ESD Assessment against SEPP65+RFDC Criteria

Issue	Objective/ Control	Design response	notes
Apartment layout	maximise environmental performance of apartments	High targets set for demonstration project through Sustainable Sydney 2030 targets. Kinesis work rates design at 44% reduction in energy against 24.4% BASIX target	reliance on mechanical systems reduced. May result in cost savings. Possible shared laundries etc improve perfomance/cost through sharing
	provide high standards of residential amenity	single orientation apartments are at minimum, and where located are north facing, >80% receive cross vent (via plenum or common spaces) or corner ventillation to north	maximising livability/amenity and improving indoor air quality.
	Single aspect limited depth from window	35sqm studios receive uninterrupted northern exposure to bedroom and living space	Minimal number in the mix of single orientation. All units should achieve 8-9m maximum depth from external openings
	standard affordable sizes	Rigorous testing of 35sqm studio, 50sqm 1 bed, and <70sqm 2 bed affordable units achieving amenity listed above	seeking variation from SEPP65 and DCP minimum sizes based on achieving affordability
	Back of the kitchen no more than 8m from window	Design complies in all conditions for accessible, affordable, and market modules	internal amenity maintained between living and dining. Ventillation of food spaces.
Internal circulation	number of units accessed from single core limited to 8, 4 preferred.	Maximum loading for HT modules is 6. minimal internal circulation. 5 entries per core typical	reduces commonly airconditioned spaces. Isolated ore promotes openings to the circulation space. All common circulation located adjacent to external wall for ventillation + natural light
	consolidted core	lift and stair access consolidated and legibly located	most fire escapes located adjacent to external walls wit daylight +fresh air minimising idle energy use
Daylight access	Living and private open spaces minimum 3 hours direct light in winter to 70% of apartments	Approx 90% apartments receive in excess of 3 hours winter direct sun exposure	shading and structural configuration to reflect solar protection to exposed tower elements in summer
	limit the number of single aspect dwellings to south	No single aspect dwellings facing south	
	optimise to north	all blocks and apartments where possible are oriented to north or dual aspect	maximum winter sunlight. Minimal reliance on mechanical systems
Natural Ventillation	Building depth between 10 and 18m maximum	HT building depths range between 13 and 15m glass to glass. Optimal	optimal for cross and corner ventillation
	60% units naturally cross ventillated	>80% HT units are cross or dual ventillated	where single orientation units occur primary orientation is to north
	25% kitchens should have access to ventillation	Accessible, market comply almost 100%	Affordable modules combined living/dining/kitchen open directly to primary private space
	Optimise solar access	Block configuration and heights calibrated for maximum solar access	further design development post feasibility
	support landscape design	consolidated courtyards provide microclimatic and amenity provision	existing significant plantings retained where possible
	Contribute to Street character	Street wall buildings with active edges. Eliminated blank walls. Height responsive to street reservation and context	further design development post feasibility
	thermal efficiency	shallow building depth with preference to north orientation. Emphasis on quality glazing and sun shading to key orientations	mass in concrete construction.

Issue	Objective/ Control	Design response	notes
Parking	Minimise dependency on car	0.49 market rate, 0 provision for other. Equates to cost saving and ongoing resource usage for lighting and ventillation. Eliminates initial embedded energy	close proximity to city and public transport + extensive services. Legible street network
	Integrate location and design of parking with site and building	basements consolidated to building footprint. Entries minimised 1 per block	promotes consolidated deep soil zones
Energy efficiency	reduce consumption of energy, water, resources	Basix requirements exceeded through preliminary Kinesis assessment of design. Initiatives include:	further ESD components to be additional to these reductions
		fluorescent lighting and variable fans to basements	
		maximum natural daylighting	achieved through design
		maximum cross ventillation	achieved through design
		gas instantaneous water heating	or alternate central gas boiler
		thermal performance through mass/glazing	initial cost offset by limited or no use of mechanical
		shared laundry	efficiency through common facility
		solar hot water	initial cost, lower ongoing electr usage
		photovoltaics	configured to provide year round addition to the grid. Multiple locations. Initial upfront cost
Deep Soil	Min 25% of open space to be deep soil zone	>75% of open space as deep soil achieved	limited basements, or efficient basement configuration below building footprint
Stormwater Treatment	integtrated to design	water sensitive urban design employed	capacity exists for rooftop harvest and stormwater mining on site + in wentworth park
rainwater harvesting	reduce potable consumption	minimum 2sqm per dwelling required. Storage on roof to provide gravity feed for toilet flushing	further to the 3-4 star fixtures recommended in initial water use savings
roof design		green roofs provided to all buildings	provides common green space, shared passive clothes drying, communal garden, water

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4.3 Sydney 2030 Assessment

Sustainable Sydney 2030 target achievements

		Target	Achievement
10 TARGETS FOR 2030	**1**	By 2030, the city will reduce greenhouse gas emmissions by 50% compared to 1990 levels, and by 70% compared to 1990 levels by 2050	Preliminary Basix measurements provide a 44% reduction (20% qbove the benchmark of 24% purely through design). This enables massive reductions in dependence on mechanical forms of cooling + heating by conventional methods
	2	By 2030, the city will have the capacity to meet up to 100% of its energy demand and 10% of its water	allocation of a "green transformer" to connect the site + surrounding areas. Large capacity for water harvest and recycling associated with Wentworth Park from Blackwattle Lane
	3	By 2030, there will be atleast 132,000 dwellings (48,000 additional dwellings) in the city catering for an increased diversity of household types, including a greater share of families	Key aims of the project - expanded further in later targets
	4	By 2030, of all housing in the City, 7.5% will be social housing, and 7.5% affordable housing delivered by not-for-profit or other providers.	Key objective throughout project. Maximum affordable housing yield will increase chances of meeting and exceeding this objective
	5	By 2030, the city will contain atleast 465,000 jobs with an increased share in sectors that reflect the City's specialisations, namely finance, advanced business services, education, creative industries, and tourism.	opportunities to maximise catchment of workers in key industries through selection process
	6	By 2030, the use of public transport for travel to work by City Centre workers will increase to 80% and the use of non-private vehicles by city residents for work trips will increase to 80%	Well served by public transport. Evental numbers underpinned by complementary measures of 2030.
	7	By 2030, at least 10% of trips made in the City will be by cycling, and 50% by walking	Location well suited to walking and cycling. Higher levels should be desired from this development
	8	By 2030, every resident will be within a 10 minute walk (800m) to a main street with fresh food markets, childcare, health services and leisure, social, learning, and cultural infrstructure.	Harris St + Glebe Point Roads are existing main streets further focussed for 2030. Each posess key services within 800m expected to be greatly improved under 2030
	9	By 2030, every resident in the city will be within a 3 minute (250m) walk of continuous green links that connect the harbour foreshore, harbour parklands, Moore + Centennial Parklands or Sydney Park.	All 4 streets bordering the project are highlighted as part of the liveable green network with Harris Street + Glebe Point Road chosen as Green Corridors of focus. Key links are achieved to the harbour + Centennial/Moore Parklands
	10	By 2030, the level of community cohesion and social capital will have increased as measured by more than 45% of people believing that "most people can be trusted"	Diversity of housing promoted in the project between affordable, social, and market housing encourages interaction and understanding between residents - key to this measure

		Target	Achievement
A Leading Environmental Performer	**2.1**	Increase the capacity for local energy generation and water supply within city boundaries	allocation of a "green transformer" to connect the site + surrounding areas. Large capacity for water harvest and recycling associated with Wentworth Park from Blackwattle Lane
	2.2	Reduce waste generation and stormwater pollutant loads to the catchment	Provisions for green roofs, stormwater harvest, and sewer mining throughout design. Site offers ample harvest of water, with particular interest for any renewal of Wentworth Park
	2.3	Improve the environmental performance of existing buildings	Several key buildings remain on the CoS Site that offer great reuse opportunities allowing better performance than current usage allows
A City for Walking + Cycling	**4.1**	Develop a network of safe, linked pedestrian and cycle paths integrated with green spaces throughout both the City + Inner Sydney	All 4 streets bordering the project are highlighted as part of the liveable green network with Harris Street + Glebe Point Road chosen as Green Corridors of focus. Bay Street Links park-to-park
A lively, engaging City Centre	**5.1**	Strengthen the City's Pubic Domain identity + create more places for meeting, rest + leisure	Wide pedestrian zones, pocket parks, and shared zones feature to create unique and local features of new and existing streets within the project boundaries
	5.4	Increase the supply of small scale spaces for retail + small businesses on streets + lanes	retail + small business opportunities exist at ground level and in limited commercial premises along Bay Street + wentworth Park Roads
Vibrant local communities + economies	**6.1**	Maintain + enhance the role + character of villages	Significant adjoining Streets offer existing character improved and highlighted through public domain improvements to footpaths, plantings, and proposed built form. A new network of streets further enhances the finegrain, walkability, and character of the place
	6.2	Create a network of Activity Hubs as places for meeting, shopping, creating, learning and working for local communites	Activity hbs located at Harris Street + Glebe. Bay St offers a secondary activity centre to these hubs, all within 800m walking distance
	6.3	Provide a rich layer of accessible community-level social infrastructure, services, and programs across the city	Wentworth Park + potential upgrades offer huge potential for supportive social infrastrucutre. Existing assets include Ian Thorpe Pool, Broadway Supermarkets, the like
	6.4	Develop + support local economies and employment	Lower rents offered in Glebe and surrounds are in contrast to the City Centre offering opportunity for grass-roots industry and local emerging economies to propser with a greater demand from increased local residents and the increase in retail and office space associated with this project

		Target	Achievement
Housing for a diverse population	**8.1**	Facilitate the supply of housing by the private market	The project achieves a strong mix of market housing with affordable + social components.
	8.2	Ensure that housing development provide a diversity of housing opportunities for different lifestyle choices + household types	The combination of social, affordable, and market housing targets a wide range of housing choices more broadly suited to typical apartment developments. Apartment mixes have been careful considered in the feasibility
	8.3	Ensure that a substantial proportion of housing is aimed at the lower end of the market	The Social and Affordable components are rigorously tested to minimise size + efficiency whilst maintaining amenity to allow a lower end price
	8.4	facilitate and promote growth in the affordable housing sector including non for-profit and other housing providers	Project has potential to be divided into many stages/lots within stages to allow a multiplicity of providers of varying sizes to construct individual components
	8.5	facilitate + promote growth in the social housing sector to provide housing opportunities for those with very low incomes	A prediced number of 160 social homes are expected - replacing the existing 134.
Sustainable development, renewal, + design	**9.1**	Ensure renewal areas make major contributions to the sustainability of the City	This key site has green transformer, water harvest + recycling strategies in place able to not only increase sustainability for the site, but the greater area of Glebe
	9.2	Define + improve the City's streets, squares, parks, and open space, and enhance their role for pedestrians and in public life	A highly considered design palette has been used to create a Public Domain Plan which provides retention of on-street parking, high levels of Street-tree planting, as well as pedestrian priority through minimal cariageway widths
	9.3	Plan for a beautiful City + Promote design excellence	Maximum amenity with appropriate block structure + massing has been achieved through initial passive design to be further enhanced in later stages. Streets are celebrated as the ultimate public asset, with key park and shared zones, and plazas created
	9.5	Ensure new development is integrated with the diversity + grain of the surrounding City	New streets enable greater pedestrian permeability reminiscent of previous street densities. Built form responds to the heights and densities of the existing housing stock in the immediate vicinity
	9.6	Plan for the longer term structure of the City	New Streets will endure long after buildings have reached their life cycle and beyond. New streets associated with the project are a gift to the City's lasting legacy and anticipate the next wave of development

25 May 2009

scale:

0

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4.4 Representative Housing

This drawing shows three potential building layouts that can occupy the building envelopes proposed for the site.

Three building types are proposed, specific to the site and program. Block D1 is social housing and complies with Housing NSW mix and brief (refer 5.4 + 5.5).

Block G1 and G2 is affordable housing and demonstrates a layout for the typical 16.2m deep envelope (including balcony zones) across the site (refer 6.5 + 6.6).

Block F1 is market housing demonstrating a layout suitable for the proposed towers. All layouts satisfy the intent of SEPP65 and often exceed the Residential Flat Design Code (refer 6.7).

These layouts have been measured and used to generate the envelope to unit efficiencies used in the brief and yield spreadsheets (5.2, 5.3a+b, 6.2, 6.3a+b)

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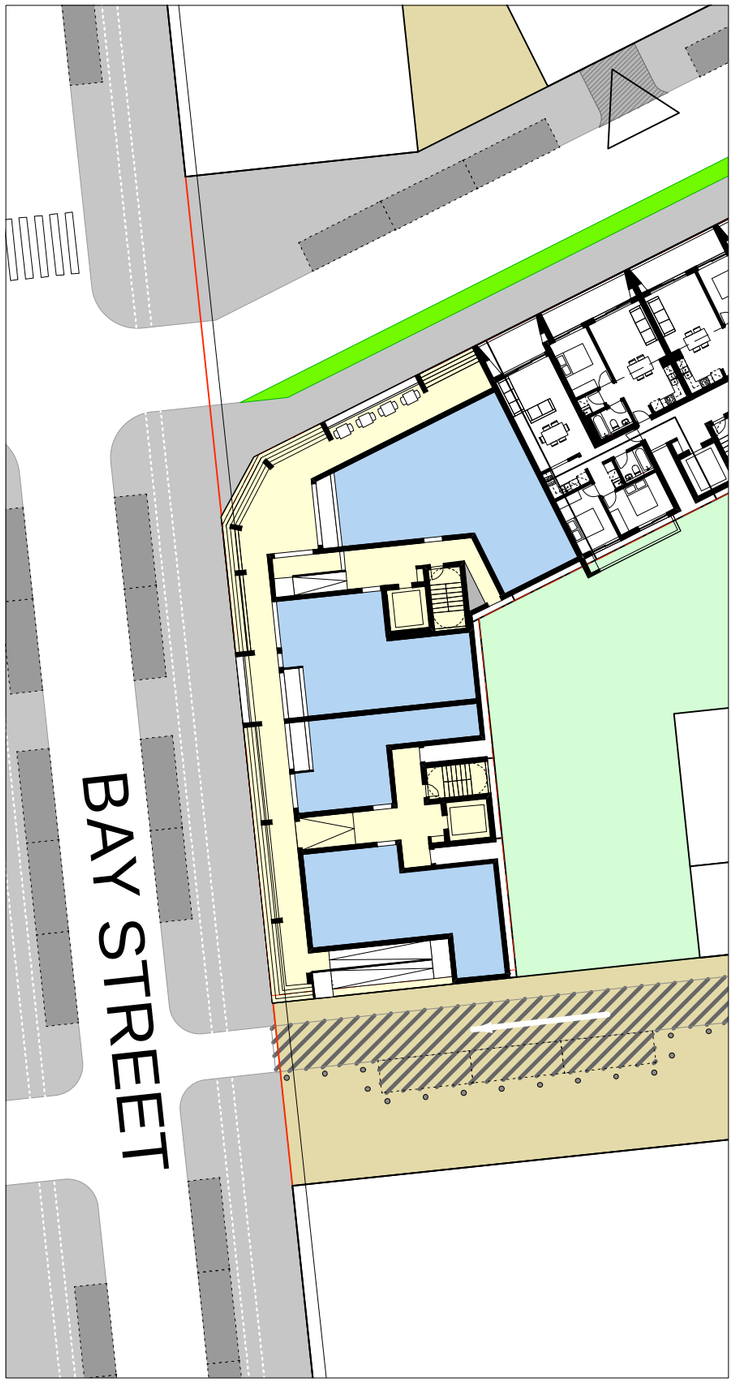

4.5
Street Level Interface

The ground floor condition assumes a free-board level of 1.2m above the lowest RL on the depot site. This aims to reduce the risks associated with a 1 in 100 year flood. It is hoped that further investigation into flood levels, velocity, and methods of aleviation will enable this free-board level to be reduced.

It is essential to maximise the communication of active uses as well as private entries to the street edge. Open collonades, strategic placement of entries, as well as careful planning of disabled access should be employed to enable this.

Areas noted are indicative retail yields given the conditions at the time of consideration.

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- Use figured dimensions only.
- Do not scale.
- Comply with relevant Authorities' requirements
- Comply with the Building Code of Australia
- Comply with all relevant Australian Standards

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4.6
Green Roof Potential

Green roofs are important environmental initiatives as well as being a sensible use of often under utilised space. This plan shows indicatively that a proportion of roof space can be given over to drying spaces, gardens and communal entertaining areas.

The most accessible parts of the roof are those immediately adjacent or between lift cores and stair wells, particularly where the building has a step in height at its topmost floor. These spaces are suitable for low shrubs, grasses, potted trees and clothes lines.

Top floor apartments with extended balconies can be separated from communal areas by a combination of level change and fencing. Corner conditions are suitable for larger spaces and could support small planted trees and shade structures.

Built courtyards over lower levels, such as those on Blocks E and F could consider larger scale trees, more substantial planting and more extensive paved areas able to be looked over by many upper floor apartments.

The roof of Block J, the depot, is of an even larger scale and is shown supporting communal productive fields of fruit, vegetables and flowers. Alternatively, the size of this space could support a recreation function such as two full tennis courts. Roofs that have the potential to face towards north have been shown with extensive solar panels.

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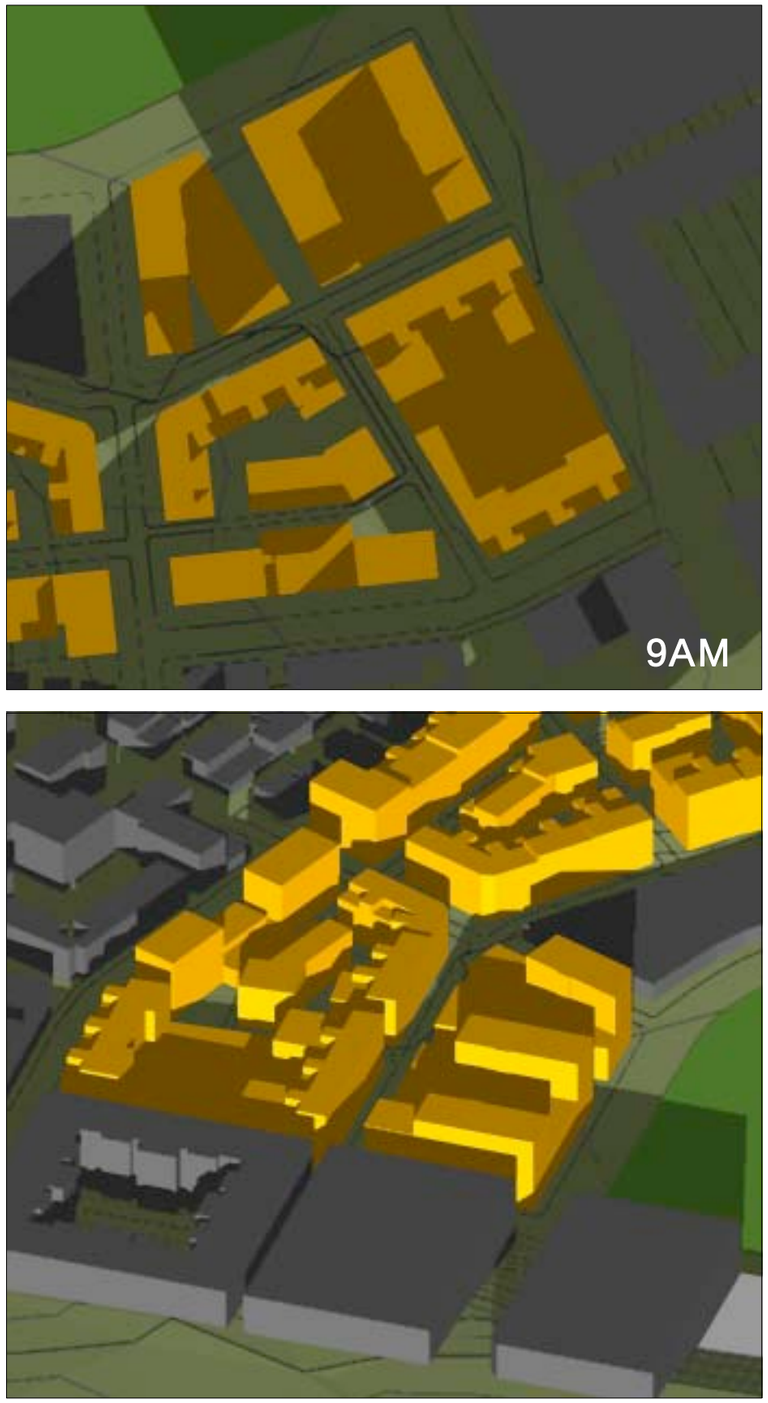
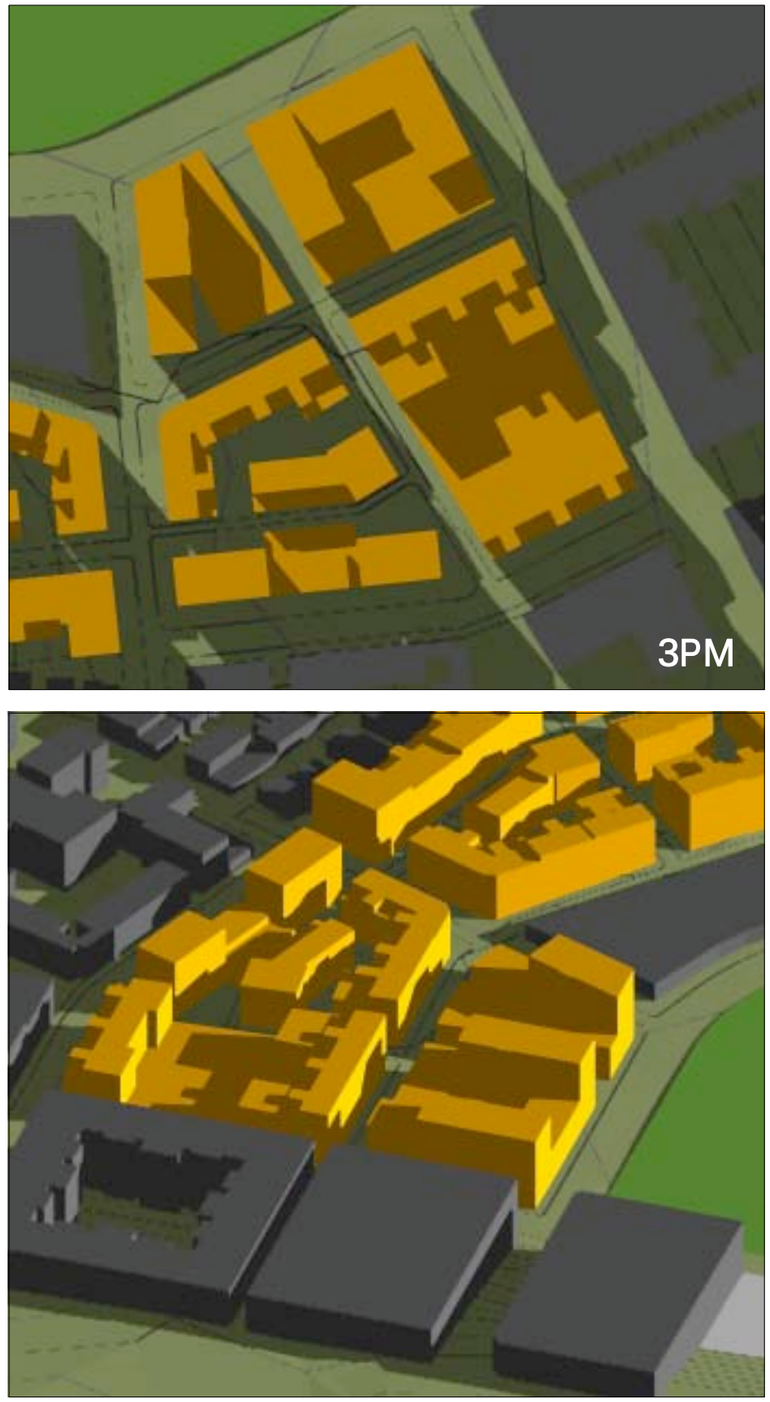
CoS Site Sun Angles

4.7
June 21





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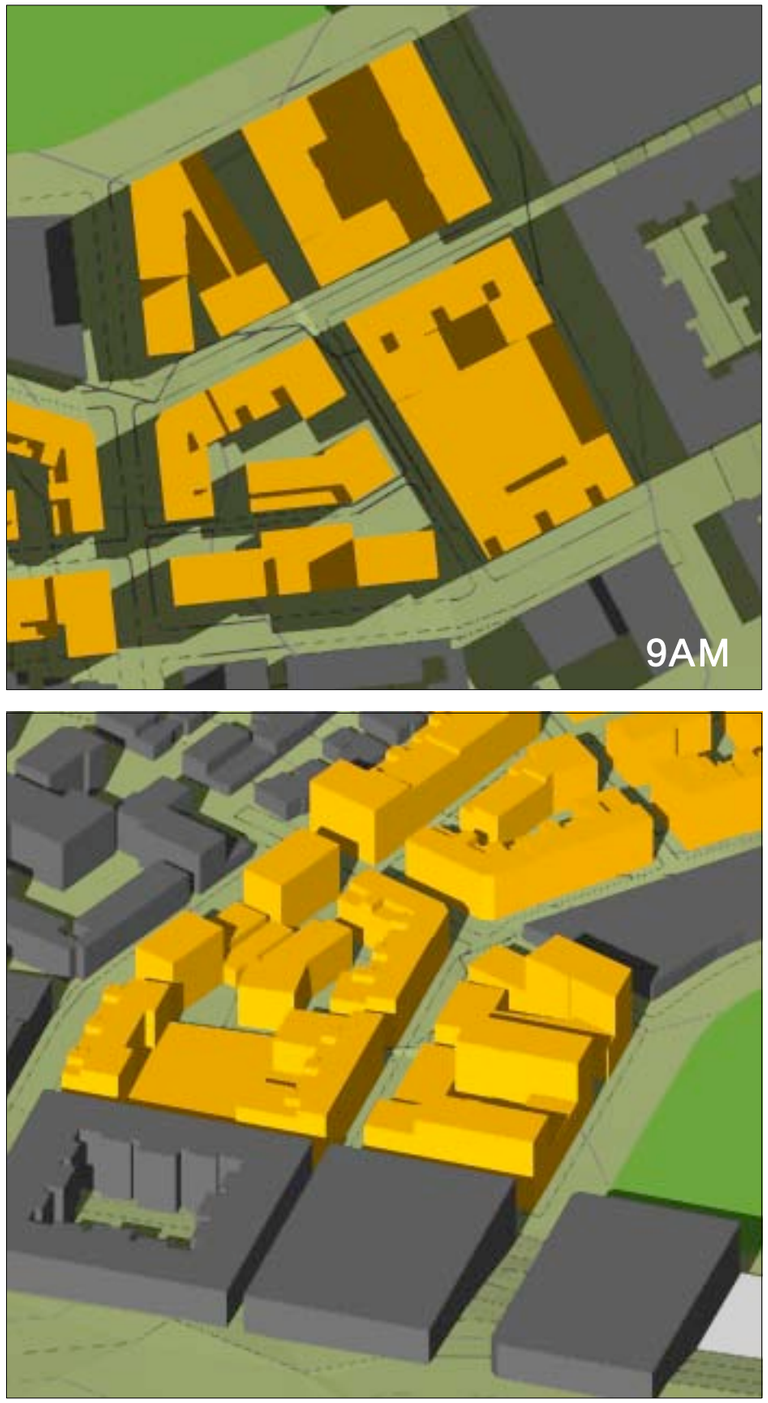
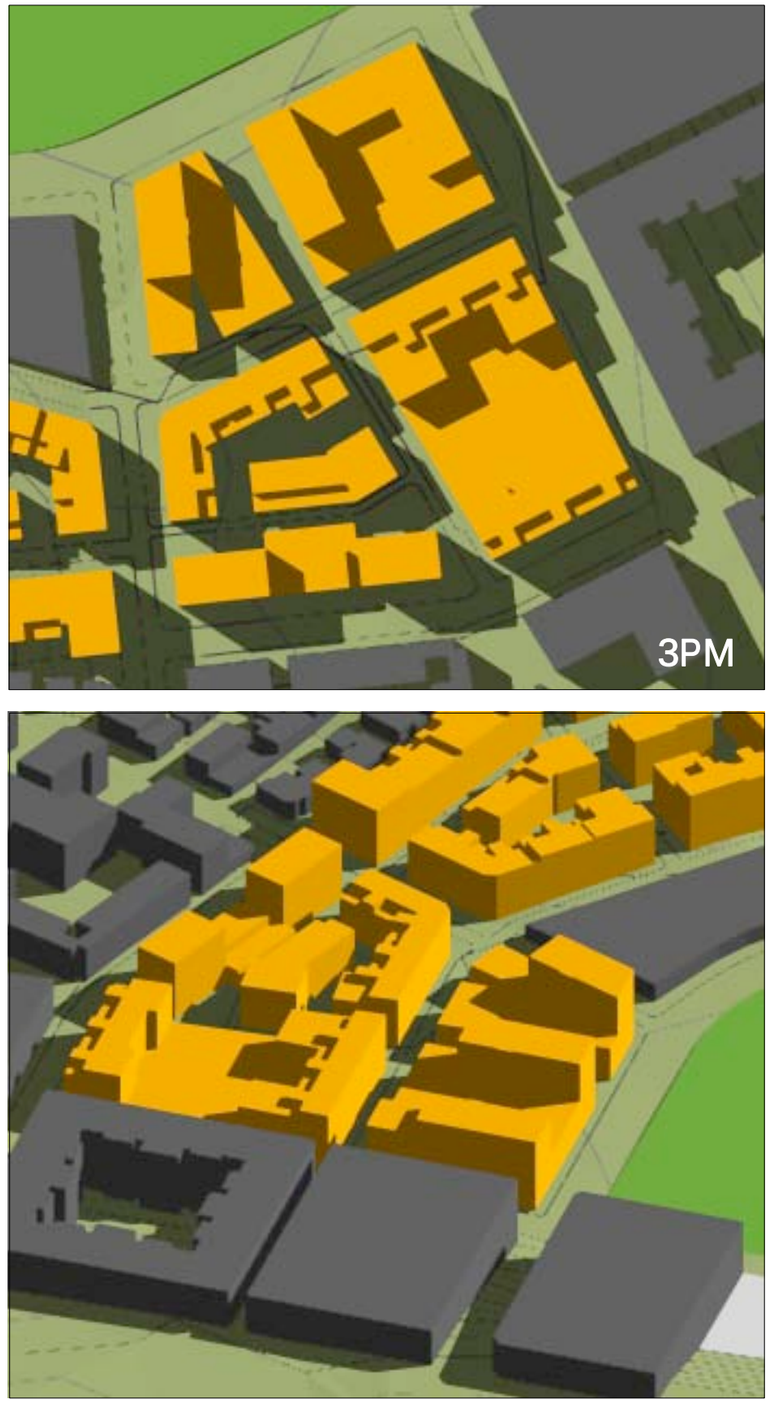
CoS Site Sun Angles

4.8
Sep / March 21





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HNSW Site

5.1
HNSW Site in Context

The Housing NSW site has been divided into four blocks by the introduction of two new streets. The layout of these streets relates to the alignment of neighbouring streets and is guided by the position of previous historical streets. The blocks are square or longer east-west in order to increase north facing orientation for new apartment buildings.

Envelopes for perimeter block housing have been designed for each block and modulated in height to balance relating to existing neighbouring conditions and the desired future character. These envelopes are a generic 16.2 metres deep allowing for thin section SEPP65 compliant buildings with good cross ventilation. Along Cowper Street, new built form steps up from four storeys at the south to seven storeys closer to Wentworth Park.

Building alignment / Setback

From Cowper Street the form on Blocks A and C is set back three metres to consolidate landscape area along this residential street. A six metre setback between Blocks C and D and neighbours to the south assists sunlight access and reinforces the landscape zone to aid in privacy.

Height

Most blocks are five and six storeys in height and have landscaped, deep soil courtyards. On Wentworth and Bay Streets, an additional half seventh storey is appropriate as this has no additional impact on shadows or amenity. However, other blocks necessitate a reduction in height to the south side of buildings to allow sunlight access to narrower courtyards and east-west streets.

Envelopes show indicative lift cores continuing to the uppermost level allowing the possibility of communal roof top gardens and clothes drying spaces.

Mixed Use

Commercial space is located at the base of Buildings B2 and D2 in order to strengthen Bay Street as a primary pedestrian street. Blocks A, B and D lend themselves to being developed in several parts by multiple parties.

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0802_Ultimo Affordable Housing
041008 BRIEF

DOH BRIEF

TOTAL APT (#) Brief	APT TYPE (Bed)	MIX (%)	APT (#)	SENIORS/DISABLED HOUSING (16m deep) BLOCK C APT (%) 0.5	APT TYPE (Bed)	MIX (%)	APT (#)	APT GEN (%) 0.0	APT SEN (%) 1.0	APT GEN (m2)	APT SEN (m2)	APT (m2) Average	CIRC & PW (m2) 0.1	INT SIZE (m2)	GFA (m2)	EXT WALL (m2) 0.1	VERT CIRC (m2) 0.05	BALC (m2)	ARTIC (m2) 0.05	EXT SIZE (m2)	FP (m2)	FP/GFA (ratio)	GFA/FP (ratio)	APT GFA (m2) Average	APT FP (m2) Average	RES CAR (rate)	RES CAR (#) inc Visitors	RES CAR (#) Average
160	Studio	0.0	0	80	Studio	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0.0	5.0	0.0	5.0	0					0.0	0	
	1	0.8	128		1	0.8	64	0	64	0	51	51.0	5.1	56.1	3590	5.6	2.8	10.0	2.8	77.3	4948					0.0	0	
	2	0.2	32		2	0.2	16	0	16	0	65	65.0	6.5	71.5	1144	7.2	3.6	15.0	3.6	100.8	1613					0.0	0	
	3	0.0	0		3	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0.0	20.0	0.0	20.0	0					0.0	0	
		1.0	160			1.0	80	0	80			53.8	5.4	59.2	**4734**	5.9	3.0	11.0	3.0	82.0	**6561**	**1.386**	**0.722**	**59.2**	**82.0**		**0**	**0.00**
				SENIORS/DISABLED HOUSING (20m deep) BLOCK D1																								
				APT (%) 0.5	APT TYPE (Bed)	MIX (%)	APT (#)	APT GEN (%) 0.0	APT SEN (%) 1.0	APT GEN (m2)	APT SEN (m2)	APT (m2) Average	CIRC & PW (m2) 0.065	INT SIZE (m2)	GFA (m2)	EXT WALL (m2) 0.063	VERT CIRC (m2) 0.03	BALC (m2)	ARTIC (m2) 0.16	EXT SIZE (m2)	FP (m2)	FP/GFA (ratio)	GFA/FP (ratio)	APT GFA (m2) Average	APT FP (m2) Average	RES CAR (rate)	RES CAR (#) inc Visitors	
				80	Studio	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0.0	5.0	0.0	5.0	0					0.0	0	
					1	0.8	64	0	64	0	53	53.0	3.4	56.4	3612	3.6	1.7	10.0	9.0	80.7	5166					0.0	0	
					2	0.2	16	0	16	0	65	65.0	4.2	69.2	1108	4.4	2.1	15.0	11.1	101.7	1628					0.0	0	
					3	0.0	0	0	0	0	0	0.0	0.0	0.0	0	0.0	0.0	20.0	0.0	20.0	0					0.0	0	
						1.0	80	0	80			55.4	3.6	59.0	**4720**	3.7	1.8	11.0	9.4	84.9	**6794**	**1.439**	**0.695**	**59.0**	**84.9**		**0**	**0.00**
				MARKET HOUSING BLOCKS A & B																								
				APT (%) 0.0	APT TYPE (Bed)	MIX (%)	APT (#)	APT GEN (%) 0.8	APT SEN (%) 0.2	APT GEN (m2)	APT SEN (m2)	APT (m2) Average	CIRC & PW (m2) 0.09	INT SIZE (m2)	GFA (m2)	EXT WALL (m2) 0.08	VERT CIRC (m2) 0.043	BALC (m2)	ARTIC (m2) 0.021	EXT SIZE (m2)	FP (m2)	FP/GFA (ratio)	GFA/FP (ratio)	APT GFA (m2) Average	APT FP (m2) Average	RES CAR (rate)	RES CAR (#) inc Visitors	RES CAR (#) Average
				200	Studio	0.08	16	13	3	40	45	41.0	3.7	44.7	715	3.6	1.9	5.0	0.9	56.1	898					0.0	1	
					1	0.4	80	64	16	55	60	56.0	5.0	61.0	4883	4.9	2.6	10.0	1.3	79.8	6386					1.0	84	
					2	0.4	80	64	16	80	90	82.0	7.4	89.4	7150	7.2	3.8	15.0	1.9	117.3	9380					1.0	84	
					3	0.12	24	19	5	105	115	107.0	9.6	116.6	2799	9.3	5.0	20.0	2.4	153.4	3682					2.0	49	
						1	200	160	40			71.3	6.4	77.7	**15548**	6.2	3.3	12.8	1.6	101.7	**20347**	**1.309**	**0.764**	**77.7**	**101.7**		**218**	**1.09**

COS BRIEF

TOTAL APT (#) Brief	APT TYPE (Bed)	MIX (%)	APT (#)	AFFORDABLE HOUSING BLOCKS G & H (ALSO A3, B3 & D2) APT (%) 0.50	APT TYPE (Bed)	MIX (%)	APT (#)	APT GEN (%) 0.8	APT SEN (%) 0.2	APT GEN (m2)	APT SEN (m2)	APT (m2) Average	CIRC & PW (m2) 0.083	INT SIZE (m2)	GFA (m2)	EXT WALL (m2) 0.071	VERT CIRC (m2) 0.041	BALC (m2)	ARTIC (m2) 0.052	EXT SIZE (m2)	FP (m2)	FP/GFA (ratio)	GFA/FP (ratio)	APT GFA (m2) Average	APT FP (m2) Average	RES CAR (rate)	RES CAR (#) inc Visitors	RES CAR (#) Average
400	Studio	0.1	40	200	Studio	0.1	20	16	4	35	40	36.0	3.0	39.0	780	2.8	1.6	5.0	2.0	50.4	1008					0.0	0	
(as many	1	0.45	180		1	0.45	90	72	18	50	55	51.0	4.2	55.2	4971	3.9	2.3	10.0	2.9	74.3	6686					0.0	0	
as possible)	2	0.35	140		2	0.35	70	56	14	65	75	67.0	5.6	72.6	5079	5.2	3.0	15.0	3.8	99.5	6962					0.0	0	
	3	0.1	40		3	0.1	20	16	4	90	100	92.0	7.6	99.6	1993	7.1	4.1	20.0	5.2	136.0	2720					0.0	0	
		1.0	400			1	200	160	40			59.2	4.9	64.1	**12823**	4.6	2.6	12.3	3.3	86.9	**17376**	**1.355**	**0.738**	**64.1**	**86.9**		**0**	**0.00**
				MARKET HOUSING BLOCKS E & F																								
				APT (%) 0.50	APT TYPE (Bed)	MIX (%)	APT (#)	APT GEN (%) 0.8	APT SEN (%) 0.2	APT GEN (m2)	APT SEN (m2)	APT (m2) Average	CIRC & PW (m2) 0.09	INT SIZE (m2)	GFA (m2)	EXT WALL (m2) 0.08	VERT CIRC (m2) 0.043	BALC (m2)	ARTIC (m2) 0.021	EXT SIZE (m2)	FP (m2)	FP/GFA (ratio)	GFA/FP (ratio)	APT GFA (m2) Average	APT FP (m2) Average	RES CAR (rate)	RES CAR (#) inc Visitors	RES CAR (#) Average
				200	Studio	0.08	16	13	3	40	45	41.0	3.7	44.7	715	3.6	1.9	5.0	0.9	56.1	898					0.0	1	
					1	0.4	80	64	16	55	60	56.0	5.0	61.0	4883	4.9	2.6	10.0	1.3	79.8	6386					1.0	84	
					2	0.4	80	64	16	80	90	82.0	7.4	89.4	7150	7.2	3.8	15.0	1.9	117.3	9380					1.0	84	
					3	0.12	24	19	5	105	115	107.0	9.6	116.6	2799	9.3	5.0	20.0	2.4	153.4	3682					2.0	49	
						1	200	160	40			71.3	6.4	77.7	**15548**	6.2	3.3	12.8	1.6	101.7	**20347**	**1.309**	**0.764**	**77.7**	**101.7**		**218**	**1.09**

NOTES

FSR assumption that circulation is enclosed	**270608**	Updated COS AH to reflect AH MODEL UNIT space allocation %s
Balcony sizes have been calculated for ground floor apartments		Added Articulation Column
Allowance for freeboard/flooding - housing can be set above/retail deepen fp?		Added DOH MKT table (awaiting brief)
Allow 1x1Bed for DOH common room per building	**030608**	Updated COS Total to 400 - require a MKT housing mix for calculation
AH unit sizes from CFAH advice	**180708**	Updated COS AH numbers and mix in accordance with objectives
DOH unit sizes reduced as agreed with DOH		Awaiting 'market analysis' to incorporate
MKT unit sizes from Colliers advice (low end of range)		Updated DOH numbers and mix in accordance with objectives
Allow 1x2Bed for car parking ramp blocks A & B		Smallest Resitech sizes used in table
		Awaiting direction for residual land/development
QUESTIONS	**190708**	MKT Housing assumed mix from DCP for both DOH and COS
DOH Need brief for remainder of DOH site - MKT? mix?		Average efficiencies tabulated as used in yield sheet
Need digital survey of DOH site		CIRC & PW, VERT CIRC, and ARTIC efficiencies updated for DOH and MKT
COS Need digital survey of COS site	**200708**	Corrected calculating error for Studios
MKT unit type (crossover)? Also adaptable?		Revised decimal points of figure (NB all figures are true figures)
		Added totals/weighted averages in grey
		APT SEN (adaptable apartments) kept at 20% for lifted buildings (Draft DCP 2008)
	240708	Car parking columns added
		Car parking rate as per Draft LEP 2008 - moderate category (includes visitors)
		Car parking rates are maximums
	080808	DOH unit sizes revised downwards
		DOH Seniors and disabled housing combined into top table - same size
		New table for DOH Seniors and disabled on building D1
		Building d1 is a deeper building type requiring different efficiencies (figures based on plan)
		Nominal split of 50/50 between the two building types
		Market housing mix, sizes and parking updated with Colliers figures
	270808	DOH, AH and MKT efficiencies revised in line with revised typical module plan studies

031008	Efficiencies of MKT and AH checked. Amended correctly previous issue.	
	Efficiency calculations do not ground floor foyers or plant rooms	
	Market housing net/gross efficiencies for Blocks A and B altered to show 84%	
	Car parking brief now reflect real estate market figures demonstrating short fall	
	Balcony figures have been reverted to St-5/1B-10/2B-15/3B-20sqm	
041008	Balcony figures corrected	
	Market housing net/gross efficiencies for Blocks A and B reverted to match COS MKT	

5.2 Brief

The brief spreadsheet takes the briefed apartment mix and net sizes for market housing, affordable housing and social housing, and applies efficiencies for circulation, party walls, external walls, balconies and articulation space to calculate a gross floor area, the gross size of each apartment, an average apartment size, the building efficiency and amount of car parking required. The results of this spreadsheet can then be applied to envelope measurements to determine a theoretical yield (5.3). The building efficiencies have been derived through the design of typical units types specifically suited to the building envelope depths.

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HNSW Site

0802_Ultimo Affordable Housing
041008 YIELD **OPTION 1**

DOH SITE	BLOCK	AREA (m2)				
	Block A	3386		FSR	3.21	
	Block B	3263		FSR	3.06	
	Block C	2809		FSR	2.24	
	Block D	2492		FSR	3.27	
	BLOCK TOTAL	**11941**		**BLOCK FSR**	**2.95**	:1 (GFA TOTAL / BLOCK TOTAL)
	Open Space	3995				
	SITE AREA	**15936**		**SITE FSR**	**2.21**	:1 (GFA TOTAL / SITE AREA)
	Site Efficiency	0.75				

	BUILDING	FOOTPRINT (m2)	HEIGHT (Storeys)	ENVELOPE (m2)	COMM ENV (m2)	COMM GFA (m2)	RES ENV (m2)	RES GFA (m2)	UNITS (#)	TOTAL GFA m2	COMM CAR (#)	RES CAR (#)	CAR (m2)
						0.64		0.764	77.7		/125	1.09	36
BLOCK A	a1	473	6	2838	0	0	2838	2169	28	2169	0	30	1095
	a2(i)	771	7	5397	0	0	5397	4124	53	4124	0	58	2082
	a2(ii)	522	6	3132	0	0	3132	2393	31	2393	0	34	1208
								0.764	77.7			1.09	
	a3(i)	326	6	1956	0	0	1956	1495	19	1495	0	21	754
	a3(ii)	177	5	885	0	0	885	676	9	676	0	9	341
	TOTAL	**2269**		**14208**	**0**	**0**	**14208**	**10857**	**140**	**10857**	**0**	**152**	**5480**
	Open Space	1117											
	BLOCK AREA	**3386**									**Cars Provided on Site (#)**		**72**
	Block Coverage	0.67									**Car Park Area (m2)**		**2476**
								0.764	77.7			1.09	
BLOCK B	b1(i)	496	6	2976	0	0	2976	2274	29	2274	0	32	1148
	b1(ii)	346	5	1730	0	0	1730	1322	17	1322	0	19	667
	b2(i)	534	7	3738	534	342	3204	2448	31	2790	3	34	1334
	b2(ii)	152	6	912	152	97	760	581	7	678	1	8	321
								0.764	77.7			1.09	
	b3(i)	597	5	2985	0	0	2985	2281	29	2281	0	32	1151
	b3(ii)	204	4	816	0	0	816	624	8	624	0	9	315
	TOTAL	**2329**		**13157**	**686**	**439**	**12471**	**9530**	**123**	**9969**	**4**	**134**	**4937**
	Open Space	934											
	BLOCK AREA	**3263**									**Cars Provided on Site (#)**		**76**
	Block Coverage	0.71									**Car Park Area (m2)**		**2651**
								0.722	59.2			0.00	
BLOCK C	c1	469	4	1876	0	0	1876	1354	23	1354	0	0	0
	c2(i)	681	6	4086	0	0	4086	2948	50	2848	0	0	0
	c2(ii)	370	5	1850	0	0	1850	1335	23	1335	0	0	0
	c3	223	4	892	0	0	892	644	11	644	0	0	0
	TOTAL	**1743**		**8704**	**0**	**0**	**8704**	**6281**	**106**	**6281**	**0**	**0**	**0**
	Open Space	1057											
	BLOCK AREA	**2800**									**Cars Provided on Site (#)**		**0**
	Block Coverage	0.62									**Car Park Area (m2)**		**0**
								0.695	59.0			0.00	
BLOCK D	d1(i)	1093	6	6558	0	0	6558	4556	77	4556	0	0	0
	d1(ii)	342	5	1710	0	0	1710	1188	20	1188	0	0	0
								0.738	64.1			0.00	
	d2(i)	477	7	3339	477	305	2862	2112	33	2417	2	0	88
	TOTAL	**1912**		**11607**	**477**	**305**	**11130**	**7856**	**130**	**8161**	**2**	**0**	**88**
	Open Space	580											
	BLOCK AREA	**2492**									**Cars Provided on Site (#)**		**0**
	Block Coverage	0.77									**Car Park Area (m2)**		**0**
TOTAL						**744**		**34523**	**499**	**35267**	**6**	**286**	**10505**

COS SITE	BLOCK	AREA (m2)				
	Block E	2162		FSR	3.49	
	Block F	3630		FSR	4.05	
	Block G	3029		FSR	3.00	
	Block H	1516		FSR	4.11	
	Block J	5250		FSR	1.66	
	BLOCK TOTAL	**15587**		**BLOCK FSR**	**2.97**	:1 (GFA TOTAL / BLOCK TOTAL)
	Open Space	4399				
	SITE AREA	**19986**		**SITE FSR**	**2.32**	:1 (GFA TOTAL / SITE AREA)
	Site Efficiency	0.78				

	BUILDING	FOOTPRINT (m2)	HEIGHT (Storeys)	ENVELOPE (m2)	COMM ENV (m2)	COMM GFA (m2)	RES ENV (m2)	RES GFA (m2)	UNITS (#)	TOTAL GFA (m2)	COMM CAR (#)	RES CAR (#)	CAR (m2)
						0.64		0.764	77.7		/125	1.09	36
BLOCK E	e1	380	3	1140	1140	969	0	0	0	969	8	0	279
	e2	552	9	4968	552	353	4416	3374	43	3728	3	47	1805
	e3	892	4	3568	181	116	3387	2588	33	2704	1	36	1340
	e4	219	1	219	219	140	0	0	0	140	1	0	40
	TOTAL	**2043**		**9895**	**2092**	**1578**	**7803**	**5963**	**77**	**7541**	**13**	**84**	**3614**
	Open Space	119											
	BLOCK AREA	**2162**									**Cars Provided on Site (#)**		**44**
	Block Coverage	0.94									**Car Park Area (m2)**		**1643**
								0.764	77.7			1.09	
BLOCK F	f1	676	9	6084	256	164	5828	4453	57	4617	1	62	2295
	f2	487	4	1948	487	312	1461	1116	14	1428	2	16	653
	f3	661	9	5949	661	423	5288	4041	52	4464	3	57	2161
	f4	790	1	790	790	506	0	0	0	506	4	0	146
	f5	276	7	1932	276	177	1656	1265	16	1442	1	18	690
	f6	740	4	2960	0	0	2960	2262	29	2262	0	32	1142
	TOTAL	**3630**		**19663**	**2470**	**1581**	**17193**	**13138**	**169**	**14719**	**13**	**184**	**7237**
	Open Space	0											
	BLOCK AREA	**3630**									**Cars Provided on Site (#)**		**115**
	Block Coverage	1.00									**Car Park Area (m2)**		**3632**
								0.738	64.1			0.00	
BLOCK G	g1(i)	532	7	3724	532	340	3192	2356	37	2696	3	0	98
	g1(ii)	154	6	924	154	99	770	568	9	667	1	0	28
	g2(i)	451	6	2706	0	0	2706	1997	31	1997	0	0	0
	g2(ii)	265	5	1325	0	0	1325	978	15	978	0	0	0
	g3(i)	587	5	2935	0	0	2935	2166	34	2166	0	0	0
	g3(ii)	193	4	772	0	0	772	570	9	570	0	0	0
	TOTAL	**2182**		**12386**	**686**	**439**	**11700**	**8634**	**135**	**9073**	**4**	**0**	**276**
	Open Space	847											
	BLOCK AREA	**3029**									**Cars Provided on Site (#)**		**0**
	Block Coverage	0.72									**Car Park Area (m2)**		**0**
								0.738	64.1			0.00	
BLOCK H	h1	476	7	3332	0	0	3332	2459	38	2459	0	0	0
	h2(i)	344	2	688	688	440	0	0	0	440	4	0	127
	h2(ii)	283	6	1698	566	362	1132	835	13	1198	3	0	104
	h3	413	7	2891	0	0	2891	2133	33	2133	0	0	0
	TOTAL	**1516**		**8609**	**1254**	**803**	**7355**	**5428**	**85**	**6230**	**6**	**0**	**231**
	Open Space	0											
	BLOCK AREA	**1516**									**Cars Provided on Site (#)**		**0**
	Block Coverage	1.00									**Car Park Area (m2)**		**0**
								0.764	77.7			1.09	
BLOCK J	j1(i)	4992	2	9984	9984	8486	0	0	0	8486	0	0	0
	j1(ii)	258	1	258	258	219	0	0	0	219	0	0	0
	TOTAL	**5250**		**10242**	**10242**	**8706**	**0**	**0**	**0**	**8706**	**0**	**0**	**0**
	Open Space	0											
	BLOCK AREA	**5250**									**Cars Provided (#)**		**-**
	Block Coverage	1.00									**Car Park Area (m2)**		**-**
TOTAL						**13106**		**33163**	**465**	**46269**	**35**	**268**	**11359**

030608	Realigned streets from consolidated survey	080808	Relinked efficiencies to different cells on Brief spreadsheet
	Recalculated all Site/Block/Building Footprints		Added new efficiency row for Building D1
	Reduced building footprints to 16m		Blackwattle Lane widened for new culvert
180708	Updated DOH and COS average unit sizes and efficiencies		Adjusted block size/open space/building size for Blocks E,G & H
	Do 16m footprints cater for new mixes?		Adjusted block size/building size and height for Block J
190708	Recalculated all buildings with revised heights		Depot office areas as per depot design shown in blue (refer depot drawings)
	Revised heights informed by sun study and streetscape		Assume car parking blocks A & B semi basement
	Updated DOH and COS average unit sizes and efficiencies		Assume car parking Blocks E & F on grade, within building
	Average unit sizes an efficiencies now block by block ref to Brief		Car parking shown would replace ground floor uses in Blocks E & F (not calculated)
200708	GFA efficiencies and unit sizes updated with Brief figures	270808	Blocks A3, B3 and D2 now shown with AH efficiencies
240708	Car parking columns added		Blocks E, G & H revised given culvert position
	Car parking rate as per Draft LEP 2008 - moderate category (includes visitors)	270808	Drawings and calculations are based on new survey information distributed 011008
	Car parking shows maximum allowable spaces and size in m2 (Except for DOH)		The area of lift cores has been added to the uppermost floor of stepped buildings
	Blocks A and B Car (m2) totals include 150m2 for ramp		Roof deck can be calculated by looking at 'footprint' figure for building
	Individual block FSR calculations added		Blocks H and J have revised building break ups reflecting design changes
	Block J DEPOT/COMM split shown yellow in RES column (has own total)		Commercial GFA factor reduced to reflect freeboard (block e3 and J remain 0.85)
	Assumes no parking generated by depot		Car parking numbers and areas as drawn have been added for each block
			Block J Depot figures should be drawn directly from Depot drawings

5.3a
Yield

The yield spreadsheet measures the area of each site, each block within the site and each building envelope within the block as described on the urban design layout drawing (5.1). The Housing NSW site is comprised of Blocks A, B, C and D. Each building envelope is measured in plan and multiplied by the number of floors to give the total envelope area. Efficiencies for commercial and residential (the latter from the brief spreadsheet 5.2) are applied to derive the theoretical yield of each envelope. These are expressed as commercial GFA, residential GFA, and number of units. Car parking required is calculated and compared to what can be accommodated on site through design. The total yield for each site is captured at the bottom of the spreadsheet. These totals then inform the FSR calculations for the individual blocks and entire site.

25 May 2009

scale:

0

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- Use figured dimensions only.
- Do not scale.
- Comply with relevant Authorities' requirements
- Comply with the Building Code of Australia
- Comply with all relevant Australian Standards

5.3b
Yield

0802_Ultimo Affordable Housing

041008 **YIELD** **OPTION 2**

DOH SITE	BLOCK	AREA (m2)				
	Block A	3386		FSR	3.16	
	Block B	3263		FSR	3.02	
	Block C	2800		FSR	2.24	
	Block D	2492		FSR	3.27	
	BLOCK TOTAL	**11941**		**BLOCK FSR**	**2.94**	**:1 (GFA TOTAL / BLOCK TOTAL)**
	Open Space	3995				
	SITE AREA	**15936**		**SITE FSR**	**2.20**	**:1 (GFA TOTAL / SITE AREA)**
	Site Efficiency	0.75				

	BUILDING	FOOTPRINT (m2)	HEIGHT (Storeys)	ENVELOPE (m2)	COMM ENV (m2)	COMM GFA (m2)	RES ENV (m2)	RES GFA (m2)	UNITS (#)	TOTAL GFA m2	COMM CAR (#)	RES CAR (#)	CAR (m2)
						0.64		0.764	77.7		/125	1.09	36
BLOCK A	a1	473	6	2838	0	0	2838	2169	28	2169	0	30	1095
	a2(i)	771	7	5397	0	0	5397	4124	53	4124	0	58	2082
	a2(ii)	522	6	3132	0	0	3132	2393	31	2393	0	34	1208
								0.738	64.1			0.00	
	a3(i)	326	6	1956	0	0	1956	1443	23	1443	0	0	0
	a3(ii)	177	5	885	0	0	885	653	10	653	0	0	0
	TOTAL	**2269**		**14208**	**0**	**0**	**14208**	**10783**	**144**	**10783**	**0**	**122**	**4384**
	Open Space	1117											
	BLOCK AREA	**3386**									**Cars Provided on Site (#)**		**40**
	Block Coverage	0.67									**Car Park Area (m2)**		**1606**
								0.764	77.7			1.09	
BLOCK B	b1(i)	496	6	2976	0	0	2976	2274	29	2274	0	32	1148
	b1(ii)	346	5	1730	0	0	1730	1322	17	1322	0	19	667
	b2(i)	534	7	3738	534	342	3204	2448	31	2790	3	34	1334
	b2(ii)	152	6	912	152	97	760	581	7	678	1	8	321
								0.738	64.1			0.00	
	b3(i)	597	5	2985	0	0	2985	2203	34	2203	0	0	0
	b3(ii)	204	4	816	0	0	816	602	9	602	0	0	0
	TOTAL	**2329**		**13157**	**686**	**439**	**12471**	**9430**	**129**	**9869**	**4**	**93**	**3471**
	Open Space	934											
	BLOCK AREA	**3263**									**Cars Provided on Site (#)**		**41**
	Block Coverage	0.71									**Car Park Area (m2)**		**1416**
								0.722	59.2			0.00	
BLOCK C	c1	469	4	1876	0	0	1876	1354	23	1354	0	0	0
	c2(i)	681	6	4086	0	0	4086	2948	50	2948	0	0	0
	c2(ii)	370	5	1850	0	0	1850	1335	23	1335	0	0	0
	c3	223	4	892	0	0	892	644	11	644	0	0	0
	TOTAL	**1743**		**8704**	**0**	**0**	**8704**	**6281**	**106**	**6281**	**0**	**0**	**0**
	Open Space	1057											
	BLOCK AREA	**2800**									**Cars Provided on Site (#)**		**0**
	Block Coverage	0.62									**Car Park Area (m2)**		**0**
								0.695	59.0			0.00	
BLOCK D	d1(i)	1093	6	6558	0	0	6558	4556	77	4556	0	0	0
	d1(ii)	342	5	1710	0	0	1710	1188	20	1188	0	0	0
								0.738	64.1			0.00	
	d2(i)	477	7	3339	477	385	2862	2112	33	2417	2	0	88
	TOTAL	**1912**		**11607**	**477**	**385**	**11130**	**7856**	**130**	**8161**	**2**	**0**	**88**
	Open Space	580											
	BLOCK AREA	**2492**									**Cars Provided on Site (#)**		**0**
	Block Coverage	0.77									**Car Park Area (m2)**		**0**
TOTAL						**744**		**34349**	**510**	**35094**	**6**	**215**	**7943**

COS SITE	BLOCK	AREA (m2)				
	Block E	2162		FSR	3.49	
	Block F	3630		FSR	3.80	
	Block G	3029		FSR	3.00	
	Block H	1516		FSR	4.11	
	Block J	5248		FSR	3.17	
	BLOCK TOTAL	**15585**		**BLOCK FSR**	**3.42**	**:1 (GFA TOTAL / BLOCK TOTAL)**
	Open Space	4398				
	SITE AREA	**19984**		**SITE FSR**	**2.67**	**:1 (GFA TOTAL / SITE AREA)**
	Site Efficiency	0.78				

	BUILDING	FOOTPRINT (m2)	HEIGHT (Storeys)	ENVELOPE (m2)	COMM ENV (m2)	COMM GFA (m2)	RES ENV (m2)	RES GFA (m2)	UNITS (#)	TOTAL GFA (m2)	COMM CAR (#)	RES CAR (#)	CAR (m2)
						0.64		0.764	77.7		/125	1.09	36
BLOCK E	e1	360	3	1140	1140	969	0	0	0	969	8	0	279
	e2	552	9	4968	552	353	4416	3374	43	3728	3	47	1805
	e3	892	4	3568	181	116	3387	2588	33	2704	1	36	1340
	e4	219	1	219	219	140	0	0	0	140	1	0	40
	TOTAL	**2043**		**9895**	**2092**	**1578**	**7803**	**5963**	**77**	**7541**	**13**	**84**	**3614**
	Open Space	119											
	BLOCK AREA	**2162**										**Cars Provided on Site (#)**	**44**
	Block Coverage	0.94										**Car Park Area (m2)**	**1643**
								0.764	77.7			1.09	
BLOCK F	f1	676	9	6084	256	164	5663	4327	56	4491	1	61	2231
	f2	487	4	1948	487	312	1461	1116	14	1428	2	16	653
	f3	661	9	5949	603	386	5288	4041	52	4427	3	57	2151
	f4	790	1	790	93	60	0	0	0	60	0	0	17
	f5	276	7	1932	276	177	1656	1265	16	1442	1	18	690
	f6	740	4	2960	0	0	2664	1959	25	1959	0	27	989
	TOTAL	**3630**		**19663**	**1715**	**1098**	**16632**	**12709**	**163**	**13807**	**9**	**178**	**6881**
	Open Space	0											
	BLOCK AREA	**3630**										**Cars Provided on Site (#)**	**136**
	Block Coverage	1.00										**Car Park Area (m2)**	**4947**
								0.738	64.1			0.00	
BLOCK G	g1(i)	532	7	3724	532	340	3192	2356	37	2696	3	0	98
	g1(ii)	154	6	924	154	99	770	568	9	667	1	0	28
	g2(i)	451	6	2706	0	0	2706	1997	31	1997	0	0	0
	g2(ii)	265	5	1325	0	0	1325	978	15	978	0	0	0
	g3(i)	587	5	2935	0	0	2935	2166	34	2166	0	0	0
	g3(ii)	193	4	772	0	0	772	570	9	570	0	0	0
	TOTAL	**2182**		**12386**	**686**	**439**	**11700**	**8634**	**135**	**9073**	**4**	**0**	**276**
	Open Space	847											
	BLOCK AREA	**3029**										**Cars Provided on Site (#)**	**0**
	Block Coverage	0.72										**Car Park Area (m2)**	**0**
								0.738	64.1			0.00	
BLOCK H	h1	476	7	3332	0	0	3332	2459	38	2459	0	0	0
	h2(i)	344	2	688	688	440	0	0	0	440	4	0	127
	h2(ii)	283	6	1698	566	362	1132	835	13	1198	3	0	104
	h3	413	7	2891	0	0	2891	2133	33	2133	0	0	0
	TOTAL	**1516**		**8609**	**1254**	**803**	**7355**	**5428**	**85**	**6230**	**6**	**0**	**231**
	Open Space	0											
	BLOCK AREA	**1516**										**Cars Provided on Site (#)**	**0**
	Block Coverage	1.00										**Car Park Area (m2)**	**0**
								0.764	77.7			1.09	
BLOCK J	j1(i)	1156	7	8092	0	0	8092	6183	80	6183	0	87	3121
	j1(ii)	478	6	2868	0	0	2868	2192	28	2192	0	31	1106
	j2(i)	378	6	2268	0	0	2268	1733	22	1733	0	24	875
	j2(ii)	189	5	695	0	0	695	531	7	531	0	7	268
	j3(i)	923	7	6461	0	0	6461	4937	64	4937	0	69	2492
	j3(ii)	228	6	1356	0	0	1356	1036	13	1036	0	15	523
	TOTAL	**3300**		**21740**	**0**	**0**	**21740**	**16612**	**214**	**16612**	**0**	**233**	**8385**
	Open Space	1948											
	BLOCK AREA	**5248**										**Cars Provided on Site (#)**	**-**
	Block Coverage	0.63										**Car Park Area (m2)**	**-**
TOTAL						**3917**		**49346**	**673**	**53264**	**31**	**276**	**11526**

031008	New spreadsheet
	Blocks a3 and b3 amended to Affordable Housing
	Additional car parking at ground in Block F
	Car parking for Block F amended and commbes figures for F1, F3, F4 & F6 adjusted down
	Car parking for Blocks A & B only beneath MKT housing
	Block J shows INDICATIVE housing yield on depot site based on pattern of A & C
	NB Block J is shown as MKT without commerical or car parking
	NB Block J would likely be realigned for culvert

25 May 2009

scale:

0

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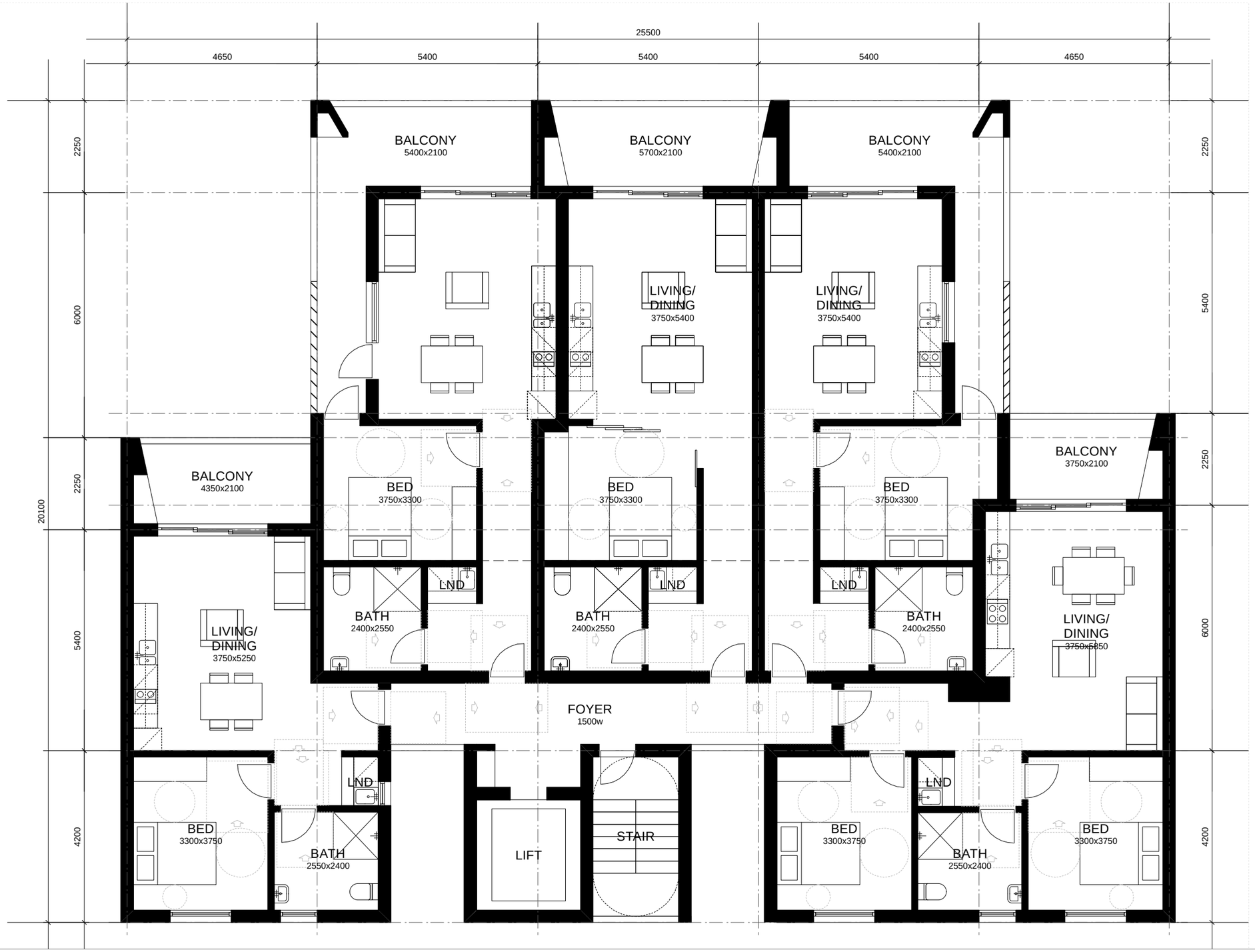
- Use figured dimensions only.
- Do not scale.
- Comply with relevant Authorities' requirements
- Comply with the Building Code of Australia
- Comply with all relevant Australian Standards



5.4
Block D Module Plan

This module has been developed for the envelope of Block D1 of the Housing NSW site. This envelope has an atypical depth of 20.1m. The designed layout provides deep courtyards that increase the length of the perimeter wall, number of windows, sunlight and air and effectively reduce the building depth to protect amenity.

40% of bathrooms are naturally lit and ventillated. 80% of apartments have dual orientation. 20% have single orientation to north.

Each core has five units per floor (4 x 1 bedroom and 1 x 2 bedroom) which reflect the Housing NSW brief for unit mix. All units have north facing living rooms and balconies. All units can be cross ventilated, either through north and south facing windows, or through a highlight window above the entry door. The foyer is unenclosed and has access to natural daylight and air. All service rooms can be naturally ventilated through a window or via a plenum above the foyer ceiling. The accessibility requirements (AS1428) are indicated in grey.

SPACE ALLOCATION

Apartments	282.7m2	55.2%
TOTAL SALEABLE	**282.7m2**	**55.2%**
Horizontal Circulation	19.4m2	3.8%
Party Walls	13.8m2	2.7%
TOTAL GFA	**315.9m2**	**61.7%**
External Wall	32.6m2	6.3%
Vertical Circulation	15.4m2	3.0%
Balconies	66.6m2	13.0%
Articulation	82.1m2	16.0%
TOTAL FOOTPRINT	**512.6m2**	**100%**

UNIT SIZES

1 Bed Internal	53.7m2
1 Bed Balcony	14.7m2
TOTAL	**68.4m2**
2 Bed Internal	67.7m2
2 Bed Balcony	7.9m2
TOTAL	**75.6m2**

External walls shown as 300mm
Internal walls sown as 150mm
Laundries 1200mm wide
Hallways 1200mm wide

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HNSW Site

5.5
Block D in Context

The typical module (5.4) is applied to the building envelope. Small adjustments are made to cater for end conditions. The module is mirrored across its party wall creating courtyards to the street to the north which can contribute to street landscaping. The entire building is set six metres off the southern boundary to retain a landscape zone providing privacy to and from the neighbours. Off street car parking is shown at the south west corner of the site which can have an undercover connection to a community room and lift core at ground floor.

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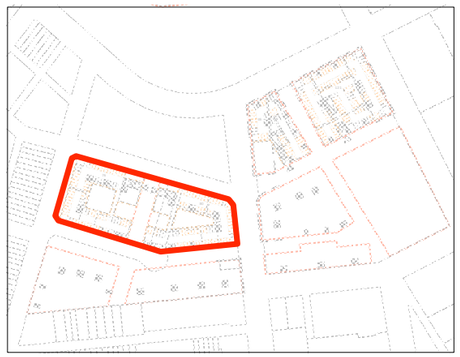
HNSW Site

5.6a
HNSW Basement Option 1



25 May 2009

scale: 1:400

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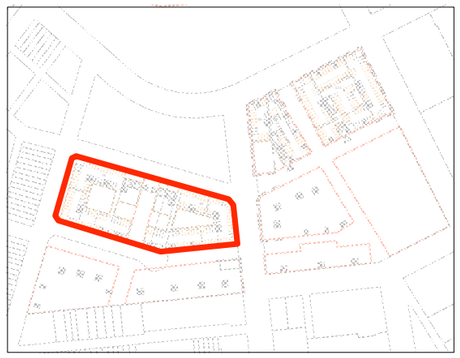
HNSW Site

5.6b
HNSW Basement Option 2



25 May 2009

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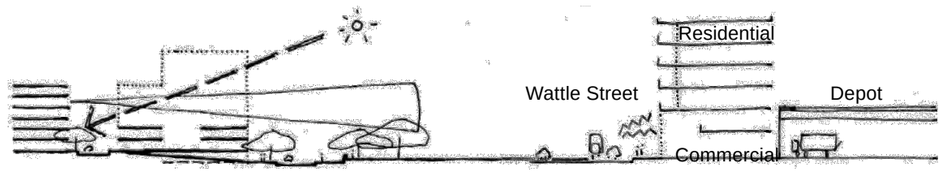
MIXED USE
Housing over existing commerical and church
Architect Tonkin Zulaikha Greer
York Street, Sydney



SUNLIGHT AND VIEWS
Tower forms on park allow north sun to southern blocks and views from southern blocks to Wentworth Park

COMMERCIAL SPACE
Commercial space at the ground two floors can act as a mediator between the heavy traffic of Wattle Street and noise of the operational Council Depot to residential use above

MIXED USE
Housing with retail component over fire station
Architect Angelo Candalepas
Bathurst Street, Sydney

MIXED USE
Housing over police station
Amsterdam

Built precedents around the world exist where service oriented uses are coulped with commerial and residential occupation.

Sydney examples include the coexistene of firestation and apartments in the busy Castlereagh Street. Apartments are also located adjacent to group and community uses such as the Scott's Church Hall.

Overseas examples also make the most of valuable urban land by combining the use of public infrastructure with housing. In Amsterdam (pictured left) the municipal police station houses residents above the working station.

In Paris the municipal government operates many depots over the expansive and denseley populated metro area. Examples of co-locations with depots include garbage collection and processing in Rue Du Meaux (Apartments and private court by Renzo Piano 7.2).

On Boulevarde Jourdan Housing attaches to a metropolitan bus depot servicing vehicles across the city. This housing is directly attached but buffered from the operations at ground level.

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