SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Uxbridge Road	Site Address:	Land at High Street Hampton Hill Richmond upon Thames TW12 1NA
National Grid Reference:	E:514193 N:170497		
Site Ref Number:	RUT12290	Site Type:[1]	Macro (Street furniture)

2. Pre-Application Check List

Site Selection

Was a local planning authority mast register available to check for suitable sites by the operator or the local planning authority?		**No**
If no explain why: No mast register available.		
Were industry site databases checked for suitable sites by the operator:	**Yes**	
If no explain why: N/A		

Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	No
Date of pre-application contact:	N/A
Name of contact:	N/A
Summary of outcome/Main issues raised: A letter and plans were emailed to the Chief Planning Officer on 17/08/2021, outlining the proposal. No response was received at the date of submission.	

Community Consultation

Rating of Site under Traffic Light Model:	~~Red~~	Amber	~~Green~~
Outline of consultation carried out: A letter and plans were emailed to Fulwell and Hampton Hill Ward Councillors, Nicholas Rogers AM and Munira Wilson MP on 17/08/2021.			
Summary of outcome/main issues raised (include copies of relevant correspondence): No response was received at the date of submission.			

[1] Macro or Micro

School/College

Location of site in relation to school/college (include name of school/college): • The Hamptons Day Nursery • Ivytree Nursery
Outline of consultation carried out with school/college (include evidence of consultation): A letter and plans were emailed to each school on 17/08/2021
Summary of outcome/main issues raised (include copies of main correspondence): No response was received at the date of submission.

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?		**No**
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?		**No**
Details of response: N/A – No aerodrome within 3KM of the application site.		

Developer's Notice

Copy of Developer's Notice enclosed?	**Yes**	
Date served:	10.09.2021 Copy of Developers Notice and Delivery Receipt attached	

3. Proposed Development

The proposed site:
Background: MBNL undertakes the management and network deployment of telecommunications sites on behalf CK Networks Hutchison UK Ltd (H3G). The proposal is for a new H3G column, in order to provide the latest 4G and new 5G technologies to this area of Hampton Hill. The Government is committed to supporting investment in high-quality, reliable digital connectivity so that communities can benefit from faster economic growth and greater social inclusion. It is essential to keep pace with growing demand for internet bandwidth and mobile data from local businesses, residents and those who visit our communities. As part of H3G's continued network improvement program, there is a specific requirement for a new installation at this location to provide 5G services, ensuring that this area of Hampton Hill and the wider area of Richmond upon Thames maintains access to the latest technologies.

H3G are seeking to upgrade and enhance their network services in the area by installing infrastructure that will allow them to fulfil their licence obligations and deliver new 5G technologies to this area. However, the nature of 5G and the network services it provides, means the equipment and antennas it uses are quite different to previous, and existing, service requirements.

The proposed new mast has been sited and designed in order to provide 5G coverage for H3G and to support the existing mobile network. The new column has also been designed to be future proofed so that should EE require service provision in the future from this column it will be able to utilise the same equipment without any significant design change.

At present it is paramount that digital connectivity is supported and maintained throughout the country. In particular the current massive shift in user demand from city centres and places of work to residential areas and suburbs requires an improvement in coverage and capacity throughout the whole network. The current proposal therefore provides such additional capacity to the network whilst still promoting the improved 5G technology.

The proposed development is within the limits set out in Part 16 for permitted development with Prior Approval. The location enables the whole of the surrounding area to benefit from improved 5G network coverage and has been designed to be future proof, thus enabling other technologies to be deployed depending upon the demand required. As the shift in demand is expected for the foreseeable future and that as central Government considers digital communications to be a critical national infrastructure, the operator intends to support customers and local residents by ensuring as little disruption as possible.

As 5G is to deliver new technology, so too the infrastructure required is different than that necessary to provide the previous generations of connectivity. Wherever possible, existing installations will be utilised to accommodate the necessary infrastructure. In certain cases the upgrade of service will require a dual pole solution for sites which currently have a single pole design. Due to the beamforming technology required for 5G service, the antenna height in many cases must be greater than that for previous generation technology.

The Covid-19 pandemic has created unparalleled demand and pressure on the operator's network while people try to keep life and the economy moving through isolation and containment measures, with many people now working from home or remotely.

For the first time in history, all of the mobile networks sent out a government message to their customers with details of the new shutdown measures. The message from 24 March 2020 reads: '*GOV.UK CORONAVIRUS ALERT. New rules in force now: you must stay at home. More info and exemptions at gov.uk/coronavirus Stay at home. Protect the NHS. Save lives'*. Even the World Health Organisation launched a WhatsApp chatbox allowing people to get instant information about the coronavirus through the smartphone messaging application. None of this would be possible without the physical infrastructure associated with mobile phone industry such as masts, antennas, microwave dishes and cabinets.

Given the increasing extent of mobile only online access in households across the UK, the importance of continued mobile connectivity is highlighted to enable public participation in planning committees and other online activities, for example.

Further information is provided in Section 4 'Technical Justification' below and the additional information sheets, '5G and Future Technology – Delivering the UK's Telecoms Future Streetworks Monopoles in support of 5G Setting the scene'.

The site

The application site is positioned to the rear of a wide section of footpath on the High Street close to the junction with Uxbridge Road. The site has been carefully located in the highway. The surrounding area is mixed use in character with the site being located on a busy main road.

There are a number of existing vertical features in the immediate area including streetlighting columns, utility cabinets, signage, traffic lights, bus stops as well as mature trees and shrubbery. These linear structures help the proposed column and associated equipment assimilate with its surroundings.

The site is located within the CA38 High Street Hampton Hill Conservation Area.

Image 1: The application site

The operator is limited in siting options due to the vast open space and the comprehensive heritage designations in the area. However, there is a requirement to provide upgraded 2G/3G/4G coverage and capacity for this area of Hampton Hill whilst also providing new 5G services.

H3G are proposing the installation of a new monopole 20m in height supporting 6 no. antennas and 2 no. 300mm dishes with a wraparound equipment cabinet at the base of the column, installation of 3 no. new equipment cabinets and ancillary development thereto.

H3G have specified a 20.0m column as this is the minimum height that can provide the required 3G/4G/5G coverage for H3G within one facility.

Enclose map showing the cell centre and adjoining cells if appropriate:

As part of MBNL's continued network improvement program, there is a specific requirement for a new mast on land within the wide footpath on Uxbridge Road at the junction with Uxbridge Road to ensure that the latest high quality 2G, 3G and 4G service provision continues to be provided in this area of Richmond upon Thames for H3G. The proposed new column will also ensure that new 5G coverage can also be provided at this location for H3G. This ensures that coverage and capacity requirements are maintained. The column is designed such that should EE require additional service provision it will be able to utilise the same installation under its joint agreement with H3G to utilise each other's equipment.

The proposed new mast has been sited and designed in order to provide 5G coverage and to support the existing mobile network. At present it is paramount that digital connectivity is supported and maintained throughout the country. In particular the current massive shift in user demand from city centres and places of work to residential areas and suburbs requires an improvement in coverage and capacity throughout the whole network. The current proposal therefore provides such additional capacity to the network whilst still promoting the improved 5G technology.

The search area is very small for this new installation and centred on this area of Hampton Hill.

The 3G and 4G provision allows internet access, video calling, data down streaming, accessing social media networks and emailing to name just a few of the benefits. Therefore to maintain high quality indoor 3G and 4G services in to this area would promote activity in line with the general population demand as the ownership of smart devices increases. 5G service provision will bring faster, more responsive and reliable connections than ever before.

Fact sheets on '5G and Future Technology – Delivering the UK's Telecoms Future Streetworks Monopoles in support of 5G Setting the scene' have been attached to this application for reference.

Type of Structure *(e.g. tower, mast, etc):* Phase 8 Street Pole

Description:

The installation of a new monopole 20m in height supporting 6 no. antennas and 2 no. 300mm dishes with a wrap around equipment cabinet at the base of the column, installation of 3 no. new equipment cabinets and ancillary development thereto.

Cabinet Dimensions:

1 No. H3G Commscope – 600mm x 500mm x 1585mm (W x D x H)
1 No. H3G Bowler Cabinet – 650mm x 700mm x 950mm (W x D x H)
1 No. H3G Batsman Cabinet – 1900m x 600mm x 1752mm (W x D x H)

Overall Height:	20 meters
Height of existing building *(where applicable):*	N/A
Equipment Housing:	
Length:	Please see above
Width:	Please see above
Height:	Please see above
Materials *(as applicable):*	
Tower/mast etc – type of material and external colour:	Galvanised steel, Grey RAL7035
Equipment housing – type of material and external colour:	All steel –Green RAL6009

Reasons for choice of design, making reference to pre-application responses:

Central Government attaches great importance to the design of the built environment and outlines this within Section 12 (Paragraph 126) National Planning Policy Framework (Revised). It states:

'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 keeping with the National Planning Policy Framework (NPPF) guidelines of using: "high quality communications infrastructure", the proposed design has been selected to minimise visual impact upon the surrounding environment.

The nature of 5G and the network services it provides, means the equipment and antennas it uses are quite different to previous, and existing, service requirements.

The design of any communications infrastructure is dictated primarily by operational requirements and secondly by the development's setting.

From an operational perspective, the operators must ensure the following when devising a final design solution for any site:

- antennas are specifically orientated to transmit effectively and efficiently without signal being impeded;

- dish links (if required) achieve a direct line of site connection with other base station sites within the network; and
- GPS modules achieve a direct satellite link.

To achieve this the operator undertakes panoramic assessment to determine what is the minimum height for transmission equipment to be located in a context of local topography and clutter, such as manmade or natural features, and in all cases the operator is committed to limiting the size and amount of apparatus to an operational minimum.

In terms of setting, given that the subject site is located within the public highway a street furniture style development has been deemed to be the most suitable type of base station as this is the most accepted design for urban, suburban and rural roadside locations throughout the UK.

The operator carefully considered the design of the proposed column. The operator is proposing the most sensitive design currently available to them which will provide the necessary coverage and capacity to the surrounding area. Due to all the technologies that will be available at this location, 2G, 3G, 4G and 5G, 6 antennas need to be installed at the top of the slim-line monopole. These are split into a dual stack formation where 3 antennas will be located at the top of the column and the other 3 will be located underneath the upper set of antennas. The 3 upper antennas will provide new 5G technology for the operator to the surrounding area. The other lower 3 antennas will provide the latest 2G, 3G and 4G service provision to this area of Hampton Hill.

5G new radio technologies operate in higher frequency bands than older technologies. Since it operates at higher frequencies where attenuation of the radio signal is naturally higher and the effects of clutter are greater it will normally require a higher structure to achieve the same coverage footprint. To increase capacity and data speeds to the user, the antenna will normally need to be mounted higher than conventional antennae. These factors drive a requirement for an increase in antenna height in 5G.

The antennas are all unshrouded for technical reasons. However, they have been designed to be as tight as possible and virtually the same width as the main column, to minimise their visual appearance. The higher the radio frequency the more signal attenuation there is. The higher frequency 5G antennas are unable to operate effectively through the Glass Reinforced Plastic that shrouds are made of and as such if these antennas were to be shielded then they would not be able to provide the necessary coverage to the target coverage area. An additional installation would be needed elsewhere within the cell area, leading to the proliferation of masts.

This is the slimmest design possible which will enable all technologies to be supported from this site. If the column and shroud width were to be any slimmer then the technology would not fit in the one column and another radio base station would be required, which would lead to an unnecessary proliferation of masts contrary to national Government guidance set out in the NPPF and The Code of Best Practice. Similarly if the column were to be a uniform width throughout then the overall width would have to increase which would appear more visually prominent in the streetscene, than the proposed design.

The proposed design is more visually sensitive and much easier to assimilate into a streetscene than lattice towers or unshrouded pole designs with bulky headframes. These non-stealth designs are preferred by operators as they are structurally capable of hosting more equipment and give greater scope for antenna orientation and are thus more efficient structures. However, such designs would appear incongruous in this location. Therefore the operator has compromised on obtaining maximum coverage in order to better assimilate in to the streetscene.

The design of the column resembles as closely as possible the other existing vertical structures within the immediate area including lighting columns, road signage and utility cabinet. These vertical structures will help the proposed radio base station assimilate with the surrounding area.

The design of the column is a simple, functional, vertical structure which will not appear incongruous within the streetscene, which is characterised by similar linear structures. The column will be coloured grey but can be coloured any other colour the LPA consider appropriate.

The cabinets are designed to appear like other statutory undertakers equipment cabinets, including in the immediate streetscene. The proposed equipment cabinets are small for telecommunications apparatus and proposed to be coloured green to blend in with other similar statutory undertakers equipment cabinets in the area. The equipment cabinets can be installed under the operators permitted development rights, but have been included on the plans and in the description in order to remain fully transparent.

The proposed streetworks solution will ensure mobile telecommunications service within this locale meet the expectation of residents, businesses and visitors, while minimising the visual impact of the infrastructure on the surrounding environment and meeting all ICNIRP certification requirements.

It is therefore considered that the proposal before you strikes a good balance between environmental impact and operational considerations. The proposed height and design represents the best compromise between the visual impact of the proposal on the surrounding area and meeting the technical requirements for the site. Taking all matters into account it is considered that this proposal, to provide the latest 2G, 3G and 4G service provision and 5G coverage providing high quality dense coverage and capacity, would not appear out of place within the streetscene.

Technical Information

International Commission on Non-Ionizing Radiation Protection Declaration attached (see below) International Commission on Non-Ionizing Radiation Protection 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 or near to the site are taken into account. In order to minimise interference within its own network and with other radio networks, H3G 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 H3G'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	**Yes**	

other electrical equipment, air traffic services or instrumentation operated in the national interest.		

4. Technical Justification

Coverage plots will not show the improvement in capacity.

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

There is a specific requirement for a new column and associated equipment cabinets at this location to allow H3G to improve their 2G, 3G and 4G coverage and capacity in and around this area of Hampton Hill and be able to provide new 5G service provision to this cell. This ensures high quality indoor service provision is provided. Furthermore, due to the joint agreement with the two operators EE (UK) Ltd and Hutchison 3G (UK) Ltd the installation will be designed so that EE can utilise the same equipment. This negates the need for further radio base stations in the vicinity for either of these two operators.

The dynamic nature of technological advances in the telecommunications industry coupled with ever increasing demand from subscribers dictates a continual reinvestment programme on the part of the operators. As a result, and in line with their licence requirements, mobile operators are constantly developing their networks as well as refining and modernising their infrastructure.

Cellular networks are made up of several individual cell areas, each of which has a base station within it. A good analogy for describing a cellular network is that of a patchwork quilt with each cell area being one of the many patches that are sewn together making up the network 'quilt'.

Notably, there are 3 main elements to a radio base station; the cabin or cabinets contain the equipment used to generate the radio signals(s), the supporting structure that holds the antennas in the air or fixes them to a building or structure and the antennas themselves, which emit the radio signals (along with the necessary amplifier or receiver units). Other elements necessary for the base station to function are a power source, feeder cables that link the equipment housing to the antennas and the various support structures, grillages and fixings, often referred to in general terms as '*development ancillary to*' the base station.

These base stations then receive and transmit to mobile devices using radio waves. The antennas operate like an aerosol spray with signal transmitted along a central orientation and dissipating with distance. The dishes operate on a direct line of sight basis, linking with dishes on other base station sites elsewhere within the wider network. The dish links also link the base station to a master control centre that manages the call handover process that occurs when a mobile user moves from one cell area to another. They also provide telemetric monitoring to ensure the site is working properly and offer remote maintenance.

In the early days of mobile communications, peripheral locations, high-level topographies and large-scale masts were often identified in order that transmission from a new base station could cover an expansive geographical area. However, whilst this approach was viable for early network generations, the number of mobile handset users has dramatically increased with time, as have the advancements in mobile technology itself. As a result, the cellular network construction and operational criteria have changed too. Because modern networks use higher frequencies with faster data rates whilst serving significantly increased numbers of mobile device users, typical network cell areas (i.e. the geographical area targeted for coverage for which a base station development provides a solution), are now smaller in their geographical expanse and tend to be directly proportionate to the number of users within it. They are also therefore greater in their number with base stations operating at a lower power output than their predecessors.

Mobile phone base stations operate on a low power and accordingly base stations therefore need to be located in the areas they are required to serve. Increasingly, people are also using their mobiles in their homes and this means the operator needs to position base stations in, or close to, residential areas.

Mobile connectivity and service is required where customers live, work and play. 5G coverage and superfast mobile broadband data capacity demand will continue to increase exponentially with the introduction of IoT (Internet of Things), machine to machine connectivity, automated transport/industry and other 'smart'

applications. To this end the existing shared infrastructure within the built environment has had to be reviewed and adapted as appropriate.

In the UK, rollout is now commencing. The main benefits of 5G are that it will be much faster and have higher capacity than 4G, with download speeds in excess of 1Gbps. To place this in context, customers will be able to download - not merely stream - a full HD movie in less than 10 seconds on a 5G network. The same task would take closer to 10 minutes on 4G.

The case for 5G is compelling as it will bring faster, more responsive and reliable connections than ever before.

The Local Government Association (LGA) has produced a Councillor's Guide to Digital Connectivity and sets out some of the benefits of 5G technology:

- Faster mobile broadband and a more consistent experience in congested areas with a very high number of devices.
- Industrial applications, enabling businesses to improve their productivity, for example through predictive maintenance and real-time analytics.
- Internet of Things (IoT) services, many of which will help council's and businesses deliver services more efficiently including:
    - Transport and logistics: connected parcels and fleet tracking.
    - Health and social care.
    - Environmental monitoring: sensors monitoring air quality and water pollution in real-time.
    - Smart agriculture and smart animal farming, smart retailing.
    - Connected and autonomous cars: allowing cars to communicate with each other, other road users and even the road infrastructure.

Good connectivity allows people to access a wide range of essential services including emailing; downloading apps; social media; helping with homework; researching local events, businesses or transport timetables; managing personal finances; shopping; contacting local authorities; arranging medical appointments; general business functions; and much, much more.

The Ofcom report 'Online Nation 2020' published in June 2020 highlights the impact of the Covid-19 pandemic on the demand for mobile connectivity. The report looks in depth at what people in the UK are doing online and industry trends amongst other things, found in relation to the increasing importance of mobile connectivity:

- 71% of all measured time spent online was on smartphones.
- 35% of internet users only accessed the internet on mobile devices (smartphone or tablet).
- In 2020, a fifth (22%) of UK adults have a smart speaker in the home and 11% of all
- UK households own some kind of 'smart home' technology (including devices such as smart home security, smart lighting and smart heating).

Reinforcing the importance of mobile connectivity as 'critical infrastructure' during the pandemic, the Online Nation 2020 report found (emphasis added):

Covid-19 impact: time spent online reaches record levels
In April 2020, internet users in the UK spent an average of 4 hours 2 minutes online each day, 37 minutes more each day per online adult compared with January 2020.

In April 2020, the reach of education (+3 percentage points), health (+5pp) and government (+5pp) sites had all grown since January,

... between January and April 2020; Houseparty increased from 175,000 to 4 million; Zoom reached 13 million adult internet users in April, up from 659,000 in January.
In February 2020, 73% of UK adult internet users used online text messages, 54% use online voice calls, 35% use video calls and 55% use emails, at least weekly. Nine in ten adult internet users used any of those four services at least weekly.

Most internet users use online messaging and calling services and use increased during the coronavirus pandemic

• Until early this year, online video calling was used much less than other online communication services, with 35% of online adults using online video calling at least weekly in the 12 months to February 2020. In May 2020, this had doubled to 71% of online adult consumers using online video calling services at least weekly, with 38% using them at least daily. Our research suggests that 7% of adult internet users used video calling for the first time as a result of the coronavirus pandemic.

87% of the UK adult population use the internet Mobile only use has increased dramatically

• In 2019, ... the proportion who use only mobile devices has shot up: 35% of internet users accessed the internet solely via a smartphone or tablet in 2019 – a 10 percentage point (pp) increase compared to 2017. Across computers, tablets and smartphones, 71% of time spent online in September 2019 was on smartphones.

The Connected Nations December 2020[2] report is published as the UK continues to address the challenges of the coronavirus (Covid-19) pandemic; a time when people, families and businesses have come to rely on their phone and broadband connections as never before. We report on how the networks have performed during this period and how the availability of services has evolved.

The report sets out in its findings:

- **The UK's fixed and mobile networks have generally coped well with increased demands during the pandemic.** A shift to more people being at home drove increased demand on broadband networks during the day, although peak usage remained in the evening. Mobile networks also experienced increases in voice traffic.
- **The number of mobile base stations providing 5G services has risen ten-fold, to around 3,000 across the UK.** 87% of these are in England, 7% in Scotland and 3% in both Wales and Northern Ireland.
- **Mobile coverage is generally stable.** The four mobile network operators (MNOs) – EE, O2, Three and Vodafone - each estimate they provide outdoor coverage to 98%-99% of premises. Their networks' coverage of the UK landmass ranges from around 79% to around 85%. The Shared Rural Network programme agreed in March 2020 will extend coverage beyond this by 2025.
- **A small, but significant number of properties are still struggling to get connected.** We estimate that 43,000 premises cannot access either a decent fixed broadband service, or good 4G coverage, indoors.
- **Mobile data consumption continues to rise, increasing by 42% compared with last year.** 83% of the total data traffic was consumed in England with about 10% in Scotland, 4% in Wales and 3% in Northern Ireland (largely in line with UK population distribution). Reflecting this growth, the traffic carried in England in June exceeded that carried across the whole UK in February.

The report acknowledges that being connected has never been more important in the UK. "*People have been relying on phone and broadband services more and more over recent years, and the Covid-19 pandemic during 2020 has brought this reliance into even sharper view. In March 2020, life changed suddenly for millions of people across the UK. Fast, reliable broadband and mobile connections were essential to allow them to work from home, keep up with schoolwork, access medical appointments and public services, stay in touch with friends and family, order shopping online, and keep themselves entertained*".

The report acknowledges that "during the first COVID 19 lockdown, UK MNOs coped successfully with the changes in data and voice traffic volumes and distribution as many people began working from home and schools were shut during the Covid-19 spring lockdown. New peaks were reached for most of the network metrics reported by MNOs just before or during the week lockdown measures were first introduced across the UK in March 2020. Although these peaks generally reduced with the gradual easing of lockdown, they have remained higher than they were before (in line with the historical trend for incremental growth in data consumption)".

[2] https://www.ofcom.org.uk/research-and-data/multi-sector-research/infrastructure-research/connected-nations-2020/main-report

The report further notes that the "*MNOs all experienced some form of congestion on their networks in this period, but successfully mitigated this, in part by increasing interconnect capabilities between themselves. Some operators applied further temporary upgrades to their voice and data capabilities in order to cope with increased demands during this period, for example deploying temporary base stations in and around hospitals (particularly at the Nightingale hospitals) to provide additional capacity*".

"*Compared to periods before the spring lockdown, mobile voice traffic increased by 10-45% across the operators. One operator observed an increase in average call duration from about 2.5 minutes (pre-lockdown) to 4 minutes in the week lockdown measures were introduced. These call lengths and volumes spiked in March, before gradually stabilising. Within this general trend for growth, we can also observe drops in average call duration and data traffic around 8pm for the 10-week period from 26 March 2020, coinciding with the nation coming together to applaud the efforts of the NHS during the Covid-19 crisis. Increased amounts of voice traffic were also offloaded to Wi-Fi, although with significant variations between operators*".

Site Selection Process

In accordance with the licence obligations and advice in the National Planning Policy Framework and the Code of Best Practice in England the applicant's network rollout team investigated the following siting and design options using this sequential approach to site selection:

- Upgrading their own existing base stations;
- Using existing telecommunications structures belonging to another communications operator. i.e. Mast and/ or site sharing, co-location;
- Installations on existing high buildings or structures including National Grid pylons;
- Using small scale equipment; and finally
- **Erecting a new ground-based mast site – (1st) Camouflaging or disguising equipment.** (2nd) A conventional installation e.g. a lattice mast and compound.

The applicant's site selection strategy is to keep the overall environmental impact to a minimum. Utilising existing masts is always progressed where it is technically and legally possible and where it is the local planning authority's preferred environmental solution. New sites are only developed where there are no viable or accessible alternatives or it is the local planning authority's preferred approach. The feasibility of the acquisition, build and maintenance of the site also needs to be taken into account.

Alternative sites considered and not chosen:

Site	Site Name, Address, NGR, Site Type	Reason for not Choosing
GF	Junction of Nightingale Road and Broad Lane (NGR: E513423 N170591)	An installation at this location is considered to be to prominent in the streetscene and other alternatives exist which are more appropriate in order to deliver the required coverage to the target area. This site has therefore been discounted for this reason.
GF	Junction of Hanworth Road and Uxbridge Road (NGR: E513891 N170792)	An installation at this location is considered to be too prominent in the streetscene and other alternatives exist which are more appropriate in order to deliver the required coverage to the target area. This site has therefore been discounted for this reason.
GF	Junction of Wensleydale Road and Station Approach (NGR: E513430 N169904)	The footway at this location is too narrow to accommodate the operator's equipment. As such, it would lead to highway safety issues. A site in this location has therefore been discounted for this reason.
GF	Junction of Wensleydale Road and Gloucester Road (NGR: E513570 N170010)	An installation at this location is considered to be too prominent in the streetscene and other alternatives exist which are more appropriate in order to deliver the required coverage to the target area. This site has therefore been discounted for this reason.
GF	Junction of Broad Lane and Percy Road (NGR: E513032 N170504)	A mast at this location is not viable due to a physical lack of space in order to deliver the required level of coverage to the target area. This site has therefore been discounted for this reason.
GF	Junction of Uxbridge Road and Broad Lane (NGR: E513988 N170582)	A mast at this location is not viable due to a physical lack of space in order to deliver the required level of coverage to the target area. This site has therefore been discounted for this reason.
GF	SW on Gloucester Road (NGR: E513861 N170349)	The footway at this location is too narrow to accommodate the operator's equipment. As such, it would lead to highway safety issues. A site in this location has therefore been discounted for this reason.
GF	SW on Wensleydale Road (NGR: E513479 N170328)	The footway at this location is too narrow to accommodate the operator's equipment. As such, it would lead to

		highway safety issues. A site in this location has therefore been discounted for this reason.

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

Paragraph 115 of the NPPF states

'The number of radio and electronic communications masts, and the sites for such installations, 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. Use of existing masts, buildings and other structures for new electronic communications capability (including wireless) should be encouraged. 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'.

Environmental Information:

N/A

Land use planning designations:

Relevant information below.

Additional relevant information:

From the outset, it should be appreciated that irrespective of the proposed installation's use as a telecommunications base station, any change in form in the street scene will always be, to some degree, a noticeable alteration to those residents and regular passers-by found closest. However, it should be recognised that visibility or a development's siting and appearance, does not automatically result in overwhelming adverse harm.

The provisions of the GPDO require the local planning authority to assess the proposed development solely on its **siting and appearance**.

National Planning Guidance

Planning policy is provided at the national level by the National Planning Policy Framework (NPPF). It is a material consideration in planning decisions. The NPPF is pro – development with a 'presumption in favour of sustainable development' being seen as a golden thread, running through both plan making and decision taking'.

The thrust of this guidance is positive and a reminder to LPAs that we need to build the requisite infrastructure to enable economic growth.

It is not necessary to quote extensively from this document but the following points are highlighted.

National Planning Policy Framework (July 2021)

The Government's National Planning Policy Framework (NPPF) was published on 24 July 2018 and updates the 2012 version. In February 2019 the NPPF was revised again, with minor alterations to wording relating to housing supply and not any parts relating to telecommunications. In July 2021 the NPPF was revised again. Overall, it's been revised to strengthen other sections including requirements on improved design quality, a new requirement for Councils to produce local design codes or guides, an emphasis on using trees in new developments, revised policies on plan-making, removing statues and opting out of PD rights relating to residential conversions. The Government's latest thinking continues to strongly support communications infrastructure. The NPPF remains very supportive of high

quality communications. Indeed, a whole chapter is dedicated to high quality communications, emphasising the importance that the Government attaches to digital connectivity. Paragraph 114 states that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. This wording echoes guidance set out in paragraph 42 of the 2012 version of NPPF. However, it also includes the importance of *reliable* communications infrastructure for both economic growth *and social well-being*.

The NPPF continues to support the expansion of electronic communications networks at paragraph 114. It notes that policies should set out how high quality digital infrastructure, providing access to services from a range of providers, is expected to be delivered and upgraded over time. The economic and social benefits of providing high quality and reliable communications infrastructure are well documented and can be found later in this Supporting Information Statement.

The NPPF makes reference to 5G:

'*Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G)…*'

With the above in mind, the Government is already forward thinking the evolution of data networks and seeks planning decisions to take account of this. 5G technology provides increased speed of data and more capacity in the network, to ensure that handheld devices can continue to be used for the purposes in which they were purchased. This will bring even greater economic and social benefits to the area.

Paragraph 115 of the NPPF retains the requirement to minimise the number of installations consistent with the efficient operation of the network but also includes being consistent with the needs of consumers and providing reasonable capacity for future expansion.

Paragraph 118 of the NPPF retains the guidance set out in paragraph 46 of the 2012 NPPF version which relates to determining applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure.

At the heart of the NPPF is the retained presumption in favour of sustainable development (para 11). For decision-taking this means approving development proposals that accord with an up-to-date development plan without delay or where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless the application of policies within the revised Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed or any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the revised Framework taken as a whole.

The NPPF continues to provide guidance on decision-making. At paragraph 38 it states that:

*'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…*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'*.

The NPPF builds on the aspiration to build a strong, competitive economy. Paragraph 81 states:

> '*Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking in to account both local business needs and wider opportunities for development. The approach taken, should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation*[40]'…

Footnote 42 of the NPPF states:

'The Government's Industrial Strategy sets out a vision to drive productivity improvements across the UK, identifies a number of Grand Challenges facing all nations, and sets out a delivery programme to make the UK a leader in four of these: artificial intelligence and big data; clean growth; future mobility and catering for an ageing society. HM Government (2017) Industrial Strategy: Building a Britain fit for the future'.

In order for the UK to benefit from the huge potential of 5G Local Planning Authorities will have to weigh the Public Benefits of such connectivity with the requirements to instruct and manage the built environment. Central Government understands that this may present concerns with the various design solutions proposed but it is important that all Local Planning Authorities understand the technical needs of 5G and better understands the wider advantages of such new technology. This is further emphasised within the National Infrastructure Commission's report in 2016, where National Digital Strategy will be directed through the Economy and Industrial Strategy Cabinet Committee in order to:

"*Support and challenge local government in their plans to enable the delivery of digital infrastructure; both in terms of ensuring that these plans help the UK to meet its national objectives, and that local authorities develop consistent approaches to support the deployment of mobile infrastructure across the country*". 'Connected Future', National Infrastructure Commission 2016.

Code of Best Practice on Mobile Network Development in England (24 November 2016)

The Code of Best Practice has been fully revised in November 2016 and is now even more supportive of mobile network provision in line with Government aspirations that everyone should have access to the information super highway no matter where they are located whether that be in rural or urban areas. This Code provides guidance to mobile network operators, their agents and contractors and equally to all local planning authorities in England. It supersedes the Code of Best Practice on Mobile Phone Network Development (2013).

The principal aim of this Code is to ensure that the Government's objective of supporting high quality communications infrastructure, which is vital to continued economic prosperity and social inclusion for all, is met. The development of such infrastructure must be achieved in a timely and efficient manner, and in a way, which balances connectivity imperatives and the economic, community and social benefits that this brings with the environmental considerations that can be associated with such development. The Code also has an important role in making sure that appropriate engagement takes place with local communities and other interested parties.

Section 2 of the Code highlights the Government's Communications Policy and Planning Policy. It acknowledges that the continued expansion and development of mobile networks is a key element of the National Infrastructure Delivery Plan 2016 – 2021. This recognises that digital communications are now a crucial component of everyday life, with improvements in connectivity being key to a vibrant economy (para 2.1).

Paragraph 2.2 goes on to state that consumers, businesses and public bodies increasingly rely on mobile communications and expect to receive a signal wherever they are. The Code indicates that recent changes in planning policy [and regulation] are intended to align with Government communications policy, where the ultimate goal is to achieve mobile coverage wherever it is needed.

Section 2 of this Code also reiterates NPPF guidance in strongly supporting high quality communications infrastructure, which is seen as essential for sustainable economic growth.

Section 3 of this Code acknowledges that there are special operational and technical considerations associated with mobile network development, which have changed over time due to changes in technology and associated changes in demand. The Code acknowledges that there remains a reliance on radio masts to provide the main umbrella of coverage. Paragraph 3.1 explains that radio signals operate like light and must "see" over the target coverage area, they cannot be hidden and so there will always be a degree of visual impact.

Paragraph 3.2 clearly indicates that in assessing the visual impact, greater emphasis than previously should now be placed on the radio planning requirements to achieve mobile coverage (as shown in the recent changes to permitted development rights, at the end of November 2016, and the reduced test in the most recent NPPF.

Paragraph 3.3 goes on to highlight that the [operator systems tend to be demand-led or to fulfil coverage obligations. With the ever-increasing demand for data hungry applications available to a range of connected devices, such as smart phones and tablets, the requirement to upgrade and improve networks through changes to existing sites and the development of new sites is constant. As most parts of the country move on to a superfast highway, so the need to bring coverage to 'not spots' (i.e. areas where there is no mobile coverage from any operator) and improve coverage in 'partial not spots' (i.e. where there is some coverage but not from all operators) intensifies.

Paragraph 3.4 of The Code provides advice to local Planning authorities who are concerned about proposals, stating that they should not 'look for problems' but should work proactively with the Mobile Network Operators to find solutions, in line with paragraph 187 of the NPPF.

Section 4 of the Code sets out the evolution of mobile networks from 2G voice calls and text to 4G superfast mobile broadband which are now approximately the same speeds as fixed broadband connection.

Paragraph 4.1 of the Code acknowledges that customer expectations have evolved with technology. The expectation is that they will always be connected and able to access services in exactly the same way as fixed broadband for personal, educational and business purposes.

Paragraph 4.2 acknowledges that data, i.e. using the internet, puts increased demand on capacity and therefore the need for additional base stations to keep abreast of customer demand. Also, 3G base stations, originally using higher frequencies didn't travel as far and therefore each base station covered a smaller area. However, changes in working practices for the operators, in line with national guidance, streamlining networks, sharing base stations has reduced the overall amount of infrastructure required.

The Code goes on to acknowledge that operators maximise the use of their existing network infrastructure for the provision of 4G services and are similarly upgrading their 3G network infrastructure to improve capacity and coverage. However, the revised Code continues to advise that this does not mean that there will not be a need for any new base stations. Indeed, for example, more base stations will be needed in areas where there has previously been only limited or no coverage and where coverage and capacity needs to be enhanced in line with Government commitments and customer demand.

Similarly, some new sites will be required to replace existing sites that are lost, for example, through redevelopment of an existing building. Some masts may need to be redeveloped or replaced to enable an upgrade in services to take place.

Section 5 relates to mobile connectivity in the 21st Century, explaining that mobile phones and other devices are now everywhere. Mobile connectivity is not just making calls and texts but also mobile broadband. The majority of mobile phones in the UK are Internet-enabled smartphones and large numbers of people also now own tablet devices. People are increasingly choosing to access the internet using a mobile device even when they have fixed broadband connection available.

The Code acknowledges that by the second decade of the 21st Century, the greatest increase in traffic across mobile networks was in data i.e. internet use (para 5.3). Paragraph 5.4 states that in terms of the wider economic impact of mobile connectivity, research by Deloitte on the economic impact of mobile broadband across a range of countries, showed that a doubling of mobile data use leads to an increase of 0.5% in the Gross Domestic Product per capita, while another study put the benefit of 4G mobile broadband to the UK economy at £75 billion over a decade.

Section 5 of the Code goes on to highlight that connectivity promotes social inclusion. In recent years, more people rely on a mobile phone than they rely on a landline. Furthermore, people on lower

incomes are even more likely to live in a mobile only household, or to access the Internet using a mobile connection (para 5.5).

The Code illustrates that mobile connectivity helps in the delivery of public services e.g. to access Central and Local Government via online services, acknowledging that lives are more likely to be saved when a 999 call is made from a mobile than from a landline, Telehealth is becoming increasingly important and text message reminders also improve compliance with medication and keeping NHS appointments.

Good mobile connectivity also promotes sustainability e.g. it reduces the need to travel and thus carbon emissions (para 5.7). The Code continues to support mobile telecommunications network as it is seen as a crucial piece of national infrastructure in economic, community and social terms (para 5.8).

Paragraph 5.9 states that there is a need to continually upgrade and improve mobile networks, which will not function without the necessary infrastructure on which they rely. This is driven by increasing consumer demand for data, improved connectivity and more capacity, together with Government aspirations for improving connectivity and coverage.

Section 7 of the Code sets out the need for all agencies to work together to deliver connectivity that is essential to the country's economy and society including Central Government which provides the overall strategy for connectivity, mobile operators to deliver the mobile network development through the planning system and helping to identify land and structures suitable for mobile infrastructure. Local Planning authorities can also ensure that the planning function works in tandem with other relevant departments and agencies such as their own economic development departments and appropriate digital connectivity teams in order to facilitate digital connectivity.

The Code provides guidance on siting and appearance principles at Appendix A. It sets out a number of design principles in respect of telecommunications development. However, the code acknowledges that the options for design used by an operator will be affected by site conditions including requirement to link the site to the network, landscape features and coverage and capacity requirements. The main options for the operator include:

- Mast and/or site sharing (including redevelopment of a site to enable upgrade or sharing with another operator);
- Installation on existing buildings and structures;
- Erecting new ground-based masts;
- Camouflaging or disguising equipment where appropriate;
- Using small scale equipment (although small cells themselves are generally used to address capacity issues as opposed to providing coverage).

The Code in Appendix A acknowledges that it has been a long-standing Government policy objective to support the sharing of masts and sites. Operators also aim to site share wherever viable. If operators are able to share sites, and install more equipment on each site, this reduces the overall visual impact of network infrastructure, because even though shared sites will tend to be slightly bigger, it means that fewer sites are needed to improve coverage and capacity, infrastructure becomes more feasible, and is more cost-effective to deploy. In fact, sharing of sites is now the norm, and network operators now share much of their network infrastructure via joint venture commercial arrangements.

However, the Code also highlights the constraints of mast sharing. Acknowledging that mast sharing may not be an appropriate environmental or technical solution in all cases. Visual intrusion may occur. The Code indicates other constraints which may include:

- Coverage problems – The existing mast may be poorly located or not have sufficient height to give the required coverage;
- Radio interference – Antennas need a separate amount of vertical and horizontal separation. This could lead to the visual impact of the mast significantly increasing;
- Structural Loading – The existing mast may not be able to hold extra equipment. The existing mast may need to be strengthened, redeveloped or replaced with a bigger structure with a consequent effect on visual amenity.

Concerning the erection of new ground based masts; The Code at Appendix A page 27 provides examples of where the environmental and visual impact of the mast can be greatly reduced.

- Placing the mast near similar structures. For example, industrial and commercial premises, road signs and lamp posts;
- Placing a mast within or adjacent to an existing group of trees. This option is more successfully implemented in or near wooded areas. It should also be noted that the top of the mast placed in trees will need to be above the tree-line in order for the equipment to work 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, and
- Appropriate colouring. Masts seen against the sky 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.

The Code continues to support sympathetic design and camouflaging including concealing antennas in familiar features such as flagpoles, street lamp posts, telegraph pole style designs and signs.

Planning for the Future'[3]White Paper

Given the increasing extent of mobile only online access in households across the UK, the importance of continued mobile connectivity is highlighted to enable public participation in planning committees and other online activities, for example.

Planning is expected to play a key role in United Kingdom's economic and social recovery from COVID-19. The MHCLG published the 'Planning for the Future'[4] White Paper on 06th August 2020. The consultation notes that the '*outbreak of COVID-19 has affected the economic and social lives of the entire nation*'. The consultation proposes reforms of the planning system to streamline and modernise the planning process, bring a new focus to design and sustainability, improve the system of developer contributions to infrastructure, and ensure more land is available for development where it is needed.

It is noted that much of the proposed streamlining and modernisation will be based on greater use of digital technology. Without the relevant infrastructure in place such as the appeal proposal this will not be possible.

In order to assist with social and economic recovery, the MHCLG have through the White Paper revitalised the presumption in favour of sustainable development. This will give greater weight to the contribution that development makes to meeting the country's social, environmental and economic objectives. The appeal proposals meet all three objectives of sustainable development identified in Paragraph 8 of the NPPF as well as the 'Sustainability Test' set out in the White Paper.

This clearly further demonstrates the Government's perspective that mobile communications infrastructure is critical infrastructure and needs to be fully operational to respond to COVID-19 and to contribute to achieving social, environmental and particularly economic objectives. The proposed installation corresponds with the priorities identified by Government as part of an effective response in dealing with COVID-19 and ensuring sustainable development.

Local Policy

Section 38 (6) of the Planning and Compulsory Purchase Act 2004 states that "If regard is to be had to the development plan for the purpose of any determination to be made under the planning Acts the

[3] https://www.gov.uk/government/consultations/planning-for-the-future

[4] https://www.gov.uk/government/consultations/planning-for-the-future

determination must be made in accordance with the plan unless material considerations indicate otherwise".

Local Plan

Section 38 (6) of the Planning and Compulsory Purchase Act 2004 states that "If regard is to be had to the development plan for the purpose of any determination to be made under the planning Acts the determination must be made in accordance with the plan unless material considerations indicate otherwise".

The statutory development plan as defined by the Planning and Compulsory Purchase Act 2004 comprises:

London Borough of Richmond Upon Thames Local Plan (2018)

The Local Plan was adopted by the Council on the 3rd July 2018 and sets out policies and guidance for the development of the borough over the next 15 years. The Local Plan objectives are:

- Protecting Local Character
- A Sustainable Future
- Meeting People's Needs

One of the objectives of the Local Plan Strategic Vision is to create a 'A sustainable and smart borough', stating:

'The Council will have played its part in minimising vulnerability of people and property to a changing climate, including mitigating and adapting to the effects of climate change and supporting the move towards zero carbon. The borough will be a place where innovation and Smart City technology is harnessed to enable innovative digital and communications infrastructure, enabling businesses to respond to customer demand, and to support the borough on its path to becoming smarter'.

It is therefore clear that having the communications infrastructure in place such as the proposal at the application site is pivotal in securing the Council's vision of creating a 'A sustainable and smart borough'. Without this infrastructure Smart City technology simply cannot be delivered.

Policy LP1 relates to Local Character and Design Quality and states '*The Council will require all development to be of a high architectural and urban design quality. The high-quality character and heritage of the borough and its villages will need to be maintained and enhanced where opportunities arise. Development proposals will have to demonstrate a thorough understanding of the site and how it relates to its existing context, including character and appearance and take opportunities to improve the quality and character of buildings, spaces and the local area'*.

Policy LP1 is a general design policy, and was designed to ensure a high quality of design is achieved and is not designed to provide guidance and support for the delivery of essential infrastructure. Where Policy LP1 can be applied, there is clearly no conflict. The Applicant accepts that the need to attain a high standard of design is relevant, including the height, scale and mass and need to maintain and enhance character where opportunities arise in accordance with criteria A.1, A.2 and A.3. The proposals has employed a high standard of design, working within very specific technical constraints, to achieve a proposal that would cause very limited visual harm to the surrounding environment, but that would bring benefits to the community and local economy.

Policy LP8 relates to 'Amenity and Living Conditions' and states that all development will be required to protect the amenity and living conditions for occupants of new, adjoining and neighbouring properties.

Planning Assessment

The main issues arising from this prior approval notification are whether the proposed mast and cabinets due to their scale and siting would be a visually obtrusive feature which would be detrimental to the character and appearance of the area. In particular, this relates to the impact on the High Street Conservation Area.

Whether any perceived harm would outweigh the significant social and economic benefits associated with the increased service provision attributed to the proposal and other valid material considerations as outlined within NPPF and the Local Plan, its vision the relevant strategic objectives which support the provision of community infrastructure and promote the physical, economic and social regeneration of areas taking in to account the needs and aspirations of local communities and the extant Local Plan policies.

Siting

The siting of the proposed radio base station has been carefully considered and it should be emphasised that due to the extent of the Conservation Area and the nature of the area, options are extremely limited. To this end, it is located to the rear of a wide section of public highway. This is in accordance with local policy as it will not appear unduly prominent within the streetscene due to the adjacent mature trees that provide an excellent backdrop and screening. This therefore accords with the NPPF, the Code of Best Practice and policies LP1 and LP8 of the Local Plan.

The surrounding area is residential use recreational open space in character, with the site being located on the High Street. There are a number of existing vertical features in the immediate area including streetlighting columns, road signage, bus stops, and mature street trees. These structures will help the column and associated cabinets from appearing prominent in the streetscene. Consequently, the visual impact of the proposed radio base station will be minimised within the streetscene. This is in accordance with policies LP1 and LP8 of the Local Plan of the Local Plan.

The radio base station will assimilate well with the existing vertical structures in the immediate area. Looking at the site from Uxbridge Road and the High Street, the linear structures in the area will help the column and associated cabinets from appearing prominent in the streetscene and assimilate with their surroundings. In particular, the mature trees will provide effective screening and a backdrop limiting any visual impact. The linear items of street furniture are similarly designed to the proposed column i.e. to be simple, functional vertical structures. Consequently, the visual impact of the proposed radio base station will be minimised within the streetscene. This is in full accordance with the aspirations of policies LP1 and LP8 of the Local Plan.

The operator's equipment cabinets are similar to those of other statutory undertakers which are common place in urban areas including BT Openreach. Their limited height and scale will ensure that these cabinets will not be detrimental to the visual amenity of the area and will be finished in a green colour.

As outlined above, the area that has a requirement for improved service is predominantly within the High Street Conservation Area. As such, there is not any locations that would fall outside of the designation and the site with the least impact has been chosen. The site benefits from the mature trees to help screen the site and the distance from nearby residential properties has been increased as much as possible, so as to maintain as much privacy as possible. It should also be noted that there are not any listed buildings within a close proximity to the site.

The antenna will not cause detrimental harm to the overall character and appearance of the host building or the High Street Conservation Area. The impact of the proposal on the character and appearance of the Conservation Area would be very minor in nature and as such any harm is considered to be less than substantial. The proposal therefore meets the criteria set out in policy LP1 and LP8 of the Local Plan.

In line with the requirements of NPPF, there are no existing telecommunications installations for the operator to share, that would provide the necessary coverage to the target coverage area. Similarly, there are no buildings which are suitable and available that the operator could utilise to operate their equipment. The discounted options are set out above and their reasons for being discounted are fully explained.

3G and 4G signals by their very nature (as they carry high data rates) do not penetrate over long distances, (5G even less so), just a few hundred metres, depending on the topography of the land, building clutter and vegetation including trees in the area which can reduce their effectiveness. Therefore 3G, 4G and 5G radio base stations need to be close to their customer demand which is normally in residential areas. As this is a column for H3G, whose network configuration is well established in the area, the operator's search area is naturally smaller, than would otherwise be the case if the operator wasn't already providing service provision from this location. This severely limits the options for siting a new installation in the area.

Mobile phone base stations operate on a low power and accordingly base stations therefore need to be located in the areas they are required to serve. Increasingly, people are also using their mobiles in their homes and this means we need to position base stations in, or close to, residential areas.

The proposed new mast has been sited and designed in order to provide 5G coverage and to support the existing mobile network.

Appearance

The design of the monopole has been carefully considered. To this end, it is a simple, functional slim-line monopole, with the main column being split in to two sections. The lower section is wider than the upper section in order to safely support the antennas at the top of the column. The mast will be coloured grey which has been well established as the best colour for minimising impact upon urban streetscapes and the predominantly grey British skyline. The cabinetry will be coloured green in line with the existing equipment cabinets already in situ and other statutory undertakers' equipment cabinets which are often found in urban areas. Although they can be coloured any other colour the LPA consider appropriate. This is in line with policies NPPF, the Code of Best Practice and policies LP1 and LP8 of the Local Plan of the Local Plan.

The proposed radio base fully complies with the Local Plan. In order to reduce the visual impact on the surrounding area the antennas have been positioned in a dual stack formation, with 3 antennas at the top of the mast and the other 3 antennas are proposed to be located underneath. The antennas are positioned as tight as possible and will only be marginally wider than the main column width, rather than being a bulky headframe, as such will not appear dissimilar to a shrouded design.

If the column and headframe were to be any slimmer, then all the required technologies would not be able to fit in the same installation and an additional radio base station would be required which would be contrary to national planning guidance. It would also not be structurally capable of supporting all the technologies including the latest 4G coverage and new 5G service provision. If the column were to be the same width throughout then it would have to be as wide as the antennas at the top of the column. This would appear more visually prominent in the streetscene than the current proposals.

It is essential that the 5G antennas are unshrouded. As the radio frequencies get higher, required for data carrying, the antennas are less able to propagate through immediate blockages including Glass Reinforced Plastic, which is what the shroud is made from. This affects the 5G antennas more so than any other technology. The result being they cannot operate effectively close to Glass Reinforced Plastic or any other blocking material. Therefore there is a technical reason why the 5G antennas need to be unshrouded. The latest 4G technology are also affected more so than older technologies by propagation, and are therefore less efficient if they are shrouded. As such, the other antennas also need to be unshrouded to ensure that the latest technologies are provided to the surrounding area, helping this area have integrated 21st Century infrastructure for digitally driven, clean and inclusive growth in line with central Government aspirations for the UK to be a world leader in 5G.

As previously explained in this supporting statement, the latest 4G and new 5G radio technologies operate in higher frequency bands than older technologies. At higher frequencies, attenuation of the radio signal is naturally higher and the effects of clutter are greater. It therefore follows that these antennas require a higher structure to achieve the same coverage footprint. As a result, to increase capacity and data speeds to the user, the antenna will normally need to be mounted higher than conventional antenna. This is the case in this situation. If the column were to be any lower, the antennas would not be able to provide the necessary 5G coverage to the target coverage area and would not be able to clear the urban clutter. As a result, the antenna signal would not be able to operate effectively. A lower height would lead to a poor user experience for a large part of the target coverage area. As such, this would fail the operators design brief and an additional installation would have to be found leading to the proliferation of masts contrary to national planning guidance contained in the NPPF, the Code of Best Practice and policies DMS 1 and DMS 9 of the Local Plan.

The presence of the linear structures including the road signage, and lighting columns and mature trees in the immediate area will ensure that the proposed column will not appear incongruous within the streetscene. Thus, there will be no detrimental loss of visual amenity to the area or environmental intrusion in line with the policies DMS 1 and DMS 9 of the Local Plan.

The telecommunications mast is proposed to be a slim-line simple, vertical, functional structure. The column is relatively slender and similar in design to the existing vertical structures in the immediate area at the junction of Uxbridge Road and High Street, albeit taller in height. As a result this installation would not appear incongruous within the streetscene in line with the requirements of the NPPF, the Code of Best Practice and policies LP1 and LP8 of the Local Plan.

The installation of a 20m slim-line column designed to be as similar as possible to the other linear structures found in the immediate area will be no more at odds with the streetscene and character of the area than the other vertical structures within the immediate locale.

It is accepted that the height of the proposed installation is taller than other pieces of surrounding linear structures but this in itself is not a valid reason to conclude that it is not appropriate at a specific location. Indeed, Inspectors at appeal have noted that by their very nature to be effective masts are required to be taller than surrounding structures.

Telecommunications apparatus by their very nature must be taller than surrounding built and natural form to ensure its efficient operation. The Code of Best Practice explains this requirement fully in paragraph 3.1, '*radio signals operate like light and must "see" over the target coverage area…*' To suggest that it is inappropriate development because it is taller than adjacent lighting columns or road signage is no more relevant than suggesting that street lighting columns are inappropriate because they are taller than road signage or traffic lights. They are all essential pieces of infrastructure within a streetscene that carry out differing functions and therefore cannot be considered on the same merits.

The proposed height at 20m is essential in order to clear the urban clutter/trees in the area and provide equivalent replacement coverage as well as new 5G services to this area of Richmond upon Thames. If the column height were to be reduced in this location, this would result in a degraded service due to the blocking effect from the surrounding urban clutter. This would especially be the case for the higher frequency technologies including 5G service provision. Thus if the column were to be any lower, the antennas would not be able to clear the urban clutter and as such would not be able to operate effectively. As such, an additional installation would be required which would lead to the proliferation of masts contrary to the NPPF.

This is a prior approval application where the principle of this type of development is already established by the Government under the Town and Country Planning (GPD) Order 2015 (as amended) which states that this type of development is permitted subject to the prior approval of the siting and appearance of the installation. This is therefore akin to an outline planning permission. Given the nature of the area which contains a number of vertical structures of various heights the proposed radio base station would not appear prominent nor out of place.

NPPF states at paragraph 113 the number of radio and electronic communications masts, and the sites for such installations, 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. It accepts that new sites might be required for 5G networks (para 113).

The design of the radio base station is one of the most sensitive designs available to the operators, designed to resemble typical existing urban linear street furniture, and that will allow two telecommunications operators to operate from a single site. This is in line with the requirements of NPPF which supports equipment which is sympathetically designed and camouflaged where appropriate [paragraph 113], The Code of Best Practice as well as the aspirations of polices LP1 and LP8 of the Local Plan.

The proposed new site accords with NPPF because the equipment will resemble other linear structures within the area, will expand the network, and ensure high quality communications infrastructure is maintained. Placing masts near similar structures such as lighting columns, utilising simple and unfussy designs is acknowledged in the Code of Best Practice on Mobile Network Development in England to be less likely to dominate and be in discord with the streetscene and as a result less likely to have a detrimental impact on the visual amenity of the surrounding area.

Lack of 5G Coverage – Material Consideration

Mobiles can only work with a network of base stations in place where people want to use their mobile phones or other wireless devices. Without base stations, the mobile phones and other devices we rely on simply won't work.

In accordance with the NPPF, the proposed installation is significant to enable continuous coverage of the telecommunication network, ensuring that Hampton Hill continues to get the mobile coverage it needs for H3G customers as well as new 5G coverage. The design of the new column will also enable EE to utilise the same installation when it is ready to roll out 5G in this area, with minimal design changes.

The current proposals will facilitate the development of an advanced broadband telecommunications infrastructure in line with National Government guidance contained within the NPPF which supports infrastructure especially where growth takes place. Digital growth plays a fundamental role in driving economic growth.

Without this new column the operator's customers would experience increasing numbers of dropped calls and buffering unable to access the internet on their handheld devices. They would also not be able to access the 5G network, a demand which is increasing rapidly as customers update their handheld devices to ones that are 5G compatible. If the 5G network is not available then the customers' would not be able to utilise these handheld devices for the purposes in which they were purchased. This is contrary to the aspirations of Central Government which aspires to everyone having access to the superfast highway network wherever they are.

The proposed installation will help improve the area's economic prosperity, strengthen the urban economy's by supporting local businesses to start, grow, adapt and diversify. It will support a better environment for today and tomorrow by reducing the need to travel and in turn minimise carbon emissions, a key ambition of the Local Plan Vision. The radio base station will support the delivery of healthcare provision and accessibility by enabling people greater access to online services, NHS appointment reminders, reminders to take medicines, make appointments etc.

Therefore the Government fully supports high quality communications infrastructure, even more so with the advent of 5G. The NPPF continues to strongly support telecommunications connectivity and states at paragraph 115 that local planning authorities should support the expansion of electronic communications networks. It acknowledges that advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being.

The demand for mobile data in the UK is increasing rapidly, and as households and businesses become increasingly reliant on mobile connectivity, the infrastructure must be in place to ensure supply does not become a constraint on future demand.

An installation in this location will fill the current gap in the latest high quality 5G service provision and enable H3G to maintain access to their handheld devices wherever they are for the purposes in which they were purchased. This is fully in line with the Government's aspirations that everyone has access to the superfast communications network.

Access to the internet in whatever medium now impacts every facet of our lives but only benefits those who can access and use it. The benefits of internet connectivity are key for both residents and businesses alike and a new column in this location providing the latest 2G, 3G, 4G and 5G technologies will support and promote the growth of the digital sector, increasing digital inclusion, so all people can access services, education and training. The proposal for a new base station therefore meets the aspirations of policy SI 6 of the draft London Plan.

In line with guidance contained within the NPPF which supports investment in the telecommunications systems a new column in this location will enable fast, reliable, secure internet accessibility wherever the user is located. An installation in this location would fully meet the latest operators' coverage and capacity requirements for 3G, 4G and new 5G provision. This would be wholly in line with the Government's latest aspirations to strongly support advanced, high quality and reliable communications infrastructure, essential for economic growth and social well-being. Where the NPPF notes that decisions should support the expansion of electronic communications networks. An installation outside this search area, regardless of whether there are existing sites, would not allow the operator to provide their desired level of coverage and therefore would not adequately maintain and provide new coverage and capacity.

The Code of Best Practice acknowledges that upgrading and improving mobile networks will not be possible without the necessary infrastructure on which we rely. With increasing consumer demand and the Government's aspirations for high quality communications infrastructure it is ever more important to improve connectivity and capacity.

In the Code of Best Practice it acknowledges '*the pressure on networks to upgrade and improve networks through changes to existing sites and the development of new sites is constant. With the increasing consumer demand and the Government's ambitious aspirations it is becoming more important to improve connectivity and capacity. This is due to the ever increasing demand for data hungry applications to be available to a range of connected devices, such as smartphones and tablet computers. However, The Code notes that upgrading and improving mobile networks will not be possible without the necessary infrastructure on which they rely*'. Therefore there is a significant need to locate the equipment in this area.

Economic and Social Benefits

In the case of telecommunications proposals where less than substantial harm is identified, it is necessary to carry out this balancing exercise weighing the need for development and the magnitude of public benefits of the proposed base station against the perceived concerns about the development's visual impact without impacting the technical constraints and operational needs of the operator.

The NPPF strongly supports sustainable development as does the Council's Local Plan. Mobile communication plays a significant role in sustainable development. Being able to access the internet via a mobile device allows people to access a wide range of central and local government services, buy groceries, manage finances, apply for jobs/university, and carry out school projects, send emails, download applications, send and receive instant messages, streaming and downloading data to name just a few of the benefits of being able to use an internet enabled handheld device. It also allows people to work from home or on the move without needing to return to the office. This reduces travel time, carbon emissions and increases the speed in which information is processed/shared. The proposals therefore fully comply with the NPPF and the Council's Local Plan to minimise the effects of climate change reducing the need to travel and therefore the carbon footprint.

In such instances, as described above, the NPPF supports development that improves the economic, social and environmental conditions in the area. Enhancing the 2G, 3G and 4G coverage and capacity in this area and providing new 5G services will fully meet this national policy objective.

Mobile connectivity is essential to the future success of the economy. The combined value of 4G and 5G mobile connectivity is estimated to add £18.5bn to the economy by 2026 (Councils and Connectivity Sept 2018). Mobile connectivity is essential to creating a better society. Digital inclusion can help people gain employment, become more financially secure and improve health and well-being. Mobile connectivity is essential to fulfilling the potential of new technologies. Innovations such as artificial intelligence and connected cars will change how we work, spend our leisure time and run our public services.

Providing the latest digital infrastructure to enable improvements in digital technology empowers and enables residents to have the highest quality of life, supports the creation of high quality jobs and achieves the maximum productivity levels. It will help businesses, public service providers and citizens to use digital technology by default and to the fullest to grow their businesses and improve productivity to access skills, training and employment opportunities to address global challenges that have a local impact such as ill health, social isolation, homelessness and pollution; to improve living standards and well-being; and to improve the quality and value for money of public services.

There is a demand for mobile connectivity in areas where geography, logistics or economics – or a combination of all 3, make it difficult. Mobile network capacity needs to grow to meet the demand of mobile users, who are consuming ever increasing amounts of data. The proposal for a new base station therefore meets the aspirations of policy SI 6 of the Spatial Development Strategy for London.

Paragraph 38 of the revised NPPF states that:

> *'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...*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'*.

Providing improved 2G, 3G, 4G and new 5G coverage and capacity in this area fully meets this part of the NPPF. The social and economic benefits are a significant material consideration which should be weighed against the visual impact associated with a radio base station in this location. HM Treasury outlined such benefits in its report '*Fixing the Foundations: Creating a More Prosperous Nation*' – July 2015. Paragraph 7.1 of the plan stated that reliable and high quality fixed and mobile broadband connections support growth in productivity, efficiency and labour force participation across the whole economy. They enable new and more efficient business processes, access to new markets and support flexible working and working from home.

Paragraph 7.2 goes on to highlight strong support for high quality communications infrastructure. It states

> '*by reducing red tape and barriers to investment, the Government will support the market to deliver the internationally competitive fixed and mobile digital communications infrastructure the UK's businesses need to thrive and grow, and which will enable the UK to remain at the forefront of the digital economy. The Government is working with business so that the market can play the lead role in delivering against the ambitions set out in the Digital Communications Infrastructure Strategy, published March, of near universal 4G and ultrafast broadband coverage.'*

The Government recognises that widespread coverage of mobile connectivity is essential for people and businesses. People expect to be connected where they live, work, visit and travel. That is why the

Government is committed to extending mobile geographical coverage further across the UK, with continuous mobile connectivity provided to all major roads and to being a world leader in 5G.

This will allow everyone in the country to benefit from the economic advantages of widespread mobile coverage. As well as improved mobile signal, 5G networks are also crucial to drive productivity and growth across the sectors that local areas are focusing on through their emerging Local Industrial Strategies. Enabling and planning for 5G implementation is central to achieving the Government's objective to deliver property at the local level and enable all places to share in the proceeds of growth.

The Government is determined to ensure the UK receives the coverage and connectivity it needs. To this end, the Government wants to be a world leader in 5G, the next generation of wireless connectivity, and for communities to benefit from the investments in the new technology.

Further to the Government's commitment to improve connectivity, on 24th November 2016 the new permitted development rights for telecommunication operators came in to force, designed to lift the restrictions on mobile operators such is the significance and weight the Government place upon the benefits attached to modern connectivity.

In October 2016, there was also the BIG Infrastructure Group (as Chaired by MP Grant Shapps) Report release calling on operators to improve their network. This is signed and has comments from numerous MP's nationally.

A National Needs Assessment – A Vision for UK Infrastructure was also published in October 2016 (https://www.ice.org.uk/getattachment/media-and-policy/policy/national-needs- assessment-a-vision-for-uk-infrastr/National-Needs-Assessment-PDF-(1).pdf.aspx). It sets out the infrastructure needs for the UK which includes the importance of digital technology. An extract of this assessment can be found below:

> *'A lack of digital connectivity has a detrimental effect on business operations, productivity and output and hence competitiveness in the global market place. Securing digital connectivity is thus critical to the UK's long term prosperity. A key challenge for the digital sector is a persistent digital divide between those who have access to the latest technologies and those who do not, with resulting social and economic exclusion, particularly as dependence on e-services and digital communications increases'*

The Assessment goes on to note that '*Universal digital connectivity would serve as an equaliser of economic opportunity in that it enables participation in a modern digital economy*'. Therefore this Needs Assessment further explains the consequences of a lack of coverage and the effects this has on social and economic prosperity. This clearly highlights the importance of maintaining and enhancing high quality 2G, 3G and 4G coverage and capacity in Richmond upon Thames as well as providing new 5G in this area, where the social and economic benefits will outweigh the environmental considerations.

Ministers from the DCMS and MHCLG wrote to all CEOs of Council's in England (March 2019) setting out its position in respect of supporting investment in high-quality, reliable digital connectivity **'Collaborating for digital connectivity'.** The Government acknowledges that such infrastructure is essential for communities to benefit from faster economic growth and greater social inclusion. Ministers state:

> *'It is essential to keep pace with growing demand for internet bandwidth and mobile data from local businesses, residents and those who visit our communities. As outlined in the Future Telecoms Infrastructure Review, the Government would like to see nationwide full fibre coverage by 2033. We would also like the UK to be a world leader in 5G, with the majority of the population covered by a 5G signal by 2027. We are writing to ask for your help in supporting the investment necessary to achieve these objectives'.*

'Recent years have seen substantial investment in mobile and fixed digital infrastructure across the UK.

While mobile coverage across the UK has been significantly improving, there are still too many areas where coverage is poor. The UK has now achieved 95% superfast broadband coverage but still only 6% full fibre coverage.

We need to create the market and policy conditions necessary to support the large- scale commercial investment required to extend and future-proof digital connectivity. A key part of this is making it easier for operators to deploy infrastructure.

Local authorities have an essential role to play as site providers. As Chief Executives, you can support investment in digital communications infrastructure by ensuring your organisations have policies and procedures in place that promote effective engagement with the digital communications industry and minimise barriers to deployment'.

In November 2019, Matt Warman MP wrote to all CEOs of Council's in England setting out the case for **'5G - The Next Mobile Generation'**. The letter stated:

"More than any previous generation of mobile networks, 5G has the potential to transform the way we live and improve economic productivity. Networks will have the capacity for millions more devices to be connected at the same time, enabling businesses and communities to operate more efficiently. It will allow cities and communities to manage traffic flow, monitor air quality and control energy usage through real-time management of high volumes of data".

A recent report estimated that local authorities will share collectively an annual £2.35 billion of efficiency savings, from reduced social care costs for the elderly through 5G monitoring, to savings through smarter street lighting.[1] We want the UK to take early advantage of these benefits, so it is good news that all of the four main mobile network operators - EE, O2, Three and Vodafone - have started to deploy 5G networks. We expect 5G to go live in up to 50 cities and towns by the end of 2020. In order to support the deployment of 5G and extend mobile coverage, particularly in rural areas, the Government recently published a consultation on the principle of proposed reforms to permitted development rights, which closes on 4 November.

The National Planning Policy Framework ("the Framework") for England[2] supports the expansion of high quality communications, including next generation mobile technology, such as 5G. The Framework states that planning applications for mobile base stations should include a statement of compliance with international guidelines on limiting exposure to electromagnetic fields known as the International Commission on Non- Ionizing Radiation Protection guidelines ("the ICNIRP guidelines"[3]). It also states: "Local planning authorities must determine applications on planning grounds only. They should not seek to prevent competition between different operators, question the need for an electronic communications system, or set health safeguards different from the International Commission guidelines for public exposure."

Digital Infrastructure Minister Matt Warman in his Keynote Speech at 'Connected Britain 2020' provided the latest endorsement from Central Government on the importance connectivity. He stated:

"The theme this year is the future of UK connectivity. But before I talk about that, I'd like to take this opportunity to thank everyone in the industry for their tireless efforts at keeping us all connected through an unprecedented period of disruption.

You have kept school children connected with their teachers, allowed isolated grandparents to speak to their grandchildren, and enabled great British businesses to power the economy through these difficult times. Without a good connection, I would not be able to join you all at Connected Britain. Thank you.

In my speech, I am going to touch upon the exciting work that the Government is doing on broadband and 5G, and also the efforts that we are taking to make these networks more secure for the long term.

But, first, I thought that I would reflect on the changed times that we are living in. COVID has altered the way we live, work and, most importantly, stay connected with our family and friends. The digital infrastructure that keeps us all connected was essential to our daily way of life under lockdown - and is now more important than ever as we head into recovery. Many of these changes - such as increased working from home - will stay with us for the foreseeable future.

***People in this sector have long referred to the internet as "the fourth utility" - and it's true**. For countless people across the country, having fast and reliable broadband and a good mobile connection is as essential and vital to our daily lives as gas, water and electricity".*

The Digital Infrastructure Minister stated that underpinning the Government's connectivity ambitions would be a Digital Strategy which will set out how the Government will drive growth in the tech sector and economy, and ensure we maximise the benefits of a tech-led economic recovery.

"And to bring us full circle, at the strategy's heart will be our vision for providing world-class digital infrastructure to all, in a way that is safe, secure and built for the future"

Further to Matt Warman's Keynote speech, the Centre of Policy Studies have launched a new report entitled: '*Upwardly Mobile: How the UK can gain the full benefits of the 5G revolution'* as part of the 'Speed up Britain' campaign.

The report identifies what the 5G opportunities are for us and what the Government needs to do so we can all benefit from this vital new technology. It states that delays to the rollout of 5G could cost the country tens of billions of pounds in lost economic output. The former Government advisers Alex Jackman and Nick King argue that Government's 'levelling up' agenda and the UK's recovery from the COVID-19 pandemic is at risk without a faster 5G rollout – to the tune of £41 billion. *The delivery of 5G infrastructure is stalling. The set of rules meant to pave the way for the smooth rollout of the next generation telecommunication network, the Electronic Communications Code, is clearly not working as intended. Pressure on the rollout will only increase with the phasing out of Huawei from 5G infrastructure by 2027".*

The report highlights that if delays continue at their current rate, by 2027, over 11 million households and businesses could be missing out on vital digital connectivity. Improving digital infrastructure supports the Government's 'levelling up' agenda, by helping local areas to retain and attract businesses and talent as well as by reducing regional inequalities.

The report states that '*the UK must have a functioning network to now support the recovery from the pandemic, empowering businesses and communities with wider coverage, and preparing the ground for the services that 5G can provide'*.

The manufacturing, construction and agricultural sectors have been hit particularly hard by the pandemic, and these would benefit significantly from improved connectivity. However, onerous planning rules and loopholes in existing legislation are slowing down the infrastructure upgrades needed to make the most of this mobile revolution in these much-needed industries.

Digital networks and services have underpinned our resilience to the COVID-19 pandemic and they will drive our recovery. By expanding them, we deliver not only immediate benefits but also the essential foundation stone for future prosperity.

The report highlights that while 5G promises to create economic benefits through increased capacity, reliability and speed – vastly improving business productivity and removing barriers imposed by poor digital connectivity – the system is plagued by red tape.

The report acknowledges that the gains are not just at national level. A more extensive digital infrastructure helps local areas to attract and retain businesses and talent, thereby playing a vital role

in reducing regional inequalities. Providing a supportive environment for digital infrastructure is one of the few things the Government can do that costs little, boosts growth and helps level up the UK….the key is speed. **The faster a network is built, the bigger the regional gains (emphasis added).** The telecommunications industry faces challenges on this front. The COVID-19 pandemic has increased demand on networks but delayed the availability of new spectrum to provide additional capacity.

The report notes that the reliability and reach of 4G is more important than ever. It is needed both to quench immediate demand, and also to facilitate future 5G rollout, as the underlying passive infrastructure will initially support both technologies. Every failure to provide better coverage not only presents an immediate opportunity loss for local business and consumers but also has a bigger downstream economic impact. It acknowledges that productivity gains to business, equality gains for regions and economic gains for the country are only as achievable as the networks they can access.

The report recommended that the Government should reform the strategic planning framework to compel local authorities to ensure that the needs of future mobile connectivity are adequately addressed in Local Plans and that new developments are assessed on how they might impact, or could support, local connectivity.

An installation in this location will ensure that the expansion of the electronic communications network is facilitated and that high-quality communications infrastructure is provided to the immediate area. This is in full accordance with the Council's aims and aspirations to have high quality 5G infrastructure, promoting and growing the digital sector and increasing digital inclusion.

Health and Safety

The proposed installation conforms to current government planning guidelines regarding potential health effects arising from telecommunications development. The operator has attached a declaration that the site conforms to ICNIRP guidance. This is in full accordance with NPPF.

The publication of the National Planning Policy Framework continues to highlight the Governments view that the planning system is not the appropriate mechanism for determining health safeguards. It sends a clear message to local planning authorities stating that they must '*determine applications on planning grounds. They should not seek to prevent competition between different operators, question the need for the telecommunications system, or determine health safeguards if the proposal meets International Commission guidelines for public exposure'*. This is reiterated in the Code of Best Practice.

Notably, Ofcom have now undertaken 5G audits in the major cities and the results indicate that the exposure level are a small fraction of the limits. This further reinforces the PHE guidance in respect of 5G which states: "It is possible that there may be a small increase in overall exposure to radio waves when 5G is added to an existing network or in a new area. However, the overall exposure is expected to remain low relative to guidelines and, as such, there should be no consequences for public health." (https://www.gov.uk/government/publications/5g-technologies-radio-waves-and-health)

In this instance, it is not necessary to consider health effects further, as recommended by NPPF. The operator is committed to ensuring that all new and existing installations are ICNIRP compliant, and consequently it is considered that there is no basis for this application to be refused on health and safety grounds or for reasons relating to public concerns about health and safety. ICNIRP compliance certificates are enclosed with this application.

Summary

5G rollout has begun and so MBNL on behalf of H3G is in the process of an ongoing network improvement program, to provide new 5G coverage in this area of Richmond upon Thames.

The proposed site has been carefully sited in the public highway where there are a number of vertical structures in the immediate area of various shapes and sizes. As this is a prior approval application, the Government confirms that this is permitted development, akin to outline planning permission, with just the details of siting and appearance to be considered by the local planning authority. The vertical

structures help the proposed installation assimilate with the streetscene and not appear incongruous in the immediate area.

Whilst the site is located within the High Street Conservation Area, the site with the least impact has been chosen that effectively uses the surrounding mature trees as a backdrop and screening. The impact of the proposed site is restricted to the immediate area and the proximity to the nearby residential properties has been kept to the absolute minimum.

The proposed height at 20m is essential in order for the antennas to reach the target coverage area and clear the surrounding urban clutter, because at higher frequencies attenuation of the radio signal is naturally higher and the effects of clutter are greater. This ensures that the antennas are able to maintain and provide new high quality 2G, 3G, 4G and 5G service provision to Richmond upon Thames.

Site selection was progressed in accordance with the applicants licence obligations, advice in the NPPF and the Code of Best Practice and represents the least environmentally intrusive, technically suitable, available option

The social and economic benefits of providing reliable and high quality mobile broadband connections including 5G support growth in productivity, efficiency and labour force participation across the whole economy. This is fully supported by the NPPF and the Local Plan. These benefits are strong material considerations which any perceived loss of visual amenity to the surrounding area.

At present due to the COVID 19 pandemic it is paramount that digital connectivity is supported and maintained throughout the country. In particular the current massive shift in user demand from city centres and places of work to residential areas and the suburbs requires an improvement in coverage and capacity throughout the whole network.

The social and economic benefits of providing reliable and high quality mobile broadband connections including 5G support growth in productivity, efficiency and labour force participation across the whole economy. These benefits are strong material considerations which outweigh any perceived loss of visual amenity to the surrounding area.

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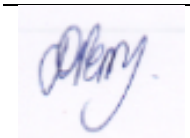
Signed:		Date:	13.09.2021
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