

Our ref: 23520 (CS), 64330 (o2), 6560 (VF)

The Chief Planning Officer Rochford Council Council Offices South Street Rochford Essex SS4 1BW

05/10/11

Dear Sir.

RE: PROPOSED VODAFONE LTD / TELEFÓNICA O2 UK LTD INSTALLATION AT 23520 (CS), 64330 (o2), 6560 (VF) LYNWOOD NURSERIES, ARTERIAL ROAD, RAYLEIGH, SS6 7XT

This is a full planning application, and notice in accordance with the electronic communications code under the Telecommunications Act 1984 Schedule 2 as amended by the Communications Act 2003, for permission for the development of:

The removal of the existing monopole with 6 antennas and the installation of a new monopole, with no.12 antennas on a circular headframe. It also involves addition of no.2 dishes, 600mm each, and extension of the compound by 4.1m. The extended enclosure will match the existing one in terms of height (2m) and style (chainlink). The proposed location of the site is Lynwood Nurseries, Arterial Road, Rayleigh, SS6 7XT.

Telefónica O2 UK Limited has entered into a network sharing agreement with Vodafone Limited pursuant to which the two companies plan to share network equipment on a number of sites across the UK. A joint project team has been created, called Cornerstone and comprising Vodafone and O2 employees, to oversee these arrangements.

This agreement allows both organisations to:

- consolidate the number of base stations required through sharing which is in accordance with Government Policy, and therefore
- significantly reduce the environmental impact of network development

The application comprises:

- Planning Application form and certificates
- Planning drawings 100, 200, 201, 300, 301, 400, 401, 500 and 501 (Rev B)
- Prescribed fee
- General Background Information for Telecommunications Development
- Site Specific Supplementary Information
- Health and Mobile Phone Base Stations document
- ICNIRP declaration & clarification statement

DALY INTERNATIONAL (UK) Ltd • Site Acquisition • Town Planners • Designers • Construction • Project Managers

2nd Floor Dukesbridge Chambers, Duke Street, Reading, RG1 4SA Telephone +44 (0) 118 951 9930 • Facsimile +44 (0) 118 951 9931 • Registered In England & Wales No. 342 5239

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As you will be aware, the telecommunications industry has pledged in the Code of Best Practice for Mobile Phone Network Development (November 2002) to improve consultation with Local Planning Authorities and the public in relation to network development and the siting of radio base stations. This application has been prepared in accordance with those commitments.

Following that early consultation, we have reviewed our network development proposals in this area and have evaluated potential site shares, existing structures and buildings in a sequential approach, as well as your development plan. The above site that is the subject of this application, is identified as the most suitable site option and design that balances operational need with local planning policies and national planning policy guidance.

Furthermore we would like to assist the council and would like to arrange a presentation or meeting with your officers and members to discuss the issues if appropriate.

We are committed to improving our relationship with all Local Planning Authorities and we would be happy to provide any additional information in relation to this application or in general.

We look forward to receiving your acknowledgement and decision in due course.

Yours faithfully

Marta Zieminska

Marta Zieminska

Planning Consultant

e-mail: marta.zieminska@dalyinternational.com

tel: 0118 951 9956

(for and on behalf of Vodafone (UK) Ltd and Telefónica O2 (UK) Ltd as a duly authorised agent)

General Background Information for Telecommunications Development

This document is designed to provide general background information on the development of the Vodafone and O2 networks. It has been prepared for inclusion with planning applications and supports network development proposals with generic information regarding:-

- 1. Introduction
- 2. Digital networks
- 3. Site selection process
- 4. Planning policy guidance
- Site or mast sharing
- Councils
- Consultation with schools
- 8. Legal cases
- 9. Further information

Note - All references in this document refer to England only.

1,0 INTRODUCTION

Over 25 years ago under the Telecommunications Act 1984, a licence was granted to Vodafone and O2 to provide a wireless (or mobile) phone service utilising unused radio frequencies adjacent to those transmitted for over 50 years by the television industry. Initially because this wireless technology was new and the number of potential customers unknown, a number of tall masts were used to provide basic radio coverage to the main populated areas. The design strategy used was similar to that used by local radio/television i.e. tall masts to cover large distances over all types of topography.

It is important to note that in recent years form has followed function and digital technology has resulted in the development of smaller equipment. In addition, smaller radio coverage areas have resulted in antenna/mast heights being generally reduced. The industry has also been able to develop low impact designs for use in sensitive planning areas such as in Conservation Areas, Listed Buildings, and National Parks etc. The wireless telegraph pole solution is just one example of a design which has minimised impact on visual amenity of the local neighbourhood.

2.0 DIGITAL NETWORKS - "2G/3G" OR SECOND/THIRD GENERATION

The Vodafone and O2 2G digital networks were developed in the early 1990s. This digital technology is often referred to as GSM (Global System for Mobile Communications) which is the common European operating standard enabling phones to inter-connect to other networks throughout Europe and Internationally.

In April 2000, Vodafone and O2 were successful in their bids for two of the five licences available to provide a 'Third Generation' mobile telecommunications service known as '3G' or UMTS.

In addition to voice services, this technology enables Vodafone and O2 to offer high resolution video and multi-media applications. Among other things this enables office services, virtual banking, e-retailing, video conferencing and high quality broadband internet access to be provided to users on the move. This is all made possible by higher rates of data transfer allowing wireless broadband access to the Internet for mobile phones and laptop computer data card users.

The 3G radio base station is designed to provide a service via cells in a similar way as the GSM (2G) system but with a few differences. Due to the increased data transfer, the location of 3G base station sites is even more critical. Base stations must be located where the local demand exists in order to provide the required levels of service, otherwise the network will not function.

Whenever possible, Vodafone and O2 will ensure it complies with planning policy guidance by ensuring apparatus be installed on existing buildings and structures, including masts wherever possible. However, in spite of these efforts, there are likely to be instances where there is a need to install additional base stations to provide contiguous service. This is largely due to the characteristics of radio propagation at this frequency, demands on the service and the high data transfer rates.

It is very important to note that mobiles can only work with a network of base stations in place where people want to use their phones (or other wireless devices). Without base stations, the mobile phones we rely on simply won't work.

2.1 How the cellular radio network works

The building blocks of the mobile telecommunications network are called radio base stations which transmit and receive calls to and from mobile phones using radio waves, similar to those used in domestic television and radio equipment. Radio base stations are often associated with free-standing masts, however they can be located on, or even inside, existing buildings and other structures. Approximately 66 per cent of Vodafone and O2 sites are located on existing structures or buildings. Vodafone and O2 use "radio frequencies" to transmit and receive calls at 900 MHz or 1800 MHz for 2G whilst 3G uses slightly higher frequencies

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within the 2100 MHz range.

2.2 How radio signals are transmitted

The radio signals are transmitted from antennas which are part of the radio base station and cover an area known as a "cell", hence the term "cellular phone". The size of the cell is dependent on a number of factors including: the height at which the radio base station is positioned; the topography of the surrounding landscape; anticipated demand; and the population density in the area.

Radio signal transmission from a radio base station can be likened to water being distributed from a garden sprinkler. The area immediately adjacent to the sprinkler remains almost "dry". However the grass gets progressively wetter moving further away from the sprinkler, until a wettest point is reached. Then the further away from the centre, the ground becomes progressively drier. Radio base stations provide network services in a similar manner. The area immediately beneath the antennas receives limited or, occasionally, no signal. Moving further away, the signal steadily improves until it reaches an optimum level and then gets progressively weaker.

In order to use mobile phones whenever and wherever we are, a network of radio base stations is required to maintain a continuous signal or 'network service' across a geographical area. The network is designed so that the cells from each radio base station slightly overlap. Travelling even a short distance may take us through a number of cell areas. Mobile phones are designed to monitor the strength of signal from surrounding radio base stations and automatically select the clearest signal, which often comes from the nearest site. As you approach the edge of the cell area, the phone will automatically select the adjoining radio base station, to provide a continuous service. This process is known as 'call handover'.

2.3 Factors affecting network services

The siting of a radio base station is largely dependent on the characteristics of the radio signals which they transmit. Physical features such as buildings or landscape can obstruct the signals. In open rural areas one base station can typically cover several kilometres in radius. However in urban areas where surrounding buildings will obstruct the signal, this range can be reduced to as little as a few hundred metres.

2.4 Network Capacity

Radio base station sites can only receive and transmit a limited number of simultaneous calls to and from mobile phones. In areas where the use of phones is particularly high, such as major towns or cities, many sites will reach the maximum number of calls they can process. When a customer attempts to make a call in an area where the network has reached its full capacity, the 'network busy' message is displayed on their mobile phone. In order to continue to meet customer demand and improve the quality of services in these areas, there is a need to increase the capacity of the network to allow more calls to be made.

2.5 Technical Requirements

Vodafone / O2's radio engineers identify the need for a new radio base station where the existing signal strength is insufficient to support network requirements, or where demand on the system is such that we need to increase capacity. The location of each radio base station is determined by the following factors:-

- The proximity of adjacent radio base stations and the signal coverage from them.
- The terrain height of the area and surrounding topography.
- The height and density of the buildings and structures within the area.
- The potential customer demand within the area.
- The service type that is required.

3.0 SITE SELECTION PROCESS

The following site selection procedures apply to each installation to identify and sequentially discount alternative site options:-

- 1. Following a technical review which identifies need, Vodafone / O2's radio engineers undertake a desktop analysis to identify the best way of meeting the site requirement. This is completed by using Vodafone / O2's computerised radio propagation modelling tool. This tool shows every site on both existing networks and identifies those areas where insufficient signal level exists or where there is a need to increase capacity.
- 2. The desktop search also identifies other operators' existing telecommunications installations. This interrogation of databases ensures any mast-sharing opportunities are maximised. Where available the LPA's mast register is also reviewed.
- 3. The radio engineers define a search area, which is then issued to an acquisition agent who undertakes a detailed ground search with the radio engineer to identify suitable options.

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- 4. The acquisition agent will obtain site-specific details to identify those sites that are viable options. The possible options are short-listed according to those that combine the following: location within or close to the search area, a willing landlord, adherence to planning and environmental policy, and general sensitivity. These options are then returned to the radio engineers for a computer modelling assessment, taking into account the ground height, potential available antenna height and surrounding obstructions.
- 5. Discussions are offered to the local planning authority to consider local policies and any protected areas and to agree additional public consultation if required. These discussions are used to identify a 'preferred' option.
- 6. A plan for local consultation is drawn up, and where appropriate, a consultation exercise is undertaken with the local community. The issues associated with the proposal are discussed to obtain their views on the options under consideration. After this review the final preferred option is selected.
- 7. Finally a site survey provides a full structural analysis of site including identifying power routes and how the site will be linked into the network. Terms with the landlord are then finalised, detailed plans prepared and the application submitted.

Vodafone and O2 are committed to ensuring the number and visual impact of any additional sites is minimised. Vodafone and O2 will continue to develop and utilise sympathetic and innovative design solutions.

4.0 PLANNING POLICY GUIDANCE ON TELECOMMUNICATIONS

PPG 8 seeks to facilitate the growth of new and existing telecommunications systems whilst keeping the environmental impact to a minimum. It encourages local planning authorities to respond positively to telecommunications development proposals, whilst taking into account other planning policy. This advice is reiterated in the Draft National Planning Policy Framework.

PPG 8 states that fast, reliable and cost-effective communications can attract business to an area. PPG 8 states that good communications can enrich life at home and offer new choices in education, entertainment, shopping and banking.

The Draft National Planning Policy Framework advises that advanced, high quality communications infrastructure is essential for economic growth. The development of high speed broadband technology and other communications networks also plays a vital role in enhancing the provision of local community facilities and services. The Government's objective for the planning system is to facilitate the growth of new and existing telecommunication systems in order to ensure that people have a choice of providers and services, and equitable access to the latest technology.

4.1 Need for development

PPG 8 advises that operators are required to provide a high quality service, which includes the need to meet customer demand. It states that systems are demand-led, therefore operators are continually expanding their networks to accommodate customer requirements of service and quality.

PPG 8 advises that local planning authorities should have regard to any technical constraints on the location and proposed development. Material considerations include the significance of the proposed development as part of a national network.

The Draft National Planning Policy Framwork advises specifically that local planning authorities should not question whether the service to be provided is needed nor seek to prevent competition between operators, but must determine applications on planning grounds.

4.2 Siting and design

PPG8 identifies that "protection from visual intrusion and the implications for subsequent network development will be important considerations in determining applications. Masts and antennas often require a particular operating height, which allows signals to clear trees and urban clutter. Telecommunications development may therefore need particular locations in order to work effectively." (Paragraph 64 – Appendix).

PPG 8 states "Siting and design concerns may centre particularly on the type of mast and its impact... Its height, ancillary development and the scope for landscaping and screening will also be important considerations. But many of the antennas have special siting needs because they have a limited range or require line-of-sight. Authorities should take account of these needs." (Paragraph 74, Appendix)

In seeking to arrive at the best solution for an individual site, local planning authorities and operators should consider the use of sympathetic design to minimise the impact of development on the environment. It advises that depending upon their location, an appropriately designed single operator mast may have a smaller environmental impact than a shared one.

5.0 SITE / MAST SHARING

Vodafone and O2 actively encourages and supports site sharing for both commercial and environmental reasons. All operators are required to explore site-sharing opportunities under the terms of their licence. Vodafone and O2 has implemented a number of measures to identify and maximise site-sharing opportunities.

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Where a new ground based radio base station site is required, every effort will be made to ensure that sufficient land is acquired to accommodate a second operator's equipment. Approximately two thirds of all Vodafone and O2 radio base stations are now located on existing structures, such as buildings, pylons or existing masts.

6.0 COUNCILS

6.1 Moratoria

Government guidance on mobile telecom installations advises that local authorities should make suitable council owned property available to network operators for base station development. If suitable council sites are not made available, operators may have to look for alternative sites which the local community might find less acceptable.

Moratoria may also increase the number of new sites needed as council owned buildings are often better suited for base stations e.g. tall buildings. The operators believe it is preferable to deal with proposed developments on council property on a case by case basis.

6.2 Mast register

Guidance in the English Government's Code of Best Practice on Mobile Phone Network Development recommends that local authorities develop a register of local base stations based on a map. This is mirrored in the devolved administrations.

The code goes on to say, "Ideally, all the information should be available to be viewed electronically and in hard copy. Local authorities should ensure that the mast register is kept up to date and may make a reasonable charge if anybody wishes to obtain a copy of any of the information."

The MOA welcomes the provision of registers of base stations by local authorities in addition to Ofcom's public database of UK base stations. http://www.ofcom.org.uk/sitefinder/

Market research by Ipsos MORI indicates that approximately two thirds of UK local authorities have mast registers.

7.0 CONSULTATION WITH SCHOOLS

The operators fully comply with Government Guidance on pre application consultation with schools and colleges. They provide evidence to the local planning authority that they have consulted the relevant body of the school or college.

The English Government's Code of Best Practice on Mobile Phone Network Development gives guidance on the factors operators should consider when determining whether consultation is required, as each development is different. These factors are equally applicable for Local Planning Authorities who carry out their own consultation once the application has been submitted. A recent report stated there is no scientific basis for siting base stations away from schools (NRPB report, January 2005)

8.0 LEGAL CASES

The following legal cases may be helpful;-

8.1 Harrogate case November 2004

The Court of Appeal gave a judgment that Government Planning Guidance in PPG8 is perfectly clear in relation to compliance with the health and safety standards for mobile phone base stations. The Court of Appeal and the High Court both upheld Government policy in response to a planning inspector's decision that departed from that policy and failed to give adequate reasons for doing so.

8.2 Winchester case November 2004

The Court of Appeal decision upheld an earlier decision by Mr Justice Sullivan that a mobile phone network operator should not use its compulsory acquisition powers as part of its day to day radio base station siting processes.

The Court of Appeal agreed with Mr Justice Sullivan that these far-reaching statutory powers were never intended for use in day to day planning situations and should be used by an operator only as a last resort when there is no other siting alternative. The House of Lords on 16 March 2005 refused leave to appeal the Court of Appeal ruling.

8.3 Bardsey case January 2005

The Court of Appeal confirmed that the permitted development regime for mobile phone base stations is compliant with the Human Rights Act.

This was a case in which a local planning authority failed to comply with its obligations to act within the 56 day period provided under the permitted development regulations.

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9.0 FURTHER INFORMATION

We trust the above answers your main queries regarding our planned installation.

The enclosed site-specific details will identify the alternative discounted options and reasons why they were rejected and how the proposed site complies with national and local planning policies.

The Local Government Ombudsman's Special Report on Telecommunication Masts gives some positive recommendations and advice to Local Planning Authorities in determining Prior Approval applications. A copy of the report is available at http://www.lgo.org.uk/pdf/phone-masts-sr.pdf

HEALTH AND MOBILE PHONE BASE STATIONS

We recognise that the growth in mobile technology has led in some cases to public concern about perceived health effects of mobile technology and its deployment, in particular about siting masts close to local communities. Quite naturally, the public seeks reassurance that they are not in any way harmful or dangerous.

We take these public concerns seriously and is committed to providing the latest independent peer-reviewed research findings, information, advice and guidance from national and international agencies on radiofrequency (RF) electromagnetic fields.

Vodafone and O2 ensure that our radio base stations are designed and operated so that the public are not exposed to radio frequency fields above guidelines set by the International Commission on Non-lonizing Radiation Protection (ICNIRP). In fact, radio base stations operate at low power and emit low levels of radiofrequency fields, typically hundreds to thousands of times lower than the ICNIRP general public guidelines.

Research Reviews

There are over 1300 peer-reviewed publications on the biological and health effects of radiofrequency (RF) signals, which are used in mobile communication technology. Over the past 20 years many national and international agencies have collated, summarised and assessed these publications in research reviews. The majority of these reviews conclude that there is no scientific evidence that radiofrequency fields from radio base stations cause adverse health effects. These research reviews are used by Governments to develop policy on exposure to radiofrequency signals.

The World Health Organisation (WHO) concluded in 2006 that "considering the very low exposure levels and research results collected to date, there is no convincing scientific evidence that weak RF signals from base stations and wireless networks cause adverse health effects" [fact sheet number 304].

Furthermore, the Mobile Telecommunications Health Research (MTHR) programme report, which described the results of this UK research initiative into mobile phone safety to date, did not find any evidence of adverse health effects from mobile phone use or living near radio base stations. This report published in September 2007 concluded: "None of the research supported by the Programme and published so far demonstrates that biological or adverse health effects are produced by radiofrequency exposure from mobile phones." The report also noted that measurements of radio signals from base stations show that exposures are well below international guidelines.

The MTHR findings are reassuring and consistent with the conclusion that no adverse health effects from mobile phone use have been established. This is reflected in more than 30 independent scientific reviews published in the UK and around the world during the past nine years. Equally reassuring, the MTHR report recognises that, in certain areas, no further research is required.

Compliance with International Exposure Guidelines

All Vodafone and O2 installations are designed, constructed and operated to comply with the precautionary ICNIRP public exposure guidelines as adopted in EU Council Recommendation of 12 July 1999 on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz). These guidelines have been set following a thorough review of the science and take into consideration both thermal and non-thermal effects and are there to protect all members of the public 24 hours a day. In addition, precautionary measures have been taken into account when setting relevant guideline limits for the public (i.e. in the UK a safety factor of 50 times is applied to the public exposure guideline).

Furthermore, base stations operate at low power and emit low levels of radiofrequency (RF) fields and when measured, field strengths are typically hundreds to thousands of times lower than the precautionary ICNIRP general public guidelines.

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An ICNIRP certificate is provided with every planning application and this certifies that the mobile phone base station, when operational, will meet the precautionary ICNIRP guidelines. We also provide further documentation to clarify that the ICNIRP certificate declares that emissions from all mobile phone network operators' equipment on the site are considered when determining compliance.

ICNIRP Guidelines

The radiofrequency public exposure limits for EMF fields were developed by the International Commission on Non-lonizing Radiation Protection (ICNIRP) http://www.icnirp.org following reviews of all the peer-reviewed scientific literature, including thermal and non-thermal effects. ICNIRP is a non-governmental organisation formally recognised by WHO. Established biological and health effects have been used as the basis for the ICNIRP exposure restrictions. The ICNIRP guidelines have been adopted for use in the European Union and the UK.

In August 2009, ICNIRP published a review of the guidelines for limiting RF exposure and concluded that "it is the opinion of ICNIRP that the scientific literature published since the 1998 guidelines has provided no evidence of any adverse effects below the basic restrictions and does not necessitate an immediate revision of its guidance on limiting exposure to high frequency electromagnetic fields."

Further Information:

Further health and environmental information is also available on the Vodafone website at: www.vodafone.co.uk (see: Network & Health). A downloadable brochure 'Facts about the Network' also provides a more comprehensive review of research on mobile phones, masts and health.

We encourage wider understanding of the science of RF and health.

The external links on this page are some of the key sources of authoritative information.

- World Health Organisation http://www.who.int/peh-emf/en/ EMF Project, Geneva, Switzerland.
- ICNIRP http://www.icnirp.org/
 International Commission on Non-Ionizing Radiation Protection, Munich, Germany.
- HPA http://www.hpa.org.uk/HPA/Topics/Radiation/UnderstandingRadiation/1158934607698/
 The Health Protection Agency, a special health authority providing an integrated approach to protecting UK public health.
- , UK Mobile Telecommunications and Health Research http://www.mthr.org.uk/

<u>UK Mobile Operators Association</u> - http://www.mobilemastinfo.com/ An association representing all five UK mobile phone operators.

For further information please contact Vodafone UK or O2 UK:-Emf.advisoryunit@vodafone.com Tel. 08454 450 450 or 01753 564306

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Chief Planning Officer, Rochford District Council, Council Offices, South Street, Rochford, Essex SS4 1BW

30/09/11

Dear Sir/Madam

CLARIFICATION OF THE DECLARATION OF ICNIRP COMPLIANCE ISSUED AS PART OF THE PLANNING APPLICATION ATTACHED FOR SITE CS 23520 VF 6560 O2 64330 AT LYNWOOD NURSERIES, ARTERIAL ROAD, RAYLEIGH, ESSEX SS6 7XT.

I refer to the Declaration of Conformity with ICNIRP Public Exposure Guidelines ("ICNIRP Declaration"), sent with this application in relation to the proposed telecommunications installation as detailed above.

The "ICNIRP Declaration" certifies that the site is designed to be in full compliance with the requirements of the radio frequency (RF) guidelines of the International Commission on Non-lonizing Radiation (ICNIRP) for public exposure as expressed in the EU Council recommendation of July 1999.

The ICNIRP declaration produced by Daly International takes into account the cumulative effect of the emissions from the proposed installation and <u>all</u> radio base stations present at, or near, the proposed location.

The radio emission compliance calculation is based upon the maximum possible cumulative values.

If you have any further enquiries concerning the "ICNIRP Declaration" certificate or the certification process please contact the Cornerstone EMF UNIT on 08454 450 450.

Yours sincerely

PROJECT MANAGEF



Our ref: CS 23520 VF 6560 O2 64330

<u>Declaration of Conformity with ICNIRP Public Exposure Guidelines</u> ("ICNIRP Declaration")

Vodafone Limited, Vodafone House, The Connection, Newbury, Berkshire, RG14 2FN

Declares that the proposed equipment and installation as detailed in the attached planning/GPDO application at;

Lynwood Nurseries, Arterial Road, Rayleigh, Essex SS6 7XT

NGR 582173 189391

is designed to be in full compliance with the requirements of the radio frequency (RF) public exposure guidelines of the International Commission on Non-lonizing Radiation (ICNIRP), as expressed in the EU Council recommendation of 12 July 1999 * "on the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)".

* Reference: 1999/519/E

30/09/11
C.R.A
Chris Jones
Project Manager

SITE SPECIFIC SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Lynwood Nurseries	Site Address:	LYNWOOD
NGR:	582170, 189392		NURSERIES,
			ARTERIAL ROAD,
		,	RAYLEIGH, SS6 7XT
Site Ref Number:	23520 (CS), 64330 (o2), 6560 (VF)	Site Type: ¹	Macro

2. Pre Application Check List

Site Selection

Was an LPA mast register used to check for suitable sites by the operator or the LPA?	Yes	No	
If no explain why:			
None available			
Was the industry site database checked for suitable sites by the operator:	Yes	No	

Annual roll out consultation with LPA

Date of last annual rollout information/submission:	October 2011
Name of Contact:	Chief Planning Officer
Summary of outcome/Main issues raised:	No feedback at the current time. Vodafone and o2 agree to adhere to the 10 Commitments and Code of Best Practice on Mobile Phone Network Development

Pre-application consultation with LPA

Date of written offer of pre-application consultation:	ication consultation: 08/09/2011		
Was there pre-application contact:	Yes	No	
Date of pre-application contact:	1	21/09, 27/09, 28/09/2011	
Name of contact:	Katie Rod	Katie Rodgers	

¹ Macro or Micro CAPE Planning Manual Owner: Brian Truman Cornerstone SSSI v1 2010 Cornerstone

Summary of outcome/Main issues raised:

The agent contacted the Council by telephone on three occasions to request feedback on the pre-application correspondence but no response was received. The agent was only advised by Customers Service representative that pre-application was allocated to Katie Rodgers. In the absence of any comments from the Council a full planning application was then prepared for the development described.

Ten Commitments Consultation

Rating of Site under Traffic Light Model:

Outline Consultation carried out: Letter to Cllr Webster, Cllr Smith, Rayleigh Town Council, Mr Francois MP; display of site notice
Summary of outcome/Main issues raised: Pre-application was considered at Rayleigh Town Council Planning Committee meeting on 19/09/2011. A representative from the agent attended the meeting, presented the proposal

and answered questions. The Members were satisfied that it was a replacement of an existing old mast in the same location. No objections were raised and the proposal was supported.

Green

Amber

Red

School/College

Location of site in relation to school/college:
The proposed development will be located more than 200 metres from the nearest school.
Outline of consultation carried out with school/college:
As the proposed new works are located away from any of the surrounding schools it was
deemed unnecessary to carryout pre-application consultation prior to the submission of this
application.
Summary of outcome/Main issues raised:
N/A

Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator consultation (only required for an application for prior approval)

Will the structure be within 3km of an aerodrome or airfield?	Yes	No
Has the Civil Aviation Authority/Secretary of State for	Yes	No

Defence/Aerodrome Operator been notified?		
Details of response:		
N/A		
		•
Developer's Notice		
O Continue de Nation amplemento	Yes	No
Copy of Developer's Notice enclosed?	<u> Tes </u> 0/2011	INO .
Date served: 04/10	72011	
2 Proposed Dayolonment		
3. Proposed Development		
The proposed site:		
The proposed site.		
LYNWOOD NURSERIES, ARTERIAL ROAD, RAYL	EIGH, SS6 7XT	
	,	
England man showing the call centre and edicining	polle:	
Enclose map showing the cell centre and adjoining of	Jelis.	
Please see coverage plots submitted with this applic	ation	•
Please see coverage plots submitted with this applic	ation.	
·		
Type of Structure:		
Description:		
'		
Mast		
Overall Height:	22	.5 Meters
Height of existing building:		N/A
Equipment Housing:		N/A
Length:		Metres
Width:		Metres
Height:		Metres
Materials:		
Tower/mast etc – type of material and external S	Steel monopole in grey	

N/A

Equipment housing – type of material and external colour:

colour:

Reasons for choice of design:

Vodafone and Telefonica have common interest in providing coverage from the same site and are seeking to mast share together. In this instance Vodafone is acting as the lead operator whiles Telefonica, commonly known as o2, are referred to as the sharer.

It is considered that the utilisation of an existing established telecommunications site will minimise the proliferation of masts in the area.

The choice of a monopole with antennas on a circular headframe is considered appropriate as it would allow the mast to be shared by both operators without a higher structure being required.

4. Technical Information

ICNIRP Declaration attached	Yes	No
ICNIRP public compliance is determined by mathematical calculation and implemented by careful location of antennas, access restrictions and/or barriers and signage as necessary. Members of the public cannot unknowingly enter areas close to the antennas where exposure may exceed the relevant guidelines.		
When determining compliance the emissions from all mobile phone network operators on the site are taken into account.		

Height of antenna (m above ground level)	22.475m

Frequency, Modulation & Power Characteristics for Planning Applications

CVCTEM			Frequency	elektronia in the second		Modulation ²	Commonto
SYSTEM	O ₂ DL (MHz)	O ₂ UL (MHz)	VF DL (MHz)	VF UL (MHz)	EIRP (dBW)	iviodulation	Comments
GSM 900	925-960	880-915	925-960	880 - 915	32	GMSK	EIRP is per carrier
GSM 1800	1808.2 - 1810.8	1710.2 1715.8	1811.0 - 1816.8	1716.0 - 1721.6	32	GMSK	EIRP is per carrier
UMTS 2100 FDD	2124.9 - 2134.9	1934.9-1944.9	2134.9 – 2149.7	1944.9 – 1959.7	35	QPSK	EIRP is per carrier
UMTS 2100 TDD	1909.9 -1914.9	1909.9 -1914.9	N/A	N/A	32	QPSK 8-PSK 16 QAM	Simplex system same frequency band for UL & DL
UMTS 900	930-935	885-890	925-930	880 - 885	32	QPSK	EIRP is per carrier
LTE 2600	ТВА	TBA	ТВА	ТВА	ТВА	ТВА	License for this band not yet awarded. Spectrum auction to take place in 2012.
LTE 800	ТВА	ТВА	ТВА	TBA	ТВА	ТВА	License for this band not yet awarded. Spectrum auction to take place in 2012.

Notes

- 1. Since planning involves Base Station only DL frequencies are relevant.
- 2. The GSM 900 band is highly segmented so easiest to use the full band for frequency information.
- 3. GMSK = Gaussian Minimum Shift Keying
- 4. QPSK = Quadrature Phase Shift Keying
- 5. PSK = Phase Shift Keying
- 6. QAM = Quadrature Amplitude Modulation
- 7. VF & O₂ currently deploy U900 in the EGSM band, however, deployment in other parts of the GSM 900 band are possible.

Owner: Brian Truman Cornerstone SSSI v1 2010 Cornerstone

² The modulation method employed in GSM is GMSK (Gaussian Minimum Shift Keying) which is a form of Phase modulation The modulation method employed in UMTS is QPSK (Quad Phase Shift Keying) which is another form of Phase Modulation CAPE Planning Manual

5. Technical Justification

Enclose predictive coverage plots.

<u> </u>	
Reason(s) why site required e.g. coverage, upgrade, capacity (m	ap attached if required):
New 2G/3G coverage for o2, 2G/3G coverage and capacity telecommunications requirements for both operators sharing the Rayleigh area and also the A1027/A1015 roads (please refer to this application).	upgrade for VF and future same mast to cover East
Further detail regarding the general operation of the net accompanying document entitled 'General Background Information Development'. This information is provided to assist the understanding any technical constraints on the location of the provided to a second constraints on the location of the provided to a second constraints on the location of the provided constraints on the location of the provided constraints.	ation for Telecommunications local planning authority in
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6. Site Selection Process – alternative sites considered and not chosen (Enclose map highlighting all alternatives that have been considered by the operator)

No alternative sites have been considered on this occasion.

If no alternative site options have been investigated, please explain why:

No alternative site options have been investigated as the works proposed are for adding an extra operator to an existing site. Development of this site provides an opportunity to utilise the existing telecommunications site and show compliance with national planning policy (PPG8 and Code of Best Practice on Mobile Phone Network Development) and local planning policy (UT4 Rochford District Local Plan) which all encourage the usage of existing telecommunications sites and sharing of telecommunications facilities.

Additional relevant information	

SUPPORTING STATEMENT

This statement forms part of an application on behalf of Cornerstone. It has been prepared in accordance with the requirements of Section 42 of the Planning and Compulsory Purchase Act 2004 which requires the submission of a Design and Access Statement to accompany planning applications.

Application for Planning Permission

This application for planning permission is submitted pursuant to Article 4C of the Town and Country Planning (General Development Procedure) Order 1995 (as amended).

Sites

The site is located within Lynwood Nurseries. It is an existing mobile telecommunications site where Vodafone has a 22.6m high structure. The land is designated as the Green Belt.

Proposal

The proposed development involves the removal of the existing monopole with 6 antennas and the installation of a new monopole with 12 antennas on a circular headframe. It also involves addition of 2 dishes, 600mm each, and the compound extension by 4.1m. The extended enclosure will match the existing one in terms of height (2m) and style (chainlink).

This proposal, once implemented, will be a site share for both o2 and Vodafone. It is considered that site sharing represents the optimum solution in this case as it would be a better alternative to the provision of a separate structure for o2 in the locality. The proposal will also be future proof - designed to accommodate 4G technology – so no upgrades will be necessary over the next few years.

Siting, Design and Appearance

It is considered that the proposed installation of the equipment at this location represents a suitable option in terms of siting, design and appearance.

The existing site has previously been considered suitable for telecommunications installation by Rochford District Council. The principle of a telecommunications installation at Lynwood Nurseries is consequently established. The key consideration represents the possible impact of the replacement

mast over and above the mast already in situ, balanced with the benefits of mast sharing by telecommunications operators.

In order to provide undisturbed service to the mobile phone customers, the proposed structure will not be sited in the same position as the existing one. The new monopole would be placed 3.5m to the west and 2.5m to the south of the existing one. While, in terms of height to the top of the antennas, the proposed mast will not be higher than the existing one, it would be slightly bulkier. When the site was surveyed it was established that the existing monopole was not strong enough to support additional load of equipment. Consequently the proposal resulted in a wider pole.

The head frame design at the top of the mast was considered a favourable design solution as this allows the structure to host all the required equipment without a higher, more visually prominent structure being necessary.

Due to the location of the site within the Green Belt, demonstration that special circumstances justifying the proposal exist is required. The fact that Lynwood Nurseries is an existing telecommunications site, hosting Vodafone monopole, is considered as very special circumstances in this instance. It is also believed that the addition of an extra operator indicates that every attempt was made to utilise the existing site so the openness of the Green Belt would be maintained. As such the location for the proposed development is considered appropriate.

Every attempt was made to keep the overall visual impact of the proposed structure to minimum whilst allowing both operators to meet their technical requirements. Although the structure would be bulkier, it is not considered harmful to the visual amenities of the surrounding area. Given to the fact that the site is suitable detached from any built up residential areas, the new siting, size and appearance are not considered an obtrusive or inappropriate form of development

Possible Electrical Interference

We can advise on behalf of our client that the proposed installation should not cause any undue electrical interference for nearby residents. Both o2 and Vodafone operate within radio frequency bands, which are licensed and specific to o2 and Vodafone, and this is regulated in the UK by the Office of Communications (Ofcom).

Health and Safety

The latest government research conducted by the Independent Expert Group on Mobile Phone Technology titled "Mobile Phones and Health" (also known as the Stewart Report) concluded that "the balance of evidence indicates that there is no general risk to the health of people living near to base stations on the basis that exposures are expected to be small fractions of the guidelines".

However, the report also recommended, as a precautionary approach, that the ICNIRP guidelines for public exposure be adopted in the UK. In response to the report, the Government has stated that emissions from base stations should meet the ICNIRP guidelines and that if they do then local authorities need take no further action.

As such new ICNIRP certificate is required and attached to this application.

Noise

There will be no noise issues related to this site.

Planning Policy Framework

Local Planning Policy

The development plan currently guiding development in the Rochford District Council area is the Rochford District Local Plan adopted in 2006. To assess the appropriateness of this proposal the following key policies need to be consulted:

POLICY UT4 - TELECOMMUNICATIONS DEVELOPMENT

Proposals for telecommunications equipment must first consider the sharing of masts and sites, in order to reduce the proliferation of such structures. Where it can be proved that this is not possible telecommunications development requiring an application for prior approval of siting and appearance will only be permitted where the equipment is sited, is of a design, material and colour, and where appropriate is screened, so as to minimise visual intrusion, taking account of the following:

- i. The need for the facility to blend more easily with its surroundings;
- ii. Whether the design is suited to the local environment;
- iii. The height in relation to surrounding land;
- iv. The impact on the topography and natural vegetation;
- v. The impact on the skyline or horizon;
- vi. Views into the site;
- vii. The site's scenic or conservation value;
- viii. Relationship with other existing masts, structures or buildings; and
- ix. Relationship to residential property, educational and healthcare facilities, employment and recreational sites; and
- x. Arrangements put in place to ensure that, if such development falls into disuse, any structures are removed and the land restored to its condition before development took place or other agreed beneficial use.

Any technical or operational constraints faced by the telecommunications operators and the details of the benefits of the development must be submitted to the Local Planning Authority at the time of application.

Policy UT4 emphasise favourably the use of existing telecommunications sites prior to the erection of new ground based installations. It is evident that the proposed development firmly adheres to the above policy. In order to reduce a need for a separate telecommunications site, it is proposed to upgrade the existing one as per this planning application. The proposal will therefore consist of a replacement monopole mast which will host both o2 and Vodafone antenna systems. The existing mast will be decommissioned as soon as the proposed one is in operational use.

POLICY R1 - DEVELOPMENT WITHIN THE GREEN BELT

Within the Metropolitan Green Belt there is a general presumption against inappropriate development. Except in very special circumstances, planning permission will not be granted unless for:-

- Development required for agriculture or forestry in accordance with Policies R3, R4, R8 and R9;
- ii. the extension, alteration or replacement of existing dwellings in accordance with the criteria defined in Policies R2, R5 and R6;
- iii. limited affordable housing for local community needs within or immediately adjoining existing villages, in accordance with the criteria defined in Policy HP9;
- iv. essential small-scale facilities for outdoor sport and outdoor recreation in accordance with PPG2;
- v. the re-use or adaptation of existing buildings in accordance with the criteria defined in Policy R9;
- vi. mineral extraction and related restoration:
- vii. cemeteries, or other uses of land which fulfil the objectives of the Green Belt; or
- viii. the provision of agricultural or forestry dwellings in accordance with the criteria defined in policy R3.

Development which may be permitted under this policy should preserve the openness of the Green Belt and should not conflict with the main purposes of including land within it. Any development which is permitted should be of a scale, design and siting such that the character of the countryside is not harmed and nature conservation interests are protected."

The concern of this policy is mainly centred on special circumstances that must be proved to allow development, in this instance telecommunications development, in the Green Belt. The proposed development is considered to accord with the policy R1 because it is an upgrade of an existing

telecommunications site and it is of a scale, design and siting that would have a negligible effect on the character of the Green Belt.

Although location of telecommunications apparatus in the Green Belt is inappropriate development in principle, because Lynwood Nurseries is an existing telecommunications site located within the Green Belt, there is no requirement to introduce a new base station. Consequently utilisation of this site is considered as a significant material consideration to be borne in mind.

While it is acknowledged that a wider pole and bulkier headframe will add to overall massing and prominence of the proposed installation and that the replacement mast would be more noticeable than the existing, it is not considered that it would have a serious impact on the openness and appearance of the Green Belt. It is believed that the marginal increase in visual impact is an acceptable price to pay for the wider benefits of the proposal.

With regards to equipment housing, none is proposed as all the required equipment would be located inside the existing equipment cabin. As such the openness and appearance of the Green Belt will not be compromised.

It is considered that, within the parameters of the site and the technical constraints of the network, the presence of a replacement mast would have a negligible effect on the openness of the Green Belt.

National Planning Policy

<u>Planning Policy Guidance Note 8 – Telecommunications (Revised) August 2001 (PPG8)</u> provides guidance on the planning requirements of telecommunication development and attention is drawn to the following paragraphs of PPG8.

Paragraph 1 states "The government's policy is to facilitate the growth of new and existing telecommunications systems whilst keeping the environmental impact to a minimum." Paragraph 2 continues "The aim of telecommunication policy is to ensure that people have a choice as to who provides their telecommunications services, a wider range of services from which to choose and equitable access to the latest technologies as they become available."

Paragraph 5 of PPG 8 relates to material considerations in determining proposals for telecommunications development. It states "Material considerations include the significance of the proposed development as part of a national network. In making an application for planning permission or prior approval operators may be expected to provide evidence regarding the need for the proposed development."

In respect of need, paragraph 6 states "Authorities should not seek to prevent competition between different operators and should not question the need for the telecommunications systems which the proposed development is to support".

Paragraph 14 requires that "Protection from visual intrusion and the implications for subsequent network development will be important considerations in determining applications."

Paragraph 65 advises that telecommunications development in the Green Belt is likely to be inappropriate development unless it maintains openness. It also confirms that the lack of a suitable alternative site that would meet the needs of network coverage or capacity might be considered as very special circumstances that could outweigh the degree of harm to the Green Belt.

<u>Planning Policy Guidance Note 2 – Green Belts (Revised) March 2001 (PPG2)</u> provides guidance on the planning requirement of development within the Green Belt area and the attention is drawn to the following paragraphs of PPG2.

Paragraph 1.5 states that there are five purposes of including land in Green Belts:

- To check the unrestricted sprawl of large built up areas;
- To prevent neighbouring towns from merging into one another;
- To assist in safeguarding the countryside from encroachment;
- To preserve the setting and special character of historic towns; and
- To assist in urban regeneration by encouraging the recycling of derelict and other urban land.

Paragraph 3.1 refers to the presumption against inappropriate development in the Green Belt. It advises that such development should not be approved, except in very special circumstances. Paragraph 3.2 goes on to clarify that very special circumstances to justify inappropriate development will not exist unless the harm by reason of inappropriateness, an any other harm, is clearly outweighed by other considerations.

Paragraph 3.15 advises that the visual amenities of the Green Belt should not be injured for development which is conspicuous and might be visually detrimental by reason of their siting, materials or design.

Since the application site is located within a green belt, the guidance contained in PPG2 is clearly relevant. The guidance note confirms the purpose of the Green Belt as comprising the prevention of urban sprawl and coalescence, to preserve the setting of historic towns and to assist in urban regeneration. The note confirms a presumption against inappropriate development within green belts and their visual amenities should not be adversely affected by proposals.

It is considered that the proposed developed fully adhere to the guidance contained in both PPG8 and PPG2.

Code of Best Practice on Mobile Phone Network Deployment - (November 2002)

The office of the Deputy Prime Minister released the Code of Best Practice on Mobile Phone Network Deployment in November 2002. Though the Code is a non-statutory document, as it was prepared jointly by representatives of central and local government and the mobile phone industry, it is a material consideration in this instance. The Code provides a principled approach to best practice for the voluntary and compulsory planning procedures, and for the siting and design of telecommunication installations.

General design principles for the sitting and design of all telecommunication installations is contained in paragraph 125 of the Code, though it is acknowledged in paragraph 126 that the options for design can be affected by site conditions, technical constraints, landscape features and capacity requirements.

Paragraph 135 of the Code outlines key considerations when siting equipment on an existing building. These include:

Be painted to correspond with the background or to reduce contrast;

Keep in proportion to the building or structure;

Have minimal impact above the roof line:

Not be detrimental to views and general skyline;

Avoid creating clutter.

Paragraph 153 of the Code goes on to outline the special considerations that should be taken into account when carrying out works in conservation areas. It emphasises the need to ensure that the particular character and appearance of the area should be preserved and so installations need to be carefully located.

In summary, the planning application submitted herewith fully embraces both the voluntary and compulsory good practice principles contained within the Code.

proposal is the compliance with l	most suitable in te ocal and national poli	erms of required of contract of the contract o	coverage, i	mpact upon	local	amenity,	and
For the reasons s	et out above, we con	sider that this applic	ation shoul	d be approv	ed.		
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Contact Details							
Name: (Agent)	Marta Zieminska	Telephone:	0118 951	9956 / 075	535 55	5 214	
Operator:	Vodafone and o2	Fax no:	0118 951	9931		· · · · · · · · · · · · · · · · · · ·	
Address:	Dukesbridge Chambers, Duke Street, Reading, RG1 4SA	Email Address:	Marta.zie m	minska@d	alyinter	rnational	l.co
	•						
	Marta Zieminska		05/10/20	11			
Signed:	Planning Consultant	Date:					
Position:		Company:	Daly Inte	rnational (L	IK) Ltd.		
		(on behalf of above operator)					

After taking into account all relevant factors in this area it is considered that the Lynwood Nurseries

Conclusions

Cornerstone: Supporting Technical Information for O2 & Vodafone: -

LYNWOOD NURSERIES

CS 23520, O2 CSR 64330, Vodafone NR 6560 (live)

Infill site for new 3G coverage and capacity both O2 and Vodafone sharing the same structure

Date Prepared: 01 Sep 2011



LYNWOOD NURSERIES

- •02 currently has poor coverage around East Rayleigh in the Rochford area and also on the A1027/A1015 A roads
- •It is proposed to infill onto the existing live VF site (6560) to fill this coverage hole.



KEY TO COVERAGE PLOTS

The enclosed radio propagation plots are based on Ordnance Survey geographical information.

The level of coverage provided by a particular site is dependant on a number of variables. The main factors which determine the extent of coverage are: the frequency of the signal emitted, the height of the antenna above ground level, the characteristics of the surrounding topography and the type and occurrence of ground clutter such as buildings and trees which can cause 'shadows' or reflections and can absorb the signal.

The Radio Planners have produced accurate visual representations of the level of coverage available in this particular area by using advanced computer modelling software based on a Geographical Information System. The programme takes the numerous variables as above into account and can then calculate and plot the strength of the signal.

Existing and proposed sites are indicated by a blue or red circle and dot with the site number. Blue represents O_2 and red represents Vodafone. The orientation of the antennas is shown by the arrows.



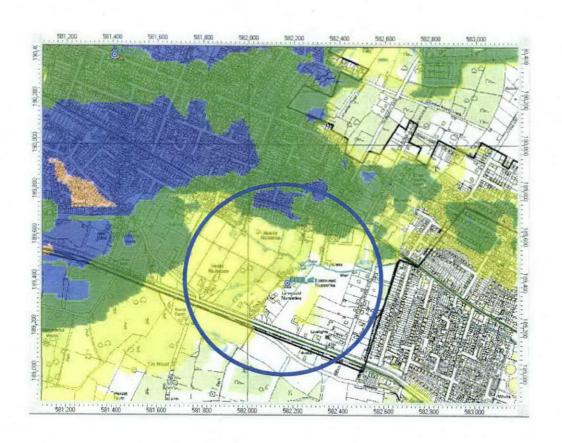
Site arrows show orientation of antennas

Note on large rooftop sites the antenna can be distributed in different locations from the site location. This is represented by a line extending outwards from the site to the antenna.



	Key for GSM (2G) Plots	
Orange	Duffineed agonal amengin to provide adequate service for indoor use of a hand portable mobile in orban areas.	Indoor Urban
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Green	THE STATE OF	Tes Call
Yellow	Sufficient signal strength to provide adequate service for outdoor use of a hand portable mobile.	Outdoor
No Colour	Insufficient signal strength to provide reliable service.	No Coverage
	Key for UMTS (3G) Plots	
Mayarta	Comment of the companion of an area of the comment	Bristone Duning Unfalse
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	use of a hand portable mobility in urban areas.	Urban
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Blue	use of a hand portable mobility in urban areas. Sufficiently per interrigible provide advisors (1974) provincious	Urban Indoor Suburban



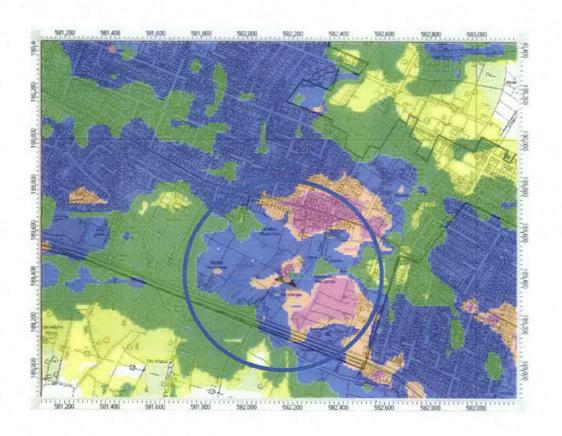


This coverage plan must be read in conjunction with the key and site specific supplementary information.

Each colour block represents 10 metres square.







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Site arrows show orientation of antennas

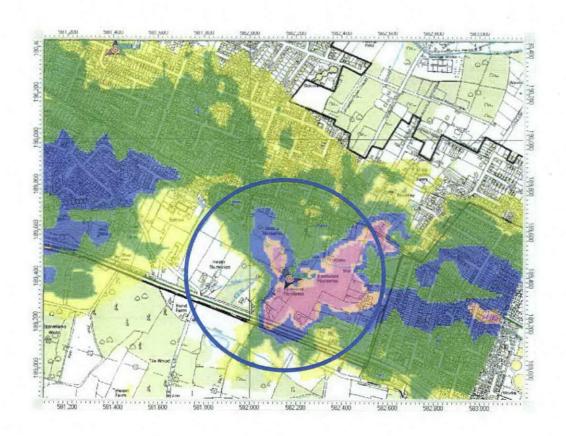
Note on large rooftop sites the antenna can be distributed in different locations from the site location. This is represented by a line extending outwards from the site to the antenna.

	Key for GSM (2G) Plots	- 5
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Green	The Control of the Co	la co-
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Grace	And professional files	lindar.
Yellow	Sufficient signal strength to provide adequate service for outdoor use of a hand portable mobile.	Outdoor
No Colour	Insufficient signal strength to provide reliable service.	No Coverage





VF Existing UMTS (3G) Coverage



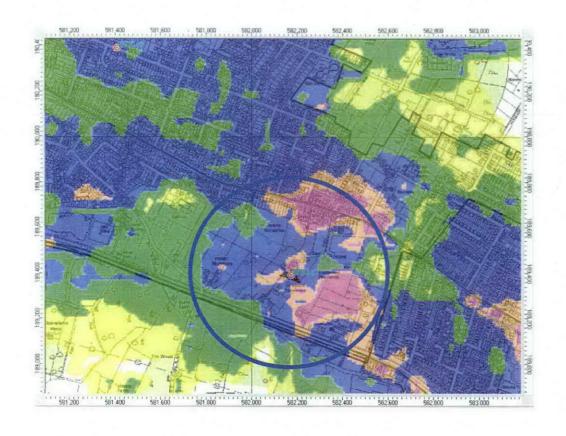
This coverage plan must be read in conjunction with the key and site specific supplementary information.

Each colour block represents 10 metres square.





VF Proposed UMTS (3G) Coverage



This coverage plan must be read in conjunction with the key and site specific supplementary information.

Each colour block represents 10 metres square.



DRA	AWING REGISTER	Date of Issue	06.09.11	
100	SITE LOCATION MAPS	1 A 1	B	
200	EXISTING SITE PLAN	I A I	В	
201	PROPOSED SITE PLAN	I A I	В	
300	EXISTING SITE ELEVATION 'A'	I A I	В	
301	PROPOSED SITE ELEVATION 'B'	IAI	В	
400	EXISTING ANTENNA & EQUIPMENT LAYOUT	I A I	В	
401	PROPOSED ANTENNA & EQUIPMENT LAYOUT	I A I	В	
450	TECHNICAL ARRANGEMENT	I A I	В	
500	EXISTING ANTENNA & EQUIPMENT SCHEDULES	I A I	В	
501	PROPOSED ANTENNA & EQUIPMENT SCHEDULES	A	В	
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CORNERSTONE CELL PLANNER	IEIEI I I I I I I I I
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"The Cornerstone Team is comprised of individuals employed either by Telefónica UK Limited or Vodafone UK Limited. It exists to facilitate network infrastructure sharing arrangements between the two companies, but not as an entity in its own right. Neither company is an agent for the other and the members of the Cornerstone Team employed by one company are not agents for the other company. The Cornerstone Team is not a partnership, nor is it incorporated as a limited company, it cannot enter into contracts, and cannot be responsible for debts, whether in its own name or on behalf of Telefónica UK Limited or Vodafone UK Limited".

INTERNATIONAL

	Cell Name		Opt	
LYNWOOD NURSERIES				
	Cell ID No's			
Cornerstone	Host	Share	er	
(ID) 23520	(VF) 6560	(O2) 064	1330	
Site A	Address / Contact (Details		
	ARTERIAL ROAD RAYLEIGH ESSEX SS6 7XT			

NGR 582170, 189392