SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	SW on Broadway	Site Address:	Land adjacent to footpath on Broadway Manchester Greater Manchester M40 3WP
National Grid Reference:	E:388823 N:401881		
Site Ref Number:	CTIL302928_01_TEF_088925	Site Type:	Macro

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?	Yes	**No**
Manchester City Council do not provide an up to date telecommunications mast register. The applicant has therefore relied upon industry information to establish the location of any existing telecommunications installations in the surrounds.		
Were industry site databases checked for suitable sites by the operator:	**Yes**	No
The applicant has consulted with industry datasets to identify the position of existing telecommunications installations relative to the application site with a view to identifying potential site sharing opportunities where possible. One existing mast was identified approximately 25m from the application site. Details of this mast is as follows: • Existing 15m streetworks pole situated on the opposite side of Broadway to the application site (E:388853 N:401930) currently providing 2G, 3G and 4G coverage for Vodafone and Telefonica.		

Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	**Yes**
Date of pre-application contact:	21.02.2020
Name of contact:	Letter sent addressed to the Chief Planning Officer
The applicant wrote to Manchester City Council Planning Services on 21st February 2020 to invite comment on the draft proposals. Drawings, context and discounted options were sent as well as a brief description of the proposed development. Contact details of the applicant's agent were supplied. At the time of writing no response or acknowledgement has been received.	

Community Consultation

Rating of Site under Traffic Light Model:	~~Red~~	**Amber**	~~Green~~
Pre-application consultation was carried out with local ward councillors Ollerhead, Appleby, and Dar as well as the local MP Lucy Powell. Pre-application consultation letters and drawings of the proposals were sent to these parties on 21st February 2020.			
No response received to date from these stakeholders.			

School/College

Location of site in relation to school/college : N/A.
Outline of consultation carried out with school/college: N/A.
Summary of outcome/main issues raised: N/A.

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

Will the structure be within 3km of an aerodrome or airfield?	Yes	**No**
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?	Yes	**No**
Details of response: N/A as nearest aerodrome is over 3km distance from the application site.		

Developer's Notice

Copy of Developer's Notice enclosed?	**Yes**	No

Date served	Developers' notices were sent to the highways department and Manchester City Council via email and special delivery on 17 March 2020 – track and trace number NL465051974GB Proof of delivery screenshot provided below:



3/20/2020 Proof of Delivery

Royal Mail

Track your Item

Proof of Delivery

Tracking no. NL465051974GB

Your item was delivered on **18-03-2020**.

Signed for by: WILDE

Service used: Royal Mail Signed For™

Delivered: 8:12am

3. Proposed Development

The proposed site:
Background Cornerstone and Telefónica are in the process of progressing a suitable replacement site in the New Moston area for a radio base station capable of providing their latest 4G and new 5G technologies. The existing Telefonica and Vodafone site, opposite the proposal site will remain in place for Vodafone, whilst Telefonica finds another site to provide their latest replacement and new service provision. 5G rollout has begun and Telefónica are in the process of upgrading their existing radio base stations across Greater Manchester in their single grid network wherever possible. As part of Telefónica's continued network improvement program, there is a specific requirement for a new installation at this location to provide improved 2G, 3G, 4G and new 5G coverage and capacity, ensuring that New Moston has access to the latest technologies. This follows the inability of the operator to upgrade an existing site operated by Vodafone 25m to the east of the site, on the opposite side of Broadway. The operator has fully investigated the installation to the east of the site to provide the latest technologies for 4G services as well as new 5G coverage/capacity into the Telefonica network. However, the design of the existing pole is not able to support the new 5G antennas for both Vodafone and Telefonica and there is no replacement street furniture structure available which could be utilised. This existing telecommunication site has been discounted for Telefonica's new

technology requirements for this reason. A new replacement site for Telefonica is therefore needed to provide this operator with the latest 2G, 3G, 4G and 5G technologies. The existing site will remain in place for Vodafone Technologies. This will ensure that a high quality customer experience is provided across both networks.

The 3G and 4G provision allows internet access, video calling, data 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 to this area would promote activity in line with the general population demand as the ownership of smart devices increases. New 5G service provision will bring faster, more responsive and reliable connections than ever before.

The operator is limited in siting options as there is a requirement to provide equivalent replacement coverage and capacity for this area of New Moston. The replacement of existing coverage means that the operator has to be located as close as possible to the existing installation in order to maintain the provision of equivalent coverage and capacity to the surrounding local area. The proposed location is some 25m west of the existing radio base station. This is the nearest suitable location that the operator is able to position their replacement apparatus.

The Proposed Site

The proposed site is a small parcel of land on a grass verge immediately adjacent to pedestrian and cycle footpaths that abut the western boundary of 'Broadway'. The area of Broadway where the application site is located is situated to the rear of a grass field situated between Bridport Avenue and Broadway. Broadway is a major part of the Manchester arterial road network and provides dual carriageway access between New Moston and Manchester City Centre to the south.

The grass verge is flat, measuring 1.5m in width and is unobstructed within the immediate vicinity of the application site. A bus stop is situated approximately 200m to the south on Broadway. There are numerous mature and semi-mature trees within the context of the site several of which are estimated to be 12m-15m in height and of substantial crown width. Notable immediate tress include to the rear of the site on the unused land between Bridport Avenue and Broadway, and the land on the opposite side of the road between Broadway and Moston Lane East. None of the trees in the vicinity of the site are protected by a Tree Preservation Order.

There are numerous examples of other vertical structures within the streetscene which will help the proposed mast to assimilate into the local environment. These include lampposts (measured at 8m), other existing telecommunications installations, traffic lights, pedestrian and metal safety barriers and road signage.

There are no townscape or cultural designations that affect the application site itself. It is not situated within any designated conservation area and cannot be considered to form the wider setting of any such area by virtue of the distance between the site and the nearest Conservation Area being Newton Heath Conservation Area, over 2km to the south. There are no locally or nationally listed buildings within close proximity of the site.

A review of the Council's online planning records reveals there is no planning history relevant to the proposal site apart from the prior approval application for the existing telecommunications equipment to the east of the site approved in June 2010 [093093/TEL/2010/N1].

Type of Structure: Streetworks column	
The proposal relates to the installation of a 20m slim-line column supporting 6 no. antennas, 2 no. transmission dishes, 2 no. equipment cabinets and ancillary development thereto including 3 no. Remote Radio Units (RRUs).	
Overall Height: 20m	
Height of existing building (*where applicable*) :	N/A
Equipment Housing: Yorkshire EUR cabinet to be coloured Fir Green (RAL6009)	
Length:	1.800 Metres
Width:	0.600 Metres
Height:	1.750 Metres
Equipment Housing: Yorkshire EUR cabinet to be coloured Fir Green (RAL6009)	
Length:	1.000 Metres
Width:	0.600 Metres
Height:	1.750 Metres
Materials *(as applicable):*	
Tower/mast etc – type of material and external colour:	Column – Light Grey (RAL 7035)
Equipment housing – type of material and external colour:	Fir Green (RAL 6009)

Reasons for choice of design and siting, making reference to pre-application responses:
The operator has carefully considered the design of the proposed structure and is proposing the most sensitive design currently available to 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 are required 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 and the other 3 will be located beneath. The 3 upper antennas will provide new 5G technology for the operator to the surrounding area. Thus if the column were to be any lower, the antennas would not be able to clear the urban clutter identified within the immediate vicinity of the site and as such would not be able to operate effectively. The proposed height at 20m is essential in order to provide coverage to the target area. The operator's radio engineer has confirmed that the height is required to provide coverage to the residential areas surrounding the site and also along the route of the A663 (Broadway) in the immediate vicinity of the site. 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 and explain why a taller mast than the existing telecommunications masts to the east will be required. The new 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. As mentioned above, 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 a telecommunications shroud is typically made of and as such 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 a proliferation of masts.

The proposed design is more visually sensitive and much easier to assimilate into a streetscene than lattice towers or certain designs of conventional telecoms masts with bulky headframes featuring unshrouded antennas. These traditional 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, telegraph poles, commercial signage, road signage and bus shelters. These vertical structures and items of street furniture 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. The column will be coloured grey to match the existing road signage and lighting columns and better assimilate with the sky. Although it can be coloured any other colour the LPA consider appropriate.

The cabinets are designed to appear like other statutory undertakers equipment, including in the immediate streetscene. The proposed equipment cabinets are to be coloured dark green to blend in with existing vegetation that forms part of the wider backdrop. 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. No other additional equipment cabinets are anticipated in the immediate future.

The transmission dishes are required in order to provide a link into the network. A clear line of sight is required in order for it to meet its design brief. As such, a centre line height of 15m is proposed where dishes will be orientated to point toward other existing installations in the wider communications network.

The RRUs are small each one about the size of a shoe box. They are designed to make the antennas more efficient and reduce the amount of ground based equipment cabinets thus minimising the visual impact on the surrounding area. Given their height above ground level underneath the antennas, at approximately 16m, they will not be overly prominent in the streetscene.

It is therefore considered that the proposal 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 operator's 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 new 5G 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, Telefónica UK Limited 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 Telefónica's network, the radio base station that is the subject of this application will be configured to operate in this way. All operators of radio transmitters are under a legal obligation to operate those transmitters in accordance with the conditions of their licence. Operation of the transmitter in accordance with the conditions of the licence fulfils the legal obligations in respect of interference to other radio systems, other electrical equipment, instrumentation or air traffic systems. The conditions of the licence are mandated by Ofcom, an agency of national government, who are responsible for the regulation of the civilian radio spectrum. The remit of Ofcom also includes investigation and remedy of any reported significant interference. The telecommunications infrastructure the subject of this application accords with all relevant legislation and as such will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest.	**Yes**	No

4. Technical Justification

A mobile phone transmitter is designed to cover a specific area and links its coverage to the next site in the network, creating a patchwork of overlapping coverage 'cells' across the country. So, if a person is on the move, the network will transfer their calls from one site to the next. However, in certain areas there will be gaps between these cells, resulting in a loss of coverage. This can be for a variety of reasons, the most common being topography or buildings which block the path of the signal. The operators' network rollout programme is designed to identify and address these gaps within their coverage and ensure that people can use their phones whenever and wherever they are.

Whilst it is the case that Cornerstone remains a jointly owned company, established by the two mobile network operators, Vodafone Limited and Telefonica (UK) Limited, to establish and operate a shared single grid network to provide 2G 3G and 4G coverage, this can no longer be the case with all sites for the provision of 5G service.

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 those instances where greenfield structures and rooftop installations are currently in place, in the vast majority of cases, these will remain shared base stations. These shared base stations allow for separate antennas on supporting structures that are capable of accommodating the weight, wind loading and technological requirements associated with providing four technologies (2G, 3G, 4G and 5G) for two separate operators from a single shared location, albeit sometimes via redevelopment of the existing base station.

However, to address some site specific coverage and data capacity demand, the 5G equipment upon many street furniture base station structures cannot be shared by both operators. This is due to variations in the make-up of the independent Vodafone and Telefonica networks. As noted, most infrastructure should be capable of sharing, however, the slim line street furniture base stations that have been inserted into the local street scene are not capable of accommodating all of the equipment that is required to meet the site specific demand of both operators and customers for this area from a single street furniture pole. To this end, many existing shared street-work installations are being removed from the 'single grid' with the necessity for additional new street furniture base stations accommodating the technological requirements of a single operator – either Vodafone or Telefonica (O2).

Given the maturity of the two independent networks, and the single grid consolidation over the last few years, any new street furniture base station needs to be located in close proximity to the existing site – thereby retaining customer coverage and experience within a previously shared 'cell'. The new pole will accommodate all the technologies for the single operator and the 'cell' will benefit from improved service provision from both operators, including the introduction of 5G service to the area. To continue to share an existing structure at this location would require significant redevelopment of the existing structure to a much more structurally robust mast capable of hosting all the equipment from both operators. This would move away from the relatively uniform and slimline street furniture poles proposed and therefore it is felt that a secondary, more slimline, street-

pole is a more appropriate and sensitive solution to 5G service provision whilst minimising impact for a street furniture setting.

5. 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.

In accordance with the above sequential approach, the proposal is to install a new radio base station in this location to provide new 2G, 3G and 4G coverage and 5G service provision. The below table includes identified potential alternative sites and provides a reason why these were not progressed.

Site Type	Site name and address	National Grid Reference	Reason for not choosing site
Existing Telecoms Site	Existing VF SW Site Broadway Manchester Greater Manchester M40 3WN	E:388853 N:401930	Please refer to the earlier paragraphs set out in the technical section above relating to the operator's existing street furniture.
Greenfield	Moston Brook Car Park Broadway Manchester Greater Manchester M40 0DX	E:388902 N:401772	This area is surrounded by very mature trees and a mast of at least 25m and a lattice structure would be required. This would have a greater visual impact than a slim line pole suggested as option 1. There is also restricted access to build on site.
Greenfield	Lower Memorial Park 131 Broadway Failsworth Manchester Greater Manchester M40 3NL	E:388731 N:401726	This area is surrounded by very mature trees and a mast of at least 25m and a lattice structure would be required. This would have a greater visual impact than a slim line pole as proposed under this application. There is also restricted access to build the site and numerous overhanging trees along potential construction access routes which could be damaged during the construction phase of a

			telecoms deployment. There is also a children's playground immediately adjacent so local opposition may be received.

If no alternative site options have been investigated, please explain why: N/A.
Land use planning designations: No specific land designations.
Environmental Information No specific environmental considerations identified to date.

Planning Policy

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.

National Planning Policy Framework (February 2019)

The Government's latest policy position continues to strongly support communications infrastructure and makes specific reference to support for 5G networks. 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 112 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 112. 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 (<u>such as 5G</u>)…'* Applicant underlining.

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 113 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 116 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 80 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 40 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'.

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 superhighway 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.

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' and improve coverage in 'partial not spots' 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.

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. 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.

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; and
- 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.

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.

Proposed Reforms to Permitted Development Rights to Support the Deployment of 5G and Extend Mobile Coverage (August 2019)

Although the application benefits from current permitted development rights, the applicant is mindful of the recent reiteration of government support for the development of digital connectivity set down within recent consultation on changes to permitted development rights.

Important text states that 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. The Government is committed to extending mobile geographic coverage further across the UK, with continuous mobile connectivity provided to all major roads.

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 prosperity 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. The Future Telecoms Infrastructure Review, published in July 2018, sets out the Government's long-term strategy for meeting its digital connectivity targets. It restated the Government's commitment to tackling barriers to deployment and concluded that there were steps the Government could take in order to create the right conditions for the investment required to deliver additional network coverage and capacity.

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 this new technology. All of the four main mobile network operators have announced intentions to begin deployment of 5G networks in 2019 and the current application is a manifestation of this commitment.

The case for 5G is compelling as it will bring faster, more responsive and reliable connections than ever before. More than any previous generation of mobile networks, it has the potential to improve the way people live, work and travel, and to deliver significant benefits to the economy and industry through the ability to connect more devices to the Internet at the same time – creating the so-called "Internet of Things". This will enable communities to manage traffic flow and control energy usage, monitor patient health remotely, and increase productivity for business and farmers, all through the real-time management of data.

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 determination must be made in accordance with the plan unless material considerations indicate otherwise". Decisions on planning applications must therefore be made in line with the development plan, unless there are clear material considerations which dictate why this should not be the case.

The statutory development plan as defined by the Planning and Compulsory Purchase Act 2004 comprises the extant Unitary Development Policies of the Manchester Unitary Development Plan and the Manchester Core Strategy Development Plan Document.

Manchester Unitary Development Plan (July 1995)

The Manchester Unitary Development Plan (UDP) was adopted in July 1995 as the strategy document which set out guidelines for all development in Manchester and provided a framework from which to base decisions about planning applications.

The Manchester Core Strategy was adopted on 11 July 2012 which is the key development plan document in the LDF. It replaces significant elements of the UDP. However, a number of policies remain extant following the adoption of the Core Strategy including Policy DC 17.1 relating to telecommunications.

Policy DC 17.1 states that applications for telecommunications development will normally be approved if the Council can be satisfied that the development has been sited and designed to minimise its impact on residential amenity and in environmentally sensitive areas. Wherever possible the Council will expect the potential of existing buildings and masts, including the sharing of such facilities, to be fully explored before agreeing to additional separate development.

In the justification to Policy DC 17.1 the Council recognises the need for Manchester to be at the forefront in the field of telecommunications. The Council therefore starts from the presumption in favour of sustainable development and investment in the telecommunication systems serving the city. Equally, it wishes to ensure that new developments are brought forward in a way which protects residential amenity and minimises the visual impact of such development particularly in conservation areas and other environmentally sensitive areas in parks and the river valleys. The Council is also concerned to make maximum possible use of existing buildings and facilities by encouraging operators to share facilities wherever possible in order to avoid unsightly duplication and clutter.

Manchester Core Strategy DPD July 2012

The Manchester Core Strategy was adopted in July 2012 and sets out the long term strategic policies for Manchester's future development and will form the framework that planning applications will be assessed against.

The Core Strategy Vision states that:

'By 2027 Manchester will be:

- A successful and accessible city in the front rank of cities in Europe and the world.
- A city with a growing economy driven by the strength of the Regional Centre and Manchester Airport which supports a successful City Region. The knowledge based economy flourishes with an entrepreneurial community, characterised by a fully skilled, inclusive working population.
- Meeting the challenge of climate change at the forefront of environmental initiatives and improvement and continuing to deliver sustainable development and a more effective green infrastructure.

- A city with an increased and sustainable healthy population and a community which both benefits from and drives the City's productivity upwards.
- A city with neighbourhoods where people choose to live all their lives.

In order to help meet this vision the Core Strategy sets out a number of spatial objectives.

Spatial Objective SO1 relates to spatial principles and aims to provide a framework within which sustainable development of the city can contribute to halting climate change.

Spatial Objective SO2 relates to the economy and supports a significant further improvement of the City's economic performance and spread the benefits of this growth across the City to reduce economic, environmental and social disparities, and to help create inclusive communities.

SO4 relates to Centres and aims to provide a network of distinctive, attractive and high quality centres, strengthening local identity, providing essential services close to homes and local access to healthy foods.

Policy SO1 relates to spatial principles and states inter alia that development in all parts of the City should:

- Make a positive contribution to neighbourhoods of choice including making a positive contribution to the health, safety and well-being of residents.
- Considering the needs of all members of the community regardless of age, gender, disability, sexuality, religion, culture, ethnicity or income.
- Minimise emissions.
- Improve access to jobs, services, education and open space by being located to reduce the need to travel.

Policy EM1 relates to employment and economic growth in Manchester. The policy states that the priorities for economic growth include:

- Ensuring the continued social, economic and environmental regeneration of the city.
- Ensuring the connectivity to international markets for the import and export of goods to ensure competitiveness in international markets.

Policy DM1 relates to development management. It is a general design policy which is not specifically related to telecommunications but contains some relevance for such applications. The policy states that all development should have regard to the following inter alia:

- Appropriate siting, layout, scale, form, massing, materials and detail.
- Impact on the surrounding areas in terms of design, scale and appearance of the proposed development. Development should have regard to the character of the surrounding area.
- Effects on amenity including privacy, light, noise, vibration, air quality, odours, litter, vermin, road safety and traffic generation.

Greater Manchester Digital Strategy 2018-2020

The foreword to this Digital Strategy states:

'We live in a world where the number of digital devices has now passed the number of people. Digital technology is now shaping every aspect of our lives in ways which were inconceivable a generation ago: how we work, travel, shop, access services, meet people, communicate and are entertained.

Greater Manchester has always been a pioneer city region, with an eye for opportunity and the drive and pragmatism to seek out new solutions to old problems with almost 80000 digital and digital-intense creative businesses in Greater Manchester employing more than 82300 people generating £4.1bn of economic growth annually.

In the Greater Manchester Strategy we set a clear ambition to be a world-leading digital city region, and committed to taking an open, innovative and connective approach to delivering that ambition.

…to be a digital City-Region with a Difference and drive real change together, from the bottom up. We can only be a world leading city-region if we bridge the digital divide. Progress must be universal; geographically, socially and economically…using digital to connect young people to opportunity or tackle homelessness…we will capitalise on Greater Manchester's unique ability to use digital to connect and enhance our other high value sectors such as creative industries, health innovation and advanced manufacturing and materials.

The GM Digital Strategy asks why it is vital for Greater Manchester to be a leading digital City-Region and quotes:

"The future vitality of cities is increasingly based on their ability to use digital networks in intelligent, strategic ways" (Aspen Institute, Washington).

The Strategy goes on to state that:

…*'digital technology has catalysed the interconnection of the global economy, with the internet enabling the free exchange of goods and services, providing consumers with greater choice and businesses with access to skills, resources and customers. As a result, people are now accessing more digital content and services from outside their own country, cross-border payments increasing, and small companies are more easily becoming more "multi-national".*

Digital technology is increasingly the backbone of all industries, regardless of the nature and type of business. Embracing digital technology throughout all sectors, geographies and occupations is fundamental to Greater Manchester's current and future international competitiveness'.

"We want to be recognised as an international thought leader and do-er in digital innovation and adoption across our economy and communities"…

'This strategy is therefore founded on evidence that becoming a leading digital city-region is imperative to deliver our wider vision. We *must* do it to deliver the economic, social and inclusion improvements we need and want to see. We <u>can</u> do it because we have the vision, leadership and both the industrial and political will, coupled with strong academic,

industrial and community foundations and an exciting and disruptive set of emerging activities and technology'.

The Digital Strategy sets out the Greater Manchester Vision: A city with a Difference:

> *"It would be fantastic if we led the country in encouraging digital innovation which supports businesses and investment, creating jobs and opportunity, but focusing on improving outcomes for people such as loneliness or homelessness in our soci*ety.
>
> *I don't want Manchester to be just a smart city – I want it to be the smartest city"* (Andy Burnham Mayor of Greater Manchester).

The strategy goes on to state that the Vision for Greater Manchester is '*to be one of the best places in the world for developing and harnessing digital technology* and to be recognised as being a top 5 European Digital City Region by 2020 which:

- Empowers and enables residents to have the highest quality of life; and
- Supports the creation of high quality jobs and achieves the maximum possible productivity levels'.

This strategy for Greater Manchester is an open, connected and innovative city region….

'*Our Vision for Greater Manchester is holistic, with digital technology driving improvement across all areas of economy and society. A world-leading digital city is therefore, one which its businesses, public service providers and citizens are using 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 the quality and value for money of public service*s'.

The Strategy sets out the Goals and Measures. Goal 6 relates to Digital Infrastructure and aims that by 2022-23 the average download speed across fibre, mobile and wireless will exceed 100Mbps.

The benefits for delivering this strategy are noted as:

- For young people, better connected insights on children's development from the very early years right through to leaving school, a transformative range of career opportunities and a means through which they can be accessed;
- For Working Age Population, the ability to access broader range of high quality job opportunities, and set up own business more easily;
- For business owners and investors, for greater range of opportunities to access the technology and support to digitise, opportunities to physically and digitally collaborate will be readily accessible and there will be more readily available flow of talent, capital and support to new innovative ideas and a market place that defines and presents problems and commissions solutions rather than buying off the shelf products and services.
- For Older people, there will be more support and solutions to social isolation, more ease and control for you and your family in terms of managing your own health care; and
- For all residents, a city that works around you in terms of living your life, where you can move around the city more easily and safely, improvements in, for example treating illness,

improving air quality due to insights from pooled data, greater control over how and when you access public services.

Greater Manchester is aiming to become a world leading digital city by 2020. Greater Manchester plays a fundamental role in driving economic growth.

The Strategy notes that in terms of mobile internet, despite good public Wi-Fi coverage in most public buildings across Greater Manchester, and on Metrolink and many buses, Wi-Fi provision is patchy in public places and there are still barriers to access (registration requirements and cost) in many parts of Greater Manchester.

The Strategy also acknowledges that digital exclusion is closely linked with social exclusion.

The Greater Manchester Action Plan for Infrastructure at 8.1 States that the connectivity which Greater Manchester requires is to increase average mobile and fixed broadband internet speeds and aims to improve call and mobile coverage including securing a national 5G test bed status thus positioning Greater Manchester at the forefront of next generation 5G mobile.

The strategy notes 5 digital enablers: Social Networks, Mobile internet/apps, digital health, infotainment and e-commerce.

Greater Manchester Local Industrial Strategy (June 2019)

This Local Industrial Strategy sets out how Greater Manchester (GM) will forge its future. It states that it will build on GM's position as a 'leading European digital city-region; enable the digitalisation of all sectors; and capitalise on the links between digital and creative industries that feed internationally significant clusters in broadcasting, content creation and media, and maximise growing assets in cyber security.

It aims to put in place the integrated 21st century infrastructure needed for digital driven, clean and inclusive growth.

A top 5 city-region for the digital economy in Europe, with full fibre broadband and 5G coverage.

The Strategy states that GM will take a 'Made Smarter' approach to all industries, supporting forms to adopt new digital and creative techniques and enabling the digitalisation of all sectors.

The strategy has a specific section relating to infrastructure and acknowledges its importance:

> '…The city-region now aims to upgrade, integrate and future-proof its infrastructure, to create a 21st century city-region with extreme digital connectivity, clean and inclusive growth and – through work with others – improved access to national and global markets. Existing partnerships are working to improve digital infrastructure in the city-region to meet national targets of roll out of 5G technologies for most people by 2027'.

The Local Industrial Strategy sets out an objective to ensure the vision for infrastructure is met:

- World-class connectivity – digitally and through an integrated transport network within all parts of GM.

To achieve the ambitions of the GM Local Industrial Strategy it identifies actions around 5 foundations of productivity: Infrastructure, Ideas, People, Business Environment and Places. These are noted as being essential attributes of every successful economy. It also identifies opportunities grouped under 4 Grand Challenges – Artificial Intelligence and Data, the Ageing Society, Future Mobility and Clean Growth.

The Vision for the Digital, Creative and Media is set out in the Local Industrial Strategy and reproduced below:

> '*GM will be a leading European digital City-Region, with the infrastructure, skills and networks needed to digitise all sectors, and internationally significant clusters in broadcasting, content creation and media and cyber security'*.

To help meet the vision the strategy states that GM will continue to transform the digital connectivity of the city-region to drive economic growth and innovation, working with Government to meet national targets of full roll-out of 5G technologies for most people by 2027.

The Local Industrial Strategy acknowledges that GM will aim to become one of the best digitally connected city-regions in the UK. It fully supports the development of 5G networks.

Greater Manchester Infrastructure Framework 2040 (GMCA)

This is a pre-cursor to the GM Infrastructure Strategy. The aim is to focus on developing infrastructure which ultimately improves the lives of all those living and working within Greater Manchester.

The Infrastructure Framework acknowledges a number of key challenges, one of which is digital and the need to provide pervasive, affordable, resilient digital connectivity. The Framework notes that 'Digital technology is increasingly the backbone of the major industries and our daily lives'.

The Framework goes on to states that approaching 2040, GM will need to be a Smart and digitally ready City Region. To achieve this, and support on-going digitalisation, the region will require resilient fixed connectivity (through fixed fibre) supported by 5G (and subsequent technologies). It will also need to streamline the process for installation of new infrastructure within the street space.

The Framework notes the vision for the GM Infrastructure Strategy:

> *'Develop and maintain a holistic infrastructure system that is robust, accommodates sustainable growth and supports the ambitions of the Greater Manchester Strategy to make "Greater Manchester one of the best places in the world to grow up, get on and grow old*".
>
> The Greater Manchester Infrastructure Strategy should seek to:
>
> - *Support the lives and well-being of people, communities and the environment within Greater Manchester.*
> - *Be age-friendly and support the economic and social participation of both young and old.*
> - *Support strategically identified growth for parts and communities within Greater Manchester.*

- *Be flexible, robust and met the existing and future needs of the communities and technological change.*
- *Provide world-class connections and access to opportunity for all.*
- *Provide world-class digital infrastructure which provides a platform for GM to embrace emerging technological and societal changes.*
- *Support a carbon-neutral GM and be economically, environmentally and socially sustainable.*

The Framework identifies a key infrastructure trend to 2040 as Digital (Telecommunications Operators) including mobile infrastructure:

- As the population and employment is due to rise:
  - more people will mean more homes and businesses, and more consumers of digital services.
  - There will be a growing demand for high-speed, resilient data connectivity to facilitate changing patterns such as shopping patterns moving online, whilst flexible working becomes more prevalent.
- Changing workforce:
  - More productive, higher skilled, higher paid jobs more specialised and skill activities needs digital infrastructure to support higher skilled industries – which may require increased digital infrastructure.
- Environmental Change:
  - Improving efficiencies of buildings and appliances. The use of smarter technologies within each infrastructure sector will look to improve efficiencies further.

The Framework comments on digitalisation noting the importance of it and how it has transformed the way in which we go about our everyday lives:

> '*We live in an increasingly digital world. Technologies that are visionary today rapidly become part of everyday life tomorrow. In turn, people's expectations are rising constantly. "Digital" now encompasses an increasing array of technologies, from sensors, smartphones and robots, to augmented reality, cloud computing and data analytics. These technologies are changing the way in which we live and places we live in. Digital technologies are being used to make cities more smooth running, more productive, and more democratic. The pervasiveness of digital technology in our lives represents a major change. For these technologies to function effectively, it is fundamental that a robust and diverse underpinning infrastructure is installed that ensures a future-proofed platform for the development of these and many new technologies for years to come.*
>
> *As our homes, businesses and cities become more reliant on digital technology to function the robustness of these systems becomes even more critical'.*

The Framework states that '*anyone in GM should be able to access resilient, seamless connectivity at a speed they need anywhere and anytime'*.

- New technologies, artificial intelligence and atomisation:
  - Improvements in artificial intelligence and atomisation technologies will transform infrastructure sectors and business markets.
  - Digital infrastructure will be crucial to supporting future technology and a Smart City Region.

- Embracing digital technology throughout all sectors, geographies and occupations is fundamental to GM's current and future international competiveness.

The Framework acknowledges that the vision of moving to a smart and digitally-ready city-region requires future digital infrastructure to be strong fixed resilient connectivity, supported by 5G (and beyond), big data systems and other nascent technologies such as Artificial Intelligence and machine learning. Without connectivity it is acknowledged that processing the sheer volumes of data necessary to create a network of communicating devices will be impossible. As such, the Framework states that big improvements are required to increase the provision of wired and wireless (through 5G or subsequent technologies and Wi-Fi provision) across GM. Without the more basic technology solutions (such as passive fibre connectivity and 5G) the smart-region solutions and value-added outcomes will struggle to be brought to fruition.

The Framework notes that 5G roll out is expected from 2020. However, the timing and costs of roll out is uncertain and international standards have yet to be agreed. It is possible that there will only be one network upon which providers deliver their services or that each provider might need to invest.

With regards to the Regional Centre if Challenge 8 is to be met to provide pervasive, affordable, resilient digital connectivity the challenge is early roll out of 5G especially in areas where mobile data use is congested such as the Regional Centre.

The Framework also states that GMCA and the Districts together with digital and telecommunication providers need to drive forward opportunities to promote connectivity and uptake in the Regional Centre.

Assessment of Planning Issues

Planning Issues

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 and whether any perceived harm would outweigh the significant social, economic and public benefits associated with the increased service provision attributed to the proposal and other valid material considerations as outlined within NPPF, the extant Manchester UDP policies including Policy DC17.1, the Manchester Core Strategy, its vision, the relevant spatial objectives, policies SP1, EC1 and DM1 as well as the Greater Manchester Digital Strategy, the Greater Manchester Infrastructure Framework, and the Greater Manchester Local Industrial Strategy which fully supports Greater Manchester's position as a leading European digital city-region and the development of 5G networks.

The principle of development has been established by the Government when the new permitted development rights came in to force in November 2016, which enabled sites such as this one to be built under the operators permitted development rights, (as the column height does not exceed 20m), with prior approval for siting and appearance being the only matters that the local planning authority can take in to consideration.

Planning Practice Guidance explains how a prior approval application differs from a planning application at paragraph 28. It states that:

'*The statutory requirements relating to prior approval are much less prescriptive than those relating to planning applications. This is deliberate, as prior approval is a light-touch process which applies where the principle of the development has already been established* (emphasis added)*. Where no specific procedure is provided in the General Permitted Development Order, local planning authorities have discretion on what processes they put in place. It is important that a local planning authority does not impose unnecessarily onerous requirements on developers, and does not seek to replicate the planning application system*' (emphasis added).

The Planning Portal also provides Application Type Guidance. This guidance states that:

'*Certain forms of telecommunication development, for example, mobile telephone masts, are known as 'permitted development' and subject to prior approval from the local planning authority. The prior approval procedure means that the principle of development is not an issue. The LPA can only consider the siting and appearance of the proposal'.*

Siting

The siting of the proposed radio base station has been carefully considered. To this end, it is located on a grass verge at the side of a wide footpath, set against the backdrop of open land between Bridport Avenue and Broadway, situated between two mature trees and along a major transport route through Manchester. The immediate area contains a number of semi-mature trees, lighting columns, traffic lights etc which are all seen in the context of a relatively wide stretch of major transport infrastructure serving the area all of which combine to mean that a new mast would assimilate with the existing street scheme and is appropriately sited.

The operator's column and equipment cabinets will set back from the pedestrian and cycle footpath, thereby not impeding the movement of people or reducing the overall area currently available for pedestrians to move through. The grass verge is of sufficient width that, even when the cabinet doors are open for maintenance purposes, this will still not impede cycle traffic (although pedestrians may have to avoid any technician working on the site).

Other linear structures in the immediate vicinity of the site include lamp posts, traffic lighting and mature trees. Consequently the context of the site is consistent with an urban location and a commensurate amount of street furniture where telecommunications masts are not an unusual or uncommon existing streetscene feature.

The proposed equipment cabinets do not require planning permission, as they can be installed under the operators permitted development rights. In order to remain fully transparent, they have been included on the plans and in the description. 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 dark green colour to assimilate with existing vegetation in the surrounds that forms the context at ground level. However, they can be coloured any other colour that the LPA considers appropriate.

There are no houses in the immediate vicinity of the site, the nearest being over 70m to the south on Broadway where these houses are orientated to face away from the application site. In addition there is significant tree screening in the intervening landscape between the site and these houses meaning views of the site from anywhere within these properties would be extremely unlikely.

Accordingly, the application is acceptable in visual amenity terms and will not have an unacceptable impact on residential amenity.



Photograph showing proposal site

In line with the requirements of NPPF, there are no existing suitable 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 in Section 5 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. In addition to this, this is a new site for Telefonica who are unable to provide the latest 4G and new 5G technology from the existing streetworks site to the east, as it is not designed to be able to support the 5G technologies for both Vodafone and Telefonica. Therefore Telefonica requires a new site to provide comprehensive service provision to this cell area. As this is a new site for Telefonica, 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.

In line with Policy DM1 of the Manchester Core Strategy, the proposed installation is an item of essential infrastructure and therefore will not cause any loss of privacy nor will any occupants of nearby properties be overlooked. The column and antennas do not emit any noise, odour, vibration, artificial light or disturbance from air. The only noise emitted is from a cooling fan within the equipment cabinets, which only operate during hot weather conditions. However, within a few metres the noise is inaudible. Given the sites location adjacent to a busy road in to the city, the background noise will prevent any noise emissions from being heard by occupants of nearby properties. The proposed installation will not cause any traffic generation as it is not a visitor destination. Maintenance of the equipment cabinets is usually once a year, where the engineer

can walk to site with hand held tools. Due to the width of the pavement, there is sufficient pavement space retained even when the doors to the equipment cabinets are open on the annual service visit. This ensures that there will be no loss of highway safety in line with Policy DM1 of the Manchester Core Strategy.

The transmission dishes are essential to provide a link in to the operator's network. They require a clear line of sight and therefore needs to have a centre line of height of 15m.

The RRUs are small for telecommunications apparatus. They are designed to make the antennas more efficient and reduce the need for additional equipment cabinets at ground level. This minimises the impact on the visual amenity of the area. In order to maximise signal efficiency the RRUs need to be as close as possible to the antennas, hence they need to be located underneath the antennas towards the top of the column. Given their height above ground level and their small size approximately that of a shoe box, they will not appear prominent in the streetscene as they will be out of the general eye line of casual passers-by. This is in accordance with UDP policy DC17.1 and Policy DM1 of the Manchester Core Strategy.

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 upper section is 406mm and the lower section is 457mm from ground level. This column width is essential in order to safely support the antennas at the top of the column. The column is proposed to be grey to blend in with the other vertical structures nearby and assimilate with an often grey sky. This is in accordance with Manchester UDP policy DC17.1 and Policy DM1 of the Manchester Core Strategy.

The proposed radio base fully complies with UDP policy DC17.1 and Policy DM1 of the Manchester Core Strategy. 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 at an antenna top height of 19.73m and the other 3 antennas are proposed to be located underneath at an antenna top height of 17.63m. 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.

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 typically 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 Manchester become a leading European digital city-region with integrated 21st Century infrastructure for digitally driven, clean and inclusive growth in line with the Greater Manchester Local Industrial Strategy.

If the column were to be any lower, the antennas would not be able to clear the trees and urban clutter and as such would not be able to operate effectively. The operator's specialist radio planning engineers who are responsible for the planned expansion of the communications

network, have also confirmed that the height is needed to provide coverage to the main arterial route of the A663 (Broadway) in the vicinity of the site and the residential areas in the wider surrounds. 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 and UDP policy DC17.1.

The presence of the linear structures including the nearby telegraph poles, lighting columns, and the mature and semi-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 UDP Policy DC17.1 and Policy DM1 of the Manchester Core Strategy.

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 along Broadway, albeit taller in height. As a result this installation would not appear incongruous within the streetscene in line with the requirements of UDP Policy DC17.1 and Policy DM1 of the Manchester Core Strategy.

The installation of this 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 items of street furniture. This in itself is not a valid reason to conclude that it is not appropriate at a specific location particularly in urban areas where the presence of telecommunications infrastructure is a common feature within busy street scenes such as those that form the immediate context of the site.

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. Should a street lighting column be capable of the provision of high quality 2G/3G/4G and 5G telecommunication services for two separate operators then this would be a reasonable consideration, but this is clearly not the case. As such, the proposal should not be considered negatively due to it being taller per se than other vertical structures. Reasonable consideration of the proposal in the context of nearby street furniture can only conclude that the presence of other vertical structures in the immediate area only seeks to provide a setting wherein a base station may appear more congruous from which to provide an important service to a wider area.

If the column were to be any slimmer, then the proposed 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.

The equipment cabinets are designed to appear like other statutory undertakers equipment cabinets often found in urban areas. They are small for telecommunications equipment. The proposed equipment cabinets are the least amount of cabinets that can be installed in this location and enable the radio base station to operate. If the number of cabinets were to be reduced then there would not be sufficient room to house all the operators equipment. In any event, these cabinets are permitted development under the operators permitted development rights. They have only been included in the description and on the plans in order to remain fully transparent. In order to help blend in with their surroundings they are proposed to be coloured green, although they can be coloured any other colour that the council considers to be appropriate.

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. 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 Policy DC17.1 of the UDP and Policy DM1 of the Manchester Core Strategy.

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, telegraph poles, road signage and electricity pylons, 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 Coverage – Material Consideration

In accordance with the NPPF, the proposed installation is significant to enable continuous coverage of the telecommunication network, ensuring that this area continues to get the mobile coverage it needs for Telefonica customers as well as new 5G coverage. It will also maintain and improve coverage for the Mobile Virtual Network Operator's (MVNOs) which use the Telefonica network which includes GiffGaff, Tesco Mobile, Sky Mobile, Talk Talk Mobile, and Lyca Mobile. So the proposal will not only provide a service for one operator but those who buy network space off them, which is at least 5 with Telefonica. This will provide a choice for those customers who consider the level of coverage in their area when selecting which operator they agree future contracts with.

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. It will also fully comply with Policy EC1 which supports development which improves digital infrastructure delivery to businesses and residents. By providing the latest 4G technology and new 5G service provision the proposals will also help meet the aspiration of the Greater Manchester Digital Strategy to be a world-leading digital city region. Embracing digital technology throughout all sectors, geographies and occupations is fundamental to Greater Manchester's current and future international competitiveness according to the Digital Strategy. Becoming a leading digital city-region is imperative to delivering the Greater Manchester Digital Strategy Vision of delivering the economic, social and inclusion improvements it needs and wants. It will help Manchester become

the smartest city, an aspiration of the Greater Manchester Mayor. Digital growth plays a fundamental role in driving economic growth.

Providing 5G coverage in this area of the regional city will also be in line with the aspiration of the Greater Manchester Local Industrial Strategy to be one of the top 5 city-regions for the digital economy in Europe, with full fibre broadband and 5G coverage. It will also support the Greater Manchester Local Industrial Strategy aim to upgrade, integrate and future-proof its infrastructure to create a 21st century city-region with extreme digital connectivity, clean and inclusive growth and improved access to national and global markets. The proposals will also support the Greater Manchester Local Industrial Strategy of having world-class connectivity digitally with the infrastructure to digitalise all sectors. As a result the Local Industrial Strategy fully supports the development of 5G networks.

New 5G coverage in this part of the city will also fully comply with the Greater Manchester Infrastructure Framework by helping to provide pervasive, affordable, resilient digital connectivity. The proposals will also help Greater Manchester to be a smart and digitally ready city-region, where resilient fixed connectivity supported by 5G service provision is required.

In line with the Greater Manchester Infrastructure Framework which fully supports the development of 5G, the proposals will provide world-class connections and access to opportunity for all in this cell area, as well as providing world-class digital infrastructure which provides the platform for Greater Manchester to embrace emerging technologies and societal changes. As noted in the Infrastructure Framework 5G infrastructure is fundamental to enable digital technologies to function. The proposals will ensure that any Telefonica customer in this cell area will be able to access resilient, seamless connectivity at a speed they need anywhere at any time. Without the more basic technology solutions such as 5G, the Framework acknowledges that smart-region solutions and value-added outcomes will struggle to be brought to fruition.

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.

Without this new radio base station 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 Core Strategy Policy EC1 which seeks to improve digital infrastructure delivery to businesses and residents. It would also be contrary to the aspirations of Central Government which aspires to everyone having access to the superfast highway network wherever they are.

The proposed new radio base station is in full conformity with the Greater Manchester Infrastructure Framework, the Greater Manchester Local Industrial Strategy and the Greater Manchester Digital Strategy whose ambitions for the city-region are to be a world-leading digital city-region to help capitalise on economic, social and inclusion improvements that the Greater Manchester region wants and needs, which aims to upgrade, integrate and future-proof its infrastructure, to create a 21st century city-region with extreme digital connectivity. It will help meet their aim of Greater Manchester becoming one of the best digitally connected city-regions in the UK, where development of the 5G network is fully supported.

The proposed installation will help improve the area's economic prosperity, strengthen the urban economies 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 Core Strategy Vision, the Digital Strategy, the Infrastructure Framework and the Local Industrial Strategy. 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.

By enhancing the 2G, 3G and 4G service provision to the surrounding area and providing new 5G coverage into the operator's network, this would fully support the Greater Manchester's Digital Strategy, Local Industrial Strategy and the Infrastructure Framework. It will also be in accordance with Policy EC1 of the Manchester Core Strategy as it will improve the digital infrastructure.

The way 5G works, it is closely connected with the Smart City agenda and will enable centralized control of lots of different street infrastructure owned or managed by councils, such as street lights, water meters and bus stops. Manchester is fully committed to being a smart city and being a world-leading digital city region, as highlighted in the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy. As such it needs the 21st century infrastructure to enable this objective to become a reality. A new installation in this location enabling 5G service provision to the Newton Heath area will ensure that this aspiration is fully met.

The Council's Guide to Digital Connectivity notes that a survey conducted by the Confederation of British Industry found that 81% of firms said that they see more reliable mobile connectivity as essential. Studies have also shown that mobile broadband is associated with positive impacts nationally, such as higher GDP and increased employment.

Therefore the Government fully supports high quality communications infrastructure, even more so with the advent of 5G.cThe NPPF continues to strongly support telecommunications connectivity and states at paragraphc112 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 service provision and enable Telefonica and MVNOs who buy network space off Telefonica 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, the NPPF, and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy.

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 radio base station in this location providing the latest 2G, 3G, 4G and 5G technologies will support Greater Manchester's aspirations to be a world-leading digital

city-region and one which promotes the growth of the digital sector, increasing digital inclusion, so all people can access services, education and training.

In line with guidance contained within the NPPF, the Council's UDP Policy DC17.1 which supports investment in the telecommunications systems serving the city, and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy a new radio base station 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.

As part of the operators 4G licence obligations, many customers will benefit significantly from a vastly improved service provision in this locality. They will be able to gain access to the very latest technologies and connectivity, including 5G, to high speed data services. The importance of which is fully highlighted in the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy. Indeed, these documents acknowledge that Digital technology has catalysed the interconnection of the global economy, with the internet enabling the free exchange of goods and services, providing consumers with greater choice and businesses with access to skills, resources and customers. An installation in this location will help Manchester meet its ambition of being the Smartest city.

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.

The Code of Best Practice acknowledges that there will be times when there is a need for a new radio base station, where sites have been lost, where areas have limited or no coverage and where coverage and capacity need to be enhanced. This application is one such example where there is a need to enhance 3G and 4G provision and provide new 5G services within this area.

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

The NPPF strongly supports sustainable development, as does the authority's UDP and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy. 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, participate in social media, 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. Residents and businesses will enjoy better accessibility, assisting home-base working by improving the electronic means of communication and the roll-out of high-speed broadband helping to promote live-work development. This reduces travel time, carbon emissions and increases the speed in which information is processed/shared. The proposals therefore fully comply with NPPF, to minimise the effects of climate change reducing the need to travel and therefore the carbon footprint. It will support a carbon-neutral Greater Manchester and be economically, environmentally and socially sustainable in line with the GM Infrastructure Framework.

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. Continuing to transform the digital connectivity of the city-region to drive economic growth and innovation, working to meet national targets of full roll-out of 5G technology for most people by 2027 will comply with the ambitions of the Greater Manchester Local Industrial Strategy.

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. This is in full accordance with Policy SP1 of the Manchester Core Strategy which supports development which makes a positive contribution to the health, safety and well-being of residents, and which considers the needs of all members of the community, as well as improving access to jobs, services, and education, whilst being able to reduce the need to travel.

The proposals fully comply with Policy EC1 of the Manchester Core strategy which supports continued economic growth. 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 Greater Manchester achieve its ambition of being a world-leading digital city and one which its businesses, public service providers and citizens are using 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.

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 3G and 4G coverage and capacity and new 5G service provision in this area will fully meet paragraph 38 of the NPPF, Manchester core Strategy Policy SP1 and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy which aspires Greater Manchester to be a world-leading digital city-region, and Manchester to be the Smartest City. These strategies and the Framework also support strengthening digital and data infrastructure (including 5G), and using data to help address challenges.

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.'*

Indeed, MPs have noted in parliament that the UKs Superfast Broadband connectivity was 'relatively poor' and businesses were losing out from patchy 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 which is also acknowledged in the published Greater Manchester Local Industrial Strategy. 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. The GM aspirations align with the Government objectives of being a world leader in 5G. The proposed installation will fully support these national and local aspirations.

The case for 5G is compelling as it will bring faster, more responsive and reliable connections than ever before. More than any previous generation of mobile networks, 5G has the potential to improve the way people live, work and travel, and to deliver significant benefits to the economy and industry through the ability to connect more devices to the Internet at the same time, creating the so-called "Internet of Things". This will enable communities to manage traffic flow and control energy usage, monitor patient health remotely, and increase productivity for business and farmers, all through the real-time management of data.

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.

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.

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 this area as well as providing new 5G in this area, where the social and economic benefits will outweigh the environmental considerations.

The Government's continued strong support for connectivity is further evidenced by the DCMS who launched their UK wide Digital Connectivity Portal on 20 December 2018. The Digital connectivity portal provides guidance for local authorities and network providers on improving connectivity in local areas. The Government wants everyone in the UK to benefit from world-class connectivity no matter where they live, work or travel. The Future Telecommunications Infrastructure Review outlines a package of measures to create the right market and policy conditions to deliver world-class connectivity for citizens and businesses. As a result, the pressure to provide a new radio base station in the area to provide 2G, 3G, 4G and 5G is significant.

The proposed installation in this location will allow the operator to provide new and improved high quality 2G, 3G and 4G coverage and capacity and new 5G service provision supporting the Government's aim of '*focusing on ensuring that everyone is connected to the information superhighway*'. This fully meets the aspirations of the NPPF, and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy.

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 operator's 4G license obligations and the Council's aims and aspirations to be a smart city and have high quality 5G infrastructure, promoting and growing the digital sector and increasing digital inclusion.

Summary

It is not possible to upgrade the existing radio base station to the east on Broadway with the latest communication technologies to accommodate both Vodafone and Telefonica. The design of the existing column is not capable of supporting the new 5G technologies for both Vodafone and Telefonica. It would need to be significantly redesigned and replaced with a much bigger and bulkier structure. Therefore a new installation for Telefonica is needed to provide this operator with the latest 2G, 3G 4G and 5G technologies. The existing site will remain in place for Vodafone technologies in isolation.

The proposal has been carefully sited on a grass verge at the back of a wide footway, set against the backdrop of land between Bridport Avenue and Broadway. The immediate context contains several vertical linear structures including lighting columns and traffic lights as well as groups of mature trees in the wider context that will help to screen longer distance views. These vertical structures help the proposed installation assimilate with the streetscene and not appear incongruous in the immediate area.

The proposed height at 20m is essential in order for the antennas to clear the surrounding urban clutter, trees and ensure the antennas are able to reach the target coverage area. This will fully meet the national Governments aim of '*ensuring that everyone is connected to the information superhighway*' and the national policies set out in the NPPF. If the height of the column were to be reduced then the antennas would not be able to operate effectively, leading to a degraded

service for the operator's customers especially for the higher frequency technologies including the latest 4G technology and new 5G service provision.

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, the Manchester Core Strategy, the Manchester UDP and the Greater Manchester Digital Strategy, Infrastructure Framework and Local Industrial Strategy. These benefits are strong material considerations which outweigh any perceived loss of visual amenity to the surrounding area.

Confirmation that submitted drawings have been checked for accuracy

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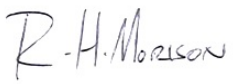
Signed:		Date:	20 March 2020
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