GTech Surveys Limited

Broadband Connectivity Assessment

Land off Wilbraham Road, Chorlton

CHANGE HISTORY

Issue	Date	Details of Changes
0.0	17/10/2022	Working draft
0.1	20/10/2022	First draft issue
1.0	22/11/2022	First issue - minor editing
1.0	24/11/2022	First issue - site plan updated
Author: G Phillips		Reviewer: O Lloyd

© GTech Surveys Limited 2022

Contents Page

GTech Surveys Limited

Executive Summary

1 - Introduction **4**

2 - External Infrastructure Telecommunications Utility Providers **9**

3 - BT Openreach External Infrastructure Availability **9**

4 - Virgin Media External Infrastructure Availability **11**

5 - Conclusions **12**

Appendix **13**

Broadband Connection Definitions

Data Ducting Infrastructure for New Homes - Guidance Note, March 2008, Department for Communities and Local Government

Planning Policies - National Planning Policies

Local Planning Requirements

© GTech Surveys Limited 2022

GTech Surveys Limited

GTech Surveys Limited is a Midlands based broadcast and telecommunications consultancy conducting projects throughout the entire UK. We undertake mobile phone network, television and radio reception surveys (pre- and post-construction signal surveys), conduct broadcast interference and reception investigations, and support telecommunications planning work for wind energy developers, construction companies, architects, broadcasters and Local Planning Authorities.

In addition to radio interference modelling services and television reception surveys, we produce EIA and ES Telecommunications Chapters (also known as an 'Electronic Interference Chapter'); satisfying the requirements of Part 5, Regulation 18 (Parts 5a and 5b) of The Town and Country Planning EIA Regulations 2017. We peer review ES and EIA work, liaising with telecommunications providers (Arqiva, BT etc.) and advise developers with respect to associated Section 106 (Town and Country Planning Act 1990) and Section 75 (Town and Country Planning (Scotland) Act 1997) agreements.

GTech Surveys Limited is a consultant member of the Trade Association for Content Delivery - (Confederation of Aerial Industries Ltd - CAI) and the RDI - the digital sector's professional body and trade organisation. We are listed on Constructionline and verified as a Safety Schemes in Procurement (SSIP) member by Safety Management Advisory Services (SMAS), making us compliant with the industry standard PAS 91:2013 + A1:2017.

Professional broadcast trained project engineers deliver, and supply QBE insured technical products to support planning applications, discharge planning conditions (including S106 Agreements) and for due diligence. For more information about GTech Surveys Limited please visit our website - www.gtechsurveys.com

GTech Surveys Ltd.
Accountancy House,
4 Priory Road,
Kenilworth,
Warwickshire,
CV8 1LL.

T: +44(0) 1926 744771

© GTech Surveys Limited 2022

Executive Summary

A desk-based assessment has been undertaken to determine the current availability of broadband services near to and adjacent to the proposed Land off Wilbraham Road, Chorlton development. Under Manchester City Council (MCC) planning guidance, certain sized developments require a broadband connectivity assessment. Further guidance can be found in this document; "*Full, Outline, Reserved Matters & Variation/Removal of Conditions Planning Applications - Is Your Application Valid?*", September 2018 (revised January 2020), MCC. The requirement states;

Broadband Connectivity Assessment

> *All new build residential developments must incorporate measures to facilitate digital connectivity for all new build residential properties having regard to the Data Ducting Infrastructure Guidance produced by the Department for Communities and Local Government. (Section 10 - National Planning Policy Framework (NPPF))*

The findings of this broadband connectivity assessment indicate that existing broadband infrastructure and good connectivity is already available, with existing fibre installed along streets adjacent to the Site. Good download speeds are likely to be experienced. It is suggested that the developer engages with either Virgin Media or BT Openreach to facilitate a connection to their fibre network.

The developer will commit to enable the Proposed Development for robust connectivity and future-proof upgrading by following the guidance presented in *Data Ducting Infrastructure for New Homes - Guidance Note*, March 2008, Department for Communities and Local Government.

This report can be used for reference and to support the Land off Wilbraham Road planning application submission.

© GTech Surveys Limited 2022

1 - Introduction

This assessment has been prepared to support an application for planning permission for the proposed Land off Wilbraham Road, Chorlton development. The assessment details the results of licensed and other available information to address requirements regarding potential broadband connectivity for the Proposed Development. This study was undertaken during October 2022 to provide information regarding the connectivity around the Site and the availability of local broadband services.

The Proposed Development proposes the erection of a residential development (use Class C3a), with associated infrastructure, including landscaping, ecological mitigation, drainage, car parking, access from Wilbraham Road, demolition of garage to the rear of 354 Wilbraham Road and other associated works.

The application site extends to approximately 2.22 hectares (ha) and comprises an irregular shaped parcel of land within the administrative boundary of Manchester City Council (Grid Reference – E 382643 / N 394254). The application site comprises two distinct parcels of land, as described below.

The part of the site identified for the proposed housing development comprises a roughly rectangular shaped parcel of land, which extends to 2 ha. 354 Wilbraham Road and its associated garage are the only existing buildings/structures within the site boundary. Access to the site is obtained from Wilbraham Road. The housing site is privately owned by GMYF and is secured on all boundaries by fencing and gates aside from 354 Wilbraham Road which is an occupied dwelling.

The part of the site identified for ecological enhancement comprises 0.22 ha. The ecological enhancement area is owned by the St Margaret's Centre. Figure 1 shows the location of the Site and the layout of the Proposed Development.

© GTech Surveys Limited 2022

Figure 1 - The Location of the Site and Proposed Layout

<u>The Assessment Requirements</u>

Manchester City Council (MCC) requires applications for certain sized developments to include a broadband connectivity assessment. Further guidance can be found in the document; "*Full, Outline, Reserved Matters & Variation/Removal of Conditions Planning Applications - Is Your Application Valid?*", September 2018 (revised January 2020), MCC. The requirement states;

Broadband Connectivity Assessment

All new build residential developments must incorporate measures to facilitate digital connectivity for all new build residential properties having regard to the Data Ducting Infrastructure Guidance produced by the Department for

© GTech Surveys Limited 2022

Communities and Local Government. (Section 10 - National Planning Policy Framework (NPPF)[1])

Developer's Guidance and Responsibility - At the Pre-Application Stage

Broadband connectivity is most helpfully and effectively raised at the earliest possible stage of the planning process. This can help to ensure that the need to provide superfast broadband connectivity is considered in prospective applicants' layout planning and costings before proposals reach the planning application stage. At the pre-application stage, prospective applicants:

- Will be reminded of the requirements of local guidance and Section 10 (NPPF) concerning broadband connectivity, i.e. the provision of superfast broadband connectivity;

- Will be advised that occupiers of the Proposed Development should be able to arrange access to superfast broadband immediately at the point of occupation; and

- Will be encouraged to liaise with broadband providers at an early stage to identify whether the Proposed Development could be connected to existing infrastructure or whether additional infrastructure would be required, and how this would be provided.

For larger developments of 30 or more new homes, the council will also remind developers of the aspiration for full fibre technology and the benefits to future occupiers. Although this is not currently a requirement of local policy, this is the level at which some providers will consider providing full fibre solutions free-of-charge to the developer, if given sufficient notice.

Developer's Guidance and Responsibility - At the Application Stage

Applications for planning permission for major development should be accompanied by evidence of the superfast broadband connectivity of the site, such as this report. This should take the form of a connectivity assessment, or similar proof, from one or more broadband infrastructure providers evidencing the availability of at least superfast broadband speeds. This can be submitted as part of a sustainability statement accompanying the application.

---

1 - NPPF Section 10, July 2021, (Ministry of Housing, Communities & Local Government)

10. Supporting high quality communications

114. Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. 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; and should prioritise full fibre connections to existing and new developments (as these connections will, in almost all cases, provide the optimum solution).

© GTech Surveys Limited 2022

Where superfast broadband connectivity is available, the development should include the infrastructure to connect to this service and make it available to occupiers. Where superfast broadband connectivity is not currently available:

- Applications should be accompanied by evidence that discussions have been held with a range of providers to upgrade infrastructure to deliver superfast broadband or, for developments of 30 or more homes, full fibre connections.

- Where one or more providers have agreed to provide superfast broadband connectivity, the development should be designed to connect to this service and make it available to occupiers.

- Where no provider has agreed to provide superfast broadband connectivity, the development should incorporate additional dedicated telecommunications ducting to enable the provision of superfast broadband in future.

The Broadband Connectivity Assessment Report

This report has been prepared to support the planning application submission and has been prepared by GTech Surveys Limited for the applicant. This report follows the following structure:

Chapter 1 introduces the work, the requirements and the scheme

Chapter 2 lists which external infrastructure telecommunications utility providers are operating in the study area, with which technology and what likely upload and download speeds are available

Chapter 3 describes the existing local BT Openreach infrastructure around the Site (as of 20th October 2022)

Chapter 4 describes the existing local Virgin Media infrastructure around the Site (as of 20th October 2022)

Chapter 5 presents the conclusion

© GTech Surveys Limited 2022

2 - External Infrastructure Telecommunications Utility Providers

Existing Providers in the Study Area

A number of telecommunications companies and broadband providers exist and operate in Manchester. Database integration indicates that the following providers are active at the postcode centroid.

Provider	**Type of Service**[2]
BT Wholesale	ADSL
BT Wholesale	ADSL Max
BT Wholesale	WBC (21CN)
BT Wholesale	SDSL
BT	FTTC
Vodafone	LLU
TalkTalk (CPW)[3]	LLU
Sky Broadband	
Virgin Media	Cable

Potential Download Speeds

The postcode centroid is well served with download speeds at least 100 megabits per second (Mbps) available due to the availability of FTTC.

M21 0UX Availability

FTTH/FTTP	✗
Ultrafast Broadband (>=100 Mbps)	✓
Superfast Broadband (>24 Mbps)	✓
Fibre (FTTC or FTTH or Cable or G.Fast)	✓
Wireless	✗
LLU	✓
ADSL2+	✓
ADSL	✓

Notes On Connection Options

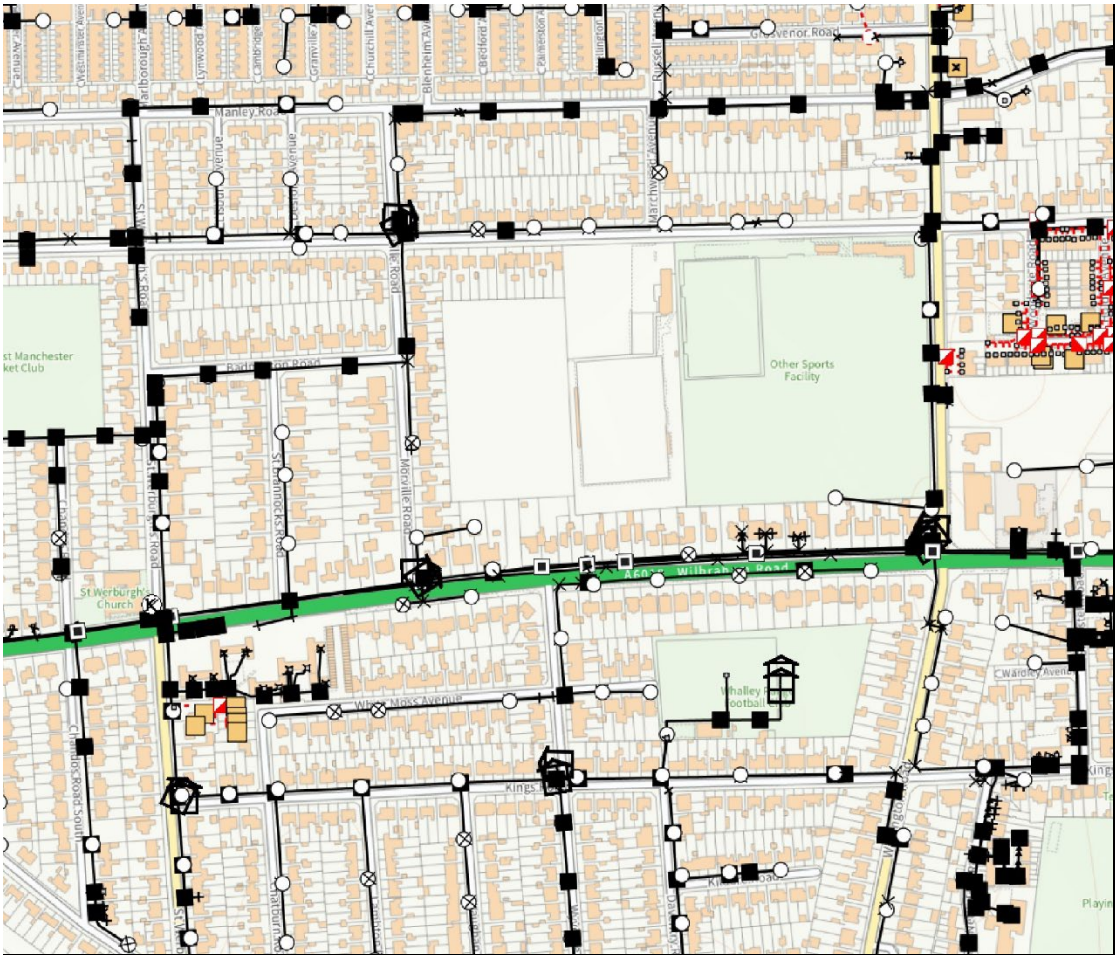
- Virgin Media Gig1 service with 1.1 Gbps speeds is believed to be available
- Virgin Media cable broadband with maximum speeds 600 Mbps (1.1 Gbps if in Gig1 area) may be available
- GFast may be available to be with speeds above 250 Mbps.
- Fibre (FTTC) is possibly available and speeds will likely be above 30 Mbps
- BT Wholesale ADSL2+ based services are available
- Sky LLU ADSL2+ is available
- TalkTalk LLU ADSL2+ retail and wholesale services are available

2 - Appendix - Broadband Connection Definitions for definitions

3 - Car Phone Warehouse (CPW)

© GTech Surveys Limited 2022

3 - BT Openreach External Infrastructure Availability



KEY TO BT SYMBOLS						
	Planned	*Live*	Change Of State	+	Hatchings	
			Split Coupling	×	Built	
PCP			Duct Tee	▲	Planned	
Pole			Building		Inferred	
Box			Kiosk	K	Duct	
Manhole						
Cabinet						

Other proposed plant is shown using dashed lines.
BT Symbols not listed above may be disregarded.
Existing BT Plant may not be recorded.
Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.

	Pending Add	*In Place*	*Pending Remove*	*Not In Use*
Power Cable				
Power Duct				N/A

BT Ref : AAD09539D
Map Reference : (centre) SJ8268194113
Easting/Northing : (centre) 382681,394113
Issued : 20/10/2022 09:54:01

© GTech Surveys Limited 2022

BT Openreach had a universal service obligation (USO) granting remote households the right to request broadband speeds of at least 10 Mbit/s by 2020. As part of their obligation, BT Openreach are aggressively installing new fibre and broadband infrastructure throughout the UK and enhancing coverage in major cities.

Based on BT database interrogation on 20th October 2022, there is existing BT Openreach infrastructure surrounding the Site, with existing ducts, poles, boxes and fibre installed along streets adjacent to the Site, but not to the Site itself.

© GTech Surveys Limited 2022

4 - Virgin Media External Infrastructure Availability

Based on Virgin Media's reply on 20th October 2022, there is existing infrastructure surrounding the application Site but not directly to the Site.

© GTech Surveys Limited 2022

5 - Conclusions

A desktop study has been undertaken to assess the potential for broadband connectivity to the proposed Land off Wilbraham Road, Chorlton development. The study has utilised licensed information and current technical data regarding availability from a number of sources.

The area already has good download speeds (expected to be at least 100 megabits per second). Whilst Virgin Media does have existing fibre infrastructure in place around the application Site, BT Openreach is currently better positioned to enable a full fibre connection to the Proposed Development.

It is recommended that the developer engage with a broadband infrastructure provider in order to establish the most optimal data infrastructure solution for the Proposed Development. It is considered that either Virgin Media or BT Openreach offers the easiest connection due to the location of their connection nodes and network adjacent to the Site. BT Openreach can be contacted via their website -

https://www.openreach.com/building-developers-and-projects/fibre-for-developers/registering-your-site

Virgin Media can be contacted via their website -

https://www.virginmedia.com/broadband/network-expansion

Full fibre connections represent the most future-proof form of infrastructure. New development should look to increase the spread of full fibre connections, which have the potential to boost the city's economy; help businesses grow and be more productive; help Manchester compete with other cities and provide more symmetrical upload / download speeds for residents and businesses. Full fibre connections also offer greater reliability and lower energy / maintenance costs.

The developer ensures that the Proposed Development will have the correct data ducting infrastructure in place to facilitate future-proof connectivity for all potential occupants, as presented in *Data Ducting Infrastructure for New Homes - Guidance Note*, March 2008, Department for Communities and Local Government.

This broadband connectivity assessment has been prepared to support the planning application submission.

© GTech Surveys Limited 2022

APPENDIX

Broadband Connection Definitions

Data Ducting Infrastructure for New Homes - Guidance Note, March 2008, Department for Communities and Local Government

Planning Policies - National Planning Policies

Local Planning Requirements

© GTech Surveys Limited 2022

Broadband Connection Definitions

ADSL - Asymmetric Digital Subscriber Line broadband is a connection provided over home telephone lines. Openreach owns the UK's landline infrastructure, so when you have an ADSL connection, you need to rent your phone line from Openreach. If you already have an existing phone line, the broadband is added onto the package. Openreach was previously owned by BT, but ADSL packages can be sold by providers other than BT through a process known as local loop unbundling (LLU). This means that a secondary provider, for example Plusnet or TalkTalk, put their own software in the telephone exchanges and rent line and exchange space from Openreach. Although not as fast as fibre broadband, ADSL provides a high-quality, reliable connection. But if you live far away from your telephone exchange, or if the cable has degraded, then speeds can drop dramatically.

FTTB (fibre to the building/basement) - Fibre-optic cables run all the way to your premises, which is why this is sometimes called **FTTP** (fibre to the premises). For those in flats in a large building, the fibre terminates at the building rather than the individual dwelling. It still provides very fast speeds.

FTTC (fibre to the cabinet) - Fibre-optic cables run all the way to the cabinet in the street, which can be up to 300m away. The cabinet is connected to the property with regular copper wires, which results in a loss of speed. This is the most common connection.

FTTH (fibre to the home) - Fibre-optic cables run all the way to the outside of the property. This is the quickest service, delivering speeds of up to 900Mbps, but it's not widely available.

FTTN (fibre to the node) - Roughly the same as above, only the street cabinet can be further away; up to several km away, with the rest of the distance to the property being covered by regular copper wiring.

LLU - LLU stands for local loop unbundling and applies to ADSL (BT line) internet connections. A 'local loop' is another term for the actual cable through which a user will receive broadband and telephone calls.

SDSL - A symmetric digital subscriber line is a digital subscriber line that transmits digital data over the copper wires of the telephone network, where the bandwidth in the downstream direction, from the network to the subscriber, is identical to the bandwidth in the upstream direction, from the subscriber to the network.

© GTech Surveys Limited 2022

21CN wholesale broadband products - There are two main flavours of 21CN broadband product, which are summarised below:

IPStream Connect - A 21CN variant of the existing IPStream product, with all of the same options and pricing.

Wholesale Broadband Connect (WBC) - The broadband product offers up to 24Mbps ADSL2+, QoS and considerably more flexibility for ISPs. In addition to WBC, there also exists WBMC (Wholesale Broadband Managed Connect) and WBCC (Wholesale Broadband Connect Converge).

© GTech Surveys Limited 2022

Data Ducting Infrastructure for New Homes - Guidance Note, March 2008, Department for Communities and Local Government

With respect to the internal layouts and necessary infrastructure to provide connectivity in the Proposed Development, guidance has been published. The recommendations presented to the developer are specified in "Data Ducting Infrastructure for New Homes - Guidance Note", March 2008, Department for Communities and Local Government.

This presentation by Virgin Media provides an excellent visual guide to how installations should be planned -

https://www.virginmedia.com/content/dam/virginmedia/dotcom/images/shop/downloads/New-Build-Handbook-v1-63.pdf

2.3 Internal Infrastructure

2.3.1 Understanding the needs

Although this document is intended to provide guidance with respect to data services it is important that the support of such services within the dwelling be considered in the wider context of other cable distribution requirements. Appendix C.2 identifies some of the equipment that may require cabling within a typical dwelling. In summary these may be considered as:

• Communications, entertainment and other equipment that require broadband or at least basic internet connectivity. The connection of such equipment is the prime focus of this guidance

• Other equipment that may require an external network connection other than the internet

• Systems and equipment that require cabling within the dwelling but may or may not have any need for external connectivity.

Equipment within the dwelling may employ a wide range of cabling of both a standard and proprietary type. Some may also connect using a wireless technology. Both cabling and wireless solutions are evolving, and any internal infrastructure will need to offer sufficient capacity and flexibility to meet future requirements.

It should be noted that some of the data connectivity requirements within a dwelling may be met using a wireless rather than cabled solution. The use of wireless technologies is outside the scope of this document. However, ducting is still required to support cabling to wireless hardware.

It is clearly impossible to pre-cable a dwelling to support all possible applications. Indeed, the current provision of telephone and television sockets in homes is often inadequate and lacking in flexibility. The result is that many

© GTech Surveys Limited 2022

dwellings have extensive cabling that is often surface mounted or trailed across floors.

2.3.2 What is required

Occupants of dwellings are likely to require:

• Data sockets at ‘useful locations’ throughout the dwelling

• A ‘readily accessible’ location where network equipment can be installed with a simple ‘user-friendly’ method of connecting the network equipment to ‘live’ data sockets

• Mains electricity sockets that are located near the data sockets.

The possibility of installing data sockets at ‘useful locations’ will depend on the nature of the dwellings and the type of occupancy. However, diverse user needs can only be met by a flexible infrastructure that will allow sockets to be readily installed as and where required.

Such a flexible infrastructure would also offer the potential for supporting other cabling distribution requirements. It is not envisaged that developers install data sockets, data cabling or the associated network equipment although some may choose to do so. Rather developers should install internal ducting that enable the later installation of data cabling, faceplates and sockets, and network equipment with minimal disturbance to either previously installed cables or the fabric of the building. The aim should be to facilitate cable installation by an electrician or a qualified competent person.

The internal infrastructure should be limited to the supporting faceplates and sockets at ‘normal height’ but consideration should be given for sockets and faceplates that maybe located at a higher location within the dwelling to facilitate a wireless solution or wall mounted media systems such as a flat screen television. The internal infrastructure should also be designed to support the installation of devices at ceiling level such as sensors for home security and telecare and ceiling mounted loudspeakers.

2.3.3 Topology and layout

The following issues need be considered in determining the topology and layout of the internal infrastructure for a dwelling:

• Access to the external infrastructure via an external terminal box

• The possible requirement to later accommodate a joint between external and internal grade cabling

© GTech Surveys Limited 2022

• The location of an equipment cabinet that may later accommodate equipment to support the distribution of data services within the dwelling (see Appendix C.2)

• The likely location of any television aerials/dishes, coax and primary sockets of the type often installed by developers. Such consideration should include the needs of digital television and the possible use of a shared television reception system (see Appendix C.2)

• The likely location of any standard telephone sockets and wiring of the type often installed by developers

• Locations where users may realistically be expected to require a data connection. This needs to be considered in determining the size of the ducting to the areas within a dwelling

• The cable installation requirements (which are likely to be not fully known at the time of infrastructure design and construction) including:

- the number of cables per duct (can be estimated as noted in previous point)
- the length of cable runs – a maximum of 90m from the equipment cabinet is recommended for 'standard' data cables (reference Appendix B.2)
- cable installation requirements including the minimum bending radius (see guidance based on cabling in Appendix D.2) will impact of duct sizing, types of bends and access requirements.

From the above it can be seen that ducts should be routed from an equipment cabinet (located near to the external infrastructure) to at least the main living areas, kitchen and the bedrooms. The ducts should not be restricted to data network use and suitable access points should be included to enable the ducts to be used for other cabling applications (excluding power).

2.3.4 Terminal box

An external terminal box should be installed at each dwelling house or multi occupancy dwelling to facilitate cable. The terminal box may also be required to accommodate joints between internal and external grade cables. The terminal box should be located such that cables can readily pass through the wall to the equipment cabinet.

The terminal box should have minimum dimensions of 300mm height by 300mm width by 150mm depth. The terminal box should have a full-size door (i.e. 300mm by 300mm) that should be lockable, ideally with a standard service key. The terminal box should be designed for external mounting and constructed to withstand minor impacts. In some developments, depending on the location, 'terminal boxes' may be installed as a matter of course to aid in the delivery of local telecommunications and TV-based services. They may be installed by service providers or developers. This document does not rule out

© GTech Surveys Limited 2022

the use of these ‘terminal boxes’ for the above use, but it is recommended that minimum specifications in this guidance be adhered to and ownership and access rights considered.

2.3.5 Equipment cabinet

An equipment cabinet should be installed in each dwelling. The equipment cabinet may be required to later accommodate network termination and network distribution equipment installed by a data service provider and/or resident. This is considered further in Appendix C.2. The equipment cabinet should be located in a dry area that will not be subject to environmental extremes. This essentially dictates a location within the dwelling. Ideally the equipment cabinet should be located to align with the entry into the dwelling of the duct from the terminal box. The equipment cabinet should also be easily accessible by residents including those with disabilities (in accordance with the appropriate Building Regulations/ Standards). The equipment cabinet should have minimum dimensions of 300mm height by 300mm width by 150mm depth. However, a larger size equipment cabinet would be preferable and may indeed be essential to support the cable patching requirements in larger dwellings.

The equipment cabinet should have a full-size door (i.e. 300mm by 300mm) that allows easy access for residents or suppliers to draw cables from. The equipment cabinet should be lockable using a manual locking mechanism that is easy to use by residents. It is not recommended that the equipment cabinet is locked using a key that can be removed.

The equipment cabinet should be specifically designed to accommodate network equipment, patch panels and a mains power strip. It should be constructed to facilitate the connection of the ducting detailed above and should be ventilated. Any mains distribution strip must be installed by a qualified competent person in compliance with the appropriate regulation/standard.

The equipment cabinet should be constructed to withstand minor impacts. The equipment cabinet may be required to house wireless network equipment and therefore should not be constructed from a material that will impact the performance of the wireless network.

2.3.6 Building ducts

This document is not intended to provide guidance on specific types of ducts in new and existing buildings. There is likely to be a compromise between cost, aesthetics, flexibility and ease of access. Options that developers may consider, include:

- Vertical duct concealed with other services in riser
- Ducts in-wall with possibly predefined access and socket positions
- Dado ducting
- Skirting ducting (if not intended for sockets)
- Simple surface mounted ducting.

© GTech Surveys Limited 2022

The ducts should be installed such that later cabling, and associated faceplates and sockets, can be installed with minimal disturbance to either previously installed cables or the fabric of the building. The aim should be to facilitate cable installation by an electrician or a qualified competent person. Developers should note that the type and specification of cabling used in dwellings may change. The cable specification upon which this guidance is based (Appendix D.2) should therefore be confirmed with the cable installer or cable vendor. The size of ducts required would depend on the number and diameter of cables that are likely to be installed at any point. This in turn will be impacted on by the topology of the infrastructure which itself will depend on the design of the building and the availability of duct routes. It is therefore not considered appropriate to specify duct sizes in this document. However, for guidance the following duct cable capacities are offered:

• Main ducts (that run from the equipment cabinet both vertically and horizontally) should have a minimum cross-sectional area of 800mm2, with the smallest dimension being 20mm (i.e. a 20mm x 40mm duct)

• Other ducts that spur from main ducts to each room should have a minimum cross sectional area of 400mm2, with the smallest dimension being 20mm (i.e. a 20mm x 20mm duct).

Developers are advised to employ larger ducts than specified above where space and / or dwelling construction permits giving consideration to the maximum number of sockets that may be wired in each area/room served. The ducts should enable cables to be installed with a minimum (long term) bending radius of 60mm.

Bends in the ducts should be kept to a minimum. Access points should be provided where there are multiple bends or bends greater than 45 degrees. Access points to under floor horizontal ducting should remain available through floorboards or other floor components. The ducts for data services should be separate from main electricity cables and comply with cable separation and routing standards. Where a vertical duct runs between floors the relevant provisions of the Building Regulations/ Standards should be followed, notably with respect to fire safety, resistance to moisture and resistance to sound.

Ducts should be positioned is such a way that damage from ‘DIY’ is minimised. A similar approach to the best practice installation of electrical cables and sockets should be considered. The ducts should enable ‘standard size’ face plates and data sockets to be readily installed for example:

• By removing/cutting a section of ducting to directly insert a faceplate – using ducting that has ideally been designed for the purpose

• Locating faceplates (with appropriate back boxes) adjacent to accessible ducting.

© GTech Surveys Limited 2022

Data sockets (and other sockets supported by the internal infrastructure) must be located at a height above finished level floor that is in accordance with Building Regulations/Standards. Any data sockets located in the loft area should be located in such a position as not to put the resident at risk from trailing cables etc. This document does not provide any guidance on the installation of mains electricity cabling and sockets. However, developers need to recognise that the quantity and location of power sockets may be an issue given the provision of a flexible data services infrastructure. Developers should therefore consider options for a more flexible power provision in accordance with Building Regulations/ Standards.

2.3.7 Multi-dwelling buildings

The above guidance for a dwelling house also applies to multi-dwelling buildings such as flats or maisonettes with the following exceptions. Each dwelling within the building could have a separate equipment cabinet or a cabinet per floor in a public area. The dwelling ducting from the equipment cabinet should not be routed outside of the dwelling served. The duct(s) from the terminal chamber should be routed to the equipment cabinets in a common duct with controlled access and restrictions allowing only authorised person's access. The common duct may be routed vertically and/ or horizontally. The common duct should have a minimum cross-sectional area of 2000mm2, with the smallest dimension being 40mm (i.e. a 40mm x 50mm duct). This size should serve up to 15 dwellings, but larger duct should be employed if space permits. The common duct cross sectional area should be increased by 2000mm2 for each additional 15 dwellings.

Where a common duct runs between floors, or horizontally between dwellings, the relevant provisions of the Building Regulations/ Standards should be followed. This is especially important with respect to fire safety, resistance to moisture, gas leaks, air tightness and resistance to sound.

2.3.8 Boundaries

At each dwelling the boundary between the external and internal infrastructure should be adjacent to the place where the data service providers' cable may later enter the building. The resident would remain the owner of the ducting that houses the data cable from the service provider. In a multi-dwelling building the boundary between the external and internal infrastructure should be adjacent to the place where the data service providers' cable may later enter the building. The landlord shall therefore have responsibility for a part of the internal infrastructure (including the terminal box and common duct) that may accommodate cables and network equipment that is owned by a data service provider. Subject to the terms of the lease of multi-dwelling buildings, the landlord may also be responsible for the equipment cabinet and ducting within each dwelling. Boundaries for ducting between two premises start and end at the dividing wall. The ownership of the infrastructure within the ducting may remain with the service provider or the original infrastructure owner.

© GTech Surveys Limited 2022

Planning Policies - National Planning Policies

National Planning Policy Framework (NPPF), Ministry of Housing, Communities & Local Government, July 2021

10. Supporting high quality communications

114. Advanced, high quality and reliable communications infrastructure is essential for economic growth and social well-being. Planning policies and decisions should support the expansion of electronic communications networks, including next generation mobile technology (such as 5G) and full fibre broadband connections. 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; and should prioritise full fibre connections to existing and new developments (as these connections will, in almost all cases, provide the optimum solution).

Local Planning Requirements

Manchester City Council (MCC), "Full, Outline, Reserved Matters & Variation/Removal of Conditions Planning Applications - Is Your Application Valid?", September 2018 (revised January 2020), MCC

Broadband Connectivity Assessment

All new build residential developments must incorporate measures to facilitate digital connectivity for all new build residential properties having regard to the Data Ducting Infrastructure Guidance produced by the Department for Communities and Local Government. (Section 10 NPPF, above)

© GTech Surveys Limited 2022

DISCLAIMER

This Report was completed by GTech Surveys Limited on the basis of a defined programme of work and terms and conditions agreed with the Client. We confirm that in preparing this Report we have exercised all reasonable skill and care considering the project objectives, the agreed scope of works, prevailing site conditions and the degree of manpower and resources allocated to the project.

The findings in this document were correct and accurate on the day of draft issue (20th October 2022) but cannot be guaranteed to remain the same for any defined period. This report assumes that there will be changes to telecommunications networks and other surrounding structures, which may result in different broadband technologies becoming unavailable or degraded. GTech Surveys Limited will not be held liable for costs of any requirement to conduct more diagnostic assessments due to changes within the surveyed environment, or due to changes in networks in the study area. BT Openreach information is valid only for 90 days from issue.

GTech Surveys Limited accepts no responsibility to any parties whatsoever, following the issue of the Report, for any matters arising outside the agreed scope of the works. This work was conducted under GTech Surveys Limited's standard terms and conditions which can be found on our website.

This Report is issued in confidence to the Client and GTech Surveys Limited have no responsibility to any third parties to whom this Report may be circulated, in part or in full, and any such parties rely on the contents of the report solely at their own risk.

Unless specifically assigned or transferred within the terms of the agreement, the consultant asserts and retains all Copyright, and other Intellectual Property Rights, in and over the Report and its contents.

Any questions or matters arising from this Report should be addressed in the first instance to the Project Manager.

© GTech Surveys Limited 2022