GTech Surveys Limited

Octagon House, Manchester

Broadband Connectivity Assessment

CHANGE HISTORY

Issue	Date	Details of Changes
0.0	01/06/2026	Working draft
0.1	22/06/2026	First draft issue
Author: G Phillips		Reviewer: O Lloyd

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GTech Surveys Limited

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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.

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Executive Summary

A desk-based assessment has been undertaken to determine the current availability of broadband services near to and adjacent to the proposed Octagon House development. Required by 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 digital connectivity assessment indicate that existing broadband infrastructure and good connectivity is already available in the study area, with existing fibre installed along roads and public highways adjacent to the Site and into the Site itself. Fast download speeds are likely to be experienced in the locality. It is suggested that the developer engages with BT Openreach to facilitate a connection to their fibre network.

The applicant will commit to enable the Proposed Development for robust connectivity and future-proof upgrading by following the statutory guidance, Approved Document R volume 1: Physical infrastructure and network connection for new dwellings (2022 edition). This presents the guidance covering the infrastructure for electronic communications requirements of the building regulations as set out in Part R of Schedule 1 to the Building Regulations and in a number of specific building regulations.

This broadband connectivity assessment can be used for reference and to accompany the planning application submission.

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1 - Introduction

This broadband connectivity assessment has been prepared to accompany a planning application submission for the proposed Octagon House development.

The assessment details the findings of licensed and other available information to address requirements regarding potential broadband connectivity for the Proposed Development. This broadband connectivity assessment has been prepared by GTech Surveys Limited on behalf of the applicant, The Octagon Project.

The Site

The Site is located at the south west corner of the junction between Hathersage Road and Carmoor Road. Figure 1 shows the location of the Site.

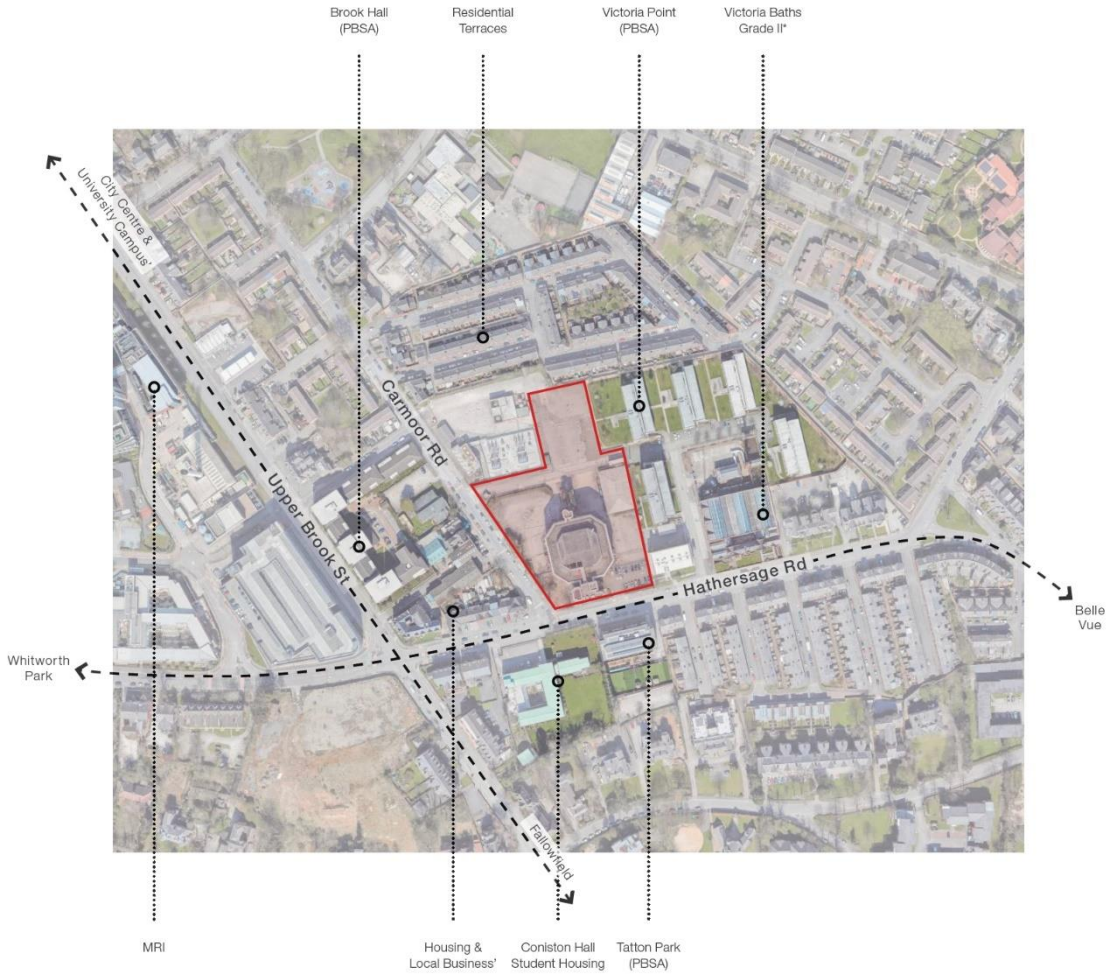


Figure 1 - Location of the Application Site

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The Proposed Development

The proposals would see the refurbishment of Octagon House to provide accommodation for key workers in order to capitalise on proximity to the city's teaching hospitals (circa. 94 units). Existing healthcare facilities that occupy the lower floor levels of the building, including a dialysis unit will be retained. 3 no. new build blocks are proposed – one comprising a further 135 no. units for key workers and two comprising 464 no. PBSA bedspaces.

The Broadband Connectivity Assessment

This assessment can be used for reference and to inform the proposed development and has been prepared by GTech Surveys Limited for the applicant. This assessment was during June 2026 to provide information regarding the connectivity around the Site and the availability of local broadband services.

This report follows the following structure:

Chapter 1 introduces the work, the assessment's requirements, the Proposed Development and the Site

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 8 June 2026)

Chapter 4 describes the existing local Virgin Media infrastructure around the Site (as of 9 June 2026)

Chapter 5 presents the conclusion

The Assessment Requirements

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

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Additionally, in Places for Everyone Joint Development Plan Document 2022 - 2039, March 2024, it is stated in Policy JP-C2: Digital Connectivity, Part 2 that;

> *Requiring all new development to have full fibre to premises connections, unless technically infeasible and/or unviable, and to incorporate multiple-ducting compliant with telecoms standards, to facilitate future-proof gigabit-capable network connections. It is expected that internet connections will be operational and immediately accessible to network providers when occupiers move into new properties*

It is considered that all new build 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 Levelling Up, Housing and Communities (Section 10 - National Planning Policy Framework (NPPF)[1]).

Legislation

The Building etc. (Amendment) (England) (No. 2) Regulations 2022 came into force on 26 December 2022. These regulations introduce gigabit broadband infrastructure and connectivity requirements for the construction of new homes in England. They amend The Building Regulations 2010 and The Building (Approved Inspectors etc.) Regulations 2010.

Statutory Guidance

The regulations are supported by statutory guidance. Approved Document R Volume 1[2] provides information to assist developers with compliance with the requirements to install gigabit-ready physical infrastructure and gigabit-capable connections for new homes.

The Approved Document R is in a two-volume format:

Volume 1: Physical infrastructure and network connection for new dwellings provides guidance on:

‘Requirement RA1: Gigabit-ready physical infrastructure’
‘Requirement RA2: Connection to gigabit-capable network’

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1 - NPPF Section 10, December 2024, (Department for Levelling Up, Housing and Communities)

10. Supporting high quality communications

119. 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).

2 - https://www.gov.uk/government/publications/infrastructure-for-electronic-communications-approved-document-r

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Volume 1 includes key terms at Appendix A, and a model connectivity plan at Appendix B.

Volume 2: Physical infrastructure for high-speed electronic communications networks provides guidance on:

'Requirement R1: High-speed-ready in-building physical infrastructure'
This covers requirements to install high-speed-ready infrastructure in buildings that are outside of the scope of requirements RA1 and RA2. Volume 2 also includes key terms at Appendix A.

Scope of the requirements

Requirements RA1 (to install gigabit-ready physical infrastructure) and RA2 (to install gigabit-capable connections) apply to the erection of new dwellings in England; that is, the construction of a self-contained building or part of a building to be used as a new residential dwelling. More detail on the buildings in scope of the requirements is available in Approved Document R Volume 1 (paragraphs 1.2 to 1.5 and 2.9 to 2.11), while detail for buildings that are not in scope of Requirements RA1 and RA2 is available in paragraphs 1.6 to 1.7 and 2.12).

Details

Guidance covering the infrastructure for electronic communications requirements of the building regulations as set out in Part R of Schedule 1 to the Building Regulations and in a number of specific building regulations.

The current technical guidance is contained in:

Approved Document R volume 1: Physical infrastructure and network connection for new dwellings (2022 edition) applies to the erection of new dwellings[3].

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;

3 - https://assets.publishing.service.gov.uk/media/637f356ee90e072342b82d4e/ADR1.pdf

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- 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.

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.

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 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.

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2 - External Infrastructure Telecommunications Utility Providers

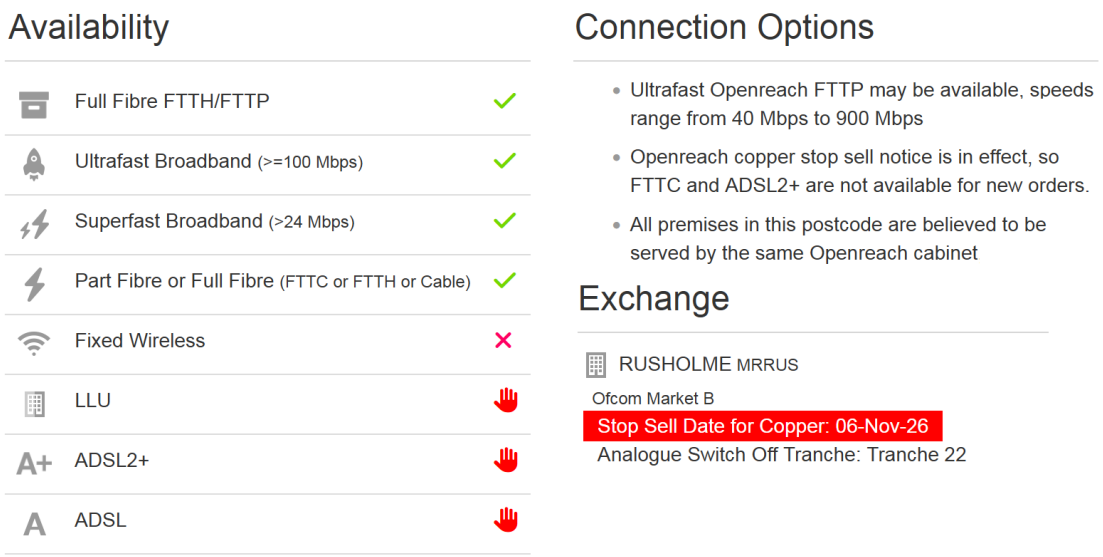
Existing Broadband Providers in the Study Area

A number of telecommunications companies and broadband providers exist and operate in Manchester. Database interrogation indicates that the following providers are active around the Site's postcode centroid.

Provider	Type of Service[4]
BT Wholesale	ADSL
BT Wholesale	ADSL Max
BT Wholesale	WBC (21CN)
BT Wholesale	SDSL
BT	FTTC
Vodafone	LLU
TalkTalk (CPW)[5]	LLU
Sky Broadband	

Potential Download Speeds

The Site and wider study area is likely to be very well served due to existing fibre in the area.



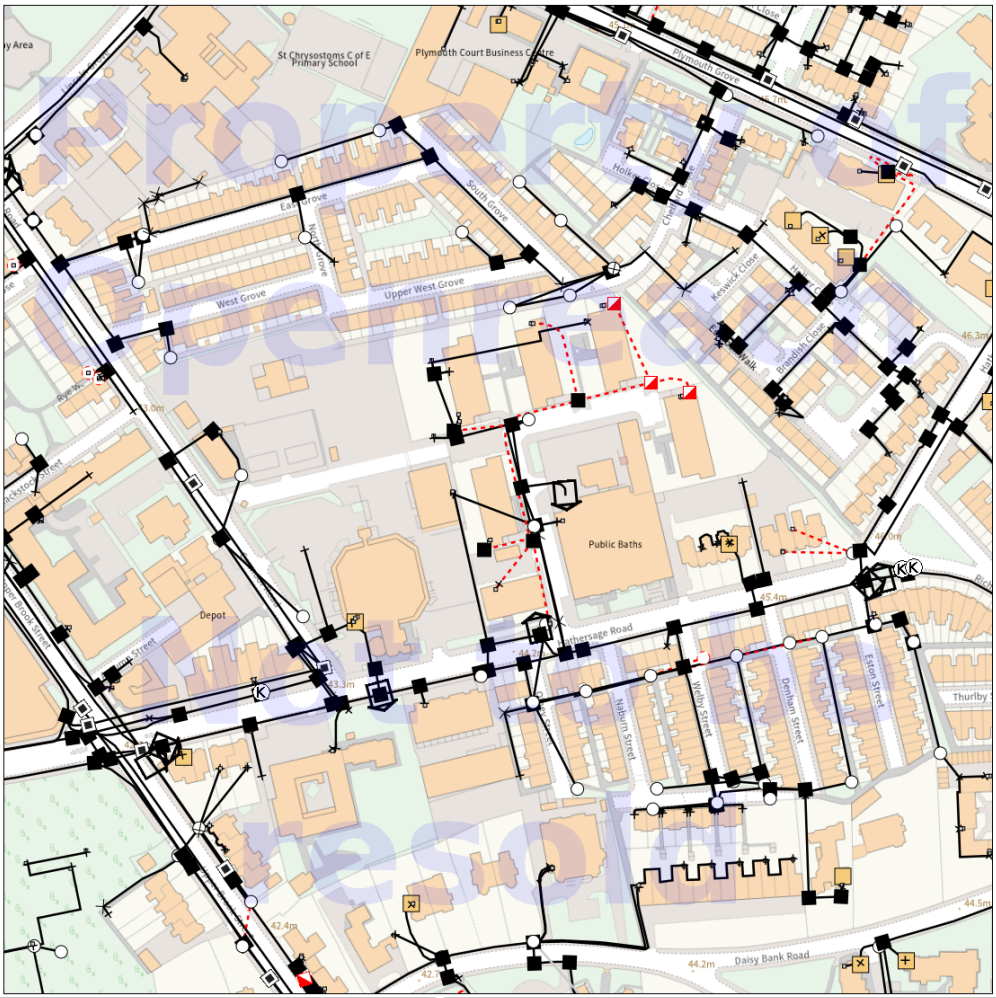
4 - Appendix - Broadband Connection Definitions for definitions

5 - Car Phone Warehouse (CPW)

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3 - BT Openreach External Infrastructure Availability

Maps on Demand Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made newar to BT apparatus which may exist at various depths and may deviate from the marked route.

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KEY TO BT SYMBOLS

	Planned	Live
PCP		
Pole		
Box		
Manhole		
Cabinet		

Change Of State	+	Hatchings	
Split Coupling	×	Built	
Duct Tee	▲	Planned	
Building		Inferred	
Kiosk	K	Duct	

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 : SIW13143J
Map Reference : (centre) SJ8567195974
Easting/Northing : (centre) 385671,395974
Scale : 1:500

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

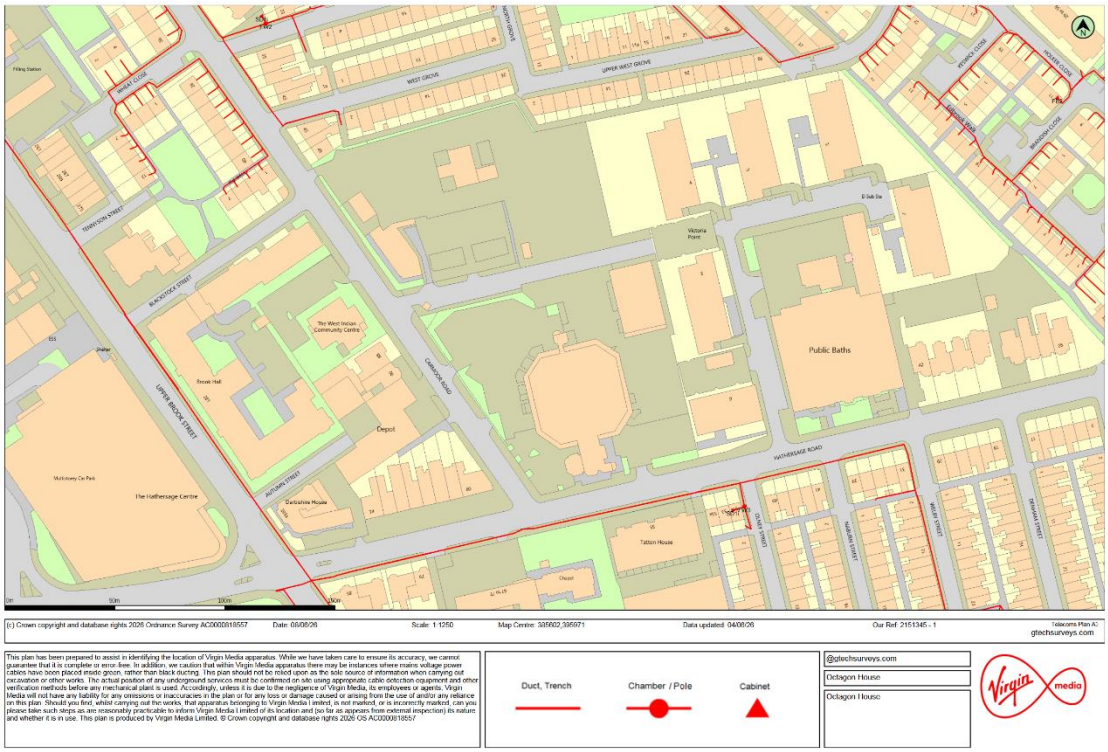
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BT Openreach had a universal service obligation (USO) granting remote households the right to request broadband speeds of at least 10 Mbit/s by 2020. As a result of this obligation, BT Openreach has been aggressively installing new fibre and broadband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

Based on BT database interrogation on 8 June 2026, there is existing BT Openreach (fibre) infrastructure adjacent to the Site and into the Site itself.

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4 - Virgin Media External Infrastructure Availability



There is existing Virgin Media (fibre) located near to the Site, but not into the Site itself.

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5 - Conclusions

A desktop study has been undertaken to assess the potential for broadband connectivity to the proposed Octagon House development. The study has utilised licensed information and current technical data regarding connectivity from a number of sources.

The area already is likely to have excellent download speeds (expected to be at least 100 megabits per second). Whilst both Virgin Media and BT Openreach have existing fibre infrastructure in the study area, BT is better positioned to provide a full fibre connection for the Proposed Development more easily. It is recommended that the applicant engages with BT Openreach in order to establish the most optimal data infrastructure solution for the Proposed Development. BT Openreach can be contacted via their website[6].

To assist developers, Virgin Media have also produced a useful document (*VM O2 Developers Handbook v. 1.67, January 2025*)[7] regarding the process and requirements.

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 applicant will commit to enable the Proposed Development for robust connectivity and future-proof upgrading by following the statutory guidance, Approved Document R volume 1: Physical infrastructure and network connection for new dwellings (2022 edition). This presents the guidance covering the infrastructure for electronic communications requirements of the building regulations as set out in Part R of Schedule 1 to the Building Regulations and in a number of specific building regulations.

This connectivity assessment can be used for reference and to accompany the planning application submission.

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

7 - https://prod.ctassets.virginmedia.com/uploads/VM_02_Developers_Handbook_V1_67_January_2025_42c252fb6a.pdf

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Appendices

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

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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.

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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).

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

The Data Ducting Infrastructure for New Homes - Guidance Note, March 2008 has been superseded by updated UK building regulations. The requirements for data infrastructure in new homes are now governed by Approved Document R, Volume 1 (2022 edition), which came into effect on December 26, 2022.

Key differences in the new regulations

The 2008 guidance note was a voluntary document intended to encourage developers to install ducting. In contrast, the 2022 Approved Document R introduces a mandatory framework with much higher standards for new homes built in England.

Feature	2008 Guidance Note	2022 Approved Document R (Vol. 1)
Status	Voluntary best-practice guidance.	Mandatory legal requirement under the Building Regulations 2010.
Mandate	Encouraged consideration of installing ducting for potential future data services.	Mandates the installation of gigabit-ready physical infrastructure and a gigabit-capable connection.
Connection speed	Refers generally to "data services" without a specific speed target.	Requires a connection capable of delivering download speeds of at least 1,000 Mbps (1 gigabit), where possible within a cost cap.
Connectivity plan	Did not require a formal plan.	Requires developers to submit a "Connectivity Plan" for Building Regulations approval.

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What the updated guidance means for developers

Mandatory connectivity: Developers must now install physical infrastructure and ensure a gigabit-capable connection for each new dwelling.

Infrastructure hierarchy: If a gigabit-capable connection is not possible within the cost cap, developers must provide the next best available technology.

Official guidance: The authoritative source for developers is now the two-volume Approved Document R:

- **Volume 1:** Applies to new dwellings.
- **Volume 2:** Applies to other new buildings and major renovation works.

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

https://prod.ctassets.virginmedia.com/uploads/VM_02_Developers_Handbook_V1_67_January_2025_42c252fb6a.pdf

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Planning Policies - National Planning Policies

National Planning Policy Framework (NPPF), Department for Levelling Up, Housing and Communities, December 2024

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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)

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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 (22 June 2026) 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.

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