Appendix 6

Noise Impact Assessment

REDEVELOPMENT OF NO. 42 GRAMPIAN ROAD, KOWLOON, HONG KONG

NOISE IMPACT ASSESSMENT REPORT

10 July 2026

Report No.: RT25382-NIA-03

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Project:	REDEVELOPMENT OF NO. 42 GRAMPIAN ROAD, KOWLOON, HONG KONG NOISE IMPACT ASSESSMENT REPORT
Report No.:	RT25382-NIA-03r1

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03	10/07/2026	Issued for Comment	Various	HC	HM

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Disclaimer:

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- We disclaim any responsibility to the client and others in respect of any matters outside the project scope.
- This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies upon the report at their own risk.

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1. INTRODUCTION

1.1. BACKGROUND

1.1.1. The Project Proponent proposes to develop a 18-storey composite building comprising residential flats at 42 Grampian Road (hereafter called "the Proposed Development").

1.1.2. BeeXergy Consulting Limited was commissioned by the Project Proponent to undertake a Noise Impact Assessment (NIA) supporting its planning application under Section 16 of the Town Planning Ordinance (TPO) for the Proposed Development.

1.2. PROJECT LOCATION

1.2.1. The Application Site is located in Kowloon City district, with a site area of approximately 345.131m^2. It is currently bounded by bounded by Gar Fook Court to the north, J17 to the east, and Grampian Road Substation to the south. The Application Site is currently zoned as "Residential (Group B)" annotated "R(B)" under the Approved Ma Tau Kok (KPA 10) Outline Zoning Plan No. S/K10/30. **Figure 1.1** shows the location of Application Site and its environs.

1.3. PROJECT DESCRIPTION

1.3.1. The Proposed Development will convert the existing permitted uses to residential flats. The key development parameters are summarised in **Table 1.1** and the Master Layout Plan provided by the Project Architect is enclosed in **Appendix 1.1**.

Table 1.1 Key Development Parameters of the Proposed Development

No. of Storeys	18
Gross Floor Area (GFA)	Flat: 2,070.69m^2
Building Height	Not more than +80 mPD
Proposed Floor Use	G/F – 1/F: Lobby, Carpark, M/E Plant Room 1/F – 3/F: M/E Plant Room 4/F to 17/F: Flats
Tentative Population Intake Year	2030
Total No. of Flats	42

1.4. STRUCTURE OF THE REPORT

1.4.1. This NIA Report comprises the following sections:

- Section 1 introduces the project background;
- Section 2 presents the road traffic noise impact assessment;
- Section 3 presents the fixed noise impact assessment; and
- Section 4 summarizes the findings of this NIA.

2. ROAD TRAFFIC NOISE IMPACT ASSESSMENT

2.1. INTRODUCTION

2.1.1. The potential road traffic noise impact on the Proposed Development due to the nearby existing roads has been assessed. Practicable noise mitigation measures have been recommended, where necessary.

2.2. ASSESSMENT CRITERIA

2.2.1. Table 4.1 of Chapter 9 of the HKPSG provides the assessment criteria for road traffic noise impact at noise sensitive uses which rely on opened windows for ventilation. **Table 2.1** summarizes the adopted road traffic noise criteria for noise sensitive uses with openable windows at the Proposed Development.

Table 2.1 Road Traffic Noise Criteria for Noise Sensitive Uses

Location	Facility / Room	Noise Criteria, $L_{10\ (1\ hour)}$, dB(A)
4/F – 17/F	Flat (Bedroom, Living Room)	70
Notes: [1] The above standards apply to noise sensitive uses which rely on opened windows for ventilation and should be viewed as the maximum permissible noise levels assessed at 1m from the external façade.		

2.3. NOISE SENSITIVE RECEIVERS

2.3.1. Noise assessment points (NAPs) have been provided for noise sensitive uses with openable windows at the Proposed Development. The respective criteria for all types of noise sensitive uses with openable windows have been listed in **Table 2.1**. The locations of noise sensitive receivers (NSRs) for road traffic noise assessment are shown in **Figures 2.1a** to **2.1c**.

2.4. ASSESSMENT METHODOLOGY

2.4.1. The road traffic noise impact from the existing and planned road network has been assessed within 300m assessment area on the future NSRs within the Proposed Development. The road traffic noise model adopts the methodology outlined in the Calculation of Road Traffic Noise (CRTN) developed by the UK Department of Transport. The road traffic noise would be presented in terms of noise levels exceeded for 10% of the one-hour period for the hour having the peak traffic flow $L_{10(1hour)}$ under various traffic forecast scenarios. Representative NAPs, key building structures with noise screening effects, topographical contours and road segments with traffic flow data have been inputted into the model in predicting the potential traffic noise impacts.

2.4.2. Traffic flow of the existing roads within 300m assessment area have been forecasted

by the Project traffic consultant. As stated in CRTN, the traffic flow used for assessment shall be the maximum traffic projection within 15 years upon occupancy of the development. The assessment has been undertaken based on the projected PM peak hourly traffic flows in Year 2045, which corresponds to the maximum projected traffic conditions within 15 years upon occupancy of the Proposed Development, i.e. Year 2030. The traffic forecast data is enclosed in **Appendix 2.1**. The traffic forecasting methodology for producing the adopted traffic data has been submitted to the Transport Department (TD) for endorsement.

2.5. ASSESSMENT RESULTS – BASE CASE SCENARIO

2.5.1. Predicted peak hourly road traffic noise levels at the representative NSRs at the Proposed Development are summarized in **Table 2.2** and

2.5.2. **Table** 2.3 below. Detailed breakdown of the road traffic noise assessment results under unmitigated case scenario are presented in **Appendix 2.2**.

Table 2.2 Summary of Predicted Road Traffic Noise Levels (Unmitigated Case Scenario)

Floor	Facility / Room	Noise Criteria, dB(A)	Predicted Maximum $L_{10\ (1\ hour)}$, dB(A)
4/F – 17/F	Flat (Bedroom, Living Room)	70	70

Table 2.3 Road Traffic Noise Levels Compliance Rate

Total No. of NAP	**98**
Total No. of NAP with Noise Exceedance	**0**
Compliance Rate	**100%**

2.5.3. The assessment results revealed that all the residential flats under the unmitigated case scenario comply with assessment criteria.

2.6. CONCLUSION

2.6.1. Operational road traffic noise impact on the planned noise sensitive uses within the Proposed Development has been assessed. The assessment results revealed that 100% compliance rate could be achieved and no adverse traffic noise impact on the Proposed Development is anticipated.

3. FIXED NOISE IMPACT ASSESSMENT

3.1. RELEVANT LEGISLATION, STANDARDS AND GUIDELINES

3.1.1. The relevant legislation, standards and guidelines applicable to the fixed noise impact assessment include:

- Noise Control Ordinance (NCO) (Cap. 400);
- Technical Memorandum for the Assessment of Noise from Places Other Than Domestic Premises, Public Places or Construction Sites (IND-TM);
- Hong Kong Planning Standards and Guidelines (HKPSG);
- Good Practices on Pumping System Noise Control; and
- Good Practices on Ventilation System Noise Control.

3.1.2. IND-TM stipulates the appropriate Acceptable Noise Level (ANL) for fixed noise sources. The ANL is dependent on the area sensitivity rating of a NSR, as defined in Table 1 of the IND-TM (reproduced in **Table 3.1**). The area sensitivity rating of a NSR is determined by the type of area where the NSR is located and the presence of any influencing factors (IFs) such as major roads and industrial areas.

Table 3.1 Area Sensitivity Ratings

Type of Area Containing NSR	Degree to which NSR is affected by IF		
	Not Affected	Indirectly Affected	Directly Affected
Rural area, including country parks or village type developments	A	B	B
Low density residential area consisting of low-rise or isolated high-rise developments	A	B	C
Urban area	B	C	C
Area other than those above	B	B	C

3.1.3. The HKPSG also states that in order to plan for a better environment, all planned fixed noise sources should be located and designed that when assessed in accordance with the IND-TM, the level of the intruding noise at the façade of the nearest existing sensitive use should be at least 5 dB(A) below the appropriate ANL shown in Table 2 of IND-TM or, in the case of the background being 5 dB(A) lower than the ANL, should not be higher than the background. The ANLs stipulated in the IND-TM are provided in **Table 3.2**.

Table 3.2 Acceptable Noise Levels

Time Period	Area Sensitivity Rating		
	A	B	C
Day (0700 to 1900 hours)	60	65	70
Evening (1900 to 2300 hours)			
Night (2300 to 0700 hours)	50	55	60

3.1.4. The Application Site is located in an area contains mainly low-rise residential buildings and schools in the surroundings. The type of area where the NSRs at the Proposed Development located is classified as "Low density residential area". No major roads and industrial areas are identified in the surroundings of the Application Site. As the Proposed Development will not be affected by IF, Area Sensitivity Rating of "A" has been assigned for the NSRs at the Proposed Development.

3.2. IDENTIFICATION AND EVALUATION OF FIXED NOISE IMPACT

Noise Sensitive Receivers

3.2.1. Existing NSRs and planned noise sensitive uses identified on the relevant Outline Zoning Plans and other relevant published land use plans, including development applications approved by the Town Planning Board have been identified. The first layer of representative NSRs within the 300m assessment area are listed in **Table 3.3** below and their locations are illustrated in **Figure 3.1.**

Table 3.3 Representative Noise Sensitive Receivers

NSR ID	Location	Nature of Use	Existing/ Planned	Separation Distance from the Project Site
NSR01	Residential Development to the North of the Application Site	Residential	Existing	<5m
NSR02	Residential Development to the East of the Application Site	Residential	Existing	<5m
NSR03	Residential Development to the South of the Application Site	Residential	Existing	~30m
NSR04	Residential Development to the West of the Application Site	Residential	Existing	~20m

Fixed Noise Impact on the Proposed Development

Identification of Fixed Noise Sources

3.2.2. A number of existing fixed noise sources have been identified within 300m assessment area through desktop study and site visit conducted on 17 November 2025. **Figure 3.1** indicates the locations of existing major fixed noise sources that may affect the Proposed Development. Information of the identified major fixed noise sources are

summarized in **Table 3.4**.

Table 3.4 Information of the Identified Fixed Noise Sources

Source ID	Location	Equipment	Approximate Shortest Horizontal Distance to the Project Site
S01	Kowloon City Plaza	Air-cooled Chiller	104m
S02a	Pooi To Middle School	Air-cooled Chiller	187m
S02b	Pooi To Middle School	AC Outdoor Unit	111m
S03	Munsang College	AC Outdoor Unit	161m
S04	Swatow Christian Church Kowloon City	Air-cooled Chiller	67m
S05	Iu Shan School	AC Outdoor Unit	104m

3.2.3. The Grampian Road Substation and Junction Road Substation are identified at the south of the Proposed Development. The substations are an enclosed structure and no noticeable noise from the substation was observed during site visit. As such, no adverse fixed noise impact from the substation is anticipated.

3.2.4. Detailed calculations of fixed noise assessment at NSRs are shown in **Appendix 3.1**, fixed noise assessment point with shortest distance to the noise sources is selected to demonstrate worst case scenario, all results complied with relevant noise standard, therefore, no adverse fixed noise impact to the Proposed Development is expected.

Fixed Noise Impact from the Proposed Development

Impact Identification and Evaluation

3.2.5. According to the latest development scheme, potential fixed noise sources within the Proposed Development include the E&M plant rooms at G/F to 3/F.

3.2.6. To ensure the fixed plant noise generated by the Proposed Development would not cause excessive impact to neighbouring noise sensitive uses, potential fixed noise sources within the Proposed Development shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG.

3.2.7. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, it is anticipated that the fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Development will not exceed the relevant noise criteria under the HKPSG and NCO.

Recommended Mitigation Measures

3.2.8. The following noise mitigation measures are recommended to control noise emissions

from planned fixed plant noise sources within the Proposed Development:

- All the noisy plants should be installed within plant room or with acoustic enclosure;
- Select quieter plant / equipment during procurement; and
- Provide suitable at-source noise control measures such as silencers and acoustic linings when necessary.

3.3. CONCLUSION

3.3.1. A number of existing fixed noise sources have been identified within 300m assessment area. Given all results of fixed noise assessment complied with relevant noise standard, no insurmountable fixed noise impact on the Proposed Development is anticipated.

3.3.2. To ensure the fixed plant noise generated by the Proposed Development would not cause excessive impact to neighbouring noise sensitive uses, fixed noise sources within the Proposed Development shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG. Provisions shall be made to control the fixed noise sources by suitable at source noise control measures such as silencers and acoustic linings when necessary. As such, it is anticipated that the fixed plant noise impact on the surrounding NSRs due to the operation of the Proposed Development will not exceed the relevant noise criteria under the HKPSG and NCO.

4. CONCLUSION

4.1.1. A 18-storey composite building comprising residential flats is proposed at 42 Grampian Road. This NIA Report addressed the potential road traffic noise and fixed noise impacts during the operation of the Proposed Development.

4.1.2. Road traffic noise impact on the planned noise sensitive uses within the Proposed Development has been assessed. From the assessment results, no adverse road traffic noise impact on the Proposed Development is anticipated.

4.1.3. Fixed noise impact on the Proposed Development has also been assessed. Based on the assessment, no insurmountable fixed noise impact on the Proposed Development is anticipated.

4.1.4. Fixed noise sources within the Proposed Development shall be properly designed to meet the relevant noise criteria as stipulated in Chapter 9 of the HKPSG. Suitable at source noise control measures such as silencers and acoustic linings shall be provided when necessary.

FIGURE 1.1
LOCATION OF APPLICATION SITE

LEGEND:

Site Boundary

	Prepared	Checked	Approved
Initial	LY	LY	HM
Date	20251030	20251030	20251030

Project Title

Redevelopment of No. 42 Grampian Road, Kowloon, Hong Kong

DrawingTitle

Location of Application Site and its Environs

Drawing No.

FIGURE 1.1

Rev.

0

Scale:

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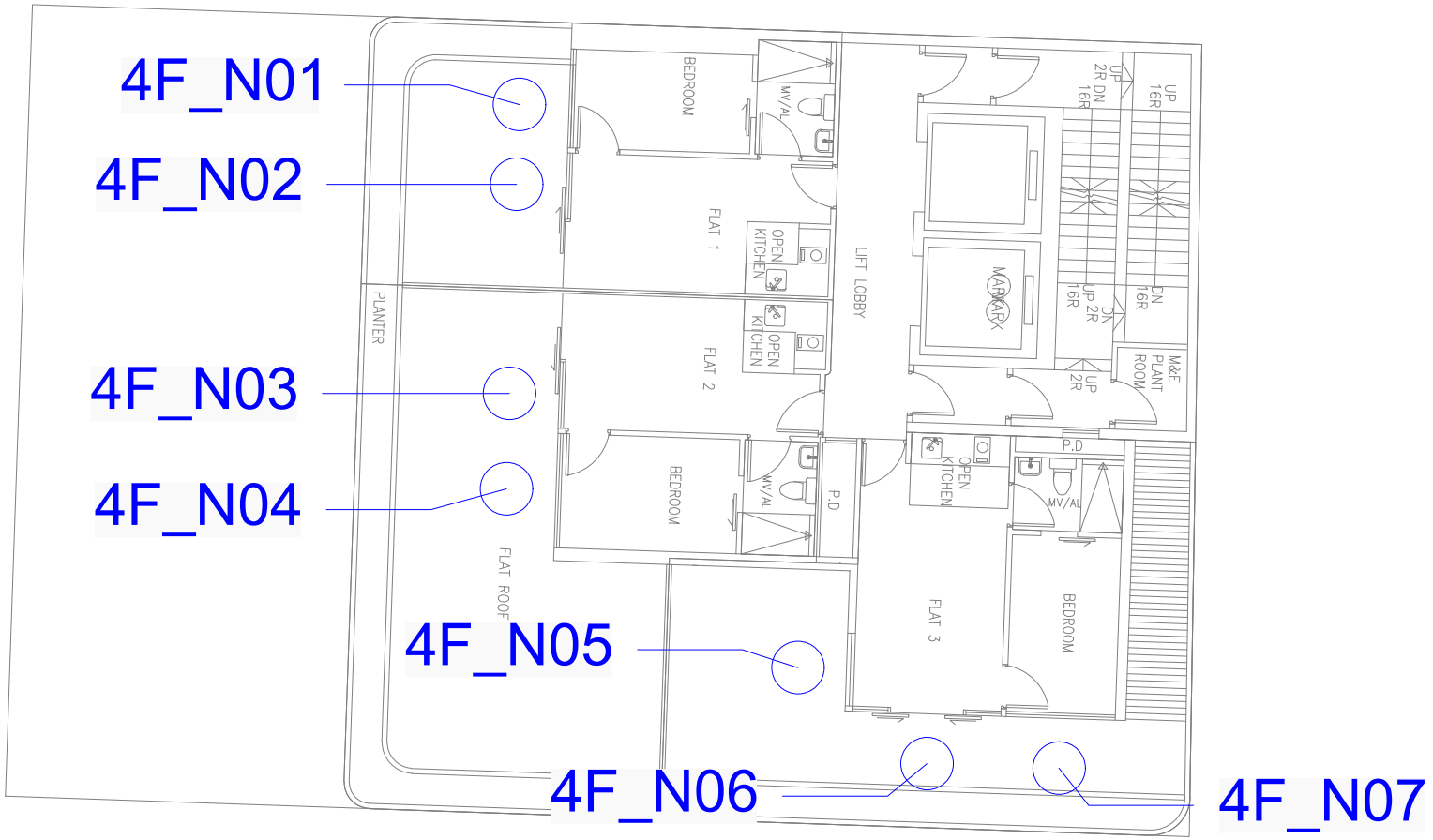
FIGURE 2.1A – 2.1C
LOCATION OF NOISE SENSITIVE RECEIVERS FOR ROAD TRAFFIC NOISE ASSESSMENT



LEGEND

Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260630	20260630	20260630

Project Title

REDEVELOPMENT OF NO. 42 GRAMPIAN ROAD, KOWLOON, HONG KONG

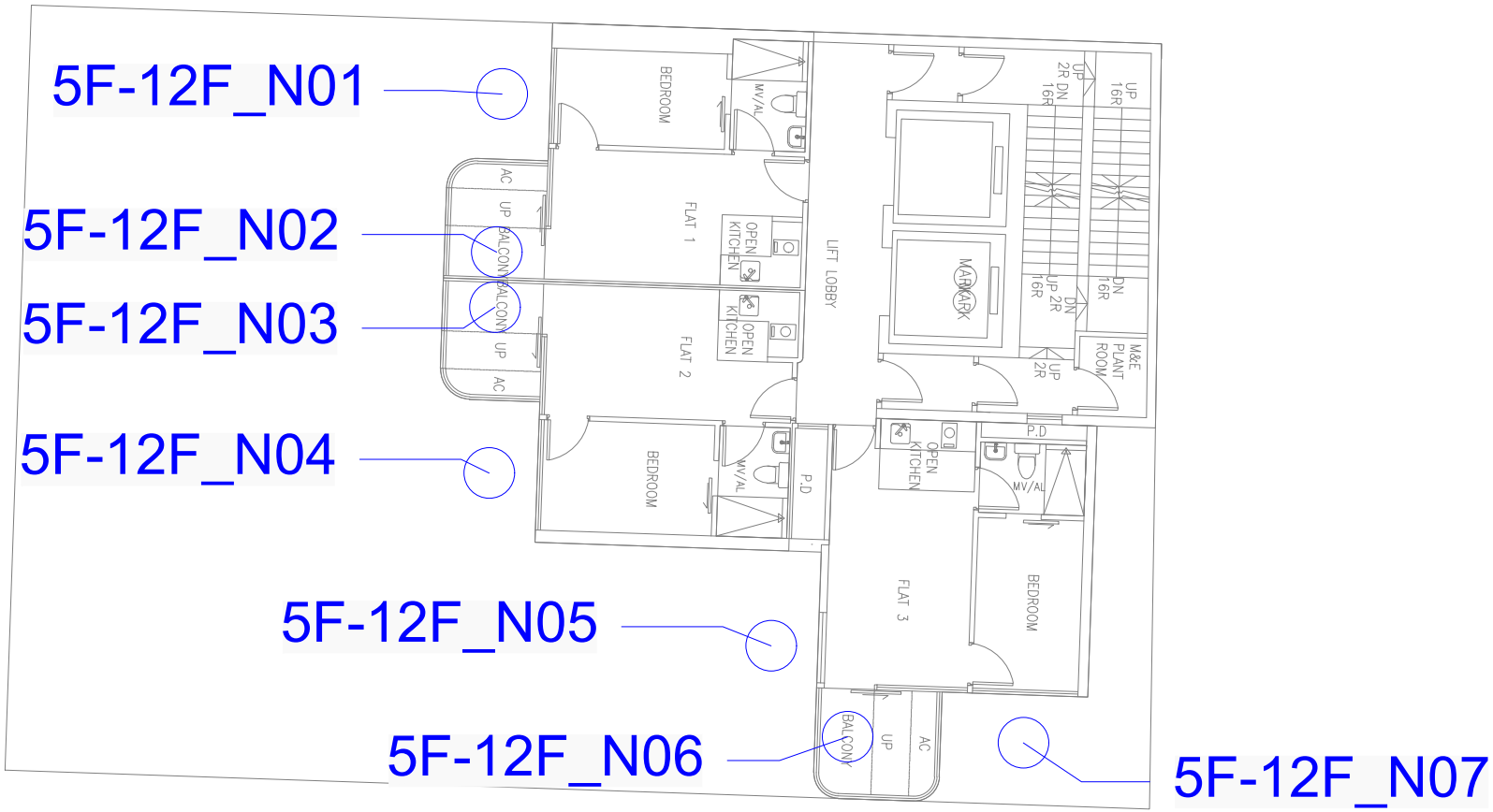
NOISE IMPACT ASSESSMENT REPORT

Figure Title

Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (4/F)

Figure No.	**Rev.**
2.1a	1

BXG



LEGEND

Noise Assessment Point

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260630	20260630	20260630

Project Title

REDEVELOPMENT OF NO. 42 GRAMPIAN ROAD, KOWLOON, HONG KONG

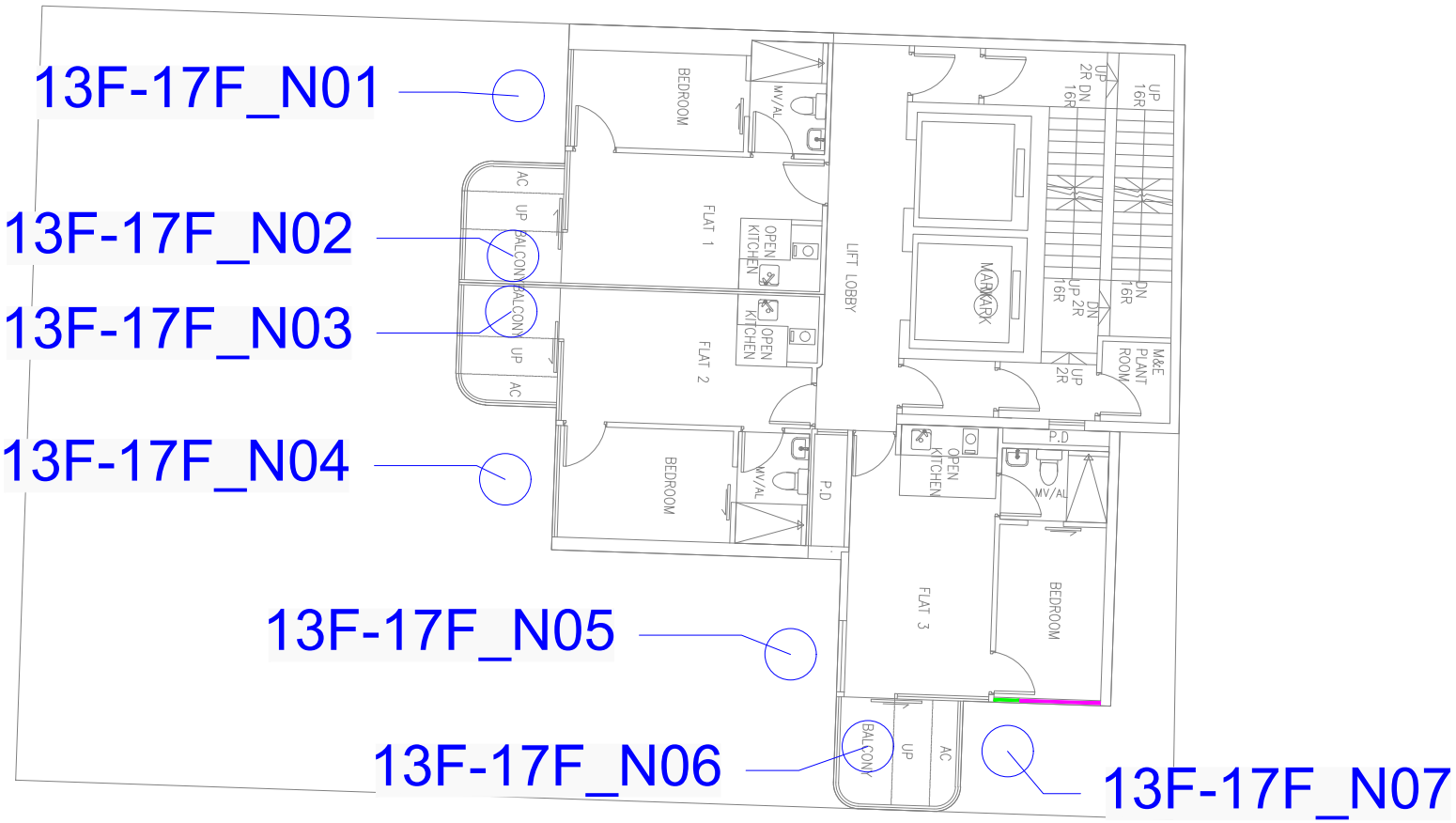
NOISE IMPACT ASSESSMENT REPORT

Figure Title

Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (5/F-12/F)

Figure No.	**Rev.**
2.1b	1

BXG



LEGEND

- Noise Assessment Point
- Openable Window
- Fixed Window

	Prepared	Checked	Approved
Initial	Various	HC	HM
Date	20260630	20260630	20260630

Project Title

REDEVELOPMENT OF NO. 42 GRAMPIAN ROAD, KOWLOON, HONG KONG

NOISE IMPACT ASSESSMENT REPORT

Figure Title

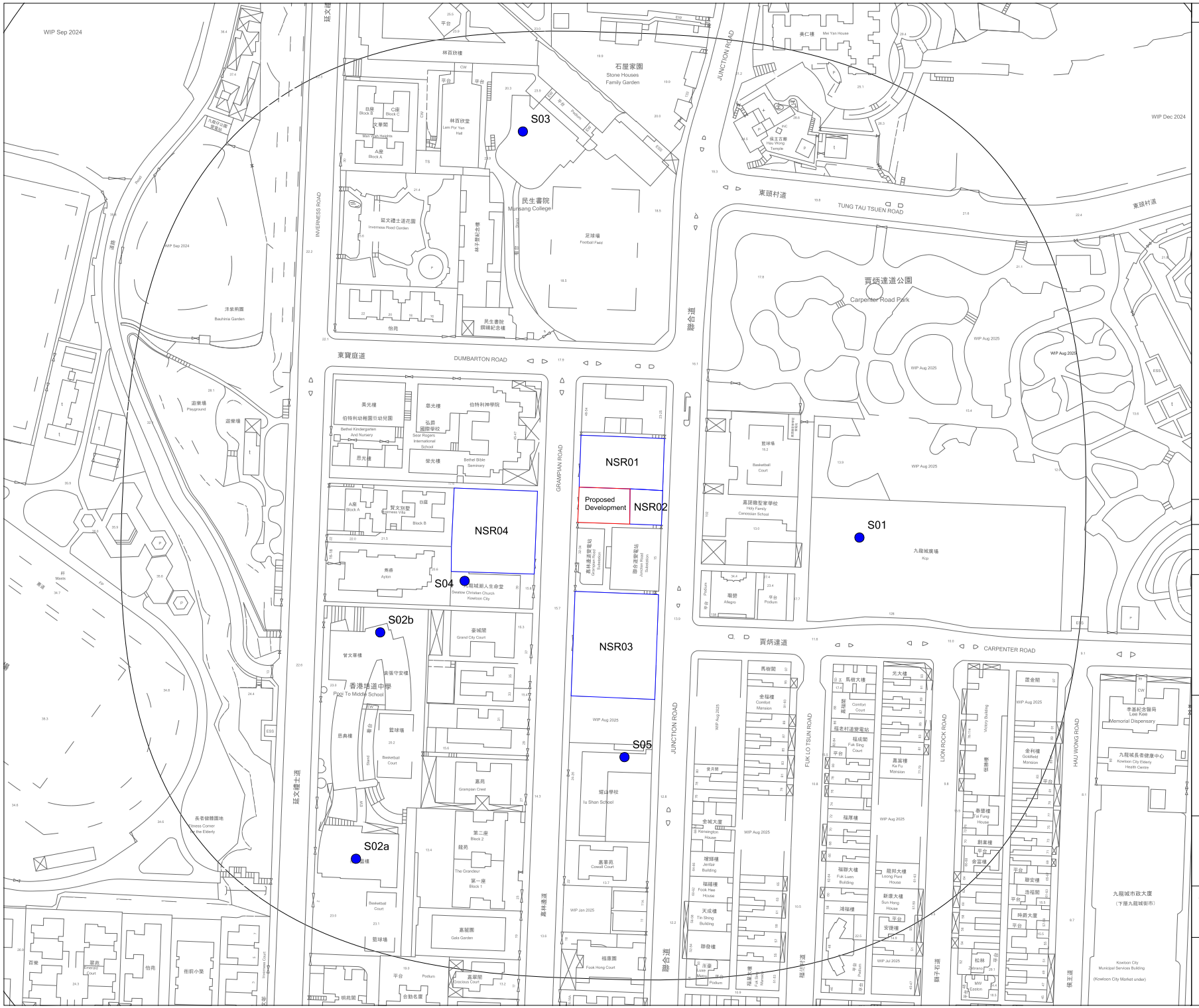
Locations of Noise Assessment Points for Road Traffic Noise Impact Assessment (13/F-17/F)

Figure No.	**Rev.**
2.1c	1

BXG

FIGURE 3.1

LOCATION OF MAJOR FIXED NOISE SOURCES AND REPRESENTATIVE NOISE SENSITIVE RECEIVERS FOR FIXED NOISE IMPACT ASSESSMENT



LEGEND:

- Site Boundary
- 300m Assessment Area
- Representative NSRs
- Fixed Noise Sources

	Prepared	Checked	Approved
Initial	VS	LY	HM
Date	20260129	20260129	20260129

Project Title

Redevelopment of No. 42 Grampian Road, Kowloon, Hong Kong

DrawingTitle

Location of Major Fixed Noise Sources and Representative Noise Sensitive Receivers (NSRs) for Fixed Noise Impact Assessment

Drawing No.	Rev.
FIGURE 3.1	0

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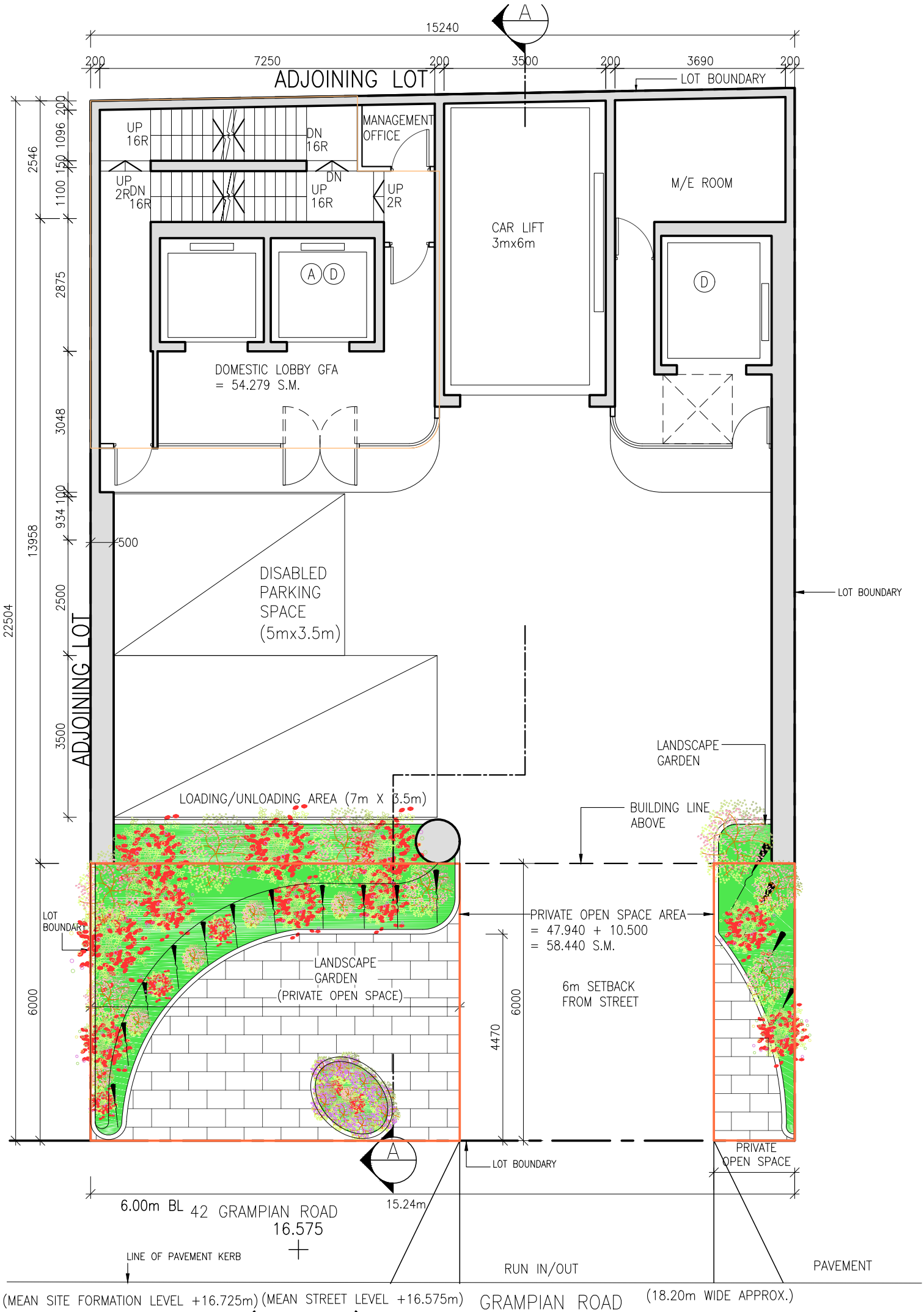
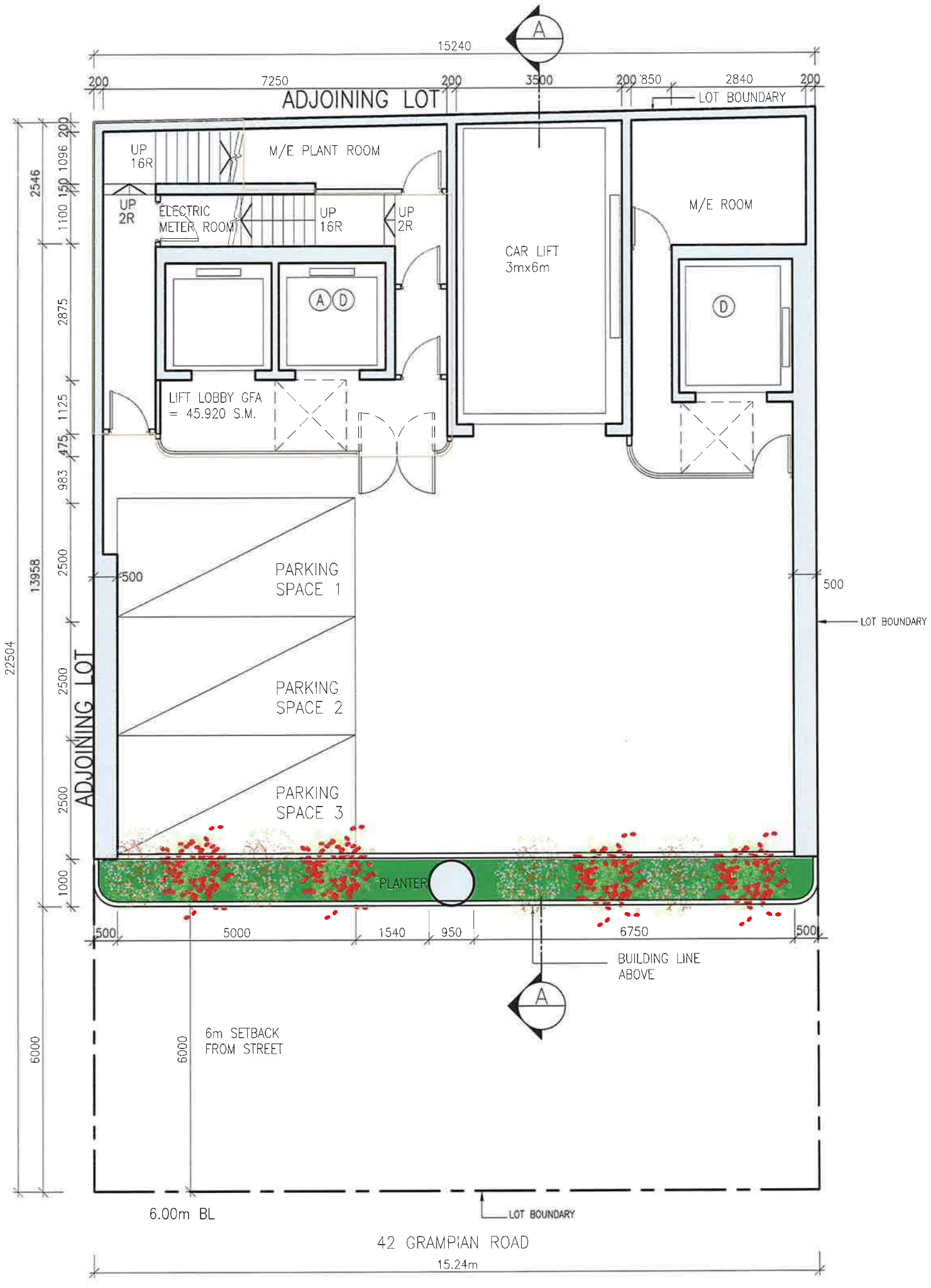
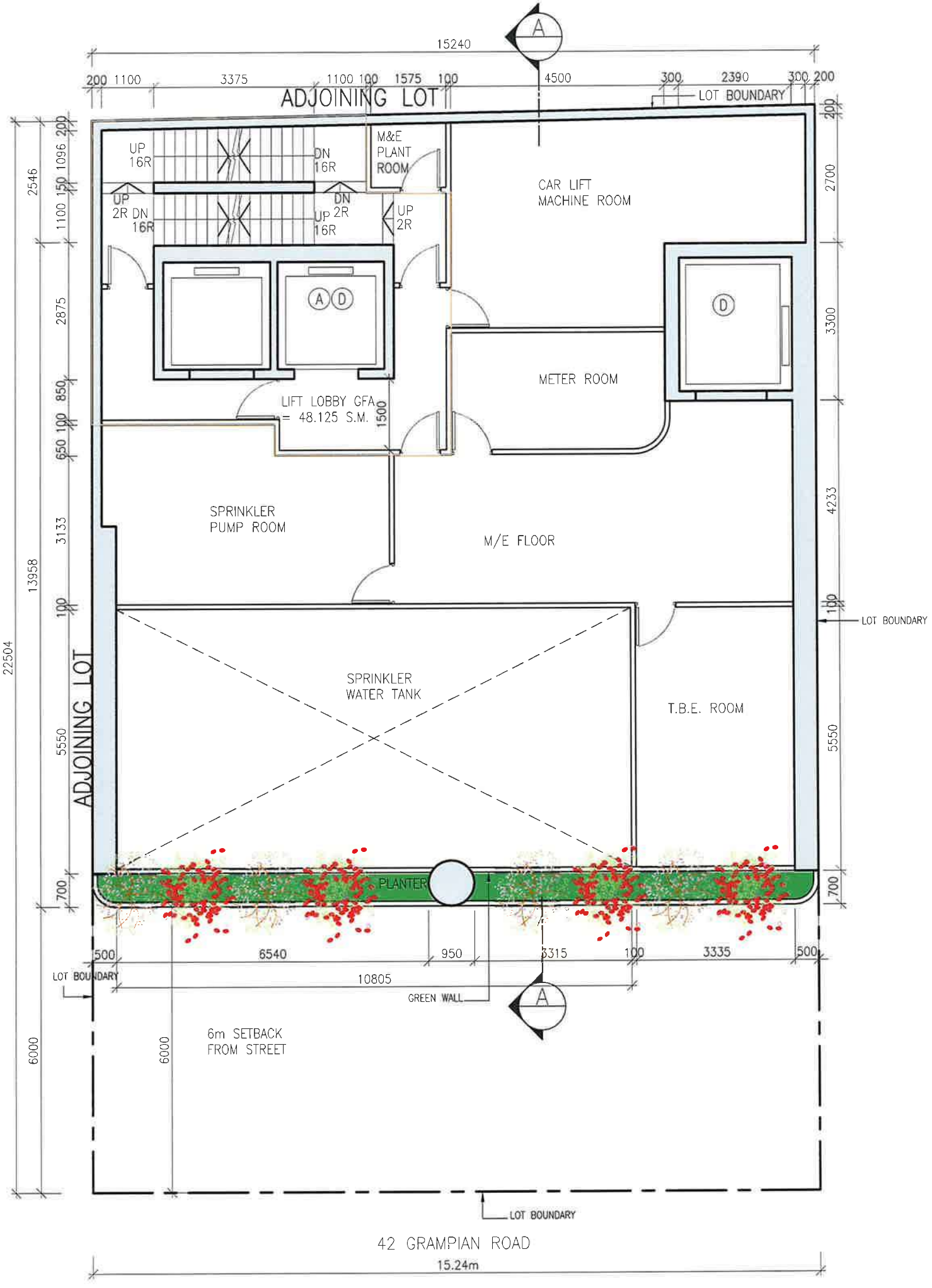
APPENDIX 1.1
MASTER LAYOUT PLAN



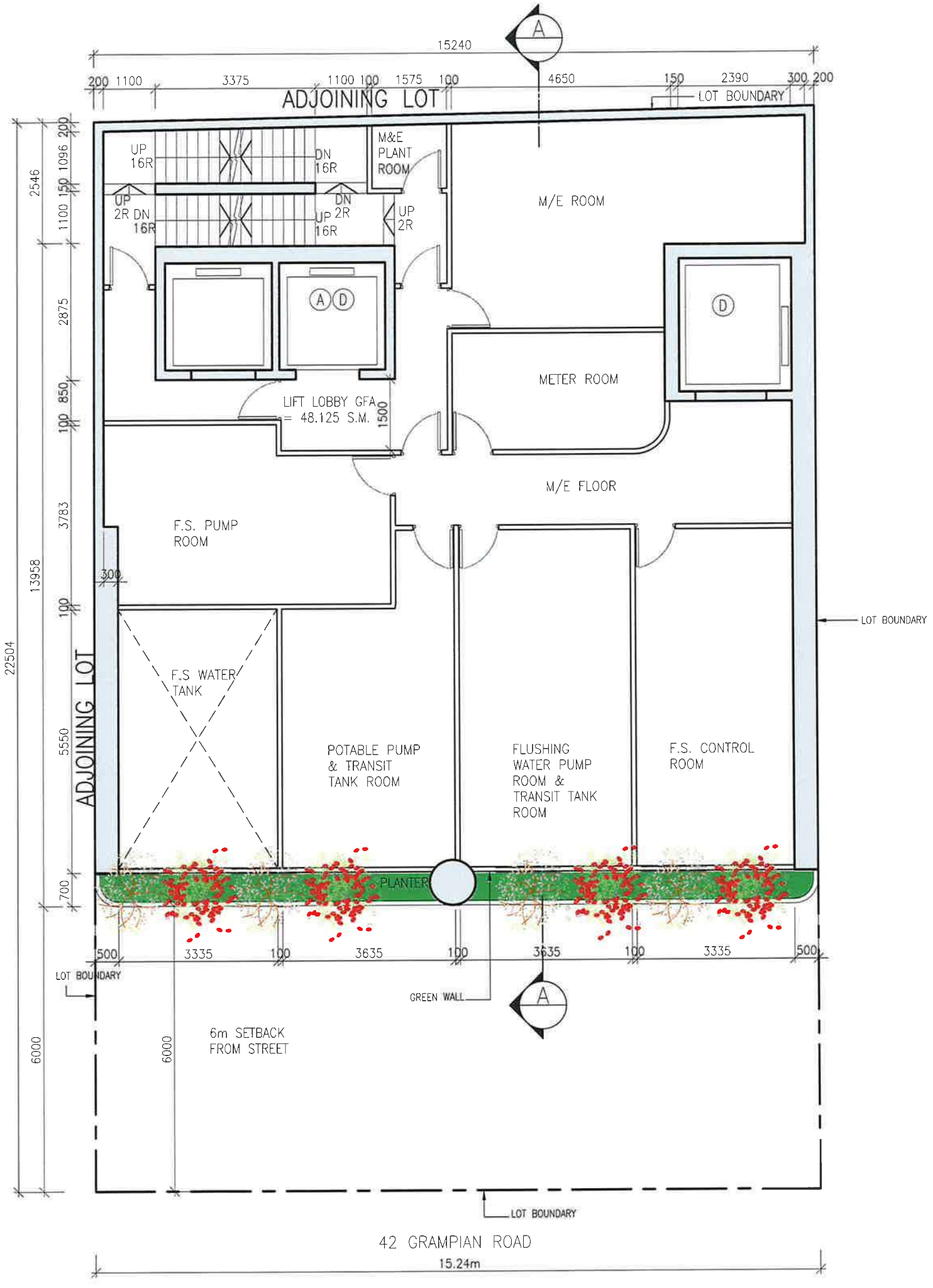
GROUND FLOOR PLAN (A4 1:100)



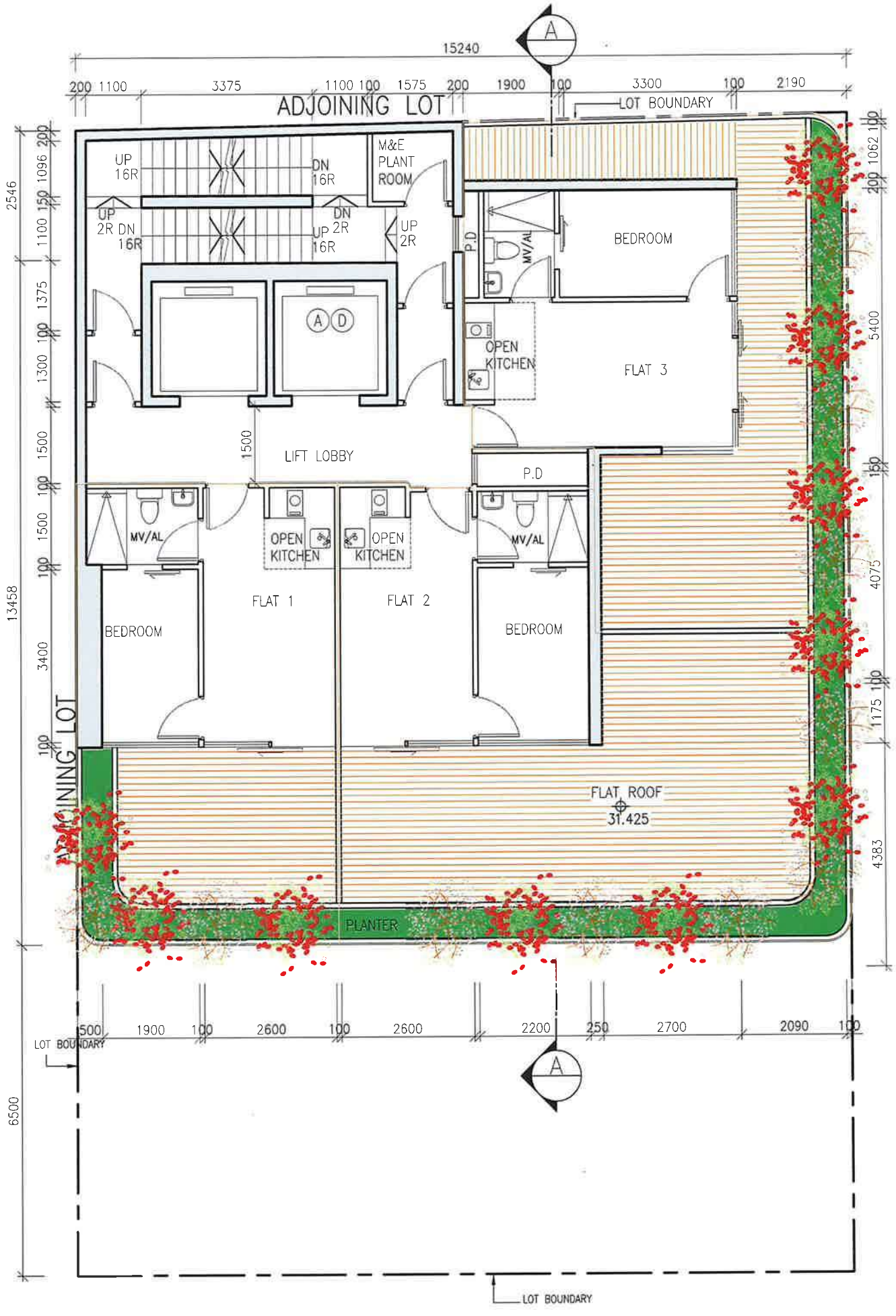
1ST FLOOR PLAN (A4 1:100)



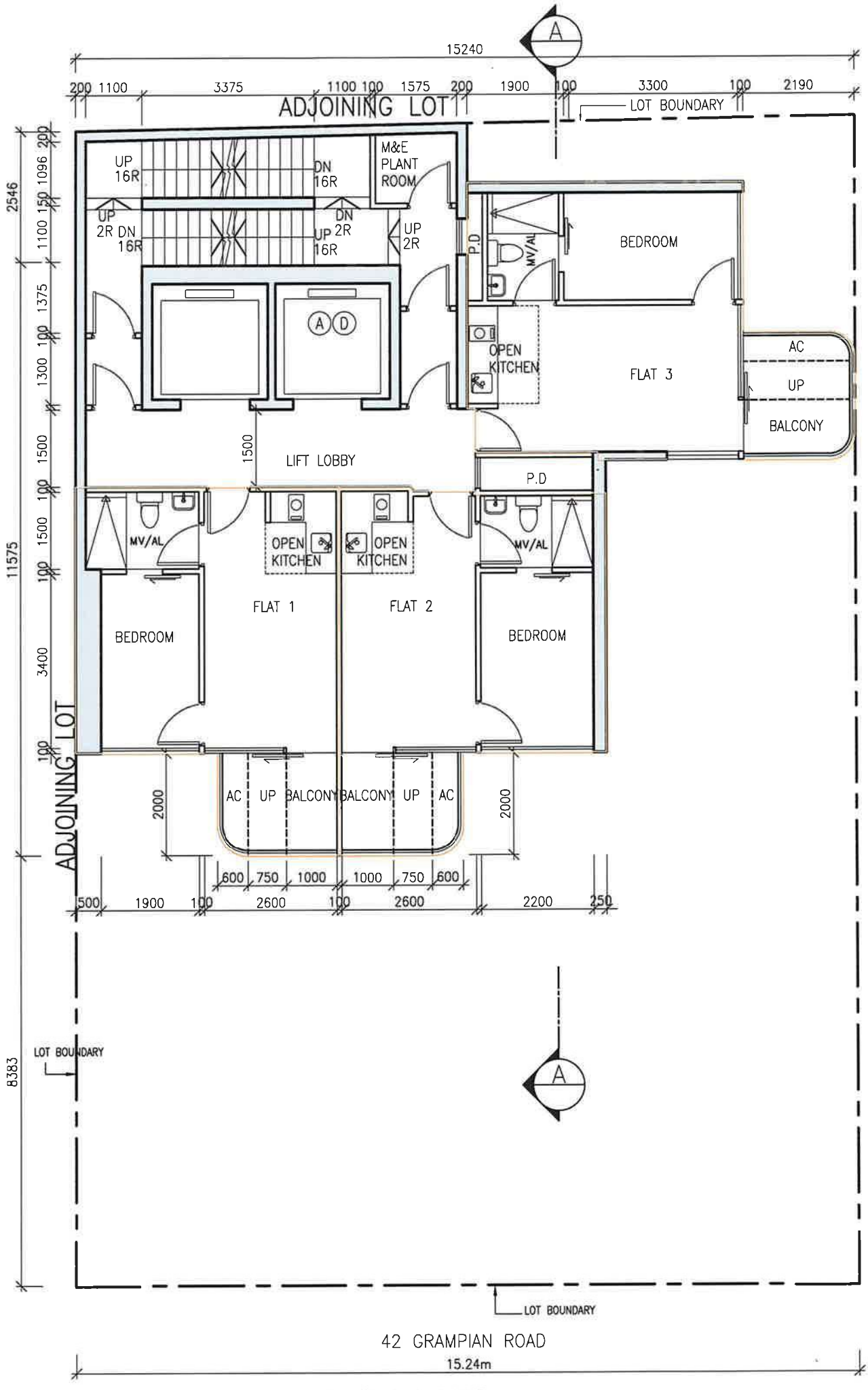
2ND FLOOR PLAN (A4 1:100)



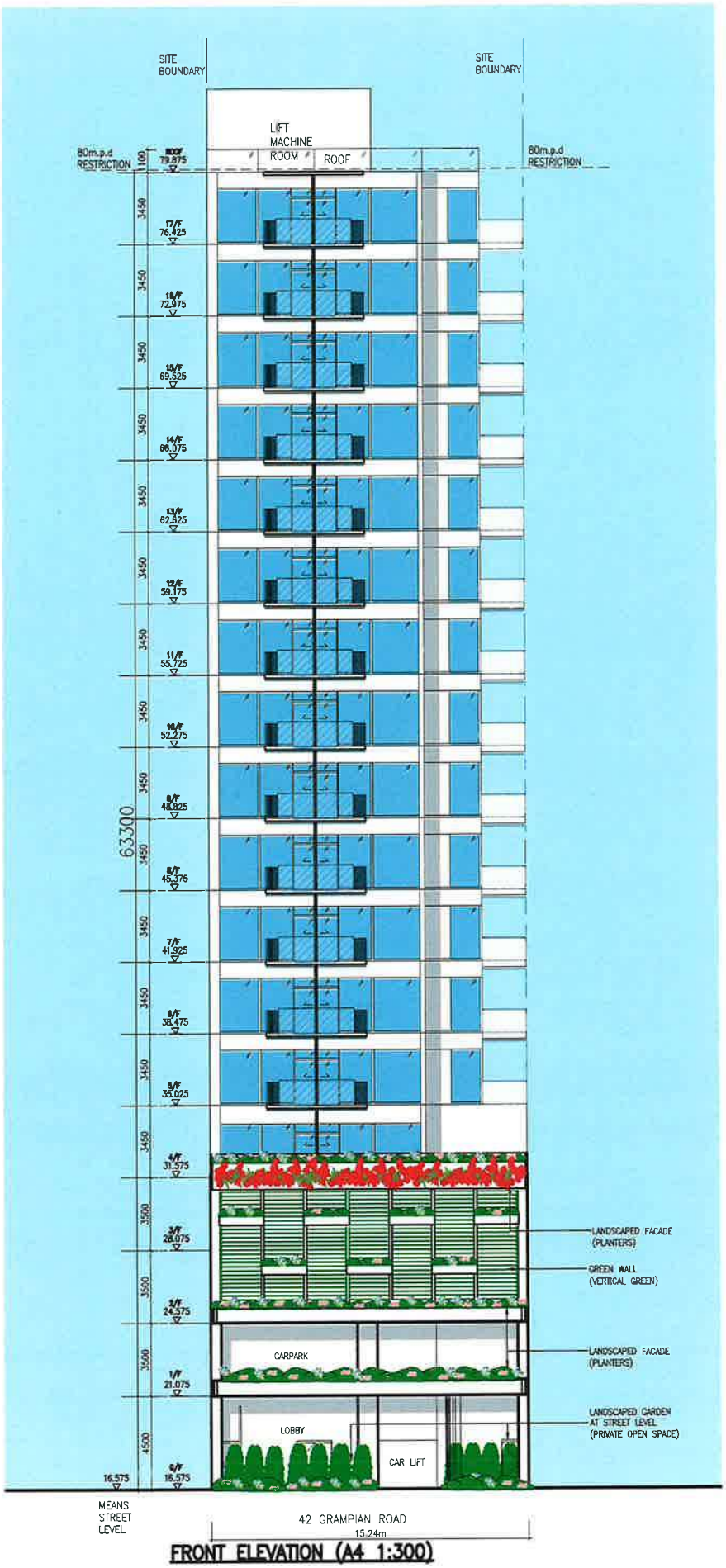
3RD FLOOR PLAN (A4 1:100)



4 FLOOR PLAN (A4 1:100)



5-17 FLOOR PLAN (A4 1:100)



FRONT ELEVATION (A4 1:300)

SECTION A-A (A4 1:300)

APPENDIX 2.1
YEAR 2045 PEAK HOUR TRAFFIC FORECAST

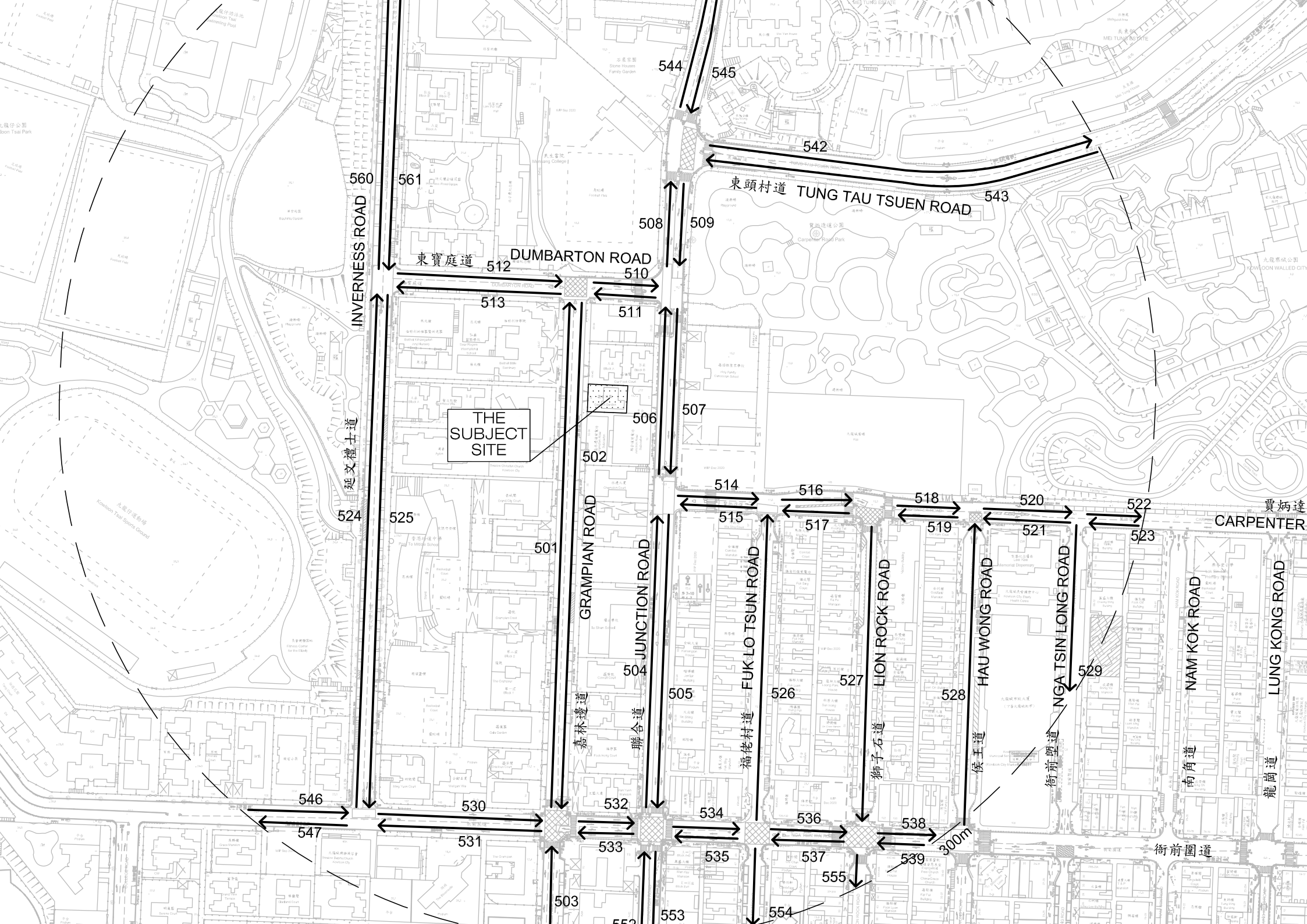

544
545
542
543
東頭村道 TUNG TAU TSUEN ROAD
560
561
INVERNESS ROAD
508
509
東寶庭道
512
DUMBARTON ROAD
510
513
511
THE SUBJECT SITE
506
507
502
514
516
518
520
522
賈炳達
CARPENTER
524
525
501
515
517
519
521
523
延文禮士道
GRAMPIAN ROAD
504
JUNCTION ROAD
505
嘉林邊道
聯合道
福佬村道
FUK LO TSUN ROAD
527
526
LION ROCK ROAD
狮子石道
528
HAU WONG ROAD
侯王道
529
NGA TSIN LONG ROAD
衙前塱道
NAM KOK ROAD
南角道
LUNG KONG ROAD
龍崗道
546
547
530
531
532
533
534
535
536
537
538
539
300m
衙前圍道
555
503
553
554

TABLE 1 – PEAK HOUR TRAFFIC FLOW AND VEHICLE COMPOSITION

YEAR 2045 TRAFFIC FORECAST

Date: November 2025 **Job No.: J7433**

Link ID	Road Section	From Road	To Road	AM Peak Hour		
				Traffic Flows (veh/hr)	Vehicle Composition	
					LV	HV
L501	Grampian Road	Nga Tsin Wai Road	Dumbarton Road	300	86.9%	13.1%
L502	Grampian Road	Dumbarton Road	Nga Tsin Wai Road	100	78.4%	21.6%
L503	Grampian Road	Sau Chuk Yuen Road	Nga Tsin Wai Road	700	85.8%	14.2%
L504	Junction Road	Nga Tsin Wai Road	Carpenter Road	450	76.7%	23.3%
L505	Junction Road	Carpenter Road	Nga Tsin Wai Road	950	73.3%	26.7%
L506	Junction Road	Carpenter Road	Dumbarton Road	600	79.7%	20.3%
L507	Junction Road	Dumbarton Road	Carpenter Road	900	74.1%	25.9%
L508	Junction Road	Dumbarton Road	Tung Tau Tsuen Road	850	75.8%	24.2%
L509	Junction Road	Tung Tau Tsuen Road	Dumbarton Road	800	70.8%	29.2%
L510	Dumbarton Road	Grampian Road	Junction Road	550	83.4%	16.6%
L511	Dumbarton Road	Junction Road	Grampian Road	150	79.7%	20.3%
L512	Dumbarton Road	Inverness Road	Grampian Road	350	80.0%	20.0%
L513	Dumbarton Road	Grampian Road	Inverness Road	150	86.4%	13.6%
L514	Carpenter Road	Junction Road	Fuk Lo Tsun Road	300	82.8%	17.2%
L515	Carpenter Road	Fuk Lo Tsun Road	Junction Road	450	83.2%	16.8%
L516	Carpenter Road	Fuk Lo Tsun Road	Lion Rock Road	400	83.7%	16.3%
L517	Carpenter Road	Lion Rock Road	Fuk Lo Tsun Road	350	84.8%	15.2%
L518	Carpenter Road	Lion Rock Road	Hau Wong Road	250	84.6%	15.4%
L519	Carpenter Road	Hau Wong Road	Lion Rock Road	450	81.4%	18.6%
L520	Carpenter Road	Hau Wong Road	Nam Kok Road	500	80.8%	19.2%
L521	Carpenter Road	Nam Kok Road	Hau Wong Road	250	71.8%	28.2%
L522	Carpenter Road	Nga Tsin Long Road	Nam Kok Road	500	80.5%	19.5%
L523	Carpenter Road	Nam Kok Road	Nga Tsin Long Road	250	73.4%	26.6%
L524	Inverness Road	Nga Tsin Wai Road	Dumbarton Road	450	79.2%	20.8%
L525	Inverness Road	Dumbarton Road	Nga Tsin Wai Road	400	89.8%	10.2%
L526	Fuk Lo Tsun Road	Nga Tsin Wai Road	Carpenter Road	250	83.1%	16.9%
L527	Lion Rock Road	Carpenter Road	Nga Tsin Wai Road	300	80.4%	19.6%
L528	Hau Wong Road	Nga Tsin Wai Road	Carpenter Road	450	83.5%	16.5%
L529[(1)]	Nga Tsin Long Road	Carpenter Road	Nga Tsin Wai Road	-	-	-
L530	Nga Tsin Wai Road	Inverness Road	Grampian Road	400	80.0%	20.0%
L531	Nga Tsin Wai Road	Grampian Road	Inverness Road	700	79.0%	21.0%
L532	Nga Tsin Wai Road	Grampian Road	Junction Road	600	78.1%	21.9%
L533	Nga Tsin Wai Road	Junction Road	Grampian Road	400	81.0%	19.0%
L534	Nga Tsin Wai Road	Junction Road	Fuk Lo Tsun Road	750	79.4%	20.6%
L535	Nga Tsin Wai Road	Fuk Lo Tsun Road	Junction Road	350	76.7%	23.3%
L536	Nga Tsin Wai Road	Fuk Lo Tsun Road	Lion Rock Road	350	67.2%	32.8%
L537	Nga Tsin Wai Road	Lion Rock Road	Fuk Lo Tsun Road	450	76.8%	23.2%
L538	Nga Tsin Wai Road	Lion Rock Road	Hau Wong Road	400	68.2%	31.8%
L539	Nga Tsin Wai Road	Hau Wong Road	Lion Rock Road	450	73.9%	26.1%
L542	Tung Tau Tsuen Road	Junction Road	Tung Tsing Road	300	65.6%	34.4%
L543	Tung Tau Tsuen Road	Tung Tsing Road	Junction Road	300	61.0%	39.0%
L544	Junction Road	Tung Tau Tsuen Road	Inverness Road	700	76.7%	23.3%
L545	Junction Road	Inverness Road	Tung Tau Tsuen Road	700	72.5%	27.5%
L546	Nga Tsin Wai Road	College Road	Inverness Road	500	74.1%	25.9%
L547	Nga Tsin Wai Road	Inverness Road	College Road	700	80.8%	19.2%
L552	Junction Road	Prince Edward Road West	Nga Tsin Wai Road	650	82.1%	17.9%
L553	Junction Road	Nga Tsin Wai Road	Prince Edward Road West	950	73.7%	26.3%
L554	Fuk Lo Tsun Road	Nga Tsin Wai Road	Prince Edward Road West	300	92.4%	7.6%
L555	Lion Rock Road	Nga Tsin Wai Road	Prince Edward Road West	250	74.7%	25.3%
L560	Inverness Road	Dumbarton Road	Junction Road	300	84.0%	16.0%
L561	Inverness Road	Junction Road	Dumbarton Road	450	87.0%	13.0%

Note: "LV" includes motorcycle, private car and taxi

"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

[(1)] The portion of Nga Tsin Long Road to be pedestrianised with reference to Urban Renewal Authority's Nga Tsin Wai Road / Carpenter Road Development Scheme (KC-017)

TABLE 1 – PEAK HOUR TRAFFIC FLOW AND VEHICLE COMPOSITION

YEAR 2045 TRAFFIC FORECAST

Date: November 2025 **Job No.: J7433**

Link ID	Road Section	From Road	To Road	PM Peak Hour		
				Traffic Flows (veh/hr)	Vehicle Composition	
					LV	HV
L501	Grampian Road	Nga Tsin Wai Road	Dumbarton Road	300	78.9%	21.1%
L502	Grampian Road	Dumbarton Road	Nga Tsin Wai Road	100	80.0%	20.0%
L503	Grampian Road	Sau Chuk Yuen Road	Nga Tsin Wai Road	550	82.4%	17.6%
L504	Junction Road	Nga Tsin Wai Road	Carpenter Road	550	74.6%	25.4%
L505	Junction Road	Carpenter Road	Nga Tsin Wai Road	800	77.0%	23.0%
L506	Junction Road	Carpenter Road	Dumbarton Road	550	75.8%	24.2%
L507	Junction Road	Dumbarton Road	Carpenter Road	650	74.5%	25.5%
L508	Junction Road	Dumbarton Road	Tung Tau Tsuen Road	700	72.5%	27.5%
L509	Junction Road	Tung Tau Tsuen Road	Dumbarton Road	650	71.4%	28.6%
L510	Dumbarton Road	Grampian Road	Junction Road	250	80.2%	19.8%
L511	Dumbarton Road	Junction Road	Grampian Road	100	79.1%	20.9%
L512	Dumbarton Road	Inverness Road	Grampian Road	100	87.0%	13.0%
L513	Dumbarton Road	Grampian Road	Inverness Road	150	83.3%	16.7%
L514	Carpenter Road	Junction Road	Fuk Lo Tsun Road	300	82.7%	17.3%
L515	Carpenter Road	Fuk Lo Tsun Road	Junction Road	450	85.6%	14.4%
L516	Carpenter Road	Fuk Lo Tsun Road	Lion Rock Road	400	84.5%	15.5%
L517	Carpenter Road	Lion Rock Road	Fuk Lo Tsun Road	350	82.0%	18.0%
L518	Carpenter Road	Lion Rock Road	Hau Wong Road	200	80.6%	19.4%
L519	Carpenter Road	Hau Wong Road	Lion Rock Road	500	82.0%	18.0%
L520	Carpenter Road	Hau Wong Road	Nam Kok Road	350	82.8%	17.2%
L521	Carpenter Road	Nam Kok Road	Hau Wong Road	300	74.9%	25.1%
L522	Carpenter Road	Nga Tsin Long Road	Nam Kok Road	300	82.6%	17.4%
L523	Carpenter Road	Nam Kok Road	Nga Tsin Long Road	300	74.4%	25.6%
L524	Inverness Road	Nga Tsin Wai Road	Dumbarton Road	200	73.1%	26.9%
L525	Inverness Road	Dumbarton Road	Nga Tsin Wai Road	250	87.3%	12.7%
L526	Fuk Lo Tsun Road	Nga Tsin Wai Road	Carpenter Road	200	93.4%	6.6%
L527	Lion Rock Road	Carpenter Road	Nga Tsin Wai Road	400	85.3%	14.7%
L528	Hau Wong Road	Nga Tsin Wai Road	Carpenter Road	400	89.0%	11.0%
L529[(1)]	Nga Tsin Long Road	Carpenter Road	Nga Tsin Wai Road	-	-	-
L530	Nga Tsin Wai Road	Inverness Road	Grampian Road	300	83.0%	17.0%
L531	Nga Tsin Wai Road	Grampian Road	Inverness Road	600	82.8%	17.2%
L532	Nga Tsin Wai Road	Grampian Road	Junction Road	500	80.6%	19.4%
L533	Nga Tsin Wai Road	Junction Road	Grampian Road	450	85.8%	14.2%
L534	Nga Tsin Wai Road	Junction Road	Fuk Lo Tsun Road	600	83.0%	17.0%
L535	Nga Tsin Wai Road	Fuk Lo Tsun Road	Junction Road	450	85.5%	14.5%
L536	Nga Tsin Wai Road	Fuk Lo Tsun Road	Lion Rock Road	300	73.1%	26.9%
L537	Nga Tsin Wai Road	Lion Rock Road	Fuk Lo Tsun Road	600	83.8%	16.2%
L538	Nga Tsin Wai Road	Lion Rock Road	Hau Wong Road	400	73.5%	26.5%
L539	Nga Tsin Wai Road	Hau Wong Road	Lion Rock Road	600	82.5%	17.5%
L542	Tung Tau Tsuen Road	Junction Road	Tung Tsing Road	250	64.8%	35.2%
L543	Tung Tau Tsuen Road	Tung Tsing Road	Junction Road	300	66.3%	33.7%
L544	Junction Road	Tung Tau Tsuen Road	Inverness Road	650	74.2%	25.8%
L545	Junction Road	Inverness Road	Tung Tau Tsuen Road	550	72.8%	27.2%
L546	Nga Tsin Wai Road	College Road	Inverness Road	400	78.3%	21.7%
L547	Nga Tsin Wai Road	Inverness Road	College Road	750	84.3%	15.7%
L552	Junction Road	Prince Edward Road West	Nga Tsin Wai Road	700	77.3%	22.7%
L553	Junction Road	Nga Tsin Wai Road	Prince Edward Road West	850	76.8%	23.2%
L554	Fuk Lo Tsun Road	Nga Tsin Wai Road	Prince Edward Road West	300	83.2%	16.8%
L555	Lion Rock Road	Nga Tsin Wai Road	Prince Edward Road West	300	83.9%	16.1%
L560	Inverness Road	Dumbarton Road	Junction Road	200	74.8%	25.2%
L561	Inverness Road	Junction Road	Dumbarton Road	200	86.8%	13.2%

Note: "LV" includes motorcycle, private car and taxi

"HV" includes light / medium / heavy goods vehicle, public / private light bus, non-franchised bus and franchised bus

(1) The portion of Nga Tsin Long Road to be pedestrianised with reference to Urban Renewal Authority's Nga Tsin Wai Road / Carpenter Road Development Scheme (KC-017)

APPENDIX 2.2
DETAILED RESULTS OF ROAD TRAFFIC NOISE ASSESSMENT

Predicted Road Traffic Noise Levels for 2045 (Base Case Scenario)

Floor	NAP ID	Description	Floor Height, mPD	Assessment Height, mPD	Noise Criteria, dB(A)	Unmitigated Noise Level, $L_{10\ (1\ hour)}$, dB(A)	Compliance
						AM	
4/F	4F_N01	Flat - Bedroom	+31.6	+32.8	70	64	Yes
	4F_N02	Flat - Living Room			70	63	Yes
	4F_N03	Flat - Living Room			70	63	Yes
	4F_N04	Flat - Bedroom			70	63	Yes
	4F_N05	Flat - Living Room			70	59	Yes
	4F_N06	Flat - Living Room			70	61	Yes
	4F_N07	Flat - Bedroom			70	63	Yes
5/F	5F_N01	Flat - Bedroom	+35.0	+36.2	70	68	Yes
	5F_N02	Flat - Living Room			70	69	Yes
	5F_N03	Flat - Living Room			70	69	Yes
	5F_N04	Flat - Bedroom			70	68	Yes
	5F_N05	Flat - Living Room			70	62	Yes
	5F_N06	Flat - Living Room			70	65	Yes
	5F_N07	Flat - Bedroom			70	67	Yes
6/F	6F_N01	Flat - Bedroom	+38.5	+39.7	70	69	Yes
	6F_N02	Flat - Living Room			70	69	Yes
	6F_N03	Flat - Living Room			70	69	Yes
	6F_N04	Flat - Bedroom			70	69	Yes
	6F_N05	Flat - Living Room			70	65	Yes
	6F_N06	Flat - Living Room			70	68	Yes
	6F_N07	Flat - Bedroom			70	68	Yes
7/F	7F_N01	Flat - Bedroom	+41.9	+43.1	70	69	Yes
	7F_N02	Flat - Living Room			70	69	Yes
	7F_N03	Flat - Living Room			70	69	Yes
	7F_N04	Flat - Bedroom			70	69	Yes
	7F_N05	Flat - Living Room			70	67	Yes
	7F_N06	Flat - Living Room			70	69	Yes
	7F_N07	Flat - Bedroom			70	69	Yes
8/F	8F_N01	Flat - Bedroom	+45.4	+46.6	70	69	Yes
	8F_N02	Flat - Living Room			70	69	Yes
	8F_N03	Flat - Living Room			70	69	Yes
	8F_N04	Flat - Bedroom			70	69	Yes
	8F_N05	Flat - Living Room			70	68	Yes
	8F_N06	Flat - Living Room			70	69	Yes
	8F_N07	Flat - Bedroom			70	69	Yes
9/F	9F_N01	Flat - Bedroom	+48.8	+50.0	70	69	Yes
	9F_N02	Flat - Living Room			70	68	Yes
	9F_N03	Flat - Living Room			70	69	Yes
	9F_N04	Flat - Bedroom			70	70	Yes
	9F_N05	Flat - Living Room			70	68	Yes
	9F_N06	Flat - Living Room			70	70	Yes
	9F_N07	Flat - Bedroom			70	70	Yes
10/F	10F_N01	Flat - Bedroom	+52.3	+53.5	70	69	Yes
	10F_N02	Flat - Living Room			70	68	Yes
	10F_N03	Flat - Living Room			70	69	Yes
	10F_N04	Flat - Bedroom			70	70	Yes
	10F_N05	Flat - Living Room			70	69	Yes
	10F_N06	Flat - Living Room			70	70	Yes
	10F_N07	Flat - Bedroom			70	70	Yes
11/F	11F_N01	Flat - Bedroom	+55.7	+56.9	70	69	Yes
	11F_N02	Flat - Living Room			70	68	Yes
	11F_N03	Flat - Living Room			70	68	Yes
	11F_N04	Flat - Bedroom			70	70	Yes
	11F_N05	Flat - Living Room			70	69	Yes
	11F_N06	Flat - Living Room			70	70	Yes
	11F_N07	Flat - Bedroom			70	70	Yes
12/F	12F_N01	Flat - Bedroom	+59.2	+60.4	70	69	Yes
	12F_N02	Flat - Living Room			70	68	Yes
	12F_N03	Flat - Living Room			70	68	Yes
	12F_N04	Flat - Bedroom			70	70	Yes
	12F_N05	Flat - Living Room			70	69	Yes
	12F_N06	Flat - Living Room			70	70	Yes
	12F_N07	Flat - Bedroom			70	70	Yes
13/F	13F_N01	Flat - Bedroom	+62.6	+63.8	70	69	Yes
	13F_N02	Flat - Living Room			70	68	Yes
	13F_N03	Flat - Living Room			70	68	Yes
	13F_N04	Flat - Bedroom			70	69	Yes
	13F_N05	Flat - Living Room			70	68	Yes
	13F_N06	Flat - Living Room			70	70	Yes
	13F_N07	Flat - Bedroom			70	70	Yes
14/F	14F_N01	Flat - Bedroom	+66.1	+67.3	70	69	Yes
	14F_N02	Flat - Living Room			70	68	Yes
	14F_N03	Flat - Living Room			70	68	Yes
	14F_N04	Flat - Bedroom			70	69	Yes
	14F_N05	Flat - Living Room			70	68	Yes
	14F_N06	Flat - Living Room			70	70	Yes
	14F_N07	Flat - Bedroom			70	70	Yes

Predicted Road Traffic Noise Levels for 2045 (Base Case Scenario)

Floor	NAP ID	Description	Floor Height, mPD	Assessment Height, mPD	Noise Criteria, dB(A)	Unmitigated Noise Level, $L_{10\ (1\ hour)}$, dB(A)	Compliance
						AM	
15/F	15F_N01	Flat - Bedroom	+69.5	+70.7	70	69	Yes
	15F_N02	Flat - Living Room			70	68	Yes
	15F_N03	Flat - Living Room			70	68	Yes
	15F_N04	Flat - Bedroom			70	69	Yes
	15F_N05	Flat - Living Room			70	68	Yes
	15F_N06	Flat - Living Room			70	70	Yes
	15F_N07	Flat - Bedroom			70	70	Yes
16/F	16F_N01	Flat - Bedroom	+73.0	+74.2	70	69	Yes
	16F_N02	Flat - Living Room			70	68	Yes
	16F_N03	Flat - Living Room			70	68	Yes
	16F_N04	Flat - Bedroom			70	69	Yes
	16F_N05	Flat - Living Room			70	68	Yes
	16F_N06	Flat - Living Room			70	70	Yes
	16F_N07	Flat - Bedroom			70	70	Yes
17/F	17F_N01	Flat - Bedroom	+76.4	+77.6	70	69	Yes
	17F_N02	Flat - Living Room			70	68	Yes
	17F_N03	Flat - Living Room			70	68	Yes
	17F_N04	Flat - Bedroom			70	69	Yes
	17F_N05	Flat - Living Room			70	68	Yes
	17F_N06	Flat - Living Room			70	70	Yes
	17F_N07	Flat - Bedroom			70	70	Yes

Results Summary	
Total No. of NAPs	98
Total No. of NAPs with exceedance	0
Compliance Rate	100%

APPENDIX 3.1
CALCULATION FOR FIXED NOISE IMPACT ASSESSMENT

Title: Inventory of Major Fixed Noise Sources

Source Location	Source Description	Source ID	x-coordinate	y-coordinate	No. of Plant	SWL adopted in Fixed Noise Assessment, dB(A)	Remarks
Kowloon City Plaza	Air-cooled Chiller	S01	837398.4	821337.8	2	68.0	SWL reference to Planning Application No. A/K10/276 with similar equipemnt and project location
Pooi To Middle School	Air-cooled Chiller	S02a	837177.6	821196.8	2	83.0	
	AC Outdoor Unit	S02b	837188.2	821296	8	68.0	
Munsang College	AC Outdoor Unit	S03	837250.7	821515.9	19	68.0	
Swatow Christian Church Kowloon City	Air-cooled Chiller	S04	837225.3	821318.8	6	68.0	
Iu Shan School	AC Outdoor Unit	S05	837295.4	821241.5	4	68.0	

Project:	Proposed Residential Care Home for the Elderly (RCHE) in Nam Sang Wai, Yuen Long
Title:	Assessment for Noise from Fixed Sources
Subtitle:	Calculation of SPL at Assessment Points
NSR ID:	5F-12F_N01
NSR x coord:	837284.8
NSR y coord:	821358.2
ASR	A

Noise Source ID	Description	Activities/Equipment	Operation		SWL, dB(A)		Horizontal Distance from NSR, m	Correction, dB(A)				Day-time Corrected Noise Level, Leq dB(A)	Night-time Corrected Noise Level, Leq dB(A)	Remark
			Daytime	Night-time	Daytime	Night-time		No. of Plant	Distance	Barrier	Façade			
S01	Kowloon City Plaza	Air-cooled Chiller	Y	Y	68.0	68.0	115	3	-49	0	3	25	25	Night time operation is assumed as worst case scenario
S02a	Pooi To Middle School	Air-cooled Chiller	Y	Y	83.0	83.0	194	3	-54	0	3	35	35	
S02b		AC Outdoor Unit	Y	Y	68.0	68.0	115	9	-49	0	3	31	31	
S03	Munsang College	AC Outdoor Unit	Y	Y	68.0	68.0	161	13	-52	0	3	32	32	
S04	Swatow Christian Church Kowloon City	Air-cooled Chiller	Y	Y	68.0	68.0	71	8	-45	0	3	34	34	
S05	Iu Shan School	AC Outdoor Unit	Y	Y	68.0	68.0	117	6	-49	0	3	28	28	
										Total SPL		40	40	
										Criteria ANL		60	50	
										Exceedance		-	-	

Project:	Proposed Residential Care Home for the Elderly (RCHE) in Nam Sang Wai, Yuen Long
Title:	Assessment for Noise from Fixed Sources
Subtitle:	Calculation of SPL at Assessment Points
NSR ID:	5F-12F_N04
NSR x coord:	837284.5
NSR y coord:	821350.7
ASR	A

Noise Source ID	Description	Activities/Equipment	Operation		SWL, dB(A)		Horizontal Distance from NSR, m	Correction, dB(A)				Day-time Corrected Noise Level, Leq dB(A)	Night-time Corrected Noise Level, Leq dB(A)	Remark
			Daytime	Night-time	Daytime	Night-time		No. of Plant	Distance	Barrier	Façade			
S01	Kowloon City Plaza	Air-cooled Chiller	Y	Y	68.0	68.0	115	3	-49	0	3	25	25	Night time operation is assumed as worst case scenario
S02a	Pooi To Middle School	Air-cooled Chiller	Y	Y	83.0	83.0	187	3	-53	0	3	36	36	
S02b		AC Outdoor Unit	Y	Y	68.0	68.0	111	9	-49	0	3	31	31	
S03	Munsang College	AC Outdoor Unit	Y	Y	68.0	68.0	169	13	-53	0	3	31	31	
S04	Swatow Christian Church Kowloon City	Air-cooled Chiller	Y	Y	68.0	68.0	67	8	-45	0	3	34	34	
S05	Iu Shan School	AC Outdoor Unit	Y	Y	68.0	68.0	110	6	-49	0	3	28	28	
										Total SPL		40	40	
										Criteria ANL		60	50	
										Exceedance		-	-	

Project:	Proposed Residential Care Home for the Elderly (RCHE) in Nam Sang Wai, Yuen Long
Title:	Assessment for Noise from Fixed Sources
Subtitle:	Calculation of SPL at Assessment Points
NSR ID:	5F-12F_N07
NSR x coord:	837295.1
NSR y coord:	821345.4
ASR	A

Noise Source ID	Description	Activities/Equipment	Operation		SWL, dB(A)		Horizontal Distance from NSR, m	Correction, dB(A)				Day-time Corrected Noise Level, Leq dB(A)	Night-time Corrected Noise Level, Leq dB(A)	Remark
			Daytime	Night-time	Daytime	Night-time		No. of Plant	Distance	Barrier	Façade			
S01	Kowloon City Plaza	Air-cooled Chiller	Y	Y	68.0	68.0	104	3	-48	0	3	26	26	Night time operation is assumed as worst case scenario
S02a	Pooi To Middle School	Air-cooled Chiller	Y	Y	83.0	83.0	189	3	-54	0	3	35	35	
S02b		AC Outdoor Unit	Y	Y	68.0	68.0	118	9	-49	0	3	31	31	
S03	Munsang College	AC Outdoor Unit	Y	Y	68.0	68.0	176	13	-53	0	3	31	31	
S04	Swatow Christian Church Kowloon City	Air-cooled Chiller	Y	Y	68.0	68.0	75	8	-45	0	3	33	33	
S05	Iu Shan School	AC Outdoor Unit	Y	Y	68.0	68.0	104	6	-48	0	3	29	29	
										Total SPL		40	40	
										Criteria ANL		60	50	
										Exceedance		-	-	