



SUPPLEMENTARY INFORMATION

1. Site Details

Site Name:	Fulbar Road	Site Address:	FULBAR ROAD, PAISLEY, PA2 9AW
National Grid	E 245907 N		
Reference:	663314		
Site Ref	CTIL30840400	Site Type:1	Macro
Number:			

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	No
If no explain why:		
Were industry site databases checked for suitable sites by the operator:	Yes	No
If no explain why:		

Site Specific Pre-application consultation with local planning authority

Was there pre-application contact:	Yes
Date of pre-application contact:	08/02/24
Name of contact:	dc@renfrewshire.gov.uk



¹ Macro or Micro

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Summary of outcome/Main issues raised:

An email was sent on 08/02/24 notifying the council of our intentions with indicative plans attached.

No response has been received to date.

Annual area wide information to planning authority

Has annual area wide information been provided?	No
If no explain why:	

Summary issues raised:

Cornerstones commercial relationship with Vodafone has changed, effectively increasing our independence to work with other companies in the deployment of mobile infrastructure. It means we no longer have visibility of Vodafone's full update plan. However, Cornerstone is fully committed to working closely with Local Planning Authorities and following best practice guidance.

We aim to engage and work with the planning department at the earliest opportunity from when we are instructed to deliver new infrastructure within your Local Authority area and often conduct strategic pre-rollout engagement meetings to discuss our wider rollout. If your Local Authority would like a meeting to discuss wider Cornerstone rollout plans then please advise. We recognise the importance of developing long term partnerships and will always work with you to deliver improved mobile connectivity.

Community Consultation

Rating of Site under Traffic Light Model:	Red	Amber	Green
Outline of consultation carried out:			

Pre-application consultation emails were sent to the Ward Councillors and the Community Council on 08/02/2024. In these emails it outlined the need for a new streetworks installation to replace the existing site further up the road.

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Summary of outcome/main issues raised (include copies of relevant correspondence):

To date, no comments have been received.

School/College

Location of site in relation to school/college (include name of school/college):

Outline of consultation carried out with school/college (include evidence of consultation):

Summary of outcome/main issues raised (include copies of main correspondence):

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

Will the structure be within 3km of an aerodrome or airfield?	Yes	No
Has the Civil Aviation Authority/Secretary of State for Defence/Aerodrome Operator been notified?	Yes	No
Details of response:		

Developer's Notice

Copy of Developer's Notice enclosed?		Yes	No
Date served:	11/04/24		
Tracking		Ref: KL 7182 512	24 1GB

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3. Proposed Development

The proposed site:



Figure 1- Aerial View Showing Existing Site and Proposed Site



Figure 2- Streetview Image of Current Site (Google, 2024)

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Cornerstone, Hive 2, 1530 Arlington Business Park, Theale, Berkshire, RG7 4SA





The current site is on the southern verge off the A761, adjacent to the car parking for Aldi. This site has often had issues due to flooding, leading to a loss of service/coverage. To address this issue, the proposal is to install a ground-based station off Fulbar Road as a replacement. The proposed site will be on the western pavement off Fulbar Road and outside of the flood zone.

Background

Cornerstone are proposing a new telecommunications site to provide a mast capable of accommodating the operator's latest 4G and 5G technologies. This application forms part of the wider expansion of the mobile network across the area and further which is currently below par in network, coverage and capacity. Although this site is acting as a replacement, it is also acting as an upgrade, adding up to date telecommunications technology both in 4G and 5G.

As part of the operator's continued network improvement program, there is a specific requirement for an installation to provide, 4G and 5G technologies. The operator is limited in siting options as the coverage cell needs to be maintained. The site must sit within the same immediate area of the replacement site in order to retain service to the existing cell. There are no viable existing sites in this area to utilise nor are there appropriate buildings, rooftops and structures to host telecommunications equipment. When this is the case, a streetworks installation is the solution. This is not atypical as streetworks installations are often utilised to bridge gaps and provide coverage in residential areas where the building stock is unsuitable to host rooftop base stations. It should be noted that streetworks solutions are only ever deployed when all alternative options have been explored and discounted.

However, this proposal should be viewed as an upgraded site as the proposed installation will replace the current pole. The exact location cannot be utilised for this design due to the issues with flooding.

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Type of Structure (e.g. tower, mast, etc):

Description:

The installation of 1no. 20m tower to host 6no. antennas, 2no. transmission dishes to

replace the existing installation in the area alongside ancillary works.

Overall Height: 20m			
Height of existing building (where applicable):		NA	
Equipment Housing: 3x Cabinets			
Width:	1.9m/0.78m/0.65m		
Depth:		0.6m/0.6m/0.25m	
Height:		1.7m/1.7m/1.0m	
Materials (as applicable):			
Tower/mast etc – type of material and	Tower to be comple	eted in galvanised steel	
external colour:	finished in RAL7035 (Grey)		
Equipment housing – type of material	al Galvanised Steel finished in RAL6009		
and external colour:	(Green)		

Reasons for choice of design, making reference to pre-application responses: This proposal is for the installation of a design solution to boost the capacity on the network in this location for the operator and to provide new 5G service coverage. The current coverage and service is unreliable due to issues with flooding and so this proposal avoids the flood zone while continuing to provide the existing coverage and upgrading the service.

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 the improvements of 5G capabilities and equipment, a rooftop solution is no longer viable to support the increased weight of these technologies.

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. In addition to this, the coverage gap is significant and so the 20m structure will have a better reach.

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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 covered 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 the 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 than the proposed design.

The design of the column is a simple, functional, vertical structure which should not appear incongruous within the landscape.

The column is proposed to be coloured grey and the cabinets in Fir Green. The column can be coloured any other colour the LPA consider appropriate.

The equipment cabinets are small for telecommunications apparatus and currently coloured green. It is therefore considered that the proposal before you strikes the best balance between environmental impact and operational considerations. The proposed height and design represent 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 5G coverage providing high quality dense coverage and capacity, would not appear out of place within the landscape.

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Figure 4- Viewshed of Proposed Site at 20m (Google Earth, 2024)

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The above viewsheds show similar visual reach despite the proposed site being designed with an additional height of 2.5m. This new location is less conspicuous, keeping away from the main road and utilising screening from the Golf Club.

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www.cornerstone.network

1530 Arlington Business Park,

▲ Cornerstone, Hive 2,





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, Vodafone operates its network in such a way the radio frequency power outputs are kept to the lowest levels commensurate with effective service provision.

As part of Vodafone's network, the radio base station that is the subject of this application will be configured to operate in this way.

All operators of radio transmitters are under a legal obligation to operate those transmitters in accordance with the conditions of their licence. Operation of the transmitter in accordance with the conditions of the licence fulfils the legal obligations in respect of interference to other radio systems, other electrical equipment, instrumentation, or air traffic systems. The conditions of the licence are mandated by Ofcom, an agency of national government, who are responsible for the regulation of the civilian radio spectrum. The remit of Ofcom also includes investigation and remedy of any reported significant interference.

The telecommunications infrastructure the subject of this application accords with all relevant legislation and as such will not cause significant and irremediable interference with other electrical equipment, air traffic services or instrumentation operated in the national interest.

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4. Technical Justification

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

This application is driven by the requirement of Vodafone to improve network coverage and capacity in the immediate geographic area surrounding the proposal site that will result in a more reliable mobile digital connectivity infrastructure that provides 4G and 5G coverage.

Base stations use radio signals to connect mobile devices and phones to the network, enabling people to send and receive calls, texts, emails, pictures, web, TV and downloads. Without base stations, mobiles will not work. They are made up of three main elements. The cabinets, which contain the equipment, used to generate the radio signal. The supporting structure such as a mast, which holds the antennas in the air and the antennas themselves. Only the antennas emit radio signals.

Many other everyday items also use radio signals to send and receive information, such as television and radio broadcasting equipment and two-way radio communications. Base stations are connected to each other and telephone exchanges by cables or wireless technology such as microwave dishes, to create a network. The area each base station covers is called a cell. Each cell overlaps with its neighbouring cells to create a continuous network. The size and shape of each cell is determined by the features of the surrounding area, such as buildings, trees and hills, which can block signals. When people travel between cells, the signal is transferred between base stations without a break in service. Each base station covers a certain area only and can only handle a limited number of calls at once. As mobile phones and devices become more popular more base stations are needed to ensure continuous coverage.

Vodafone are Electronic Communications Code Systems Operators licensed under the terms the Communications Act 2003 to provide mobile personal communications networks in the UK. In order to improve the level of service it provides for their customers in line with its licence requirements, both companies are constantly developing their networks, as well as refining and modernising their equipment. Given the dynamic and constantly evolving nature of technological advances in telecommunications products, coupled with the demands on operators from subscribers to provide new and better-quality services, this dictates a continual reinvestment programme in the infrastructure behind the use of mobile devices. Operators are currently involved in developing sites to provide coverage to areas which have not benefited from access to the full services they offer and to areas of their existing network where increased or improved service quality is required.

Due to the dramatic rise in the use of mobile data, the industry has had to consider new operating models that are efficient at delivering services to a much larger percentage of the UK's population. As previously discussed, both companies will pool their basic network infrastructure, while running two, independent, nationwide networks. By doing

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this, they will both reach far more of the country far faster than they could achieve on their own. This single network grid will automatically increase each operator's footprint by 40%, adding competition and choice for customers in areas that previously only had one operator's coverage available.

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

As seen below in Figure 3, the current 4G service/coverage is at a good strength however, there are gaps where the signal is poor or non-existent to the south and south west. This installation will vastly improve this, improving the areas shown on Figure 3 as 'poor' signal and bridging the gap between the site and Elderslie Golf Club. The 20m tower allows for further reach. In addition to this, 5G services will be available as a result of this proposal.



Figure 5- Current 4G Coverage (Mast Data, 2024)

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5. Site Selection Process

Alternative sites considered and not chosen (not generally required for **upgrades/alterations to existing sites** including redevelopment of an existing site to facilitate an upgrade or sharing with another operator)

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

This proposal involves the replacement of an existing site and as such, has followed the sequential site selection process. This process prioritises existing sites before the requirement for a new site. In the case of this proposal, there is no suitable building stock for a rooftop installation however, there is an existing site that can be upgraded. Vodafone are proposing to remove the current installation and to replace with a modernised base station slightly further down the road in what is viewed as a more appropriate siting and outside of the flood zone.

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

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.

<u>Health:</u>

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

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crews to expert resources using 5G allows paramedics to work with doctors and conduct specialist procedures in real time whilst on the road.

House of Commons: Written Statement (HCWS631): Boosting Mobile Connectivity (17 March 2016)

The written statement outlined the Government's commitment to improving mobile connectivity; "The Government is firmly committed to ensuring there is sufficient capacity to meet the growing demand for mobile connectivity..." "This Government intends to bring forward provisions in England to provide greater freedoms and flexibilities for the deployment of mobile infrastructure..."

The above confirms the Government's commitment to good and improved communications. Recognising the vital importance of mobile connectivity for residents and local economies, the urgent delivery of the required network improvements continues to be a Government priority.

This proposal assists in meeting this objective.

National Planning Framework 4

Policy 24 of NPF4 is supportive of the rollout of telecommunications infrastructure, it reads:

a) Development proposals that incorporate appropriate, universal, and future proofed digital infrastructure will be supported.

b) Development proposals that deliver new digital services or provide technological improvements, particularly in areas with no or low connectivity capacity, will be supported.

c) Development proposals that are aligned with and support the delivery of local or national programmes for the roll-out of digital infrastructure will be supported.

d) Development proposals that deliver new connectivity will be supported where there are benefits of this connectivity for communities and the local economy.

e) Development proposals for digital infrastructure will only be supported where: i. the visual and amenity impacts of the proposed development have been minimised through careful siting, design, height, materials and, landscaping, taking into account cumulative impacts and relevant technical constraints;

ii. It has been demonstrated that, before erecting a new ground based mast, the possibility of erecting antennas on an existing building, mast or other structure, replacing an existing mast and/or site sharing has been explored; and

iii. There is no physical obstruction to aerodrome operations, technical sites, or existing transmitter/receiver facilities.

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It is considered the proposed development complies with the broad aims of the NPF4. The equipment has been sympathetically designed with the height kept to a minimum and it would enhance the provision of local community facilities and services.

Code of Best Practice on Mobile Network Development (CoBP) 2022

1.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.

2.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.
3.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.

4.Led by the Department for Digital, Culture, Media and Sport (DCMS), this Code of Practice has been 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. Policy framework

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.'

11. 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 2020. In support of this, the government and the UK's mobile network operators agreed a $\pounds 1$ billion Shared Rural Network deal to extend 4G mobile geographical coverage to 95% of the UK by the end of the programme.

Principles and commitments

19. Local planning authorities should support the deployment of digital infrastructure by:
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.

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• 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.

• Information and communication: ensure that members of the public can access information about any development proposals within their local area.8 Send communications promptly to an appropriate operator contact (or their representatives).

Ground-based masts

37. Operators have committed to use existing structures for network deployment wherever viable to reduce the need for new development and minimise visual impact. However, 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. There are many ways by which the potential for environmental and visual impact of a ground-based mast can be reduced.

Local Policy - Renfrewshire Local Development Plan 2014 (Adopted 28 August 2014)

Although no specific policy relating to telecommunications development, the LDP states that:

'Access to enhanced electronic communications networks is considered essential to the growth of Renfrewshire.'

This proposal aligns with Cornerstone's site selection and design process where the most minimal design and location has been chosen while balancing operational requirements and visual impacts. This also aligns with the NPPF guidance. Alternative options such as rooftops and existing structures that are viable, are not present in this area for use and so a replacement streetworks solution is required. This requirement to replace the current site due to flooding issues has become an opportunity for Vodafone to implement the most up to date technologies and levels of service. This proposal is more than just a replacement, but an improvement.

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Conclusion

As mentioned previously, it is considered that the proposed telecommunications infrastructure is in line with the planning policies above and seeks to strengthen network provision for the community.

In light of the above and with bearing in mind the proposed height, location, and surrounding context of this area, it is considered that the proposal would not be overly intrusive in the area and its visual impact would not outweigh the continued need and future demands to provide coverage to this area; striking an acceptable balance between operational needs and the environment. Visual impacts would be kept to a minimum due to the presence of mature vegetation which will provide screening so that the visual reach of the proposal is immediate and not wide.

It is hoped that the large bridge of 4G coverage shown in Figure 3 and the lack of VF 5G coverage currently, along with the site selection/design process outlined in this document is sufficient enough for the planning authority to be sympathetic to the requirement of this site. The main requirement for this site is to replace a current installation and utilises this as an opportunity to upgrade the services that currently exist, bridging gaps in coverage and providing a more reliable and robust network. It has been explained that since the construction of the current site, technologies have evolved and therefore most antennas, especially 5G, require taller positioning, hence the reason for the 20m structure. It is hoped that this location is an improvement visually, in comparison to the current structure by utilising a quieter more industrial area behind Aldi.

The applicant has attempted to fully outline the design/site selection process while providing context (gap/lack of service/flood issues) and reasoning in line with both Local and National planning policies, to justify why this site is important and why this proposal is the best solution.

It would not have a significantly adverse effect on the character and visual amenities of the locality; the development has been sited so screening is optimised and the pole is in line with existing furniture and context. The fact that the installation will be visible at point to some of the surrounding area does not itself demonstrate that the proposal will cause unacceptable harm to the visual amenity of locality and should be weighed in favour of public benefits.

An ICNIRP Declaration has been submitted with this application.

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Confirmation that submitted drawings have been checked for accuracy

Name: (Agent) Operator:	Callum <u>McKenna</u> Vodafone	Telephone: -	07525276826
Address:	Galliford Try Telecoms PO Box 17452, 2 Lochside View Edinburgh, EH12 1LB	Email Address:	Callum.McKenna@gallifordtry.co.uk
Signed:	CAMO	Date:	11.04.24
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