

# Victoria Riverside Manchester

## Condition Discharge Report 21(b), 22(b) and 23(b) Tower B, Midrise B & Tower C

28499/RP2

20 June 2025

For:  
FEC Development Management Ltd  
2<sup>nd</sup> Floor  
Northern Assurance Building  
9-21 Princess Street  
Manchester  
M2 4DN



**Hann Tucker Associates**  
Consultants in Acoustics Noise & Vibration

Head Office: Duke House, 1-2 Duke Street, Woking, Surrey, GU21 5BA (t) +44 (0) 1483 770 595  
Manchester Office: First Floor, 346 Deansgate, Manchester, M3 4LY (t) +44 (0) 161 832 7041  
(w) [hanntucker.co.uk](http://hanntucker.co.uk) (e) [enquiries@hanntucker.co.uk](mailto:enquiries@hanntucker.co.uk)



## **Condition Discharge Report 23b – Internal Ambient Noise Levels 28499/RP2**

| <b>Contents</b>                           | <b>Page</b> |
|-------------------------------------------|-------------|
| 1.0 Introduction                          | 1           |
| 2.0 Planning Conditions                   | 1           |
| 3.0 Condition 21(b) Commissioning Details | 3           |
| 4.0 Condition 22(b) Commissioning Details | 9           |
| 5.0 Condition 23(b) Commissioning Details | 14          |
| 6.0 Survey Results                        | 18          |

### **Attachments**

Appendix A – Plant Noise Data

Appendix B – Time History Graphs

Appendix C – Commissioning Test Location Markup



## Internal Noise Level Test Report 28499/RP2

### Document Control

| Rev | Date       | Comment                                                                               | Prepared by | Checked by | Authorised by |
|-----|------------|---------------------------------------------------------------------------------------|-------------|------------|---------------|
| 1   | 20/06/2025 | inclusion of validation measurements for 21(b) and 22(b), and remaining Midrise 23(b) |             |            |               |
| 1   | 28/04/2025 | Minor amendments following comments from Asteer Planning                              |             |            |               |
| 0   | 27/09/2024 | -                                                                                     |             |            |               |
|     |            |                                                                                       |             |            |               |
|     |            |                                                                                       |             |            |               |



## 1.0 Introduction

Hann Tucker Associates Limited (Hann Tucker) has been commissioned by FEC Development Management Ltd to undertake validation measurements and prepare supplementary evidence to assist with the discharge of planning condition 21(b), 22(b) and 23(b) on Tower Block B, Midrise B & Tower Block C for the development referred to as Victoria Riverside, Manchester. The development was granted Planning Permission in January 2021 (*Planning Reference: 126944/FO/2020*).

The tests were carried out across the development for validation of landlord plant, validation of testing between commercial units and residential units adjacent/above, and internal ambient noise levels measurements on a number of elevations within Tower B, Midrise B and Tower C to capture noise data for each façade specification installed across the development. A testing plan / markup is provided in Appendix C, detailing the locations that have or are to be commissioned for each Tower.

It should be noted that this Report relates to “Tower B, Midrise B & Tower C” only as the practical completion date for Tower A means it is not yet ready to undertake measurements (i.e. phased construction). As such a supplementary Report will be provided to capture Tower A to follow.

A combination of unattended and attended noise loggers were utilised in critical areas around the development to establish the as built operation internal noise levels across readings against the worst-case noise incident in relation to road and rail traffic noise.

## 2.0 Planning Conditions

Planning Conditions 21, 22 and 23, part (b), requests that evidence of the noise mitigation measures installed are capable of achieving the required acoustic verification and satisfy agreed limits be submitted to the local planning authority. The conditions are below with relevant text highlighted in bold.

*21. Notwithstanding the Chapter 12 Noise and Vibration, prepared by ARUP of the ES stamped as received by the City Council, as Local Planning Authority, on the 17 May 2020.*



- (b). ***Prior to the first occupation of each phase of the development (save for the enabling works phase), a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.***

22. (a) Notwithstanding the Chapter 12 Noise and Vibration, prepared by ARUP of the ES stamped as received by the City Council, as Local Planning Authority, on the 19 May 2020, prior to the first use of each the commercial units as indicated on drawing DAST-HBA-00-00-DR-A-PL20\_0100 Rev P1 stamped as received by the City Council, as Local Planning Authority, on the 19 May 2020, a scheme of acoustic insulation for that commercial unit shall be submitted for approval in writing by the City Council, as Local Planning Authority.

- (b). ***Prior to the first use of the commercial units within each phase, a verification report will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.***



23. Notwithstanding the Chapter 12 Noise and Vibration, prepared by ARUP of the ES stamped as received by the City Council, as Local Planning Authority, on 19 May 2020,

- (b). ***Prior to the first occupation of each phase of the development, a verification report for that phase of development will be required to validate that the work undertaken conforms to the recommendations and requirements approved as part of part (a) of this planning condition. The verification report shall include post completion testing to confirm the noise criteria has been met. In instances of non-conformity, these shall be detailed along with mitigation measures required to ensure compliance with the noise criteria. Any mitigation measures shall be implemented in accordance with a timescale to be agreed with the City Council, as Local Planning Authority, and thereafter retained and maintained in situ.***

As such, this technical report details the validation of on-site measurements following completion of implemented before and during construction in order to reduce noise to within acceptable levels in accordance with relevant standards/guidance and conditions set by Manchester City Council (MCC).

## **3.0 Condition 21(b) Commissioning Details**

### **3.1 Overview**

Condition 21(b) relates to noise from fixed building services plant and this section of the report sets out the measured landlord plant egress from the ground floor systems.

The plant which has been measured relate to the following:

- Mechanical extract ventilation for bin store areas, fan located internally and ducted to the façade;
- Heat Recovery units which serve ancillary rooms, fan located internally and ducted to close to the car park entrance.



### 3.2 Project Criteria

The project criteria have been set out in report referenced '28499-NIA-RP1-Rev1-NJM Condition Discharge Noise Report' which related to the Employers Requirements Report produced by ARUP (document reference: VRS-ARP-ZZ-ZZ-SP-D-00006\_P01). The document sets limits at 5dB below the measured background sound level for nearby residential developments including North View (adjacent to the northwest boundary), and Angel Meadows (south).

The following plant noise emission limits for the development and surrounding developments are to be achieved at 1 metre from noise sensitive windows, resultant from proposed plant operating cumulatively.

| Location                                              | BS 4142 Plant Noise Rating Limit, L <sub>Ar</sub> , Tr (dB) |                             |
|-------------------------------------------------------|-------------------------------------------------------------|-----------------------------|
|                                                       | Daytime (07:00 to 23:00)                                    | Night-time (23:00 to 07:00) |
| Victoria Riverside Development<br>(on-site receptors) | 44                                                          | 41                          |
| North View Development<br>(off-site receptors)        | 44                                                          | 41                          |
| Angel Meadows Development<br>(off-site receptors)     | 48                                                          | 38                          |

NB: In most areas the nearest noise sensitive receptors are likely to be apartment windows within the development site.

### 3.3 Noise Sensitive Receptors

Externally, the nearest noise sensitive receptors to proposed plant areas are the adjacent Tower Blocks which form part of the Victoria Riverside, Manchester development (Tower A, Tower B, and Tower C). Within this Report these can be regarded as "on-site" receptors.

The other off-site receptors that could be affected are the North View consented development (Receptor D) and Angel Meadows (Receptor E), though given their increased distance from the Riverside development are not considered to be the "worst affected" given that on-site receptors are being considered in this case.

The following image, presented below, highlights the location of each of the noise sensitive receptors.



Satellite image highlighting the location of Receptor A to E (Map Data, Google Maxar Technologies © 2024)

### 3.4 Summary of Installed Landlord Building Services

#### 3.4.1 Introduction

The following assessments will be split up into separate plant items and concluded with an assessment of cumulative noise impact assessment. The plant item categories are as follows:

| Unit Ref | Plant Description   | Location                | Plant Make/Model    | Serving                    | Nearest Noise Sensitive Receptor |
|----------|---------------------|-------------------------|---------------------|----------------------------|----------------------------------|
| MEV-B-01 | Extract Ventilation | First Floor (Level 01)  | Elta Fans SH250-1LC | Tower B Refuse Bin Store   | Receptor: B Apartment TB-02-001  |
| MEV-C-01 | Extract Ventilation | Ground Floor (Level 00) | Elta Fans SH315-1LC | Tower C Refuse Bin Store   | Receptor: C Apartment TC-01-001  |
| MEV-C-02 | Extract Ventilation | Ground Floor (Level 00) | Elta Fans SH200-1LC | Midrise B Refuse Bin Store | Receptor: C Apartment TC-01-001  |



| Unit Ref | Plant Description  | Location                | Plant Make/Model    | Serving                                        | Nearest Noise Sensitive Receptor      |
|----------|--------------------|-------------------------|---------------------|------------------------------------------------|---------------------------------------|
| HRU-C-01 | Heat Recovery Unit | Tower C<br>Ground Floor | Elta Fans<br>HRH 05 | Staff room, Staff office, Parcel room, Acc W/C | Receptor: C<br>Apartment<br>TC-02-001 |

### 3.4.2 Installation Locations

The commissioned plant is generally installed at Ground and First floor locations. Exact layouts and duct runs are outlined in our discharge note for Condition 21(a) Report referenced '28499-NIA-RP1-Rev1-NJM Condition Discharge Noise Report'.

## 3.5 Survey

### 3.5.1 Methodology

Hann Tucker Associates attended site on 12 June 2025 and 19 June 2025 to take measurements of the installed building services plant. Measurements were generally taken at 1m from the unit or grille.

It is understood that the MEV-B-01 unit was commissioned at a higher duty rate than required, and therefore there may be scope to reduce the system duty, which should be reviewed by the M&E engineer. This however potentially affected the results and subsequent assessment as detailed in Section 3.6.1.

The surveys were carried out by Nick Mitchell BSc (Hons), AMIOA and Will Robertson BSc (Hons) TechIOA.

### 3.5.2 Results

The following table outlines the results of the measurements taken on site. Where units could not be switched ON/OFF, these do not account for background corrections. Where units could be turned ON/OFF, these have been highlighted with (\*) to account for background corrections.

| Unit                | Measurement Type | Measurement Distance | Measured Level (L <sub>Aeq</sub> ) |
|---------------------|------------------|----------------------|------------------------------------|
| MEV-B-01            | Source           | 1m                   | 56 *                               |
| MEV-C-01 & MEV-C-02 | Source           | 1m                   | 53                                 |
| HRU-C-01            | Source           | 1m                   | 57                                 |

Full octave band data collected on site is present in Appendix A at the end of this report.



### 3.6 Assessment

#### 3.6.1 Extract Fans

We understand that the proposed extract fans could operate 24/7, and so a night-time assessment is necessary.

It should be noted that the proposed plant is not anticipated to exhibit any tonal or impulsive characteristics provided it is well maintained.

Worst-case plant noise emission levels from the proposed extract fans are detailed in the table below. It should be noted that for the sake of brevity, the results from more favourable receptors, i.e. where the extract fans are significantly below the requirements, have not been included. Where extract fans are fully screened from receptors on adjacent Tower Blocks, these have not been cumulatively summed and are denoted as a ‘-’.

| MEV Ref                                                             | Predicted SPL at 1m from each Receptor |                                   |
|---------------------------------------------------------------------|----------------------------------------|-----------------------------------|
|                                                                     | Tower B<br>Apartment<br>TB-02-001      | Tower C<br>Apartment<br>TC-01-001 |
| MEV-B-01, $L_p$ at 1m, dBA                                          | 56                                     | -                                 |
| Distance Loss (2m), dB                                              | -6                                     | -                                 |
| Directivity, dB                                                     | -6                                     | -                                 |
| <b>MEV-B-01 Noise Level at 1m from Receptor, dBA</b>                | <b>44</b>                              | -                                 |
| MEV-C-01 & MEV-C-02, $L_p$ at 1m, dBA                               | -                                      | 57                                |
| Distance Loss (10m), dB                                             | -                                      | -20                               |
| Directivity, dB                                                     | -                                      | -6                                |
| <b>MEV-C-01 &amp; MEV-C-02 Noise Level at 1m from Receptor, dBA</b> | -                                      | <b>31</b>                         |
| Cumulative Level at 1m from Receptor, dBA                           | <b>44</b>                              | <b>31</b>                         |
| Daytime/Night-time Criteria                                         | <b>44/41</b>                           | <b>44/41</b>                      |

As shown in the table above, the plant noise emissions from the proposed extract fans for Tower C are expected to comply with the specified limits at all nearby noise-sensitive receptors. However, the extract fan for Tower B currently exceeds the night-time limit set out in the ARUP Employer Requirements Report by 3 dB.



As mentioned in Section 3.5.1, it is understood that the unit was commissioned at a higher duty rate than required. Notwithstanding, when assessed against the guidance in BS 4142, the noise rating level at the receptor is 2 dB below the background level, which typically indicates a low impact. Furthermore, the affected unit only exceeds the criteria at one apartment, with calculations suggesting compliance with noise limits in adjacent apartments.

Taking this context into account, the unit is considered likely to comply with BS 4142. However, this remains subject to confirmation and acceptance by Manchester City Council (MCC).

### 3.6.2 Heat Recovery Units (HRUs)

We understand that the proposed heat recovery units could operate 24/7, and so a night-time assessment is necessary.

It should be noted that the proposed plant is not anticipated to exhibit any tonal or impulsive characteristics provided it is well maintained.

The following table outlines our assessment of the measured on-site plant noise levels with reference to distance and directivity corrections.

| HRU Ref                                             | Predicted SPL at 1m from each Receptor |
|-----------------------------------------------------|----------------------------------------|
|                                                     | Tower C<br>Apartment<br>TC-02-001      |
| HRU-C-01                                            | 53                                     |
| Distance Loss (10m)                                 | -20                                    |
| Directivity                                         | -6                                     |
| <b>HRU-C-01 Noise Level at<br/>1m from Receptor</b> | <b>27</b>                              |
| Cumulative                                          | <b>27</b>                              |

As indicated above, it is predicted that installed plant items should be compliant with the agreed criteria during daytime and night-time periods.

## 3.7 Conclusion

It is considered that all landlord plant is likely to achieve a low impact in accordance with BS 4142 and therefore can be discharged for Phase 1 of the development.



Additionally, with the façade panels closed, the engineer was unable to hear the MEV-B-01 unit when positioned at the centre of the room. When the panels were open, the unit was only audible when standing directly next to the façade.

Therefore, it is recommended the suitability of MEV-B.01 unit is subject to confirmation by MCC.

## 4.0 Condition 22(b) Commissioning Details

### 4.1 Overview

As part of Condition 22(b) discharge for the scheme, MCC have requested that an assessment to validate the acoustic insulation of commercial units is sufficient to the wording as provided in the ARUP Employers Requirements Report, details of which are provided below:

*“... a minimum of 10 airborne sound insulation tests and 5 impact sound insulation tests between dwellings and non-residential areas shall be carried out to include:*

- *Amenity area to dwelling (airborne)*
- *Gym to dwelling below (airborne and impact)*
- *Commercial unit to dwelling above (airborne)*

To satisfy Requirement E1 of Approved Document E: 2003 Edition and the 5 dB project requirement uplift, the following sound insulation values should be achieved: -

| Table 1a: Dwellings – Performance Standards for Separating Walls, Separating Floors, and Stairs that have a Separating Function. |                                                                         |                                                               |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---------------------------------------------------------------|
|                                                                                                                                  | Airborne Sound Insulation<br>$D_{nT,w} + C_{tr}$ dB<br>(Minimum Values) | Impact Sound Insulation<br>$L'_{nT,w}$ dB<br>(Maximum Values) |
| <b>Purpose built dwellings</b>                                                                                                   |                                                                         |                                                               |
| Walls                                                                                                                            | 50                                                                      | -                                                             |
| Floors and stairs                                                                                                                | 50                                                                      | 57                                                            |

The minimum value of weighted standardised level difference ( $D_{nT,w}$ ) plus the spectrum adaptation curve ( $C_{tr}$ ) as defined in BS EN ISO 717-1: 1997 specified in Approved Document E: 2003 Edition: Sound Insulation Standards for airborne sound tests is 45 dB for purpose-built dwellings. However, the project requirements are such that a 5 dB betterment is targeted. As such, the project requirement for airborne sound tests is 50 dB  $D_{nT,w} + C_{tr}$



Therefore, testing was undertaken to comply with the number of required tests above. A 60% portion of the required tests has been undertaken for Phase 1 (Tower B, Midrise B and Tower C), with the remaining 40% to be commissioned upon completion of Phase 2 (Tower A and Midrise A). The gymnasium sits below residential and therefore no impact testing is required as per the wording above.

## 4.2 Sound Insulation Test Procedure

### 4.2.1 Hann Tucker Personnel

The testing was carried out by the following engineers:

- Nick Mitchell
- Will Robertson

### 4.2.2 Equipment

The measurement equipment used during the airborne and impact sound insulation testing is as follows:

| Description                                                        | Manufacturer   | Type   | Serial Number | Calibration on |
|--------------------------------------------------------------------|----------------|--------|---------------|----------------|
| Type 1<br>Data Logging<br>Sound Level<br>Meter                     | Brüel & Kjær   | 2250   | 3007292       | 25/01/2024     |
| Type 1<br>½" Condenser<br>Microphone                               | PCB            | 7052E  | 106753        | 25/01/2024     |
| Preamp                                                             | Brüel & Kjær   | ZC0032 | 27782         | 25/01/2024     |
| SLM Calibrator                                                     | Brüel and Kjær | 4231   | 2271905       | 22/08/2025     |
| Tapping Machine                                                    | Norsonic       | 277    | 2775527       | 01/11/2024     |
| Noise Source -<br>Custom made,<br>un-ported sealed<br>cabinet type | N/A            | N/A    | N/A           | N/A            |



### 4.3 Airborne Sound Insulation Test Method (Separating Walls and Floors)

Hann Tucker Associates attended site on 12<sup>th</sup> June 2025 to undertake airborne sound insulation tests to selected separating floor and wall constructions between commercial and residential units. The tests were undertaken in full accordance with Approved Document E: 2003 Edition incorporating 2004 and 2010 amendments and BS EN ISO 140-4:1998 Acoustics – Measurement of airborne sound insulation in buildings and of building elements – Part 4: Field measurement of airborne sound insulation between rooms.

The sound level differences were determined by generating a broad band, random diffuse sound field within the source room. A spatial average of the resulting  $1/3$  octave band noise levels was obtained within the source room from measurements undertaken over a time period of at least 30 seconds. The measurement procedure was repeated in the receive room. A second speaker position was then selected in the source room and the measurement procedure was repeated.

The receive levels were corrected for background noise where necessary as follows:

Where the measured background noise level in each  $1/3^{\text{rd}}$  octave band was more than 6 dB but less than 10dB below the receive level, the following formula was applied:

$$L = 10 \log \left( 10^{\frac{L_{SB}}{10}} - 10^{\frac{L_B}{10}} \right) \text{ dB}$$

where

$L$  is the adjusted signal level in decibels;

$L_{SB}$  is the level of the signal and background noise levels combined, in decibels;

$L_B$  is the background level in decibels.

Where the measured background noise level was less than 6 dB below the receive level, a correction of 1.3 dB was applied (corresponding to a level difference of 6 dB) and the  $\geq$  symbol was added to the results to show that the reported values are the limit of measurement.

The corrected receive levels are subtracted from the source levels to determine the level differences over the frequency range 100-3150 Hz from each source position. The level differences for each source position are arithmetically averaged at each frequency band to give the level difference,  $D$ .



Reverberant decays were then recorded in the receive room to determine the reverberation times over the same frequency range using a combination of broadband and impulsive noise sources. For each receiver room 6No. measurements were made, comprising of 2No. source positions and 3No. microphone positions per source position. The reverberation time,  $T$ , used in subsequent calculations is an average of the 2No. source positions.

Having established  $1/3$  octave band level differences and reverberation times over the frequency range 100-3150 Hz, the Standardised Level Difference,  $D_{nT}$ , is calculated for each  $1/3$  octave band by applying the following formula:

$$D_{nT} = D + 10 \log_{10} \left( \frac{T}{T_0} \right)$$

where  $T_0=0.5$  seconds

The  $1/3$  octave band results are then compared with a standard curve using the method described in BS EN ISO 717-1: 1997 to determine the single figure descriptor of airborne sound insulation, the Weighted Standardised Level Difference, or  $D_{nT,w}$ .

The  $1/3$  octave band results are also weighted using spectrum adaptation term No.2,  $C_{tr}$ , as detailed in BS EN ISO 717-1: 1997, to allow a more rigorous assessment of sound insulation performance with respect to low frequency noise.

The Weighted Standardised Level Difference and spectrum adaptation term are then added to give  $D_{nT,w} + C_{tr}$ , allowing comparison with the minimum airborne sound insulation requirements of Approved Document E.

#### 4.4 Background Noise

The background noise levels were measured in each receive room in order to correct the received noise measurements for the effect of the prevailing noise climate.

The prevailing background noise comprised of nearby construction noise and rail noise from the surrounding tracks which both trams and trains travel.

#### 4.5 Test Locations

All rooms tested had all doors and windows fitted and closed. The rooms were unfurnished. The following airborne wall tests were undertaken:



| Test | Source Room       |                                      | Receive Room                             |                                      |
|------|-------------------|--------------------------------------|------------------------------------------|--------------------------------------|
|      | Location          | Approximate Volume (m <sup>3</sup> ) | Location                                 | Approximate Volume (m <sup>3</sup> ) |
| AW01 | Commercial Unit 4 | 1328                                 | Townhouse 10<br>BED                      | 28                                   |
| AW02 | Commercial Unit 5 | 749                                  | Tower C<br>Apartment<br>TC-01-001<br>LKD | 70                                   |
| AW03 | Commercial Unit 6 | 656                                  | Townhouse 6<br>BED                       | 30                                   |

The following airborne floor tests were undertaken:

| Test | Source Room       |                                      | Receive Room                               |                                      |
|------|-------------------|--------------------------------------|--------------------------------------------|--------------------------------------|
|      | Location          | Approximate Volume (m <sup>3</sup> ) | Location                                   | Approximate Volume (m <sup>3</sup> ) |
| AF01 | Commercial Unit 4 | 1328                                 | Midrise B<br>Apartment<br>M2-02-007<br>BED | 34                                   |
| AF02 | Commercial Unit 5 | 749                                  | Tower C<br>Apartment<br>TC-02-004<br>LKD   | 51                                   |
| AF03 | Commercial Unit 6 | 656                                  | Tower B<br>Apartment<br>TB-02-005<br>BED   | 32                                   |

## 4.6 Annex B Test Procedures

All the test procedures within Annex B of Approved Document E: 2003 Edition have been followed.



## 4.7 Results

The following tables summarise our findings:

| Airborne Tests<br>Across Separating Walls | D <sub>nT,w</sub> + C <sub>tr</sub> (dB) |          | Approved Document E<br>Compliance |
|-------------------------------------------|------------------------------------------|----------|-----------------------------------|
|                                           | Test Result*                             | Required |                                   |
| AW01                                      | 68                                       | ≥ 50     | Pass                              |
| AW02                                      | 57                                       | ≥ 50     | Pass                              |
| AW03                                      | ≥ 65                                     | ≥ 50     | Pass                              |

\*Tests results including the ≥ symbol are background limited

| Airborne Tests<br>Across Separating Floors | D <sub>nT,w</sub> + C <sub>tr</sub> (dB) |          | Approved Document E<br>Compliance |
|--------------------------------------------|------------------------------------------|----------|-----------------------------------|
|                                            | Test Result*                             | Required |                                   |
| AF01                                       | ≥ 64                                     | ≥ 50     | Pass                              |
| AF02                                       | 59                                       | ≥ 50     | Pass                              |
| AF03                                       | ≥ 59                                     | ≥ 50     | Pass                              |

\*Tests results including the ≥ symbol are background limited

## 4.8 Discussion

### 4.8.1 Airborne Tests

With reference to Section 4.7, the results for the floors and walls tested are equal to or greater than the minimum value for airborne sound insulation as stated in Approved Document E: 2003 Edition, and project design uplift and thus should be considered to satisfy the requirements.

## 4.9 Conclusion

Sound insulation testing undertaken between commercial and residential areas demonstrates compliance with the ARUP Employers Requirements Report and therefore the condition can be discharged for Phase 1 of the development.

## 5.0 Condition 23(b) Commissioning Details

### 5.1 Overview

At the time of the surveys all of the apartments were unfurnished, though carpeted in bedrooms. Consequently, corrections have been made to the measured internal noise levels to account for the typical reverberation time in a finished apartment (ie as the scheme has been designed to), which would be 0.5 seconds as defined in BS 8233:2014.

The results both unattended and the attended surveys are outlined in the following Sections.



## 5.2 Unattended Measurement Locations

Unattended sound level loggers were installed within 7No apartments/townhouses, as described below. These rooms were selected for the unattended surveys as they can be considered to be representative of highest and lowest façade specifications of the development as a whole.

| Test Ref. | Apartment | Tower     | Room                        | Test Dates            |
|-----------|-----------|-----------|-----------------------------|-----------------------|
| MP1       | 1704      | Block B   | Living/Kitchen/Dining (LKD) | 25/09/2024-26/09/2024 |
| MP2       | 1201      |           | Living/Kitchen/Dining (LKD) | 25/09/2024-26/09/2024 |
| MP3       | 504       |           | Living/Kitchen/Dining (LKD) | 25/09/2024-26/09/2024 |
| MP4       | 2407      | Block C   | Living/Kitchen/Dining (LKD) | 25/09/2024-26/09/2024 |
| MP5       | 901       |           | Living/Kitchen/Dining (LKD) | 25/09/2024-26/09/2024 |
| MP6       | 305       |           | Bedroom (BED)               | 25/09/2024-26/09/2024 |
| MP7       | 401       | Midrise B | Bedroom (BED)               | 12/06/2025-27/06/2025 |

Each sound level meter was set up to continuously record  $L_{Aeq}$  and  $L_{Amax}$  noise levels over 15-minute and 2-minute periods.

## 5.3 Attended Measurement Locations

Internal ambient noise level measurements were taken in 30No. different apartments across the Phase 1 development in the following locations. The noise levels were typically measured for 15-minute durations.

| Test Ref. | Location | Apt No. | Room Type | Test Date  | Test Time   |
|-----------|----------|---------|-----------|------------|-------------|
| IANL1     | Tower B  | 1608    | LKD       | 25/09/2024 | 17:30-17:45 |
| IANL2     | Tower B  | 1503    | LKD       | 25/09/2024 | 17:36-17:52 |
| IANL3     | Tower B  | 1408    | BED       | 25/09/2024 | 17:56-18:10 |
| IANL4     | Tower B  | 908     | BED       | 25/09/2024 | 18:15-18:30 |
| IANL5     | Tower B  | 904     | BED       | 25/09/2024 | 18:20-18:40 |
| IANL6     | Tower B  | 701     | BED       | 25/09/2024 | 18:40-18:50 |
| IANL7     | Tower B  | 704     | BED       | 25/09/2024 | 18:48-19:00 |
| IANL8     | Tower B  | 508     | BED       | 25/09/2024 | 18:56-19:10 |



| Test Ref. | Location     | Apt No.  | Room Type | Test Date  | Test Time   |
|-----------|--------------|----------|-----------|------------|-------------|
| IANL9     | Tower B      | 301      | BED       | 25/09/2024 | 19:00-19:15 |
| IANL10    | Tower B      | 305      | LKD       | 25/09/2024 | 19:10-19:22 |
| IANL11    | Tower B      | 208      | LKD       | 25/09/2024 | 19:18-19:28 |
| IANL12    | Tower B      | 204      | LKD       | 25/09/2024 | 19:45-20:00 |
| IANL13    | Tower C      | 2301     | LKD       | 26/09/2024 | 16:00-16:10 |
| IANL14    | Tower C      | 1505     | LKD       | 26/09/2024 | 16:30-16:45 |
| IANL15    | Tower C      | 1403     | LKD       | 26/09/2024 | 16:34-16:52 |
| IANL16    | Tower C      | 1301     | LKD       | 26/09/2024 | 16:30-16:45 |
| IANL17    | Tower C      | 1107     | BED       | 26/09/2024 | 16:54-17:08 |
| IANL18    | Tower C      | 905      | BED       | 26/09/2024 | 17:00-17:15 |
| IANL19    | Tower C      | 702      | LKD       | 26/09/2024 | 17:06-17:20 |
| IANL 20   | Tower C      | 705      | BED       | 26/09/2024 | 17:15-17:30 |
| IANL 21   | Tower C      | 501      | LKD       | 26/09/2024 | 17:22-17:34 |
| IANL 22   | Tower C      | 505      | LKD       | 26/09/2024 | 17:28-17:40 |
| IANL 23   | Tower C      | 308      | BED       | 26/09/2024 | 17:36-17:50 |
| IANL 24   | Tower C      | 201      | BED       | 26/09/2024 | 17:42-17:56 |
| IANL 25   | Tower C      | 205      | LKD       | 26/09/2024 | 17:50-18:02 |
| IANL 26   | Midrise B    | 406      | BED       | 12/06/2025 | 20:32-20:47 |
| IANL 27   | Midrise B    | 207      | BED       | 12/06/2025 | 20:33-20:48 |
| IANL 28   | Midrise B    | 304      | BED       | 12/06/2025 | 20:45-21:00 |
| IANL 29   | Midrise B    | 501      | LKD       | 12/06/2025 | 21:00-21:15 |
| IANL 30   | Midrise B    | 302      | BED       | 13/06/2025 | 14:58-15:13 |
| IANL 31   | Townhouse 10 | Level 02 | BED       | 13/06/2025 | 15:24-15:39 |

## 5.4 Equipment

The equipment used, as detailed below, was calibrated prior to and on completion of the survey. No significant calibration drift occurred (not more than 0.3 dB).

| Location                                  | Description                        | Manufacturer | Type | Serial Number | Calibration              |
|-------------------------------------------|------------------------------------|--------------|------|---------------|--------------------------|
| MP1, IANL15, IANL18, IANL21, IANL24       | Type 1 Precision Sound Level Meter | Larson Davis | LxT  | 4086          | Calibrated on 28/08/2024 |
| MP2, IANL2, IANL4, IANL7, IANL10, IANL13, | Type 1 Precision Sound Level Meter | Larson Davis | LxT  | 4568          | Calibrated on 30/05/2024 |



| Location                                                                             | Description                           | Manufacturer      | Type    | Serial Number | Calibration                 |
|--------------------------------------------------------------------------------------|---------------------------------------|-------------------|---------|---------------|-----------------------------|
| IANL16, IANL17,<br>IANL20, IANL23                                                    |                                       |                   |         |               |                             |
| MP3, IANL1,<br>IANL3, IANL5,<br>IANL11, IANL12,<br>IANL14, IANL19,<br>IANL22, IANL25 | Type 1 Precision<br>Sound Level Meter | Larson Davis      | LxT     | 5111          | Calibrated on<br>30/05/2024 |
| MP4                                                                                  | Type 1 Precision<br>Sound Level Meter | Larson Davis      | LxT     | 5104          | Calibrated on<br>30/05/2024 |
| MP5                                                                                  | Type 1 Precision<br>Sound Level Meter | Larson Davis      | LxT     | 5103          | Calibrated on<br>29/05/2024 |
| MP6, MP7, IANL<br>27, IANL 30,<br>IANL 31                                            | Type 1 Precision<br>Sound Level Meter | Larson Davis      | LxT     | 6490          | Calibrated on<br>12/09/2024 |
| IANL 6, IANL9                                                                        | Type 1 Precision<br>Sound Level Meter | Larson Davis      | LxT     | 4569          | Calibrated on<br>30/05/2024 |
| All above                                                                            | Calibrator                            | Larson Davis      | Cal 200 | 3083          | Calibrated on<br>27/03/2024 |
| IANL 26, IANL<br>29                                                                  | Type 1 Precision<br>Sound Level Meter | Brüel and<br>Kjær | 2250    | 3025254       | Calibrated on<br>21/02/2025 |
| IANL 28                                                                              | Type 1 Precision<br>Sound Level Meter | Brüel and<br>Kjær | 2250    | 3007292       | Calibrated on<br>25/01/2025 |
| IANL 26, IANL<br>29                                                                  | Calibrator                            | Brüel and<br>Kjær | 4231    | 2308993       | Calibrated on<br>13/02/2025 |
| IANL 28                                                                              | Calibrator                            | Brüel and<br>Kjær | 4231    | 2271905       | Calibrated on<br>22/08/2024 |

## 5.5 Site Conditions

The following pre-requisites were requests given to the site in order to obtain representative measurements results:-

- Rooms were to be finished, unfurnished and unoccupied
- Test rooms to be locked for the duration of the measurement (no access for trades).
- Windows to be closed, as ventilation provided by mechanical ventilations systems.
- Mechanical ventilation systems to be balanced and operating at design duty for the duration of the noise surveys.
- Extraneous noises from site construction works were excluded as far as reasonably possible.

All attended measurements were carried out during daytime and evening hours (typically between 15:00-21:00 hrs), as to include road/rail traffic noise during peak hours.



## 6.0 Survey Results

### 6.1 Unattended Measurements

The table below summarises the highest  $L_{Aeq,8hr}$  (night-time) measurements and the 10<sup>th</sup> highest  $L_{AFmax,2min}$  (night-time) noise levels at each measurement position. The Manchester City Council (MCC) noise level limit is also presented to judge compliance.

Due to extraneous noise as a result of the active construction site, the unattended data is presented below for night-time periods only as the daytime levels are not considered representative. The time history graphs for each position are however provided in Appendix B for completeness.

| Test Ref | Measurement Location                                  | Parameter                   | Measured Noise Level (dB) | MCC Limit (dB) | Compliance? |
|----------|-------------------------------------------------------|-----------------------------|---------------------------|----------------|-------------|
| MP1      | Tower Block: B<br>Plot Reference: 1704<br>Room: LKD   | Night-time $L_{Aeq, 8hour}$ | 26                        | 30             | ✓           |
|          |                                                       | Night-time $L_{Amax,2min}$  | 43                        | 45             | ✓           |
| MP2      | Tower Block: B<br>Plot Reference: 1201<br>Room: LKD   | Night-time $L_{Aeq, 8hour}$ | 30                        | 30             | ✓           |
|          |                                                       | Night-time $L_{Amax,2min}$  | 42                        | 45             | ✓           |
| MP3      | Tower Block: B<br>Plot Reference: 504<br>Room: LKD    | Night-time $L_{Aeq, 8hour}$ | 28                        | 30             | ✓           |
|          |                                                       | Night-time $L_{Amax,2min}$  | 41                        | 45             | ✓           |
| MP4      | Tower Block: C<br>Plot Reference: 2407<br>Room: LKD   | Night-time $L_{Aeq, 8hour}$ | 25                        | 30             | ✓           |
|          |                                                       | Night-time $L_{Amax,2min}$  | 43                        | 45             | ✓           |
| MP5      | Tower Block: C<br>Plot Reference: 901<br>Room: LKD    | Night-time $L_{Aeq, 8hour}$ | 28                        | 30             | ✓           |
|          |                                                       | Night-time $L_{Amax,2min}$  | 32                        | 45             | ✓           |
| MP6      | Tower Block: C<br>Plot Reference: 305<br>Room: Bed    | Night-time $L_{Aeq, 8hour}$ | 29                        | 30             | ✓           |
|          |                                                       | Night-time $L_{Amax,2min}$  | 36                        | 45             | ✓           |
| MP7      | Midrise Block: B<br>Plot Reference: 0401<br>Room: BED | Night-time $L_{Aeq, 8hour}$ | 26                        | 30             | ✓           |
|          |                                                       | Night-time $L_{Amax,2min}$  | 43                        | 45             | ✓           |



## 6.2 Attended Measurements

The table below summarises the  $L_{Aeq,T}$  measurements at each measurement position. The Manchester City Council (MCC) noise level limit is also presented to judge compliance.

| Test Ref. | Measurement Location                          | Time Period (mins) | Measured $L_{eq}$ (dB)           | MCC Criterion $L_{Aeq,16hr}$ (dB) | Compliance      |
|-----------|-----------------------------------------------|--------------------|----------------------------------|-----------------------------------|-----------------|
| IANL1     | Tower: B<br>Plot Reference: 1608<br>Room: LKD | 15                 | 32                               | 35                                | ✓               |
| IANL2     | Tower: B<br>Plot Reference: 1503<br>Room: LKD | 18                 | 34                               | 35                                | ✓               |
| IANL3     | Tower: B<br>Plot Reference: 1408<br>Room: BED | 16                 | 37 $L_{Aeq,t}$<br>35 $L_{A90,T}$ | 35                                | ✓<br>See Note 1 |
| IANL4     | Tower: B<br>Plot Reference: 908<br>Room: BED  | 15                 | 34                               | 35                                | ✓               |
| IANL5     | Tower: B<br>Plot Reference: 1904<br>Room: BED | 20                 | 31                               | 35                                | ✓               |
| IANL6     | Tower: B<br>Plot Reference: 701<br>Room: BED  | 10                 | 35                               | 35                                | ✓               |
| IANL7     | Tower: B<br>Plot Reference: 704<br>Room: BED  | 12                 | 35                               | 35                                | ✓               |
| IANL8     | Tower: B<br>Plot Reference: 508<br>Room: BED  | 14                 | 27                               | 35                                | ✓               |
| IANL9     | Tower: B<br>Plot Reference: 301<br>Room: BED  | 15                 | 29                               | 35                                | ✓               |
| IANL10    | Tower: B<br>Plot Reference: 305<br>Room: LKD  | 12                 | 30                               | 35                                | ✓               |
| IANL11    | Tower: B                                      | 10                 | 28                               | 35                                | ✓               |



| Test Ref. | Measurement Location                          | Time Period (mins) | Measured $L_{eq}$ (dB) | MCC Criterion $L_{Aeq,16hr}$ (dB) | Compliance |
|-----------|-----------------------------------------------|--------------------|------------------------|-----------------------------------|------------|
|           | Plot Reference: 208<br>Room: LKD              |                    |                        |                                   |            |
| IANL12    | Tower: B<br>Plot Reference: 204<br>Room: LKD  | 15                 | 34                     | 35                                | ✓          |
| IANL13    | Tower: C<br>Plot Reference: 2301<br>Room: LKD | 10                 | 31                     | 35                                | ✓          |
| IANL14    | Tower: C<br>Plot Reference: 1505<br>Room: LKD | 15                 | 35                     | 35                                | ✓          |
| IANL15    | Tower: C<br>Plot Reference: 1403<br>Room: LKD | 20                 | 33                     | 35                                | ✓          |
| IANL16    | Tower: C<br>Plot Reference: 1301<br>Room: LKD | 15                 | 33                     | 35                                | ✓          |
| IANL17    | Tower: C<br>Plot Reference: 1107<br>Room: BED | 16                 | 28                     | 35                                | ✓          |
| IANL18    | Tower: C<br>Plot Reference: 905<br>Room: BED  | 15                 | 33                     | 35                                | ✓          |
| IANL19    | Tower: C<br>Plot Reference: 702<br>Room: LKD  | 16                 | 35                     | 35                                | ✓          |
| IANL20    | Tower: C<br>Plot Reference: 705<br>Room: BED  | 15                 | 29                     | 35                                | ✓          |
| IANL21    | Tower: C<br>Plot Reference: 501<br>Room: LKD  | 14                 | 33                     | 35                                | ✓          |
| IANL22    | Tower: C<br>Plot Reference: 505<br>Room: LKD  | 14                 | 35                     | 35                                | ✓          |



| Test Ref. | Measurement Location                                 | Time Period (mins) | Measured $L_{eq}$ (dB) | MCC Criterion $L_{Aeq,16hr}$ (dB) | Compliance |
|-----------|------------------------------------------------------|--------------------|------------------------|-----------------------------------|------------|
| IANL23    | Tower: C<br>Plot Reference: 308<br>Room: BED         | 16                 | 31                     | 35                                | ✓          |
| IANL24    | Tower: C<br>Plot Reference: 201<br>Room: BED         | 14                 | 23<br>See Note 2       | 35                                | ✓          |
| IANL25    | Tower: C<br>Plot Reference: 205<br>Room: LKD         | 12                 | 22<br>See Note 2       | 35                                | ✓          |
| IANL26    | Midrise Block: B<br>Plot Reference: 406<br>Room: BED | 15                 | 32                     | 35                                | ✓          |
| IANL27    | Midrise Block: B<br>Plot Reference: 207<br>Room: BED | 16                 | 28                     | 35                                | ✓          |
| IANL28    | Midrise Block: B<br>Plot Reference: 304<br>Room: BED | 14                 | 28                     | 35                                | ✓          |
| IANL29    | Midrise Block: B<br>Plot Reference: 501<br>Room: LKD | 16                 | 34                     | 35                                | ✓          |
| IANL30    | Midrise Block: B<br>Plot Reference: 302<br>Room: BED | 15                 | 32                     | 35                                | ✓          |
| IANL31    | Townhouse 10<br>Level 02<br>BED                      | 16                 | 28                     | 35                                | ✓          |

[1] Measurement undertaken during peak rush hour period and when comparing the  $L_{A90,T}$  to the  $L_{Aeq,T}$ , it is clear that road traffic is influencing the measured levels during the period. It is considered that during quieter periods of the day, the noise levels would be reduced. Given the criteria is a full 16-hour daytime average, this apartment is considered to be compliant with the intent of the planning condition.

[2] Considering the low levels measured in apartments 201 and 205 on Tower C it is understood that MVHR was not running. However, it is considered that compliance with all other apartments



demonstrates that these areas would be expected to meet the requirements of MCC daytime criteria when MVHRs running.

### **6.3 Conclusion**

It has been demonstrated through measurements of the internal ambient noise levels (IANL) that the installed façade system is suitable to control external noise intrusion, and the operational mechanical ventilation systems commensurate with the requirements in accordance with local and national guidelines, on all façades of “Towers B, Midrise B & Tower C” of the Victoria Riverside, Manchester development.



## Appendix A

### Plant Noise Data

#### Extract Fan Noise Data

Noise data for the installed units is provided in the table below:

| Unit Ref               | Measurement Ref. | Z weighted Sound levels (dB) at octave band frequencies (Hz) |     |     |     |      |      |      |      |
|------------------------|------------------|--------------------------------------------------------------|-----|-----|-----|------|------|------|------|
|                        |                  | 63                                                           | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| MEV-B-01               | Operational      | 55                                                           | 55  | 54  | 52  | 50   | 52   | 48   | 39   |
|                        | Background       | 55                                                           | 51  | 47  | 46  | 45   | 45   | 37   | 24   |
| MEV-C-01<br>& MEV-C-02 | Operational      | 54                                                           | 54  | 54  | 49  | 47   | 46   | 44   | 37   |

#### HRU Noise Data

Noise data for the installed units is provided in the table below:

| Unit Ref | Measurement Reference | Z weighted Sound levels (dB) at octave band frequencies (Hz) |     |     |     |      |      |      |      |
|----------|-----------------------|--------------------------------------------------------------|-----|-----|-----|------|------|------|------|
|          |                       | 63                                                           | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| HRU-C-01 | Operational           | 57                                                           | 59  | 56  | 53  | 50   | 49   | 49   | 40   |



## **Appendix B**

### **Internal Ambient Noise Levels -Time History Graphs**

# Manchester Victoria

## Position 1

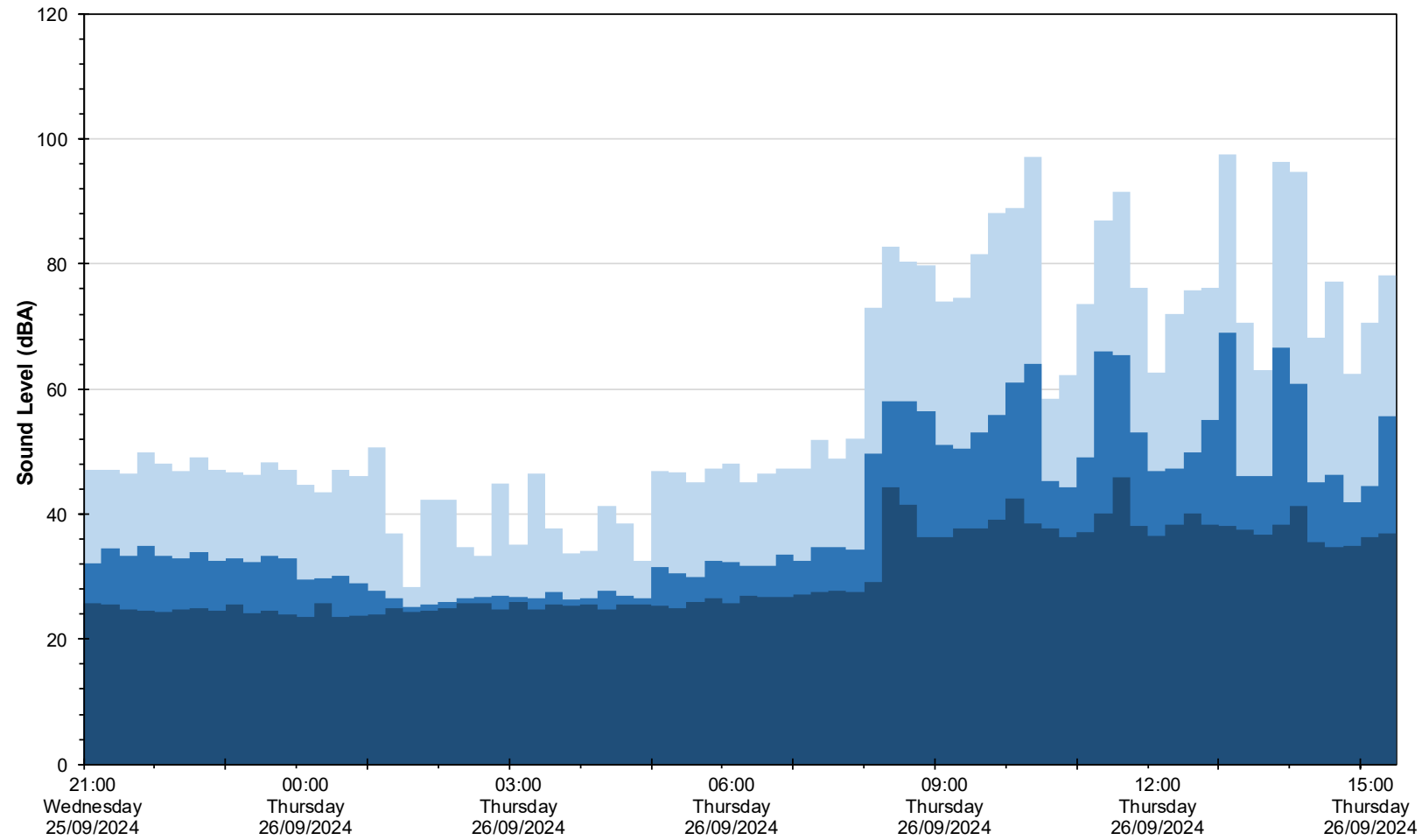
$L_{eq}$ ,  $L_{max}$  and  $L_{90}$  Noise Levels

Wednesday 25 September 2024 to Thursday 26 September 2024

LAmax

LAeq

LA90



Date and Time

28499/TH1

# Manchester Victoria

## Position 2

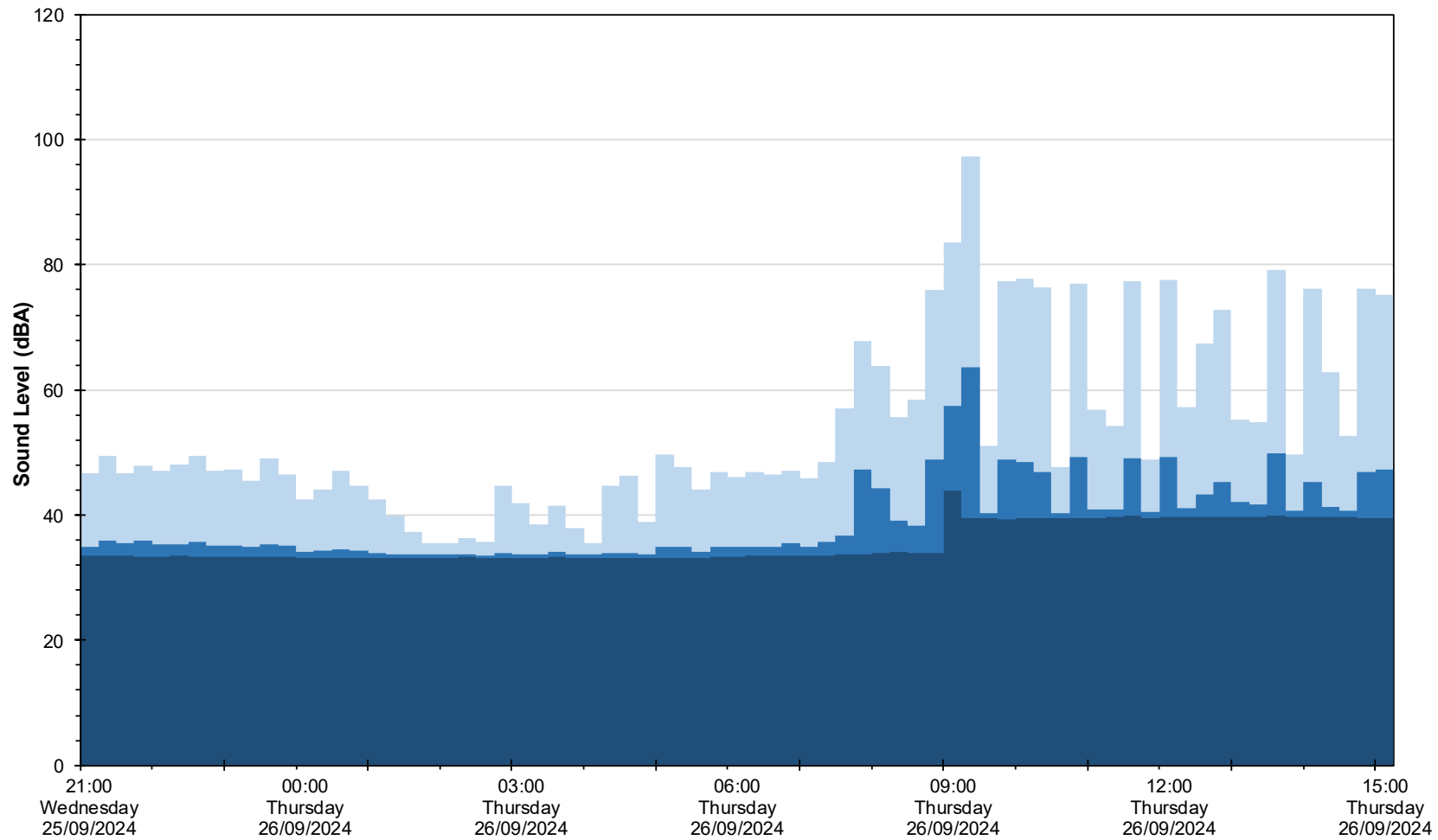
$L_{eq}$ ,  $L_{max}$  and  $L_{90}$  Noise Levels

Wednesday 25 September 2024 to Thursday 26 September 2024

LA<sub>max</sub>

LA<sub>eq</sub>

LA<sub>90</sub>



Date and Time

28499/TH2

# Manchester Victoria

## Position 3

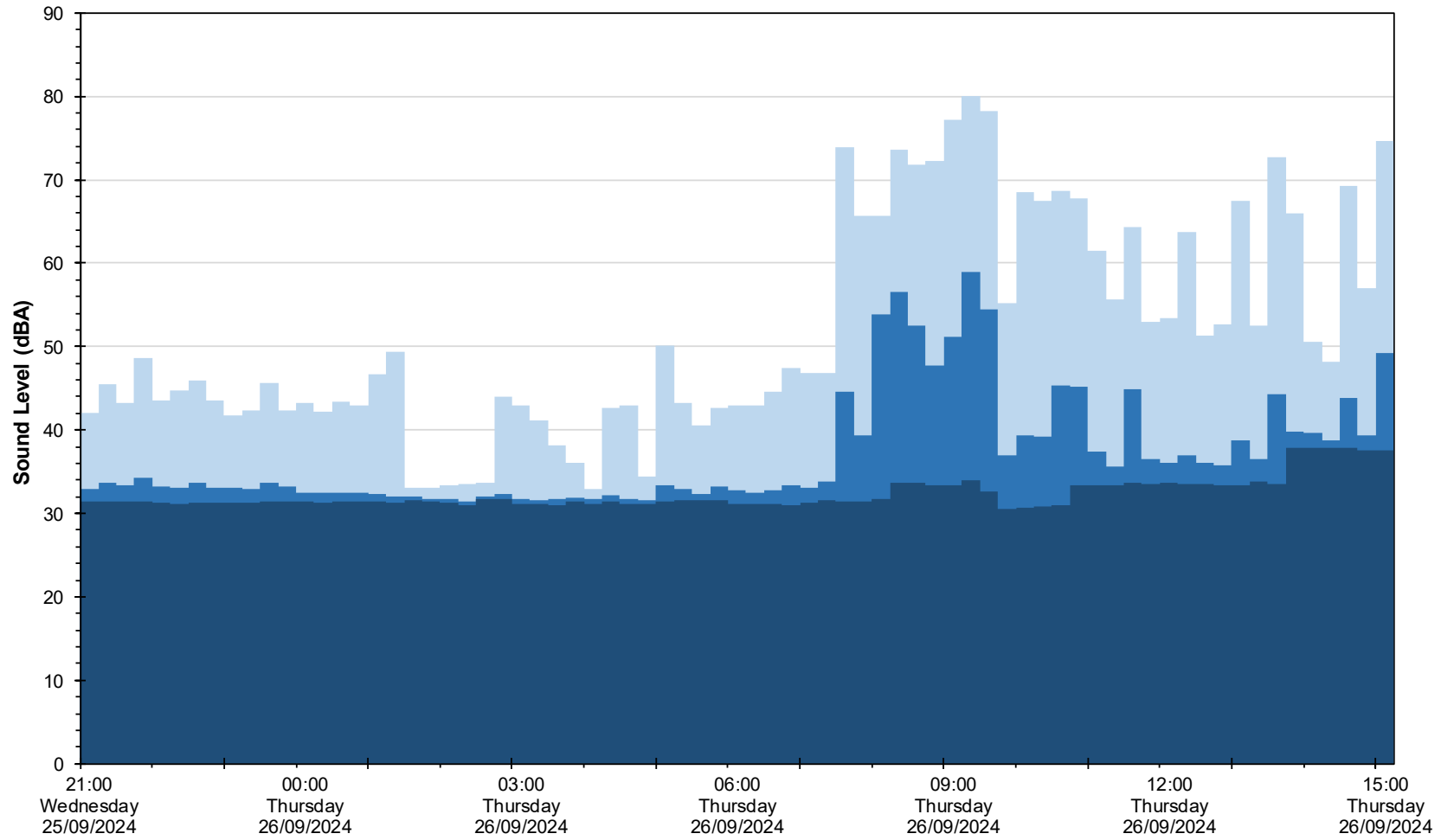
$L_{eq}$ ,  $L_{max}$  and  $L_{90}$  Noise Levels

Wednesday 25 September 2024 to Thursday 26 September 2024

LA<sub>max</sub>

LA<sub>eq</sub>

LA<sub>90</sub>



Date and Time

28499/TH3

# Manchester Victoria

## Position 4

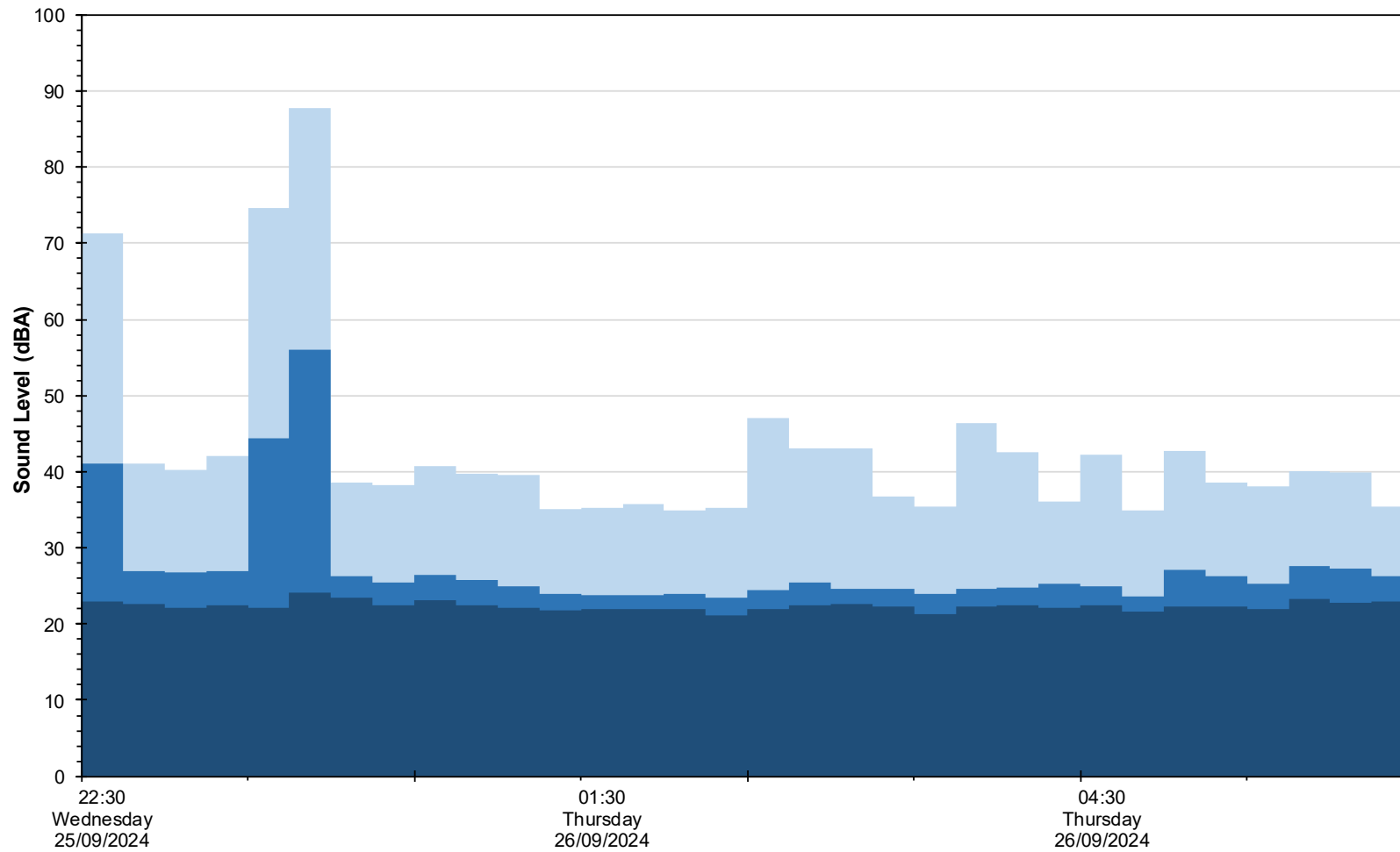
$L_{eq}$ ,  $L_{max}$  and  $L_{90}$  Noise Levels

Wednesday 25 September 2024 to Thursday 26 September 2024

LA<sub>max</sub>

LA<sub>eq</sub>

LA<sub>90</sub>



Date and Time

28499/TH4

# Manchester Victoria

## Position 5

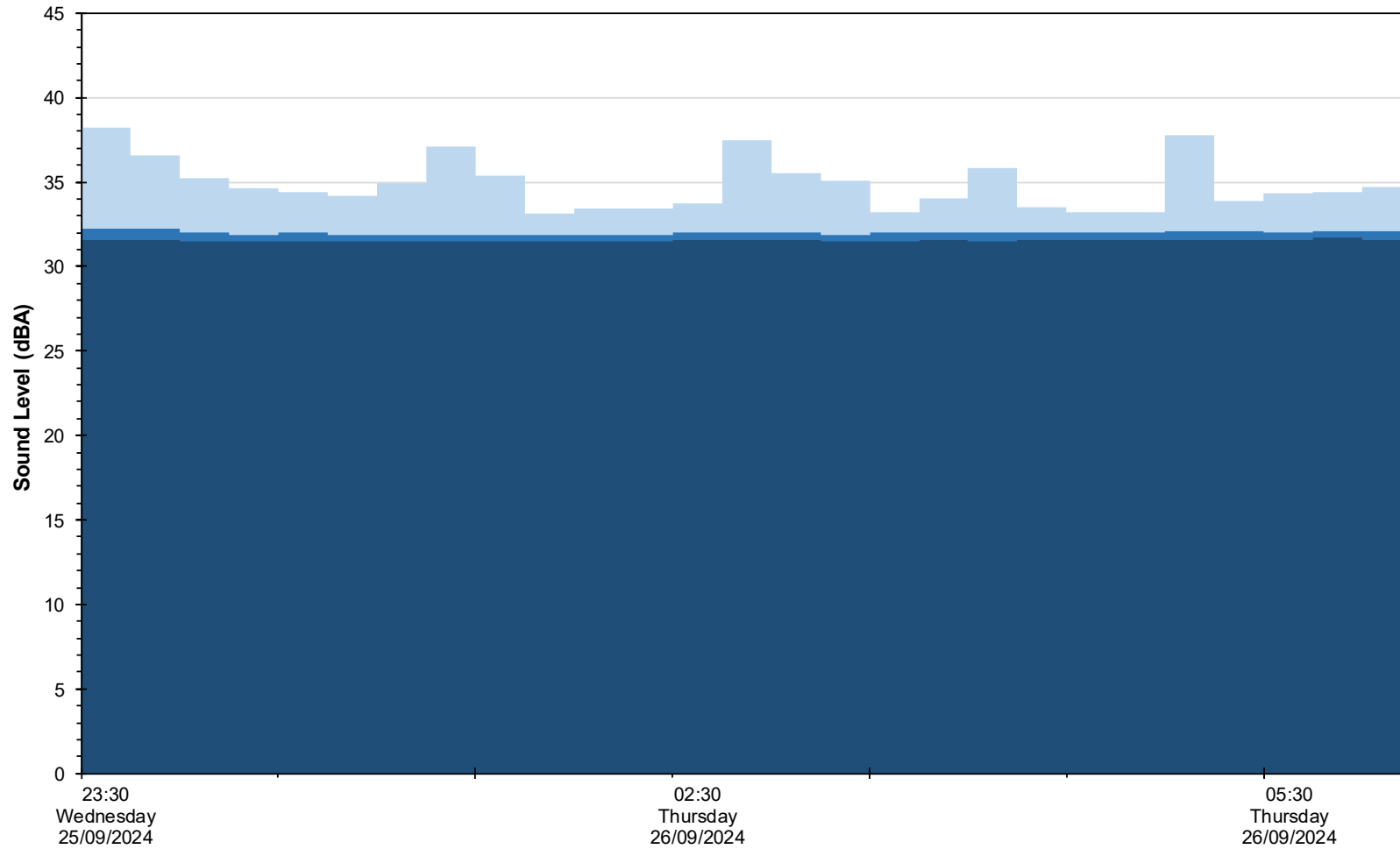
$L_{eq}$ ,  $L_{max}$  and  $L_{90}$  Noise Levels

Wednesday 25 September 2024 to Thursday 26 September 2024

LA<sub>max</sub>

LA<sub>eq</sub>

LA<sub>90</sub>



Date and Time

28499/TH5

# Manchester Victoria

## Position 6

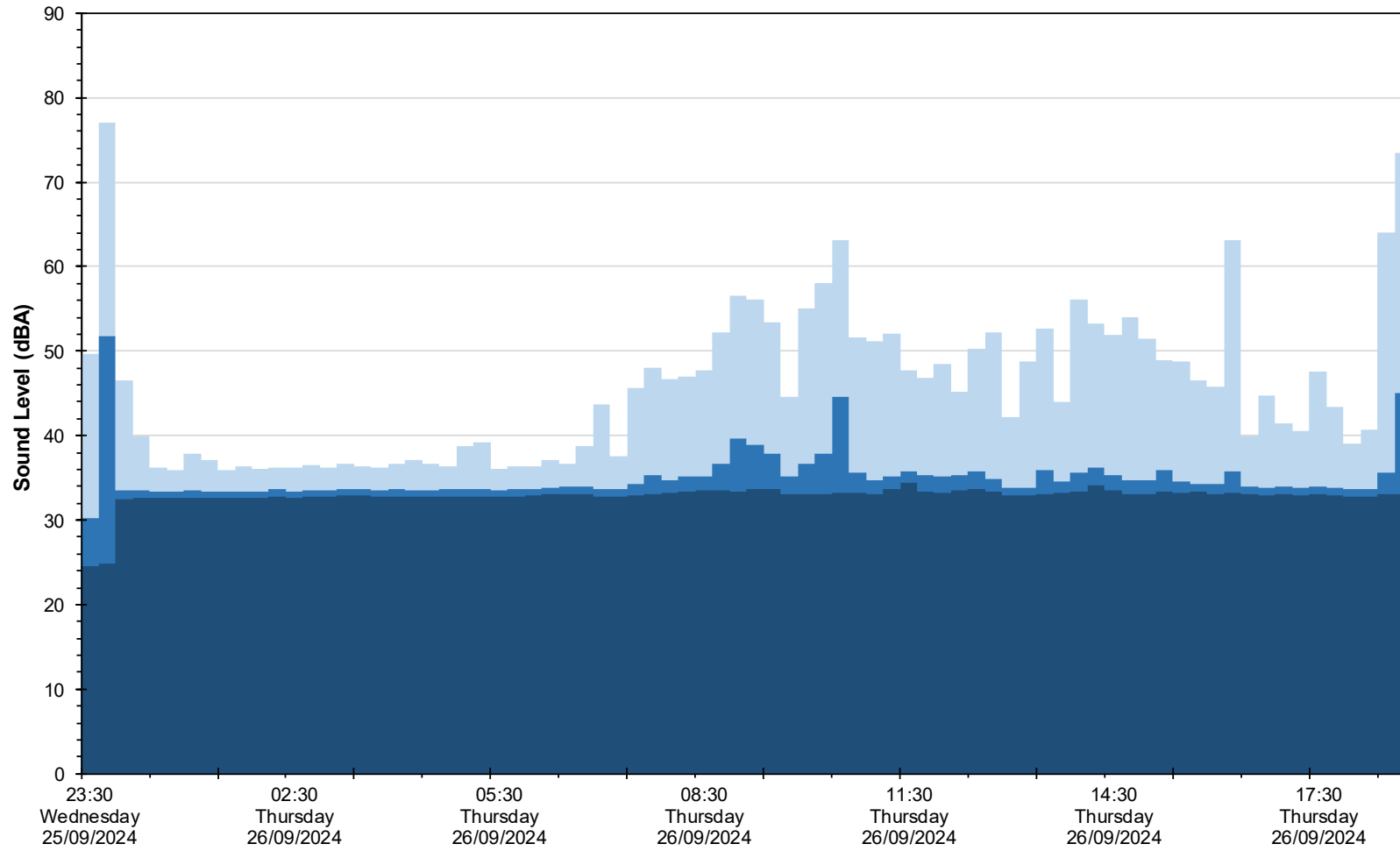
$L_{eq}$ ,  $L_{max}$  and  $L_{90}$  Noise Levels

Wednesday 25 September 2024 to Thursday 26 September 2024

LA<sub>max</sub>

LA<sub>eq</sub>

LA<sub>90</sub>



Date and Time

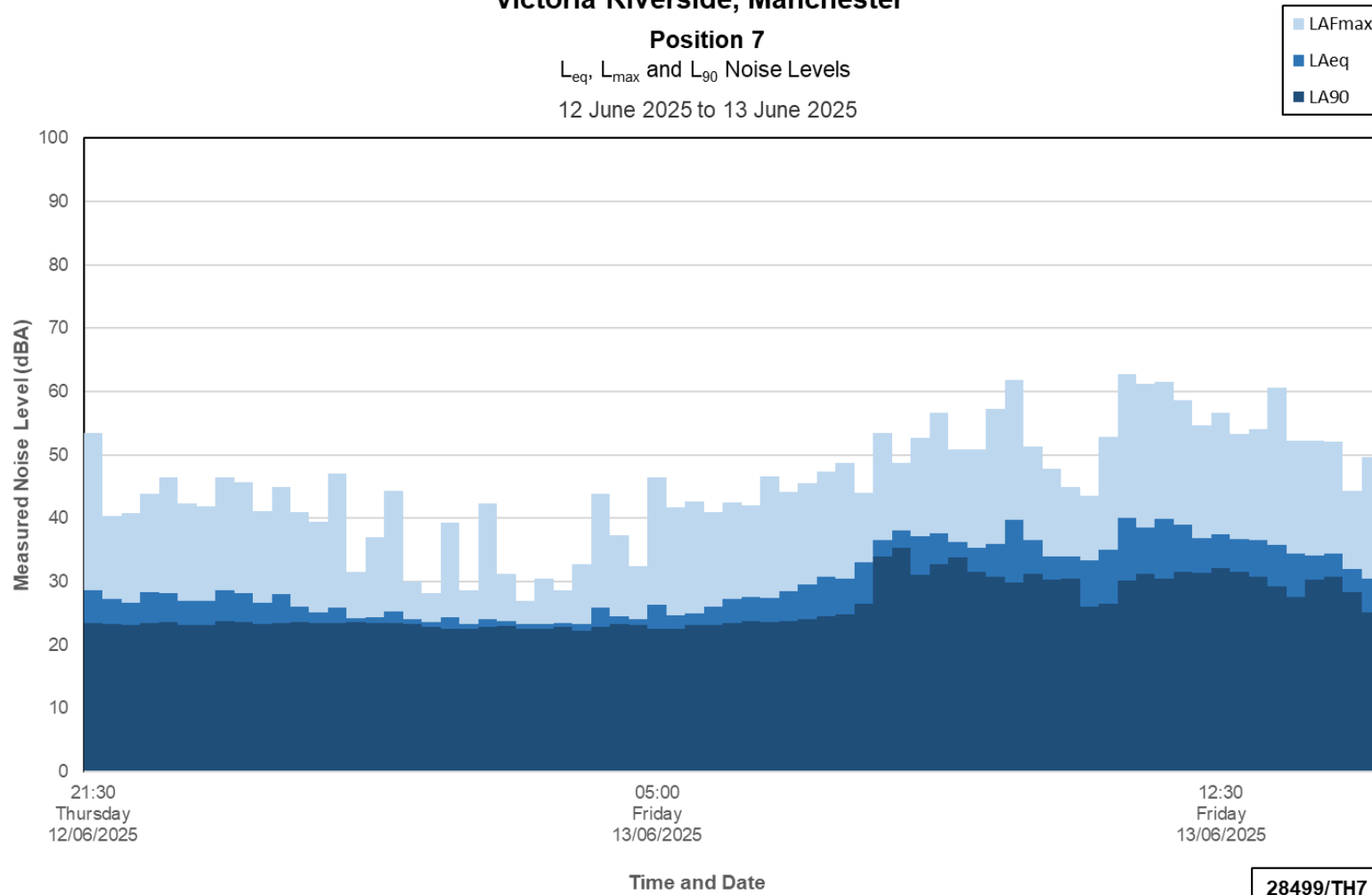
28499/TH6

## Victoria Riverside, Manchester

### Position 7

$L_{eq}$ ,  $L_{max}$  and  $L_{90}$  Noise Levels

12 June 2025 to 13 June 2025



## **Appendix C**

### **Commissioning Test Location Markup**

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

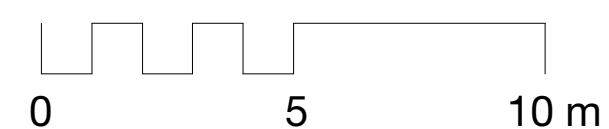
| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| *1  | WIP - Initial Issue                | 04.09.20 |
| *2  | Initial Issue for Stage 3B         | 02.10.20 |
| *3  | Updates to annotations and linings | 07.10.20 |
| *4  | Issued for Area Checks             | 19.10.20 |
| *5  | Issued for Stage 3B                | 06.11.20 |



Concierge, Entrance Lobby and Amenity spaces subject to further development in separate Interior Design Package

Commercial Spaces developed as 'Shell and Core' and subject to tenant fit-out

Scale Bar



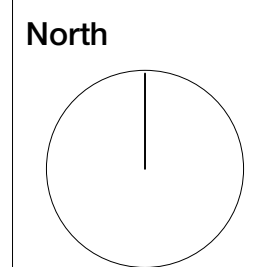
3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

# Hawkins\Brown

|                   |                                             |
|-------------------|---------------------------------------------|
| extended façade : | 0.9 W/m <sup>2</sup> K                      |
| roof:             | 0.11 W/m <sup>2</sup> K                     |
| exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| party wall:       | 0                                           |
| air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                            |                                             |
|----------------------------|---------------------------------------------|
| for the Podium Buildings:  |                                             |
| opaque areas of brickwork: | 0.22 W/m <sup>2</sup> K                     |
| accessed areas of opaque:  | 0.35 W/m <sup>2</sup> K                     |
| roof:                      | 0.11 W/m <sup>2</sup> K                     |
| ground:                    | 0.22 W/m <sup>2</sup> K                     |
| party wall:                | 0                                           |
| double Glazing :           | 1.6 W/m <sup>2</sup> K                      |
| value:                     | 0.09                                        |
| value:                     | 0.40                                        |
| permeability:              | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Ground Floor Plan

Scale @ A0  
1 : 150

Date  
April 2020

Drawn By  
NT

Checked By  
JK

Job Number  
18059

2

|                  |                 |
|------------------|-----------------|
| Purpose of Issue | For Information |
|------------------|-----------------|

Drawing No.

5

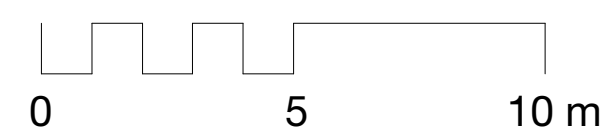
Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Updates to annotations and linings | 07.10.20 |
| #3  | Issued for Area Checks             | 19.10.20 |
| #4  | Issued for Stage 3B                | 06.11.20 |

Concierge, Entrance Lobby and Amenity spaces subject to further development in separate Interior Design Package

Commercial Spaces developed as "Shell and Core" and subject to tenant fit-out

Scale Bar



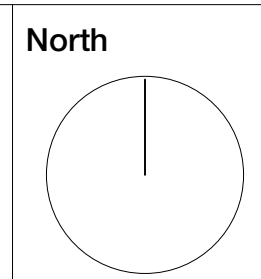
3C Tariff Street  
Manchester M1 2FF

# Hawkins\Brown

|                     |                                             |
|---------------------|---------------------------------------------|
| Exposed façade :    | 0.9 W/m <sup>2</sup> K                      |
| Roof:               | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:      | 0.22 W/m <sup>2</sup> K                     |
| Party wall:         | 0                                           |
| Water permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                            |                                             |
|----------------------------|---------------------------------------------|
| for the Podium Buildings:  |                                             |
| opaque areas of brickwork: | 0.22 W/m <sup>2</sup> K                     |
| accessed areas of opaque:  | 0.35 W/m <sup>2</sup> K                     |
| roof:                      | 0.11 W/m <sup>2</sup> K                     |
| ground:                    | 0.22 W/m <sup>2</sup> K                     |
| party wall:                | 0                                           |
| double Glazing :           | 1.6 W/m <sup>2</sup> K                      |
| value:                     | 0.09                                        |
| value:                     | 0.40                                        |
| permeability:              | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 01 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

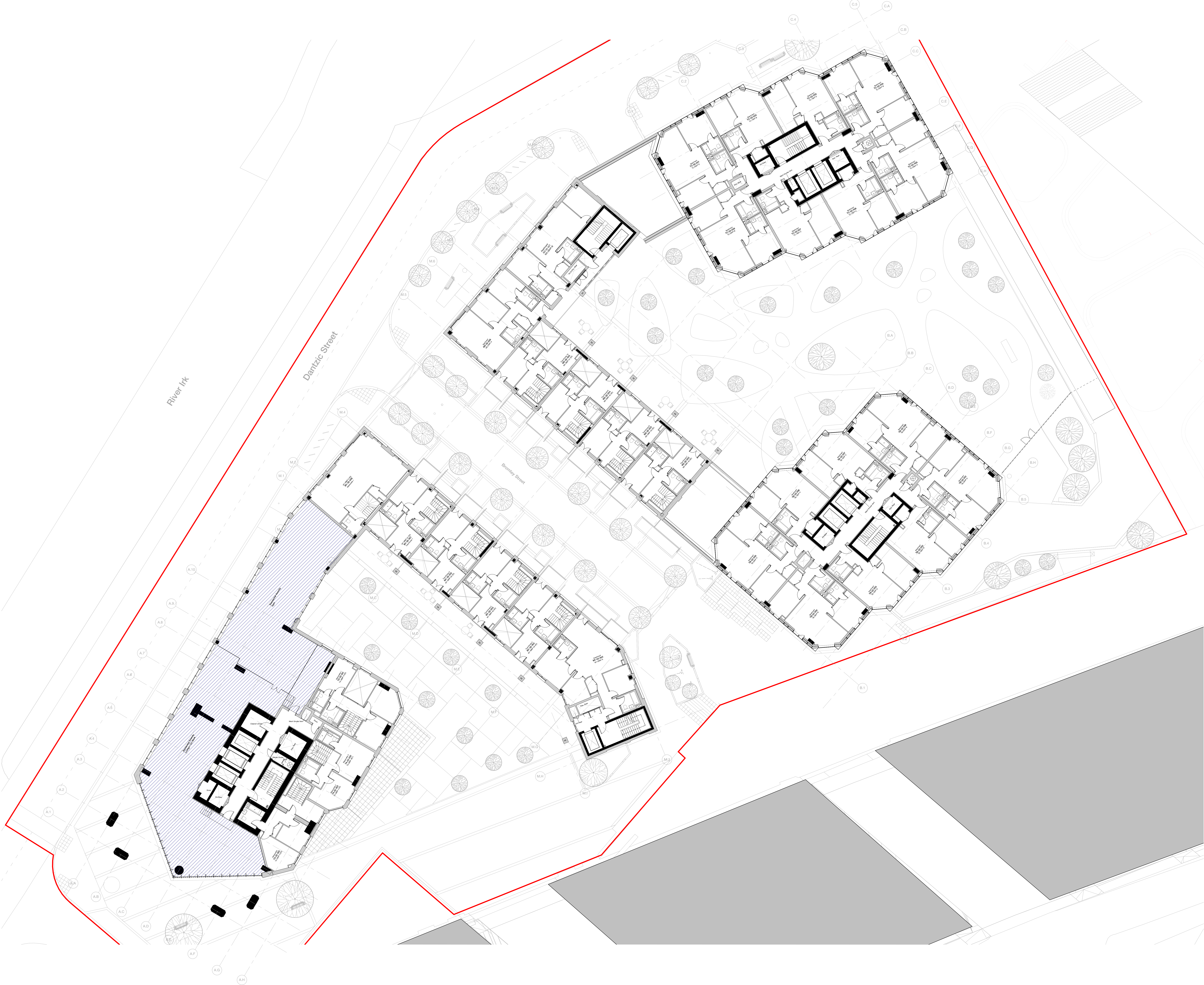
Job Number  
18059

2

**Purpose of Issue**  
For Information

Drawing No.  
VRS-HBA-00-01-DR-A-20\_0101

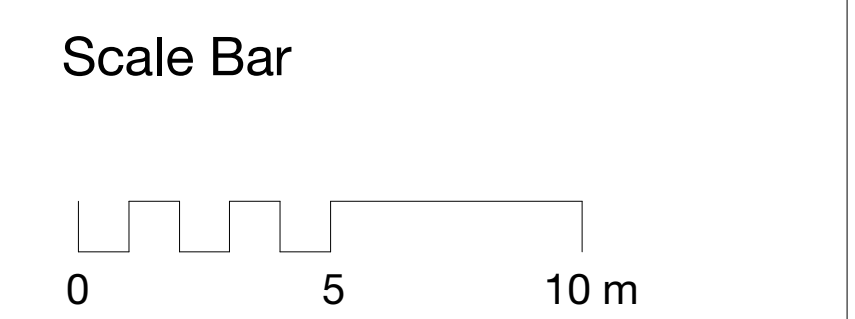
4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Updates to annotations and linings | 07.10.20 |
| P3  | Issued for Area Checks             | 15.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

- Concierge, Entrance Lobby and Amenity spaces subject to further development in separate Interior Design Package
- Commercial Spaces developed as 'Shell and Core' and subject to tenant fit-out



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester

North

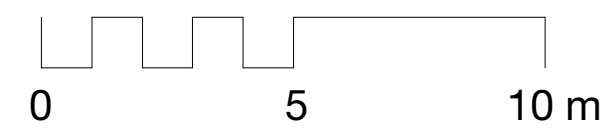
Drawing  
Proposed Level 02 Floor Plan

|            |        |                  |
|------------|--------|------------------|
| Scale @ A0 |        | Date             |
| 1 : 150    |        | May 2020         |
| Drawn By   |        | Checked By       |
| NT         |        | JK               |
| Job Number | Status | Purpose of Issue |
| 18059      | S2     | For Information  |

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| *1  | WIP - Initial Issue                | 04.09.20 |
| *2  | Initial Issue for Stage 3B         | 02.10.20 |
| *3  | Updates to annotations and linings | 07.10.20 |
| *4  | Issued for Area Checks             | 19.10.20 |
| *5  | Issued for Stage 3B                | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

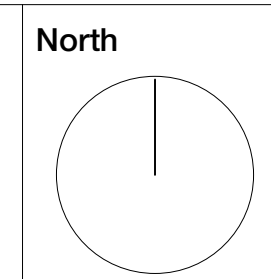
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 03 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

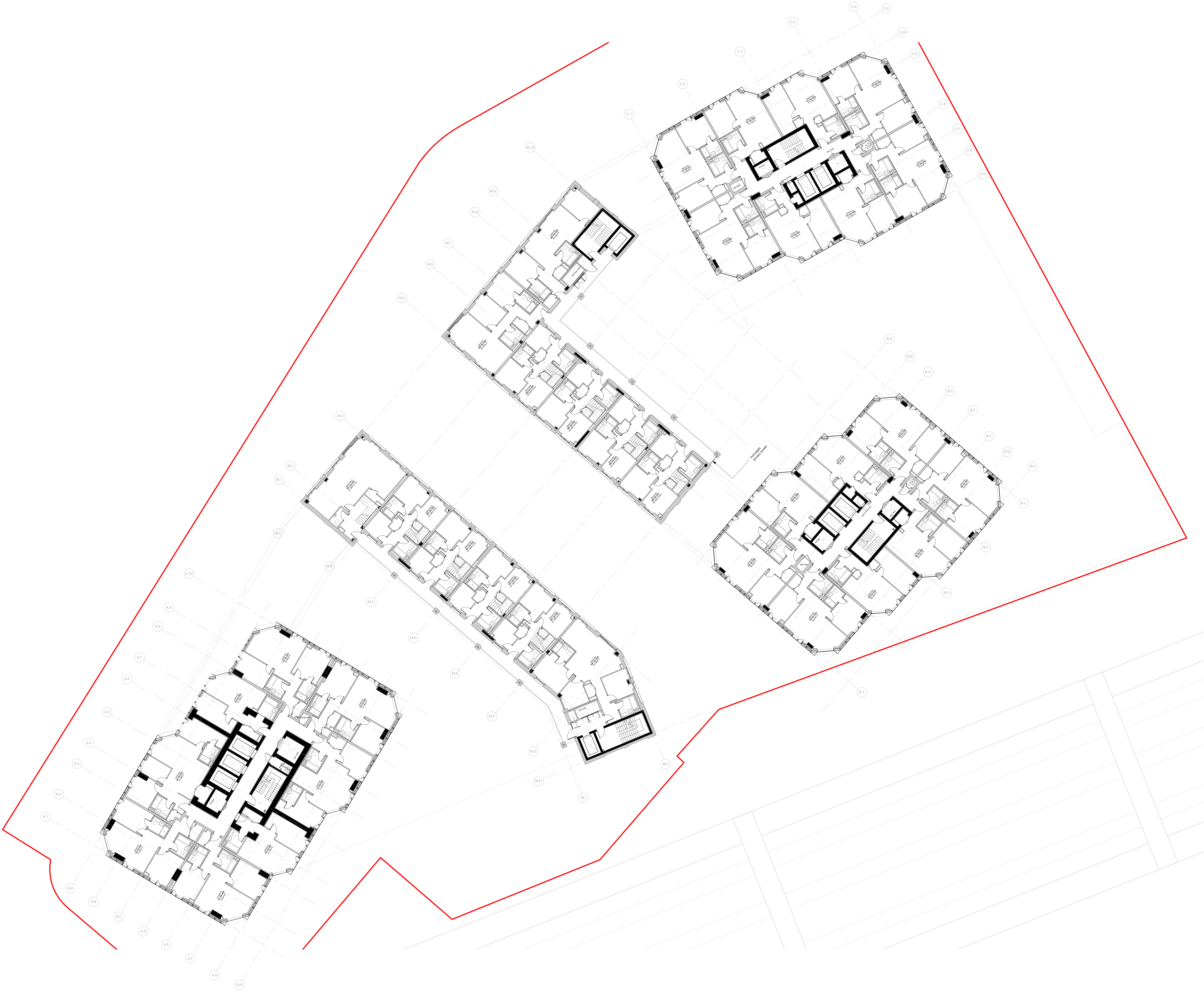
Checked By  
JK

Job Num  
18059Sta  
52

|                  |                 |
|------------------|-----------------|
| Purpose of Issue | For Information |
|------------------|-----------------|

Drawing No.

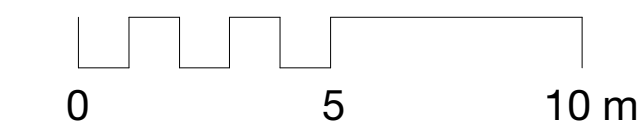
Rev  
P5



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Updates to annotations and linings | 07.10.20 |
| P3  | Issued for Area Checks             | 13.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar

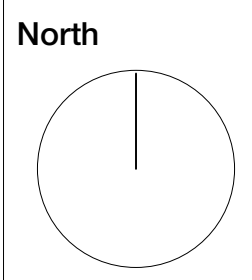


3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 04 Floor Plan

|                       |                  |
|-----------------------|------------------|
| Scale @ A0<br>1 : 150 | Date<br>May 2020 |
|-----------------------|------------------|

|                |                  |
|----------------|------------------|
| Drawn By<br>NT | Checked By<br>JK |
|----------------|------------------|

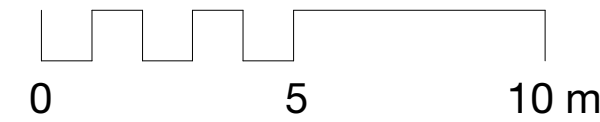
|                     |              |                                     |
|---------------------|--------------|-------------------------------------|
| Job Number<br>18059 | Status<br>S2 | Purpose of Issue<br>For Information |
|---------------------|--------------|-------------------------------------|

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-04-DR-A-20_0104 | Rev<br>P4 |
|-------------------------------------------|-----------|

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

|    | Description                          | Date     |
|----|--------------------------------------|----------|
| W1 | WIP - Initial Issue                  | 04.09.20 |
| W2 | Kitchen Fittings - WIP Initial Issue | 02.10.20 |
| W3 | Updates to annotations and linings   | 07.10.20 |
| W4 | Issued for Area Checks               | 19.10.20 |
| W5 | Issued for Stage 3B                  | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

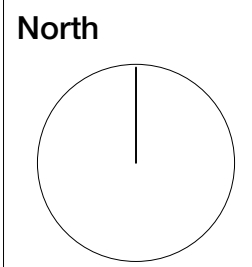
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 05 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059

62

**Purpose of Issue**  
**For Information**

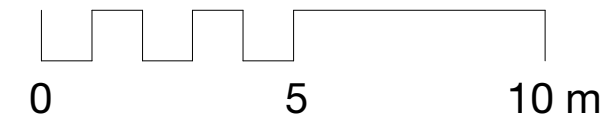
Drawing No.

Rev  
P5

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| *1  | WIP - Initial Issue                | 04.09.20 |
| *2  | Initial Issue for Stage 3B         | 02.10.20 |
| *3  | Updates to annotations and linings | 07.10.20 |
| *4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

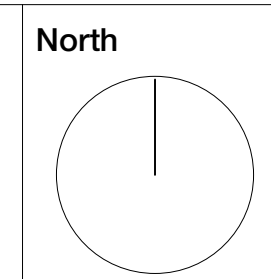
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 06-07 Floor Plan

Scale @ A  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

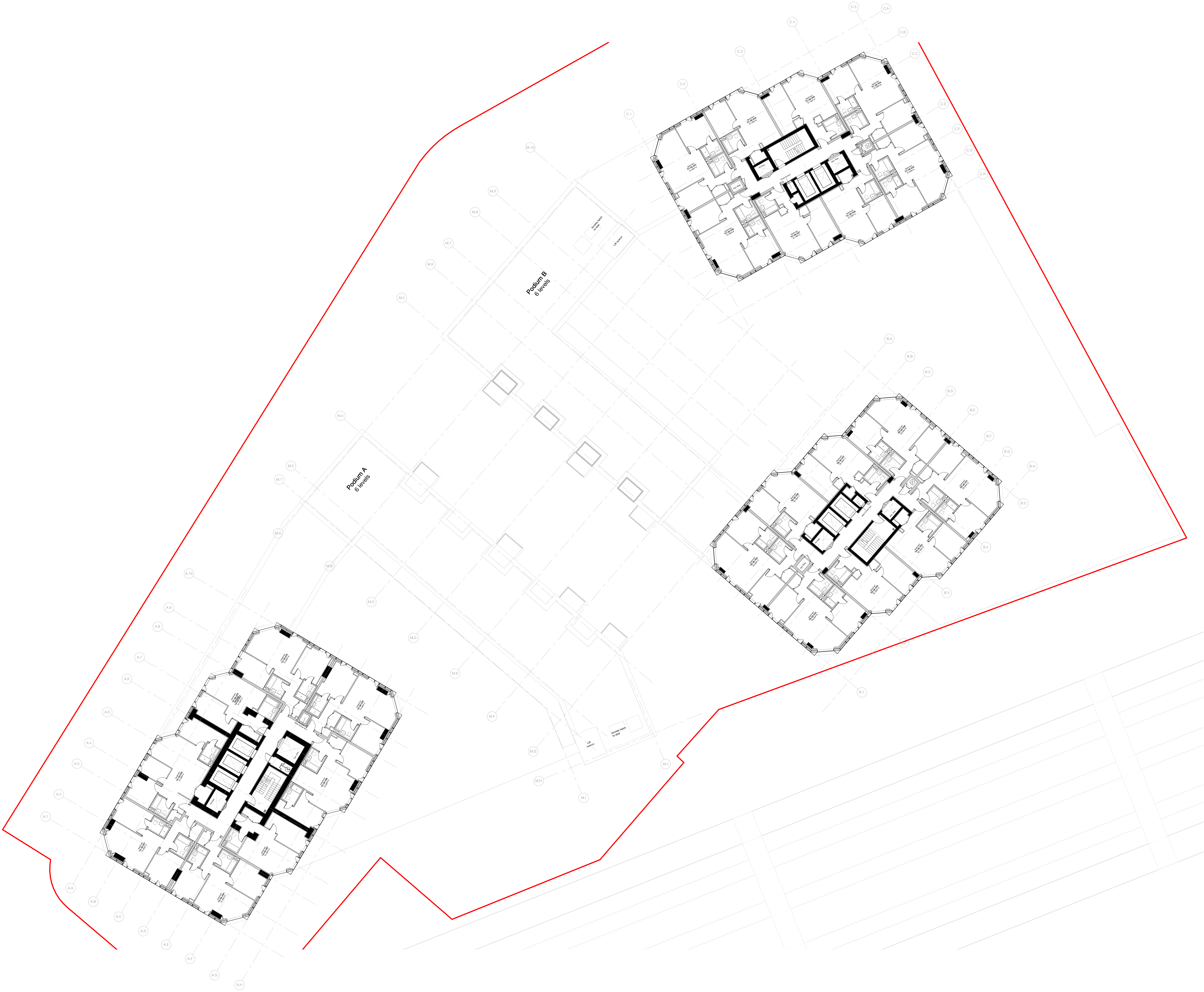
Job Num  
18059

Sta  
52

**Purpose of Issue**  
For Information

Drawing No.

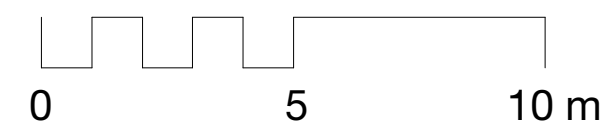
Rev  
P4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

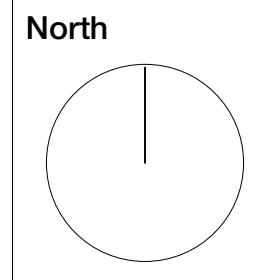
Hawkins\Brown

Minimum Required U-Value

For the Towers:  
Blended facade : 0.9 W/m²K  
Roof: 0.11 W/m²K  
Exposed Floor: 0.22 W/m²K  
Party wall: 0  
Air permeability: 3 m³/h.m² (@ 50pa)

For the Podium Buildings:  
Opaque areas of brickwork: 0.22 W/m²K  
Recessed areas of opaque: 0.35 W/m²K  
Roof: 0.11 W/m²K  
Ground: 0.22 W/m²K  
Party wall: 0  
Double Glazing : 1.6 W/m²K  
y-value: 0.09  
g-value: 0.40  
Air permeability: 3 m³/h.m² (@ 50pa)

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 06-07 Floor Plan

Scale @ A0

1 : 150

Date

May 2020

Drawn By

NT

Checked By

JK

Job Number

18059

Status

S2

Purpose of Issue

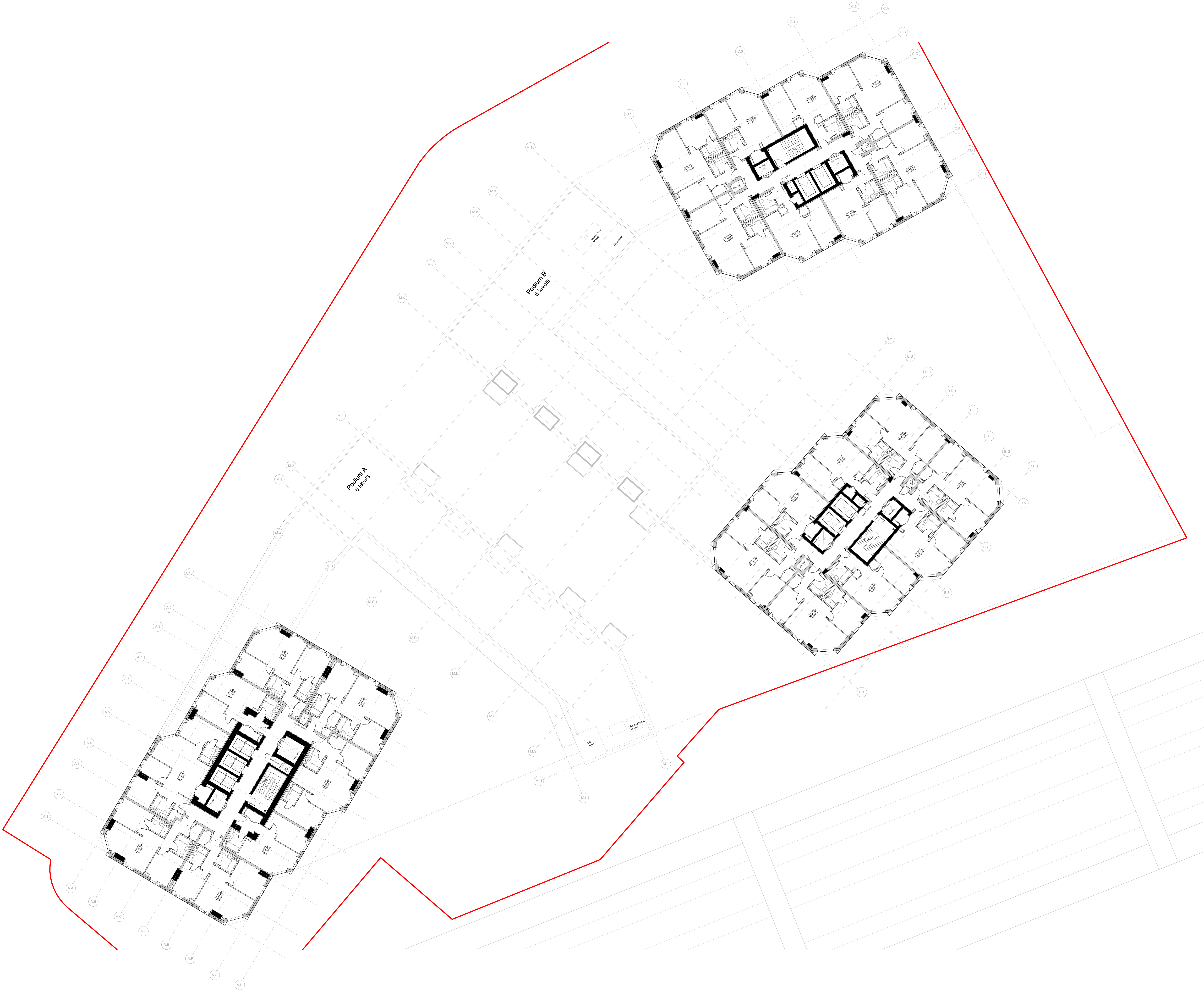
For Information

Drawing No.

VRS-HBA-00-06-DR-A-20\_0106

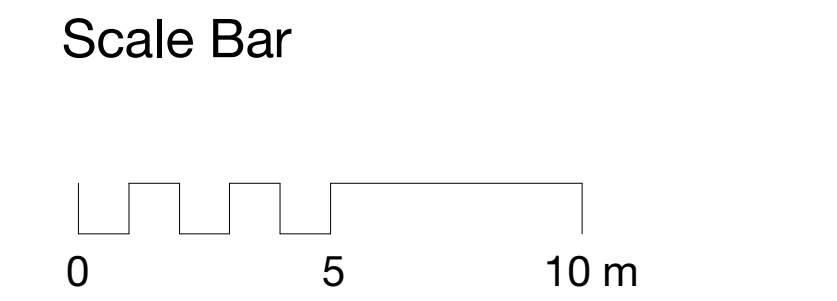
Rev

P4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

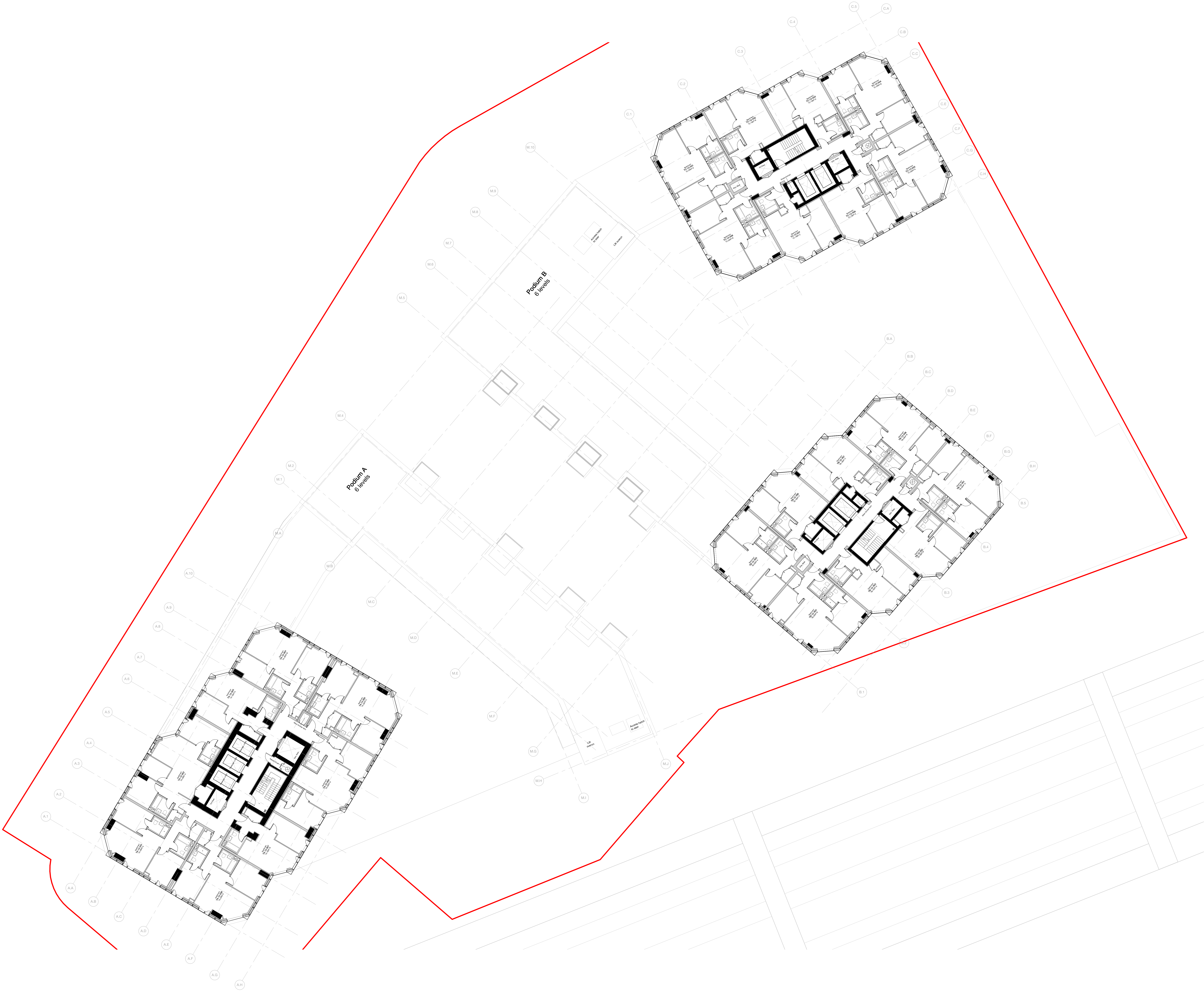
Project  
Victoria Riverside  
Dantzic Street  
Manchester

North

Drawing  
Proposed Level 08-17 Floor Plan

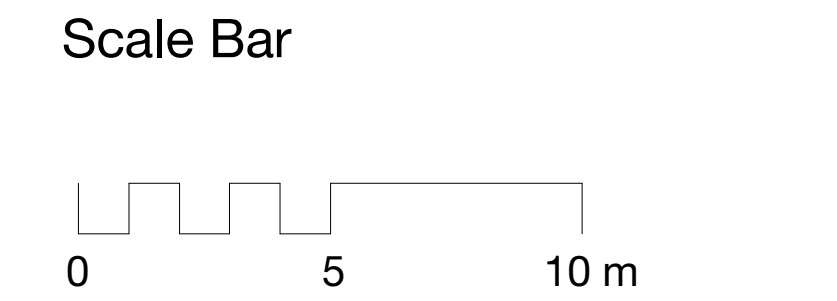
|                       |              |                                     |
|-----------------------|--------------|-------------------------------------|
| Scale @ A0<br>1 : 150 |              | Date<br>May 2020                    |
| Drawn By<br>NT        |              | Checked By<br>JK                    |
| Job Number<br>18059   | Status<br>S2 | Purpose of Issue<br>For Information |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

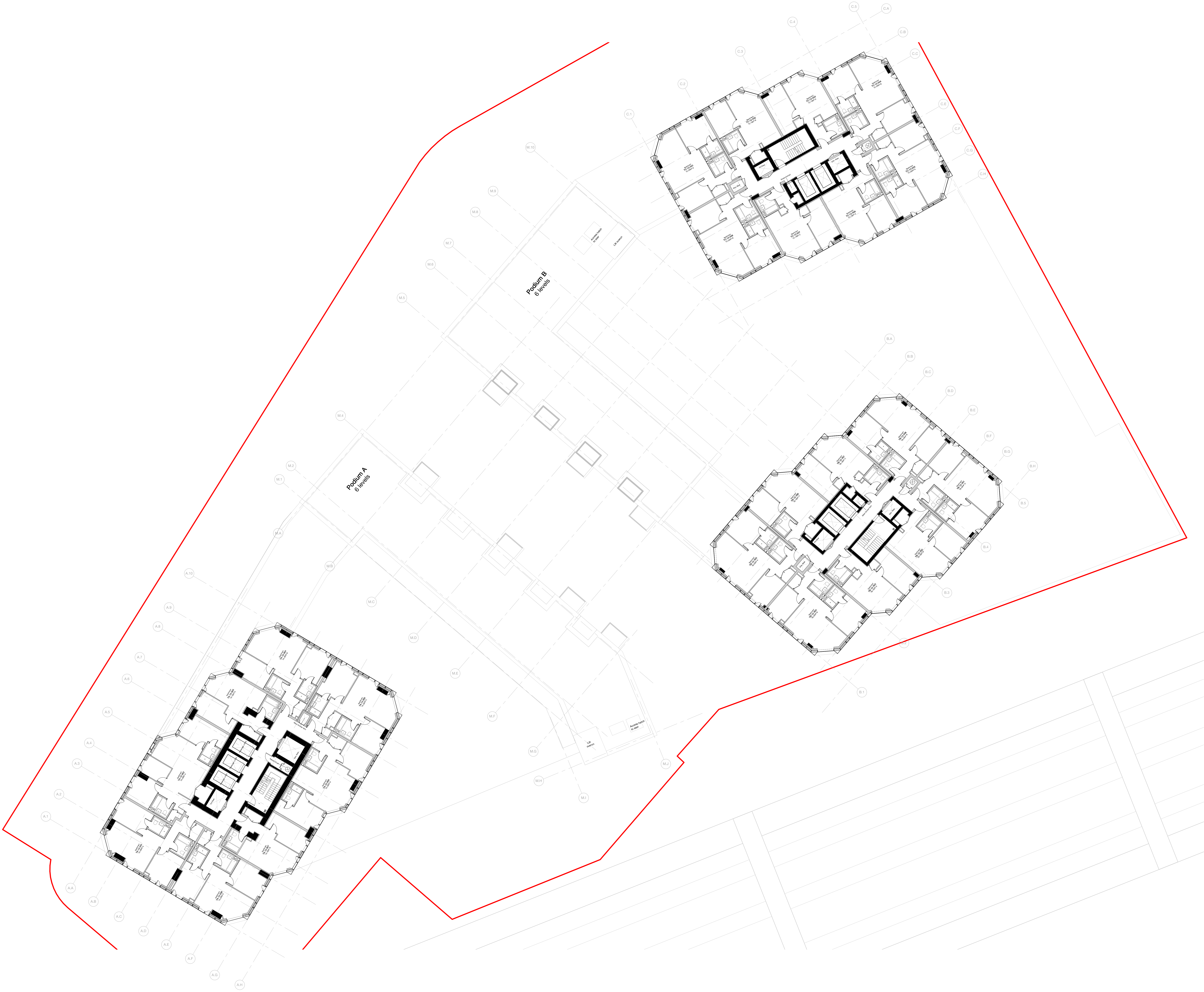
Project  
Victoria Riverside  
Dantzic Street  
Manchester

North

Drawing  
Proposed Level 08-17 Floor Plan

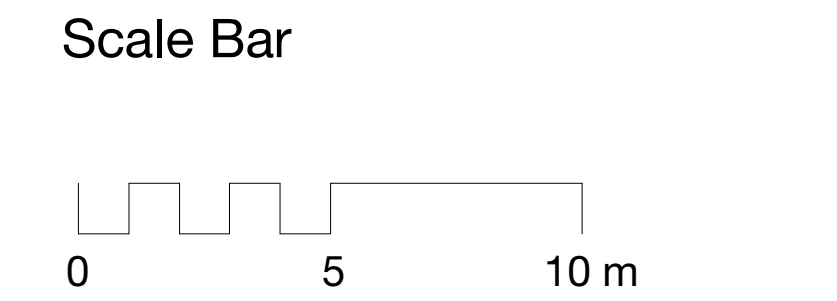
|                       |              |                                     |
|-----------------------|--------------|-------------------------------------|
| Scale @ A0<br>1 : 150 |              | Date<br>May 2020                    |
| Drawn By<br>NT        |              | Checked By<br>JK                    |
| Job Number<br>18059   | Status<br>S2 | Purpose of Issue<br>For Information |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

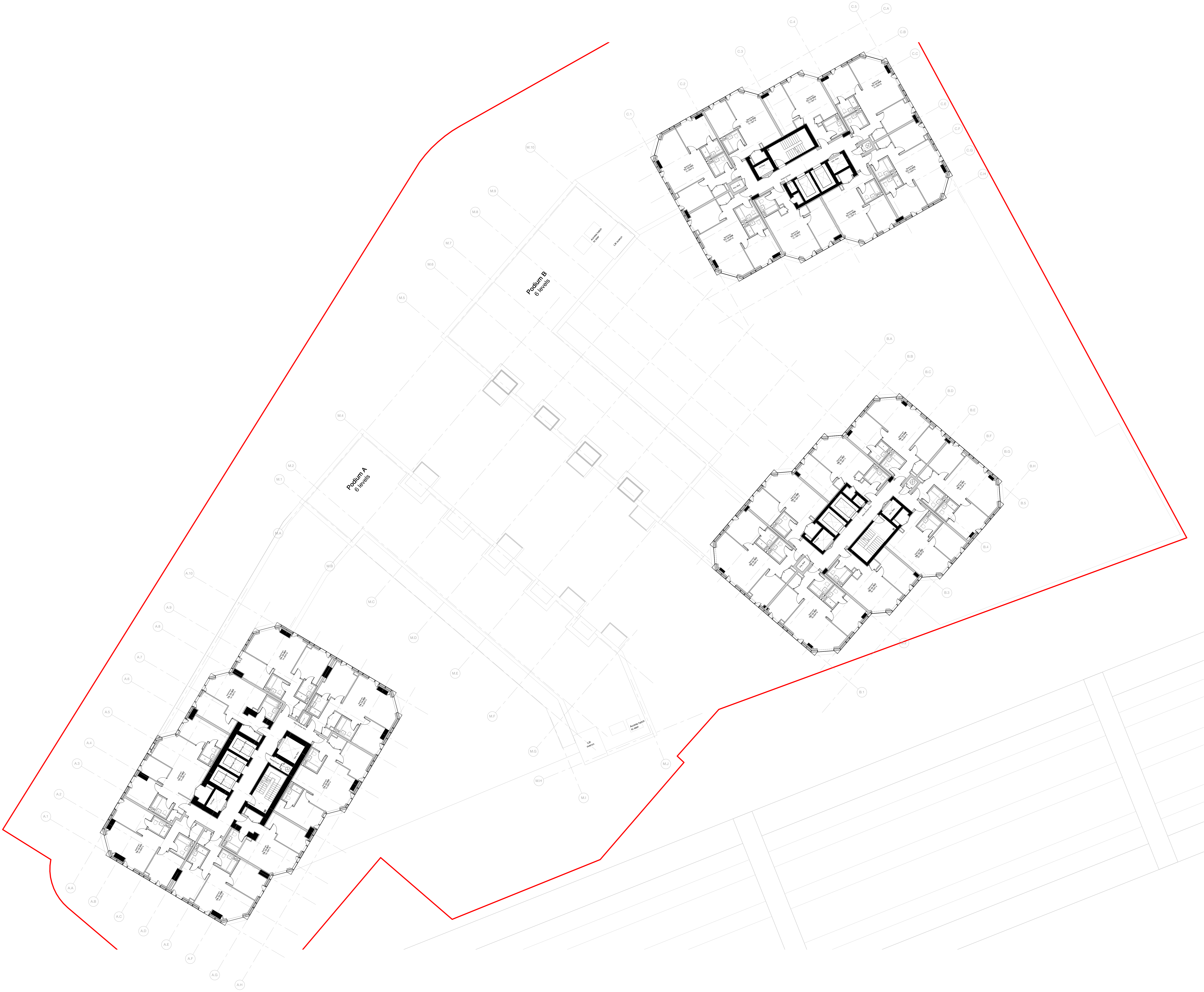
Project  
Victoria Riverside  
Dantzic Street  
Manchester

North

Drawing  
Proposed Level 08-17 Floor Plan

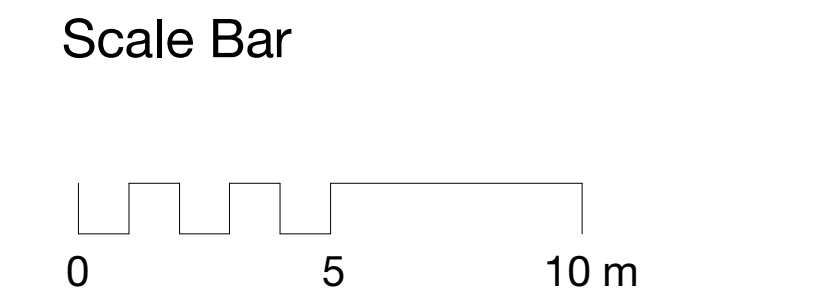
|                       |              |                                     |
|-----------------------|--------------|-------------------------------------|
| Scale @ A0<br>1 : 150 |              | Date<br>May 2020                    |
| Drawn By<br>NT        |              | Checked By<br>JK                    |
| Job Number<br>18059   | Status<br>S2 | Purpose of Issue<br>For Information |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

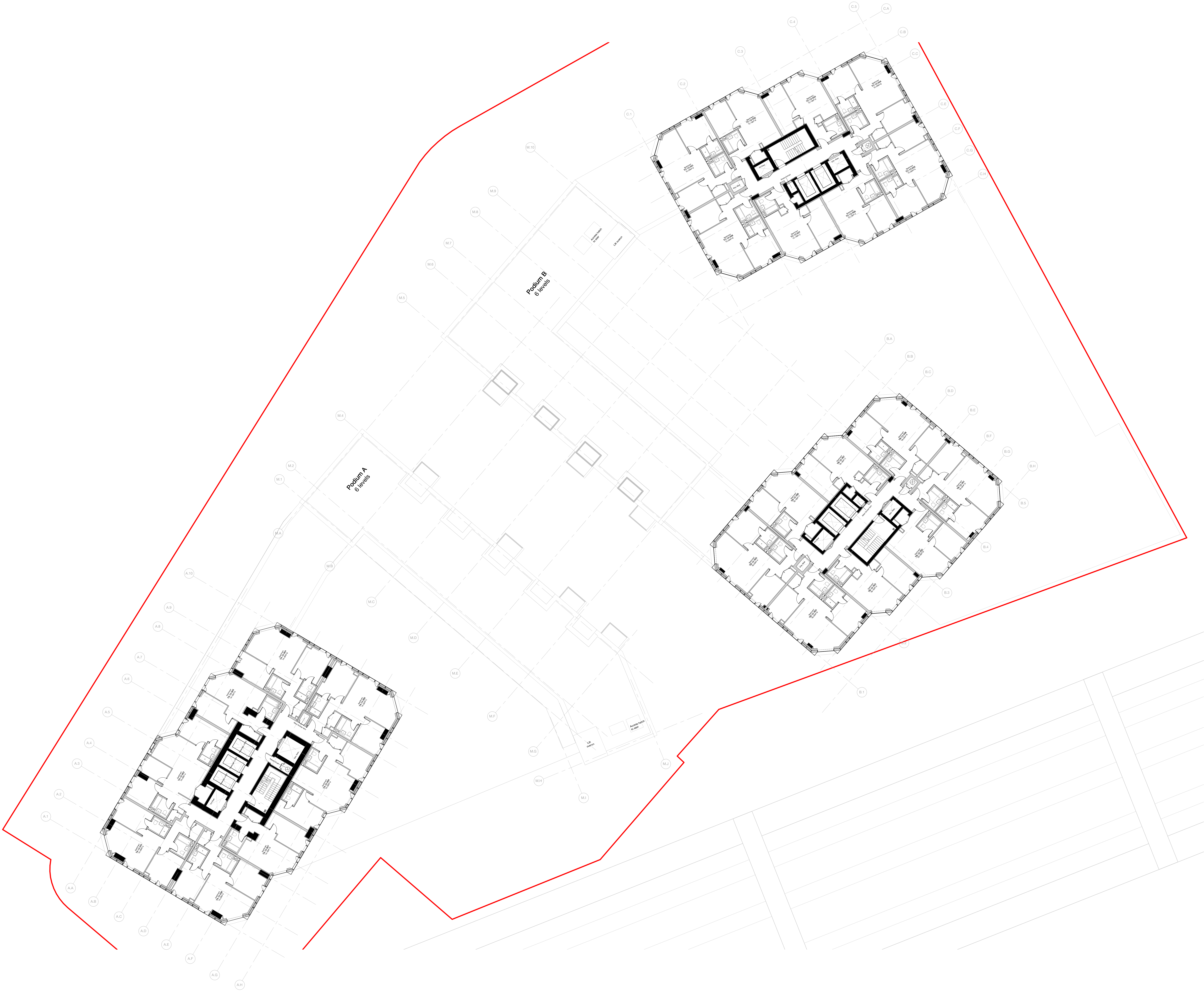
Project  
Victoria Riverside  
Dantzic Street  
Manchester

North

Drawing  
Proposed Level 08-17 Floor Plan

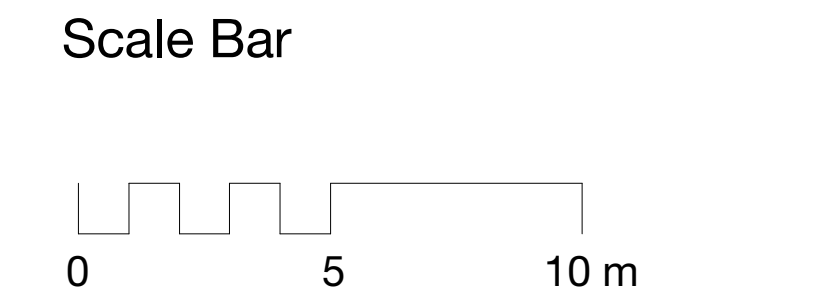
|                       |              |                                     |
|-----------------------|--------------|-------------------------------------|
| Scale @ A0<br>1 : 150 |              | Date<br>May 2020                    |
| Drawn By<br>NT        |              | Checked By<br>JK                    |
| Job Number<br>18059   | Status<br>S2 | Purpose of Issue<br>For Information |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

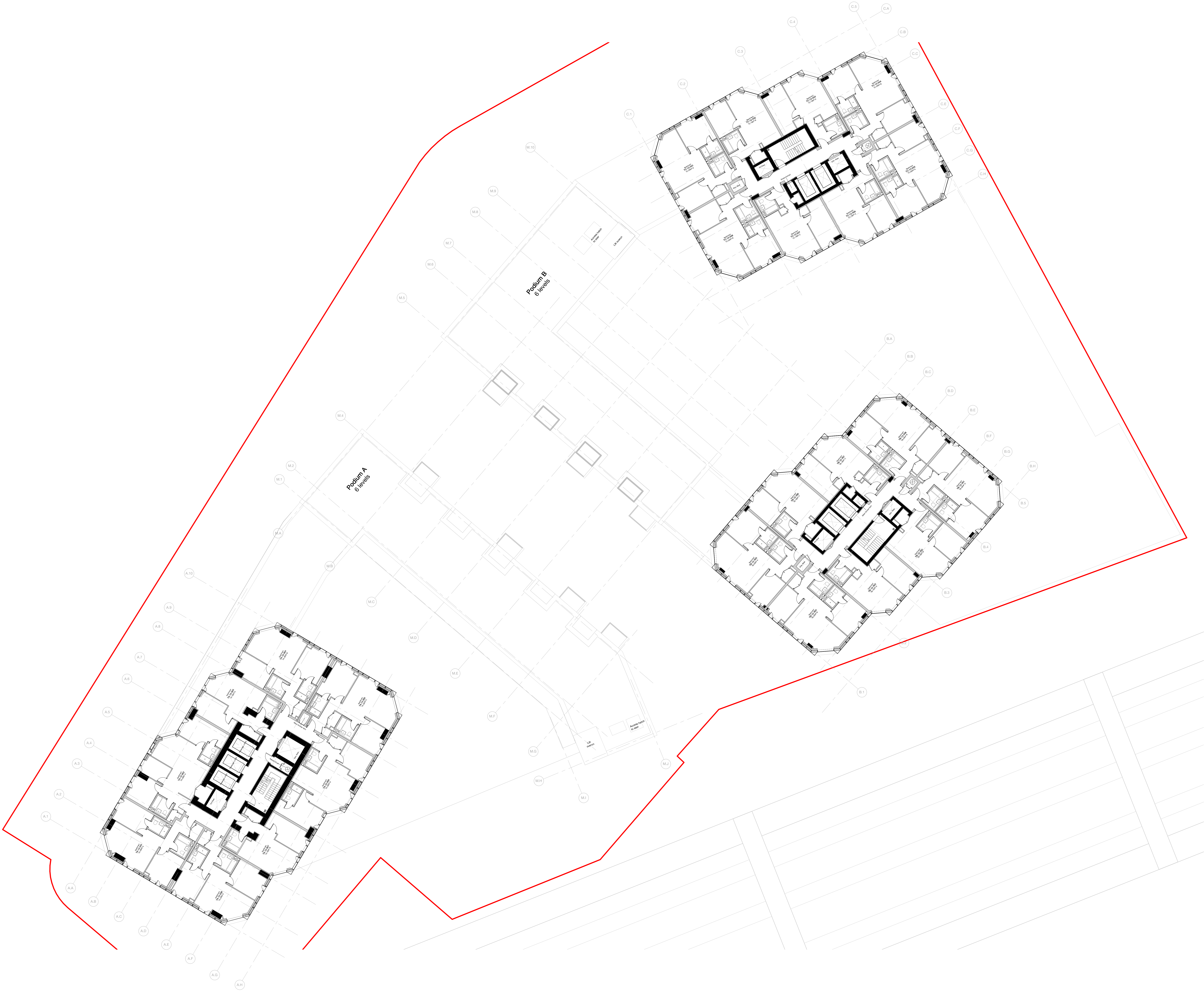
| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

|                                                               |           |
|---------------------------------------------------------------|-----------|
| Project<br>Victoria Riverside<br>Dantzic Street<br>Manchester | North<br> |
|---------------------------------------------------------------|-----------|

|                                            |
|--------------------------------------------|
| Drawing<br>Proposed Level 08-17 Floor Plan |
|--------------------------------------------|

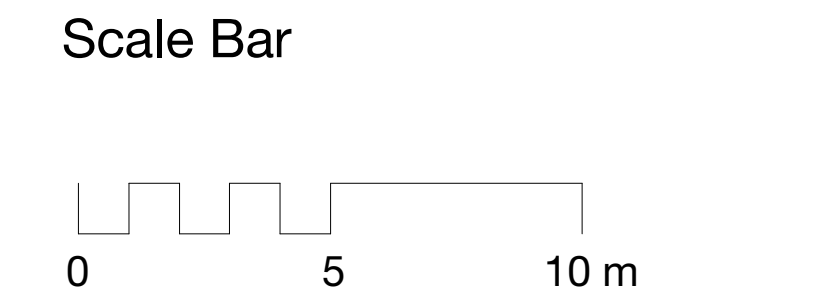
|            |        |                  |
|------------|--------|------------------|
| Scale @ A0 |        | Date             |
| 1 : 150    |        | May 2020         |
| Drawn By   |        | Checked By       |
| NT         |        | JK               |
| Job Number | Status | Purpose of Issue |
| 18059      | S2     | For Information  |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

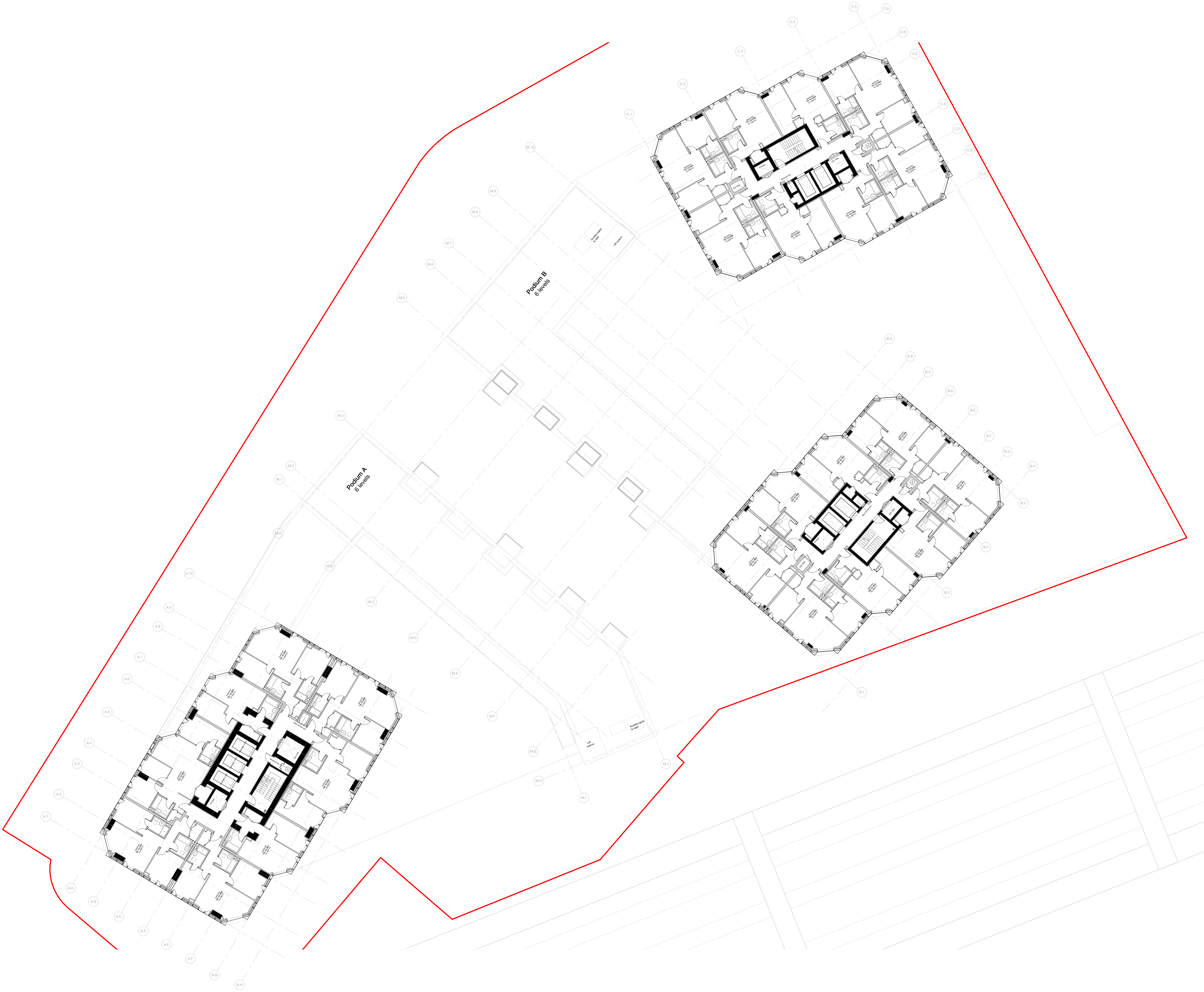
| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

|                                                               |           |
|---------------------------------------------------------------|-----------|
| Project<br>Victoria Riverside<br>Dantzic Street<br>Manchester | North<br> |
|---------------------------------------------------------------|-----------|

|                                            |
|--------------------------------------------|
| Drawing<br>Proposed Level 08-17 Floor Plan |
|--------------------------------------------|

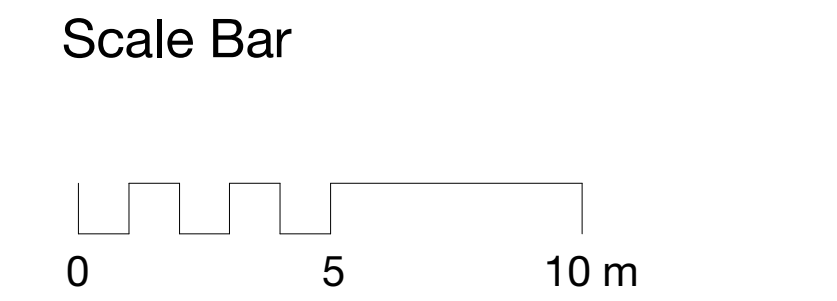
|            |        |                  |
|------------|--------|------------------|
| Scale @ A0 |        | Date             |
| 1 : 150    |        | May 2020         |
| Drawn By   |        | Checked By       |
| NT         |        | JK               |
| Job Number | Status | Purpose of Issue |
| 18059      | S2     | For Information  |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

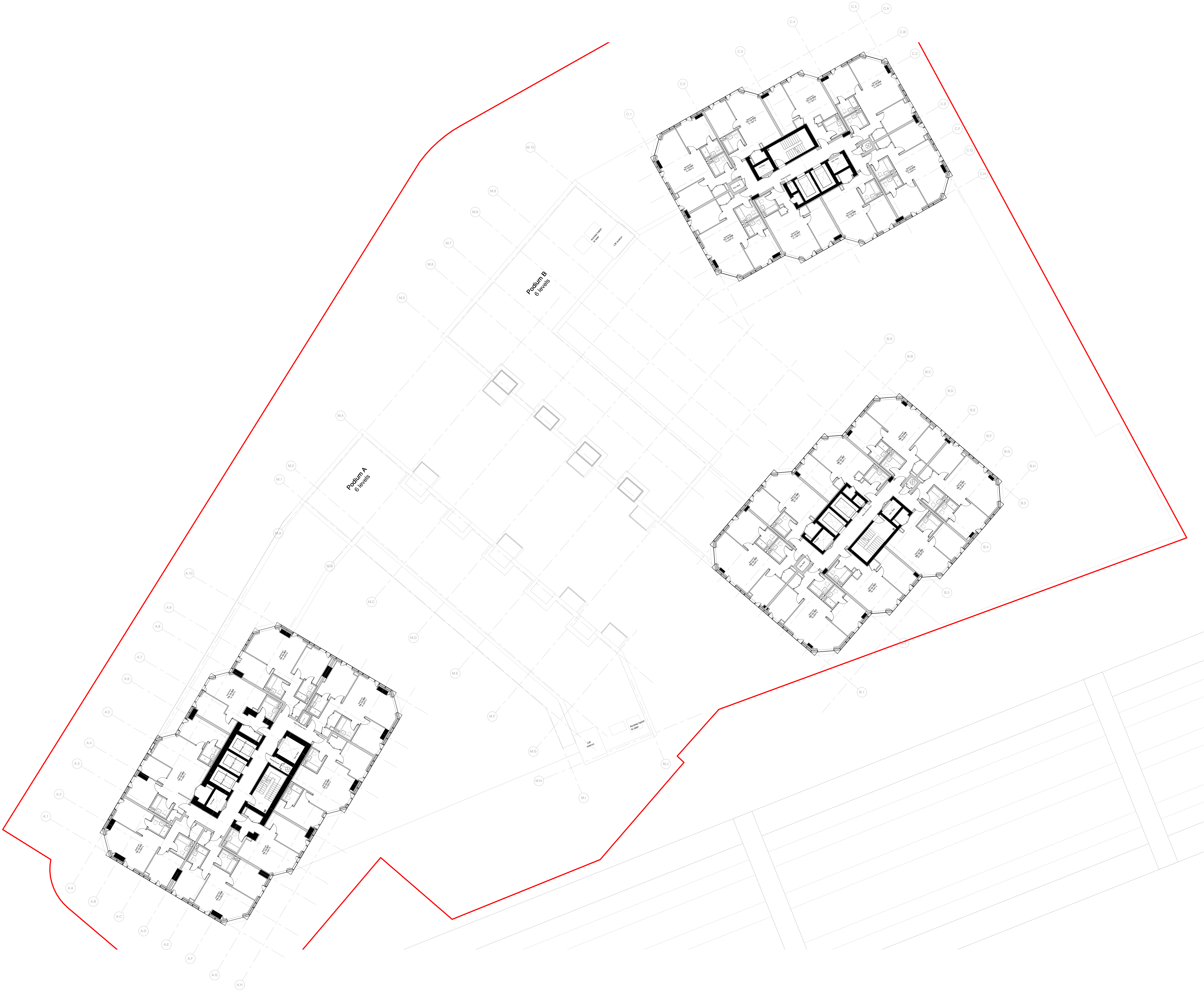
| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

|                                                               |           |
|---------------------------------------------------------------|-----------|
| Project<br>Victoria Riverside<br>Dantzic Street<br>Manchester | North<br> |
|---------------------------------------------------------------|-----------|

|                                            |
|--------------------------------------------|
| Drawing<br>Proposed Level 08-17 Floor Plan |
|--------------------------------------------|

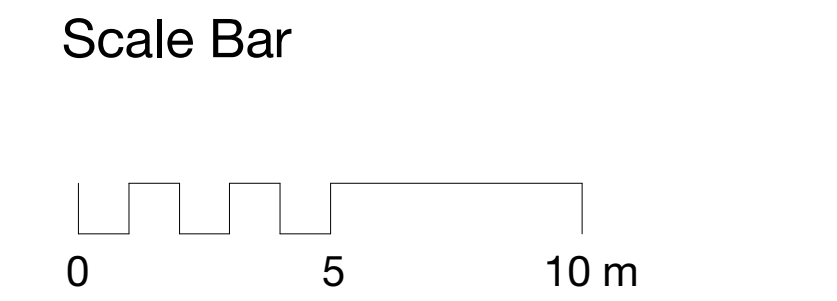
|            |        |                  |
|------------|--------|------------------|
| Scale @ A0 |        | Date             |
| 1 : 150    |        | May 2020         |
| Drawn By   |        | Checked By       |
| NT         |        | JK               |
| Job Number | Status | Purpose of Issue |
| 18059      | S2     | For Information  |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

| Minimum Required U-Value         |                    |
|----------------------------------|--------------------|
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

|                                                               |           |
|---------------------------------------------------------------|-----------|
| Project<br>Victoria Riverside<br>Dantzic Street<br>Manchester | North<br> |
|---------------------------------------------------------------|-----------|

|                                            |
|--------------------------------------------|
| Drawing<br>Proposed Level 08-17 Floor Plan |
|--------------------------------------------|

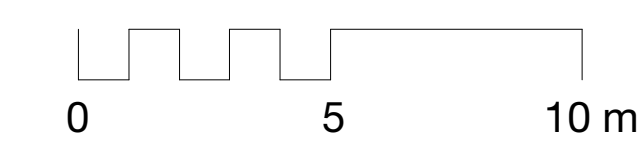
|            |        |                  |
|------------|--------|------------------|
| Scale @ A0 |        | Date             |
| 1 : 150    |        | May 2020         |
| Drawn By   |        | Checked By       |
| NT         |        | JK               |
| Job Number | Status | Purpose of Issue |
| 18059      | S2     | For Information  |

|                                           |           |
|-------------------------------------------|-----------|
| Drawing No.<br>VRS-HBA-00-12-DR-A-20_0108 | Rev<br>P4 |
|-------------------------------------------|-----------|

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

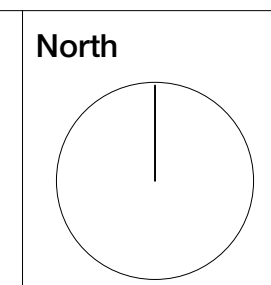
# Hawkins Brown

Minimum Required U-Value

|                   |                    |
|-------------------|--------------------|
| For the Towers:   |                    |
| Blended façade :  | 0.9 W/m²K          |
| Roof:             | 0.11 W/m²K         |
| Exposed Floor:    | 0.22 W/m²K         |
| Party wall:       | 0                  |
| Air permeability: | 3 m³/h.m² (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 08-17 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Sta  
52

**Purpose of Issue**  
For Information

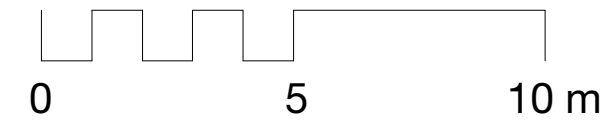
Drawing No.

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

|    | Description                        | Date     |
|----|------------------------------------|----------|
| #1 | WIP - Initial Issue                | 04.09.20 |
| #2 | Initial Issue for Stage 3B         | 02.10.20 |
| #3 | Updates to annotations and linings | 07.10.20 |
| #4 | Issued for Stage 3B                | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

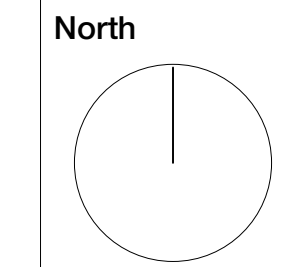
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 08-17 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Statu  
52

**Purpose of Issue**  
For Information

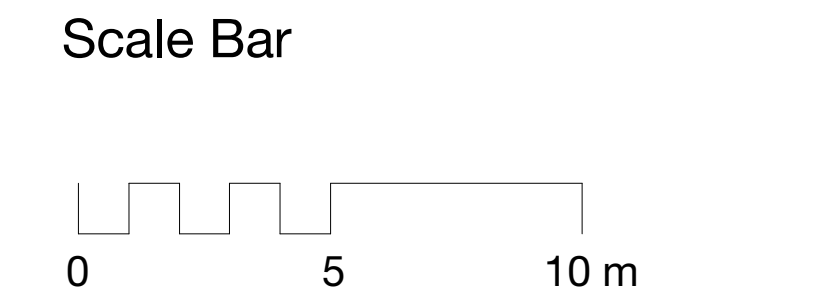
Drawing No.

Rev  
P4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

|                                  |                    |
|----------------------------------|--------------------|
| <b>Minimum Required U-Value</b>  |                    |
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

|                                                                      |                  |
|----------------------------------------------------------------------|------------------|
| <b>Project</b><br>Victoria Riverside<br>Dantzic Street<br>Manchester | <b>North</b><br> |
|----------------------------------------------------------------------|------------------|

|                                                   |
|---------------------------------------------------|
| <b>Drawing</b><br>Proposed Level 18-22 Floor Plan |
|---------------------------------------------------|

|                              |                         |
|------------------------------|-------------------------|
| <b>Scale @ A0</b><br>1 : 150 | <b>Date</b><br>May 2020 |
|------------------------------|-------------------------|

|                       |                         |
|-----------------------|-------------------------|
| <b>Drawn By</b><br>NT | <b>Checked By</b><br>JK |
|-----------------------|-------------------------|

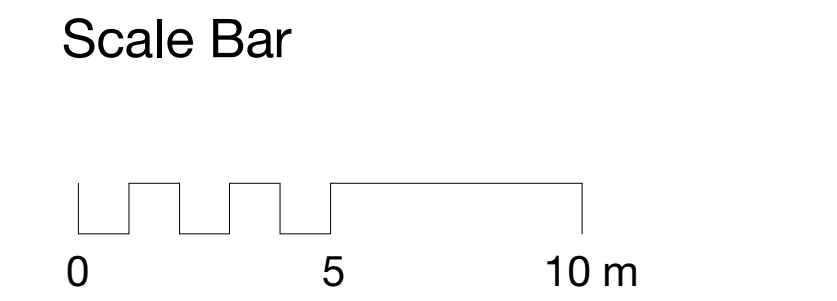
|                            |                     |                                            |
|----------------------------|---------------------|--------------------------------------------|
| <b>Job Number</b><br>18059 | <b>Status</b><br>S2 | <b>Purpose of Issue</b><br>For Information |
|----------------------------|---------------------|--------------------------------------------|

|                                                  |                  |
|--------------------------------------------------|------------------|
| <b>Drawing No.</b><br>VRS-HBA-00-18-DR-A-20_0118 | <b>Rev</b><br>P4 |
|--------------------------------------------------|------------------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

|                                  |                    |
|----------------------------------|--------------------|
| <b>Minimum Required U-Value</b>  |                    |
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

|                                                                      |                  |
|----------------------------------------------------------------------|------------------|
| <b>Project</b><br>Victoria Riverside<br>Dantzic Street<br>Manchester | <b>North</b><br> |
|----------------------------------------------------------------------|------------------|

|                                                   |
|---------------------------------------------------|
| <b>Drawing</b><br>Proposed Level 18-22 Floor Plan |
|---------------------------------------------------|

|                              |                         |
|------------------------------|-------------------------|
| <b>Scale @ A0</b><br>1 : 150 | <b>Date</b><br>May 2020 |
|------------------------------|-------------------------|

|                       |                         |
|-----------------------|-------------------------|
| <b>Drawn By</b><br>NT | <b>Checked By</b><br>JK |
|-----------------------|-------------------------|

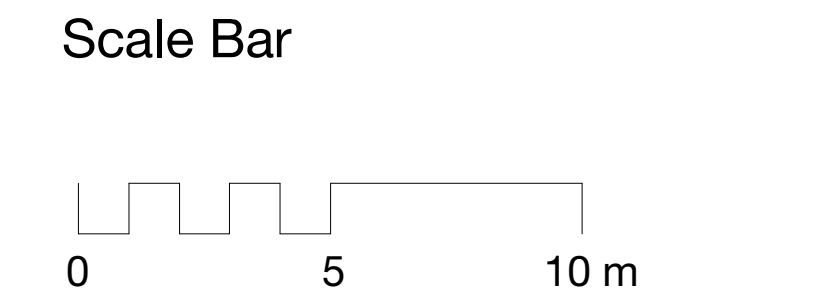
|                            |                     |                                            |
|----------------------------|---------------------|--------------------------------------------|
| <b>Job Number</b><br>18059 | <b>Status</b><br>S2 | <b>Purpose of Issue</b><br>For Information |
|----------------------------|---------------------|--------------------------------------------|

|                                                  |                  |
|--------------------------------------------------|------------------|
| <b>Drawing No.</b><br>VRS-HBA-00-18-DR-A-20_0118 | <b>Rev</b><br>P4 |
|--------------------------------------------------|------------------|



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

|                                  |                    |
|----------------------------------|--------------------|
| <b>Minimum Required U-Value</b>  |                    |
| <i>For the Towers:</i>           |                    |
| Blended facade :                 | 0.9 W/m²K          |
| Roof:                            | 0.11 W/m²K         |
| Exposed Floor:                   | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |
| <i>For the Podium Buildings:</i> |                    |
| Opaque areas of brickwork:       | 0.22 W/m²K         |
| Recessed areas of opaque:        | 0.35 W/m²K         |
| Roof:                            | 0.11 W/m²K         |
| Ground:                          | 0.22 W/m²K         |
| Party wall:                      | 0                  |
| Double Glazing :                 | 1.6 W/m²K          |
| y-value:                         | 0.09               |
| g-value:                         | 0.40               |
| Air permeability:                | 3 m³/h.m² (@ 50pa) |

|                                                                      |                  |
|----------------------------------------------------------------------|------------------|
| <b>Project</b><br>Victoria Riverside<br>Dantzic Street<br>Manchester | <b>North</b><br> |
|----------------------------------------------------------------------|------------------|

|                                                   |
|---------------------------------------------------|
| <b>Drawing</b><br>Proposed Level 18-22 Floor Plan |
|---------------------------------------------------|

|                              |                         |
|------------------------------|-------------------------|
| <b>Scale @ A0</b><br>1 : 150 | <b>Date</b><br>May 2020 |
|------------------------------|-------------------------|

|                       |                         |
|-----------------------|-------------------------|
| <b>Drawn By</b><br>NT | <b>Checked By</b><br>JK |
|-----------------------|-------------------------|

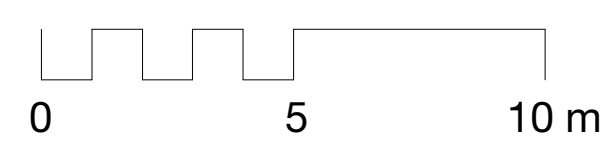
|                            |                     |                                            |
|----------------------------|---------------------|--------------------------------------------|
| <b>Job Number</b><br>18059 | <b>Status</b><br>S2 | <b>Purpose of Issue</b><br>For Information |
|----------------------------|---------------------|--------------------------------------------|

|                                                  |                  |
|--------------------------------------------------|------------------|
| <b>Drawing No.</b><br>VRS-HBA-00-18-DR-A-20_0118 | <b>Rev</b><br>P4 |
|--------------------------------------------------|------------------|

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

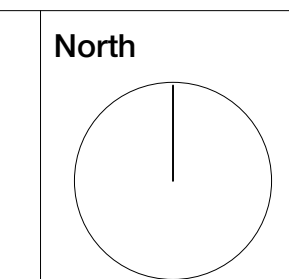
# Hawkins' Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| <i>For the Podium Buildings:</i> |                                           |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                   |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                   |
| Roof:                            | 0.11 W/m <sup>2</sup> K                   |
| Ground:                          | 0.22 W/m <sup>2</sup> K                   |
| Party wall:                      | 0                                         |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                    |
| y-value:                         | 0.09                                      |
| g-value:                         | 0.40                                      |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> @ 50pa |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 18-22 Floor Plan

Scale @ A  
1 : 150

|      |          |
|------|----------|
| Date | May 2020 |
|------|----------|

Drawn By  
NT

Checked By  
JK

Job Num  
18059

|     |    |
|-----|----|
| Sta | S2 |
|-----|----|

|  |                  |
|--|------------------|
|  | Purpose of Issue |
|  | For Information  |

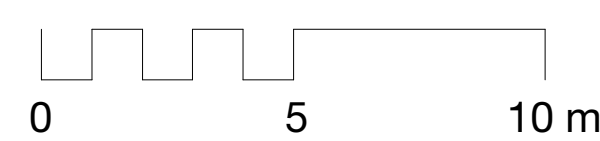
Drawing No.  
VRS-HBA-00-18-DR-A-20\_0118

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

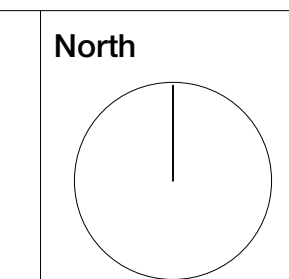
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| <i>For the Podium Buildings:</i> |                                           |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                   |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                   |
| Roof:                            | 0.11 W/m <sup>2</sup> K                   |
| Ground:                          | 0.22 W/m <sup>2</sup> K                   |
| Party wall:                      | 0                                         |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                    |
| y-value:                         | 0.09                                      |
| g-value:                         | 0.40                                      |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> @ 50pa |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 18-22 Floor Plan

Scale @ A  
1 : 150

|      |          |
|------|----------|
| Date | May 2020 |
|------|----------|

Drawn By  
NT

Checked By  
JK

Job Num  
18059

|     |    |
|-----|----|
| Sta | S2 |
|-----|----|

|  |                  |
|--|------------------|
|  | Purpose of Issue |
|  | For Information  |

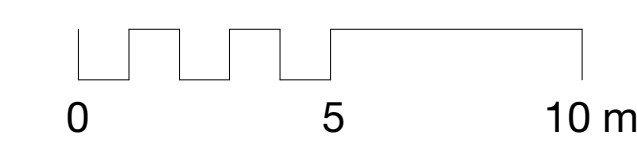
Drawing No.

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

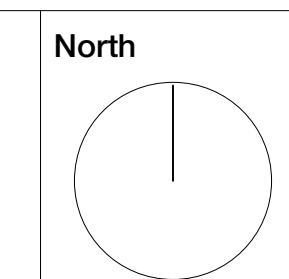
# Hawkins Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 23-25 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Sta  
52

**Purpose of Issue**  
For Information

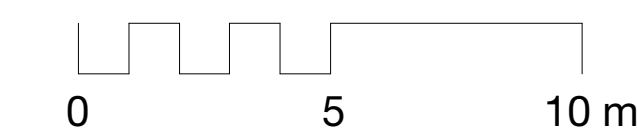
Drawing No.

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

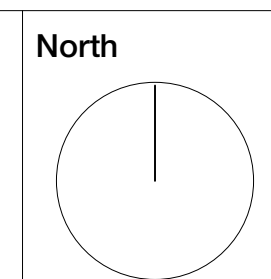
# Hawkins Brown

Minimum Required U-Value

|                   |                    |
|-------------------|--------------------|
| For the Towers:   |                    |
| Blended façade :  | 0.9 W/m²K          |
| Roof:             | 0.11 W/m²K         |
| Exposed Floor:    | 0.22 W/m²K         |
| Party wall:       | 0                  |
| Air permeability: | 3 m³/h.m² (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 23-25 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

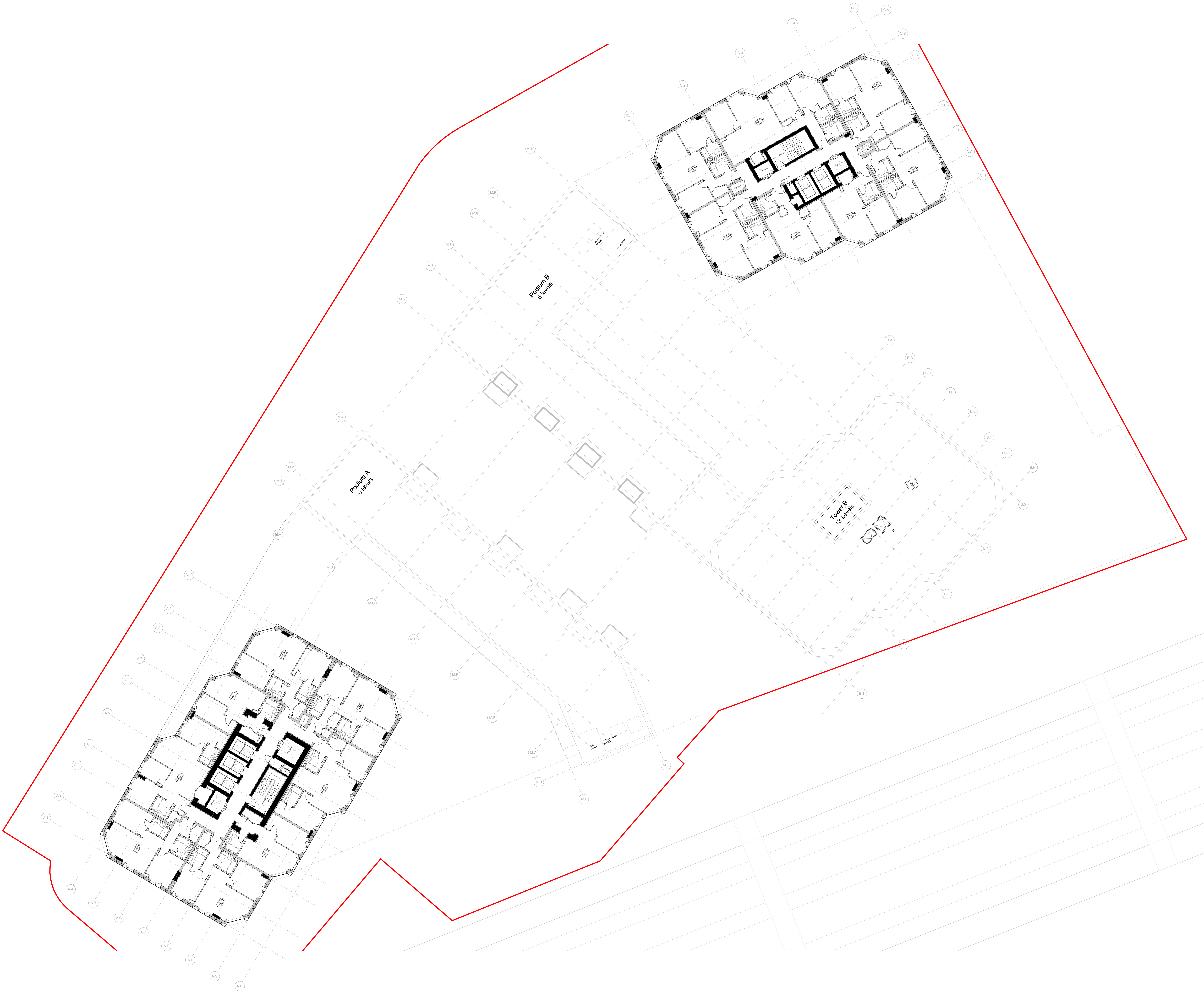
Checked By  
JK

Job Num  
18059Sta  
52

**Purpose of Issue**  
For Information

Drawing No.

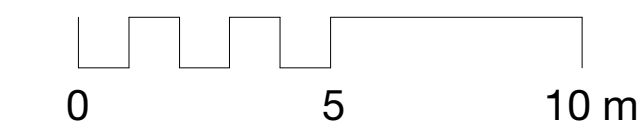
Rev  
P4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

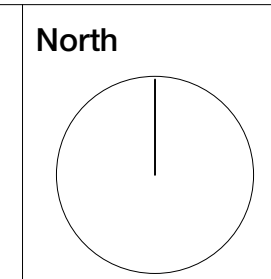
# Hawkins\Brown

## Minimum Required U-Value

*For the Towers:*  
Blended facade : 0.9 W/m²K  
Roof: 0.11 W/m²K  
Exposed Floor: 0.22 W/m²K  
Party wall: 0  
Air permeability: 3 m³/h.m² (@ 50pa)

*For the Podium Buildings:*  
Opaque areas of brickwork: 0.22 W/m²K  
Recessed areas of opaque: 0.35 W/m²K  
Roof: 0.11 W/m²K  
Ground: 0.22 W/m²K  
Party wall: 0  
Double Glazing : 1.6 W/m²K  
y-value: 0.09  
g-value: 0.40  
Air permeability: 3 m³/h.m² (@ 50pa)

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 23-25 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Number  
18059

Status  
S2

Purpose of Issue  
For Information

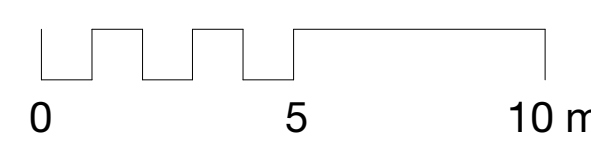
Drawing No.  
VRS-HBA-00-23-DR-A-20\_0123

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

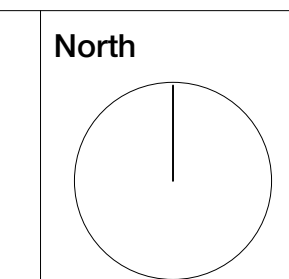
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| <i>For the Podium Buildings:</i> |                                           |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                   |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                   |
| Roof:                            | 0.11 W/m <sup>2</sup> K                   |
| Ground:                          | 0.22 W/m <sup>2</sup> K                   |
| Party wall:                      | 0                                         |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                    |
| y-value:                         | 0.09                                      |
| g-value:                         | 0.40                                      |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> @ 50pa |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

Scale @ A  
1 : 150

|      |          |
|------|----------|
| Date | May 2020 |
|------|----------|

Drawn By  
NT

Checked By  
JK

Job Num  
18059

|     |    |
|-----|----|
| Sta | S2 |
|-----|----|

|  |                  |
|--|------------------|
|  | Purpose of Issue |
|  | For Information  |

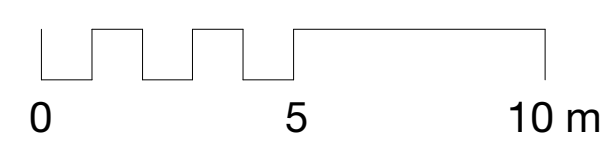
Drawing No.  
VRS-HBA-00-26-DR-A-20\_0126

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

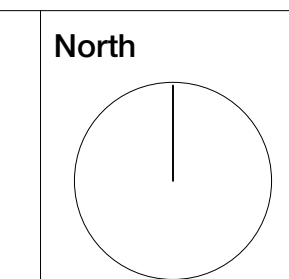
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                           |
|----------------------------------|-------------------------------------------|
| <i>For the Podium Buildings:</i> |                                           |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                   |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                   |
| Roof:                            | 0.11 W/m <sup>2</sup> K                   |
| Ground:                          | 0.22 W/m <sup>2</sup> K                   |
| Party wall:                      | 0                                         |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                    |
| y-value:                         | 0.09                                      |
| g-value:                         | 0.40                                      |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> @ 50pa |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

Scale @ A0  
1 : 150

|      |          |
|------|----------|
| Date | May 2020 |
|------|----------|

Drawn By  
NT

Checked By  
JK

Job Num  
18059

|      |
|------|
| Stat |
| S2   |

|  |                  |
|--|------------------|
|  | Purpose of Issue |
|  | For Information  |

Drawing No.  
VRS-HBA-00-26-DR-A-20\_0126

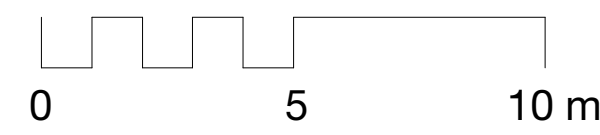
Rev  
P4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar



30 Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

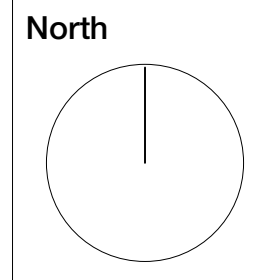
# Hawkins\Brown

## Minimum Required U-Value

*For the Towers:*  
Blended facade : 0.9 W/m²K  
Roof: 0.11 W/m²K  
Exposed Floor: 0.22 W/m²K  
Party wall: 0  
Air permeability: 3 m³/h.m² (@ 50pa)

*For the Podium Buildings:*  
Opaque areas of brickwork: 0.22 W/m²K  
Recessed areas of opaque: 0.35 W/m²K  
Roof: 0.11 W/m²K  
Ground: 0.22 W/m²K  
Party wall: 0  
Double Glazing : 1.6 W/m²K  
y-value: 0.09  
g-value: 0.40  
Air permeability: 3 m³/h.m² (@ 50pa)

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

## Scale @ A0

1 : 150

## Date

May 2020

## Drawn By

NT

## Checked By

JK

## Job Number

18059

## Status

S2

## Purpose of Issue

For Information

## Drawing No.

VRS-HBA-00-26-DR-A-20\_0126

## Rev

P4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar

0

5

10 m

30 Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

Hawkins\Brown

Minimum Required U-Value

For the Towers:

Blended facade : 0.9 W/m²K  
Roof: 0.11 W/m²K  
Exposed Floor: 0.22 W/m²K  
Party wall: 0  
Air permeability: 3 m³/h.m² (@ 50pa)

For the Podium Buildings:

Opaque areas of brickwork: 0.22 W/m²K  
Recessed areas of opaque: 0.35 W/m²K  
Roof: 0.11 W/m²K  
Ground: 0.22 W/m²K  
Party wall: 0  
Double Glazing : 1.6 W/m²K  
y-value: 0.09  
g-value: 0.40  
Air permeability: 3 m³/h.m² (@ 50pa)

Project

Victoria Riverside  
Dantzic Street  
Manchester

North

Drawing

Proposed Level 26-36 Floor Plan

Scale @ A0

1 : 150

Date

May 2020

Drawn By

NT

Checked By

JK

Job Number

18059

Status

S2

Purpose of Issue

For Information

Drawing No.

VRS-HBA-00-26-DR-A-20\_0126

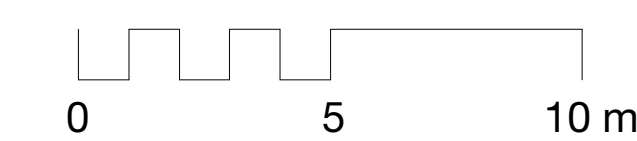
Rev

P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

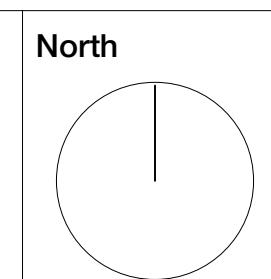
# Hawkins' Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Stat  
52

**Purpose of Issue**  
For Information

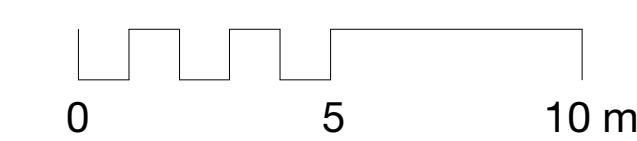
Drawing No.

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| #1  | WIP - Initial Issue                | 04.09.20 |
| #2  | Initial Issue for Stage 3B         | 02.10.20 |
| #3  | Updates to annotations and linings | 07.10.20 |
| #4  | Issued for Stage 3B                | 08.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

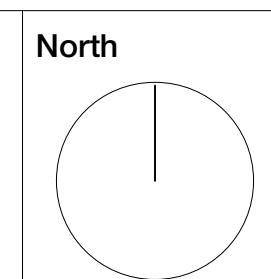
# Hawkins' Brown

Minimum Required U-Value

|                   |                    |
|-------------------|--------------------|
| For the Towers:   |                    |
| Blended façade :  | 0.9 W/m²K          |
| Roof:             | 0.11 W/m²K         |
| Exposed Floor:    | 0.22 W/m²K         |
| Party wall:       | 0                  |
| Air permeability: | 3 m³/h.m² (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Stat  
52

**Purpose of Issue**  
For Information

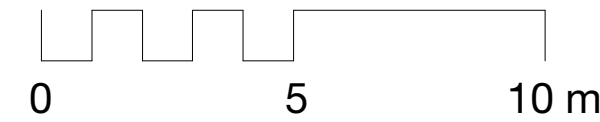
Drawing No.

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

|    | Description                        | Date     |
|----|------------------------------------|----------|
| #1 | WIP - Initial Issue                | 04.09.20 |
| #2 | Initial Issue for Stage 3B         | 02.10.20 |
| #3 | Updates to annotations and linings | 07.10.20 |
| #4 | Issued for Stage 3B                | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

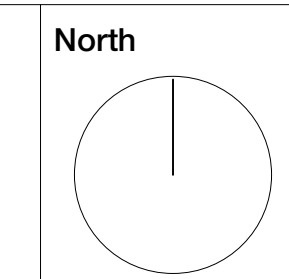
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Statu  
52

**Purpose of Issue**  
For Information

Drawing No.

Rev  
P4



Copyright Hawkins\Brown Architects

No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar

0 5 10 m

30 Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

**Minimum Required U-Value**

*For the Towers:*

|                   |                    |
|-------------------|--------------------|
| Blended facade :  | 0.9 W/m²K          |
| Roof:             | 0.11 W/m²K         |
| Exposed Floor:    | 0.22 W/m²K         |
| Party wall:       | 0                  |
| Air permeability: | 3 m³/h.m² (@ 50pa) |

*For the Podium Buildings:*

|                            |                    |
|----------------------------|--------------------|
| Opaque areas of brickwork: | 0.22 W/m²K         |
| Recessed areas of opaque:  | 0.35 W/m²K         |
| Roof:                      | 0.11 W/m²K         |
| Ground:                    | 0.22 W/m²K         |
| Party wall:                | 0                  |
| Double Glazing :           | 1.6 W/m²K          |
| y-value:                   | 0.09               |
| g-value:                   | 0.40               |
| Air permeability:          | 3 m³/h.m² (@ 50pa) |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester

**Drawing**  
Proposed Level 26-36 Floor Plan

**Scale @ A0**  
1 : 150

**Date**  
May 2020

**Drawn By**  
NT

**Checked By**  
JK

**Job Number**  
18059

**Status**  
S2

**Purpose of Issue**  
For Information

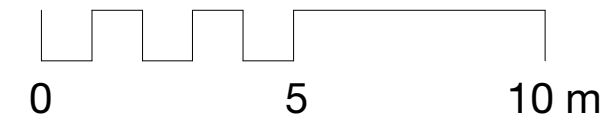
**Drawing No.**  
VRS-HBA-00-26-DR-A-20\_0126

**Rev**  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

|    | Description                        | Date     |
|----|------------------------------------|----------|
| #1 | WIP - Initial Issue                | 04.09.20 |
| #2 | Initial Issue for Stage 3B         | 02.10.20 |
| #3 | Updates to annotations and linings | 07.10.20 |
| #4 | Issued for Stage 3B                | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF

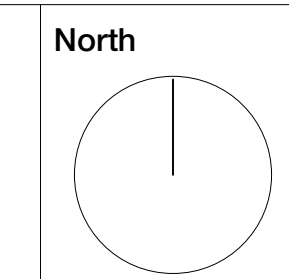
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Statu  
52

**Purpose of Issue**  
For Information

Drawing No.

Rev  
P4



Copyright Hawkins\Brown Architects

No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| P1  | WIP - Initial Issue                | 04.09.20 |
| P2  | Initial Issue for Stage 3B         | 02.10.20 |
| P3  | Updates to annotations and linings | 01.10.20 |
| P4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar

0 5 10 m

30 Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

Minimum Required U-Value

For the Towers:

|                   |                    |
|-------------------|--------------------|
| Blended facade :  | 0.9 W/m²K          |
| Roof:             | 0.11 W/m²K         |
| Exposed Floor:    | 0.22 W/m²K         |
| Party wall:       | 0                  |
| Air permeability: | 3 m³/h.m² (@ 50pa) |

For the Podium Buildings:

|                            |                    |
|----------------------------|--------------------|
| Opaque areas of brickwork: | 0.22 W/m²K         |
| Recessed areas of opaque:  | 0.35 W/m²K         |
| Roof:                      | 0.11 W/m²K         |
| Ground:                    | 0.22 W/m²K         |
| Party wall:                | 0                  |
| Double Glazing :           | 1.6 W/m²K          |
| y-value:                   | 0.09               |
| g-value:                   | 0.40               |
| Air permeability:          | 3 m³/h.m² (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester

North

Drawing  
Proposed Level 26-36 Floor Plan

|                       |                  |                                     |
|-----------------------|------------------|-------------------------------------|
| Scale @ A0<br>1 : 150 | Date<br>May 2020 |                                     |
| Drawn By<br>NT        | Checked By<br>JK |                                     |
| Job Number<br>18059   | Status<br>S2     | Purpose of Issue<br>For Information |

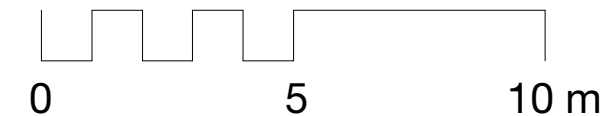
Drawing No.  
VRS-HBA-00-26-DR-A-20\_0126

Rev  
P4

Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description                        | Date     |
|-----|------------------------------------|----------|
| *1  | WIP - Initial Issue                | 04.09.20 |
| *2  | Initial Issue for Stage 3B         | 02.10.20 |
| *3  | Updates to annotations and linings | 07.10.20 |
| *4  | Issued for Stage 3B                | 06.11.20 |

Scale Bar



3C Tariff Street  
Manchester M1 2FF  
mail@hawkinsbrown.com  
**hawkinsbrown.com**

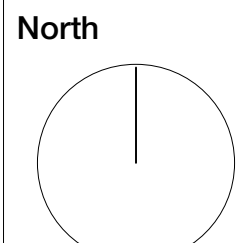
# Hawkins\Brown

Minimum Required U-Value

|                   |                                             |
|-------------------|---------------------------------------------|
| For the Towers:   |                                             |
| Blended façade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

|                                  |                                             |
|----------------------------------|---------------------------------------------|
| <i>For the Podium Buildings:</i> |                                             |
| Opaque areas of brickwork:       | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:        | 0.35 W/m <sup>2</sup> K                     |
| Roof:                            | 0.11 W/m <sup>2</sup> K                     |
| Ground:                          | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                      | 0                                           |
| Double Glazing :                 | 1.6 W/m <sup>2</sup> K                      |
| y-value:                         | 0.09                                        |
| g-value:                         | 0.40                                        |
| Air permeability:                | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

Project  
Victoria Riverside  
Dantzic Street  
Manchester



Drawing  
Proposed Level 26-36 Floor Plan

Scale @ A0  
1 : 150

Date  
May 2020

Drawn By  
NT

Checked By  
JK

Job Num  
18059Stat  
52

**Purpose of Issue**  
For Information

Drawing No.

Rev  
P4



Copyright Hawkins\Brown Architects  
No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation. Do not scale this drawing. All dimensions to be checked on the site by the contractor and such dimensions to be their responsibility. All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect. To be read in conjunction with Architect's specification and other consultant information.

| Rev | Description         | Date     |
|-----|---------------------|----------|
| P1  | Issued for Stage 3B | 06.11.20 |

Scale Bar

0 5 10 m

3C Tariff Street  
Manchester M1 2FF

mail@hawkinsbrown.com  
hawkinsbrown.com

# Hawkins\Brown

**Minimum Required U-Value**

*For the Towers:*

|                   |                                             |
|-------------------|---------------------------------------------|
| Blended facade :  | 0.9 W/m <sup>2</sup> K                      |
| Roof:             | 0.11 W/m <sup>2</sup> K                     |
| Exposed Floor:    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:       | 0                                           |
| Air permeability: | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

*For the Podium Buildings:*

|                            |                                             |
|----------------------------|---------------------------------------------|
| Opaque areas of brickwork: | 0.22 W/m <sup>2</sup> K                     |
| Recessed areas of opaque:  | 0.35 W/m <sup>2</sup> K                     |
| Roof:                      | 0.11 W/m <sup>2</sup> K                     |
| Ground:                    | 0.22 W/m <sup>2</sup> K                     |
| Party wall:                | 0                                           |
| Double Glazing :           | 1.6 W/m <sup>2</sup> K                      |
| y-value:                   | 0.09                                        |
| g-value:                   | 0.40                                        |
| Air permeability:          | 3 m <sup>3</sup> /h.m <sup>2</sup> (@ 50pa) |

**Project**  
Victoria Riverside  
Dantzic Street  
Manchester

**Drawing**  
Proposed Roof Plan

**Scale @ A0**  
1 : 150

**Date**  
Nov 2020

**Drawn By**  
NT

**Checked By**  
JK

**Job Number**  
18059

**Status**  
S2

**Purpose of Issue**  
For Information

**Drawing No.**  
VRS-HBA-00-37-DR-A-20\_0137

**Rev**  
P1