Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

NOTIFICATION TO ATTEND MEETING OF THE ENVIRONMENT SPC

TO BE HELD IN THE COUNCIL CHAMBER, CITY HALL, DAME STREET, DUBLIN 2.,

ON WEDNESDAY, 29 JUNE 2016 AT 3.30 PM

AGENDA

WEDNESDAY, 29 JUNE 2016

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Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

MINUTES OF THE ENVIRONMENT STRATEGIC POLICY COMMITTEE HELD ON 27th APRIL 2016

1. Minutes of the meeting held on 9th March 2016.

   Order: Agreed

2. Matters arising.

   Dublin Waste to Energy Project

   Chairperson, Councillor Naoise Ó'Muirí circulated a draft report to Members that he compiled on behalf of this Committee for consideration as required by the Capita report. He intends to have this report included on the May City Council Agenda.

   The Chair recommended that further reports on DWtE should issue to the wider council on a 6 monthly basis.

   The Chair went through the report referring to the key issues that have arisen over the last number of Environment Strategic Policy Committee meeting to include

   - SPC Membership representation on the Project Board and the Project Executive Board.
   - The amount of the Community Gain Fund and the Liaison Committee.
   - Location of the Local Office.
   - Dust & Air Quality Monitoring.

   Members raised the following in relation to the Chair's report.

   - The Committee did not want to have membership of the Project and Project Executive Boards but wanted an oversight role in relation to their proceedings.
   - Flexibility in relation to future reports to the wider Council. In the event that there is a deadlock between the officials and the members in relation to aspects of the project 6 monthly reports may not be adequate
   - The inclusion of traffic and transportation issued in future reports

   The Chairperson responded

   - Although it was not the view of all Members the minutes of previous meetings reflect that the SPC sought membership of both the Project and Project Executive Boards
   - Future reports will issue to the wider council on a periodic basis or as required.
   - Traffic issues have not as yet arisen but will be included in future reports as required.

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Order: Report that was circulated to be included on the May Agenda of the City Council

Calculation of Community Gain Fund

This has been referred to the Finance Strategic Policy Committee and the Audit Committee

3. Chairpersons Business.

None.

4. Correspondence.

None.

5. Recent Dumping Campaign and data protection concerns. (Report attached)

Eileen Gleeson, Senor Executive Officer circulated a report to Members outlining the background and current status of the North Inner City Litter Action Group's actions to combat illegal dumping and littering.

The report covered the themes / actions below

- Background.
- Objectives of the Action Group.
- Bag Searches with statistical data.
- Compliance Surveys with statistical data.
- Fines.
- Community focussed activities.
- Enforcement of Housing Regulations Standards by way of Environmental Health Inspections with statistical data.
- CCTV and data protection concerns.

Members raised the following points.

- The survey that showed 54% did not have compliant waste collections arrangement is not in anyway a suggestion of delinquency, it is in fact due to financial constraints.
- The introduction of the bulky household waste charge.
- There is no geographical coincidence why this is occurring the North Inner City
- If the CCTV / Posters campaign is not in breach of Data Protection Regulations the initiative should be extended.
- The poor uptake on the services of the Green Schools Officer.
- Is there an assessment of the Anti- Litter campaign in August 2015.
- Level of non-compliance with the Housing Standards regulations.
- Reward / Voucher system where improvement has occurred.
- The cost of these environmental initiatives and is there a levy being charged to waste operators to contribute to such costs.

- It is odd that crimeline does not pose data protection problems when publicising those involved in crime yet there is data protection issue with releasing images of those involved in illegal dumping.
- There is little sympathy for the Data Protection Commissioner as trading off rights of citizens to have bye-laws upheld versus data protection rights.
- Is DCC's stand on this solid in terms of data protection.
- Was the Data Protection Commissioner acting on complaints.
- Demographic of those residents who are non-compliant with regulations
- Are waste operators involved in the anti-litter / illegal campaigns or do they make a financial contribution.
- Can the dog fouling / anti-litter signage be enlarged.
- There is a correlation between illegal dumping and the cost of waste disposal.
- It is clear that there are concentrations of poverty in the city and it is well established that the North Inner City is one such area.
- Is it possible to get a list of residents who have waste collection arrangements in place from the waste operators

Ms. Eileen Gleeson, Mr. John McPartlan & Mr. Declan Wallace responded

- The city neighbourhood awards encourage communities to get more involved in their areas for which prizes are awarded.
- It was never the intention that those offenders would be publicly shamed. The intention was to get the message out that it is illegal dump.
- The many initiatives undertaken have endeavoured to reduce the prevalence of illegal dumping.
- We will continue to with these campaigns in the hope that the mindset of those involved in illegal dumping is changed. It is intended to roll out such campaigns city wide as adopted in the Litter Management Plan
- The Data Protection Commissioner raised concerns after seeing articles in the media.
- There were in excess off 900 landlords that were non compliant with waste regulations
- DCC collects illegally dumped bags, not waste that is properly presented for collection by waste operators
- The charging of waste companies does not arise as what is being collected by DCC is illegally dumped material
- If illegal dumping was specifically linked to financial constraints this practice would occur in other less affluent areas of the city which is not the case. It occurs in areas where people choose to dump.
- DCC does not have the opportunity to prosecute landlords given the current legal situation.
- The size of the signage will be reviewed.
- The 54% of residents deemed non compliant are those that we failed to contact.
- The cost of the litter / dumping campaigns is met by DCC.
- We are conscious that not all residents can have a bin but where a property is deemed suitable the householder must use bins. It is anticipatated that bins will reduce littering.
- It will be law in July that waste collection arrangements lists can be provided.

Order: Noted

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6. Update on Independent Expert Assessment of Dollymount Flood Defences

The Director of Traffic gave a verbal update to members on the current status of this project in light of the engagement of an independent expert. The main points of the report are set out below.

- The Flood Defences & Sutton to Sandycove Cycleway went through the statutory processes, i.e. Part 8 and An Bord Pleanala.
- Councillors felt there was a lack of consultation with the public and that the public were unhappy with the height of the flood defences.
- Two groups were established to facilitate consultation, An Environmental Liaison Group and a Public Consultation Group. The Public Consultation was made up of residents, businesses and local councillors.
- The services of an independent expert were engaged to examine the rationale used by DCC to determine the height of the defences and DCC agreed to be bound by the expert's findings.
- The Independent Expert endorsed DCC's proposals but advised that there was some room for a reduction in the defence's height.
- DCC agreed to reduce the height of the wall by 200 millimetres. This would result in the defences having to be raised within 25 years if the forecasted sea level rises materialise.
- The Local groups were not satisfied with the 200 mm reduction and sought 600 mm. (From Mount Prospect to the wooden bridge).
- It was agreed subject to certain checks a reduction of 300 mm will occur. The feasibility of this reduction will be known soon.

Members raised the following.

- Thanked the Director of Traffic for his patience in dealing with the concerns of residents.
- Who is the Independent expert
- When is the next meeting of the Dollymount engagement committee.

The Director of Traffic responded.

- Dr. Jimmy Murphy is the independent expert.
- Membership of the Committee has been determined and meetings are not open to the public. The independent Expert's report will be forwarded to Robert Moss

Order: Report Noted

7. Minutes of Waste Regulations Subcommittee held on 24th March 2016. (Copy attached)

Members raised the following concerns.

- Waste operators aggressively targeting residents currently in receipt of a bag collection service to change bins even where areas have been deemed suitable for bag collection.
- Report on the workings of the committee

The Director of Traffic responded

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- The subcommittee met today and Greyhound representatives were in attendance.
- Those residents changing from bags will not be compelled to change to bins before July; those areas that are given derogation for bag collections will remain as bag or mixed collections. Greyhound will publicise this on their website.
- Minutes of today's / future meetings will be on the June agenda of the SPC.

Order: Minutes noted

8. Dublin Waste to Energy update report.

Order: Report noted

9. Issues referred from the Public Participation Network Environmental Linkage Group Meeting held on 15th March 2016.

(i) Dublin Bay Tidal Flood Prevention Walls are not suitable at Clontarf and Sandymount. This is because of the prevalence of pluvial flooding at both of these sites. Previously the sea wall at Clontarf has had to be breached to release pluvial flood water. Demountable barriers are required at these sites rather than a sea wall. (Report attached)

(ii) Prioritisation of the orbital sewer within West Dublin. This is to avoid continued flooding at Ringsend caused by storm waters being directed into the frequently overloaded water treatment plant. (Report Attached)

The reports that issued were discussed and the following points were raised

- Non demountable walls are unsuitable as permanent barriers would block the outflow of flood water into Dublin Bay when pluvial flooding occurs
- The necessity of completing sewage works to relieve the load sent to the Ringsend Wastewater treatment plant when heavy rainfall occurs. This causes water treatment plant to overflow which leads to pollution.
- Is Sandymount also being assessed.

The Director of Traffic responded that the sewage works is an Irish Water Capital Project.

The feasibility of the use of demountable barriers is being assessed but is only for the 450 metre stretch of the flood defences.

10. A.O.B.

Councillor O'Moore raised the issue of recycling plastics and a bigger emphasis should be put on this.
It was agreed that this will be listed as an item at future SPC meeting.

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Attendance
Members

Councillor Claire Byrne
William Brennan – Dublin Community Growers
Councillor Hazel DeNortúin
Councillor Andrew Keegan
Councillor Edel Moran
Robert Moss - Dublin City Community Forum
Councillor Michael O'Brien
Councillor Ciaran O'Moore
Councillor Naoise Ó Muirí (Chairperson)

Apologies

Joe McCarthy - An Taisce

Absent
Councillor Catherine Ardagh
Nicholas Cloake, Dublin Docklands Business Forum
Councillor Declan Flanagan
Councillor Mannix Flynn

Officials

Declan Wallace, Director of Traffic
Eileen Gleeson, Senior Executive Officer
John McPartlan, Public Domain Enforcement Officer
James Nolan, Executive Engineer
Ciarán McGoldrick, Staff Officer
Owen Sweeney, Staff Officer

Councillor Naoise Ó Muirí
Chairperson, 28th April 2016.

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Minutes of the Meeting Special Committee on Waste Regulations held on 13th April 2016.

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1. Minutes of Meeting held on 24th March 2016
   Action: Agreed

2. Review of Actions arising from previous meeting:

   Actions

   (i) Helen McNamara's / Martina Campbell's contact details to be forwarded to the group.
   Status: Completed. Cllr MacVeigh advised that these contact details had been circulated and to expect a number of applications for designation.

   (ii) Draft Statement to raise public awareness to be developed for the next meeting.
   Status: Completed. Draft circulated and discussed at meeting. Text agreed without changes.
   Further action: Statement to be uploaded to DCC website, circulated to committee members and to Area Offices as soon as possible.

   (iii) Invite Greyhound to meet group.
   Status: Completed. H. McNamara advised that Greyhound had been invited but was unable to attend due to prior commitments. GRR confirmed that it would attend next meeting on receipt of suitable notice.
   Further action: DCC to notify GRR of date of next meeting and issue an invitation to attend.

   (iv) Results of street survey to be forwarded to group when finalised.
   Status: Completed. Draft lists circulated at meeting for review and discussion.
   Further action: DCC to circulate 3 no. summary sheets to Group leaders for review with a cover letter to be prepared by DCC. Comments are to be sent to Committee members.

   (v) Sample Waste Collection Permit to be available at the next meeting.
   Status: Completed. Sample WCP circulated and discussed at meeting. The Committee requested that an amendment to condition 6.6.1 be drafted and submitted to the National Waste Collection Permit Office, which would instruct a Permit Holder to provide a bag collection service to householders in areas designated as being only suitable for the collection of household kerbside waste in non-reusable receptacles such as bags or for areas suitable for mixed collections.
   Further action: DCC to draft amendment to WCP for submission to NWCPO

3. Issues Raised at meeting:

   Cllr. Flynn requested that the minutes of the meeting of this committee be forwarded to the Chair of the Environment SPC.
   Order: Agreed.

   (i) Landlords and Multi-let Units
   There was a general discussion on the issue of landlords failing to take responsibility for waste management in multi-let properties and the problems associated with this. A number of avenues were explored including the new regulations for the Housing Rental Sector to issue from the DOECLG. It was agreed that this issue would continue to be monitored through this committee and check if guidelines issue on the matter.

   (ii) Email from Cllr. Dermot Lacey circulated and discussed. Issue relating to Cambridge Avenue resolved as it is proposed to continue as a bag area. Other issues noted.

In attendance
Councillors
Councillor Tina McVeigh (Chairperson)
Councillor Claire Byrne
Councillor Gaye Fagan
Councillor Mannix Flynn
Councillor Mary Freehill
Councillor Éilis Ryan
Councillor Ray McAdam

Officials
Declan Wallace, Director of Traffic
Helen McNamara, Senior Executive officer

Apologies:
Lord Mayor Criona Ni Dhalaigh

Next meeting Wednesday 27th April 2.00 pm

Meeting Closed.

Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Minutes of the Meeting Special Committee on Waste Regulations held on 19th May 2016.

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1. **Minutes of 27th April 2016**
   Agreed

2. **Updated lists**
   Lists reviewed and discussed. Agreed that once the designation process was complete to review again within 6 months. Cllr. McAdam requested that the committee stay in place post designation.

3. Revised and updated lists to be circulated to Group Leaders for comment – remind them that lists are not for general distribution. Committee and group leaders to forward comments to HMcN by COB on Wednesday 25th May.
   HMcN advised that she was circulating lists to waste industry with same restrictions and deadlines and that the intention would be to make the designation order on Monday 30th June 2016.

4. Draft amendment to WCP to be prepared for next meeting (HMcN).

5. Next meeting Thursday 26th May at 2.00 p.m.

In attendance
Councillors
Councillor Tina McVeigh (Chairperson)
Councillor Claire Byrne
Councillor Mannix Flynn
Councillor Ray McAdam
Cllr Ciaran Cuffe
Cllr Mary Freehill
Officials
Helen McNamara, Senior Executive officer
Simon Brock, AO DCC
Apologies:
Lord Mayor Criona Ni Dhalaigh
Declan Wallace

Next meeting Thursday 26 h May @ 2.00pm

Meeting Closed.

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Comhairle Cathrach Bhaile Átha Cliath
Dublin City Council

Minutes of the Meeting Special Committee on Waste Regulations held on 27th April 2016.

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1. **Meeting with Greyhound (GRR):**

The Chair welcomed John Brosnan MD (JB), Greyhound Household and Conor Quinn (CQ) Communications Consultant with Greyhound Household who agreed to attend the meeting following complaints received by Members from constituents regarding the manner in which GRR was endeavouring to move customers from bag collections to bin collections.
In summary the Members highlighted the following issues:

Cllr. Dermot Lacey reported that residents in Portobello were told that there would only be bin collections in this area post 1st July and that GRR would not be collecting bags.
Cllr Ray McAdam reported that in the North Strand and Phibsborough areas, residents had received intimidating emails stating that a wheelie bin account was required.
Cllr Gaye Fagan advised that the East Wall area issues had been resolved but that it was still important for people to know that bags will still be collected after 1st July
Cllr Éilis Ryan stated that there was an impression in the North Inner City that bags will cease to be collected after July
Cllr Tina MacVeigh reported that there were burnt out bins left uncollected in the Ballyfermot/Ranch Area and that GRR were leaving bins on footpaths in this area also.

In response, JB explained the process that his agents are instructed to follow:
The agents either go door to door or deal with customers over the phone– both have a script to follow. If a complaint is received about an agent, the person can be identified easily. There is follow up with Team leaders and call backs on customer satisfaction.

In relation to the continuance of bag collections post July, JB confirmed that GRR would still be providing this service on the designated streets.

Cllr Ryan stated that the GRR agents should not be targeted on this matter as it was a GRR issue and that there were differing perspectives on the suitability of streets for bins. She further stated that GRR appeared to be making a decision on the designation of the streets in the absence of DCC making the designation.

Cllr Ryan enquired if the agents were incentivised and whether the collection of bags was profitable.

JB confirmed that GRR has its own view on suitable properties for bins. GRR incentivises customers to use bins as it is cheaper but there is no pressure at the doors to take bins. On the profitability of bags he advised that they cause problems: they are not chipped so no GPS which is not satisfactory. Bins are easier to manage – bags at best, are break even. CQ stated that bags cause litter issues, illegal dumping around bags and Health & Safety issues e.g. needles.

Cllr Claire Byrne stated that GRR were scare mongering but appreciated the fact that steps were being taken to incentivise customers. She asked what GRR was going to do when pay by weight came in. JB stated that this was a commercial issue and that the minimum charges set out in the regulations were below cost. CQ advised that GRR would be commencing a Roadshow next month on the introduction of Pay by Weight.

Cllr Lacey enquired if any progress had been made on developing a 3 in 1 system for collection. JB advised that there were no trucks available at present with technology for this.

Cllr Byrne enquired if pay by weight could be applied to bags. JB confirmed that GRR trucks already had system on board for bins and bags.

Cllr Ray McAdam enquired about the linkages between DCC and GRR. Helen (HMcN) advised that DCC had historical route information which had been transferred to GRR when it exited the waste collection service and had kept in touch with GRR on updating the information is so far as the bag routes were concerned.

Cllr Ryan enquired as to the numbers using bags. JB estimated about 15k and said that GRR had lost a lot of customers due to it enforcing the regulations i.e. registering customers etc.

Cllr Byrne asked for contact details for GRR. CQ said he would issue to HMcN for circulation to members.

Cllr MacVeigh summarised the discussion saying that it was a breach of DCC byelaws to leave bins on streets and that GRR had embarked on an aggressive campaign. She suggested that GRR should, in an effort to allay further anxiety, put up on-line that they will continue to collect bags as usual in all areas until the guidelines issue from the DOECLG and will continue to collect bags on the designated streets when this process is completed. She thanked GRR for attending and GRR left the meeting.

2. Minutes of Meeting held on 13th April 2016
   Action: Agreed

3. Review of Actions arising from previous meeting:

   <u>Actions</u>

   (i) Draft Statement to raise public awareness to be developed for the next meeting.
   Status: Completed. Draft circulated and discussed at meeting. Text agreed without changes.
   Completed : Statement uploaded to DCC website, circulated to committee members and to Area Offices.

   (ii) DCC to circulate 3 no. summary sheets to Group leaders for review with a cover letter to be prepared by DCC. Comments are to be sent to Committee members.
   Completed.

   (iii) Sample Waste Collection Permit . The Committee requested that an amendment to condition 6.6.1 be drafted and submitted to the National Waste Collection Permit Office, which would instruct a Permit Holder to provide a bag collection service to

householders in areas designated as being only suitable for the collection of household kerbside waste in non-reusable receptacles such as bags or for areas suitable for mixed collections.
Not completed: DCC to draft amendment to WCP for submission to NWCPO

(iv) Minutes of this committee to be forwarded to Environment SPC
Completed. Minutes of the 24th March went to Environment SPC meeting on the 27th April.

4. Issues Raised at meeting:

Cllr. MacVeigh was advised that there was no further update from the DOECLG and that bags were excluded from the current regulations. Cllr MacVeigh asked that the survey list be updated and re-circulated. She also asked that The Ranch Ballyfermot, Lombard St W be included. Cllr McAdam asked that Charleville Road, Phibsborough be included in the review also.

Cllr MacVeigh asked that members remind group leaders not to circulate the survey lists.

HMcN to circulate guidelines when available.

HMcN

In attendance
Councillors
Councillor Tina McVeigh (Chairperson)
Councillor Claire Byrne
Councillor Gaye Fagan
Councillor Mannix Flynn
Councillor Éilis Ryan
Councillor Ray McAdam
Councillor Dermot Lacey
Officials
Declan Wallace, Director of Traffic
Helen McNamara, Senior Executive officer

Apologies:
Lord Mayor Criona Ni Dhalaigh
Councillor Mary Freehill

Next meeting Thursday 19th May @ 3.30 pm

Meeting Closed.

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Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council

Environment and Transportation Department,
Block 2, Floor 6,
Civic Offices,
Dublin 8.

22 June 2016.

To Each Member of the
Environment Strategic Policy Committee

Dublin Waste to Energy (DWtE) Project

1. Construction Status

Construction remains on schedule for completion in Q3 2017.

1.1 Progress to Date

Progress in the key areas are summarised below:

Construction

- Construction is currently programmed on a 24/7 basis.
- Both the civil designer, PM Group Limited and the process system designer, Hitachi Zosen Inova (HZI) has reported that their design and procurement activities are now substantially complete and that all their key subcontractors are in place.
- PM Group Limited, the civil designer and construction manager continue to manage and monitor all construction activity on site.
    - The main focus of PM Group and their subcontractors remains:
        - the installation and fit out of the floors of the administration building,
        - works associated with the installation of the buildings' exterior cladding,
        - the installation of the ramp to the tipping hall.
- Hitachi Zosen Inova (HZI), the process systems designer continue to manage all process equipment installation and facility commissioning through to the commencement of operations
    - The main focus of HZI and their subcontractors activities are:
        - installation of both boiler lines of the facility,
        - installation of the process equipment,
        - inspection and review of process equipment manufacturing.

Site Aerial View Looking East May 2016 (Copyright PML)

Site Aerial View Looking Southeast May 2016 (Copyright PML)

2. Environmental Impact

Environmental monitoring and mitigation measures continued to be implemented during the construction phase of the DWtE facility and the construction phase environmental report for quarter 1 (January – March) 2016 is presented as Appendix 1 to this report.

All reports are also available for download at the Dublin Waste to Energy Website.

3. Community Liaison

The Community Gain Liaison Committee (CGLC) met in May and assessed the applications received for grants less that €100k from the DWtE Community Gain Fund (CGF).

The CGLC:

- has approved a number of grant applications,
- requested additional information from a number of applicants prior to finalising their decision, and
- deemed a number of applications to be unsuccessful.

The administrator to the CGLC is in the process of informing all applicants of the CGLC decisions.

The CGLC will meet again in July to commence assessment of applications received from applicants seeking grants in excess of €100k from the DWtE Community Gain fund.

4. Compliance with statutory consents

There are no non-compliance issues to report.

Declan Wallace
Director of Traffic

Dublin Waste to Energy

Issue date: 26 April 2016

Construction Phase Environmental Monitoring Report - Quarter 1 (January - March) 2016

Signoff	Originator	Checked	Approver	Date
Name	Ray Derrig	Paul O'Sullivan	Keith Elliott	26th April 2016

Contents

1 Introduction

An environmental monitoring programme has been implemented during the construction stage of the Dublin Waste to Energy (DWTE) Project. In conjunction with the monitoring, a number of controls and procedures have been implemented during construction activities to avoid, or minimise, potential adverse impacts to the environment and local community.

The monitoring programme assists in demonstrating compliance with the conditions and requirements laid out in An Bord Pleanala Order-29S.EF2022, Condition 13d; *"A scheme for monitoring noise, dust deposition and suspended solids in surface water run-offs and adjacent waters shall be prepared for the construction phase of the development. Details of the scheme shall be made available for inspection at the offices of Dublin City Council and at a local office in the Ringsend/Poolbeg area prior to the commencement of construction works. Monitoring shall be carried out during the construction phase and reports on the monitoring shall be made available for inspection at the offices in question on a 3 monthly basis. The reports shall compare monitored results with standards set out in the environmental impact statement or standards given in recognised national or international guidelines as relevant."*

Construction of the DWTE facility recommenced in October 2014 and an environmental monitoring programme in accordance with the 'Dublin Waste to Energy - Construction Phase Monitoring Scheme' September 2009 has been implemented. The 1st Quarterly Report 2016 on the Construction Phase Monitoring Scheme relates to environmental monitoring undertaken for the period of January to March 2016. The PM Group construction management team were present on site throughout the January to March 2016 monitoring period. The PM Group construction management team ensured construction works were undertaken to comply with environmental procedures for the site. Environmental monitoring with regards to noise, dust deposition and suspended solids in surface water commenced with construction works.

2 Local Environment

The main population centres of Ringsend, Irishtown and Sandymount are located approximately 1km from the boundary of the site.

The closest sensitive receptors to the site are the residential properties at Pigeon House Road which are located approximately 865m west of the site boundary. A map of sensitive locations and environmental monitoring points (noise, dust and surface water) are included in Figure 2.1.

The identified sensitive noise locations are N1 – N6 as follows:

- N1 - Rehab Institute
- N2 – Seafort Avenue
- N3 – Beach Avenue
- N4 – Leukos Road
- N5 – Pigeon House Road
- N6 – Walkway (Irishtown Nature Reserve)

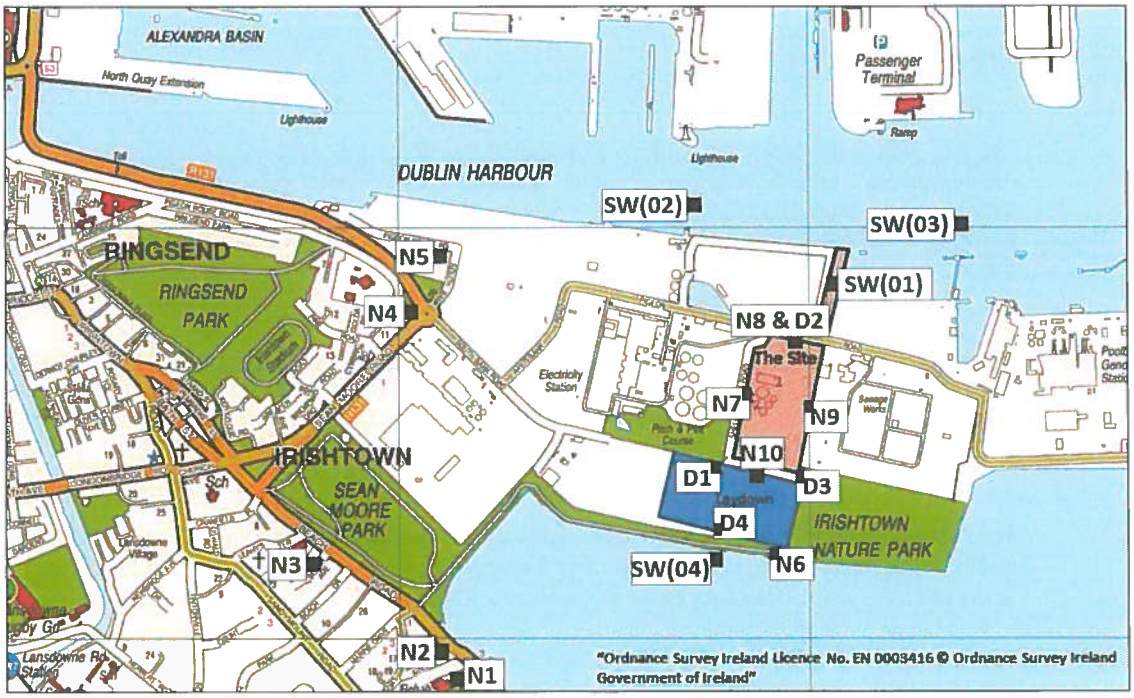

Figure 2.1: Environmental Monitoring Locations

3 Noise

Monitoring of noise levels at sensitive locations is required during construction to assess compliance with the requirements of the Environmental Impact Statement (EIS) and An Bord Pleanala Order-29S.EF2022, Condition 13d. Refer to Figure 2.1 in Section 2 for the monitoring locations.

3.1 Noise Guidance & Standards

The noise monitoring was conducted in accordance with the following guidance:

- International Standard ISO 1996-1:2003 - Acoustics – Description, Measurement and assessment of Environmental Noise
- BS 4142:2014 - Methods for rating and assessing industrial and commercial sound
- BS 5228-1:2009 + A1:2014 – Code of practice for noise and vibration control on construction and open sites - Part 1: Noise.

3.2 Measurement Parameters

Noise is measured in terms of decibels (dB). The various measurement parameters and noise terminology are defined below.

- Decibel (dB)

Decibel (dB) is the standard unit for expressing the noise level (sound pressure level). It is calculated as a logarithm of the intensity of sound. It is derived from the logarithm of the ratio between the value of a quantity and a reference quantity. For sound pressure level the reference quantity is 20μPa which is the threshold of normal hearing and equates to 0dB. At the upper end of the scale 140dB is the threshold of pain.

- A-weighted Decibel (dBA)

Decibels measured on a sound level meter incorporating a frequency weighting (A weighting) which differentiates between sound of different frequency (pitch) in a similar way to the human ear. This takes account of the fact that the human ear has different sensitivities to sound at different frequencies.

- L_{Aeq}

The equivalent continuous sound level – the sound pressure level of a steady sound having the same energy as a fluctuating sound over a specified measuring period. It can be considered similar to an average level. The L_{Aeq} value is the A-weighted Leq.

- L_{A90} and L_{A10} Values

The L_{A90} and L_{A10} values represent the A-weighted sound pressure levels exceeded for a percentage of the instrument measuring time. The L_{A90} represents the sound pressure level exceeded for 90% of the monitoring period and is a good indicator of the background noise level excluding peak noise events. L_{A10} indicates the sound pressure level exceeded for 10% of the monitoring period and is a good parameter for expressing event noise such as passing traffic.

- L_{AMax} (dBA)

The maximum instantaneous value recorded over the monitoring period including A-weighting

- Measurement Time

The noise monitoring will be undertaken over a 30min time interval which is a sufficient time to establish that the measured noise adequately represents the subject source of the noise.

3.3 Construction Noise Limits at Sensitive Locations

Ambient noise levels at the nearest sensitive locations (Sandymount and Ringsend areas) to the site have being established based on review of the Environmental Impact Statement, Dublin City Noise Map model and preconstruction noise monitoring. These ambient measurements at the noise sensitive locations are compared against the values identified in "British Standard 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1:Noise " and maximum permissible noise levels at façade dwellings are recommended. The maximum noise levels are presented in Table 3.1 below.

Ambient noise level at sensitive locations is found to be similar or higher than those monitored at site boundary locations. The noise at sensitive receptors is affected by localised noise sources, mainly road traffic with any noise sources emitted from site difficult to define. For this reason site boundary noise monitoring will be the main noise source monitored as opposed to sensitive locations. The site boundary noise monitored is calculated to determine its contribution to local residential areas and compared to British Standard 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1:Noise "

Table 3.1: Maximum Permissible Noise Levels at the Facade of Dwellings during Construction

	Sensitive Locations					
	Rehab Institute	**Seafort Avenue**	**Beach Avenue**	**Leukos Road**	**Pigeon House Road**	**Walkway Irishtown Nature Park**
Daytime Monday - Friday 0700hrs to 1900hrs Rating level, L_{Aeq} (1hr)dBA	65	65	65	65	65	65
Evenings and Weekends 1900hrs to 1100hrs Rating level, L_{Aeq} (1hr)dBA	55	55	55	55	55	55
Night time 2300hrs to 0700hrs Rating level, L_{Aeq} (1hr)dBA	50	50	50	50	50	50

3.4 Noise Monitoring Results

Monitoring was undertaken at site boundaries and sensitive locations during construction works. The survey was carried out over the months January to March 2016. The surveys involved a 30 minute sample period taken at each of the noise monitoring locations.

3.4.1 Noise Calculations from Boundary Sampling Locations

Noise levels were monitored at the site boundary locations to enable the contribution of the January to March 2016 DWTE site activities to the noise levels at the sensitive receptors to be calculated (using the 'British Standard 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise"). The calculated contribution was then compared to the noise levels monitored at the sensitive receptors to establish whether site activities were likely to be causing a significant negative impact at the sensitive receptors.

Monitored noise levels at the western and southern boundaries, as the closest boundaries to the sensitive receptors, were selected to be used in the calculation of noise levels at the sensitive receptors. On this basis, when both are available, the southern boundary is used to calculate the noise level contributions at the Rehab Institute, Seafort Avenue, Beach Avenue and Irishtown Nature Park with the western boundary used to calculate the noise level contributions at the Pigeon House Road and Leukos Road.

Using the BS 5228 Standard calculation, the highest contribution of noise calculated for the months of January to March 2016 at each of the sensitive locations are presented in Table 3.2.

Table 3.2: The Contribution of the DWTE Site Activities to Noise Levels at Sensitive Receptors

		Sensitive Locations					
Time	**Month**	**Rehab Institute N1**	**Seafort Avenue N2**	**Beach Avenue N3**	**Leukos Road N4**	**Pigeon House Road N5**	**Irishtown Nature Park N6**
Daytime Results level, L_{Aeq}(30 min)dBA	January	35	34	32	36	37	48
	February	38	37	36	36	36	51
	March	36	36	34	33	34	50
Evening Time Results level, L_{Aeq}(30 min)dBA	January	32	31	29	25	25	45
	February	25	24	23	24	25	38
	March	30	30	28	29	30	44
Nightime Results level, L_{Aeq}(30 min)dBA	January	25	24	23	28	28	38
	February	22	21	20	21	21	35
	March	25	24	23	24	24	38

3.5 Conclusion

As noise readings at sensitive locations are affected by local noise sources, the most accurate way to determine if noise is impacting the local residential areas is to use site boundary monitoring readings and calculate the contribution of this noise to the closest sensitive receptors. Noise levels at the western and southern site boundaries were monitored during the January to March 2016 period and their contribution to the closest residential sensitive receptors calculated. Most construction works occur during the daytime hours with limited construction occurring thereafter. Noise monitoring was undertaken at sensitive receptors (Sandymount and Ringsend areas) and site boundaries on similar days to allow comparison over the quarterly monitoring period.

Maximum permissible noise levels during construction are detailed in Table 3.1.

The sensitive locations are situated up to 1km away from site boundaries and noise contributions from site to local residential areas were calculated with the results provided in Table 3.2. The calculated noise level contributions are significantly lower than the maximum permissible noise levels. The greatest daytime noise level contribution from site activities at a residential sensitive receptor was 38dBA at Rehab Institute, with the greatest daytime noise level contribution at Irishtown Nature Park calculated to be 51dBA. The greatest evening time noise level contribution at a residential sensitive receptor was 32dBA at Rehab Institute, with the greatest evening time noise level contribution at Irishtown Nature Park calculated to be 45dBA. The greatest night-time time noise level contribution at a residential sensitive receptor was 28dBA at Leukos Road, with the greatest night-time noise level contribution at Irishtown Nature Park was calculated to be 38dBA.

Ambient noise levels at sensitive locations were found to be similar or higher than those monitored at site boundary locations. The highest noise level of 73.9dBA (Appendix A -Table 1.2) was monitored at Beech Avenue (N3) sensitive receptor during this reporting period. This is higher than the closest boundary location to this location (southern) which had lower readings at similar times. This indicates that noise levels at the sensitive receptors assessed during the January – March 2016 construction period are predominantly affected by localised noise sources, mainly road traffic.

On this basis, it can be concluded that the DWTE site activities undertaken are not resulting in exceedances of the construction noise limit values at sensitive receptors[1] during the assessed period.

Detailed noise monitoring data is included in Appendix A.

[1] Noise is measured using a logarithmic scale that ranges from 0 dBA to about 140 dBA and approximates the range of human hearing. However, due to the logarithmic nature of the decibel scale, the sound levels for different noise sources cannot be added directly for a combined sound level. For example, two adjacent sound sources with the same sound level have a composite noise level only 3 decibels greater than either source; two adjacent sound sources with sound levels that differ by 10 decibels have a composite noise level only 0.4 decibels greater than the louder source.

4 Dust Deposition

A scheme for monitoring dust deposition and direction has been developed for the construction phase of the development.

4.1 Monitoring Method

Monitoring was overseen by the Project Environmental Consultant and undertaken by independent laboratory in accordance with the 'Dublin Waste to Energy - Construction Phase Monitoring Scheme', September 2009. Dust monitoring locations D1 – D4 are shown in Figure 2.1.

There are no legislative regulations regarding fugitive dust during construction either in Ireland or the UK. The "Technical Instructions on Air Quality Control – TA Luft" 2002 emission value for dustfall of 350 mg/m^2/day is therefore used as the maximum guideline level during construction.

4.2 Monitoring Results

4.2.1 Weather Conditions

The average weather conditions during the January to March 2016 monitoring period are given below (http://www.wunderground.com);

- January 2016
  - Average Precipitation: 1.8mm/day
  - Average Wind Speed: 23.8km/hr
  - Average Temperature: 5.4°C
  - Total Precipitation: 56.6mm
- February 2016
  - Average Precipitation: 1.2mm/day
  - Average Wind Speed: 24.0km/hr
  - Average Temperature: 4.1°C
  - Total Precipitation: 36.1mm
- March 2016
  - Average Precipitation: 0.8mm/day
  - Average Wind Speed: 19.0km/hr
  - Average Temperature: 6.0°C
  - Total Precipitation: 24.38mm

4.2.2 Dust Deposition – Bergerhoff Gauges

The dust deposition results from the Bergerhoff gauges are given in Tables 4.1 – 4.3. Refer to Figure 2.1 in Section 2 for the monitoring locations.

Table 4.1: Dust Deposition Results – January 2016

Sample Locations	Date Deployed	Date Collected	Days Exposed	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m²/day	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	08.12.2015	13/01/2016	36	9.5	39.9	156.4	350
2 (North)	08.12.2015	13/01/2016	36	9.5	41.7	163.4	350
3 (East)	08.12.2015	13/01/2016	36	9.5	30.3	118.7	350
4 (South)	08.12.2015	13/01/2016	36	9.5	27.5	107.8	350

Table 4.2: Dust Deposition Results – February 2016

Sample Locations	Date Deployed	Date Collected	Days Exposed	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m²/day	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	13/01/2016	09/02/2016	27	9.5	17.6	92.0	350
2 (North)	13/01/2016	09/02/2016	27	9.5	10.9	57.0	350
3 (East)	13/01/2016	09/02/2016	27	9.5	21.2	110.8	350
4 (South)	13/01/2016	09/02/2016	27	9.5	26.9	140.6	350

Table 4.3: Dust Deposition Results – March 2016

Sample Locations	Date Deployed	Date Collected	Days Exposed	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m²/day	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	09/02/2016	08/03/2016	28	9.5	26.1	131.5	350
2 (North)	09/02/2016	08/03/2016	28	9.5	21.8	109.8	350
3 (East)	09/02/2016	08/03/2016	28	9.5	30.4	153.2	350
4 (South)	09/02/2016	08/03/2016	28	9.5	17.2	86.7	350

Table 4.4: Dust Deposition Results – Annual Average March 2015 – March 2016

Sample Locations	Commencement Date	Completion Date	Days Exposed	Rate of Dust Deposition mg/m²/day (Annual Average)	TA Luft Limit mg/m²/day (Annual Average)
1 (West)	18.03.2015	08.03.2016	356	251.7	350
2 (North)	18.03.2015	08.03.2016	356	152.3	350
3 (East)	18.03.2015	08.03.2016	356	201.1	350
4 (South)	18.03.2015	08.03.2016	356	136.1	350

4.3 Conclusion

The annual average readings (Table 4.4) for all monitoring locations are below the recommended "Technical Instructions on Air Quality Control – TA Luft" 2002 standard guideline of 350mg/m^2/day over an annual period. The largest annual average reading of 251.7mg/m^2/day on the westerly boundary location for dust deposition exists for the site over the past year.

The highest monthly reading of 163.4mg/m^2/day was recorded in January on the northerly boundary (D2) from the twelve results over the three monthly periods. A water bowser is operated to mitigate dust in dry weather conditions. All vehicles leaving the construction areas of the site pass through a wheel cleansing area prior to entering the local road network. A road sweeper continual cleans site hard surfaced roads and road networks linked to the site.

5 Surface Water

A scheme for monitoring suspended solids in surface waters adjacent to the site is placed for the construction phase of the project, as per the EIS requirements and in accordance with An Bord Pleanala Order-29S.EF2022. Refer to Figure 2.1 in Section 2 for the monitoring locations.

5.1 Monitoring Method

Monitoring was carried out by an independent laboratory technician and overseen by the project environmental consultant in accordance with 'Dublin Waste to Energy - Construction Phase Monitoring Scheme' September 2009.

5.2 Monitoring Results

Analysis of suspended solids in surface water at the four surface water monitoring locations was undertaken.

The suspended solids results for January to March 2016 are presented in Table 5.1.

Table 5.1: Surface Water Monitoring – Suspended Solids Results

Parameter	Units	Date	Time	High Tide	Low Tide	SW(01)	SW(02)s	SW(02)d	SW(03)s	SW(03)d	SW(04)
Location						Cooling Water Channel	Fairway West (surface)	Fairway West (deep)	Fairway East (surface)	Fairway East - Pier (deep)	Irishtown Nature Park
Grid Reference Easting						6°11'54.95W	6°12'170W	6°12'170W	6°11'640W	6°11'640W	6°12'02.01W
Grid Reference Northing						53°20'28.32N	53°20'596N	53°20'596N	53°20'606N	53°20'606N	53°20'08.35N
Suspended Solids (January 2016)	mg/l	13/01/16	09:30-13:20	01:23 & 13:37	06:54 & 19:25	15	<10	<10	<10	25	30
Suspended Solids (February 2016)	mg/l	09/02/16	09:00 -10:35	11:51	05:12 & 17:37	37	14	23	20	38	29
Suspended Solids (March 2016)	mg/l	08/03/16	09:15 – 12:50	10:49 & 23:17	04:13 & 16:36	31	<10	36	30	44	43

5.3 Conclusion

In the 1st Quarter (January – March) 2016 period the suspended solids ranged from <10 – 44mg/l. The highest level of suspended solids was recorded at the Fairway East -Pier (deep), SW(03) in March 2016 with a result of 44mg/l. Baseline monitoring from 2010 – May 2015 ranged from 1 - 508mg/l.

Enabling works for site setup to construct the cooling water pump station commenced at end of June 2015. Construction works of the coffer dam for the cooling water pump station commenced at the end of July 2015. Construction of the intake channel is on-going.

During the construction period no elevated suspended solid readings were recorded when compared against preconstruction baseline readings and previous months. The levels recorded in 1st Quarter 2016 were low levels compared to baseline monitoring from 2010 – May 2015 which ranged from 1 - 508mg/l and the monitoring range of 2 – 300mg/l over the past year. Fluctuations in suspended solids occur due to the intertidal area, urbanised catchment being sampled and water traffic operating on the waterbody. Therefore variation is expected throughout all samples readings. Fluctuations in suspended solids are common with levels recorded up to 508mg/l over the preconstruction monitoring period. During the quarterly monitoring period no elevated suspended solid readings were recorded compared to previous readings.

Appendix A
Noise Data

Table 1.1: Construction Noise Monitoring Locations

Noise Monitoring Location	Description
N1 – Rehab Institute	Outside front gate of Rehab, Roslyn Park
N2 – Seafort Avenue	Footpath adjacent to No. 33 Seafort Avenue
N3 – Beach Avenue	Footpath adjacent to the dividing wall of No. 10 and No. 11 Beach Avenue
N4 – Leukos Road	In front of DCC recycling facility
N5 – Pigeon House Road	Footpath immediately in front of the Coastguard Cottages
N6 – Walkway (Irishtown Nature Reserve)	Walkway south of the site connecting Sean Moore Park and Irishtown Nature Reserve
N7 – Western Site Boundary	Midway on the western site boundary
N8 – Northern Site Boundary	Midway on the northern site boundary
N9 – Eastern Site Boundary	Midway on the eastern site boundary
N10 – Southern Site Boundary	Midway on the southern site boundary

Table 1.2 Continued: January Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
05th January 2016	N7	Western	30	11.43	65.8	81.2	58.7	69.8	- Cranes lifting materials - Mobile plant operating on ground - Steel erection - Mechanical equipment installation - Digger excavating material - Scaffolding Erection - Rebar installation - Formwork installation - Road sweeper - Trucks arriving with materials	Dry, Cloudy, Calm,
05th January 2016	N8	Northern	30	12.22	58.9	79.8	62.3	65.3		
05th January 2016	N9	Eastern	30	14.15	69.8	81.2	64.3	73.3		
05th January 2016	N10	Southern	30	15.03	68.8	78.9	63.0	71.9		
05th January 2016	N10	Western	30	19.56	56.8	72.3	49.4	55.1	- Steel erection - Cladding installation - Hum from Wastewater Treatment Plant - Internal mechanical installation - Cranes and mobile lifting equipment operating	Dry, Cloudy, Calm,
05th January 2016	N7	Western	30	20.38	59.9	79.8	52.1	59.8		

Table 1.2 Continued: January Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
14th January 2016	N7	Western	30	14.13	75.2	89.5	69.8	78.8	- Digger excavating material - Steel erection - Concrete pumps operating - Mechanical equipment installation - Cranes lifting materials - Mobile lifting equipment operating - Scaffolding Erection - Rebar installation - Formwork installation - Trucks arriving with materials	Clear, Calm,
14th January 2016	N8	Northern	30	16.06	64.7	84.7	57.8	68.2		
14th January 2016	N9	Eastern	30	15.31	70.0	82.8	66.5	72.7		
14th January 2016	N10	Southern	30	14.54	61.4	82.7	56.7	64.4		
14th January 2016	N7	Western	30	19.56	56.9	77.4	56.0	58.1	- Mechanical equipment installation - Steel erection - Hum from Wastewater Treatment Plant - Cladding installation - Cranes and mobile lifting equipment operating	Dry, Moderate Breeze,
14th January 2016	N10	Southern	30	19.16	54.3	75.7	49.1	54.6		
14th January 2016	N7	Western	30	23.39	59.8	79.8	57.8	61.3		
14th January 2016	N10	Southern	30	23.05	54.8	77.8	49.3	55.9		

Table 1.2 Continued: January Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
22nd January 2016	N7	Western	30	09.45	74.5	87.8	66.9	77.4	- Cranes operating, MEWP operating - Steel erection - Mobile plant operating onsite - Internal mechanical installation works - Digger excavating material - Formwork installation - Road sweeper operating	Dry, Cloudy, Slight / Moderate Breeze
22nd January 2016	N8	Northern	30	10.19	56.9	73.2	55.1	58.8		
22nd January 2016	N9	Eastern	30	11.04	73.6	88.8	67.6	77.1		
22nd January 2016	N10	Southern	30	11.47	63.0	80.3	56.8	65.6		
22nd January 2016	N7	Western	30	21.56	59.6	78.3	53.3	56.6	- Hum from Wastewater Treatment Plant - Cladding installation - Internal mechanical installation works - Cranes and mobile lifting equipment operating	Dry, Cloudy, Slight / Moderate Breeze
22nd January 2016	N10	Southern	30	21.15	56.8	79.9	50.7	53.1		
28th January 2016	N7	Western	30	11.03	71.6	90.8	64.7	74.7	- Cranes operating, MEWP operating - Steel erection - Mobile plant operating onsite - Internal mechanical installation works - Digger excavating material - Formwork installation - Road sweeper operating	Dry, Cloudy, Slight / Moderate breeze,
28th January 2016	N8	Northern	30	11.45	70.2	87.0	57.9	74.2		
28th January 2016	N9	Eastern	30	12.24	72.1	91.0	67.1	74.0		
28th January 2016	N10	Southern	30	14.16	65.3	78.6	57.1	68.2		

Table 1.2 Continued: February Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
04th February 2016	N7	Western	30	10.40	70.0	84.4	61.5	74.3	- Steel erection - Cranes lifting materials - Mobile plant operating on ground - Internal mechanical equipment installation - Digger excavating material - Road sweeper - Trucks arriving with materials	Dry, Cloudy, Slight Breeze
04th February 2016	N8	Northern	30	11.34	59.2	81.9	56.0	61.3		
04th February 2016	N9	Eastern	30	12.10	71.4	93.5	65.4	71.9		
04th February 2016	N10	Southern	30	12.50	65.9	94.2	59.9	68.2		
04th February 2016	N7	Western	30	22.05	57.5	81.3	51.3	55.9	- Cladding installation - Hum from Wastewater Treatment Plant - Internal mechanical installation - Cranes and mobile lifting equipment operating	Dry, Cloudy, Calm,
04th February 2016	N10	Southern	30	21.15	56.8	78.9	48.9	51.8		

Table 1.2 Continued: February Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
11th February 2016	N1	Rehab	30	15.54	66.6	84.8	56.8	69.7	- Consistent road traffic - No construction noise audible at any noise monitoring location	Calm, Dry, Partially Cloudy,
11th February 2016	N2	Seafort Avenue	30	15.20	67.8	84.5	52.1	71.6		
11th February 2016	N3	Beech Ave	30	16.30	68.9	86.5	57.2	72.4		
11th February 2016	N4	Leukos Road	30	13.55	62.1	80.9	56.7	64.9		
11th February 2016	N5	Pigeon Hs	30	13.21	61.4	80.2	54.9	64.7	- Background crane noise from Dublin Port - Car passing - No construction noise audible at the noise monitoring location	Calm, Dry, Partially Cloudy,
11th February 2016	N6	Nature Reserve	30	12.33	55.0	79.3	52.2	56.3	- Humming noise from WWTP - Back round MEWP noise - Background banging noise - Dog Barking	Calm, Dry, Partially Cloudy,
11th February 2016	N7	Western	30	10.24	70.5	92.6	64.7	73.4	- Mobile plant operating on ground - Steel erection - Cranes lifting materials - Internal Mechanical equipment installation - Digger excavating material - Road sweeper - Trucks arriving with materials - Humming noise from WWTP	Dry, Calm, Clear Skies,
11th February 2016	N8	Northern	30	11.14	57.0	80.8	51.8	60.9		
11th February 2016	N9	Eastern	30	11.49	71.9	96.5	72.5	74.1		
11th February 2016	N10	Southern	30	09.22	68.4	85.4	61.9	71.8		

Table 1.2 Continued: February Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
11th February 2016	N7	Western	30	21.25	56.3	79.8	50.8	55.9	- Cranes operating, MEWP operating - Steel and cladding erection - Mobile plant operating onsite - Internal mechanical installation works - Humming noise from WWTP	Dry, Slight Breeze
11th February 2016	N10	Southern	30	20.38	55.8	77.9	50.3	54.8		
12th February 2016	N7	Western	30	00.10	52.8	79.9	50.1	52.6		
11th February 2016	N10	Southern	30	23.25	53.5	76.3	46.8	52.8		
18th February 2016	N7	Western	30	11.01	76.5	84.9	67.3	80.2	- Steel erection - Cladding installation - Decking installation - Cranes lifting materials - Internal Mechanical equipment installation - Digger excavating material - Mobile plant operating on ground - Trucks arriving with materials	Dry, Calm, Clear
18th February 2016	N8	Northern	30	11.36	60.5	85.7	56.5	62.8		
18th February 2016	N9	Eastern	30	12.12	68.4	82.9	64.2	70.8		
18th February 2016	N10	Southern	30	12.55	69.6	92.1	57.6	72.6		
18th February 2016	N7	Western	30	21.25	58.9	79.8	50.9	56.8	- Cladding installation - Hum from Wastewater Treatment Plant - Internal mechanical installation - Cranes and mobile lifting equipment operating	Dry, Calm, Clear
18th February 2016	N10	Southern	30	20.38	56.5	81.2	50.1	54.3		

Table 1.2 Continued: February Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
25th February 2016	N7	Western	30	09.57	66.6	87.7	60.1	69.9	- Steel erection - Cladding installation - Decking installation - Cranes lifting materials - Internal Mechanical equipment installation - Digger excavating material - Mobile plant operating on ground - Trucks arriving with materials	Dry, Calm, Clear
25th February 2016	N8	Northern	30	10.31	63.7	91.8	57.6	59.5		
25th February 2016	N9	Eastern	30	11.36	69.4	78.7	66.9	71.6		
25th February 2016	N10	Southern	30	09.21	72.9	94.2	59.9	73.6		
25th February 2016	N7	Western	30	22.29	51.9	80.7	47.2	54.2	- Cranes operating, MEWP operating - Steel and cladding erection - Internal mechanical installation works - Humming noise from WWTP	Dry, Calm, Cloudy
25th February 2016	N10	Southern	30	21.53	52.1	79.2	45.3	52.3		

Table 1.2 Continued: February Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
03rd March 2016	N7	Western	30	12.52	66.4	86.1	56.6	69.7	- Steel erection - Installation of decking - Cranes lifting materials - Mobile plant operating on ground - Internal mechanical equipment installation - Digger excavating material - Road sweeper - Trucks arriving with materials - Hum from Wastewater Treatment Plant	Dry, Partially Clear, Slight Breeze
03rd March 2016	N8	Northern	30	13.26	56.0	77.6	52.7	58.8		
03rd March 2016	N9	Eastern	30	14.24	68.2	81.9	65.8	69.7		
03rd March 2016	N10	Southern	30	12.17	66.3	89.4	60.4	68.2		
03rd March 2016	N7	Western	30	21.10	59.9	79.8	53.1	58.1	- Steel erection - Cladding installation - Hum from Wastewater Treatment Plant - Internal mechanical installation - Cranes and mobile lifting equipment operating	Dry, Clear, Slight Breeze,
03rd March 2016	N10	Southern	30	20.25	55.3	76.9	49.1	55.1		
03rd March 2016	N7	Western	30	23.25	55.8	78.1	50.1	55.5	- Steel erection - Cladding installation - Hum from Wastewater Treatment Plant - Internal mechanical installation - Cranes and mobile lifting equipment operating	Dry, Clear, Calm
04th March 2016	N10	Southern	30	00.08	53.8	79.3	47.2	53.1		

Table 1.2 Continued: March Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
10th March 2016	N7	Western	30	11.37	67.0	80.2	58.8	71.3	- Mobile plant operating on ground - Steel erection - Decking installation - Cranes lifting materials - Internal Mechanical equipment installation - Road sweeper - Trucks arriving with materials - Humming noise from WWTP	Dry, Partially Cloudy, Calm
10th March 2016	N8	Northern	30	12.11	58.2	76.4	57.5	59.6		
10th March 2016	N9	Eastern	30	12.47	67.6	89.9	65.3	69.4		
10th March 2016	N10	Southern	30	10.58	68.7	85.4	61.5	71.4		
10th March 2016	N7	Western	30	22.15	60.1	79.8	56.1	59.8	- Steel erection - Cladding installation - Hum from Wastewater Treatment Plant - Internal mechanical installation - Cranes and mobile lifting equipment operating	Dry, Clam, Clear,
10th March 2016	N10	Southern	30	21.33	54.9	77.8	50.1	55.3		

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Table 1.2 Continued: March Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
16th March 2016	N7	Western	30	15.06	68.0	86.9	61.5	71.2	- Cranes operating, MEWP operating - Steel and cladding erection - Mobile plant operating onsite - Internal mechanical installation works - Humming noise from WWTP	Dry, Cloudy Slight Breeze
16th March 2016	N8	Northern	30	15.40	56.3	79.3	53.4	58.2		
16th March 2016	N9	Eastern	30	16.15	69.8	87.8	64.9	68.4		
16th March 2016	N10	Southern	30	14.30	67.1	81.6	58.0	70.3		
16th March 2016	N7	Western	30	20.55	63.8	81.9	57.6	60.8	- Steel erection - Cladding installation - Hum from Wastewater Treatment Plant - Internal mechanical installation - Cranes and mobile lifting equipment operating	Dry, Cloudy, Slight Breeze,
16th March 2016	N10	Southern	30	20.15	59.1	82.1	53.1	57.3		

Table 1.2 Continued: March Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
22nd March 2016	N1	Rehab	30	15.06	65.2	80.5	53.5	68.7	- Consistent road traffic - No construction noise audible at any noise monitoring location	Calm, Dry, Partially Cloudy,
22nd March 2016	N2	Seafort Avenue	30	15.43	60.0	76.7	44.9	63.6		
22nd March 2016	N3	Beech Ave	30	16.22	73.9	92.9	77.3	61.4		
22nd March 2016	N4	Leukos Road	30	14.08	62.2	87.0	55.3	64.3		
22nd March 2016	N5	Pigeon Hs	30	13.35	60.5	88.0	52.1	62.3	- Background crane noise from Dublin Port - Car passing - No construction noise audible at the noise monitoring location	
22nd March 2016	N6	Nature Reserve	30	12.06	52.3	82.5	48.5	52.9	- Humming noise from WWTP - Drilling noise	
22nd March 2016	N7	Western	30	09.58	63.0	81.7	58.4	65.7	- Diggers excavating - Mobile plant operating on ground - Steel erection - Decking installation - Cranes lifting materials - Internal Mechanical equipment installation - Road sweeper - Trucks arriving with materials - Humming noise from WWTP	Dry, Calm, Cloudy
22nd March 2016	N8	Northern	30	10.32	54.6	82.4	51.1	56.3		
22nd March 2016	N9	Eastern	30	11.10	68.8	83.9	65.7	70.8		
22nd March 2016	N10	Southern	30	09.22	67.1	85.9	59.7	70.2		

Table 1.2 Continued: March Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
22nd March 2016	N7	Western	30	21.06	63.5	78.9	52.3	55.8	- Cladding installation - Steel erection - Internal mechanical installation - Cranes and mobile lifting equipment operating - Hum from Wastewater Treatment Plant	Dry, Calm, Cloudy
22nd March 2016	N10	Southern	30	20.25	56.3	79.8	52.3	55.8		
22nd March 2016	N7	Western	30	23.15	60.1	76.8	53.1	58.1	- Cladding installation - Steel erection - Internal mechanical installation - Cranes and mobile lifting equipment operating - Hum from Wastewater Treatment Plant	Dry, Calm, Cloudy
22nd March 2016	N10	Southern	30	23.54	54.8	78.7	51.3	55.3		

Table 1.2 Continued: March Noise Monitoring Results

Date	Location No.	Location	Duration (min)	Start Time	L_{Aeq} dB(A)	L_{AMax} dB(A)	LA90 dB(A)	L_{A10} dB(A)	Principal Noise Sources	Weather Conditions
30th March 2016	N7	Western	30	12.14	64.6	84.5	61.0	66.3	- Mobile plant operating on ground - Steel erection - Decking installation - Cranes lifting materials - Internal Mechanical equipment installation - Road sweeper - Trucks arriving with materials - Humming noise from WWTP - Diggers excavating	Dry, Slight Breeze, Partially Cloudy
30th March 2016	N8	Northern	30	12.51	56.5	81.9	51.3	59.5		
30th March 2016	N9	Eastern	30	13.36	71.2	103.6	59.3	72.0		
30th March 2016	N10	Southern	30	11.38	72.6	89.2	63.6	76.2		
30th March 2016	N7	Western	30	19.56	65.3	78.1	58.3	61.3	- Cladding installation - Steel erection - Internal mechanical installation - Cranes and mobile lifting equipment operating - Hum from Wastewater Treatment Plant	Dry, Calm, Cloudy
30th March 2016	N10	Southern	30	19.21	62.1	79.1	55.3	60.1		

Table 1.3: January - March Daytime Noise Level Calculation Monitoring Results "(BS 5228-1:2009:+*A1:2014* Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)"

Date	Time	Site Boundary	Noise Level dB(A) (Laeq 30 min)	Distance between boundary monitoring location and noise source location (m)	Distance betweeen receptor location and noise source location (m)						Screening adjustment dB(A)	Caiculated Noise level at closest Sensitive receptors (Noise Level dB(A) (Laeq 30 min)					
					Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd		Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd
05/01/2016	11:43	Western	65.8	20				900		865	10				28		28
05/01/2016	15:03	Southern	68.8	30	870	941	1127		191		10	35	34	32		48	
14/01/2016	14:13	Western	75.2	15				900		865	10				35		35
14/01/2016	14:54	Southern	61.4	30	870	941	1127		191		10	27	26	25		40	
22/01/2016	09:45	Western	74.5	20				900		865	10				36		37
22/01/2016	11:47	Southern	63.0	50	870	941	1127		191		10	33	33	31		46	
28/01/2016	11:03	Western	71.6	15				900		865	10				31		31
28/01/2016	14:16	Southern	65.3	30	870	941	1127		191		10	31	30	29		44	
04/02/2016	10:40	Western	70.0	25				900		865	10				34		34
04/02/2016	12:50	Southern	65.9	40	870	941	1127		191		10	34	33	32		47	
11/02/2016	10:24	Western	70.5	20				900		865	10				32		33
11/02/2016	09:22	Southern	68.4	40	870	941	1127		191		10	37	36	34		50	
18/02/2016	11:01	Western	76.5	15				900		865	10				36		36
18/02/2016	12:55	Southern	69.6	40	870	941	1127		191		10	38	37	36		51	
25/02/2016	09:57	Western	66.6	15				900		865	10				26		26
25/02/2016	09:21	Southern	72.9	20	870	941	1127		191		10	35	34	33		48	
03/03/2016	12:52	Western	66.4	20				900		865	10				28		29
03/03/2016	12:17	Southern	66.3	50	870	941	1127		191		10	36	36	34		50	
10/03/2016	11:37	Western	67.0	30				900		865	10				32		33
10/03/2016	10:58	Southern	68.7	20	870	941	1127		191		10	31	30	29		44	
16/03/2016	15:06	Western	68.0	30				900		865	10				33		34
16/03/2016	14:30	Southern	67.1	30	870	941	1127		191		10	33	32	31		46	
22/03/2016	09:58	Western	63.0	25				900		865	10				27		27
22/03/2016	09:22	Southern	67.1	25	870	941	1127		191		10	31	31	29		44	
30/03/2016	12:14	Western	64.6	30				900		865	10				30		30
30/03/2016	11:38	Southern	72.6	20	870	941	1127		191		10	35	34	33		48	

Table 1.3: Continued: January - March Evening Time Noise November noise Level Calculation Monitoring Results "(BS 5228-1:2009:+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)"

Date	Time	Site Boundary	Noise Level dB(A) (Laeq 30 min)	Distance between boundary monitoring location and noise source location (m)	Distance betweeen receptor location and noise source location (m)						Screening adjustment dB(A)	Calculated Noise level at closest Sensitive receptors (Noise Level dB(A) (Laeq 30 min)					
					Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd		Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd
05/01/2016	19:56	Western	56.8	40				900		865	10				25		25
05/01/2016	20:38	Southern	59.9	60	870	941	1127		191		10	32	31	29		45	
14/01/2016	19:56	Western	56.9	40				900		865	10				25		25
14/01/2016	19:16	Southern	54.3	50	870	941	1127		191		10	24	24	22		38	
22/01/2016	21:56	Western	59.6	30				900		865	10				25		25
22/01/2016	21:15	Southern	56.8	50	870	941	1127		191		10	27	26	25		40	
04/02/2016	22:05	Western	57.5	30				900		865	10				23		23
04/02/2016	21:15	Southern	56.8	40	870	941	1127		191		10	25	24	23		38	
11/02/2016	21:25	Western	56.3	30				900		865	10				22		22
11/02/2016	20:38	Southern	55.8	40	870	941	1127		191		10	24	23	22		37	
18/02/2016	21:25	Western	58.9	30				900		865	10				24		25
18/02/2016	20:38	Southern	56.5	40	870	941	1127		191		10	25	24	23		38	
25/02/2016	22:29	Western	51.9	30				900		865	10				17		18
25/02/2016	21:53	Southern	52.1	40	870	941	1127		191		10	20	20	18		34	
03/03/2016	21:10	Western	59.9	25				900		865	10				24		24
03/03/2016	20:25	Southern	55.3	50	870	941	1127		191		10	25	25	23		39	
10/03/2016	22:15	Western	60.1	30				900		865	10				26		26
10/03/2016	21:33	Southern	54.9	50	870	941	1127		191		10	25	24	23		38	
16/03/2016	20:55	Western	63.8	30				900		865	10				29		30
16/03/2016	20:15	Southern	59.1	50	870	941	1127		191		10	29	29	27		42	
22/03/2016	21:06	Western	63.5	25				900		865	10				27		28
22/03/2016	20:25	Southern	56.3	50	870	941	1127		191		10	26	26	24		40	
30/03/2016	19:56	Western	65.3	25				900		865	10				29		30
30/03/2016	19:21	Southern	62.1	40	870	941	1127		191		10	30	30	28		44	

Table 1.3: Continued: January - March Night-time Noise Level Calculation Monitoring Results "(BS 5228-1:2009:+A1:2014 Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)"

Date	Time	Site Boundary	Noise Level dB(A) (Laeq 30 min)	Distance between boundary monitoring location and noise source location (m)	Distance betweeen receptor location and noise source location (m)						Screening adjustment dB(A)	Calculated Noise level at closest Sensitive receptors (Noise Level dB(A) (Laeq 30 min)					
					Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd		Rehab Institute	Seafort	Beach	Leukos	Irishtown Nature Park	Pigeon House Rd
14/01/2016	23:39	Western	59.8	40				900		865	10				28		28
14/01/2016	23:05	Southern	54.8	50	870	941	1127		191		10	25	24	23		38	
12/02/2016	00:10	Western	52.8	40				900		865	10				21		21
11/02/2016	23:25	Southern	53.5	40	870	941	1127		191		10	22	21	20		35	
03/03/2016	23:25	Western	55.8	25				900		865	10				20		20
04/03/2016	00:08	Southern	53.8	50	870	941	1127		191		10	24	23	22		37	
22/03/2016	23:15	Western	60.1	25				900		865	10				24		24
22/03/2016	23:54	Southern	54.8	50	870	941	1127		191		10	25	24	23		38	