South Dublin County Council
Preliminary Report | 22 June 2015

SDCC obligations under the Dublin Agglomeration Environmental Noise Action Plan 2013 - 2018

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Preliminary Report

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Executive Summary

Arup was commissioned to prepare a preliminary report to provide an update on the South Dublin County Council's position regarding the Dublin Agglomeration Noise Action Plan 2013 – 2018. The objective of the study is to identify from noise maps where priority action is required at a local level and to propose measures to ameliorate the impact.

Noise monitoring was carried out at 22 locations across the County where elevated noise levels are predicted to occur based on noise maps prepared for the jurisdiction. Where possible, monitoring was carried out over a 24 hour period. Measured levels were compared to the undesirable high sound day-time and night-time levels set out in the action plan.

Two exceedances of the undesirable high sound day-time levels of 70dB were recorded, at Westbourne Court, Clondalkin and Broadfield Court, Rathcoole.

Ten exceedances of the undesirable high sound night-time levels of 55dB were recorded.

Mitigation measures were recommended to reduce traffic noise at the locations where exceedances of the thresholds were measured. In addition, measures were advised on a County basis to reduce noise levels generally.

This report also recommends considerations for future planning applications for roads, housing and commercial developments to ensure no negative impact on existing noise levels in the County at sensitive receivers.

1 Introduction

Arup was commissioned to prepare a preliminary report to provide an update on the South Dublin County Council's position regarding the Dublin Agglomeration Noise Action Plan 2013 – 2018.

The Action Plan was published in July 2013 by the four Local Authorities in the Dublin area. The plan was prepared in accordance with the requirements of the Environmental Noise Regulations 2006 (SI 140 of 2006). These regulations give effect to EU Directive 2002/49/EC relating to the assessment and management of environmental noise. The Environmental Noise Directive (END) sets out a process for managing environmental noise in a consistent manner across the EU and the Noise Regulations set out the approach to meeting the requirements of the Directive in Ireland.

The report presents a review of noise levels in South County Dublin relative to the action plan undesirable high sound levels. This is achieved through the review of existing monitoring data and noise maps and monitoring surveys.

Following on from the review of existing noise levels, areas where priority action is required at a local level are determined.

Measures are recommended in areas where elevated noise levels are currently being experienced.

2 Background

2.1 Road traffic noise

Noise from transport is by far the most widespread source of noise exposure, causing the most annoyance, sleep disturbance and public health concerns. According to the World Health Organisation (WHO), road traffic noise is the most significant contributor to environmental noise with an estimate of approximately 210 million people within the European Union (EU) over 44% of the EU population, regularly exposed to 55dB (L_{den}) or more from road noise.

Ohrstrom and Skanberg in their 2004 study entitled '*Sleep disturbances from road traffic and ventilation noise – laboratory and field experiments'* examined the effect of road traffic noise on sleep disturbance and concluded that sleep quality was reduced by 22% in the laboratory and 20.5% at home after exposure to traffic noise when compared to a quiet reference night. Exposure to night-time noise can also produce a number of secondary effects (i.e. those that can be measured the day after the individual is exposed to night-time noise) including psychological and physiological symptoms.

There are a number of mitigation measures that can be implemented post-construction of road schemes to address road noise impacts. These include the following:

- Above 40 km/hr, noise level increases with the speed of the vehicle and a reduction in speed will normally therefore cause a reduction in noise level.
- Environmental barriers can provide reductions of 10 dB for more for well-screened locations relatively close to the source. However, at distances further away from the sources, actual noise reductions may only be 1 or 2 db.
- The use of shrubs or trees as a noise barrier has been shown to be effective only if the foliage is at least 10 m deep, dense and consistent for the full height of the vegetation.

2.2 Environmental Noise Regulations

The Environmental Noise Regulations 2006 give effect in Ireland to the Environmental Noise Directive, 2002/49/EC. Environmental noise is defined in the Regulations as unwanted or harmful outdoor sound created by human activities, including noise emitted by means of transport, road traffic, rail traffic, air traffic, and from sites of industrial activity. The Regulations are not intended to address domestic or neighbourhood noise.

The Regulations set out certain requirements for the assessment and management of environmental noise, including the preparation of strategic noise maps and action plans. However the Regulations do not set binding limit values, nor prescribe the measures to be included in the action plans, leaving those details at the discretion of the relevant authorities.

The Environmental Protection Agency (EPA) is the national authority with overall responsibility for implementation of the Regulations. Implementation at local level is a matter for the local authorities concerned.

A two-stage approach to the assessment and management of environmental noise is provided for in the Regulations. Firstly, noise mapping authorities must undertake noise mapping of infrastructure falling within defined criteria (e.g. large agglomerations, major roads, railways and airports). Secondly, based on the results of the mapping process, the Regulations require the preparation of noise action plans by local authorities for each area concerned. Action plans must be put to public consultation before being finalised. The fundamental objective of action plans is the prevention and reduction of environmental noise. Both the strategic noise maps and associated action plans must be publically accessible.

2.3 Noise mapping

The first set of strategic noise maps were completed in 2007. Based on the results of this mapping, local authorities prepared noise action plans for the period 2008 - 2013. The Regulations require noise mapping bodies to periodically to review and revise noise maps. A new round of noise mapping was conducted during 2012. Following a public consultation process, updated noise action plans for the period 2013 -2018 were completed by local authorities and approved by the EPA.

As part of the Dublin Agglomeration Noise Action Plan 2013 – 2018, about 3,800km of road was inputted into the noise model.

2.4 Dublin Agglomeration Noise Action Plan 2013 – 2018

Under the Environmental Noise Directive (2002/49/EC) all member states are required to develop strategic noise maps describing the noise situation within their territories. Specifically for Dublin, all major roads with more than 3 million vehicle passages per year were modelled in 2012.

The Dublin Agglomeration Noise Action Plan 2013-2018 was published in July 2013 by the four Dublin local authorities, Dublin City Council, Fingal County Council, South Dublin County Council and Dun Laoghaire Rathdown County Council. The following are the proposed thresholds for desirable low and undesirable high sound levels in the Plan:

Desirable low sound levels:

- <50dB(A) L_{night}
- <55dB(A) L_{day}

Undesirable high sound levels:

- >55dB(A) L_{night}
- >70dB(A) L_{day}

The Action Plan will be implemented through a staged process over 5 years. The Plan outlines actions to be achieved during the lifetime of the Plan including the identification from noise maps of areas where priority action is required at a local level.

Also, it is proposed to use the following absolute values as a criterion for defining a quiet area:

- <45dB(A) L_{night}
- <55dB(A) L_{day}
- <55dB(A) L_{den}

In general, the key actions of the Plan are to:

- Reduce road traffic noise through the promotion of sustainable travel modes and other prevention measures;
- Ensure that potential noise increases are mitigated during the planning process for new development;
- Protecting quiet areas;
- Investigate noise complaints and introduce controls where possible.

The Action Plan will be implemented through a staged process over 5 years, with the following actions envisaged:

2014:

- To continue the implementation of the actions of the Plan.

- To make available to the public data from the ambient sound monitoring networks.
- To identify from noise maps where priority action is required at a local level.

2015/2016

- To identify quiet areas and preparation of submissions for approval by the Minister.
- To commence implementation of the actions outlined in the Plan on a prioritised basis.
- To review planning guidance regarding noise assessment and control and develop a programme of action to meet any shortfalls.

2017

- To commence capture of data for the new noise plans.
- To produce new noise maps for the Dublin Agglomeration in accordance with EPA guidance.

2018

- To review the impact of the Plan and amend where appropriate.

The main aim of this study is to identify from noise maps and from monitoring where priority action is required at a local level.

The Noise Action Plan defines the following locations as sensitive:

- Hospitals, including nursing and convalescence homes;
- Educational institutions;
- Childcare\crèche facilities;
- Places of worship.

2.5 South Dublin County Development Plan 2010 - 2016

Section 2.2.26 of the South Dublin County Development Plan 2010 – 2016, Environmental Amenity, states that '*in the design of boundary treatments the Council will have regard to relevant measures to reduce noise levels proposed in the Dublin Agglomeration Action Plan Relating to the Assessment & Management of Environmental Noise, 2008–2013, or as may be amended'*.

Policy T22: Environmental Amenity, states that '*it is the policy of the Council to provide suitable roadside boundary treatments and high quality planting and landscaping as part of its road improvement schemes, in the interests of visual amenity and to ameliorate traffic noise impacts in accordance with the EU Directive on Assessment and Management of Environmental Noise'*.

Policy T23: Traffic Noise, confirms that it is the policy of this Council to '*carry out a review of the noise measuring on the N4 and Outer Ring Road and to implement any measures required as a result of this review, subject to a suitable source of funding being identified'*.

Section 2.4.27, Noise of the Plan indicates that the Planning Authority will use the Development Management process for larger developments to:

- *'Require developers to produce a sound impact assessment, and mitigation plan where necessary, for any new development that the Planning Authority considers will impact negatively on pre-existing environmental sound levels.*
- *Ensure that future developments are designed and constructed in such a way as to minimise noise disturbances, e.g. the position, direction and height of new buildings, along with their function, their distance from roads, and the position of noise barriers and buffer zones with low sensitivity to noise.*
- *Ensure that new housing areas, and in particular brownfield developments, will be planned from the outset in a way that ensures that at least the central area is quiet. This could mean designating the centre of new areas as pedestrian and cycling zones with future developments to provide road design layouts to achieve low speed areas where appropriate.*
- *Ensure that new developments incorporate 'Shared Spaces'/'Home zones'/or 'Streets for People', which recognise that residential streets have multifunction uses for pedestrians, cyclists and vehicles, in that priority order. The noise maps will be used to identify and classify the priority areas and streets.*
- *Reduce/avoid traffic by decentralising amenities into local areas.*
- *Seek the interposing of less sensitive uses between noise source and sensitive uses.*
- *Where noise barriers are provided at the boundaries of large developments, access routes must be provided to allow for the ongoing maintenance of the barriers'.*

2.6 SDCC Noise Monitoring

South Dublin County Council carries out continuous noise monitoring at the following locations:

- County Hall, Tallaght
- Tallaght Leisure Centre
- Deansrath Depot
- Educate Together National School, Lucan East
- St. Columcilles School
- Saggart Parks Depot
- Cheeverstown Centre

Noise graphs are produced for these locations in Figures 1 to 7 for the period 16 to 23 November, 2014. The L_{day} and L_{night} noise levels are provided in Table 1 below for that period.

Table 1: L_{day} and L_{night} recorded levels

Monitoring location	L_{day} (dB)	L_{night} (dB)
County Hall, Tallaght	58.5	48.4
Tallaght Leisure Centre	65.3	58.1
Deansrath Depot	62.4	53.7
Educate Together National School, Lucan East	62.4	54.7
St. Columcilles School	58.8	52.3
Saggart Parks Depot	66.8	57.6
Cheeverstown Centre	54.8	49.2
Undesirable high sound levels	*70*	*55*

The results show that at all monitoring locations the L_{day} threshold from the Action Plan is complied with. The L_{night} undesirable high sound level of 55dB is exceeded at two locations; Tallaght Leisure Centre and Saggart Parks Depot. However, these two locations are not considered sensitive to noise.

In order to validate the noise levels provided in the Dublin Agglomeration Noise Maps, the modelled levels at the locations listed in Table 1 above were derived from the maps and are presented in Table 2. Plots of the measured noise levels are presented for each location in Figures 1 to 7.

Table 2: Derived noise levels (L_{day} and L_{night}) from the noise maps

Monitoring location	L_{day} (dB)	L_{night} (dB)
County Hall, Tallaght	61.3	53.3
Tallaght Leisure Centre	65.2	57.48
Deansrath Depot	62.6	54.7
Educate Together National School, Lucan East	65.4	62.7
St. Columcilles School	60.2	58.9
Saggart Parks Depot	54.8	52.3
Cheeverstown Centre	52.7	45.9
Undesirable high sound levels	*70*	*55*

The recorded levels broadly correlate with the noise map predicted values. However, large variations occur at County Hall, Tallaght, Educate Together National School, Lucan East and Saggart Parks Depot. In general, the mapped values are higher than the measured noise levels.

The discrepancy may be due to the actual location of the monitoring relative to the point chosen from the noise maps.

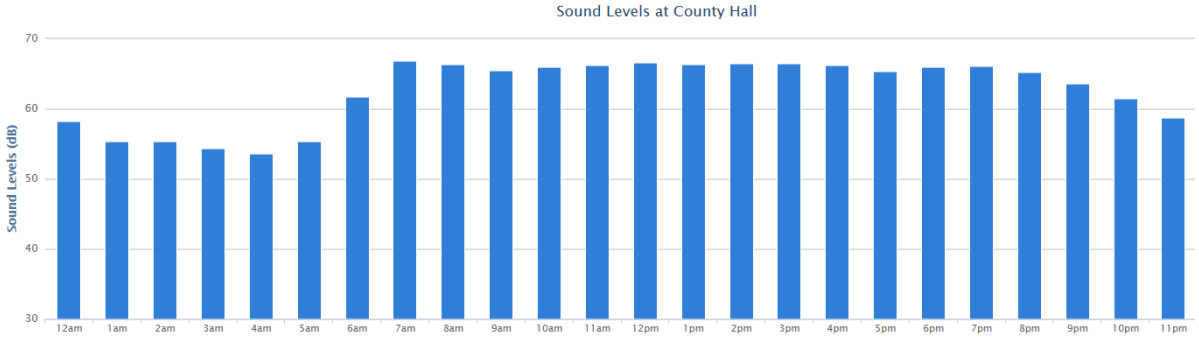

Figure 1: Noise levels recorded at County Hall, Tallaght

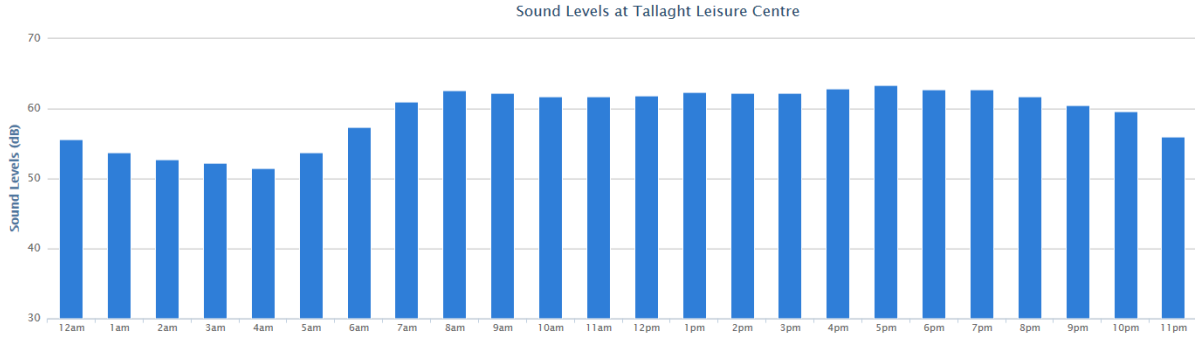

Figure 2: Noise levels recorded at Tallaght Leisure Centre

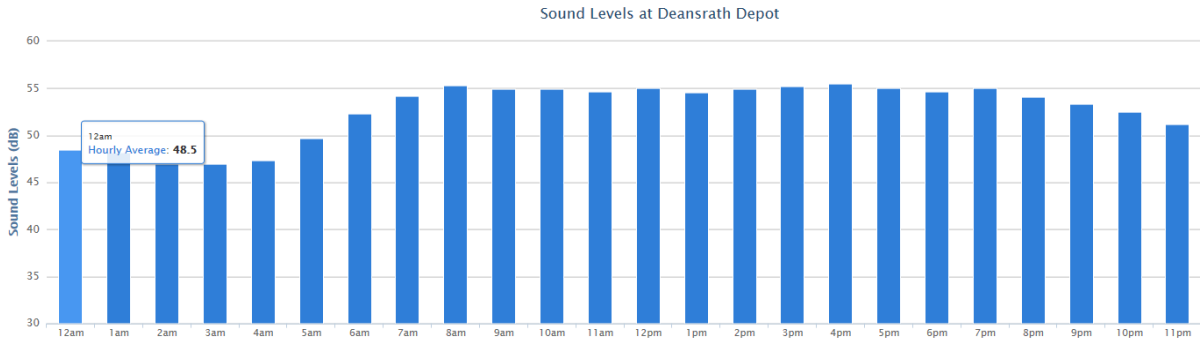

Figure 3: Noise levels at Deansrath Depot

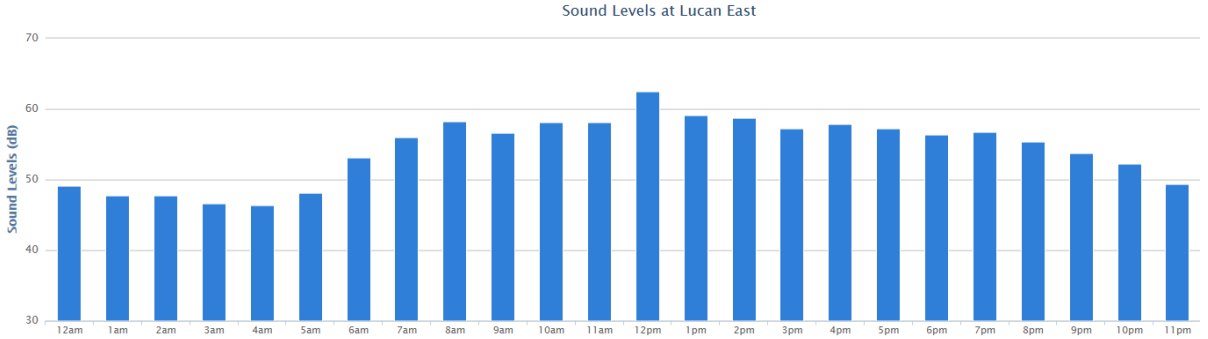

Figure 4: Noise levels at Lucan East

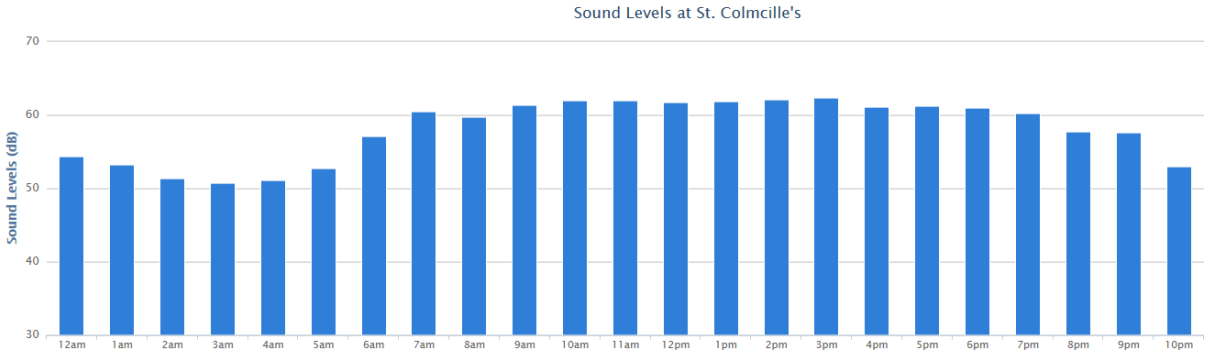

Figure 5: Noise levels at St. Columcilles School

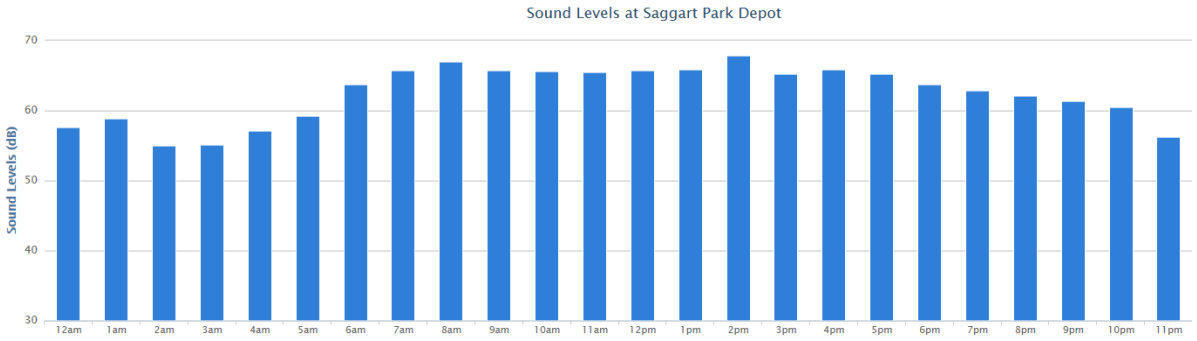

Figure 7: Noise levels at Saggart Park Depot

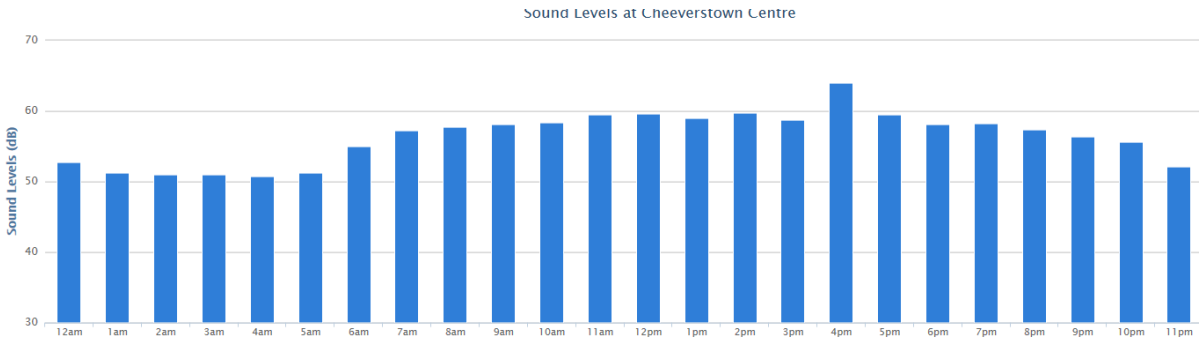

Figure 7: Noise levels at Cheeverstown Centre

2.7 NRA Noise Guidelines

Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes was published by the National Roads Authority (NRA) in March 2014. The guidance provides an approach for noise assessments at Constraints, Route Corridor Selection and Environmental Impact Assessment stages of new national road schemes.

The Guidance sets out a "design goal" for noise to ensure that the current roads programme proceeds on a path of sustainable development.

The current design goal is that all national road schemes should be designed, where feasible, to meet a day-evening-night sound level of 60 dB L_{den} (free-field residential façade criterion), to be met both in the year of opening and in the design year.

The NRA accepts that it may not always be sustainable to provide adequate mitigation in order to achieve the design goal. Therefore, a structured approach should be taken in order to ameliorate, as far as is practicable within the particular circumstances of a given scheme, road traffic noise through the consideration of measures such as horizontal and vertical alignment, barriers, low noise road surfaces, etc.

3 Methodology

This study has been completed through the review of noise maps and through the completion of a noise survey.

3.1 Desktop study

This report aims to identify from published noise maps where priority action is required at a local level. These areas are determined through a review of the Dublin Agglomeration Noise Maps to identify sensitive receptors located in areas which are predicted to exceed the undesirable high levels outlined in the Action Plan. This information was extracted from the noise maps provided by South Dublin County Council.

Areas which experience undesirable high noise levels are depicted in Figure 8. The day-time undesirable high sound level (70dB, L_{day}) is exceeded in the areas shown in red. The night-time undesirable high sound level (55dB, L_{night}) is exceeded in all areas shown in green and red. The critical receptor locations are determined based on the following:

- numbers of sensitive receptors located in the area;
- day-time undesirable high sound levels are exceeded;
- night-time undesirable high sound levels are exceeded;
- areas where complaints relating to traffic road noise have been received by SDCC;
- good geographical spread of receptors in the County.

The numbering relates to locations where noise monitoring was completed to determine L_{day} and L_{night} values.

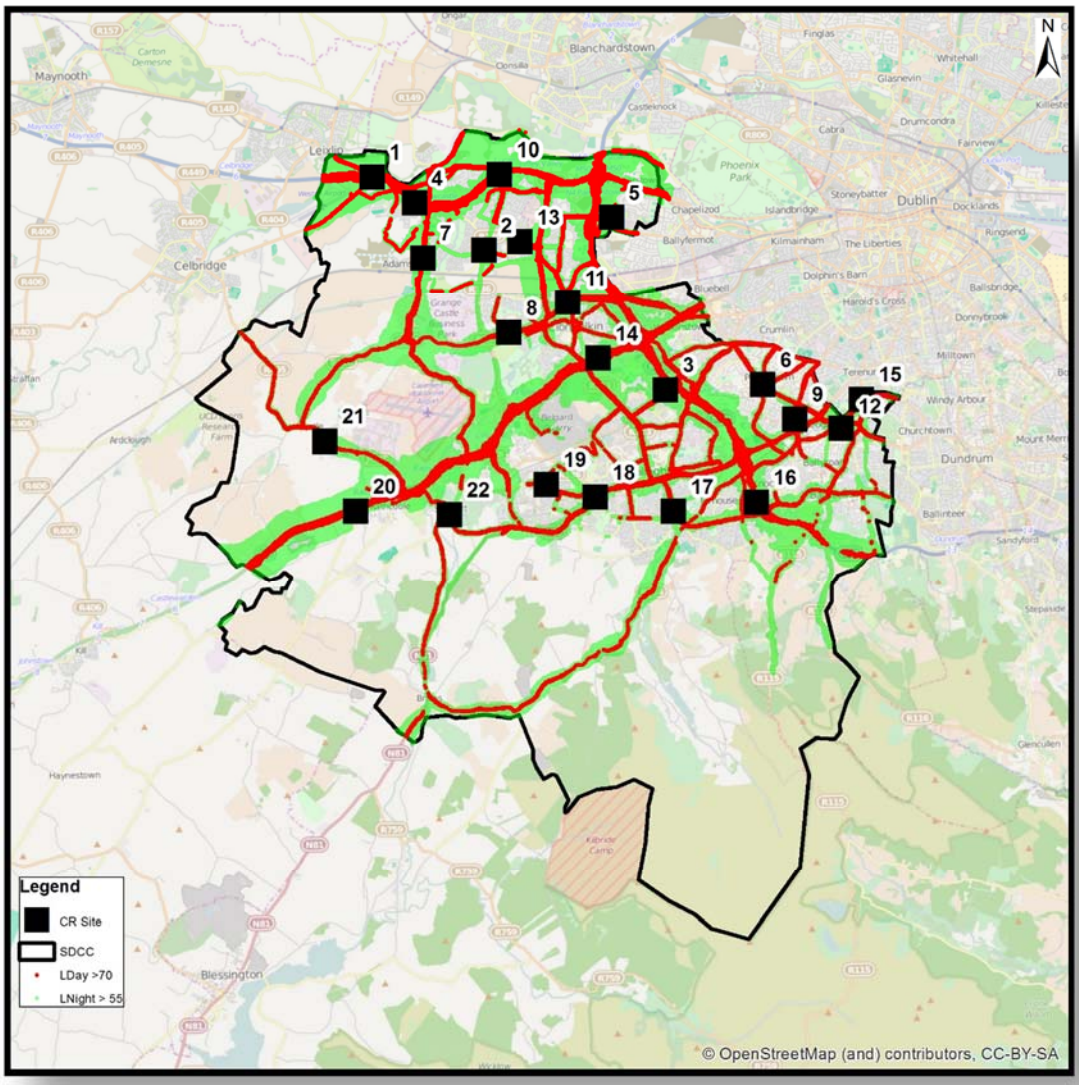

Figure 8: Critical receptor locations

3.2 Noise survey

3.2.1 Introduction

Once the critical areas were identified, appropriate monitoring locations were identified through an examination of the area on Google Earth. Appropriate monitoring locations were identified based on the following criteria:

- Maximum exposure to noise generating roads; and
- Secure location for monitoring equipment.

Contact was made with individual landowners by issuing a letter to the resident of each proposed monitoring location. The text of the letter is provided in Appendix A.

Responses were received from the majority of residents. Where no response was received an alternative location was identified and a letter issued to the resident.

Where no appropriate location could be determined or no response was received from the selected residents, attended monitoring was carried out. This is described in more detail below.

3.2.2 Instrumentation

A Brüel & Kjær 2250 Light Class 1 Sound Level Meter was utilised to carry out the noise assessment. This meter complies with the International Electrotechnical Commission (IEC) Specification for Sound Level Meters. The noise meter was calibrated before and after each measurement using a Brüel & Kjær 4231 Acoustic Calibrator. A windshield was used to provide the microphone with effective wind protection.

Unattended measurements were recorded at a height of 4 m to represent the upper floors of houses. This was achieved using a 4 m tripod. This approach is advised by the NRA guidelines. Attended measurements were taken at a height of 1.5 m.

3.2.3 Meteorological Conditions

The weather conditions during the surveying period were generally dry with light breezes. A detailed description of the weather conditions for each of the 24-hour monitoring periods is outlined in Table 3.

Table 3: Meteorological conditions for each survey period

Survey Number	Location	Survey Date(s)	Date	Rainfall (mm)	Max Tem (°C)	Min Temp (°C)	Mean Wind Speed (m/s)
Unattended monitoring locations							
CR01	1 Weston Lawn, Lucan	12/13 March	12-Mar	9.9	12.1	2.7	7.1
			13-Mar	0	8.9	-2.2	2.6
CR12	1 Butterfield Park, Rathfarnham	18/19 March	18-Mar	0	10.3	-5.1	1.3
CR15	2 Rathfarnham Park, Rathfarnham		19-Mar	0	11.6	-2.8	1.2
CR02	14 Moy Glas Dene, Lucan	23/24 March	23-Mar	0	10.6	1.8	4.9
CR07	19 Finnsgreen, Lucan		24-Mar	0.1	8.5	-0.5	5.2
CR11	10 Michael Collins Park, Clondalkin	24/25 March	24-Mar	0.1	8.5	-0.5	5.2
CR08	9 Westbourne Court, Clondalkin		25-Mar	7.2	9.8	-2	4.9
CR13	29 Earlsfort Vale, Lucan	25/26 March	25-Mar	7.2	9.8	-2	4.9

Survey Number	Location	Survey Date(s)	Date	Rainfall (mm)	Max Tem (°C)	Min Temp (°C)	Mean Wind Speed (m/s)
CR04	22 Hillcrest Drive, Lucan		26-Mar	0.6	10.4	-2.5	7.6
CR03	49 Forest Drive, Kingswood, Tallaght	13/14 April	13-Apr	0	15.6	2.3	6.6
CR18	2 Raheen Drive, Tallaght		14-Apr	0	17.1	6.8	6.4
CR09	1 Cypress Lawn, Templeogue	14/15 April	14-Apr	0	17.1	6.8	6.4
CR16	59 Castlefield Park, Knocklyon		15-Apr	0.4	12.2	3.5	3.3
CR06	15 Greentrees Road, Walkinstown	16/17 April	16-Apr	0	11.6	3.7	4.2
CR10	21 Hermitage Gardens, Lucan		17-Apr	0	13.1	2.6	3.1
CR20	2 Broadfield Court, Rathcoole	17/18 April	17-Apr	0	13.1	2.6	3.1
CR21	1 Newcastle Manor Rise, Newcastle		18-Apr	0	10.5	4.9	4.8
CR05	1 Palmers Crescent, Palmerstown	20/21 April	20-Apr	0	12.9	5.1	3.2
CR14	39 Newlands road, Clondalkin		21-Apr	0	14.8	1	3.1
attended monitoring locations							
CR17	Parkwood Road, Old Bawn, Tallaght	20th April		none	13	13	Very light breeze
CR19	Swiftbrook Close, Tallaght						
CR22	Slade Castle, Saggart	6th May		light rain	10	10	Light to moderated breeze

3.2.4 Measurement Parameters

The following parameters were recorded and reported:

- L_{Aeq} – this is the continuous steady sound level during the sample period and effectively represents an average value.
- L_{A10} – this is the sound level that is exceeded for 10% of the sample period. It is typically used as a descriptor for traffic noise.
- L_{A90} – this is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.

The "A" suffix denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing.

3.2.5 Survey Periods

3.2.5.1 Unattended Noise Measurements

Unattended measurements were conducted at a total of 19 locations between the 12th March and 21st April 2015. The majority of surveys were carried out on a week-day and during time periods which were selected in order to provide a typical snapshot of the existing baseline noise climate in the area. Survey numbers 20 and 21 were carried out between Friday 17th and Saturday 18th of April. No monitoring took place during the weeks before and after Easter as lower traffic volumes are likely to occur during these times due to school holidays.

Unattended noise measurements were performed over a 24-hour period at 19 locations. Sample periods were 1 hour long and the results were saved to the instrument for later analysis. $L_{day\ and}$ L_{night} values are derived directly from the measured L_{Aeq} data. Day and night are defined in S.I. No. 140 of 2006 Environmental Noise Regulations 2006 as follows:

- Day-time: the 12 hour period between 07.00 and 19.00hrs
- Night-time: the 8 hour period between 23.00 and 07:00hrs

3.2.5.2 Attended Noise Measurements

Attended measurements were conducted at a total of 3 locations between 10:00 and 17:00hrs on Monday 20th April and Wednesday 6th May 2015. All surveys were carried out on a week-day and during time periods which were selected in order to provide a typical snapshot of the existing baseline noise climate in the area. No monitoring took place during the weeks before and after Easter as lower traffic volumes are likely to occur during these times due to school holidays.

Attended monitoring was conducted on a cyclical basis over three consecutive hours with sample periods of 15 minutes. The results were initially noted onto a Survey Record Sheet immediately following each sample, and were also saved to the instrument memory for later analysis where appropriate. Survey personnel noted all primary noise sources contributing to noise.

The survey work was conducted in accordance with the shortened measurement procedure as laid down in the NRA guidance document.

The shortened measurement procedure involves a method whereby $L_{A10\ (18hour)}$ values are obtained through a combination of measurement and calculation as follows:

- The duration of the sample period during each hour is selected to encompass sufficient traffic flows to ensure reliable results.
- The $L_{A10\ (18hour)}$ for the location is derived by subtracting 1dB from the arithmetic average of the three hourly sample values, i.e.:

$$L_{A10(18hour)} = ((\Sigma L_{A10(1hour)}) / 3) - 1 \text{ dB}. \quad \text{(Eq.2)}$$

- The L_{den} for the location is then derived from the calculated $L_{A10(18hour)}$ value using the following equation:

$$L_{den} = 0.86\ L_{A10(18hour)} + 9.86 \text{ dB}. \quad \text{(Eq.3)}$$

4 Determination of Critical Areas

4.1 Introduction

A description of the critical receptors identified is outlined in this section and shown in the accompanying figures. The proposed locations of the receptors are described and the roads contributing to the noise level are highlighted. In addition receptors at which the undesirable high sound levels are exceeded and at which monitoring was completed are shown.

As outlined previously, the day-time undesirable high sound level (70dB, L_{day}) is exceeded in the areas shown in red. The night-time undesirable high sound level (55dB, L_{night}) is exceeded in all areas shown in green and red.

4.2 Critical Receptor 1 (CR01)

Address: 1 Weston Lawn, Lucan.

Description: This receptor is located on the Weston housing estate, south of the M4 and east of the M4 Junction 5 (M4/R403). Housing is located approximately 20 m from the M4, refer to Figure 9.

Figure 9: Location of critical receptor 1

4.3 Critical Receptor 2 (CR02)

Address: 14 Moy Glas Dene, Lucan.

Description: This receptor is located on the Moy Glas housing estate, on the west side of the R136 (Ballyowen Road), approximately 2 km south of Junction 3 (N4/R136), refer to Figure 10. The estate is adjacent to the R136/Griffeen Avenue junction. Housing is located in the Moy Glas estate and the Foxborough estate on the eastern side of the R136.

Figure 10: Location of critical receptor 2

4.4 Critical Receptor 3 (CR03)

Address: 49 Forest Drive, Kingswood

Description: This receptor is located on the Forest Estate on the western side of the M50 Junction 10 (M50/R838) and also west of the Red Luas line, refer to Figure 11. Houses are located approximately 80 m from the slip road joining the M50 and 50 m from the Red Luas line.

Figure 11: Location of critical receptor 3

4.5 Critical Receptor 4 (CR04)

Address: 22 Hillcrest Drive, Lucan.

Description: This receptor is located on the Hillcrest housing estate, south of the N4 and approximately 150 m west of N4 junction 4 (N4/R120), refer to Figure 12. Houses are located approximately 30 m from the N4.

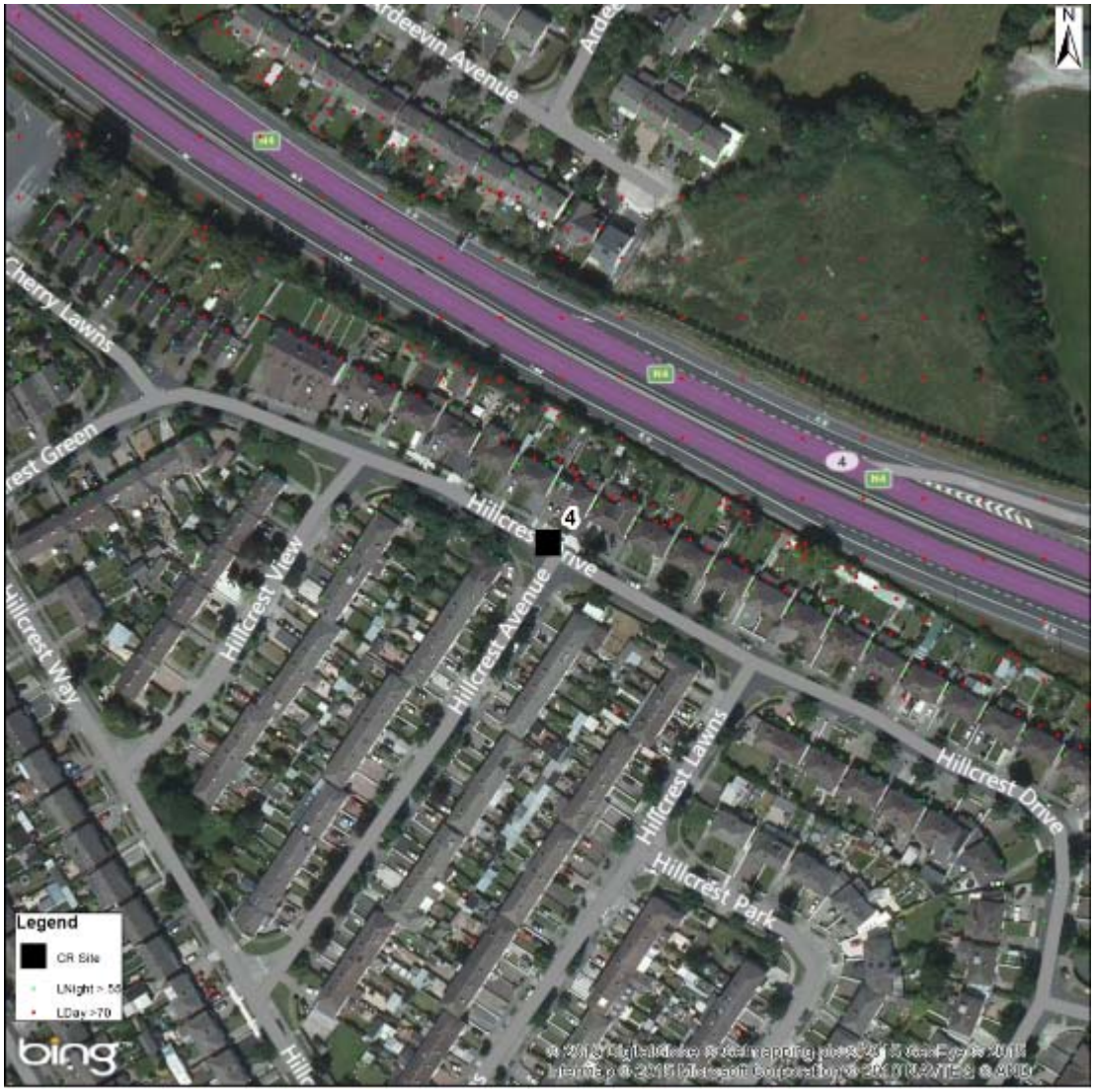

Figure 12: Location of critical receptor 4

4.6 Critical Receptor 5 (CR05)

Address: 1 Palmers Crescent, Palmerstown.

Description: This receptor is located on the Palmers estate, west of Kennelsfort Road Upper, which links the Lucan Road to the Ballyfermot Road, refer to Figure 13. Houses in Palmers Crescent are located at a distance of approximately 10 m from the road.

Figure 13: Location of critical receptor 5

4.7 Critical Receptor 6 (CR06)

Address: 15 Greentrees Road, Walkinstown

Description: This receptor is located on Greentrees Road (R112), refer to Figure 14. The Greentrees Road links the Walkinstown roundabout to the Whitehall Road/Wellington Road roundabout. Houses are located on both the eastern and western sides of the Greentrees road. This receptor is located at a distance of approximately 10 m from the Greentrees Road.

Figure 14: Location of critical receptor 6

4.8 Critical Receptor 7 (CR07)

Address: 19 Finnsgreen, Lucan

Description: This receptor is located in the Finnsgreen estate, east of the Newcastle Road (R120), which links Lucan to Adamstown, refer to Figure 15. The critical receptor is located approximately 10 m from the R120. Apartments are also located immediately to the west of the R120 in the Castlegate Crescent, approximately 15 m from the R120.

Figure 15: Location of critical receptor 7

4.9 Critical Receptor 8 (CR08)

Address: 9 Westbourne Court, Clondalkin.

Description: This receptor is located on the Westbourne Court estate, north of the New Nangor Road, which connects the R136 to the R113, refer to Figure 16. The receptor is located approximately 10 m from the New Nangor Road.

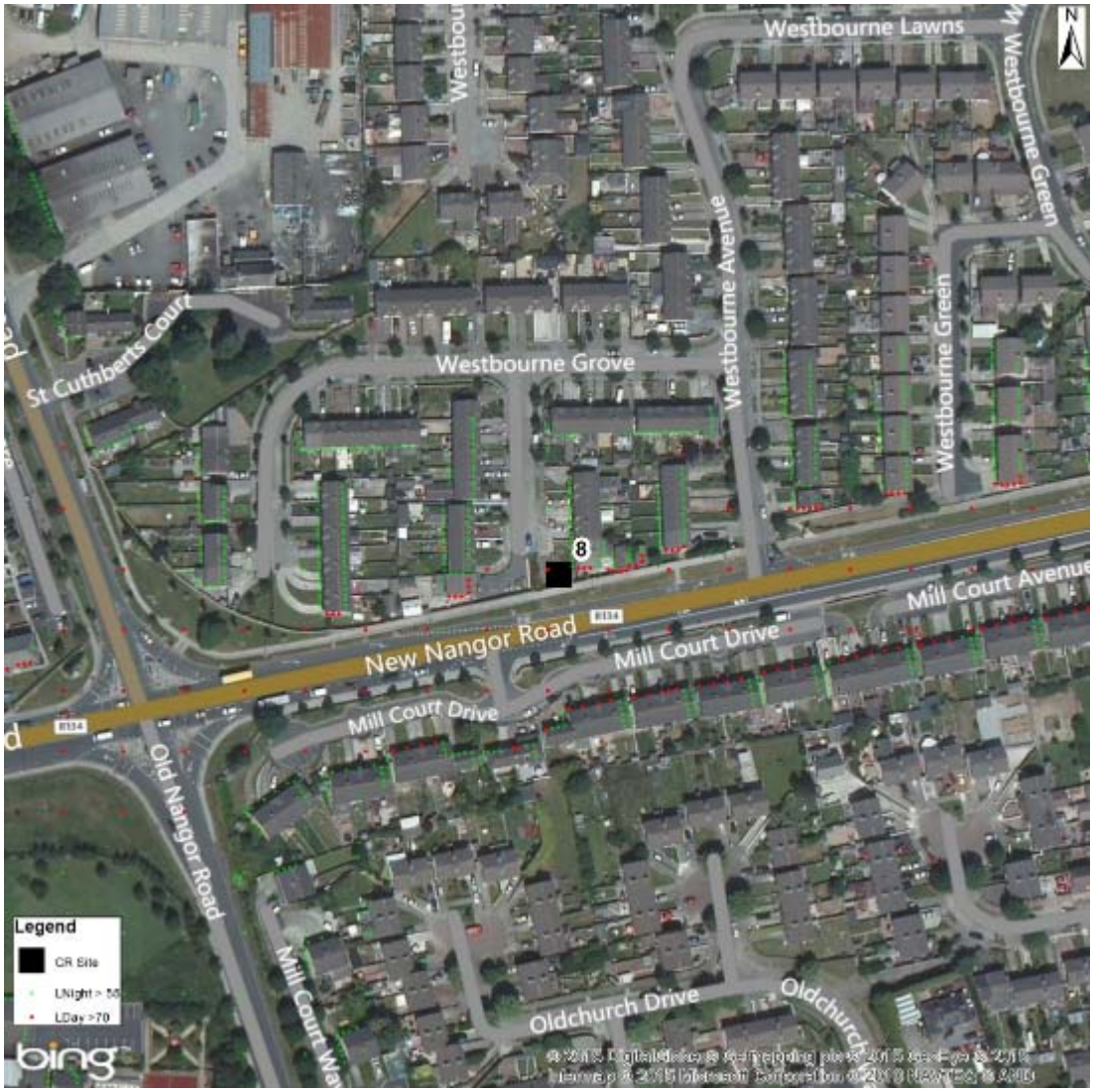

Figure 16: Location of critical receptor 8

4.10 Critical Receptor 9 (CR09)

Address: 1 Cypress Lawn, Templeogue.

Description: This receptor is located in the Cypress estate off the Cypress Grove Road (R817), which links the R112 to the R137, refer to Figure 17. Houses are located on both the eastern and western sides of the Cypress Grove Road, at a distance of approximately 20 m from the road.

Figure 17: Location of critical receptor 9

4.11 Critical Receptor 10 (CR10)

Address: 21 Hermitage Gardens, Lucan.

Description: This receptor is located on the Hermitage estate, on the east side of the Ballyowen Road (R136) and immediately east of the N4/R136 interchange, refer to Figure 18 Houses are located approximately 35 m from the Ballyowen slip road, which joins the N4 and 40 m from the R136.

Figure 18: Location of critical receptor 10

4.12 Critical Receptor 11 (CR11)

Address: 10 Michael Collins Park, Clondalkin.

Description: This receptor is located on the Michael Collins Park estate, approximately 15 m north of the New Nangor Road (R113), refer to Figure 19.

Figure 19: Location of critical receptor 11

4.13 Critical Receptor 12 (CR12)

Address: 1 Butterfield Park, Rathfarnham

Description: This receptor is located on Butterfield Park estate on the southern side of Butterfield Avenue (R114), refer to Figure 20. The receptor is located approximately 6 m from Butterfield Avenue.

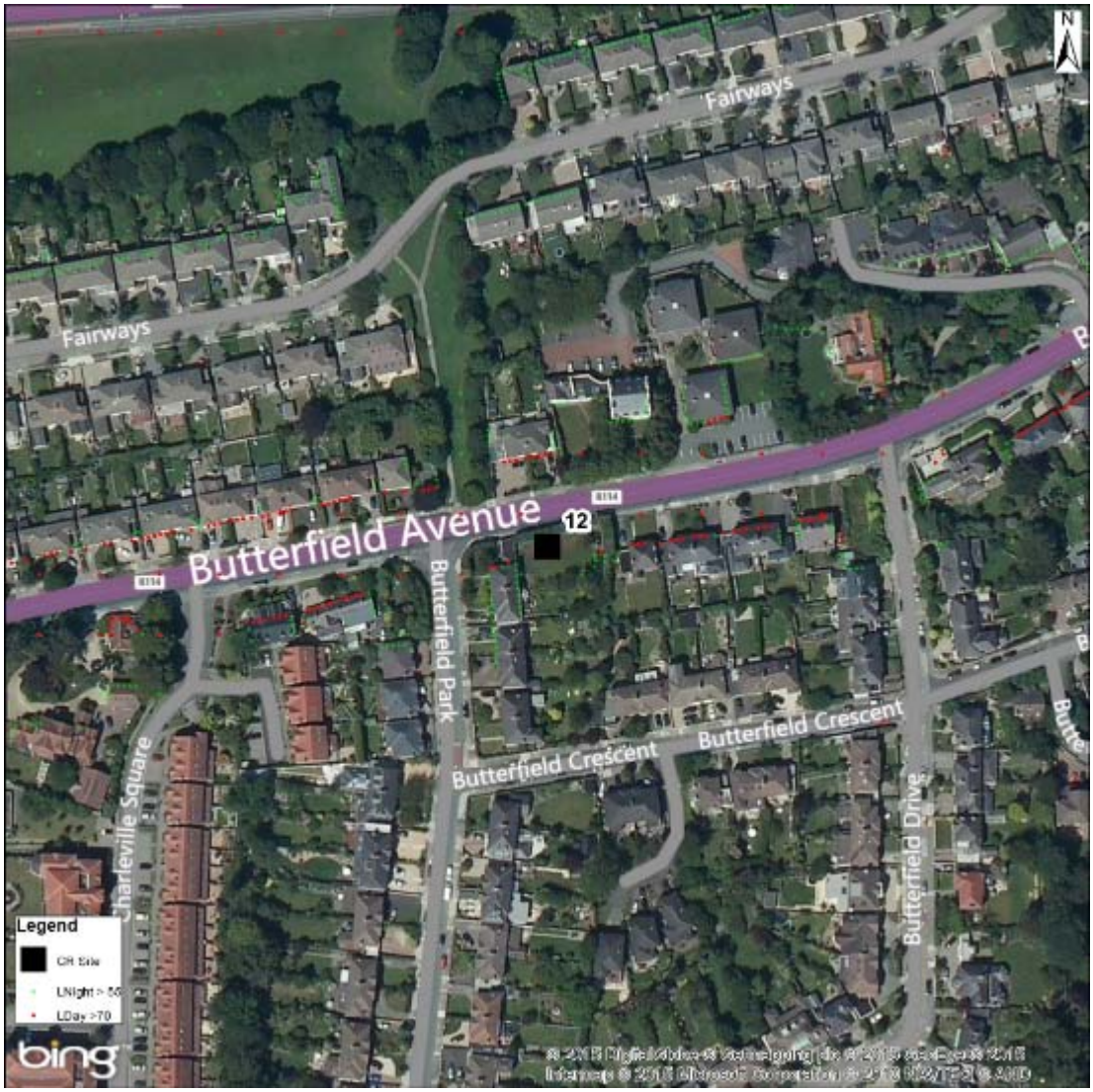

Figure 20: Location of critical receptor 12

4.14 Critical Receptor 13 (CR13)

Address: 29 Earlsfort Vale, Lucan.

Description: This receptor is located on the Earlsfort Vale estate, north of the Balgaddy Road, which links the R136 and R113 roads, refer to Figure 21. The receptor is located approximately 15 m from the Balgaddy Road.

Figure 21: Location of critical receptor 13

4.15 Critical Receptor 14 (CR14)

Address: 39 Newlands Road, Clondalkin

Description: This receptor is located on the northern side of the Naas Road (N7), approximately 300 m east of Newlands Cross Junction, refer to Figure 22. A number of houses are located within 30 m of the Newlands Road.

Figure 22: Location of critical receptor 14

4.16 Critical Receptor 15 (CR15)

Address: 2 Rathfarnham Park, Rathfarnham

Description: This site is located on the Rathfarnham Park estate off Rathfarnham Road (R114), east of Bushy Park and south of the River Dodder, refer to Figure 23. Housing is located on both the eastern and western sides of the road, at a distance of approximately 14 m from the R114.

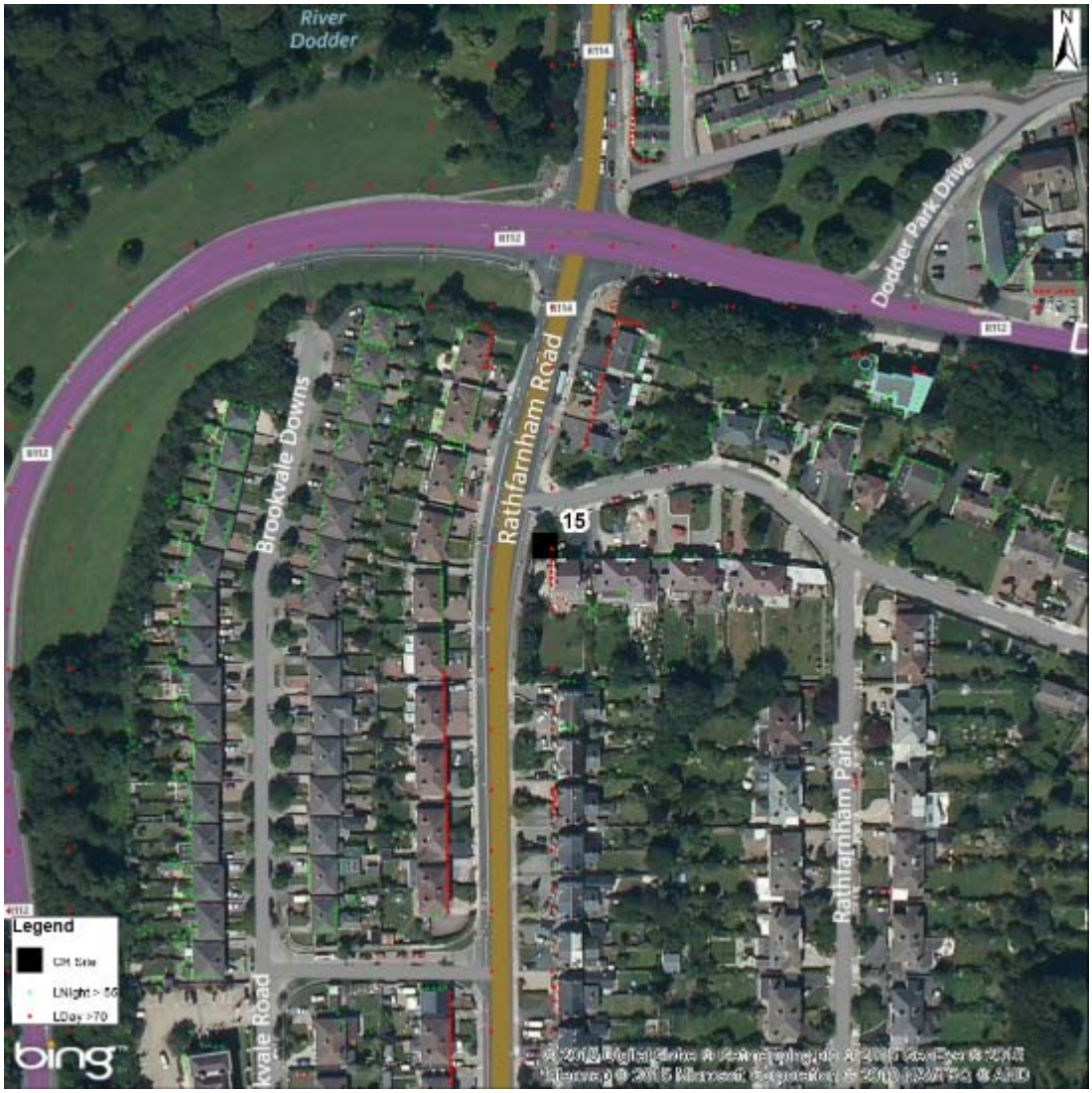

Figure 23: Location of critical receptor 15

4.17 Critical Receptor 16 (CR16)

Address: 59 Castlefield Park, Knocklyon

Description: This receptor is located on the Castelfield estate, on the western side of the M50, approximately 250 m north of the M50/R133 junction, refer to Figure 24. Housing at this location is approximately 40 m west of the M50.

Figure 24: Location of critical receptor 16

4.18 Critical Receptor 17 (CR17)

Address: Parkwood, Old Bawn, Tallaght

Description: Monitoring was carried out on the eastern side of the Old Bawn Road, approximately 15 m from the road, refer to Figure 25. Housing in the vicinity includes the Parkwood Avenue estate to the west of the Old Bawn Road and Seskin View estate to the north.

Figure 25: Location of critical receptor 17

4.19 Critical Receptor 18 (CR18)

Address: 2 Raheen Drive, Tallaght

Description: This receptor is located in the Raheen estate, north of the N81/R136 junction, refer to Figure 26. Housing is located approximately 35 m from the N81.

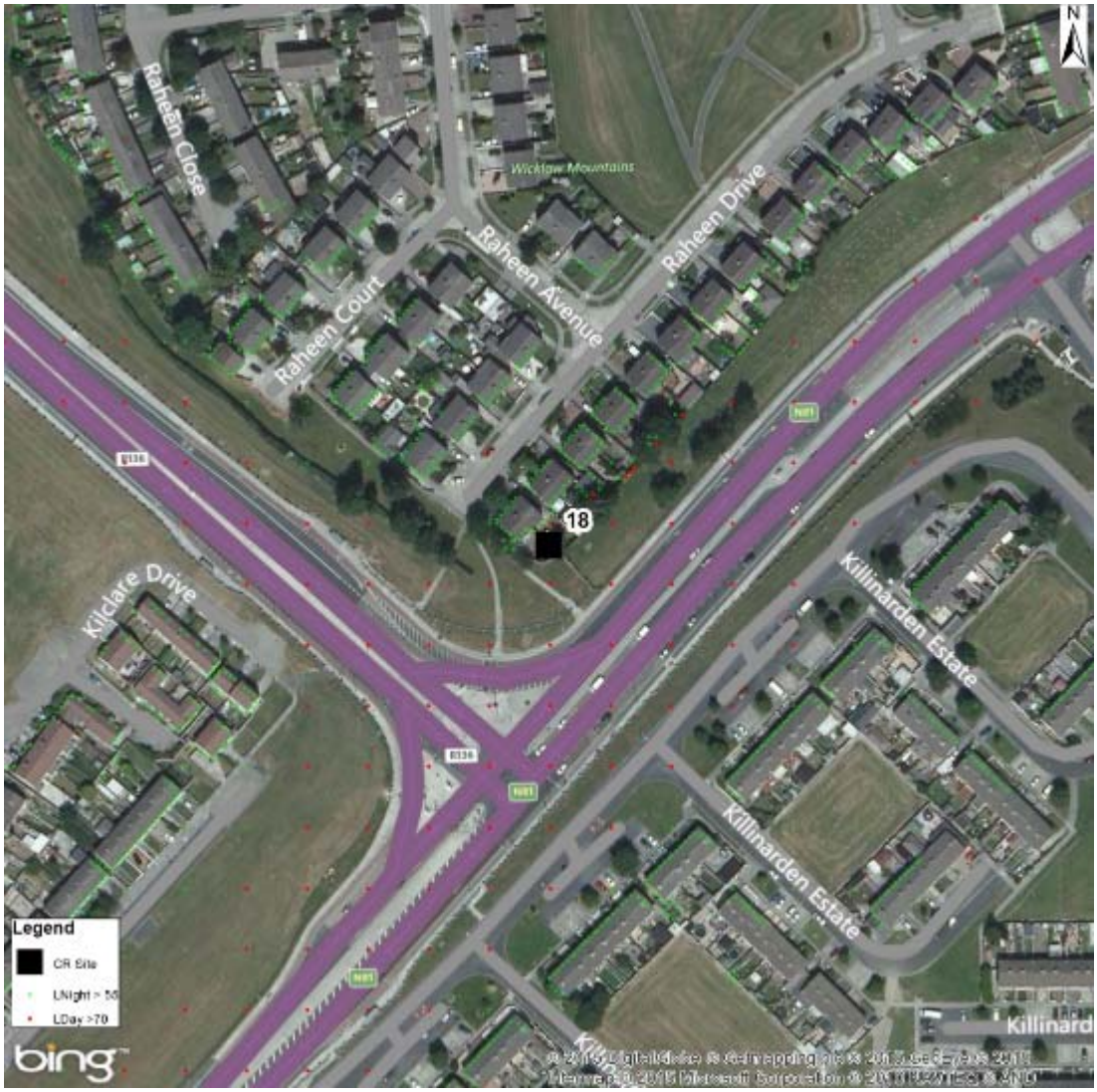

Figure 26: Location of critical receptor 18

4.20 Critical Receptor 19 (CR19)

Address: Swiftbrook Close, Tallaght

Description: This monitoring location is on the Swiftbrook estate north of the Fortunestown Way Road in Tallaght, refer to Figure 27. The survey was completed in open space in front of the housing, approximately 15 m from the road.

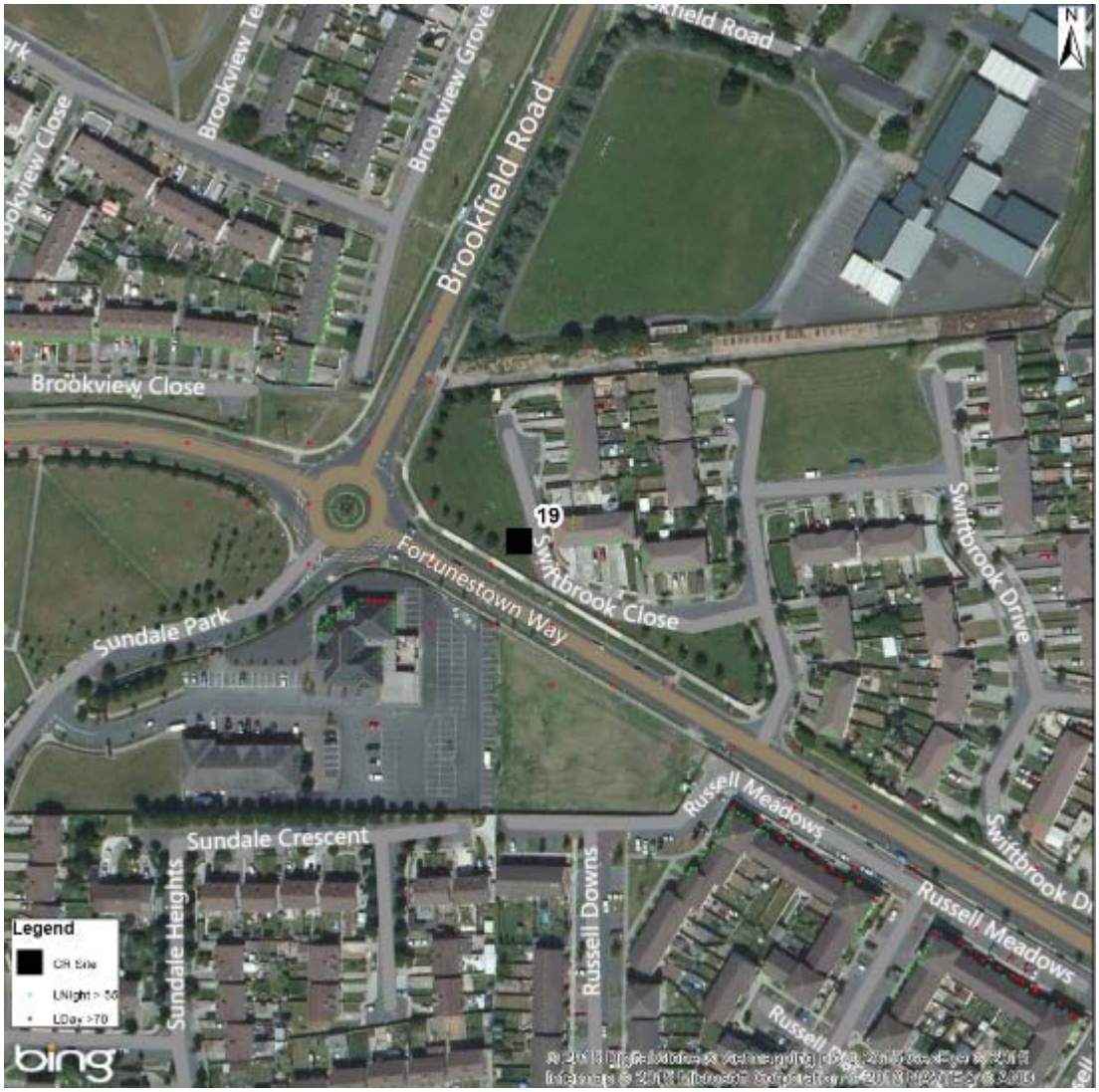

Figure 27: Location of critical receptor 19

4.21 Critical Receptor 20 (CR20)

Address: 2 Broadfield Court, Rathcoole

Description: This receptor is located in the Broadfield Court estate, south of the Naas Road (N7) in Rathcoole, refer to Figure 28 Houses are located approximately 35 m south of the Naas Road.

Figure 28: Location of critical receptor 20

4.22 Critical Receptor 21 (CR21)

Address: 1 Newcastle Manor, Newcastle

Description: This receptor is located in the Newcastle Manor estate, east of the Main Street (R120) in Newcastle, refer to Figure 29. Housing is located immediately adjacent to the main street. The receptor is located approximately 5 m from the R120.

Figure 29: Location of critical receptor 21

4.23 Critical Receptor 22 (CR22)

Address: Slade Castle, Saggart

Description: This monitoring location is in the Slade Castle estate, west of the Park Mhuire road in Saggart, refer to Figure 30. Houses and apartments face on to the Park Mhuire Road, which leads to Saggart village.

Figure 30: Location of critical receptor 22

5 Survey results

5.1 Monitoring locations

5.1.1 Introduction

A list of 22 priority areas identified based on exceedances of the undesirable high sound levels and the sensitivity of the properties were determined as described above. These are deemed to be the worst-case locations at which the night-time and day-time undesirable levels are likely to be exceeded and also where a large number of sensitive receptors are present.

Noise measurements (attended and unattended) were conducted at a total of 22 locations. A description of each monitoring location and details of noise sources present in proximity to the noise meter are presented below.

5.1.2 CR01: 1 Weston Lawn, Lucan

At CR01, the noise meter was positioned on the northern side of the dwelling in the rear garden, refer to Figure 31.

Figure 31: Photo of noise meter at CR01 (facing east)

The dominant noise source at this location is from the adjacent M4 motorway and local slip road. The other noise source audible were overhead airplanes accessing the Weston Airport.

5.1.3 CR02: 14 Moy Glas Dene, Lucan

At CR02, the noise meter was positioned on a lamppost to the east of the dwelling. This location was chosen to best capture noise generated from both the Balgaddy Road and the R136, refer to Figure 32.

Figure 32: Photo of noise meter at CR02 (facing west)

The dominant noise source at this location is from the adjacent Balgaddy Road and R136 Ballyowen Road. Both roads intersect at a crossroads approximately 30 m from the monitoring point.

5.1.4 CR03: 49 Forest Drive, Kingswood, Tallaght

At CR03, the noise meter was positioned to the east side of the dwelling in the rear garden, refer to Figure 33.

Figure 33: Photo of noise meter at CR03 (facing south east)

The dominant noise source at this location is the adjacent M50 and R838. The other audible noise source at this location is from the Luas that runs approximately 50 m from the receptor.

5.1.5 CR04: 22 Hillcrest Drive, Lucan

At CR04, the noise meter was positioned on the north eastern side of this dwelling in the rear garden, refer to Figure 34.

Figure 34: Photo of noise meter at CR04 (facing south west)

The dominant noise source at this location is the adjacent N4 that runs approximately 30 m from receptor 4.

5.1.6 CR05: 1 Palmers Crescent, Palmerstown

At CR05, the noise meter was positioned on the southern side of the dwelling in the rear garden, refer to Figure 35.

Figure 35: Photo of noise meter at CR05 (facing couth west)

The dominant noise source at this location is the adjacent Kennelsfort Road Upper that is located approximately 15 m from CR05.

5.1.7 CR06: 15 Greentrees Road, Walkinstown

At CR06, the noise meter was positioned on the western side of the dwelling, in the front garden, refer to Figure 36.

Figure 36: Photo of noise meter at CR06 (facing north)

The dominant noise source at this location is the adjacent R112 Greentrees Road and Millgate Drive Road that intersect approximately 20 m from CR06.

5.1.8 CR07: 19 Finnsgreen, Lucan

At CR07, the noise meter was positioned on the northern side of this dwelling, in the rear garden refer to Figure 37.

Figure 37: Photo of noise meter at CR07 (facing north east)

The dominant noise source at this location is the adjacent R120 that runs approximately 15 m from CR07.

5.1.9 CR08: 9 Westbourne Court, Clondalkin

At CR08, the noise meter was positioned on the eastern side of this dwelling, at the rear, refer to Figure 38.

Figure 38: Photo of noise meter at CR08 (facing north) (monitoring photo including tripod is unavailable)

The dominant noise source at this location is the adjacent R134 New Nangor Road that runs approximately 15 m from CR08.

5.1.10 CR09: 1 Cypress Lawn, Templeogue

At CR09, the noise meter was positioned on the northern side of the dwelling, in the rear garden, refer to Figure 39.

Figure 39: Photo of noise meter at CR09 (facing northwest)

The dominant noise source at this location is the adjacent R817 Cypress Grove Road that runs approximately 20 m from CR09. Traffic from Cypress Lawn Road also contributes to noise levels at this receptor.

5.1.11 CR10: 21 Hermitage Gardens, Lucan

At CR10, the noise meter was positioned to the north side of the dwelling, in the rear garden, facing the dominant noise source (N4), refer to Figure 40.

Figure 40: Photo of noise meter at CR10 (facing west)

The dominant noise source at this location is the N4 and local slip road. The N4 runs approximately 40 m behind CR10.

5.1.12 CR11: 10 Michael Collins Park, Clondalkin

At CR11, the noise meter was positioned on the south western side of this dwelling, in the rear garden, facing the dominant noise source (N134), refer to Figure.

Figure 41: Photo of noise meter at CR11 (facing south)

The dominant noise source at this location is the adjacent R134 New Nanger Road that runs approximately 30 m from CR11. Traffic from Ninth Lock Road and the local Michael Collins Park Road also contribute to noise levels at this receptor.

5.1.13 CR12: 1 Butterfield Park, Rathfarnham

At CR12, the noise meter was positioned on the eastern side of the dwelling, in the rear garden, facing the dominant noise source (R114), refer to Figure 42.

Figure 42: Photo of noise meter at CR12 (facing east)

The dominant noise source at this location is the adjacent R114 Butterfield Road that runs approximately 12 m from CR12. Traffic from Butterfield Park Road also contributes to noise levels at this receptor.

5.1.14 CR13: 29 Earlsfort Vale, Lucan

At CR13, the noise meter was positioned on the southern side of the dwelling, in the rear garden, facing the dominant noise source (Balgaddy Road), refer to Figure 43.

Figure 43: Photo of noise meter at CR13 (facing northeast)

The dominant noise source at this location the adjacent Balgaddy Road that runs approximately 20 m from CR13.

5.1.15 CR14: 39 Newlands Road, Clondalkin

At CR14, the noise meter was positioned on the southern side of this dwelling, on the rear patio, facing the dominant noise source (N7), refer to Figure 44.

Figure 44: Photo of noise meter at CR14 (facing west)

The dominant noise source at this location is the adjacent N7 that runs approximately 35 m from CR14.

5.1.16 CR15: 2 Rathfarnham Park, Rathfarnham

At CR15, the noise meter was positioned on the western side of the dwelling, in the rear patio, facing the dominant noise source (Rathfarnham Road), refer to Figure 45.

Figure 45: Photo of noise meter at CR15 (facing south)

The dominant noise source at this location is the adjacent Rathfarnham Road that runs approximately 14 m from CR15. Traffic from Rathfarnham Park Road also contributes to noise levels at this receptor.

5.1.17 CR16: 59 Castlefield Park, Knocklyon

At CR16, the noise meter was positioned on the eastern side of the dwelling, in the rear garden, facing the dominant noise source (M50), refer to Figure 46.

Figure 46: Photo of noise meter at CR16 (facing east)

The dominant noise source at this location is traffic noise from the M50 that runs approximately 40 m from CR16.

5.1.18 CR17: Parkwood Road, Old Bawn, Tallaght

At CR17, the noise meter was positioned in the adjacent park, 15 m from the dominant noise source (Old Bawn Road), refer to Figure 47.

Figure 47: Photo of noise meter at CR17 (facing west)

The dominant noise source at this location the Old Bawn Road that runs approximately 13 m from CR17.

5.1.19 CR18: 2 Raheen Drive, Tallaght

At CR18, the noise meter was positioned on the south eastern side of the dwelling, in the rear garden, facing the dominant noise source (N81), refer to Figure 48.

Figure 48: Photo of noise meter at CR18 (facing north east)

The dominant noise source at this location is traffic noise from the adjacent N81 that runs approximately 35 m from CR18. Traffic from the R136 Rathfarnham Park Road also contributes to noise levels at this receptor.

5.1.20 CR19: Swiftbrook Close, Tallaght

At CR19, the noise meter was positioned in the green area adjacent to Swiftbrook Close, 15 m from Russell Walk Road, refer to Figure 49.

Figure 49: Photo of noise meter at CR19 (facing south)

The dominant noise source at this location is traffic noise from the adjacent Russell Walk Road that runs approximately 15 m from CR19. Traffic from the nearby roundabout also contributes to noise levels at this receptor.

5.1.21 CR20: 2 Broadfield Court, Rathcoole

At CR20, the noise meter was positioned on the western side of the dwelling, in the rear garden, facing the dominant noise source (N7), refer to Figure 50.

Figure 50: Photo of noise meter at CR20 (facing north)

The dominant noise source at this location is traffic noise from the adjacent N7 that runs approximately 35 m from CR20. Traffic on the Broadfield Court access road also contributes to noise levels at this receptor.

5.1.22 CR21: 1 Newcastle Manor Rise, Newcastle

At CR21, the noise meter was positioned on the north western side of this dwelling, in the rear garden, facing the dominant noise source (R120) refer to Figure 51.

Figure 51: Photo of noise meter at CR21 (facing northwest)

The dominant noise source at this location is traffic noise from the adjacent R120 that runs approximately 10 m from CR21.

5.1.23 CR22: Slade Castle, Saggart

At CR22, the noise meter was positioned across the road from the Slade Castle apartment complex at approximately the same distance from the Pairc Mhuire Road, refer Figure 52.

Figure 52: Photo of noise meter at CR22 (facing south)

The dominant noise source at this location is traffic noise from the adjacent Páirc Mhuire Road that runs approximately 5 m from CR22.

5.2 Monitoring results

Monitoring results are summarised in Table 4 below. A full set of the results are provided in Appendix B. Results are provided for L_{day} and L_{night} for comparison with the undesirable day-time high sound level (70dB, L_{day}) and the night-time undesirable high sound level (55dB, L_{night}).

In addition, attended monitoring was carried out at three locations where unattended monitoring was not possible. The derived L_{den} (day-time, evening time, night-time) values have also been reported in Table 4 along with an estimated L_{day} value based on the L_{Aeq} values from the three 15 minute surveys.

Table 4: Monitoring results

Survey Location	Survey location (unattended monitoring)	Results	
		L_{day}	**L_{night}**
CR01	1 Weston Lawn, Lucan	62.6	57.0
CR02	14 Moy Glas Dene, Lucan	55.4	48.5
CR03	49 Forest Drive, Kingswood, Tallaght	58.8	52.5
CR04	22 Hillcrest Drive, Lucan	58.9	53.0
CR05	1 Palmers Crescent, Palmerstown	68.0	60.6
CR06	15 Greentrees Road, Walkinstown	58.7	43.6
CR07	19 Finnsgreen, Lucan	69.3	62.7
CR08	9 Westbourne Court, Clondalkin	70.7	63.2
CR09	1 Cypress Lawn, Templeogue	65.9	59.0
CR10	21 Hermitage Gardens, Lucan	61.8	59.0
CR11	10 Michael Collins Park, Clondalkin	53.6	47.3
CR12	1 Butterfield Park, Rathfarnham	66.0	57.1
CR13	29 Earlsfort Vale, Lucan	64.9	57.7
CR14	39 Newlands Road, Clondalkin	48.6	43.2
CR15	2 Rathfarnham Park, Rathfarnham	50.9	43.4
CR16	59 Castlefield Park, Knocklyon	51.5	42.2
CR18	2 Raheen Drive, Tallaght	58.1	57.8
CR20	2 Broadfield Court, Rathcoole	72.9	65.8
CR21	1 Newcastle Manor Rise, Newcastle	52.3	42.2
	Survey location (attended monitoring)	**L_{day}***	**L_{den}**
CR17	Parkwood Road, Old Bawn, Tallaght	61.3	64.5
CR19	Swiftbrook Drive, Tallaght	60.0	63.3
CR22	Slade Castle, Saggart	67.3	70.0

* Estimated from measured L_{Aeq}

5.3 Summary of results

5.3.1 Unattended monitoring

The day-time (L_{day}) and night-time (L_{night}) results from the unattended surveys are presented above in Table 4. Further discussion of these results are outlined in this section of the report.

5.3.1.1 Day-time

In comparison with the undesirable high sound level for day-time (70dB, L_{day}) two exceedances were observed, at survey locations as outlined in Table 5.

Table 5: Locations of day-time exceedances of undesirable high sound level for day-time

Survey Location	Survey location (unattended monitoring)	Results
		L_{night} (dB)
CR08	9 Westbourne Court, Clondalkin	70.7
CR20	2 Broadfield Court, Rathcoole).	72.9

5.3.1.2 Night-time

In comparison with the undesirable high sound level for night-time (55dB, L_{night}) ten exceedances were observed. A list of the survey locations where exceedances of the undesirable high sound level for night-time occurred and the values recorded is presented below in Table 6.

Table 6: Locations of night-time exceedances of undesirable high sound level for night-time

Survey Location	Survey location (unattended monitoring)	Results
		L_{night} (dB)
CR01	1 Weston Lawn, Lucan	57.0
CR05	1 Palmers Crescent, Palmerstown	60.6
CR07	19 Finnsgreen, Lucan	62.7
CR08	9 Westbourne Court, Clondalkin	63.2
CR09	1 Cypress Lawn, Templeogue	59.0
CR10	21 Hermitage Gardens, Lucan	59.0
CR12	1 Butterfield Park, Rathfarnham	57.1
CR13	29 Earlsfort Vale, Lucan	57.7
CR18	2 Raheen Drive, Tallaght	57.8
CR20	2 Broadfield Court, Rathcoole	65.8

5.3.2 Attended monitoring

In comparison with the undesirable high sound level for day-time (70dB, L_{day}) none of the estimated L_{day} values at location CR17, CR19 or CR22 exceeded this undesirable high level.

6 Recommendations

6.1 General

A number of specific recommendations are outlined in Section 6.2. Due to the generally urban nature of the study area, it can be difficult to construct noise barriers as a mitigation measure to reduce noise effects. Therefore at some locations alternative methods of amelioration are proposed. Significant reductions can be achieved by implementing traffic management noise mitigation measures in urban areas, for example, reducing travel speeds.

In order to ensure that the existing noise problem is not exacerbated in the future, measures should be implemented during the planning phase of all developments. Where planning permission is sought for a new national and regional road schemes, compliance with the design goals provided in the NRA guidelines for the opening and design years should be proven. This compliance should be confirmed through monitoring once the road is fully constructed. In the event that compliance is not achieved, further measures should be implemented.

Where permission is sought for an industrial or commercial development, a noise impact assessment will need to be completed where an increase in 10% in traffic volumes is expected on any route where sensitive receivers are located. Measures will be implemented to ensure that no change in noise level results from the new development.

In the event that planning permission is sought for a new residential development in proximity to a busy road, it is advised that the following be submitted with the application:

- An inward noise assessment which concludes that the noise levels at the façade of the property are less than the day-time and night-time desirable low levels, refer to Section 2.4.
- An outward noise assessment which concludes that the development will not change the noise levels in the surrounding area due to increases in traffic volumes associated with the development.

6.2 Specific measures

Specific measures are recommended where day-time and/or night-time undesirable thresholds are exceeded. These measures are advised to reduce the noise level not just in the immediate vicinity at which the monitoring survey took place but in the general area.

6.2.1 CR01: 1 Weston Lawn, Lucan

Night-time noise levels at this location exceed the undesirable level of 55dB, with a L_{night} of 57dB. Day-time levels are easily in compliance with the undesirable day-time level.

At this location, a wall runs along the M4 slip lane southbound on to the R403. This wall is heavily screened by trees and shrubbery. Should a new higher wall be developed, this would significantly impact on the visual screen provided by the foliage.

On this basis, and as noise levels do not significantly exceed undesirable night-time levels, it is not proposed to provide any additional mitigation at this location.

6.2.2 CR05: 1 Palmers Crescent, Palmerstown

Noise levels recorded at this location are elevated and exceed night-time undesirable levels. Although the undesirable L_{day} level is complied with, it remains elevated at 68dB. A number of properties front onto Kennilsworth Road with access directly on to the road. These properties are impossible to mitigate through the provision of noise barriers. However, the properties at Palmers Estate are the most exposed. A wall of approximately 1.8 m in height offers some protection to these properties. It is recommended that this boundary wall be increased to 3 m to provide further mitigation to these properties; refer to Figure 53.

There may however be difficulties implementing this measure as the wall acts as a boundary wall for many properties adjacent to Kennelsfort Road.

To reduce vehicle speeds along Kennelsfort Road, consideration should be given to introducing speed ramps in the vicinity of Palmers Crescent. This would effectively extend the existing traffic calming scheme from the village centre to south of Palmers Crescent. In addition, radar speed signs are recommended along Kennelsfort Road to encourage compliance with the 50km/hr speed limit.

Figure 53: Recommended noise barrier at Palmers Crescent (CR05)

6.2.3 CR07: 19 Finnsgreen, Lucan

Noise levels recorded at this location are elevated and exceed night-time undesirable levels. Although the undesirable L_{day} level is complied with it remains elevated at 69.3dB. A number of properties front onto Newcastle Road on both the eastern and western sides. A number of these properties in the Castlegate Estate are apartment blocks of up to four storeys in height. Noise levels at these apartments are likely to be levels similar or greater than those measured at Finnsgreen. Railings are located on both sides of the Newcastle Road offering no noise protection to the properties on both sides of the road.

It is recommended that walls of 2 m in height replace the railings for the length of this section of road, refer to Figure 54. This will provide some noise reduction at these properties.

In addition, radar speed signs are recommended on the Newcastle Road to encourage compliance with the 60 km/hr speed limit.

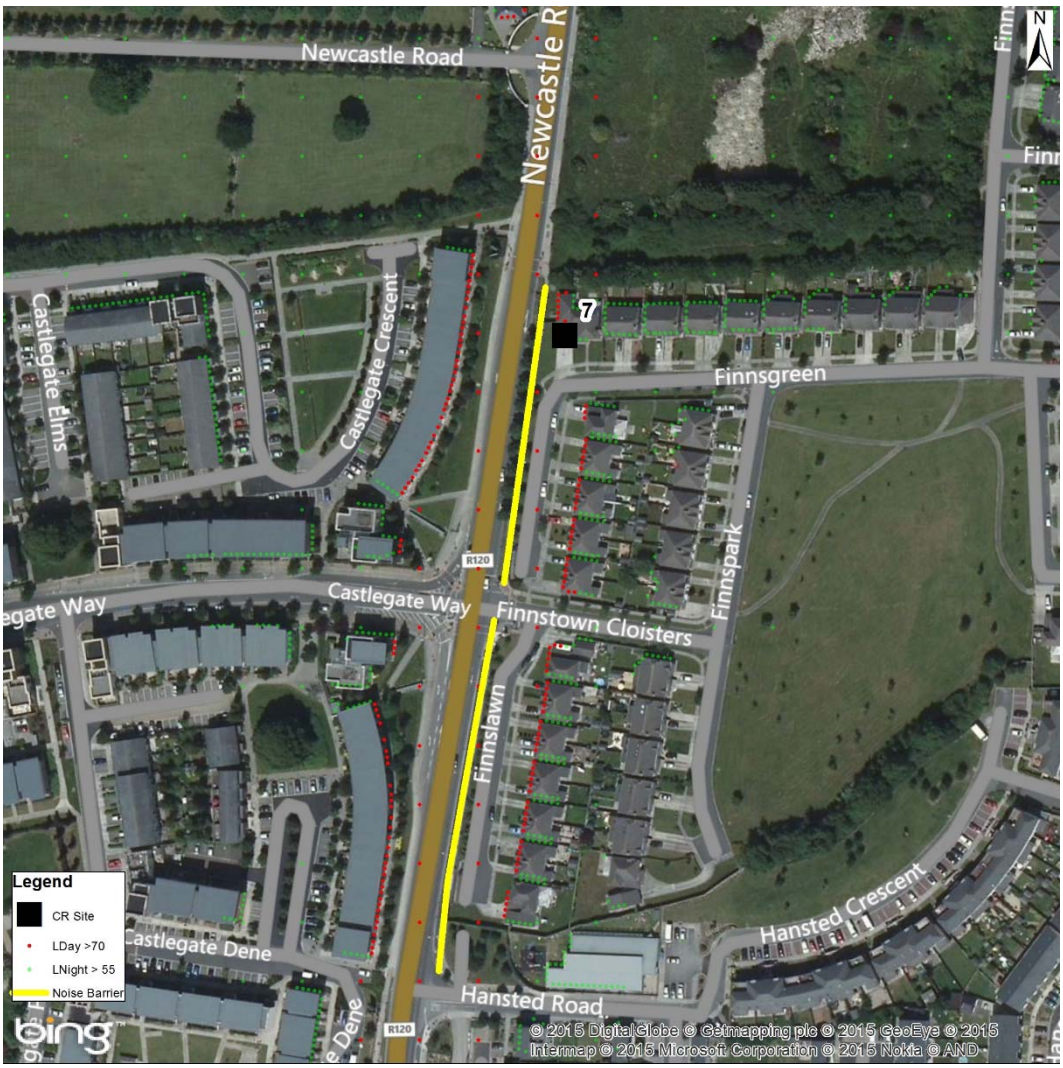

Figure 54: Recommended noise barrier at Finnslawn (CR07)

6.2.4 CR08: 9 Westbourne Court, Clondalkin

Noise levels recorded at this location are considered very elevated and exceed both the day-time and night-time undesirable levels. A boundary wall runs along the length of the Westbourne estate that runs adjacent to the New Nangor Road (R134). This wall is at a height of approximately 1.8 m with a wooden fence positioned on top of the wall at a height of approximately 0.5 m. The wall will provide some acoustic screening to the properties adjacent to the road with the fence offering little benefit.

It is recommended that the current wooden fence be removed and be replaced with an acoustic screen of 1 m in height. If this cannot be provided or constructed, it is recommended that the current wall be removed and replaced with a 3 m structure. The extent of this proposed new measure is shown on Figure 55.

There may however be difficulties implementing this measure as the wall acts as a boundary wall for many properties adjacent to the R134.

In addition, radar speed signs are recommended on the R134 to encourage compliance with the 60 km/hr speed limit.

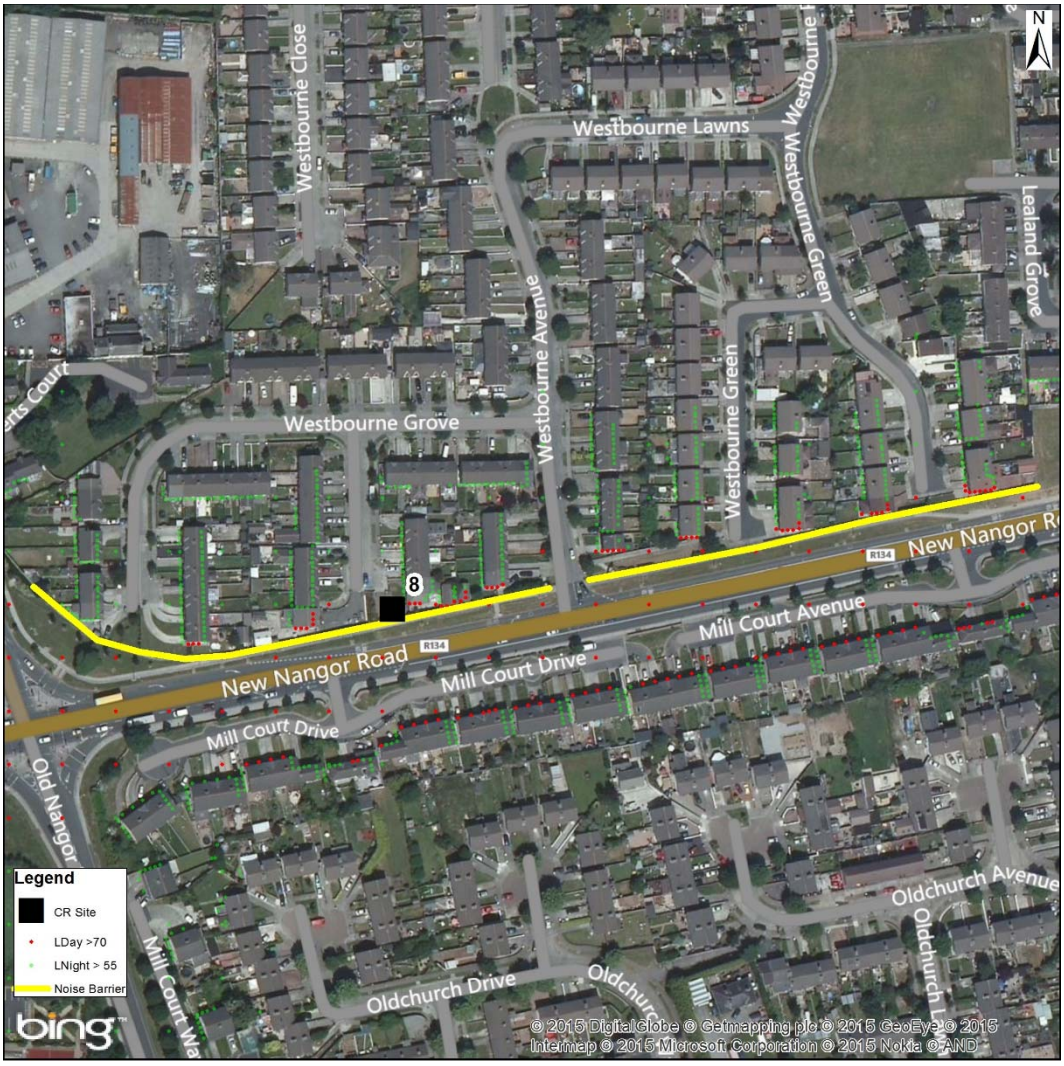

Figure 55: Recommended noise barrier at Westbourne (CR08)

6.2.5 CR09: 1 Cypress Lawn, Templeogue

Noise levels recorded at this location are elevated and exceed night-time undesirable levels. The undesirable L_{day} level is complied with at 65.9dB. The majority of houses along Ballyroan Road face directly onto the road with access provided via Ballyroan Road. As a result it is impossible to provide mitigation in the form of noise barriers to reduce noise levels at these properties.

A speed limit of 50km/hr is currently in place on Ballyroan Road. However, the road is currently very wide and encourages high vehicle speeds. There are cycle facilities along Ballyroan road in this area which are currently in poor condition. Should the cycle facilities be upgraded in future, as part of the project, traffic lane widths should be reduced to discourage speeding.

It is recommended that radar speed signs are provided along this road to encourage compliance with speed limits.

6.2.6 CR10: 21 Hermitage Gardens, Lucan

Noise levels recorded at this location are elevated (59dB) and exceed night-time undesirable levels. The undesirable L_{day} level is complied with at 61.8dB. A noise barrier of 2 m in height is provided along the slip lane off the M4 westbound providing access to the R136. This reduces the noise levels at the properties in Hermitage Gardens. The barriers are in good condition with no gaps observed. It is recommended that these noise barriers are surveyed on a regular basis to ensure their effectiveness.

6.2.7 CR12: 1 Butterfield Park, Rathfarnham

Noise levels recorded at this location are elevated and exceed night-time undesirable levels. The undesirable L_{day} level is complied with at 66dB. The majority of houses along Butterfield Park face directly onto the road with access provided via Butterfield Park. As a result it is impossible to provide mitigation in the form of noise barriers to reduce noise levels at these properties. A speed limit of 50 km/hr is currently in place on Ballyroan Road. It is recommended that radar speed signs are provided along this road to encourage compliance with speed limits.

6.2.8 CR13: 29 Earlsfort Vale, Lucan

Noise levels recorded at this location are elevated and exceed night-time undesirable levels. The undesirable L_{day} level is complied with at 64.9dB. Properties in the Earlsfort Estate are somewhat screened from Balgaddy Road by a 2 m high boundary wall. Properties located within the Rosse Court estate are further set back from the road but no screening is provided on the southern side of Balgaddy Road to protect these properties. It is likely that the elevated noise levels are due to traffic accelerating between the Balgaddy Road roundabout and the Earlsfort roundabout. It is recommended that radar speed signs are provided along this road to encourage compliance with the 50 km/h speed limit.

6.2.9 CR18: 2 Raheen Drive, Tallaght

Day-time noise levels recorded at this location are significantly below the undesirable levels, however, the L_{night} levels are slightly elevated.

The elevated noise levels are likely to be due to the change in the speed limit from 60 km/hr to 80 km/hr on the eastbound section of the N81 at this location. It is recommended that this limit be retained at 60 km/hr at this section of road.

6.2.10 CR20: 2 Broadfield Court, Rathcoole

Noise levels recorded at this location are considered very elevated and exceed both the day-time and night-time undesirable levels. A fence, approximately 1.2 m in height, runs adjacent to the N7 at this location. This fence is in a state of disrepair with numerous broken sections.

It would be difficult to reduce noise levels at this location due to the height differential between the road and the houses, with the houses significantly elevated overlooking all traffic lanes.

The current barrier does provide some noise attenuation however, this would be improved by a new and higher structure. Therefore it is recommended that a barrier in the form of a wall or acoustic barrier be provided at a height of 3 m. The barrier should be located along the line shown in Figure 56.

Figure 56: Recommended noise barrier at Broadfield (CR20)

6.3 County-wide measures

It is acknowledged that traffic noise is an issue in other areas in the County in addition to the critical areas considered above. In addition to the measures described previously, it is recommended that the following be implemented County-wide:

- Review of the condition of noise barriers on an annual basis by SDCC staff. Should the effectiveness of the barrier be deemed to be reduced in any way through damage, the barrier will be repaired or replaced.
- Speed radar signs should be provided on the following roads where it is noted that speed limits are not currently being adhered to:

  - R136 Outer Ring Road – at numerous locations
  - R120 – at numerous locations
  - R133 – at numerous locations
  - R134 – at numerous locations
- On roads (excluding motorways) where current speed limits are in excess of 60 km/hr and sensitive receptors are located in proximity to the road, speed limits should be reduced to 60 km/hr.
- Speed limits of 50 km/hr should be applied on all roads with sensitive receptors facing directly onto the road and with direct access to the property onto the road.
- Where feasible, traffic lanes should be narrowed to encourage a reduction in vehicle speeds, if possible to accommodate wider cycle lanes.

7 References

Dublin Local Authorities, Dublin Agglomeration Noise Action Plan 2013 – 2018

Environmental Noise Regulations, SI 140 of 2006

Environmental Noise Directive, 2002/49/EC

Ohrstrom E, Skanberg A. Sleep disturbances from road traffic and ventilation noise – laboratory and field experiments. J Sound Vib 2004; 271: 279-296.

South Dublin County Council, South Dublin County Development Plan 2010 – 2016

National Roads Authority, Good Practice Guidance for the Treatment of Noise during the Planning of National Road Schemes, 2014

International Electrotechnical Commission (IEC) (2002), IEC 61672-1 Electroacoustics – Sound Level Meters – Part 1: Specifications. IEC, Geneva, Switzerland.

Appendix A

Letter

Letter

Your ref
Our ref 239800-00/SW/FS
File ref

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7 May 2015

Dear Resident

South Dublin Noise Action Plan
Noise monitoring

Arup has been commissioned by South Dublin County Council (SDCC) to carry out a review of noise levels under the requirements of the Dublin Agglomeration Noise Action Plan 2013-2018. We have selected a number of areas in the County which are potentially experiencing elevated levels of noise.

In order to confirm the noise levels, we wish to carry out noise monitoring at a number of representative properties in the selected areas and your property has been chosen as one such location. The proposed monitoring will be carried out over a 24 hour period at a suitable external location, likely to be your back garden, within the security of your property boundary. The monitoring equipment will comprise a noise logging meter a microphone, a tripod of 4 m in height and an outdoor box to protect the equipment from the elements as depicted in the attached photo. The noise meter is powered by a battery and no power supply will be required from you. The noise meter will be placed in your garden by our engineer and collected approximately 24 hours later.

We would be grateful if you could contact us to provide consent for the monitoring to take place and to organise a mutually suitable time and date to commence the monitoring. My contact details are as follows:

Sinead Whyte, 01-233 4361 or sinead.whyte@arup.com

I am also happy to discuss our proposals further and answer any questions you may have.
Alternatively, please contact John McLoughlin, Senior Engineer, Roads Department, South Dublin County Council on 01-414 9000 or jmcloughlin@sdublincoco.ie.

We look forward to hearing from you. Please do not hesitate to contact us if you have any queries.

Yours sincerely
for
Ove Arup & Partners Ireland Ltd t/a Arup

Sinead Whyte

cc John McLoughlin SDCC

Photo of monitoring equipment – note tripod will be positioned at a height of 4m to determine a worst-case bedroom noise level.

Appendix B

Monitoring Results

B1 Unattended monitoring data

B1.1 1 Weston Lawn, Lucan

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150312 001	12/03/2015 15:41	00:18:54	71.43	54.44	84.97	63.71	62.99	72.77	0.72	67.3	65.74	64.83	62.63	60.53	59.74	58.61	1.75
150312 001	12/03/2015 16:00	01:00:00	72.09	56.91	83.57	63.95	63.33	73.06	0.62	66.9	65.43	64.75	63.11	61.44	60.88	59.4	1.39
150312 001	12/03/2015 17:00	01:00:00	72.27	52.13	84.99	62.17	61.53	73.24	0.64	65.94	64.48	63.82	60.93	57.48	56.88	55.7	2.48
150312 001	12/03/2015 18:00	01:00:00	69.56	52.41	81.79	60.44	59.84	73.32	0.6	64.45	62.95	62.18	59.16	56.98	56.28	55.1	2
150312 001	12/03/2015 19:00	01:00:00	75.13	52.59	84.74	62.75	62.03	70.71	0.72	65.54	64.44	63.89	61.83	58.93	57.93	56.2	1.98
150312 001	12/03/2015 20:00	01:00:00	74.25	48.54	85.79	62	61.24	69.95	0.76	66.2	64.19	63.42	60.69	57.47	56.37	54.1	2.44
150312 001	12/03/2015 21:00	01:00:00	69.84	47.81	81.47	61.11	60.39	69.15	0.72	65.56	63.7	62.77	59.84	56.16	54.65	51.24	2.74
150312 001	12/03/2015 22:00	01:00:00	78.19	42.94	84.94	60.11	59.23	67.72	0.88	64.63	62.75	61.9	58.48	53.15	51.29	47.55	3.54
150312 001	12/03/2015 23:00	01:00:00	69.08	40.4	80.24	58.18	57.32	66.57	0.86	64.16	61.51	60.38	56.15	48.97	47.18	44.42	4.42
150312 001	13/03/2015	01:00:00	68.99	35.62	79.12	56.56	55.61	64.88	0.95	63.72	60.87	59.46	52.84	42.67	40.32	37.65	6.33
150312 001	13/03/2015 01:00	01:00:00	68.21	30.19	80.35	55.51	54.36	64.42	1.15	64.33	60.4	58.29	49.18	40.02	37.8	33.64	7.08
150312 001	13/03/2015 02:00	01:00:00	70.67	27.69	81.56	54.97	53.79	64.36	1.18	64.22	60.32	57.9	47.67	39.63	38.06	32.9	7.1
150312 001	13/03/2015 03:00	01:00:00	69.51	28.75	83.34	55.21	54.03	64.35	1.18	64.14	60.56	58.02	48.32	37.53	35.93	32.5	7.61

B1.2 14 Moy Glas Dene, Lucan

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150323 001	23/03/2015 15:39	00:20:03	67.61	44.43	86.24	55.89	54.9	70.9	0.99	60.69	58.59	57.59	53.65	50.07	48.88	46.4	3.01
150323 001	23/03/2015 16:00	01:00:00	72.36	44.65	89	56.66	55.62	72.53	1.04	62.91	59.21	57.93	54.2	49.53	48.46	47.03	3.37
150323 001	23/03/2015 17:00	01:00:00	69.21	45.09	79.97	56.31	55.45	72.54	0.86	60.6	58.93	57.94	54.6	50.56	49.33	47.57	2.92
150323 001	23/03/2015 18:00	01:00:00	67.73	44.92	78.72	55.56	54.77	70.48	0.79	60.16	58.32	57.51	53.86	49.97	49	47.4	2.91
150323 001	23/03/2015 19:00	01:00:00	75.36	42.18	87.27	55	53.91	68.95	1.09	60.2	57.83	56.62	52.4	48.63	47.66	45.17	3.2
150323 001	23/03/2015 20:00	01:00:00	65.16	42.5	76.35	54.04	53.14	68.12	0.9	59.97	57.3	56.01	51.81	48.46	47.59	45.62	2.99
150323 001	23/03/2015 21:00	01:00:00	66.52	36.78	79.84	52.94	51.88	66.04	1.06	59.45	56.54	54.94	50.08	46.33	44.98	42.4	3.47
150323 001	23/03/2015 22:00	01:00:00	65.31	33.79	77.43	51.4	50.37	64.87	1.03	58.93	55.4	53.65	48.09	43.15	41.52	38.9	4.13
150323 001	23/03/2015 23:00	01:00:00	65.39	29.2	76.66	49.71	48.48	62.32	1.23	58.24	54.28	52.06	44.82	36.76	34.53	31.84	5.87
150323 001	24/03/2015	01:00:00	68.31	26.36	79.12	47.18	45.76	58.26	1.42	57.06	51.24	48.48	40.46	32.2	30.57	28.55	6.31
150323 001	24/03/2015 01:00	01:00:00	65.78	24.74	77.52	46.27	44.78	58.81	1.49	55.96	50.7	48.14	38.19	28.5	27.5	26.18	7.32
150323 001	24/03/2015 02:00	01:00:00	64.56	24.51	76.88	45.47	43.43	59.47	2.04	56	48.91	45.06	36.03	28.37	27.2	26.08	6.55
150323 001	24/03/2015 03:00	01:00:00	65.46	24	78.44	44.5	42.64	62.56	1.86	54.9	48.09	44.8	35.07	28.31	27.39	26.26	6.47

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150323 001	24/03/2015 04:00	01:00:00	70.12	26.13	82.84	48.94	47.19	62.05	1.75	58.73	52.68	49.23	39.04	31.97	30.6	28.84	6.79
150323 001	24/03/2015 05:00	01:00:00	64.16	27.52	76.23	50.38	49.23	64.24	1.15	58.74	55.12	52.8	45.63	36.75	34.94	31.24	6.14
150323 001	24/03/2015 06:00	01:00:00	69.59	34.52	79.24	55.06	54.07	68.24	0.99	62.05	58.56	57.18	52.02	45.52	43.21	38.85	4.69
150323 001	24/03/2015 07:00	01:00:00	73.08	44.99	87.17	57.55	56.7	72.18	0.85	63.1	60.13	59.25	55.59	51.54	50.35	48.53	3.07
150323 001	24/03/2015 08:00	01:00:00	73.79	46.12	84.17	57.33	56.29	72.5	1.04	63.3	59.64	58.53	55.01	51.31	50.27	48.49	3.01
150323 001	24/03/2015 09:00	01:00:00	68.02	41.56	78.25	55.85	55.05	72.22	0.8	61.24	58.83	57.87	54	49.32	48.18	46.27	3.35
150323 001	24/03/2015 10:00	01:00:00	86.18	39.62	94.08	60.18	57.55	70.73	2.63	62.4	58.25	56.53	51.37	46.75	45.89	44.2	4.2
150323 001	24/03/2015 11:00	01:00:00	78.36	39.92	88.02	55.86	53.66	69.98	2.2	60.56	56.96	55.61	50.58	45.72	44.68	42.8	4.01
150323 001	24/03/2015 12:00	01:00:00	67.79	40.93	81.95	54.24	53.18	70.34	1.06	60.8	57.81	56.42	51.17	46.58	45.66	44.2	3.8
150323 001	24/03/2015 13:00	01:00:00	85.4	41.13	96.42	59.12	54.65	79.52	4.47	62.6	58.44	56.83	52.15	47.43	46.31	44.49	3.83
150323 001	24/03/2015 14:00	01:00:00	81.72	40.4	90.37	57.23	55.27	70.11	1.96	61.16	57.82	56.68	52.59	47.67	46.68	44.88	3.67
150323 001	24/03/2015 15:00	00:39:57	73.29	40.82	85.86	55.01	53.85	70.56	1.16	60.8	57.75	56.68	52	47.26	46.14	44.35	3.74

B1.3 49 Forest Drive, Kingswood, Tallaght

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 006	13/04/2015 15:34	00:25:10	73.89	49.92	117.46	61.4	59.87	88.23	1.53	67.38	63.38	62.04	58.91	55.26	54.11	51.54	2.82
Project 006	13/04/2015 16:00	01:00:00	72.28	50.64	117.58	61.11	60.12	88.15	0.99	66.86	63.56	62.32	59.26	55.64	54.61	53.04	2.74
Project 006	13/04/2015 17:00	01:00:00	75.09	50.4	115.26	61.02	59.87	86.75	1.15	65.85	63.2	62.2	59.12	55.69	54.57	52.6	2.64
Project 006	13/04/2015 18:00	01:00:00	72.32	50.17	116.25	61.61	59.9	88.04	1.71	65.63	63.38	62.28	59.11	55.9	54.93	53.4	2.54
Project 006	13/04/2015 19:00	01:00:00	71.78	50.05	112.24	60.81	59.08	85.88	1.73	64.93	62.55	61.47	58.27	54.72	53.82	52.32	2.67
Project 006	13/04/2015 20:00	01:00:00	71.67	49.24	112.39	59.52	58.05	85.25	1.47	64.03	61.8	60.59	57.14	53.65	52.56	51.01	2.75
Project 006	13/04/2015 21:00	01:00:00	69.88	45.86	113.27	58.13	56.95	86.27	1.18	63.44	60.8	59.58	55.91	51.84	51.09	48.51	3.06
Project 006	13/04/2015 22:00	01:00:00	68.51	43.88	109.43	56.38	55.22	81.44	1.16	62.33	59.45	58.11	53.84	49.2	48.08	46.53	3.46
Project 006	13/04/2015 23:00	01:00:00	66.32	41.77	109.71	54.19	53.11	83.69	1.08	61.44	58.26	56.49	50.71	46.32	45.31	43.84	3.97
Project 006	14/04/2015	01:00:00	70.8	40.35	110.1	54.41	52.92	84.67	1.49	62.56	58.98	56.84	48.56	43.5	42.78	41.68	5.09
Project 006	14/04/2015 01:00	01:00:00	68.18	36.65	110.64	50.79	49.15	84.96	1.64	59.13	55.88	53.31	43.43	39.92	39.24	38.36	5.17
Project 006	14/04/2015 02:00	01:00:00	70.02	34.33	109.4	48.68	46.86	82.36	1.82	57.13	53.26	50.86	41.18	37.55	36.88	36.03	5.14
Project 006	14/04/2015 03:00	01:00:00	64.3	34.85	109.06	48.85	47.61	81.56	1.24	57.8	54.12	51.92	42.32	38.65	38.05	36.73	5.07
Project 006	14/04/2015 04:00	01:00:00	66.14	35.79	112.79	51.03	49.51	84.13	1.52	58.8	55.66	54	44.93	40.65	39.7	38.08	4.99
Project 006	14/04/2015 05:00	01:00:00	65.19	40.98	113.69	54.01	52.72	84.24	1.29	59.97	57.73	56.27	50.71	45.4	44.27	42.71	4.11
Project 006	14/04/2015 06:00	01:00:00	68.42	45.08	115.05	60.52	57.38	88.3	3.14	62.9	61.06	60.12	56.59	52.72	51.3	47.95	3
Project 006	14/04/2015 07:00	01:00:00	73.45	50.05	120.02	62.32	59.52	86.55	2.8	64.03	62.78	61.99	58.89	55.72	54.54	52.28	2.48
Project 006	14/04/2015 08:00	01:00:00	73.01	48.9	114.5	61.67	59.91	85.64	1.76	68.28	63.98	62.3	58.31	54.53	53.65	52	3.25

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 006	14/04/2015 09:00	01:00:00	71.67	50.63	112.33	61.2	60.36	83.74	0.84	65.96	64.28	63.11	59.39	55.82	54.84	53.28	2.82
Project 006	14/04/2015 10:00	01:00:00	72.25	49.66	112.07	59.98	58.43	81.97	1.55	64.28	61.66	60.67	57.67	54.12	53.13	51.64	2.63
Project 006	14/04/2015 11:00	01:00:00	70.47	48.65	110.35	60.18	57.83	80.89	2.35	62.93	61.3	60.44	57.06	53.73	52.46	50.58	2.63
Project 006	14/04/2015 12:00	01:00:00	76.25	47.07	109.67	59.3	57.48	80.42	1.82	63.9	60.99	59.88	56.42	52.8	51.64	49.5	2.87
Project 006	14/04/2015 13:00	01:00:00	65.98	46.77	109.27	57.51	56.03	77.78	1.48	61.94	60.1	58.92	54.97	51.4	50.51	48.62	2.89
Project 006	14/04/2015 14:00	01:00:00	73.43	46.72	101.78	57.86	55.44	71.95	2.42	61.73	59.63	58.35	53.99	50.96	50.08	48.52	2.91
Project 006	14/04/2015 15:00	00:34:50	68.43	47.93	95.04	55.54	54.32	68.17	1.22	60.52	58.89	57.35	52.9	50.76	50.25	49.22	2.5

B1.4 22 Hillcrest Drive, Lucan

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150325 001	25/03/2015 17:34	00:25:48	88.05	49.18	104.64	65.35	58.61	71.33	6.74	68.5	60.07	59.06	55.01	52.91	52.34	51.21	3.03
150325 001	25/03/2015 18:00	01:00:00	67.4	46.93	79.63	57.21	56.51	69.14	0.7	60.95	59.55	58.87	55.85	52.97	52.22	50.68	2.31
150325 001	25/03/2015 19:00	01:00:00	67.27	48.89	79.16	58.53	57.85	68.63	0.68	62	60.41	59.73	57.59	54.68	53.8	51.86	2.03
150325 001	25/03/2015 20:00	01:00:00	68.6	46.67	77.39	57.59	56.88	66.41	0.71	61.71	59.73	59.03	56.44	53.3	52.04	49.34	2.39
150325 001	25/03/2015 21:00	01:00:00	66.36	44.09	80.05	56.97	56.25	65.16	0.72	62.4	59.72	58.52	55.57	51.68	50.26	47.37	2.86
150325 001	25/03/2015 22:00	01:00:00	65.85	41.57	78.52	55.92	55.16	64.15	0.76	61.64	58.86	57.77	54.3	49.61	47.69	44.81	3.37
150325 001	25/03/2015 23:00	01:00:00	71.3	34.82	79.53	53.87	52.98	63.95	0.89	60.73	57.22	56.05	51.4	44.5	42.58	39.15	4.57
150325 001	26/03/2015	01:00:00	67.1	31.76	78.03	51.95	50.99	61.29	0.96	60.2	56.35	54.78	47.52	38.94	36.89	34.06	6.03
150325 001	26/03/2015 01:00	01:00:00	64.42	25.13	75.74	49.96	48.8	62.96	1.16	59.3	54.91	52.89	43.17	34.37	31.51	27.48	7.13
150325 001	26/03/2015 02:00	01:00:00	68.54	21.71	78.71	49.78	48.47	61.7	1.31	60.35	54.7	52.01	41.53	32.98	30.17	25.2	7.39
150325 001	26/03/2015 03:00	01:00:00	65.93	26.07	76.82	50.96	49.66	69.69	1.3	60.3	55.97	53.21	44.33	36.17	34.42	29.8	6.62
150325 001	26/03/2015 04:00	01:00:00	72.76	27.62	91.55	52.12	50.55	66.84	1.57	60.6	56.65	54.32	46.14	38.4	36.6	32.82	6.12
150325 001	26/03/2015 05:00	01:00:00	65.11	35.66	77.42	54.44	53.48	70.7	0.96	61.48	58.57	57.02	51.29	44.33	42.51	39	4.94
150325 001	26/03/2015 06:00	01:00:00	69.23	39.21	80.62	59.25	58.5	70.7	0.75	63.75	61.95	61.06	57.95	53.27	51.81	47.85	3.23
150325 001	26/03/2015 07:00	01:00:00	71.88	49.36	81.05	59.49	58.77	71.1	0.72	63.42	61.81	61.02	58.27	55.05	53.82	51.72	2.39
150325 001	26/03/2015 08:00	01:00:00	70.31	48.97	86.1	59.77	58.98	73.74	0.79	63.23	61.74	60.96	58.67	55.82	54.77	52.6	2.13
150325 001	26/03/2015 09:00	01:00:00	73.57	51.18	84.3	60.44	59.49	76.22	0.95	64.17	62.5	61.64	58.94	56.5	55.8	54.47	2.01
150325 001	26/03/2015 10:00	01:00:00	71.45	48.83	86.8	60.07	58.85	78.47	1.22	63.84	61.9	61.02	58.29	55.52	54.69	52.52	2.24
150325 001	26/03/2015 11:00	01:00:00	72.97	49.63	84.01	60.02	58.85	77.09	1.17	63.88	62.09	61.12	58.07	55.3	54.37	52.87	2.34
150325 001	26/03/2015 12:00	01:00:00	75.27	49.92	89.9	60.11	58.98	77.15	1.13	63.85	62.02	61.05	58.39	55.81	54.95	53.5	2.13
150325 001	26/03/2015 13:00	01:00:00	73.74	49.32	89.42	60.24	58.92	77.13	1.32	63.86	62.05	61	58.3	55.7	54.78	53.03	2.19
150325 001	26/03/2015 14:00	01:00:00	72.31	49.55	84.89	59.92	59.05	75.51	0.87	63.51	62.01	61.16	58.56	55.75	54.86	52.93	2.18

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150325 001	26/03/2015 15:00	01:00:00	71.18	50.27	84.42	60.09	59.23	75.31	0.86	63.6	61.87	61.08	58.87	56.37	55.55	53.8	1.94
150325 001	26/03/2015 16:00	01:00:00	73.44	52.34	85.12	60.49	59.69	73.47	0.8	63.7	61.9	61.17	59.38	57.57	56.77	55.2	1.59
150325 001	26/03/2015 17:00	00:34:12	71.13	53.2	80.42	60.5	59.76	74.22	0.74	63.27	61.72	61.06	59.57	57.83	57.2	55.61	1.42

B1.5 1 Palmers Crescent, Palmerstown

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 017	20/04/2015 15:07	00:52:58	85.41	48.79	104.44	68.32	67.24	79.39	1.08	73.44	71.15	70.19	66.3	60.12	57.85	53.98	4.08
Project 017	20/04/2015 16:00	01:00:00	82.68	46.21	108.83	68.83	67.84	80.96	0.99	73.42	71.59	70.69	67.04	61.22	58.9	53.6	4.01
Project 017	20/04/2015 17:00	01:00:00	77.32	52.06	105.29	68.94	68.07	79.1	0.87	73.3	71.76	70.93	67.42	61.9	59.88	56.06	3.62
Project 017	20/04/2015 18:00	01:00:00	85.55	44.98	102.06	68.93	68	78.55	0.93	73.36	71.9	71.03	67.27	59.83	57.16	50.04	4.72
Project 017	20/04/2015 19:00	01:00:00	78.86	46.16	102.82	68.54	67.71	76.55	0.83	73.75	72.07	71.14	66.6	58.28	55.77	51.4	5.01
Project 017	20/04/2015 20:00	01:00:00	78.74	42.36	95.31	68.19	66.95	73.03	1.24	73.56	71.67	70.51	65.33	56.04	53.28	46.8	5.74
Project 017	20/04/2015 21:00	01:00:00	80.03	42.1	100.42	67.46	66.42	70.17	1.04	73.85	71.49	70.28	64.12	53.77	50.74	45.36	6.48
Project 017	20/04/2015 22:00	01:00:00	85.97	41.58	102.47	65.38	64.22	68.91	1.16	72.65	70.25	68.84	59.06	45.64	44.77	43.85	8.42
Project 017	20/04/2015 23:00	01:00:00	77.64	43.21	93.5	63.36	62.13	66.04	1.23	72.51	69.47	67.01	53	46.56	46	44.93	7.83
Project 017	21/04/2015	01:00:00	78.6	40.29	93.16	61.5	60.46	63.76	1.04	71.8	67.76	65.09	48.38	43.75	43.22	42.2	8.25
Project 017	21/04/2015 01:00	01:00:00	77.07	41.06	89.99	58.04	56.92	59.81	1.12	69.86	64	58.34	45.06	43.14	42.75	42.17	6.6
Project 017	21/04/2015 02:00	01:00:00	76.6	39.8	88.91	56.22	55.09	58.95	1.13	68.93	60.4	54.04	44.9	42.62	41.98	41.11	5.59
Project 017	21/04/2015 03:00	01:00:00	77.28	38.9	92.41	59.44	58.42	61.5	1.02	71.36	65.73	60.85	44.76	42.57	42.06	40.77	7.55
Project 017	21/04/2015 04:00	01:00:00	77.07	39.94	94.13	59.29	58.14	62.01	1.15	70.73	65.4	60.49	46.31	43.82	43.33	42.6	6.95
Project 017	21/04/2015 05:00	01:00:00	78.61	41.89	93.19	62.23	61.11	64.65	1.12	72.9	68.72	65.4	50.71	45.85	44.94	43.85	7.17
Project 017	21/04/2015 06:00	01:00:00	78.67	47.37	97.07	65.79	64.79	69.78	1	74.12	71.67	69.8	57.85	50.37	49.65	48.86	7.13
Project 017	21/04/2015 07:00	01:00:00	77.79	47.75	100.82	68.82	67.97	72.2	0.85	74.6	72.77	71.6	66.33	57.52	55.47	52.68	5.34
Project 017	21/04/2015 08:00	01:00:00	77.46	49.15	96.07	68.58	67.79	73.87	0.79	75.15	72.3	71.14	66.11	59.34	57.41	54.35	4.57
Project 017	21/04/2015 09:00	01:00:00	99.82	47.45	106.52	72.12	69.41	73.98	2.71	73.93	72.12	71.09	66.98	59.77	57.6	53.75	4.55
Project 017	21/04/2015 10:00	01:00:00	79.84	45.67	101.14	68.34	67.51	75.97	0.83	73.14	71.5	70.6	66.58	59.67	57.08	52.6	4.5
Project 017	21/04/2015 11:00	01:00:00	81.77	46.58	102.31	68.28	67.32	77.97	0.96	73.25	71.13	70.24	66.42	60.06	58.06	52.5	4.18
Project 017	21/04/2015 12:00	01:00:00	98.47	49.75	107.17	71.94	69.18	79.56	2.76	74.13	71.38	70.29	66.26	59.8	57.53	54.1	4.37

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 017	21/04/2015 13:00	01:00:00	79.94	46.58	105.62	68.04	67.07	79.94	0.97	73.14	70.98	70.14	66.01	59.67	57.64	53.2	4.21
Project 017	21/04/2015 14:00	01:00:00	83.34	48.62	103.78	68.35	67.34	79.98	1.01	72.73	71.13	70.24	66.6	60.42	58	53.6	3.99
Project 017	21/04/2015 15:00	00:07:02	74.41	51.54	102.86	68.18	67.35	81.16	0.83	72.55	71.28	70.29	66.61	59.41	56.81	53.68	4.29

B1.6 15 Greentrees Road, Walkinstown

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150416 001	16/04/2015 12:18	00:41:55	95.04	31.53	115.18	71.34	61.79	71.04	9.55	66.37	63.58	61.55	51.57	44.1	40.43	36.51	6.75
150416 001	16/04/2015 13:00	01:00:00	66.65	35.54	78.02	57.08	56.18	69.64	0.9	63.36	62.87	60.38	53.7	47.06	44.26	39.36	5.1
150416 001	16/04/2015 14:00	01:00:00	110.69	32.08	131.65	82.32	67.83	71.81	14.49	62.4	56.51	55.08	51.28	44.68	42.56	38.53	4.74
150416 001	16/04/2015 15:00	01:00:00	66.74	35.48	76.17	52.84	51.94	67.58	0.9	57.6	55.4	54.57	51.25	45.15	43.21	39.75	3.8
150416 001	16/04/2015 16:00	01:00:00	68.3	36.17	76.9	52.43	51.48	67.39	0.95	57.28	55.22	54.36	50.68	44.71	42.61	39.92	3.82
150416 001	16/04/2015 17:00	01:00:00	63.1	38.84	80.35	51.9	50.92	68.87	0.98	56.35	54.55	53.62	50.14	45.78	44.48	42.4	3.05
150416 001	16/04/2015 18:00	01:00:00	67.44	36.18	82.74	51.75	50.74	67.05	1.01	55.8	54.35	53.67	49.89	44.51	42.78	39.7	3.58
150416 001	16/04/2015 19:00	01:00:00	64.45	34.05	81.33	51.88	50.92	65.55	0.96	56.58	54.85	54.01	50.05	42.52	39.92	36.52	4.5
150416 001	16/04/2015 20:00	01:00:00	66.98	31.33	78.17	51.07	50.18	64.18	0.89	56.2	54.46	53.48	48.96	39.86	37.9	34.5	5.23
150416 001	16/04/2015 21:00	01:00:00	65.8	31.09	75.98	50.45	49.53	62.78	0.92	57.03	54.26	53.2	47.68	37.97	36.31	33.34	5.76
150416 001	16/04/2015 22:00	01:00:00	69.2	29.38	79.37	49.04	47.91	61.46	1.13	55.55	53.47	52.28	43.55	34.9	33.49	31.85	6.63
150416 001	16/04/2015 23:00	01:00:00	62.57	26.7	74.54	46.57	45.49	58.61	1.08	55.4	52.25	50.36	36.48	29.77	29.14	28.4	7.71
150416 001	17/04/2015	01:00:00	62.55	23.65	74.98	44.33	43.21	56.1	1.12	54.13	50.91	48.18	32.29	27.49	26.8	26.13	7.73
150416 001	17/04/2015 01:00	01:00:00	60.11	21.63	70.96	41.85	40.75	53.84	1.1	53.53	48.53	42.48	28.19	24.65	24.3	23.97	7.32
150416 001	17/04/2015 02:00	01:00:00	60.82	21.23	72.03	41.73	40.51	56.45	1.22	53.8	47	38.97	25.56	24.3	24.12	23.82	7.05
150416 001	17/04/2015 03:00	01:00:00	63.86	21.35	76.36	40.55	38.72	53.57	1.83	52.2	41.6	34.54	26.46	25.1	24.85	24.41	5.6
150416 001	17/04/2015 04:00	01:00:00	57.99	22.69	69.32	40.08	38.99	54.76	1.09	53.36	43.4	36.05	27.69	25.46	25.19	24.86	5.83
150416 001	17/04/2015 05:00	01:00:00	64.45	25.07	74.56	45.49	44.3	57.72	1.19	56.55	51.53	48	33.08	28.42	27.9	27.23	7.32
150416 001	17/04/2015 06:00	01:00:00	65.44	28.84	76.63	49.12	48.01	61.01	1.11	58.2	54.9	52.69	39.79	33.24	31.83	30.65	7.27
150416 001	17/04/2015 07:00	01:00:00	68.31	35.18	79.05	53	52.1	66.25	0.9	59.14	56.33	55.25	50.5	41.43	39.86	37.75	5.2
150416 001	17/04/2015 08:00	01:00:00	62.04	36.98	73.66	52.94	52.16	67.53	0.78	57.43	55.78	54.94	51.51	45.82	43.62	40	3.67
150416 001	17/04/2015 09:00	01:00:00	62.52	33.42	78.35	52.72	51.82	67.37	0.9	57.5	55.72	54.84	51.05	44.47	42.07	37.56	4.14

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150416 001	17/04/2015 10:00	01:00:00	65.2	31.75	75.27	52.11	51.29	66.83	0.82	57.06	55.41	54.48	50.3	42.41	40.08	37.05	4.68
150416 001	17/04/2015 11:00	01:00:00	63.54	32.61	75.1	52.21	51.34	67.15	0.87	58.04	55.45	54.4	50.24	42.48	39.96	36.4	4.7
150416 001	17/04/2015 12:00	00:18:05	68.36	35.05	81.01	54.15	52.95	70.14	1.2	64.11	56.08	54.63	50.96	44.98	43.05	38.08	4.3

B1.7 19 Finnsgreen, Lucan

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 002	23/03/2015 14:33	00:26:25	79.25	50.23	100.48	69.45	68.47	75.86	0.98	74.67	72.86	71.82	67.24	59.17	57.17	53.48	4.84
Project 002	23/03/2015 15:00	01:00:00	82.18	49.18	105.61	70.08	69.06	76.48	1.02	75.32	73.38	72.28	68.02	59.72	57.77	54.4	4.84
Project 002	23/03/2015 16:00	01:00:00	86.9	49.03	106.93	70.26	69.24	75.84	1.02	75.33	73.42	72.42	68.12	60.18	57.36	54.08	4.9
Project 002	23/03/2015 17:00	01:00:00	83.27	47.61	101.58	70.38	69.54	75.44	0.84	74.66	73.29	72.53	69.05	60.01	57.68	53.88	4.89
Project 002	23/03/2015 18:00	01:00:00	85.07	50.22	104.02	70.91	69.92	73.78	0.99	75.81	74.08	73.06	69	60.76	58.33	55	4.8
Project 002	23/03/2015 19:00	01:00:00	84.99	46.74	102.33	70.36	69.45	74.08	0.91	75.52	73.54	72.56	68.59	60	57.37	51.26	5.11
Project 002	23/03/2015 20:00	01:00:00	82.67	46.63	100.28	69.25	68.3	71.97	0.95	74.9	73	72	66.71	55.76	53.22	49.73	6.18
Project 002	23/03/2015 21:00	01:00:00	78.77	42.76	100.82	67.71	66.69	72.18	1.02	74.51	72.4	71.04	63.18	52.52	50.1	47	7.01
Project 002	23/03/2015 22:00	01:00:00	78.77	40.01	101.17	66.42	65.27	72.28	1.15	74.3	71.67	70.03	59.65	48.03	45.98	43.61	8.16
Project 002	23/03/2015 23:00	01:00:00	80.14	36.09	104.64	64.03	62.65	70.04	1.38	74.13	70.07	67.21	50.88	40.65	39.62	38.04	10.02
Project 002	24/03/2015	01:00:00	80.71	32.71	101.1	60.76	59.45	67.69	1.31	71.7	66.83	63.01	42.71	37.08	36.05	34.8	9.73
Project 002	24/03/2015 01:00	01:00:00	81.76	31.41	103.61	59.58	58.12	71.3	1.46	72	63.88	56.58	38.99	35.37	34.5	33.2	8.9
Project 002	24/03/2015 02:00	01:00:00	82.29	29.86	103.46	59.07	57.47	74.47	1.6	71.4	59.45	52.73	39.02	35.38	34.47	32.13	7.91
Project 002	24/03/2015 03:00	01:00:00	81.89	31.22	104.19	60.68	58.5	75.51	2.18	72.2	63.54	57.58	41.06	36.82	35.61	33.53	8.86
Project 002	24/03/2015 04:00	01:00:00	78.84	34.68	101.52	60.14	58.17	72.08	1.97	71.48	64.36	58.96	45.88	40.61	39.68	37.77	7.75
Project 002	24/03/2015 05:00	01:00:00	82.38	38.66	99.46	65.41	63.99	72.66	1.42	75.06	71.44	68.53	54.34	44.26	42.7	41.16	8.83
Project 002	24/03/2015 06:00	01:00:00	81.46	44.68	103.26	69.76	68.6	75.09	1.16	76.6	74.33	73.01	64.6	53.62	50.7	47.12	7.39
Project 002	24/03/2015 07:00	01:00:00	81.98	52.32	101.35	71.46	70.57	76.25	0.89	76.57	74.82	73.85	69.68	61.24	58.96	56.02	4.77
Project 002	24/03/2015 08:00	01:00:00	81.36	50.41	101.53	70.31	69.45	76.23	0.86	74.53	73.31	72.5	68.7	62.49	60.01	55.86	4.05
Project 002	24/03/2015 09:00	01:00:00	80.85	47.39	104.81	70.3	69.35	76.26	0.95	75.4	73.69	72.84	68.07	59.43	56.94	52.26	5.29
Project 002	24/03/2015 10:00	01:00:00	79.99	47.62	104.2	69.14	68.08	75.37	1.06	75.31	73.15	72.01	65.82	56.03	53.8	50.85	6.07
Project 002	24/03/2015 11:00	01:00:00	98.96	46.73	111.65	73.03	69.79	76.82	3.24	76	73.56	72.41	65.95	56.4	54.14	49.7	6.25

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 002	24/03/2015 12:00	01:00:00	81.07	45.53	103.52	69.39	68.26	75.94	1.13	75.15	73.16	72.11	66.25	56.49	53.98	49.26	5.98
Project 002	24/03/2015 13:00	01:00:00	81.86	51.19	115.64	69.8	68.68	84.28	1.12	75.16	73.17	72.16	67.26	58.95	56.72	53.51	5.1
Project 002	24/03/2015 14:00	00:33:35	81.34	50.7	99.59	69.67	68.7	72.66	0.97	75.26	73.29	72.25	67.18	58.89	56.19	53.07	5.25

B1.8 9 Westbourne Court, Clondalkin

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 003	24/03/2015 15:12	00:47:58	95.75	49.38	118.34	75.18	71.2	81.05	3.98	78.54	74.98	73.74	69.4	60.01	56.39	52.79	5.59
Project 003	24/03/2015 16:00	01:00:00	81.06	47.4	112.08	71.19	70.21	79.46	0.98	75.91	74.56	73.76	69.14	56.4	52.78	49.87	6.55
Project 003	24/03/2015 17:00	01:00:00	95.85	48.81	107.5	78.77	73.72	78.52	5.05	83.8	78.33	76.26	71.08	63.31	60.29	54.93	5.36
Project 003	24/03/2015 18:00	01:00:00	93.63	46.2	104.97	76.73	72.4	76.25	4.33	82.43	77.08	75.11	69.89	60.25	57.06	53.12	5.94
Project 003	24/03/2015 19:00	01:00:00	93.43	49.66	110.33	73.56	69.68	74.03	3.88	76.2	74.17	73.06	67.88	57.38	54.95	52.12	5.98
Project 003	24/03/2015 20:00	01:00:00	80.24	47.32	104.57	69.5	68.61	73.57	0.89	75.2	73.6	72.61	66.71	54.66	52.49	50.05	6.76
Project 003	24/03/2015 21:00	01:00:00	88.41	45.07	102.75	70.85	67.79	71.58	3.06	75.9	73.46	72.06	63.62	52.31	50.53	47.72	7.47
Project 003	24/03/2015 22:00	01:00:00	81.02	42.64	100.73	66.96	65.89	73.09	1.07	74.94	72.27	70.71	58.76	48.13	46.31	44.61	8.55
Project 003	24/03/2015 23:00	01:00:00	80.55	40.27	101.48	65.58	64.46	70.14	1.12	74.53	71.4	69.53	54.28	45.32	43.98	42.05	9.13
Project 003	25/03/2015	01:00:00	80.73	37.45	97.29	62.98	61.68	68.53	1.3	73.45	69.57	65.8	46.69	41.52	40.78	39.63	9.11
Project 003	25/03/2015 01:00	01:00:00	80.28	36.23	95.82	61.78	60.51	68.04	1.27	73.26	68.3	62.8	44.7	40.14	39.51	37.95	8.8
Project 003	25/03/2015 02:00	01:00:00	82.89	35.24	101.45	61.63	60.15	65.86	1.48	73.65	66.6	59.2	42.86	38.83	38.05	37.01	8.56
Project 003	25/03/2015 03:00	01:00:00	80.73	35.75	94.96	59.8	58.58	65.01	1.22	72.33	64.6	56.84	42.82	39.3	38.64	37.51	7.76
Project 003	25/03/2015 04:00	01:00:00	80.95	36.86	96.63	61.82	60.55	67.44	1.27	73.43	68.45	61.92	44.8	40.2	39.34	38.28	8.56
Project 003	25/03/2015 05:00	01:00:00	78.6	38.61	102.47	64.42	63.34	70	1.08	74.43	71.56	68.38	50.73	43.89	42.7	41.12	8.95
Project 003	25/03/2015 06:00	01:00:00	81.17	45.98	98.7	69.07	68.08	72.54	0.99	76.44	74.2	72.77	63.06	52.74	51.15	48	7.42
Project 003	25/03/2015 07:00	01:00:00	88.28	51.44	105.88	71.18	70.31	74.42	0.87	77.2	75.09	74.09	68.29	58.03	56.3	53.8	6
Project 003	25/03/2015 08:00	01:00:00	81.59	49.23	100.69	71.51	70.73	75.34	0.78	76.52	75.01	74.18	69.72	59.71	56.8	53	5.56
Project 003	25/03/2015 09:00	01:00:00	97.85	46.09	105.04	72.42	70.61	75.2	1.81	76.47	74.7	73.77	68.29	55.48	52.53	49.72	6.88
Project 003	25/03/2015 10:00	01:00:00	80.56	46.53	102.39	70.25	69.38	74.18	0.87	76	74.06	73.15	67.69	56.55	53.45	50.04	6.39
Project 003	25/03/2015 11:00	01:00:00	83.28	45.22	100.58	70.05	69.16	73.83	0.89	76.04	74.17	73.09	67.16	54.83	51.9	48	6.87
Project 003	25/03/2015 12:00	01:00:00	80.19	46.09	102.2	70.33	69.5	76.02	0.83	75.95	74.04	72.98	68.33	56.61	53.5	49.68	6.22

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 003	25/03/2015 13:00	01:00:00	83.7	45.76	109.7	70.55	69.54	79.52	1.01	75.67	73.93	73.04	68.32	58.12	55.25	51.17	5.74
Project 003	25/03/2015 14:00	01:00:00	86.13	45.69	104.8	70.77	69.82	78.38	0.95	76.1	74.24	73.3	68.32	57.38	54.69	50.67	6.02
Project 003	25/03/2015 15:00	00:12:02	78.24	49.55	106.8	70.11	69.3	79.93	0.81	75.58	73.72	73.06	67.56	55.74	53.5	51.12	6.63

B1.9 1 Cypress Lawn, Templeogue

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 007	14/04/2015 17:04	00:55:50	77.13	49.91	109.01	65.19	64.47	76.27	0.72	69.6	68.13	67.42	63.84	57.62	56.11	53.32	3.78
Project 007	14/04/2015 18:00	01:00:00	71.27	50.43	109.57	66	65.34	75.55	0.66	69.5	68.47	67.86	65.08	59.95	58.03	54.2	3.26
Project 007	14/04/2015 19:00	01:00:00	73.42	50.27	103.67	66.11	65.45	74.25	0.66	69.85	68.68	68.1	65.11	59.04	56.84	53.55	3.58
Project 007	14/04/2015 20:00	01:00:00	73.15	47.54	104.83	65.54	64.85	73.21	0.69	69.88	68.48	67.8	64.29	56.25	53.58	50.28	4.5
Project 007	14/04/2015 21:00	01:00:00	72.56	46.03	102.57	64.52	63.73	71.48	0.79	69.21	67.85	67.05	62.81	53.63	51.66	49.22	4.94
Project 007	14/04/2015 22:00	01:00:00	73.45	42.51	99.1	63.44	62.65	69.21	0.79	69.31	67.77	66.61	60.74	49.98	48.08	44.64	6.23
Project 007	14/04/2015 23:00	01:00:00	74.05	39.87	101.86	61.72	60.9	67.69	0.82	68.54	66.72	65.48	56.78	44.72	42.86	41.45	7.63
Project 007	15/04/2015	01:00:00	74.12	36.5	94.96	59.94	59.04	65.75	0.9	68.65	65.95	64.05	51	40.54	39.84	38.72	8.8
Project 007	15/04/2015 01:00	01:00:00	75.25	32.59	98.41	57.03	56.06	66.89	0.97	67.66	63.74	60.65	41.5	36.17	35.31	34.31	9.19
Project 007	15/04/2015 02:00	01:00:00	72.65	29.99	98.02	53.36	52.43	67.07	0.93	65.36	60.12	53.92	36.48	33.66	33.14	32.37	8.33
Project 007	15/04/2015 03:00	01:00:00	71.77	32.32	96.38	53.74	52.86	66.6	0.88	66.4	60.45	54.71	37.49	35.01	34.52	33.76	7.96
Project 007	15/04/2015 04:00	01:00:00	71.99	35.41	99.03	56.14	54.53	68.34	1.61	66.7	62.43	57.74	41.82	38.16	37.55	36.75	7.71
Project 007	15/04/2015 05:00	01:00:00	74.63	39.73	105.44	61.31	59.03	75.65	2.28	68.93	66.01	63.74	52.24	45.76	44.58	42.82	6.7
Project 007	15/04/2015 06:00	01:00:00	77.57	44.92	110.13	64.7	63.89	76.18	0.81	71.37	69.35	68.22	60.56	50.08	48.84	47	6.6
Project 007	15/04/2015 07:00	01:00:00	76.64	51.65	103.87	67.64	66.97	76.28	0.67	71.7	70.38	69.64	66.73	59.12	56.76	54.24	4.07
Project 007	15/04/2015 08:00	01:00:00	76.45	51.92	105.44	65.21	64.53	77.66	0.68	69.76	68.34	67.5	63.74	58.52	56.94	54.62	3.45
Project 007	15/04/2015 09:00	01:00:00	73.84	50.04	109.14	66.69	66.04	78.93	0.65	70.66	69.46	68.78	65.72	59.52	56.37	52.5	3.85
Project 007	15/04/2015 10:00	01:00:00	77.94	46.41	103.09	66.6	65.93	76.24	0.67	70.96	69.67	68.88	65.39	57.64	54.64	49	4.6
Project 007	15/04/2015 11:00	01:00:00	87.57	45.37	94.58	67.26	66.37	71.32	0.89	71.49	69.86	69.07	65.55	57.61	54.9	50.6	4.63
Project 007	15/04/2015 12:00	01:00:00	74.02	45.16	98.14	66.99	66.36	71.14	0.63	71.22	69.93	69.12	65.89	58.99	56	51.63	4.19
Project 007	15/04/2015 13:00	01:00:00	74.1	44.57	93.11	66.95	66.3	69.87	0.65	71.17	69.86	69.03	65.83	59.48	56.5	51.6	4.04
Project 007	15/04/2015 14:00	01:00:00	90.73	49.42	100.84	68.01	66.58	70.82	1.43	71.05	69.44	68.66	65.67	59.58	57.2	52.93	3.87

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 007	15/04/2015 15:00	01:00:00	76.99	48.26	95.32	66.65	65.96	71.35	0.69	71.29	69.84	68.96	65.22	58.25	56.21	52.91	4.16
Project 007	15/04/2015 16:00	01:00:00	75.92	40.18	96.44	65.73	65.06	70.76	0.67	70.86	69.26	68.27	63.96	57.91	55.93	52.26	4.09
Project 007	15/04/2015 17:00	00:04:10	67.84	53.36	93.79	62.68	62.02	74.06	0.66	67.03	65.9	65.48	60.8	56.6	55.7	54.1	3.21

B1.10 21 Hermitage Gardens, Lucan

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 008	16/04/2015 10:58	00:01:27	66.8	55.81	89.28	61.91	61.26	72.12	0.65	65.62	64.11	62.97	60.7	58.34	57.53	56.37	1.89
Project 008	16/04/2015 11:00	01:00:00	78.32	53.76	102.57	62.51	61.53	76.67	0.98	66.18	64.47	63.7	60.98	58.4	57.76	56.5	2.08
Project 008	16/04/2015 12:00	01:00:00	70.53	54.45	112.76	61.3	60.62	76.54	0.68	64.72	63.43	62.71	60.12	57.89	57.29	56.17	1.87
Project 008	16/04/2015 13:00	01:00:00	69.12	53.81	104.7	61.52	60.86	75.58	0.66	65.25	63.57	62.82	60.44	58.15	57.55	56.33	1.86
Project 008	16/04/2015 14:00	01:00:00	69.09	54.23	106.93	62.08	61.41	76.35	0.67	65.12	64.12	63.39	61.06	58.5	57.68	56.43	1.92
Project 008	16/04/2015 15:00	01:00:00	71.07	54.29	105.61	61.83	61.11	74.66	0.72	65.14	63.75	63.04	60.68	58.43	57.78	56.62	1.8
Project 008	16/04/2015 16:00	01:00:00	79.97	55.9	103.16	64.11	62.61	75.7	1.5	66.56	64.97	64.28	62.13	60.3	59.78	58.64	1.67
Project 008	16/04/2015 17:00	01:00:00	81.1	56.56	103.67	64.07	62.61	75.42	1.46	66.25	65.02	64.36	62.1	60.22	59.62	58.73	1.68
Project 008	16/04/2015 18:00	01:00:00	79.39	55.84	97.43	63.92	62.83	73.82	1.09	66.35	64.85	64.36	62.53	60.72	60.04	58.94	1.52
Project 008	16/04/2015 19:00	01:00:00	72.98	54.83	95.7	63.44	62.46	71.86	0.98	65.93	64.65	64.08	62.23	60.19	59.55	58.51	1.56
Project 008	16/04/2015 20:00	01:00:00	76.57	54.29	92.77	62.3	61.52	69.76	0.78	64.79	63.89	63.3	61.29	59.03	58.22	56.67	1.71
Project 008	16/04/2015 21:00	01:00:00	84.4	52.94	98.99	67.59	61.51	68.74	6.08	73.55	62.58	61.99	59.98	57.35	56.65	55.48	2.5
Project 008	16/04/2015 22:00	01:00:00	82.92	50.73	99.64	61.5	59.1	67.23	2.4	62.54	61.3	60.74	58.5	55.83	54.89	53.3	2.1
Project 008	16/04/2015 23:00	01:00:00	84.19	46.37	98.82	70.06	61.42	67.21	8.64	73.86	62.64	60.36	56.8	52.73	51.69	49.3	4.31
Project 008	17/04/2015	01:00:00	79.7	41.75	97.52	62.22	57.17	64.64	5.05	63	60.2	59.19	55.33	50.13	48.18	44.4	3.89
Project 008	17/04/2015 01:00	01:00:00	85.18	39.74	99.72	68.24	59.4	64.65	8.84	73.28	60.2	58.31	53.02	46.45	44.32	41.42	5.59
Project 008	17/04/2015 02:00	01:00:00	80.44	35.74	95.73	60.54	54.48	62.49	6.06	60.6	58.29	57.02	50.83	42.61	41.1	38.66	5.53
Project 008	17/04/2015 03:00	01:00:00	84.94	36.13	99.55	70.32	60.98	64.59	9.34	74.66	68.4	57.88	50.95	43.54	41.59	39.22	7
Project 008	17/04/2015 04:00	01:00:00	68.14	41.42	89.77	56.55	55.68	64.43	0.87	62.4	60.08	58.94	54.1	48.5	47.09	44.82	4.01
Project 008	17/04/2015 05:00	01:00:00	71.35	43.6	91.36	60.47	57.67	65.87	2.8	65.2	62.34	60.68	56.11	51.27	49.4	46.44	3.82
Project 008	17/04/2015 06:00	01:00:00	69.45	49.24	92.48	61.1	60.48	69.99	0.62	64.5	63.24	62.64	60.23	56.37	55	52.84	2.5
Project 008	17/04/2015 07:00	01:00:00	83.25	55.71	98.15	64.17	62.02	71.91	2.15	65.16	64	63.48	61.61	59.56	59.01	58.25	1.64

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 008	17/04/2015 08:00	01:00:00	82.75	55.38	96.94	64.91	61.57	71.4	3.34	66.1	63.34	62.73	60.97	58.91	58.42	57.5	1.8
Project 008	17/04/2015 09:00	01:00:00	76.69	55.64	94.99	62.93	62.16	72.47	0.77	65.82	64.68	64.06	61.79	59.51	58.85	57.7	1.78
Project 008	17/04/2015 10:00	00:58:33	69.7	54.8	98.47	62.65	61.98	73.1	0.67	66.04	64.55	63.81	61.61	59.35	58.54	57.06	1.81

B1.11 10 Michael Collins Park, Clondalkin

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150324 001	24/03/2015 16:29	00:30:25	95.81	39.7	117.63	69.95	58.24	71.21	11.71	65.15	58.38	56.2	52.81	46.77	44.7	42.42	4.31
150324 001	24/03/2015 17:00	01:00:00	74.23	39.95	82.63	54.58	53.28	69.46	1.3	58.77	56.33	55.47	52.43	46.8	45.05	42.71	3.48
150324 001	24/03/2015 18:00	01:00:00	63.55	39.77	81.61	53.7	52.86	67.55	0.84	58.34	56.32	55.54	52.13	46.93	45.65	43.12	3.37
150324 001	24/03/2015 19:00	01:00:00	81.47	40.07	88.17	56.04	54.38	66.42	1.66	59.32	56.33	55.5	51.41	45.78	44.53	42.77	3.87
150324 001	24/03/2015 20:00	01:00:00	66.44	38.72	79.03	52.43	51.63	64.24	0.8	57.65	55.55	54.68	50.56	44.71	43.44	41.96	3.76
150324 001	24/03/2015 21:00	01:00:00	69.15	37.93	81.65	53.48	51.34	63.35	2.14	58.2	55.59	54.64	49.94	43.65	42.38	40.45	4.15
150324 001	24/03/2015 22:00	01:00:00	69.54	36.61	78.72	51.26	50.35	63.67	0.91	58.26	55.13	53.71	47.74	41.04	39.88	38.64	4.78
150324 001	24/03/2015 23:00	01:00:00	59.94	34.64	74.25	48.09	47.19	61.26	0.9	56.4	52.96	51.31	43.2	37.48	36.84	35.92	5.2
150324 001	25/03/2015	01:00:00	63.05	32.61	74.53	47.56	46.6	59	0.96	56.6	52.74	50.83	40.73	36.07	35.32	34.25	5.63
150324 001	25/03/2015 01:00	01:00:00	63.84	30.17	74.19	45.85	44.84	57.62	1.01	55.32	51.33	48.8	37.7	34.1	33.47	32.46	5.69
150324 001	25/03/2015 02:00	01:00:00	63.1	29.53	74.49	44.88	43.69	55.73	1.19	55.4	50.11	46.83	35.44	32.24	31.77	31.01	5.83
150324 001	25/03/2015 03:00	01:00:00	63.33	29.39	74.77	44.52	43.4	56.95	1.12	55	49.6	46.24	35.37	32.9	32.35	31.43	5.47
150324 001	25/03/2015 04:00	01:00:00	63.94	28.97	74.78	45.63	44.56	57.79	1.07	56.16	51.05	47.93	36.5	33.45	32.69	31.32	5.75
150324 001	25/03/2015 05:00	01:00:00	66.36	32.45	78	49.88	48.91	62.77	0.97	58.7	54.67	52.72	44.2	37.43	36.49	35.1	5.79
150324 001	25/03/2015 06:00	01:00:00	67.55	37.19	78.46	52.57	51.69	65.7	0.88	58.9	56.36	55.07	49.76	43.56	41.92	39.52	4.5
150324 001	25/03/2015 07:00	01:00:00	70.71	40.23	84.84	54.58	52.88	67.87	1.7	60.52	57.04	55.5	51.48	46.44	45.28	43.73	3.56
150324 001	25/03/2015 08:00	01:00:00	74.67	39.53	86.22	54.72	52.34	69.26	2.38	59.4	56	54.89	51.2	45.35	44.1	42.02	3.72
150324 001	25/03/2015 09:00	01:00:00	80.27	38.48	88.69	55	53.51	68.16	1.49	60.2	56.21	55.16	51.19	45.45	43.58	41.61	3.96
150324 001	25/03/2015 10:00	01:00:00	74.61	38.67	83.54	53.78	52.54	67.97	1.24	59.33	56.73	55.51	51.16	45.47	43.92	41.96	3.88
150324 001	25/03/2015 11:00	01:00:00	73.53	38.31	81.03	54.23	53.25	67.75	0.98	61.7	56.8	55.31	51.01	45.03	43.47	41.52	4.19
150324 001	25/03/2015 12:00	01:00:00	72.84	38.85	83.8	54.73	52.78	67.66	1.95	59.53	56.49	55.43	51.41	45.25	43.64	41.64	4.01

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150324 001	25/03/2015 13:00	01:00:00	71.68	41.19	86.58	55.51	53.51	68.72	2	59.28	57.17	56.19	52.66	47.45	45.95	43.9	3.38
150324 001	25/03/2015 14:00	01:00:00	82.32	38.88	89.95	55.99	54.29	68.84	1.7	59.93	56.64	55.51	51.88	46.7	45.46	43.15	3.6
150324 001	25/03/2015 15:00	01:00:00	65.12	40.72	75	54.46	53.65	70.94	0.81	59.73	57.4	56.41	52.85	47.6	45.83	43	3.48
150324 001	25/03/2015 16:00	00:29:35	65.34	39.23	73.72	54.56	53.8	70.23	0.76	58.65	56.99	56.4	53.27	47.82	45.9	42.17	3.55

B1.12 1 Butterfield Park, Rathfarnham

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 001	18/03/2015 16:32	00:27:58	77.93	43.48	99.13	65.69	64.88	70.95	0.81	69.86	68.48	67.75	64.26	58.03	55.53	50.27	4.11
Project 001	18/03/2015 17:00	01:00:00	104.13	42.86	110.77	73.71	69.3	72.46	4.41	71.13	68.72	67.84	64.12	57.68	55.25	50.2	4.44
Project 001	18/03/2015 18:00	01:00:00	80.36	43.43	101.67	65.63	64.87	70.63	0.76	70.4	68.68	67.84	64.07	57.11	54.88	49.1	4.41
Project 001	18/03/2015 19:00	01:00:00	86.63	43.1	102.24	65.22	64.31	69.83	0.91	70.24	68.17	67.25	62.81	54.6	51.91	46.66	5.19
Project 001	18/03/2015 20:00	01:00:00	75.3	42.52	95.23	64.04	63.17	67.6	0.87	69.9	68.16	67.05	61.19	51.89	49.62	46.06	5.74
Project 001	18/03/2015 21:00	01:00:00	82.88	42.08	99.71	63.91	62.86	68.06	1.05	70.11	68.05	67.05	60	50.14	47.36	44.9	6.36
Project 001	18/03/2015 22:00	01:00:00	73.47	39.76	98.43	62.58	61.65	66.19	0.93	70.04	67.7	66.28	57.11	46.98	45.13	42.08	7.11
Project 001	18/03/2015 23:00	01:00:00	75.61	36.24	95.65	60.44	59.24	64.03	1.2	69.46	66.5	64.25	50.5	40.42	39.23	38.15	8.91
Project 001	19/03/2015	01:00:00	75.4	33.49	92.62	57.59	56.39	59.63	1.2	67.93	63.87	60.01	42.84	37.92	37.03	35.4	8.68
Project 001	19/03/2015 01:00	01:00:00	73.94	30.6	90.29	53.89	52.74	55.66	1.15	66.6	59.4	53.2	38.06	34.01	33.26	31.98	7.82
Project 001	19/03/2015 02:00	01:00:00	78.1	30.57	91.7	54.97	53.41	56.07	1.56	67.06	59.14	53.14	35.83	32.59	32.04	31.43	8.45
Project 001	19/03/2015 03:00	01:00:00	74.21	30.3	92.96	52.62	50.98	56.19	1.64	65.8	53.6	48.17	35.27	32.38	31.99	31.39	7.02
Project 001	19/03/2015 04:00	01:00:00	74.28	30.6	91.47	56.62	54.49	57.75	2.13	67.7	60.5	55.14	42.22	34.71	33.68	32.2	8.44
Project 001	19/03/2015 05:00	01:00:00	78.46	34.18	98.02	58.91	57	62.28	1.91	69.16	63.97	59.43	49.05	41.89	40.34	38.34	6.84
Project 001	19/03/2015 06:00	01:00:00	77.93	38.77	99.53	63	61.86	66.62	1.14	71.44	68.7	66.98	53.45	43.61	42.56	41.3	8.66
Project 001	19/03/2015 07:00	01:00:00	81.25	44.04	97.37	67.12	66.27	71.4	0.85	72.2	70.57	69.55	65.23	55.42	52.31	48.14	5.51
Project 001	19/03/2015 08:00	01:00:00	77.31	44.52	97.76	66.55	65.83	71.45	0.72	71.31	69.73	68.95	64.88	58.25	56.18	52.2	4.27
Project 001	19/03/2015 09:00	01:00:00	103.9	42.35	111.45	73.58	69.27	72.19	4.31	72.1	69.87	68.79	64.16	55.53	52.8	46.7	5.51
Project 001	19/03/2015 10:00	01:00:00	75.72	39.04	97.51	65.68	64.84	70.26	0.84	71.16	69.18	68.19	63.63	55.53	53.04	47.4	5.18
Project 001	19/03/2015 11:00	01:00:00	73.68	38.52	95.69	64.88	64.09	69.76	0.79	70.1	68.45	67.43	63.18	53.09	50.4	45.15	5.61
Project 001	19/03/2015 12:00	01:00:00	75.77	38.46	100.18	65.22	64.38	70.61	0.84	70.2	68.54	67.64	63.39	54.82	51.25	44.05	5.42
Project 001	19/03/2015 13:00	01:00:00	75.41	44.04	97.8	65.16	64.33	71.09	0.83	70.08	68.36	67.45	63.45	55.22	52.78	49.1	4.82

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 001	19/03/2015 14:00	01:00:00	78.49	40.09	97.9	65.17	64.29	71.05	0.88	70.4	68.3	67.47	63.42	54.56	50.93	44	5.46
Project 001	19/03/2015 15:00	01:00:00	76.37	41.74	101.43	65.14	64.34	70.8	0.8	69.85	68.4	67.56	63.4	55.75	53.67	47.66	4.76
Project 001	19/03/2015 16:00	00:32:02	76.19	49.22	96.05	65.59	64.79	70.82	0.8	69.95	68.51	67.77	64.09	57.18	55.16	51.94	4.03

B1.13 29 Earlsfort Vale, Lucan

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 004	25/03/2015 17:09	00:50:22	80.14	49.88	116.46	67.62	65.6	80.78	2.02	71.31	69.41	68.59	64.83	56.45	54.41	52.14	4.62
Project 004	25/03/2015 18:00	01:00:00	78.89	49.7	105.26	66.91	66.01	77.08	0.9	71.22	69.94	69.22	65.24	56.83	55.13	53.16	4.56
Project 004	25/03/2015 19:00	01:00:00	74.26	49.62	104.08	66.78	66.1	72.89	0.68	71.45	70.3	69.47	65.29	56.02	54.4	52.22	4.98
Project 004	25/03/2015 20:00	01:00:00	74.82	48.69	105.23	66.34	65.64	74.86	0.7	71.92	70.3	69.4	63.96	54.5	53.33	51.42	5.63
Project 004	25/03/2015 21:00	01:00:00	91.52	47.34	109.35	66.68	65.37	75.82	1.31	71.8	70.22	69.15	59.87	52.14	50.9	49.16	6.57
Project 004	25/03/2015 22:00	01:00:00	75.53	44.4	103.91	63.58	62.76	70.16	0.82	71.56	69.5	67.93	55.74	48.56	47.22	45.77	7.12
Project 004	25/03/2015 23:00	01:00:00	84.15	40.27	110.46	61.35	60.24	72.49	1.11	70.47	67.57	65.16	50.17	44.67	43.68	42.21	7.63
Project 004	26/03/2015	01:00:00	74.6	37.56	107.93	57.85	56.83	75.64	1.02	68.8	65.03	60.48	44.86	40.44	39.79	38.95	7.65
Project 004	26/03/2015 01:00	01:00:00	73.24	35.49	117.04	55.43	53.97	87.31	1.46	67.46	59.86	53.7	44.53	40.62	39.79	38.26	6.07
Project 004	26/03/2015 02:00	01:00:00	71.59	34.85	115.42	52	50.33	85.84	1.67	64.4	53.16	49.02	41.65	38.26	37.54	36.56	5.24
Project 004	26/03/2015 03:00	01:00:00	77.38	36.36	122.61	57.21	54.44	91.2	2.77	67.5	60.33	55.8	46.78	41.33	40.41	39	6
Project 004	26/03/2015 04:00	01:00:00	74.22	36.37	115.12	56.66	54.4	86.92	2.26	67	59.71	55.08	46.82	41.75	40.72	39.15	5.74
Project 004	26/03/2015 05:00	01:00:00	75.78	38.26	115.43	59.51	58.14	86.85	1.37	69.84	65.96	62.23	48.91	43.8	42.72	40.88	6.92
Project 004	26/03/2015 06:00	01:00:00	74.82	40.02	115.3	63.14	62.09	83.97	1.05	70.7	68.6	67.08	55.8	46.88	45.67	44.25	7.43
Project 004	26/03/2015 07:00	01:00:00	76.15	47.31	109.69	65.79	64.98	82.01	0.81	71.4	69.73	68.83	62.94	53.71	52.14	49.21	5.73
Project 004	26/03/2015 08:00	01:00:00	81.12	49.38	116.48	66.27	65.3	88.09	0.97	71.2	69.43	68.55	64.24	55.78	53.76	51.32	4.81
Project 004	26/03/2015 09:00	01:00:00	80.08	49.49	120.38	66.86	65.39	92.31	1.47	71.36	69.75	68.83	64.2	56.04	54.16	52.12	4.75
Project 004	26/03/2015 10:00	01:00:00	76.7	46.34	118.96	65.6	64.44	90.64	1.16	71.53	69.48	68.33	62.24	54.08	51.68	48.4	5.55
Project 004	26/03/2015 11:00	01:00:00	77.68	47.66	119.96	66.21	64.29	91.26	1.92	70.73	68.94	68.02	62.73	53.84	51.7	49.51	5.36
Project 004	26/03/2015 12:00	01:00:00	77.39	46.68	120.36	65.73	64.23	90.41	1.5	70.86	68.91	67.91	62.6	52.87	51.16	49.08	5.56
Project 004	26/03/2015 13:00	01:00:00	87	47.39	122.9	68.81	65.26	92.23	3.55	72.64	69.45	68.44	64.01	54.67	52.59	49.94	5.23
Project 004	26/03/2015 14:00	01:00:00	77.3	45.59	127.31	65.84	64.35	88.76	1.49	70.26	68.52	67.72	63.21	54.36	52.45	50.26	4.98

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 004	26/03/2015 15:00	01:00:00	79.37	46.94	122.19	65.98	64.3	89.36	1.68	70.32	68.75	67.8	63.11	52.86	51.29	49.3	5.45
Project 004	26/03/2015 16:00	01:00:00	84.06	46.29	114.32	65.75	64.8	88.29	0.95	70.72	69.1	68.08	63.47	54.03	52.04	49.2	5.31
Project 004	26/03/2015 17:00	00:09:38	76.17	48.13	112.22	67.26	65.14	86.77	2.12	70.91	69.6	68.66	64.11	53.57	51.48	50.15	5.73

B1.14 39 Newlands Road, Clondalkin

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150420 001	20/04/2015 15:44	00:15:33	87.98	41.03	104.88	66.94	54.75	67.96	12.19	54.73	51.4	50.46	47.67	45.48	44.9	44.08	2.7
150420 001	20/04/2015 16:00	01:00:00	64.89	41.32	81.34	52.12	49.13	67.92	2.99	55.6	52.3	51.23	48.13	45.66	44.96	44.02	2.33
150420 001	20/04/2015 17:00	01:00:00	64.71	41.62	77.22	49.78	47.91	66.22	1.87	53.2	50.8	49.87	47.15	45.2	44.63	43.5	1.96
150420 001	20/04/2015 18:00	01:00:00	63.25	40.2	76.84	49.59	47.85	65.72	1.74	53.66	50.8	49.87	46.99	44.59	44.02	42.68	2.19
150420 001	20/04/2015 19:00	01:00:00	70.72	38.03	77.99	49.05	47.03	64.3	2.02	53.46	49.95	48.76	45.19	42.53	41.83	40.6	2.71
150420 001	20/04/2015 20:00	01:00:00	57.16	36.78	69.48	45.85	44.64	62.21	1.21	50.45	48.51	47.33	43.61	40.63	39.92	38.86	2.56
150420 001	20/04/2015 21:00	01:00:00	60.61	35.92	72.38	45.63	44.39	61.8	1.24	51.6	48.19	46.87	42.82	40.1	39.33	38.08	2.82
150420 001	20/04/2015 22:00	01:00:00	59.65	35.42	72.17	44.77	43.65	61.49	1.12	50.6	47.65	46.41	41.8	39.13	38.48	37.41	2.92
150420 001	20/04/2015 23:00	01:00:00	58.3	30.48	69.2	42.93	41.8	59.6	1.13	49.62	46.47	44.95	39.61	36.08	35.15	33.4	3.5
150420 001	21/04/2015	01:00:00	57.59	30.66	64.39	42.47	41.2	59.22	1.27	48.36	46.22	44.86	38.87	35.07	34.44	33.06	3.69
150420 001	21/04/2015 01:00	01:00:00	56.3	27.73	68.18	42.9	41.67	59.06	1.23	50.2	46.46	45.14	39	34.74	33.89	31.92	4.04
150420 001	21/04/2015 02:00	01:00:00	56.45	25.51	63.46	41.05	39.83	57.69	1.22	47.95	45.36	43.86	36.79	31.44	30.07	28.15	4.64
150420 001	21/04/2015 03:00	01:00:00	56.97	24.77	67.31	41.54	40.29	57.86	1.25	49.2	45.89	44.12	36.85	31.27	30.07	27.32	4.91
150420 001	21/04/2015 04:00	01:00:00	55.15	28.79	66.23	42.5	41.29	59.58	1.21	48.73	46.4	44.83	39.12	34.35	33.19	31.04	4.02
150420 001	21/04/2015 05:00	01:00:00	63.46	30.8	72.23	46.81	45.52	63.06	1.29	53.4	49.52	48.49	43.67	38.63	37.49	34.33	3.93
150420 001	21/04/2015 06:00	01:00:00	59.33	35.31	67.24	48.59	47.52	64.9	1.07	52.3	50.84	49.96	47.04	42.72	41.21	39.2	2.83
150420 001	21/04/2015 07:00	01:00:00	57.68	41.78	68.57	48.47	47.41	66.28	1.06	52.36	50.25	49.31	46.86	44.52	44.02	43.21	1.91
150420 001	21/04/2015 08:00	01:00:00	60.56	40.02	70.55	48.24	47.15	66.18	1.09	53.06	50.14	49.05	46.45	44.19	43.68	42.58	2.05
150420 001	21/04/2015 09:00	01:00:00	58.52	40.18	68.41	48.73	47.64	65.9	1.09	52.68	50.78	49.88	46.94	44.45	43.87	42.86	2.13
150420 001	21/04/2015 10:00	01:00:00	61.08	39.7	75.22	48.97	47.71	65.85	1.26	52.93	50.99	50.02	46.88	43.91	43.06	41.38	2.44
150420 001	21/04/2015 11:00	01:00:00	67.71	40.65	83.6	51.26	48.35	67.3	2.91	53.32	51.49	50.54	47.74	44.65	43.79	42.64	2.33
150420 001	21/04/2015 12:00	01:00:00	68.33	39.52	82.4	52.15	48.53	67.49	3.62	54.68	51.85	50.7	47.6	44.62	43.99	42.58	2.51

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150420 001	21/04/2015 13:00	01:00:00	69.4	40.33	84.81	53.39	49.2	68.24	4.19	57.4	52.58	51.23	47.56	44.58	43.84	42.66	2.86
150420 001	21/04/2015 14:00	01:00:00	69.26	40.72	85.7	52.91	48.87	67.87	4.04	55.66	52.22	51.08	47.9	44.87	44.07	42.6	2.55
150420 001	21/04/2015 15:00	00:44:27	74.63	39.39	89.48	54.46	49.18	68.95	5.28	55.81	52.67	51.26	48.06	45.09	44.37	43.27	2.59

B1.15 2 Rathfarnham Park, Rathfarnham

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150318 001	18/03/2015 17:24	00:35:40	89.61	35.38	109.61	64.15	54.86	70.61	9.29	61.96	54.08	52.88	48.75	43.81	42.18	39.09	4.18
150318 001	18/03/2015 18:00	01:00:00	69.26	33.13	81.11	52.2	51.15	69.32	1.05	57.66	54.93	53.83	49.97	41.6	39.79	35.93	4.77
150318 001	18/03/2015 19:00	01:00:00	70.37	32.75	79.3	51.7	50.85	68.39	0.85	56.48	54.67	53.84	49.73	42.53	40.36	37.08	4.49
150318 001	18/03/2015 20:00	01:00:00	66.84	30.95	78.59	51.22	50.35	66.22	0.87	58.2	54.78	53.66	48.28	39.97	38.51	35.6	5.23
150318 001	18/03/2015 21:00	01:00:00	65.67	29.86	73.9	50.25	49.33	65.1	0.92	56.26	54.01	52.97	47.09	39.39	37.65	34.95	5.22
150318 001	18/03/2015 22:00	01:00:00	62.98	27.42	73.72	49	48.14	64.03	0.86	55.48	53.33	52.09	45.13	36.88	34.96	32.25	5.84
150318 001	18/03/2015 23:00	01:00:00	69.06	24.24	76.56	47.93	46.6	62.72	1.33	55.56	52.15	50.18	40.14	31.12	28.76	26.52	7.2
150318 001	19/03/2015	01:00:00	59.39	21.96	69.85	44.44	43.45	57.69	0.99	53.76	50.6	48.06	35.82	27.08	25.43	23.13	7.75
150318 001	19/03/2015 01:00	01:00:00	58.16	19.37	69.32	41.9	40.8	55.5	1.1	52.72	48.55	44.87	29.24	21.89	21.11	20.32	8.66
150318 001	19/03/2015 02:00	01:00:00	58.58	18.6	69.67	39.59	38.47	51.95	1.12	51.75	45.24	39.36	23.71	20.48	20.2	19.68	8.08
150318 001	19/03/2015 03:00	01:00:00	58.42	19.11	70.32	40.6	39.44	52.68	1.16	52.2	46.88	41.97	26.4	21.71	21.18	20.44	8
150318 001	19/03/2015 04:00	01:00:00	60.94	20.11	72.94	40.62	39.34	53.72	1.28	52.2	45.3	40.72	26.75	22.42	22.03	21.4	7.52
150318 001	19/03/2015 05:00	01:00:00	62.61	21.61	73.35	43.58	42.45	60.84	1.13	53.95	49.68	46.25	33.42	26.04	25.05	23.01	7.61
150318 001	19/03/2015 06:00	01:00:00	63.46	27.38	72.13	48.04	47.11	63.61	0.93	55.8	53.09	51.6	42.28	34.1	32.28	30.15	6.56
150318 001	19/03/2015 07:00	01:00:00	73.43	33.82	81.45	51.44	50.36	69.56	1.08	58	53.97	52.96	48.46	42.03	41.03	39.09	4.28
150318 001	19/03/2015 08:00	01:00:00	66.39	34.18	75.14	51.78	50.82	69.44	0.96	57.85	55.03	53.97	49.41	42.97	41.66	39.25	4.21
150318 001	19/03/2015 09:00	01:00:00	68.6	33.66	77.3	51.6	50.59	69.06	1.01	57.9	54.81	53.9	48.86	41.79	40.27	37.1	4.64
150318 001	19/03/2015 10:00	01:00:00	67.24	31.52	78.55	51.15	50.2	67.78	0.95	56.83	54.52	53.51	48.8	40.63	38.55	34.73	5
150318 001	19/03/2015 11:00	01:00:00	63.28	32.47	73.52	50.93	50.09	67.7	0.84	57.08	54.55	53.34	48.65	40.41	38.62	35.7	4.97
150318 001	19/03/2015 12:00	01:00:00	74.79	33.23	85.14	52.36	50.86	68.02	1.5	57.8	54.37	53.3	49.06	41.36	39.4	36.3	4.7
150318 001	19/03/2015 13:00	01:00:00	69.08	32.27	79.19	50.86	49.97	68.02	0.89	56.84	53.93	53.06	48.48	39.89	38.32	35.73	4.95
150318 001	19/03/2015 14:00	01:00:00	67.06	32	76.93	51.49	50.54	68.43	0.95	58.6	54.73	53.45	48.89	41.2	39.3	35.73	4.85

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150318 001	19/03/2015 15:00	01:00:00	61.87	30.38	72.06	50.8	49.97	68.53	0.83	56.2	54.13	53.31	48.77	40.9	39.12	35.55	4.78
150318 001	19/03/2015 16:00	01:00:00	67.69	33.34	78.8	51.86	50.79	69.23	1.07	58	54.58	53.56	49.56	42.06	39.97	36.8	4.52
150318 001	19/03/2015 17:00	00:24:20	61.3	33.89	71.33	51.61	50.82	68.53	0.79	55.96	54.36	53.71	50.2	43.02	40.36	37.17	4.24

B1.16 59 Castlefield Park, Knocklyon

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150414 003	14/04/2015 17:37	00:22:14	88.54	42.15	111.68	70.09	58.6	70.22	11.49	71.73	61.92	54.45	47.17	44.91	44.28	43.42	5.52
150414 003	14/04/2015 18:00	01:00:00	65.22	43.07	84.85	50.69	48.99	67.07	1.7	54.9	50.98	50.07	48.42	46.95	46.48	45.52	1.6
150414 003	14/04/2015 19:00	01:00:00	66.16	41.98	82.1	49.29	47.75	65.65	1.54	53.05	50	49.16	47.32	45.44	44.88	43.89	1.66
150414 003	14/04/2015 20:00	01:00:00	74.76	38.63	85.17	56.61	50.38	64.56	6.23	63.7	50.48	49.25	46.85	44.8	44.2	42.83	2.99
150414 003	14/04/2015 21:00	01:00:00	62.16	38.72	80.59	47.13	45.92	62.68	1.21	50.37	48.18	47.48	45.5	43.49	42.79	41.42	1.72
150414 003	14/04/2015 22:00	01:00:00	64.46	34.32	75.99	45.62	44.82	60.18	0.8	50.6	47.36	46.47	43.82	40.79	39.93	38	2.51
150414 003	14/04/2015 23:00	01:00:00	65.81	31.6	82.72	45.47	42.87	59.21	2.6	50.46	46.13	44.84	41.39	37.26	36	34.09	3.24
150414 003	15/04/2015	01:00:00	53.24	25.13	62.72	41.05	40.22	56.04	0.83	46.62	44.47	43.3	39.01	33.35	31.9	28.7	3.84
150414 003	15/04/2015 01:00	01:00:00	55.34	20.34	63.93	39.11	38.17	53.7	0.94	45.77	43.23	41.88	35.97	26.8	24.15	21.74	5.61
150414 003	15/04/2015 02:00	01:00:00	57.31	21.07	74.24	39.36	37.77	55.01	1.59	46.4	43.2	41.63	34.94	27.12	24.93	22.55	5.46
150414 003	15/04/2015 03:00	01:00:00	51.88	23.28	62.98	38.58	37.62	55.16	0.96	46.6	42.98	41.3	34.71	27.68	26.45	24.85	5.08
150414 003	15/04/2015 04:00	01:00:00	64.04	25.97	82.93	44.54	40.61	65.2	3.93	48.6	45.03	43.69	38.51	31.5	29.89	28.15	4.64
150414 003	15/04/2015 05:00	01:00:00	66.79	30.73	85.9	46.85	43.3	67.45	3.55	50	46.87	45.79	42.03	37.91	36.41	33.6	3.25
150414 003	15/04/2015 06:00	01:00:00	61.12	37.74	79.84	48.34	47.06	67.48	1.28	52.3	50.04	49.31	46.46	43.19	42.03	40.03	2.49
150414 003	15/04/2015 07:00	01:00:00	65.68	45.17	85.74	51.13	49.49	69.5	1.64	53	51.14	50.62	49.24	48.04	47.69	47.03	1.15
150414 003	15/04/2015 08:00	01:00:00	65.36	44.43	81.65	50.97	49.29	69.97	1.68	53.31	51.65	50.85	48.94	46.94	46.47	45.86	1.58
150414 003	15/04/2015 09:00	01:00:00	59.42	45.25	76.72	50.66	49.75	67.31	0.91	52.61	51.41	50.98	49.56	48.24	47.82	47.03	1.12
150414 003	15/04/2015 10:00	01:00:00	61.19	44.63	79.45	50.25	49.41	65.17	0.84	52.51	51.28	50.73	49.2	47.69	47.19	46.37	1.26
150414 003	15/04/2015 11:00	01:00:00	57.34	45.63	76.11	51.01	50.3	64.41	0.71	52.83	52.06	51.65	50.14	48.69	48.25	47.17	1.17
150414 003	15/04/2015 12:00	01:00:00	66.66	46.51	85.05	52.3	51.55	65.19	0.75	54.57	53.4	52.92	51.34	49.71	49.28	48.3	1.3
150414 003	15/04/2015 13:00	01:00:00	63.03	46.46	78.12	52.1	51.36	65.63	0.74	54.23	53.3	52.8	51.13	49.39	49.01	48.14	1.34
150414 003	15/04/2015 14:00	01:00:00	59.2	46.12	74.96	52.58	51.89	65.46	0.69	55.06	54.1	53.58	51.61	49.72	49.02	47.93	1.52

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150414 003	15/04/2015 15:00	01:00:00	78.4	46.91	90.09	54.9	53.64	68.66	1.26	61.7	53.75	53.05	51.24	49.65	49.2	48.49	2.22
150414 003	15/04/2015 16:00	01:00:00	61.65	46.15	73.97	51.72	51.03	65.01	0.69	53.7	52.58	52.15	50.86	49.54	49.05	48.15	1.12
150414 003	15/04/2015 17:00	00:37:46	72.5	44.31	81.14	52.27	50.91	65.83	1.36	54	52.64	52.13	50.8	48.29	47.55	45.81	1.66

B1.17 2 Raheen Drive, Tallaght

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150413 002	13/04/2015 16:03	00:56:42	86.72	45.67	99.5	67.71	60.19	79.12	7.52	72.05	64.79	60.86	56.25	52.12	50.89	49.17	4.21
150413 002	13/04/2015 17:00	01:00:00	93.32	46.83	112.36	70.36	61.79	81.04	8.57	72.1	66	62.38	56.64	52.8	51.8	49.74	4.34
150413 002	13/04/2015 18:00	01:00:00	84.2	46.28	98.9	66.21	60.12	81.43	6.09	70.3	64.88	62.25	57.22	52.92	51.69	49.51	4
150413 002	13/04/2015 19:00	01:00:00	77.12	44.2	96.16	60.54	56.76	78.83	3.78	64.35	60.94	59.7	55.1	50.43	49.39	47.2	3.62
150413 002	13/04/2015 20:00	01:00:00	86.84	44.82	104.19	64.19	57.77	80.78	6.42	66	61.69	60.01	55.61	50.83	49.57	47.72	3.74
150413 002	13/04/2015 21:00	01:00:00	96.61	42.84	117	68.54	59.04	80.87	9.5	66.4	61.24	59.95	54.86	49.74	48.53	46.15	4.11
150413 002	13/04/2015 22:00	01:00:00	83.11	39.24	92.14	57.86	54.57	77.25	3.29	61.6	58.09	56.67	51.17	46.6	45.41	43.4	4.04
150413 002	13/04/2015 23:00	01:00:00	76.79	37.99	92.83	57.73	53.47	78.52	4.26	61.56	58.19	56.58	50.71	44.77	43.58	41.71	4.58
150413 002	14/04/2015	01:00:00	99.17	38.75	119.54	71.5	61.06	81.99	10.44	68.52	62.18	60	53.31	46.28	44.64	42.68	5.53
150413 002	14/04/2015 01:00	01:00:00	77.49	28.6	94.22	58.48	53.64	79.4	4.84	63.5	58.95	56.68	48.63	41.27	39.63	35.4	6.14
150413 002	14/04/2015 02:00	01:00:00	67	26.19	80.75	51.77	47.51	74.77	4.26	57.2	54.14	51.65	42.44	35.45	33.93	30.68	6.04
150413 002	14/04/2015 03:00	01:00:00	69.06	31.09	84.33	52.94	48.42	75.78	4.52	58.6	54.8	52.26	43.51	37.87	36.57	34.27	5.45
150413 002	14/04/2015 04:00	01:00:00	75.73	31.32	93.1	59.89	53.73	79.32	6.16	63.06	59.56	57.81	48.78	40.82	39.11	35.32	6.53
150413 002	14/04/2015 05:00	01:00:00	93.42	39.08	115.08	71.08	61.8	84.16	9.28	71	65.09	63.12	57.93	52.09	50.32	46.86	4.65
150413 002	14/04/2015 06:00	01:00:00	92.85	39.91	115.26	68.84	60.66	82.93	8.18	69.7	63.93	62.07	56.82	50.69	49.09	46.44	4.66
150413 002	14/04/2015 07:00	01:00:00	89.59	45.49	111.52	64.7	58.9	81.72	5.8	66.95	62.6	61.06	57	52.88	51.68	49.57	3.41
150413 002	14/04/2015 08:00	01:00:00	78.51	46.63	95.13	60.54	57.22	78.99	3.32	64.13	61.23	59.83	55.73	52.23	51.38	49.35	3.06
150413 002	14/04/2015 09:00	01:00:00	75.88	44.87	92.71	60.22	57.25	80.22	2.97	63.8	60.95	59.79	56.09	52.04	50.97	48.15	3.14
150413 002	14/04/2015 10:00	01:00:00	77.47	43.06	95.3	60.92	57.19	79.97	3.73	65.15	61.12	59.73	55.54	50.4	49	46.71	3.77
150413 002	14/04/2015 11:00	01:00:00	81.43	42.91	92.97	64.23	57.54	75.55	6.69	68.5	61.4	59.08	54.32	49.36	48.06	46.17	4.23
150413 002	14/04/2015 12:00	01:00:00	77.83	40.9	90.21	58.07	54.97	71.56	3.1	62.33	58.82	57.59	53.44	48.55	47.22	45.02	3.65
150413 002	14/04/2015 13:00	01:00:00	79.07	41.82	89.44	58.77	54.89	70.81	3.88	64	58.42	57.11	52.66	48.35	47.35	45.13	3.69

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150413 002	14/04/2015 14:00	01:00:00	81.83	43.07	92.59	59.73	54.96	69.3	4.77	62.8	57.79	56.75	53.05	48.81	47.33	45.57	3.4
150413 002	14/04/2015 15:00	01:00:00	82.2	40.84	93.64	59.64	55.03	67.47	4.61	63.5	58.32	57.1	53.34	48.61	46.76	44.08	3.65
150413 002	14/04/2015 16:00	00:03:18	76.03	44.94	83.53	59.19	57.08	68.11	2.11	73	59.2	57.21	53.75	49.49	48.83	46.19	3.62

B1.18 2 Broadfield Court, Rathcoole

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 009	17/04/2015 11:41	00:18:57	83	67.42	104.67	74.48	73.66	80.82	0.82	76.61	75.88	75.42	73.51	71.05	70.29	69.29	1.68
Project 009	17/04/2015 12:00	01:00:00	88.79	63.75	106.25	74.7	73.93	82.65	0.77	77.04	76.22	75.72	73.73	71.18	70.37	68.57	1.84
Project 009	17/04/2015 13:00	01:00:00	86.01	64.29	106.81	74.71	73.97	81.32	0.74	77.12	76.23	75.75	73.73	71.04	70.13	68.2	1.92
Project 009	17/04/2015 14:00	01:00:00	88.47	67.21	106.9	75.09	74.33	81.57	0.76	77.06	76.32	75.92	74.22	72.04	71.34	69.87	1.53
Project 009	17/04/2015 15:00	01:00:00	84.02	67.22	106.8	75.47	74.75	80.71	0.72	77.18	76.42	76.07	74.66	72.92	72.33	70.8	1.29
Project 009	17/04/2015 16:00	01:00:00	81.88	62.4	103.95	74.5	73.61	80.21	0.89	76.36	75.59	75.13	73.55	71.33	70.61	68.36	1.61
Project 009	17/04/2015 17:00	01:00:00	83.87	59.6	102.07	72.2	71.33	78.05	0.87	75.92	74.88	74.03	70.43	67.63	66.72	64.84	2.48
Project 009	17/04/2015 18:00	01:00:00	82.42	66.32	102.41	74.18	73.48	77.66	0.7	76.37	75.54	75.06	73.32	71.14	70.41	68.97	1.55
Project 009	17/04/2015 19:00	01:00:00	81.21	64.29	103.92	73.7	72.57	76.81	1.13	75.92	74.85	74.3	72.41	69.98	69.22	67.68	1.71
Project 009	17/04/2015 20:00	01:00:00	80.4	60.5	101.33	73.13	72.22	75.27	0.91	75.93	75	74.4	71.89	68.59	67.61	65.28	2.3
Project 009	17/04/2015 21:00	01:00:00	77.32	57.51	99.98	70.71	69.94	72.95	0.77	74.05	72.82	72.14	69.55	66.31	65.25	62.35	2.35
Project 009	17/04/2015 22:00	01:00:00	76.85	53.85	99.26	70.42	69.63	72.71	0.79	74.66	73.19	72.3	69.06	64.85	63.36	60.5	2.94
Project 009	17/04/2015 23:00	01:00:00	77.06	49.58	98.29	68.6	67.74	71.49	0.86	73.4	71.66	70.64	66.8	61.4	58.97	54.73	3.83
Project 009	18/04/2015	01:00:00	76.41	43.72	93.43	67.61	66.68	70.49	0.93	73.58	71.63	70.11	65.09	57.69	55.28	50.6	4.96
Project 009	18/04/2015 01:00	01:00:00	75.93	42.92	94.68	65.77	64.75	69.22	1.02	72.75	70.1	68.49	62.41	51.72	49.29	46.11	6.33
Project 009	18/04/2015 02:00	01:00:00	76.28	33.79	91.63	64.67	63.56	67.85	1.11	72.28	69.43	67.66	60.03	47.11	44.63	39.44	7.76
Project 009	18/04/2015 03:00	01:00:00	74.5	34.35	93.23	63.9	62.84	66.72	1.06	71.47	68.63	67.17	59.13	46.72	43.62	37.33	7.97
Project 009	18/04/2015 04:00	01:00:00	76.37	40.92	93.08	65.51	64.42	68.35	1.09	72.28	69.56	68.32	62.03	52.4	49.55	46.16	6.14
Project 009	18/04/2015 05:00	01:00:00	77	42.92	95.09	65.97	64.96	69.16	1.01	72.4	69.94	68.66	63.13	53.01	49.78	45.57	6.08
Project 009	18/04/2015 06:00	01:00:00	77	47.56	93.93	69.16	68.28	72	0.88	73.72	72.24	71.29	67.57	60.66	58	53.2	4.3
Project 009	18/04/2015 07:00	01:00:00	78.47	55.07	105.45	70.91	70.07	76.03	0.84	74.33	73.14	72.43	69.6	66.34	65.21	62.66	2.5
Project 009	18/04/2015 08:00	01:00:00	78.07	59.23	106.39	72.17	71.37	78.14	0.8	75.09	74.06	73.42	71.05	68.26	67.27	65.05	2.1

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 009	18/04/2015 09:00	01:00:00	78.08	62.08	106.02	72.29	71.51	77.62	0.78	75.16	74.13	73.56	71.2	68.4	67.51	65.73	2
Project 009	18/04/2015 10:00	01:00:00	81.79	62.97	105.9	71.95	71.06	78.97	0.89	74.96	73.63	73.02	70.71	68.15	67.36	65.95	1.91
Project 009	18/04/2015 11:00	00:41:03	77.04	62.75	104.42	71.88	71.13	78.26	0.75	74.95	73.51	72.97	70.87	68.44	67.62	66.03	1.8

B1.19 1 Newcastle Manor Rise, Newcastle

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150417 001	17/04/2015 14:19	00:40:31	93.42	27.94	114.86	69.65	58.22	70.31	11.43	64.73	57.13	54.8	49.13	40.45	38.1	32.77	6.13
150417 001	17/04/2015 15:00	01:00:00	77.38	29.32	86.86	54.94	53.29	69.32	1.65	64.13	57.84	55.01	48.75	39.06	37.06	34.2	6.33
150417 001	17/04/2015 16:00	01:00:00	82.9	31.2	92.05	56.96	52.5	67.6	4.46	62	56.93	54.75	49.61	40.4	38.05	35.24	5.69
150417 001	17/04/2015 17:00	01:00:00	76.95	31.17	86.45	53.61	52.15	68.15	1.46	59.66	55.22	54	49.89	41.32	38.7	34.75	5.16
150417 001	17/04/2015 18:00	01:00:00	69.09	28.23	77.31	51.54	50.28	67.05	1.26	57.6	54.61	53.42	48.5	38.49	36.12	32.93	5.82
150417 001	17/04/2015 19:00	01:00:00	76.11	29.77	89.44	56.46	50.64	65.6	5.82	61.08	54.86	53.36	47.12	36.93	35.4	33.26	6.38
150417 001	17/04/2015 20:00	01:00:00	77.23	27.04	90.47	52.47	49.69	66.13	2.78	58.6	53.85	52.54	44.44	35.33	33.83	31.6	6.71
150417 001	17/04/2015 21:00	01:00:00	67.21	25.92	77.64	47.88	46.52	61.84	1.36	55.8	52.6	51.13	39.14	31.09	30.01	28.2	7.61
150417 001	17/04/2015 22:00	01:00:00	75.55	22.55	83.4	48.56	46.75	62.99	1.81	56.2	51.89	49.89	35.02	25.88	25.06	24.23	8.83
150417 001	17/04/2015 23:00	01:00:00	65.11	22.62	77.96	47.85	45.21	60.83	2.64	56.73	52.18	49.52	31.51	26.26	25.62	24.56	8.86
150417 001	18/04/2015	01:00:00	65.45	23.93	74.58	44.8	43.54	61.41	1.26	55.26	50.71	47.2	29.25	26.2	25.82	25.26	8.16
150417 001	18/04/2015 01:00	01:00:00	60.11	23.22	71.74	40.81	39.79	55.16	1.02	52.8	47.23	39.27	27.88	25.48	25.05	24.48	6.43
150417 001	18/04/2015 02:00	01:00:00	64.27	22.04	74.94	41.93	40.54	55.19	1.39	53.33	47.12	38.44	26.35	24.92	24.63	23.83	6.73
150417 001	18/04/2015 03:00	01:00:00	69.18	22.45	78.6	42.19	40.42	57.17	1.77	53.05	44.05	35.42	26.09	24.62	24.37	23.82	6.16
150417 001	18/04/2015 04:00	01:00:00	64.73	22.81	74.93	41.11	39.52	56.47	1.59	53.65	42.2	35.42	26.7	25.22	24.85	24.31	5.82
150417 001	18/04/2015 05:00	01:00:00	59.7	22.68	70.68	40.33	39.11	54.03	1.22	53.6	43.48	35.52	26.98	25.41	25	24.37	5.85
150417 001	18/04/2015 06:00	01:00:00	66.15	24.57	77	46.06	44.52	60.01	1.54	57.2	52	47.43	31.6	27.35	26.71	26.04	7.56
150417 001	18/04/2015 07:00	01:00:00	67.15	26.37	77.39	49.33	48.07	65.74	1.26	59.7	54.6	52.07	37.02	29.85	29.32	28.46	8.52
150417 001	18/04/2015 08:00	01:00:00	68.63	27.43	79.59	49.92	48.75	66.03	1.17	59	54.35	52.67	42.34	33.18	32.1	30.5	7.39
150417 001	18/04/2015 09:00	01:00:00	76.49	30.05	89.26	54.73	50.39	67.58	4.34	60.26	55.7	53.8	45.69	35.35	33.79	32.01	7.11
150417 001	18/04/2015 10:00	01:00:00	77.58	28.47	89.22	55.05	50.55	67.55	4.5	60.36	55.2	53.44	47	36.3	34.75	32.43	6.57
150417 001	18/04/2015 11:00	01:00:00	69.98	28.54	77.9	50.47	49.23	66.72	1.24	57.6	53.93	52.59	46.73	36.77	34.61	31.7	6.1

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
150417 001	18/04/2015 12:00	01:00:00	72.49	30.51	81.66	51.81	50.3	67.89	1.51	59.2	54.53	53.19	47.55	38.53	36.46	33.77	5.75
150417 001	18/04/2015 13:00	01:00:00	77.27	29.68	88.4	54.07	52.21	68.73	1.86	59.55	57.54	56.18	49.69	39.48	37.12	34.4	6.12
150417 001	18/04/2015 14:00	00:05:07	81.53	36.37	97.63	64.29	55.61	69.47	8.68	67.98	56.13	53.75	48.68	39.56	38.55	37.2	6.28

B2 Attended monitoring data

B2.1 1 Parkwood Road, Old Bawn, Tallaght

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 010	20/04/2015 11:00	00:15:00	71.38	45.96	107.85	62.11	60.7	81.6	1.41	67	64.96	63.82	59.76	52.13	51.13	48.75	4.4
Project 012	20/04/2015 12:05	00:15:00	75.59	47.25	112.8	63.12	61.34	85.11	1.78	68.8	65.82	64.67	59.88	53.28	51.55	49.72	4.27
Project 014	20/04/2015 13:05	00:15:00	77.63	46.21	102.12	63.43	61.91	78.85	1.52	68.2	66.02	65.22	60.93	52.2	50.2	48.2	5.05

B2.2 Swiftbrook Close, Tallaght

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 011	20/04/2015 11:31	00:15:00	71.16	48.38	111.25	61.06	59.92	82.55	1.14	65.5	64.05	63.02	58.92	52.83	51.4	49.65	3.89
Project 013	20/04/2015 12:34	00:15:00	73.87	45.35	104.71	62	60.39	79.56	1.61	68.2	64.48	63.36	59	52.48	51.2	49	4.22
Project 015	20/04/2015 13:40	00:11:12	78.68	47.32	107.11	63.53	60.69	83.76	2.84	69.75	64.21	62.99	59.3	53.57	51.9	49.04	3.94

B2.3 Slade Castle, Saggart

Project Name	Start Time	Elapsed Time	L_{AFmax}	L_{AFmin}	L_{Apeak}	L_{AIeq}	L_{Aeq}	L_{Ceq}	L_{AIeq}-L_{Aeq}	$L_{A1.0}$	$L_{A5.0}$	$L_{A10.0}$	$L_{A50.0}$	$L_{A90.0}$	$L_{A95.0}$	$L_{A99.0}$	StdDev
Project 018	06/05/2015 10:53	00:15:00	92.58	47.95	114.1	71.16	67.34	83.68	3.82	77	72.73	70.52	60.36	51.81	51.06	49.85	7.23
Project 019	06/05/2015 11:12	00:15:00	77.04	47.49	110.27	66.23	65.06	82.37	1.17	73.66	71.57	69.86	59.76	50.78	49.76	48.7	7.12
Project 020	06/05/2015 12:22	00:15:00	79.1	49.79	116.78	68.61	67.33	87.77	1.28	75.4	73.68	72.28	61.82	54.63	53.56	51.68	6.55