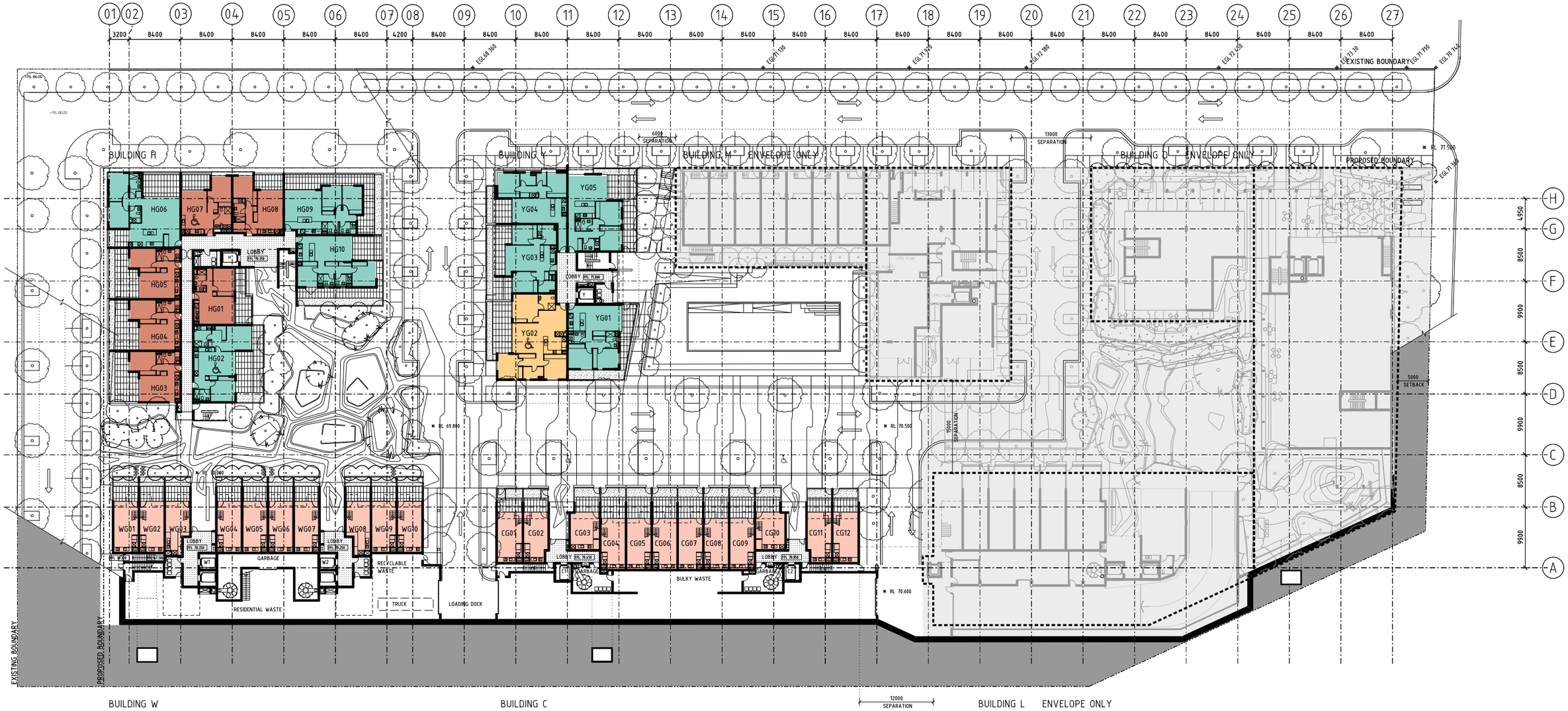
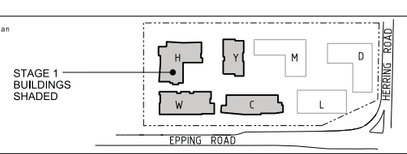


Revisions				
No	Date	Description	Ver	App'd
A	21.01.11	PART 3A SUBMISSION		

Stamford Property Services is a Singapore based company. For cultural reasons there are no levels 4,14 and 24.

Nominated Architects: Michael Heenan 5264, Peter Ireland 6661, Reginald Smith 3312, Peter Stronach 3372.

Site Location Plan



Client: STAMFORD LAND CORPORATION LTD

Architect: AJ+C Allen Jack+Cottier
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
ph +61 2 9311 8222 fx +61 2 9311 8200 ABN 53 003 782 250

Project: MACQUARIE VILLAGE
110-114 HERRING ROAD
MACQUARIE PARK

Proj No. 10_030

NORTH

Drawing Title: GROUND LEVEL PLAN

Drawing Status: NOT FOR CONSTRUCTION

Scale: 1:330 @ A1

Drawing No: DA2100

Issue: A

0 2 5 10 15 20 25

A1

PLOT DATE & TIME: 21/01/2011 12:10:03 PM PLOTTED & CHECKED BY: gibberson
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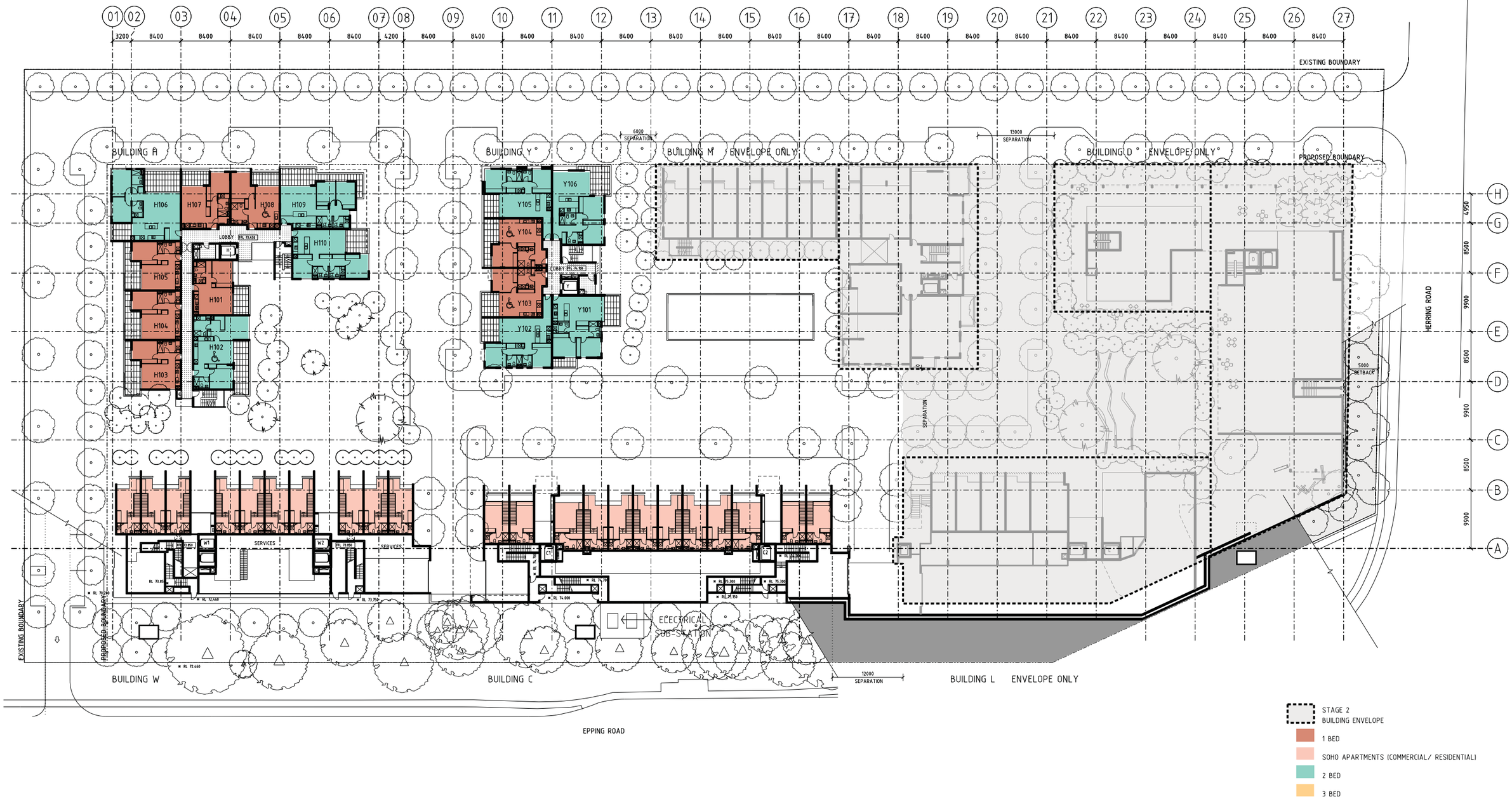

Revisions			
No	Date	Description	Ver | App'd
A	21.01.11	PART 3A SUBMISSION	

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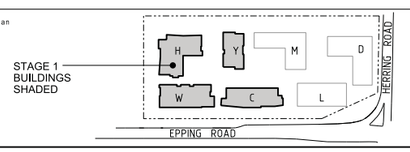
Nominated Architects: Michael Heenan 5264, Peter Ireland 6661, Reginald Smith 3312, Peter Stronach 3372.

Site Location Plan



Client

STAMFORD LAND CORPORATION LTD

Architect

AJ+C ALLEN JACK+COTTIER

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Project

MACQUARIE VILLAGE

110-114 HERRING ROAD
MACQUARIE PARK

Proj No. 10_030

NORTH

Drawing Title

LEVEL 1 PLAN

Drawing Status

NOT FOR CONSTRUCTION

Scale 1:330 @ A1 | Drawing No DA2101 | Issue A

0 2 5 10 15 20 25

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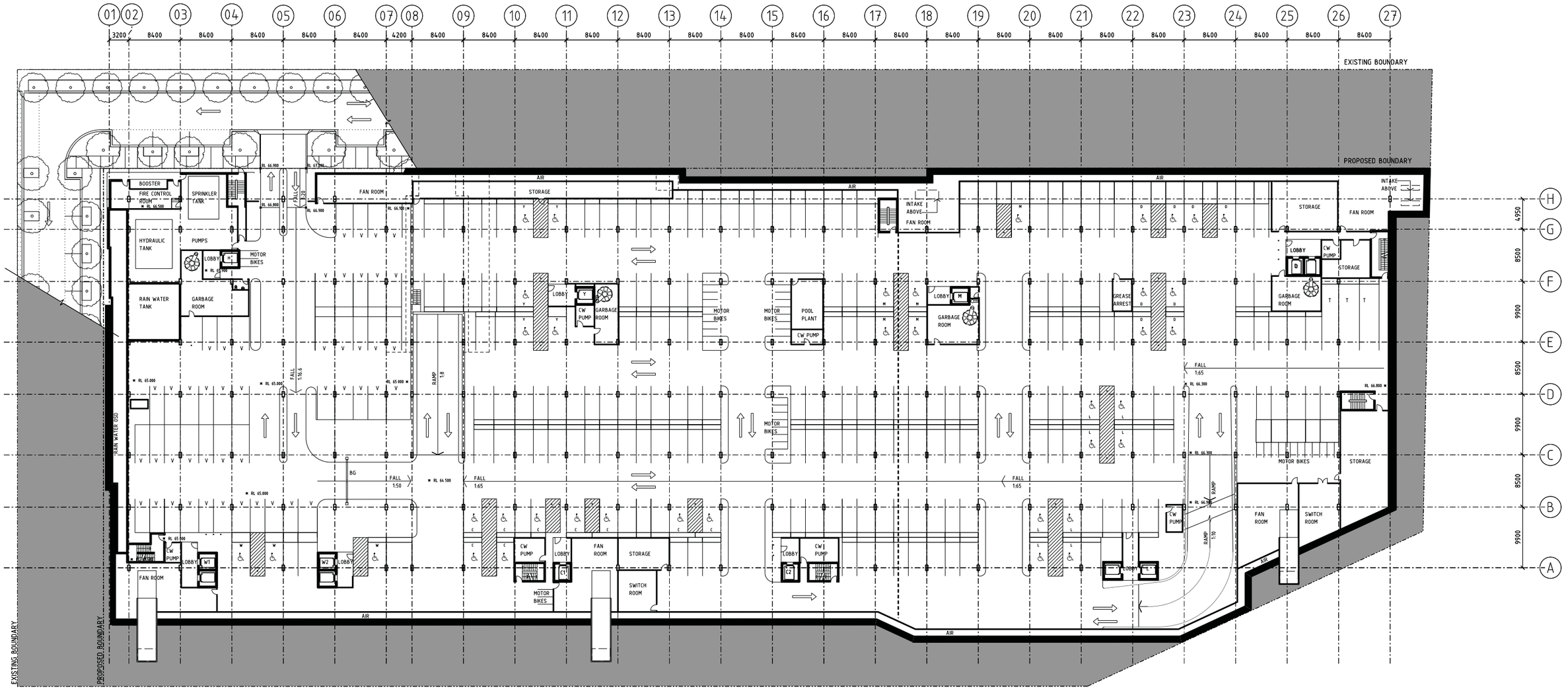

STAGE 1: STRUCTURE & ESSENTIAL SERVICES ONLY
STAGE 2: FITOUT, LAYOUT SHOWN IS INDICATIVE ONLY

Revisions			
No	Date	Description	Ver | App'd
A	21.01.11	PART 3A SUBMISSION	

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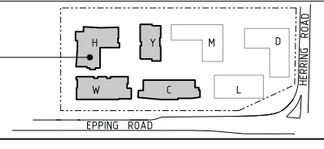
Nominated Architects: Michael Heenan 5264, Peter Ireland 6661, Reginald Smith 3312, Peter Stronach 3372.

Site Location Plan



Client
STAMFORD LAND CORPORATION LTD

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Project
MACQUARIE VILLAGE
110-114 HERRING ROAD
MACQUARIE PARK
Proj No. 10_030

NORTH

Drawing Title
LEVEL B1 PLAN

Drawing Status
NOT FOR CONSTRUCTION

Scale
1:330 @ A1

Drawing No
DA2001

Issue
A

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PLOT DATE & TIME: 21/01/2011 9:23:08 AM PLOTTED & CHECKED BY: gibbesson
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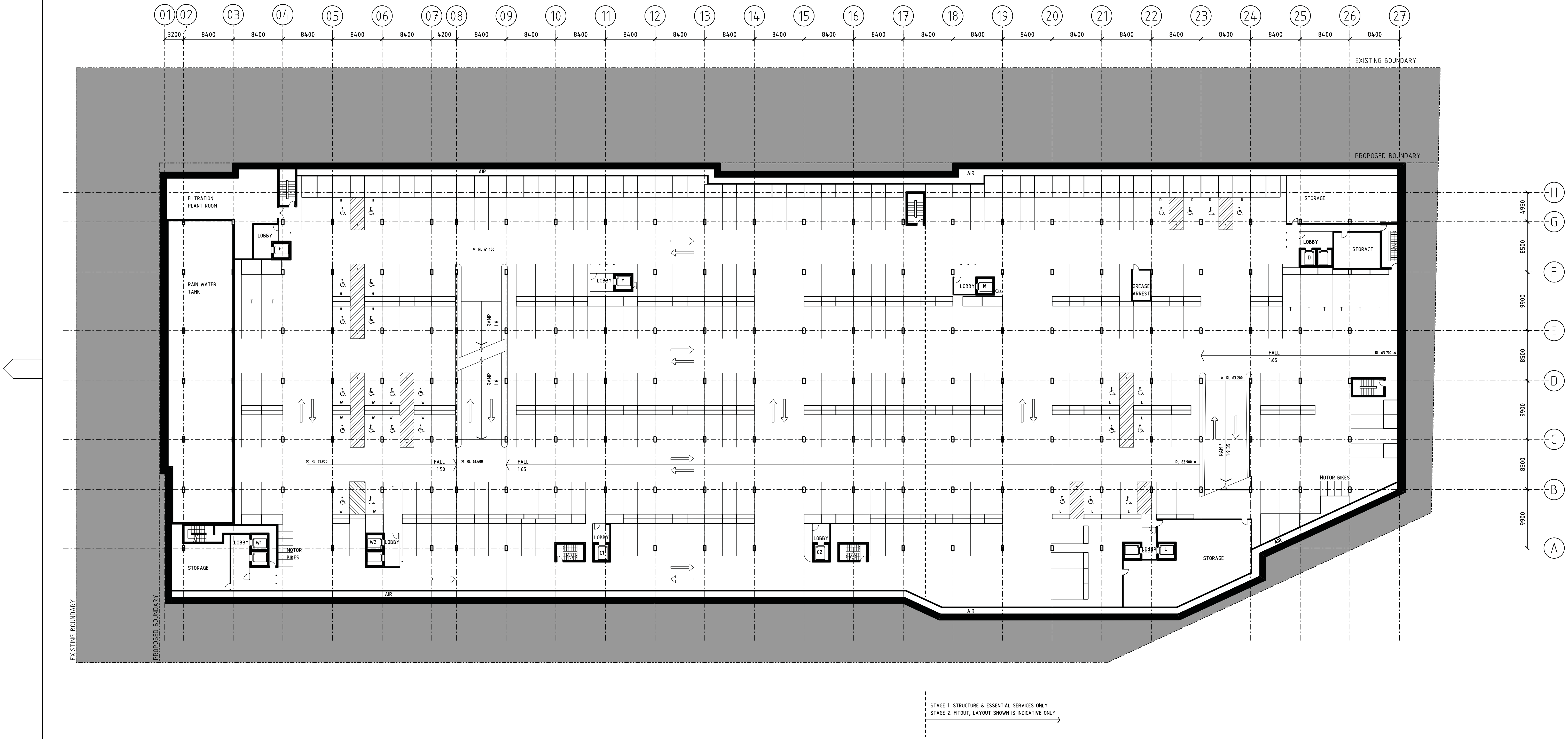

Revisions

No	Date	Description	Ver	App'd
A	21.01.11	PART 3A SUBMISSION		

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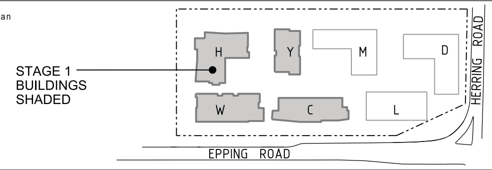
Nominated Architects: Michael Heenan 5264, Peter Ireland 6661, Reginald Smith 3312, Peter Stronach 3372.

Site Location Plan



Client

STAMFORD LAND CORPORATION LTD

Architect

AJ+C ALLEN JACK+COTTIER

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Project
MACQUARIE VILLAGE

110-114 HERRING ROAD
MACQUARIE PARK

Proj No. 10_030

NORTH

Drawing Title
LEVEL B2 PLAN

Drawing Status
NOT FOR CONSTRUCTION

Scale 1:330 @ A1

Drawing No DA2002

Issue A

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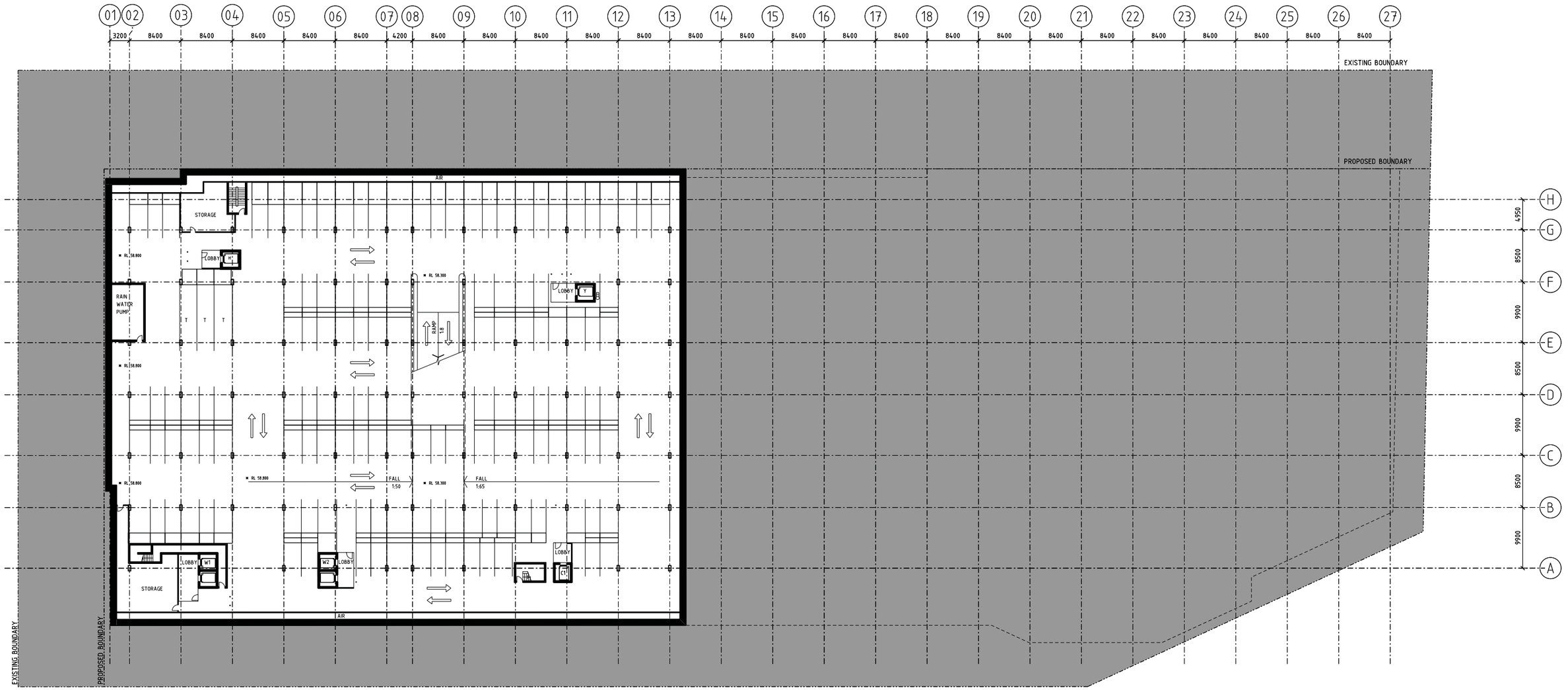
A1



Revisions			
No	Date	Description	Ver | App'd
A	21.01.11	PART 3A SUBMISSION	

Stamford Property Services is a Singapore based company. For cultural reasons there are no levels 4,14 and 24.

Nominated Architects: Michael Heenan 5264, Peter Ireland 6661, Reginald Smith 3312, Peter Stronach 3372.

Site Location Plan

Client: STAMFORD LAND CORPORATION LTD

Architect: AJ+C Allen Jack+Cottier
79 Myrtle Street Chippendale NSW 2008 AUSTRALIA
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Project: MACQUARIE VILLAGE
110-114 HERRING ROAD
MACQUARIE PARK

Proj No. 10_030

NORTH

Drawing Title: LEVEL B3 PLAN

Drawing Status: NOT FOR CONSTRUCTION

Scale: 1:330 @ A1

Drawing No: DA2003

Issue: A

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A1

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REF: P:\2010\10030_MacquarieVillage\03_CAD\design_files\sheet_files\10030_DA2003.dgn

appendix c

sidra outputs

appendix c-1

existing conditions

MOVEMENT SUMMARY

Site: LCR & Epping Rd EX-AM

Lane Cove Road & Epping Road
Signals - Fixed Time Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: LCR (south)											
1	L	71	3.0	1.026	99.6	LOS F	70.6	500.8	1.00	1.18	18.1
2	T	2368	3.0	1.028	107.1	LOS F	88.9	638.5	1.00	1.27	16.1
3	R	451	3.0	1.094	154.1	LOS F	29.8	214.2	1.00	1.20	12.6
Approach		2889	3.0	1.094	114.3	LOS F	88.9	638.5	1.00	1.25	15.4
East: Epping Rd (east)											
4	L	135	3.0	0.074	9.5	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.6
5	T	1	3.0	0.987	131.8	LOS F	26.7	191.9	1.00	1.18	13.4
6	R	662	3.0	1.026	125.0	LOS F	26.7	191.9	1.00	1.09	14.9
Approach		798	3.0	1.026	105.5	LOS F	26.7	191.9	0.83	1.01	17.0
North: LCR (north)											
7	L	497	3.0	0.273	9.5	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.6
8	T	1491	3.0	0.628	37.0	LOS C	28.8	207.0	0.85	0.76	31.5
9	R	226	3.0	0.519	77.4	LOS F	9.7	69.3	0.99	0.79	21.2
Approach		2214	3.0	0.628	35.0	LOS C	28.8	207.0	0.67	0.74	33.0
West: Epping Rd (west)											
10	L	333	3.0	0.436	40.4	LOS C	17.7	127.2	0.76	0.81	31.7
11	T	1	3.0	0.292	54.8	LOS D	8.1	58.5	0.89	0.71	24.4
12	R	171	3.0	0.286	63.6	LOS E	8.1	58.5	0.88	0.77	24.3
Approach		504	3.0	0.436	48.3	LOS D	17.7	127.2	0.80	0.79	28.7
All Vehicles		6405	3.0	1.094	80.6	LOS F	88.9	638.5	0.85	1.01	20.1

Level of Service (Aver. Int. Delay): LOS F. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

9 Continuous movement

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	47.2	LOS E	0.2	0.2	0.79	0.79
P3	Across E approach	53	25.2	LOS C	0.1	0.1	0.58	0.58
P7	Across W approach	53	25.2	LOS C	0.1	0.1	0.58	0.58
All Pedestrians		159	32.6				0.65	0.65

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: LCR & Epping Rd EX-PM

Lane Cove Road & Epping Road
Signals - Fixed Time Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: LCR (south)											
1	L	142	3.0	0.914	84.6	LOS F	40.4	290.0	1.00	1.09	20.3
2	T	1349	3.0	0.914	69.9	LOS E	42.2	302.7	1.00	1.07	21.6
3	R	234	3.0	0.927	103.9	LOS F	11.8	84.9	1.00	1.01	17.2
Approach		1725	3.0	0.927	75.7	LOS F	42.2	302.7	1.00	1.06	20.8
East: Epping Rd (east)											
4	L	399	3.0	0.313	9.6	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.5
5	T	1	3.0	0.877	88.7	LOS F	16.5	118.4	1.00	1.02	17.9
6	R	500	3.0	0.914	95.9	LOS F	16.5	118.4	1.00	1.00	18.3
Approach		900	3.0	0.914	57.6	LOS E	16.5	118.4	0.56	0.84	25.8
North: LCR (north)											
7	L	461	3.0	0.362	9.6	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.5
8	T	1401	3.0	0.855	55.8	LOS D	35.1	252.4	0.99	0.97	25.0
9	R	174	3.0	0.689	85.9	LOS F	8.3	59.5	1.00	0.83	19.7
Approach		2036	3.0	0.855	47.9	LOS D	35.1	252.4	0.77	0.89	27.7
West: Epping Rd (west)											
10	L	624	3.0	0.877	54.6	LOS D	37.3	268.1	0.96	1.03	26.6
11	T	1	3.0	0.459	47.7	LOS D	13.5	97.0	0.88	0.74	26.4
12	R	317	3.0	0.475	55.8	LOS D	13.5	97.0	0.86	0.80	26.4
Approach		942	3.0	0.877	55.0	LOS D	37.3	268.1	0.93	0.96	26.5
All Vehicles		5603	3.0	0.927	59.2	LOS E	42.2	302.7	0.83	0.94	24.7

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

9 Continuous movement

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	37.5	LOS D	0.2	0.2	0.71	0.71
P3	Across E approach	53	30.1	LOS D	0.1	0.1	0.63	0.63
P7	Across W approach	53	30.1	LOS D	0.1	0.1	0.63	0.63
All Pedestrians		159	32.5				0.66	0.66

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS D. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: Herring Rd & Waterloo Rd EX - AM

Waterloo Street & Herring Rd

Signals - Fixed Time Cycle Time = 120 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Herring Rd (south)											
1	L	158	2.0	0.538	44.1	LOS D	16.0	113.7	0.84	0.85	27.7
2	T	385	2.0	0.538	35.8	LOS C	16.0	113.7	0.84	0.71	28.7
3	R	970	2.0	0.775	31.1	LOS C	18.8	133.5	0.96	0.88	32.4
Approach		1513	2.0	0.775	33.6	LOS C	18.8	133.5	0.91	0.83	30.9
East: Waterloo Road (east)											
4	L	280	2.0	0.260	17.8	LOS B	6.2	44.0	0.54	0.77	40.5
5	T	84	2.0	0.260	49.0	LOS D	6.2	44.0	0.88	0.75	24.5
6	R	154	2.0	0.776	69.2	LOS E	11.2	79.5	1.00	0.89	20.8
Approach		518	2.0	0.776	38.1	LOS C	11.2	79.5	0.73	0.80	29.1
North: Herring Road (north)											
7	L	57	2.0	0.199	35.9	LOS C	3.8	26.8	0.87	0.76	30.5
8	T	68	2.0	0.199	45.2	LOS D	4.0	28.7	0.91	0.69	25.5
9	R	44	2.0	0.169	47.6	LOS D	3.0	21.3	0.83	0.73	26.1
Approach		169	2.0	0.199	42.7	LOS D	4.0	28.7	0.88	0.73	27.2
West: Waterloo Road (west)											
10	L	54	2.0	0.382	51.4	LOS D	8.5	60.8	0.89	0.82	25.5
11	T	230	2.0	0.382	44.4	LOS D	9.2	65.7	0.91	0.73	25.8
12	R	27	2.0	0.136	61.3	LOS E	2.2	15.6	0.94	0.72	22.4
Approach		311	2.0	0.382	47.1	LOS D	9.2	65.7	0.91	0.75	25.4
All Vehicles		2511	2.0	0.776	36.8	LOS C	18.8	133.5	0.87	0.81	29.4

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	37.6	LOS D	0.1	0.1	0.79	0.79
P3	Across E approach	53	43.4	LOS E	0.2	0.2	0.85	0.85
P5	Across N approach	53	37.6	LOS D	0.1	0.1	0.79	0.79
P7	Across W approach	53	28.7	LOS C	0.1	0.1	0.69	0.69
All Pedestrians		212	36.8				0.78	0.78

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: Herring Rd & Waterloo Rd EX - PM

Waterloo Street & Herring Rd

Signals - Fixed Time Cycle Time = 90 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Herring Rd (south)											
1	L	87	2.0	0.320	29.7	LOS C	8.1	57.6	0.71	0.85	33.9
2	T	303	2.0	0.320	22.3	LOS B	8.1	57.6	0.74	0.61	35.3
3	R	360	2.0	0.737	33.4	LOS C	7.0	50.0	1.00	0.86	31.3
Approach		750	2.0	0.737	28.5	LOS B	8.1	57.6	0.86	0.76	33.1
East: Waterloo Road (east)											
4	L	632	2.0	0.644	27.5	LOS B	14.3	102.1	0.84	0.91	34.4
5	T	250	2.0	0.643	34.1	LOS C	14.3	101.6	0.93	0.86	29.1
6	R	109	2.0	0.595	52.3	LOS D	6.4	45.9	1.00	0.80	24.7
Approach		991	2.0	0.644	31.9	LOS C	14.3	102.1	0.88	0.88	31.6
North: Herring Road (north)											
7	L	66	2.0	0.849	52.0	LOS D	18.5	132.1	1.00	1.03	25.7
8	T	665	2.0	0.850	43.8	LOS D	18.7	132.9	1.00	1.02	25.9
9	R	63	2.0	0.516	55.2	LOS D	4.1	29.2	1.00	0.76	24.0
Approach		794	2.0	0.850	45.4	LOS D	18.7	132.9	1.00	1.00	25.7
West: Waterloo Road (west)											
10	L	173	2.0	0.526	35.4	LOS C	11.0	78.1	0.85	0.83	30.9
11	T	358	2.0	0.527	29.8	LOS C	11.9	84.8	0.89	0.75	31.2
12	R	157	2.0	0.857	60.0	LOS E	9.6	68.2	1.00	1.00	22.7
Approach		688	2.0	0.857	38.1	LOS C	11.9	84.8	0.91	0.83	28.7
All Vehicles		3223	2.0	0.857	35.7	LOS C	18.7	132.9	0.91	0.87	29.6

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	23.5	LOS C	0.1	0.1	0.72	0.72
P3	Across E approach	53	26.5	LOS C	0.1	0.1	0.77	0.77
P5	Across N approach	53	23.5	LOS C	0.1	0.1	0.72	0.72
P7	Across W approach	53	18.7	LOS B	0.1	0.1	0.64	0.64
All Pedestrians		212	23.0				0.71	0.71

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS C. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: Epping Rd & Herring Rd EX - AM

Eppinhg Rd & Herring Rd
Signals - Fixed Time Cycle Time = 150 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East: Epping Road (east)											
21	L	73	4.0	0.667	45.3	LOS D	29.5	185.0	0.87	0.90	27.8
22	T	1720	4.0	0.667	37.5	LOS C	37.7	236.7	0.87	0.78	28.3
23	R	396	4.0	0.843	84.1	LOS F	16.8	105.5	1.00	0.93	18.2
Approach		2188	4.0	0.843	46.2	LOS D	37.7	236.7	0.90	0.81	25.7
North East: Herring Road (north)											
24	L	499	4.0	0.611	31.1	LOS C	24.6	154.4	0.76	0.82	32.6
25	T	36	4.0	0.202	69.1	LOS E	7.8	49.2	0.96	0.71	20.1
26	R	172	4.0	0.509	79.7	LOS F	7.8	49.2	1.00	0.78	19.0
Approach		706	4.0	0.611	44.9	LOS D	24.6	154.4	0.83	0.81	27.0
North West: Epping Road (west)											
27	L	941	4.0	0.529	7.8	NA[9]	NA[9]	NA[9]	0.00	0.60	49.7
28	T	2077	4.0	0.895	46.2	LOS D	48.8	306.7	0.96	0.94	25.4
29	R	32	4.0	0.121	68.2	LOS E	2.8	17.7	0.86	0.73	21.0
Approach		3049	4.0	0.895	34.6	LOS C	48.8	306.7	0.66	0.83	29.9
South West: Herring Road (south)											
30	L	14	4.0	0.698	95.7	LOS F	26.4	165.9	0.98	0.88	17.1
31	T	490	4.0	0.693	83.0	LOS F	26.4	165.9	0.97	0.85	17.7
32	R	171	4.0	1.000[3]	66.9	LOS E	12.5	78.5	0.98	0.81	21.3
Approach		675	4.0	1.000	74.5	LOS F	26.4	165.9	0.98	0.62	18.8
All Vehicles		6619	4.0	1.000	44.1	LOS D	48.8	306.7	0.79	0.80	26.8

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

3 x = 1.00 due to short lane
9 Continuous movement

MOVEMENT SUMMARY

Site: Epping Rd & Herring Rd EX - PM

Eppinhg Rd & Herring Rd
Signals - Fixed Time Cycle Time = 150 seconds

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East: Epping Road (east)											
21	L	372	4.0	0.904	63.9	LOS E	45.7	287.1	1.00	1.03	22.2
22	T	1771	4.0	0.905	57.4	LOS E	57.9	363.6	1.00	0.99	22.3
23	R	217	4.0	1.452	506.8	LOS F	23.4	147.2	1.00	1.55	4.0
Approach		2359	4.0	1.452	99.8	LOS F	57.9	363.6	1.00	1.05	15.7
North East: Herring Road (north)											
24	L	519	4.0	0.514	20.6	LOS B	20.8	130.9	0.61	0.78	38.5
25	T	351	4.0	0.512	40.0	LOS C	33.7	211.5	0.84	0.73	27.5
26	R	976	4.0	0.786	53.7	LOS D	33.7	211.5	0.94	0.88	24.4
Approach		1845	4.0	0.786	41.8	LOS C	33.7	211.5	0.83	0.82	27.9
North West: Epping Road (west)											
27	L	421	4.0	0.237	7.7	NA[9]	NA[9]	NA[9]	0.00	0.60	49.8
28	T	1696	4.0	0.779	28.4	LOS B	31.0	195.0	0.81	0.72	32.3
29	R	69	4.0	0.837	93.5	LOS F	7.2	45.1	1.00	0.86	16.9
Approach		2186	4.0	0.837	26.5	LOS B	31.0	195.0	0.66	0.70	33.6
South West: Herring Road (south)											
30	L	75	4.0	0.885	90.2	LOS F	15.9	100.1	1.00	1.09	17.7
31	T	291	4.0	0.884	82.1	LOS F	15.9	100.1	1.00	1.01	17.6
32	R	123	4.0	1.000[3]	80.3	LOS F	10.8	67.7	1.00	0.79	18.9
Approach		488	4.0	1.000	82.9	LOS F	15.9	100.1	1.00	0.97	17.9
All Vehicles		6879	4.0	1.452	59.7	LOS E	57.9	363.6	0.85	0.87	22.3

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

3 x = 1.00 due to short lane
9 Continuous movement

appendix c-2

future scenario

MOVEMENT SUMMARY

Site: LCR & Epping Rd FU-AM

Lane Cove Road & Epping Road
Signals - Fixed Time Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: LCR (south)											
1	L	67	3.0	1.060	120.5	LOS F	75.3	534.5	1.00	1.24	15.5
2	T	2368	3.0	1.061	130.9	LOS F	96.3	691.8	1.00	1.36	13.8
3	R	451	3.0	0.978	115.3	LOS F	22.0	158.2	1.00	1.10	15.9
Approach		2886	3.0	1.061	128.2	LOS F	96.3	691.8	1.00	1.31	14.1
East: Epping Rd (east)											
4	L	135	3.0	0.074	9.5	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.6
5	T	1	3.0	1.039	173.0	LOS F	30.4	218.5	1.00	1.29	10.9
6	R	662	3.0	1.083	156.4	LOS F	30.4	218.5	1.00	1.17	12.5
Approach		798	3.0	1.083	131.6	LOS F	30.4	218.5	0.83	1.08	14.3
North: LCR (north)											
7	L	497	3.0	0.273	9.5	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.6
8	T	1491	3.0	0.649	38.7	LOS C	29.5	211.6	0.87	0.78	30.8
9	R	361	3.0	0.784	82.6	LOS F	15.0	107.7	1.00	0.88	20.3
Approach		2348	3.0	0.784	39.3	LOS C	29.5	211.6	0.71	0.77	31.2
West: Epping Rd (west)											
10	L	378	3.0	0.473	39.1	LOS C	19.7	141.2	0.76	0.81	32.2
11	T	1	3.0	0.380	54.4	LOS D	10.8	77.5	0.90	0.74	24.5
12	R	235	3.0	0.375	62.9	LOS E	10.8	77.5	0.89	0.79	24.5
Approach		614	3.0	0.473	48.2	LOS D	19.7	141.2	0.81	0.80	28.7
All Vehicles		6646	3.0	1.083	89.8	LOS F	96.3	691.8	0.86	1.05	18.6

Level of Service (Aver. Int. Delay): LOS F. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

9 Continuous movement

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	69.1	LOS F	0.2	0.2	0.96	0.96
P3	Across E approach	53	49.6	LOS E	0.2	0.2	0.81	0.81
P7	Across W approach	53	45.6	LOS E	0.2	0.2	0.78	0.78
All Pedestrians		159	54.8				0.85	0.85

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS F. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: LCR & Epping Rd FU-PM

Lane Cove Road & Epping Road
Signals - Fixed Time Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: LCR (south)											
1	L	314	3.0	1.334	354.6	LOS F	93.6	670.3	1.00	1.55	6.0
2	T	1349	3.0	1.335	378.1	LOS F	102.8	737.8	1.00	1.95	5.6
3	R	234	3.0	0.709	82.6	LOS F	10.4	74.9	1.00	0.85	20.4
Approach		1897	3.0	1.335	337.8	LOS F	102.8	737.8	1.00	1.75	6.2
East: Epping Rd (east)											
4	L	399	3.0	0.313	9.6	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.5
5	T	1	3.0	1.410	402.2	LOS F	34.6	248.2	1.00	1.60	5.2
6	R	500	3.0	1.345	328.3	LOS F	34.6	248.2	1.00	1.42	6.5
Approach		900	3.0	1.345	187.1	LOS F	34.6	248.2	0.56	1.08	10.7
North: LCR (north)											
7	L	461	3.0	0.362	9.6	NA[9]	NA[9]	NA[9]	NA[9]	0.65	54.5
8	T	1473	3.0	1.217	282.3	LOS F	80.1	574.8	1.00	1.77	7.3
9	R	416	3.0	1.263	337.3	LOS F	35.4	254.5	1.00	1.55	6.4
Approach		2351	3.0	1.263	238.5	LOS F	80.1	574.8	0.80	1.52	8.5
West: Epping Rd (west)											
10	L	573	3.0	0.662	29.5	LOS C	25.2	181.3	0.72	0.86	37.2
11	T	1	3.0	1.338	229.2	LOS F	99.6	715.1	1.00	1.44	8.6
12	R	954	3.0	1.162	182.6	LOS F	99.6	715.1	1.00	1.27	10.9
Approach		1527	3.0	1.162	125.2	LOS F	99.6	715.1	0.89	1.11	14.8
All Vehicles		6675	3.0	1.345	233.9	LOS F	102.8	737.8	0.85	1.43	8.7

Level of Service (Aver. Int. Delay): LOS F. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

9 Continuous movement

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	45.6	LOS E	0.2	0.2	0.78	0.78
P3	Across E approach	53	67.2	LOS F	0.2	0.2	0.95	0.95
P7	Across W approach	53	62.6	LOS F	0.2	0.2	0.91	0.91
All Pedestrians		159	58.5				0.88	0.88

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS F. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: Herring Rd & Waterloo Rd FU - AM

Waterloo Street & Herring Rd

Signals - Fixed Time Cycle Time = 120 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Herring Rd (south)											
1	L	90	2.0	0.455	43.1	LOS D	13.8	97.9	0.82	0.86	28.3
2	T	374	2.0	0.455	34.5	LOS C	13.8	97.9	0.82	0.68	29.3
3	R	975	2.0	0.841	37.1	LOS C	20.9	148.7	0.99	0.92	29.7
Approach		1439	2.0	0.841	36.8	LOS C	20.9	148.7	0.94	0.86	29.5
East: Waterloo Road (east)											
4	L	263	2.0	0.238	19.0	LOS B	5.8	41.2	0.55	0.77	39.6
5	T	76	2.0	0.238	43.1	LOS D	5.8	41.2	0.85	0.73	26.1
6	R	153	2.0	0.836	73.1	LOS F	11.5	81.5	1.00	0.95	20.1
Approach		492	2.0	0.836	39.5	LOS C	11.5	81.5	0.74	0.82	28.6
North: Herring Road (north)											
7	L	54	2.0	0.191	35.5	LOS C	3.8	26.7	0.86	0.77	30.7
8	T	75	2.0	0.191	43.1	LOS D	4.2	30.0	0.90	0.69	26.2
9	R	48	2.0	0.188	49.5	LOS D	3.3	23.6	0.85	0.74	25.5
Approach		177	2.0	0.191	42.5	LOS D	4.2	30.0	0.87	0.72	27.2
West: Waterloo Road (west)											
10	L	46	2.0	0.379	50.3	LOS D	8.5	60.6	0.88	0.82	25.9
11	T	251	2.0	0.380	43.0	LOS D	9.7	68.9	0.89	0.73	26.3
12	R	45	2.0	0.246	63.4	LOS E	3.6	25.7	0.96	0.74	22.0
Approach		342	2.0	0.380	46.6	LOS D	9.7	68.9	0.90	0.74	25.6
All Vehicles		2450	2.0	0.841	39.1	LOS C	20.9	148.7	0.89	0.82	28.6

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	50.4	LOS E	0.2	0.2	0.92	0.92
P3	Across E approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P5	Across N approach	53	54.2	LOS E	0.2	0.2	0.95	0.95
P7	Across W approach	53	38.4	LOS D	0.1	0.1	0.80	0.80
All Pedestrians		212	49.3				0.90	0.90

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: Herring Rd & Waterloo Rd FU - PM

Waterloo Street & Herring Rd

Signals - Fixed Time Cycle Time = 100 seconds (Optimum Cycle Time - Minimum Delay)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South: Herring Rd (south)											
1	L	56	2.0	0.321	33.5	LOS C	9.0	63.9	0.75	0.86	32.3
2	T	317	2.0	0.322	25.4	LOS B	9.0	63.9	0.75	0.62	33.6
3	R	431	2.0	0.785	36.4	LOS C	8.9	63.3	1.00	0.89	30.0
Approach		804	2.0	0.785	31.8	LOS C	9.0	63.9	0.89	0.78	31.5
East: Waterloo Road (east)											
4	L	694	2.0	0.690	31.5	LOS C	17.9	127.7	0.87	0.93	32.4
5	T	227	2.0	0.689	38.1	LOS C	16.0	113.9	0.95	0.89	27.5
6	R	104	2.0	0.473	53.9	LOS D	6.5	46.3	0.98	0.78	24.3
Approach		1025	2.0	0.690	35.2	LOS C	17.9	127.7	0.90	0.90	30.1
North: Herring Road (north)											
7	L	63	2.0	0.819	52.9	LOS D	19.4	138.2	1.00	0.98	25.5
8	T	667	2.0	0.821	44.8	LOS D	19.6	139.4	1.00	0.97	25.6
9	R	69	2.0	0.419	56.7	LOS E	4.7	33.2	0.99	0.76	23.6
Approach		799	2.0	0.821	46.5	LOS D	19.6	139.4	1.00	0.96	25.4
West: Waterloo Road (west)											
10	L	194	2.0	0.553	38.2	LOS C	11.6	82.7	0.85	0.83	29.6
11	T	325	2.0	0.552	34.5	LOS C	13.0	92.5	0.91	0.77	29.2
12	R	178	2.0	0.810	60.6	LOS E	11.1	78.9	1.00	0.93	22.6
Approach		697	2.0	0.810	42.2	LOS C	13.0	92.5	0.92	0.82	27.3
All Vehicles		3325	2.0	0.821	38.6	LOS C	19.6	139.4	0.92	0.87	28.5

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS E. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

Movement Performance - Pedestrians

Mov ID	Description	Demand Flow ped/h	Average Delay sec	Level of Service	Average Back of Queue Pedestrian ped	Average Back of Queue Distance m	Prop. Queued	Effective Stop Rate per ped
P1	Across S approach	53	41.4	LOS E	0.1	0.1	0.91	0.91
P3	Across E approach	53	40.5	LOS E	0.1	0.1	0.90	0.90
P5	Across N approach	53	45.1	LOS E	0.1	0.1	0.95	0.95
P7	Across W approach	53	31.2	LOS D	0.1	0.1	0.79	0.79
All Pedestrians		212	39.6				0.89	0.89

Level of Service (Aver. Int. Delay): LOS D. Based on average delay for all pedestrian movements. LOS Method: Delay (HCM).
Level of Service (Worst Movement): LOS E. LOS Method for individual pedestrian movements: Delay (HCM).

MOVEMENT SUMMARY

Site: Epping Rd & Herring Rd FU - AM

Eppinhg Rd & Herring Rd
Signals - Fixed Time Cycle Time = 150 seconds (User-Given Phase Times)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East: Epping Road (east)											
21	L	98	4.0	0.644	44.3	LOS D	27.9	175.0	0.86	0.90	28.1
22	T	1628	4.0	0.643	36.9	LOS C	35.8	225.0	0.86	0.77	28.5
23	R	334	4.0	0.711	76.4	LOS F	13.6	85.5	1.00	0.85	19.5
Approach		2060	4.0	0.711	43.7	LOS D	35.8	225.0	0.88	0.79	26.5
North East: Herring Road (north)											
24	L	540	4.0	0.748	31.5	LOS C	27.2	170.9	0.79	0.83	32.4
25	T	57	4.0	0.320	70.1	LOS E	7.7	48.4	0.97	0.74	19.9
26	R	168	4.0	0.500	79.6	LOS F	7.7	48.4	0.99	0.78	19.0
Approach		765	4.0	0.748	45.0	LOS D	27.2	170.9	0.85	0.81	27.0
North West: Epping Road (west)											
27	L	915	4.0	0.514	7.8	NA[9]	NA[9]	NA[9]	NA[9]	0.60	49.7
28	T	2055	4.0	0.885	44.6	LOS D	47.2	296.4	0.95	0.92	25.9
29	R	40	4.0	0.153	68.6	LOS E	3.5	22.1	0.86	0.74	20.9
Approach		3009	4.0	0.885	33.8	LOS C	47.2	296.4	0.66	0.82	30.2
South West: Herring Road (south)											
30	L	21	4.0	0.701	87.7	LOS F	22.7	142.3	0.98	0.88	18.2
31	T	488	4.0	0.700	75.9	LOS F	22.7	142.3	0.97	0.86	18.7
32	R	171	4.0	1.000[3]	66.9	LOS E	12.5	78.5	0.98	0.81	21.3
Approach		680	4.0	1.000	71.3	LOS F	22.7	142.3	0.98	0.63	19.5
All Vehicles		6515	4.0	1.000	42.4	LOS C	47.2	296.4	0.78	0.79	27.4

Level of Service (Aver. Int. Delay): LOS C. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

3 x = 1.00 due to short lane. Refer to the Lane Summary report for information about excess flow and related conditions.
9 Continuous movement

MOVEMENT SUMMARY

Site: Epping Rd & Herring Rd FU - PM

Eppinhg Rd & Herring Rd
Signals - Fixed Time Cycle Time = 150 seconds (User-Given Cycle Time)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance m	Prop. Queued	Effective Stop Rate per veh	Average Speed km/h
South East: Epping Road (east)											
21	L	366	4.0	0.982	97.7	LOS F	59.2	371.8	1.00	1.16	16.5
22	T	1832	4.0	0.983	88.3	LOS F	73.5	461.8	1.00	1.15	17.0
23	R	277	4.0	0.998	126.7	LOS F	15.0	94.3	1.00	1.12	13.5
Approach		2475	4.0	0.998	94.0	LOS F	73.5	461.8	1.00	1.15	16.4
North East: Herring Road (north)											
24	L	562	4.0	0.549	22.0	LOS B	22.9	143.9	0.63	0.79	37.6
25	T	345	4.0	0.634	49.9	LOS D	22.7	142.4	0.93	0.81	24.4
26	R	1012	4.0	0.977	90.9	LOS F	48.7	305.6	1.00	1.02	17.3
Approach		1919	4.0	0.977	63.4	LOS E	48.7	305.6	0.88	0.91	21.9
North West: Epping Road (west)											
27	L	553	4.0	0.311	7.7	NA[9]	NA[9]	NA[9]	NA[9]	0.60	49.7
28	T	1703	4.0	0.828	33.2	LOS C	34.5	216.8	0.88	0.80	30.0
29	R	76	4.0	0.492	80.9	LOS F	7.0	44.0	0.98	0.77	18.7
Approach		2332	4.0	0.828	28.7	LOS C	34.5	216.8	0.67	0.75	32.5
South West: Herring Road (south)											
30	L	54	4.0	0.624	84.9	LOS F	15.5	97.5	1.00	0.95	18.5
31	T	299	4.0	0.624	70.3	LOS E	15.5	97.5	1.00	0.88	19.5
32	R	130	4.0	1.000[3]	71.0	LOS F	10.8	67.7	0.99	0.79	20.5
Approach		483	4.0	1.000	72.1	LOS F	15.5	97.5	1.00	0.86	19.6
All Vehicles		7208	4.0	1.000	63.2	LOS E	73.5	461.8	0.86	0.94	21.6

Level of Service (Aver. Int. Delay): LOS E. Based on average delay for all vehicle movements. LOS Method: Delay (RTA NSW).
Level of Service (Worst Movement): LOS F. LOS Method for individual vehicle movements: Delay (RTA NSW).
Approach LOS values are based on average delay for all vehicle movements.

3 x = 1.00 due to short lane. Refer to the Lane Summary report for information about excess flow and related conditions.
9 Continuous movement

appendix d

construction management plan

recd 31/3/11
fra AJC.

Construction Management Plan

Cnr Epping & Herring Roads
Proposed Residential Development
January 2011

CONSTRUCTION MANAGEMENT PLAN PART 3A APPLICATION

STAMFORD

PROPERTY SERVICES PTY LIMITED

Construction Management Plan

Introduction

Stamford Property Services Pty Limited has prepared this Construction Management Plan (CMP in response to the Director General Requirements (DGR's) issued on 25th November 2010.

The CMP summarises the policies and procedures that will be put in place by the contractor throughout the duration of the project to ensure the construction processes do not create unacceptable levels of disturbance to the community.

The CMP's principles discussed in this document will be implemented across each stage of the proposed development. The principles outlined in this document will be further refined and detailed in a site specific construction methodology for each stage of the development prior to works commencing.

All proposed methodologies and systems will be implemented in accordance with the Ministers determination for the site and the appropriate authorities. This methodology is to be read in conjunction with the following reports:

- Construction Traffic Management Plan – Prepared by Traffix

- Acoustic Report – Prepared by Acoustic Logic

Construction Management Plan

Site Management / Staging Areas

(Section to be read in conjunction with:
• Architectural drawings prepared Allen Jack+ Cottier, drawings DA0000 to DA3632 and specifically staging drawing DA0100.

Stage 1 – Demolition of the existing Hotel along with basement works to the entire site. Also the construction of the new link road and buildings H,W,C,Y

Works – Demolish existing hotel and construct the basement car park for the entire project so there is no need to bring in heavy machinery after the first stage is complete.

- *Construction of buildings H,W,C,Y*
- *Construction of the new link roads*

Access

(Refer to Construction Traffic Management Plan prepared by Traffix dated January 2011.

The construction staging and access plans (DA 0100 Issue A) highlight the staging of construction access proposed for the development.
In summary the basement and podium deck will be the first structure on site, which will be accessed directly off Herring Road where a construction access will be cut in adjacent to the existing concrete driveway. This will also be the future cross-over point for the proposed road reserve.
For the duration of constructing In all cases safe access for pedestrians and vehicles onto each of the development stages will be provided.
Appropriate traffic management plans shall be developed for each stage to manage the pedestrian and traffic flows onto and off the site in a safe manner.

Privacy & Surrounding Amenity

The site will be fenced off with a standard temporary fence 1.8metre high. The fence will have shade cloth placed on it to minimise the amount of air borne material leaving the site throughout the excavation and construction stages of the development. Further the building will be fully scaffolded and enclosed with chain mesh to prevent any materials being blown off the building site. All works on the site will be carried out in accordance with the approved hours of work (to be stipulated in the conditions of approval by the Minister). At no time will site personnel be permitted to access the site via neighboring properties. Vehicle deliveries will be via a designated construction access point at all times.

Pedestrian access along Epping Rd and Herring Rd will be maintained at all times throughout construction by the delineation of such with a construction fence. The footpaths will be checked at a regular basis to ensure they have not been affected by any works relating the redevelopment of the site.

Construction Management Plan

Environment

Soil erosion and sediment controls shall be developed prior to the issue of a construction certificate and will generally follow the Meinhardt report requirements submitted with the EA. These measures will be implemented prior to commencement of work on the site. They shall be inspected on a regular basis in accordance with the contractor's site management policies. In addition to this the sediment control measures will be inspected following extended periods of inclement weather to ensure they remain in fully functioning condition. The aim of the controls is to ensure any water leaving the site is maintained at the desired levels of quality to reduce the impacts on the surrounding watercourses. Any material stockpiled for an extended duration on site shall be covered to prevent the material becoming air-borne in adverse weather conditions.

Work on site will also be monitored in conditions of high wind to ensure unacceptably high levels of dust are not being created. In such circumstances the works creating the dust shall cease until more suitable conditions prevail. Areas subject to dust creation will be 'watered down' on a regular basis, where continued periods of high wind exist. The access points would also be constructed with 'shaker grids' to assist in preventing dirt and debris from being transported onto the surrounding road network. In addition to this in times of inclement weather site personnel will wash down vehicles leaving the site to further prevent dirt contaminating the surrounding street network.

Throughout the excavation phase of the construction sequence the adjacent and surrounding streets will be cleaned by a street sweeper as required to further assist in keeping the surrounding road network clean. All transports leaving the site will be monitored by site personnel to ensure loads are covered before exiting onto the surrounding street network. In addition to these measures it will be the intent of Stamford/ and or it's builder to minimise the impact on the surrounding environment by restricting the amount of the surrounding land utilised throughout the construction process (this will be only in the form of easements and/ or services connections) and thereby reducing the amount of land disturbed by the construction process that could be subject to erosion. As part of the site establishment all trees nominated to be retained on site will be protected to the relevant local council standard and in accordance with the concept plan/ Stage 1 arborist report recommendations. All works around these protected trees will be closely monitored to ensure the works do not adversely affect the health and integrity of the protected trees. Excavation works adjacent to protected tree species will be overseen by an arborist to ensure tree roots protruding beyond the zone of protection are treated in the appropriate manner.