



**NOTIFICATION TO ATTEND MEETING OF THE ENVIRONMENT SPC  
TO BE HELD IN THE COUNCIL CHAMBER, CITY HALL, DAME STREET, DUBLIN 2.,  
ON WEDNESDAY, 25 NOVEMBER 2015 AT 4.00 PM**

**AGENDA**

**WEDNESDAY, 25 NOVEMBER 2015**

	<b>PAGE</b>
1	Minutes of the Environment Strategic Policy Committee meetings
	• 24th June 2015 (Copy Attached)
	• 23rd September 2015 (Copy Attached)
	• 14th October 2015 (Copy Attached)
2	Chairpersons Business
3	Correspondence (See attached)
4	SPC submission on Draft City Development Plan
5	Air Quality in the Ringsend Area – Joe McCarthy (Attached)
6	Air Quality Presentation (Presentation Attached)
7	Draft Dublin City Council Litter Management Plan 2016 – 2018 (Plan Attached)
8	Dublin Waste to Energy update report. (Report Attached)
9	Draft Transparency Code – Regulation of Lobbying Act 2015 (Report Attached)
10	Meeting Dates 2016
11	Motion referred from the North West Area Committee
	“That the Manager arranges for a full review of litter bins in the Northwest Area. Can the Manager arrange for bins which were removed in recent times to be replaced. There is an large amount of dog dirt being bagged and dropped around the place which might be avoided if bins were in place to put the bags into.”
12	A.O.B.





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## MINUTES OF THE ENVIRONMENT STRATEGIC POLICY COMMITTEE HELD ON 25<sup>th</sup> NOVEMBER 2015

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### 1. Minutes of the Environment Strategic Policy Committee meetings.

- 24<sup>th</sup> June 2015
- 23<sup>rd</sup> September 2015
- 14<sup>th</sup> October 2015

#### Order: Agreed.

#### Matters Arising

- **Meeting Proceedings Agenda, Minutes & associated documentation to recorded on the Council's Website.**  
The Director of Traffic pointed out that the relevant documentation is on the website up to and including the April meeting and the balance will be placed on the web as the minutes are now agreed.
- **Copy of Departmental guidelines that determine allowance paid to Chairs of Committee.**  
The Director of Traffic advised that the guidelines will be circulated to Members.
- **Terms of reference of the Community Gain Fund Committee and copies of the minutes of it's' meetings.**  
The Chair advised that he was waiting for the minutes of this Committee's meetings to be agreed to seek this information and will now do so as the minutes have been agreed.
- **Source of Waste for the Dublin Waste to Energy Facility.**  
Member, Joe McCarthy corrected the record that The Executive Engineer did not state in a reply to a Council Question that waste will be sourced from the Greater Dublin Area however the Dublin region and the Eastern & Midland Region was referenced in a letter to Paddy McCartan from a Director of Covanta in response to an article in the Evening Herald. The Executive Engineer referred to the statement by Mr. Daly of Covanta at today's site visit that clarified that waste will come from primarily the Dublin region.
- **Community Gain fund is for the Waste to Energy project is without precedent.**  
Member, Joe McCarthy pointed out that such a fund has been in place since 2007 at the Corrib Gas project.

### 2. Chairpersons Business

#### COP 21 Climate Change Conferences - Paris

The Chair referred to a request from the Lord Mayor to represent her at the COP 21 Climate Change Conference in Paris. The Chair recommended that Councillor Byrne attend in her capacity as Chair of Climate Change Subcommittee which was agreed.

### **Dollymount Flood Wall – External Expert Brief**

The Director of Traffic circulated a report advising that following the approval of a motion by Dublin City Councillors at an emergency meeting of the Council an external expert will be appointed to reassess the partially constructed and proposed sea wall along the Clontarf Road.

It was agreed that the brief will cover the feasibility of the installation of a glass wall at the Causeway.

It was queried if it would be possible to give the details of the panel of external experts procured to the various residents groups as part of the selection process.

The Director of Traffic pointed out that by doing this it is unlikely that each residents group would select the same consultant and that it is not normal practice for DCC to allow the public to choose the consultant. It is not feasible to have a non technical group decide on the merits of a technical expert.

### **Order: Noted**

#### 3. Correspondence

Response from An Bord Pleanala in relation to the Chair's query regarding the interpretation of condition 3 of the Dublin Waste to Energy planning permission.

Members raised concern that An Bord Pleanala will not interpret a condition that they placed in the permission. Councillor Flynn requested that that An Bord Pleanala should be asked again to interpret the condition that the Bord attached to the permission granted. Mr. McCarthy suggested that a legal and accountancy opinion should be sought on this matter.

It was agreed that An Bord Pleanala be contacted again on this matter and it is referred to the Finance SPC for its consideration.

### **Order: Noted**

#### 4. SPC submission on Draft City Development Plan.

It was agreed that the submission compiled by Member Robert Moss be submitted on behalf of the SPC.

It was requested that Poolbeg West (SDRA No.6) in the Dublin City Development Plan be zoned amenity and not mixed use development. However it was suggested that the submission should be in general terms, i.e. Low Lying Lands should be zoned amenity using the Poolbeg area as an example.

### **Order: Agreed**

#### 5. Air Quality in the Ringsend Area – Joe McCarthy

Members thanked Mr. McCarthy for his presentation and the following questions were raised.

- Is Dr. Broderick's report available
- Long term Health Implications
- Availability of Air Quality Readings
- Is it possible to have a continuous monitoring machine
- What is continuous monitoring
- Should the Local Communities should be appraised of the Air Quality standard
- Are there regulations that dictate the number of monitoring stations, population, area etc.

Member Joe McCarthy in response to questions raised stated.

- The Broderick report is available and he will forward it to Councillor O'Moore.
- More monitoring machines are required. In Northern Ireland there are 20 such stations as against 31 in the State.
- In relation to publicising the Air Quality in Ringsend / Poolbeg Mr. McCarthy would rather use the formal channels, this SPC and The Air Quality Unit, DCC to address any Air Quality issues in Poolbeg, raise the importance of the issue and support the Air Quality unit in achieving more funding and seek guidance from the EPA.
- He is concerned about waiting for the Minister's latest initiative to come to fruition as the monitoring is required now.
- Monitoring machines measure in real time. Typically 1, 8 & 24 hour averages are taken out. The readings for Dublin are visible on the EPA website and the pollution levels can be seen.
- DCC should have monitoring machines in the east of the City but this is not the case.
- The legal requirement on the number of stations that a conurbation such as Dublin should have is low and insufficient.
- The stringency of the WHO standards is far higher.

Mr. James Nolan, Executive Engineer in response to questions raised and M. McCarthy's presentation stated that

- The Waste to Energy Project went through a statutory process, the planning consent was granted by An Bord Pleanála in 2007, the license was granted by the EPA in 2008.
- The issues raised by Mr. McCarthy were considered by both ABP and the EPA and they issued their decisions.
- The condition displayed in Mr McCarthy's presentation was not part of the license.
- The EPA has a specific guideline on how a sample dataset is interpreted into an annual dataset and it is not on a prorata basis as per Mr. McCarthy's presentation
- The EPA, the relevant competent body, produced a report for the period 2009 – 2012. In terms of exceedances Mr. McCarthy's presentation and the EPA report do not tally. He questioned how Mr. McCarthy's data and the EPA's data are different given it is the Competent Authority.

In response Mr McCarthy stated

- It was a suggested condition by the Chairperson of the oral hearing but it was not included by the EPA and it was referred to the local Authority for ongoing evaluation.
- It does not discount the scientific fact that Air Quality was in breach of the standard
- 2009 – 2012 report, the EPA's interpretation of their data is flawed as they gave the original data which was analysed by Mr. McCarthy & partner and the exceedances have been identified.
- The EPA is expert but can get it wrong at times.
- The technical detail presented by DCC's experts to An Bord Pleanála was accepted prima facie and analysis is not undertaken by the Bord. When the detail was examined (Mr. McCarthy & partner) enormous flaws were found in the CO2 calculation for the incinerator and the air quality
- His opinion is based on objective facts.
- He would welcome the opportunity to have the debate with the EPA as to why the report is wrong?
- The fact that planning permission and a license were issued does not bury all the scientific question that remain

Mr. Martin Fitzpatrick, Principal Environmental Health Officer responded

- There needs to be and there is a scientific benchmark which is published by DEFRA on how to determine an exceedance. It is not clear if this benchmark was applied in this case but it should be used to avoid any ambiguity.
- There was a suggestion that the PM10 levels were averaged out over a day. Under the EU directive you must report a daily average, not doing so will prohibit evaluation against the Air Quality Standards that are contained in the directive.

Mr. James Nolan, Executive Engineer stated

- Mr. McCarthy did say that he took the highest value on the day and it was therefore not an average
- The data (Mr. McCarthy's presentation) shows that there is a considerable number of exceedances but Mr. Fitzpatrick pointed out that the average scientific data is the key to understanding if exceedances exist or not.

Mr. McCarthy responded

- The monitoring equipment is continuous, giving 24 readings per day.
- If the value is over the standard then it is an exceedance
- He did not average, he took the value in the day and if the value is in excess of 50 then it is an exceedance.
- In excess of 35 exceedances constitute a breach of the EU standard which has occurred twice.
- The area is polluted and additional monitoring stations are required and suggested 3 are required, Clontarf, Poolbeg and at the Merrion end.

**Order: The Chair wants the Committee to come to a common agreement on what standards apply looking at the Air Quality issue into the future. Interpretations have to be clarified and the Committee can agree (the interpretations) once the science behind the standards is understood**

6. Air Quality Presentation (Presentation Attached)

Members thanked Mr. Fitzpatrick for his presentation on Air Quality and raised the following questions.

- How is it determined where monitoring stations are sited
- Can the equipment be moved to areas where there are reports of air quality problems.
- What is the relationship between the EPA and the City Council's Air Quality Monitoring Unit.
- Why is there a monitoring station in St. Anne's Park and Marino
- The nearest monitoring station to Poolbeg is 4kms away in Winetavern Street is this self evident that this is inadequate.
- Is there anything to prevent DCC monitoring Air Quality to the World Health Organisation Standard.
- Has the CAFÉ directive changed.
- Mr. Fitzpatrick's opinion of Mr. McCarthy's presentation
- Are measurements Real time.
- Are mobile monitors available

Mr Fitzpatrick responded

- Our data and National data is being compared to WHO standard.
- Monitoring stations must have a classification in terms of what type of site it is. St Anne's is a useful benchmark in determining what is the City background level as there are not any immediate sources of pollution.
- The CAFE directive is superseded by The Clean Air Package, there is an issue across all member states in terms of compliance.
- The criteria for siting the monitoring stations are covered by 2011 Air Quality Standards. Stations cannot be sited arbitrarily
- There has been a degree of monitoring in the Ringsend Area
- He is working with EPA to determine if there are gaps in the monitoring network.
- There is a range of activities for which the EPA issue licenses and a lower level that are issued by DCC e.g. dry cleaners & spray painters
- The EPA is the National Competent Authority and our data is given to the EPA. It is a collaborative approach.
- Gases are monitored continuously. Particulate are both continuous and filter averages.
- Monitoring Machines are not mobile.
- Against the idea of moving existing monitoring stations
- The public consultation period will

**Order: Presentation Noted. A round table discussion of the Committee is to be held to during the public consultation period to agree the standards and measurements.**

7. Draft Dublin City Council Litter Management Plan 2016 – 2018.

Members raised the following concerns / points.

- Cigarette Litter at Public Houses & Restaurants.
- The serious problem of Dog Fouling.
- The problems associated with needles.
- Laneways being used as public toilets.
- Plan not very specific on targets.
- Staffing Resources.
- Frequency that litter bins are emptied.
- Employment of Dog Wardens and linking dog chipping to fines.
- Exempt Senior Citizens from Bulky Household Waste Charge.
- Enforcement will dictate the success of the plan.

**Order: Recommend to Council that the Plan go to Public Consultation.**

8. Dublin Waste to Energy updates report.

A query was raised on the technique / technology used in the brief PM 10 monitoring campaign and the Executive Engineer is to revert to members of the Committee with a reply.

**Order: Report Noted**

9. Draft Transparency Code – Regulation of Lobbying Act 2015

The Director of Traffic advised that the SPC can be classified as exempt if a number of requirements are fulfilled to include

- Agenda and Minutes of Meetings to be placed on the Website
- Names & Addresses of all members
- Clarification if Sectoral members are employed by Public Sector bodies

**Order: Report Noted**

10. Meeting Dates 2016

**Order: Agreed**

11. Motion referred from the North West Area Committee

*“That the Manager arranges for a full review of litter bins in the Northwest Area. Can the Manager arrange for bins which were removed in recent times to be replaced. There is an large amount of dog dirt being bagged and dropped around the place which might be avoided if bins were in place to put the bags into.”*

**Order: Motion Agreed**

12. A.O.B.

- Matters Arising to be a standing item on the Agenda (after minutes)



- Chair to write to Community Gain Committee seeking minutes of its meetings, update on progress and terms of reference.
- Report to main Council in relation to the Dublin Waste to Energy Project to cover the areas of air quality, the community gain fund, source of waste & the community gain committee proceedings.

The Director of Traffic advised that the Community Gain Fund Committee will report to the South East Area Committee and not the SPC

**Order: Noted**

**Attendance**

**Members**

Councillor Naoise Ó Muirí (Chairperson)  
 Councillor Mannix Flynn  
 Councillor Claire Byrne  
 Councillor Andrew Keegan  
 Councillor Denise Mitchell  
 Councillor Ciaran O'Moore  
 Councillor Michael O'Brien  
 Councillor Bríd Smith  
 Councillor Cieran Perry  
 Robert Moss - Dublin City Community Forum  
 Joe McCarthy - An Taisce  
 William Brennan – Dublin Community Growers

**Apologies**

Nicholas Cloake - Dublin Docklands Business Forum  
 Councillor Catherine Ardagh

**Absent**

Councillor Declan Flanagan  
 Louise McCann - Disability Federation of Ireland

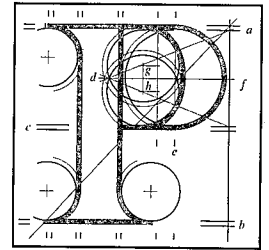
**Officials**

Declan Wallace, Director of Traffic  
 Helen McNamara, Senior Executive Officer  
 Brian Hanney, Senior Executive Officer  
 Esther Hickey, Administrative Officer  
 Martin Fitzpatrick, Principal Environmental Health Officer  
 James Nolan, Executive Engineer  
 Ciarán McGoldrick, Staff Officer  
 Ian Boggans, Assistant Staff Officer

**Councillor Naoise Ó Muirí**

**Chairperson, 27<sup>th</sup> November 2015**

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Naoise O'Muirí  
City Hall  
Dame Street  
Dublin 2

23<sup>rd</sup> October 2015

**Re:** Waste to Energy Facility at Pigeon House Road, Poolbeg Peninsula, Dublin 4.

Dear Councillor,

I have been asked by An Bord Pleanála to refer to your letter dated the 1st October, 2015.

Once the Board has made its decision on a case, its jurisdiction in the matter is spent and the Board does not comment on the implementation of the terms of a permission or attached conditions. Condition number 3 of the said permission does not provide for the Board to adjudicate on a point of detail or difference of opinion between parties; therefore, I regret to inform you that the Board cannot provide guidance on this matter.

I trust this is of assistance to you.

Yours faithfully,

Kieran Somers  
Executive Officer

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## **Environment SPC Submission to the Dublin City Development Plan 2016 -2022.**

- **Climate Change Strategy**

**The new Development Plan should adopt a general objective that low-lying areas within the City be zoned amenity rather than mixed-use to mitigate the flooding risks associated with Climate Change.**

Specific locations should then be addressed by way of Local Plans. For example, in relation to SDRA 6 – Poolbeg West zoning (Chapter 15, Section 15.1.1.9):

- The zoning should be amended to designate as public open space the eastern part of the proposed mixed use area (the area coloured purple and white on the map of Poolbeg West on page 140). This area was a meadow after it was reclaimed from Sandymount Strand and should remain as an open amenity area for public use
- This area should be included in the GIO14 objective to seek Special Amenity Area status for Sandymount Strand and Irishtown Nature Park. (SAAO). Page 86

Keeping this area free of development will assist in flood prevention by providing an extended flood plain. Retaining it as open space will remove development pressure on the immediately adjacent green area to the east known as the goose green. The goose green is south of the Ringsend WWTW and is a mandatory area of grass reserved for overwintering by migratory Light-bellied Brent Geese which is already part of SPA 004024 South Dublin Bay.

- **Parks Use & Management**

**Introduction of an additional City Performance Indicator. This to address:**

- **Number of Dublin City Council Green Flag Award Parks**

This assists the provision of good quality public parks and green spaces, managed in environmentally sustainable ways. The Green Flag Award Scheme helps create public recognition of good quality green spaces, and in doing so aims to rebuild people's confidence in them. The award aspires to raise expectations of what a public green space can offer and to reassure people that the high regard they have for their public parks and green spaces is not misplaced.

The inclusion of the above performance indicator will aid in delivering the on other elements of the draft city plan. Namely:

GI12: To ensure equality of access for all citizens to the public parks and open spaces in Dublin city and to promote more open parks with increased accessibility and passive surveillance where feasible. (Chapter 10, Page 86)

GIO12: To improve visitor facilities, including cafes, toilet, shower and changing room facilities, based on the recommendations of the Parks Strategy. (Chapter 10, Page 86)

GI15: ... It is the policy of Dublin City Council to maintain and enhance the safety of the public in its use and enjoyment of the many public parks, open spaces, waterways and linkages within the city, ... (Chapter 10, Page 87)

GIO28: To encourage and facilitate the introduction of amenities in parks such as table tennis, games tables, outdoor gyms, adult exercise equipments, bowling greens, etc. (Chapter 10, Page 90)

- **Urban Agricultural Support:**

**Introduction of an additional City Performance Indicator. This to address:**

- **Number of active Community Gardens and allotments upon Dublin City Council public green spaces**
- **Cumulative Acreage of Dublin City Community Gardens and Allotments**
- **Ratio of Dublin City Council allotment plots to allotment plot holder waiting list numbers.**

This recognises and supports the important role of community gardens and allotments within the city. This role includes promoting community development, informal education, healthy living and eating, and encouraging food security and the

reduction of food miles required to feed the city. Support for community gardens also assists with green waste recycling and biodiversity enhancement.

**In addition to the above mentioned performance indicator the inclusion of the following policies should also be considered for inclusion:**

- **A policy to facilitate the sale/exchange of the local produce from urban food production at Dublin City markets and events.**
- **A policy to promote training, education, and employment at community gardens. This should seek to use the city's community gardens in a more formal way to deliver education and transferable skills.**
- **A policy delivering a city bee keeping action plan within community gardens and other urban green spaces.**

The inclusion of the above performance indicator, and policies will aid in delivering the on other elements of the draft city plan. Namely:

"The City Council is also a lead partner in a major EU Project, TURAS - Transitioning towards Urban Resilience and Sustainability, the goal of which is to cater for the demand from individuals and communities for greater inclusivity in planning and to jointly develop strategies for adaptation to climate change and to improve urban resilience." (Chapter 12, P108)

"Through urban food production and community gardens, which are efficient tools to educate schoolchildren and engage the interest of young people in particular, it addresses the disconnect between the production and consumption of food and helps increase its perceived value." (Chapter 10, P82)



Cllr. Naoise Ó Muirí - chairperson





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Dublin City Council  
Environment SPC

# Air Quality Poolbeg & Docklands

Joe McCarthy

November 2015

- Approach
  - analyse
  - research
  - critique
  
- Actual Measurements
  - PM10 readings
  
- EPA Waste Licence
  - Findings at hearing
  - Board decision

- Standards
  - Irish Regulations SI 180 of 2011
    - PM10 - 35 exceedences pa
  
  - WHO Air Quality Guidance
    - Published 2006
      - » Fact sheet N°313 - Updated March 2014
    - PM10 – 3 exceedences
    - PM2.5 – 3 exceedences

- **Air Quality and Odour**
  - 13.3.4 on p333 – Baseline Ambient Air Quality

The Peninsula and surrounding areas have also been subject to air quality monitoring for the period 2003 – 2007 as part of the baseline data gathering exercise for the Waste to Energy EIS. The most recent data was presented at the oral hearing for the waste licence application in April 2008. Dr. Brian Broderick's report for An Bord Pleanála regarding the Dublin Waste to Energy Air Quality and Climate section of the EIS stated that the extent of sampling was sufficient to assess the temporal and spatial variation in ground level concentrations in the vicinity of the WwTW, and to compare existing air quality with limit values."

From report page 3  
para 4.2

Further air quality assessments were subsequently carried out for the Poolbeg Planning Scheme. No further ambient air monitoring has been carried out as part of this assessment of the receiving environment as the existing information is considered sufficient for the purposes of this assessment which relates to the temporary impacts due to an increase in traffic during the construction period.

- Dr Broderick's report

- p5 4.3

- In fact, the PM10 survey is comprehensive and **shows clearly that the limit value is exceeded.**

- Dr Broderick's report
  
- p8 5.4
  - In particular, the mean measured PM10 concentration should not have been used to define the background concentration of this pollutant when the highest 24-hour average concentrations are being considered. **This has led to the erroneous prediction that fewer exceedances of the 24-hour limit value would occur** when the WtE facility is in operation than were identified in the baseline survey.
  
- p21 7.28
  - These values indicate that PM10 emissions from **the proposed WtE facility may have a significant adverse impact on air quality.**
  
- p22 7.30
  - The effect of PM10 emissions from the proposed WtE facility **should be considered to be significant.**

- Dr Broderick's report
  
- p32 11.4
  - In the case of **PM10 and NOx**, the AERMOD modelling results presented in the EIS suggest that during operation of the proposed WtE facility, concentrations of these pollutants will be below their limit values. **These results disagree with the results of the baseline survey** and are attributable to the manner in which the background concentrations of these pollutants were defined. **For both pollutants, the background concentrations**, which are added to the AERMOD output to calculate the expected total ambient concentrations, **have been underestimated**. More appropriate definitions would have lead to modelled concentrations that **exceed their limit values** at some locations.

- Baseline Data
  
- Dr Porter extrapolations
  - Statistical manipulation
  
- Corrected analysis
  - Report all data points
  - Show exceedences
  - Compare with current standard
  - Compare with WHO guidelines



- **AWN Porter Baselines**
  - Cycle Way
  - Baseline
  - EIS
  - ABP Oral Hearing
  - EPA Oral Hearing
  
- **2010 – 2011 EPA Measurements**

## PM<sub>10</sub> Baseline Levels

In relation to background levels of PM<sub>10</sub>, the trend in the data over the last 2-3 years indicates a gradual decrease in annual average data as shown in Figure 6.4 from a level approaching 36 µg/m<sup>3</sup> in 2004 to approximately 30 µg/m<sup>3</sup> in 2007.



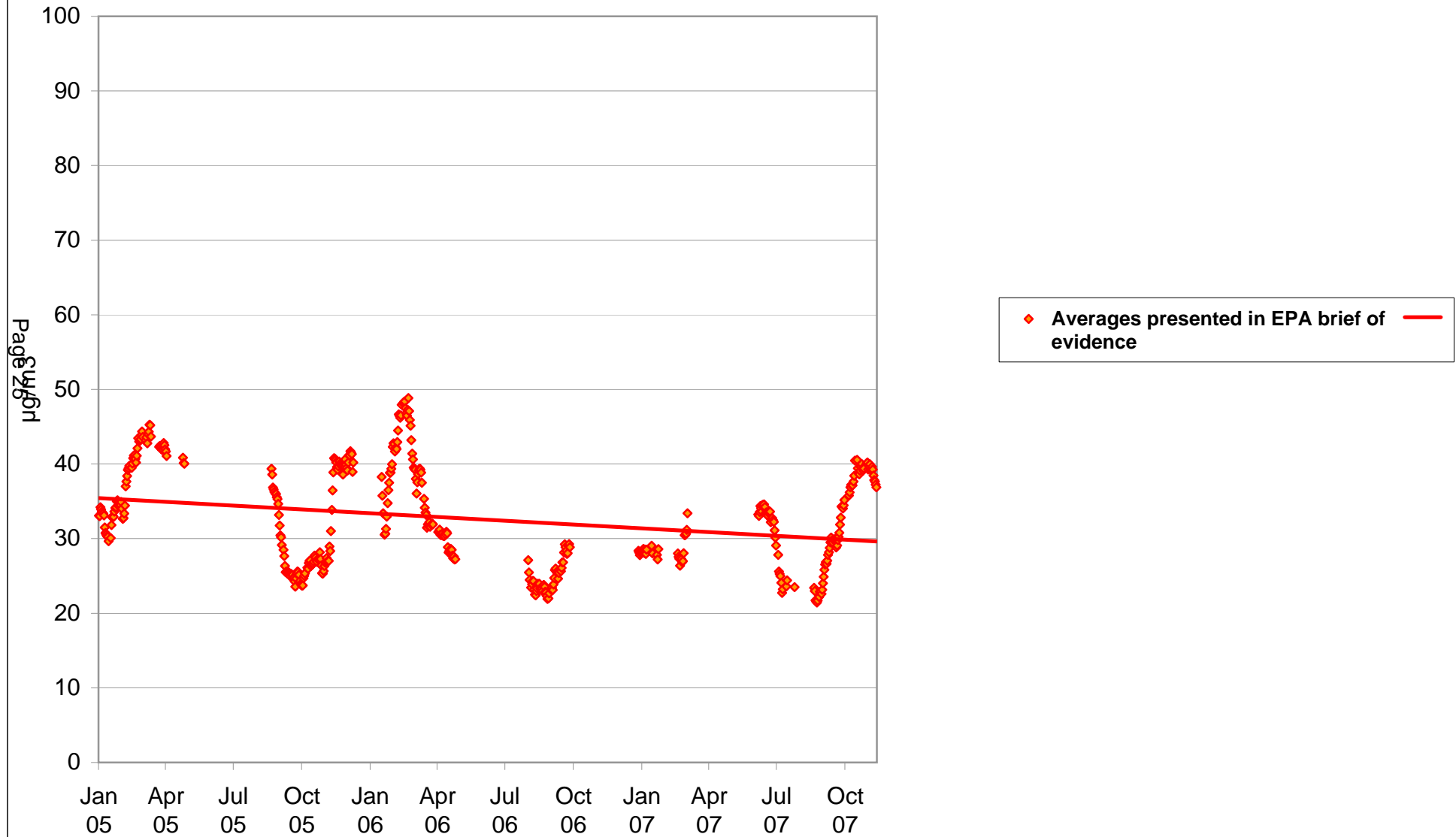
The UK DEFRA publication “Local Air Quality Management” (LAQM.TG(03))<sup>(3)</sup> outlines the approach for extrapolating from the current year to the year of opening of the facility (2012). The emission factor tool incorporates the predicted reductions in PM<sub>10</sub> concentrations in future years. Levels in 2012 using the emission factor tool are predicted to reduce to 28.9 µg/m<sup>3</sup> as an annual average (including cumulative impacts and additional traffic due to the scheme) (as shown in Figure 6.4). In order to extrapolate from the annual mean to the number of exceedences of the 50 µg/m<sup>3</sup> 24-hour limit value, the UK LAQM.TG03 has derived an empirical relationship between the number of 24-hour exceedences of 50 µg/m<sup>3</sup> and the annual mean concentration (which is derived from the UK Automatic Network sites over the period 1997 - 2001). The formula is<sup>(3)</sup>:

$$Y = -18.5 + 0.00145x \text{ annual mean}^3 + 206/\text{annual mean}$$

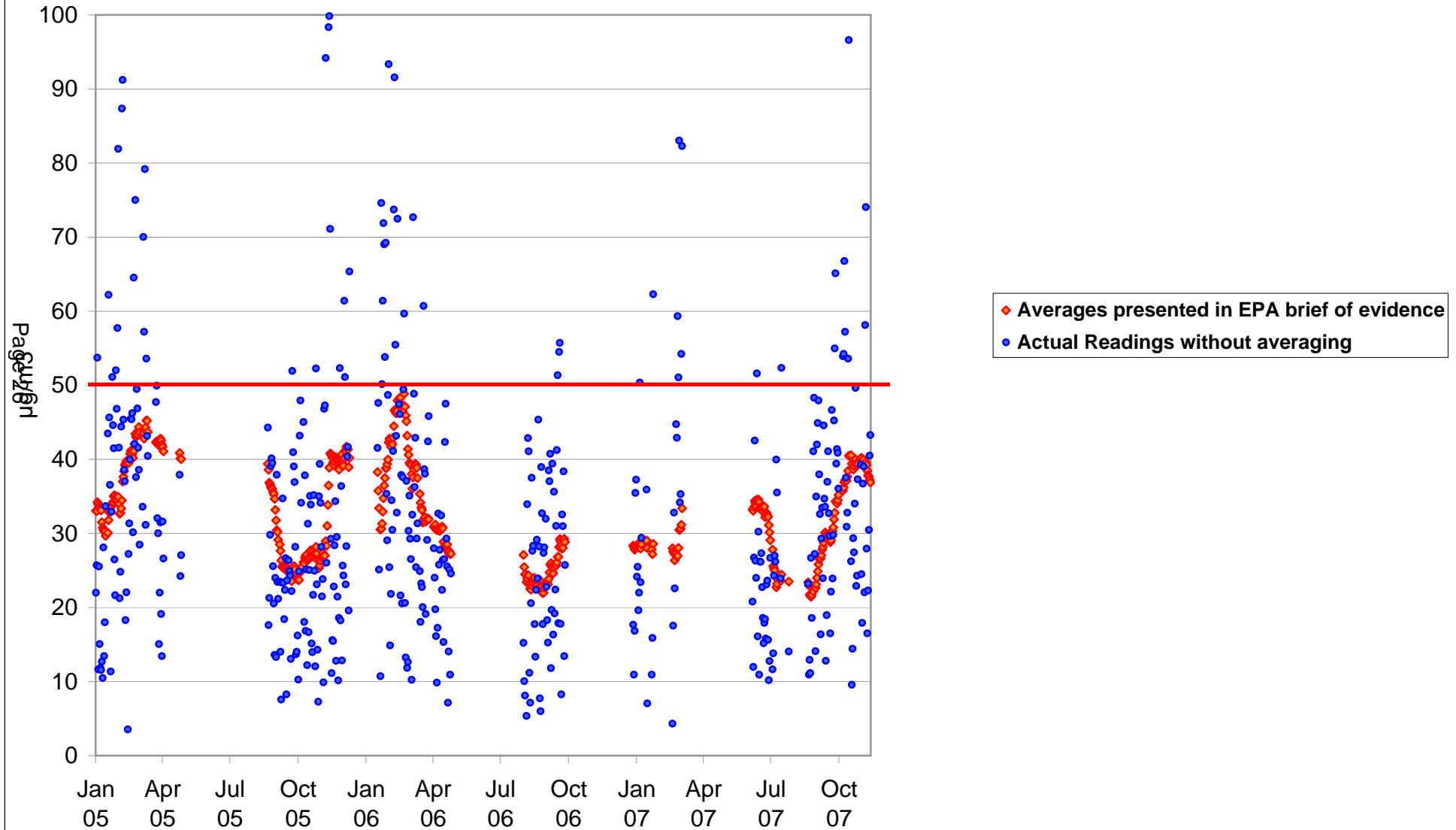
$$Y = -18.5 + 0.00145x (28.9)^3 + 206/(28.9)$$

$$Y = 24 \text{ exceedences of the } 50 \mu\text{g/m}^3 \text{ limit value (35 exceedences are allowable in any one year)}$$

# Poolbeg EIS Averaged PM10 readings



# Poolbeg EIS Averaged PM10 readings



## PM10 Measurements

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- Decision by EPA
  - Extracts from hearing
  - Board decision
  
- Graphs from DCC analysis

**Report on the  
Objections and Oral Hearing  
on the  
Proposed decision of a Waste licence  
for  
Dublin City Council.**

**Register No. W0232-01**

**Main Report**

**Report by: Ms. Marie O'Connor  
Assisted by: Ms Ann Marie Donlon**

**03<sup>rd</sup> September 2008**

10. Amend Condition 3.10.2 to read as follows:

- 3.10.2 Implementation of an odour and fugitive dust management system to include periods when process lines and/or induced draft fans are not operational.

11. Reword Condition 3.13.1 to read as follows:

- 3.13.1 Effective surface water management infrastructure shall be provided and maintained at the facility.

12. Delete Condition 3.13.2

13. Reword Condition 3.14.2 to read as follows:

- 3.14.2 The licensee shall install and maintain silt traps and oil separators at the facility to ensure that all storm water discharges (other than roof rain water) from the facility pass through a silt trap and oil separator prior to discharge. The separator shall be a Class I full retention separator and the silt traps and separator shall be in accordance with I.S. EN 585-2:2003 (separator systems for light liquids).

14. Reword Condition 3.15.2 to read as follows:

- 3.15.2 Incinerator residues destined for ships within the Dublin Port Area may be removed from the facility at any time. Otherwise waste may be removed from the facility only between the hours of 0800 hrs to 1830hrs Monday to Friday inclusive and 0800 hrs to 1400 hrs on Saturdays.

15. Insert Condition 3.16.3 to read as follows:

- 3.16.3 Prior to the commencement of the waste activity, the licensee shall submit an updated report on air quality in the vicinity of the site and the predicted impact of the development with particular reference to the air quality standards specified in S.I. 271 of 2002 or those pertaining at the proposed date of commencement of the waste activity. The report shall, as a minimum,

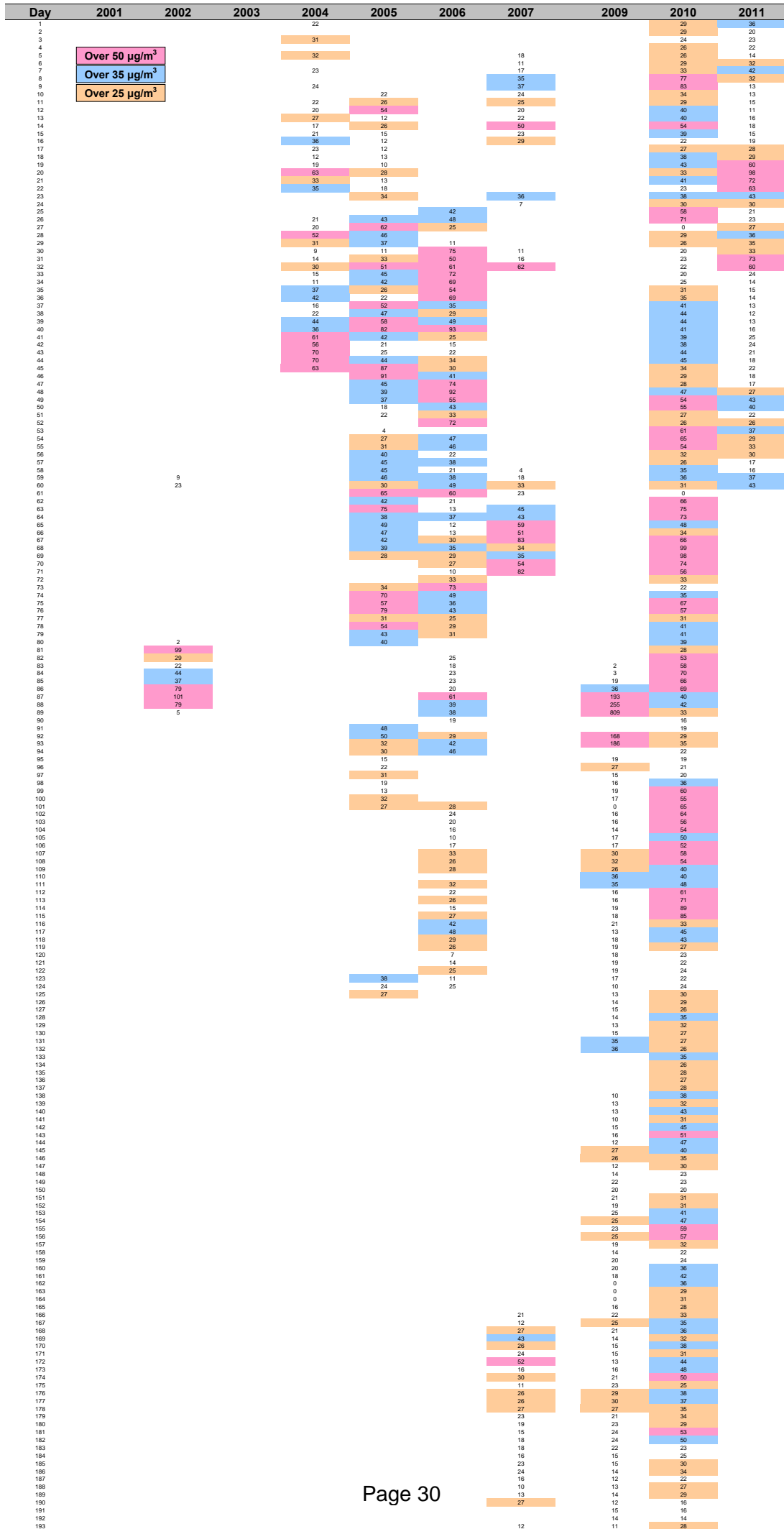
- (a) include ambient air quality monitoring at the locations specified in the application (or otherwise agreed with the Agency) for at least three years prior to the commencement of the waste activity,
- (b) provide a comparison of the actual measurements from (a) above with the predictions for air quality post 2012 as outlined in Section 8 of the EIS, and
- (c) update the impact assessment of the development having regard to the measurements from (a) above.

The licensee shall not commence the waste activity at the facility until it has received the prior written agreement of the Agency with the Air Quality report.

16. Reword Condition 3.18.8 to read as follows:

- 3.18.8 Each process line of the incineration plant shall have and operate an automatic system to prevent waste feed to that line:
- (a) At start-up, until the temperature of 850°C has been reached;
  - (b) Whenever the temperature of 850°C is not maintained;
  - (c) Whenever the continuous measurements show that any emission limit value is exceeded due to disturbances of the purification devices; and

PM10 readings 2001 to 2011



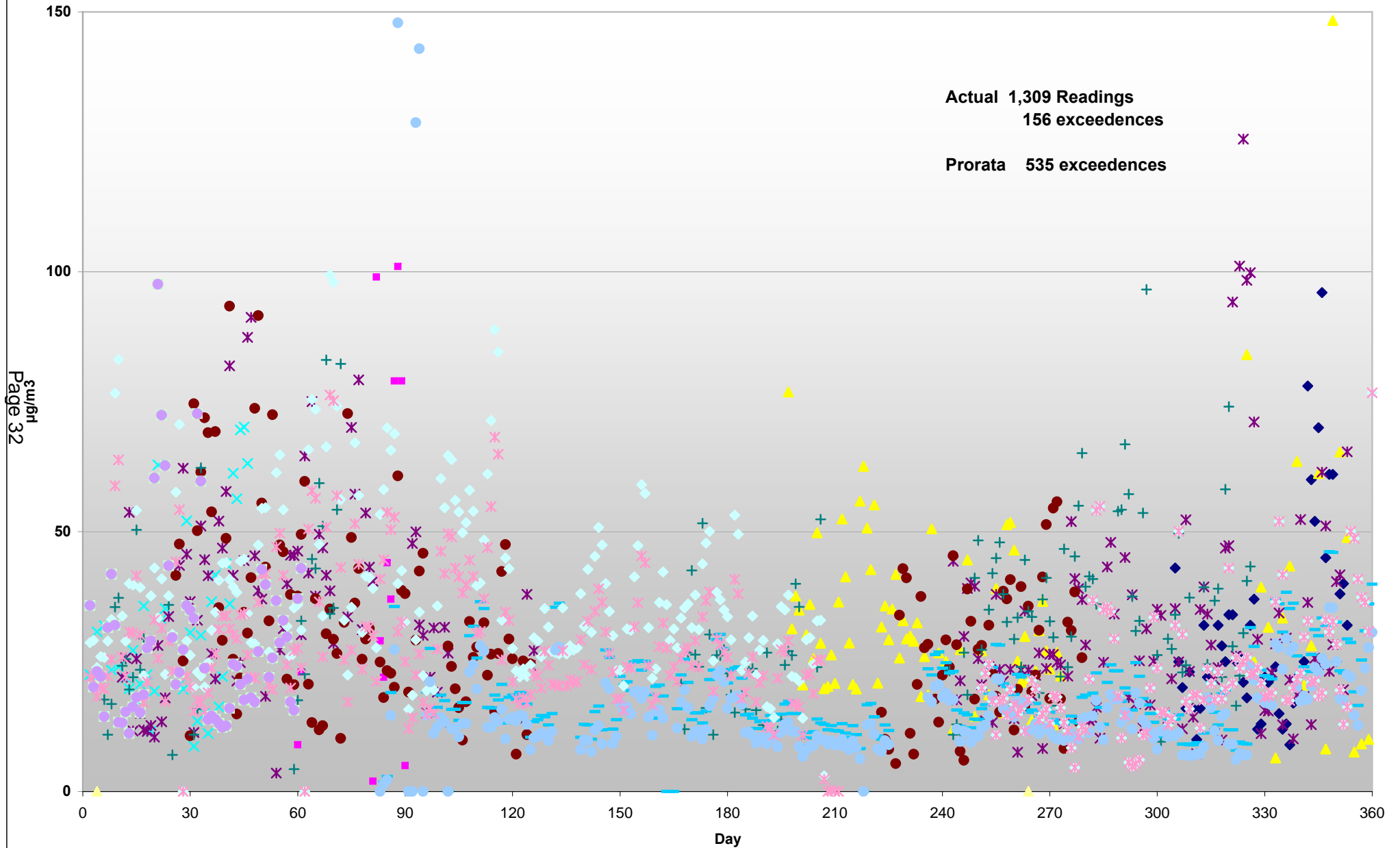


PM10 readings 2001 to 2011

Day	2001	2002	2003	2004	2005	2006	2007	2009	2010	2011
184							14	15	36	
185							24	17	35	
186							27	17	38	
187			77				26	15	22	
188			31				40	15	22	
189			38				38	11	21	
190			21					9	14	
200			30					10	29	
201			35					11	30	
202			26					11	24	
203			50				24	14	33	
204			29				52	13	33	
205			20					13	9	
206			20					12		
207			26					13		
208			21					12		
209			36					12		
210			52					13		
211			41					11		
212			29					10		
213			21					13		
214			20					11		
215			56					8		
216			63					0		
217			51					17		
218			43					14		
219			55					17		
220			21					14		
221			32					11		
222			36			15		10		
223			29			8		13		
224			35			5		12		
225			42							
226			28			34				
227			33			43				
228			29			41				
229			30			11				
230			29			7				
231			32			21				
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233			26			28				
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235			51						22	
236			27			18		26		
237			25			13		27		
238						22		24		
239						29		25		
240						24		23		
241						44	23	23		
242			12		45	45	11	23		
243			27		18	28	13	18		
244			21		8	8	11	13		
245			45		30	6	27	15		
246			40		39	39	19	20		
247			14		40	18	41	14		
248			27		26	27	48	14		
249			19		21	28	27	16		20
250			13		14	24	14	17		23
251			39		23	32	35	19		25
252			15		13	23	42	24		17
253			39		38	18	45	28		11
254			15		23	15	48	28		17
255			51		21	39	38	21		18
256			46		23	37	33	20		15
257			25		14	12	29	19		17
258			30		8	20	33	23		15
259			22		21	38	24	16		16
260			23		35	16	45	22		12
261			22		23	36	35	15		18
262			23		18	19	34	16		21
263			31		22	22	13	17		20
264			37		27	31	19	14		14
265			27		4	41	37	15		15
266			24		24	51	41	16		16
267			24		26	18	33	15		13
268			13		26	55	30	14		14
269			22		25	56	17	13		18
270			22		13	18	22	13		16
271					8	8	47	13		13
272					22	33	24	13		12
273					13	31	30	14		8
274					41	38	45	14		5
275					39	13	55	13		11
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293					25		33	22		6
294					12		54	18		11
295					31		97	17		11
296					17			15		20
297					25			13		34
298					34		26	11		24
299					15		10	15		15
300					14		14	15		15
301					22		27	14		14
302					36		34	14		32
303	43				25		50	15		50
304	25				12		23	9		30
305	20				52		24	9		17
306	16				14		37	9		18
307	18				7			9		19
308	10				35		39	9		19
309	16				39			9		12
310	32				34		24	23		24
311					21		37	21		21
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313					24		39	13		23
314					10		22	18		18
315					47		58	20		20
316					47		74	12		43
317					94		28	12		21
318					26		17	8		26
319					101		22	10		24
320					126		30	9		25
321					88		41	9		26
322			84		100		43	32		23
323					71			28		23
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345					61			46		33
346					51			33		28
347					23			33		20
348					48			23		20
349					42			23		20
350					20			23		13
351					65			29		28
352					49			29		16
353					8			19		49
354					9			17		41
355					10			25		37
356					7			31		36
357								36		31
358								40		77
359								34		99
360								46		18
361								42		19
362								29		28
363								31		33
364										
365										

Exceedences	2001	2002	2003	2004	2005	2006	2007	2009	2010	2011
Over 50 µg	7	4	14	7	26	18	19	5	50	6
Over 35 µg	12	6	31	13	52	52	51	21	113	15
Readings	49	13	89	38	188	143	139	266	323	61
365	More than 35 exceedences per annum is a breach of the EU standard									
Prorata	52	112	57	67	324	46	50	7	57	36

# PM10 Readings - 10 Year Plot - 2001 to 2011



## Summary AQ Breaches

	Incinerator EIS Sean Moore Road			S2S Project	Port Tunnel	Breach
	Readings	Exceedences	Prorata pa	Prorata pa	pa	
<b>2001</b>				53.2		Yes
<b>2002</b>				121	>33	Yes
<b>2003</b>	88	14	58.1		>33	Yes
<b>2004</b>	37	7	69.1		33	Yes
<b>2005</b>	187	26	50.7		158	Yes
<b>2006</b>	142	18	46.3			Yes
<b>2007</b>	139	19	49.9			Yes
	<b>EPA Sean Moore Road *</b>					
<b>2010</b>	165	18	39.8			Yes
<b>2011</b>	169	18	38.8			Yes

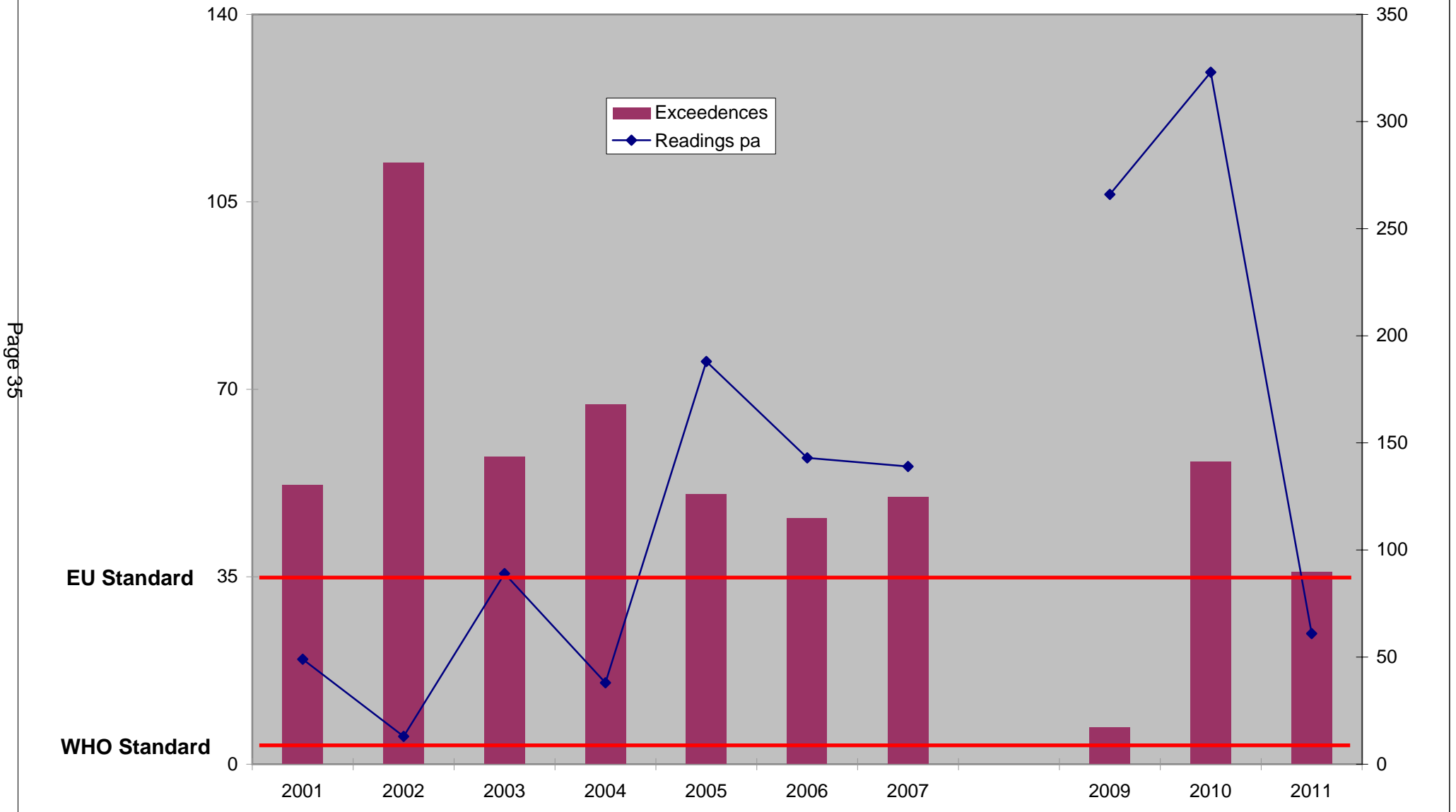
\* Estimated from graphs displayed on EPA web site

# Topics

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- Air Quality
  - PM 10 exceedences
  - Irish standard breached
  - Collect all references
  
- Errors
  - One might be misfortunate
  - Two might be careless
  - Six look interesting
  - All one sided
  
- Policy
  - ABP handed question to EPA
  - No QA or checking
  - Who acts as devils advocate?

### Exceedences per annum 2001 to 2011



## Merry-go-round

---

- DCC

- Consultants

- ABP

- Hearing

- Report

- Board

- EPA

- Hearing

- Report

- Board

- DCC

## Conclusion

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- Air quality already compromised in Poolbeg
- Continuous monitoring is necessary to safeguard our health

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## Air Quality Monitoring Dublin City

**Martin Fitzpatrick**  
**Principal Environmental Health Officer**  
**Air Quality Monitoring and Noise Control Unit**

# Air Quality Monitoring and Noise Control Unit

## Key Elements

- Air Quality Monitoring
- Enforcement of Air and Noise legislation
- Research
- Expertise

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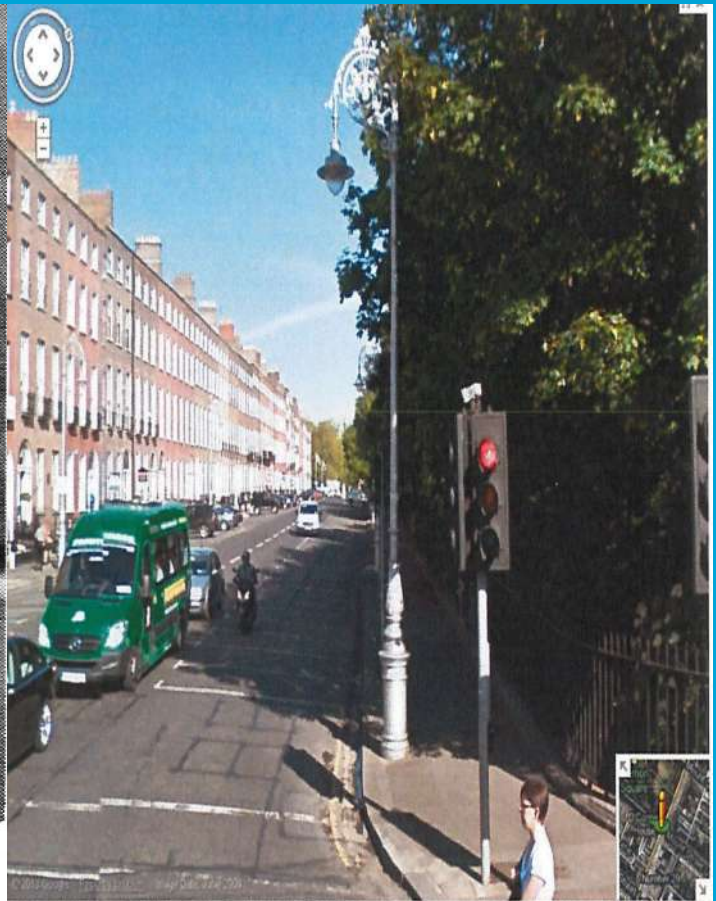


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Tony Gavin

*Dublin city centre, Friday 25  
November 1988, 2pm*

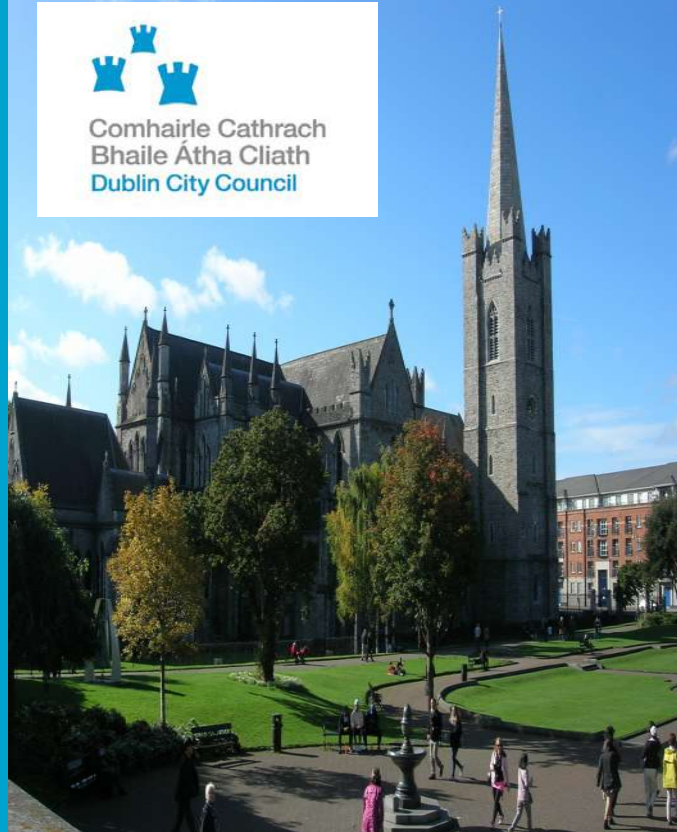


Dublin City Council established an air quality monitoring network in 1973  
The Unit holds ISO 9001 accreditation since 2002

## Air Quality Monitoring Dublin City

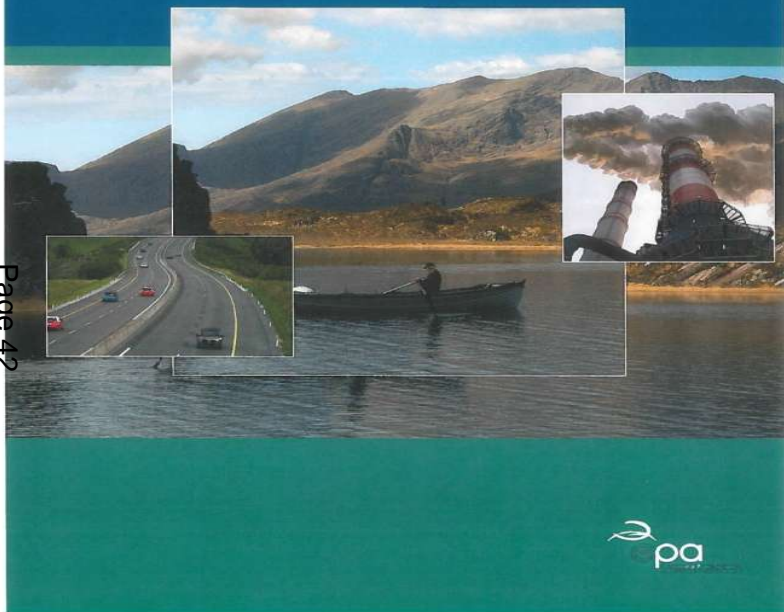


Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council



## Air Quality in Ireland 2014

*Key Indicators of Ambient Air Quality*



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## 2014 Annual Reports

## Air Quality Monitoring Dublin City



Baile Átha Cliath  
Dublin City

# EPA - Ireland's air quality in 2014

## Main findings

- Air monitoring data from 33 stations in the National Ambient Air Quality Monitoring Network
- Air monitoring data compared to the much more stringent WHO guideline values and EEA estimated reference level
- No levels above the EU limit value were recorded at any of the ambient air quality network monitoring sites in Ireland in 2014
- WHO guideline values were exceeded as follows:
  - Ozone at 8 monitoring sites
  - Particulate Matter PM10 at 2 monitoring sites
  - Particulate Matter PM2.5 at 2 monitoring sites
- EEA reference levels were exceeded as follows
  - PAH at 4 monitoring sites
- Ireland's air quality relative to our European counterparts is of good quality

## Dublin City Council Air Quality Monitoring locations

### Multi-pollutant sites

Winetavern Street – PM<sub>10</sub>, NO<sub>2</sub>, CO, SO<sub>2</sub>

Coleraine Street – PM<sub>2.5</sub>, NO<sub>2</sub>, CO, SO<sub>2</sub>

Dun Laoghaire – PM<sub>10</sub>, NO<sub>2</sub>

Blanchardstown - PM<sub>10</sub>, NO<sub>2</sub>

Old Bawn - PM<sub>10</sub>, SO<sub>2</sub>

### PM<sub>10</sub> only sites

Phoenix Park

Rathmines

St Anne's Park

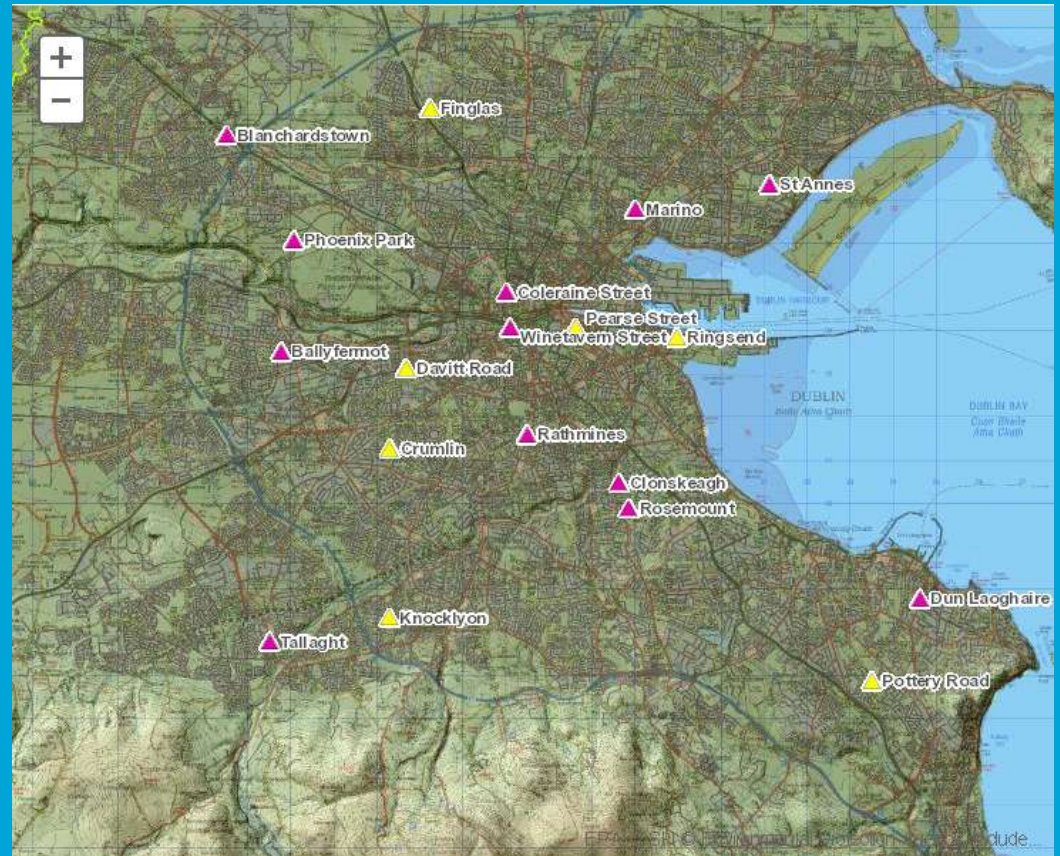
Ballyfermot

Davitt Road

### PM<sub>2.5</sub> only sites

Marino

Finglas



# Dublin City Results 2014

## Nitrogen dioxide

NO <sub>2</sub> results for Dublin 2014		
Site	Annual mean (µg/m <sup>3</sup> )	No. of times NO <sub>2</sub> hourly level >200µg/m <sup>3</sup>
Winetavern St	31	0
Coleraine Street	25	0
Ballyfermot	16	0
St. Anne's Park	12	0
Dun Laoghaire	16	0
Blanchardstown	28	2

	Averaging period	Limit Value
Hourly limit value for the protection of human health	1 hour	200µg/m <sup>3</sup> not to be exceeded more than 18 times in a calendar year
Annual limit value for the protection of human health	Calendar year	40µg/m <sup>3</sup>

# Dublin City Results 2014

## Particulates PM<sub>10</sub>

Limit value for PM <sub>10</sub>		
	Averaging period	Limit value
24 hour limit value for the protection of human health	24 hours	50µg/m <sup>3</sup> not to be exceeded more than 35 times in a calendar year

PM <sub>10</sub> results for Dublin 2014		
Site	2014 Annual Mean µg/m <sup>3</sup>	No. of days >50µg/m <sup>3</sup>
Phoenix Park	12	0
Rathmines	14	3
Winetavern Street	14	1
Ballyfermot	11	2
Davitt Road	13	1
St Anne's Park, Raheny	17	1
Dun Laoghaire	14	2
Old Bawn	15	2
Blanchardstown	18	5



# Dublin City Results 2014

## Particulates PM<sub>2.5</sub>

Target value for PM <sub>2.5</sub>		
	Averaging period	Target value
Annual target value for the protection of human health	Calendar year	25µg/m <sup>3</sup>
Annual limit value for the protection of human health	Calendar year	40µg/m <sup>3</sup>

PM <sub>2.5</sub> results for Dublin City 2014	
Site	Annual mean (µg/m <sup>3</sup> )
Marino	8
Coleraine St	9
Finglas*	7

## Current developments

- **28 September 2015 announcements by Minister**
- **National ban on bituminous coal**
- **Review of national air quality management**
- **Review of Air Pollution Act 1987**
- **Public consultation on air quality**
- **EPA review of national air quality network**
- **Indicative monitoring campaign**
- **Time scale for above**

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

18<sup>th</sup> November 2015.

To Each Member of the  
Environment Strategic Policy Committee

### Draft Litter Management Plan 2016 – 2018

I am very pleased to present to you today the Draft Litter Management Plan 2016 – 2018. You may recall that earlier this year we undertook an extensive non-statutory consultation phase to assist us with preparing a draft Litter Management Plan for the City. Submissions were invited from a wide range of stakeholders such as voluntary, groups, residents associations, elected representatives, businesses in the City and key members of DCC staff. I addressed the SPC and all the Area Committees at the time inviting submissions on what should be included in this new Draft Litter Management Plan for 2016-2018. The public non-statutory consultation phase proved very successful and 124 written submissions were received along with input from 39 members of staff. From these findings, objectives and targets have been formulated with the aim to improve the standard of cleanliness throughout the City over the period from 2016 – 2018.

The key objectives of the 2016-2018 Draft Litter Management Plan are:-

- To reduce litter by working with our citizens to make Dublin a welcoming environment for all who live in, work in and visit the City.
- Communicate the litter prevention message throughout Dublin City.
- Ensure that there is an effective and efficient street cleaning operation in place throughout the City.

By taking an integrated approach to meet the objectives and targets as set out within the plan, we have created a practical and sustainable Litter Management Plan for the City.

Some summary measures within the Draft Litter Management Plan include:-

- An improved cleaning strategy for Urban Villages and Suburban Areas.
- An improved street washing programme between April and October.
- DCC will provide an online bulky waste collection from Spring 2016.
- Joint approach with the Parks Division to combat the serious dog fouling issue.
- All litter bins in the City will have a unique ID number; we will undertake a condition survey of all litter bins together with a planned cleaning and painting regime.

- New litter bin policy will set out the parameters as to where litter bins should be placed e.g. beside schools, shops etc.
- Litter bins that are being abused will only be removed as a last resort.
- DCC will continue to actively remove graffiti around the City.
- DCC has made a significant investment in upgrading its street fleet with 18 compact Sweepers and 8 new large Road Sweepers for the City. This will improve our street cleaning capability for the years ahead.
- Continuation of compliance surveys and enforcement blitz campaigns.
- DCC will work closely with residents associations who can assist with removing cars off a road for a two hour period to allow a road sweeper to clean the street.
- Team Dublin Clean-Up for Good Friday 2016 will be our flagship project for 2016.
- DCC will promote the use of social media for the reporting of litter related issues.
- Implementation of the LMP will be monitored annually through a set of tangible objectives and targets.

It is intended to put the Draft Litter Management Plan out to public consultation in early December for a period of 6 weeks. The Draft Plan will be then submitted to the Environment SPC for consideration and recommendation to Council.

**Brian Hanney**  
**Senior Executive Officer**



Dublin City Council  
Comhairle Cathrach Bhaile Átha Cliath



## Draft Litter Management Plan 2016-2018

*Keep Dublin Clean with the Clean Dublin Team!*

### **Acknowledgements**

Dublin City Council wishes to acknowledge and express its thanks to the individuals, organisations, elected members and staff who contributed to the formulation of this Litter Management Plan during the consultation and review process. A broad range of views were received by Dublin City Council through the non – statutory consultation phase held in March 2015.

We engaged the services of Patel Tonra Ltd., Environmental Solutions, to assist us in the preparation of this important plan for the City. Patel Tonra Ltd. worked closely with the Waste Management Services team to produce a Litter Management Plan based on a sensible and effective way forward to deliver a clean Capital City.

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# 1. Introduction and Background

This Litter Management Plan is presented by Dublin City Council for the three year period of 2016 to 2018. Dublin is our capital city; over half a million residents call the city “home” and an additional 57,000<sup>1</sup> commute to the city for work and education each day. The city is a prime tourist destination, welcoming visitors each year from all across the world. In recent years, Dublin has forged a reputation as a thoroughly modern city in which to do business; it has emerged as a hub for numerous internet and technology companies and start-ups. It is a focal point for international and national sporting occasions, as well as for entertainment and events of national historical significance. It is within this rich cultural and varied context that Dublin City Council has prepared this Litter Management Plan, reaffirming its responsibility to create a welcoming environment for all those who visit, live and work in the City.

Dublin City Council decided to consult widely with members of the public and other interested parties in addition to complying with the specific legislative requirements set out in the Litter Pollution Act 1997 to 2009. Individuals, residents, community groups, businesses and politicians were all called upon to give their thoughts and suggestions on litter issues in the City. The Council also consulted with its litter wardens and cleansing staff – those at the front line of litter management, prevention and enforcement in the city.

## What is litter?

Litter is defined in the Litter Pollution Act 1997-2009. In summary, this definition means that any object or substance regardless of size, which is disposed of improperly (i.e. not deposited in a litter bin or authorised waste facility) and is likely to become unsightly or unsanitary is considered to be litter. This can range, for example, from a single coffee cup or cigarette butt discarded on the street or thrown from a car window, to the dumping of larger volumes of litter or waste like furniture.

By taking this approach, Dublin City Council were able to take an inclusive account of the concerns of the citizens of Dublin, as well as the practical day to day experience of its staff. The result is a concise, useful and deliverable plan, which will help to keep the streets of Dublin City clean, as we look forward to economic growth and stability, including social prosperity.

The 2016-2018 Litter Management Plan for Dublin City Council was prepared using a new and streamlined approach, to formulate a plan which is focused on the key issues of litter management in the City. The plan sets out objectives for preventing and managing litter and how Dublin City Council aims to achieve these objectives, through the integrated use of resources, partnership and enforcement to deliver a cleaner, greener City for all.

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<sup>1</sup> Census 2011



## Dublin City at a Glance



## Approach and Methodology

A four phase approach was taken in preparing the draft Litter Management Plan 2016-2018, as shown in the schematic, overleaf. As part of the multi-stage process of formulating a new Litter Management Plan for the City, Dublin City Council actively pursued public participation through a non-statutory consultation phase. Submissions were invited prior to drafting of the Plan from voluntary and community groups/organisations, residents associations, members of the public, elected representatives and members of the SPC, and key members of Dublin City Council staff. The public non-statutory consultation phase proved very successful; 124 written submissions were received along with input from 39 members of staff.

## 1. Consultation Phase (non-statutory)

- Media campaign advertising for Public Consultation via local and national newspapers, radio, internet and social media.
- Internal Dublin City Council Workshop with key waste management staff.
- Key stakeholder groups (community groups, business groups , TD's & City Councillors) invited to make submissions

## 2. Drafting the Plan

- Background research and review of submissions for preparation of a new Litter Management Plan.
- Review of 2008 - 2011 Litter Management Plan and evaluation of performance against previous targets.
- Review of draft plan by internal Dublin City Council Litter Management Team.

## 3. Statutory Consultation Phase

- Draft Plan to be approved by Strategic Policy Committee and Dublin City Council for second phase of Public Consultation.
- Public Consultation: Draft plan published on Dublin City Council website and media campaign inviting submissions.

## 4. Review and Publish the Plan

- Amend the Draft Plan on the basis of the submissions received.
- Adoption of the Plan by Dublin City Council.
- Publication of the full and final Litter Management Plan 2016 - 2018.

5-2018

## 2. Review of the Previous Litter Plan (2008-2011)

The previous Litter Management Plan was published by Dublin City Council in 2008. The 2008-2011 Plan described the activities and resources to be put in place by Dublin City Council for the management of litter over this period. A summary report on actions over the period 2008-2015 is presented below.



### Litter Management and Cleansing

#### LITTER RECEPTACLES

A litter bin survey was completed across the city in 2013. It was confirmed during the course of the survey that there are approximately 3,500 bins in the City.

#### BIN EMPTYING AND MAINTENANCE

The servicing of litter bins varies depending on the location of the individual bin. Bins in the City Centre area are serviced a number of times per day due to high usage and prominent location. In suburbs and urban villages, bins in small local retail areas are serviced twice per day. Bins in residential estates are generally collected once a day. A specialised crew look after the maintenance and repair of bins across the City.

#### NEW EQUIPMENT FOR STREET CLEANSING

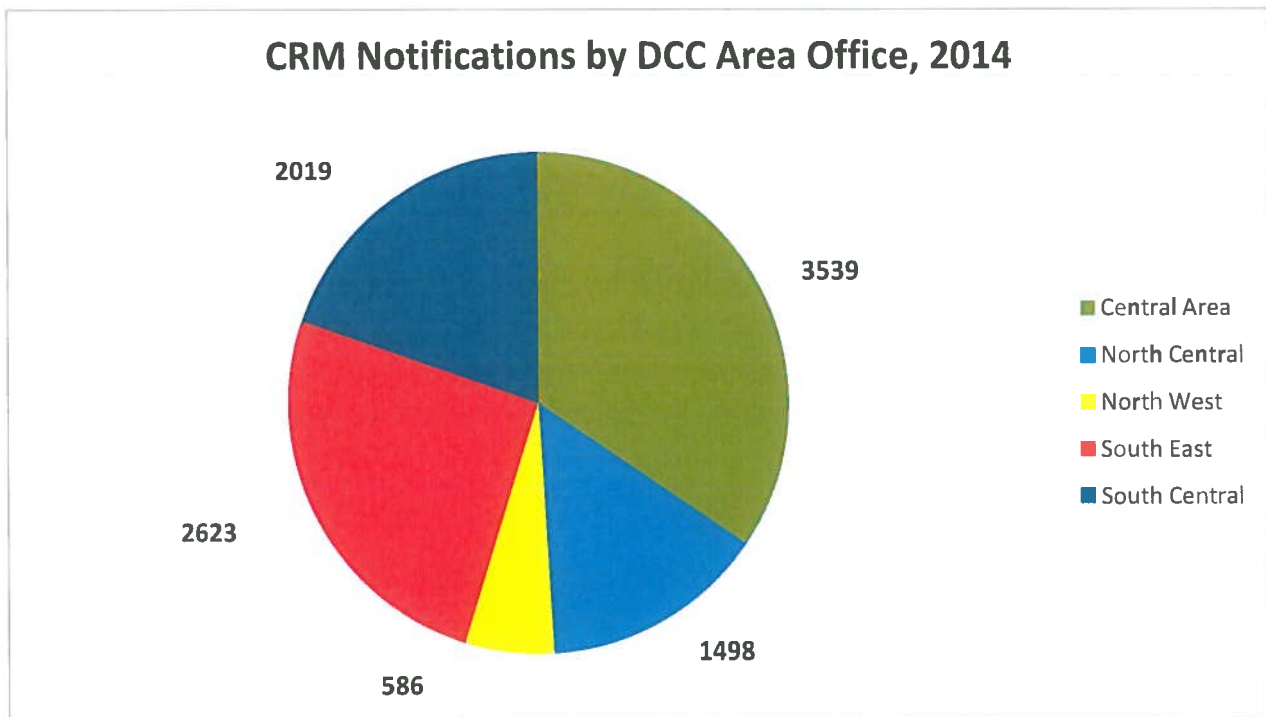
Dublin City Council has made a significant investment in upgrading its operational street cleansing fleet. A new three year fleet contract was put in place in May 2015. The upgraded fleet contains specialist equipment including leaf collection units, hot power washers and specialist pavement cleaners for street furniture and dog fouling, as well as large refuse freighters for bulky waste and Christmas tree collections.

## Customer Relationship Management (CRM) System

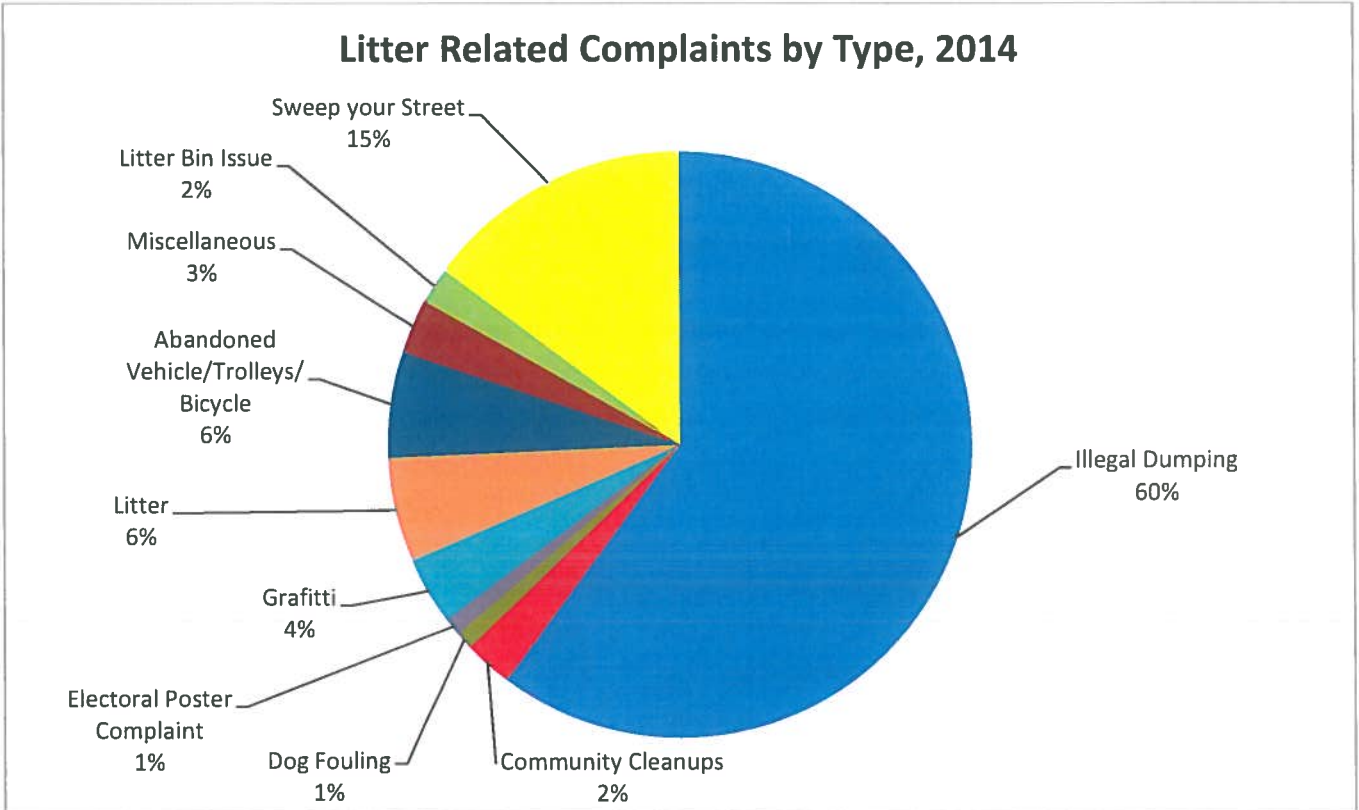
The Customer Relations Management (CRM) system was introduced in 2005 for capturing feedback and complaints relating to litter management throughout the City. The CRM System provides Dublin City Council with information regarding littering and other incidents, and allows the council to communicate with Litter Wardens and Cleansing crews to address these issues.

The CRM system also allows for notifications to be classified by type, for example a notification of littering, or through specific channels such as the ‘Sweep your Street’ requests from members of the public. In 2014, two thirds of the litter related notifications through the CRM system were related to incidences of illegal dumping.

### Examples of Data Collected and Used by Dublin City Council CRM System, 2014



The CRM system allows Dublin City Council to track complaints and notifications of incidences of litter by Area Office. This allows the Council to identify black spots and deploy resources to areas where there is a greater need for them.



The chart above shows the wide variety of notifications and complaints received by Dublin City Council in 2014 and recorded on the CRM system. The percentage relating to each category is also shown for 2014.

## Education

A Litter Education Pack was produced by Dublin City Council in 2008 and was circulated for use to all primary and secondary schools nationwide. The success of the pack has reached far beyond schools in Dublin City, with the pack being requested for use in schools in the United Kingdom, Australia and United States of America.

Dublin City Council Litter Wardens have visited and made presentations to many primary schools across the City in order to help educate school children about their work and keeping Dublin clean. In addition, the Green Schools Officer has actively raised littering and illegal dumping issues through their work with the Green Schools Programme.



## Graffiti

### CLEANSING AND REMOVAL

Dublin City Council devotes significant resources towards the removal of graffiti. 25,400m<sup>2</sup> of graffiti was removed in 2014 using a dedicated in-house graffiti removal crew and third party contractors. All incidences of graffiti treated by the crew are logged on a GIS<sup>2</sup> based technology system. The system allows for the scheduling, dispatch and logging of jobs as well as allowing staff to feedback to the system, with the ability to upload before and after photographs and reports from the field.

The graffiti crews' efficiency and effectiveness have received praise from businesses and the public alike.

Dublin City Council have committed that 100% of racist graffiti and material deemed to be of a political or sensitive nature will be removed within 48 hours. A specialist graffiti removal contractor is used to remove this type of graffiti in addition to any graffiti which may be present on a listed building in the City.

### LOVE THE LANES GRAFFITI ART PROJECT, TEMPLE BAR

The Love the Lanes project was collaboration between Dublin City Council and The Temple Bar Company to pilot solutions and interventions to address anti-social issues in the Laneways in Temple Bar.



The goal of the project was to reactivate these lanes for people to use and enjoy through creative intervention. In 2014, there was an open call for ideas and the response from the public was remarkable. Of the 60 proposals and ideas received, 10 proposals were shortlisted. Six ideas were implemented on the Laneways of Temple Bar with the support of residents and businesses during the summer. The main focus of the project was Adair and Bedford Lanes, Copper Alley and Crampton Court.

<sup>2</sup> The GIS based system is a remote technology which uses cloud computing and mobile apps to effectively manage staff working out in the field.



## Other Initiatives

### DOG FOULING

Dog fouling bins were removed across the city to deter the placing of domestic waste in the bins. In their place, a scheme distributing free doggie bags was rolled out with an accompanying media campaign. *The doggie bags can be disposed of in any public litter bin.*

A suite of 3,000 anti-dog littering signs were purchased in 2014 and erected across the city. A further 3,000 signs were purchased in 2015 and are currently being put in place. The signs are visually appealing and bi-lingual.

### BYE-LAWS

Bye-Laws for *Prevention & Control of Litter* and Bye-Laws for the *Storage, Presentation and Collection of Household & Commercial Waste* were introduced and implemented in

2013. The Bye-Laws included the introduction of single day collection in the City.

Bye-Laws for Prevention & Control of Litter establish that takeaways and licensed premises are responsible for ensuring the area outside their premises is litter free. The Bye-Laws also make it necessary to have a permit for the distribution of advertising material in the City.

The Bye-Laws for the *Storage, Presentation and Collection of Household & Commercial Waste* apply to householders and commercial premises, placing an onus on them to ensure that their wastes are collected by a permitted contractor and taken to a licensed facility. Under the Bye-Laws, the times for waste presentation and collections are strictly controlled.

A summary of Litter Prevention Bye-laws and all necessary documentation were distributed to businesses in the City and continue to be distributed when a premises is visited by Litter Wardens.

In 2010 Dublin City Council reached an arrangement with newspaper producers and an annual permit was issued for the distribution of newspapers in the City. Distribution of free newspapers in the City has now ceased.

## ENFORCEMENT

Dublin City Council Litter Wardens are the front line of litter management in the City through the enforcement of the Litter and Waste Management Bye-Laws.

At present, Litter Wardens are working with the North Inner City Litter Action Group (NICLAG) to ensure all households are compliant with the waste bye-laws. This initiative has been very successful, with the rate of compliance from households with waste disposal arrangements in place going up from 31% to 55%.

In 2014, Dublin City Council litter wardens dealt with approximately 10,265 litter related complaints, including issues such as fly tipping, dog fouling, shop fronts and general littering.

CCTV was installed at ten illegal dumping black spots across the City, which has acted as a deterrent to fly tipping at these locations.

Enforcement data for 2014:

Item	Number
No. of Litter Wardens	18
Fines issued	2290
Fines paid	698
Number of prosecution cases taken (because of non-payment of on-the-spot fines)	542
Number of successful prosecutions secured	44



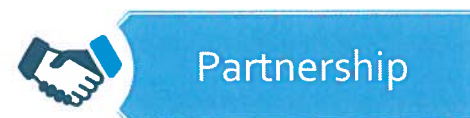
### 3. Objectives for the 2016-2018 Litter Management Plan

#### Overarching Objectives of the 2016-2018 Litter Management Plan

1. Reduce litter by working with our citizens to make Dublin a welcoming environment for all who visit, live and work in the City.
2. Communicate the litter prevention message throughout Dublin City.
3. Ensure that there is an effective and efficient street cleansing operation in place throughout the city.
4. Use all available enforcement options under the Litter Pollution Acts 1997 - 2009 to prosecute litter offenders whenever possible.

There are three key areas around which the 2016 -2018 Litter Management Plan has been structured: **Resources, Partnership and Enforcement**. Under each individual area various actions for litter management and litter prevention are outlined and these are to be undertaken in the lifetime of the plan. Specific actions to deal with the problem areas of dog fouling and illegal dumping are provided.

The plan has been prepared in conjunction with the requirements set out within the Litter Pollution Act 1997 to 2009 and takes account of the findings of the consultation phase, which included submissions from members of the public, residents association, business groups and the internal Dublin City Council consultation with cleansing and litter management staff. From these findings, objectives and targets have been formulated which aim to improve the standard of cleanliness throughout the City over the three year period from 2016 – 2018. By taking an integrated approach to meet the objectives and targets set out within the plan, we create a practical and sustainable Litter Management Plan for the City.



## Resources

During the recent economic downturn, Dublin City Council staffing levels fell across all areas, not least in the Waste Management and Cleansing Divisions. The 2016 -2018 Litter Management Plan sets out how Dublin City Council will make best use of the reduced resources available to it during the period of the plan, combining greater provision of technology with fully trained staff to ensure that a high standard of street cleansing is delivered throughout the City.

### CLEANSING STRATEGY FOR URBAN VILLAGES AND SUBURBAN AREAS

The current cleansing strategy in place for Dublin's Central Business District was put in place during the lifetime of the previous Litter Management Plan for the City. The focus of the 2016 - 2018 Litter Management Plan is to ensure that our neighbourhoods are cleaned to the same high standard as the City Centre. It is recognised that areas outside of the Central Business District, mainly suburban villages, require more frequent cleaning and bin servicing, particularly during the evenings and at weekends. Dublin City Council aims to develop an effective cleansing strategy for these areas that will see an increase in the frequency of street cleaning in accordance with the requirements for the area. A street washing programme will also be implemented between April and October each year, beginning in summer 2016.

### STREET CLEANING SCHEDULE

Dublin City Council will continue to maintain and update regularly the website ([www.dublincity.ie/StreetSweeping](http://www.dublincity.ie/StreetSweeping)) which allows members of the public to access information on when their street is cleaned. This website will also be updated to include information on supplementary services introduced in suburban villages throughout the City.

Dublin City Council will introduce a road sweeping service, at the request of local residents or community groups. On these days, residents will be asked to assist with removing their cars for a two hour period, so that the entire street can be thoroughly cleaned. Information on how to request this service will be available on the Dublin City Council website from March 2016.

Dublin City Council will introduce an online Bulky Waste Collection Service from March 2016. Details of the service will be available on the website. Dublin City Council will also assist residents and local community groups with clean-ups in their area. Residents will be able to request this service via the Dublin City Council website from March 2016.

## USE OF TECHNOLOGY

Dublin City Council will avail of the latest technology in order to address the litter problems in the Central Business District during the lifetime of 2016-2018 Litter Management Plan. New innovations such as smart litter bins using GPS and GIS technology will be assessed, piloted and adopted if feasible. It is recognised that technology can result in cost savings in staff time, fleet and fuel.

Dublin City Council will continue to use the Customer Relationship Management system for the logging of incidences of litter throughout the city. The CRM system will play a pivotal role in the identification of “hotspots” of littering, illegal dumping and other litter related incidents. By logging and tracking the data on the Customer Relationship Management system, Dublin City Council can assign staff and fleet to the areas where they are most needed.

Dublin City Council will continue to use the GIS system during graffiti removal and will continue to look for new technology to incorporate into the management and maintenance of the street cleaning fleet. This will ensure that its performance is optimised, which will allow the Council to expand its use in other areas (for example, the removal of illegally dumped items).

## DEPLOYMENT OF UPGRADED FLEET

Dublin City Council have made a significant investment in upgrading the fleet and equipment during the period of the previous plan. Compact street sweeper units, additional large street sweeper units and power-washing units were made available for use. The Council aims to continue to upgrade the fleet throughout the City from 2016 onwards, which will result in greater efficiency in street cleansing operations and a cleaner City.

Some of the key additional pieces of equipment available for use in the City include three pavement cleaners, which are specifically designed for cleaning street furniture and the removal of dog fouling incidences.



The Council have obtained two specialised units to assist with leaf removal. Leaf litter is a persistent issue in the autumn as there are many tree lined streets and avenues throughout the City. Fallen leaves clog drainage systems, decompose when wet and catch other pieces of windblown litter, making street cleansing difficult and inefficient with traditional road sweepers. The units will be used where necessary to remove fallen leaves and leaf litter.

The Council have refuse freighters available for Bulky Waste collections. The freighters will assist with the removal of large, bulky illegally dumped items and for the collection of old Christmas trees in the post-Christmas period.

#### LITTER BINS

Dublin City Council aims to create a litter bin implementation policy for the City in 2016, setting out key criteria for the location of litter bins. Bus stops, neighbourhood shops, main thoroughfares, schools, parks, hospitals will be considered as priority areas for the siting of litter bins. Dublin City Council will endeavour to ensure that all enclosed Parks will have a litter bin either within the Park or in close proximity to the Park by the end of 2016.

The policy will layout specific criteria for the installation or removal of litter bins. Under the new implementation policy, abuse of a bin (e.g. using the bins for the disposal of household waste) will not necessarily be a reason for removal except under extreme circumstances.

Dublin City Council aims to improve its information and data systems regarding the management of litter bins in the City, to assist with counting, recording and monitoring the litter bins by using the latest GIS technology. To achieve this, every bin in the city will be provided with a unique numerical identification. The plan is that this unique I.D. could be quoted and logged on the CRM when bins are found to be damaged or over-flowing. The systems will be updated regularly to take into account the removal or addition of new bins.



Dublin City Council will put in place a litter bin cleaning and painting regime. Bins are proposed to be cleaned once every week in the Central Business District, and every two weeks in suburban villages. Litter bins will be repaired on an as required basis. We intend to put in place a rolling programme of bin painting with priority given to City Centre locations.

Dublin City Council will review and consider the introduction of small mounted litter receptacles at traffic lights and bus stops for the disposal of chewing gum and cigarette butts.

Dublin City Council will review the design of bins used throughout the city to discourage the practice of illegally placing household waste in litter bins. The review will consider the inclusion of a space for anti-littering messages (such as *'Keep Dublin Clean with the Clean Dublin Team'* or *'Love Dublin, Hate Litter'*) and communications promoting a cleaner City as well as to issue information regarding fines and enforcement matters. In addition, the Dublin Docklands Authority is currently providing 35 bins for the Docklands Strategic Development Zone.

#### GRAFFITI AND POSTER REMOVAL

Dublin City Council will continue to implement the current graffiti removal policy and will continue to engage a specialist graffiti removal contractor for the rapid removal of graffiti of a sensitive or political nature.

Dublin City Council will continue to support projects which provide graffiti artists with dedicated spaces to create modern urban art in such a way that enhances the cityscape.

Dublin City Council will continue to implement the 2014 Posters Protocol<sup>3</sup>. The protocol has resulted in better control of postering for events in the City. The exclusion zones of Henry Street, Grafton Street and O'Connell Street have been well observed.



#### CA SITES, BRING CENTRES AND BOTTLE

Dublin City Council website [www.dublincity.ie](http://www.dublincity.ie) details the opening hours of recycling facilities across the City as well as listing all materials accepted at these sites.

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<sup>3</sup> Posters Protocol; Posters/Notices promoting commercial events are prohibited. A voluntary agreement has been reached through the Posters Protocol to exhibit posters advertising public meetings. Permission must be obtained in advance from Dublin City Council.

## Partnership

Many of the submissions received during the Public Consultation exercise were from individuals, business groups and residents associations based throughout the City. The submissions showed the sense of pride Dubliners have for their City and a desire to make it the best it can be. In order for the 2016-2018 Litter Management Plan to be successful, Dublin City Council must engage with citizens, community and Business Groups to keep Dublin litter free for all of those who live and work in the City.

### WORKING WITH COMMUNITY GROUPS

Dublin City Council will continue to support and promote the Fix Your Street initiative and Adopt-a-Street Initiative throughout the city. [#adoptastreetdub](#)

Dublin City Council will actively engage with the various Resident Associations and Groups to promote local community co-operation and assistance in dealing with litter related issues. Dublin City Council



will work with these groups at a local level to develop action plans to deliver local objectives. The Council will, where possible, devolve decision making to residents and use their local knowledge and insight to assign resources and target litter management issues affecting the community.

Dublin City Council will continue to assist residents groups with community clean-ups by providing them with necessary equipment such as litter pickers and

litter bags which carry the “Keep Dublin Clean with the Clean Dublin Team” message. Dublin City Council will remove all waste collected once the clean-up has been completed.

### KEY EVENT: DUBLIN CITY CLEAN UP 2016 – “KEEP DUBLIN CLEAN WITH THE CLEAN DUBLIN TEAM”

Dublin City Council plan to host their largest ever community clean up on Good Friday, March 25<sup>th</sup> 2016, in advance of the 1916 Centenary Commemorations on Easter Sunday. Dublin City Council will invite citizens to come out in force for a couple of hours in organised community events and play their part in cleaning up the City for the weekend. Dublin City Council will provide participants with high-vis vests, litter pickers, bags and gloves. It is hoped that volunteers from community groups, schools and businesses will provide a helping hand in making the project a success for the celebrations. [#dubcitycleanup16](#)

## BUSINESS PARTNERSHIPS

Dublin City Council will continue to actively engage with businesses throughout the City. Licensed premises have a responsibility to ensure that the area outside their premises is free from cigarette butts and swept regularly. Commercial premises are required to keep the area outside their premises clean and free from litter. Dublin City Council Litter Wardens, Public Domain Officers and Environmental Liaison Officers will continue to visit premises throughout the city and engage with business owners on these issues.

## EDUCATION

Educating and informing our citizens about the part they can play in keeping the City clean is important. “Report it” education campaigns will be run to empower citizens to report incidents of illegal dumping so that they can be resolved quickly.

The Green Schools Programme is an environmental management system and an award scheme that promotes whole school action for the environment. Dublin City Councils Green Schools Officer will continue to work with schools across the City to promote and assist the roll out of the

Green Schools Programme. This includes primary, post–primary and third level institutions.

## SOCIAL MEDIA

Social media is an important resource in fostering relationships with the public. Facebook, Twitter and Instagram are widely used and provide excellent platforms for communication with local citizens. The use of these platforms is two-fold. They allow citizens to quickly report litter related issues to Dublin City Council in real time, with good locational accuracy while on their daily commutes, doing the school run or going shopping. They allow Dublin City Council to access as many people as possible with information on upcoming events or in the promotion of Dublin City Council initiatives such as Adopt a Street, community leaf removal etc. Hashtags (#) have been included throughout this plan for use during the promotion of certain initiatives.

### Business Responsibilities for Litter

The Litter Pollution Acts 1997-2009 puts a number of legal responsibilities on Businesses to control litter. The following are offences under the Act:

- Failure to keep footpaths, pavements and gutters (up to 100m of the premises) and adjoining premises located within a speed limit area litter free (cigarette butts, receipts, wrappers etc.).
- Putting up posters or signs without authorisation or placing advertising flyers on cars.
- Placing commercial waste in a public litter bin.
- Dumping material in an area other than a waste receptacle or authorised waste facility.
- Mobile operators and organisers of major events have additional responsibilities.

Social Media will play a vital part in our campaign against dog fouling. Dublin City Council want everybody to get behind the 'Bin the Poo' campaign, by posting pictures of themselves out walking with their dog to Facebook, Twitter and Instagram with the #binthepoo. By making picking up dog litter acceptable and visible in this way, we can affect the behaviour of many, and make dog fouling socially unacceptable.



## Dog Fouling

Dog fouling was the single biggest issue raised by Dubliners during the public consultation for this litter plan, with over one third of all submissions citing it as an issue in the City. By working with dog owners and educating them on the correct way to dispose of the dog litter, as well as making them aware of the penalties for not cleaning up after their dogs, Dublin City Council and the dog owners of Dublin can help eliminate the scourge of dog fouling from the City streets.

An interdepartmental group has been established to develop a policy for responsible dog ownership which is clear, coherent and acknowledges the important value of dogs to the quality of life of their owners. The policy will also reflect the needs of others in the community, particularly the elderly and children, to have public spaces which are safe and clean for rest, relaxation, recreation and play. The plan is to fully engage and work with dog interest groups and dog walkers across the City.

### LITTER BINS IN PARKS

Litter bins for the disposal of dog fowl will be strategically reinstated in the City's Parks or in close proximity to Parks. #binthepoo

Dublin City Council will continue to encourage and support the "Any Bag, Any Bin" campaign.

### STREET CLEANSING

Dublin City Council will identify dog litter black-spots that require regular power washing to remove dog litter, particularly around beaches, coastal routes and other amenity areas during the busy summer period.

Dublin City Council will provide free doggie bags to community groups for use during their clean up days.



## TECHNOLOGY

Dublin City Council will examine the possible role of “talking lamp-posts” which play pre-recorded audio messages reminding walkers to look after their dog litter in dog litter black spots across the City. Small audio devices are fitted to lamp-posts in areas with high levels of dog walkers. The audio messages are played at regular intervals during daytime and early evening.

## EDUCATION AND AWARENESS

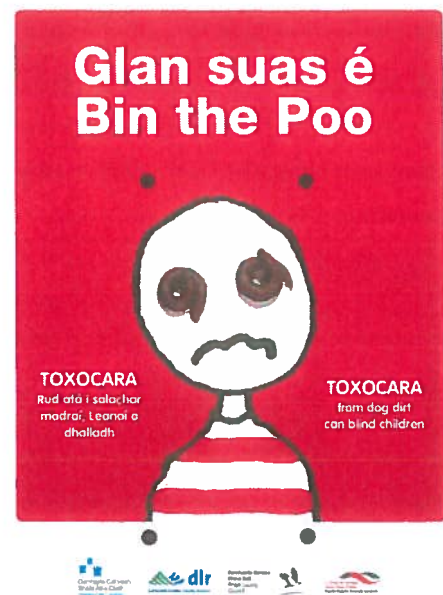
Dublin City Council will continue to provide free doggie bags to dog owners through local libraries and offices or when buying or renewing dog licences. Information on litter bin locations and other initiatives will also be provided.

Dublin City Council will run a widespread media campaign using bus shelter advertising space and designated areas in Parks to inform Dubliners about the correct use of litter bins and related dog fouling matters.

A 12 week advertising campaign in Dublin City cinemas is also planned to specifically highlight dog fouling issues. This campaign will be supplemented through the use of social media: e.g. encourage dog walkers to take a ‘selfie’ out walking their dog & post to Facebook, Twitter or Instagram using [#binthepoo](#)

The campaign will also encourage citizens to report incidences of dog fouling to the council via the Dublin City Council Litter Hotline: 1800 251 500.

Dublin City Council will continue to support the Toxocara awareness campaign. Toxocariasis is a disease found in animal faeces and is caused by the eggs of the roundworm *toxocara*. The eggs are passed from dogs to humans through contact with animal faeces and contaminated soil. Children are particularly at risk and infection can lead to illness and even partial loss of sight. It is easily prevented, through responsible dog ownership. Freshly deposited faeces are not infectious; the eggs do not become infectious for two to three weeks after the faeces have been deposited. Therefore, there is no risk of catching toxocariasis whilst clearing up dog foul immediately.



## RESPONSIBLE DOG OWNERSHIP

Dublin City Council will continue to support and promote the expansion of the Green Dog Walkers initiative. The Green Dog Walkers initiative is a community led programme, which aims to encourage responsible dog ownership in a positive and friendly way, through building up relationships with other dog walkers. They remind fellow dog owners to pick up after their dog, and carry extra dog litter bags.

#### ENFORCEMENT

Dublin City Council will run a media campaign and radio adverts on Dublin radio stations about the risk of prosecution for dog owners who do not pick up their dog litter. The campaign will remind dog owners about the fine and possible court appearance for not picking up after their dog.

Dublin City Council will provide training to its Litter Wardens in relation to how to approach and engage people on dog fouling issues.

### Enforcement

Dublin City Council has a statutory responsibility to enforce the Litter Pollution Act, bye-laws and other relevant regulations. Dublin City Council recognises that while resources and education are required to manage and prevent incidences of littering, enforcement measures are necessary to target individuals and groups who openly ignore the law.

Litter Wardens are the first line of enforcement against litter in the City. They play a pivotal role in ensuring that those who disregard the law in relation to littering and illegal dumping are brought to justice. Their skills, experience and diligence are vital in this regard. They also work with businesses and schools throughout the City in an educational capacity, advising on their legal obligations in relation to preventing litter.

#### LITTER WARDENS

At present there are 16 Litter Wardens working throughout the City. Dublin City Council aims to maintain this number of Litter Wardens throughout the lifetime of the plan.

Dublin City Council will continue to provide specialist training for Litter Wardens in order to help deal with the evolving littering challenges facing the City. For example, Dublin City Council will provide its Litter Wardens with expert witness training and training

#### Littering Fines and Penalties

Leaving or throwing litter in a public place is an offence that can be subject to an on-the-spot fine of €150, or a maximum fine of €4,000 if you are convicted in the District Court. A person convicted of a litter offence may also be required to pay the local authority's costs and expenses in investigating the offence and bringing the prosecution to court.

on how to approach and engage with dog owners on issues relating to dog fouling.

#### FINES AND PROSECUTIONS

Litter Wardens will continue to issue on the spot fines and prosecutions to litter offenders across the City. The number of fines that are issued and court prosecutions taken are monitored and measured on a continuous basis and Dublin City Council will continue to do this.

Dublin City Council Litter Wardens will continue to be highly visible to the public, by maintaining the number of high profile foot patrols across the City.

#### ENFORCEMENT SURVEILLANCE OPERATIONS

CCTV surveillance cameras were placed in ten illegal dumping black-spots across the City between 2008 and 2015, and have proven to be extremely effective. As a result, Dublin City Council will continue the introduction of CCTV surveillance in additional black-spots across the City. Dublin City Council will consider the use of mobile CCTV units where appropriate. CCTV surveillance aids in the identification and successful prosecution of offenders, particularly where vehicles are involved in illegal dumping.

#### COMPLIANCE SURVEYS AND ENFORCEMENT 'BLITZ' CAMPAIGNS

Door to door compliance surveys have been conducted to ensure that householders have engaged the services of a permitted waste contractor to bring waste refuse to an authorised facility for proper treatment or disposal. This enforcement blitz has proven to be extremely effective.



#### MEDIA AND EDUCATION CAMPAIGN

Dublin City Council intends to run media and education campaigns (similar to the TV Licence Campaign) to educate and inform citizens of the fines and enforcement penalties that could be levied against them, if they are found to be engaging in littering, illegal dumping or failing to dispose of dog litter in the correct manner. These campaigns will make use of local newspaper, bus shelters, local radio and Dublin City Council social media channels.

## Illegal Dumping

Illegal dumping and the use of public litter bins for household waste were identified during the consultation phase as significant litter management issues for Dublin. As a direct response to this,

Dublin City Council have made it a key focus area for the 2016-2018 Litter Management Plan. Below are the measures set out by Dublin City Council to tackle the problem of illegal dumping in the City.

#### ENFORCEMENT

Dublin City Council will continue to use CRM Reports to identify black-spots where illegal dumping occurs frequently, and will consider the installation of CCTV surveillance units in these areas to deter offenders. Dublin City Council will invest in clear signage erected to let offenders know CCTV surveillance is in operation and illegal dumpers will be prosecuted.

Dublin City Council will continue to support and grow the role of the Litter Wardens in addressing this issue. Litter Wardens will continue to apply the full rigour of the law to bring prosecutions against offenders.

#### PARTNERSHIP

Dublin City Council will work with Community Groups and Residents Associations where illegal dumping is a problem to deter illegal dumping activities (similar to Neighbourhood Watch Schemes).

Dublin City Council will support and provide community groups with bags, equipment and waste removal on clean-up day.

Dublin City Council will facilitate members of the public to report incidences of illegal dumping when they come across it through the use of well publicised channels such as the Dublin City Council Litter Hotline: 1800 251 500.

#### BULKY WASTE COLLECTION CREW

Dublin City Council will introduce an online Household Bulky Waste Collection Service. Details of the service will be available on the website in 2016.

#### BRING CENTRES

Dublin City Council will promote opening hours and special opening hours such as Sunday openings during the summer season. Dublin City Council will distribute leaflets outlining what materials can and cannot be deposited at the Bring Centres.

Dublin City Council will continue to promote its recycling facilities and services on its website [www.dublincity.ie](http://www.dublincity.ie).

In conjunction with WEEE Ireland, Dublin City Council will continue to facilitate WEEE collection days at specific locations across the City. These collection days are advertised on the City Council's website and through social media outlets.



## 4. Monitoring the Implementation of the Plan

### Implementation Plan

Implementation of the various objectives of the plan will be monitored through a set of tangible actions and realistic target as follows.

Area: Resources		Introduction Timeframe (2016-2018)	
Overall objective is to ensure the provision of an effective and efficient street cleaning operation.			
Resources			
1.	Develop cleansing strategy for suburban villages, including provision for weekend/out of hours service schedule.	Achieved/Not Achieved.	Q2, 2016
2.	Roll out of Cleansing Standards booklet to all Street Cleaning Staff.	No. of cleaning staff who received booklet.	Q2, 2016
3.	Intensive street washing programme from April to October each year.	Achieved/Not Achieved.	Q2 – Q3, 2016 - 2018
4.	Update and maintain accurate street cleaning and road sweeping schedule on Dublin City Council website.	No. of unique webpage visits.	Q2 – Q3, 2016
5.	Introduce street sweeping request facility for City street residents. Parking restrictions will be in place to facilitate access, via Dublin City Council website.	No. of requests received per year and actioned.	Q2 – Q3, 2016
6.	Introduction of on line Bulky Waste Collection service. Request via Dublin City Council website.	Tonnage of material collected.	Q2 – Q3, 2016

Area: Resources			Introduction Timeframe (2016-2018)
Overall objective is to ensure the provision of an effective and efficient street cleaning operation.			
7.	Maintain community clean-ups.	No of Clean-ups carried out in year.	Q4 2016
8.	Organise Christmas tree collection service.	Tonnage of material collected.	Q1, 2016 to 2018
9.	Expansion in the use of the GIS system to manage illegal dumping incidents.	No of reports for illegal dumping incidences.	Q1, 2016
10.	Increase the number of handcarts to 10 in use in City Centre Streets (e.g. O'Connell St., Grafton St. and Henry St.)	No. in use by end 2016 versus 2015 figures.	2016 to 2018
11.	Develop Litter Bin Policy including requirements for siting of bins and criteria for bin removal.	Achieved/Not Achieved.	Q4, 2016
12.	Full bin survey, including bins in parks to be completed.	Survey completed.	Q1, 2016
13.	Installation of additional litter bins in or in close proximity to every enclosed Park within the City.	No. of bins installed.	Completed by Q2, 2016
14.	Unique identifier placed on every litter bin in Dublin City Council area. To be updated on IT System, including removal or addition of new bin.	Achieved/Not Achieved.	2016-2018
15.	Bin maintenance regime to be developed for cleaning and painting of bins.	No. of bins cleaned per annum.  No. of bins painted per annum.	Q3, 2016

<b>Area: Resources</b>			<b>Introduction Timeframe (2016-2018)</b>
<b>Overall objective is to ensure the provision of an effective and efficient street cleaning operation.</b>			
16.	Use advertising space on litter bins for anti-littering messages.	No. of bins displaying anti-littering messages.	Roll out Q1, 2016.  Message changed every quarter.
17.	Continue maintenance programme for Bottle Banks.	Achieved/Not Achieved.	Q1, 2016
<b>Area : Partnership</b>			
<b>Objective : - To reduce litter by working with our citizens and communicate the litter prevention message.</b>			
18.	Implement Dublin City Good Friday Clean-up Campaign.	No. of volunteers.  Tonnage of litter collected.  No. of clean-ups held in subsequent years.	25 <sup>th</sup> March 2016  Good Friday 2017 & 2018
19.	Dublin City Council will facilitate community clean-ups with Residents Associations and community groups.	No. of clean-ups held.	Q2: 2016, 2017, 2018
20.	Dublin City Council will continue to assist in the organisation and support of the City Neighbourhoods Awards.	No. of entries to City Neighbourhood Awards.	Q2: 2016, 2017, 2018
21.	Continue to develop and roll out the Green Schools Programme to primary, post primary	No. schools visited.	2016-2018



<b>Area: Resources</b>		<b>Introduction Timeframe (2016-2018)</b>	
<b>Overall objective is to ensure the provision of an effective and efficient street cleaning operation.</b>			
	and third level institutions.	No. Green Schools	
22.	Greater engagement on social media regarding litter management issues.	No. of litter incidences reported via social media channels.	Q1, 2016; ongoing.
23.	Promote “Bin the Poo” Campaign.	No. of posts tagged with #binthepoo.	2016-2018
24.	Development of policy on responsible dog ownership.	Achieved/Not Achieved.	Q4, 2016
25.	Introduce pre-programmed anti dog fouling audio messages at dog fouling blackspots.	Dog foul survey before and after messages introduced.	Q3, 2016
26.	Run local cinema and radio advertising on litter, dog fouling and Christmas tree campaigns.	No of campaigns rolled out.	Q2 - 2016
<b>Area : Enforcement – To use legislative framework to support the anti-litter campaign</b>			
27.	Dublin City Council will review the Litter Wardens duties in order to meet the requirements of the new Litter Management Plan.	Review completed.	2016-2018

<b>Area: Resources</b>			<b>Introduction Timeframe (2016-2018)</b>
<b>Overall objective is to ensure the provision of an effective and efficient street cleaning operation.</b>			
28.	Continued use of CCTV surveillance and associated signage.	No. of locations CCTV units used at.  No. of fines secured.  No. of prosecutions secured.	2016-2018
29.	Expansion of door to door enforcement campaigns across the city.	No. of campaigns completed.	2016-2018
30.	In conjunction with WEEE Ireland, Dublin City Council will facilitate WEEE collection days at specific locations across the City.	No. of days organised.  Tonnage of waste collected.	Q3: 2016, 2017, 2018

In addition to the actions and metrics specific to the 2016-2018 Litter Management Plan, general statistics on litter management and CRM data will be collected and collated for measuring the success of the plan. This data will include, but is not limited to, the following Key Performance Indicators (KPIs):

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### 2016-2018 Litter Management Plan KPIs

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1. Number of litter fines issued per year.
  2. Number of litter fines paid per year.
  3. Number of prosecutions secured.
  4. Number of dog fouling fines issued.
  5. Number of calls to the Litter Hotline.
  6. CRM data for period of the plan.
  7. Performance in annual IBAL monitoring results.
  8. Performance in annual Litter Surveys.
  9. Number of hits on social media.
  10. Number of Litter Wardens.
- 

## Review and Reporting

The actions outlined in the implementation plan shall be reviewed against the metrics and timeframe targets. A progress report will be prepared on an annual basis with status and findings for presentation to the Strategic Policy Committee.



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

**25<sup>th</sup> November 2015.**

**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:

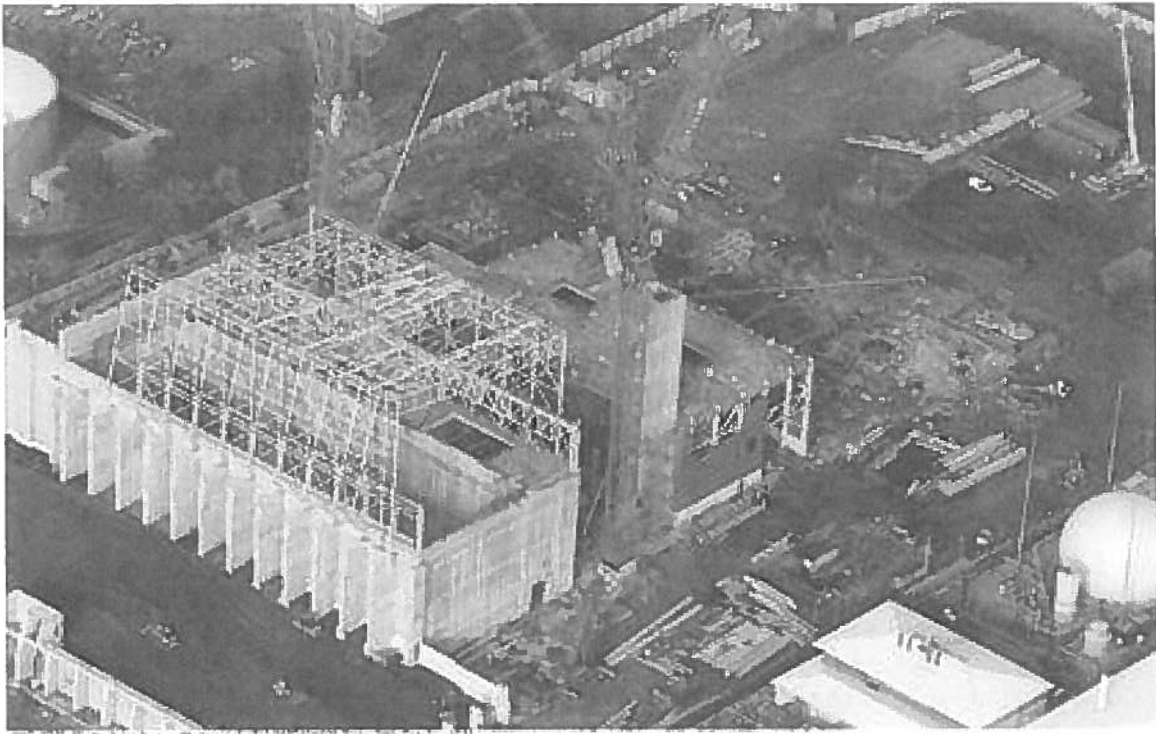
#### **Construction**

- There are currently approximately 289 contractors on site at any point in time.
- Construction is currently programmed on a 24/7 basis.
- PM Group Limited, the civil designer and construction manager have reported that design and procurement activities for the civil related aspect of the facility are now 95% complete.
  - The main focus of PM Group and their subcontractors are:
    - the installation of structural steel for the enclosure over the waste bunker area,
    - works associated with the facility cooling water system,
    - works associated with the tipping hall floor,
    - finalisation of the civil works associated with the electrical and transformer rooms.
- Hitachi Zosen Inova (HZI), the process systems designer have reported that they are 85% complete in the efforts focused on completing Process & Instrumentation Diagram's, equipment specifications and procurement of equipment.
  - The main focus of HZI and their subcontractors activities are:
    - erection of structural steel for both lines of the boiler and the turbine hall,
    - installation of the process equipment,
    - inspection and review of process equipment manufacturing.



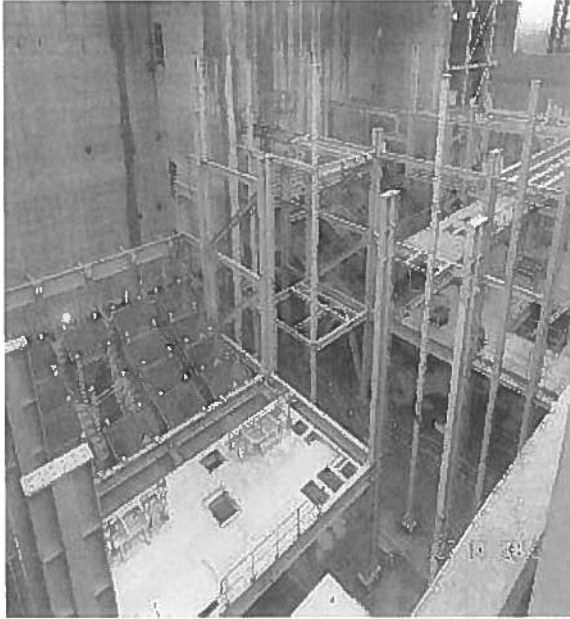
IMC 31241 Photo: Peter Kumpo Photography Ltd 0811559414 Date: 21st October 2015

Site Aerial View Looking East October 2015 (Copyright PML)

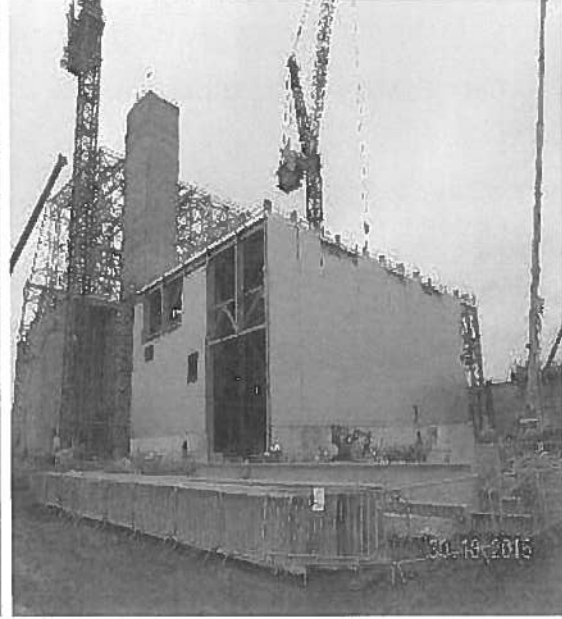


IMC 31241 Photo: Peter Kumpo Photography Ltd 0811559414 Date: 21st October 2015

Site Aerial View Looking Northwest October 2015 (Copyright PML)



Boiler Hall (Copyright PML)



Turbine Hall (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 3 (July – September) 2015 is presented as Appendix 1 to this report.

Additionally the wildfowl monitoring report for winter 2014/2015 is presented as Appendix 2 to this report.

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

## **3 Community Liaison**

### **3.1 DWtE Local Office**

The local office for the Dublin Waste to Energy Facility relocated to the Ringsend Library, Fitzwilliam Street, Dublin 4, on a trial basis from the 17 November. The office will operate on Tuesday and Thursday mornings between 10:00 and 12:00.

### **3.2 Community Gain Liaison Committee**

The second meeting of the Community Gain Liaison Committee (CGLC) took place on the 28<sup>th</sup> of October 2015.

#### **4 Compliance with statutory consents**

There are no non-compliance issues to report.

**Declan Wallace**

**Executive Manager**



# Dublin Waste to Energy

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## Construction Phase Environmental Monitoring Report - Quarter 3 (July - September) 2015

Signoff	Originator	Checked	Approver	Date
Name	Ray Derrig	Ciaran Reay	Eoin Curham	19 <sup>th</sup> November 2015

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## 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 Pleanála 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 3rd Quarterly Report 2015 on the Construction Phase Monitoring Scheme relates to environmental monitoring undertaken for the period of July to September 2015. The PM Group construction management team were present on site throughout the July to September 2015 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.

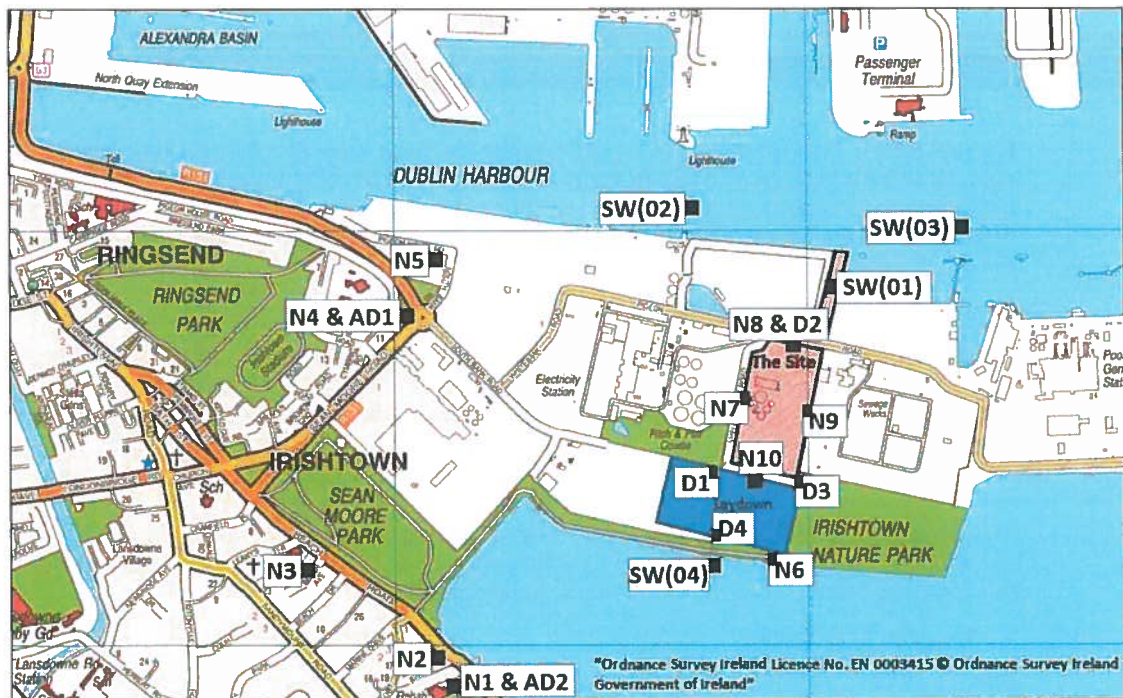
## 2 Local Environment

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 Pleanála 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.

#### 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  $20\mu\text{Pa}$  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

#### 3.3 Construction Noise Limits at Sensitive Locations

Ambient noise levels at the nearest sensitive locations 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.

**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)dB	65	65	65	65	65	65
Evenings and Weekends 1900hrs to 1100hrs Rating level, $L_{Aeq}$ (1hr)dB	55	55	55	55	55	55
Night time 2300hrs to 0700hrs Rating level, $L_{Aeq}$ (1hr)dB	50	50	50	50	50	50

### 3.4 Noise Monitoring Results

Monitoring was undertaken at site boundary and sensitive locations during construction works. The survey was carried out over the months July to September 2015. 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

To establish the contribution of the July - September 2015 DWTE site activities, to the noise levels at the sensitive receptors, the 'British Standard 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise' was used to calculate the noise levels at the sensitive receptors based on noise levels monitored at the western and southern site boundary locations only.

The western and southern boundaries are used to represent the closest boundaries to the sensitive receptors as the most accurate calculation of noise levels. On this basis, when both are available, the southern boundary is used to calculate the noise level contribution levels for the Rehab Institute, Seafort Avenue, Beach Avenue and Irishtown Nature Park. The Western Boundary is used to calculate the noise contribution levels at the Pigeon House Road and Leukos Road.

Using the BS 5228 Standard calculation, the highest contribution of noise calculated for the months of July to September 2015 at each of the sensitive locations is presented in Table 3.2.

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

Month	Time	Sensitive Locations					
		Rehab Institute N1	Seafort Avenue N2	Beach Avenue N3	Leukos Road N4	Pigeon House Road N5	Irishtown Nature Park N6
July 2015 Results level, L <sub>Aeq</sub> (30 min)dB	Daytime	35	34	33	34	34	48
	Evening	22	21	20	23	23	35
August 2015 Results level, L <sub>Aeq</sub> (30 min)dB	Daytime	37	36	35	43	43	50
	Evening	34	33	32	36	36	47
	Nighttime	27	27	25	28	29	40
September 2015 Results level, L <sub>Aeq</sub> (30 min)dB	Daytime	31	30	29	36	33	44
	Evening	23	22	21	25	25	36
	Nighttime	24	23	22	28	29	37

### 3.5 Conclusion

The noise levels were calculated from measurements taken at the site boundary locations and their contribution to the closest residential sensitive receptor established. During the July to September period the greatest daytime noise level contribution at a residential sensitive receptor was 43dB. The greatest daytime noise level at Irishtown Nature Park was calculated as 50dB. The greatest evening time noise level contribution at a residential sensitive receptor was 36dB. The greatest evening time noise level at Irishtown Nature Park was calculated as 47dB. The greatest nighttime time noise level contribution at a residential sensitive receptor was 29dB. The greatest daytime noise level at Irishtown Nature Park was calculated as 40dB.

These noise contribution levels are significantly lower than the construction noise limits as detailed in Table 3.1. Most construction works occur during the daytime hours with limited construction occurring thereafter. The noise monitoring contribution at sensitive location is within permissible levels.

Ambient noise level at sensitive locations is found to be similar or higher than those monitored at site boundary locations. The sensitive locations are situated up to 1km away from site boundaries and noise contribution from site is low as shown in Table 3.2. The noise at sensitive receptors is affected by localised noise sources, mainly road traffic. The boundary monitoring readings are used to calculate the noise contribution at the closest sensitive receptors. Table 3.2 shows that these were below the maximum permissible noise levels at the facade of dwellings during construction.

On this basis, it is concluded that the site activities undertaken during the July – September 2015 construction period are not causing exceedances of the construction noise limit values at sensitive receptors.

Detailed noise monitoring data is included in Appendix A.



## 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<sup>2</sup>/day is therefore used as the maximum guideline level during construction.

Continuous particulate matter monitors were installed at two sensitive locations close to the construction project. The parameter being sampled was particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub> and Total Particulate Matter. These locations AD1 and AD2 are shown in Figure 2.1.

### 4.2 Monitoring Results

#### 4.2.1 Weather Conditions

The average weather conditions during the July to September 2015 monitoring period are given below (<http://www.wunderground.com>);

- July 2015
  - Average Precipitation: 1.8mm/ Day
  - Average Wind Speed: 18.2 km/H
  - Average Temperature: 13.6° C
  - Total Precipitation 55.0mm
- August 2015
  - Average Precipitation: 2.1mm/ Day
  - Average Wind Speed: 16.0 km/H
  - Average Temperature: 13.8° C
  - Total Precipitation 64.0mm
- September 2015
  - Average Precipitation: 0.8mm/ Day
  - Average Wind Speed: 16 Km/H
  - Average Temperature: 11.6° C
  - Total Precipitation 22.9mm

#### 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 – July 2015**

Sample Locations	Date Deployed	Date Collected	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m <sup>2</sup> /day	TA Luft Limit mg/m <sup>2</sup> /day (Annual Average)
1 (West)	23.06.2015	21.07.2015	8.5	18.5	116	350
2 (North)	23.06.2015	21.07.2015	8.5	14.8	93	350
3 (East)	23.06.2015	21.07.2015	8.5	41.3	260	350
4 (South)	23.06.2015	21.07.2015	8.5	15.0	94	350

**Table 4.2: Dust Deposition Results – August 2015**

Sample Locations	Date Deployed	Date Collected	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m <sup>2</sup> /day	TA Luft Limit mg/m <sup>2</sup> /day (Annual Average)
1 (West)	21.07.2015	18.08.2015	8.5	17.8	112	350
2 (North)	21.07.2015	18.08.2015	8.5	31.8	200	350
3 (East)	21.07.2015	18.08.2015	8.5	37.6	237	350
4 (South)	21.07.2015	18.08.2015	8.5	24.0	151	350

**Table 4.3: Dust Deposition Results – September 2015**

Sample Locations	Date Deployed	Date Collected	Dust Gauge Diameter (cm)	Dust Collected mg/gauge	Rate of Dust Deposition mg/m <sup>2</sup> /day	TA Luft Limit mg/m <sup>2</sup> /day (Annual Average)
1 (West)	18.08.2015	22.09.2015	8.5	151.3	762	350
2 (North)	18.08.2015	22.09.2015	8.5	60.9	307	350
3 (East)	18.08.2015	22.09.2015	8.5	56.1	283	350
4 (South)	18.08.2015	22.09.2015	8.5	48.1	242	350

**Table 4.4: Dust Deposition Results – Annual Average October 2014 – September 2015**

Sample Locations	Commencement Date	Completion Date	Rate of Dust Deposition mg/m <sup>2</sup> /day (Annual Average)	TA Luft Limit mg/m <sup>2</sup> /day (Annual Average)
1 (West)	28.10.2014	22.09.2015	319	350
2 (North)	28.10.2014	22.09.2015	160	350
3 (East)	28.10.2014	22.09.2015	224	350
4 (South)	28.10.2014	22.09.2015	143	350

#### 4.2.3 Particulate Monitoring Results

Date	Sample Location				Limit values of CAFE Directive 2008/50/EC	
	AD1 Recycling Facility		AD2 Rehab Facility		24 Hour Mean Limit	Annual Mean
	PM10 µg/m <sup>3</sup>	PM2.5 µg/m <sup>3</sup>	PM10 µg/m <sup>3</sup>	PM2.5 µg/m <sup>3</sup>	PM10 µg/m <sup>3</sup>	PM2.5 µg/m <sup>3</sup>
01/07/2015	30	7	18	6	50	-
02/07/2015	8	2	5	2	50	-
03/07/2015	23	5	10	4	50	-
04/07/2015	22	8	21	7	50	-
05/07/2015	12	5	11	5	50	-
06/07/2015	11	3	9	3	50	-
07/07/2015	7	3	7	3	50	-
08/07/2015	12	4	10	4	50	-
09/07/2015	11	5	10	5	50	-
<b>Average</b>	15	5	11	4	-	25
<b>Min</b>	7	2	5	2	-	-
<b>Max.</b>	30	8	21	7	-	-

### 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<sup>2</sup>/day over an annual period. The largest annual average reading of 319mg/m<sup>2</sup>/day on the westerly boundary location for dust deposition exists for the site since monitoring commenced in October 2014.

One elevated reading of 762mg/m<sup>2</sup>/day was recorded in September on the western boundary (D1) from the twelve results over the three monthly period. The September reading was over twice the recorded value of the other monitoring points in September. Due to the confined construction area, excavations undertaken adjacent to the monitoring station is the likely cause for the elevated reading. A water bowser 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.

The maximum PM<sub>10</sub> concentration recorded at sensitive locations was 30µg/m<sup>3</sup> which is below the limit value for PM<sub>10</sub> of 50µg/m<sup>3</sup> over a 24hour period. The maximum PM<sub>2.5</sub> concentration recorded at sensitive location was 8µg/m<sup>3</sup>. There is no 24 hour limit to compare PM<sub>2.5</sub> monitoring results to. The maximum PM<sub>2.5</sub> concentration over 24 hours of 8µg/m<sup>3</sup> is below the recommended annual mean limit of 25µg/m<sup>3</sup>. This monitoring confirms site activities are causing no elevated particulate matter at offsite sensitive locations.

## **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 Pleanála 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 July to September 2015 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 - Pler (deep)	Irishtown Nature Park
Grid Reference Easting	-	-	-	-	-	6°11'54.95W	6°12'17.0W	6°12'17.0W	6°11'64.0W	6°11'64.0W	6°12'02.01W
Grid Reference Northing	-	-	-	-	-	53°20'28.32N	53°20'59.6N	53°20'59.6N	53°20'60.6N	53°20'60.6N	53°20'08.35 N
Suspended Solids (July 2015)	mg/l	21/07/15	09:30-13:50	03:25 & 15:53	09:17 & 21:26	244	150	184	135	173	192
Suspended Solids (August 2015)	mg/l	24/08/15	09:45 -11.15	06:55 & 19:33	00.17 & 12.56	2	2	10	10	13	2
Suspended Solids (September 2015)	mg/l	22/09/15	09:35 – 10:50	06:23 & 18:53	12.16	58	56	140	134	84	149

### 5.3 Conclusion

In the 3rd Quarter 2015 period the suspended solids ranged from 2 – 244mg/l. The highest level of suspended solids was recorded at the Cooling Water Channel, SW(01) in July 2015 with a result of 244mg/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.

During the construction period no elevated suspended solid readings were recorded when compared against preconstruction baseline readings and previous months. The levels recorded in August were detected at very low levels compared to other months. 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: July Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	LAeq dB(A)	LAMax dB(A)	LA90 dB(A)	LA10 dB(A)	Principal Noise Sources	Weather Conditions
02nd July 2015	N7	Western	30	09.05	67.6	87.1	59.6	70.7	<ul style="list-style-type: none"> <li>- Cranes operating</li> <li>- Digger excavating material, A40 trucks operating</li> <li>- Trucks arriving with concrete and material</li> <li>- Steel erection</li> <li>- Dumper trucks operating shifting material</li> <li>- Erecting Scaffolding</li> <li>- Digger stockpiling material</li> <li>- Rebar installation</li> </ul>	Calm, Partially Cloudy
02nd July 2015	N8	Northern	30	09.42	78.4	50.3	54.8			
02nd July 2015	N9	Eastern	30	11.08	82.6	70.8	65.2			
02nd July 2015	N10	Southern	30	11.42	93.3	56.1	70.9			
09th July 2015	N7	Western	30	09.40	69.1	85.4	57.3	73.7	<ul style="list-style-type: none"> <li>- Digger excavating material</li> <li>- Digger stockpiling material</li> <li>- Rebar installation</li> <li>- Steel erection</li> <li>- Humming noise from Ringsend Wastewater Treatment Plant (WWTP)</li> <li>- Cranes operating</li> <li>- Shuttering for concrete</li> </ul>	Clear and calm
09th July 2015	N8	Northern	30	10.15	77.8	48.8	56.0			
09th July 2015	N9	Eastern	30	12.37	93.1	68.1	79.9			
09th July 2015	N10	Southern	30	13.11	65.9	54.8	67.8			
09th July 2015	N7	Western	30	21.11	49.4	63.3	48.1	50.6	<ul style="list-style-type: none"> <li>- Steel fixing</li> <li>- Formwork installation</li> </ul>	Clear and calm
09th July 2015	N10	Southern	30	21.53	51.7	49.1	53.6			

**Table 1.2 Continued: July Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>Amax</sub> dB(A)	LA90 dB(A)	LA10 dB(A)	Principal Noise Sources	Weather Conditions
14 <sup>th</sup> July 2015	N7	Western	30	14.29	66.5	85.0	59.3	69.9	- Diggers excavating material, A40 trucks operating - Trucks arriving with concrete and material, Concrete pump - Piling rigs operating	Dry, slight breeze
14 <sup>th</sup> July 2015	N8	Northern	30	15.04	58.9	74.8	53.0	62.7	- Cranes operating - Dumper trucks operating shifting material - Road sweeper	
14 <sup>th</sup> July 2015	N9	Eastern	30	15.39	70.0	98.6	66.8	71.9	- Slipform scaffolding operating - Rebar installation	
14 <sup>th</sup> July 2015	N10	Southern	30	16.12	63.7	79.7	57.5	66.3	- Humming noise from WWTP	
14 <sup>th</sup> July 2015	N7	Western	30	20.52	53.2	63.5	50.8	54.6	- Culvert Shuttering works - Steel fixing	Calm, Cloudy
14 <sup>th</sup> July 2015	N10	Southern	30	21.31	51.8	60.8	48.3	53.8		
23 <sup>rd</sup> July 2015	N7	Western	30	12.01	65.8	83.3	58.4	69.8	- Steel Installation - Diggers excavating material - Dumper trucks operating	Sunny Clear, Slight Breeze
23 <sup>rd</sup> July 2015	N8	Northern	30	12.35	56.2	74.6	53.2	60.0	- Scaffolding erection/removal - Rebar installation - Digger stockpiling material	
23 <sup>rd</sup> July 2015	N9	Eastern	30	14.09	67.8	83.2	64.9	70.0	- Trucks arriving with concrete and material - Formwork installation - Crane operating	
23 <sup>rd</sup> July 2015	N10	Southern	30	11.24	62.9	81.6	57.9	64.4	- Roadsweeper - Humming noise from WWTP	

**Table 1.2 Continued: July Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>Amax</sub> dB(A)	LA90 dB(A)	LA10 dB(A)	Principal Noise Sources	Weather Conditions
30 <sup>th</sup> July 2015	N7	Western	30	08.44	71.8	95.5	61.7	75.0	- Steel Installation - Sheepiling - Diggers excavating material - Dumper trucks operating - Scaffolding erection/removal - Rebar installation - Trucks arriving with concrete and material - Formwork installation - Crane operating - Roadsweeper	Clear and calm
30 <sup>th</sup> July 2015	N8	Northern	30	09.18	54.5	74.7	51.8	56.4		
30 <sup>th</sup> July 2015	N9	Eastern	30	09.55	70.3	91.8	64.3	72.3		
30 <sup>th</sup> July 2015	N10	Southern	30	10.29	62.9	92.0	53.5	65.3		
30 <sup>th</sup> July 2015	N1	Rehab	30	12.39	65.1	89.3	52.2	67.4	- Consistent road traffic - No construction noise audible at any noise source	Sunny, Clear, Calm
30 <sup>th</sup> July 2015	N3	Beech Ave	30	13.31	69.8	83.4	54.6	73.4	- Background noise from Dublin Port, crane and container loading machinery - Car passing - No construction noise audible at the noise source	
30 <sup>th</sup> July 2015	N5	Pigeon Hs	30	12.03	60.6	81.8	55.8	63.4		
30 <sup>th</sup> July 2015	N6	Nature Reserve	30	11.02	51.7	78.0	48.0	52.9	- Humming noise from WWTP - Hum from machinery	

Table 1.2 Continued: August Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>Amax</sub> dB(A)	LA90 dB(A)	LA10 dB(A)	Principal Noise Sources	Weather Conditions
06 <sup>th</sup> August 2015	N7	Western	30	11.00	71.0	89.0	66.2	73.5	- Trucks arriving with concrete and material - Cranes operating	
06 <sup>th</sup> August 2015	N8	Northern	30	11.36	56.2	82.9	54.2	58.3	- Digger excavating material, A40 trucks operating - Steel erection	
06 <sup>th</sup> August 2015	N9	Eastern	30	12.16	70.6	93.3	65.9	72.8	- Dumper trucks operating shifting material - Erecting Scaffolding - Digger stockpiling material - Rebar installation	Clear, Slight Breeze
06 <sup>th</sup> August 2015	N10	Southern	30	12.50	64.6	79.1	57.6	68.3		
06 <sup>th</sup> August 2015	N7	Western	30	19.58	63.5	72.4	57.8	65.8	- Rebar installation - Formwork Installation	
06 <sup>th</sup> August 2015	N10	Southern	30	19.17	63.8	87.8	51.7	62.2		
07 <sup>th</sup> August 2015	N7	Western	30	00.39	60.2	69.3	45.4	47.1	- Steel Fixing - Formwork Installation	Dry, Calm, Cloudy
07 <sup>th</sup> August 2015	N10	Southern	30	01.15	57.1	68.2	50.2	53.0		

**Table 1.2 Continued: August Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>AMax</sub> dB(A)	LA90 dB(A)	L <sub>A10</sub> dB(A)	Principal Noise Sources	Weather Conditions
13 <sup>th</sup> August 2015	N7	Western	30	11.45	71.1	94.4	60.6	72.6	- Digger excavating material - Digger stockpiling material - Rebar installation - Steel erection - Humming noise from Ringsend Wastewater Treatment Plant (WWTP) - Cranes operating - Shuttering for concrete	Clear and calm
								63.0		
								67.6		
13 <sup>th</sup> August 2015	N10	Southern	30	13.38	65.0	84.1	62.2	67.4		
13 <sup>th</sup> August 2015	N7	Western	30	19.40	60.8	73.1	57.8	63.9	- Steel fixing - Formwork installation	Cloudy and Calm Cloudy and Calm
13 <sup>th</sup> August 2015	N10	Southern	30	20.27	62.1	76.1	55.3	65.3		
14 <sup>th</sup> August 2015	N7	Western	30	00.10	53.3	63.1	45.3	49.3	- Steel Fixing - Cladding	Cloudy and Calm Cloudy and Calm
14 <sup>th</sup> August 2015	N10	Southern	30	00.53	45.3	49.2	42.3	44.5		

Table 1.2 Continued: August Noise Monitoring Results

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>Amax</sub> dB(A)	L <sub>A90</sub> dB(A)	L <sub>A10</sub> dB(A)	Principal Noise Sources	Weather Conditions
18 <sup>th</sup> August 2015	N7	Western	30	14.51	64.9	82.6	62.0	66.7	- Diggers excavating material, A40 trucks operating - Trucks arriving with concrete and material, Concrete pump	
18 <sup>th</sup> August 2015	N8	Northern	30	16.40	63.4	80.9	55.5	64.4	- Piling rigs operating - Cranes operating - Dumper trucks operating shifting material - Road sweeper	Dry, slight breeze
18 <sup>th</sup> August 2015	N9	Eastern	30	16.05	73.6	90.3	70.3	75.9	- Slipform scaffolding operating - Rebar installation - Humming noise from WWTP	
18 <sup>th</sup> August 2015	N10	Southern	30	15.31	60.4	82.3	54.8	63.8		
20 <sup>th</sup> August 2015	N7	Western	30	20.21	55.3	63.5	46.3	49.1	- Shuttering works - Steel fixing - Cladding installation	
20 <sup>th</sup> August 2015	N10	Southern	30	21.15	59.8	69.1	47.8	50.3		Calm, Cloudy
20 <sup>th</sup> August 2015	N7	Western	30	23.30	57.8	62.8	47.1	49.9		
21 <sup>st</sup> August 2015	N10	Southern	30	00.10	53.8	63.5	46.1	50.2		

**Table 1.2 Continued: August Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>Amax</sub> dB(A)	LA90 dB(A)	L <sub>A10</sub> dB(A)	Principal Noise Sources	Weather Conditions
27 <sup>th</sup> August 2015	N7	Western	30	10.00	63.4	82.5	59.8	65.7	- Steel installation - Digger excavating material, A40 trucks operating - Trucks arriving with concrete and material - Cranes operating	Cloudy, slight breeze
27 <sup>th</sup> August 2015	N8	Northern	30	10.35	56.5	75.0	52.4	58.6	- Trucks arriving with concrete - Erecting Scaffolding - Digger stockpiling material - Rebar installation - Road sweeper operating - Humming noise form WWTP	
27 <sup>th</sup> August 2015	N9	Eastern	30	11.29	67.9	78.7	65.2	70.1		
27 <sup>th</sup> August 2015	N10	Southern	30	12.14	64.1	82.2	56.7	66.5		
27 <sup>th</sup> August 2015	N7	Western	30	20.32	63.2	79.2	57.8	63.6	- Concrete truck arriving - Pouring wall - Steel and cladding erection	Cloudy slight breeze
27 <sup>th</sup> August 2015	N10	Southern	30	19.34	61.1	70.8	60.1	62.4		
27 <sup>th</sup> August 2015	N7	Western	30	23.52	49.3	73.0	46.6	51.2	- Pouring wall - Steel and cladding erection - Hum from wastewater treatment plant	
28 <sup>th</sup> August 2015	N10	Southern	30	00.38	45.7	70.2	43.8	46.4		



**Table 1.2 Continued: August Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aq</sub> dB(A)	L <sub>Amax</sub> dB(A)	L <sub>A90</sub> dB(A)	L <sub>A10</sub> dB(A)	Principal Noise Sources	Weather Conditions
28 <sup>th</sup> August 2015	N2	Seafort Ave	30	10.31	65.1	71.2	49.4	68.9	- Consistent road traffic - No construction noise audible at any noise source	
28 <sup>th</sup> August 2015	N3	Beech Ave	30	11.07	64.7	76.1	52.0	68.6		
28 <sup>th</sup> August 2015	N5	Pigeon Hs	30	09.31	62.7	95.7	57.4	65.5	- Background noise from Dublin Port, crane and container loading machinery - Car passing - No construction noise audible at the noise source	Sunny, slight breeze
28 <sup>th</sup> August 2015	N6	Nature Reserve	30	08.30	54.5	72.3	51.8	57.3	- Humming noise from WWTP - Hum from machinery	

**Table 1.2 Continued: September Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>Amax</sub> dB(A)	LA90 dB(A)	L <sub>A10</sub> dB(A)	Principal Noise Sources	Weather Conditions
01 <sup>st</sup> September 2015	N7	Western	30	09.41	66.1	91.7	59.0	68.8	- Trucks arriving with concrete and material - Cranes operating - Digger excavating material, A40 trucks operating	
01 <sup>st</sup> September 2015	N8	Northern	30	12.00	60.7	80.0	54.6	63.2	- Steel erection - Cladding installation - Erecting scaffolding - Digger stockpiling material - Rebar installation and concrete pours	Dry, Cloudy, slight breeze
01 <sup>st</sup> September 2015	N9	Eastern	30	12.40	70.6	90.8	72.1	65.8		
01 <sup>st</sup> September 2015	N10	Southern	30	11.10	65.0	90.3	56.7	68.0		
01 <sup>st</sup> September 2015	N7	Western	30	20.40	52.4	76.2	49.6	53.5	- Rebar installation - Formwork installation - Steel Erection - Hum from Ringsend Wastewater Treatment Plant	
01 <sup>st</sup> September 2015	N10	Southern	30	19.55	54.1	78.1	49.9	55.4		Dry, Calm, Cloudy
02 <sup>nd</sup> September 2015	N7	Western	30	00.15	52.9	72.1	50.8	53.7		
02 <sup>nd</sup> September 2015	N10	Southern	30	00.55	53.3	87.7	48.3	51.7		

**Table 1.2 Continued: September Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	$L_{Aeq}$ dB(A)	$L_{Amax}$ dB(A)	$L_{A90}$ dB(A)	$L_{A10}$ dB(A)	Principal Noise Sources	Weather Conditions
08 <sup>th</sup> September 2015	N7	Western	30	09.32	65.7	88.6	59.2	62.2	- Cranes lifting materials - Trucks arriving with concrete and material - Digger excavating material, A40 trucks operating	
08 <sup>th</sup> September 2015	N8	Northern	30	10.09	54.3	71.9	54.0	56.3	- Steel erection - concrete pouring with pumps - Cladding installation - Erecting scaffolding - Rebar installation and concrete pours	Dry, sunny, and slight breeze
08 <sup>th</sup> September 2015	N9	Eastern	30	10.46	71.7	86.6	69.8	72.1		
08 <sup>th</sup> September 2015	N10	Southern	30	11.23	63.5	92.5	53.0	59.5		
08 <sup>th</sup> September 2015	N1	Rehab	30	14.31	73.6	90.5	59.3	78.9	- Consistent road traffic - Pedestrians walking close by - No construction noise audible at any noise source	Dry, sunny, and slight breeze
08 <sup>th</sup> September 2015	N2	Seafort Ave	30	13.39	58.0	83.3	49.9	52.4		
08 <sup>th</sup> September 2015	N3	Beech Ave	30	12.57	55.2	75.4	47.0	57.5		
08 <sup>th</sup> September 2015	N4	Leukos Rd	30	15.10	63.7	86.5	60.7	66.7	- Consistent road traffic passing or in background - Noise from Dublin Port prominent - No construction noise audible at any noise source	Dry, sunny, and slight breeze
08 <sup>th</sup> September 2015	N5	Pigeon Hs	30	15.44	58.7	79.0	53.0	57.0		
08 <sup>th</sup> September 2015	N6	Nature Reserve	30	12.00	49.0	77.9	45.5	49.1	- General construction noise audible, reversing beacons, diggers - Humming noise from WWTP - Birds singing	Dry, sunny, and slight breeze

**Table 1.2 Continued: September Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>AMax</sub> dB(A)	LA90 dB(A)	L <sub>A10</sub> dB(A)	Principal Noise Sources	Weather Conditions
10 <sup>th</sup> September 2015	N7	Western	30	22.25	50.4	67.9	49.8	52.3	- Cladding Installation - Rebar installation - Formwork Installation - Steel Erection - Hume from Ringsend Wastewater Treatment Plant	Dry, Calm, Clear
10 <sup>th</sup> September 2015	N10	Southern	30	21.42	54.6	75.6	52.8	53.4		
11 <sup>th</sup> September 2015	N7	Western	30	03.02	53.2	71.6	50.0	52.4		
11 <sup>th</sup> September 2015	N10	Southern	30	03.40	55.5	69.8	50.1	53.3		
17 <sup>th</sup> September 2015	N7	Western	30	12.12	63.8	86.1	63.1	67.0	- Diggers excavating material, A40 trucks operating - Trucks arriving with concrete and material, Concrete pump - Cranes lifting materials - Dumper trucks operating shifting material - Road sweeper - Scaffolding operating - Steel erection - Erecting Scaffolding - Rebar installation and formwork - Humming noise from WWTP	Dry, Clear, Calm
17 <sup>th</sup> September 2015	N8	Northern	30	12.40	62.0	80.7	56.3	61.1		
17 <sup>th</sup> September 2015	N9	Eastern	30	13.24	68.0	83.5	68.2	70.6		

**Table 1.2 Continued: September Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	$L_{Aeq}$ dB(A)	$L_{max}$ dB(A)	$L_{A90}$ dB(A)	$L_{A95}$ dB(A)	Principal Noise Sources	Weather Conditions
17 <sup>th</sup> September 2015	N10	Southern	30	14.05	63.9	79.6	64.9	67.3	As Above.	
17 <sup>th</sup> September 2015	N7	Western	30	22.20	55.2	74.4	55.1	57.0	- Steel Erection - Rebar and formwork installation - Cladding installation	Calm, Cloudy
17 <sup>th</sup> September 2015	N10	Southern	30	21.40	52.9	82.0	49.6	50.3		
18 <sup>th</sup> September 2015	N7	Western	30	00.15	54.6	74.0	53.0	55.4		
18 <sup>th</sup> September 2015	N10	Southern	30	00.50	53.2	84.7	50.2	50.8		

**Table 1.2 Continued: September Noise Monitoring Results**

Date	Location No.	Boundary Location	Duration (min)	Start Time	L <sub>Aeq</sub> dB(A)	L <sub>AMax</sub> dB(A)	LA90 dB(A)	LA10 dB(A)	Principal Noise Sources	Weather Conditions
24 <sup>th</sup> September 2015	N7	Western	30	09.10	66.2	85.0	62.1	68.3	- Digger excavating material, A40 trucks operating - Steel installation - Trucks arriving with concrete and material	
24 <sup>th</sup> September 2015	N8	Northern	30	09.45	59.8	79.8	56.7	61.3	- Cranes lifting materials - Digger stockpiling material - Rebar installation	
24 <sup>th</sup> September 2015	N9	Eastern	30	10.20	68.7	84.4	65.2	69.7	- Road sweeper operating - Humming noise from WWTP	Clear, slight breeze
24 <sup>th</sup> September 2015	N10	Southern	30	10.55	60.3	79.6	56.2	63.3		
29 <sup>th</sup> September 2015	N7	Western	30	22.56	50.8	73.0	48.3	51.2	- Concrete pouring wall - Steel and cladding erection	
29 <sup>th</sup> September 2015	N10	Southern	30	22.20	51.7	62.6	50.1	53.0		
30 <sup>th</sup> September 2015	N7	Western	30	01.12	54.4	79.4	51.4	54.1	- Steel and cladding erection - Hume from wastewater treatment plant	Clear, slight breeze
30 <sup>th</sup> September 2015	N10	Southern	30	01.48	50.7	65.4	51.6	53.5		

**Table 1.3: July 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 between 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		
02/07/2015	09:05	Western	67.6	25					900	865	10					31			32
02/07/2015	11:42	Southern	70.7	25	870	941	1127		900	865	10				35	34	33		48
09/07/2015	09:40	Western	69.1	20					900	865	10								31
09/07/2015	13:11	Southern	65.9	30	870	941	1127		900	865	10				32	31	29		45
09/07/2015	21:11	Western	49.4	40					900	865	10								17
09/07/2015	21:53	Southern	51.7	40	870	941	1127		900	865	10				20	19	18		33
14/07/2015	14:29	Western	66.5	15					900	865	10								26
14/07/2015	16:12	Southern	63.7	30	870	941	1127		900	865	10				29	29	27		43
14/07/2015	20:52	Western	53.2	50					900	865	10								23
14/07/2015	21:32	Southern	51.8	50	870	941	1127		900	865	10				22	21	20		35
23/07/2015	12:01	Western	65.8	30					900	865	10								31
23/07/2015	11:24	Southern	62.9	40	870	941	1127		900	865	10				31	30	29		44
30/07/2015	08:44	Western	71.8	20					900	865	10								34
30/07/2015	10:29	Southern	62.9	30	870	941	1127		900	865	10				29	28	26		42

**Table 1.3: Continued: August 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 monitoring location and noise source location (m)	Distance between 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	Inishtown Nature Park	Pigeon House Rd		Rehab Institute	Seafort	Beach	Leukos	Inishtown Nature Park	Pigeon House Rd	
06/08/2015	11:00	Western	71.0	15					900	191	865	10	27	26	25	30	40	31
06/08/2015	12:50	Southern	64.6	20	870	941	1127		900	191	865	10				31		32
06/08/2015	19:58	Western	63.5	40					900	191	865	10	34	33	32		47	
06/08/2015	19:17	Southern	63.8	50	870	941	1127		900	191	865	10				28		29
07/08/2015	00:39	Western	60.2	40					900	191	865	10	27	27	25		40	
07/08/2015	01:15	Southern	57.1	50	870	941	1127		900	191	865	10				43		43
13/08/2015	11:45	Western	71.1	60					900	191	865	10	37	36	35		50	
13/08/2015	13:38	Southern	65.0	60	870	941	1127		900	191	865	10	32	32	30		45	29
13/08/2015	19:40	Western	60.8	40					900	191	865	10						
13/08/2015	20:27	Southern	62.1	50	870	941	1127		900	191	865	10	18	18	16		32	24
14/08/2015	00:10	Western	53.3	50					900	191	865	10				30		31
14/08/2015	00:53	Southern	45.3	70	870	941	1127		900	191	865	10	26	25	24		39	24
18/08/2015	14:51	Western	64.9	30					900	191	865	10						
18/08/2015	15:31	Southern	60.4	30	870	941	1127		900	191	865	10	30	29	28		43	
20/08/2015	20:21	Western	55.3	40					900	191	865	10						
20/08/2015	21:15	Southern	59.8	50	870	941	1127		900	191	865	10	24	23	22		37	29
20/08/2015	23:30	Western	57.8	40					900	191	865	10						
21/08/2015	00:10	Southern	53.8	50	870	941	1127		900	191	865	10	34	34	32		47	
27/08/2015	10:00	Western	63.4	30					900	191	865	10						
27/08/2015	12:14	Southern	64.1	50	870	941	1127		900	191	865	10	33	32	31		46	36
27/08/2015	20:32	Western	63.2	70					900	191	865	10						
27/08/2015	19:34	Southern	61.1	60	870	941	1127		900	191	865	10	17	17	15		31	20
27/08/2015	23:52	Western	49.3	50					900	191	865	10						
28/08/2015	00:38	Southern	45.7	60	870	941	1127		900	191	865	10						



**Table 1.3: Continued: September 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) (L <sub>aeq</sub> 30 min)	Distance between monitoring location and noise source location (m)	Distance between receptor location and noise source location (m)	Screening adjustment dB(A)	Calculated Noise level at closest Sensitive receptors (Noise Level dB(A) (L <sub>aeq</sub> 30 min))					
							Rehab Institute	Seafort	Beach	Leukos	IrishTown Nature Park	Pigeon House Rd
01/09/2015	09:41	Western	66.1	30								32
01/09/2015	11:10	Southern	65.0	30	870	10	31	30	29		44	
01/09/2015	20:40	Western	52.4	30		10				18		18
01/09/2015	19:55	Southern	54.1	40	870	10	22	22	20		36	
02/09/2015	00:15	Western	52.9	30		10				18		19
02/09/2015	00:55	Southern	53.3	40	870	10	22	21	19		35	
08/09/2015	09:32	Western	65.7	30		10				31		32
08/09/2015	11:23	Southern	63.5	30	870	10	29	29	27		42	
10/09/2015	22:25	Western	50.4	40		10				18		19
10/09/2015	21:42	Southern	54.6	30	870	10	20	20	18		34	
11/09/2015	03:02	Western	53.2	30		10				19		19
11/09/2015	03:40	Southern	55.5	40	870	10	24	23	22		37	
17/09/2015	12:12	Western	63.8	50		10				34		34
17/09/2015	14:05	Southern	63.9	40	870	10	32	31	30		45	
17/09/2015	22:20	Western	55.2	40		10				23		24
17/09/2015	21:40	Southern	52.9	50	870	10	23	22	21		36	
18/09/2015	00:15	Western	54.6	40		10				23		23
18/09/2015	00:50	Southern	53.2	50	870	10	23	23	21		37	
24/09/2015	09:10	Western	66.2	20		10				28		28
24/09/2015	10:55	Southern	60.3	50	870	10	30	30	28		44	
29/09/2015	22:56	Western	50.8	80		10				25		25
29/09/2015	22:20	Southern	51.7	40	870	10	20	19	18		33	
30/09/2015	01:12	Western	54.4	80		10				28		29
30/09/2015	01:48	Southern	50.7	40	870	10	19	18	17		32	



DUBLIN WASTE TO ENERGY FACILITY

WILDFOWL MONITORING  
WINTER 2014 / 15

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REPORT PREPARED FOR  
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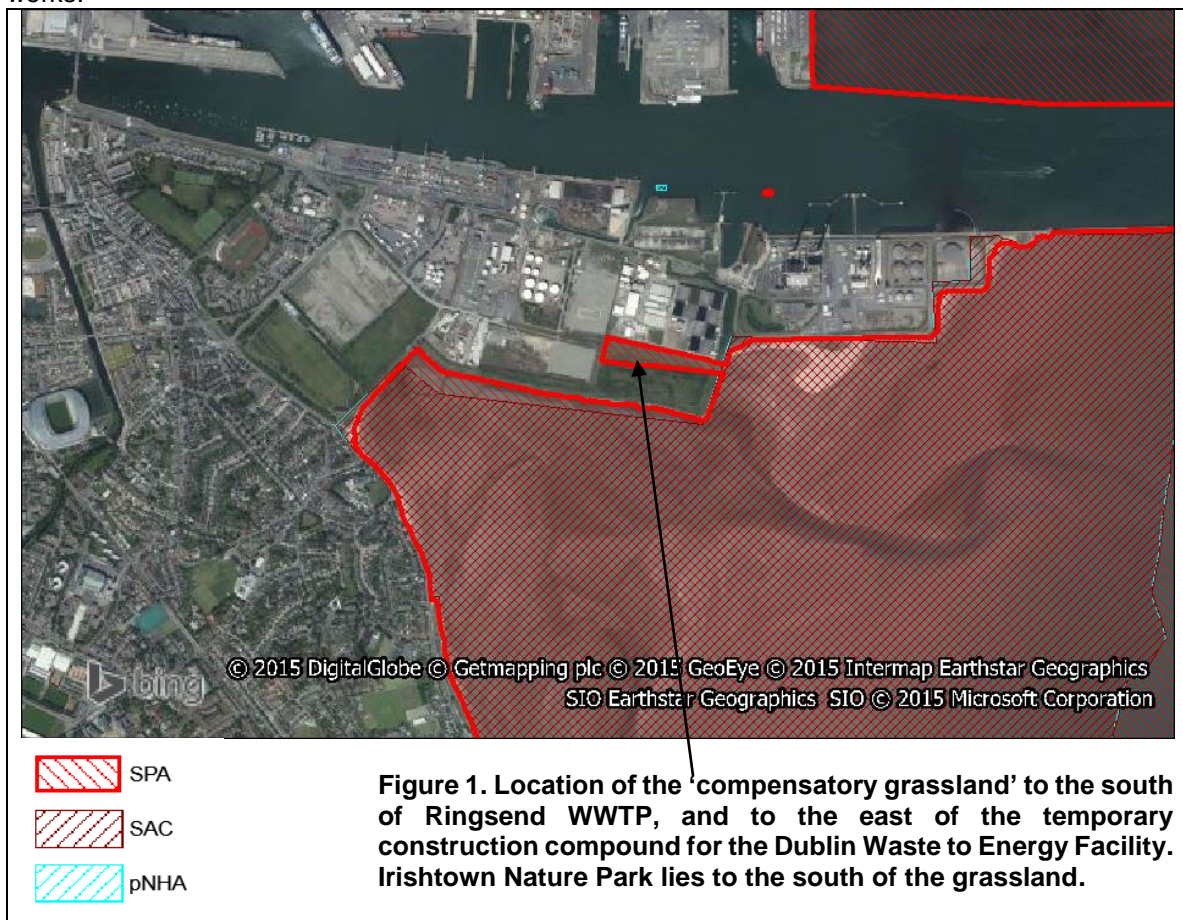
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## 1. INTRODUCTION.

Planning approval for the Dublin Waste to Energy Facility was granted by An Bord Pleanála in November 2007, subject to a number of conditions. This report has been prepared in compliance with Condition 13 (b), which includes a requirement for waterfowl monitoring as follows:

“Monitoring of the use by wild fowl of the grass lands located south of the wastewater treatment plant shall be carried out for a period of at least 1 year prior to the enclosure and use of the temporary construction area, during construction works and for a period of at least three years following the commissioning of the plant. Reports on the monitoring shall be prepared at least twice yearly following the commencement of construction works. Copies of the reports shall be available for inspection by the public at the offices of the local authority and at an office in the Ringsend/Poolbeg area.”

The grassland area referred to in Condition 13 (b) was provided as a winter feeding area for Light-bellied Brent Geese *Branta bernicla hrota*, under condition No. 10 of the 1997 certification for the Dublin Bay Project extension to Ringsend Waste Water Treatment Plant (WWTP). It lies to the east of the temporary construction compound for the Dublin Waste to Energy Facility, to the south of Ringsend WWTP, and to the north of Irishtown Nature Park. The area is shown in Figure 1 below, and is known variously as Goose Green, the DCC Brent Field Ringsend (Benson, 2009), and as the compensatory grassland. This report presents the results of the waterfowl monitoring carried out between September 2014 and April 2015, covering the winter season during which Brent Geese in particular use the grassland area referred to in Condition 13 (b), and in order to comply with the requirement to prepare reports at least twice yearly following the commencement of construction works.



**Figure 1. Location of the 'compensatory grassland' to the south of Ringsend WWTP, and to the east of the temporary construction compound for the Dublin Waste to Energy Facility. Irishtown Nature Park lies to the south of the grassland.**

The National Parks and Wildlife Service (NPWS) of the Department of Arts, Heritage and the Gaeltacht proposed to extend the boundary of a Special Protection Area (SPA) designated under the Birds Directive (79/409/EEC; 2009/147/EC) to include this grassland, in a notification dated 23 May 2008 relating to South Dublin Bay and River Tolka Estuary SPA (Site Code 004024). The extended boundary was confirmed in S.I. 212 of 2010.

## 2. MONITORING METHODOLOGY.

Detailed wildfowl counts, and counts of goose droppings which provide a metric of goose grazing intensity, were scheduled to cover the period when Light-bellied Brent Geese feed on grassland, because this is the species which makes most seasonal use of grassland areas, and the grassland referred to in Condition 13 (b) was provided specifically for geese. The detailed monitoring season was initially defined as extending from mid-November to mid-April, based on observations during the 1990s and early to mid 2000s. Checks of the grassland for waterbird<sup>1</sup> use are carried out during the summer and autumn also, with checks of intertidal areas to assess autumn arrival of Light-bellied Brent Geese in Dublin Bay.

Following the completion of winter monitoring in April 2014, the compensatory grassland was checked for the presence of wildfowl and waterbirds during the summer and autumn. Checks of intertidal areas in South Dublin Bay for Light-bellied Brent Geese commenced on 19<sup>th</sup> August 2014 and continued at approximately weekly intervals.

The compensatory grassland was walked on 26<sup>th</sup> September, 8<sup>th</sup>, 14<sup>th</sup> and 23<sup>rd</sup> October, and on 6<sup>th</sup> and 17<sup>th</sup> of November 2014 to check for goose feeding signs (droppings); none were recorded. Light-bellied Brent Geese started to visit the compensatory grassland in small numbers from 20<sup>th</sup> November 2014. Direct waterbird counts and transect counts of goose droppings on all monitored grasslands (compensatory grassland, Ringsend Park, Irishtown Stadium, and Sean Moore Park) started on 26<sup>th</sup> November for the 2014/15 winter season.

Waterfowl were counted from vantage points using binoculars and a telescope. In addition to the grassland located south of the wastewater treatment plant and adjoining the DWTE site and temporary construction compound, the following grassland areas were included in the monitoring programme: Ringsend Park, Irishtown Stadium, and Sean Moore Park. The rationale for including the three additional grassland areas is that they are also used by Brent geese, and there is frequent movement of geese between all four grassland areas arising from disturbance due to sports and recreational use as well as construction work in different areas. It would be difficult to interpret counts from the compensatory grassland on its own, since variation in use could arise from factors other than DWTE construction disturbance, and it would be useful for these to be identifiable. The amenity grassland area beside the Ringsend Waste Water Treatment Works storm water tanks (on the northern side of Pigeon House Road) have been checked for the presence of Brent geese since January 2014.

Goose use of the four grassland areas (the compensatory grassland, Ringsend Park, Irishtown Stadium, and Sean Moore Park) was also assessed indirectly by counts of droppings along transects, so that grazing intensity could be assessed in the different areas, and with regard to distance from the DWTE site and construction compound. In general, counts were scheduled for

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<sup>1</sup> 'waterbird' is a collective term for swans, geese, ducks, wading birds, gulls and terns, and other groups that depend on wetland habitats. Some, but not all, of these groups use the grassland subject to condition 13(b).

periods of dry weather to minimise washing out of goose droppings by rainfall. Dropping density was calculated per metre<sup>2</sup> to facilitate comparison between areas. Transects were laid out using measurements and landmarks within the compensatory grassland as shown in Figure 2 below.



**Figure 2. Transect layout on the compensatory grassland**

Transect 1 lies 10 metres away from the boundary fence between the compensatory grassland and Ringsend WWTP. Transect 2 lies parallel to transect 1. Both transects are divided into three sections A, B and C, as indicated by circles on Figure 2. The transects are equidistant from the mounded inspection access to the submarine pipeline, visible as a white area which is the landmark for transect sections A/B. Transect 10 lies 10 metres from the western edge of the compensatory grassland, T30 and T60 are 30 and 60 metres from the western edge of the grassland respectively.

Within the other grassland areas monitored, single transects were monitored in each of the eastern and western pitches at Sean Moore Park, in Irishtown Stadium, and in Ringsend Park, with transect lines along the length of the pitch at 10 metres towards the side from a goal post.

### **3. CONSTRUCTION AND OTHER ACTIVITIES AFFECTING GRASSLANDS IN THE AREA.**

#### **3.1. Compensatory grassland management.**

During the first wildfowl monitoring season for the Dublin Waste to Energy Facility in 2007/08, goose use varied substantially between different areas of the compensatory grassland, in response to variations in grass cover, and to the proximity of scrub encroaching towards the grassland which geese tend to avoid. Disturbance due to human and dog activity within the grassland area was also a factor. A management plan addressing these issues was prepared for Dublin City Council, in consultation with NPWS, and was implemented in 2008:

1. Soil compaction and sparse grass cover on part of the 2ha area, in the area of transect T1C, was addressed by spiking with a verti-drainer, re-seeding grass, and by improving soil fertility
2. Scrub encroachment on the sloping ground between the grassland and Irishtown Nature Park, and along part of the boundary with Ringsend WWTP, was addressed by cutting and removal

3. Disturbance by pedestrians, particularly when accompanied by dogs, which has been addressed by fencing the eastern end of the grassland and the provision of public information notices requesting co-operation.

Some new fencing and signage was installed by Dublin City Council Parks Department, at the top of the sloping ground between Irishtown Nature Park and the compensatory grassland during the autumn of 2010, with the aim of reducing disturbance by pedestrians and dogs to geese using the grassland. Repairs to the fencing at the eastern end of the compensatory grassland were also carried out in 2010.

Routine mowing and maintenance work was carried out during the summer and autumn of 2014. Top-dressing of the grassland with fertiliser was carried out by Dublin City Council Parks Department in October 2014. Grass continued to grow during mild late autumn weather and the compensatory grassland was mown in late October and again in early November. Dublin City Council Parks Department also carried out repairs to the fencing at the eastern end of the compensatory grassland in early November 2014.

### **3.2. Other activities in the compensatory grassland.**

No engineering works were noted in the compensatory grassland during the 2014/15 season. Dog walking within the grassland continued to occur. Dog tracks were observed, and a dog walker appeared to be bringing up to ten dogs to run on the compensatory grassland on most days, approaching from the west, and later from the south after the temporary construction compound was enclosed in January 2015.

### **3.3. Dublin Waste to Energy Facility activities.**

Further to a commencement notice issued to Dublin City Council, construction work on the Dublin Waste to Energy Facility commenced on 14<sup>th</sup> December 2009. Work was suspended temporarily in May 2010. The Project Agreement regarding the Dublin Waste to Energy Facility was signed on Friday 19<sup>th</sup> September 2014. Site clearance and setup commenced in October. Piling works at the approved project site, using Continuous Augered Piles (CFA Piles), commenced during the week starting 20<sup>th</sup> October, initially with one piling rig and subsequently with three rigs. Piling and foundation works continued through the winter season. Construction of above ground structures commenced in March 2015. The temporary construction compound was enclosed in January 2015, with work on the eastern boundary closest to the compensatory grassland taking place during the week commencing 12<sup>th</sup> January. A setback of at least 20 metres wide from the eastern edge of the compound was provided, as required under Condition 13(b).

### **3.4. Other grasslands in the Ringsend area.**

The running track at Irishtown Stadium was partially re-surfaced during the summer of 2014, but not completed. The running track and pitch were little used during the winter of 2014/15, and no measures such as decoys or plastic tapes to deter geese from feeding on the pitch were observed.



## 4. WILDFOWL COUNTS.

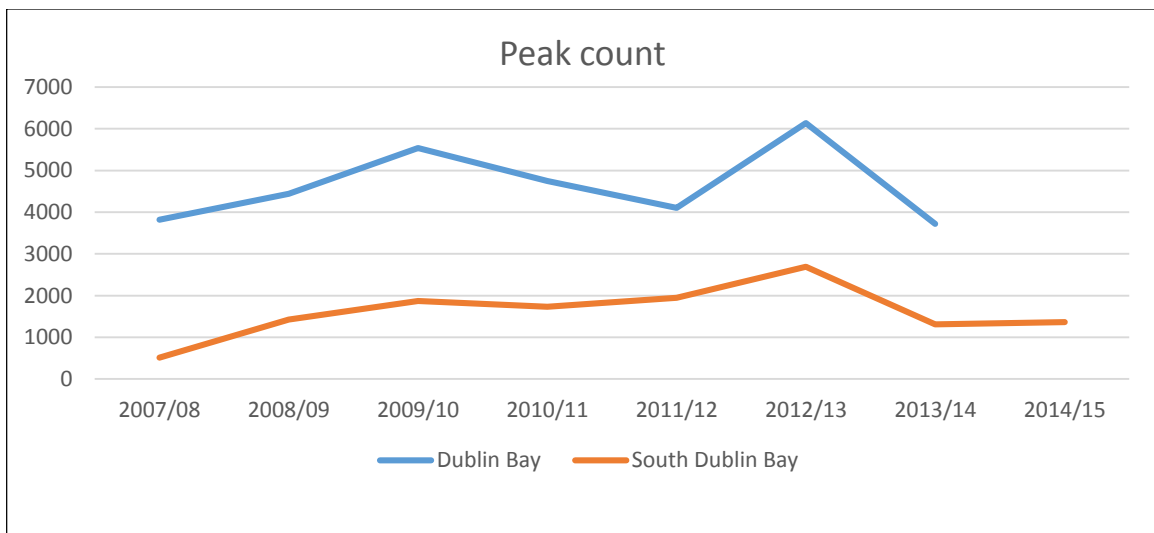
### 4.1. Light-bellied Brent Geese.

#### 4.1.1 Overall population and numbers in Dublin Bay

A peak count of 1,367 Light-bellied Brent Geese was recorded in South Dublin Bay at dusk on 28<sup>th</sup> January 2015. The threshold for international importance for this predominantly Irish wintering population was raised in 2012 (Wetlands International, 2013), following a sustained increase in numbers; the 1% level is currently 400 birds (formerly 260 birds). However the population has declined recently following two poor breeding seasons in 2013 and 2014; a total of 31,985 geese were recorded in the southern part of the wintering range (excluding Iceland) in November 2014 (I-WeBS News 2015). Peak counts in previous years are given in Table 1.

	Dublin Bay	South Dublin Bay
2014/15	I-WeBS data not yet available	1,367
2013/14	3,717*	1,310
2012/13	6,134*	2,693*
2011/12	4,102*	1,950
2010/11	4,745	1,730
2009/10	5,536*	1,870
2008/09	4,445*	1,425*
2007/08	3,819*	510*

**Table 1. Peak counts of Light-bellied Brent Geese in Dublin Bay and in South Dublin Bay.**



**Figure 3. Peak counts in Dublin Bay and South Dublin Bay**

Note: \* Data were supplied by the Irish Wetland Bird Survey (I-WeBS), a joint scheme of BirdWatch Ireland and the National Parks and Wildlife Service of the Department of Arts, Heritage & the Gaeltacht. Other counts not indicated with an asterisk are data recorded as part of the monitoring programme for the Dublin Waste to Energy Facility. The highest count in these two datasets is given.

#### 4.1.2. South Dublin Bay and monitored grasslands

Brent Geese were first recorded feeding in intertidal habitats in South Dublin Bay on 20<sup>th</sup> September 2014, when 15 birds were observed feeding on the *Zostera* bed near Merrion Gates. Autumn counts are included in Table 2. Peak counts in each winter season since the commencement of the monitoring programme are included in Table 3. Most geese were recorded feeding on the *Zostera* bed near Merrion Gates initially, but geese also fed on green macroalgae *Enteromorpha* spp. growing in low tide channels, in sheltered areas to the south of the Poolbeg peninsula, and in the developing salt marsh east of Merrion Gates, as *Zostera* stocks became depleted. There was a high standing crop of green macroalgae in intertidal habitats in Dublin Bay during the autumn of 2014, related to prolonged warm sunny weather. Brent geese continued to feed on green macroalgae in December, with 225 birds feeding to the south of the Poolbeg peninsula on 15<sup>th</sup> December at 8.50 am.

Date	Grasslands						Intertidal sand and mudflats
	Compensatory Grassland	Sean Moore Park East	Sean Moore Park West	Irishtown Stadium	Ringsend Park	WWTW storm tanks	South Dublin Bay
20.09.14							15
26.09.14							10
28.09.14							22
8.10.14							107
15.10.14							206
23.10.13							220
1.11.14							161
6.11.14							9
17.11.14							279
26.11.14	184			71			not counted
5.12.14	331			17			*481
15.12.14	2			1		126	**c. 470
5.01.15	18			66			not counted
12.01.15	151			11			not counted
15.01.15	87						**1,316
28.01.15	147	16	9	180			**1,367
18.02.15	132			23			*1,125
6.03.15	158			55			not counted
19.03.15	69			1			195
10.04.15	40			89			not counted
<b>Peak Count in 2014/15</b>	331	16	9	180			1,367

**Table 2. Peak counts of Light-bellied Brent Geese from September 2014 to April 2015.**

Notes: Counts of the intertidal sand and mudflats in South Dublin Bay carried out as part of this monitoring programme include \*dawn or \*\*dusk roost counts. Dawn and dusk roost counts are generally higher than day time counts in mid-winter, when geese are feeding on grassland sites in the greater Dublin area during the day. Counts are not additive, because of goose movement between areas.

Blank cells indicate that no Light-bellied Brent Geese were present when individual sites were checked.

Date	Grasslands						Intertidal sand and mudflats
	Compensatory Grassland	Sean Moore Park East	Sean Moore Park West	Irishtown Stadium	Ringsend Park	WWTW storm tanks	South Dublin Bay
2014/15	331	16	9	180		126	1,367 roost count
2013/14	411	225		220	575	67	1,310 roost count
2012/13	351	600	223	47	680	nc	2,693 roost count*
2011/12	336	29	14	346	205	nc	1,950 roost count
2010/11	410	90	101	450	283	nc	1,730 roost count
2009/10	349	950	600	338	480	nc	1,870 roost count
2008/09	440	55	10	199		nc	1,425*
2007-08	34	600	350	366		nc	510*

**Table 3. Peak counts of Light-bellied Brent Geese in each area, in each year of the monitoring programme to date**

\*I-WeBS counts. \* Data were supplied by the Irish Wetland Bird Survey (I-WeBS), a joint scheme of BirdWatch Ireland and the National Parks and Wildlife Service of the Department of Arts, Heritage & the Gaeltacht. Counts not indicated with an asterix are data recorded as part of the monitoring programme for the Dublin Waste to Energy Facility. The highest count in these two datasets is given.

Light-bellied Brent Geese started to visit the compensatory grassland in small numbers from 20<sup>th</sup> November 2014, and were first seen at Irishtown Stadium on 21<sup>st</sup> November, as reported by staff. When surveyed on 26<sup>th</sup> November (Plate 1), almost all droppings were fresh at both grasslands.

The peak count of Light-bellied Brent Geese on the compensatory grassland was 331, recorded on 5<sup>th</sup> December 2014 (Plate 2). The grassland was checked on 11 dates between 26<sup>th</sup> November 2014 and 10<sup>th</sup> April 2015; geese were recorded feeding on the grassland on all dates. Average flock size through the winter was 120 geese. Flocks of 151 and 87 were recorded feeding on the grassland during the week in January when the eastern end of the temporary construction compound was being enclosed.

Peak counts of Light-bellied Brent Geese recorded on other grasslands in the Ringsend area were 180 on Irishtown Stadium, 16 on Sean Moore Park, and none on Ringsend Park, although counts of goose droppings did indicate minor use by geese during the winter of 2014/15.

Light-bellied Brent Goose use of the grasslands as indicated by the density of droppings/m<sup>2</sup> provides a more reliable index of overall feeding use than direct counts of birds. Monitoring of dropping density along transects commenced on 26<sup>th</sup> November 2014, and continued through the winter of 2014/15. These data are given in Section 5 of this report.



**Plate 1. Brent geese on the compensatory grassland on 26<sup>th</sup> November 2014.**



**Plate 2. Part of a flock of 331 Brent geese on the compensatory grassland on 5<sup>th</sup> December 2014. Three piling rigs can be seen on the Dublin Waste to Energy Facility construction site in the background.**

## 4.2. Other waterbird species.

Four wader species were recorded in small numbers on the compensatory grassland between November 2013 and April 2014: Oystercatcher, Black-tailed godwit, Curlew, and Redshank (Table 4). Black-headed Gulls were recorded on a single occasion.

Date	Compensatory grassland	Sean Moore Park	Irishtown Stadium	Ringsend Park
26.11.14	<b>44 Oystercatcher</b> 1 Curlew	3 Oystercatcher	2 Oystercatcher	<b>2 Oystercatcher</b>
5.12.14	41 Oystercatcher <b>3 Black-tailed godwit</b> <b>1 Curlew</b> <b>2 Redshank</b> <b>3 Black-headed gulls</b>	17 Oystercatcher	1 Oystercatcher <b>25 Black-headed gulls</b>	<b>62 Black-headed gulls</b>
15.12.14	3 Oystercatcher 2 Black-tailed godwit 2 Redshank	<b>21 Oystercatcher</b>		1 Oystercatcher 18 Black-headed gulls
5.01.15	23 Oystercatcher 1 Redshank	13 Oystercatcher	<b>20 Oystercatcher</b> 15 Black-headed gulls	1 Oystercatcher 41 Black-headed gulls
28.01.15		12 Oystercatcher	2 Oystercatcher	1 Oystercatcher 29 Black-headed gulls
18.02.15	11 Oystercatcher 1 Curlew	4 Oystercatcher 1 Black-headed gull	14 Black-headed gulls	61 Black-headed gulls
6.03.15		12 Oystercatcher <b>22 Black-headed gulls</b>		27 Black-headed gulls
19.03.15				
10.04.15				
<b>Peak counts in 2013/14</b>	<b>47 Oystercatcher</b> <b>3 Black-tailed godwit</b> <b>2 Redshank</b>	<b>41 Oystercatcher</b> <b>4 Redshank</b>	<b>25 Oystercatcher</b> <b>20 Black-headed gull</b> <b>4 Herring gull</b>	<b>18 Oystercatcher</b> <b>80 Black-headed gull</b>
<b>Peak counts in 2012/13</b>	11 Oystercatcher 12 Redshank 3 Mallard	9 Oystercatcher 18 Redshank 150 Black-headed Gulls	9 Oystercatcher 21 Black-headed Gulls 1 Herring Gull	1 Oystercatcher 97 Black-headed Gulls 5 Common Gulls
<b>Peak counts in 2011/12</b>	64 Oystercatcher 15 Black-tailed Godwit 2 Curlew 11 Redshank	30 Oystercatcher 8 Black-headed Gulls	17 Oystercatcher 1 Common Gull 66 Black-headed Gulls 2 Herring Gulls	9 Oystercatcher 37 Black-headed Gulls
<b>Peak counts in 2010/11</b>	21 Oystercatcher 11 Black-tailed Godwit 1 Curlew 7 Redshank 12 Black-headed Gulls	11 Oystercatcher 9 Black-tailed Godwit 11 Redshank	10 Oystercatcher 39 Black-headed Gulls	6 Oystercatcher 77 Black-headed Gulls
<b>Peak counts in 2009/10</b>	51 Oystercatcher 1 Lapwing 14 Black-tailed Godwit 1 Curlew 4 Redshank 2 Black-headed Gulls	56 Oystercatcher 5 Redshank 22 Black-headed Gulls	16 Oystercatcher 280 Black-headed Gulls 1 Herring Gull 1 Lesser Black-backed Gull	9 Oystercatcher 140 Black-headed Gulls
<b>Peak counts in 2008/09</b>	29 Oystercatcher 74 Black-tailed Godwit 1 Curlew 13 Redshank	37 Oystercatcher 9 Black-headed Gulls	18 Oystercatcher	16 Oystercatcher 11 Black-headed Gulls
<b>Peak counts in 2007/08</b>	15 Oystercatcher 5 Black-tailed Godwit 5 Redshank	71 Oystercatcher 31 Black-headed Gulls	41 Oystercatcher 24 Black-headed Gulls 3 Common Gulls	13 Oystercatcher 68 Black-headed Gulls

**Table 4. Waterbird species other than geese recorded on grasslands in the Ringsend area between November 2014 and April 2015. Peak counts of each species, in each site, are bold-faced. Blank cells indicate that no waterbirds were present when individual sites were checked.**

All of the waterbird species using grasslands in the Ringsend area were recorded in small numbers, in comparison with the numbers recorded in intertidal habitats in Dublin Bay and South Dublin Bay (Tables 4 and 5).

	Peak count Dublin Bay *	Peak count South Dublin Bay *	Peak count Compensatory Grassland	Threshold for international importance
<b>Oystercatcher</b>	3,074	1,546	44	8,200
<b>Black-tailed Godwit</b>	1,362	222	3	610
<b>Curlew</b>	932	105	1	8,400
<b>Redshank</b>	2,077	508	2	3,900
<b>Black-headed Gull</b>	2,649	2,280	3	20,000

**Table 5. Peak counts of waterbird species recorded on the compensatory grassland during the monitoring programme in 2014/15, compared with I-WeBS peak counts in Dublin Bay and South Dublin Bay in 2013/13.**

\* Data were supplied by the Irish Wetland Bird Survey (I-WeBS), a joint scheme of BirdWatch Ireland and the National Parks and Wildlife Service of the Department of Arts, Heritage & the Gaeltacht. I-WeBS data for 2014/15 are not available yet for comparison.

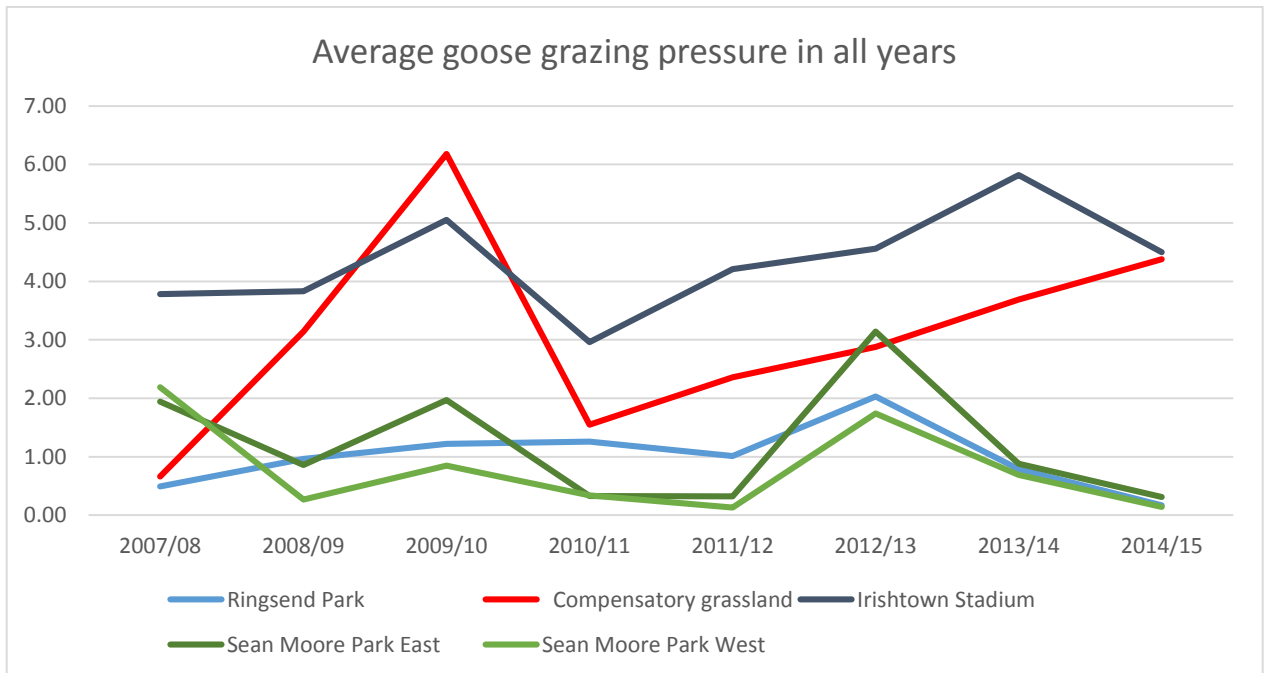
## 5. GOOSE USE OF GRASSLANDS

Light-bellied Brent Goose use of the grasslands as indicated by the density of droppings/m<sup>2</sup> provides a more reliable index of overall feeding use than direct counts of birds. Monitoring of dropping density along transects commenced on 26<sup>th</sup> November 2014, and continued through the winter of 2014/15 until 10<sup>th</sup> April 2015. The winter of 2014/15 was generally mild, there were no periods of snow cover on the grasslands, unlike the winter of 2010/11 when snow cover extended for some 25 days.

Average goose use of all monitored grasslands during the monitoring programme is shown in Table 6 and Figure 4. Use of the compensatory grassland was higher in 2014/15 than in the previous four seasons, and also higher than the monitoring programme average use for this site (Table 7).

Grassland area	Transect	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
Compensatory Grassland	All transects	0.66	3.14	6.18	1.55	2.36	2.88	3.69	4.38
Sean Moore Park	East pitch	1.94	0.86	1.97	0.33	0.32	3.14	0.88	0.31
	West pitch	2.19	0.27	0.85	0.34	0.13	1.74	0.69	0.14
Irishtown Stadium		3.78	3.83	5.05	2.96	4.21	4.56	5.82	4.50
Ringsend Park		0.49	0.96	1.22	1.26	1.01	2.03	0.79	0.17

**Table 6. Light-Bellied Brent goose grazing pressure (droppings/m<sup>2</sup>) averaged across all transects, in each winter season of the monitoring programme.**



**Figure 4. Light-Bellied Brent goose grazing pressure (droppings/m<sup>2</sup>) averaged across all transects, in each winter season of the monitoring programme.**

Light-bellied Brent Goose overall grazing intensity has been higher in Irishtown Stadium than in the other monitored grasslands (compensatory grassland, Sean Moore Park and Ringsend Park) in the Ringsend area in seven of the last eight years (Table 6, Figure 4). In the years since management of the compensatory grassland was improved in 2008, the compensatory grassland and Irishtown Stadium have been the most intensively used of the monitored Ringsend grasslands. This is reflected in the mean dropping density averaged over all years of the monitoring programme: with an overall average of 4.46 goose droppings/m<sup>2</sup> in Irishtown Stadium, compared with a mean density of 3.11 droppings/m<sup>2</sup> in the compensatory grassland (Table 7). Excluding the winter season of 2007/08, mean grazing intensity was 3.45 droppings/m<sup>2</sup> on the compensatory grassland. In 2014/15, goose grazing intensity was very similar in both sites with a seasonal average of 4.5 droppings/m<sup>2</sup> on Irishtown Stadium, and 4.38 droppings/m<sup>2</sup> on the compensatory grassland. Use of individual transects is considered in section 5.1.

Grassland area	Transect	Mean density all years	Standard deviation
Compensatory Grassland	All transects	3.11	1.71
Sean Moore Park	East pitch	1.22	1.03
	West pitch	0.79	0.78
Irishtown Stadium		4.46	0.97
Ringsend Park		0.99	0.56

**Table 7. Mean density of goose droppings/m<sup>2</sup> recorded on the Ringsend grasslands averaged over all years 2007/08, 2008/09, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14, and 2014/15. Standard deviations are also given.**

Sean Moore Park and Ringsend Park have been less intensively used by the geese during the monitoring programme to date (Tables 6 and 7, Figure 4).



## 5.1. Grazing intensity on individual transects

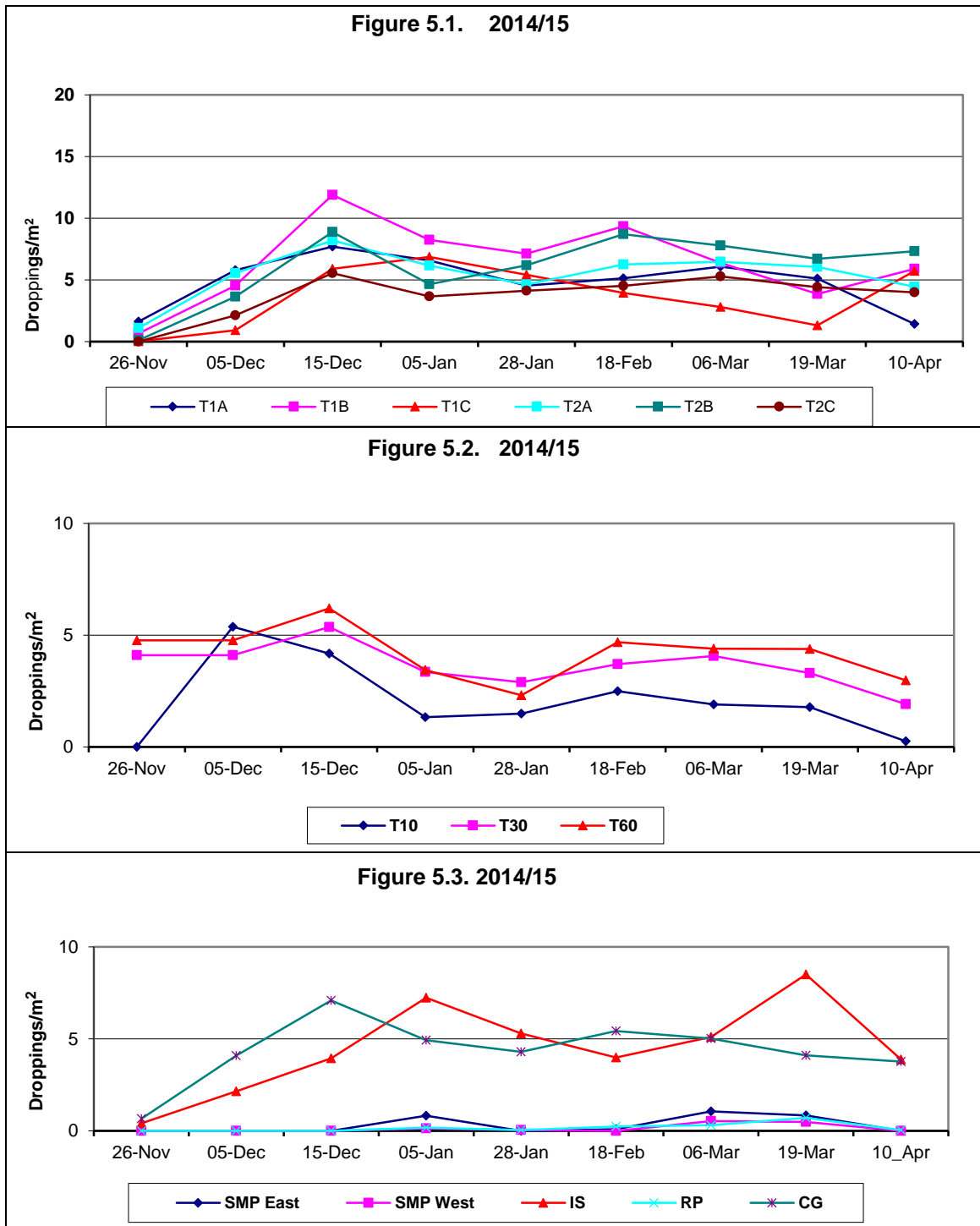
The mean density of goose droppings on all grassland transects on each survey date is given in Table 8, these data are presented graphically in Figure 5. Grazing intensity in the compensatory grassland transects averaged over the 2014/15 season varied from 2.09 on transect T10, to 6.44 on transect T1B (see Figure 2). Mean densities of goose droppings on all transects, averaged over each season of the monitoring programme, are given in Table 9, together with mean density since 2008, and are shown graphically in Figure 6 (page 17). These data indicate that goose grazing intensity was higher than average on 8 of the 9 transects on the compensatory grassland during 2014/15, and slightly lower than average on one of the compensatory grassland transects (T10). Goose grazing intensity was higher on four of the transects on the compensatory grassland than on Irishtown Stadium in 2014/15: T1A, T1B, T2A and T2B (see Figure 2).

Grassland area	Transect	26.11 2014	5.12 2014	15.12 2014	5.01 2015	28.01 2015	18.02 2015	6.03 2015	19.03 2015	10.04 2015	Season mean
Compensatory Grassland	T1A	1.62	5.79	7.70	6.59	4.55	5.13	6.08	5.11	1.42	4.89
	T1B	0.66	4.54	11.89	8.25	7.16	9.35	6.39	3.87	5.89	6.44
	T1C	0.03	0.91	5.89	6.86	5.42	3.95	2.81	1.32	5.73	3.66
	T2A	1.09	5.55	8.20	6.16	4.63	6.24	6.46	6.05	4.45	5.43
	T2B	0.11	3.64	8.89	4.66	6.18	8.70	7.78	6.71	7.33	6.00
	T2C	0	2.12	5.54	3.66	4.13	4.52	5.28	4.41	3.99	3.74
	T10	0	5.38	4.18	1.34	1.49	2.50	1.90	1.78	0.26	2.09
	T30	0.81	4.1	5.36	3.36	2.89	3.71	4.07	3.31	1.92	3.28
T60	1.6	4.77	6.20	3.44	2.32	4.69	4.39	4.38	2.98	3.86	
Sean Moore Park	East pitch	0	0	0	0.83	0	0.09	1.06	0.84	0	0.31
	West pitch	0	0	0.01	0.13	0.05	0.006	0.53	0.49	0	0.14
Irishtown Stadium		0.42	2.15	3.94	7.23	5.29	3.98	5.10	8.49	3.88	4.50
Ringsend Park		0	0	0	0.18	0.04	0.24	0.31	0.71	0.04	0.17

**Table 8. Mean density of goose droppings/m<sup>2</sup> recorded on all transects on each survey date in winter 2014/15, and average density on each transect throughout the winter season (Season mean).**

Grassland area	Transect	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Mean 2008/09 to 2014/15	Standard deviation 08/09 – 14/15
Compensatory Grassland	T1A	0.04	2.39	6.19	1.90	2.44	3.20	4.73	4.89	3.68	1.61
	T1B	0.09	2.04	5.54	1.55	2.27	4.67	5.76	6.44	4.04	2.03
	T1C	0.02	0.63	4.49	0.89	0.54	4.00	1.46	3.66	2.24	1.74
	T2A	2.14	5.55	6.84	1.70	4.27	2.54	4.34	5.43	4.38	1.78
	T2B	0.80	6.14	9.63	1.88	2.65	4.38	4.29	6.00	5.00	2.58
	T2C	0.05	2.01	5.73	1.75	1.73	2.92	3.06	3.74	2.99	1.42
	T10	0.49	3.27	5.26	1.45	2.21	1.04	2.12	2.09	2.49	1.40
	T30	1.09	2.52	5.52	1.52	2.69	1.63	3.84	3.28	3.00	1.39
T60	1.24	3.69	6.39	1.29	2.45	1.55	3.62	3.86	2.84	1.07	
Sean Moore Park	East pitch	1.94	0.86	1.97	0.33	0.32	3.14	0.88	0.31	1.12	1.07
	West pitch	2.19	0.27	0.85	0.34	0.13	1.74	0.69	0.14	0.59	0.57
Irishtown Stadium		3.78	3.83	5.05	2.96	4.21	4.56	5.82	4.50	4.42	0.90
Ringsend Park		0.49	0.96	1.22	1.26	1.01	2.03	0.79	0.17	1.06	0.56

**Table 9. Mean density of goose droppings/m<sup>2</sup> recorded on all transects in 2007/08, 2008/09, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14, and 2014/15. Means and standard deviations for all years from 2008/09 to 2014/15 are also given.**



**Figure 5. Mean density of goose droppings/m<sup>2</sup> recorded on compensatory grassland transects (4.1) 1 and 2, (4.2) 10, 30 and 60, and (4.3) a comparison of the Compensatory Grassland (CG) with the other grasslands in the Ringsend area, in 2014/15.**

## 6. SUMMARY OF WATERBIRD USE OF THE COMPENSATORY GRASSLAND.

The Project Agreement was signed on Friday 19<sup>th</sup> September 2014. Site clearance and setup commenced in October. Piling works at the approved project site, using Continuous Augered Piles (CFA Piles), commenced during the week starting 20<sup>th</sup> October, initially with one piling rig and subsequently with three rigs. Piling and foundation works continued through the winter season. Construction of above ground structures commenced in March 2015.

Light-bellied Brent Geese were first recorded feeding in intertidal habitats in South Dublin Bay on 20<sup>th</sup> September 2014, when 15 birds were observed feeding on the *Zostera* bed near Merrion Gates. There was a high standing crop of green macroalgae in intertidal habitats in Dublin Bay during the autumn of 2014, related to prolonged warm sunny weather. Brent geese continued to feed on green macroalgae in December, with 225 birds feeding to the south of the Poolbeg peninsula on 15<sup>th</sup> December.

Brent Geese started to feed on the compensatory grassland in late November 2014, and a peak count of 331 was recorded on 5<sup>th</sup> December 2014. Feeding use had been recorded on all transects by 5<sup>th</sup> December. Use of the compensatory grassland was higher in 2014/15 than in the previous four seasons, and also higher than the monitoring programme average use of this site.

In the years since management of the compensatory grassland was improved in 2008, the compensatory grassland and Irishtown Stadium have been the most intensively used of the monitored Ringsend grasslands. Goose grazing intensity was higher than average on 8 of the 9 transects on the compensatory grassland during 2014/15, and slightly lower than average on one of the compensatory grassland transects (T10). Goose grazing intensity was higher on four of the transects on the compensatory grassland than on Irishtown Stadium in 2014/15.

All of the waterbird species recorded on the compensatory grassland make feeding use of grassland habitats as well as intertidal habitats. Redshank, Curlew and Black-tailed Godwit generally use wet grassland, or temporarily flooded grassland which does occur within the compensatory grassland. Oystercatchers use dry grasslands as well as wet grasslands.

## 7. REFERENCES

Benson, Lorainne (2009). Use of inland feeding sites by Light-bellied Brent Geese in Dublin 2008-2009. M.Sc Project. School of Biology and Environmental Science, University College Dublin.

I-WeBS News (2015). The newsletter of the Irish Wetland Bird Survey. Issue 19 August 2015. BirdWatch Ireland.

The Irish Wetland Bird Survey (I-WeBS) is a joint scheme of BirdWatch Ireland and the National Parks and Wildlife Service of the Department of Arts, Heritage & the Gaeltacht.

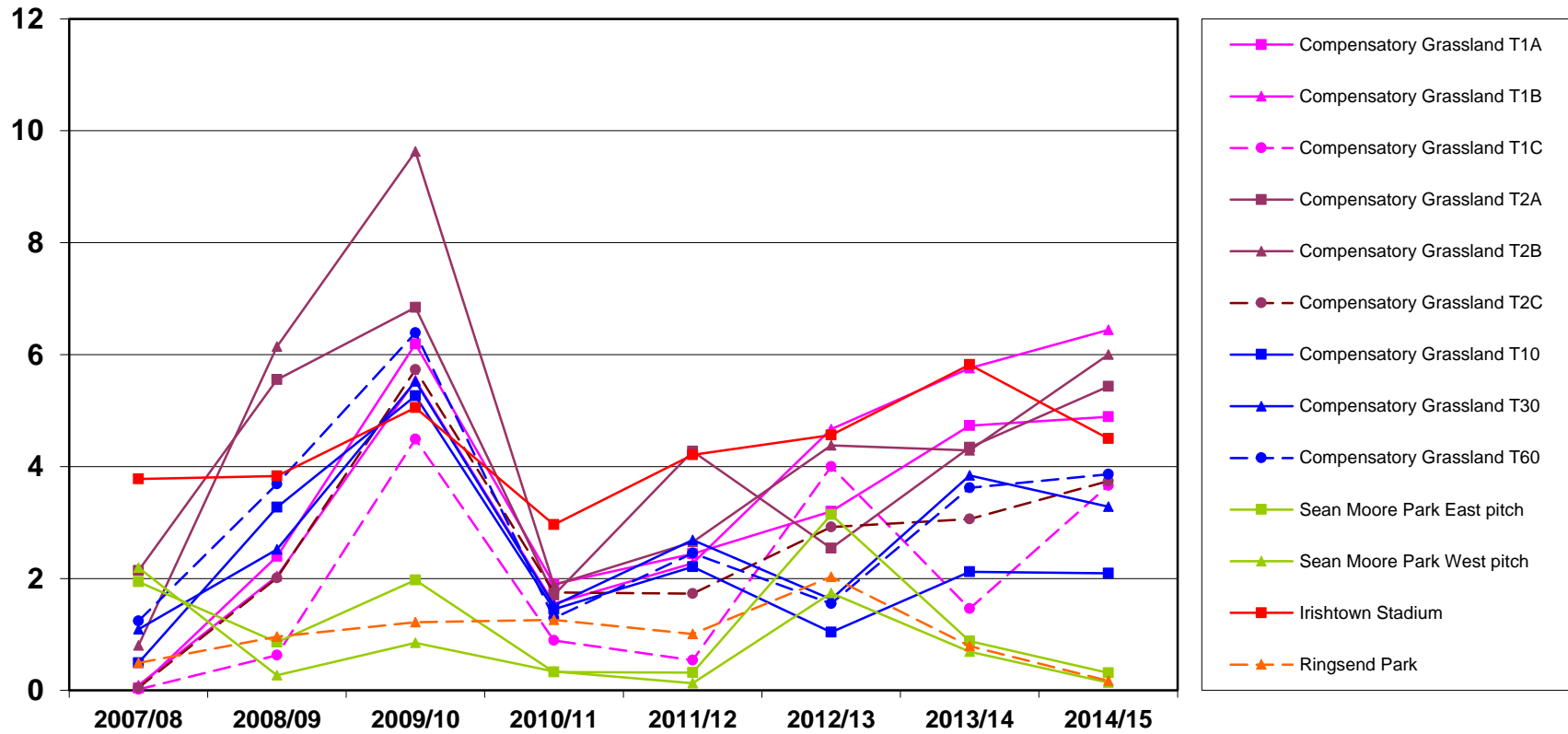


Figure 6. Mean density of goose droppings/m<sup>2</sup> recorded on the transects in 2007/08, 2008/09, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14 and 2014/15.

Note: data are averaged for each transect across all survey dates in each season.

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

13<sup>th</sup> November, 2015

**To Each Member of the  
Environment Strategic Policy Committee**

Meeting Dates, 2016

The meeting dates of the Environment Strategic Policy Committee for 2016 to be held in the Council Chamber, City Hall, at 4.00pm are set out below.

Wednesday, 24<sup>th</sup> February, 2016.

Wednesday 27<sup>th</sup> April, 2016.

Wednesday 29<sup>th</sup> June 2016.

Wednesday 28<sup>th</sup> September, 2016.

Wednesday 30<sup>th</sup> November, 2016.

**Declan Wallace**  
Director of Traffic

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

13<sup>th</sup> November, 2015

To Each Member of the  
Environment Strategic Policy Committee

**Motion in the name of Councillor Anthony Connaghan**

That the Manager arranges for a full review of litter bins in the Northwest Area. Can the Manager arrange for bins which were removed in recent times to be replaced. There is an large amount of dog dirt being bagged and dropped around the place which might be avoided if bins were in place to put the bags into.

**Reply:-**

In 2013, the Waste Management Division carried out a Bin Survey which mapped all the litter bins across the City. This survey revealed that there were approximately 3,500 litter bins, mapped their GPS co-ordinates and the type/condition of each bin etc. This 2013 survey will shortly be brought up to date and will provide detailed information on the numbers and locations of bins in all Areas, including the North West Area. We are also proposing to have a unique ID number for each bin.

In the past, a small number of bins were removed where they were being persistently abused. The procedure as agreed with Councillors some years ago was that a bin would not be removed without giving local Councillors seven days notice to submit their observations. As part of preparing the new Draft Litter Management Plan for today's SPC meeting, it has been suggested that the abuse of bins by a small minority of people should not necessarily mean that the bin is removed. All efforts should be made in the first instance to track down those people who are abusing the bin and I agree with this approach. There is also an impression that bins were removed on a large scale Citywide however that is simply not the case.

In the new Draft Litter Management Plan, we will be explaining that we will put in place a Litter Bin Policy for the City setting out the parameters as to when and where a litter bin will be located e.g. litter bins should be placed at bus stops, neighbourhood shops, schools etc. and there would have to be a clear rationale for placing litter bins in residential estates. The new Draft Litter Management Plan will also set out the proactive measures that we will be

taking to address the serious problem of dog fouling which many people have highlighted as a key concern.

**Brian Hanney**  
**Senior Executive Officer**  
**Waste Management Services**  
**Environment & Transportation Department**