



**NOTIFICATION TO ATTEND MEETING OF THE ENVIRONMENT SPC  
TO BE HELD IN THE COUNCIL CHAMBER, CITY HALL, DAME STREET, DUBLIN 2.,  
ON WEDNESDAY, 22 APRIL 2015 AT 4.00 PM**

**AGENDA**

**WEDNESDAY, 22 APRIL 2015**

		<b>PAGE</b>
1	Minutes of the meeting held on 25th February 2015. (Copy Attached)	<b>1 - 4</b>
2	Chairpersons Business	
3	Correspondence	
4	Catchment Flood Risk Assessment & Management Study - Dublin City Fluvial & Coastal Flood Risk Zones. (Presentation Attached)	<b>5 - 28</b>
5	Posters Protocol. (Report Attached)	<b>29 - 30</b>
6	Dublin Waste to Energy Project update report.	<b>31 - 50</b>
7	A.O.B.	

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Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council

## **Minutes of the Meeting Environment Strategic Policy Committee, held on 22nd April 2015.**

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1. Minutes of meeting held on 25<sup>th</sup> February 2015.

- On item 4. Paragraph 1, Councillor Representation to be changed to Environment Strategic Policy Committee Member.
- The minutes did not reflect the debate that took place in relation to compliance with condition 3 of the planning permission and in particular the community gain fund.
- It was agreed that the minutes will record more detail in future.

**Order: Agreed.**

2. Chairpersons business.

**None.**

3. Correspondence.

**None.**

4. Catchment Flood Risk Assessment & Management Study – Dublin City Fluvial & Coastal Flood Risk Zones.

- It was queried that Sandymount Green is at a higher level than Claremont Road and the maps indicated that Sandymount Green is more likely to be flooded.
- The draft flood management plans will be available next year and a presentation will be brought to the Committee for Consideration.

**Order :The presentation that was delivered was discussed and noted.**

5. Posters Protocol.

- The Executive Manager to investigate to possibility of Litter Wardens contacting Election Candidates directly when posters are detected instead of issuing litter fines.

- Councillor O'Brien to propose a wording in relation to the flexibility of the posterage protocol and bring it to the next Committee meeting.

**Order: The report was noted and the protocol is not to be reviewed at this stage**

**6. Dublin Waste to Energy update report.**

- Member expressed dissatisfaction that the report did not issue with the Agenda and the Assistant Chief Executive advised that this will not occur in future.
- Concern was raised in relation to some technical aspects of the report - an email will be forwarded to the Manager outlining such concerns and a response will issue to all members of the Committee
- Assistant Chief Executive to investigate why the Environmental report was only made available to the City Council 2 days in advance of the meeting
- The Dublin Waste to Energy update report is to be circulated to all Members of the City Council
- Members requested a report on how the value of the Community Gain fund was determined. The Executive Manager pointed out that the role of this Committee is to oversee the building of the project and it is not the enforcement body in terms of the project's planning permission and licenses. He also assured the Committee that he is satisfied the calculation of the Community Gain Fund is correct.

**It was agreed that the Manager would provide a paper to Members in this regard**

**Order: The report was discussed and noted.**

**7. A.O.B.**

The Chairperson decided to deal with the following motions under A.O.B.

Motion referred from the South Central Area Committee Meeting

*"This Area Committee proposes that DCC issue a new by-law on waste management that requires all companies engaged in collecting recycling bins to fit a weighting mechanism to the lids of all recycling bins. The reason for this is that due to the increasing frequency of stormy and windy weather, the contents of these bins, i.e. paper, plastic and cans, are being blown around estates when left on the streets for collection. The consequence of this is extreme littering damage and further cleaning costs to the Council. Weighted lids would help to contain the material while they await collection during windy conditions"*

**Order: Agreed. Chair will write to the Minister for the Environment, Community and Local Government to consider this motion when formulating Waste Regulations.**

Motion referred form South East Area Committee

*“The City Council, when deciding on a supplier for new public bins for the City that the design provides for source separation of general, mixed dry recyclables and food wastes will be prioritized a means to improve the City’s recycling rates”*

**Order: Agreed.**

### **Attendance**

#### **Members**

Councillor Naoise Ó Muirí (Chairperson).  
Councillor Catherine Ardagh.  
Councillor Claire Byrne.  
Councillor Andrew Keegan  
Councillor Denise Mitchell.  
Councillor Ciaran O’Moore.  
Councillor Michael O’Brien.  
Councillor Bríd Smith  
Sinead O’Brien - Environmental Pillar.  
Robert Moss - Dublin City Community Forum.  
Joe McCarthy - An Taisce.  
Nicholas Cloake - Dublin Docklands Business Forum.

#### **Absent**

Councillor Declan Flanagan.  
Councillor Mannix Flynn.  
Louise McCann - Disability Federation of Ireland.

#### **Officials**

Michael Phillips, City Engineer and Director of Traffic.  
Declan Wallace, Executive Manager.  
Helen McNamara, Senior Executive Officer.  
Gerry O’Connell, Senior Engineer  
Ciarán McGoldrick, Staff Officer.  
Owen Sweeney, Staff Officer.  
Rosemary McNulty, Assistant Staff Officer.  
Yvonne Patterson, Assistant Staff Officer

### **Councillor Naoise Ó Muirí**

**Chairperson**

**29<sup>th</sup> April 2015.**

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Catchment Flood Risk  
Assessment & Management  
Studies (CFRAMS) Floodmaps

22<sup>nd</sup> April 2015

Environmental SPC

Gerard O'Connell,

Engineer-in-Charge, Regional Projects,

Engineering & Transportation

# National CFRAMS

- Preliminary Flood Risk Assessment Dec 2011
- 300 Areas for Further Assessment (AFA)
- Flood maps – Extent, Depth, Velocity, Development, Environmental, etc. Q3 2015.
- Optioneering of possible flood alleviation measures.
- Catchments Flood Risk Assessment & Development Plans (CFRAMP) + SEA's Q2-2016.

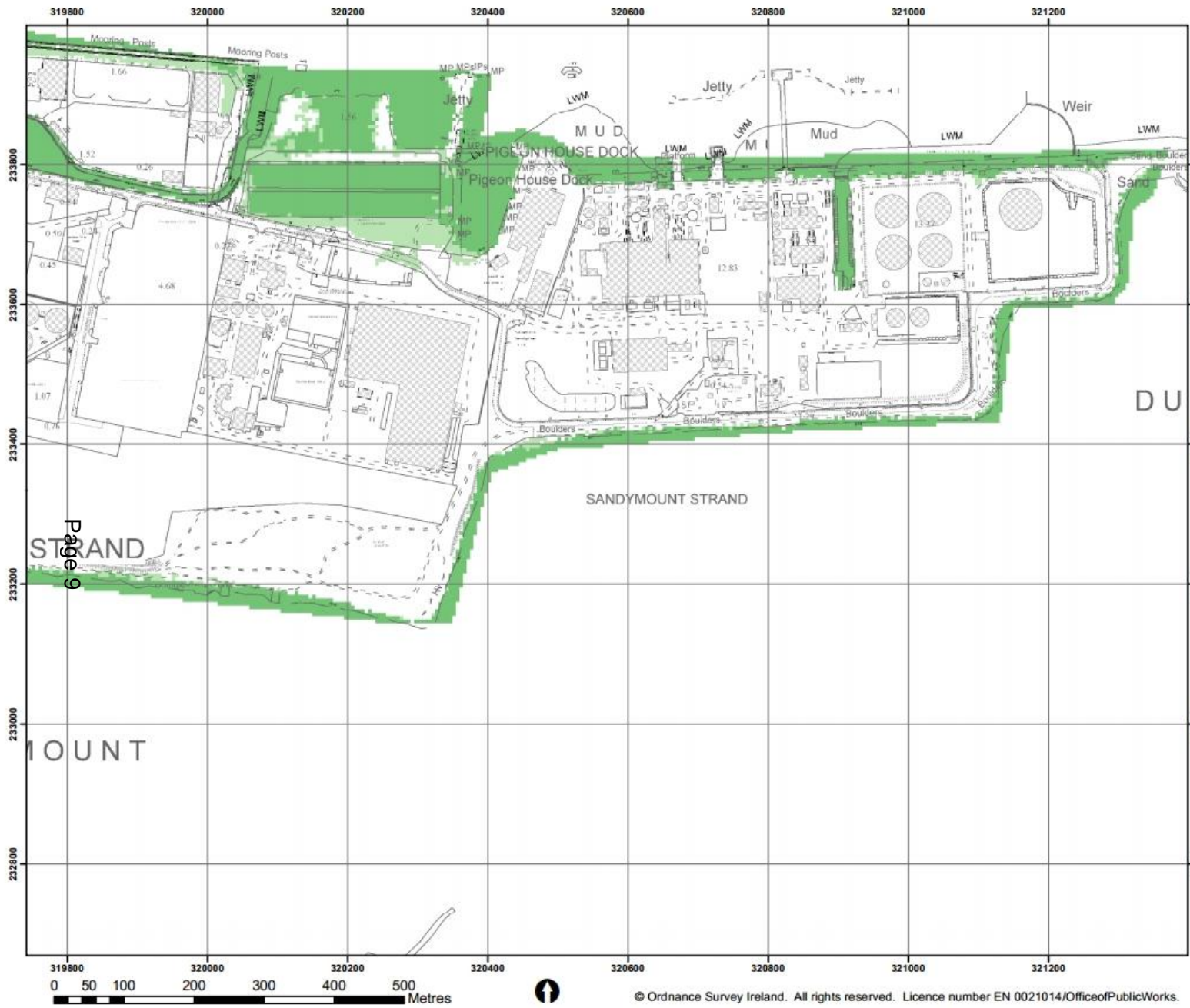


# Dublin City Area

- Liffey Estuary – Including Dublin Port.
- Liffey Island bridge to Chapelizod.
- Poddle – Fast-tracked. SDCC lead authority.
- Camac – Fast-tracked. Further analysis required.
- Sandymount Coastline
- Clontarf Coastline.
- Santry River
- Tolka and Dodder studies completed previously. Tolka works complete. Dodder works ongoing.

# Liffey Estuary & River

- Dublin Port
- South Campshires
- Victoria Quay and Wolfe Tone Quay
- Islandbridge
- Chapelizod



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**Legend**

- 10% Tidal AEP Event
- 0.5% Tidal AEP Event
- 0.1% Tidal AEP Event
- Modelled River Centreline
- AFA Extents
- Embankment
- Wall
- Defended Area
- Standard of Protection of Flood Defence (SWAF)
- (Walls / Embankments)

**DRAFT**

REV:	NOTE:	DATE:



The Office of Public Works  
 Jonathan Swift Street  
 Dublin  
 Co. Meath

Elmwood House  
 74 Boucher Road  
 Belfast  
 BT12 6R2

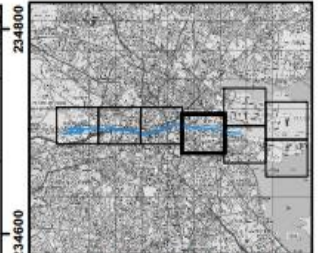
T +44(0) 28 90 967914  
 F +44(0) 28 90 688288  
 W www.rpsgroup.com  
 E ireland@rpsgroup.com

**Map:**  
 Liffey Coastal Flood Extents

Map Type:	EXTENT
Source:	TIDAL
Map Area:	COASTAL
Scenario:	CURRENT
Drawn By:	R.C. Date: 9th January 2015
Checked By:	A.S. Date: 9th January 2015
Approved By:	G.G. Date: 9th January 2015
Drawing No.:	E09LIF_EXCCD_C0
Map Series:	Page 06 of 08
Drawing Scale:	1:5,000 @ A3



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- Legend**
- 10% Tidal AEP Event
  - 0.5% Tidal AEP Event
  - 0.1% Tidal AEP Event
  - Modelled River Contreline
  - AFA Extents
  - Embankment
  - Wall
  - Defended Area
  - Standard of Protection of Flood Defence
  - 1% AEP (Walls / Embankments)

**DRAFT**

REV:	NOTE:	DATE:



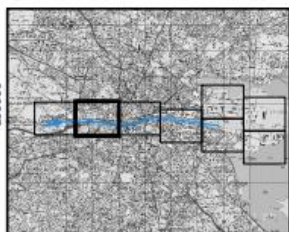
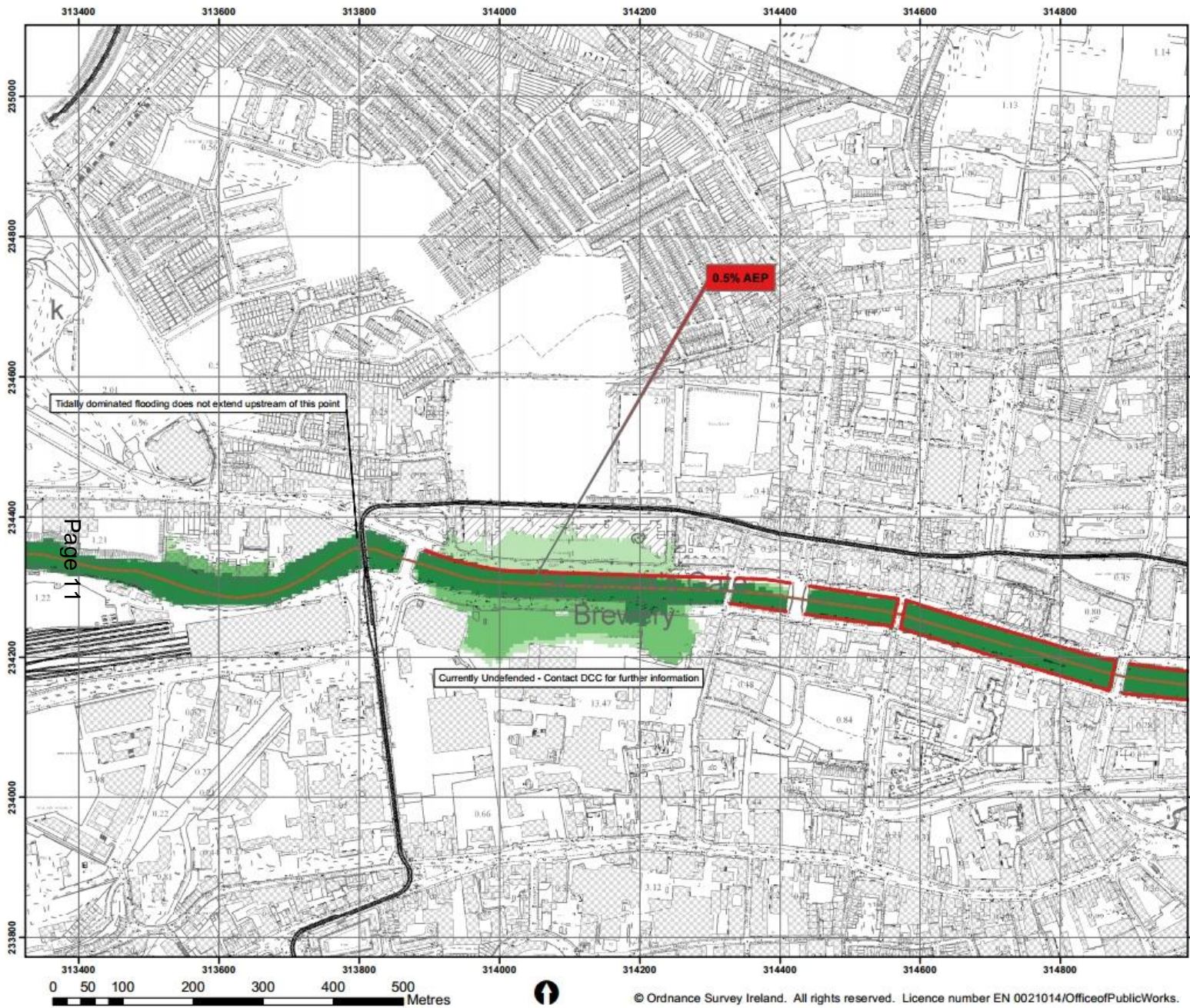
The Office of Public Works  
Jonathan Swift Street  
Tins  
Co. Wex

Elmwood House  
74 Boucher Road  
Ballis  
BT12 6RZ

T +44(0) 28 96 66791-4  
F +44(0) 28 96 66826  
W www.opw.gov.ie  
E ewelands@rpsgroup.com

<b>Map:</b>	
Liffey Coastal Flood Extents	
<b>Map Type:</b> EXTENT	
<b>Source:</b> TIDAL	
<b>Map Area:</b> COASTAL	
<b>Scenario:</b> CURRENT	
<b>Drawn By:</b> R.C.	<b>Date:</b> 9th January 2015
<b>Checked By:</b> A.S.	<b>Date:</b> 9th January 2015
<b>Approved By:</b> G.G.	<b>Date:</b> 9th January 2015

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Map Series: Page 04 of 08  
Drawing Scale: 1:5,000 @ A3



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  - 0.1% Tidal AEP Event
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  - Embankment
  - Wall
  - Defended Area
  - Standard of Protection of Flood Defence
  - 1% AEP (Walls / Embankments)

Tidally dominated flooding does not extend upstream of this point

0.5% AEP

Currently Undefended - Contact DCC for further information

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**DRAFT**

REV:	NOTE:	DATE:





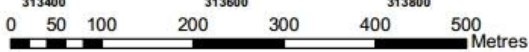
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Co. Dublin

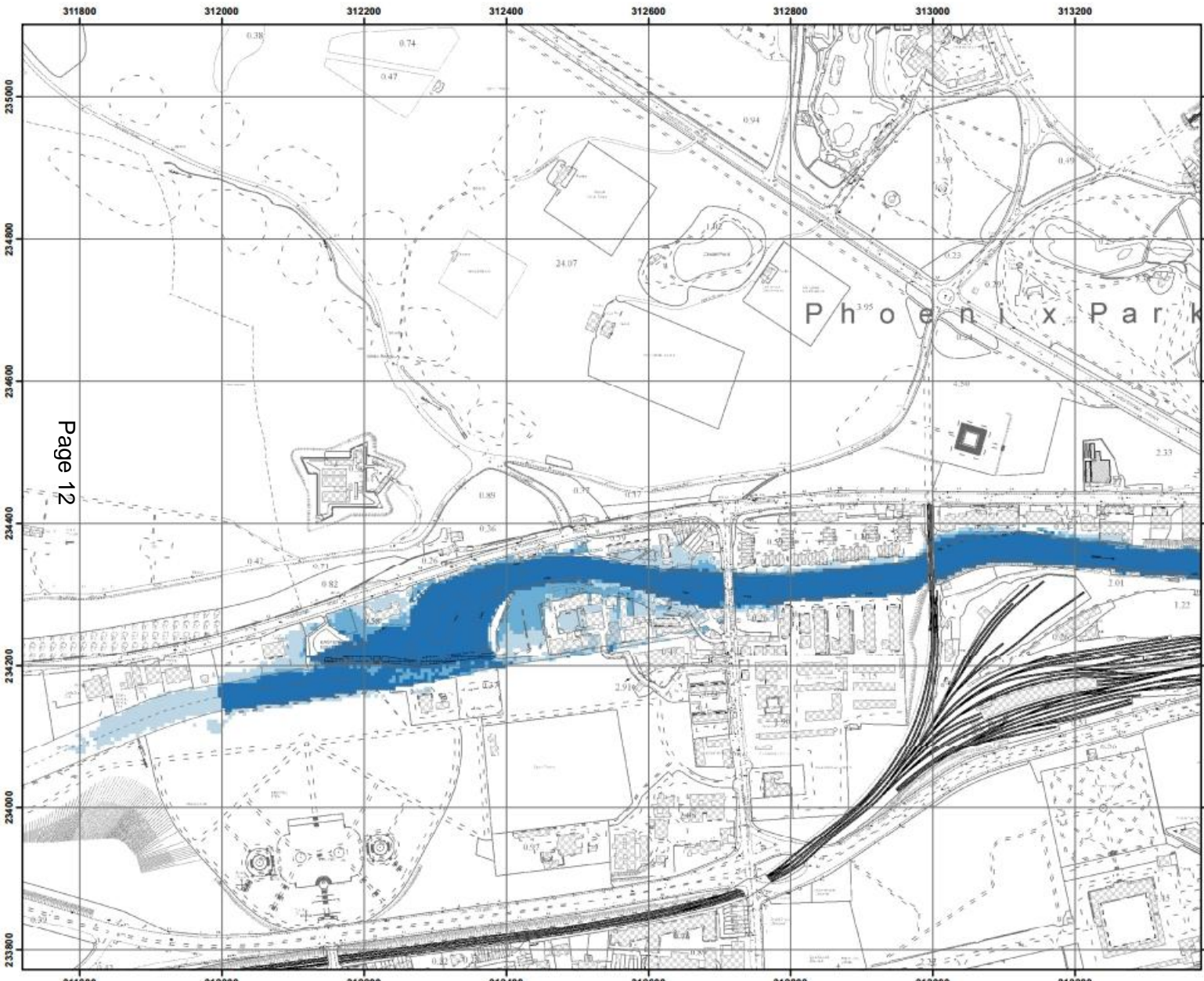


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74 Boucher Road F +44(0) 20 90 688286  
Belfast W www.rpsgroup.com  
BT11 6RZ E ireland@rpsgroup.com

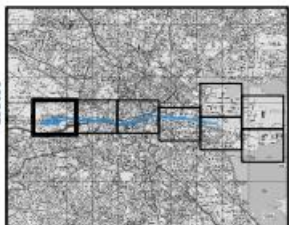
**Map:**  
Liffey Coastal Flood Extents

Map Type:	EXTENT
Source:	TIDAL
Map Area:	COASTAL
Scenario:	CURRENT
Drawn By:	R.C. Date: 9th January 2015
Checked By:	A.S. Date: 9th January 2015
Approved By:	G.G. Date: 9th January 2015
Drawing No.:	E09LIF_EXCCD_C0
Map Series:	Page 02 of 08
Drawing Scale:	1:5,000 @ A3





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- Legend**
- 10% Fluvial AEP Event
  - 1% Fluvial AEP Event
  - 0.1% Fluvial AEP Event
  - Modelled River Centreline
  - AFA Extents
  - Embankment
  - Wall
  - Defended Area
  - Standard of Protection of Flood Defence (Walls / Embankments)
  - 1% AEP (Walls / Embankments)

**DRAFT**

REV	NOTE	DATE



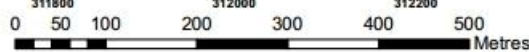
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 Jonathan Swift Shed  
 74 Boucher Road  
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 Co. Wick  
 Ireland

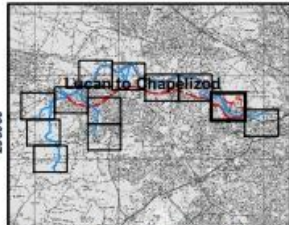
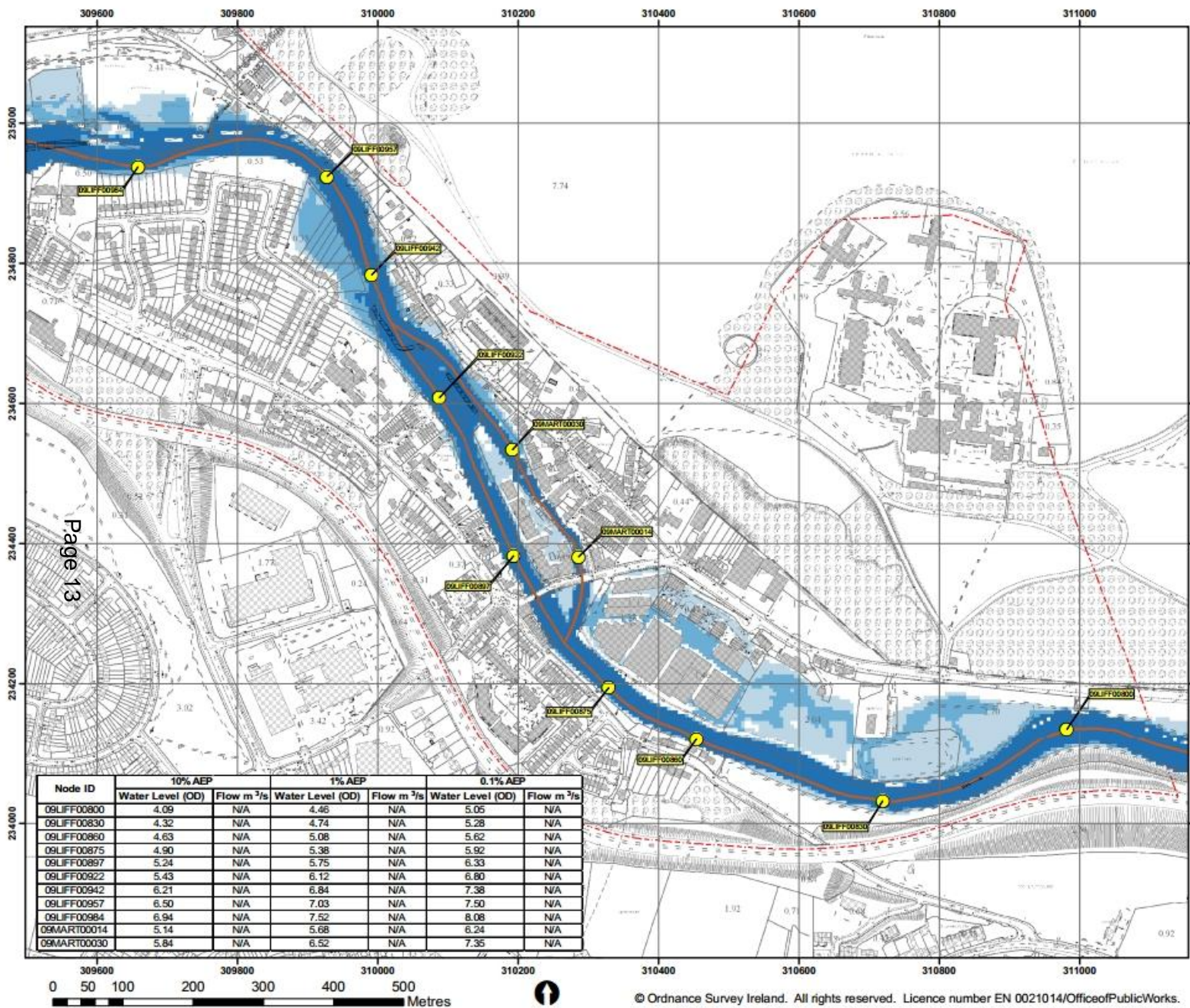
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 74 Boucher Road  
 F +44(0)18 20 682385  
 Belfast  
 W www.rpsgrp.com  
 BT13 9SL  
 E info@rpsgrp.com

**Map:**

Liffey Fluvial Flood Extents

Map Type:	EXTENT
Source:	FLUVIAL
Map Area:	HPW
Scenario:	CURRENT
Drawn By:	R.C. Date: 9th January 2015
Checked By:	A.S. Date: 9th January 2015
Approved By:	G.G. Date: 9th January 2015
Drawing No.:	E09LIF_EXFCD_C0
Map Series:	Page 01 of 08
Drawing Scale:	1:5,000 @ A3





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  - Embankment
  - Wall
  - Defended Area
  - Standard of Protection of Flood Defence
  - 1% AEP (Walls / Embankments)
  - Node Point
  - Node Label

**DRAFT**

REV:	NOTE:	DATE:
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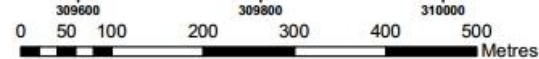


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 Co. Dublin  
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 F +44(0) 28 96 66628  
 W www.opw.gov.ie  
 E jward@opw.gov.ie

<b>Map:</b>	
Lucan to Chapelizod Fluvial Flood Extents	
<b>Map Type:</b> EXTENT	
<b>Source:</b> FLUVIAL	
<b>Map Area:</b> HPW	
<b>Scenario:</b> CURRENT	
<b>Drawn By:</b> Z.M.	<b>Date:</b> 17th December 2014
<b>Checked By:</b> S.P.	<b>Date:</b> 17th December 2014
<b>Approved By:</b> G.G.	<b>Date:</b> 17th December 2014
<b>Drawing No.:</b> E09LUC_EXFCD_C0_SH11	
<b>Map Series:</b> Page 11 of 12	
<b>Drawing Scale:</b> 1:5,000 @ A3	

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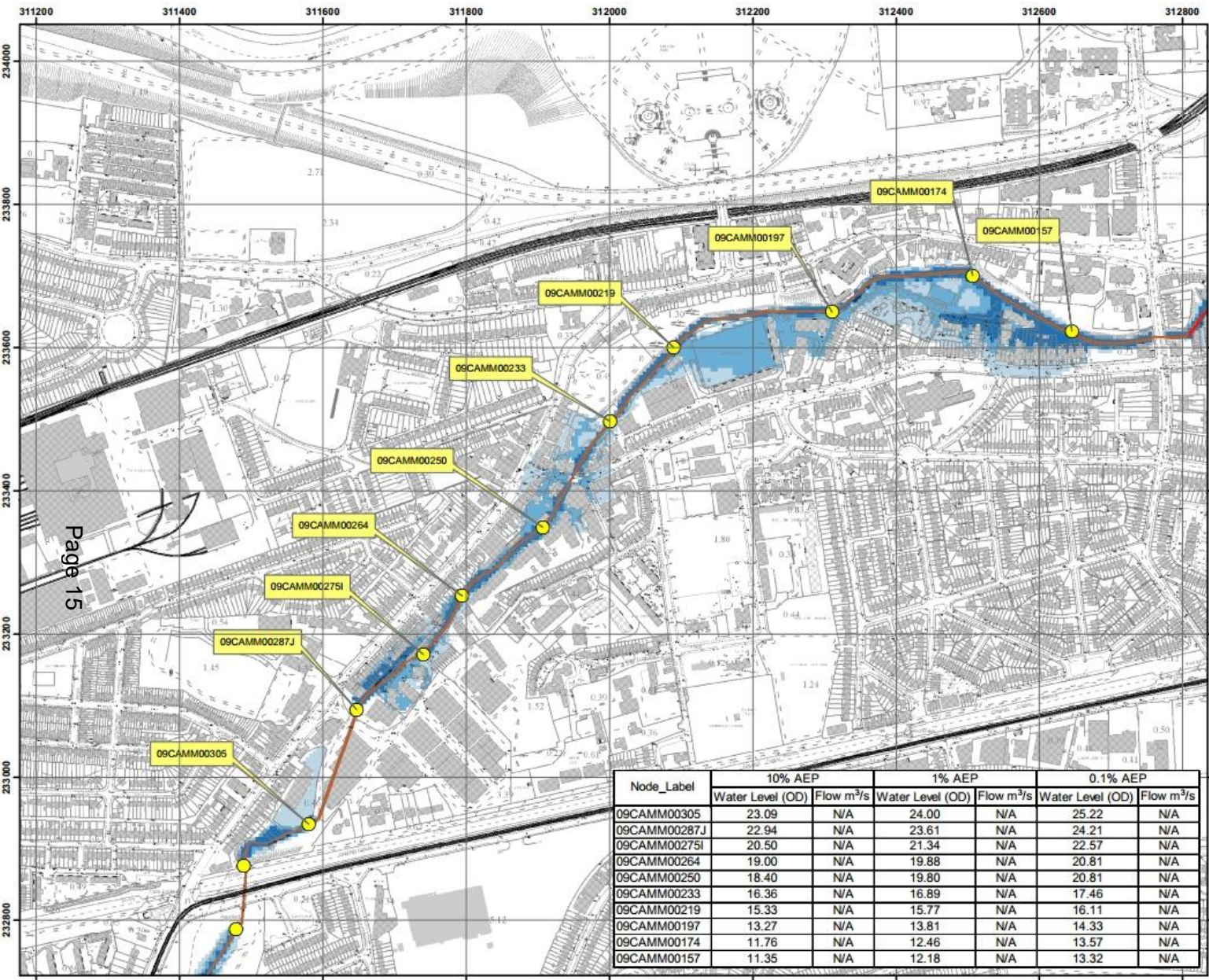
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09LUFF00830	4.32	N/A	4.74	N/A	5.28	N/A
09LUFF00860	4.63	N/A	5.08	N/A	5.62	N/A
09LUFF00875	4.90	N/A	5.38	N/A	5.92	N/A
09LUFF00897	5.24	N/A	5.75	N/A	6.33	N/A
09LUFF00922	5.43	N/A	6.12	N/A	6.80	N/A
09LUFF00942	6.21	N/A	6.84	N/A	7.38	N/A
09LUFF00957	6.50	N/A	7.03	N/A	7.50	N/A
09LUFF00984	6.94	N/A	7.52	N/A	8.08	N/A
09MART00014	5.14	N/A	5.68	N/A	6.24	N/A
09MART00030	5.84	N/A	6.52	N/A	7.35	N/A



# Camac River

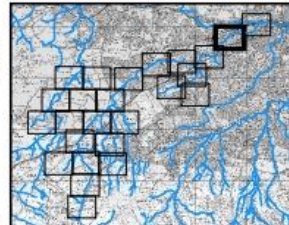
- Bow Bridge
- Faulkner's Terrace
- Shannon Terrace
- Kearn's Place
- Lady's Lane (flood scheme by FDU 2012)
- Emmet Road, Camac crescent, Richmond Park
- Tyrconnell Street
- Bluebell Avenue





Page 15

Node_Label	10% AEP		1% AEP		0.1% AEP	
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09Camm00275I	20.50	N/A	21.34	N/A	22.57	N/A
09Camm00264	19.00	N/A	19.88	N/A	20.81	N/A
09Camm00250	18.40	N/A	19.80	N/A	20.81	N/A
09Camm00233	16.36	N/A	16.89	N/A	17.46	N/A
09Camm00219	15.33	N/A	15.77	N/A	16.11	N/A
09Camm00197	13.27	N/A	13.81	N/A	14.33	N/A
09Camm00174	11.76	N/A	12.46	N/A	13.57	N/A
09Camm00157	11.35	N/A	12.18	N/A	13.32	N/A



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- Legend**
- 10% Fluvial AEP Event
  - 1% Fluvial AEP Event
  - 0.1% Fluvial AEP Event
  - Modelled River Centreline
  - AFA Extents
  - Embankment
  - Wall
  - Defended Area
  - Standard of Protection of Flood Defence
  - 1% AEP (Walls / Embankments)
  - Node Point
  - Node Label

**DRAFT**

REV: C1	NOTE: Additional Flows Added	DATE: 23/09/15
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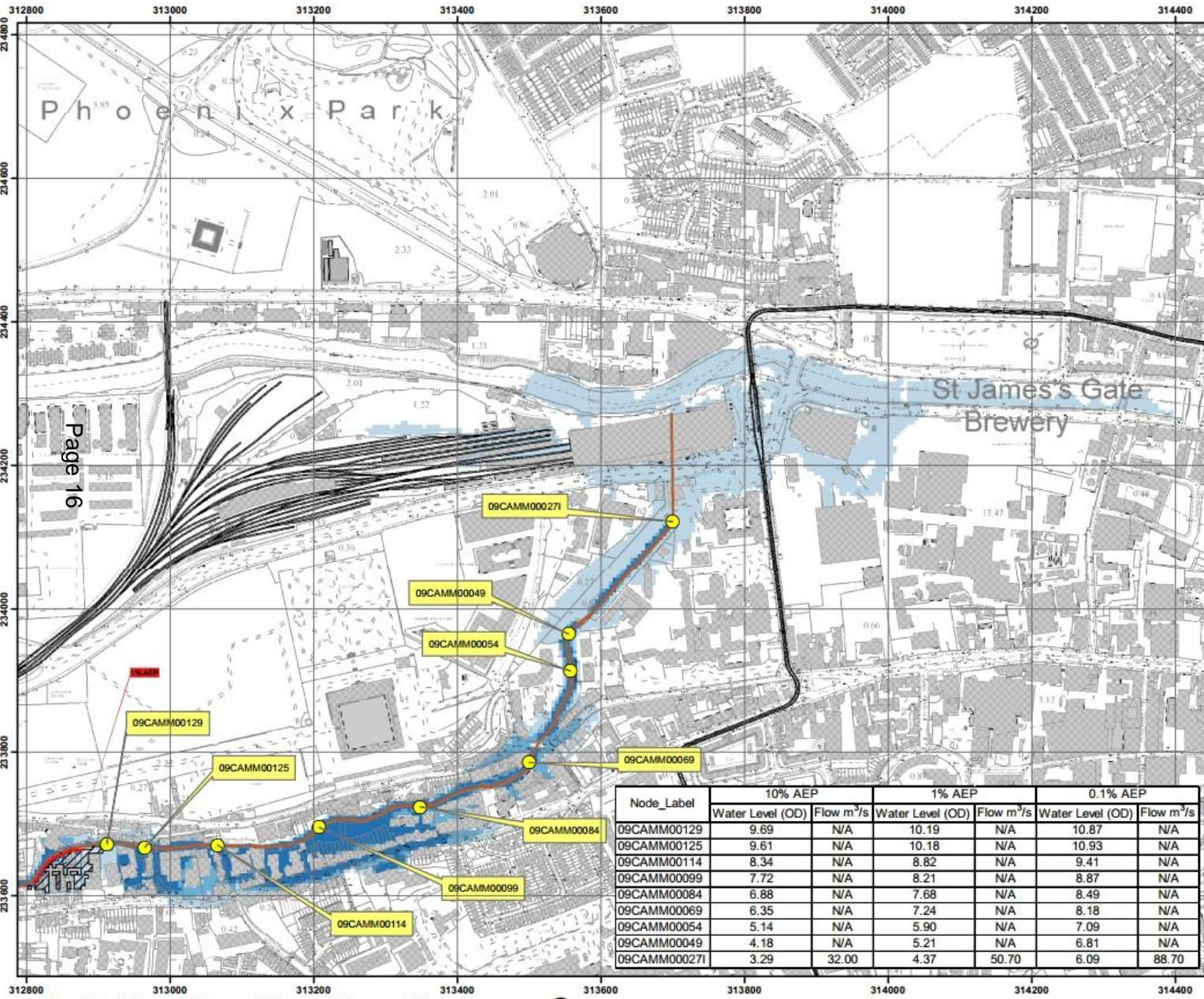
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 Jonathan Swift Street  
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Elmwood House  
 74 Boucher Road  
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 BT11 6ZC

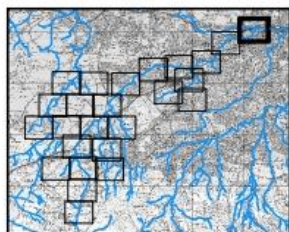
T +44(0) 28 90 667014  
 F +44(0) 28 90 668388  
 W www.rpsgroup.com  
 E ewlersj@rpsgroup.com

Map:  
 Carnac Fluvial Flood Extents

Map Type:	EXTENTS
Source:	FLUVIAL
Map Area:	HPW
Scenario:	CURRENT
Drawn By:	R.C. Date: 10th October 2014
Checked By:	S.P. Date: 10th October 2014
Approved By:	G.G. Date: 10th October 2014
Drawing No.:	E09Camm_EXFDC_C1_SH11
Map Series:	Page 11 of 25
Drawing Scale:	1:5,000 @ A3



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- Legend**
- 10% Fluvial AEP Event
  - 1% Fluvial AEP Event
  - 0.1% Fluvial AEP Event
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  - Standard of Protection of Flood Defence (Walls / Embankments)
  - Node Point
  - Node Label

**DRAFT**

REV: C1	NOTE: Additional Flows Added	DATE: 22/09/15
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The Office of Public Works  
Jonathan Swift Street  
T: 01 708 1234  
Go Walk

Elmwood House  
74 Boucher Road  
Belfast  
BT1 6R2  
E: [enquiries@opw.gov.uk](mailto:enquiries@opw.gov.uk)

**Map:**

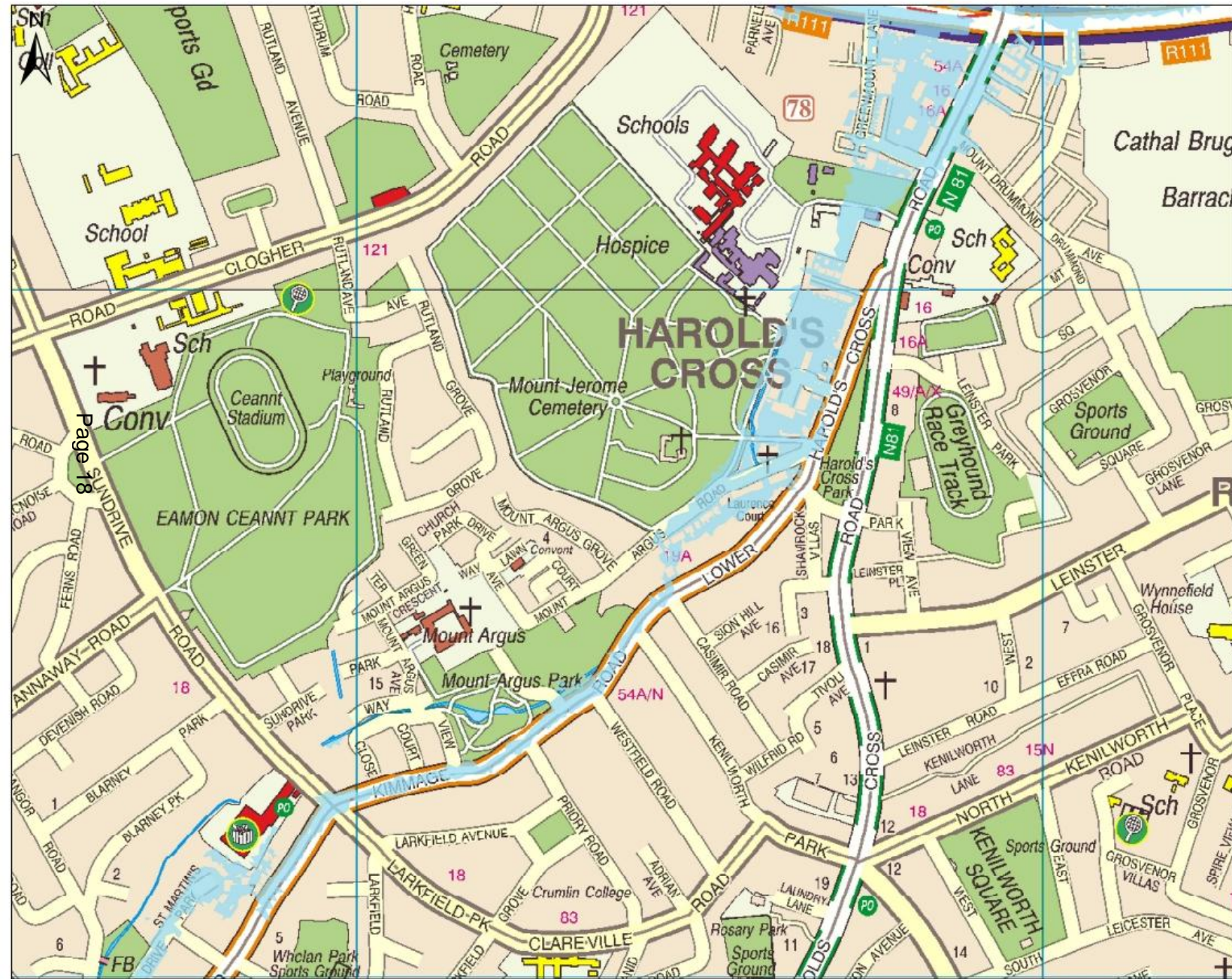
Camac Fluvial Flood Extents

Map Type:	EXTENTS
Source:	FLUVIAL
Map Area:	HPW
Scenario:	CURRENT
Drawn By:	R.C. Date: 10th October 2014
Checked By:	S.P. Date: 10th October 2014
Approved By:	G.G. Date: 10th October 2014

Node_Label	10% AEP		1% AEP		0.1% AEP	
	Water Level (OD)	Flow m <sup>3</sup> /s	Water Level (OD)	Flow m <sup>3</sup> /s	Water Level (OD)	Flow m <sup>3</sup> /s
09Camm00129	9.69	N/A	10.19	N/A	10.87	N/A
09Camm00125	9.61	N/A	10.18	N/A	10.93	N/A
09Camm00114	8.34	N/A	8.82	N/A	9.41	N/A
09Camm00099	7.72	N/A	8.21	N/A	8.87	N/A
09Camm00084	6.88	N/A	7.68	N/A	8.49	N/A
09Camm00069	6.35	N/A	7.24	N/A	8.18	N/A
09Camm00054	5.14	N/A	5.90	N/A	7.09	N/A
09Camm00049	4.18	N/A	5.21	N/A	6.81	N/A
09Camm000271	3.29	32.00	4.37	50.70	6.09	88.70

# Poddle

- Harolds Cross
- Gandon Close
- Church of Ireland/Mount Argus Road
- Kimmage Shopping Centre, Kimmage Road Lower
- St. Martins Drive and Park
- Blarney Park
- Poddle Park
- Ravensdale Park from Whitehall Road



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**Legend**

- Modelled October 2011 Flooding

TITLE  
 FODDLE FLOOD MAPPING  
 OCTOBER 2011  
 (1 OF 3)

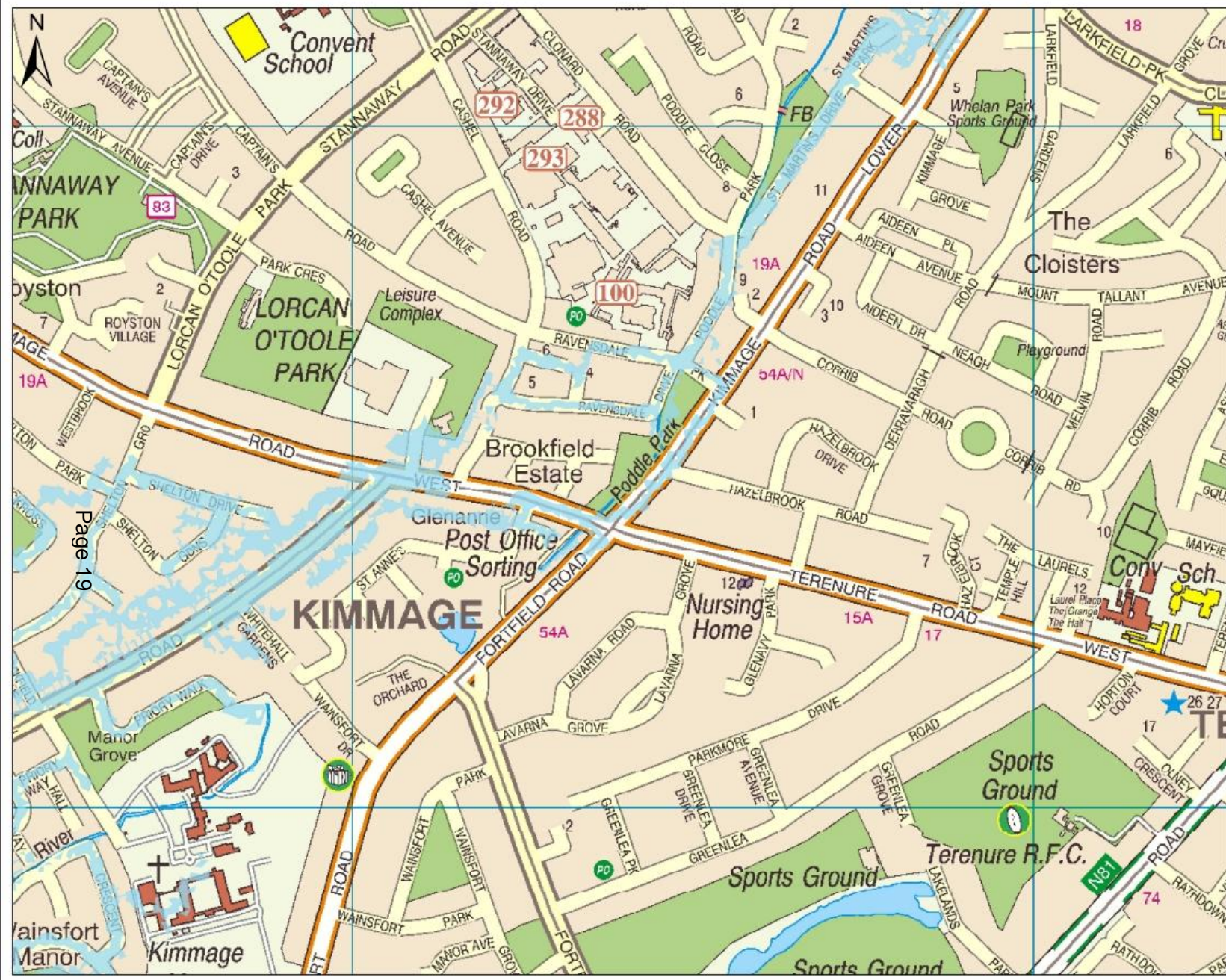
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 OPW CEFRAM STUDY

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 Drawn By: RC  
 Checked By: AS  
 Approved By: AJ  
 Date: 28/01/13

0 0.05 0.1 0.2  
 Kilometers

SCALE AT A1: 1:2,500



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**Legend**  
 Modelled October 2011 Flooding

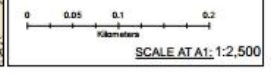
Page 19

**TITLE** FODDLE FLOOD MAPPING  
 OCTOBER 2011  
 (2 OF 3)

<b>CLIENT</b>	<b>PROJECT</b>
OPW	CFRAM CENTRAL FINANCIAL RECOVERY AUTHORITY

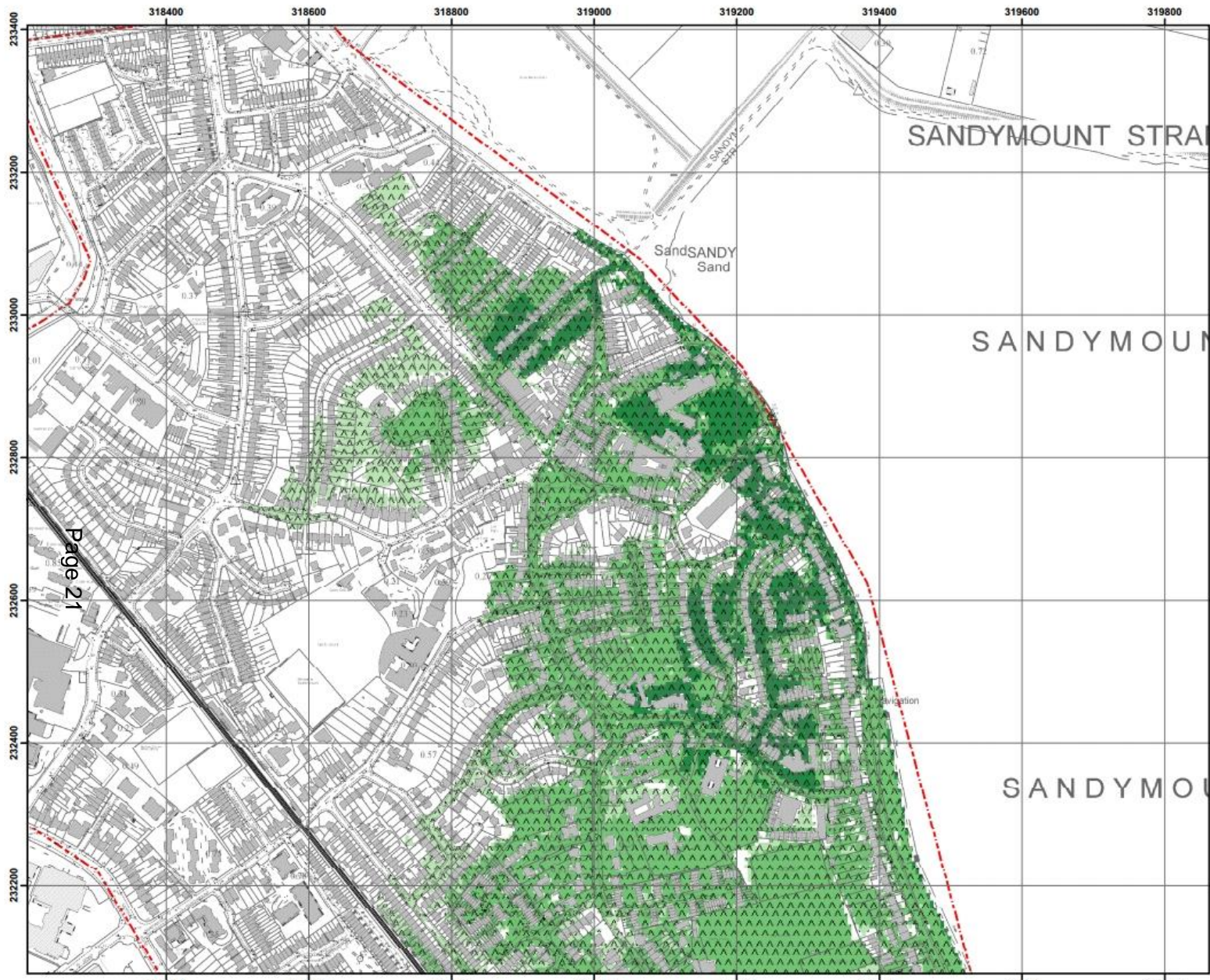
<b>RPS</b>	Shroved House 74 Becher Road Dublin 12 BT 12 1B2	Tel: +353 (0) 20 1607111 Fax: +353 (0) 20 16 06206 www.rpsgroup.com E: info@rpsgroup.com
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Drawing No.: IBE0601\_PFL\_100  
 Drawn By: RC  
 Checked By: AS  
 Approved By: AJ  
 Date: 28/01/13



# Sandymount with wave action

- Marine Drive
- Beach Road
- Strand Road
- St. John's Road
- Sandymount Green/Newgrove Avenue
- Gilford Road/Lea Road



The viewer of this map should refer to the Disclaimer, Guidance Notes and Conditions of Use that accompany this map. This draft map is for consultation purposes only, and should not be used for any other purpose.

- Legend**
-  10% Wave Flood Event
  -  0.5% Wave Flood Event
  -  0.1% Wave Flood Event
  -  AFA Extents

**DRAFT**

REV:	NOTE:	DATE:
------	-------	-------



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 Jonathan Swift Street  
 Tipperary  
 Co. Wick  
 BT12 6RZ  
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 T +44(0) 28 90 867914  
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Map:	Sandymount Wave Overtopping
Map Type:	EXTENT
Source:	WAVE
Map Area:	COASTAL
Scenario:	CURRENT
Drawn By:	C.C. Date: 4th February 2015
Checked By:	A.S. Date: 4th February 2015
Approved By:	S.P. Date: 4th February 2015

Drawing No.:  
**E09SAN\_EXWCD\_CO\_SH01**

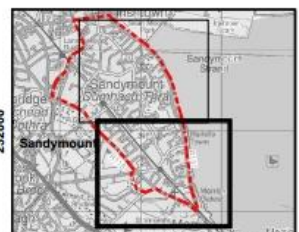
Map Series: Page 1 of 2  
 Drawing Scale: 1:5,000 @ A3

Page 21





Page 22



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- Legend**
-  10% Wave Flood Event
  -  0.5% Wave Flood Event
  -  0.1% Wave Flood Event
  -  AFA Extents

**DRAFT**

REV:	NOTE:	DATE:
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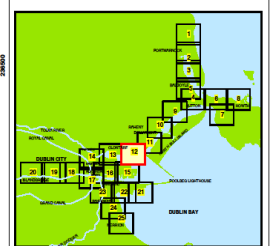
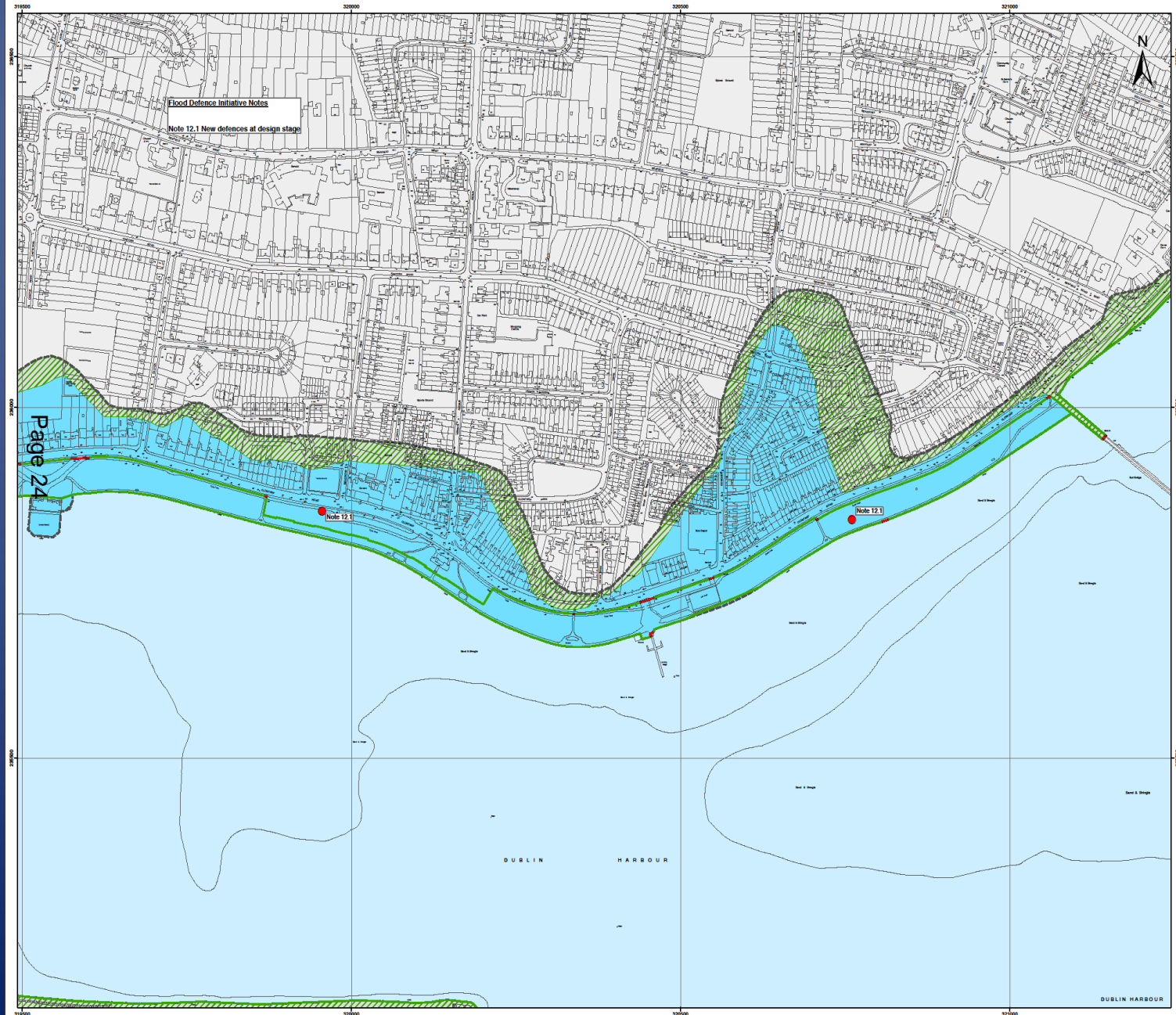
<b>Map:</b>	
Sandymount Wave Overtopping	
Map Type: EXTENT	
Source: WAVE	
Map Area: COASTAL	
Scenario: CURRENT	
Drawn By : C.C.	Date : 4th February 2015
Checked By : A.S.	Date : 4th February 2015
Approved By : S.P.	Date : 4th February 2015
Drawing No.:	
E09SAN_EXWCD_C0_SH02	
Map Series : Page 2 of 2	
Drawing Scale : 1:5,000 @ A3	





# Clontarf with wave action.

- Junction Alfie Byrne Road/Clontarf Road (Wad river a factor here).
- Numerous Parts of Clontarf Road
- Parts of Hollybrook Road
- Parts of Vernon Avenue
- Parts of Conquerhill Road
- Clontarf Baths



- Legend:**
- 1:200 Flood Hazard Extent
  - 1:200 Flood Hazard Area
  - Protected Area (Based on 200 Year Event)
  - Flood Defence
  - Gap/Removable Flood Defences
  - Coastal Area/Rivers/Canals
  - Ongoing Flood Defence Initiatives and Notes

- Notes :**
- 1) These maps illustrate the indicative flood hazard for a 200 year return period event shown as flood extents for the categories shown in the legend and as depicted in the notes below. The flood hazard assessment was undertaken as part of the Dublin Coastal Flooding Protection Project, completed by local planning for Dublin City and Dublin County Council in April 2020. Before use is made of these maps the following notes should be read carefully to avoid incorrect interpretation of the information provided. These maps must only be used for construction purposes and should not be used for any other purpose.
  - 2) The 200 year return period of the information provided on these maps should be used for construction purposes and should not be used for any other purpose.
  - 3) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
  - 4) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
  - 5) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
  - 6) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
  - 7) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
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  - 17) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
  - 18) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
  - 19) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.
  - 20) The flood hazard is based on mean sea level (MSL) and does not take into account the effect of storm surge or wave action.

For more detail of the definitions and a description of how the areas have been assessed for the production of these maps, see the definitions provided at the beginning of these maps and the Flood Hazard Manual produced to accompany these maps.

A 200 year extreme sea level at Dublin Port has been assessed as 3.19mODM (6.6mAL).

5) The work undertaken and the information presented on these maps is valid to the year 2020.

6) No part of the categories presented may be used for any other purpose.

7) These Type 1 maps show the indicative extent of flooding for the categories presented in Note 4 and the legend.

8) The maps do not show indicative flood hazard associated with any of the following -

- Existing buildings constructed in accordance with the full extent of the rules
- Stacked drains
- High ground level conditions
- Other structures, e.g. bridge collapse etc.

9) It should be noted that a localised risk remains for other areas, not shown, located outside those defined as being at risk from sea flooding on this map, as a result of flooding through the mechanisms identified in other notes.

10) The information presented on these Flood Hazard maps does not constitute a Flood Hazard Map Manual.

11) All level information presented on these maps must reference Ordnance Mean Sea Level (OMSL) for conversion from IGD04M or ILL47 metres to Dublin Bay AHD 2.11.

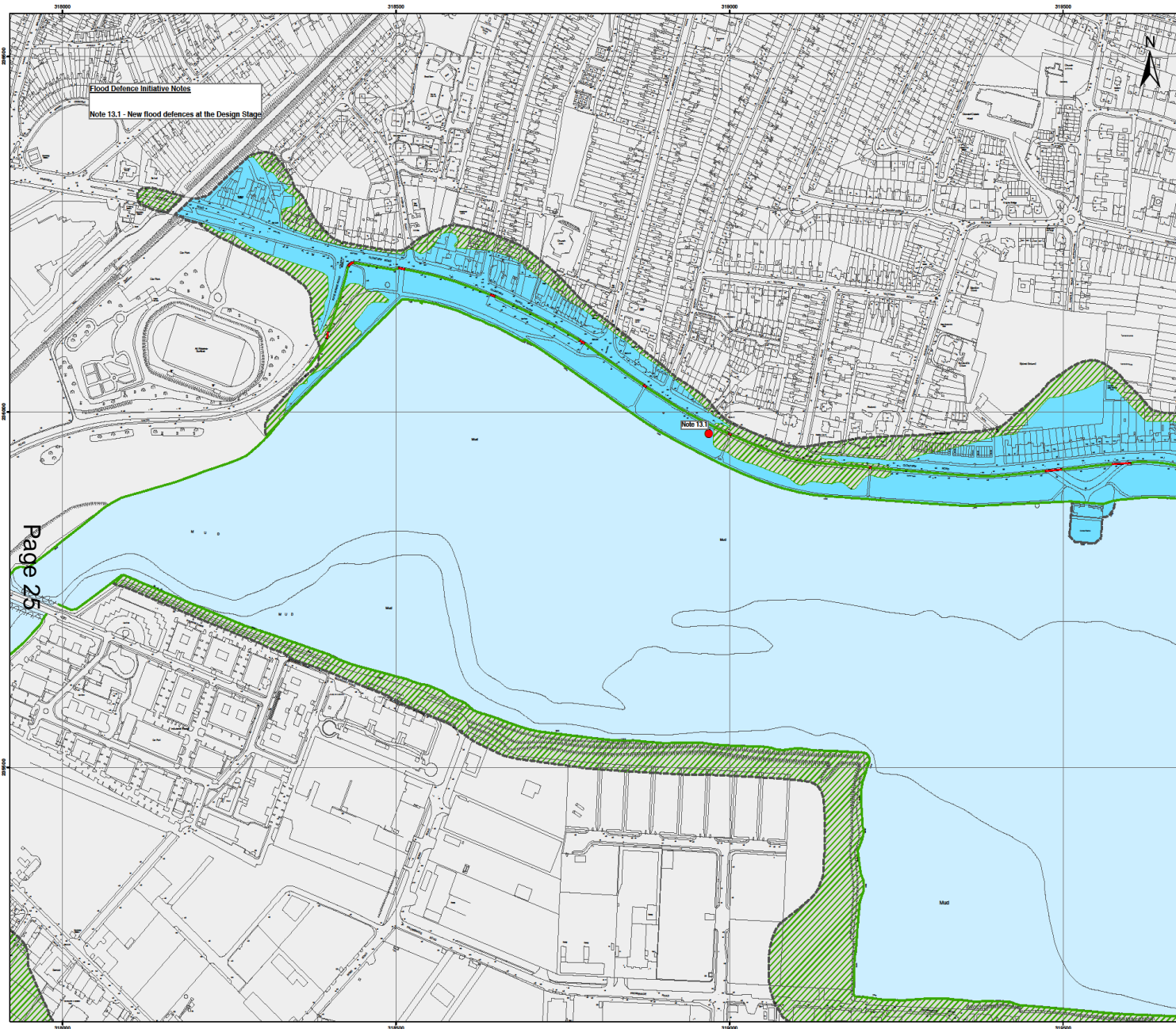
12) These maps are to be used and read in conjunction with the 2020 Flood Hazard report and the Flood Hazard Map Manual produced to accompany them. The manual presents details of the work undertaken to produce the maps together with the constraints and assumptions that apply to the information presented on these maps.

13) While the maps are of good quality control has been undertaken in the interpretation of source data and resulting results for the production of these maps, the information presented is indicative only and is subject to the normal uncertainties associated with ground survey and modelling accuracy. Accordingly, the maps should not be used to determine detailed planning purposes and should be read and interpreted by suitably experienced persons using all appropriate and available data available to the user in the production of detailed planning information in these maps including, without limitation, their accuracy, their completeness or their quality of fit to any particular project.

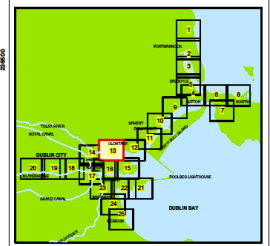
14) Dublin City Council reserves the right to change the content and/or presentation of any of the information contained in these maps to suit its objectives, including these notes and disclosures. Use of the maps is subject to the above information and the user is bound by the agreement to be bound by these notes and any disclosure.

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Scale: 1:2,500 @ A1  
 DUBLIN CITY FLOOD HAZARD MAPS  
 TYPE 1 - 200 YEAR FLOOD EXTENT  
 Map 12 - CLONTARF (EAST)



**Flood Defence Initiative Notes**  
**Note 13.1 - New flood defences at the Design Stage**



- Legend:**
- 1/200 Flood Hazard Extent
  - 1/200 Flood Hazard Area
  - Protected Area (Based on 200 Year Event)
  - Flood Defence
  - Gap/Demountable Flood Defences
  - Coastal Area/Rivers/Canals
  - Ongoing Flood Defence Initiatives and Notes

- Notes :**
- 1) These maps show the indicative flood hazard for a 200 year return period event shown as flood extent for the category shown in the legend but do not constitute the final design or assessment work undertaken as part of the Dublin Coastal Flooding Protection Project, completed by local authorities and the Dublin City Council in April 2020. Further use is made of these maps for the following notes should be read carefully to avoid incorrect interpretation of the information provided. The maps must only be used in conjunction with the Flood Hazard Map Manual.
  - 2) The flood hazard is based on the information available at the time of the design and construction. The flood hazard is based on the information available at the time of the design and construction. The flood hazard is based on the information available at the time of the design and construction.
  - 3) The flood hazard is based on the information available at the time of the design and construction. The flood hazard is based on the information available at the time of the design and construction.
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Page 25

For more detail of the definitions and a description of how the areas have been assessed for the production of these maps, see the definitions presented at the beginning of these maps and also the Flood Hazard Manual produced to accompany these maps.

A 200 year return period event at Dublin Port has been assessed as 3.1m AOD (MSL).

- 5) The work undertaken and based on the information presented on these maps is valid to the year 2020.
- 6) No part of any of the categories presented make any allowance for climate change.
- 7) These Type 1 maps show the indicative extent of flooding for the categories presented in notes 4 and 6 of the legend.
- 8) The maps do not show indicative flood hazard associated with any of the following:
  - Gullies
  - Blocked drains
  - High ground level conditions
  - Other urbanisation events, e.g. single collapse etc.
- 9) It should be noted that a localised risk analysis for other areas, right up to, located outside those defined as being at risk from sea flooding on this map, as a result of flooding through the mechanisms identified in note 1, is not included.
- 10) All level elevations presented on the maps relate to Ordnance Datum Mean Sea Level (MSL) for conversion from IPDCM or IRLT to MSL to Dublin Bay and 2.71m.
- 11) These maps are to be used and read in conjunction with the Flood Hazard Map Manual and the Flood Hazard Map Manual produced to accompany them. The manual presents details of the work undertaken to produce the maps together with the definitions and assumptions used.
- 12) Whilst the maps do not show indicative flood hazard, the information presented is indicative only and is subject to the normal uncertainties associated with ground data and modelling accuracy. Accordingly, the maps should not be used to inform decision making purposes and should be read and used by suitably experienced persons using all appropriate risk assessment and mitigation measures to be taken to ensure safety of persons and property.
- 13) The maps are not intended to be used for any other purpose, including, without limitation, their accuracy, their completeness or their quality fitness for any particular purpose.
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Scale: 1:2,500 @ A1

DUBLIN CITY FLOOD HAZARD MAPS  
 TYPE 1 - 200 YEAR FLOOD EXTENT  
 Map 13 - CLONTARF (WEST)

# Santry River

- Page 26
- Raheny Village (Phase 1 scheme completed)
- Moatfield Road
- James Larkin Road
- Bottom of watermill road.

# Viewing Flood Maps

- All of these maps are visible on [www.ecframs.ie](http://www.ecframs.ie) website.
- Dublin City had 4 PCD's on them in March.
- They will be on further display from April to end of May 2015.
- Submissions either online or by post can be sent in until the end of June 2015.
- Any further info in DCC, FDU at 01-2224804.

Thank you

Any Questions?

# **Report to the Chairperson and Members of the Environment Strategic Policy Committee**

## **Posters Protocol**

A Protocol for the Erection of Temporary Posters/Notices on Dublin City Council Property to Advertise Public Meetings and Events, has been in place since February 2014. This protocol was approved by the Environment and Engineering SPC.

The document specifies conditions which must be complied with as part of the agreement to be allowed to put up posters.

An application form known as a “Notice of Intent” must be completed with all the required details and a copy of the proposed poster must also be submitted.

Some difficulties currently being experienced include;

- Applications not being submitted the required 7 working days ahead of the proposed date for erection of the posters
- Notice of Intent not being properly completed, particularly regarding insurance details
- The name and picture of the individual hosting the meeting taking up more than the allowed maximum 25% of the poster
- Posters not being erected the required minimum 2.3 metres above footpaths, cycle tracks or any other area to which pedestrians have access
- Posters/notices promoting commercial events (including charity events, which involve any element of fundraising or entry fees) are prohibited and some applicants have difficulty accepting this decision.

As a result of these issues the applications are becoming more time consuming to process and staff are sometimes being subjected to unfair demands.

A review of the Protocol is being considered with a view to highlighting the above issues and clarifying the essential requirements.

**Declan Wallace  
Executive Manager  
Environment and Transportation Department**

**15<sup>th</sup> April, 2015**

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Comhairle Cathrach  
Bhaile Átha Cliath  
Dublin City Council

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

15<sup>th</sup> April 2015.

To Each Member of the  
Environment Strategic Policy Committee

## Dublin Waste to Energy (DWtE) Project

### 1 Construction Status

#### 1.1 Dublin Waste to Energy Limited (DWTEL) Project Team

DWTEL has appointed PM Limited (PML) and Hitachi Zosen Inova (HZI) as the main sub contractors for the construction phase of the project.

PML's scope includes the design of the civil works and construction management services for the project. HZI's scope includes the engineering, procurement and installation of all of the process systems for the project.

#### 1.2 Dublin City Council Client Representative (CR) for the Construction and Commissioning Phases of the Dublin Waste to Energy Project

DCC appointed CDM Smith as the lead consultant for the Client Representative Team for the 49 month Construction and Commissioning Phases of the DWtE facility, on 1 December 2014.

The scope of the CR appointment is to ensure that the facility is constructed in accordance with all statutory requirements, licences and consents.

#### 1.3 Progress to Date

Progress in the key areas is summarised below:

## Construction

- PML and HZI will manage the facility construction utilising specialist sub contractors for specific works packages.
- A notice letter advising construction commencement was issued to the surrounding businesses and property owners on 22 September 2014.
- Site security was transferred to Covanta as of 20 September 2014.
- The Site Enabling subcontractor mobilized on 22 September 2014 and began weed control, refurbishment of existing site cabins and laying down traffic areas to make the site safe for construction activities.
- The initial piling subcontractor mobilized to the site and commenced piling work in October 2014; to date approximately 85% of the piles required for the construction of the facility have been installed on site.
- The concrete foundations contractor mobilised to site in January 2015 and has completed the waste bunker slab and the installation of reinforcing steel and formwork associated with the boiler and tipping hall in advance of concrete pours.
- The contractor is actively developing the temporary construction compound to the South of the site, which will begin to be occupied next month.
- Design and Procurement of the major facility components remain the dominant activity of HZI and PML.
- Facility construction is expected to take approximately three years, with commencement of operations targeted for late 2017, currently construction activity on site is progressing in line with the construction schedule.



Site Aerial View Looking Northeast - March 2015 (Copyright PML)

## 2 Environmental Impact

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 fourth Quarterly Report on the Construction Phase Monitoring Scheme relates to environmental monitoring undertaken for the period of October to December 2014 and is presented as Appendix 1 to this report.

## 3 Community Liaison

Dublin City Council is in the process of establishing a Community Gain Liaison Committee in accordance with statutory approvals obtained for the Waste to Energy project. The Committee will be responsible for administering the Community Gain Fund and for decisions on projects to be supported by the fund. In addition, the Committee will act as a liaison between Dublin City Council and the local community in relation to ongoing monitoring of the construction/operation phases of the facility.

The committee will consist of:

- 1 Independent Chair to be appointed by the Chief Executive of Dublin City Council
- 3 Local Community Representatives
- 3 Elected members of Dublin City Council
- 2 Officials of Dublin City Council
- 1 Contractor/Operator representative

Following consultation with the South East Area Committee, in whose area the development is located, nominations were sought from 3 distinct sectors of the community in the catchment area, to ensure all interest groups are represented:

- 1 from eligible community groups**
- 1 from eligible education/sports/arts/environment/culture groups etc**
- 1 from the business sector**

An assessment panel comprising the Chair of the Community Gain Liaison Committee, the Lord Mayor and the Executive Manager Environment & Transportation Department shall be established to consider applications and to make a recommendation to the Chief Executive who will appoint one representative from each sector group.

The three elected members from Dublin City Council nominated and agreed at the South East Area Committee meeting on the 9<sup>th</sup> March, for the period March 2015 to April 2017 are:

Cllr Chris Andrews,

Cllr Claire Byrne &

Cllr Kieran Binchy

And from the period May 2017 to May 2019

Cllr Dermot Lacey,

Cllr Frank Kennedy &

Cllr Paddy McCartan.

At the end of April 2015, the community gain fund will stand at €2.14 million.

#### **4 Compliance**

There are no non-compliance issues to report.

**Declan Wallace**  
**Executive Manager**



# Construction Phase Environmental Monitoring Report - Quarter 4 (October - December) 2014

Covanta Europe Engineering Limited  
Dublin Waste to Energy Facility  
IE0311183-22-RP-0028, Issue: B

Customer Document Number: PMG-ENV-RPT-0000-0028



## Document Sign Off

Environmental Monitoring Report - Quarter 4 (October - December) 2014

Covanta Europe Engineering Limited  
Dublin Waste to Energy Facility  
IE0311183-22-RP-0028, Issue B

Customer Document Number: PMG-ENV-RPT-0000-0028

File No: IE0311183.22.060

CURRENT ISSUE						
Issue No: B	Date: 20/04/15	Reason for issue: Revised for Information				
Sign Off	Originator	Checker	Reviewer	Approver	Customer Approval (if required)	
Print Name	Ray Derrig	Rory O'Dwyer		Eoin Curham		
Signature	<b>Authorised Electronically</b>					
Date	17/04/15	20/04/15		20/04/15		

PREVIOUS ISSUES							
Issue No	Date	Originator	Checker	Reviewer	Approver	Customer	Reason for issue
A	30/01/15	Ray Derrig	Rory O'Dwyer		Keith Elliott		Information



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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 will assist 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 4<sup>th</sup> Quarterly Report on the Construction Phase Monitoring Scheme relates to environmental monitoring undertaken for the period of October to December 2014. The PM Group construction management team were present on site throughout the October to December 2014 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 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 nearest educational establishments are located approximately 850m and 1km south-west of the site and 1.5km west of the site boundary. Representative sensitive receptors have been monitored throughout the construction period of October to December 2014 for noise.

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.

#### 3.1 Noise Guidance & Standards

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

- International Standard ISO 1996-1:2003 - Acoustics – Description and Measurement of Environmental Noise (2003)
- BS 4142:1997 - Rating industrial noise affecting mixed residential and industrial areas.

#### 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.
- LAeq  
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 LAeq value is the A-weighted Leq.
- LA90 and LA10 Values  
The LA90 and LA10 values represent the A-weighted sound pressure levels exceeded for a percentage of the instrument measuring time. The LA90 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. LA10 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.
- LAMax (dBA)  
The maximum instantaneous value recorded over the monitoring period including A-weighting

#### 3.3 Construction Noise Limits at Sensitive Locations

The measured and calculated noise results at the noise sensitive locations during construction are compared against the values identified in 'British Standard 5228-1:2009: Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)' and 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
Monday - Friday 0700hrs to 1900hrs Rating level, LAeq(1hr)dB	75	75	75	75	75	75

### 3.4 Noise Monitoring Results

Monitoring was undertaken at sensitive receptors and site boundary locations during construction works. The noise monitoring survey was carried out during the daytime period of 07:00 to 19:00. The survey was carried out over the months October to December 2014. For the daytime survey 1 No. 30 minute sample was taken at each of the noise monitoring locations. No night-time works are currently being undertaken at the site.

#### 3.4.1 Accredited Noise Calculations

To establish the contribution of the October - December 2014 DWTE site activities, to the noise levels at the sensitive receptors, the '*British Standard 5228-1:2009: Code of practice for noise and vibration control on construction and open sites – Part 1:Noise (Section F.2.2)*' 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.

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

Using the BS 5228 Standard calculation, the highest noise result calculated for the months of October to December 2014 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 (Accredited Calculations)**

	Sensitive Locations					
	Rehab Institute	Seafort Avenue	Beach Avenue	Leukos Road	Pigeon House Road	Irishtown Nature Park
	N1	N2	N3	N4	N5	N6
October 2014 Results level, LAeq(30 min)dB	26.0	25.0	23.0	26.0	27.0	39.0
November 2014 Results level, LAeq(30 min)dB	30.0	29.0	28.0	32.0	32.0	43.0
December 2014 Results level, LAeq(30 min)dB	30.0	30.0	28.0	25.0	25.0	44.0

### 3.5 Conclusion

During the October to December period the greatest noise level contribution at a residential sensitive receptor was 32dB, calculated at the Pigeon House Road (N5) and Leukos Road (N4). The greatest noise level at Irishtown Nature Park was calculated as 44dB (N6).

These noise levels are significantly lower than the construction noise limits as detailed in Table 3.1 of 75 dB which apply Monday – Friday 0700 hrs to 1900 hrs when construction activities were occurring and noise monitoring was undertaken.

On this basis, it is concluded that the site activities undertaken during the October – December 2014 construction period are not causing exceedances of the construction noise limit values.

## 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 undertaken by the PEC 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.

### 4.2 Monitoring Results

#### 4.2.1 Weather Conditions

The dust monitoring gauges were installed in October with 1<sup>st</sup> monitoring results reported in November. Dust monitoring results for November and December are included in Tables 4.1 and 4.2 below. The average weather conditions during the October to December 2014 monitoring period are given below;

- October 2014
  - Average Precipitation: 1.97mm/ Day
  - Average Wind Speed: 20.8 Km/H
  - Average Temperature: 10.7° C
- November 2014
  - Average Precipitation: 4.7mm/ Day
  - Average Wind Speed: 17.0 Km/H
  - Average Temperature: 8.0° C
- December 2014
  - Average Precipitation: 1.67mm/ Day
  - Average Wind Speed: 24.22 Km/H
  - Average Temperature: 4.76° C

#### 4.2.2 Dust Deposition – Bergerhoff Gauges

The dust deposition results from the Bergerhoff gauges are given in Tables 4.1 – 4.2:

**Table 4.1: Dust Deposition Results – November 2014**

Sample Locations	Date Deployed	Date Collected	Dust Collected mg/gauge	Rate of Dust Deposition mg/m <sup>2</sup> /day	TA Luft Limit mg/m <sup>2</sup> /day
D1 (West)	28.10.2014	20.11.14	14.1	108.1	350
D2 (North)	28.10.2014	20.11.14	4.7	36.02	350
D3 (East)	28.10.2014	20.11.14	10.8	82.8	350
D4 (South)	28.10.2014	20.11.14	3.0	23.0	350

**Table 4.2: Dust Deposition Results – December 2014**

Sample Locations	Date Deployed	Date Collected	Dust Collected mg/gauge	Rate of Dust Deposition mg/m <sup>2</sup> /day	TA Luft Limit mg/m <sup>2</sup> /day
D1 (West)	20.11.2014	18.12.14	21.9	137.9	350
D2 (North)	20.11.2014	18.12.14	27.1	170.6	350
D3 (East)	20.11.2014	18.12.14	27.1	170.6	350
D4 (South)	20.11.2014	18.12.14	14.9	93.8	350

#### 4.2.3 Dust Deposition - Sticky Pads

Using a Sticky Pad Reader the Effective Area Coverage (EAC) is calculated to give %EAC/day. Guidance (Beaman & Kingsbury) indicates the %EAC/day values which are typical of living conditions i.e. rural, industrial etc which are detailed in Tables 4.2 and 4.3 below. The sticky pad results are presented in Table 4.4 below.

Using a Sticky Pad Reader the Effective Area Coverage (EAC) is calculated to give %EAC/day. Guidance (Beaman & Kingsbury) details the %EAC/day values which are typical of living conditions i.e. rural, industrial etc.

**Table 4.2: Typical Levels in Identified Environmental Situation**

%EAC/day	Situation
0.01	Rural
0.02	Suburban
0.3-0.4	Urban
0.5	Rural summertime
0.8-1.0	Industrial

This guidance also outlines typical complaint thresholds. These are detailed in Table 4.3 below.



**Table 4.3:** Complaint Thresholds likely with Percentage Dusts Detected

%EAC/day	Response
0.2	Noticeable
0.5	Possible complaints
0.7	Objectionable
2.0	Probable complaints
5.0	Serious complaints

The Sticky Pad analysis results are to be presented in Table 4.4 below;

**Table 4.4:** Sticky Pad Results – December 2014

Sample Locations	Date Exposed	Dated Collected	Period of Exposure	Exposed Value	Non Exposed/ Reference Value	%/EAC/ Day	Comments
D1 (West)	11.12.2014	18.12.2014	7 days	95	92	0.57	Highest build up of dust was observed on the east section of the pad.
D2 (North)	11.12.2014	18.12.2014	7 days	93	99	0.85	Highest build up of dust was observed on the south section of the pad.
D3 (East)	11.12.2014	18.12.2014	7 days	92	98	0.85	Highest build up of dust was observed on the north section of the pad.
D4 (South)	11.12.2014	18.12.2014	7 days	95	98	0.43	Highest build up of dust was observed on the north section of the pad.

### 4.3 Conclusions

#### 4.3.1 Bergerhoff Gauges

The "Technical Instructions on Air Quality Control – TA Luft" 2002 emission value for dustfall of 350 mg/m<sup>2</sup>/day was not exceeded during Quarter 4 2014 (October – December 2014).

The highest rate of dust deposition was recorded during the December 2014 monitoring period, with 170.6 mg/m<sup>2</sup>/day at Location 2(North) and Location 3(East).

#### 4.3.2 Sticky Pads

The highest level of EAC reported for the Quarter 4 2014 monitoring period was 0.85% EAC/day, recorded at Location 2 (North) and Location 3 (East). The sticky pad results recorded in December 2014 ranged from 0.43 – 0.85% EAC/day. The results are above the level of objectable complaints (0.7) but below the level considered probably complaints.

The control measures set out in the Environmental Impact Statement and the 'Dublin Waste to Energy - Construction Phase Monitoring Scheme', September 2009 have been reviewed and will continue to be implemented.

Weekly inspections in October, November and December 2014 did not identify any significant dust emissions on site. It is not considered that construction activities have had an adverse impact in terms of dust deposition at the sensitive receptors.

## **5 Surface Water**

A scheme for monitoring suspended solids in surface waters adjacent to the site is implemented during the construction phase of the project, as per the EIS requirements and in accordance with An Bord Pleanála Order-29S.EF2022.

### **5.1 Monitoring Method**

Monitoring was carried out by an independent laboratory technician 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.

A surface water quality trigger level for suspended solids was determined by calculating the 90<sup>th</sup>ile levels from the baseline (preconstruction) monitoring results. The trigger level was determined to be 198mg/litre.

The suspended solids results for October to December 2014 are presented in Table 5.1 below.

**Table 5.1: Surface Water Monitoring – Suspended Solids Results**

Parameter	Units	Date	Time	High Tide	Low Tide	SW(01)	SW(02)s	SW(02)d	SW(03)s	SW(03)d	SW(04)
Location	-	-				Cooling Water Channel	Fairway West (surface)	Fairway West (deep)	Fairway East (surface)	Fairway East-Pier (deep)	Irishtown Nature Park
Grid Reference Easting	-	-				6°11'54.95W	6°12'170W	6°12'170W	6°11'640W	6°11'640W	6°12'02.01W
Grid Reference Northing						53°20'28.32N	53°20'596N	53°20'596N	53°20'606N	53°20'606N	53°20'08.35N
Suspended Solids (October 2014)	mg/l	30/10/14	08:45-11:25	03:38 & 15:58	09:18 & 21:53	31	22	49	32	75	78
Suspended Solids (November 2014)	mg/l	20/11/14	09:45-11:00	10:03 & 22:15	03:22 & 15:39	98	20	90	20	132	300
Suspended Solids (December 2014)	mg/l	18/12/14	10:00-11:15	08:43 & 21:00	01:56 & 14:20	100	76	84	104	105	174

### 5.3 Conclusions

In the Quarter 4 2014 period the suspended solids ranged from 38 – 300mg/l. The highest level of suspended solids was recorded at the Irishtown Nature Park, SW(04) in November 2014 with 300mg/l. Baseline monitoring from 2010 – February 2014 ranged from 1 - 508mg/l. The result at SW(04) is probably due to tidal mixing of the waters at this location creating higher suspended solids at this location. No construction works are currently being undertaken adjacent to surface water bodies.

Visual monitoring undertaken from site and close to shore for the October – December 2014 period did not identify any emissions to surface water resulting from the DWTE site.