



**TELECOMMUNICATIONS
BASE STATION UPGRADE WORKS**

CTIL and Vodafone Limited

Existing Telecommunications Base Station at

**BELGRAVIA COURT,
SOUTH COTE LANE,
SOUTHCOTE, READING,
BERKSHIRE,
RQ30 3AG**

**SUPPLEMENTARY
INFORMATION FORM**

and

**SUPPORTING STATEMENT
(incorporating DAS)**

December 2015

Daly International (UK) Ltd.

**Ref: (CS) 126939 - (VF) 23404
- BELGRAVIA COURT**

SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Belgravia Court	Site Address:	BELGRAVIA COURT, SOUTH COTE LANE, SOUTHCOTE, READING, BERKSHIRE, RQ30 3AG
NGR:	(E) 469824 (N) 172568		
Site Ref Number:	(CS) 126939 - (VF) 23404	Site Type: ¹	Macro

2. Pre Application Check List

Site Selection

Was a LPA mast register available to check for suitable sites by the operator or the LPA?	Yes	No
If no explain why: The proposal is an upgrade of an existing site. The use of existing sites as a framework for the expansion or development of new networks is in accordance with local and national (NPPF) planning policies.		
Were industry site databases checked for suitable sites by the operator:	Yes	No
If no explain why: The proposal is an upgrade of an existing site. The use of existing sites as a framework for the expansion or development of new networks is in accordance with local and national (NPPF) planning policies. Appendix B of the <i>Code of Best Practice</i> (first published November 2002, revised July 2013) echoes the NPPF's emphasis on the re-development or sharing of existing telecoms sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.		

Annual Area-Wide Information to LPA

Date of information submission to local planning authority	October 2014
Name of Contact:	
Summary of any issues raised:	An annual update plan was provided to the LPA by CTIL in October 2014.

Pre-application consultation with LPA

Date of written offer of pre-application consultation:	01.06.2015	
Was there pre-application contact:	Yes	No
Date of pre-application contact:	29.06.2015	
Name of contact:	Case officer Stephen Vigar, Reading Borough Council	

¹ Macro or Micro

Summary of outcome/Main issues raised:

Discussion with LPA – Meeting held on 29th June 2015

The agent entered into pre-application discussion with the LPA through a meeting held on 29th June 2015, to frame a reasonable proposal which is acceptable both in planning and radio coverage terms. The meeting was held at Reading Council with planning officer Stephen Vigar.

The subject of the discussion was the replacement of existing 11.8m pole with a 17.5m high pole.

Planning officer Stephen Vigar advised agent to investigate the re-location of proposed pole and move it behind the tree-line, to the west of existing equipment cabin. Officer was of the opinion that this would offer a better level of screening.

The agent and acquisition surveyor presented the option to the site-provider. However, the site-provider confirmed that the residents of Belgravia Court expressed concerns with regard to the idea of re-location. The pole would hamper their privacy and views, affecting their overall amenity value. Therefore, this option was not progressed further.

The agent further considered the option of replacing the pole with a lamp post. However, the highways department were of an opinion that the space to install a lamp pole on the pavement, would be insufficient. Moreover, a pavement installation was not considered superior to proposed pole location. The proposed location is benefitted by cover from trees and is setback from the pavement.

The agent presented the above constraints to officer Stephen Vigar, through email on 16th September 2015. Officer responded by email on 16th September 2015 and his principal comments were:

"[...] 17.5 metres would be well in excess of any highway structure in the area [...]"

"[...] Noticeably taller masts in this location would be very prominent and readily visible from the main road and would not camouflage well as highway structures due to their unusual height [...]"

"[...] Whilst Bath Road is a main road, this section retains a suburban character with low-rise buildings and trees predominating. In areas with this character more effort is needed to camouflage the equipment [...]"

"[...] If you intend to site the mast on the highway I would suggest that you consider maintaining the height at around 12.5m in this location [...]"

On receipt of the above advice, the agent emailed the case officer on 17th September 2015, explaining the constraints provided by nearby trees, which have grown since the pole was first installed. In order to improve existing coverage and provide new 4G coverage, a height increase is required. Since a height of 17.5m is considered detrimental to street-scene by LPA, the agent queried the LPA whether a height of 15m would be acceptable.

Planning officer Stephen Vigar responded by email on 17th September 2015 that a height of 13.5m could be considered as the upper limit for height of street-works poles in the area.

The agent re-surveyed the site with client's radio planner and design engineer, to explore the possibility of a height reduction. After careful consideration of the overall network and arrangement of existing cells in the surrounding area, our client's radio planner confirmed to drop the height to 12.5m. The radio planner confirmed that coverage will be adequate if not extraordinarily satisfactory. The existing poor coverage would undergo some improvement.

After receiving a positive inclination from LPA for a height below 13.5m, the agent considered the current scheme to benefit a planning application.

Ten Commitments Consultation

Rating of Site under Traffic Light Model:	Green	Amber	Red
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Outline of consultation carried out: Pre-application consultation packages including drawings of the proposal were issued to: Cllr John Ennis Cllr Deborah Edwards Cllr Matt Lawrence MP Alok Sharma [Please note:- Consultation was carried for a 17.5m high pole. On receipt of LPA's pre-application advice, the scheme was reduced in bulk and size to a 12.5m high pole. Since the scheme has reduced in size, the agent did not consider it necessary to undertake a re-consultation.]
Summary of outcome/Main issues raised: Cllr Ennis enquired if a comprehensive consultation was carried out for the proposal. Agent confirmed that appropriate stakeholders have been consulted. To date no other responses were received from other consultees.

School/College

Location of site in relation to school/college No local schools were identified as 'near' the proposal or to be candidates for pre-application consultation, when measured against the criteria listed in Appendix D of the Code of Best Practice (2013), p.44.
Outline of consultation carried out with school/college N/A
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 Defence/Aerodrome Operator been notified?	Yes	No
Details of response: N/A		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	No
Date served:	23.12.2015	

3. Proposed Development

The site:

Existing telecommunications mast at:

BELGRAVIA COURT, SOUTH COTE LANE, SOUTHCOTE, READING, BERKSHIRE, RQ30 3AG
[NGR: (E) 469824 (N) 172568]

Type of Structure:

The current telecommunications site is comprised of a 11.8m pole, with 1 no. equipment cabin and 1 no. meter cabinet at ground level.

Proposal Description:

The proposed works consist of the replacement of existing 11.8m pole with 12.5m pole, replacement of 3 no. existing antennas with 3 no. proposed antennas, replacement of 1 no. existing equipment cabinet with 3 no. proposed cabinets internally within cabin; plus ancillary works.

Overall Height:	12.5m
Height of existing mast:	11.8m
Equipment housing:	
Equipment housing dimensions:	N/A
Height of proposed dish antennas (CL)	N/A
Materials:	
Antennas/Dish antennas – type of material and external colour:	Steel – Grey
New pole replacement	Steel – Grey to match that being removed

Reasons for choice of design:

The current scheme is based on pre-application advice sought by the agent, through a meeting held at Reading Council on 29th June 2015 with officer Stephen Vigar. The agent sought pre-application advice to frame a reasonable proposal for upgrade of subject site, which is acceptable both in planning and radio coverage terms.

The agent's initial scheme consisted of a 17.5m high replacement pole. After a detailed discussion at the meeting, followed by an exchange of emails, the LPA conceded to a height not more than 13.5m. The LPA was of the opinion that this would be the maximum height that could be allowed in an area of suburban character, where taller poles may cause considerable visual impact.

After careful consideration, our client's radio planner confirmed that a 12.5m high Jupiter pole would be adequate to meet the site's capacities and transmit 4G frequencies. On receipt of a positive indication from LPA for a height below 13.5m, the agent considered the current scheme to merit the submission of a new application.

1. Need for upgrade:

The current installation provides 2G (calls) & 3G (internet) coverage to Vodafone customers in the area.

As part of Vodafone's continued network improvement program, there is a specific requirement for a radio base station upgrade at this location to provide new 4G (Fast data) service, plus enhanced, integrated 2G & 3G for both Vodafone and Telefónica to improve overall capacity. The site, following the proposed upgrade, will be 'future proof' meaning it will also be capable of accommodating new, more advanced technologies when they come on stream.

The new 12.5m pole is required due to changed radio coverage dynamics (new 2G & 3G for Telefónica & new 4G for both operators) associated with its new position providing new technologies at different frequencies for two operators within the overall upgraded, integrated network.

2. Siting and Design:

During pre-application discussions, the LPA had suggested to explore the option of moving the proposed pole behind the adjoining trees, near the existing equipment cabin. The agent and acquisition surveyor presented the option to the site-provider. However, the site-provider confirmed that the residents of Belgravia Court do not prefer this option. It would affect their privacy, amenity value and generate unsightly views from their residences.

The agent explored the option of replacing the pole with a lamp post towards the front side of pavement. However, the highways authority considered the space for installation of a lamp pole on the pavement as insufficient. Moreover, a pavement installation was not considered superior to current location, which is set back and benefits from screening by nearby tree cover.

The choice of possibilities are limited as they are affected by practical constraints or LPA's advice received at pre-consultation. Therefore, the design was changed to a 12.5m high street-works pole. This was possible only by losing the lower stack of antennas (as shown in previous scheme for 17.5m pole) and making few compromises on capacity enhancement.

The proposed pole is a 12.5m high single-stack Jupiter S-range pole, hosting apparatus of both operators. The new pole will be finished in grey (or as per the LPA's choice). The pole would merge with existing vertical elements on the street like neighbouring street lamps and blend with the street-scene. The proposed pole will be camouflaged by the line of conifers in the background, hereby reducing the appearance of street clutter.

The width (or thickness) of the pole is defined by its geographical location and the need to maintain deflection. The existing pole is a Phosco MK3 street-works pole, which is approx. 244mm wide at the base and 480mm wide at the shroud. The proposed pole would be a S-Range Jupiter pole consisting of a single stack of antennas. It would be 324mm wide at the base and 540mm wide at the shroud. Therefore, there wouldn't be a stark visual change as compared to the site's existing appearance.

The proposed pole model was considered suitable from a technical perspective since it would be able to accommodate both improved 2G, 3G equipment and new 4G equipment, for two Operators.

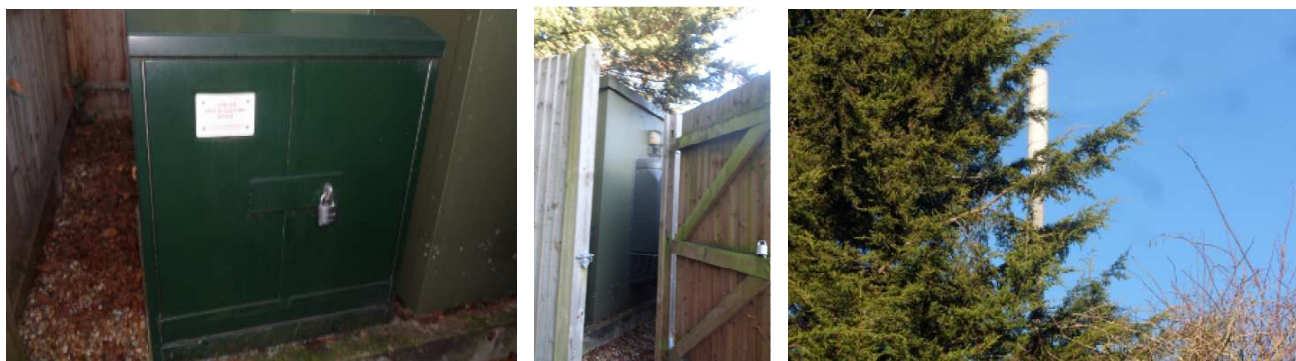


Fig. 1: Photographs showing existing meter cabinet, equipment cabin and pole

3. Tree Protection:

With regard to trees nearby, the agent would like to draw attention to the following aspects:

- (a) The trees are not protected by Tree Preservation Orders (TPO);
- (b) Our construction specialists confirmed that new pole will be installed by means of a crane and team at ground level;
- (c) Care will be taken to avoid contacting any tree branches when using a crane to install the proposed pole;
- (a) No profound earthworks are required to install the cabinets. All the cabinets would be installed internally within existing equipment cabin.
- (b) As standard practice when installing the proposed feeder ducts, earth will be removed by hand. Any tree roots found during this excavation will be severed using a sharp handsaw or secateurs. This will ensure that the roots are not ripped or torn, and will have a good point from which to regrow. This will give a

chance to occlude and prevent fungal pathogens from entering. Any root removal will be so minor as not to affect the overall root system of any of the adjacent trees.

Development of this site provides an opportunity to improve the existing local telecommunications network and show compliance with national and local planning policies which both encourage the usage of existing structures and sharing of telecommunications facilities.

Bearing in mind the above points, the agent opinionated that the proposal is demonstrably in accordance with both national and local policies, supporting and governing the location and design of telecoms installations. The proposal is also in full accordance with the particulars of Appendix B of the Code of Best Practice (July 2013), which echoes the NPPF's emphasis, on the re-development or sharing of existing sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.

4. Technical Information

ICNIRP Declaration attached	Yes	No
Frequency:	2G: 900 MHz, 3G: 900 MHz, 2100 MHz 4G: 800 MHz	
Modulation characteristics ²	See below	
Power output (expressed in EIRP in dBW per carrier)	Maximum 32 dBW	
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. In order to minimise interference within its own network and with other radio networks, Vodafone operates its network in such a way the radio frequency power outputs are kept to the lowest levels commensurate with effective service provision As part of Vodafone’s network, the radio base station that is the subject of this application will be configured to operate in this way. All operators of radio transmitters are under a legal obligation to operate those transmitters in accordance with the conditions of their licence. Operation of the transmitter in accordance with the conditions of the licence fulfils the legal obligations in respect of interference to other radio systems, other electrical equipment, instrumentation or air traffic systems. The conditions of the licence are mandated by Ofcom, an agency of national government, who are responsible for the regulation of the civilian radio spectrum. The remit of Ofcom also includes investigation and remedy of any reported significant interference. The telecommunications infrastructure the subject of this application accords with all relevant legislation and as such will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest.		

5. Technical Justification

Please find attached a set of panoramic photographs which depict the height of the surrounding trees.

²The modulation method employed in 2G (GSM) is GMSK (Gaussian Minimum Shift Keying) which is a form of Phase modulation
The modulation method employed in 3G (UMTS) is QPSK (Quad Phase Shift Keying) which is another form of Phase Modulation
The modulation method employed in 4G (LTE) is 64 QAM (Quadrature Amplitude Modulation) which is another form of Phase Modulation

Reason(s) why site required e.g. coverage, upgrade, capacity:

The current installation provides 2G (calls) & 3G (internet) coverage to Vodafone customers in the area.

As part of Vodafone's continued network improvement program, there is a specific requirement for a radio base station upgrade at this location to provide new 4G (Fast data) service, plus enhanced, integrated 2G & 3G for both Vodafone and Telefónica to improve overall capacity. The site, following the proposed upgrade, will be 'future proof' meaning it will also be capable of accommodating new, more advanced technologies when they come on stream.

The new 12.5m pole is required due to changed radio coverage dynamics (new 2G & 4G for Telefónica & new 4G for both operators) associated with its new position providing new technologies at different frequencies for two operators within the overall upgraded, integrated network.

1. Radio Coverage Constraints:

By way of providing interpretative background information, 3G cells are small and date from the early part of the last decade. 3G cells were basically 'infill' sites located between the larger 2G cells, which were also at the time upgraded to carry 3G signal.

4G cells are of a different radius yet again. Since the development of entirely new, 4G-only cells is in neither the telecommunication operator's nor the LPA's interest, the operator, where possible, identifies existing base stations in suitable locations and designs its 4G network around them. The use of existing sites as a framework for the expansion or development of new networks is in accordance with local and national planning policies.

The radius of a 4G cell is much larger than that of a 3G only cell. The proposed height is an absolute minimum radio requirement, offering a certainty of continuous coverage between 4G cells and consequently keeping the number of 4G sites to a minimum, hereby avoiding the need to develop new sites. Network development which keeps the number of sites and their associated environmental impact to a minimum, is in accordance with local and national planning policies.

After multiple surveys and careful consideration, our client's radio engineer confirmed that existing coverage can be improved alongwith the provision of 4G frequencies, from a height of 12.5m. The coverage would be adequate if not above satisfactory. If the height is further reduced, it would lead to insufficient coverage, meaning that the cell would need to be 'split' and a 'second' base-station installed elsewhere, which does not correspond to national and local planning policies.

2. Tree Constraints:

As discussed during pre-application consultation, the proposed height is required due to the adjoining trees, which have grown tall since the pole was first installed. The increase in height is required due to the obstruction caused by trees, leading to ineffective transmission. This can be clearly understood after looking at the Panoramic Aerial Survey photographs below, taken from a height of 11 metres:



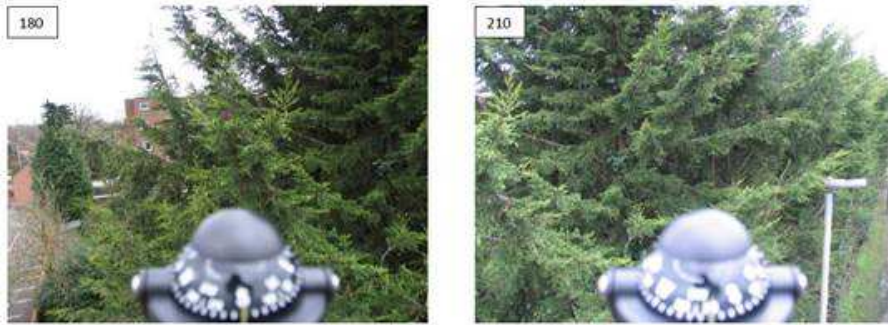


Fig. 2: Panoramic Aerial Survey photographs from a height of 11m

The new pole will administer the aforementioned services to the customers of both Vodafone and Telefónica, adhering to national (NPPF) and local telecommunications policies with regard to mast sharing. The upgrade of this mast provides a suitable juncture to improve the existing local telecommunications network and demonstrate conformity with national and local planning policies which both promote the usage of existing structures and sharing of telecommunications installations.

Further detail regarding the general operation of the network can be found in the accompanying document entitled 'General Background Information for Telecommunications Development'. This information is provided to assist the local planning authority in understanding any technical constraints on the location of the proposed development.

6. Site Selection Process

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

The proposal is an upgrade of an existing site. The use of existing sites as a framework for the expansion or development of new networks is in accordance with local and national (NPPF) planning policies.

Notwithstanding NPPF's policies in favour of existing sites, finding alternative sites/other existing sites was challenging in the immediate area.

This is because at the time of original application for the subject site, the 3G network in this sector of Reading was still developing. The locations of nearby cells were not yet entirely fixed. The operator's Direct Search Area (DSA) consequently covered a wide area, given the cell design elasticity.

Today however, the locations of complimentary base-stations are fixed, meaning that (as outlined below), any alternative 4G/3G/2G-capable dual-operator (Telefonica and Vodafone) base station must be located within 200 metres of the existing subject site, to facilitate effective coverage, as illustrated in the figure below.



Fig. 3: Figure illustrating 200m radius around the existing cell 23404

Though a few existing sites were found within this radius, the sites are essentially street-work options. They are close to the top-end of street-pole models - in terms of number of Operators, scale, number of frequencies transmitted etc. Any further intensification of the existing street-work poles would push them to a monopole territory, in terms of structure. This was not considered feasible in planning terms. The suburban nature of the area and residential land-uses nearby restrict Operators to propose independent discrete network solutions (DNS) than a shareable mast or lattice tower structure.

The land-uses around the site are a mix of residential, institutional and commercial uses. Finding alternative new sites would only add to the proliferation of base-stations (street-works poles) within the stretch of Bath road.

Appendix B of the *Code of Best Practice* (first published November 2002, revised July 2013) echoes the NPPF's emphasis on the re-development or sharing of existing telecoms sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.

Therefore, the subject site was deemed to be superior to alternative sites in the local area.

Land use planning designations:

The site is not included within any particular designations or land allocations that need to be taken into account in addition to planning policy relating to electronic communications.

Additional relevant information:

Please refer to Supporting Statement (below).

Contact Details

Name: (Agent)	<u>Aruna Venkatraman</u>	Telephone:	<u>01189519930</u>
Operator:	<u>CTIL and Vodafone Limited</u>	Fax no:	<u>01189519931</u>
Address:	<u>Daly International (UK) Ltd Theale House (Building B 1st Floor), Brunel</u>	Email Address:	<u>Aruna.Venkatraman@dalyinternational.com</u>

Road, Theale, RG7
4AQ

Signed:

Aruna Venkataraman

Date:

23.12.2015

Position:

Planning
Consultant

Company:

(on behalf of CTIL
and above
operator)

SUPPORTING STATEMENT INCORPORATING DAS

This statement forms part of an application on behalf of CTIL & Vodafone Ltd. 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.

To assist your determination this section also provides an assessment against relevant local and national (NPPF) planning policies and the *Code of Best Practice*.

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).

Introductory Note

Vodafone Limited has entered into an agreement with Telefónica UK Limited pursuant to which the two companies plan to jointly operate and manage a single network grid across the UK. These arrangements will be overseen by *Cornerstone Telecommunications Infrastructure Ltd* (CTIL) which is a joint venture company owned by Vodafone Limited and Telefónica UK Limited. This agreement allows both organisations to:

- pool their basic network infrastructure, while running two, independent, nationwide networks
- maximise opportunities to consolidate the number of base stations
- significantly reduce the environmental impact of network development

This application is submitted for and on behalf of CTIL and Vodafone Limited. As part of Vodafone's continued network improvement program, there is a specific requirement for a radio base station upgrade at this location to provide new 4G coverage and enhanced, upgraded and integrated 2G & 3G coverage on the part of two operators. The site will become 'future proof', meaning capable of accommodating new, more advanced technologies when they come on stream.

Benefits of the upgrade

The benefits accruable to local customers by the improved 4G coverage and data capacity are numerous and significant, including:

- social inclusion;
- mobile working;
- education services; and
- 4G to Wi-Fi services on public transport.

Site

The current scheme is based on detailed pre-application advice that was sought by the agent, through a meeting held at Reading Council on 29th June 2015 with officer Stephen Vigar. The agent sought pre-application advice to frame a reasonable proposal for upgrade of subject site, which is acceptable both in planning and radio coverage terms.

The agent's initial scheme consisted of a 17.5m high pole. After a detailed discussion at the meeting, followed by an exchange of emails, the LPA conceded to a height not exceeding 13.5m. The LPA was of the opinion that this would be the maximum height that could be allowed in an area of suburban character, where taller poles may cause considerable visual impact.

After careful consideration, our client's radio planner confirmed that a 12.5m high Jupiter pole would be adequate to meet the site's capacities and transmit 4G frequencies. On receipt of a positive indication from LPA for a height less than 13.5m, the agent considered the current scheme to merit the submission of a new application.

The site is located within the premises of Belgravia Court on Bath road. It is placed to the north-eastern corner of the land. The site is placed approx. 30m to the west of Bath road-Southcote lane roundabout. It is located

approx. 150m to the east of Berkshire West NHS. Bath road is a busy thoroughfare. The surrounding land-uses are a mix of residential, institutional and commercial uses. The site is accessed through the premises of Belgravia Court.

The pole is visible when one passes Bath road. However, the tree cover in the background, which is a set of conifers lining the extent of Belgravia Court along Bath road, provides relief and assists in reducing the visual impact of the pole. Due to the tree cover, the pole is hardly visible when one passes Bath road and heads towards central part of Reading.

The current telecommunications site is comprised of 11.8m existing pole, with 1 no. equipment cabin and 1 no. meter cabinet at ground level.

Design and Appearance

The proposed development is the subject of a comprehensive re-development of the site, as part of the overall network, to absorb 4G technologies [Refer Section 5: Technical Justification]. The required coverage area was evaluated to find any alternative sites that are able to imbibe the technology upgrade better. No options, superior to the existing site location, were found [Refer Section 6: Site Selection Process of the application].

The design of the proposed pole is guided by:

- (i) technical and operational constraints, meaning that the pole needs to be of the proposed height, to provide continuous 4G coverage and retain existing 2G & 3G coverage [Refer Section 5: Technical Justification];
- (ii) planning constraints, inferring that the visual impact by the proposed pole on nearby residences and public views must be relatively minimal [Refer Section 6: Site Selection Process & Section 3: Siting & Design]; and
- (iii) design constraints, which have been explained below.

Siting & Design Considerations:

During pre-application discussions, the LPA had suggested to explore the option of moving the proposed pole behind the adjoining trees, near the existing equipment cabin. The agent and acquisition surveyor presented the option to the site-provider. However, the site-provider confirmed that the residents of Belgravia Court do not prefer this option. It would affect their privacy, amenity value and generate unsightly views from their residences.

The agent explored the option of replacing the pole with a lamp post towards the front side of pavement. However, the highways authority considered the space for installation of a lamp pole on the pavement as insufficient. Moreover, a pavement installation was not considered superior to current location, which is set back and benefits from screening by nearby tree cover.

The choice of possibilities are limited as they are affected by practical constraints or LPA's advice received at pre-consultation. Therefore, the design was changed to a 12.5m high street-works pole. This was possible only by losing the lower stack of antennas (as shown in previous scheme for 17.5m pole) and making few compromises on capacity enhancement.

The proposed pole is a 12.5m high single-stack Jupiter S-range pole, hosting apparatus of both operators. The new pole will be finished in grey (or as per the LPA's choice). The pole would merge with existing vertical elements on the street like neighbouring street lamps and blend with the street-scene. The proposed pole will be camouflaged by the line of conifers in the background, hereby reducing the appearance of street clutter.

The width (or thickness) of the pole is defined by its geographical location and the need to maintain deflection. The existing pole is a Phosco MK3 street-works pole, which is approx. 244mm wide at the base and 480mm wide at the shroud. The proposed pole would be a S-Range Jupiter pole consisting of a single stack of antennas. It would be 324mm wide at the base and 540mm wide at the shroud. Therefore, there wouldn't be a stark visual change as compared to the site's existing appearance.

The proposed pole model was considered suitable from a technical perspective since it would be able to accommodate both improved 2G, 3G equipment and new 4G equipment, for two Operators.



Fig. 4: Photographs showing existing meter cabinet, equipment cabin and pole

Tree Protection:

With regard to trees nearby, the agent would like to draw attention to the following aspects:

- (d) The trees are not protected by Tree Preservation Orders (TPO);
- (e) Our construction specialists confirmed that new pole will be installed by means of a crane and team at ground level;
- (f) Care will be taken to avoid contacting any tree branches when using a crane to install the proposed pole;
- (c) No profound earthworks are required to install the cabinets. All the cabinets would be installed internally within existing equipment cabin.
- (d) As standard practice when installing the proposed feeder ducts, earth will be removed by hand. Any tree roots found during this excavation will be severed using a sharp handsaw or secateurs. This will ensure that the roots are not ripped or torn, and will have a good point from which to regrow. This will give a chance to occlude and prevent fungal pathogens from entering. Any root removal will be so minor as not to affect the overall root system of any of the adjacent trees.

While it is acknowledged that the proposed upgrade will adjust the appearance of the existing installation due to the new monopole, the nature of the immediate surroundings of the site will provide a discrete siting for this installation to ensure it has a minimal impact on the integrity of the local visual environment. The screening provided by trees will ensure that the pole does not affect the amenity value or harm privacy of neighbouring sensitive land-uses.

Bearing in mind the above points, the agent opinionated that the proposal is demonstrably in accordance with both national and local policies, supporting and governing the location and design of telecoms installations. The proposal is also in full accordance with the particulars of Appendix B of the Code of Best Practice (July 2013), which echoes the NPPF's emphasis, on the re-development or sharing of existing sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.

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. Vodafone and Telefónica operate within radio frequency bands which are licensed and specific to them and this is regulated in the UK by the Office of Communications (Ofcom).

Health and Mobile Phone Base Stations

The Mobile Phones and Health Report (2000), by the *Independent Expert Group on Mobile Phones* under the chairmanship of Professor Sir William Stewart (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".

The Stewart Report recommended that, as a precautionary approach, the *International Commission on Non-Ionizing Radiation Protection* (ICNIRP) guidelines for public exposure be adopted in the UK. In response to the

report, 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.

One of the recommendations of the Stewart Report was to establish a research programme to address uncertainties regarding mobile phone base stations and health. This programme was called the Mobile Telecommunications and Health Research (MTHR) Programme. The final report from this programme was published in February 2014. The report noted that the research conducted found no evidence of biological or adverse health effects from the radio waves produced by mobile phones or their base stations.

In June 2011 the World Health Organisation (WHO) noted that

“..A large number of studies have been performed over the last two decades to assess whether mobile phones pose a potential health risk. To date, no adverse health effects have been established as being caused by mobile phone use..”

WHO factsheet 193: Electromagnetic fields and public health: mobile telephones

In April 2012 the Health Protection Agency's independent *Advisory Group on Non-ionising Radiation* (AGNIR) published a report entitled “Health Effects from Radiofrequency Electromagnetic Fields”. This report concluded that there is no convincing evidence that mobile phone technologies cause adverse effects on human health. In addition, AGNIR found that although a substantial amount of research has been conducted, there is no convincing evidence that RF field exposure below the internationally agreed guideline levels applied in the UK causes health effects in adults or children.

All Vodafone and Telefónica installations are designed, constructed and operated in compliance with the precautionary ICNIRP public exposure guidelines. An ICNIRP certificate is provided as part of this application.

For further detail on these topics, please refer to the accompanying document entitled ‘Health and Mobile Phone Base Stations’.

Noise

There will be no noise issues related to this site.

Planning Policy Framework

The relevant planning policy framework that has been taken into account and in part already alluded to is found principally within:

- The Development Plan
- National Planning Policy Framework (NPPF)
- The Code of Best Practice on Mobile Network Development in England

These documents provide the overall policy background for electronic communications development, site specific policies and the key considerations relevant to the siting and design of appropriate electronic communications development.

Local Planning Policy

The planning policies that were considered relevant in this case are policies from Sites and Detailed Policies Document adopted in 2012 and Core Strategy adopted in 2008.

The key policies from the Sites and Detailed Policies Document adopted in 2012 are Policy DM21 – Telecommunications Development, Policy DM4 – Safeguarding Amenity and Policy DM12: Access, Traffic and Highway-Related Matters :

“Policy DM21 – Telecommunications Development

Proposals for telecommunications development will be permitted provided that:

- *They do not have an adverse impact on the visual amenity of the surrounding area;*

- *The apparatus will be sited and designed so as to minimise its visual impact by the use of innovative design solutions such as lamp column 'swap-outs' or concealment/camouflage options; and*
- *Alternative sites and site-sharing options have been fully investigated and it has been demonstrated that no preferable alternative sites are potentially available which would result in a development that would be less visually intrusive."*

"Policy DM4 – Safeguarding Amenity

Development will not cause a significant detrimental impact to the living environment of existing or new residential properties, in terms of:

- *Privacy and overlooking;*
- *Access to sunlight and daylight;*
- *Visual dominance and overbearing effects of a development;*
- *Noise and disturbance;*
- *Artificial lighting;*
- *Vibration;*
- *Dust and fumes;*
- *Smell; or*
- *Crime and safety."*

"Policy DM12: Access, Traffic and Highway-Related Matters

Development will only be permitted where:-

- *Accesses and works to the highway comply with the adopted standards of the Transport Authority³⁷;*
- *The development would not have a material detrimental impact on the functioning of the transport network;*
- *The proposals would not be detrimental to the safety of users of the transport network, including pedestrians and cyclists;"*

It is also worth noting Policy CS7 from the Core Strategy:

"All development must be of high design quality that maintains and enhances the character and appearance of the area of Reading in which it is located. Developments will also be assessed to ensure that they:

- *Respond positively to their local context and create or reinforce local character and distinctiveness, including protecting and enhancing the historic environment of the Borough and providing value to the public realm;*
- *Address the needs of all in society and are accessible, usable and easy to understand by them; and*
- *Are visually attractive as a result of good high quality built forms and spaces, the inclusion of public art and appropriate materials and landscaping.*

Applications for major and minor developments should be accompanied by a design and access statement that deal with all the above matters."

National Planning Policy

The general policy context can be summarised as follows:

- Government policy within the NPPF is to support high quality communications infrastructure and systems;
- Government policy is to keep the inevitable environmental impact associated with electronic communications development to the minimum;
- The best way to minimise environmental impact is to avoid the unnecessary proliferation of new radio masts and sites;

- Government policy supports the expansion of existing networks and encourages to use existing electronic communications sites;
- Operators should look to develop innovatively designed structures, such as those designed to blend in with the street scene.

The NPPF as a whole is aimed at encouraging a more positive approach to town planning. The importance of the proposed development is considered an important material planning consideration, as it is the type of new technology that the NPPF is seeking to support. It is therefore, important to reflect on some key policies within the NPPF, which are relevant to the development at this site:

a. Paragraph 14 advises that authorities should:

- positively seek opportunities to meet the development needs of their area [as part of plan making];
- meet objectively assessed needs unless the adverse effects would “significantly and demonstrably outweigh the benefits” ;

b. Paragraph 17 advises that planning should “proactively drive and support sustainable development to deliver the homes, businesses and industrial units, infrastructure and thriving local places that the country needs”;

c. Section 5 - Supporting Advanced Communications Infrastructure of the NPPF

The proposal is supported by, and accords with, the guidance in Section 5 of the NPPF, which provides further guidance on the Government’s objective of providing high quality communications networks in England.

The NPPF clearly acknowledges the benefits of modern electronic communications and seeks to encourage such development as being essential due to their role in supporting a modern economy, contributing to sustainable objectives, and enhancing local community access to a range of goods and services.

d. Section 7 – Requiring Good Design of the NPPF

Government places great importance on the design of the built environment and paragraph 56 of the NPPF states that this is an integral objective of achieving sustainable development. The careful approach taken to the design and siting of the proposed development complies fully with this general policy objective.

More specifically, the proposal is supported by the guidance in paragraph 65 of the NPPF, which states that:

‘Local Planning Authorities should not refuse planning permission for buildings or infrastructure which promote high levels of sustainability because of concerns about incompatibility with an existing townscape, if those concerns have been mitigated by good design (unless the concern relates to a designated heritage asset and the impact would cause material harm to the asset or its setting which is not outweighed by the proposal’s economic, social and environmental benefits).’

In respect of this guidance, all reasonable steps have been taken through careful siting and design to minimise the visual impact of the development, so far as the technical and operational constraints allow.

e. Finally, the site is not included within any particular designations or land allocations that need to be taken into account in addition to planning policy relating to electronic communications.

Evaluation in Light of National and Local Policy

The national policy documentation highlights the government’s positive stance regarding telecommunications development while highlighting the environmental and social benefits telecommunications can provide if employed correctly.

It is suggested that the proposed development adheres to each of the criteria as set out in this policy. Firstly the proposal site is not situated within a designated sensitive area such as Conservation Area or AONB and is to upgrade an existing structure to ensure no further masts are erected within the local area limiting any potential impact upon on local amenity. Due to network integration requirements the installation has to be located in a specific geographic location and it was considered that this was the best site in the locality that would allow the equipment to provide the service required while causing the least amount damage to amenity. As outlined above, the design solution put forward for this site has been carefully considered to ensure that it is of the minimum size that will allow for the provision of the coverage required and of a design that will ensure it can be readily accommodated within the local landscape.

It has clearly been demonstrated in the siting and design section that great care and consideration has been afforded to the problem posed by delivering an adequate telecommunications network to this area of Reading which would have a minimal impact on the amenities of the local area, and that the solution put forward is the optimum from a technical and planning perspective. The installation will meet the 2G/3G coverage currently provided by the existing installation which is to be decommissioned while will also provide the most up to date technology (4G) thus negating the need for a further installation in this locality to provide this much coveted service.

Taking all of this into consideration it is our opinion that the proposal meets all the local policy stipulated by Reading Council and national policy within the NPPF.

Code of Best Practice on Mobile Network Development

The *Code of Best Practice* (first published November 2002, revised July 2013) is produced jointly by a wide body of industry stakeholders, counting amongst them Mobile Phone Operators and representatives of Central and Local Government. It provides clear and practical advice to ensure the delivery of significantly better and more effective communication and consultation between operators, local authorities and local residents.

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 considered to be a material consideration in this case.

General siting and design principles for all telecommunications installations are provided in Appendix B of the Code. The principles exist subject to the following variables:

“..site conditions, technical constraints, landscape features and coverage and capacity requirements”.

Appendix B echoes the NPPF's emphasis on the re-development or sharing of existing telecoms sites as a means of reducing the number of such sites to the minimum consistent with the efficient operation of the network.

While Appendix B of the Code does not specifically address the re-development of existing streetworks/greenfield sites, it will nonetheless be instructive to refer to the measures suggested to reduce the environmental and visual impacts of ground-based masts. With respect to the proposed scheme these include:

- *Placing a mast near to similar structures. For example, industrial and commercial premises, road signs, lamp posts;*
- *Placing a mast within an existing group of trees (this may also include planting new trees to help integrate it into the landscape). This option is obviously more successfully implemented in or near wooded areas. However, care should be taken to avoid the unnecessary loss of existing trees. In addition, it should be borne in mind that the top of a mast placed in trees will need to be above the tree-line in order for the equipment to work and for the allowance of future tree growth*
- *Using simple and unfussy designs. Masts which have complex designs are more likely to dominate and be in discord with the landscape and have adverse visual impacts;*
- *Appropriate colouring. Masts seen against the sky, for example, are best left in their galvanised state or painted pale grey. Against a wooded backdrop a matt green or brown colour scheme would be more applicable.*

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

Conclusions

After taking into account all relevant factors in this area it is considered that the Belgravia Court telecommunication base station upgrade is optimal in terms of required coverage, reduction of negative impact upon local amenity/adverse effects on the surrounding landscape, and compliance with local and national policy.

For the reasons set out above, we consider that this application should be approved.