

CPI Wellington Way 2 Limited

Wellington Way and 95-101A London Road, Waterloooville

Air Quality Statement

Notice

This document and its contents have been prepared and intended solely for CPI Wellington Way 2 Limited's information and use in relation to proposed development at Wellington Way and 95-101A London Road, WaterlooVille and any other information.

MLM Consulting Engineers Limited (MLM) assumes no responsibility to any other party in respect of or arising out of or in connection with this document and/or its contents.

Document History

Client: CPI Wellington Way 2 Limited
Project: Wellington Way and 95-101A London Road, WaterlooVille
Document Title: Air Quality Statement
Document Reference: 775958-MLM-ZZ-XX-RP-J-0001
MLM Reference: DG/775958/KN

Revision	Status	Description	Author	Checked/Approved	Date
C01	S2		Karunakar Nagula	Darren Gill	21/12/2017

Contents

1	Limitations and Exceptions	1
2	Introduction	2
2.1	General	2
2.2	Report Structure	2
2.3	Objectives	2
3	The Site	3
3.1	Location and Description	3
3.2	Proposed Development	3
3.3	Local Air Quality Management	3
4	Legislation and Policy	4
4.1	International Legislation and Policy	4
4.2	National Legislation and Policy	4
5	Assessment Methodology	7
5.1	Consultation	7
5.2	Approach	7
6	Dust Impacts during the Construction Phase	8
6.1	Site and Surrounding Area	8
6.2	Risk Assessment of Dust Impacts	8
6.3	Sensitivity of the Area	9
6.4	Defining the Risk of Impacts	10
6.5	Construction Phase Mitigation Measures	10
7	Qualitative assessment of air quality during the operational phase at the proposed development site	13
7.1	Local Baseline Air Quality	13
7.2	Background Air Quality	13
7.3	Land use in the vicinity of the Proposed Development Site	14
7.4	Additional Traffic Movements and Potential Air Quality Impacts	14
8	Summary and Conclusions	17
8.1	Likely Air Quality at the Proposed Development Site	17
8.2	Operational Phase Impacts of the Proposed Development on Local Air Quality	17
8.3	Mitigation included in the Design of the Development	17
8.4	Conclusions	17
9	References	18

Figures

Figure 1: Site Location Plan

Figure 2: Indicative site layout plan for the Proposed Development

Figure 3: Location of Site in Relation Monitoring Locations

Figure 4: Construction Dust Buffers

1 Limitations and Exceptions

This report and its findings should be considered in relation to the terms and conditions proposed and scope of works agreed between MLM and the client.

The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon until considered in the context of the whole report.

This report provides available factual data for the site and the surrounding area at the time of the study and as obtained by the means described in the text. The data is related to the site on the basis of the site location information provided by the Client.

It should be appreciated that the information that has been made available to date, is not necessarily exhaustive and that further information relevant to the proposed site usage may be provided which could change the overall findings.

The copyright in this report and other plans and documents prepared by MLM Consulting Engineers Ltd (MLM) is owned by them and no such report, plan or document may be reproduced, published or adapted without their written consent. Complete copies of this report may, however, be made and distributed by the Client as an expedient in dealing with matters related to its commission.

The content of websites visited during the internet searches has not been validated and is accepted de facto and without prejudice. Anyone relying upon the information obtained from such sources does so at their own risk. Notwithstanding, MLM takes all reasonable care in assessing information only from reputable and professional sources. No responsibility can be accepted by MLM for inaccuracies within the data supplied.

This report is prepared and written in the context of the proposals stated in the introduction to this report and should not be used in a differing context. Furthermore, new information, improved practices and legislation may necessitate an alteration to the report in whole or in part after its submission. Therefore, with any change in circumstances or after the expiry of one year from the date of the report, the report should be referred to us for re-assessment and, if necessary, re-appraisal.

2 Introduction

2.1 General

MLM Consulting Engineers Ltd (MLM) has been commissioned by BrightSpace Architects acting on behalf of CPI Wellington Way 2 Limited (the Client) to prepare an Air Quality Statement for the proposed development at Wellington Way and 95-101A London Road, Waterlooville, PO7 7ED. The Local Authority responsible for the planning application is Havant Borough Council (HBC).

2.2 Report Structure

The structure of the report is summarised below:

- Examination of geographical setting;
- A brief review of HBC Local Air Quality Management (LAQM) activities;
- A brief review of Defra modelled background data;
- A brief review of local air quality monitoring data;
- A review of the availability of local traffic data;
- Emissions assessment;
- Dust Risk Assessment; and
- Recommendations and Conclusions

2.3 Objectives

The Client is proposing the redevelopment of the site at Wellington Way and 95-101A London Road, Waterlooville, PO7 7ED. The site is located within Waterlooville town centre at the intersection of London Road and Hambledon Road. The site is currently a shopping centre and the surroundings are predominantly mixed use and 2-3 storeys in height.

This report contains a screening review of the ambient air quality, likely impacts of the proposed development and the exposure levels of the future occupants of the development.

3 The Site

3.1 Location and Description

The site has an approximate area of 2000 m². It is bordered by Wellington Way to the east, London Road to the south and Hambledon Road to the west. The site's approximately National Grid coordinates are 468177, 109387. The surrounding area is mainly mixed-use.

Figure 1 shows the location of the site relative to the surrounding area.

3.2 Proposed Development

The proposals seek to provide 264 residential studio units set over 9 floors, with some ground floor space used as a D2 gym and A3 café use. The residential units are proposed as 'private rented sector' units with onsite facilities such as cinema/TV room, access to the gym and some communal kitchen/dining space.

Figure 2 shows the first floor site layout for the proposed development.

3.3 Local Air Quality Management

HBC has not declared an Air Quality Management Area (AQMA) for the exceedance of any air quality objectives. Therefore, the site is not located within, or adjacent to, an AQMA.

The latest Air Quality data published by HBC show that there are two diffusion tube monitoring locations in the vicinity of the proposed development site.

Figure 3 shows the proposed development site and the local authority monitoring sites.

4 Legislation and Policy

4.1 International Legislation and Policy

The European Directive (2008/50/EC) sets legally binding limits for concentrations of outdoor air of major air pollutants that impact public health such as particulate matter (PM₁₀ and PM_{2.5}) and nitrogen dioxide (NO₂). The European Directive is implemented in the UK under the Air Quality Standards Regulations 2010. The obligations under the Air Quality Standards Regulations 2010 are separate from those of the 2000 and 2002 UK Regulations because local authorities in the UK will only have powers to manage some of the pollutants in the Air Quality Standards Regulations 2010 as most of the source pollutants will be managed by the Environment Agency under the Environmental Permitting Regime. Therefore, the obligation to meet the Air Quality Standards Regulations 2010 rests with the Secretary of State for Environment.

4.2 National Legislation and Policy

4.2.1 Local Air Quality Management

Part IV of the Environment Act 1995, requires the UK Government to publish an Air Quality Strategy and local authorities to review, assess and manage air quality within their areas. This is known as Local Air Quality Management (LAQM). The 2007 Air Quality Strategy establishes the policy for ambient air quality in the UK. It includes the National Air Quality Objectives (NAQOs) for the protection of human health and vegetation for 11 pollutants. Those NAQOs included as part of LAQM are prescribed in the Air Quality (England) Regulations 2000 and the Air Quality (Amendment) (England) Regulations 2002.

Table 4.1 presents the NAQOs for the key pollutants of concern in relation to vehicle emissions: NO₂, PM₁₀ and PM_{2.5}.

Table 4.1 Relevant Objectives set out in the Air Quality Strategy

Pollutant	Concentrations	Measured As
Nitrogen Dioxide (NO ₂)	200 µg/m ³ not to be exceeded more than 35 times per year	1 hour mean
	40 µg/m ³	Annual mean
Particulate Matter (PM ₁₀)	50 µg/m ³ not to be exceeded more than 35 times per year	24 hour mean
	40 µg/m ³	Annual mean
Particulate Matter (PM _{2.5})	25 µg/m ³	Annual Mean

The Air Quality Strategy also introduced a new policy framework for tackling fine particles (PM_{2.5}) including an exposure reduction target. However, although EU Directive 2008/50/EC includes a new regulatory framework for PM_{2.5} this pollutant is not included within LAQM, therefore, there is no requirement to assess this pollutant unless as part of an Environmental Impact Assessment (EIA).

The NAQOs apply to external air where there is relevant exposure to the public over the associated averaging periods within each objective. Guidance is provided within the recently published Local Air Quality Management Technical Guidance 2016 (LAQM.TG (16)) issued by Defra to support local authorities in carrying out their duties under the Environment Act 1995 and connected regulations. Information on where the NAQOs apply is provided in Table 4.2. The objectives do not apply in workplace locations, to internal air or where people are unlikely to be regularly exposed (ie centre of roadways).

Table 4.2 Locations Where Air Quality objectives Apply

Averaging period	Objectives should apply at:	Objectives should generally not apply at:
Annual mean	All locations where members of the public might be regularly exposed. Building façades of residential properties, schools, hospitals, care homes etc.	Building façades of offices or other places of work where members of the public do not have regular access. Hotels, unless people live there as their permanent residence. Gardens of residential properties. Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
24-hour mean	All locations where the annual mean objective would apply, together with hotels. Gardens of residential properties	Kerbside sites (as opposed to locations at the building façade), or any other location where public exposure is expected to be short term.
1-hour mean	All locations where the annual mean and: 24 and 8-hour mean objectives apply. Kerbside sites (for example, pavements of busy shopping streets). Those parts of car parks, bus stations and railway stations etc. which are not fully enclosed, where members of the public might reasonably be expected to spend one hour or more. Any outdoor locations where members of the public might reasonably expected to spend one hour or longer.	Kerbside sites where the public would not be expected to have regular access.
15-min mean	All locations where members of the public might reasonably be exposed for a period of 15 minutes.	

4.2.2 National Planning Policy Framework

At the heart of the NPPF is a presumption in favour of sustainable development. It requires Local Plans to be consistent with the principles and policies set out in the Framework with the objective of contributing to the achievement of sustainable development.

Current planning law requires that application for planning permissions must be determined in accordance with the relevant development plan (i.e. Local Plan or Neighbourhood Plan). The NPPF should be taken into account in the preparation of development plans and therefore the policies set out within the Framework are a material consideration in planning decisions.

The NPPF identifies 12 core planning principles that should underpin both plan-making and decision-taking, including a requirement for planning to 'contribute to conserving and enhancing the natural environment and reducing pollution'.

Under Policy 11: Conserving and Enhancing the Natural Environment the Framework requires the planning system to 'prevent both new and existing developments from contributing to or being put at unacceptable risk or being adversely affected by unacceptable levels of air pollution'.

In dealing specifically with air quality the Framework states that 'planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan'.

4.2.3 HBC Local Planning Policy: HBC Local Plan 2036

The Vision for Havant Borough Council as specified in the Core Strategy adopted in 2011 is "working towards a cleaner, safer more prosperous borough."

Policy DM10 on pollution states that:

'Development that may cause pollution of water, air or soil or pollution through noise, smell, smoke, fumes, gases, steam, dust, vibration, light, heat, electromagnetic radiation and other pollutants will only be permitted where National air quality standards or objectives would not be breached.'

5 Assessment Methodology

5.1 Consultation

Prior to undertaking the air quality impact assessment, MLM has consulted the Environmental Control Officer (ECO) at HBC. The ECO has confirmed that the proposed qualitative assessment of air quality impacts is acceptable. He has also made other recommendations for consideration. These have been taken into account in the design of the Proposed Development.

5.2 Approach

- The air quality screening assessment has been completed in accordance with:
- IAQM / EPUK (2017) Guidance on land-use planning and development control: Planning for air quality January 2017 (v1.2).
- IAQM (2016, v1.1) Guidance on the assessment of dust from demolition and construction.

The pollutants of most concern in relation to traffic exhaust emissions are oxides of nitrogen and particulate matter.

6 Dust Impacts during the Construction Phase

6.1 Site and Surrounding Area

As stated above, the Proposed Development will involve the removal of the existing mixed use buildings and provide a 64 apartment building, commercial units and ancillary accommodation over 9 floors.

Residential dwellings are located to the south and east of the site along Hambledon Road, and there are more residential dwellings further afield in all directions.

It is therefore confirmed that there are human receptors located within 350m of the boundary of the site and within 50m of the route(s) likely to be used by construction vehicles. An assessment of the risks from demolition and construction activities is therefore required.

There are, however, no notable ecological receptors within 50m of the site boundary or within 50m of potential construction traffic routes according to the government's MAGIC website.

Impacts associated with the demolition and construction activities have been considered within this assessment, which is based on the recommended approach by the Institute of Air Quality Management (2016).

The precise behaviour of the dust, its residence time in the atmosphere, and the distance it may travel before being deposited would depend upon a number of factors. These include wind direction and strength, local topography and the presence of intervening structures (buildings, etc) that may intercept dust before it reaches sensitive locations. Furthermore, dust would be naturally suppressed by rainfall.

6.2 Risk Assessment of Dust Impacts

6.2.1 Potential Dust Emission Magnitude

The dust emission magnitude is based on the scale of anticipated works at the site and has been classified as small, medium or large for each of the four activities; demolition, earthworks, construction and trackout.

Demolition

It is understood that demolition of the existing buildings will be required at the beginning of the construction phase. Based on the information the total volume of the buildings to be demolished is less than 20,000m³. On-site crushing is proposed and height of demolition is less than 10m. Using a conservative approach, the site is considered to have a dust emission class of 'Medium' with regards to demolition activities.

Earthworks

Earthworks are those activities involved in preparing the site for construction such as excavation of material, haulage, tipping, stockpiling and levelling.

Earthworks are required during the preparation, construction and landscaping stages of the Proposed Development. Given the small size (<2,500m²) of the site and fewer than five earth moving vehicle at any time, it is considered that the potential dust emission magnitude for earthwork activities would be 'Small'.

Construction

There are a number of issues that can impact the dust emission class during construction activities including the size of the building, materials used for construction, the method of construction and the duration of the build.

Based on the current design layout, the total building volume proposed for the site is estimated to be 25,000m³. It is currently unclear what construction materials will be used, but there would be concrete batching carried out on the site. Based on estimated construction volume, the site is considered to have a dust emission class of 'Small' with regards to construction activities.

Trackout

The risk of impacts occurring during trackout is predominantly dependent on the number of vehicles accessing the site on a daily basis. However, vehicle size and speed, the duration of activities and local geology are also factors which are used to determine the emission class of the site as a result of trackout.

Based on professional judgement, as there is no specific figures available at the time of preparing this document, there is likely to be fewer than 10 HGV outward movements on the site on any given day. Also, given the size of the site there is a possibility that vehicles will travel over unpaved ground of less than 50m, therefore the site is considered to have a dust emissions class of 'Small' with regards to trackout activities.

The dust emission magnitudes of the above activities are summarised in Table 6.1.

Table 6.1: Summary of Dust Emission magnitude for Each Activity

Activity	Dust Emission Magnitude
Demolition	Medium
Earthworks	Small
Construction	Small
Trackout	Small

6.3 Sensitivity of the Area

The sensitivity of the surrounding area takes into account the following factors:

- The specific sensitivities of receptors in the area;
- The proximity and number of those receptors;
- In the case of PM₁₀, the local background concentrations; and,
- Site-specific factors ie whether there are natural shelters such as trees, to reduce the risk of wind-blown dust.

Based on the IAQM guidance, residential dwellings are considered as 'High' sensitivity receptors in relation to both dust soiling and health effects of PM₁₀. The guidance also states that in the case of high sensitivity receptors with high occupancy, such as schools, each occupant should be considered a high sensitivity receptor.

As shown in Figure 4, which shows the IAQM distance screening bands for the identification of sensitive receptors, there are between 10 and 100 high sensitivity receptors within 50m of the site boundary, owing to residential properties, mostly apartments, in the general area along Hambledon Road. As a result, the sensitivity of the surrounding area is considered to be 'Medium' in relation to dust soiling effects on people and property from the earthworks and construction activities.

Trackout may occur from the side of the roads used by the construction traffic and up to 50m from a 'Low' site. There are more than 10 high sensitive receptors (ie residential units) within 50m of Hambledon Road, which are likely to be the primary routes for construction HGVs. Therefore, the sensitivity of the surrounding area is considered to be 'Medium' in relation to dust soiling effects on people and property from trackout.

The predicted background PM₁₀ concentration at the Proposed Development is estimated to be 14.3 µg/m³ in 2017. Based on the proximity and number of the residential receptors to the site boundary and the local concentrations of PM₁₀ the sensitivity of the surrounding area is considered to be 'Low' with regards to human health impacts.

No ecologically sensitive receptors to dust impacts have been identified on, or near, the site. Therefore, the sensitivity of ecological receptors has not been determined.

A summary of the sensitivity of the area surrounding the site in relation to each activity is provided below in Table 6.2.

Table 6.2: Summary of Sensitivity of the Surrounding Area

Potential Impact	Sensitivity of the Surrounding Area			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium	Medium	Medium	Medium
Human Health	Low	Low	Low	Low
Ecological Impact	N/A	N/A	N/A	N/A

6.4 Defining the Risk of Impacts

The dust emission magnitude (Table 6.1) is combined with the sensitivity of the area (Table 6.2) to determine the risk of both dust soiling and human health impacts, assuming no mitigation measures applied at site. The risk of impacts associated with each activity is provided in Table 6.3 below and has been used to identify site-specific mitigation measures, which are set out in Section 6.4.

Table 6.3: Summary Risk Table to Define Site-Specific Mitigation

Potential Impact	Risk			
	Demolition	Earthworks	Construction	Trackout
Dust Soiling	Medium	Low	Low	Negligible
Human Health	Low	Negligible	Negligible	Negligible
Ecological Impact	N/A	N/A	N/A	N/A

6.5 Construction Phase Mitigation Measures

Particle generation from construction activities can be substantially reduced through carefully selected mitigation techniques and effective management. The most effective technique is to control at source, as once particles are airborne, it is difficult to prevent them from dispersing into the surrounding area. However, once airborne, water sprays are probably the most effective method for suppression.

Pre-project planning, implementation and on-site management issues are an essential requirement for effective dust control. This includes, for example environmental risk assessments, method statements, training and satisfying planning requirements. Before the start of a project, it is also important to identify which construction activities are likely to generate dust and to draw up action plans to minimise emissions to the atmosphere. Dust emissions from construction sites will mainly be the sum of a large number of small activities. Therefore, attention to detail is a critical feature of effective management of the total site emissions.

Site specific mitigation measures should be set up based on the risk effects as outlined in Table 6.3. Examples of these measures are provided in the IAQM guidance document. IAQM guidance also sets out a number of 'highly recommended' measures which should also be considered. In addition to these measures, 'desirable' measures are also listed and shown in *italics*. The recommended mitigation measures that should be considered are set out below.

General mitigation measures

- Develop and implement a stakeholder communications plan that includes community engagement before work commences on site;
- Display the name and contact details of the person accountable for air quality and dust issues on the site boundary (ie the environment manager/engineer or site manager);
- Display the head or regional office contact information on the site boundary;
- Develop and implement a Dust Management Plan (DMP), which may include measures to control other emissions, approved by the Local Authority.
- Record all dust and air quality complaints, identify cause, take appropriate measures to reduce emissions in a timely manner and record the measures taken;
- Make the complaints log available to the local authority when asked;
- Record any exceptional incidents that cause dust and/or air emissions, either on- or off- site and the action taken to resolve the situation in the log book;
- *Undertake daily on-site and off-site inspection, where receptors (including roads) are nearby, to monitor dust, record inspection results, and make the log available to the local authority when asked. This should include regular dust soiling checks of surfaces such as street furniture, cars and window sills within 100 m of site boundary, with cleaning to be provided if necessary;*
- Carry out regular site inspections to monitor compliance with the DMP, record inspection results and make inspection log available to HBC when asked;
- Increase frequency of site inspection by the person accountable for air quality and dust issues on site when activities with a high potential to produce dust are being carried out and during prolonged periods of dry or windy conditions;
- Agree dust deposition, dust flux, or real-time PM₁₀ continuous monitoring locations with the Local Authority. Where possible commence baseline monitoring at least three months before work commences on site or, if it a large site, before work on a phase commences. Further guidance is provided by IAQM on monitoring during demolition, earthworks and construction.
- Plan site layout so that machinery and dust causing activities are located away from receptors, as far as is possible;
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles;
- Fully enclose site or specific operations where there is a high potential for dust production and the activities are being undertaken for an extensive period;
- Avoid site runoff of water or mud;
- Keep site fencing, barriers and scaffolding clean using wet methods;
- Remove materials that have a potential to produce dust from site as soon as possible, unless being re-used on site. If being re-used on site, cover as detailed below;
- Cover, seed or fence stockpiles to prevent wind whipping;
- Ensure all vehicles switch off engines when stationary - no idling vehicles;
- Avoid the use of diesel or petrol powered generators and use mains electricity or battery powered equipment where practicable;

- *Impose and signpost a maximum-speed-limit of 15 mph on surfaced and 10 mph on unsurfaced haul roads and work areas (if long haul routes are required these speeds may be increased with suitable additional control measures provided, subject to the approval of the nominated undertaker and with the agreement of the local authority, where appropriate;*
- Produce a Construction Logistics Plan to manage the sustainable delivery of goods and materials.
- Implement a Travel Plan that supports and encourages sustainable travel (public transport, cycling, walking, and car-sharing;
- Only use cutting, grinding or sawing equipment fitted or in conjunction with suitable dust suppression techniques such as water sprays or local extraction of suitable local exhaust ventilation systems;
- Ensure an adequate water supply on site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate;
- Use enclosed chutes and conveyors and covered skips;
- Minimise drop heights from conveyors, loading shovels, hoppers and other loading or handling equipment and use fine water sprays on such equipment wherever appropriate;
- Ensure equipment is readily available on site to clean any dry spillages, and clean up spillages as soon as reasonably practicable after the event using wet cleaning methods;
- Avoid bonfires and burning of waste materials;

Measures specific to demolition

- *Soft strip inside buildings before demolition (retaining walls and windows in the rest of the building where possible, to provide a screen against dust)*
- Ensure effective water suppression is used during demolition operations. Hand held sprays are more effective than hoses attached to equipment as the water can be directed to where it is needed. In addition high volume water suppression systems, manually controlled, can produce fine water droplets that effectively bring the dust particles to the ground.
- Avoid explosive blasting, using appropriate manual or mechanical alternatives
- Bag and remove any biological debris or damp down such material before demolition

Measures specific to construction

- *Avoid scabbling (roughening of concrete surfaces) if possible;*
- *Ensure sand and other aggregates are stored in bunded areas and are not allowed to dry out, unless this is required for a particular process, in which case ensure that appropriate additional control measures are in place;*

Measures specific to trackout

- *Use water-assisted dust sweeper(s) on the access and local roads, to remove, as necessary, any material tracked out of the site. This may require the sweeper being continuously in use.*
- *Avoid dry sweeping of large areas.*
- *Ensure vehicles entering and leaving sites are covered to prevent escape of materials during transport.*
- *Record all inspections of haul routes and any subsequent action in a site log book.*
- *Implement a wheel washing system (with rumble grids to dislodge accumulated dust and mud prior to leaving the site where reasonably practicable).*

Following implementation of the measures recommended above, the impact of emissions during construction of the Proposed Development would be 'not significant'.

7 Qualitative assessment of air quality during the operational phase at the proposed development site

7.1 Local Baseline Air Quality

The majority of local air quality issues within HBC have been linked to emissions from road vehicles. This has been confirmed by the monitoring undertaken by HBC and reported in their LAQM reports. The latest report the Annual Status Report 2017 includes monitoring data from 2016 and shows that bias adjusted diffusion tube monitoring data exceeded at three locations that are at 'kerbside'. As a result, HBC has not declared any AQMA in their administrative area.

HBC do not operate any automatic continuous monitoring stations. However, HBC monitors local air quality using a series of passive diffusion tubes. Locations DT 9 and DT18 are the closest monitoring locations relative to the proposed development site (within 500m). Available measured data from these diffusion tubes are summarised in Table 7.1.

Table 7.1 Annual Mean NO₂ concentration measured at the diffusion tubes in the vicinity of the proposed development between 2012 and 2017

Ref	Site ID	Site Type	Grid Ref		Distance from the site (m)	Annual Mean NO ₂ concentration (µg/m ³)					
			X	Y		2012	2013	2014	2015	2016	2017*
DT9	London Road (W'Ville)	R	468305	109548	200	30.2	31.3	33.9	30.4	32.1	29.6 (38.87 [#])
DT18	Waterlooville Precinct	UC	468264	109415	93	21.5	19.9	22.4	17.8	20.7	19.99

Notes:
R – Roadside; UC – Urban Centre.
* - 2017 data includes Jan-Nov results only. Bias adjusted using factor 0.94. Not annualised.
- non distance corrected concentration.

The monitoring carried out between 2012 and 2016 recorded the annual mean NO₂ concentration at their respective location to be below the objective. HBC is yet to prepare the 2018 ASR including data from 2017. However, the raw data has been supplied to MLM on request made to the Environmental Health department.

7.2 Background Air Quality

Defra provides estimated background air quality data in the form of background maps. Background concentrations of NO₂, NO_x, PM₁₀ and PM_{2.5} are provided for each 1x1 km grid for each local authority area. The latest data, which is based on 2015 monitoring results across the UK, is summarised in Table 7.2 below.

Table 7.2 Estimated Background Concentration provided by Defra

Pollutant	Estimated Annual Mean Value ($\mu\text{g}/\text{m}^3$)
	Coordinates 468500, 109500
NO ₂	14.2
NO _x	19.5
PM ₁₀	14.3
PM _{2.5}	9.5

The background concentration for all pollutants are well below the respective air quality objectives. Given the lack of any other significant pollutant source in the area, it can be determined that the main source of air pollution in the area is the emissions from vehicles running on the local road network.

7.3 Land use in the vicinity of the Proposed Development Site

The site is currently used as shopping centre where long-term exposure to air pollution is unlikely. Majority of the surrounding area is commercial in nature with some residential dwelling on floors above commercial buildings. Moreover, there are residential units in the immediate vicinity of the proposed development, especially to the west of the site on Hambledon Road. Therefore it is considered that the Proposed Development is consistent with the existing land use in the general area.

7.4 Additional Traffic Movements and Potential Air Quality Impacts

The proposal include 18 car parking spaces. The resulting additional traffic movements on the surrounding road network is not expected to lead to significant increase in pollutant concentrations at the existing receptor locations. It has been noted that further 55 car parking permit spaces will be provided to the future occupants of the Proposed Development. The transport assessment prepared by the appointed transport consultant (document ref: 17-310 by Odyssey) has further details on the availability and arrangements of car parking in the nearby car parks.

7.4.1 Stage 1 Criteria of IAQM/EPUK Guidance

The criteria to be checked if the assessment should proceed to Stage 2 is shown in the below Figure 7.1.

Figure 7.1 Stage 1 Criteria as shown in Table 6.1 of IAQM/EPUK guidance

Table 6.1: Stage 1 Criteria

Criteria to Proceed to Stage 2
A. If any of the following apply: 10 or more residential units or a site area of more than 0.5ha - more than 1,000 m² of floor space for all other uses or a site area greater than 1ha
B. Coupled with any of the following: - the development has more than 10 parking spaces - the development will have a centralised energy facility or other centralised combustion process
Note: Consideration should still be given to the potential impacts of neighbouring sources on the site, even if an assessment of impacts of the development on the surrounding area is screened out.

Based on the details of the proposed development, the Stage 1 criteria has been met and the impact assessment should proceed to Stage 2.

7.4.2 Stage 2 Indicative Criteria of IAQM / EPUK guidance

The details relevant to the Proposed Development have been used to check if the indicative criteria has been met. Based on the information provided by the transport consultant, this information has been included in the below Table 7.3.

Table 7.3 Estimated Background Concentration provided by Defra

The development proposals	Indicative Criteria to Proceed to an Air Quality Assessment	Details relevant to the development
1. Cause a significant change in Light Duty Vehicle (LDV) traffic flows on local roads with relevant receptors. (LDV = cars and small vans <3.5t gross vehicle weight).	A change of LDV flows of: - more than 100 AADT within or adjacent to an AQMA - more than 500 AADT elsewhere.	Based on the information provided by the transport consultant, the change in LDV flows is not expected to exceed 500 AADT.
2. Cause a significant change in Heavy Duty Vehicle (HDV) flows on local roads with relevant receptors. (HDV = goods vehicles + buses >3.5t gross vehicle weight).	A change of HDV flows of: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.	Based on the information provided by the transport consultant, the change in HDV flows is not expected to exceed 100 AADT.
3. Realign roads, ie changing the proximity of receptors to traffic lanes.	Where the change is 5m or more and the road is within an AQMA.	Not included in the proposals.
4. Introduce a new junction or remove an existing junction near to relevant receptors.	Applies to junctions that cause traffic to significantly change vehicle accelerate/decelerate, eg traffic lights, or roundabouts.	Not included in the proposals.
5. Introduce or change a bus station	Where bus flows will change by: - more than 25 AADT within or adjacent to an AQMA - more than 100 AADT elsewhere.	Not included in the proposals.
6. Have an underground car park with extraction system.	The ventilation extract for the car park will be within 20 m of a relevant receptor. Coupled with the car park having more than 100 movements per day (total in and out).	Not included in the proposals.
7. Have one or more substantial combustion processes, where there is a risk of impacts at relevant receptors.	Typically, any combustion plant where the single or combined NO _x emission rate is less than 5 mg/sec is unlikely to give rise to impacts, provided that the emissions are released from a vent or stack in a	Not included in the proposals.

The development proposals	Indicative Criteria to Proceed to an Air Quality Assessment	Details relevant to the development
NB. this includes combustion plant associated with standby emergency generators (typically associated with centralised energy centres) and shipping.	location and at a height that provides adequate dispersion. In situations where the emissions are released close to buildings with relevant receptors, or where the dispersion of the plume may be adversely affected by the size and/or height of adjacent buildings (including situations where the stack height is lower than the receptor) then consideration will need to be given to potential impacts at much lower emission rates. Conversely, where existing nitrogen dioxide concentrations are low, and where the dispersion conditions are favourable, a much higher emission rate may be acceptable.	

Therefore, it can be concluded that proceeding for further details assessment of air quality impacts is not required.

The EPUK/IAQM Guidance states:

'If none of the criteria are met, then there should be no requirement to carry out an air quality assessment for the impact of the development on the local area, and the impacts can be considered as having an insignificant effect.'

8 Summary and Conclusions

8.1 Likely Air Quality at the Proposed Development Site

Based on the information available at this stage and as summarise in this report, it is considered that air quality at the proposed development site is likely to be acceptable for the intended use. The reasons are summarised below:

- The proposed development site is located on Hambledon Road, which is the closet road in the area. Based on the information available, the short section of this road is not considered to have heavy traffic.
- The background air quality at the proposed development site is significantly below the relevant NAQO;
- Given that the data collected at the monitoring locations showed non-exceedance against the annual mean NO₂ concentration objective, it is reasonable to expect that the same air quality objective is unlikely to be exceeded at the proposed development site due to the greater distance between the site and surrounding road network, especially the busy Maurepas Way (A3) to the north. It should also be noted that the residential units will start from the first floor, which air quality is likely to be better given the extra distance from the ground-level sources;
- It is not expected that the air quality objectives for PM₁₀ and PM_{2.5} will be exceeded at the site as these are not reported by HBC under their LAQM duty;
- Similar land use can be found in the general area.

8.2 Operational Phase Impacts of the Proposed Development on Local Air Quality

As detailed in this assessment, the overall increase in additional traffic movements on the surrounding roads doesn't exceed the indicative criteria for detailed assessment and the resulting air quality impact is considered to be 'not significant'.

The provision of centralised boiler(s) is yet to be confirmed. However the Client is committed to provide ultra-low NO_x boilers. Where possible, the flues will also be located at the top of the development, minimising the possibility of any adverse impact that may occur. Additional assessment would be required should combustion plant be incorporated.

8.3 Mitigation included in the Design of the Development

Though the air quality impacts of the Proposed Development are not significant, several measures are included in the design of the development that are expected to have beneficial to local air quality. Further information on these measures has been included in the 'Residential Travel Plan (document ref: 17-310-002 by Odyssey)

- A car club will be included and the occupants will be encouraged to use it;
- Possibility of including EV charging points within the development is being considered;
- Some of the energy demand will be met by PV panels on the roof; and
- Sedum roof as detailed in the Design and Access Statement

8.4 Conclusions

A qualitative air quality assessment has been carried out based on historical air quality data available from HBC and also the information available in relation to the Proposed Development.

The air quality impact and effect of the proposed development during the construction and operational phases are considered to be '**not significant**'.

It is considered that air quality is unlikely to be an issue at the Proposed Development site.

9 References

- 1 Directive 2008/50/EC of the European Parliament and of the Council. May 2008. Official Journal of the European Union
- 2 Air Quality Regulations 2010 – Statutory Instrument 2010 No. 1001
- 3 The Air Quality (England) Regulations 2000 no. 928. Stationary Office
- 4 The Air Quality (England) (Amendment) Regulations 2002 No. 4034. Stationary Office.
- 5 Environment Act 1995
- 6 The Air Quality Strategy for England, Scotland, Wales and Northern Ireland. 2007. Department for Environment, Food and Rural Affairs
- 7 Local Air Quality Management Technical Guidance LAQM.TG (16). April 2016. Department for Environment, Food and Rural Affairs
- 8 National Planning Policy Framework. March 2012. Department for Communities and Local Government
- 9 Planning Policy Statement 23 (PPS 23): Planning and Pollution Control (ODPM).
- 10 Environmental Protection Act (1990)
- 11 2017 Air Quality Annual Status Report (ASR) for Havant Borough Council. June 2017.
- 12 Land-Use Planning & Development Control: Planning For Air Quality V1.2. January 2017. Institute of Air Quality Management (IAQM)
- 13 Guidance on the Assessment of Dust from Demolition and Construction V1.1. June 2016. Institute of Air Quality Management (IAQM)
- 14 Background Mapping Data for Local Authorities – 2015. <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2015>

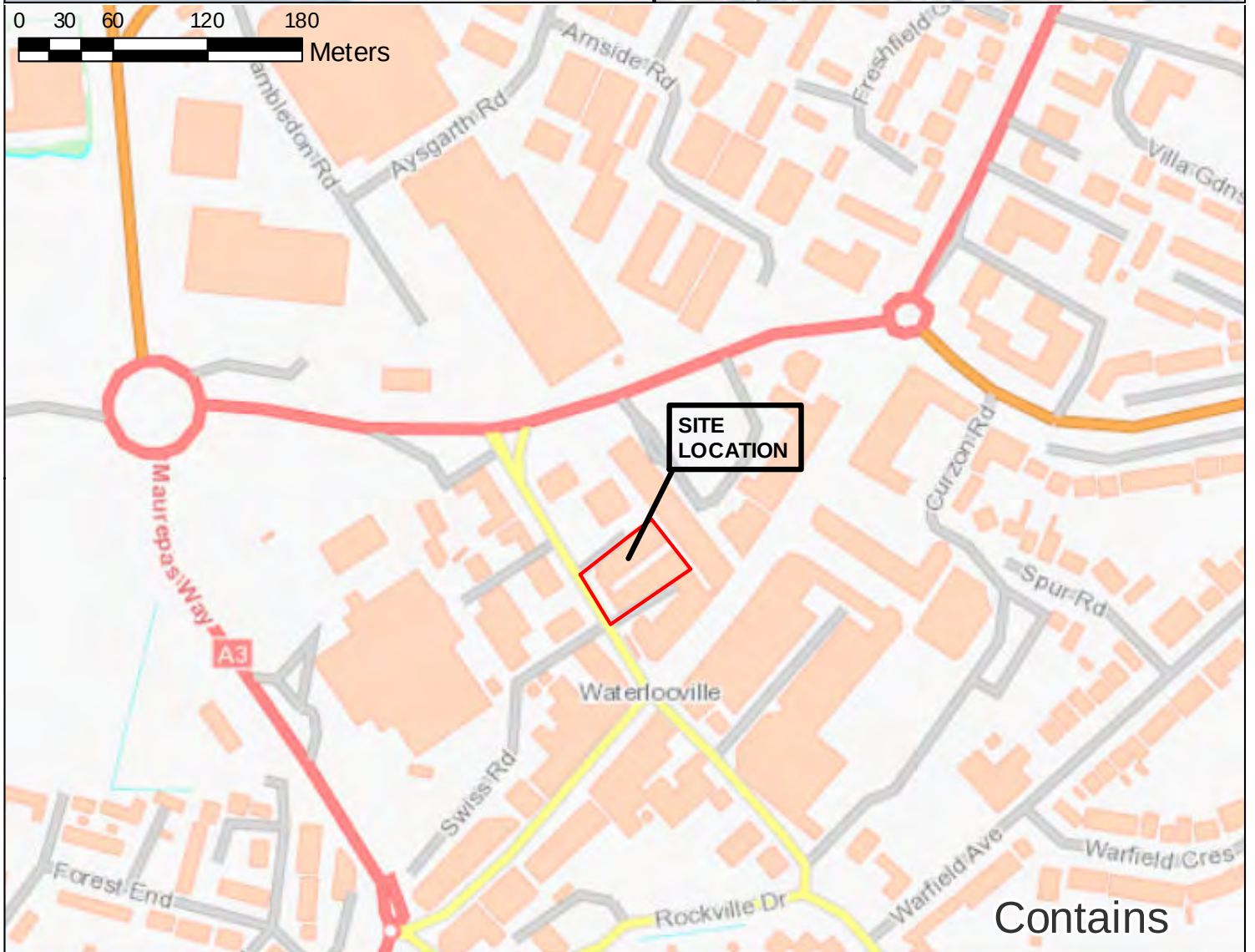
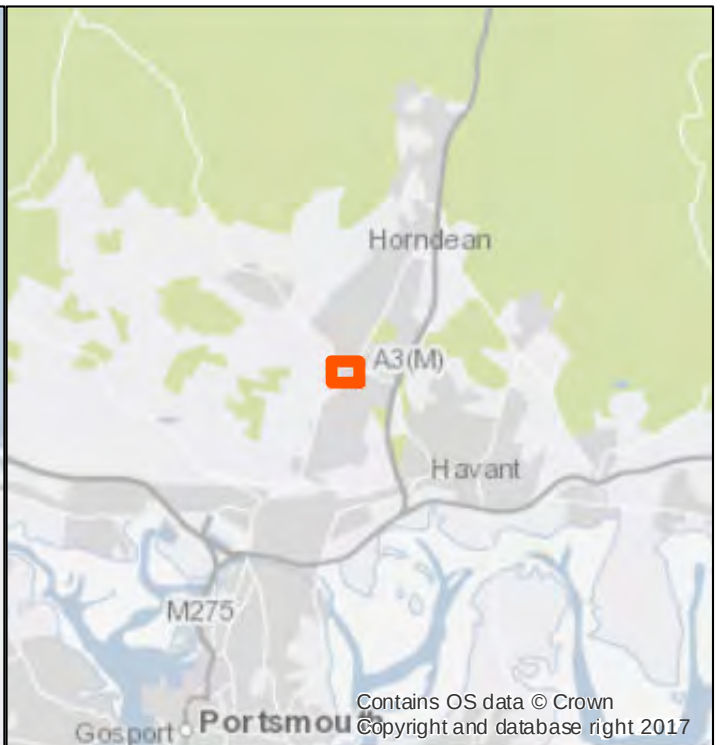
Figures

Figure 1: Site Location Plan

Figure 2: Indicative site layout plan for the Proposed Development

Figure 3: Location of Site in Relation Monitoring Locations

Figure 4: Construction Dust Buffers



PROJECT

WELLINGTON WAY, WATERLOOVILLE
SITE LOCATION

Job No.
775958

Figure No.
1



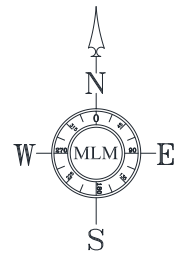
Proposed First Floor Plan



Drawing Status:	FINAL
Client:	CPI WELLINGTON WAY 2 LIMITED
Project	WELLINGTON WAY, WATERLOOVILLE

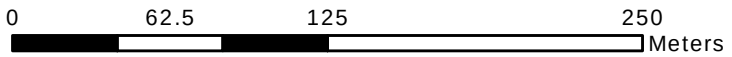
Drawing Title				
SITE LAYOUT PLAN (LEVEL 1)				
Drawn/Design	KN	Date	DEC 2017	Scales NTS @A1
Checked	KN	Approved	KN	NTS @A3
Drawing No.		775958DWG-ENV- 001-FIG2		

Rev	Date	Description	Made	Ckd

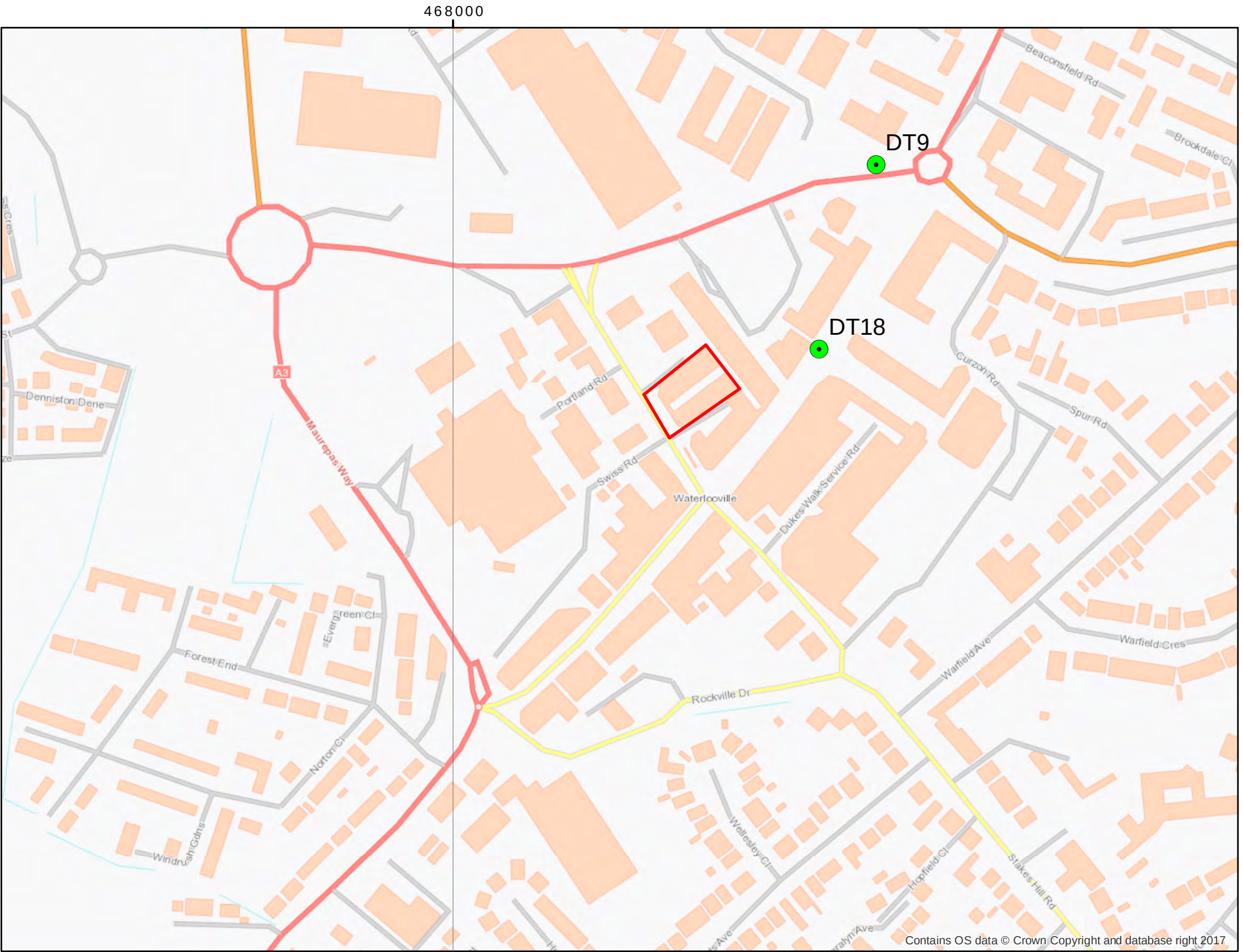


Legend

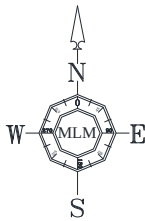
-  DIFFUSION TUBE MONITORING LOCATIONS
-  SITE BOUNDARY



COORDINATE SYSTEM: BRITISH NATIONAL GRID
UNITS: METER
SCALE: 1:3,000

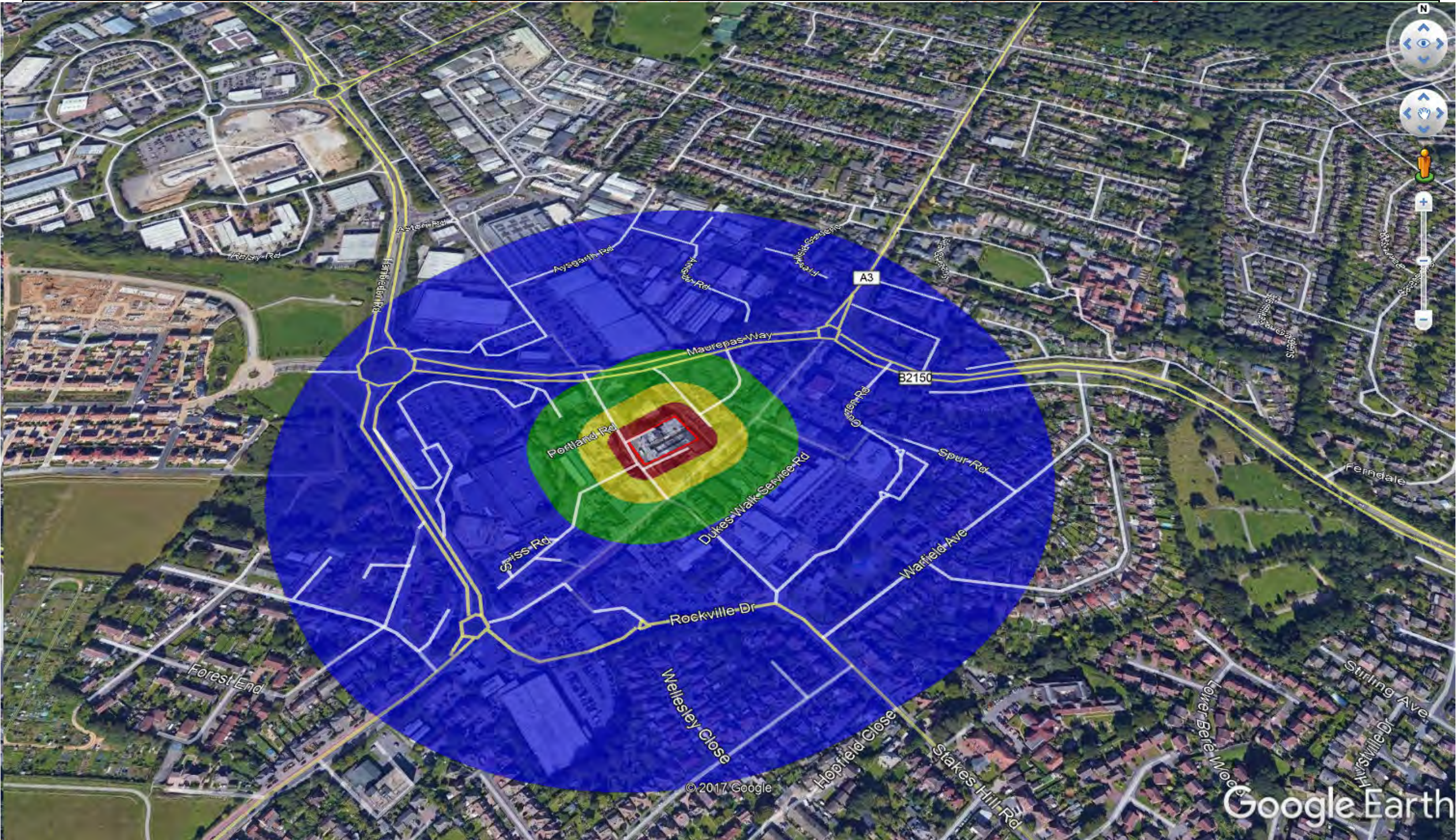


					Drawing Status:		LOCATION OF SITE IN RELATION TO MONITORING POINTS					
					Client:		CPI WELLINGTON WAY 2 LIMITED		Drawing Title		775958-DWG-ENV-001-FIG 3	
					Project		WELLINGTON WAY, WATERLOOVILLE		Drawing No.			
Rev Date Description Made Ckd					FINAL		KN		DEC 2017		NTS @A1	
					CPI WELLINGTON WAY 2 LIMITED		KN		1:20,000		@A3	
					WELLINGTON WAY, WATERLOOVILLE							



LEGEND

- SITE BOUNDARY
- 20 m BUFFER
- 50 m BUFFER
- 100 m BUFFER
- 350 m BUFFER



					Drawing Status:		FINAL		Drawing Title				CONSTRUCTION DUST RISK ASSESSMENT BUFFER ZONES						
					Client:		CPI WELLINGTON WAY 2 LIMITED				Drawn/Design		KN	Date		DEC 2017	Scales		NTS @A1
					Project		WELLINGTON WAY, WATERLOOVILLE				Checked		KN	Approved		KN	NTS @A3		
											Drawing No.						775958-DWG-ENV-001-FIG 4		
					Rev		Date		Description		Made		Ckd						



T +44 20 7422 7800
A 3rd Floor Eldon House
2 Eldon Street
London, EC2M 7LS

www.mlmgroupp.com