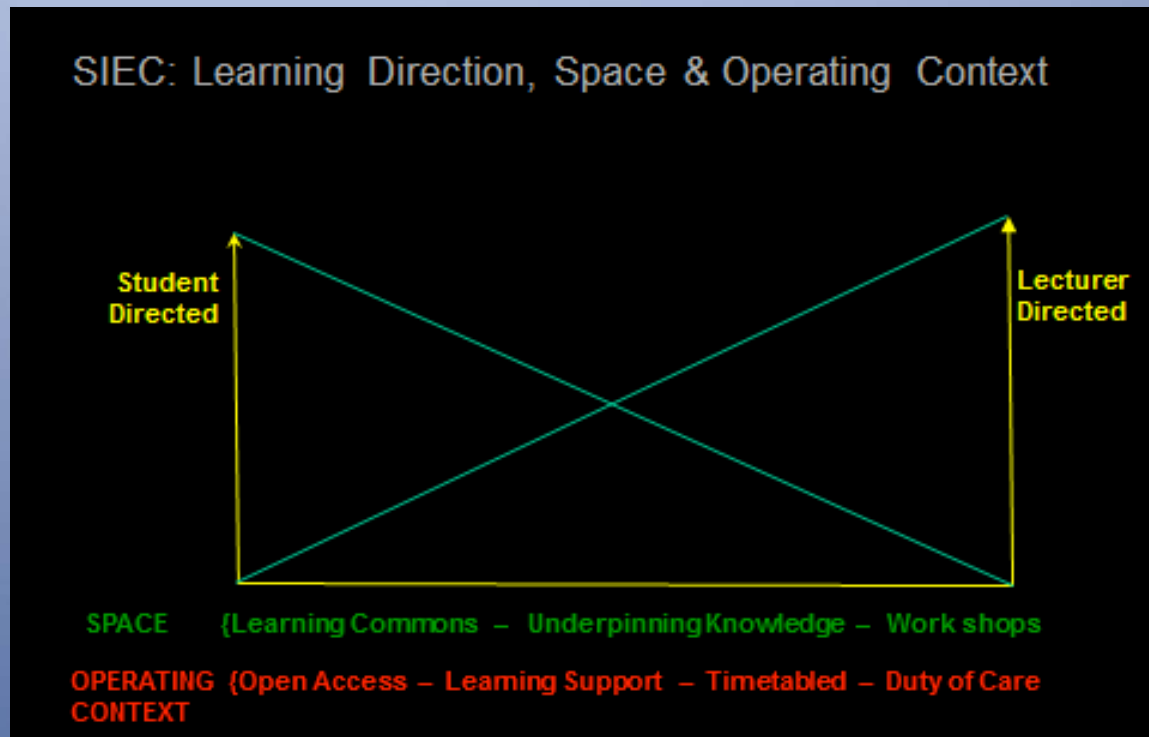
1- Sharing of similar space types between trades

- Traditional use = space ownership by trade/workgroup
- Spaces have been identified by Lecturers involved in the design team

2- Flexible timetabling & room booking system

3- Changes on Teaching and Learning

The model opened the path for a more student centred approach to learning, where possible, while still recognising the need for strong supervision in the more practical areas



LINKING PEDAGOGY AND SPACE

- Adoption of technology
 - Use of technology for training in between theory and practice
- Flexibility of workshops
 - Moveable equipment versus fixed
 - Services – hospital bed concept
 - Adjacencies for collaboration
- Flexibility of theory spaces
 - Immediate access from workshops
 - No allocation of dedicated classrooms for each trade, but a diversity of learning spaces allocated to each Hub.
- Flow between Spaces
- Student and Teacher Centred opportunities
 - Inclusive approach.
 - Informal learning hubs
- Staff
 - Visible and with views



Image title

Main planning elements include:

Primary internal 'street' with central stair/amphitheatre with defined public entries at each end provides wider connectivity with the remainder of the MAB development

Secondary 'Lane' that intersects with the 'Street' defines the main access to teaching and learning spaces, learning commons, staff , administration, support spaces and workshops

Underpinning knowledge areas opening off the 'lane' adjacent to trade workshops

Staff offices and meeting rooms directly above underpinning knowledge have views over and into workshops

Cont...



Image title

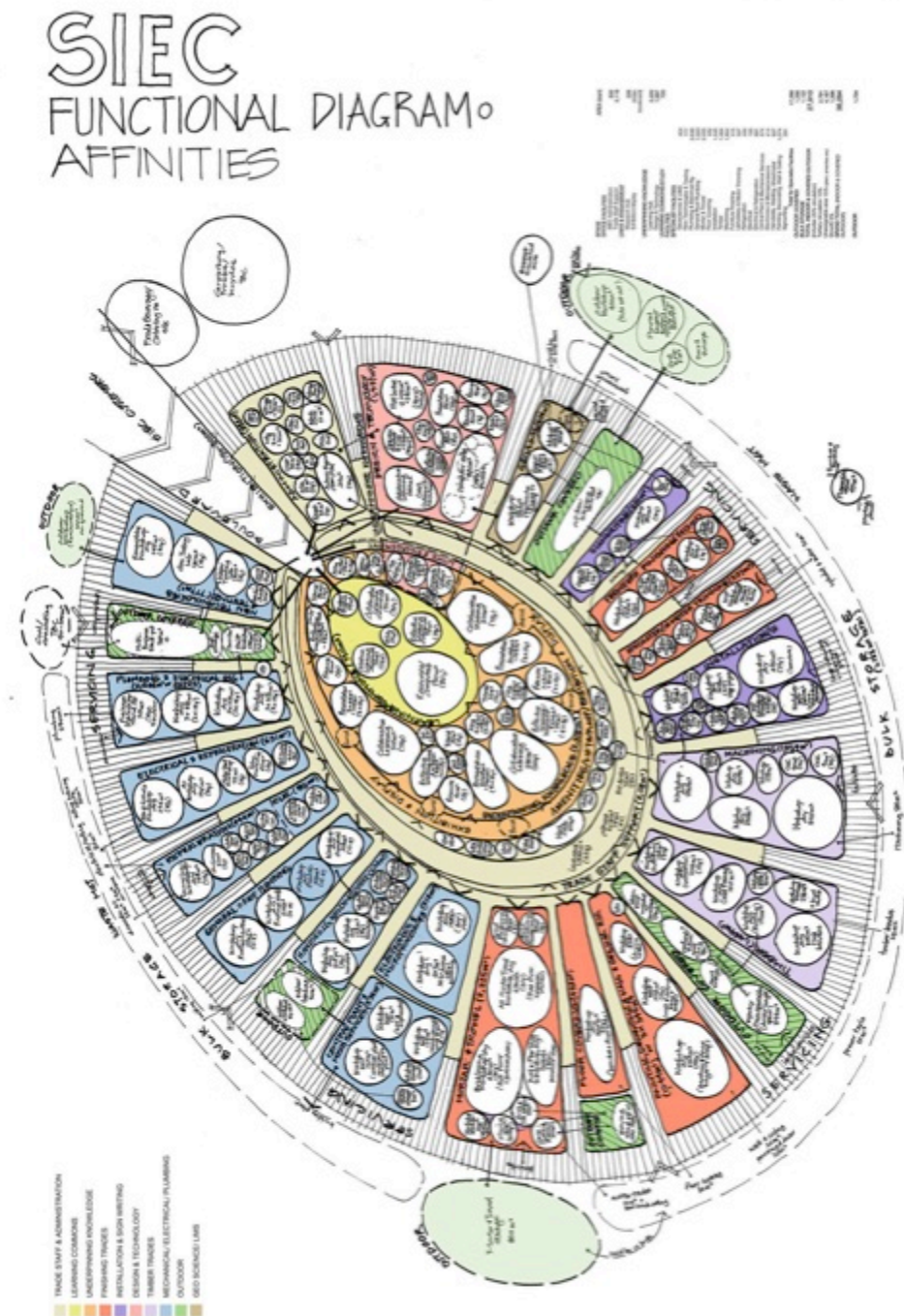
Trade workshops located around the perimeter of the underpinning knowledge are connected to achieve maximum flexibility and allow for future change. The workshop grid is defined by the green service/safety nodes and intersections

Bulk storage to the west of the workshops extends the full width of the building and enables safe handling and distribution of heavy materials into workshops

Showcase vertical outdoor, plumbing and electrical teaching 'building services installation' to the main 'street'



The educational model was the driver of the design. When the architectural team was appointed we all worked together to plan the spaces. Eventually the lecturers took on the responsibility for continuous design review with the design team.



TO THE REST OF THE SHED

- UNDERPINNING KNOWLEDGE
(THEORY) STAFF ABOVE
- INFORMAL LEARNING HUB

PLUMBING &
ELECTRICAL

REFRIGERATION &
ELECTRICAL

FINISHING &
WET TRADES

MORTAR
TRADES

BULK
STORAGE

SUSTAINABILITY
LABORATORIES
HIGHER DEGREE AREAS

GLASS &
GLAZING

ADVANCED BUILDING &
CONSTRUCTION

TIMBER TRADES

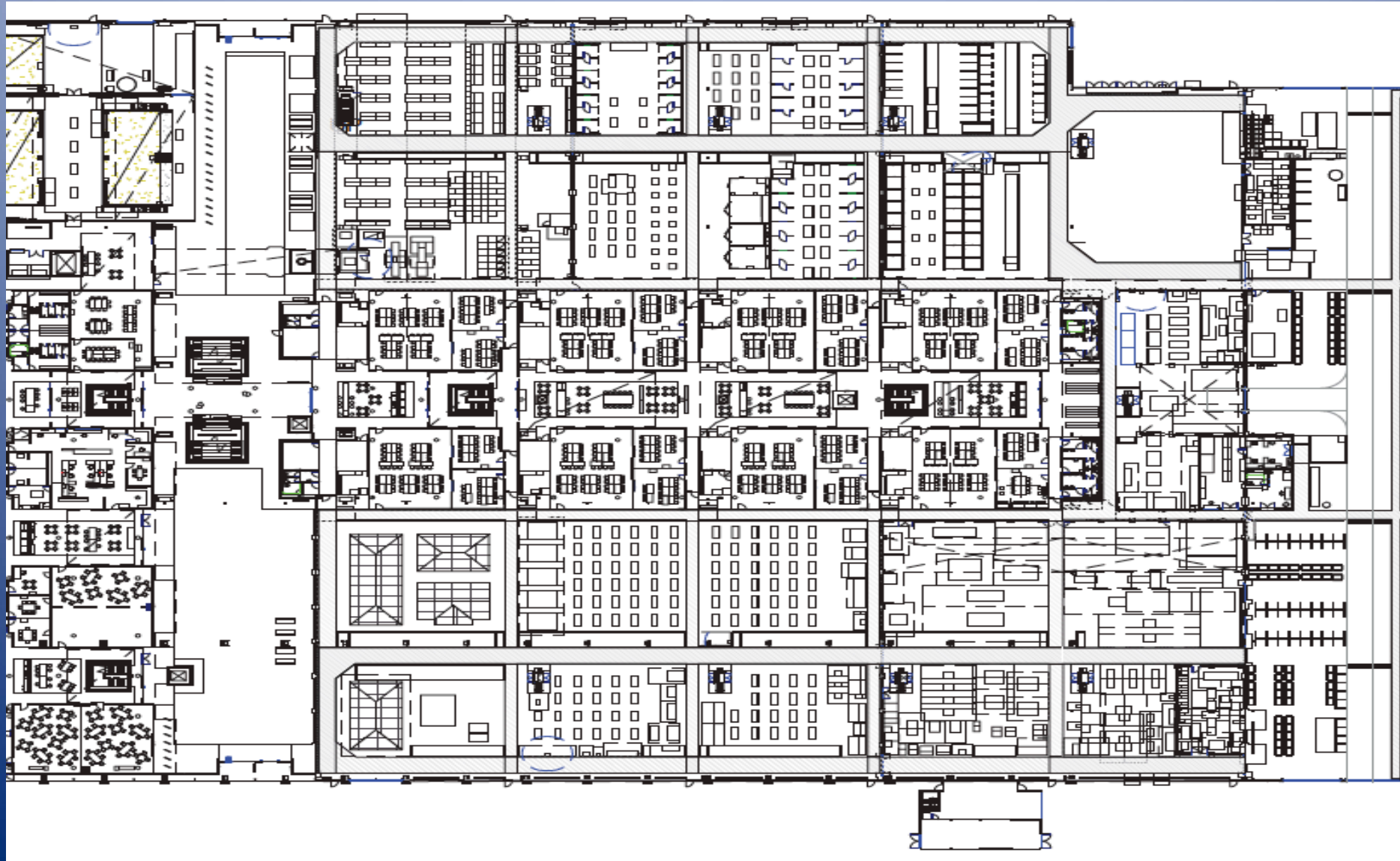
WOOD
MACHINING

BULK
STORAGE

TO CARPARK



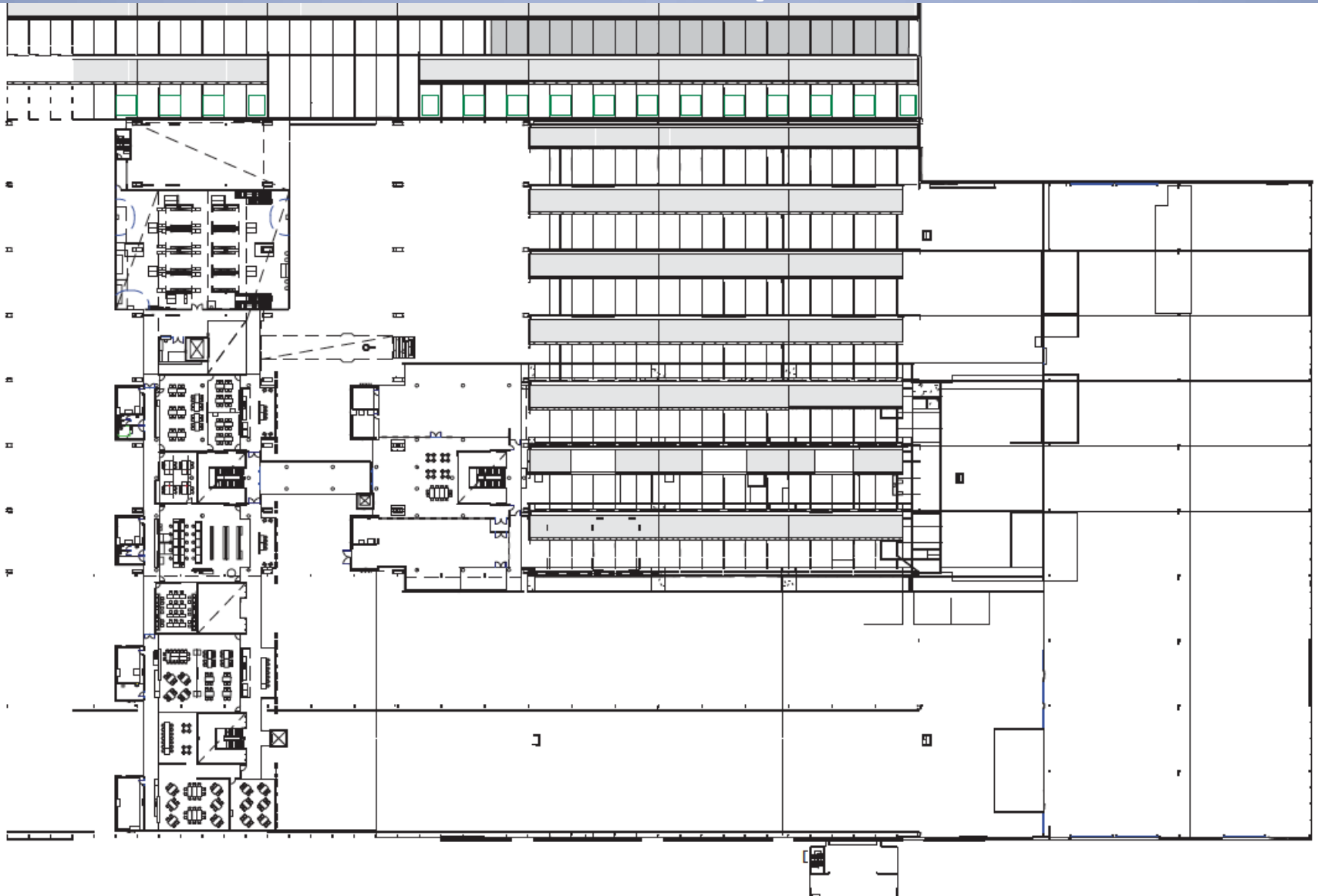
Ground Floor plan



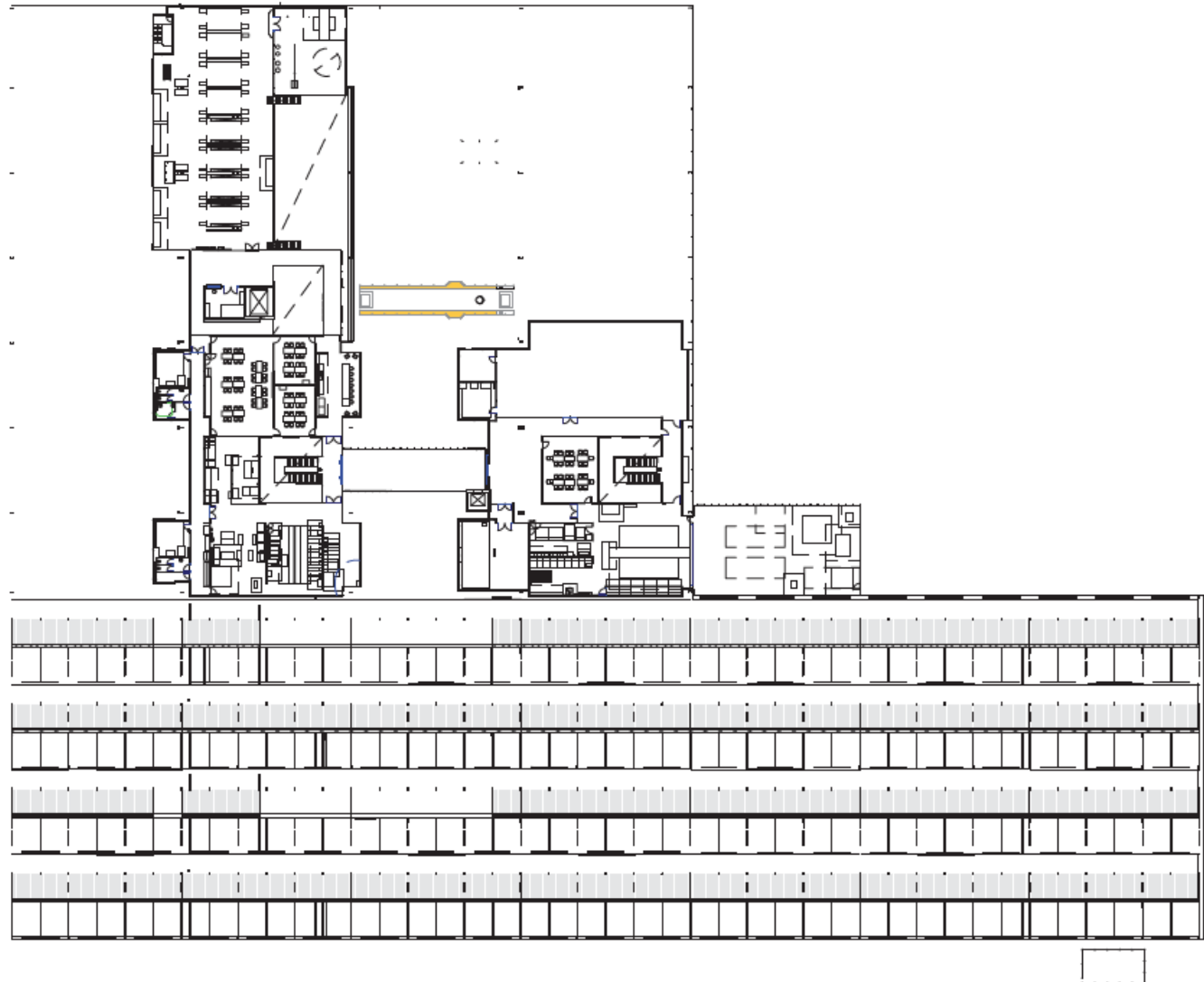
1st Floor plan



2nd Floor plan



3rd Floor plan



Exhibition of School Planning and Architecture

Project Data

Submitting Firm :	New Learning Environments
Project Role	Educational Planning
Project Contact	Ana Sala-Oviedo
Title	Director
Address	83 Hannaford Road
City, State or Province, Country	Blackwood, SA, Australia
Phone	+61 405128296
Joint Partner Firm:	MPH Architects (in collaboration with ARCHITECTUS)
Project Role	Design and Build
Project Contact	Anthony Materne
Title	Director
Address	5 Vardon Ave
City, State or Province, Country	Adelaide, SA, Australia
Phone	+61 8 84181600
Other Firm:	Department of Further Education, Employment, Science and Technology
Project Role	Client
Project Contact	Bob Burton
Title	Project Manager
Address	Waymouth Street
City, State or Province, Country	Adelaide, SA, Australia
Phone	+61 0414806454
Construction Firm:	Lend Lease
Project Role	Construction
Project Contact	Chris Leopold
Title	Manager
Address	Level 2, The Gauge, 825 Bourke St
City, State or Province, Country	Victoria Harbour, Docklands, VIC, Australia
Phone	+61 3 96430103

Exhibition of School Planning and Architecture

Project Details

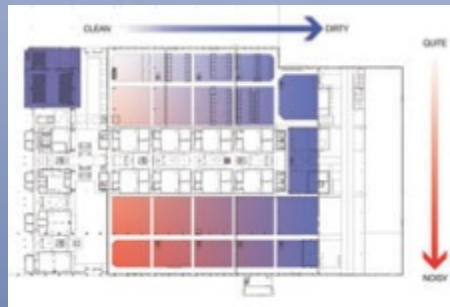
Project Name	Sustainable Industries Education Centre (SIEC) Tonsley TAFE
City	Adelaide
State	South Australia
District Name	N/A
Supt/President	Bob Burton
Occupancy Date	February 2014
Grades Housed	Prevoc to Diploma (16 years old +)
Capacity(Students)	1000
Site Size (acres)	6.9
Gross Area (sq. ft.)	462,848
Per Occupant(pupil)	462
gross/net please indicate	
Design and Build?	Yes
If yes, Total Cost:	AU\$120,000,000
Includes:	Building cost, landscaping, security, loose furniture & equipment, computers, decant, professional fees, make good of other campuses (no external services or site works needed)
If no,	
Site Development:	
Building Construction:	
Fixed Equipment:	
Other:	
Total:	



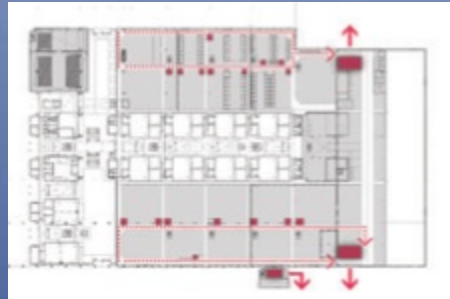
SITE MASTERPLAN
& CONTEXT



URBAN



DIRT
NOISE



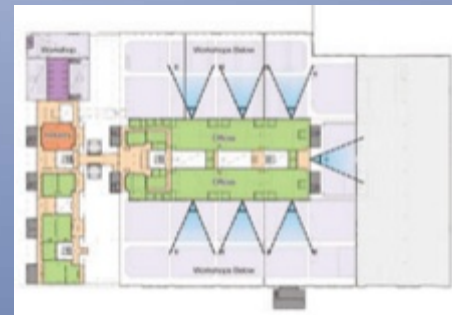
WASTE



MATERIALS



PROGRAM
GROUND



PROGRAM
FIRST



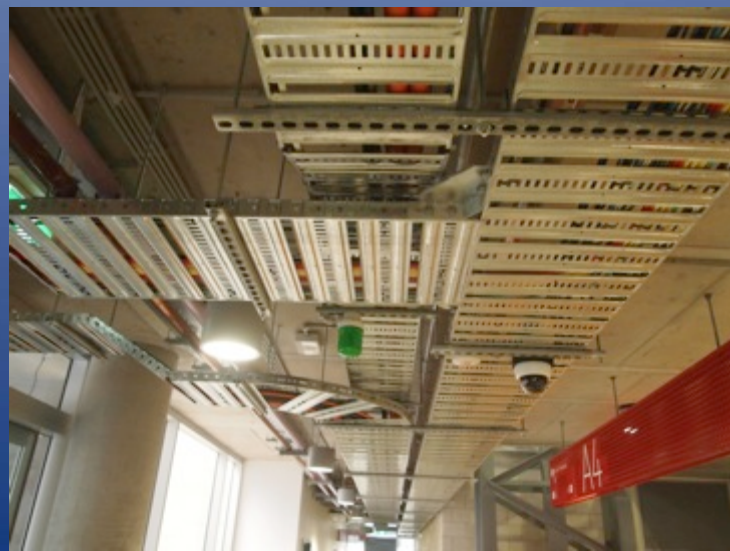
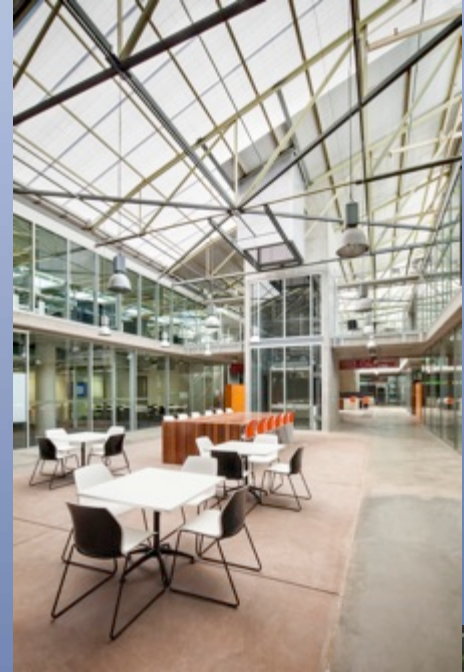
PROGRAM
SECOND



PROGRAM
THIRD

SUSTAINABILITY

- The building as the third teacher.
- All services exposed to teach students
- Demonstrator elements throughout the building for innovative approaches to sustainability in construction
- Greenery included in the building
- Natural light



Welcoming Entrance and Circulation



Informal Learning Hub. Physical Links to theory spaces and visual links to staff (above)



Finishing Trades Workshop Area and Material Delivery Strip

