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Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness

18th June 2015 Reference: 15128.02FA

Urban Apartments
PO BOX 288
Enfield NSW 2136
Attention: Stephen Beaufils

PRELIMINARY TRAFFIC ADVICE OF MIXED USE MASTERPLAN AT HIGH STREET, PENRITH FOR SUBMISSION TO RMS AND PENRITH CITY COUNCIL

Dear Stephen,

Reference is made to your request to provide strategic traffic planning advice for the proposed masterplan development at High Street, Penrith (Concept Site layout in **Annexure A**). I advise that the best course of action for appropriate concept design of the masterplan is to refer to Roads and Maritime Services (RMS) and Penrith City Council (PCC) for traffic advisory input. Considering this, I have prepared a preliminary projection of traffic generation, traffic management measures and parking accumulation for the mixed use development, currently in concept design stage.

For the purpose of this preliminary assessment I have assumed the following potential development scale of the site:
Residential - 950 apartments with indicative mix of 10%/80%/10% for 1bed/2bed/3bed
Commercial - 12,320sqm total including the following mix of landuses:

- 533sqm Café
- 1,420sqm Restaurant
- 6,096sqm Showroom (Motor Dealer, Furniture etc)
- 4,284sqm Office and Business
- 476sqm Retail (Neighbourhood shops NOT Major Supermarket)

Based on the above scale we recommend parking supply of approximately 1480 spaces and project traffic generation in the peak hour to be 317/477/511 trips for the AM/PM/Weekend. The full analyses are reproduced in **Annexure B** and **Annexure C** for reference.

Proposed traffic management for the masterplan includes:

- Signals to replace the roundabout serving Penrith City Council carpark on High Street, 150m east of Mulgoa Road
- Southern approach to new signals introduced (Eat Street), including extension south to Union Lane and Union Road
- Full closure of John Tipping Grove north of Union road and replaced with pedestrian arcade
- Priority controlled intersection of Eat Street / Union Lane and Eat Street / Union Road
- One-way westbound traffic only on Union Lane
- New auxillary left turn lane from Mulgoa Road into Union Road
- Parallel parking and loading zones on Eat street

I recommend submitting this letter to the RMS Land Use (Development) division and PCC for preliminary review and feedback prior to refinement of the masterplan. Further, I suggest a meeting be held with the relevant traffic/project personnel of the RMS, PCC, M^{c}Laren Traffic Engineering and Urban Apartments to ensure a consistent approach to planning, design and assessment of the proposed High Street Precinct.

Please contact the undersigned should you require further information or assistance.

Yours faithfully
M^{c}Laren Traffic Engineering

Craig M^{c}Laren
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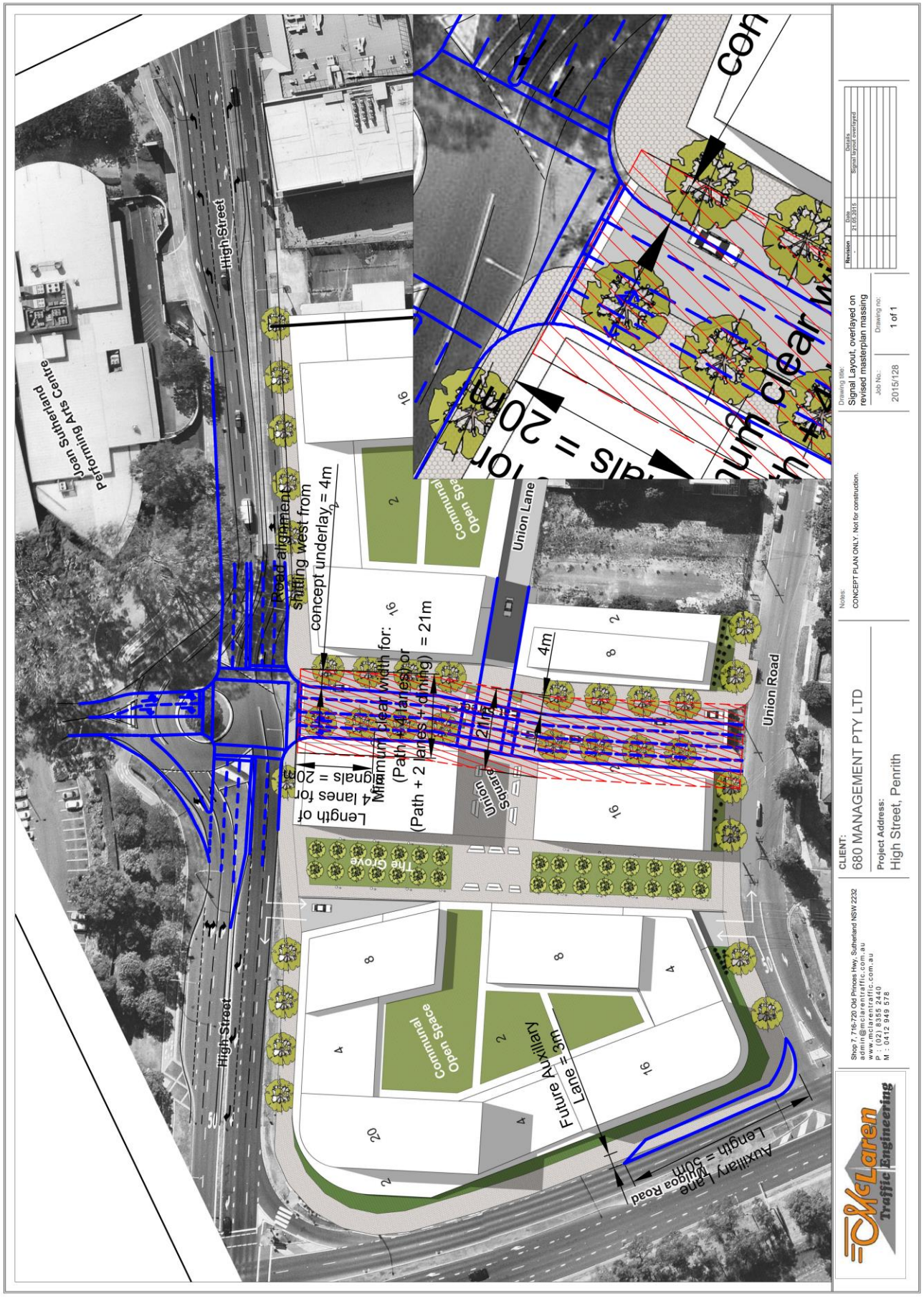
ANNEXURE A: CONCEPT SITE PLAN



ANNEXURE B: PRELIMINARY PARKING ACCUMULATION

PARKING ACCUMULATION WITH NO DUAL USE

Stage	Landuse	Scale	Parking								
			DCP			RMS			Recommended		
			Factor	Rate	Accumulation	Factor	Rate	Accumulation	Factor	Rate	Accumulation
	1 bed	95	1	1	95	1	0.6	57	1	1	95
	2 bed	760	1	1	760	1	0.9	684	1	1	760
	3 bed	95	1	2	190	1	1.4	133	1	2	190
	Res vis	950	1	0.2	190	1	0.2	190	1	0.17	158
	car wash	950	1	0.004	4						
	servicing	950	1	0.025	24						
a	café	128	1	0.033	4	1	0.045	6	0.1	0.020	0
	restaurant	295	1	0.215	64	1	0.15	44	1	0.183	54
	retail	476	1	0.033	16	1	0.045	21	0.1	0.033	2
	office	2000	1	0.01	20	1	0.009	18	0.1	0.020	4
b	café	255	1	0.033	9	1	0.045	11	0.1	0.020	1
	restaurant	783	1	0.215	169	1	0.15	117	1	0.183	144
	showroom	6096	1	0.02	122	1	0.0075	46	0.1	0.011	7
	office	1419	1	0.01	14	1	0.009	13	0.1	0.020	3
c	café	170	1	0.033	6	1	0.045	8	0.1	0.020	0
	restaurant	342	1	0.215	74	1	0.15	51	1	0.183	63
	office	865	1	0.01	9	1	0.009	8	0.1	0.020	2
total	Combined				1768			1408			1482
	Residential	950			1235			1064			1203
	Commercial	12829			505			344			278

PARKING ACCUMULATION WITH DUAL USE

	scale	staff	visitors	9 to 5		after 5		1 space per X	
				factor	demand	factor	demand		
café	553	0.01	0.01	1	11	0.1	1	café	50.0
restaurant	1420	0.01667	0.16667	0.5	130	1	260	restaurant	5.5
showroom	6096	0.00333	0.0075	1	66	0.1	7	showroom	92.3
office	4284	0.01	0.01	1	86	0.1	9	office	50.0
retail	476	0.01667	0.01667	1	16	0.1	2	retail	30.0
res vis	950		0.16667	0.25	40	1	158	res vis	6.0
res tenants	950	1.1		1	1045	1	1045		
total					1393		1482		

ANNEXURE C: PRELIMINARY TRAFFIC GENERATION

Stage	Landuse	Scale	Traffic Generation								
			AM			PM			Weekend		
			Factor	Rate	Generation	Factor	Rate	Generation	Factor	Rate	Generation
	1 bed	95	1	0.19	18	1	0.15	14	1	0.2	19
	2 bed	760	1	0.19	144	1	0.15	114	1	0.2	152
	3 bed	95	1	0.19	18	1	0.15	14	1	0.2	19
	Res vis	950	1		0	1		0	1		0
	car wash	950									
	servicing	950									
a	café	128	0.25	0.046	1	1	0.046	6	1	0.107	14
	restaurant	295	0	0.05	0	1	0.05	15	0.5	0.05	7
	retail	476	0.25	0.046	5	1	0.046	22	1	0.107	51
	office	2000	1	0.022	44	1	0.022	44	0.5	0.022	22
b	café	255	0.25	0.046	3	1	0.046	12	1	0.107	27
	restaurant	783	0	0.05	0	1	0.05	39	0.5	0.05	20
	showroom	6096	0.25	0.02	30	1	0.02	122	1.05	0.02	128
	office	1419	1	0.022	31	1	0.022	31	0.5	0.022	16
c	café	170	0.25	0.046	2	1	0.046	8	1	0.107	18
	restaurant	342	0	0.05	0	1	0.05	17	0.5	0.05	9
	office	865	1	0.022	19	1	0.022	19	0.5	0.022	10
total	Combined				317			477			511
	Residential	950			181			143			190
	Commercial	12829			137			335			321