

Woodlands Road, Mere

Heat Pump Noise Assessment





Woodlands Roads, Mere

Heat Pump Noise Assessment

Revision	Date	Notes	Author	Checked	Approved
Ver.1-0	15-07-26	E4164	SB	ND	ND
Ver.1-1	22-09-26	E4164	SB	-	ND

Entran Limited
2nd & 3rd Floors
Northgate House
Upper Borough Walls
Bath
BA1 1RG

T: 0117 937 4077
www.entranltd.co.uk



CONTENTS	PAGE
1 Introduction	1
2 Site Description	3
3 Assessment Methodology	4
4 Environmental Sound Measurements	7
5 Assessment	9
6 Mitigation	13
7 Conclusions	14
APPENDIX A – Introduction to noise	15
APPENDIX B – Graphical Representation of Measurement Results	17
APPENDIX C – Tables	23



1 INTRODUCTION

- 1.1 Entran Ltd has been commissioned to undertake an assessment pertaining to potential noise arising from a proposed air source heat pumps at the residential development at Woodland Road in Mere (as granted under application PL/2025/06047).

- 1.2 The assessment has been undertaken to support discharge the associated planning condition and considers sound from the proposed plant items in the context of the existing sound levels in the area. The planning condition text is copied below:

“No Air Source Heat Pumps (ASHPs) shall be installed on any of the dwellings until a cumulative Noise Assessment for all the proposed ASHPs (showing the location, design and mitigation for each pump) has been submitted to and approved in writing by the Local Planning Authority.

The Noise Assessment shall be undertaken in accordance with BS4142:2014+A1:2019. Background levels are to be taken as a LA90 1 hour and the ambient noise levels shall be expressed as an LAeq 1 hour during the daytime [07:00- 23:00] and shall be expressed as an LA90 and LAeq 5 minutes during the night [23:00 – 07:00] at the boundary of the nearest residential noise-sensitive receptor.

The assessment shall be submitted to the Local Planning Authority together with a scheme of attenuation measures to demonstrate the development can achieve a rating level that is not above the typical background (LA90) level at the nearest noise sensitive location. If the precise detail of the scheme is not known, then likely worst-case scenarios with respect to noise impact on residential premises should be assumed.

The attenuation scheme shall be implemented in full prior to any occupation of the dwellings (provided with an ASHP) and thereafter be permanently retained.

Reason: To ensure that appropriate levels of amenity and noise are achievable”

- 1.3 It is unclear whether the local authority is concerned about existing or future dwellings and therefore as a worst case the assessment considers the potential impacts at proposed dwellings within the proposed site as well as adjacent existing residential dwellings.
- 1.4 Details of the site, including plant details, quantities and expected usage, have been compiled based on information provided by the applicant and are understood to be representative of the proposed items.



-
- 1.5 This report is necessarily technical in nature and contains terminology relating to acoustics and noise. Therefore, a glossary together with a brief introduction to the subject of noise has been provided in Appendix A.
- 1.6 Additionally, BS 4142:2014 recognises that the context of a sound is important when defining the potential for subjective nuisance. The word “sound” is therefore used as opposed to “noise” to describe any sound assessed in the context of the BS 4142 assessment.

2 SITE DESCRIPTION

- 2.1 The site is situated adjacent to Woodlands Road and comprises new build residential dwellings and associated air source heat pumps.
- 2.2 The existing noise climate is dominated by road traffic on Woodlands Road and distant traffic on the local road network. The site location and calculation receptor locations are identified in Figure 1 below.

Figure 1: Site Location and Calculation Receptors





3 ASSESSMENT METHODOLOGY

National Planning Policy Framework (NPPF) (2026)

- 3.1 The National Planning Policy Framework (NPPF) sets out the Government's economic, environmental and social planning policies for England. The framework supersedes the previous December 2024 revision and summarises in a single document all previous national planning policy advice. Taken together, these policies articulate the Government's vision of sustainable development, which should be interpreted and applied locally to meet local aspirations.
- 3.2 Policy P1 (Planning for Clean and Safe Places) states that planning decisions must ensure development sites do not cause unacceptable levels of pollution and that opportunities to reduce pollution are actively considered.
- 3.3 Policy P3 (Living Conditions and Pollution) stipulates that planning decisions must ensure new development is appropriate for its location, taking into account the likely effects of pollution on health and living conditions. In doing so, development proposals must not give rise to, or contribute to, unacceptable levels of noise.
- 3.4 Adverse impacts should be avoided where possible and otherwise suitably mitigated, and opportunities to reduce pollution should be taken where possible.
- 3.5 Potential impacts from noise should also be mitigated to reduce levels of noise that may have a significant observed adverse effect.
- 3.6 Policy P4 (Impact of Development on Existing Activities) applies to new development involving changes of use of land and property, as well as to new construction. The policy requires new developments to integrate effectively with existing business, community and public service activities and infrastructure in their vicinity. Proposals should ensure that suitable mitigation can be provided to ensure existing lawfully consented commercial, cultural, or noise-generating activities are not adversely impacted.

British Standard BS 4142:2014+A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound

- 3.7 British Standard BS 4142:2014+A1:2019 *Methods for Rating and Assessing Industrial and Commercial Sound* is intended to be used for the assessment of whether sound of industrial



and/or commercial nature is likely to give rise to complaints from people residing in nearby dwellings. BS 4142 states that such sound can include:

- sound from industrial and manufacturing processes;
- sound from fixed installations which comprise mechanical and electrical plant and equipment;
- sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and,
- sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

3.8 The procedure contained in BS 4142 for assessing the likelihood of complaints is to compare the measured or calculated sound level from the source in question, the '*specific sound level*', at the assessment position with the background sound level. Where sound contains acoustic features, such as tonality, impulsivity or other noticeable characteristics then a correction is added to the specific sound to obtain the '*rating level*' that reflects the contextual setting of the site.

3.9 To assess the likelihood of complaints, the measured background sound level is subtracted from the rating level. BS 4142 states:

'Typically, the greater this difference, the greater the magnitude of the impact;

- *A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context;*
- *A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context; and,*
- *The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.'*

The Institute of Environmental Management & Assessment (IEMA) Guidelines for Environmental Noise Impact Assessment (2014)

3.10 The Institute of Environmental Management and Assessment (IEMA) have published the '*Guidelines for Environmental Noise Impact Assessment*'. The guidelines are applicable to



noise impact assessment for any scale of development proposal, including core principles to achieve effectively integration with the EIA, and provide advice on the issues that need to be considered in a noise impact assessment and whether the appropriate conclusions are being reached. The factors include:

- The appropriateness of the noise parameters used for the situation;
- The reference time period used in making the assessment;
- The level, character and frequency content of the noise sources under investigation; and,
- How the predicted noise levels relate to relevant Standards and guidelines.

3.11 The guidelines also recommend that the assessor should determine the degree of impact based on evidence derived from the assessment.

The Professional Practice Guidance on Planning and Noise (2017)

3.12 The 'Professional Practice Guidance on Planning and Noise' (ProPG) was produced by a Working Group consisting of representatives of the Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and Chartered Institute of Environmental Health (CIEH) to provide acoustical practitioners with guidance on the management of noise within the planning system in England.

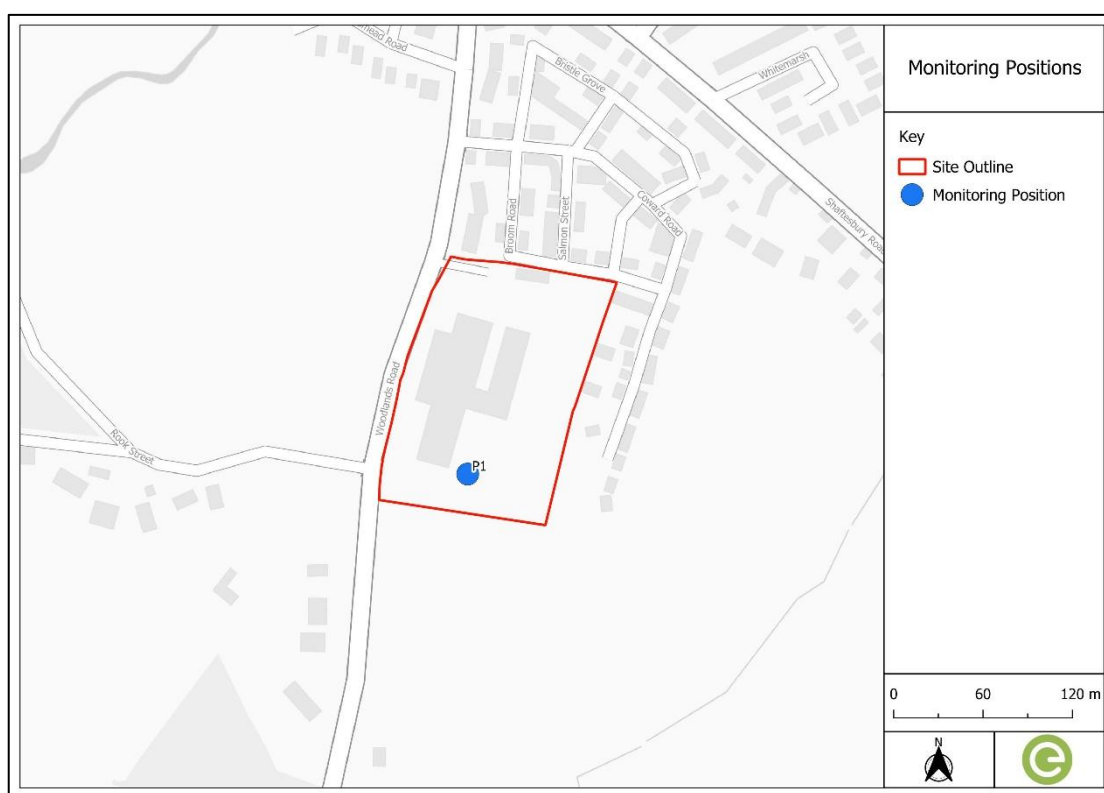
3.13 The reparation of the ProPG acknowledges and reflects the Government's overarching NPSE, the NPPF and Planning Practice Guidance (including PPG-Noise), as well as other authoritative sources of guidance. It provides advice for Local Planning Authorities (LPAs) and developers, and their respective professional advisers which complements Government planning and noise policy and guidance and, in particular, aims to:

- advocate full consideration of the acoustic environment from the earliest possible stage of the development control process;
- encourage the process of good acoustic design in and around new residential developments;
- outline what should be taken into account in deciding planning applications for new noise-sensitive developments;
- promote appropriate noise exposure standards; and
- assist the delivery of sustainable development.

4 ENVIRONMENTAL SOUND MEASUREMENTS

- 4.1 Existing conditions in the vicinity of the site have been determined by an environmental survey conducted between 21st and 24th May 2026.
- 4.2 The dominant source at the site was noted to be occasional traffic on Woodlands Road, birdsong and distant traffic on the surrounding road network.
- 4.3 The monitoring position is presented in Figure 2.

Figure 2: Unattended Monitoring Position



- 4.4 A summary of the unattended survey is provided in Table 1.



Table 1: Summary of Noise Survey

Date	Day Time (07:00 - 23:00)			Night-time (23:00 - 07:00)		
	L _{Amax,F}	L _{Aeq,T}	L _{A90,T}	L _{Amax,F}	L _{Aeq,T}	L _{A90,T}
21/05/2026	70.8	47.4	38.1	79.0	46.3	36.5
22/05/2026	79.7	50.0	40.5	76.0	47.8	37.6
23/05/2026	80.3	49.5	37.1	69.4	48.1	36.3
24/05/2026	75.6	48.7	37.5	-	-	-

Maximum levels represent the highest L_{Amax,F} sound level during the given period.
The period L_{Aeq,T} is obtained from the logarithmic average of measured sound levels.
The period L_{A90,T} is obtained from the average of the measured sound levels.

- 4.5 The unattended monitoring was undertaken to allow assessment in accordance with BS 4142 and to determine the likelihood of adverse effects relating to proposed plant items.
- 4.6 Background sound levels have been obtained by statistical analysis during daytime (07:00 – 23:00) and night-time (23:00 – 07:00) periods. The adopted background sound levels are presented in Table 2 and are presented graphically in Appendix B.

Table 2: Background Sound Levels for Assessment Periods

Monitoring Position	Time Period	Background Sound Level, L _{A90,T} , dB re. 2x10 ⁻⁵ Pa.
P1	Day (07:00 - 23:00)	38
	Night (23:00 - 07:00)	31

- 4.7 All measurements were undertaken by competent individuals with experience in environmental monitoring. Measurements were obtained in accordance with the principles of BS 7445: 2003: '*Description and measurement of environmental noise*' and following the guidance given in BS 4142.
- 4.8 All acoustic measurement equipment used during the surveys conformed to Type 1 specification of British Standard 61672: 2003: *Electroacoustics. Sound level meters. Part 1 Specifications*. measurement equipment used during the survey was calibrated at the start and end of the measurement period.
- 4.9 There was no significant drift in calibration measurements observed during the survey period. The microphone was positioned at approximately 1.8 m above local ground level and in free-field conditions. The microphone was fitted with a protective windshield and situated in a weatherproof case.



5 ASSESSMENT

- 5.1 The potential impacts from the proposed plant items have been determined by calculation of specific sound levels, $L_{Aeq,T}$, during operation.
- 5.2 Sound emission levels have been calculated using computer noise modelling. The noise modelling software (Cadna-A) uses algorithms based on ISO 9613 'Attenuation of sound during outdoor propagation' to predict noise levels generated at receiver locations by potentially noisy sources.
- 5.3 The sources have been assessed for the BS 4142 reference time periods, which are given as 07:00 – 23:00 for the daytime and 23:00 – 07:00 for night-time periods. Daytime specific levels are considered over a 1-hour period. Night-time specific levels are assessed over 15-minute periods.
- 5.4 Air source heat pumps will be installed at each dwelling. The proposed units are Daikin Altherma 3 M EDLA04EV3 heat pumps, which are specified to generate a sound pressure level of 44 dB $L_{Aeq,T}$ at 1m from the unit.
- 5.5 The ASHPs have been modelled as point sources at 0.5m above local ground level. Night-time levels have been calculated at -3 dB below the daytime sound levels to account for the units night-mode functionality, which reduces noise levels by a minimum of 3 dB. The sound levels have been calibrated within the model to attain a calculated sound level of 44 dB $L_{Aeq,T}$ over hard ground and at 1m from a single unit.
- 5.6 The units may operate during both day and night-time periods dependent on user demand. The sound emitted is likely to be lower than the given level and, dependent on load, it is reasonably unlikely that all units within the development would be running at full duty at any time. However, the planning condition requires a worst-case cumulative consideration to ensure suitable levels can be attained at the development.
- 5.7 For the purpose of this assessment the units have been modelled based on the documented sound power level, which is understood to represent units operating at 100% duty. On this basis the calculated sound levels would likely be higher than typical scenarios, where the heat pumps would not continually operate at maximum duty.
- 5.8 The sources have been modelled based on information provided by the applicant. The heat pump specification sheet is presented in Figure B2. The locations of modelled sources are presented in Figure 3.
-



- 5.9 A summary of the modelled source sound data is provided in Table 3. The manufacturer provides prefabricated low sound covers for the heat pumps and the indicative sound level with the application of these covers has also been included.

Table 3: Source Sound Power Levels

Plant Item	Sound Pressure Level, $L_{Aeq,T}$ @ 1m
Daikin Altherma 3 M EDLA04EV3	44
EDLA04EV3 with Daikin Altherma Low Sound Cover	41

- 5.10 The calculated sound levels are presented in Appendix C1.
- 5.11 BS 4142 requires that an acoustic feature correction is applied, where applicable, to the specific sound level in order to obtain a rating level $L_{Ar,Tr}$ at the identified receptor. Any correction is applied in order to consider the effect of additional acoustic characteristics present in the source of interest. The correction is applied based on tonality, impulsivity and intermittency that may be perceptible at the receptor location. A correction may also be applied where these features may not be present but the sound may still be distinctive at the receptor.
- 5.12 The calculated sound levels are well below the ambient sound level and the excess over background is minimal. It is unlikely that particular sound characteristics would be readily perceptible and is not considered necessary to apply a feature correction.
- 5.13 Properties where calculated sound levels at the dwelling façade are calculated to exceed the daytime background sound level are presented in Figure B3.
- 5.14 Figures B3 and B4 show that the background sound level is not exceeded by more than 3 dB with all units at full duty. This is a worst-case cumulative level. Accordingly, this scenario is unlikely to be realised. Given the minimal excess of the worst-case calculation this would typically not indicate a likelihood of significant impacts.
- 5.15 The planning condition requires sound levels to remain below background and the calculations indicate that during typical operation this is likely to be the case. However, to demonstrate that sound levels could be controlled if required, the units have been modelled with the -3 dB reduction that would be achieved by installing low sound covers at proposed heat pumps. The resultant sound levels are presented in Figures B5 and B6.
- 5.16 All calculated sound levels fall below the background sound level with the low sound covers.



Uncertainty

- 5.17 The assessment scenario considered within this report is based on the assumptions presented within this assessment, as provided by the applicant. Any changes to these assumptions, such as revised design or alternative plant specification, would require assessment based on the specific plant items and site details.
- 5.18 The calculation of the specific level is based on available information and source data from the applicant, as detailed within this report, and is understood to be representative of a worst-case consideration of the sources that would be installed at the proposed site.
- 5.19 The worst-case cumulative consideration has been undertaken based on the text as given within the associated planning condition. Is it unlikely that all items would run at 100% duty and sound levels would therefore be lower than those calculated within the assessment.



6 MITIGATION

- 6.1 The excess of cumulative sound level over background is minimal at all calculation points. Typically, this would be indicative of a low likelihood of impact, and no mitigation is identified as required.
- 6.2 Notwithstanding this, the planning condition requires calculated levels to fall below background.
- 6.3 A reduction of up to -2 dB is required in order to reduce calculated sound levels to below the adopted typical background sound levels. The ASHP manufacturer produces compatible “low sound covers” for the selected plant items, which reduce the sound emissions by up to 3 dB.
- 6.4 With the application of this -3 dB attenuation, calculated levels do not exceed the background at all calculation points. Accordingly, should the local authority require this attenuation is afforded, the calculations indicate that low sound covers would provide a sufficient level of mitigation.



7 CONCLUSIONS

- 7.1 An assessment has been undertaken for the potential impacts attributable to the sound arising from the proposed heat pumps at Woodland Road in Mere.
- 7.2 The information as detailed within this report has been used to calculate the likely sound levels at the nearest receptors.
- 7.3 BS 4142 indicates that where there is no excess of the rating over the background sound level there is a low likelihood of adverse impact.
- 7.4 Based on the information provided by the applicant and associated calculations as presented within this report, the assessment indicates that significant impacts at the nearest residential receptors are unlikely.
- 7.5 Should a requirement for mitigation be imposed, the manufacturer provided “low sound covers” are calculated to sufficiently reduce calculated sound levels such that the background is not exceeded.



APPENDIX A – INTRODUCTION TO NOISE

In order to assist the understanding of acoustic terminology and the relative change in noise, the following background information is provided.

The human ear can detect a very wide range of pressure fluctuations, which are perceived as sound. In order to express these fluctuations in a manageable way, a logarithmic scale called the decibel, or dB scale is used. The decibel scale typically ranges from 0 dB (the threshold of hearing) to over 120 dB.

The ear is less sensitive to some frequencies than to others. The A-weighting scale is used to approximate the frequency response of the ear. Levels weighted using this scale are commonly identified by the notation dB(A).

A noise impact on a community is deemed to occur when a new noise is introduced that is out of character with the area, or when a significant increase above the pre-existing ambient noise level occurs. For levels of noise that vary with time, it is necessary to employ a statistical index that allows for this variation. These statistical indices are expressed as the sound level that is exceeded for a percentage of the time period of interest.

In the UK, traffic noise is measured as the L_{A10} , the noise level exceeded for 10% of the measurement period. The L_{A90} is the level exceeded for 90% of the time and has been adopted to represent the background noise level in the absence of discrete events. An alternative way of assessing the time varying noise levels is to use the equivalent continuous sound level, L_{Aeq} . This is a notional steady level that would, over a given period of time, deliver the same sound energy as the actual fluctuating sound.

To put these quantities into context, where a receiver is predominantly affected by continuous flows of road traffic, a doubling or halving of the flows would result in a just perceptible change of 3dB, while an increase of more than 25%, or a decrease of more than 20%, in traffic flows represent changes of 1dB in traffic noise levels (assuming no alteration in the mix of traffic or flow speeds).

Note that the time constant and the period of the noise measurement should be specified. For example, BS 4142 specifies background noise measurement periods of 1 hour during the day and 5 minutes during the night. The noise levels are commonly symbolised as $A_{90(1\text{hour})}$ and $L_{A90(5\text{mins})}$. The noise measurement should be recorded using a 'FAST' time response equivalent to 0.125 ms.



Table A1: Glossary of Terms

Term	Definition
Decibel (dB)	A scale for comparing the ratios of two quantities, including sound pressure and sound power. The difference in level between two sounds s_1 and s_2 is given by $20 \log_{10} (s_1/s_2)$. The decibel can also be used to measure absolute quantities by specifying a reference value that fixes one point on the scale. For sound pressure, the reference value is $20\mu\text{Pa}$.
A-weighting, dB(A)	The unit of sound level, weighted according to the A-scale, which takes into account the increased sensitivity of the human ear at some frequencies.
Noise Level Indices	Noise levels usually fluctuate over time, so it is often necessary to consider an average or statistical noise level. This can be done in several ways, so a number of different noise indices have been defined, according to how the averaging or statistics are carried out.
$L_{eq,T}$	A noise level index called the equivalent continuous noise level over the time period T . This is the level of a notional steady sound that would contain the same amount of sound energy as the actual, possibly fluctuating, sound that was recorded.
$L_{max,F}$	A noise level index defined as the maximum noise level during the period T . L_{max} is sometimes used for the assessment of occasional loud noises, which may have little effect on the overall L_{eq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
$L_{90,T}$	A noise level index. The noise level exceeded for 90% of the time over the period T . L_{90} can be considered to be the 'average minimum' noise level and is often used to describe the background noise.
Free-Field	Far from the presence of sound reflecting objects (except the ground), usually taken to mean at least 3.5m
Ambient Noise Level	The totally encompassing sound in a given situation at a given time, usually composed of a sound from many sources both distant and near ($L_{Aeq,T}$).
Residual Noise Level	The ambient noise remaining at a given position in a given situation when specified sources are suppressed to a degree such that they do not contribute to the ambient noise level ($L_{Aeq,T}$)
Specific Noise Level	The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source (the noise source under investigation) over a given time interval ($L_{Aeq,T}$)
Rating Noise Level	The specific noise level plus any adjustment for the characteristic features of the noise (L_{Ar,T_r}).



APPENDIX B – GRAPHICAL REPRESENTATION OF MEASUREMENT RESULTS

Figure B1: Statistical Analysis of Background Sound Levels

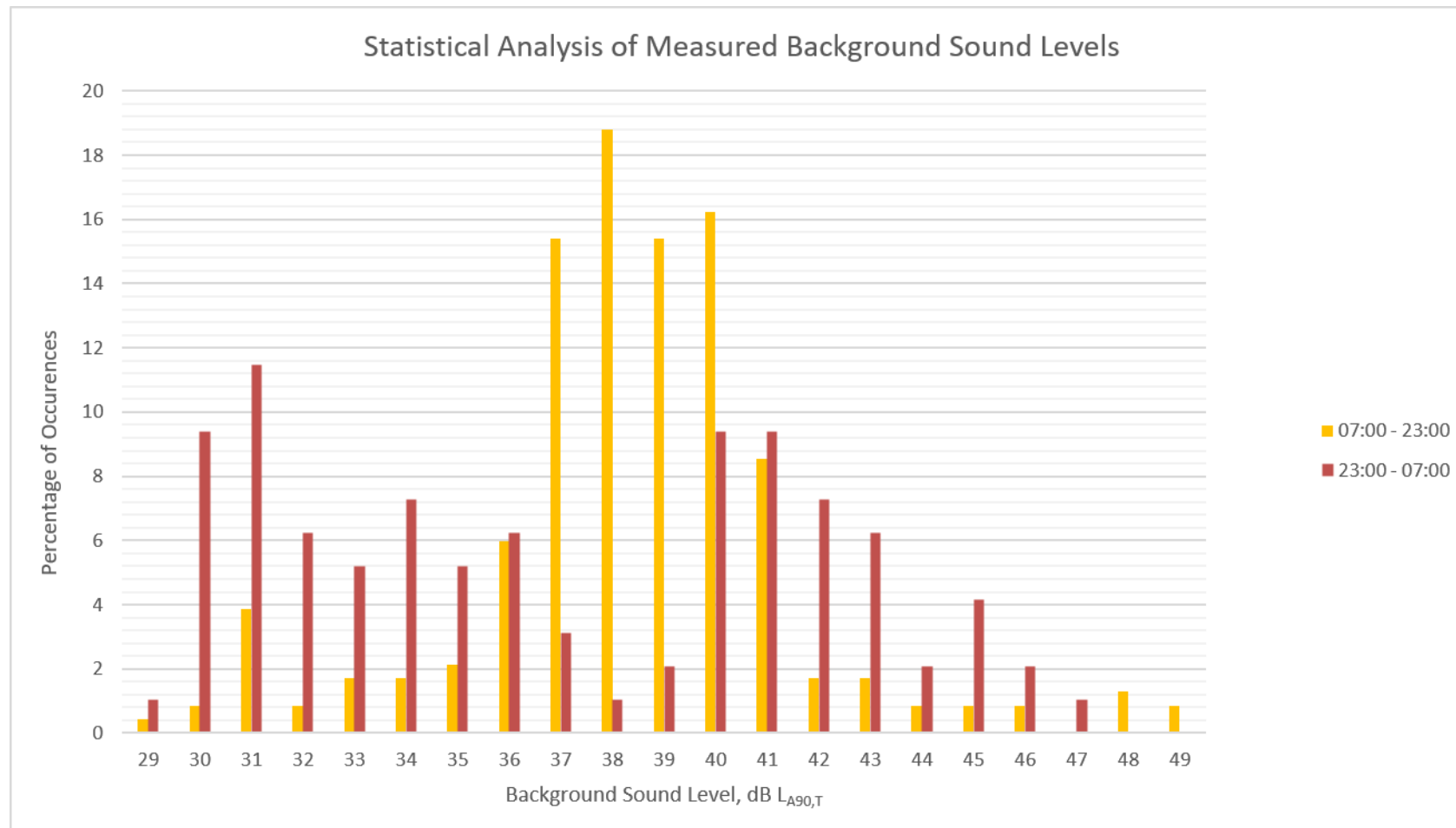




Figure B2: Heat Pump Specifications

Outdoor Unit			EDLA04EV3
Description			Class 4
Function			Heating Only
Dimensions ^[1]	Height x Width x Depth	mm	770 x 1250 x 362
Weight	Unit	kg	88
Nominal capacity	Heating (1/2)	kW	4.30/4.60
	Cooling (1/2)	kW	-
Nominal input	Heating/Cooling (1/2)	kW	4.30/4.60
COP	Heating (1/2)		5.10/3.65
EER	Cooling 91/2)		5.10/3.65
Seasonal space heating efficiency	Space heating (Average climate) 35°C	Class	A+++
		Efficiency	176
		SCOP	4.48
	Space heating (Average climate) 55°C	Class	A++
		Efficiency	127
		SCOP	3.26
Operation range	Heating	°C	-25 ~ 35
	Cooling	°C	-
	Hot water	°C	-25 ~ 35
Sound power level	Heating	dBA	58
Sound pressure level 4	Heating/Cooling	dBA	44
Refrigerant charge (factory)	R32	kg	1.35
Power supply			1-phase / 230V / 50Hz
Recommended fuses	Outdoor unit	A	20
Pump	No. of speeds		Inverter controller
Expansion vessel volume			litres
Water connections (diameter)			inch
Minimum water volume			litres
Minimum flow rate	Cooling	l/min	-
	Heating (Incl. defrost)	l/min	12
	Hot water	l/min	25
Maximum piping distance to tank			m
Maximum level difference			m
SAP ID			
Heating a: Ambient air temperature -2C and leaving water temperature 45C (A-2/W45)			
[1] Excludes aesthetic grill			
Nominal capacity and nominal input tested according to EN 14511 at the following conditions			
Heating 1: Ambient air temperature 7°C and leaving water temperature 35°C (A7 W35)			
Cooling 1: Ambient air temperature 35°C and leaving water temperature 18°C (A35 W18)			
[3] Includes aesthetic grill [4] Sound pressure level measured at 1m from the unit			

Figure B3: Calculated Excess Over Background Sound Level - Base Unit - Daytime (Ground Floor)



Figure B4: Calculated Excess Over Background Sound Level - Base Unit – Night-time (First Floor)



Figure B5: Calculated Excess Over Background Sound Level - Low Sound Cover - Daytime (Ground Floor)



Figure B6: Calculated Excess Over Background Sound Level - Low Sound Cover - Night-time (First Floor)





APPENDIX C – TABLES

Appendix C1: Calculated Sound Power Levels

X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381633.2	131435.5	1.5	5.8	2.8	2.8	-0.2
381631.9	131438.1	1.5	18.9	15.9	15.9	12.9
381633.1	131442.0	1.5	19.7	16.7	16.7	13.7
381635.7	131443.4	1.5	27.2	24.2	24.2	21.2
381639.6	131442.2	1.5	35.4	32.4	32.4	29.4
381640.8	131439.3	1.5	33.0	30.0	30.0	27.0
381639.4	131435.1	1.5	25.1	22.1	22.1	19.1
381636.7	131433.5	1.5	9.8	6.8	6.8	3.8
381618.6	131447.3	1.5	36.7	33.7	33.7	30.7
381620.6	131444.7	1.5	26.1	23.1	23.1	20.1
381622.3	131442.3	1.5	23.9	20.9	20.9	17.9
381623.6	131438.8	1.5	15.1	12.1	12.1	9.1
381620.3	131436.7	1.5	5.1	2.1	2.1	-0.9
381615.6	131438.2	1.5	4.0	1.0	1.0	-2.0
381614.2	131442.2	1.5	6.8	3.8	3.8	0.8
381614.8	131446.7	1.5	14.5	11.5	11.5	8.5
381624.6	131455.2	1.5	29.2	26.2	26.2	23.2
381620.3	131456.5	1.5	24.7	21.7	21.7	18.7
381618.7	131459.1	1.5	12.3	9.3	9.3	6.3
381620.9	131462.6	1.5	7.0	4.0	4.0	1.0
381623.5	131464.0	1.5	17.0	14.0	14.0	11.0
381627.3	131462.8	1.5	24.1	21.1	21.1	18.1
381628.6	131460.2	1.5	30.3	27.3	27.3	24.3
381627.4	131456.4	1.5	36.4	33.4	33.4	30.4
381652.1	131463.9	1.5	25.2	22.2	22.2	19.2
381650.7	131459.7	1.5	17.5	14.5	14.5	11.5
381647.4	131458.5	1.5	19.4	16.4	16.4	13.4
381642.1	131460.1	1.5	20.5	17.5	17.5	14.5
381640.2	131463.3	1.5	25.8	22.8	22.8	19.8
381641.5	131467.3	1.5	27.4	24.4	24.4	21.4
381644.8	131468.5	1.5	38.4	35.4	35.4	32.4
381650.1	131466.9	1.5	38.0	35.0	35.0	32.0
381624.2	131472.5	1.5	11.7	8.7	8.7	5.7
381626.7	131472.9	1.5	26.1	23.1	23.1	20.1
381630.8	131471.6	1.5	31.1	28.1	28.1	25.1
381632.1	131468.0	1.5	35.8	32.8	32.8	29.8
381628.8	131465.9	1.5	23.8	20.8	20.8	17.8
381624.1	131467.4	1.5	15.1	12.1	12.1	9.1
381622.2	131470.0	1.5	9.2	6.2	6.2	3.2
381631.0	131475.0	1.5	28.5	25.5	25.5	22.5
381626.7	131476.3	1.5	22.5	19.5	19.5	16.5
381625.2	131479.0	1.5	11.7	8.7	8.7	5.7
381627.4	131482.5	1.5	14.1	11.1	11.1	8.1
381629.9	131483.8	1.5	22.1	19.1	19.1	16.1
381633.7	131482.6	1.5	22.2	19.2	19.2	16.2
381635.0	131480.0	1.5	29.2	26.2	26.2	23.2
381633.8	131476.2	1.5	36.7	33.7	33.7	30.7
381650.4	131490.4	1.5	28.9	25.9	25.9	22.9
381646.7	131491.5	1.5	36.3	33.3	33.3	30.3
381645.4	131494.3	1.5	29.0	26.0	26.0	23.0
381646.7	131498.6	1.5	21.1	18.1	18.1	15.1
381649.3	131500.1	1.5	10.6	7.6	7.6	4.6
381652.8	131498.1	1.5	11.6	8.6	8.6	5.6
381654.2	131495.6	1.5	16.0	13.0	13.0	10.0
381653.0	131491.7	1.5	17.7	14.7	14.7	11.7



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381629.8	131497.3	1.5	14.5	11.5	11.5	8.5
381631.9	131501.2	1.5	10.3	7.3	7.3	4.3
381635.3	131503.6	1.5	9.3	6.3	6.3	3.3
381640.0	131502.2	1.5	10.5	7.5	7.5	4.5
381641.5	131498.6	1.5	25.1	22.1	22.1	19.1
381638.4	131496.5	1.5	26.3	23.3	23.3	20.3
381635.7	131495.5	1.5	26.6	23.6	23.6	20.6
381632.5	131494.5	1.5	36.6	33.6	33.6	30.6
381643.5	131513.9	1.5	14.7	11.7	11.7	8.7
381639.0	131515.3	1.5	11.5	8.5	8.5	5.5
381637.6	131519.2	1.5	23.0	20.0	20.0	17.0
381640.9	131521.7	1.5	36.1	33.1	33.1	30.1
381645.4	131520.3	1.5	26.7	23.7	23.7	20.7
381646.7	131516.4	1.5	16.4	13.4	13.4	10.4
381644.0	131543.8	1.5	22.8	19.8	19.8	16.8
381647.0	131544.9	1.5	25.1	22.1	22.1	19.1
381651.7	131543.4	1.5	25.9	22.9	22.9	19.9
381653.2	131539.7	1.5	36.0	33.0	33.0	30.0
381650.2	131537.5	1.5	23.7	20.7	20.7	17.7
381646.0	131538.9	1.5	21.9	18.9	18.9	15.9
381644.2	131540.6	1.5	17.6	14.6	14.6	11.6
381651.3	131431.1	1.5	23.4	20.4	20.4	17.4
381648.8	131434.4	1.5	22.0	19.0	19.0	16.0
381650.3	131438.9	1.5	23.4	20.4	20.4	17.4
381654.2	131440.1	1.5	16.4	13.4	13.4	10.4
381656.6	131436.8	1.5	26.5	23.5	23.5	20.5
381655.2	131432.4	1.5	35.9	32.9	32.9	29.9
381651.5	131459.4	1.5	18.7	15.7	15.7	12.7
381652.8	131463.5	1.5	23.7	20.7	20.7	17.7
381656.1	131464.8	1.5	38.5	35.5	35.5	32.5
381661.2	131463.2	1.5	38.5	35.5	35.5	32.5
381666.3	131461.6	1.5	37.1	34.1	34.1	31.1
381668.3	131458.6	1.5	25.4	22.4	22.4	19.4
381667.0	131454.5	1.5	24.0	21.0	21.0	18.0
381663.7	131453.2	1.5	17.6	14.6	14.6	11.6
381658.6	131454.8	1.5	17.0	14.0	14.0	11.0
381653.4	131456.4	1.5	18.2	15.2	15.2	12.2
381659.0	131489.6	1.5	18.6	15.6	15.6	12.6
381660.6	131494.3	1.5	14.4	11.4	11.4	8.4
381663.3	131496.0	1.5	13.7	10.7	10.7	7.7
381667.1	131493.6	1.5	13.1	10.1	10.1	7.1
381671.1	131493.7	1.5	16.5	13.5	13.5	10.5
381672.1	131490.6	1.5	17.4	14.4	14.4	11.4
381670.5	131485.8	1.5	19.4	16.4	16.4	13.4
381666.2	131484.5	1.5	38.0	35.0	35.0	32.0
381660.8	131486.3	1.5	35.5	32.5	32.5	29.5
381663.7	131508.9	1.5	10.8	7.8	7.8	4.8
381662.5	131511.8	1.5	12.8	9.8	9.8	6.8
381663.7	131515.6	1.5	13.7	10.7	10.7	7.7
381666.3	131516.9	1.5	29.3	26.3	26.3	23.3
381670.2	131515.6	1.5	37.4	34.4	34.4	31.4
381671.5	131512.7	1.5	28.5	25.5	25.5	22.5
381670.2	131508.4	1.5	20.9	17.9	17.9	14.9
381667.3	131506.8	1.5	11.2	8.2	8.2	5.2
381660.4	131520.2	1.5	23.1	20.1	20.1	17.1
381659.0	131515.7	1.5	17.2	14.2	14.2	11.2
381655.7	131514.2	1.5	10.5	7.5	7.5	4.5
381650.6	131515.7	1.5	11.8	8.8	8.8	5.8
381648.7	131518.9	1.5	19.2	16.2	16.2	13.2
381650.2	131523.4	1.5	23.4	20.4	20.4	17.4
381653.5	131524.9	1.5	36.9	33.9	33.9	30.9
381658.5	131523.4	1.5	37.5	34.5	34.5	31.5



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381667.7	131547.4	1.5	35.4	32.4	32.4	29.4
381663.2	131548.9	1.5	28.1	25.1	25.1	22.1
381661.9	131552.8	1.5	20.1	17.1	17.1	14.1
381665.2	131555.2	1.5	11.7	8.7	8.7	5.7
381669.7	131553.8	1.5	13.1	10.1	10.1	7.1
381671.0	131549.9	1.5	25.7	22.7	22.7	19.7
381652.4	131552.3	1.5	27.4	24.4	24.4	21.4
381647.9	131553.7	1.5	36.1	33.1	33.1	30.1
381646.6	131557.7	1.5	23.3	20.3	20.3	17.3
381649.9	131560.2	1.5	8.5	5.5	5.5	2.5
381654.5	131558.7	1.5	9.2	6.2	6.2	3.2
381655.7	131554.8	1.5	21.6	18.6	18.6	15.6
381674.2	131425.7	1.5	15.7	12.7	12.7	9.7
381669.4	131427.2	1.5	18.8	15.8	15.8	12.8
381667.9	131430.9	1.5	20.6	17.6	17.6	14.6
381671.2	131433.0	1.5	24.3	21.3	21.3	18.3
381674.0	131433.9	1.5	26.5	23.5	23.5	20.5
381677.1	131434.8	1.5	36.1	33.1	33.1	30.1
381679.7	131432.3	1.5	14.3	11.3	11.3	8.3
381677.7	131428.3	1.5	7.0	4.0	4.0	1.0
381680.6	131446.2	1.5	21.1	18.1	18.1	15.1
381676.7	131447.4	1.5	21.2	18.2	18.2	15.2
381675.3	131450.1	1.5	27.6	24.6	24.6	21.6
381676.5	131454.0	1.5	36.5	33.5	33.5	30.5
381679.4	131455.3	1.5	27.3	24.3	24.3	21.3
381683.8	131453.9	1.5	19.1	16.1	16.1	13.1
381685.4	131451.0	1.5	11.5	8.5	8.5	5.5
381683.2	131447.4	1.5	12.7	9.7	9.7	6.7
381678.8	131461.0	1.5	29.6	26.6	26.6	23.6
381680.1	131464.9	1.5	29.2	26.2	26.2	23.2
381682.9	131466.2	1.5	38.0	35.0	35.0	32.0
381687.2	131464.8	1.5	29.0	26.0	26.0	23.0
381688.8	131462.1	1.5	15.7	12.7	12.7	9.7
381686.8	131458.5	1.5	11.0	8.0	8.0	5.0
381684.2	131457.1	1.5	24.7	21.7	21.7	18.7
381680.2	131458.4	1.5	29.6	26.6	26.6	23.6
381690.4	131476.2	1.5	39.6	36.6	36.6	33.6
381688.0	131479.5	1.5	22.3	19.3	19.3	16.3
381689.5	131483.9	1.5	20.9	17.9	17.9	14.9
381693.4	131485.1	1.5	19.4	16.4	16.4	13.4
381695.8	131481.9	1.5	13.2	10.2	10.2	7.2
381694.4	131477.4	1.5	18.0	15.0	15.0	12.0
381684.5	131483.3	1.5	21.5	18.5	18.5	15.5
381683.0	131478.6	1.5	26.4	23.4	23.4	20.4
381679.9	131476.9	1.5	38.1	35.1	35.1	32.1
381675.3	131478.4	1.5	38.0	35.0	35.0	32.0
381673.7	131481.5	1.5	26.5	23.5	23.5	20.5
381675.2	131486.3	1.5	19.0	16.0	16.0	13.0
381678.4	131487.9	1.5	18.2	15.2	15.2	12.2
381682.9	131486.5	1.5	19.3	16.3	16.3	13.3
381695.9	131498.1	1.5	23.9	20.9	20.9	17.9
381693.5	131501.4	1.5	36.0	33.0	33.0	30.0
381694.9	131505.8	1.5	29.2	26.2	26.2	23.2
381698.8	131507.1	1.5	23.4	20.4	20.4	17.4
381701.2	131503.8	1.5	9.1	6.1	6.1	3.1
381699.8	131499.4	1.5	8.8	5.8	5.8	2.8
381673.4	131508.0	1.5	25.4	22.4	22.4	19.4
381674.9	131512.6	1.5	31.3	28.3	28.3	25.3
381678.4	131514.1	1.5	36.3	33.3	33.3	30.3
381683.9	131512.4	1.5	36.1	33.1	33.1	30.1
381686.0	131509.1	1.5	27.0	24.0	24.0	21.0
381684.5	131504.4	1.5	25.4	22.4	22.4	19.4



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381682.0	131502.6	1.5	18.4	15.4	15.4	12.4
381678.6	131504.9	1.5	12.1	9.1	9.1	6.1
381674.4	131505.0	1.5	13.2	10.2	10.2	7.2
381699.1	131516.8	1.5	37.3	34.3	34.3	31.3
381700.7	131521.8	1.5	37.5	34.5	34.5	31.5
381703.8	131523.6	1.5	24.0	21.0	21.0	18.0
381708.2	131522.2	1.5	20.6	17.6	17.6	14.6
381709.7	131518.9	1.5	9.9	6.9	6.9	3.9
381708.1	131513.9	1.5	8.7	5.7	5.7	2.7
381705.0	131512.1	1.5	18.5	15.5	15.5	12.5
381700.6	131513.5	1.5	21.7	18.7	18.7	15.7
381711.0	131530.5	1.5	17.1	14.1	14.1	11.1
381706.4	131531.9	1.5	21.3	18.3	18.3	15.3
381704.9	131535.2	1.5	38.3	35.3	35.3	32.3
381706.5	131540.3	1.5	37.7	34.7	34.7	31.7
381709.7	131542.1	1.5	18.4	15.4	15.4	12.4
381714.2	131540.7	1.5	14.2	11.2	11.2	8.2
381715.7	131537.4	1.5	9.9	6.9	6.9	3.9
381714.1	131532.3	1.5	9.8	6.8	6.8	3.8
381676.9	131537.1	1.5	36.6	33.6	33.6	30.6
381671.7	131538.7	1.5	37.7	34.7	34.7	31.7
381669.7	131541.7	1.5	31.8	28.8	28.8	25.8
381671.1	131545.9	1.5	37.6	34.6	34.6	31.6
381674.4	131547.1	1.5	18.6	15.6	15.6	12.6
381679.6	131545.4	1.5	17.8	14.8	14.8	11.8
381681.6	131542.5	1.5	14.6	11.6	11.6	8.6
381680.2	131538.3	1.5	18.7	15.7	15.7	12.7
381691.1	131558.5	1.5	18.3	15.3	15.3	12.3
381687.5	131559.7	1.5	16.9	13.9	13.9	10.9
381686.3	131562.4	1.5	14.4	11.4	11.4	8.4
381687.7	131566.7	1.5	13.2	10.2	10.2	7.2
381690.3	131568.4	1.5	18.3	15.3	15.3	12.3
381693.9	131567.2	1.5	25.1	22.1	22.1	19.1
381695.1	131564.4	1.5	38.2	35.2	35.2	32.2
381693.7	131560.1	1.5	28.5	25.5	25.5	22.5
381708.9	131467.4	1.5	17.5	14.5	14.5	11.5
381706.5	131470.9	1.5	21.0	18.0	18.0	15.0
381708.0	131475.8	1.5	17.8	14.8	14.8	11.8
381711.7	131477.3	1.5	25.1	22.1	22.1	19.1
381713.8	131474.1	1.5	26.5	23.5	23.5	20.5
381714.9	131471.3	1.5	26.7	23.7	23.7	20.7
381716.0	131468.0	1.5	36.7	33.7	33.7	30.7
381713.1	131465.3	1.5	17.5	14.5	14.5	11.5
381712.6	131487.2	1.5	13.5	10.5	10.5	7.5
381715.2	131488.5	1.5	12.7	9.7	9.7	6.7
381719.2	131487.2	1.5	16.4	13.4	13.4	10.4
381720.5	131484.5	1.5	28.8	25.8	25.8	22.8
381719.2	131480.6	1.5	36.8	33.8	33.8	30.8
381716.4	131479.2	1.5	27.3	24.3	24.3	21.3
381712.0	131480.6	1.5	19.9	16.9	16.9	13.9
381710.5	131483.5	1.5	14.0	11.0	11.0	8.0
381721.9	131493.0	1.5	17.3	14.3	14.3	11.3
381717.4	131494.5	1.5	11.4	8.4	8.4	5.4
381715.9	131497.8	1.5	11.2	8.2	8.2	5.2
381717.6	131502.9	1.5	13.3	10.3	10.3	7.3
381720.8	131504.8	1.5	15.7	12.7	12.7	9.7
381725.3	131503.3	1.5	21.1	18.1	18.1	15.1
381726.8	131499.9	1.5	37.1	34.1	34.1	31.1
381725.1	131494.9	1.5	37.1	34.1	34.1	31.1
381721.3	131514.2	1.5	10.5	7.5	7.5	4.5
381723.0	131519.5	1.5	14.6	11.6	11.6	8.6
381726.3	131521.4	1.5	18.3	15.3	15.3	12.3



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381731.0	131519.9	1.5	26.8	23.8	23.8	20.8
381732.6	131516.5	1.5	36.8	33.8	33.8	30.8
381731.0	131511.2	1.5	37.0	34.0	34.0	31.0
381727.7	131509.3	1.5	23.4	20.4	20.4	17.4
381722.9	131510.8	1.5	15.5	12.5	12.5	9.5
381731.8	131538.3	1.5	17.2	14.2	14.2	11.2
381736.4	131536.8	1.5	25.5	22.5	22.5	19.5
381738.0	131533.3	1.5	37.0	34.0	34.0	31.0
381736.3	131528.2	1.5	36.6	33.6	33.6	30.6
381733.1	131526.3	1.5	27.2	24.2	24.2	21.2
381728.4	131527.8	1.5	18.4	15.4	15.4	12.4
381726.9	131531.2	1.5	11.1	8.1	8.1	5.1
381728.5	131536.4	1.5	9.6	6.6	6.6	3.6
381737.9	131541.0	1.5	25.7	22.7	22.7	19.7
381733.2	131542.5	1.5	17.4	14.4	14.4	11.4
381731.5	131545.6	1.5	8.5	5.5	5.5	2.5
381733.0	131550.2	1.5	9.6	6.6	6.6	3.6
381736.2	131551.9	1.5	24.3	21.3	21.3	18.3
381740.9	131550.4	1.5	31.0	28.0	28.0	25.0
381742.5	131547.2	1.5	38.0	35.0	35.0	32.0
381741.0	131542.6	1.5	37.9	34.9	34.9	31.9
381715.5	131550.7	1.5	13.6	10.6	10.6	7.6
381710.8	131552.2	1.5	22.3	19.3	19.3	16.3
381709.1	131555.3	1.5	37.7	34.7	34.7	31.7
381710.3	131560.9	1.5	35.4	32.4	32.4	29.4
381714.0	131563.3	1.5	37.2	34.2	34.2	31.2
381719.2	131561.6	1.5	25.7	22.7	22.7	19.7
381720.9	131557.6	1.5	14.2	11.2	11.2	8.2
381718.7	131552.3	1.5	10.7	7.7	7.7	4.7
381746.4	131555.5	1.5	25.5	22.5	22.5	19.5
381742.7	131553.1	1.5	35.6	32.6	32.6	29.6
381737.3	131554.9	1.5	25.1	22.1	22.1	19.1
381735.6	131559.0	1.5	14.6	11.6	11.6	8.6
381739.4	131561.4	1.5	25.1	22.1	22.1	19.1
381744.7	131559.7	1.5	36.2	33.2	33.2	30.2
381691.5	131531.0	1.5	38.9	35.9	35.9	32.9
381686.6	131532.6	1.5	38.5	35.5	35.5	32.5
381682.4	131533.9	1.5	38.0	35.0	35.0	32.0
381680.8	131537.1	1.5	20.7	17.7	17.7	14.7
381682.4	131541.8	1.5	15.2	12.2	12.2	9.2
381685.5	131543.5	1.5	19.9	16.9	16.9	13.9
381690.0	131542.0	1.5	22.4	19.4	19.4	16.4
381694.6	131540.6	1.5	25.3	22.3	22.3	19.3
381696.2	131537.4	1.5	27.5	24.5	24.5	21.5
381694.7	131532.6	1.5	28.0	25.0	25.0	22.0
381633.2	131435.5	4	6.3	3.3	3.3	0.3
381631.9	131438.1	4	19.3	16.3	16.3	13.3
381633.1	131442.0	4	20.1	17.1	17.1	14.1
381635.7	131443.4	4	26.4	23.4	23.4	20.4
381639.6	131442.2	4	31.1	28.1	28.1	25.1
381640.8	131439.3	4	30.0	27.0	27.0	24.0
381639.4	131435.1	4	24.7	21.7	21.7	18.7
381636.7	131433.5	4	10.2	7.2	7.2	4.2
381618.6	131447.3	4	31.8	28.8	28.8	25.8
381620.6	131444.7	4	24.4	21.4	21.4	18.4
381622.3	131442.3	4	23.7	20.7	20.7	17.7
381623.6	131438.8	4	15.7	12.7	12.7	9.7
381620.3	131436.7	4	5.6	2.6	2.6	-0.4
381615.6	131438.2	4	4.4	1.4	1.4	-1.6
381614.2	131442.2	4	6.8	3.8	3.8	0.8
381614.8	131446.7	4	14.1	11.1	11.1	8.1
381624.6	131455.2	4	27.2	24.2	24.2	21.2



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381620.3	131456.5	4	24.5	21.5	21.5	18.5
381618.7	131459.1	4	12.7	9.7	9.7	6.7
381620.9	131462.6	4	7.3	4.3	4.3	1.3
381623.5	131464.0	4	17.0	14.0	14.0	11.0
381627.3	131462.8	4	23.1	20.1	20.1	17.1
381628.6	131460.2	4	29.4	26.4	26.4	23.4
381627.4	131456.4	4	31.8	28.8	28.8	25.8
381652.1	131463.9	4	23.8	20.8	20.8	17.8
381650.7	131459.7	4	17.7	14.7	14.7	11.7
381647.4	131458.5	4	20.0	17.0	17.0	14.0
381642.1	131460.1	4	21.1	18.1	18.1	15.1
381640.2	131463.3	4	25.8	22.8	22.8	19.8
381641.5	131467.3	4	26.8	23.8	23.8	20.8
381644.8	131468.5	4	34.4	31.4	31.4	28.4
381650.1	131466.9	4	34.4	31.4	31.4	28.4
381624.2	131472.5	4	12.1	9.1	9.1	6.1
381626.7	131472.9	4	25.9	22.9	22.9	19.9
381630.8	131471.6	4	29.5	26.5	26.5	23.5
381632.1	131468.0	4	32.4	29.4	29.4	26.4
381628.8	131465.9	4	21.9	18.9	18.9	15.9
381624.1	131467.4	4	15.0	12.0	12.0	9.0
381622.2	131470.0	4	9.7	6.7	6.7	3.7
381631.0	131475.0	4	26.8	23.8	23.8	20.8
381626.7	131476.3	4	22.8	19.8	19.8	16.8
381625.2	131479.0	4	12.2	9.2	9.2	6.2
381627.4	131482.5	4	14.4	11.4	11.4	8.4
381629.9	131483.8	4	22.3	19.3	19.3	16.3
381633.7	131482.6	4	22.4	19.4	19.4	16.4
381635.0	131480.0	4	28.8	25.8	25.8	22.8
381633.8	131476.2	4	32.2	29.2	29.2	26.2
381650.4	131490.4	4	28.5	25.5	25.5	22.5
381646.7	131491.5	4	31.8	28.8	28.8	25.8
381645.4	131494.3	4	26.7	23.7	23.7	20.7
381646.7	131498.6	4	20.8	17.8	17.8	14.8
381649.3	131500.1	4	11.6	8.6	8.6	5.6
381652.8	131498.1	4	12.8	9.8	9.8	6.8
381654.2	131495.6	4	17.2	14.2	14.2	11.2
381653.0	131491.7	4	18.5	15.5	15.5	12.5
381629.8	131497.3	4	14.2	11.2	11.2	8.2
381631.9	131501.2	4	11.0	8.0	8.0	5.0
381635.3	131503.6	4	10.2	7.2	7.2	4.2
381640.0	131502.2	4	11.3	8.3	8.3	5.3
381641.5	131498.6	4	24.9	21.9	21.9	18.9
381638.4	131496.5	4	26.0	23.0	23.0	20.0
381635.7	131495.5	4	25.4	22.4	22.4	19.4
381632.5	131494.5	4	31.4	28.4	28.4	25.4
381643.5	131513.9	4	15.5	12.5	12.5	9.5
381639.0	131515.3	4	12.2	9.2	9.2	6.2
381637.6	131519.2	4	21.8	18.8	18.8	15.8
381640.9	131521.7	4	31.4	28.4	28.4	25.4
381645.4	131520.3	4	26.1	23.1	23.1	20.1
381646.7	131516.4	4	17.3	14.3	14.3	11.3
381644.0	131543.8	4	22.8	19.8	19.8	16.8
381647.0	131544.9	4	25.2	22.2	22.2	19.2
381651.7	131543.4	4	25.5	22.5	22.5	19.5
381653.2	131539.7	4	32.1	29.1	29.1	26.1
381650.2	131537.5	4	24.1	21.1	21.1	18.1
381646.0	131538.9	4	22.5	19.5	19.5	16.5
381644.2	131540.6	4	18.2	15.2	15.2	12.2
381651.3	131431.1	4	22.0	19.0	19.0	16.0
381648.8	131434.4	4	22.1	19.1	19.1	16.1
381650.3	131438.9	4	23.3	20.3	20.3	17.3



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381654.2	131440.1	4	17.0	14.0	14.0	11.0
381656.6	131436.8	4	25.8	22.8	22.8	19.8
381655.2	131432.4	4	31.2	28.2	28.2	25.2
381651.5	131459.4	4	19.0	16.0	16.0	13.0
381652.8	131463.5	4	22.1	19.1	19.1	16.1
381656.1	131464.8	4	34.8	31.8	31.8	28.8
381661.2	131463.2	4	34.5	31.5	31.5	28.5
381666.3	131461.6	4	33.0	30.0	30.0	27.0
381668.3	131458.6	4	25.4	22.4	22.4	19.4
381667.0	131454.5	4	24.1	21.1	21.1	18.1
381663.7	131453.2	4	18.4	15.4	15.4	12.4
381658.6	131454.8	4	17.8	14.8	14.8	11.8
381653.4	131456.4	4	18.8	15.8	15.8	12.8
381659.0	131489.6	4	19.1	16.1	16.1	13.1
381660.6	131494.3	4	15.4	12.4	12.4	9.4
381663.3	131496.0	4	14.7	11.7	11.7	8.7
381667.1	131493.6	4	13.9	10.9	10.9	7.9
381671.1	131493.7	4	17.4	14.4	14.4	11.4
381672.1	131490.6	4	18.4	15.4	15.4	12.4
381670.5	131485.8	4	20.2	17.2	17.2	14.2
381666.2	131484.5	4	34.2	31.2	31.2	28.2
381660.8	131486.3	4	33.1	30.1	30.1	27.1
381663.7	131508.9	4	11.9	8.9	8.9	5.9
381662.5	131511.8	4	13.8	10.8	10.8	7.8
381663.7	131515.6	4	14.7	11.7	11.7	8.7
381666.3	131516.9	4	28.9	25.9	25.9	22.9
381670.2	131515.6	4	33.0	30.0	30.0	27.0
381671.5	131512.7	4	26.8	23.8	23.8	20.8
381670.2	131508.4	4	21.1	18.1	18.1	15.1
381667.3	131506.8	4	12.0	9.0	9.0	6.0
381660.4	131520.2	4	23.6	20.6	20.6	17.6
381659.0	131515.7	4	18.3	15.3	15.3	12.3
381655.7	131514.2	4	11.6	8.6	8.6	5.6
381650.6	131515.7	4	12.8	9.8	9.8	6.8
381648.7	131518.9	4	19.6	16.6	16.6	13.6
381650.2	131523.4	4	23.6	20.6	20.6	17.6
381653.5	131524.9	4	33.6	30.6	30.6	27.6
381658.5	131523.4	4	33.8	30.8	30.8	27.8
381667.7	131547.4	4	31.6	28.6	28.6	25.6
381663.2	131548.9	4	28.0	25.0	25.0	22.0
381661.9	131552.8	4	20.6	17.6	17.6	14.6
381665.2	131555.2	4	12.8	9.8	9.8	6.8
381669.7	131553.8	4	14.1	11.1	11.1	8.1
381671.0	131549.9	4	24.3	21.3	21.3	18.3
381652.4	131552.3	4	27.1	24.1	24.1	21.1
381647.9	131553.7	4	31.5	28.5	28.5	25.5
381646.6	131557.7	4	21.8	18.8	18.8	15.8
381649.9	131560.2	4	8.9	5.9	5.9	2.9
381654.5	131558.7	4	10.2	7.2	7.2	4.2
381655.7	131554.8	4	22.2	19.2	19.2	16.2
381674.2	131425.7	4	16.3	13.3	13.3	10.3
381669.4	131427.2	4	19.2	16.2	16.2	13.2
381667.9	131430.9	4	20.9	17.9	17.9	14.9
381671.2	131433.0	4	23.3	20.3	20.3	17.3
381674.0	131433.9	4	23.6	20.6	20.6	17.6
381677.1	131434.8	4	31.3	28.3	28.3	25.3
381679.7	131432.3	4	13.7	10.7	10.7	7.7
381677.7	131428.3	4	7.0	4.0	4.0	1.0
381680.6	131446.2	4	21.3	18.3	18.3	15.3
381676.7	131447.4	4	21.3	18.3	18.3	15.3
381675.3	131450.1	4	26.8	23.8	23.8	20.8
381676.5	131454.0	4	31.4	28.4	28.4	25.4



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381679.4	131455.3	4	24.8	21.8	21.8	18.8
381683.8	131453.9	4	18.9	15.9	15.9	12.9
381685.4	131451.0	4	12.1	9.1	9.1	6.1
381683.2	131447.4	4	13.1	10.1	10.1	7.1
381678.8	131461.0	4	29.2	26.2	26.2	23.2
381680.1	131464.9	4	28.8	25.8	25.8	22.8
381682.9	131466.2	4	32.7	29.7	29.7	26.7
381687.2	131464.8	4	28.6	25.6	25.6	22.6
381688.8	131462.1	4	16.1	13.1	13.1	10.1
381686.8	131458.5	4	11.4	8.4	8.4	5.4
381684.2	131457.1	4	24.4	21.4	21.4	18.4
381680.2	131458.4	4	28.1	25.1	25.1	22.1
381690.4	131476.2	4	32.6	29.6	29.6	26.6
381688.0	131479.5	4	22.9	19.9	19.9	16.9
381689.5	131483.9	4	21.6	18.6	18.6	15.6
381693.4	131485.1	4	20.0	17.0	17.0	14.0
381695.8	131481.9	4	13.6	10.6	10.6	7.6
381694.4	131477.4	4	16.8	13.8	13.8	10.8
381684.5	131483.3	4	22.1	19.1	19.1	16.1
381683.0	131478.6	4	26.4	23.4	23.4	20.4
381679.9	131476.9	4	34.3	31.3	31.3	28.3
381675.3	131478.4	4	34.2	31.2	31.2	28.2
381673.7	131481.5	4	26.9	23.9	23.9	20.9
381675.2	131486.3	4	20.2	17.2	17.2	14.2
381678.4	131487.9	4	19.1	16.1	16.1	13.1
381682.9	131486.5	4	20.1	17.1	17.1	14.1
381695.9	131498.1	4	22.4	19.4	19.4	16.4
381693.5	131501.4	4	31.6	28.6	28.6	25.6
381694.9	131505.8	4	29.0	26.0	26.0	23.0
381698.8	131507.1	4	24.0	21.0	21.0	18.0
381701.2	131503.8	4	9.7	6.7	6.7	3.7
381699.8	131499.4	4	8.9	5.9	5.9	2.9
381673.4	131508.0	4	25.2	22.2	22.2	19.2
381674.9	131512.6	4	29.5	26.5	26.5	23.5
381678.4	131514.1	4	32.8	29.8	29.8	26.8
381683.9	131512.4	4	32.7	29.7	29.7	26.7
381686.0	131509.1	4	26.5	23.5	23.5	20.5
381684.5	131504.4	4	25.5	22.5	22.5	19.5
381682.0	131502.6	4	18.7	15.7	15.7	12.7
381678.6	131504.9	4	12.9	9.9	9.9	6.9
381674.4	131505.0	4	13.8	10.8	10.8	7.8
381699.1	131516.8	4	34.1	31.1	31.1	28.1
381700.7	131521.8	4	34.4	31.4	31.4	28.4
381703.8	131523.6	4	24.4	21.4	21.4	18.4
381708.2	131522.2	4	21.3	18.3	18.3	15.3
381709.7	131518.9	4	10.5	7.5	7.5	4.5
381708.1	131513.9	4	9.2	6.2	6.2	3.2
381705.0	131512.1	4	19.2	16.2	16.2	13.2
381700.6	131513.5	4	22.1	19.1	19.1	16.1
381711.0	131530.5	4	17.9	14.9	14.9	11.9
381706.4	131531.9	4	21.7	18.7	18.7	15.7
381704.9	131535.2	4	34.1	31.1	31.1	28.1
381706.5	131540.3	4	33.8	30.8	30.8	27.8
381709.7	131542.1	4	18.7	15.7	15.7	12.7
381714.2	131540.7	4	14.9	11.9	11.9	8.9
381715.7	131537.4	4	10.5	7.5	7.5	4.5
381714.1	131532.3	4	10.3	7.3	7.3	4.3
381676.9	131537.1	4	32.8	29.8	29.8	26.8
381671.7	131538.7	4	33.9	30.9	30.9	27.9
381669.7	131541.7	4	30.1	27.1	27.1	24.1
381671.1	131545.9	4	32.0	29.0	29.0	26.0
381674.4	131547.1	4	18.9	15.9	15.9	12.9



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381679.6	131545.4	4	18.7	15.7	15.7	12.7
381681.6	131542.5	4	15.3	12.3	12.3	9.3
381680.2	131538.3	4	18.9	15.9	15.9	12.9
381691.1	131558.5	4	19.1	16.1	16.1	13.1
381687.5	131559.7	4	17.8	14.8	14.8	11.8
381686.3	131562.4	4	15.2	12.2	12.2	9.2
381687.7	131566.7	4	14.0	11.0	11.0	8.0
381690.3	131568.4	4	18.5	15.5	15.5	12.5
381693.9	131567.2	4	23.1	20.1	20.1	17.1
381695.1	131564.4	4	32.4	29.4	29.4	26.4
381693.7	131560.1	4	28.1	25.1	25.1	22.1
381708.9	131467.4	4	18.6	15.6	15.6	12.6
381706.5	131470.9	4	21.9	18.9	18.9	15.9
381708.0	131475.8	4	18.9	15.9	15.9	12.9
381711.7	131477.3	4	24.8	21.8	21.8	18.8
381713.8	131474.1	4	26.0	23.0	23.0	20.0
381714.9	131471.3	4	25.5	22.5	22.5	19.5
381716.0	131468.0	4	31.9	28.9	28.9	25.9
381713.1	131465.3	4	18.2	15.2	15.2	12.2
381712.6	131487.2	4	14.6	11.6	11.6	8.6
381715.2	131488.5	4	13.6	10.6	10.6	7.6
381719.2	131487.2	4	16.9	13.9	13.9	10.9
381720.5	131484.5	4	28.3	25.3	25.3	22.3
381719.2	131480.6	4	32.1	29.1	29.1	26.1
381716.4	131479.2	4	25.1	22.1	22.1	19.1
381712.0	131480.6	4	20.1	17.1	17.1	14.1
381710.5	131483.5	4	15.0	12.0	12.0	9.0
381721.9	131493.0	4	17.4	14.4	14.4	11.4
381717.4	131494.5	4	11.9	8.9	8.9	5.9
381715.9	131497.8	4	12.4	9.4	9.4	6.4
381717.6	131502.9	4	14.4	11.4	11.4	8.4
381720.8	131504.8	4	16.1	13.1	13.1	10.1
381725.3	131503.3	4	20.8	17.8	17.8	14.8
381726.8	131499.9	4	33.7	30.7	30.7	27.7
381725.1	131494.9	4	33.6	30.6	30.6	27.6
381721.3	131514.2	4	11.5	8.5	8.5	5.5
381723.0	131519.5	4	15.8	12.8	12.8	9.8
381726.3	131521.4	4	18.5	15.5	15.5	12.5
381731.0	131519.9	4	25.9	22.9	22.9	19.9
381732.6	131516.5	4	32.9	29.9	29.9	26.9
381731.0	131511.2	4	32.9	29.9	29.9	26.9
381727.7	131509.3	4	22.1	19.1	19.1	16.1
381722.9	131510.8	4	15.8	12.8	12.8	9.8
381731.8	131538.3	4	17.2	14.2	14.2	11.2
381736.4	131536.8	4	24.1	21.1	21.1	18.1
381738.0	131533.3	4	33.1	30.1	30.1	27.1
381736.3	131528.2	4	33.0	30.0	30.0	27.0
381733.1	131526.3	4	26.2	23.2	23.2	20.2
381728.4	131527.8	4	18.6	15.6	15.6	12.6
381726.9	131531.2	4	12.1	9.1	9.1	6.1
381728.5	131536.4	4	10.4	7.4	7.4	4.4
381737.9	131541.0	4	24.2	21.2	21.2	18.2
381733.2	131542.5	4	17.4	14.4	14.4	11.4
381731.5	131545.6	4	9.0	6.0	6.0	3.0
381733.0	131550.2	4	10.0	7.0	7.0	4.0
381736.2	131551.9	4	24.0	21.0	21.0	18.0
381740.9	131550.4	4	29.1	26.1	26.1	23.1
381742.5	131547.2	4	33.9	30.9	30.9	27.9
381741.0	131542.6	4	33.6	30.6	30.6	27.6
381715.5	131550.7	4	14.2	11.2	11.2	8.2
381710.8	131552.2	4	22.7	19.7	19.7	16.7
381709.1	131555.3	4	33.9	30.9	30.9	27.9



X	Y	Height	Calculated Sound Level, dB			
			Base Units		Low Sound Cover	
			Day	Night	Day	Night
381710.3	131560.9	4	32.8	29.8	29.8	26.8
381714.0	131563.3	4	31.6	28.6	28.6	25.6
381719.2	131561.6	4	25.2	22.2	22.2	19.2
381720.9	131557.6	4	14.9	11.9	11.9	8.9
381718.7	131552.3	4	11.3	8.3	8.3	5.3
381746.4	131555.5	4	24.3	21.3	21.3	18.3
381742.7	131553.1	4	31.7	28.7	28.7	25.7
381737.3	131554.9	4	24.7	21.7	21.7	18.7
381735.6	131559.0	4	15.4	12.4	12.4	9.4
381739.4	131561.4	4	24.7	21.7	21.7	18.7
381744.7	131559.7	4	31.3	28.3	28.3	25.3
381691.5	131531.0	4	34.8	31.8	31.8	28.8
381686.6	131532.6	4	34.8	31.8	31.8	28.8
381682.4	131533.9	4	33.6	30.6	30.6	27.6
381680.8	131537.1	4	20.8	17.8	17.8	14.8
381682.4	131541.8	4	15.9	12.9	12.9	9.9
381685.5	131543.5	4	20.7	17.7	17.7	14.7
381690.0	131542.0	4	23.1	20.1	20.1	17.1
381694.6	131540.6	4	25.5	22.5	22.5	19.5
381696.2	131537.4	4	27.6	24.6	24.6	21.6
381694.7	131532.6	4	27.7	24.7	24.7	21.7
381665.4	131592.1	1.5 / 4	14.1	11.1	11.1	8.1
381686.5	131591.5	1.5 / 4	15.9	12.9	12.9	9.9
381698.9	131587.5	1.5 / 4	22.1	19.1	19.1	16.1
381717.5	131585.4	1.5 / 4	23.2	20.2	20.2	17.2
381737.4	131577.7	1.5 / 4	19.4	16.4	16.4	13.4
381753.3	131574.9	1.5 / 4	20.7	17.7	17.7	14.7
381770.4	131571.4	1.5 / 4	18.5	15.5	15.5	12.5
381777.8	131543.5	1.5 / 4	23.3	20.3	20.3	17.3
381755.2	131513.2	1.5 / 4	24.1	21.1	21.1	18.1
381747.6	131487.2	1.5 / 4	23.2	20.2	20.2	17.2