CRC for Construction Innovation

Planning, Designing and Rating

A Sustainable Built Environment

Industry Forum

10 February 2005

Brisbane City Hall

ARUP

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Mr Ken Stickland

Principal

Ebsworth & Ebsworth LAWYERS

ARUP

CRC Construction Innovation

BUILDING OUR FUTURE

Ebsworth & Ebsworth LAWYERS

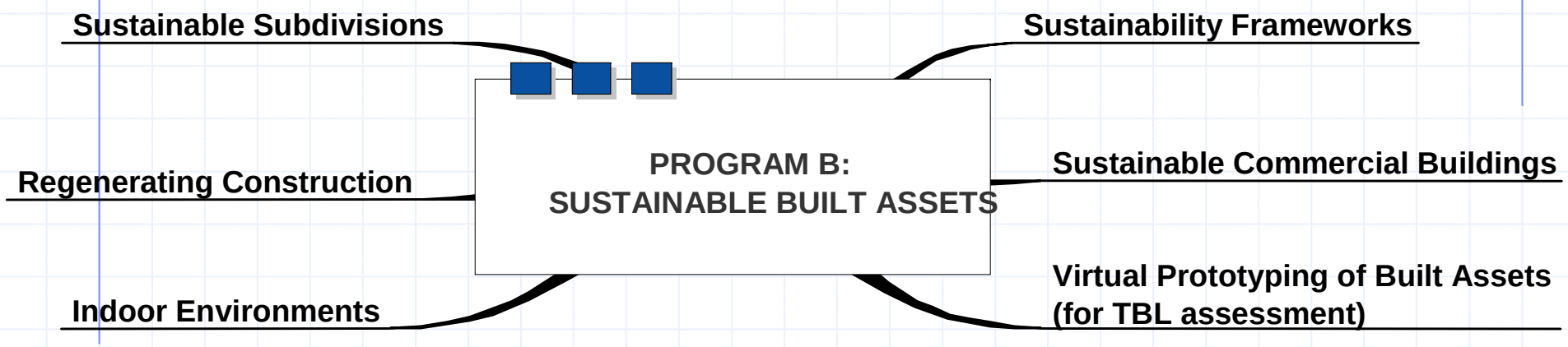
CRC for Construction Innovation
Program B: Sustainable Built Assets
Director: Dr. Peter Newton

Program Objective:

To enhance the sustainability of built assets via their design and operation through:

- sound conceptual basis for economic, social and environmental representation and accounting of the built environment;
- new virtual building tools capable of examining design performance prior to construction and use;
- regenerating the built environment to deliver higher levels of TBL performance, and
- assessing human health and productivity benefits associated with the creation of smart, high quality indoor environments.

STREAMS



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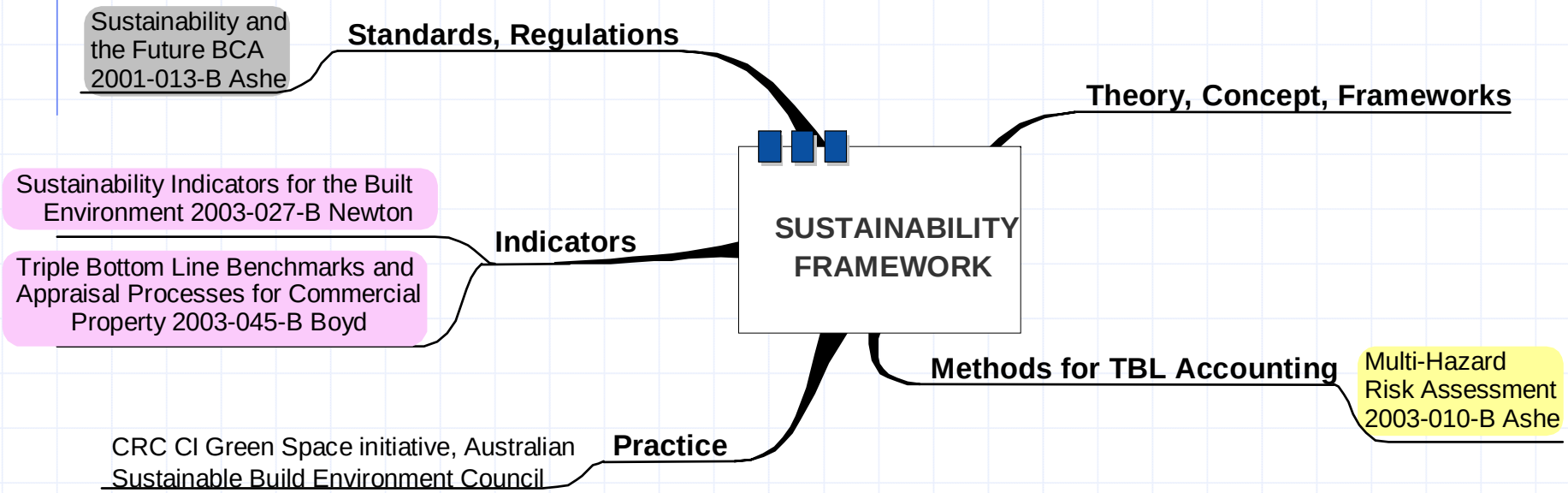
STREAM 1
Sustainability Framework

Objective:

- To advance our theoretical and practical understanding of sustainability in the context of built environments and their occupants



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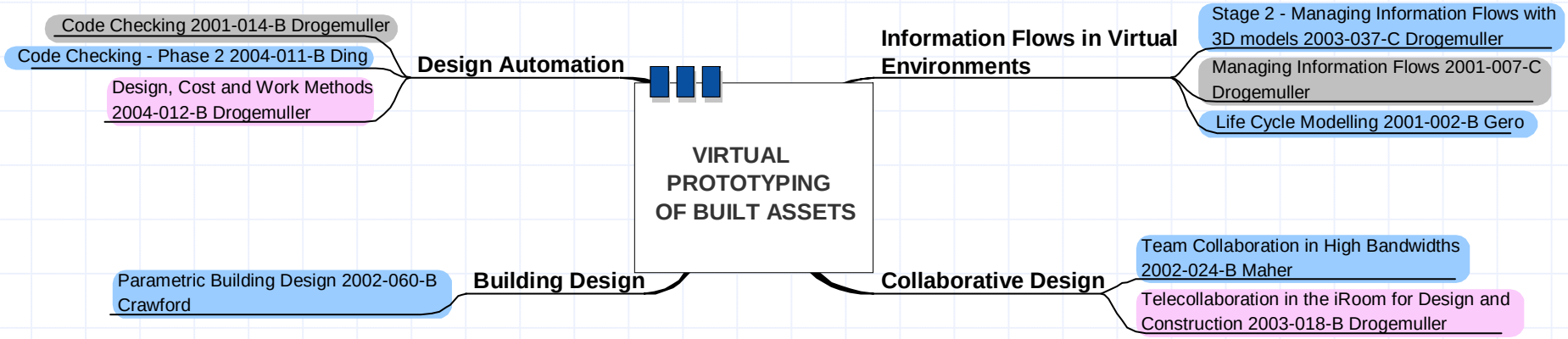
STREAM 2
Virtual Prototyping of Built Assets

Objective:

- To enable a virtual prototyping of whole buildings or parts of structures prior to their construction, including an ability to facilitate assessments of their TBL performance against established benchmarks. The ICT toolkit for AEC applications include: inter-operability, visualisation, automation, collaboration and integration, real time design experimentation, etc.



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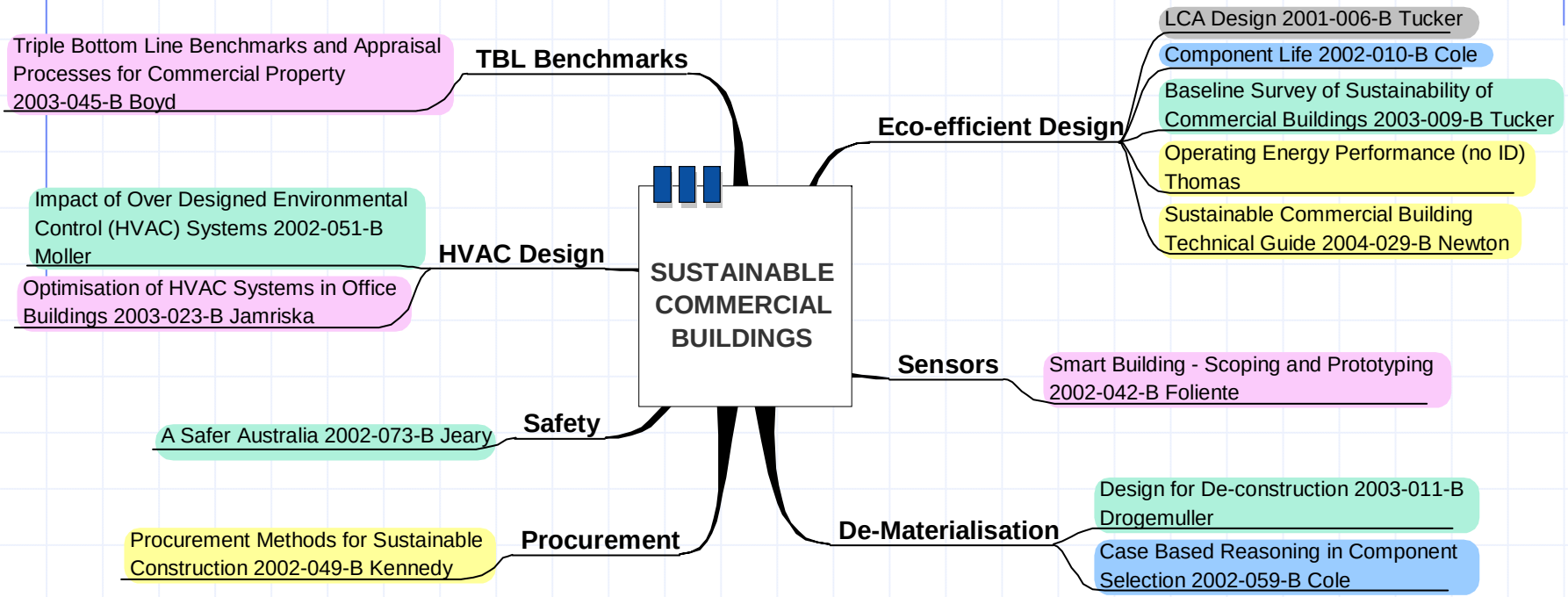
STREAM 3
Sustainable Commercial Buildings



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STREAM 4
Indoor Environment

Objective:

To deliver new knowledge in relation to:

- Indoor ecology and design of high performing physical indoor environments: understanding and modelling the complex inter-relationships of facades, lighting, thermal performance, acoustics, ventilation and air quality.
- Indoor environments, epidemiology and productivity: quantifying the linkages between indoor environment, health and productivity.
- Intelligent rooms: smart spaces that incorporate sensor technologies for a wide spectrum of operations, ranging from management of indoor environment to human-computer interfacing and distributed collaborative working.

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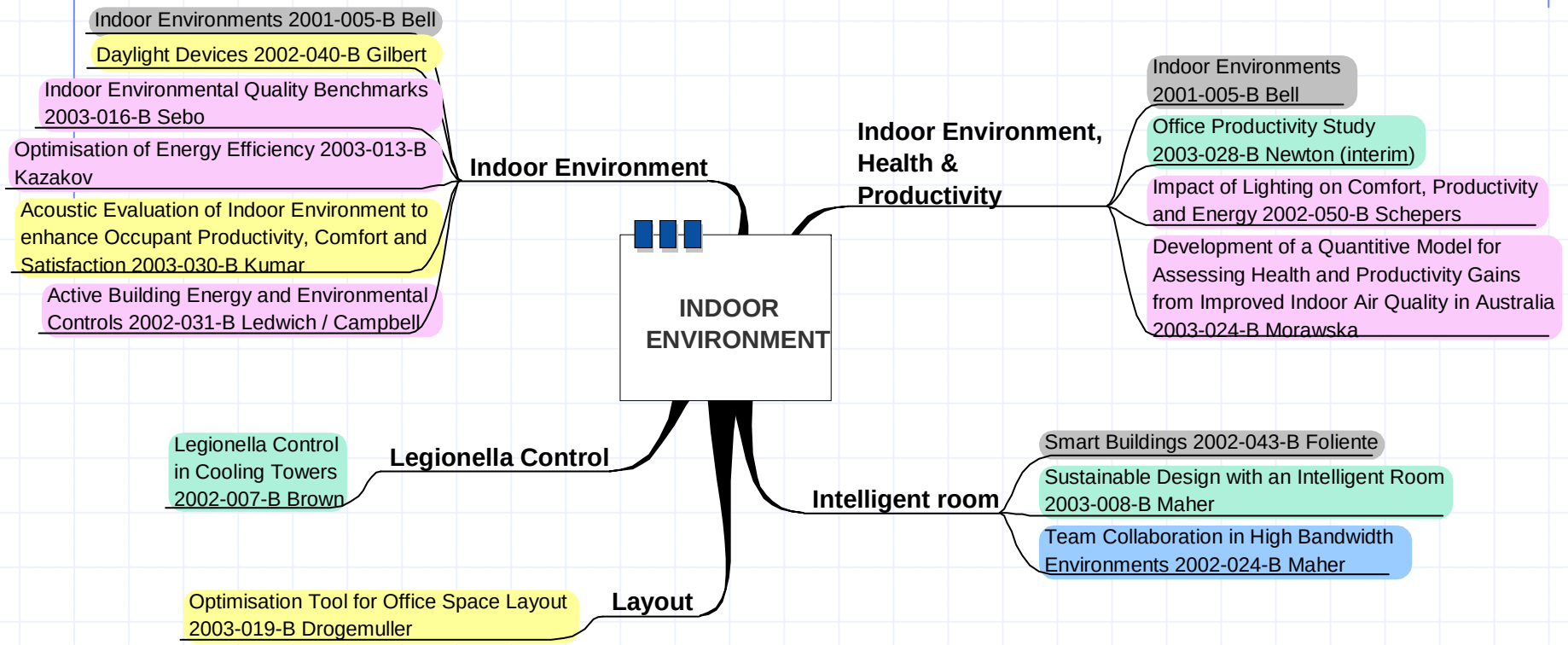
Indoor Environment



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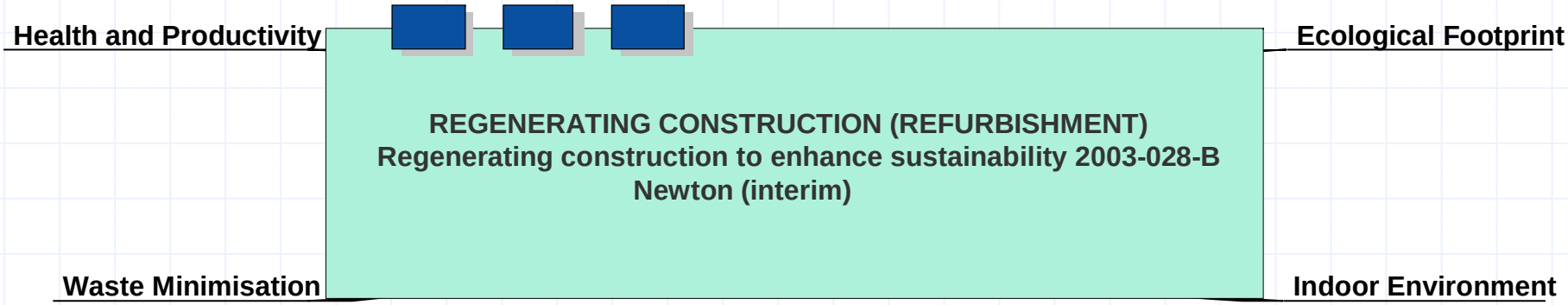
STREAM 5
Regenerating Construction

Objective:

- To improve the triple bottom line performance of existing built assets via a process of regeneration



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STREAM 6
Sustainable Subdivisions

Objective:

- To deliver a step change in sustainable performance of subdivisions via synchronous innovation at *both* the dwelling scale and the neighbourhood infrastructure scale

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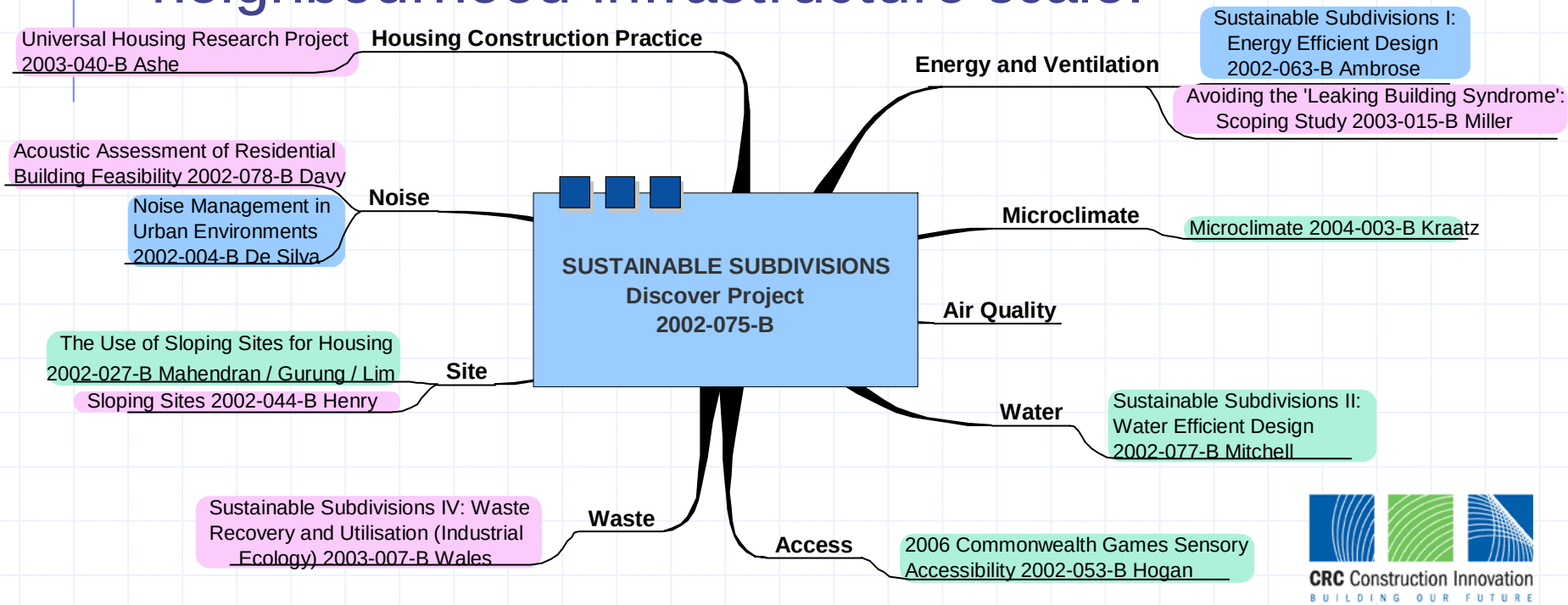

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Principal

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GLOBAL OFFICES

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AUSTRALASIA REGION

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SUMMARY OF SERVICES

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ARUP ENGINEERING DISCIPLINES

Buildings
Sustainable building design
Structural engineering
Mechanical and electrical engineering
Facade engineering
Fire Protection

Civil Engineering
Highways
Bridges
Tunnels
Railways
Airports
Infrastructure
Maritime
Water

Geotechnical Engineering
Site appraisal
Foundation design
Soil mechanics
Seismology

Industrial Engineering
Advanced technology
Energy
Industrial civil engineering
Manufacturing

Planning
Economic studies
Project feasibility
Transportation planning
Environmental studies
Life cycle costing
Risk management
Town planning

Project Management
Construction planning
Cost management
Design management
Planning supervision
Program management
Project development
Value management

Specialist Consultancies
Acoustics and vibration
Audio visual
Communications and IT
Controls and commissioning
Economics and planning
Environmental services
Fire engineering & safety design
Research and development
Risk consulting
Security consulting
Sustainability

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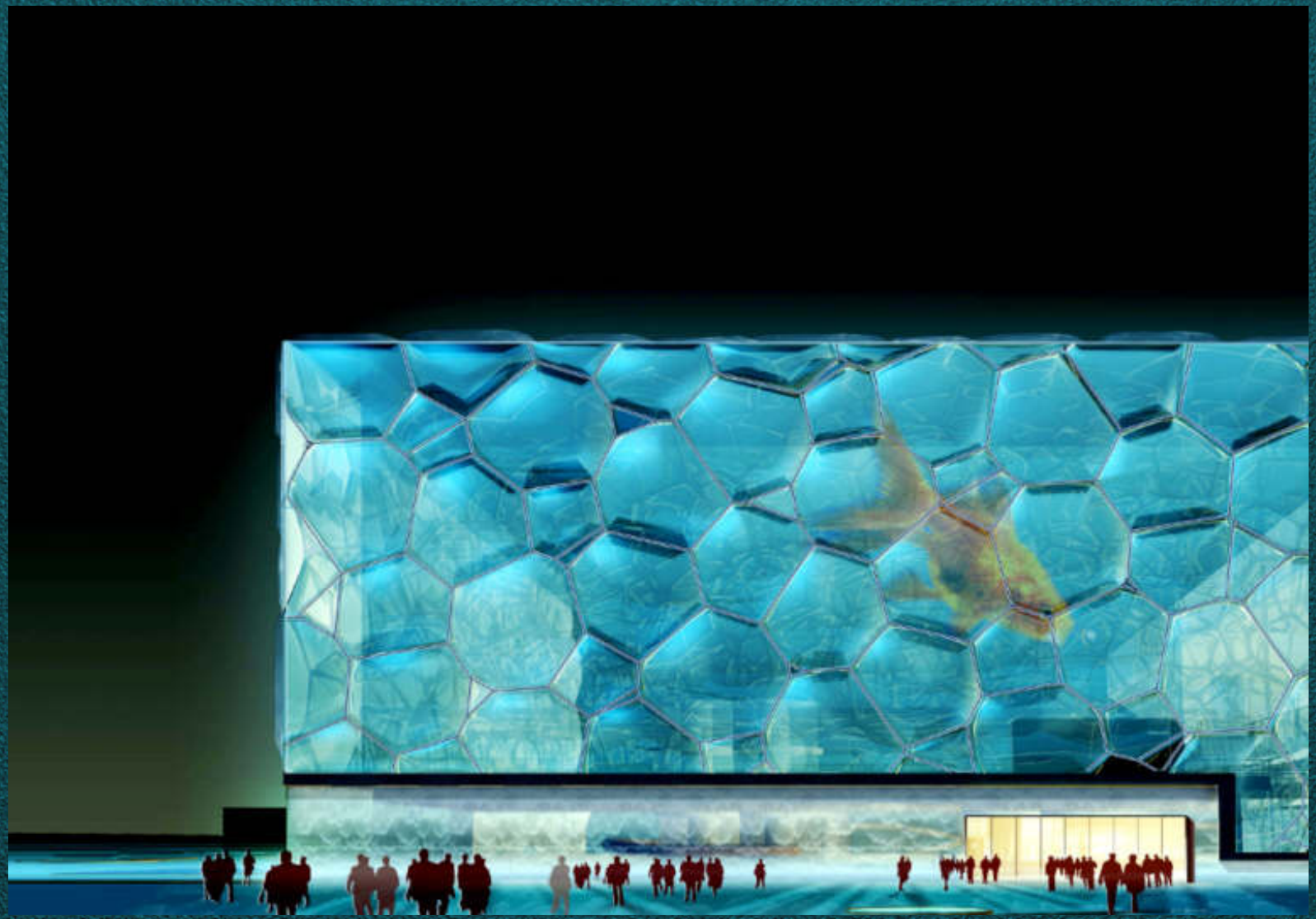
The Water Cube, Beijing



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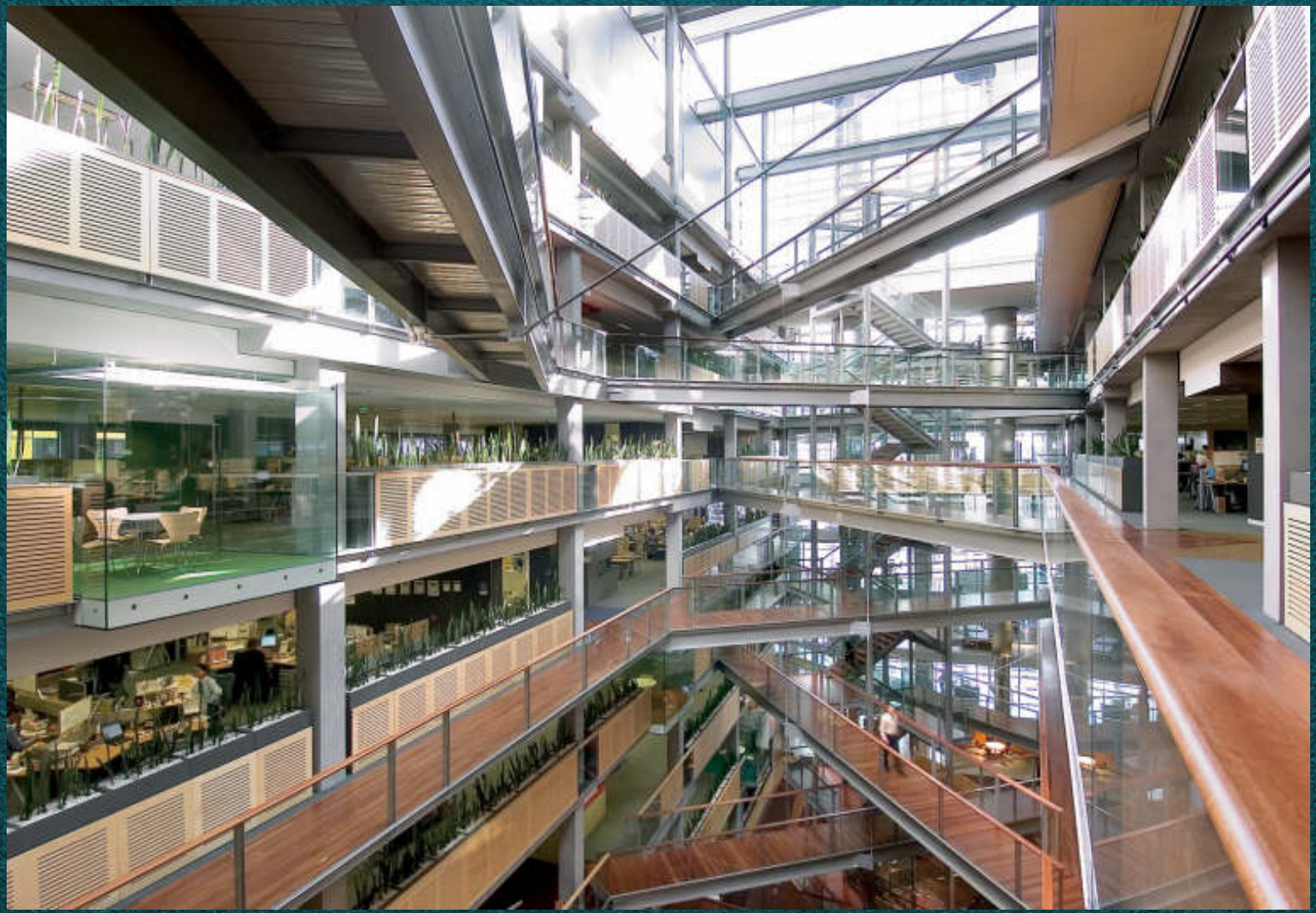
NAB Docklands



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DPI Queenscliff Centre

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Aurora Place

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University of Melbourne, School of Botany

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NORTHER REGION PROJECTS.....

Goodwill Bridge

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Brisbane Magistrates Court

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Cherborg Housing

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NORTHER REGION CONTACTS

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