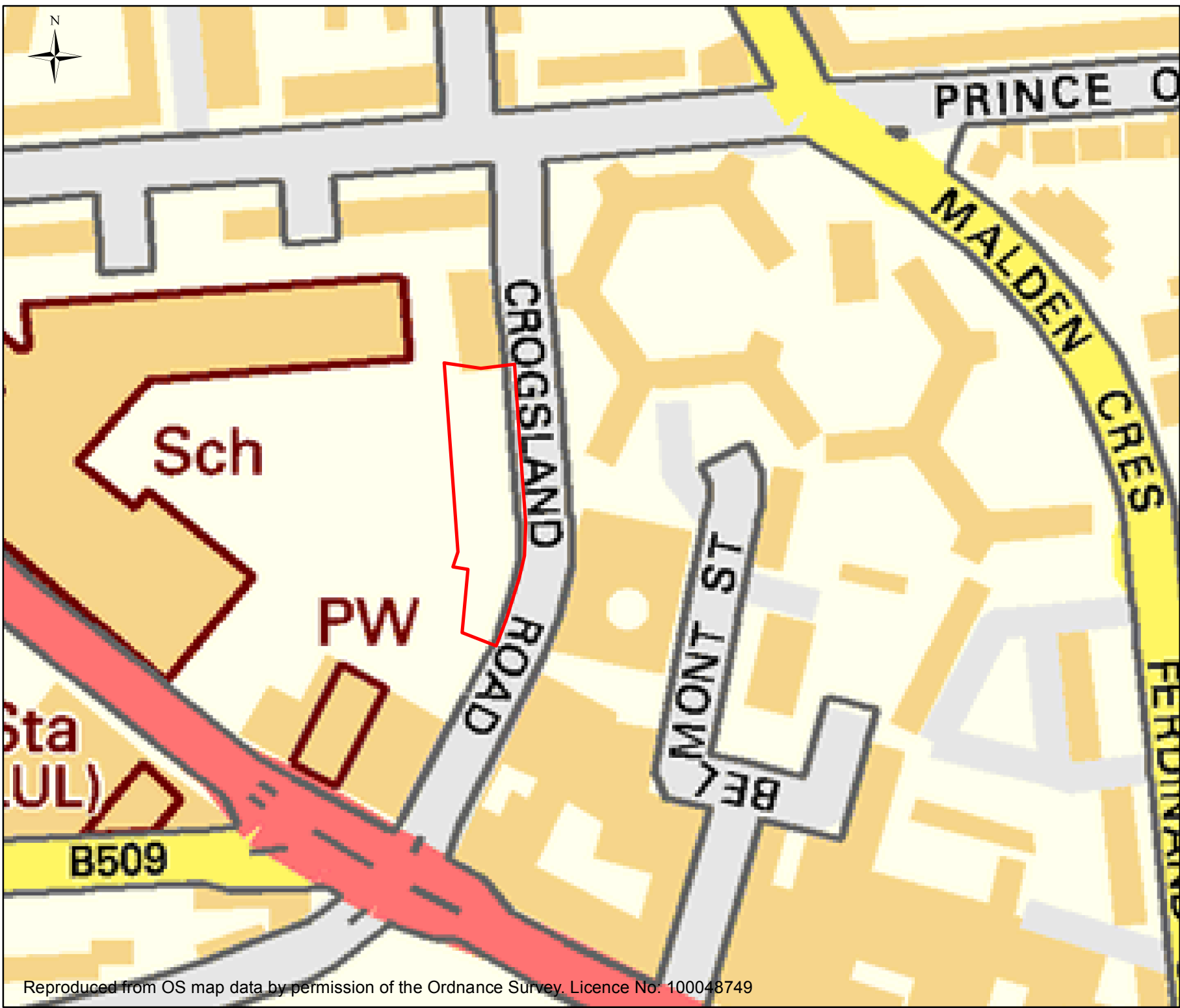


FIGURES

- FIGURE 1 SITE LOCATION PLAN
- FIGURE 2 LOCAL AUTHORITY MONITORING LOCATION PLAN
- FIGURE 3 WINDROSE FOR SCUNTHORPE TOWN (located within the main report)
- FIGURE 4 DUST BUFFER ZONES PLAN
- FIGURE 5 MODEL RECEPTOR PLAN

FIGURE 1 SITE LOCATION PLAN



Legend



Client	
EC Harris LLP	
Project Title	
Charlie Ratchford Extra-Care Scheme	
Project Number	
61033566	
Figure Title	
Site Location Plan	
	
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Date	05/11/2014
Prepared By	KW
Figure No.	1
Revision	-

FIGURE 2 DIFFUSION TUBE LOCATION PLAN



Legend



DT_Monitoring



Auto_Monitoring



Site

Client

EC Harris LLP

Project Title	
---------------	--

Charlie Ratchford Extra-Care Scheme

Project Number

61033566

Figure Title

Air Quality Monitoring Locations



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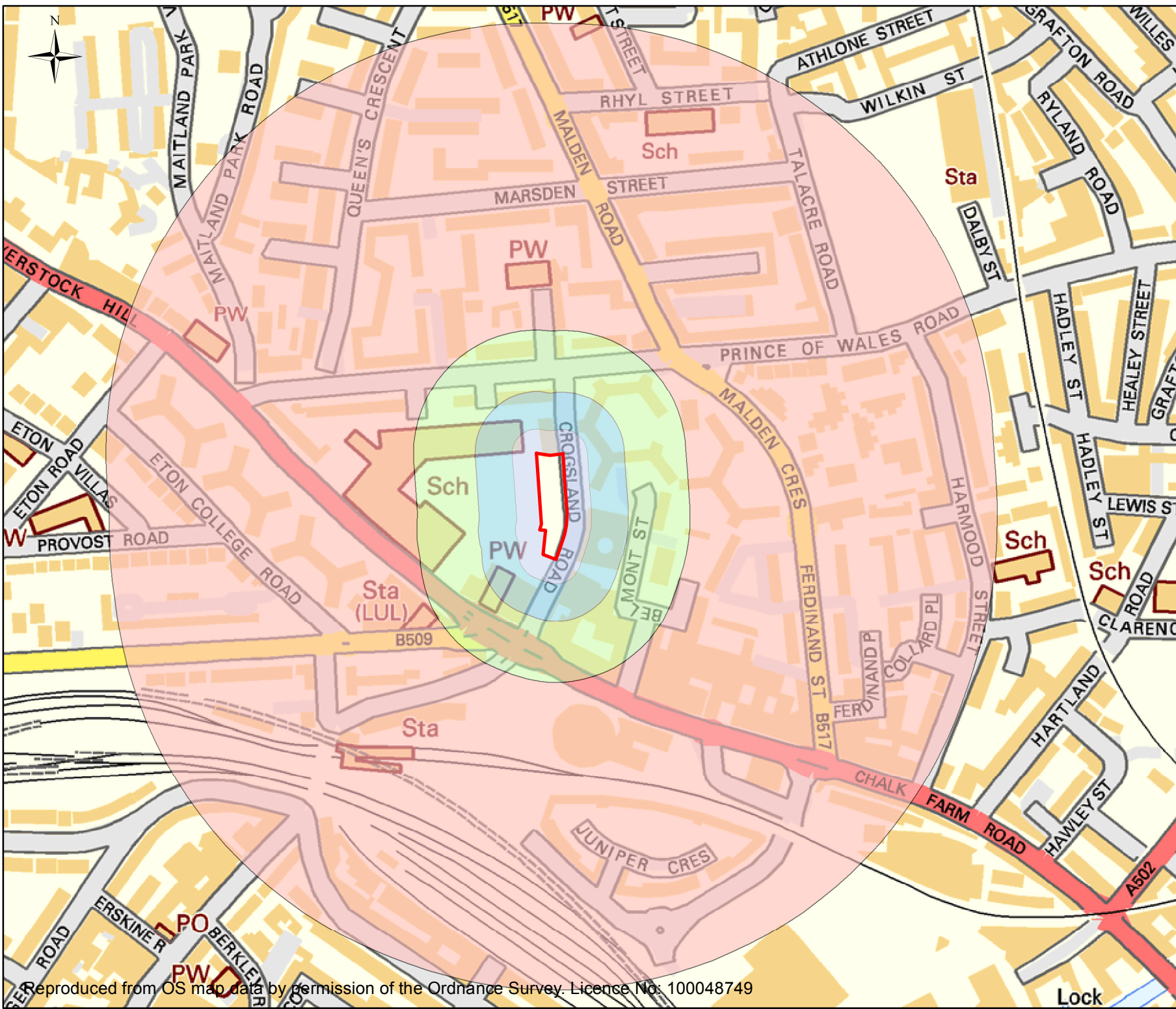
Date 05/11/2014

Prepared By	KW
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Figure No. 2

Revision	1
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FIGURE 4 DUST BUFFER ZONES PLAN



Legend

Site

Construction Dust Buffer (m)

20

50

100

350

Client

EC Harris LLP

Project Title

**Charlie Ratchford
Extra-Care Scheme**

Project Number

61033566

Figure Title

Dust Buffer Zone Plan

RAMBOLL

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Date

05/11/2014

Prepared By

KW

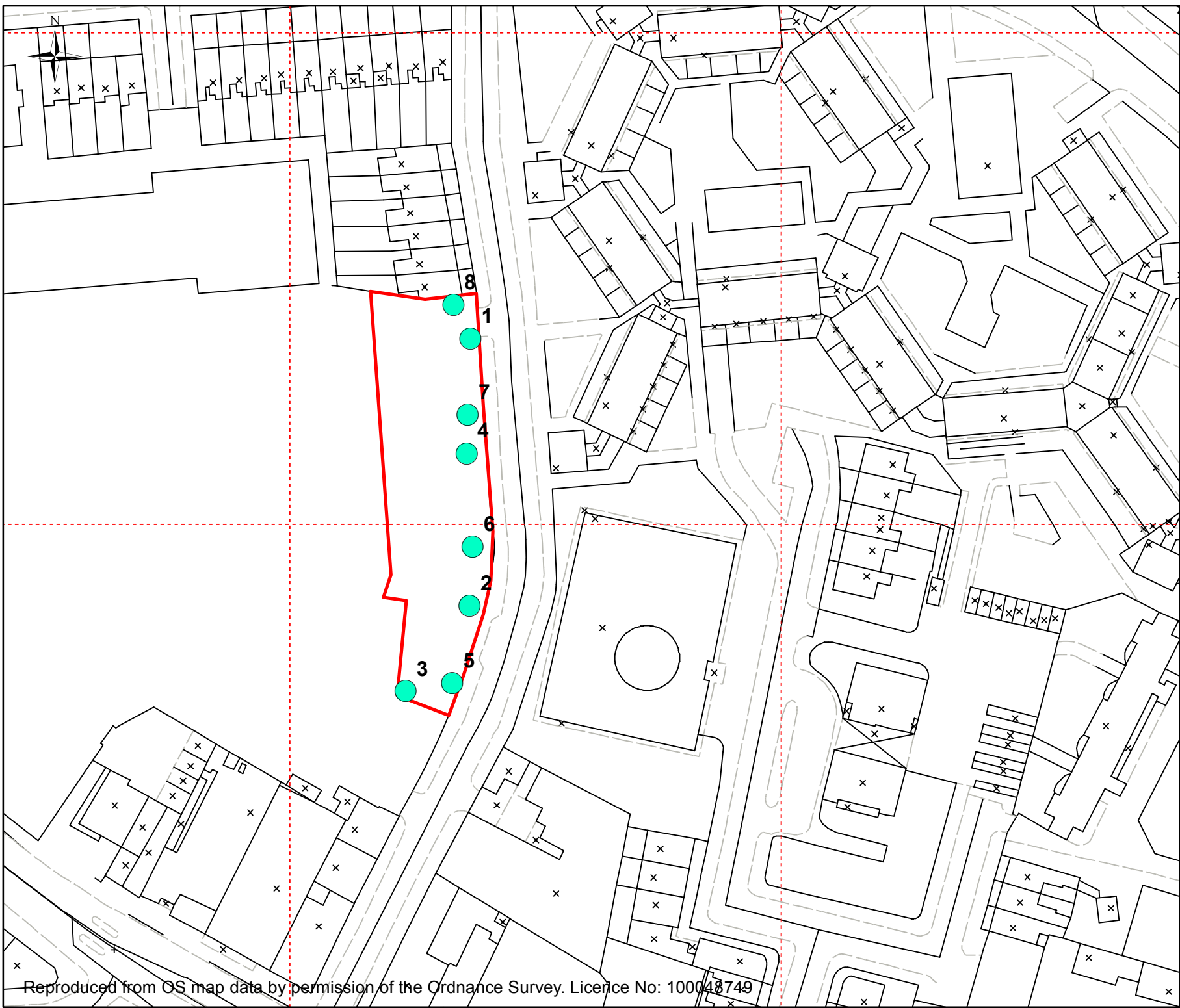
Figure No.

4



Revision


-

FIGURE 5 MODEL RECEPTOR PLAN



Legend

-  Air Quality Modelling Receptors
-  Site

Client		EC Harris LLP	
Project Title		Charlie Ratchford Extra-Care Scheme	
Project Number		61033566	
Figure Title		MODEL RECEPTOR PLAN	
			
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Figure No.	5	Revision	-

APPENDICES

- APPENDIX A AIR QUALITY IMPACT DESCRIPTORS FROM EPUK
- APPENDIX B CORRESPONDENCE WITH ENVIRONMENTAL HEALTH DEPARTMENT
- APPENDIX C MODEL VERIFICATION DATA
- APPENDIX D MODEL RESULTS
- APPENDIX E DUST ASSESSMENT SUMMARY TABLES

APPENDIX A AIR QUALITY IMPACT DESCRIPTORS FROM EPUK**Table 4. Definition of impact magnitude for changes in pollutant concentration as a percentage of the assessment level**

Magnitude of Change	Annual Mean
Large	Increase/decrease >10%
Medium	Increase/decrease 5 - 10%
Small	Increase/decrease 1 - 5%
Imperceptible	Increase/decrease <1%

Table 5. Air quality impact descriptors for changes to annual mean nitrogen dioxide concentrations at a receptor

Absolute Concentration in Relation to Objective/Limit Value	Change in Concentration ^{a,b}		
	Small	Medium	Large
Increase with Scheme			
Above Objective/Limit Value <i>With Scheme</i> (>40 µg/m³)	Slight Adverse	Moderate Adverse	Substantial Adverse
Just Below Objective/Limit Value <i>With Scheme</i> (36-40 µg/m³)	Slight Adverse	Moderate Adverse	Moderate Adverse
Below Objective/Limit Value <i>With Scheme</i> (30-36 µg/m³)	Negligible	Slight Adverse	Slight Adverse
Well Below Objective/Limit Value <i>With Scheme</i> (<30 µg/m³)	Negligible	Negligible	Slight Adverse
Decrease with Scheme			
Above Objective/Limit Value <i>Without Scheme</i> (>40 µg/m³)	Slight Beneficial	Moderate Beneficial	Substantial Beneficial
Just Below Objective/Limit Value <i>Without Scheme</i> (36-40 µg/m³)	Slight Beneficial	Moderate Beneficial	Moderate Beneficial
Below Objective/Limit Value <i>Without Scheme</i> (30-36 µg/m³)	Negligible	Slight Beneficial	Slight Beneficial
Well Below Objective/Limit Value <i>Without Scheme</i> (<30 µg/m³)	Negligible	Negligible	Slight Beneficial

^a See Table 15 in Appendix 3 for description of changes for annual mean nitrogen dioxide.

^b An imperceptible change (see Table 15) would be described as 'negligible'.

APPENDIX B CORRESPONDENCE WITH ENVIRONMENTAL HEALTH DEPARTMENT

Victoria Gouge

From: Lyle, Poppy <Poppy.Lyle@Camden.gov.uk>
Sent: 30 July 2014 11:17
To: Kathryn Woolley
Cc: Hannah Dalton; Farthing, Amy
Subject: RE: Charlie Ratchford Extra-Care Scheme
Attachments: Roads.pdf; Appendix A Site Plan.pdf; Progress Report 2013_Final.doc; Air Quality Planning Checklist_Revised May 2014.docx

Kathryn,

Many thanks for your email – I am happy with all of your proposals.

The only things to add are:

- We need a basic AQ neutral assessment in line with the new GLA requirements
- Obviously, if they decide to include a CHP this will need to be included within the assessment
- If the modelling indicates high levels of exposure at any of the new receptors during the in use phase, please outline what measures will be taken to reduce this (to include greening/orientation etc.)
- Please complete and return the attached checklist with your AQA

I have attached the draft progress report for 2013, for you to access the latest diffusion tube data. Please note this has not been signed off by defra so please treat it in confidence.

Kind regards,

Poppy

Poppy Lyle
Senior Sustainability Officer (Air Quality)

Telephone: 0207 974 6801

From: Kathryn Woolley [mailto:Kathryn.Woolley@ramboll.co.uk]
Sent: 29 July 2014 08:59
To: Lyle, Poppy
Cc: Hannah Dalton
Subject: Charlie Ratchford Extra-Care Scheme

Hello Poppy,

Ramboll has been commission to undertake an air quality assessment to accompany a planning application for a proposed development in the Crogsland Road area.

Finalised plans are not yet available however draft plans show the site, which sits between the Haverstock School and Crogsland Road. The boundary is shown on the attached plan.

The proposed development (Charlie Ratchford Extra-Care Scheme) will likely comprise the following:

1. 32 Extra Care Housing Flats as part of the Council's Housing for Older People Strategy to support independent living;
2. Internal communal space likely to be arranged over the ground floor;
3. Associated staff accommodation; and
4. External spaces and amenities.

I would like to ask your views on the scope of the air quality assessment, the study area for our air quality modelling work and whether there are any sensitive receptors which are of particular concern, so that we can request the necessary data (in particular the traffic data) in order to progress the work.

We proposed to consider the following issues in the local air quality assessment:

1. Dust and PM₁₀ generation during the construction phase;
2. Emissions of NO₂ and PM₁₀ from construction vehicles accessing and leaving the site;
3. Emissions of NO₂ and PM₁₀ from traffic associated with the proposed development once operational; and
4. The potential exposure of future occupants of the proposed development to poor air quality.

The approach Ramboll will take to the local air quality assessment is as follows:

1. Consultation with the Environmental Department at London Borough of Camden regarding details of the methodology of assessment, appropriate background and baseline data available for the assessment and to obtain the most recently produced and relevant air quality review and assessment reports;
2. A review of existing air quality monitoring data and background data from Defra's UK-AIR tool for establishing baseline air quality on the site and local road network, and for use in verifying modelling calculations;
3. Summary of relevant national and local air quality legislation and policy;
4. Collection and review of appropriate baseline and background air quality data and comparison to baseline conditions to air quality standards;
5. Identification of any existing sources of emissions in the vicinity of the site;
6. An examination of the local air quality management capacity in the area with respect to key air pollutants;
7. Identification and mapping of sensitive receptors;
8. Consideration of changes in local air quality that may occur in the baseline environment in the future in the absence of the proposed development;
9. A qualitative assessment of construction dust impacts associated with the development, using appropriate guidance documents;

10. Computational dispersion modelling of the site and the surrounding road network using the Breeze Roads CAL3QHC (R) air dispersion model. The modelling will consider a baseline year and two future scenario years;
 - i. Verification year and Baseline year 'do nothing' to include committed developments 2013 (one run);
 - ii. One future year '(peak construction year) to include cumulative impacts (two runs – one without development, one with), if flows are predicted to exceed the UPUK threshold of >200 HDV movements per day; and
 - iii. One future year (development complete year to include cumulative impacts (two runs, one without development, one with);
11. The pollutants which will be assessed through the dispersion modelling will include NO₂ and particulate matter <10µm (PM₁₀). Both the long-term and short-term concentrations of these pollutants will be assessed;
12. Comparison of modelled pollutant concentrations at both existing and proposed sensitive receptors to relevant air quality standards; and
13. A summary of the mitigation measures that have been incorporated into the design relevant to local air quality.

Dispersion modelling of the cumulative effects from traffic will be included within the scenarios discussed above; assuming adequate traffic data are available.

We understand that the development will not include any significant point sources of pollution to air, such as CHP.

We intend to undertake detailed air quality modelling and are currently liaising with the Transport Planners to define our model area.

A plan of the traffic links requested from the Transport Planners is attached showing the extent of the proposed air quality modelling study area.

I would be grateful if you could confirm that you agree with the roads that we proposed to model, or let us know of any changes you require.

I would also be grateful if you could confirm any other details that you would like to influence regarding the assessment such as:

1. The meteorological data to be used in the assessment (we propose to use London City for 2013);
2. Any specific receptors you would like us to consider (we would usually consider a range of representative residential or similar receptors along each link);
3. Any specific methodology you would like us to follow (we would normally follow the guidance in LAQM.TG(09) and similar guidance);
4. Any specific monitoring sites you would like us to use for model verification (we propose to use data from Swiss Cottage for 2013).

If there are any local air quality review and assessment documents, monitoring data or policy that you would like us to consider in the assessment that is not available on the Council website I would be grateful if you could let me know.

We are anticipating also completing an air quality assessment for the redevelopment of the existing Charlie Ratchford site on Crogsland Road, London. However details on this site are currently limited, I will be in touch again shortly with respect to this site.

I appreciate that this is a significant development and I have sent you a lot of information and asked quite a lot of questions, so please let me know if you would like to discuss this further or would like any further information.

Thank you very much for your help.

Many thanks
Kathryn Woolley

BSc (Hons) AMIEnvSc
Graduate air quality consultant
T +44 (0)23 8081 7637
kathryn.woolley@ramboll.co.uk

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CHARLIE RATCHFORD

APPENDIX D MODEL RESULTS

										PM10	2016	21.56	
										BG Map	NO2	2016	29.83
											NOX	2016	47.82
RECEPTOR CONCENTRATIONS										Road NOx Verification factor			4.8
										Road NO2 Verification factor			1.0
2016 opening													
Receptor number	Modelled Road NOx Conc	Adjusted Road NOx Conc	Adjusted Modelled Road NO ₂	Adjusted Road NO ₂ Conc	Final Total NO ₂	Modelled Road PM ₁₀ (µg/m ³)	Adjusted Road PM ₁₀ Conc	Final Total PM ₁₀	No of exceedences	Description	Height of receptor (m)		
1	0.796694	3.78	1.78	1.8	31.6	0.05	0.25	21.81	6	CR1	1.8		
2	0.760611	3.61	1.7	1.7	31.5	0.05	0.24	21.80	6	CR2	1.8		
3	0.719833	3.42	1.61	1.6	31.4	0.05	0.23	21.79	6	CR3	1.8		
4	0.742995	3.53	1.66	1.7	31.5	0.05	0.24	21.80	6	CR4	1.8		
5	0.730812	3.47	1.63	1.6	31.5	0.05	0.23	21.79	6	F1 DECK A	4.8		
6	0.703766	3.34	1.57	1.6	31.4	0.05	0.22	21.78	6	F1 DECK B	4.8		
7	0.706664	3.36	1.58	1.6	31.4	0.05	0.22	21.78	6	F1 DECK C	4.8		
8	0.760824	3.61	1.70	1.7	31.5	0.05	0.24	21.80	6	F1 DECK D	4.8		

APPENDIX E DUST ASSESSMENT SUMMARY TABLES**Table E1 Determination of Magnitude**

Activity	Category	Dust Emission Magnitude
Earthworks	total site area 2,500m ² - 10,000m ²	Medium
Construction	total building volume 25,000m ³ - 100,000m ³	Medium
Trackout	unpaved road length <50m	Small

Table E2 Determination of Sensitivity

Source	Dust Soiling Effects	Ecological Effects	PM ₁₀ Effects
Earthworks	Low	N/A	Low
Construction	Low	N/A	Low
Trackout	Low	N/A	Low

Table E3 Determination of Risk

Source	Dust Soiling Effects	Ecological Effects	PM ₁₀ Effects
Earthworks	Low Risk	None	Low Risk
Construction	Low Risk	None	Low Risk
Trackout	Low Risk	None	Low Risk