Worlds best sustainability practice at Kogarah Town Square

Rod Simpson

194 apartments
2500sqm of retail space
2500sqm of commercial space
224 space public carpark
240sqm civic exhibition space
Worlds best sustainability practice at Kogarah Town Square

Rod Simpson, Peter Smith, Ross Chalmers and dedicated team at Allen Jack + Cottier Architects

Enlightened Bureaucrats at Kogarah

Elected politicians prepared to be swayed

Urban design by Civitas, Russell Olsson, Chip and Wendy, AJ+C

A developer keen to establish a presence in Oz (and probably didn’t fully appreciate what they had got into)

Tradesmen who couldn’t understand why the drawings should take precedence over what they did yesterday

A Commonwealth Government very interested in “demonstration projects” rather than systemic change

The momentum of the project that became unstoppable - building a constituency and a project that was longer than a political term
Major centres in Sydney
Towns, villages, and neighbourhoods
Kogarah and its sub-catchment
The site: sacred parking site, houses and churches

- Hospital
- Presbyterian Church
- Dept Health
- Car Park
- Orthodox Church
- Council Offices
- TAFE
- St George Bank
- Rail Station
Varying Objectives

Council
- Test DCP
- Return on equity
- Model

Community
- Carparking
- Identity (not Hurstville)

Developer
- Profit and Profile

Architects
- Fame and Fortune
Process

Community Consultation
Town Centre DCP
Detailed DCP for Site
Combined commercial and architectural tender
Council risk averse- tender collapses
Good money but not preferred design
Marriage of convenience
Project promotion- model development
Detail in Development Approval crucial to quality
Developer objectives - detailed design
Council implementation - seeing it through
Urban Design

Town Centre Precincts

The Town Centre consists of eight precincts based on the individual physical urban characteristics of each area. We have identified the existing character of each precinct and have set a desired future of the character for the areas.

- Railway Parade Precinct
- Premier Street Precinct
- Montgomery Street Precinct
- Belgrave Street Precinct
- Kensington Street Precinct
- The Hospital Precinct
- Chapel Street Precinct
- Princess Highway Precinct

**Desired Future Character**

- Promote a;
  - Mixed-use precincts with retail, commercial and residential use
  - The creation of a pedestrian realm
  - A high-quality public realm
  - The promotion of pedestrian links
  - The rediscovery of hidden streets
  - Rail-oriented urban village

Kogarah's Town Square
Urban Design- Built form
Urban Design - specification of development potential
Urban Design - using development control as a last resort

COMPLYING PLAN EXAMPLE
PLAN 1:200
Urban Design - the last resort facade

POSSIBLE FACADES
Urban Design - responding to context
Urban Design - design OK money not so good
The sponsors get their day in the sun
Urban Design - the last resort as built
Urban Design - re-graded and activated lane - stratum
Urban Design - home office/ professional suite in operation
Architectural expression - minimal redundancy
Architectural expression - minimal redundancy
Urban Design - the DCP applied
Passive Design

75% of apartments cross-ventilated
87% northerly aspect
60% naturally vented+lit baths
most kitchens on outside wall
Integrated systems

- Sun
- Gas
- Stormwater
- Bore
- Rain
- Food

Processes:
- Photovoltaics
- Lighting
- Gas cooking
- Solar collectors
- Appliances
- Gasboosting
- Laundry
- Hotwater
- Consumption
- Toilet flushing
- Sewage treat
- Effluent
- Sludge
- Disinfection
- Composting
- Garden

Site boundary:
- To stormwater
- To harbour
Integrated systems
Integrated Water and Landscape Design- Allawah Model

- tertiary treatment for up to 1:3 month

- flood control

- rainwater for irrigation, carwashing, toilet flushing for 38 of 42 bathrooms

  **EQUALS**

  - 600,000 litres of potable water saved
  - 93% of stormwater treated to tertiary standard
Integrated Water Management

48% less mains water

$2 per sqm for treatment

$10 per sqm for reuse

Saving 5789kL per annum of potable town water that would otherwise be used for irrigation.

85% of the 8,230 kilolitres of rainwater annually is captured and used;

60% is used to flush toilets and irrigate;

25% of the water is stripped of most of the nutrients it contains.
Integrated water management - source separation and fit for purpose

- **Private Terraces** 770 sqm
  - Screen/silt trap
  - Control tank at high level
  - Main Storage 1 - clean
  - Filter / disinfection
  - Water Feature
  - Pump/sump

- **Roofs** 5172 sqm
  - GPT
  - Screen/silt trap
  - Main Storage 2 - dirty
  - Irrigation
  - Control pit
  - Stormwater
  - Sewer

- **Town square** 1257 sqm
  - Control tank at high level
  - O'Keefes Lane

- **Landscape courts** 1497 sqm
  - high event overflow

**Toilet flush + Carwash**
Integrated Water management and Landscape design
Integrated Energy Systems

1659 photovoltaic cells integrated into the roof,

153MWh of electricity.

143 tonnes of carbon dioxide emissions

Further savings through passive solar design

No air-conditioning
Critical success factors

Equity: Council car park opportunity
Inspiration: Enlightened General Manager
Committed staff: Brian Bell, Mike Mouritz, Bruce Taper
Strategic necessity: SEPP 53 residential strategy
Zeitgeist: green Olympics, “demonstration project”
Longevity: project longer than political term
Renewal: Critical mass of employment & changing demographic
Context: part of a bigger picture
Marketing: Developer differentiation
Market: on the upward slope of a boom
Conclusions

Can’t rely on such an alignment of the stars

No more demonstration projects- time now for the real thing

Streamline the process eg BASIX

Industry doesn’t innovate (much) without regulatory environment

Community benefits must be visible and obvious

Concentrated significant change may be easier than scattered moderate change- contain the pain

Timing- time for change

Build as broad a constituency as possible- win win win win

Innovation should be in anticipation of need