AVISON YOUNG

Norfolk House
7 Norfolk Street
Manchester
M2 1DW

T: +44 (0)844 902 0304
F: +44 (0)161 956 4009
avisonyoung.com

Date: 16 March 2021

Our Ref: 90444/CMN023/ATAP/MP

Chief Planning Officer
Camden Borough Council
Camden Reception
5 Pancras Square
London
N1C 4AG

Submitted via Planning Portal

Dear Sir or Madam,

FULL APPLICATION FOR TELECOMMUNICATIONS UPGRADE AT ENGLEFIELD, REGENTS PARK ESTATE, STANHOPE STREET, CAMDEN, LONDON, NW1 3LN (NGR: E 529013 / N 182639) (SITE REF: 90444/CMN023)

Avison Young are planning consultants acting on behalf of Mobile Broadband Network Limited (MBNL), which is a joint venture co-owned by EE Limited and H3G UK Limited, to submit the application contained herein for the upgrade of an existing telecommunications base station as proposed below.

Description of Development:

Removal of 6no existing antennas to be replaced with 12no new antennas hidden behind a GRP shroud, internal upgrade of existing equipment room and associated ancillary works thereto.
(NB: Proposed CTIL equipment to be done by others.

Enclosed you will find an application prepared on behalf of EE Limited and H3G UK Limited who are licensed operators that provide Cellular Network based upon the Global System for Mobile (GSM) standard and Universal Mobile Telecommunications System (UMTS) within the United Kingdom.

The supporting documents submitted with this application are as follows:

- Application Form (as generated through Planning Portal)
- Drawings 90444_ENGLEFIELD_002, 100, 150, 215, 265_J
- Planning Statement (Design and Access Statement)
- ICNIRP Certificate
- 5G and Future Technology
- Connected Growth Manual – Digital Infrastructure
- IET Guide to 5G

The application fee of £462 will be paid via the Planning Portal.

We trust you will find the enclosed information sufficient to register and validate the application. Should you require any further information, please contact me on the below details.

Yours sincerely,

Mandy Poon
Assistant Planner
Telecoms
Mandy.Poon@avisonyoung.com
D +44(0)161 956 4123
M +44(0)787 593 4974

Avison Young
For and on behalf of Mobile Broadband Network Limited

DESIGN AND ACCESS STATEMENT

The following design and access statement is enclosed in support of this proposal and demonstrates the general development principles that have been adopted in the final detailed design of this proposal.

1. HISTORY & BACKGROUND

Everything Everywhere Limited is a 50-50 joint venture between Deutsche Telekom and France Télécom and was formed in 2010 through the merger of their respective T-Mobile (UK) and Orange U.K. businesses. On 3 September 2010, Everything Everywhere announced that Orange would join Mobile Broadband Network Ltd (MBNL), the joint venture management company formed in December 2007 between T-Mobile UK Ltd and Hutchison 3G UK Ltd (H3G UK). In 2016, Everything Everywhere was chosen to work in conjunction with the Home Office to deliver the Emergency Services Network (ESN), which will deliver a smarter, better and cheaper communications capability.

The proposed upgrade subject to this application is part of the operators' continuous efforts to improve the existing 3G and 4G network across the country, in addition to introducing 5G technology to cater for current and future customer demands. It is evident that mobile phone usage has grown exponentially over recent years as more than 90% of the population now own a mobile phone.

Customers expect to be able to use their mobile phones and tablets in all locations as these devices have become intrinsic to our personal and professional lives. UK operators are continuously trying to improve their network infrastructure in order to adapt to the changing environment and keep up with customer demands. With constant advancements in radio technology, it is therefore a natural consequence for base stations to be upgraded to accommodate newer versions of radio equipment.

As part of EE and H3G's ongoing network programme, there is a requirement for infrastructure improvements in this area of Camden and the surrounding local community. The proposed upgrade works will allow for better coverage and increased capacity to satisfy the traffic demands set by mobile users passing through this region, and will also help towards futureproofing the network to reduce the frequency of works required at the site.

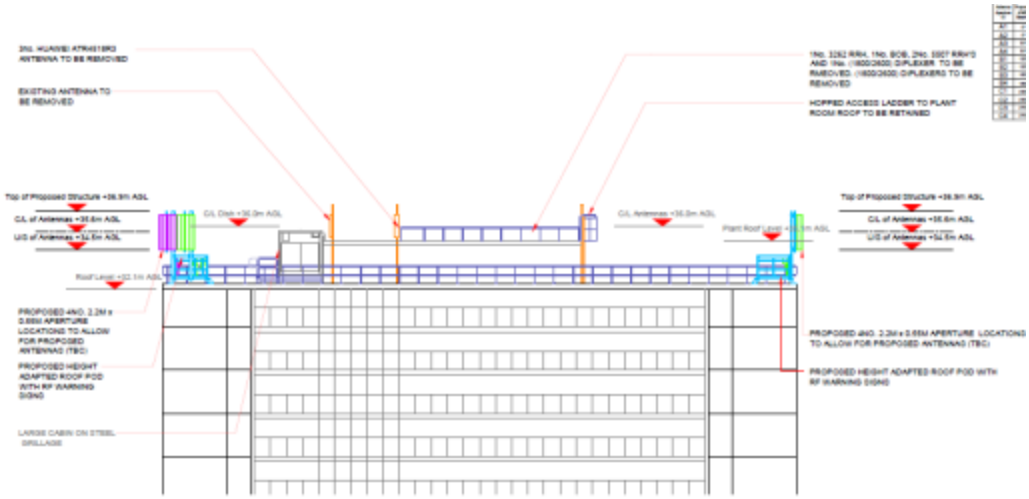
Site Selection

The applicant has adopted a sequential approach to site selection which is encouraged in the Code of Best Practice for Mobile Operators and the NPPF. Efforts have been made to utilise existing telecommunications sites wherever possible to prevent the proliferation of base stations. In this instance there was a suitable existing base station in the search area that could be upgraded to accommodate the required technologies for the operator's needs. As a result, it was not required to identify alternative site options.

2. PRE-APPLICATION

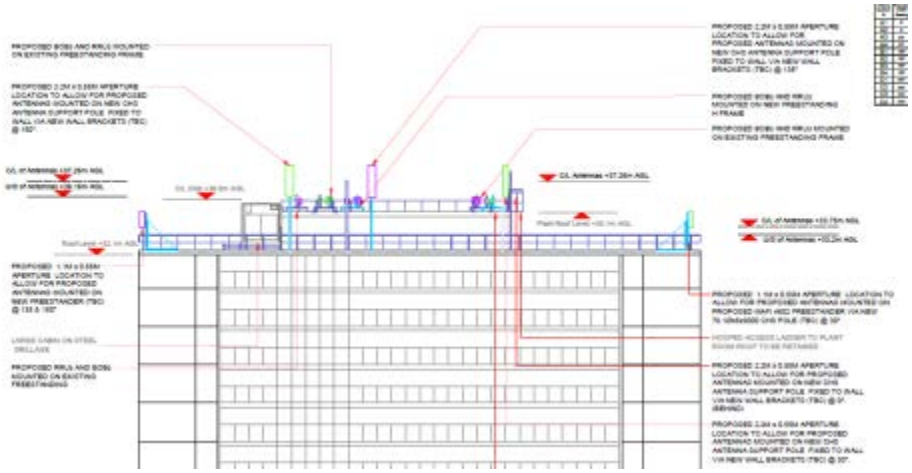
2.1 CONSULTATION

A pre-application enquiry was conducted in 2019 with consultation letters issued to local ward councillors and nearby schools/nurseries within close proximity. Under the LPA reference 2019/3384/PRE, the planning officer advised that the scheme would likely result in adverse visual impact to the surrounding area and was considered to be overly prominent due to the height, bulk and massing of the proposed equipment. Suggestions were made to improve the overall design such as relocating the antennas more centrally or attaching them to existing rooftop structures. Alternative recommendations were also made for a more bespoke design that could 'house' the proposed equipment, therefore allowing the antennas to be screened from view which would consequently aid the base station's assimilation onto the building. A screenshot of the original proposal has been included below for reference.



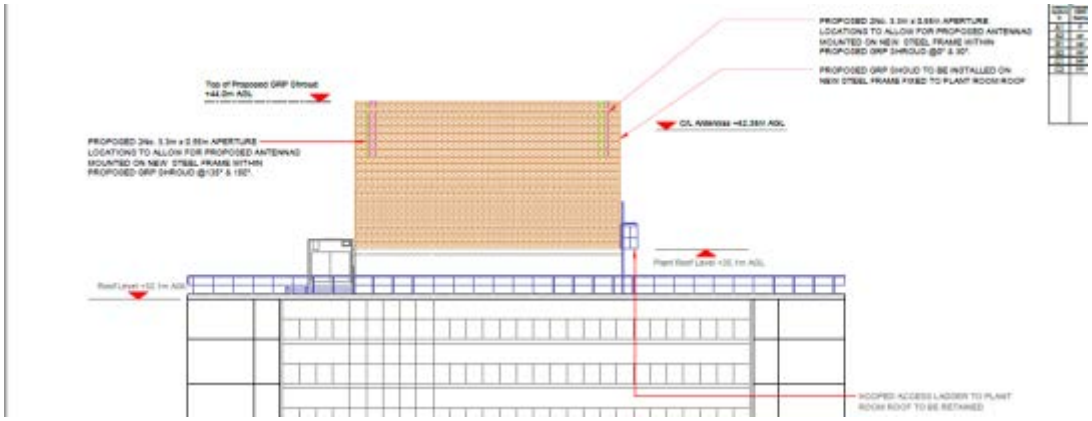
Upon receipt of this feedback the applicant reviewed the site and a new design was proposed in June 2020 in line with the planning officer's advice to reduce the overall visual impact. It was also explained that due to technical constraints it was not possible to position all of the proposed antennas around the plantroom without incurring a substantial height increase to ensure correct signal propagation and ICNIRP compliance. As illustrated in the below screenshot the applicant considered this design to strike a fair balance which limits the overall height of the antennas and also partially utilises existing antenna positions around the plantroom.

In response to these new plans, the planning officer did not consider this proposal to be a significant improvement to the previous upgrade scheme and queried whether alternative antenna designs could be explored. Additionally, the planning officer encouraged the use of screens to match the existing site context as a means of camouflaging the equipment which would create a more discreet appearance.



To address these queries it should be noted that the proposed antennas are the latest technologies available and they seek to provide a much improved mobile coverage to the local community and visitors in the area. The extent of public benefits are therefore demonstrable given the site's location within a high footfall area of central London where there is a high customer demand for faster and stronger digital connectivity. When assessing the acceptability of this proposal the public benefits to be provided should therefore not be undervalued.

In line with the planning officer's recommendation, a new design which incorporated GRP (Glass Reinforced Plastic) screening was produced and further feedback was sought from the planning officer. The revised plans retained existing antennas positions towards the centre of the rooftop to prevent new equipment positions around the roof edge. This positioning therefore necessitated a considerable height increase to satisfy the technical restrictions briefly mentioned above.



The planning officer concluded that the shrouding would be beneficial in screening the proposed equipment however the overall height and scale would result in an incongruous feature on the building. It was also stated that a new pre-application enquiry would be required should the applicant wish to seek further pre-application advice.

2.2 CURRENT POSITION

Taking this feedback into account, the applicant has redesigned the proposal which incorporates GRP shrouding around the lower roof section, thus allowing the antennas to be fully screened whilst also maintaining a lower overall height. This revised scheme is considered to satisfy the officer's constructive observations as well as the operator's technical objectives, which demonstrate the applicant's efforts to thoroughly engage with the Local Planning Authority to ensure the proposed upgrade is of an appropriate design.

Additional consultation letters were issued on 1st March 2021 to the Local Planning Authority, local Ward Councillors, Local MP and nearby schools/nurseries.

The applicant was informed by the Council that there would be an additional fee for the pre-application advice service. Upon reflection it was considered that a planning application would be formally submitted to achieve a more cost effective approach based on the extensive pre-application discussions already conducted, the utilisation of an existing base station for this upgrade and the minimal scale of development proposed.

No other responses were received from other consulted parties. Should any correspondence be received this will be forwarded to the Council.

3. DESIGN

3.1 THE PROPOSAL

The application site is located at Englefield, which is an approximately 35.1 metre high residential tower block on the western side of Stanhope Street. The surrounding area comprises a mixture of land uses including similar residential tower blocks and commercially used properties and other public realms. Englefield is a short distance away from Euston Road, Euston Train Station and Regents Park which emphasise the site's central location within a highly urbanised area of London.

The host building is an existing base station which is an established feature of this landscape that serves as a highly important cell within the wider mobile network due to the high density of users and general footfall in this urban environment. The site is not on a listed building or within designated Article 2(3) land. The nearest heritage assets of note are Grade II* listed Church of St Mary Magdalene and Regents Park Conservation Area which are located approximately 200m south west and 190 metres west of the application site respectively.

The description of development seeks to upgrade the existing site which comprises the removal of 6no antennas to be replaced with 12no new antennas behind GRP (Glass Reinforced Plastic) shrouds on the northern and southern end of the rooftop that will be painted to match the building exterior, with associated ancillary works thereto. All equipment cabinets will be upgraded internally within the existing rooftop cabin.

For the avoidance of doubt, the proposed CTIL antennas labelled on the planning drawings are for a different mobile operator and will be completed by others. These antenna positions are indicative and will be subject to a separate application. They are therefore not involved with this particular proposal but have been included for reference as the mobile operator has showed intent to install co-located equipment on this building. The applicant wishes to make this distinction clear and would like to encourage the local planning authority to assess the proposed works on their own merits in its current form. However, it should be noted that the proposed GRP shrouding would allow a greater opportunity for site sharing between operators in this instance as the equipment can benefit from the proposed screening.

Site Photo	
	
Type of Structure (e.g. tower, mast, etc)	Antenna support poles behind a proposed GRP shroud painted to match the building exterior
Overall Height	34.95 metres (top of proposed GRP shroud)
Height of Existing Building (if applicable)	35.10 metres (top of plantroom)
Equipment Housing	N/A - internal upgrade only
Materials (as applicable)	
Tower/mast etc – type of material and external colour	Galvanised Steel – manufactured grey RAL 7035
Equipment housing – type of material and external colour	N/A - internal upgrade only

Frequency	GSM 1865.5-1846.5 MHz
Modulation Characteristics[1]	GMSK & UMTS
Power Output (expressed in EIRP in dBW per carrier)	56 dBm
Height of Antenna (m above ground level)	33.85 & 34.40 metres to centre of antennas

3.2 DESIGN CONSIDERATIONS - SITING AND APPEARANCE

The applicant has sought to cause as little impact on the visual amenity of the area as possible whilst also ensuring that sufficient coverage requirements are achieved. A further explanation of the application's technical justification is explained in a later section of this statement however, it should be acknowledged from the offset that the proposed 12no antennas is technically necessary in order to create the power and capacity that the 5G frequency demands. Moreover, the proposed height of the antennas is the lowest possible height to ensure correct signal conveyance whereby a reduction in height may impact on the site's functionality as well as health and safety in relation to ICNIRP compliance. The operator's general practice will always endeavour to propose the minimum height and least amount of equipment necessary to sufficiently achieve the desired coverage levels and it should be recognised that any reduction in height or equipment would compromise the site's effectiveness within the network. There are no alternative design solutions available with the required technologies meaning the proposed scheme is the least visually intrusive design for the site's upgrade.

Whilst it is not necessary to outline alternative locations as the proposal seeks to utilise an existing base station, it should be noted that if an upgrade cannot be progressed at this location, a new base station within proximity to this site would be required to satisfy coverage objectives. The existing base station was deemed acceptable in its inception meaning that no concerns were raised in relation to its proximity to the surrounding character and associated sensitive assets. Though it is recognised that changes to a telecommunications site will to a degree be recognisable in any given environment, the visibility of equipment does not automatically lead to detrimental harm as each site must be assessed on its own merits and balanced against the public benefits to be provided in accordance with Paragraph 196 (NPPF). In this respect significant weight should be given to improving existing 4G coverage and introducing 5G technologies in recognition of the government's support for this form of development. The existing base station is an established feature of the urban landscape where telecommunications and other utilitarian equipment are commonly found across the roofscape, which sets precedence at this location.

As explained in the Pre-Application section of this statement, extensive discussions have been made with the Local Planning Authority to ensure the site is of a suitable design. When considering the site's existing context and the operator's technical requirements it was not possible to reuse existing support structures to accommodate the new technologies and a new design layout was therefore required. In order to strike a balance between coverage objectives and visual amenity the proposed GRP shrouding allows the proposed equipment to be completely hidden from view. This design accords with pre-application feedback in which local residents and passers-by will have no visibility of the telecommunications equipment. Moreover, as the proposed shrouding will be painted to match the building exterior and is of a similar height to the existing plantroom it will be viewed as a continuation of the building's overall appearance to ensure it can blend into the immediate surroundings.

Although the shrouding will present as a noticeable change in appearance to the current context, the benefit of camouflaging the proposed development emphasises its ability to appear congruent within the wider landscape. As a result, the proposed shrouding offers a highly discreet design which was a highlighted benefit in the planning officer's consultation comments. The overall height of the shroud will be approximately 2.85 metres above the main roof level, which is similar to the height of the central plantroom and is considerably lower than previous designs put forward during the pre-application stage. The applicant has positioned the proposed antennas around the lower roof area which has allowed the required height to be significantly reduced compared to previously designed schemes. The

[1] 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.

application will therefore not incur an additional break across the skyline as the central plantroom will remain the highest feature on this building.

Taken as a whole, the antennas will be read within the same air space across the roofscape and compared to the existing site at present the cumulative effects of the proposed equipment is minimal. Consequently, it is thought that visual amenity is not detrimentally impacted by this upgrade scheme but would be improved as the apparatus will be completely screened from view. Consequently, the applicant considers the proposal to be acceptable in regards to its siting and appearance.

Following on from this, it is recognised that the proposed shrouding can be read at height from wider vantage points however the setting of this application site upon a modern building within an area that is urban in character should be taken into consideration in the assessment of this application. As mentioned previously the proposed works will offer a minimal visual change to the existing base station which is not thought to be overly prominent from a greater distance. Given that Englefield is approximately 32.1 metres in height; the visibility of the rooftop at ground level is heavily restricted to oblique views for local residents and passers-by.

In addition to this, there are several screening elements along the neighbouring road networks that further reduce the site's visibility including buildings and street items such as trees that offer a similar vertical emphasis against the skyline. Englefield is also situated within a residential complex that is not directly adjacent to a larger public highway, meaning there is a lower level of anticipated traffic around the building for which such visibility could occur. For passing traffic, these built features will minimise the site's visibility resulting in momentary and infrequent viewpoints only. These points are evidenced in the above and below images taken from the immediate locality where the existing rooftop equipment can be seen but is relatively small in profile due to the distance, the tower's height above ground level and the size comparison with the tower itself.

It is ascertained that the existing equipment appears congruous across the skyline from these viewpoints meaning its overall prominence is negligible to passing pedestrians and motorists. This is especially prevalent when taking views from larger public highways where the application site is hidden behind existing built infrastructure. The inconspicuous nature of the current base station is a transferable point that should be applied to the assessment of this application given the minor alterations proposed. Within this wider perspective the proposed shrouding is capable of being absorbed into the existing landscape as it will present a minimalistic profile that can blend into the overall appearance of the building and the character of the surrounding area. These arguments should therefore be materially considered in the determination of this submission.

Following on from this, the proposal is not considered to adversely impact residential amenity despite the proximity of dwellings and schools in the local area. The equipment is situated on the rooftop away from residential windows and other public and private spaces meaning there is no direct influence on the natural enjoyment of daylight or free movement for the local community. Additionally, it should also be reiterated that that the application site accommodates an existing base station which sets precedence for telecommunications equipment at this location and is also befitting of the surrounding urban environment. As well as this, the applicant's decision to upgrade an existing site as opposed to identifying a new location is in accordance with planning guidance so as to prevent undue harm to visual amenity and proliferation.

Furthermore, in relation to sensitive heritage assets there are no statutory listed buildings or conservation areas within direct proximity of the application site. Given that the nearest assets are approximately 190 - 200 metres away from the site the applicant does not consider the proposal to have a detrimental impact on these designations as the proposed development would not be seen within the same context as these areas of historical importance. Subsequently there is little demonstrable evidence of potential adverse harm in this regard.

In summary the proposed design is considered to be respectful of the surrounding elements and does not cause detrimental harm to the visual amenity of the immediate environment. The siting and appearance of this proposal is therefore within the boundaries of acceptability as it will cause minimal interruption to the current landscape and is in line with the NPPF of utilising existing sites and buildings as well as pre-application feedback. When taking into account the existing precedence for telecommunications equipment, the proposed upgrade displays a level of consistency with the current site which results in a similar extent of visual impact as the equipment presently in situ. The proposed shrouding can be viewed as a continuation of the building's external appearance and seeks to protect the existing visual and residential amenity of the surrounding area.

Overall, the applicant strongly believes the scheme demonstrates a sympathetic design that is appropriate in scale and height within the wider context, and in any event, it is argued that the public benefits of the proposal would outweigh any perceived harm. As the scheme seeks to introduce 5G technologies during a climate where economic recovery is paramount, the weight of public benefits associated with this upgrade should be fully appreciated.

4. PLANNING POLICY CONSIDERATIONS

Section 38 (6) of the Planning and Compulsory Purchase Act 2004 states that Local Planning Authorities should determine proposals in accordance with development plan policies, unless material considerations indicate otherwise. Material considerations may include, inter alia, central government guidance, High Court and Inspector's decisions etc.

4.1 LOCAL PLANNING POLICY

The following local planning policies are relative and have been considered in the submission of this application. It is argued that the proposal is in accordance with the below policies which promote high-quality connectivity and supports new telecommunications infrastructure when it can be demonstrated that the design and siting of the base station is respectful to its surroundings.

Camden Local Plan (2017)

Policy G1 Delivery and Location of Growth
In line with this policy, the Council is committed to delivering high quality development within the Borough. The proposed development has been designed with respect to the surrounding area, amenity and sympathy to any nearby heritage assets. The utilisation of an existing base station demonstrates an efficient use of land that is supported by this policy.

Policy E1 Economic Development
With reference to this policy, the application seeks to improve existing mobile coverage in this area of Camden in which there are important public benefits which improve economic development. The Council are committed to improve the conditions for growth for local residents and businesses in which digital connectivity is an important element that has an increasing impact on business operations. Within the current climate the improved quality and speed of communications will support local businesses catering for current and future demands.

Policy A1 Managing the Impact of Development
The Council will seek to protect the quality of life of occupiers and neighbours. We will grant permission for development unless this causes unacceptable harm to amenity.

Policy D1 Design
The Council will seek to secure high quality design in development… The Council expects excellence in architecture and design. We will seek to ensure that the significant growth planned for under Policy G1 Delivery and location of growth will be provided through high quality contextual design.

In accordance with policies A1 and D1, the application is of a high quality design that has been carefully considered in respect to the existing setting and character of the surrounding area to protect visual and residential amenity. As standard practice the operator will take into account the local context and historic environment in the consideration process for design. These steps ensure there is minimal impact caused to any given area which has been demonstrated in this instance for this proposal. As noted earlier in the statement there is little demonstrable harm caused to nearby residents as well as any important heritage assets.

Camden Planning Guidance - Digital Infrastructure (March 2018)
The council's supporting guidance on telecommunications equipment encourages the expansion of electronic communications networks in accordance with the NPPF. The Council commits to keep the number of telecommunications masts to a minimum consistent with the efficient operation of the network. Reference should also be made to guidelines stipulated in the Code of Best Practice and should be evidenced in applications submitted to the Council. The use of existing masts and buildings is highly encouraged and where new sites are required, the equipment should be sympathetically designed to disguise the site as much as possible. This has been demonstrated in the application submitted herein.

4.2 NATIONAL PLANNING POLICY

This legislation was formally adopted in July 2018 and replaces the previous version which was introduced in 2012.

In relation to this policy the following sections are relevant in determining this application:

Section 2 – Achieving Sustainable Development
Paragraph 7 – *"The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs."*

The NPPF also encourages the achievement of sustainable development which can provide public benefits to building stronger and more competitive economic areas, as well as enhancing social communities through increased communication and connectivity.

Section 4 – Decision-Making
Paragraph 38 – *"Local planning authorities should approach decisions on proposed development in a positive and creative way. They should use the full range of planning tools available, including brownfield registers and permission in principle, and work proactively with applicants to secure developments that will improve the economic, social and environmental conditions of the area. Decision-makers at every level should seek to approve applications for sustainable development where possible."*

Section 6 – Building a strong, competitive economy
Paragraph 80 – "*significant weight should be placed on the need to support economic growth and productivity… this is particularly important where Britain can be a global leader in driving innovation*."

Section 10 – Supporting high quality communications
Paragraph 112 – "*Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections."*

In relation to these paragraphs, the Government's Industrial Strategy sets out a vision to drive productivity improvements across the UK, and sets out a delivery programme to make the UK a leader in *"artificial intelligence and big data".* The improvement of telecommunications capacity and provision of 5G is imperative to allow for areas to be connected, and is essential for economic growth.

Paragraph 113 – "*The number of radio and electronic communications masts, and the sites for such installation, should be kept to a minimum consistent with the needs of consumers, the efficient operation of the network and providing reasonable capacity for future expansion… Where new sites are required (such as for new 5G networks, or for connected transport and smart city applications), equipment should be sympathetically designed and camouflaged where appropriate*."

In relation to this paragraph, it is demonstrated that a sequential approach to site selection has been adopted to ensure that existing telecommunications installations have been explored in the first instance to prevent the proliferation of masts. A suitable existing base station was identified in this instance.

Paragraph 114 – "*Local planning authorities should not impose a ban on new electronic communications development in certain areas, impose blanket Article 4 directions over a wide area or a wide range of electronic communications development, or insist on minimum distances between new electronic communications development and existing development. They should ensure that:*

a) *They have evidence to demonstrate that electronic communications infrastructure is not expected to cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest; and*
b) *They have considered the possibility of the construction of new buildings or other structure interfering with broadcast and electronic communications services*."

Paragraph 115 – "*Applications for electronic communications development (including applications for prior approval under the General Permitted Development Order) should be supported by the necessary evidence to justify the proposed development. This should include:*

a) *The outcome of consultations with organisations with an interest in the proposed development, in particular with the relevant body where a mast is to be installed near a school or college, or within a statutory safeguarding zone surrounding an aerodrome, technical site or military explosives storage area; and*
b) *For an addition to an existing mast or base station, a statement that self-certifies that the cumulative exposure, when operational, will not exceed International Commission guidelines on non-ionising radiation protection; or*
c) *For a new mast or base station, evidence that the applicant has explored the possibility of erecting antennas on an existing building, mast or other structure and a statement that self-certifies that, when operational, International Commission guidelines will be met*."

In relation to this paragraph, the site is not located within 3km of a statutory safeguarding zone surrounding an aerodrome, technical site or military explosives storage area. Nearby schools and nurseries in close proximity have been consulted. The local planning authority was consulted with regards to the proposed upgrade scheme. An ICNIRP certificate is provided with this application to confirm that the proposal will not exceed International Commission guidelines. As the scheme is utilising an existing base station, it was not necessary to identify alternative site options.

Section 12 – Achieving well-designed places
Paragraph 124 – "*Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities.*"

In relation to this paragraph, the application seeks to upgrade an existing telecommunications site located on Englefield and the proposed equipment is the least amount possible to allow the site to transmit sufficiently; we therefore consider this design to be respectful to the character of the area. Although the site's change in appearance will to an extent be recognisable features of this street scene, efforts have been made to limit the visual impact on the surrounding amenity.

To conclude, the applicant therefore considers the proposal to be in accordance with local and national planning policies.

4.3 LONDON PLAN 2017

The Plan recognises the strategic importance of providing necessary infrastructure, including modern communications networks that London requires to secure its long-term economic growth. The proposed works will improve digital connectivity to the benefit of Londoners and businesses. The site will ensure a high level of connectivity is sufficient to meet the rising demands of reliable data and services of the public as well as safeguarding the reduction of coverage within the surrounding area. This application is therefore an integral element in securing the Mayor's vision for the delivery of modern communications networks across London.

5. TECHNICAL JUSTIFICATION

In the assessment of this application, material weight should be given to the public benefits that will be provided to local residents and visitors in this area. The site will form part of an improved coverage network which will also introduce 5G technology to allow for faster download speeds and better signal. More information on 5G can be found in the accompanying documents: *5G and Future Technology*, *Connected Growth Manual Digital Infrastructure* and The Institution of Engineering and Technology's *Guide for Local Planning Authorities Regarding 5G Masts and Small Cells*.

The demand and focus on delivering the 5th generation of mobile phone technology is the primary objective of licensed operators in the UK. In today's climate the existing 4G network has allowed users to video stream at much faster data speeds allowing the integration of smart phones into wider uses than previous generations. The inevitable consequence of technological advancements means that customers expect tasks to become even quicker and simpler.

To quote the *5G and Future Technology* document, *"It is estimated that 5G will directly contribute to an additional £7 Billion a year to the UK economy in just six years from roll-out. Although 5G will undoubtedly bring new opportunities and huge benefits to society, we cannot escape from the requirement that new structures, antennas and ancillary equipment will be needed. But to do so the network needs to be surveyed, designed and planning approval obtained. It has been acknowledged by Government that we must ensure that we have the infrastructure in place to deliver 5G across our major centres and transport networks."*

The introduction of 5G technology will improve the country's digital connectivity and appeal to visitors and businesses alike through the creation of smarter technology which will benefit the British economy.

"Examples of this new world that will emerge from ubiquitous 5G coverage involves such things as connected and autonomous vehicles, traffic management, smart manufacturing with heterogenous autonomous machines, direct machine to machine communication, advanced medical devices, automated agriculture, far greater security provision, more stable and reliable connectivity and advances in further application development with uses not yet identified. All of the above provides an insight into the future development of connectivity in our modern world and also provides a further insight into the expected minimum eight-fold increase in data usage by each mobile operator over the next 5-6 years."

The national government recognises the importance of the 5G rollout which is a stance taken by government minister Margot James, the NPPF and The National Infrastructure Commission.

"5G has the potential to dramatically transform the way we go about our daily lives, and we want the citizens of the UK to be amongst the first to experience all the opportunities and benefits this new technology will bring…." – Margot James, the government minister for digital).

"Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections." – NPPF (July 2018)

"Getting 5G deployment right will be critical in a future where connectivity is becoming integral to almost all parts of the economy, and the UK will put its future growth and competitiveness at risk it if falls behind." – 'Connected Future' National Infrastructure Commission 2016

Although Central Government understands that this may present concerns with the various design solutions proposed, it is important that all Local Planning Authorities understand the technical needs of 5G and better understands the wider advantages of such new technology. The government have also expressed support for new telecoms installations and the deployment of new technology. It is seen as essential for the country to develop and exploit the advantages of such new technology to the direct benefit of the public and the economy.

Coverage
The licence granted to EE and H3G demands that strict coverage qualities are met nationwide. It is essential that the benefits of mobile phones are available across the population. Mobile networks are constantly reviewed to ensure that there is adequate coverage and capacity to meet customer demands. In the current environment there is an expectation for signal coverage to be available at home, in the workplace, while shopping, enjoying leisure activities or in transit.

Quality
In order to ensure there is sufficient coverage within buildings such as homes, shops, offices etc. the radio signal has to be of adequate strength to penetrate walls. In urban and suburban areas a dense network of base stations is therefore required, which are sometimes less than 1 km apart. The improvement of 3G and 4G signal and introduction of 5G in this area will encourage economic advancement in accordance with the NPPF which seeks to develop connected environments.

Capacity
The upgrade of telecommunications masts across the country is an inevitable consequence of the continued growth of mobile phone usage. More sites are required to address the increasing traffic demands of each mobile user for tasks such as video or music streaming. Each cell or base station is limited to handling a finite number of calls meaning that areas of high usage will require additional cells to meet network demands and avoid congestion.

The Radio Implication of the Site
Radio signals are transmitted through the network by using fixed links at such frequencies that necessitate an uninterrupted line of sight. To achieve this, the installation must reach a sufficient height above surrounding buildings and trees. The installation must also be in a position to provide strong radio coverage to the target area that can also be received inside buildings.

The radio planning tool identifies deficiencies in the network and predicts the location from which the optimum coverage will be provided. Within these areas existing base stations are selected for an upgrade. The proposed installation subject to this application stems from this process where it is imperative for mobile operators to provide high quality coverage to its customers. This is achieved through the improvement of existing network infrastructure and introduction of new base stations to fill in blank spots.

6. HEALTH AND SAFETY

The proposal for this site has been designed within International Commission on Non-Ionising Radiation Protection (ICNIRP) public exposure guidelines and therefore Health and Safety concerns should not be a planning consideration. An ICNIRP certificate is submitted with this application.

In addition to this, The Institution of Engineering and Technology's *Guide for Local Planning Authorities regarding 5G Masts and Small Cells,* provides a brief overview of 5G technology and the health issues that are often misunderstood. It concludes by saying, *"Small 5G base stations in our towns and cities will allow improved network coverage. They will reduce radio wave exposure to individual smartphone users and improve local 5G capacity for all manner of useful bandwidth-hungry applications. And a good 5G fibre base local broadband infrastructure will be important to local communities over the coming decades in view of the ever-increasing amounts of data being consumed by the general public."*

7. CONCLUSION

A requirement for improved network coverage has been identified in this area. This is an upgrade of an existing site which will provide essential services for residents and businesses within the immediate vicinity. The proposed works have been designed sensitively in consideration for the character and appearance of the surrounding area in which the least amount of works has been proposed to

minimise the visual impact of the proposal.

The applicant considers the proposal to be an acceptable development which should be viewed favourably by the local planning authority.