

SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Heywood Old Road SW's	Site Address:	Heywood Old Road SW's, Langley Brook, Middleton, Rochdale, M24 4SB
National Grid Reference:	E: 384681 N: 406953		
Site Ref Number:	ROD24498	Site Type: ¹	Macro

2. Pre Application Check List

Site Selection (for New Sites only)

(Would not generally apply to upgrades/alterations to existing site including redevelopment or replacement of an existing site to facilitate an upgrade or sharing with another operator)

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

Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	No
Date of pre-application contact:	N/A
Name of contact:	N/A
Summary of outcome/Main issues raised:	
A pre-application consultation letter and copy of the proposal drawings were sent to the Local Planning Authority by email on 25/08/2022.	
No specific comments received to date.	

¹ Macro or Micro

Annual area wide information to planning authority

Has annual area wide information been provided?	No
If no explain why:	
Summary issues raised:	
The relevant information is being collated and will be distributed accordingly in due course.	

Community Consultation

Rating of Site under Traffic Light Model:	Red	Amber	Green
Outline of consultation carried out:			
The local ward Cllrs for South Middleton Ward (Cllrs P Williams, P Mary Dale, J West) were sent a copy of the consultation letter and set of plans on 25/08/2022.			
Summary of outcome/main issues raised (include copies of relevant correspondence):			
No specific comments received to date.			

School/College

Location of site in relation to school/college (include name of school/college):
No Schools nearby.
Outline of consultation carried out with school/college (include evidence of consultation):
N/A
Summary of outcome/main issues raised (include copies of main correspondence):
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?		No
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?		No
Details of response:		
N/A		

Developer's Notice

Copy of Developer's Notice enclosed?	Yes	
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Date served:	A copy of developers notice and a set of plans were sent to the Highways department via email on 08.09.2022 and Estates Department on 09.09.22. Copies of the developers notice and proof of delivery are attached as part of this application.
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3. Proposed Development

The proposed site: Clarke Telecom Ltd act on behalf of the mobile telecommunications operator CK Hutchinson Networks (UK) Ltd (commonly known as Three). The proposal is to install a radio base station, in order to provide the latest 3G, 4G and new 5G technologies. As part of CK Hutchinson Networks (UK) Ltd continued network improvement program, there is a specific requirement for an installation at the grass verge of Heywood Old Road to ensure that the latest high quality 3G and 4G service provision is provided in this area of the borough. The proposed column will also ensure that new 5G coverage can be provided at this location. This ensures that coverage and capacity requirements are maintained and enhanced. Mobile telecoms networks are now ubiquitous throughout the UK. It is an expectation that an individual can connect and use their mobile phone whenever and wherever they are. With the advent of new technology, under the banner of 5G, further advances are proposed and Central Government has seen the telecoms industry, and in particular 5G, to be at the forefront of economic development. This site will enable 5G coverage to be provided to this area of Langley. The Government recognises that widespread coverage of mobile connectivity is essential for people and businesses. That is why the Government is committed to extending mobile geographical coverage further across the UK, with continuous mobile connectivity provided to all major roads and to being a world leader in 5G. This will allow everyone in the country to benefit from the economic advantages of widespread mobile coverage. As well as improved mobile signal, 5G networks are also crucial to drive productivity and growth across the sectors that local areas are focusing on through their emerging Local Industrial Strategies. Enabling and planning for 5G implementation is central to achieving the Government's objective to deliver prosperity at the local level and enable all places to share in the proceeds of growth. 5G service provision 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, the '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 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. The radio base station will also meet the extra demands on the network in this area as more people use internet enabled handheld devices. It is a densification project for the operator's network to fill holes in service provision including coverage and capacity. This will enable the operator's customers to be able to use their handheld devices without calls being dropped or buffering occurring where there is a gap in the

operator's network coverage and capacity ability. A site in this location will fill the gap in service provision and provide high quality, reliable, advanced 3G, 4G and 5G to this urban area of Langley.

The proposed radio base station is located on the grass verge of Heywood Old Road. The site location is situated amongst farmland and recreational land. There are residential properties located to the North East of the application site. Further south east are industrial units which includes a car parking/storage area..

The area contains a number of linear items including, lighting columns, road signage, semi-mature/ mature trees and bushes. The site is not located within a conservation area or the green belt area.

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

As part of CK Hutchinson Networks (UK) Ltd continued network improvement program, there is a specific requirement for a new mast on the footway of Finney Lane, to ensure that the latest high quality 3G and 4G service provision can be provided in this area of Langley for CK Hutchinson Networks (UK) Ltd. The proposed new column will also ensure that new 5G coverage can be provided at this location for CK Hutchinson Networks (UK) Ltd. This ensures that coverage and capacity requirements are maintained.

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

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

The search area is very small for this new installation. There is currently a hole in the coverage in this area of Langley therefore a new site is required to provide the latest 3G, 4G and 5G technology.

Type of Structure: *Valmont Phase 8 Street Pole*

Description:

The proposal relates to the installation of 20m high slim-line monopole, supporting 6 no. antennas, 1 no. wraparound equipment cabinet at the base of the monopole, 2 no. equipment cabinets, 1 no. electric meter cabinets, 1no. GPS module and ancillary development thereto.

Overall Height: 20m

Height of existing building (<i>where applicable</i>):	N/A
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Equipment Housing: H3G Wraparound

Length:	0.75 Metres
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Width:	1.8 Metres
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Height:	1.6 Metres
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Equipment Housing: Bowler

Length:	0.66 Metres
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Width:	1.9 Metres
Height:	1.827 Metres
Equipment Housing: RBS 6130	
Length:	0.7 Metres
Width:	0.65 Metres
Height:	1.1 Metres
Equipment Housing: A/C Transmission Cabinet	
Length:	0.6 Metres
Width:	0.5 Metres
Height:	1.585 Metres
Materials (<i>as applicable</i>):	
Tower/mast etc – type of material and external colour:	Grey RAL7035
Equipment housing – type of material and external colour:	Grey RAL7035

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

This proposal is for the installation of a new site to fill the current gap in coverage in this location for the operator. The site needs to cover a certain target coverage area as there is currently little to no coverage in the area for this operator and where there is currently coverage, the operator is experiencing capacity issues. As demonstrated in the Alternative Sites section, the area surrounding the proposed site has been fully investigated, and it was considered that the application site was the most viable and suitable location for the proposed equipment. The search area for the proposed site is small due to the operators requirement to fill the hole in coverage to fix coverage and capacity issues currently being experienced by its users.

The operator has carefully considered the design of the new proposed column. The operator 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 3G, 4G and 5G, 6 antennas need to be installed at the top of the slim-line monopole. These are split into a dual stack formation where 3 antennas will be located at the top and the other 3 will be located underneath. The 3 upper antennas will provide new 5G service provision. The 3 lower antennas will provide 3G and 4G technology for the operator to the surrounding area. This makes the lower set of antennas 3.35m lower than the top of the pole. Thus if the column were to be any lower, the antennas would not be able to clear the buildings, trees and urban clutter 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 coverage area. 5G new radio technologies operate in higher frequency bands than older technologies. Since it operates at higher frequencies where attenuation of the radio signal is naturally higher and the effects of clutter are greater it will normally require a higher structure to achieve the same coverage footprint. To increase capacity and data speeds to the user, the antenna will normally need to be mounted higher than conventional antennae. These factors drive a requirement for an increase in antenna height in 5G.

The 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. 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 the shroud is made up of and

as such if these antennas were to be shielded then they would not be able to provide the necessary coverage to the target coverage area. An additional installation would be needed elsewhere within the cell area, leading to the proliferation of masts.

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

The proposed design is more visually sensitive and much easier to assimilate into a streetscene than lattice towers or more traditional monopoles with bulky headframes. These non-stealth designs are preferred by operators as they are structurally capable of hosting more equipment and give greater scope for antenna orientation and are thus more efficient structures. However, such designs would appear alien 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 to other vertical structures within the immediate area such as road signage and telegraph poles. These vertical structures will help the proposed installation of this 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 presence of other linear urban structures such as lighting columns will assist with assimilation in the streetscene. The column is proposed to be coloured grey to help blend in with the often-normal grey sky. Although the column can be coloured any other colour the LPA consider appropriate.

The equipment cabinets are small for telecommunications apparatus and proposed to be coloured grey to match the monopole.

The 1no. GPS module (the size of a tennis ball) is required to provide functionality and improve efficiency of the antennas.

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

Health and Safety - including ICNIRP compliance

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, CK Hutchinson Networks (UK) Ltd 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 CK Hutchinson Networks (UK) Ltd 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.

4. Technical Justification

Enclose predictive coverage plots if appropriate, e.g. to show coverage improvement. Proposals to improve capacity will not generally require coverage plots.

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

There is a specific requirement for a new column and associated equipment cabinets at this location to allow CK Hutchinson Networks (UK) Ltd (commonly known as Three) to improve their 3G and 4G coverage and capacity in and around the Langley area and be able to provide new 5G service provision to this cell. This ensures high quality indoor service provision is provided.

The dynamic nature of technological advances in the telecommunications industry coupled with ever increasing demand from subscribers dictates a continual reinvestment programme on the part of the operators. As a result, and in line with their licence requirements, mobile operators are constantly developing their networks including filling holes where there is currently a lack of service provision.

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

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

structures, grillages and fixings, often referred to in general terms as '*development ancillary to*' the base station.

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

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

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

Mobile connectivity and service is required where customers live, work and play. 5G coverage and superfast mobile broadband data capacity demand will continue to increase exponentially with the introduction of IoT (Internet of Things), machine to machine connectivity, automated transport/industry and other 'smart' applications. To this end the existing shared infrastructure within the built environment has had to be reviewed and adapted as appropriate.

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

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

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

- Faster mobile broadband and a more consistent experience in congested areas with a very high number of devices.
- Industrial applications, enabling businesses to improve their productivity, for example through predictive maintenance and real-time analytics.
- Internet of Things (IoT) services, many of which will help council's and businesses deliver services more efficiently including:

- Transport and logistics: connected parcels and fleet tracking.
- Health and social care.
- Environmental monitoring: sensors monitoring air quality and water pollution in real-time.
- Smart agriculture and smart animal farming, smart retailing.
- Connected and autonomous cars: allowing cars to communicate with each other, other road users and even the road infrastructure.

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

5. Site Selection Process

Alternative sites considered and not chosen:

Site Type	Site name and address	National Grid Reference	Reason for not choosing site
Streetworks	Heywood Old Road/ Langley Brook, Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester, England M24 4SB	E: 384684 N: 406925	It is not possible to install a street furniture installation at this location due to unresolvable underground services in order to deliver the required level of coverage to the target area. This site has therefore been discounted for this reason.
Greenfield	Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester, England M24 4SB	E: 384474 N: 406810	Due to the location of the proposed site within a Flood Zone development and would cause issues therefore this option has been discounted.
Streetworks	Footway of Heywood Old Road/Langley Brook, Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester, England M24 4SB	E: 384652 N: 406883	The footway at this location is too narrow to accommodate the operator's equipment. As such, it would lead to highway safety issues. A site in this location has therefore been discounted for this reason.
Rooftop	Heywood Old Road/Langley Brook, Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester, England M24 4SB	E: 384619 N: 406819	Due to the construction of the building there is no design available to support the operator's apparatus and provide the necessary coverage to the target coverage area. The rooftop is too low in order to deliver the required level of coverage to the target coverage area. This site has therefore been discounted for this reason.

Greenfield	Bowlee, Simister, Bury, Greater Manchester, England, M24 4SF	E: 384366 N: 407065	An installation at this location is located too far to the West to deliver the required level of coverage to the target area. This site has therefore been discounted for these reasons.
Rooftop	David Lloyd Manchester North, Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester, England M24 4SB	E: 384572 N: 406767.	Due to the construction of the building there is no design available to support the operator's apparatus and provide the necessary coverage to the target coverage area. The rooftop is too low in order to deliver the required level of coverage to the target coverage area. This site has therefore been discounted for this reason.
Streetworks	Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester England M24 4SB	E: 384764 N: 407028	It is not possible to install a street furniture installation at this location due to unresolvable underground services in order to deliver the required level of coverage to the target area. This site has therefore been discounted for this reason.
Streetworks	David Lloyd Manchester North, Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester, England M24 4SB	E: 384551 N: 406739	A mast at this location is not viable due to a physical lack of space in order to deliver the required level of coverage to the target area. This is because it would require equipment cabinets at ground level within a fenced compound, taking up car parking spaces. This site has therefore been discounted for this reason..
Streetworks	David Lloyd Manchester North, Heywood Old Road, Birch, Middleton, Rochdale, Greater Manchester, England M24 4SB	E: 384541 N: 406751	It is not possible to install a street furniture installation at this location due to unresolvable underground services in order to deliver the required level of coverage to the target area. This site has therefore been discounted for this reason.
Greenfield	Bowlee Car Boot, Windermere Road, Rhodes, Middleton, Rochdale, Greater Manchester, England M24 4LF	E: 384930 N: 406918	An installation at this location is located too far to the East to deliver the required level of coverage to the target area. This site has therefore been discounted for these reasons.

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

N/A

Land use planning designations:

None.

Additional relevant information (include planning policy and material considerations):

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.

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

National Planning Policy Framework (July 2021)

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

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

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

The NPPF makes reference to 5G:

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

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

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

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

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

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

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

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

'Planning policies and decisions should help create the conditions in which businesses can invest, expand and adapt. Significant weight should be placed on the need to support economic growth and productivity, taking in to account both local business needs and wider opportunities for development. The approach taken, should allow each area to build on its strengths, counter any weaknesses and address the challenges of the future. This is particularly important where Britain can be a global leader in driving innovation⁴²...

Footnote 42 of the NPPF states:

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

Code of Practice for Wireless Network Development in England (March 2022)

The Code of Practice provides guidance to Code Operators (referred to as 'operators' throughout the Code of Practice), including the Mobile Network Operators and wireless infrastructure providers, their agents and contractors, local planning authorities, and all other relevant stakeholders in England on how to carry out their roles and responsibilities when installing wireless network infrastructure. It is also a useful tool for other interested stakeholders such as community groups, amenity bodies and individuals with an interest in mobile connectivity.

The aim of the Code of Practice is to support the government's objective of delivering high quality wireless infrastructure whilst balancing these needs with environmental considerations. It also has an important role in making sure that appropriate engagement takes place with local communities and other interested parties.

The Code of Practice covers all forms of wireless infrastructure development, including mobile masts and cabinets. It is recommended that other wireless communications operators follow the principles of this Code of Practice, where appropriate.

Unlike previous iterations this Code of Practice has been led by the Department for Digital, Culture, Media and Sport (DCMS) and developed in collaboration with representatives of the mobile network industry, other government departments and public bodies, local planning authorities, and protected landscapes. This document replaces the previous Code of Best Practice on Mobile Network Development, which was published in 2016 and is now published by DCMS.

The Code of Practice sets out the legal and policy framework for the delivery of wireless infrastructure development.

Paragraphs 8 – 12 of the Code of Practice set out the importance of connectivity:

'8. Digital connectivity is vital to enable people to stay connected and businesses to grow. Fast, reliable digital connectivity can deliver economic, social and well-being benefits for the whole of the UK.

9. As the demand for mobile data in the United Kingdom is increasing rapidly, it is important that everyone has access to dependable and consistent mobile coverage where they live, work and travel.

10. The Future Telecoms Infrastructure Review (FTIR) and the National Infrastructure Strategy set out the government's long-term strategy for meeting its digital connectivity targets and delivering high quality, reliable digital infrastructure that works across the UK².

11. The government has committed to extending mobile coverage across the UK. The government has committed to extending mobile coverage across the UK. The government's Levelling Up White Paper has set a mission that the UK will have nationwide 4G coverage, with 5G coverage for the majority of the population by 2030. In support of this, the government and the UK's mobile network operators agreed a £1 billion Shared Rural Network deal to extend 4G mobile geographical coverage to 95% of the UK by the end of the programme.

12. Next Generation Mobile Technologies: A 5G Strategy for the UK, and the update to this, set out the government's ambition for the UK to be a global leader in 5G to take early advantage of its potential and help to create a world-leading digital economy that works for everyone. The government also wants businesses and communities to benefit from investments in 5G as soon as possible. Through the government's 5G Testbeds and Trials programme we have seen its value to manufacturing, farming, transport networks and healthcare.

The Government recognises the key role that the Planning System plays in delivering the digital infrastructure that we need, in a sustainable and well-designed way, especially as households and businesses become increasingly reliant on mobile connectivity.

² The [Statement of Strategic Priorities for Telecommunications, The Management of the Radio Spectrum, and Postal Services](#) followed the publication of the FTIR and reflects its conclusions

The Code of Practice sets out 'How wireless networks function.

Para. 16 states *"Cellular wireless networks use base stations to provide an area of radio coverage. Wireless technology uses the radio spectrum to broadcast radio waves between base stations and devices. Different radio frequencies have different characteristics which, along with the density of cell site locations, affect the extent of coverage and how much data can be carried over the network. Depending on the radio frequencies used, base stations can deliver coverage over a wide area or provide extra network capacity in areas where there is a high demand for network bandwidth"*.

Para. 17 sets out that *"Wireless technology continues to evolve rapidly, and mobile devices are now capable of much more. Second generation (2G) technology gave us voice calls and text messages, 3G led to the launch of smartphones, and 4G, which enabled faster browsing, allowed us to do things like watching videos on the move. 5G, the latest generation of wireless technology, is much faster than previous generations of wireless technology and can offer greater capacity and lower latency, allowing thousands of devices in a small area to be connected at the same time. 5G networks, and future mobile generations, will be vital for a range of Internet of Things uses (IoT) and Smart City applications"*.

The Code of Practice establishes 'Principles and commitments' by which operators should develop their networks and that Local Planning Authorities should demonstrate their support by.

Paragraph 18 of the Code of Practice sets out the principles and commitments that operators should follow when developing their networks inter alia:

- Site sharing and use of existing structures: make use of existing structures, sites and masts wherever possible to reduce the need for new development.
- Consultation with local planning authorities, local communities and other stakeholders.
- Standardised and high-quality approach to planning applications, and the notification procedure: provide standardised supporting documentation for planning applications (where appropriate) within the context of national and local requirements.
- Compliance with guidance laid out in the International Commission on Non-Ionizing Radiation (ICNIRP) public exposure levels guidance.

The Code of Practice also sets out the requirements of the LPA in relation to the deployment of digital infrastructure:

- Incentivising connectivity: support the expansion of telecommunications networks, and take a 'joined-up' approach to the wireless infrastructure planning process, including ensuring that Local Plans effectively support the deployment of digital infrastructure.
- Facilitating sites: engage with operators when new sites have been proposed and discuss site requirements.
- Engagement with operators: respond positively to requests for engagement and make decisions in line with national policy and Local Plans. For planning applications, find solutions to issues and ensure timely decisions are made.

The added emphasis on support from Local Planning Authorities in the deployment in digital infrastructure is even more evident in the revised Code of Practice. The Code of Practice recognises the importance of

collaboration and partnership to help drive network coverage across the country. It goes on to state that *'In all instances, it is important for all parties involved in the process to take a positive approach to consultation and engagement'*.

Siting and Design Principles

The government's objective is to deliver high quality, reliable wireless infrastructure whilst ensuring the impact of new network development is kept to a minimum. The siting and design of wireless network infrastructure is central to achieving this. The Code of Practice acknowledges that *'good siting and design principles should apply to all wireless network development and take into account any site specific considerations and context. Both can create better places in which to live and work and help make development acceptable to communities'*.

The Code provides guidance on siting and appearance principles. It sets out several design principles in respect of telecommunications development and acknowledges that the options for design used by an operator will be affected by site conditions including requirements to link the site to the network, landscape features and coverage and capacity requirements. The guidance includes at Para. 22 *'the choice over the site selection and design of equipment is primarily dependent upon the coverage and capacity requirements and technical constraints of a specific location, although operators should make efforts to reduce visual impacts where possible'*.

Para. 23 confirms that there should be a **'presumption in favour of facilitating sustainable network development'** and, as such, operators and local planning authorities, as well as all other bodies involved in the deployment process, should work together to ensure connectivity needs are met and find viable solutions to deployment issues (emphasis added).

Paragraphs 24 - 27 sets out general siting and site selection principles which Operators should consider. The Code of Practice acknowledges at Para. 24 that *'Operators use a range of sophisticated, computer-based planning tools to predict levels of signal strength and coverage from sites for 2G, 3G, 4G and now 5G. Once an operator has identified a requirement for a new cell site, a suitable site needs to be found. Elements that make a site favourable include: having existing or ready access to a power supply, access to fibre optic cables, vehicular access, and, other buildings and development which may provide a level of existing screening. Operators will typically look to upgrade existing infrastructure prior to considering a new deployment, in particular for initial 5G deployment'*.

Para 25 notes that *'When selecting sites for mobile infrastructure, operators should examine local plans and designations for the area, as well as carrying out an in-person site search to identify potential options which meet their requirements. Operators should follow these general siting and site selection principles:*

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

Para. 26 highlights that the installation of all wireless infrastructure requires a balanced approach between the technical needs and constraints of the proposed site and the potential impact of the development. The three key technical and operational considerations for installation sites are:

- **Coverage:** wireless infrastructure needs to provide an appropriate level of coverage over the intended geographical area. This involves ensuring that antennas are elevated sufficiently (often via masts) to provide clear lines of sight for signals.
- **Capacity:** where existing network infrastructure can no longer meet the demand for network capacity in a particular area, additional sites may be required within that coverage area to meet the demand. This is more likely to be required in densely populated areas or areas of high footfall.
- **Backhaul:** the radio access network requires a connection to the core network. Backhaul is sometimes provided by a microwave link, which requires a clear line of sight between the two ends of the link.

Para 27 requires that Local Planning Authorities consider these issues and consider the need for a site within a limited search area alongside the public benefit of improved connectivity. Para. 27 further considers that in general, it should not, therefore, be appropriate for planning authorities to seek wider evidence of alternative sites (beyond that required by the NPPF), unless they consider the proposed development is unacceptable having regard to the relevant material planning considerations

In respect of 'Design', the Code of Practice at Para 28 acknowledges that the siting of wireless infrastructure will influence which design options are most appropriate for reducing the visual impact including

- **Protecting visual amenity**
- **Mitigating visual impacts**

Para. 29 acknowledges that these factors along with location and the coverage and capacity requirements can influence the type of infrastructure structure that is deployed and requires that '*planning authorities should be aware of these constraints when considering proposals. In particular:*

- *In urban areas, where there is a high level of demand for mobile data, mobile base stations are likely to need to be deployed more densely. In these settings you can expect to see more use of streetwork monopoles and rooftop installations and, in future, we are likely to see a larger number of smaller units (so-called "small cells") deployed on buildings and on street furniture.*

The Code of Practice establishes radio equipment housing (cabinets) principles. It states at Para. 30 states that "*cabinets protect radio transmitters and receivers, provide the power source for mobile equipment, and are connected to antennas via cables. Equipment cabinets are likely to be needed at most sites. The cabinets must be of sufficient size to facilitate hosting various operating equipment whilst also allowing air circulation to reduce the potential for overheating*". The Code of Practice establishes the planning and visual considerations for siting radio housing. These include:

- Colouring
- Siting on highways and footways:
- Highway safety:
- Listed buildings/ scheduled monuments and Conservation Areas:

- Access
- Trees

The Code of Practice notes that new ground-based masts will sometimes be required to accommodate the ever-increasing coverage and capacity needs of the country. 4G and 5G are likely to require further network densification in order to meet growing customer demand for data. Where higher frequencies are used, with lower signal propagation characteristics, apparatus will need to be located in closer proximity to user devices. The type of mast deployed will depend upon the location and setting, as well as the coverage requirements of the site. The Code acknowledges that there are many ways by which the potential for environmental and visual impact of a ground-based mast can be reduced.

Paragraph 39 advises that all new masts should be sited, so far as practicable, so as to minimise their impact on their setting, including the landscape and any buildings. This includes siting next to similar structures – e.g. streetworks masts should ideally be sited in line, and in harmony, with existing vertical structures such as lighting columns, to minimise their visual impact. Placing a mast within or adjacent to an existing group of trees, vegetation and other natural features can reduce visual impact. Antennas will however, need to be sufficiently elevated to clear the tree-line.

Paragraph 40 relates to colouring and camouflage and states that where appropriate masts should be coloured to match their backdrop to minimise contrast in an urban setting. Streetworks monopoles can utilise design features such as shrouding or banding to protect visual amenity, though, for some 5G infrastructure, camouflage design solutions may not be practicable. Simple designs should be encouraged. Masts which have a complex design are more likely to dominate and be in discord with the landscape and have adverse visual impacts.

The Code of Practice states again in paragraph 64 that there are three primary technical and operational considerations for installation of radio base stations which are: ensuring that wireless infrastructure provides an appropriate level of coverage over the intended geographical area; ensuring that sites have sufficient capacity to meet user demand; and, requiring a connection to the wider network ‘backhaul’. Paragraph 65 notes that planning authorities should take account of these constraints on network deployment and siting and design, when considering proposals.

Paragraphs 66 and 67 of the Code of Practice set out the 5G network deployment considerations:

‘66. With the introduction of 5G, more equipment will be required to provide coverage and capacity. 5G, as well as 4G, are data-driven technologies, and high volumes of data will be transmitted between base stations and wireless devices. 5G will require a denser network of base stations than previous generations, including more fixed line fibre optic cable for reliable and high capacity backhaul. The siting of 5G installations will be more constrained and guided by these special technical and operational considerations.

67. Due to the scale and technological constraints of 5G equipment, in some cases previous camouflage design solutions, such as tree mast designs and concealing antennas in flagpoles, may not be practicable or suitable. In these cases, simple designs with particular attention to colouration and finishes may help reduce visual impacts on a site-specific basis.

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”.

Rochdale’s development plan currently comprises:

- Rochdale Core Strategy (2016); and
- Rochdale Borough Unitary Development Plan Policies (2006).

Unitary Development Plan Policies

Policy CF6 relates specifically to telecommunications development and states as follows:

Applications for planning permission or for prior approval (as required under Part 24 of the Town and Country Planning (General Permitted Development) Order 1995) for telecommunications masts, satellite and terrestrial microwave antennae on masts, and satellite and terrestrial microwave antennae on a building or structure will be permitted where the following requirements are met:

- a) In the case of satellite and terrestrial microwave antennae on a building or structure the equipment is not detrimental to the character and design of the building or structure, to the character of the local street scene or to the visual amenity of the area;
- b) In the case of telecommunications masts the development is not detrimental to the character and appearance of the local street scene or the visual amenity of the area;
- c) The opportunity is taken to share sites or erect telecommunications equipment on an existing mast, building or other structure, unless this would be unacceptable in terms of increased height or visual clutter;
- d) An applicant provides evidence of compliance with the Government guidelines on health impact of telecommunication use;
- e) The equipment is sited and designed so as to minimise its visual impact subject to technical and operational considerations; and
- f) The operator removes any apparatus when it becomes redundant.

The Council will use conditions and, where necessary, legal agreements to secure the above.

In the case of developments affecting landscape character. Sites and features of nature conservation value, sites of archaeology importance, a Conservation Area and Listed Buildings or their settings, applications will not be permitted unless the Council is satisfied that:

- i. The siting, scale or proliferation of facilities are not likely to injure significantly the special character or appearance of such areas, or that
- ii. For technical reasons, no alternative location is suitable and the proposed development is sited so as to minimise any injury to that special character appearance.

Policy G/BE/1 (Design Quality) is a general design policy which states that development will be required to respond to its physical context, respect the positive character of the local area in which it is situated, and contribute towards local identity and distinctiveness.

Policy BE/2 (Design Criteria for New Development) states that the design and layout of new development will be required to be compatible with or improve their surroundings by virtue of their scale, density, height, massing, layout, materials, architectural style and means of enclosure.

Rochdale Core Strategy

Policy P1 (Improving Image) is a general design policy which states that the Council will require new development to be of high quality design and improves the image of the Borough.

Policy P2 (Protecting and Enhancing Character, landscape and Heritage) deals with protecting and enhancing the Borough's character and distinctiveness.

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 can 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 society.

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 services’.

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 firms 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.

The Greater Manchester Digital Blueprint (April 2020)

The GM Digital Blueprint builds on the Greater Manchester Digital Strategy and states that this blueprint sets out the next chapter in Greater Manchester’s ambition to be recognised as a world-leading digital city region, with an ongoing commitment to taking an open, innovative and connective approach to delivering that ambition.

It states that Greater Manchester remains committed to being a digital city-region. The ambition is still for Greater Manchester to be a top 5 European Digital City-Region and recognised globally for its digital innovation. Benefitting from top level physical infrastructure, and a highly skilled, ready-to-go digital workforce.

The Blueprint goes on to say that this is the place that does digital differently.

‘We want our citizens’ lives to be bettered, and for them to be empowered by the myriad of opportunities a digitally fuelled city-region provides’.

The Blueprint for Greater Manchester digital sets out a 3 year approach to meeting these ambitions:

...‘investing heavily in digital infrastructure, connectivity and transport offering breadth and depth of expertise across digital and creative services, e commerce, technology, hardware and software.

We’re creating a digital place where innovators from across the globe want to tap into and a place where businesses already here can thrive’.

The 3 year aims include:

- By 2023, the average download speed across fibre, cable mobile and wireless will exceed 100Mps compared to a Q4 2017 baseline of 32Mps.
- Employment and skills in digital and creative industries 86000 people employed in 2019 growing to 96000 in 2023.
- Overall economic growth £5 billion in creative digital and technology economy growing to £5.5 billion by 2025 and £7 billion by 2029.

The digital priorities are set out as follows:

- Empowering people
- Enabling innovative public services
- Digitally enabling all businesses
- Creating and scaling digital businesses
- Being a global digital influencer

Enablers to these priorities are noted as including extending world-class digital infrastructure:

‘We will ensure that Greater Manchester has the digital infrastructure it needs to be a world class digital city region’.

The aims are noted as:

- *Deliver ubiquitous high speed digital connectivity over full fibre and 4G and 5G mobile across the whole city region by 2025.*
- *Driving market investment in fibre and mobile by minimising roll out costs.*

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 state 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 competitiveness.

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.

Connected Nations 2021 Report (June 2021)

The importance of the internet and access to smartphones is acknowledged within the latest Online Nation 2021 Report (June 2021). The report notes that the pandemic has highlighted the importance of being online and driven changes in the take-up and use of internet services, as many people have had a critical reliance on the internet for communications, information, entertainment and commerce. Increases in internet use in 2020 were most pronounced in spring and November 2020 lockdowns, as people turned to the internet and were more dependent than ever on online services for video calling for socialising or home-based working, home schooling, keeping in touch, films and gaming, shopping and information about the pandemic.

In September 2020, UK Internet users spent nearly 4 times as much time on smartphones than they did on computers. 68% of the time spent online was via smartphones up 4% from September 2019, this was compared to 18% of time spent on line via computers and 13% via tablets.

By the end of 2020 approximately 94% of UK homes had internet access, up from 89% in 2019. Video calling became an important way for people to keep in touch during the pandemic. Zoom went from a few hundred thousand users in the first few months of 2020 to more than 13 million in April and May 2020. This

has dropped to 10.4 million users in March 2021, while platforms used mainly for work and education, notably Microsoft Teams have shown a sustained increase in use (13.7 million users in March 2021m up by 5.3 million year on year).

The report found that most of the time people spend on the internet is via apps on mobile devices. Online services were a crucial way for people to find out information about the pandemic, and for governments to try and track and control the spread of the virus.

The report acknowledged that the internet helped most children continue their education throughout lockdown. Virtually all households with school-aged children had access to the internet at home. 7% did not have fixed broadband and 4% had access only to a mobile phone. 1 in 5 did not have access to an appropriate device for their schoolwork all the time. The Report found that 2020 saw the rapid adoption of digital remote education by teachers, parents and children such as video conferencing, and platforms for setting and collecting work. In the first few weeks of lockdown in spring 2020, two thirds of children in England were not receiving any live or recorded lessons. By January 2021, this was down to just one in ten. The Report suggests that the use of these platforms may continue such as for those who can't attend school due to illness, or to provide additional revision materials.

Nine in ten 8 – 15 year olds who use social-media said it helped them to feel closer to their friends in 2020. The report stated that social video services offer huge benefits for users and the economy. They provide a platform for self-expression through enabling user-generated content (31% of adults and 40% of 13-17 year olds post video content).

Lockdown influenced the types of social video that were most popular such as the first episode of Joe Wickes' PE which was the most viewed YouTube video of 2020, and videos relating to home baking such as sourdough bread increased by 458%.

Social media serves as a means of entertainment and education for many (used by 97% of adult internet users), and as an important method of marketing for businesses (online video advertising grew by 23% in the UK in 2020).

On line retail spend in the UK increased by 48% in 2020 (compared to an average annual increase of 13% in the previous 4 years). Online's share of retail spend increased from approximately 20% in 2019 to 35% in the spring lockdown and 30% in December 2020. By December 2020 11% of the UK grocery market sales were online, up from 5% at the beginning of the year. Online food delivery services also increased in demand. Just Eat being the most popular with its UK orders up 58% higher in the last quarter of 202 compared to the same period in 2019.

People have relied on the internet for news and information throughout the pandemic. During the spring 2020 lockdown 52% of people said that news and current affairs was one of their main reasons to go online.

Adults are as likely to use social media to find information about the COVID-19 pandemic as they are to use news sites and apps (approximately 1 in 3). Whilst one in eight 16 – 24 year olds considered social media to be their most important source of information about the coronavirus pandemic, compared to 5% of all UK online adults.

The report found that 91% of households used smartphones to access the internet in 2021, compared to 65% who used tablets and 47% who accessed the internet using computers. The report also noted that 61% of UK adults who access the internet did so using both computers and smart devices.

The Report notes that the smartphone is the most-used device for accessing the internet for all age groups apart from those aged 65 +. It found that in 2020, 85% of internet users aged 16 + used a smartphone to go online, compared to nearly 75% accessing the internet via a computer and just over 50% using a tablet to access the internet. One in ten adults also stated that they only use a smartphone to go online and three in ten used their phone to complete an online form or app on a weekly basis.

Levelling Up the United Kingdom (February 2022)

Digital Connectivity is a focus area and the mission is 'By 2030, the UK will have nationwide gigabit-capable broadband and 4G coverage, with 5G coverage for the majority of the population'.

Chapter 3 - The Policy Programme:

Para 3.2.4 - By 2030, the UK will have nationwide gigabit-capable broadband and 4G coverage, with 5G coverage for the majority of the population

This mission is focused on improving digital connectivity.

Digital connectivity: The case for action

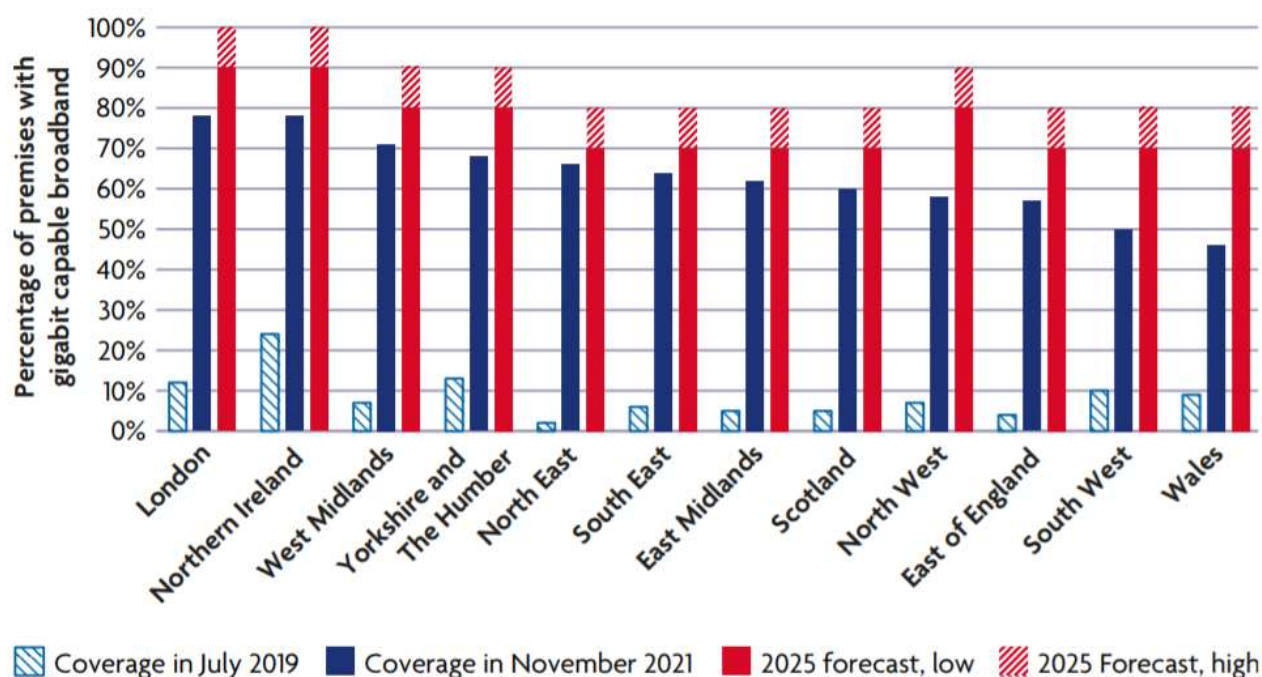
The COVID-19 pandemic demonstrated the importance of digital infrastructure right across society, from ensuring business continuity to reducing isolation. Improved digital connectivity has the potential to drive growth and productivity across the UK and widen job opportunities through remote working. However, there are significant spatial disparities in the quality of broadband and mobile networks, with rural areas likely to experience worse digital connectivity than urban areas. Infrastructure is only part of the picture: economic benefits will only materialise if businesses and workers have the skills to take advantage of improved infrastructure.

More broadly, high quality digital infrastructure can deepen local labour markets through remote working, making it more attractive for both workers and companies to locate regionally. It also allows for the development of high-value sectoral clusters, which can drive growth and jobs in new areas. Existing specialisms in the UK regions have the potential to generate strong tech clusters, such as fintech in Scotland and Wales, e-Commerce in the North West and Northern Ireland, and Agri-Tech in Yorkshire and the Humber. The sector also provides opportunities for raising living standards – median earnings for the sector are 50% higher than the UK average.

The policy programme In 2020, the UK Government published the National Infrastructure Strategy, committing to providing £5bn in public funding to roll out gigabit broadband to at least 85% of the country by 2025, and subsequently to as close to 100% as possible, working with the private sector.

Public investment will target premises that are hardest to reach and which would otherwise not be provided for by the private sector, ensuring no areas are left behind. Gigabit coverage has increased from 10% to over 60% in less than two years. Since 2019, coverage has improved across the UK, and the UK Government anticipates the following additional improvements to be delivered as a minimum by 2025, as set out below.

Figure 3.1 Gigabit coverage improvements, UK countries and regions, 2019, 2021 and 2025 (forecast)



Source: Levelling Up the United Kingdom.

5G has the potential to radically change the way people live and make businesses more productive and competitive. The UK Government's ambition is for the majority of the population to have access to a 5G signal by 2027. Since 2017, the UK Government has provided £200m in funding for 5G Testbeds and Trials, supporting over 200 startups and SMEs across a range of sectors – including healthcare, manufacturing, Agri-Tech and creative industries – to better understand how to use the technology to develop new solutions and services.

In 2022, the UK Government will publish the Wireless Infrastructure Strategy. This will review how far the private sector will go to deliver wireless infrastructure – including 5G – across the country, and determine whether there are any market failures in places that need to be addressed, and how the UK Government could tackle these.

Box 3.9 - West Midlands 5G The West Midlands 5G (WM5G) Testbed started in 2018 with the mission of testing and proving the benefits of 5G to public and private sector productivity, creating jobs and boosting growth. The UK Government has invested £21m over three years, alongside investment from local government and the private sector. By working with local authorities and Mobile Network Operators (MNOs), WM5G has accelerated 5G deployment by over six months, resulting in the West Midlands being amongst the best connected places for 5G in the UK. In addition, WM5G has delivered a number of UK firsts, including a 5G road sensor network, 5G connected ambulance and capsule endoscopy trials, and a 5G application accelerator programme called 5sprinG, which has already upskilled over 400 organisations on the benefits of 5G and allowed over 60 start-ups to develop new 5G products and services.

We must ensure that people have sufficient digital skills to reap the benefits and prosperity arising from the digital economy. In 2020, the UK Government introduced a new digital skills entitlement, giving adults with

low or no digital skills in England free access to new digital skills qualifications based on employer-supported national standards. The UK Government continues to work with local leaders to develop Local Digital Skills Partnerships. These collaborative partnerships are now operating in seven regions across England, with an eighth formally launching in Hull and East Yorkshire in early March. The UK Government will work with devolved administrations to consider how best to share the insights and evaluation of the programme to help build digital skills capability across the UK.

Planning Assessment

The main issues arising from this prior approval notification are whether the proposed monopole 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. Whether any perceived harm would outweigh the significant social and economic benefits associated with the increased service provision attributed to the proposal and other valid material considerations as outlined in Policies CF6, GBE1 and BE2 of the Rochdale UDP, Policies P1 and P2 of the Rochdale Core Strategy, the NPPF and 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 monopole and associated antennas fully comply with the NPPF and Policies CF6, GBE1 and BE2 of the Rochdale UDP, Policies P1 and P2 of the Rochdale Core Strategy, the NPPF and the Greater Manchester Digital Strategy, the Greater Manchester Infrastructure Framework, and the Greater Manchester Local Industrial Strategy as it will increase overall connectivity for the Langley area and Greater Manchester. Access to a high quality, reliable superfast mobile network is not just 'a nice to have' but an essential part of everyday life. Indeed many, including the former Minister for Digital Infrastructure Matt Warman, consider it to be the fourth utility service as important as gas, water and electricity, a life line for many especially during the COVID-19 pandemic where people were able to see their loved ones, speak to friends and family and arrange virtual meetings allowing some form of normality in a very abnormal situation.

The principle of development has been established by the Government when the new permitted development rights came into 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 into 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, there are a number of existing vertical elements of street furniture in the immediate vicinity, including lighting columns, the visual impact of the proposed radio base station will be minimised within the streetscene as the proposed monopole will assimilate well with the existing vertical structures already in situ in the immediate locale. In addition, the area also hosts several mature/semi-mature trees reducing prominence of the pole. This is in full accordance with the aspirations of the NPPF and Policies CF6, GBE1 and BE2 of the Rochdale UDP, Policies P1 and P2 of the Rochdale Core Strategy.

Technical requirements have dictated the siting of the proposed equipment. The operator has spent a considerable amount of time identifying a potential site and the proposed location is considered to present the best balance between operational/technical requirements and environmental impact. As explained throughout this document, the search area is small due to the nature of reasoning for the site to improve coverage and capacity issues currently being experienced by this operator and its users.

The proposed equipment cabinets do not require planning permission, as they can be installed under the operators permitted development rights once the radio base station is built. 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. Their limited height and scale will ensure that these cabinets will not be detrimental to the visual amenity of the area.

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. Therefore, a new ground based installation is required. The discounted options are set out above and their reasons for being discounted are fully explained.

3G and 4G signals by their very nature (as they carry high data rates) do not penetrate over long distances, (5G even less so), just a few hundred metres, depending on the topography of the land, building clutter and vegetation including trees in the area which can reduce their effectiveness. Therefore 3G, 4G and 5G radio base stations need to be close to their customer demand. Therefore, a new site is required to provide new 5G service provision as well as enhance their 3G and 4G coverage to this cell 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.

As Section 5 above demonstrates there are no more suitable sites that are located within less sensitive locations than the current proposed site, and, as this is a site to improve coverage and capacity issues which is even more restricted in locating a more suitable site in which to provide new coverage to the target coverage area in this part of Langley.

In line with NPPF, 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, particularly when taking into account the ambient noise levels of the area which include passing traffic. 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 handheld tools.

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 in width. This column width is essential in order to safely support the antennas at the top of the column and the feeders for all four technologies which are hidden within the main column. The column is proposed to be painted grey, in order to blend with the often grey sky. However, the monopole can be painted any colour should the Local Planning Authority consider that an alternative colour would be more appropriate.

If the column were to be any lower, the antennas would not be able to clear the surrounding trees and urban clutter as such would not be able to operate effectively. A lower height would lead to a poor user experience for a large part of the target coverage area. As such, this would fail the operators design brief and an additional installation would have to be found leading to the proliferation of masts contrary to national planning guidance contained in the NPPF.

The proposed radio base fully complies with Policies CF6, GBE1 and BE2 of the Rochdale UDP, Policies P1 and P2 of the Rochdale 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 19.95m and the other 3 antennas are proposed to be located underneath at an antenna top height of 18.65m. 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 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 maximising their propagation.

The presence of the linear structures including lighting columns 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 Policies CF6, GBE1 and BE2 of the Rochdale UDP, Policies P1 and P2 of the Rochdale 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. Indeed, Inspectors at appeal have noted that by their very nature to be effective masts are required to be taller than surrounding structures.

Telecommunications apparatus by their very nature must be taller than surrounding built and natural form to ensure its efficient operation. The previous 2016 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 3G/4G and 5G telecommunication services for the operator 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.

NPPF states at paragraph 115 the number of radio and electronic communications masts, and the sites for such installations, should be kept to a minimum consistent with the needs of consumers, the efficient operation of the network and providing reasonable capacity for future expansion. In order to provide the latest 4G technology and 5G service in this locality, a new site is required in order to provide the latest technologies to the surrounding area. The operator has already explained above, it is unable to shroud the antennas, but the design is as slim as possible and will represent a simple, functional, vertical structure in the streetscene similar to the existing lighting columns on the street.

If the column and shroud were to be any slimmer, then the multi 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 as well as 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 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 115], The Code of Practice as well as the aspirations of Policies CF6, GBE1 and BE2 of the Rochdale UDP, Policies P1 and P2 of the Rochdale Core Strategy.

The proposed new site accords with NPPF and Policies CF6, GBE1 and BE2 of the Rochdale UDP, Policies P1 and P2 of the Rochdale Core Strategy because the equipment will resemble other linear structures within the area and will expand the network, ensure high quality communications infrastructure is maintained whilst minimising the number of radio base stations in the area. Placing masts near similar structures such as lighting columns, utilising simple and unfussy designs is acknowledged in the Code of 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

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. By providing the latest 4G technology and new 5G service provision the proposals will support the aspirations of Central Government for everyone to have access to the superfast highway network wherever they are and that the majority of the population have access to a 5G service by 2027.

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. The proposed new mast has been sited and designed in order to provide new 3G, 4G and the latest 5G coverage and to improve the existing mobile network where there is currently a hole in coverage.

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.

Trials have already begun across the UK to demonstrate the potential of 5G and how it can improve and drive productivity and efficiency. In June 2019, West Midlands 5G partnered with BT and University Hospitals Birmingham to trial the UK's first 5G Connected Ambulance. Real-Time communications between the paramedics and the hospital doctors enabled the effective diagnosis of the patient at an early stage of care. The trial showed how a paramedic performed a remote-controlled ultra-sound scan on a patient in an ambulance over a public 5G network. These trials show how digital connectivity and technology can reduce patient waiting times and save lives (Source: WM5G).

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 the NPPF 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 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 and Vodafone 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. 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 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. Greater 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 Salford area will ensure that this aspiration is fully met.

The Councilor'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. The NPPF continues to strongly support telecommunications connectivity and states at

paragraph 114 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.

The proposed installation in this location will fill the current gap in the latest high quality service provision and enable the operator and MVNOs who buy network space off these operators 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, contained within the NPPF.

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 radio base station in this location providing the latest 3G, 4G and 5G technologies will support the NPPF.

In line with guidance contained within the NPPF a radio base station in this location will enable fast, reliable, secure internet accessibility wherever the user is located. This 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. 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.

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

In the Code of Practice it emphasises the need for Local Planning Authorities to take account of network deployment and siting and design, when considering proposals. In relation to the introduction of 5G network deployment the Code acknowledges the requirement of additional equipment to provide necessary coverage and capacity. 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.

The operator not only has a license requirement to provide a certain level of 3G/4G coverage to the population the operators' are obliged to meet the growing consumer demand for 5G coverage, but especially as more people are also purchasing 5G enabled devices, in line with their license obligations and the operators competitive market driven "requirement" to provide a high quality service. Customers expect to be able to access their portable hand held devices wherever they are, whether that be indoors or outside. There is currently no 5G service provision that is provided by Three in this cell area.

The Online Nation 2021 Report highlights the importance of smart phones and thus in turn connectivity. In September 2020, UK Internet users spent nearly 4 times as much time on smartphones than they did on computers. The report found that most of the time people spend on the internet is via apps on mobile devices. Social media serves as a means of entertainment and education for many, and as an important method of marketing for businesses. The report found that 91% of households used smartphones to access the internet in 2021, compared to 65% who used tablets and 47% who accessed the internet using computers. The Report notes that the smartphone is the most-used device for accessing the internet for all age groups apart from those aged 65 +.

It is therefore imperative that the operator continues to invest in ensuring that the latest technologies are available on its network, so that customers are able to continue to use their handheld devices wherever they are, for whatever reason, for the purposes in which they were purchased.

Economic and Social Benefits

The NPPF strongly supports sustainable development, as does 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.

In such instances, as described above, the NPPF supports development that improves the economic, social and environmental conditions in the area. By filling the current gap for 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 which is in line with Central Government objectives.

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

Providing the latest digital infrastructure to enable improvements in digital technology empowers and enables residents to have the highest quality of life, supports the creation of high quality jobs and achieves the maximum productivity levels. It also helps the economy to be resilient and competitive. It will help east Waterfoot be a world-leading digital region 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, and pollution; to improve living standards and well-being, helping people to lead prosperous and rewarding lives; and to improve the quality and value for money of public services.

Practical Applications of 5G Connectivity as Example of Material Soci-Economic Benefit: -

Education:

The relationship between 5G and education is evolving at a massive rate with educators exploring the relevance of Virtual Reality (VR) technologies for education and training. Crucially, VR can support remote learning, allowing students a presence in the classroom even when working elsewhere.

5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high definition images and video), increased capacity and heightened security will also allow learning on the job, thanks to technologies such as Augmented Reality (AR) goggles, which can give engineers real-time instructions on how to fix a machine on a production line, for example.

Health:

Patients across the country are now becoming accustomed to relying on remote healthcare services such as NHS 111, virtual GP appointments, and ordering online deliveries of essential medical supplies.

5G will prove critical in providing the infrastructure required to deliver remote health services over the next decade. By design, 5G's ability to deliver real-time information (low latency), ultra-fast speeds (critical for high definition images and video), increased capacity and heightened security are going to be fundamental in scaling the patient benefits of remote healthcare and keeping medical records secure and private. For instance, trials have shown that connecting ambulance crews to expert resources using 5G allows paramedics to work with doctors and conduct specialist procedures in real time whilst on the road.

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 high quality 3G, 4G and 5G coverage and capacity in this area fully meets this part of the NPPF. The social and economic benefits are a significant material consideration which should be weighed against the visual impact associated with a radio base station in this location. HM Treasury outlined such benefits in

its report *'Fixing the Foundations: Creating a More Prosperous Nation'* – July 2015. Paragraph 7.1 of the plan stated that reliable and high quality fixed and mobile broadband connections support growth in productivity, efficiency and labour force participation across the whole economy. They enable new and more efficient business processes, access to new markets and support flexible working and working from home.

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

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

The Government recognises that widespread coverage of mobile connectivity is essential for people and businesses. People expect to be connected where they live, work, visit and travel. That is why the Government is committed to extending mobile geographical coverage further across the UK, with continuous mobile connectivity provided to all major roads and to being a world leader in 5G.

This will allow everyone in the country to benefit from the economic advantages of widespread mobile coverage. As well as improved mobile signal, 5G networks are also crucial to drive productivity and growth across the sectors that local areas are focusing on through their emerging Local Industrial Strategies 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. 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 case for 5G is compelling as it will bring faster, more responsive and reliable connections than ever before.

MPs have noted in parliament that the UK's Superfast Broadband connectivity was 'relatively poor'. As such, there is continuing and growing strong national support for high quality communications 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. In April 2022, the permitted development rights were further relaxed to make the roll out of 5G even quicker in line with the Government's campaign to *'Speed up Britain'*.

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

A National Needs Assessment – A Vision for UK Infrastructure was also published in October 2016 (<https://www.ice.org.uk/getattachment/media-and-policy/policy/national-needs-assessment-a-vision-for-uk->

[infrastr/National-Needs-Assessment-PDF-\(1\).pdf.aspx](#)). It sets out the infrastructure needs for the UK which includes the importance of digital technology. An extract of this assessment can be found below:

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

The Assessment goes on to note that *'Universal digital connectivity would serve as an equaliser of economic opportunity in that it enables participation in a modern digital economy'*. Therefore, this Needs Assessment further explains the consequences of a lack of coverage and the effects this has on social and economic prosperity. This clearly highlights the importance of improving high quality 3G and 4G coverage to this area of east Waterfoot where the social and economic benefits outweigh the environmental considerations.

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

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

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

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

We need to create the market and policy conditions necessary to support the large- scale commercial investment required to extend and future-proof digital connectivity. A key part of this is making it easier for operators to deploy infrastructure. To help to achieve this, the Government recently reformed the Electronic Communications Code - the statutory framework which underpins agreements between communications network providers and those in both the private and public sector who can provide sites for the installation of network equipment. The purpose of the reforms was to make it easier and more cost effective for communications network providers to deploy and maintain digital infrastructure.

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

Health and Safety

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

Recent court cases have confirmed that the *public perception* of health risks can be a material consideration within the land-use planning system. The weight to be attached to this issue has to be determined accordingly in each case by the decision maker. It has been generally held, and widely established at planning appeal, that health concerns are not a sufficient basis alone for withholding planning permission providing it has been demonstrated that the proposed installation will comply with the ICNIRP guidelines.

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

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

Summary

The operator is limited in siting options as there is a requirement to fill the current hole in coverage and to provide improved 3G/ 4G coverage and capacity for this area of Langley whilst also providing new 5G services. The requirement is to fill the hole in coverage to provide the latest technology whilst improving the provision of coverage and capacity to the surrounding local area.

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

The siting of the proposed radio base station has been carefully considered. The proposed height at 20 metres is essential in order for the antennas to clear the surrounding urban clutter and trees and ensure the antennas are able to reach the target coverage area, to provide new high quality 3G, 4G and 5G service provision to this area of Langley. 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.

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. These benefits are strong material considerations which any perceived loss of visual amenity to the surrounding area.

The applicant considers the proposed installation in terms of its siting and appearance would not cause significant harm on the street scene and any harm caused would be outweighed by the need for the proposal when balanced against the development plan and other material considerations.

Confirmation that submitted drawings have been checked for accuracy

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Position:	<u>Town Planner</u>	(on behalf of CK Hutchinson Networks (UK) Ltd)	<u></u>