



## **PLANNING SOLUTIONS**

**TEMPORARY WORKFORCE ACCOMMODATION  
LOT 67 (#45) BATES DRIVE, SOMERVILLE**

**ENVIRONMENTAL ACOUSTIC ASSESSMENT**

AUGUST 2023

OUR REFERENCE: 31336-6-23220

DOCUMENT CONTROL PAGE

**ENVIRONMENTAL ACOUSTIC ASSESSMENT  
LOT 67 (#45) BATES DRIVE**

Job No: 23220

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FOR

**PLANNING SOLUTIONS**

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## CONTENTS

1.	INTRODUCTION	2
2.	CRITERIA	2
3.	CALCULATED NOISE LEVELS	5
4.	ASSESSMENT	7
5.	CONCLUSION	9

## APPENDICES

A	Site Layout – Master Plan
B	Noise Contours

## 1. INTRODUCTION

Herring Storer Acoustics were commissioned by Planning Solutions to carry out an acoustic study with regards to compliance with the requirements of the Environmental Protection (Noise) Regulations 1997 for the proposed development at Lot 67 (#45) Bates Road, Somerville.

Based on information provided, noise emissions from associated with the operation of the development at Lot 67 (#45) Bates Drive, Somerville would meet the *Environmental Protection (Noise) Regulations 1997*.

This assessment contains details of noise associated with mechanical plant, beer garden and tavern, cars and bus utilisation as well as disposal of rubbish, primarily that of dropping of glass bottles into bins.

## 2. CRITERIA

The allowable noise level at the surrounding locales is prescribed by the *Environmental Protection (Noise) Regulations 1997*. Regulations 7 & 8 stipulate maximum allowable external noise levels determined by the calculation of an influencing factor, which is then added to the base levels shown below in Table 1. The influencing factor is calculated for the usage of land within two circles, having radii of 100m and 450m from the premises of concern.

**TABLE 1 - BASELINE ASSIGNED OUTDOOR NOISE LEVEL**

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L <sub>A10</sub>	L <sub>A1</sub>	L <sub>Amax</sub>
Noise sensitive premises	0700 - 1900 hours Monday to Saturday (Day)	45 + IF	55 + IF	65 + IF
	0900 - 1900 hours Sunday and Public Holidays (Sunday / Public Holiday Day Period)	40 + IF	50 + IF	65 + IF
	1900 - 2200 hours all days (Evening)	40 + IF	50 + IF	55 + IF
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays (Night)	35 + IF	45 + IF	55 + IF
Commercial premises	All Hours	60	75	80

Note: L<sub>A10</sub> is the noise level exceeded for 10% of the time.  
 L<sub>A1</sub> is the noise level exceeded for 1% of the time.  
 L<sub>Amax</sub> is the maximum noise level.  
 IF is the influencing factor.

It is a requirement that received noise be free of annoying characteristics (tonality, modulation and impulsiveness), defined below as per Regulation 9.

**“impulsiveness”** means a variation in the emission of a noise where the difference between  $L_{Apeak}$  and  $L_{Amax Slow}$  is more than 15 dB when determined for a single representative event;

**“modulation”** means a variation in the emission of noise that –

- (a) is more than 3dB  $L_{A Fast}$  or is more than 3 dB  $L_{A Fast}$  in any one-third octave band;
- (b) is present for more at least 10% of the representative assessment period; and
- (c) is regular, cyclic and audible;

**“tonality”** means the presence in the noise emission of tonal characteristics where the difference between –

- (a) the A-weighted sound pressure level in any one-third octave band; and
- (b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3dB when the sound pressure levels are determined as  $L_{Aeq,T}$  levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as  $L_{A Slow}$  levels.

Where the noise emission is not music, if the above characteristics exist and cannot be practicably removed, then any measured level is adjusted according to Table 2 below.

**TABLE 2 – ADJUSTMENTS TO MEASURED NOISE LEVELS**

Where <b>tonality</b> is present	Where <b>modulation</b> is present	Where <b>impulsiveness</b> is present
+5 dB(A)	+5 dB(A)	+10 dB(A)

The nearest affected locations have been identified as:

- R1 – Residential Premises at 3 Patroni Road
- R2 – Undeveloped Residential Zoned Lot at 2 Fabric Street
- C3 – City of Kalgoorlie Offices at 577 Hannan Street (commercial premises)
- R4 – Caravan Park at 9 Ochiltree Street
- R5 – Residential premises south of Colgan Street
- R6 – Undeveloped residential zoned lots to the East
- R7 – Undeveloped urban zoned lots to the East

The influencing factor at the residential premises has been conservatively estimated at 0dB.

**FIGURE 1 – AREA MAP**



Accordingly, the Assigned Noise Levels are as per Table 3 below.

**TABLE 3 - ASSIGNED OUTDOOR NOISE LEVEL**

Premises Receiving Noise	Time of Day	Assigned Level (dB)		
		L <sub>A10</sub>	L <sub>A1</sub>	L <sub>Amax</sub>
Residential Premises; R1, R2, R4, R5, R6, R7	0700 – 1900 hours Monday to Saturday	45	55	65
	0900 - 1900 hours Sunday and Public Holidays	40	50	65
	1900 – 2200 hours all days	40	50	55
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and Public Holidays	35	45	55
Commercial Premises; C3	All Hours	60	75	80

Notes: L<sub>A10</sub> is the noise level exceeded for 10% of the time.  
 L<sub>A1</sub> is the noise level exceeded for 1% of the time.  
 L<sub>Amax</sub> is the maximum noise level.

### 3. CALCULATED NOISE LEVELS

Based on information provided we believe that the following scenarios are representative of the development.

- Scenario 1: Mechanical Plant; Assessed against  $L_{A10}$  for all hours.
- All mechanical plant operating simultaneously for accommodation and services. During the night time period, mechanical plant has been assumed to in "Night Mode". This would be considered conservative as diversity of operation would not necessarily have all pieces of plant operating simultaneously. Emissions have been considered tonal and attract a +5 dB(A) penalty.
- Scenario 2: Disposal of rubbish ; assessed against  $L_{Amax}$  for all hours.
- Noise associated with the disposal of rubbish, primarily dominated by the sound of bottles clattering as they fall into a recycle bin. Emissions have been considered impulsive and attract a +10 dB(A) penalty.
- Scenario 3: Car Movements; assessed against  $L_{A1}$  for all hours.
- Noise associated with individual car movements around the site.
- Scenario 4: Car Door Closing; assessed against  $L_{Amax}$  for all hours.
- Noise associated with an individual car door closing at the most critical location. Emissions have been considered impulsive and attract a +10 dB(A) penalty.
- Scenario 5: Car Engine Starts; assessed against  $L_{Amax}$  for all hours.
- Noise associated with an individual car start at the most critical location.
- Scenario 6: Bus Idling; assessed against  $L_{A10}$  for all hours.
- Noise associated with busses idling in bus parks. Six busses idling simultaneously in bays 6, 10, 14, 18, 19 and 20. For this scenario, the busses engine noise would be dominating and thus associated activities such as people talking would not be audible.
- Scenario 7: Bus Movements; assessed against  $L_{A1}$  for all hours.
- Noise associated with individual bus movements around the site.
- Scenario 8: Beer Garden and Tavern; assessed against  $L_{A10}$  during day and evening.
- Noise associated with patrons in the beer garden at 100% capacity during all hours. No music is included as it would be played at a background level below that of patron noise.
- Some hours of operation of would have less patronage and noise, due to serving coffee, etc.

Scenario 9: Delivery Truck; assessed against  $L_{A10}$  during day.

Noise associated with delivery truck moving around site

Note: The *Environmental Protection (Noise) Regulations 1997* state that noise associated with cars movements and cars starting are exempt from complying with the Regulations. However, noise emissions from car doors are not strictly exempt from the Regulations. As a result, door slams, engine starts and car movements on site have all been assessed.

To determine the noise at each receiver for each scenario, Sound Power Levels listed in Table 4 have been utilised.

**TABLE 4 – SOUND POWER LEVEL**

Item	Sound Power Level dB(A)
Air conditioning Unit	68 (65 Night Mode)
Kitchen Exhaust	75
Glass Dropping in Bin	110 $L_{A\text{Max}}$
Car Door Slam	87 $L_{A\text{max}}$
Car Start	85 $L_{A\text{max}}$
Car Movement	81 $L_{A1}$
Bus Idle	74 $L_{A1}$
Bus Movement	90 $L_{A1}$
Delivery Truck	85 $L_{A1}$
Beer Garden	66 dB/m <sup>2</sup>

Using the above sound power level and development plans (Attached), modelling software “SoundPLAN” was utilised to calculate the noise highest noise level received at each of the premises, shown below, including any appropriate penalty. For brevity, the operations have only been assessed against the most stringent time period.

**TABLE 5 – CALCULATED NOISE LEVELS**

Location	Noise Level dB(A)								
	S1	S2	S3	S4	S5	S6	S7	S8	S9
R1	27 [32]	0 [10]	30	29 [39]	33	22	32	13	33
R2	27 [32]	0 [10]	38	37 [47]	39	25	38	11	39
C3	26 [31]	0 [10]	33	36 [46]	38	28	32	11	29
R4	28 [33]	0 [10]	24	26 [36]	28	31	33	20	25
R5	30 [35]	0 [10]	16	17 [27]	19	17	18	15	21
R6	23 [28]	0 [10]	14	14 [24]	16	16	16	25	18
R7	30 [35]	0 [10]	23	22 [32]	25	21	24	37	24

Appendix B contains noise contour maps produced by the noise model. Note that due to the difference in algorithm used to create the contours as well as outputs, there may slight differences in noise levels between single point calculations and the contours. Typically, single point calculations yield a more precise result.

#### 4. ASSESSMENT

Table 6 through to Table 13 identify provide the assessment for each of the eight scenarios based on the information presented in Section 4.

**TABLE 6 – ASSESSMENT OF SCENARIO 1 – MECHANICAL PLANT**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>A10</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	32	Night Time	35	Complies
R2	32	Night Time	35	Complies
C3	31	Night Time	60	Complies
R4	33	Night Time	35	Complies
R5	35	Night Time	35	Complies
R6	28	Night Time	35	Complies
R7	35	Night Time	35	Complies

**TABLE 7 – ASSESSMENT OF SCENARIO 2 – RUBBISH DISPOSAL**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>AMax</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	10	Night Time	55	Complies
R2	10	Night Time	55	Complies
C3	10	Night Time	80	Complies
R4	10	Night Time	55	Complies
R5	10	Night Time	55	Complies
R6	10	Night Time	55	Complies
R7	10	Night Time	55	Complies

**TABLE 8 – ASSESSMENT OF SCENARIO 3 - CAR MOVEMENTS**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>A1</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	30	Night Time	45	Complies
R2	38	Night Time	45	Complies
C3	33	Night Time	75	Complies
R4	24	Night Time	45	Complies
R5	16	Night Time	45	Complies
R6	14	Night Time	45	Complies
R7	23	Night Time	45	Complies

**TABLE 9 – ASSESSMENT OF SCENARIO 4 - CAR DOOR SLAMS**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>AMax</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	39	Night Time	55	Complies
R2	47	Night Time	55	Complies
C3	46	Night Time	80	Complies
R4	36	Night Time	55	Complies
R5	27	Night Time	55	Complies
R6	24	Night Time	55	Complies
R7	32	Night Time	55	Complies

**TABLE 10 – ASSESSMENT OF SCENARIO 5 -CAR ENGINE STARTS**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>Amax</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	33	Night Time	35	Complies
R2	39	Night Time	35	Complies
C3	38	Night Time	60	Complies
R4	28	Night Time	35	Complies
R5	19	Night Time	35	Complies
R6	16	Night Time	35	Complies
R7	25	Night Time	35	Complies

**TABLE 11 – ASSESSMENT OF SCENARIO 6 -BUS IDLING**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>A10</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	22	Night Time	35	Complies
R2	25	Night Time	35	Complies
C3	28	Night Time	60	Complies
R4	31	Night Time	35	Complies
R5	17	Night Time	35	Complies
R6	16	Night Time	35	Complies
R7	21	Night Time	35	Complies

**TABLE 12 – ASSESSMENT OF SCENARIO 7 -BUS MOVEMENTS**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>A1</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	30	Night Time	45	Complies
R2	38	Night Time	45	Complies
C3	33	Night Time	75	Complies
R4	24	Night Time	45	Complies
R5	16	Night Time	45	Complies
R6	14	Night Time	45	Complies
R7	23	Night Time	45	Complies

**TABLE 13 – ASSESSMENT OF SCENARIO 8 -BEER GARDEN**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>A10</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	13	Night Time	35	Complies
R2	11	Night Time	35	Complies
C3	11	Night Time	60	Complies
R4	20	Night Time	35	Complies
R5	15	Night Time	35	Complies
R6	25	Night Time	35	Complies
R7	37	Night Time	35	+2

Note, R7 is currently vacant and unlikely to be developed within the proposed lifespan of the village (five-year approval term), hence there would currently be no exceedance. If the land at R7 would be developed, it is recommended that Acoustic Assessment be reviewed to obtain compliance during the Night Time period for use of the Beer Garden via Noise Control.

**TABLE 14 – ASSESSMENT OF SCENARIO 9 -DELIVERY TRUCKS**

Location	Assessable Noise Level, dB(A)	Applicable Times of Day	Applicable L <sub>A10</sub> Assigned Level (dB)	Exceedance to Assigned Noise Level (dB)
R1	33	Day	55	Complies
R2	39	Day	55	Complies
C3	29	Day	75	Complies
R4	25	Day	55	Complies
R5	21	Day	55	Complies
R6	18	Day	55	Complies
R7	24	Day	55	Complies

## 5. CONCLUSION

Based on the above, noise from the proposed development to the adjacent premises would comply with the *Environmental Protection (Noise) Regulations 1997* at their prescribed periods.

It is noted that these assessments would be for the worst case scenario of each operation to ensure a conservative assessment, and that some of the adjacent land is currently undeveloped and is also likely not to be developed in the lifespan of the temporary workforce accommodation development.

# **APPENDIX A**

## PLANS



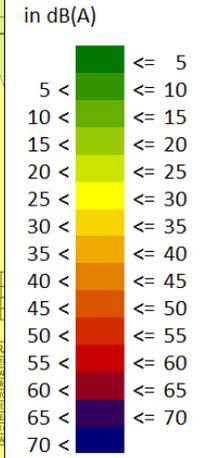
## **APPENDIX B**

### NOISE CONTOURS

**Signs and symbols**

- Area source
- Main building
- Wall
- Base line
- Point source

**Scenario 1 - Mechanical Plant LA10 Noise Emissions**



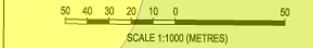
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LAUNDRY AND LINEN - TYPE 'F'	
2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE - TYPE 'C'	

DRAWING NUMBER	DR
1921-A-85240-VD-00116	VILLAGE SEC2
1921-A-85240-VD-00117	OPINION AND
1921-A-85240-VD-00118	OPINION AND
1921-A-85240-VD-00119	KIT
1921-A-85240-VD-00120	KITCHEN
1921-A-85240-VD-00121	MAINTENANCE
1921-A-85240-VD-00122	LAUNDRY LINEN & BED
1921-A-85240-VD-00123	LA

- NOTES:**
- SURVEY DATUM : MAP GRID OF AUSTRALIA ZONE 51 (GDA 2020).
  - REDUCED LEVELS SHOWN (RL) ARE IN AUSTRALIAN HEIGHT DATUM (AHD).
  - ALL COORDINATES AND DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
  - DO NOT SCALE OFF DRAWINGS.
  - BARRIER LOCATIONS SHOWN ARE INDICATIVE ONLY. FINAL LOCATION AND TYPE TO BE DETERMINED DURING DETAILED DESIGN.
  - PERIMETER FENCING TO BE 1.8 m HIGH COLORBOND OR APPROVED EQUIVALENT. FINAL LOCATION AND COLOUR TO BE FINALISED DURING DETAILED DESIGN.
  - FOR FABRIC STREET VILLAGE LANDSCAPING PLAN REFER TO DRAWING No. 1921-A-85240-VD-000123.
  - ALL PATHS ARE TO BE CRUSHED BLUE METAL OR SYNTHETIC SURFACE. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.
  - CAR PARK/ACCESS AND HARDSTANDS SHALL BE COMPACTED CRUSHED BLUE METAL. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.

- LEGEND:**
- 4 No. 1 BED ENSUITE
  - LAUNDRY AND LINEN
  - 2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE
  - COVERED SEATING AREA
  - SYNTHETIC GRASSED AREA
  - SITE BOUNDARY
  - FENCE LINE - 1.8 m HIGH
  - GATE
  - BARRIER
  - EXISTING CONTOURS
  - PARKING BAYS



**PRELIMINARY**

REVISIONS				REVISIONS				REFERENCE DRAWINGS		SCALE		DRAWN		CHECKED		APPROVED		PROCESS OWNER	
1	2	3	4	1	2	3	4	DRG NO	REV. NO	1:1000	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE

**BHP**

**FABRIC STREET TEMPORARY WORKFORCE ACCOMMODATION GENERAL ARRANGEMENT PLAN**

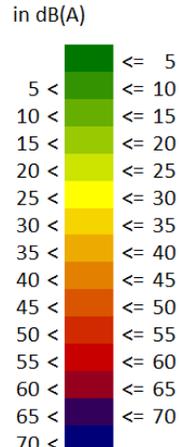
KALGOORLIE NICKEL SMELTER LOCKED BAG 16 KALGOORLIE, DRAWING No. 1921-A-85240-VD-00112

NICKEL WEST ABN 76004 184 598 REVISION E A1

**Signs and symbols**

- Area source
- Main building
- Wall
- Base line
- \* Point source

**Scenario 2 - Disposal of Rubbish LAMax Noise Emissions**



MODULE TYPE	
4 No. 1 BED ENSUITE - TYPE 'A'	VILLAGE SEER
LAUNDRY AND LINEN - TYPE 'B'	OWMANBUI AND A
2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE - TYPE 'C'	SWIRN AND REB

DRAWING NUMBER	DR
1921-A-85240-VD-00116	VILLAGE SEER
1921-A-85240-VD-00117	OWMANBUI AND A
1921-A-85240-VD-00118	SWIRN AND REB
1921-A-85240-VD-00119	KITCH
1921-A-85240-VD-00120	KITCH
1921-A-85240-VD-00121	MAINTENANCE AND LE
1921-A-85240-VD-00122	LAUNDRY LINEN & BEE
1921-A-85240-VD-00123	LA

- NOTES:**
- SURVEY DATUM : MAP GRID OF AUSTRALIA ZONE 51 (GDA 2020).
  - REDUCED LEVELS SHOWN (RL) ARE IN AUSTRALIAN HEIGHT DATUM (AHD).
  - ALL COORDINATES AND DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
  - DO NOT SCALE OFF DRAWINGS.
  - BARRIER LOCATIONS SHOWN ARE INDICATIVE ONLY. FINAL LOCATION AND TYPE TO BE DETERMINED DURING DETAILED DESIGN.
  - PERIMETER FENCING TO BE 1.8 m HIGH COLORBOND OR APPROVED EQUIVALENT. FINAL LOCATION AND COLOUR TO BE FINALISED DURING DETAILED DESIGN.
  - FOR FABRIC STREET VILLAGE LANDSCAPING PLAN REFER TO DRAWING No. 1921-A-85240-VD-00123.
  - ALL PATHS ARE TO BE CRUSHED BLUE METAL OR SYNTHETIC SURFACE. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.
  - CAR PARK/ACCESS AND HARDSTANDS SHALL BE COMPACTED CRUSHED BLUE METAL. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.

- LEGEND:**
- 4 No. 1 BED ENSUITE
  - LAUNDRY AND LINEN
  - 2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE
  - COVERED SEATING AREA
  - SYNTHETIC GRASSSED AREA
  - SITE BOUNDARY
  - FENCE LINE - 1.8 m HIGH
  - GATE
  - BARRIER
  - EXISTING CONTOURS
  - PARKING BAYS



**PRELIMINARY**

REVISIONS					REVISIONS					REFERENCE DRAWINGS		SCALE		DRAWN		CHECKED		APPROVED		PROCESS OWNER		SAP NUMBER		BIA EQUIP No		DRAWING No.			
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**GENERAL ARRANGEMENT PLAN**

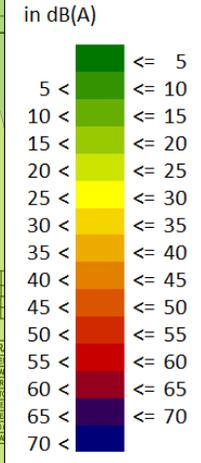
**BHP**

**KALGOORLIE NICKEL SMELTER** LOCKED BAG 16 KALGOORLIE  
**FABRIC STREET TEMPORARY WORKFORCE ACCOMMODATION**  
**GENERAL ARRANGEMENT PLAN**  
 NICKEL WEST ASN 76004 184 598 REVISION E A1

**Signs and symbols**

- Area source
- Main building
- Wall
- Base line
- \* Point source
- Line source

**Scenario 3 - Car Movements LA1 Noise Emissions**



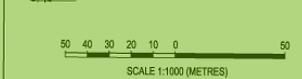
MODULE TYPE	
4 No. 1 BED ENSUITE - TYPE 'A'	VILLAGE RESER
LAUNDRY AND LINEN - TYPE 'B'	SWIMMING AND RECR
2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE - TYPE 'C'	KITCHEN

DRAWING NUMBER	DR
1921-A-85240-VD-0010	VILLAGE RESER
1921-A-85240-VD-0011	GYMNASIUM AND A
1921-A-85240-VD-0018	SWIMMING AND RECR
1921-A-85240-VD-0019	RECR
1921-A-85240-VD-0020	KITCHEN
1921-A-85240-VD-0021	MAINTENANCE AND LE
1921-A-85240-VD-0022	LAUNDRY LINEN & BEE
1921-A-85240-VD-0023	LA

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  - BARRIER LOCATIONS SHOWN ARE INDICATIVE ONLY. FINAL LOCATION AND TYPE TO BE DETERMINED DURING DETAILED DESIGN.
  - PERIMETER FENCING TO BE 1.8 m HIGH COLORBOND OR APPROVED EQUIVALENT. FINAL LOCATION AND COLOUR TO BE FINALISED DURING DETAILED DESIGN.
  - FOR FABRIC STREET VILLAGE LANDSCAPING PLAN REFER TO DRAWING No. 1921-A-85240-VD-000123.
  - ALL PATHS ARE TO BE CRUSHED BLUE METAL OR SYNTHETIC SURFACE. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.
  - CAR PARK/ACCESS AND HARDSTANDS SHALL BE COMPACTED CRUSHED BLUE METAL. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.

- LEGEND:**
- 4 No. 1 BED ENSUITE
  - LAUNDRY AND LINEN
  - 2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE
  - COVERED SEATING AREA
  - SYNTHETIC GRASSSED AREA
  - SITE BOUNDARY
  - FENCE LINE - 1.8 m HIGH
  - GATE
  - BARRIER
  - EXISTING CONTOURS
  - PARKING BAYS



**PRELIMINARY**

<b>GENERAL ARRANGEMENT PLAN</b>					SCALE 1:1000		<b>BHP</b>	<b>KALGOORLIE NICKEL SMELTER LOCKED BAG 16 KALGOORLIE</b>	DRAWING No.
FOR DEVELOPMENT APPROVAL					DRAWN	C.SANTIAGO			
FOR DEVELOPMENT APPROVAL					CHECKED	P.GILLAN	14-07-23	NICKEL WEST	
FOR DEVELOPMENT APPROVAL					APPROVED				ASN 76004 184 598
FOR REVIEW					PROCESS OWNER			REVISION	
FOR REVIEW					SAP NUMBER				E
FOR REVIEW					DRG No			A1	
FOR REVIEW					BIA EQUIP No				

REVISIONS	MK	DATE	INT	APP

REVISIONS	MK	DATE	INT	APP

REVISIONS	MK	DATE	INT	APP

REVISIONS	MK	DATE	INT	APP

REVISIONS	MK	DATE	INT	APP

REVISIONS	MK	DATE	INT	APP



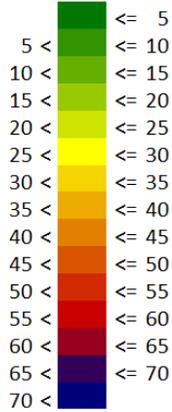


**Signs and symbols**

- Area source
- Main building
- Wall
- Base line
- \* Point source

**Scenario 6 - Bus Idling LA10 Noise Emissions**

in dB(A)

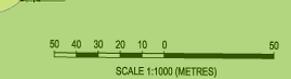


MODULE TYPE	
4 No. 1 BED ENSUITE - TYPE 'A'	VILLAGE SEER
LAUNDRY AND LINEN - TYPE 'B'	OWANDUM AND A
2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE - TYPE 'C'	SWYRRI AND BEE

DRAWING NUMBER	DR
1921-A-85240-VD-0010	VILLAGE SEER
1921-A-85240-VD-0011	OWANDUM AND A
1921-A-85240-VD-0012	SWYRRI AND BEE
1921-A-85240-VD-0013	BEE
1921-A-85240-VD-0014	KITCHE
1921-A-85240-VD-0015	MAINTENANCE AND LI
1921-A-85240-VD-0016	LAUNDRY LINEN & BEE
1921-A-85240-VD-0017	UA

- NOTES:**
1. SURVEY DATUM : MAP GRID OF AUSTRALIA ZONE 51 (GDA 2020).
  2. REDUCED LEVELS SHOWN (RL) ARE IN AUSTRALIAN HEIGHT DATUM (AHD).
  3. ALL COORDINATES AND DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
  4. DO NOT SCALE OFF DRAWINGS.
  5. BARRIER LOCATIONS SHOWN ARE INDICATIVE ONLY. FINAL LOCATION AND TYPE TO BE DETERMINED DURING DETAILED DESIGN.
  6. PERIMETER FENCING TO BE 1.8 m HIGH COLORBOND OR APPROVED EQUIVALENT. FINAL LOCATION AND COLOUR TO BE FINALISED DURING DETAILED DESIGN.
  7. FOR FABRIC STREET VILLAGE LANDSCAPING PLAN REFER TO DRAWING No. 1921-A-85240-VD-00123.
  8. ALL PATHS ARE TO BE CRUSHED BLUE METAL OR SYNTHETIC SURFACE. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.
  9. CAR PARK/ACCESS AND HARDSTANDS SHALL BE COMPACTED CRUSHED BLUE METAL. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.

- LEGEND:**
- 4 No. 1 BED ENSUITE
  - LAUNDRY AND LINEN
  - 2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE
  - COVERED SEATING AREA
  - SYNTHETIC GRASSSED AREA
  - SITE BOUNDARY
  - FENCE LINE - 1.8 m HIGH
  - GATE
  - BARRIER
  - EXISTING CONTOURS
  - PARKING BAYS



**PRELIMINARY**

REVISIONS				REVISIONS				REFERENCE DRAWINGS		SCALE		BHP
1	2	3	4	5	6	7	8	DRG No	BIA EQUIP No	1:1000		

**KALGOORLIE NICKEL SMELTER LOCKED BAG 16 KALGOORLIE**

**FABRIC STREET TEMPORARY WORKFORCE ACCOMMODATION GENERAL ARRANGEMENT PLAN**

DRAWING No. 1921-A-85240-VD-00112

NICKEL WEST ASN 76004 184 598 REVISION E A1

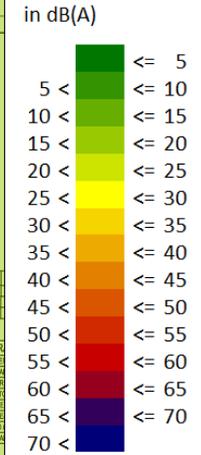




**Signs and symbols**

- Area source
- Main building
- Wall
- Base line
- \* Point source
- Line source

**Scenario 9 - Delivery Truck LA10 Noise Emissions**



MODULE TYPE	
4 No. 1 BED ENSUITE - TYPE 'A'	VILLAGE RESER
LAUNDRY AND LINEN - TYPE 'B'	SMITH AND BERR
2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE - TYPE 'C'	WITCHE
MAINTENANCE AND LE	LAUNDRY LINEN & BEE

DRAWING NUMBER	DR
1921-A-85240-VD-00116	VILLAGE RESER
1921-A-85240-VD-00117	OVANADAM AND A
1921-A-85240-VD-00118	SMITH AND BERR
1921-A-85240-VD-00119	WITCHE
1921-A-85240-VD-00120	WITCHE
1921-A-85240-VD-00121	MAINTENANCE AND LE
1921-A-85240-VD-00122	LAUNDRY LINEN & BEE
1921-A-85240-VD-00123	LA

- NOTES:**
- SURVEY DATUM : MAP GRID OF AUSTRALIA ZONE 51 (GDA 2020).
  - REDUCED LEVELS SHOWN (RL) ARE IN AUSTRALIAN HEIGHT DATUM (AHD).
  - ALL COORDINATES AND DIMENSIONS ARE IN METERS UNLESS NOTED OTHERWISE.
  - DO NOT SCALE OFF DRAWINGS.
  - BARRIER LOCATIONS SHOWN ARE INDICATIVE ONLY. FINAL LOCATION AND TYPE TO BE DETERMINED DURING DETAILED DESIGN.
  - PERIMETER FENCING TO BE 1.8 m HIGH COLORBOND OR APPROVED EQUIVALENT. FINAL LOCATION AND COLOUR TO BE FINALISED DURING DETAILED DESIGN.
  - FOR FABRIC STREET VILLAGE LANDSCAPING PLAN REFER TO DRAWING No. 1921-A-85240-VD-00123.
  - ALL PATHS ARE TO BE CRUSHED BLUE METAL OR SYNTHETIC SURFACE. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.
  - CAR PARK/ACCESS AND HARDSTANDS SHALL BE COMPACTED CRUSHED BLUE METAL. THE SURFACE AND DEPTHS TO BE FINALISED DURING DETAILED DESIGN.

- LEGEND:**
- 4 No. 1 BED ENSUITE
  - LAUNDRY AND LINEN
  - 2 No. VIP AND UNIVERSAL ACCESS (UA) ENSUITE
  - COVERED SEATING AREA
  - SYNTHETIC GRASSSED AREA
  - SITE BOUNDARY
  - FENCE LINE - 1.8 m HIGH
  - GATE
  - BARRIER
  - EXISTING CONTOURS
  - PARKING BAYS



**PRELIMINARY**

GENERAL ARRANGEMENT PLAN					SCALE: 1:1000		<b>BHP</b>	KALGOORLIE NICKEL SMELTER LOCKED BAG 16 KALGOORLIE	DRAWING No. 1921-A-85240-VD-00112	
FOR DEVELOPMENT APPROVAL					DATE: 13-09-23	STATUS: CS				DATE: 14-07-23
FOR DEVELOPMENT APPROVAL					DATE: 22-08-23	STATUS: NO	DATE: 14-07-23			
FOR DEVELOPMENT APPROVAL					DATE: 11-08-23	STATUS: CS	DATE: 14-07-23			
FOR REVIEW					DATE: 01-08-23	STATUS: CS	DATE: 14-07-23			
FOR REVIEW					DATE: 14-07-23	STATUS: CS	DATE: 14-07-23			
REVISIONS					REVISIONS	REVISIONS	REVISIONS	REVISIONS	REVISIONS	
1					1		1	1	1	
2					2		2	2	2	
3					3		3	3	3	
4					4		4	4	4	
5					5		5	5	5	
LANDSCAPING PLAN					85240-VD-00123		NICKEL WEST		ASN 76004 184 598	
REFERENCE DRAWINGS					DRG No.		BIA EQUIP No.		REVISION E A1	