

10 Minshull Street and 11 Bloom Street

SCAFFOLDING OPTIONAL APPRAISAL

LISTED BUILDING CONSENT CONDITION RELEASE 5

Planning Permission 119375/LO/2018 & 119373/LO/2018

- Prepared by Manchester Design & Build -

June 2022



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1. Introduction

Manchester Design and Build has prepared the following report to facilitate the release of planning condition 5 for the Listed Building Consent 119375/LO/2018 and 119373/LO/2018 – as per the following:

“5) Before any works necessary to implement the approval commence a methodology and specification for any associated scaffolding and support structure including its location, means of affixing to the building, location of any associated fixings to the building, details of how the building fabric would be protected from potential damage as a result of the erection of the scaffolding and details of making good to the building fabric following removal shall be submitted to and approved in writing by the City Council as local planning authority. No development shall commence unless and until the above details have been agreed.

Reason - In the interests of visual amenity and because the proposed works affect a building which is included in the Statutory List of Buildings of Special Architectural or Historic Interest and careful attention to building work is required to protect the character and appearance of this building and to ensure consistency in accordance with policies CC9 and EN3 of the Core Strategy and saved policy DC19.1 of the Unitary Development Plan for the City of Manchester.”

It has been specifically prepared following a review of Further Advice (No.8) Discharge of Condition 5 relating to scaffolding dated 2nd September 2021 submitted by the Urban Design and Conservation Team and the conservation and planning matters site meeting of the 26th October 2021.

1.1 Scope and Purpose of Report

The objective of this report is to provide a conservation led appraisal of the options considered for the erection and fixing of scaffolding on both listed buildings in the scheme in order to facilitate release of the above condition. The report provides an appraisal of the scaffolding options considered and a summary of the proposed solution to enable the scaffolding works to be undertaken safely and with minimal intervention.

The scaffolding / temporary works to support the deteriorated alley way façade to Mindel House are subject to detail design by Bespoke Scaffold Design /Tony G (consulting scaffolding / temporary works design structural engineers). A conservation led review of the scaffolding proposals set out in this report has been undertaken by John Ruddy (Conservation Accredited Engineer).

1.2 Condition Summary:

The scaffold has been designed by the scaffolding designer in collaboration with the consulting temporary works design structural engineers to fulfil the role of temporary working platform to facilitate access for the proposed cleaning and external repair works to the façade and windows.

To the Mindel House alleyway elevation there has been considerable structural movement to the central sections of the wall adjacent to the original goods hoist area. The wall appears to have dropped in level and there is notable movement to the floor structure adjoining at every level (as outlined in the structural engineer's report contained in Appendix B). Therefore, the proposed scaffolding is also necessary to provide temporary support, in part, to the Mindel House alleyway façade at this location.

1.3 Limitations

Mindel House alleyway wall and floor connections

Further investigation and design works are being undertaken by Messrs GM Structures (project structural engineer) and John Ruddy (Conservation Accredited Engineer) to detail the necessary consolidation works to the alleyway facing wall and internal floor connections at Mindel House. The proposed consolidation solutions and recommendations relating to the repair of the alleyway facing wall and floor connections at Mindel House are outside the scope of this report. The appropriate conservation led remedial work proposals will be reported under separate cover following implementation of the required scaffolding works, the structural engineer's further condition assessment investigations and review by the Conservation Accredited Engineer.

Windows generally

The design and construction of the façade restraint to the Mindel House alleyway elevation will, unavoidably, involve scaffolding tubes passing through a specific number of existing window openings on every floor level. Refer to the Mindel House Façade Retention Window Schedule in Appendix G and the Mindel House Alleyway Elevation drawing in Appendix H for identification of the existing window openings affected by the proposed façade retention / scaffolding works. Further details are outlined in the following sections of this report regarding temporary protection measures and how these particular existing windows are to be managed, in order to facilitate the scaffolding works with minimal intervention.

An assortment of existing timber framed single glazed windows are provided, the majority of which feature vertical hung sashes. A number of the existing window openings to the Mindel House alleyway elevation are either currently bricked up or boarded over and will be opened up to enable the façade restraint / scaffolding works to be undertaken.

Most of the existing windows provided to both buildings are in a serviceable condition and will be retained and repaired wherever practical to do so, either in-situ, or by careful removal and repair of sash elements in the workshop. A limited number of timber windows however to the Mindel House alleyway elevation are notably dilapidated, decayed or distorted with damaged mechanisms (other windows have been inappropriately replaced in the past). Some of these existing windows are deemed to be beyond practical repair (even for the most experienced specialist joinery contractor) and there will be no alternative but to replace them where it is not feasible to salvage and repair the existing window. A number of windows to the Mindel House alleyway elevation will be affected by the proposed façade retention scaffolding works.

Note: scheduling the condition, level of intervention and proposed repairs to each individual window (including windows directly affected by the proposed scaffolding works) is outside the scope of this report. Conservation details for the windows relating to planning Condition 11(i) are provided elsewhere as part of a separate condition discharge application. Where it will be necessary to replace an existing dilapidated window or reinstate windows bricked up or boarded over, the replacement window will be a new custom-made replica timber box section vertical sliding sash single glazed window (to match original sash windows exactly on the elevation / building).

1.4 Executive Summary:

Notwithstanding the feasibility of repairing the alleyway façade to Mindel House, the main objective of the scaffolding / temporary works is to safeguard as much of the original existing historic building structure and fabric as possible whilst prioritising the safety of all those in and around the construction area.

Intervention is to be minimised where possible. Works will be undertaken by approved experienced scaffolding / heritage contractors in order to preserve the historic building fabric where necessary and where practicable. A criteria-based approach has been used to determine the level of scaffolding / temporary works intervention required following intrusive surveys carried out by a range of specialists. All works are to be undertaken in accordance with technical guidance TG20:13 and the guidance and provisions set out in BS 7913: 2013 Guide to the conservation of historic buildings.

The scaffolding needs to be implemented as soon as possible to provide the necessary temporary support to the Mindel House alleyway facade and to enable essential further investigation, consolidation and remedial works to be carried out according to programme.

Using a conservation led approach, with our appointed Conservation Accredited Engineer and the temporary works / scaffolding engineers, a range of scaffolding options have been considered whilst taking into account general condition, safety, structural integrity and load resistance of the existing original built fabric.

From the options appraised, the option with least intervention from a conservation perspective (i.e. no drilling into masonry) would involve temporary protection and fixing through the window openings with scaffolding tubes to form opposing lip ties through each window opening. However, this option would cause significant disruption and delay to the programme. The sequence of the scaffolding will not enable works on the window frames, the internal replastering and the cleaning and repairs to the brickwork to be carried out concurrently (and it would not be possible to undertake works to the internal side of the walls while the scaffold tubes are in place). The window repairs (detailed separately in response to planning Condition 11(i)) would have to be done lift by lift whilst allowing the dismantling of the scaffold. Furthermore, all such works would have to be undertaken after the roof top extension (11 Bloom Street) and re-roofing works (Mindel House) have been completed. It would add months to the programme, additional costs to the works packages and subcontractor preliminaries rendering the development non-viable from a cost perspective.

Other options appraised in the report enable the required sequencing and programmed of works, however, they either involve considerable intervention to the original built fabric / damage existing masonry, encroach too far onto the public highway or fail the required load testing.

The preferred option (Option 3) involves drilling single hole nylon plug anchor ties with screw in eyes drilled precisely at the 'T' junction of the horizontal bed and vertical perp joints in order to avoid damaging brickwork. The initial design based on a total of circa 402no. ties required a calculated test load of 7.00kN to be achieved to safely secure the scaffold structure (taking into account the condition of the substrate and potential for 'creep' in the ties). However, following site tests, the tie failure load into the existing substrate was below 5.00kN, which is notably less than the required test load value. Subsequently, it has been necessary to consider an alternative design and to re-calculate the overall number of ties required.

To keep the requirement for evenly spaced ties, and in order to achieve the required test load, the only option is to double the overall provision of ties. For Mindel House, this equates to approximately 1no. tie every 6m². For 11 Bloom Street this equates to approximately 1no. tie every 4m² - due to the additional temporary roof structure integrated within the scaffolding.

Whilst intervention is unavoidable, it will be minimal and all holes will be repaired using appropriate lime-based repair mortar to match the colour, texture and worked appearance of the existing mortar / brickwork (as detailed in this report). Option 3 is a structurally viable solution with minimal intervention to the original buildings which can easily be reversed and repaired. It enables the scaffolding to be erected in line with the construction programme and will facilitate the works being carried simultaneously without obstructing the sequence and phasing of works.

1.5 Façade Retention (Mindel House – part alleyway elevation):

In-conjunction with erection of the proposed scaffolding (as per the following optional appraisal), the temporary façade retention works are required as a matter of priority to stabilise the existing alleyway elevation. Further details are outlined in the structural engineer's report contained in Appendix B. Specific details relating to the façade retention are included within the proposed scaffolding design drawings in Appendix C.

Scaffolding to this particular section of the Mindel House alleyway elevation will involve scaffold tube transoms being passed through circa 6 out of every 8 window openings on each floor of the building connected to temporary internal and external horizontal ladder beams. The ladder beams will be installed tight up to the inside of the existing facade supported on the structural transoms erected through the window positions. Timber packers may be required due to the unevenness of the existing walls. Otherwise, the proposed façade retention elements to stabilise the existing alleyway elevation will not involve ties into the existing masonry. Refer to the Mindel House Façade Retention Window Schedule in Appendix G and the Mindel House Alleyway Elevation drawing in Appendix H for identification of the existing window openings affected by the proposed façade retention / scaffolding works.

In addition to the above, the façade retention scaffold in the alleyway is to be braced back to 11 Bloom Street for leeward forces and physically tied to Bloom for windward forces. Once the permanent structural consolidation and repair works are completed to secure the Mindel House alleyway facade, then the scaffold to the same elevation is required to be physically tied to the central section of the elevation (as shown on the proposed scaffolding design drawings).

2. Scaffolding Option 1

2.1 Structural scaffolding – As suggested in ‘Further advice (no. 8)’

Using a structural scaffolding to avoid the need for ties.

2.2 Advantages

- The design of a structural scaffolding would limit the need for physical ties in the fabric of the building.

2.3 Disadvantages

- The base of a structural scaffolding will be proportional to the height of the untied sections, therefore the footprint of the scaffold, even if just the bottom tier would be untied, would encroach into the surrounding highways.
- It is recognised that a temporary highways closure may be considered acceptable from a conservation led approach. Highways approval has been granted to close half the roads around the site and install a timber hoarding. The temporary hoarding will require Kelly blocks on the inside as it will not be possible to dig to create footings in the ground to restrain the hoarding. That in turn will only enable between 1.5m and 2m extra space to work with, notwithstanding the existing footprint of the scaffold. If we were to utilise this space for the scaffold we would not have any walkways around the building as a structural scaffold doesn't allow space for walkways underneath. Furthermore, with a structural scaffold only a very limited area would be free of fixings. The road closure with a structural scaffold would create avoidable problems with operatives movement, debris removal and material deliveries.

2.4 Summary

Due to the location of the buildings in the city centre, surrounded by busy narrow streets and other buildings, this solution is rendered unfit and impractical for use in view of the impact it would have on the surrounding highways and workings of the site.

3. Scaffolding Option 2

3.1 Turning the corners of the building – As suggested in ‘Further advice (no. 8)’

Reducing the need for ties by using the intrinsic structural stability provided by turning the corners of the building.

Note: this approach has already been factored into the design of the scaffolding.

4. Scaffolding Option 3 (preferred solution)

4.1 Fixings into the mortar joints – structural / load assessment

The original proposal involves drilling a (minimum) total of circa 402no. (combined number for both buildings) single hole nylon plug anchors with screw in eyes fixed into the existing mortar joints to achieve the required tie pattern to safely secure the scaffold framework, as required for the works. This is the least intrusive method from a conservation approach. For Mindel House, bays are in general at 1.86m therefore ties are at 3.72m horizontally with floor level on average 3.20m – this equates to approximately 1no. tie every 12m². For 11 Bloom Street, due to the provision of the temporary roof, bays are at 1.800m and 0.70m, therefore tying occurs on the required ledger braced standards at 2.50m horizontally (again with floor level on average say 3.20m) - this equates to approximately 1no. tie every 8m².

The proposed ties will be drilled precisely and exclusively at the 'T' junction of the horizontal bed and vertical perp joints in order to avoid damaging the adjacent brickwork. From tests carried out to date the existing joints at these locations accommodate the ties without damage being caused to the existing brickwork / stonework.

The initial design based on circa 402no. ties required a calculated test load of 7.00kN to be achieved to safely secure the scaffold structure, taking into account the condition of the substrate and potential for 'creep' in the ties. However, after onsite testing, the tie failure load into the existing substrate was below 5.00kN, therefore notably less than the required test load value. Subsequently, it has been necessary to consider an alternative design and to re-calculate the number of ties required.

Ties are required to be spaced evenly throughout the scaffold structure. The initial design provided for horizontal ties at every other frame on the ledger braced standards as is required. Vertically these ties were to be at every second lift level which in this instance is at each floor level at the boarded platforms of the scaffold.

To keep the requirement for evenly spaced ties, and in order to achieve the required test load, the only option is to double the tie provision from 402no to 804no (combined number for both buildings). For Mindel House, this equates to approximately 1no. tie every 6m². For 11 Bloom Street this equates to approximately 1no. tie every 4m² - due to the additional temporary roof structure integrated within the scaffolding.

Note: the above number of ties will be reduced to the Bloom Street elevation on the ground floor at 11 Bloom Street where the scaffolding will be braced with box ties around the existing columns at this location (in lieu of utilising drilled ties).

Preliminary load tests can only be carried out at the lower levels of the building. The actual pull test results at higher levels of the building may differ based on the condition of the substrate, which will only be known once the scaffolding is erected.

Refer to the scaffolding tie report contained in Appendix D for further details.

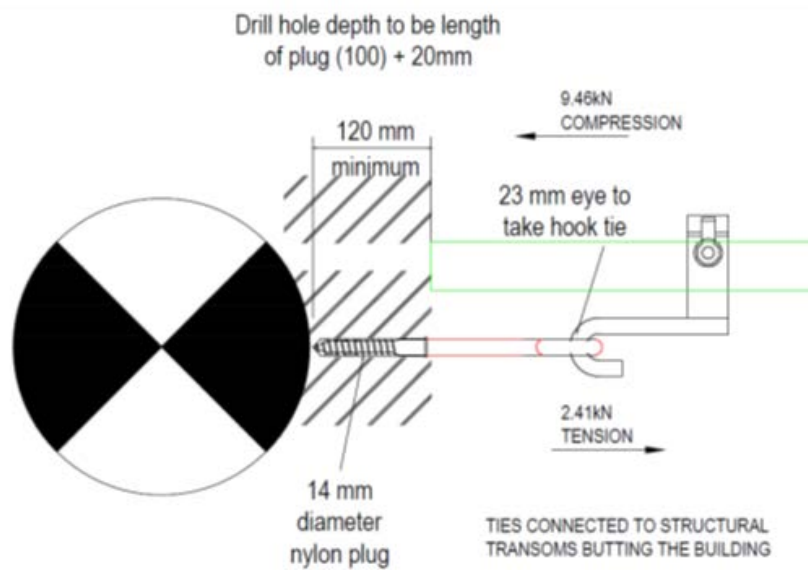


Fig.1 – Tie detail

4.2 Advantages

- The ties are drilled precisely at the 'T' junction of the horizontal bed and vertical perp joints avoiding damage to the adjacent brickwork. From tests carried out to date the existing joints at these locations accommodate the ties without damage being caused to the existing brickwork / stonework. The holes can be easily repaired with mortar to match existing. Refer to Section 9 of the report for further details.

4.3 Disadvantages

- Intervention unavoidable, albeit minimal, with ties drilled into the original building fabric.

4.4 Summary

This is a structurally viable solution with minimal intervention to the original buildings which can easily be reversed and repaired. It enables the scaffolding to be erected in line with the construction programme and will facilitate the works being carried simultaneously without obstructing the sequence and phasing of works.

5. Scaffolding Option 4

5.1 Removing the outer brick and fixing in the inner brick – As suggested in 'Further advice (no. 8)'

To carefully remove and set-aside individual facing bricks to expose the underlying brickwork in those locations where ties need to be located. The tie is then installed into the underlying brickwork. When the scaffolding is struck the ties are removed completely and the damage made good (or the tie could be removed but the plug left in place for future re-use which would be dependent on an adequate record being kept). The original

undamaged facing brick would be carefully replaced with appropriate lime mortar to give an invisible repair.

We have undertaken a pull test to the underlying brickwork (based on the same load requirements highlighted in Option 3). The test has failed on this option. Therefore, this would necessitate doubling the proposed number of fixings to make it viable.

5.2 Advantages

- None as the pull test failed (and would require the same amount of proposed ties as Option 3).

5.3 Disadvantages

- Removal of the outer skin of brickwork increases the likelihood of damaging the existing bricks and also damaging adjacent / surrounding areas of historic brickwork.
- Increased areas of mortar bed to be repaired.
- Drilling into the inner brick will require additional repairs to the brick.

6. Scaffolding Option 5

6.1 Fixing through the windows

This option will require scaffolding tubes to form opposing lip ties through each window opening. Temporary protection will be installed to protect the window frame - as the load would exert on the inner side of the wall and not on the lateral side of the windows / window reveals.

This option would obstruct the window repair sequence, the façade cleaning and repairs and the internal side of the wall works (i.e. Mindel House plasterwork).

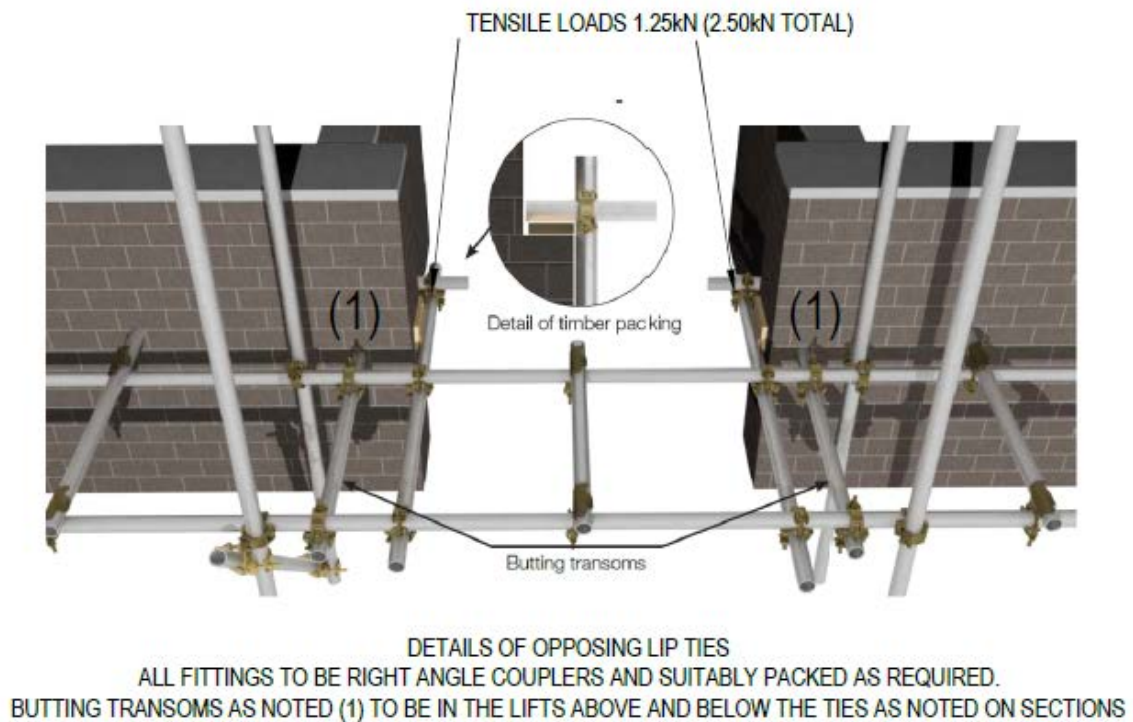


Fig.2 Detail of opposing lip ties

6.2 Advantages

- No drilling to the building fabric involved.

6.3 Disadvantages

- Will immensely impact the programme due to the need of resequencing the works to suit dismantling of the scaffold and to allow repairs to the windows.
- Not possible to undertake works on the internal side of the walls while the scaffold tubes are in place.

6.4 Summary

This option would be the least intrusive from a conservation led approach. However, it would add months to the programme, additional costs to the works packages and subcontractor preliminaries rendering the development non-viable from a cost perspective and would exceed the budget. The sequence of the scaffolding will not enable works on the window frames, the internal replastering and the cleaning and repairs to the brickwork to be carried out concurrently. The windows would have to be done lift by lift whilst allowing the dismantling of the scaffold and all of this after the extension is finalised.

7. Scaffolding Option 6

7.1 Resin anchor ties

This option requires 18mm holes being drilled in the brickwork with 16mm resin anchors.

7.2 Advantages

- Less fixings required overall to achieve the required load test (this option would revert to the initial 402 no. ties).

7.3 Disadvantages

- Very intrusive when removed as the hole will need drilling out to extract the resin leaving a hole of at least 20mm.

7.4 Summary

The damage caused to the original built fabric is considered too intrusive from a conservation led approach.

8. Scaffolding Option 7

8.1 Twin hole panel brackets

During the pull tests, twin hole panel brackets with M12 self-tapping bolts achieved a better result. However, they require two holes per fixing into the building fabric therefore resulting in the same overall number of drilled holes as in Option 3 (albeit in fewer locations).

8.2 Advantages

- The original number of fixing locations i.e. circa 402no. (but note there is still twice the number of drilled holes involved).

8.3 Disadvantages

- Not possible to drill both fixings precisely at the mortar T joint – increasing the likelihood of damage being caused to the original brickwork.
- Risk of the existing mortar bed joints not being straight or wide enough to accommodate the required second fixing, thus damaging the original brickwork.

9. Brick / Mortar Repairs

Ties are to be drilled precisely at the 'T' junction of the existing horizontal bed and vertical perp joints in order to avoid damaging adjacent brickwork. From tests carried out to date, the existing joints will accommodate the ties without damage being caused to the existing brickwork / stonework. Upon removal of ties from existing mortar joints, any holes or damaged mortar is to be repointed, where necessary, using an NHL 2 mortar. Being the closest to the original non-hydraulic mortar in terms of softness and permeability, NHL 2 mortar is to be used with a suitable well graded sharp sand to match existing mortar in terms of colour, texture, finish and worked appearance (in the event of any supply difficulties with NHL 2, it may be necessary to use NHL 3.5, but only if absolutely necessary). Following striking of the scaffolding, we shall attend site to identify and agree / mark up specific areas of repointing. Photographic records will be taken prior to commencement and during the works. Suitable protection will be employed. Repointing will be undertaken only where necessary. The affected mortar will be raked out in small sections to a sound surface using appropriate hand tools minimum depth of 20mm where necessary taking care to avoid damaging existing masonry. If any mortar is too hard / non-original and unable to be broken with hand tools without the potential to damage the original masonry, a suitable approved heritage blade may be used. Masonry will be adequately dampened prior to application. Mortar to be repointed flush and unfinished. Setting times will be sufficient to enable the mortar to stiffen and set. Mortar to be finished with a suitable soft bristled brush to a stippled finish showing off the aggregate in the mortar. Mortars to be adequately protected and appropriate humidity levels maintained to prevent rapid drying.

Individual bricks that are slightly damaged, where not harmful or causing degradation to the original historic fabric, are to be left as existing to express age and character. If required, trial repairs are to be made available for inspection by the Planning Service.

In the very unlikely event that joint widths are insufficient, the ties will be installed central to the face of individual bricks (not to stonework or decorative brickwork). The least conspicuous bricks will be used wherever possible. Any brick repairs will be 'invisible' using original extracted brick dust to be added to a lime-based coloured brick repair mortar to match existing colour and texture. Surfaces will be free from dust, dirt and loose particles and dampened. Loose or crumbling material will be brushed away and treated with approved primer / stabiliser prior to repair. Using an appropriate trowel, the repair mortar will be firmly pressed into the existing brick ensuring there are no gaps. Any deep repairs should be built up in layers no more than 20mm deep and allowed to cure. The final layer should be 3mm to 10mm proud of the surrounding surface and allowed to cure. The repair can then be shaped to match the existing brick profile to suit with appropriate tools - up to a maximum of two days after application. Any brick repair work is to be undertaken in accordance with *BS 8221-2:2000 Code of practice for cleaning and surface repair of buildings Surface repair of natural stones, brick and terracotta*.

10. Appendix

A - Note of Meeting - conservation and planning matters (26.10.2021)



Job Number:	14.936	
Project:	Mindel House and 11 Bloom Street, Manchester	
Client:	Beech	
Purpose of Meeting:	To discuss conservation and planning matters	
Date:	26 th October 2021	
Time:	2pm	
Venue:	On site	
Present:	Jennifer Connor (JC) John Whyard (JW) Paul Davidson (PD) Alexandra Radu (AR) Nickesh Patel (NP) Ralph Taylor (RT)	Manchester City Council (MCC) Manchester City Council (MCC) Manchester Design & Build (MDB) Manchester Design & Build (MDB) Manchester Design & Build (MDB) Paul Butler Associates (PBA)

	Note	Action
1.	Following introductions general discussion took place on the status of the project and it was noted that there were multiple condition discharge applications, a S73/S19 application, and queries relating to investigation/cleaning works pending. There was a degree of frustration on both sides regarding how the process was taking place, with MCC requiring further detailed information which explained how a conservation-led approach was being taken, and MDB concerned around impact on timescales and delivery of the project. The project team suggested that a more productive and efficient process for both sides moving forward would be to have prior discussion with MCC prior to submission of further information which would help to ensure MCC's expectations would be met. Resource pressures were noted by MCC and it was confirmed that correspondence should pass through the planning Case Officer.	
2.	<u>11 Bloom Street Stair investigation</u> MDB confirmed that the staircase had clear structural movement and further investigation was required. An endoscopic survey had been undertaken to the underside of the staircase but was inconclusive.	MDB/PBA to issue Whitechapel

	Removal of a limited area of the lath and plaster to the underside of the staircase was therefore required. It was confirmed that this would be done to limit removal of fabric as far as possible and would be undertaken in a staged approach to retain as much historic fabric as possible (such details are confirmed within 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021). The Whitechapel plaster report which advises on reinstatement would be submitted. MCC verbally confirmed they were ok with the approach. Once sufficient areas of the underside of the staircase were exposed investigation by a Conservation accredited engineer would be undertaken and solutions shared with MCC. A conservation-led approach would be adopted explaining the options considered and how the impact on heritage significance would be minimised. No repair works would be undertaken until a solution was agreed with MCC.	report to MCC and highlight previously issued response. MDB
3.	<u>Ceiling Treatment (Fire and Acoustics)</u> MDB explained that increased emphasis on fire safety regulations meant that retaining ceilings (ie. the underside of floorboards from above) exposed would be difficult to achieve with specialist advice being sought from Hydrock as the fire engineers. JW confirmed that retaining the exposed underside of floorboards was a key aim of warehouse conversion schemes. An approach should avoid loss of historic fabric or concealing it. MCC confirmed that a conservation-led approach to the ceiling treatments must be taken with consideration given to all options including a sprinkler/misting system. PD suggested one option could be to install additional structure. JW confirmed that this could be one of the number of options to be considered and noted that when installing new fabric the approach should be to ensure it is distinguished from historic fabric. MDB to submit conservation-led approach to treatment of ceilings based on the above to MCC for review.	MDB to prepare conservation-led methodology/ specification with specialist input.

4.	<u>Trial Cleaning Samples</u> MCC confirmed that in principle, cleaning of masonry and other fabric was acceptable, and feedback had previously been provided. The need for water-based cleaning was queried by JW. (A response to these queries had been previously provided within the 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021). MCC verbally confirmed that cleaning was ok to proceed following which a site visit would take place to allow for further inspection. The approach to the making good of masonry was also discussed (Refer to details within the 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021). JW indicated that a sample area could be undertaken following which a site visit would take place to allow for further inspection.	MDB to undertake sample cleaning and sample making good of masonry in accordance with previously submitted details. Following the works to sample areas, a site visit with MCC is to be arranged to allow for inspection.
5.	<u>Basement Flooring and Tanking (11 Bloom Street)</u> MDB noted that tanking was required to the basement level of 11 Bloom Street. Part of the basement floor comprised concrete/screed with a timber beam section located more centrally. This was felt to be an unusual feature and its heritage significance should be duly considered within any approach to the tanking of the basement, including whether timber flooring would have originally existed throughout. JW queried if the existing flooring could be lifted to allow tanking and then reinstated afterwards. A less preferred option could be to utilise lifted boards as the new floor treatment within apartments. A conservation-led approach was required to inform the approach. With regards to the basement walls the need for tanking the full height was queried by JW. MDB confirmed that they would also like to see historic walls retained where possible although advice from the basement treatment specialist was required and would be submitted. It was noted that elements of timber flooring also existed in Mindel House and consideration of similar issues noted above will be required.	MDB/PBA to provide heritage assessment of existing flooring and conservation-led specification/methodology to be submitted to MCC to confirm approach in discharge of relevant condition (details condition part e).
6.	<u>Alleyway wall / Scaffolding</u> MDB noted that soft strip work had identified that the alleyway elevation of Mindel House and adjacent internal floors were sagging	MDB to respond to

	and required temporary structural support to allow further investigation of the cause. In principle the need for scaffolding and temporary support was accepted and detailed comments had previously been provided by MCC on 13.09.2021. JW noted that there were particular comments regarding taking down fabric and impact on windows.	MCC comments on scaffolding dated 13.09.2021
7.	<u>Uncovered elements of Historic Fabric</u> Areas of timber panelling had been exposed during the soft-strip and in places conflicted with approved apartment layouts. JW advised that it would be necessary to establish the heritage significance of such fabric and if historic the preference would be to retain in situ. MDB noted that structural fabric repair works may necessitate the temporary removal of fabric. In principle this was confirmed as ok by JW with reinstatement then required following completion of the works. The approach to individual elements of exposed historic fabric would be agreed with MCC, adopting a conservation-led approach.	MDB/PBA to establish heritage significance of exposed fabric. MDB/PBA to provide conservation-led specification/methodology to be submitted to MCC in discharge of relevant condition to confirm approach (details condition part a).
8.	<u>Plaster repair / removal</u> A plaster report by Whitechapel has advised on the approach to plaster repair / removal and would be shared with MCC. JW noted that the approach to plaster had previously been confirmed and it would be expected that work would align with this.	MDB/PBA to share Whitechapel plaster report and associated drawings with MCC in discharge of relevant condition (details condition part f).

9.	<u>Mindel House 4th Floor Ceiling</u> MDB outlined the need for investigation of the ceiling's structure with five areas for limited removal of lath and plaster ceiling required which align with the locations where investigation is required. MCC confirmed that the approach should be to limit the number and size of openings and seek to coordinate with any future opening that may be required. MCC comments have previously been provided and responded to in relation to this matter. (Refer to 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021).	MCC to respond to 'Response to Email Queries 26.06.2021' that was submitted to MCC on 16.07.2021 and confirm investigation can proceed.
10.	<u>Mindel House Basement Blockwork Partitions etc</u> Soft-strip works had identified blockwork partitions in the area beneath the main corner entrance of the building. Such fabric was established to be later additions and removal could be undertaken. Such removal should be undertaken with care in case any historic or structural fabric was identified, in particular the area directly beneath the main entrance staircase and adjacent brick areas. On this basis JW confirmed works could proceed.	MDB to undertake removal works as noted.

B - Structural Engineer – Mindel House - external wall temporary restraint (12.07.2021)

12th July 2021

A3516.MW.MP

Alexandra Radu
Manchester Design and Build
Bridgewater House, 58-60 Whitworth St
Manchester
M1 6LT

RE: A3516 - PW – Mindel House – External wall temporary restraint.

Alex,

Following previous site surveys and meetings at the Mindel House building, we have raised concerns regarding the structural stability of part of the external elevation which faces the Bloom St building. There has been considerable structural movement to the central area of the wall, which is adjacent to the original goods hoist area (see image 1 below). The wall appears to have dropped in level and there is significant movement to the floor structure adjoining at every level (image 3). The timber construction around this area has suffered from rot, due to constant leaking from surface water drainage (and possibly foul in the past). As can be seen on the images below there is also considerable vegetation growth growing out of the masonry to this area.

The movement is concentrated to the masonry return to the goods hoist, which also has windows to the other side. The floors need complete removal and replacement to this area and in doing so the masonry may become unstable during the removal and re-construction, due to both the condition of the masonry and lack of restraint (the hoist and window openings create a tall 'pillar' of unrestrained masonry). We cannot guarantee the wall, and therefore likely further structure to this area, will be stable if any of the current floors are removed.

It is our recommendation temporary restraint is installed, to maintain the stability of the wall while remedial works are carried out. Once the restraint is in place, and safe access enabled, the original damaged, rotten and unstable floor structure should be removed, to allow assessment of the remaining masonry in place. At this point it can be confirmed if further remedial works are required to the masonry. The foundations of the wall should also be exposed and inspected to confirm if the movement to the wall is historic or possibly ongoing.



Image 1



Image 2



Image 3

I trust the above helps but if you have any further questions, please do not hesitate to contact me.

Your sincerely,

Matt Pimbley
On behalf of GM Structures

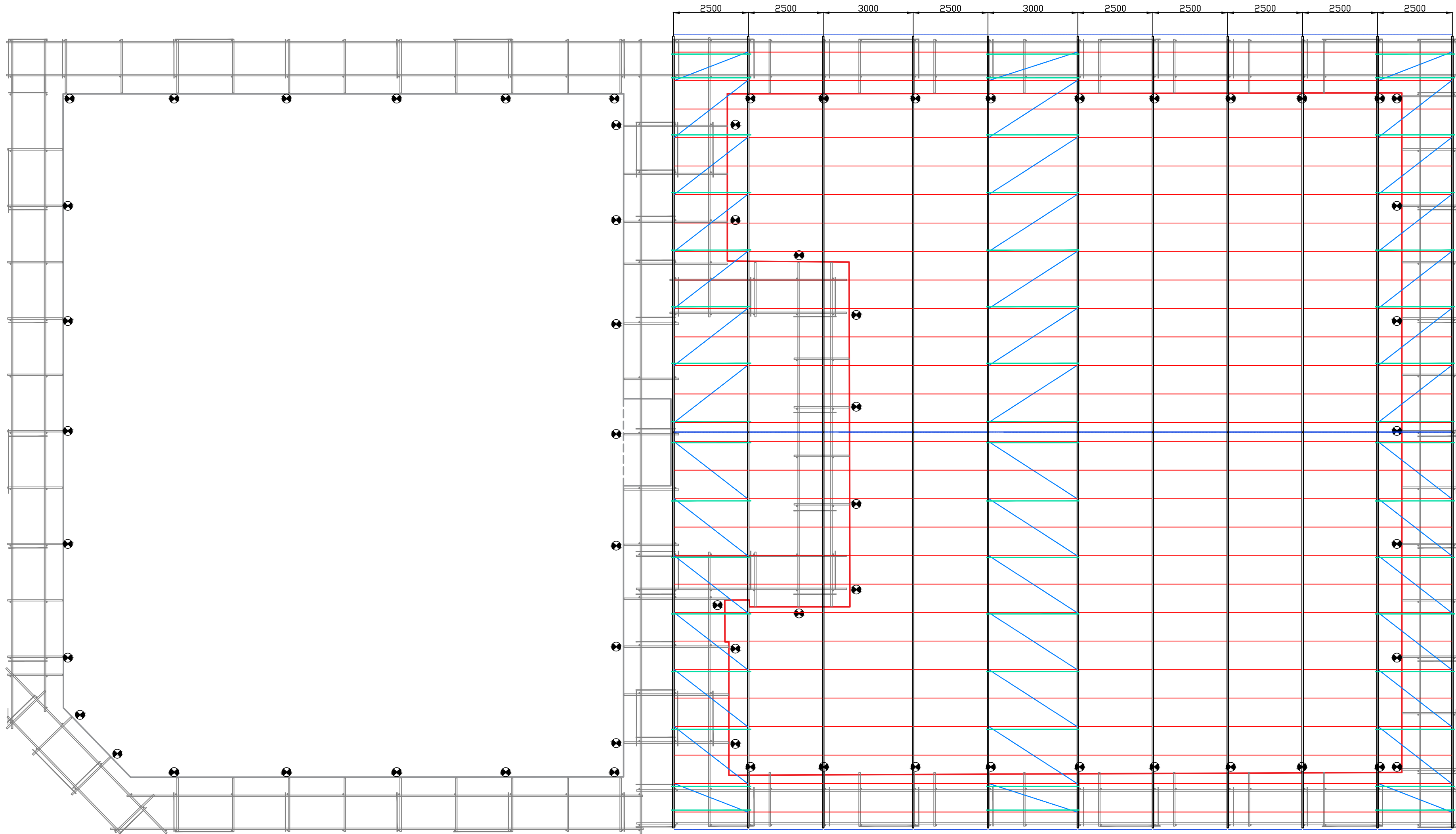
GM Structures is a Trading Name of Graham Jones Associates Ltd
Company No. 4661158 VAT Reg No: 787 2314 07

The
**Institution
of Structural
Engineers**

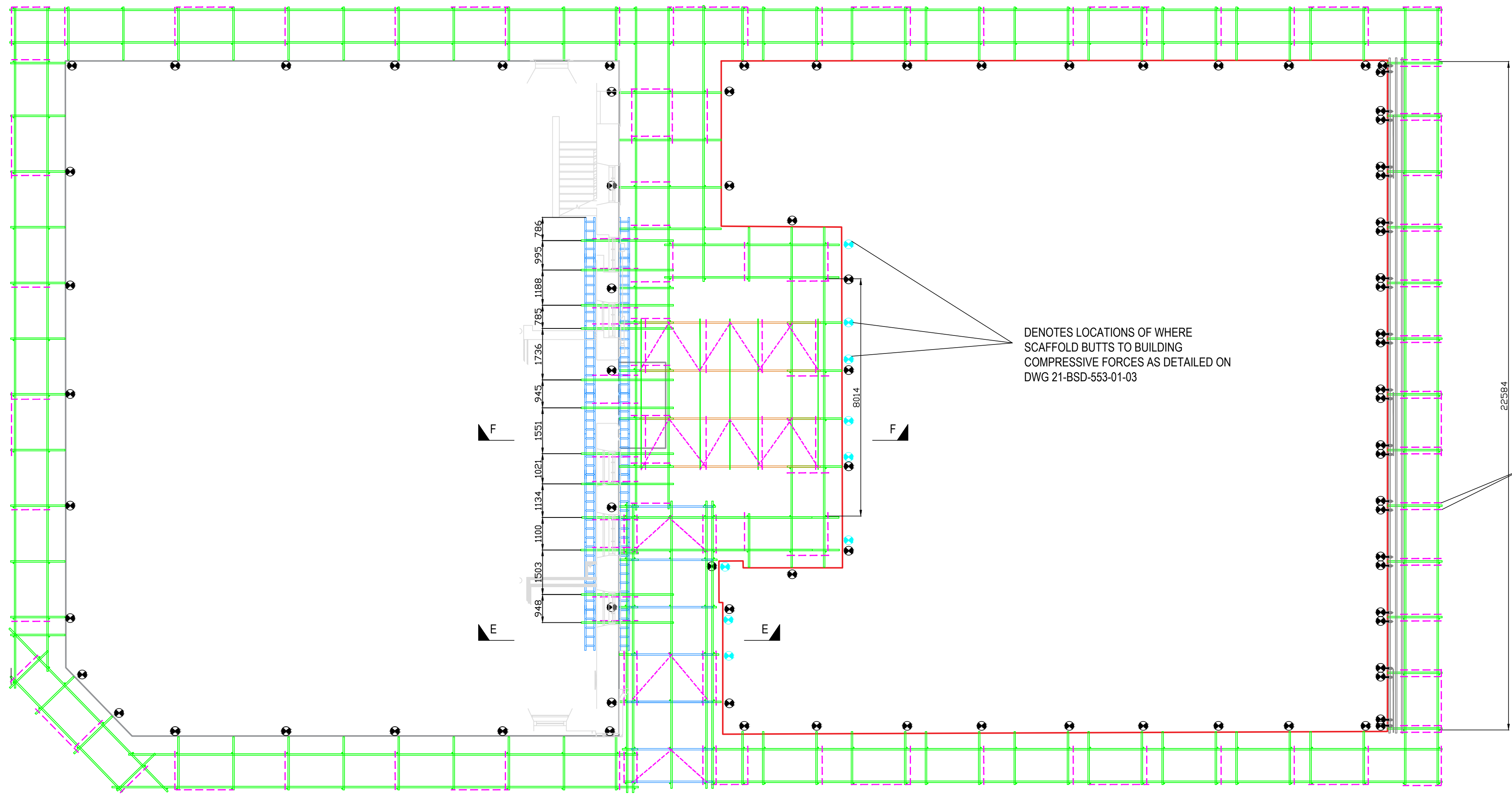
ice
Institution of Civil Engineers

ace
consultancy engineering business environment

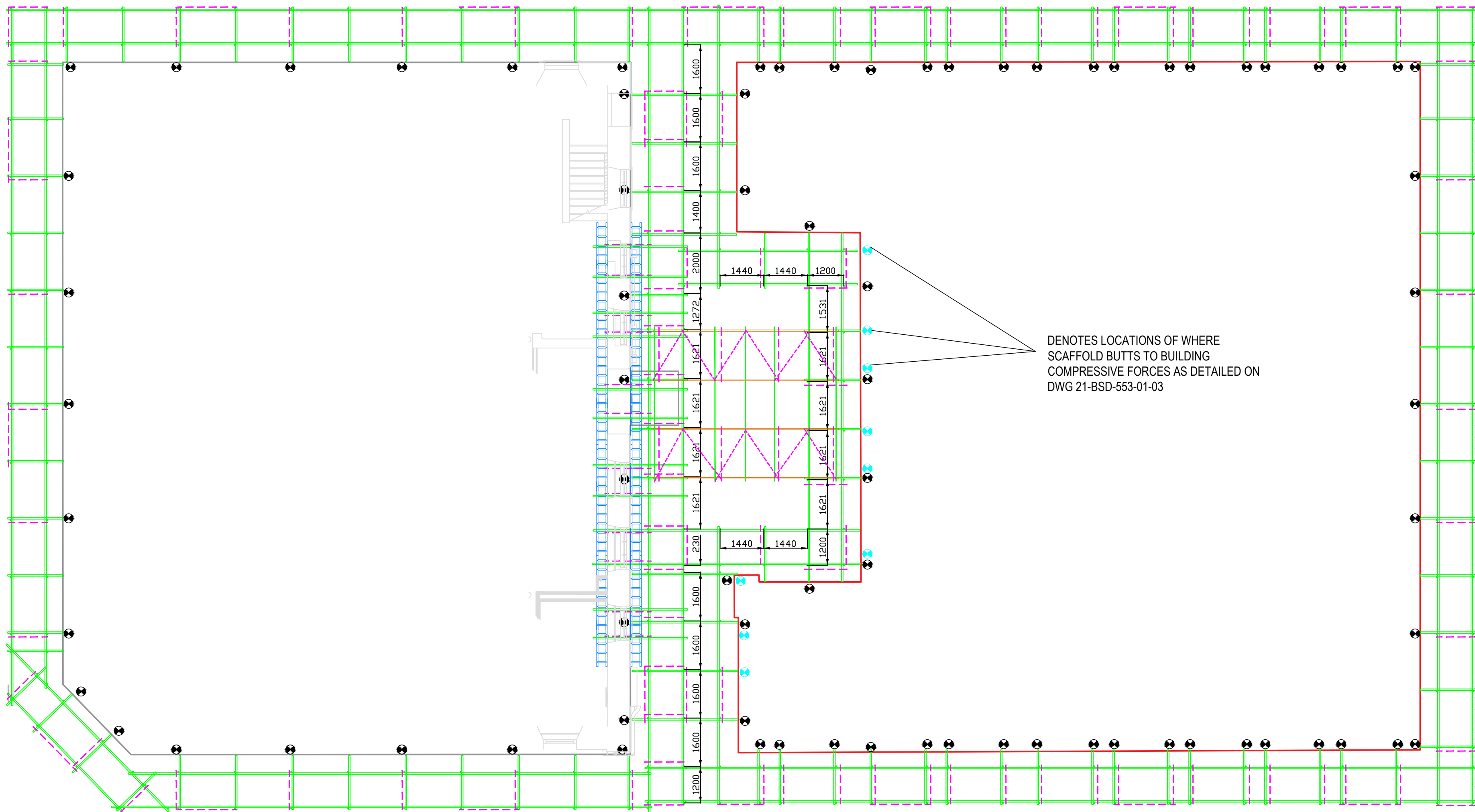
C – Combined scaffolding drawings



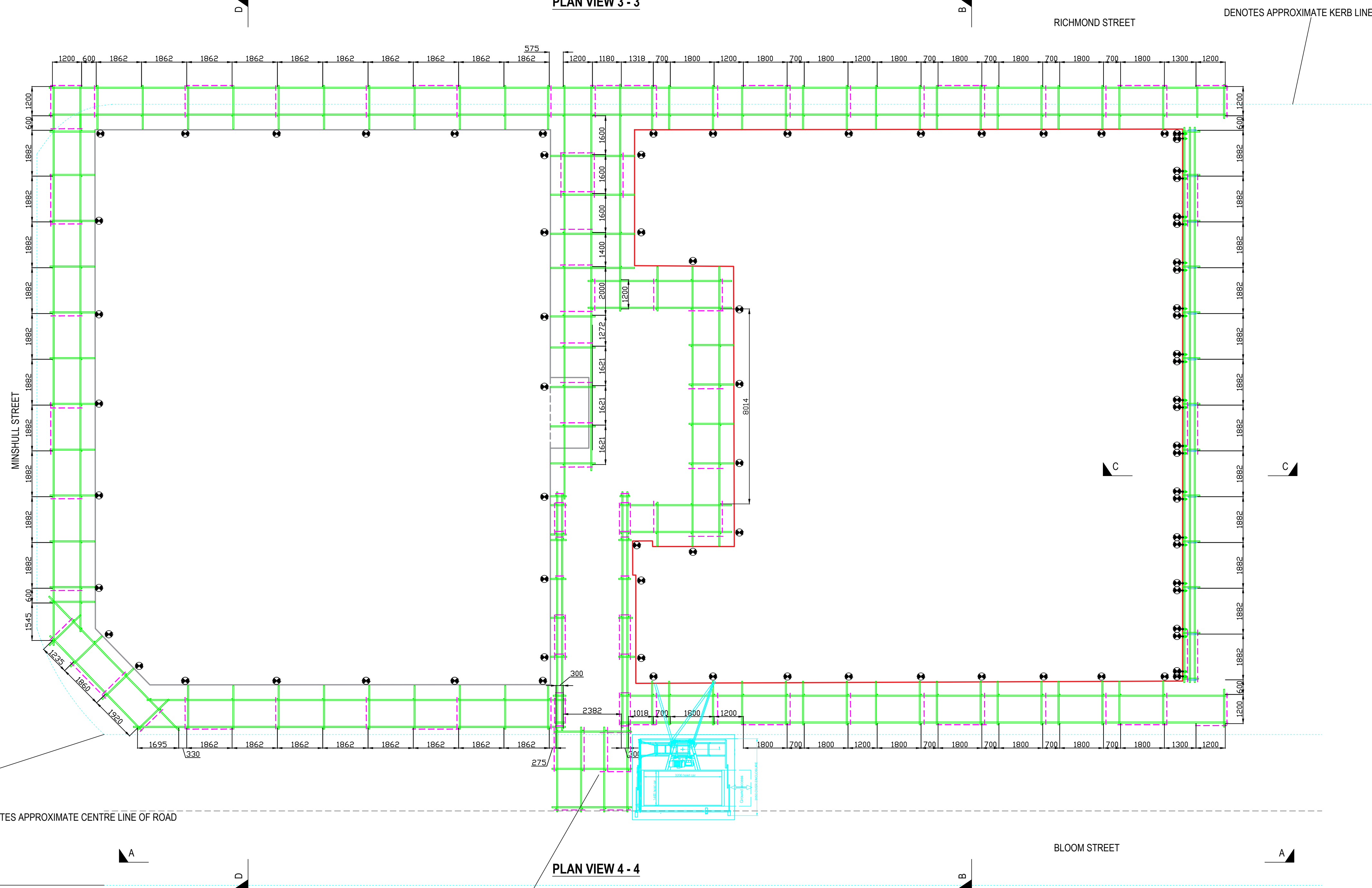
PLAN VIEW 1 - 1



PLAN VIEW 3 - 3



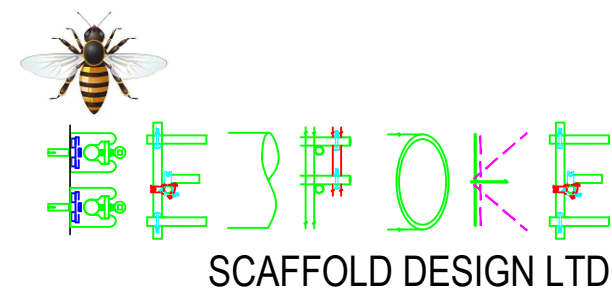
PLAN VIEW 2 - 2



PLAN VIEW 4 - 4

THE FOLLOWING DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THIS DRAWING AT ALL TIMES
ELEVATION VIEW AND SECTION VIEWS ALONG WITH SCHEME NOTES OF SCAFFOLD FRAMEWORKS ARE DETAILED ON DRAWING 21-BSD-553-01-02
RETENTION SECTIONS DETAILED ON DRAWING 21-BSD-553-01-03

PRELIMINARY DRAWING
FOR DISCUSSION AND PRICING PURPOSES ONLY



7, Penrhyn Beach East
Penrhyn Bay
Llandudno
LL30 3NT

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Rev	Date	Description	Checked	Drawn	Job Title
C	21.7.21	Updated to Clients comments	AN	OJT	Cheshire Scaffolds Ltd - Bloom Street Project
B	29.6.21	Retention Scheme included.	AN	OJT	Perimeter Access Scaffold and Temporary Roof System
A	21.4.21	Revised Carpark Elevation.	AN	OJT	Scaffold Contractor to arrange to print drawings on correct paper size as indicated.
					Scale: 1:100 @ A0
					Date: 25/03/2021
					Drawn: OJT
					Checked By: AN
					Drawing Number: 21-BSD-553-01-01.

ALL ELEVATIONS REQUIRED TO THE PERIMETER OF THE BUILDING ABOVE THAT AS DETAILED ON ELEVATION A - A ARE TO FOLLOW THE SAME PARAMETERS AS THIS DETAIL. PARAMETERS OF THE DESIGN - AS NOTED IN THE GENERAL NOTES BELOW.

1
2

DENOTES TRANSOM BOARD SUPPORTS
MAX SPACING 1200mm
MAX OVER HANG 150mm

BRACE ALL STANDARDS
UNDER TEMPORARY
ROOF DOWN TO TOP TIE
AS PER SECTION
DETAILS

DENOTES CONTINUOUS LEDGERS
SPICED AT ALL JOINTS USING 2No
SWIVEL COUPLERS ON EITHER
SIDE OF JOINT

STANDARDS TO BE CONNECTED
TO THE ROOF BEAMS USING 4No
RIGHT ANGLE COUPLERS AT EACH
LOCATION

790mm BEAMS PREFERABLY TO BE CONNECTED
TOGETHER USING 3No SPIGOT PINS ON EITHER SIDE OF
OF JOINT
DESIGNER ACCEPTS 2No SPIGOT PINS ON EITHER SIDE
ACKNOWLEDGING AND ACCEPTING REDUCED CAPACITY
OF BEAM

GENERAL NOTE
THE SCAFFOLD IS TO BE CLAD IN MONARFLEX SHEETING
ERECTOR -
MAIN INDEPENDENT FULLY ERECTED AND SHEETED PRIOR TO
ROOF BEING SHEETED
DISMANTLE -
ROOF SHEETS REMOVED BEFORE EXTERNAL SCAFFOLD
SHEETING IS REMOVED.

GENERAL NOTE
ALL SCAFFOLDING TO BE ERECTED IN ACCORDANCE WITH
SG04:15, THE NASC'S GUIDE TO PREVENTING FALLS IN
SCAFFOLDING.
SG04 GUARDRAILS MAY HAVE BEEN OMITTED FROM THIS
DRAWING FOR CLARITY HOWEVER THIS DOES NOT GO
AGAINST THE RESPONSIBILITY OF THE SCAFFOLDER TO
COMPLY WITH THIS GUIDANCE.

GENERAL NOTES
1. The drawing is an order based on a scheme submitted by Bespoke Scaffold Design Ltd is deemed to imply that the client is satisfied that the technical content of the scheme is in accordance with his requirements. The client is to check that his requirements have been correctly interpreted before erection commences.
2. When indicated, this is not a working drawing and is to be used for quotation or discussion purposes only.
3. When indicated, this is a working drawing and is for construction purposes. No deviation is permitted without written approval from Bespoke Scaffold Design Ltd.
4. This drawing is to be read in conjunction with the following Bespoke Scaffold Design Ltd documents :-
Calculation Document Referencing Specific Drawing Number as Below.
5. Bespoke Scaffold Design Ltd Scheme has been prepared from the following information :-
6. Where a temporary structure, designed by Bespoke Scaffold Design Ltd, imposes loads on a permanent structure, the client must ensure that the permanent structure is of adequate strength to resist such forces.
7. The client is to provide adequate foundations to support the loads imposed by Bespoke Scaffold Design Ltd structure without adverse settlement or deflection.
8. Maximum force per standard = 27.500 kN
9. The Main Contractor is to assist the Scaffolding Contractor with, and agree, the setting out of Bespoke Scaffold Design Ltd's temporary structure before erection commences.
10. The client is to ensure that no modifications are made to Bespoke Scaffold Design Ltd's structure without the written approval of Bespoke Scaffold Design Ltd.
11. No welding, drilling or any other work not specified is to be applied to Bespoke Scaffold Design Ltd's structure.
12. No sheeting, cladding, setting or any other modification shall be made to the structure produced by Bespoke Scaffold Design Ltd unless approved and noted by Bespoke Scaffold Design Ltd.

DESIGN LOADS
This scaffold has been designed for the following:-
Load Classification Table 2.10 TG20:13 - Load Class 3, Maximum number of working platforms 2No
Maximum U.O.L Main Platform: 2.00kN/m²
Maximum U.O.L Second Platform: 1.00kN/m²
Maximum U.O.L Inside Boards: 0.75kN/m²
Total number of loaded lifts = As shown at floor levels.
The contractor must ensure that the loads allowed for are sufficient for the work being undertaken.

BASES OF DESIGN
This scaffold has been designed in accordance with the following:-
NASC T20 Latest Edition
BS 5975:2019+A1:2011 Code of Practice for Temporary Works Procedures & The Permissible Stress Design of Framework
BS EN 1991-1-3:2003+A1:2010 Snow Loads
BS EN 1991-1-4:2003+A1:2010 Wind Action
MATERIALS
Scaffold Tube as Type A Steel Tube to BS EN 3920:01 or BS 1139-1-1 (as new condition)
Load Bearing Scaffold Fittings to comply with BS EN 7420:05 Class A as a minimum (unless otherwise stated)
Scaffold Boards to BS 2482:2009 (28mm depth x 225mm width)

PRELIMINARY DRAWING

LEGEND
● scaffold tube on plan
— scaffold tube on elevation
- - - scaffold tube as section brace
- - - scaffold tube as plan brace
□ scaffold board on plan
□ scaffold board section
TG20 compliant unit transom elevation
TG20 compliant unit transom end view

ANY BACK PROPPING
REQUIREMENT TO BE ADVISED

POSSIBLE SURCHARGE FROM SCAFFOLD FOUNDED ON
PAVEMENT ON BASEMENT STRUCTURE TO BE CONFIRMED AS
ACCEPTABLE PRIOR TO SCAFFOLD COMMENCEMENT BY OTHERS

L/BEAM CONNECTED
DIRECTLY TO THE
STANDARD ON 90°
LEADERS FIXED
TO STANDARD TIGHT
BELOW BOARDS
L/BEAM CONNECTION

DENOTES STEEL 305mm LADDER BEAM
AT BRIDGED DETAIL
TOP CHORD LACING TUBE AT MAXIMUM 1.00m c/c
BOTTOM CHORD LACING TUBE AT MAXIMUM 2.00m c/c
PLAN BRACE TOP CHORD USING LOAD BEARING COUPLERS AT MAX 1.00m c/c (to match lacing tube)

GENERAL NOTE
DUE TO THE NATURE OF THE TEMPORARY ROOF IT CANNOT BE
GUARANTEED TO BE 100% WATERTIGHT

ALL STANDARDS TO SPICED WITH 2NO SWIVELS ON EITHER SIDE OF THE
SLEEVE COUPLERS IN THE SCAFFOLD FRAMEWORK PRESENT UNDER
THE TEMPORARY ROOF SYSTEM.

ALL COUPLERS WITH THE
EXCEPTION OF BOARD RETAINING
COUPLERS TO BE CLASS B

TIE TO BE INSTALLED PRIOR TO ROOF ERECTION

Definition of size of lateral loads onto
existing/proposed structures.

10.50kN PER TIE LOCATION
TIES SCAFFOLD TO NEW
BUILDINGS STEELWORK
UNDER TEMPORARY ROOF
LEVEL TO BE

DOUBLE TIE REQUIRED PER BAY
ERECT STRUCTURAL TRANSOM TO LEDGER
PLACED WITHIN BAND AND PLATE
COUPLER.
BAND AND PLATE COUPLERS PLACED
EITHER SIDE OF STRUCTURAL TRANSOM
EACH SECURED WITH 1No SELF TAPPING
APOLLO BOLT TO AN EMBEDMENT DEPTH
OF 90mm
PLAN
SECTION
2.88kN
TENSION each
TEST AS TIE NOTE

DOUBLE BRACE
ALL BAYS
ERECT BRACES
WITH RIGHT
ANGLE COUPLERS

BASE LIFT VARIES DUE TO
PAVEMENT GRADIENT

GENERAL NOTE - MAIN INDEPENDENT SCAFFOLD
BAY SIZES MAY DIFFER THAN THOSE DETAILED
MAX BAY EFFECTIVE SIZE PERMISSIBLE 1.90m
FACADE BRACING DETAILED IS INDICATIVE AND POSITIONS MAY VARY ON SITE
FACADE BRACED TO BE INSTALLED OVER 18BAYS AT EVERY 6th/5TH BAY.

FOUNDATION REQUIREMENT - see general note 8
STANDARDS TO BE BASED ON A DOUBLE SCAFFOLD
SOLE BOARD OF DIMENSION 450mm X 225mm X 30mm
DEEP UNDER A 150mm X 150mm EN74-3 BASE PLATE

CONFIRMATION REQUIRED BY CLIENT
THE CLIENT IS TO PROVIDE ADEQUATE FOUNDATIONS
TO SUPPORT THE LOADS IMPOSED BY THE SCAFFOLD
STRUCTURE WITHOUT ADVERSE SETTLEMENT OR
DEFLECTION.

ROOF SHEET
DOWN TO TOP TIE
DEBRIS NET THE OUTSIDE OF THE
SCAFFOLD FRAMEWORK FROM TOP TIE
DOWN

SECTION B - B

SECTION C - C

SECTION D - D

THE FOLLOWING DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THIS DRAWING AT ALL TIMES
PLAN VIEWS AS DETAILED ON DRAWING 21-BS0-553-01-01
RETENTION SECTIONS DETAILED ON DRAWING 21-BS0-553-01-03

C	21.7.21	Updated to clients comments	AN	OUT
B	28.6.21	Retention scheme included.	AN	OUT
A	21.4.21	Revised Carpark Elevation.	AN	OUT
Rev	Date	Description	Checked	Drawn
				
7, Penrhyn Beach East Penrhyn Bay Llandudno LL30 3NT				
Tel: 07545 295 503 Mail: oliver@bespokescaffolddesign.co.uk				
Job Title Cheshire Scaffolds Ltd - Bloom Street Project				
Drawing Title Perimeter Access Scaffold and Temporary Roof System				
Scaffold Contractor to arrange to print drawings on correct paper size as indicated.				
Scale 1:100 @ A0	Date 25/03/2021	Drawing Number 21-BS0-553-01-02		
Drawn OUT	Checked By AN			

ALL WINDOWS TO BE REMOVED IN EXISTING FACADE WHILST FACADE RETENTION IS IN SITU

Definition of lateral loads onto existing structures.

DENOTES SECTION BRACE / FROM LADDER BEAM TO INSIDE NODE POSITION THROUGH REMOVED WINDOWS

DENOTES SCAFFOLD STRUCTURAL TRANSOMS TO BE BUTTED TO THE BUILDING USING APPROPRIATE PROTECTION IF REQUIRED

ANY BACK PROPPING REQUIREMENT TO BE ADVISED AND SPECIFIED BY OTHERS

LADDER BEAMS FIXED TIGHT UP TO THE INSIDE OF THE EXISTING FACADE SUPPORTED ON THE STRUCTURAL TRANSOMS ERECTED THROUGH WINDOW POSITIONS
TIMBER PACKERS MAY BE REQUIRED DUE TO WALL UNEVENNESS

DENOTES ALUMINIUM 450mm LATTICE BEAM

AT BRIDGED DETAIL
TOP CHORD LACING TUBE AT MAXIMUM 1.00m c/c
BOTTOM CHORD LACING TUBE AT MAXIMUM 2.00m c/c
PLAN BRACE TOP CHORD USING LOAD BEARING COUPLERS AT MAX 1.00m c/c (to match lacing tube)
SECTION BRACED AT MAX 2.00m c/c (to match every other lacing tube)

This drawing is confidential and it and the copyright therein are the property of Bespoke Scaffold Design Ltd. This drawing is issued on the conditions that---

1) It must not be used except under a contract with Bespoke Scaffold Design Ltd relating to the job in connection with which the drawing was issued.

2) It must not be copied or exhibited without the written permission of Bespoke Scaffold Design Ltd

GENERAL NOTES

1. The placing of an order based on a scheme submitted by Bespoke Scaffold Design Ltd is deemed to imply that the client is satisfied that the technical content of the scheme is in accordance with his requirements. The client is to check that his requirements have been correctly interpreted before erection commences.

2. When indicated, this is not a working drawing and is to be used for quotation or discussion purposes only.

3. When indicated, this is a working drawing and is for construction purposes. No deviation is permitted without written approval from Bespoke Scaffold Design Ltd.

4. This drawing is to be read in conjunction with the following Bespoke Scaffold Design Ltd documents :- Calculation Document Referencing Specific Drawing Number as Below.

5. Bespoke Scaffold Design Ltd Scheme has been prepared from the following information :-

6. Where a temporary structure, designed by Bespoke Scaffold Design Ltd, imposes loads on a permanent structure, the client must ensure that the permanent structure is of adequate strength to resist such forces.

7. The client is to provide adequate foundations to support the loads imposed by Bespoke Scaffold Design Ltd structure without adverse settlement or deflection.

8. Maximum force per standard = 27.50kN

9. The Main Contractor is to assist the Scaffolding Contractor with, and agree, the setting out of Bespoke Scaffold Design Ltd's temporary structure before erection commences.

10. The client is to ensure that no modifications are made to Bespoke Scaffold Design Ltd's structure without the written approval of Bespoke Scaffold Design Ltd.

11. No wedging, strutting or any other load not specified is to be applied to Bespoke Scaffold Design Ltd's structure.

12. No sheeting, debris netting or any other materials shall be fixed to a structure provided by Bespoke Scaffold Design Ltd unless approved and noted by Bespoke Scaffold Design Ltd

TYING

1. Client is to permit the scaffolding contractors scaffold to be tied to the permanent structure in accordance with BS 12811 or as indicated on this drawing.

2. Client is to ensure that no ties are removed without the approval of the scaffolding contractor.

3. All ties are to be fixed with load bearing couplers, preferably right angle couplers.

4. Where propriety anchors are specified, it is assumed that the permanent structure is of suitable condition to provide the required restraint of (see dwg note) per anchor. Should this prove not to be the case, then an alternative must be found and may be charged for.

5. Where propriety anchors are used, client is to carry out making good.

6. Ties are indicated thus  on elevation, section and plan.

DESIGN LOADS

This scaffold has been designed for the following:-

Load Classification Table 2.10 TG20:13 - Load Class 3,

Maximum number of working platforms 1No

Maximum U.D.L Main Platform: 2.000 kN/m²

Maximum U.D.L Second Platform: 1.00 kN/m²

Maximum U.D.L Inside Boards: 0.75 kN/m²

total number of boarded lifts = 1No.

The contractor must ensure that the loads allowed for are sufficient for the work being undertaken.

BASIS OF DESIGN

This scaffold has been designed in accordance with the following:-

NASC TG20 Latest Edition

BS 5975:2019+A1:2011 Code of Practice for Temporary Works Procedures & The Permissible Stress Design of Falsework

BS EN 1991-1-3:2003+C1:2010 Snow Loads

BS EN 1991-1-4:2005A1:2010 Wind Actions

MATERIALS

Scaffold Tube as Type 4 Steel Tube to BS EN 39:2001 or BS 1139-1-1 (as new condition)

Load Bearing Scaffold Fittings to comply with BS EN 74:2005 Class A as a minimum (unless otherwise stated)

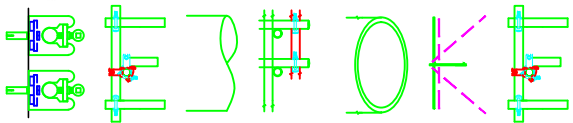
Scaffold Boards to BS 2482:2009 (38mm depth x 225mm width)

THE FOLLOWING DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THIS DRAWING AT ALL TIMES

PLAN VIEWS AS DETAILED ON DRAWING 21-BSD-553-01-01

ELEVATION VIEW AND SECTION VIEWS ALONG WITH SCHEME NOTES OF SCAFFOLD FRAMEWORKS ARE DETAILED ON DRAWING 21-BSD-553-01-02

C	21.07.21	Update to clients comments	AN	OJT
B	28.6.21	No previous revisions - first issue of retention scheme for comment at revision B to correspond with issued external schemes	AN	OJT
Rev	Date	Description	Checked	Drawn



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LEGEND		scaffold tube on plan
scaffold tube on elevation		scaffold tube as section brace
scaffold tube as plan brace		scaffold board on plan
scaffold board section		TG20 compliant unit transom elevation
TG20 compliant unit transom end view		

Drawing Status PRELIMINARY DRAWING FOR DISCUSSION AND PRICING PURPOSES ONLY		
Job Title	Cheshire Scaffolds Ltd - Bloom Street Project	
Drawing Title	Perimeter Access Scaffold and Temporary Roof System Drawing Ending 03 - Retention Area	
Scaffolding Contractor to arrange to print drawings on correct paper size as indicated.		
Scale 1:100 @ A2	Date 28.06.2021	Drawing Number 21-BSD-553-01-03
Drawn By OJT	Checked By AN	

D – Mindel House scaffolding tie report

Dear Alexandra.

Re: Physical Ties to Scaffold: Booth Street Project, Manchester

With reference to the scaffold scheme for the restoration and further development works at the above project the initial scaffold scheme as detailed on design Drawing 21-BSD-553-01 Revision C contained 402 physical ties to the existing facades of the building.

This 402 No ties would be the bare minimum to achieve the tie pattern to safely secure and scaffold framework as required for the works. The proposed ties in design, were single hole nylon plug anchors, with screw in eyes. During preliminary pull tests carried out on 29/9/2021 all ties failed to achieve the required 7.00Kn.

An alternative tie, twin hole panel brackets with M12 self-tapping bolts were prelim tested on 21st December 2021. These ties all achieved at least a 6Kn pull test, which would be more than sufficient to achieve the required load as there are two bolts per tie.

The only area where this tie failed was in the alleyway where the brickwork was in poor condition and damp. It is suggested that resin anchors are tested in this area to try and achieve the required load.

All preliminary pull test results have been forwarded to Manchester Design and Build.

The alternative ties (Twin-hole and/or resin anchors) would be in the locations as shown on design drawing no. 21-BSD-553-01-03. The downside to these ties would be: -

- A) Twin hole brackets: - double the amount of holes to make good and additional labour cost incurred
- B) Resin ties: - longer curing time, proof tests would have to be carried out after curing adding additional time to pull testing regime.

The initial design detailing the 402 No ties required a calculated test load of 7.00kN to be achieved to safely secure the scaffold structure. The calculations to for the required 7.00Kn is achieved by using 3.5Kn which is the capacity of a light duty tie, before scaffold can commence, provisional pull tests are required tested to x2 of the tie capacity of 3.5kn = 7.00Kn.

With the ties only testing to circa 5.00Kn an alternative tie detail should be used.

After onsite testing the tie failure load into the existing substrate was 5.00kN therefore less than the required value.

A few further physical tie options were considered however these would have more physical intrusions to the building and therefore more remedial works on their dismantle would be required.

To keep the same physical ties as initially proposed which would have minimal intrusions to the fabric of the building the initial 402 No ties would have to be doubled to 804 No ties to achieve the required test load.

A caveat to the above 804 No ties should be added, in that, the preliminary tests can only be carried out at the lower levels of the building. The actual pull test results at higher levels of the building may differ based on the condition of the substrate, which will only be known once the scaffold if being erected.

The scaffold in the alleyway is a façade retention scaffold, due to its failing condition. As such this is braced back to Bloom for Leeward forces and physically tied to Bloom for windward forces. Once the permanent works secure the façade, then the scaffold to Mindel House is required to be physically tied to the central section, as shown on BSD Drawing 21-BSD-553-01-03 (sections EE and FF)

The design for the Bloom Street façade shows drilled ties, however these could be substituted with box ties at first tie level, reduced the number of drilled ties.

Yours Sincerely

Oliver Turner
Bespoke Scaffold Designs.

E – Conservation Structural Engineer Advice (14.03.2022)



Mr Neil Kelly
Beech Design and Build
Bridgewater House
58-60 Whitworth St
Manchester
M1 6LT

14th March 2022
P786

Dear Sir

**11 Bloom Street & Mindel House, Manchester:
Conservation Structural Engineering Advice**

The following 'builds upon' the notes/comments/recommendations of the 14th February 2022 letter, and now includes comments etc on various drawings and reports that I have been requested to review.

1) Background:

This is the residential conversion of two adjacent properties, '11 Bloom Street' (mid to late C19 warehouse listed as grade II in 1994), and the adjacent 'Mindel House' (also mid to late C19 warehouse listed as grade II in 1994, named 'Minshull House in the listing), in Manchester City Centre.

Planning permission and listed building consent have been obtained for the conversion of these properties, with conditions to be discharged. *The local authority heritage team have recommended that advice be sought from a conservation accredited structural engineer to help guide a conservation-led approach of minimum intervention avoiding harm to the heritage significance of the buildings, and my remit is one of reviewing the proposals and to help in this regard.....which summarises Capstone's scope in this project.*

During the site visit of the 22nd December 2021 three principle areas were viewed and discussed, these were: The main staircase within 11 Bloom Street, the rear/alley elevation of Mindel House, and the 4th Floor Ceiling within Mindel House.

Capstone Consulting Engineers Ltd
Structural and Civil Engineers Historic Building Specialists
8 Wyvern Close Matlock Derbyshire DE4 3JU
Tel: 07876156501 Email: conservation@capstone-uk.com
Registered in England No: 4933492

2) The main staircase within 11 Bloom Street:

2.1) This curved timber staircase runs up from the ground floor to first floor landing, where it is supported on a plaster encased down stand beam. The staircase then repeats this, rising from the 1st floor landing to the 2nd, and again from 2nd to 3rd. The 4th floor is accessed by a separate flight, and the basement also is accessed by a separate stair. So in total, this staircase consists of three flights. Walls either side appear to be in part solid load bearing masonry, and the curved wall to the rear is a 'false wall', a plastered studwork work wall. The void between the curved wall and the load bearing rear wall of the building here could be seen from above. The walls rise on up 'through' the 4th floor level, terminating with an iron framed lantern to the flat concrete roof above. This 4th floor curved wall is C20, and it is understood this was part of the rebuilding following a fire of that time.

The staircase has timber balusters and hand rail and a plastered soffit. This appears to be a modern gypsum plaster where seen, which may have been applied over an original lath and plaster soffit. It is noted that the warehouse has a timber 'back staircase'.

The staircase is similar in appearance to grand neoclassical staircases of this shape. The difference being, those staircases have a fully load bearing masonry outer wall, with stone treads (ie they are 'cantilever' stairs with interlocking treads). In this case, whilst the outer stud wall provides support to the outer line of the staircase, the tightly curved inner stringer must also support the staircase. This is not intended to be a 'condition survey' but to set the scene.

On using the staircase whilst some flights felt 'firm' under foot, others exhibited some deflection. It is likely that over the years in service, this staircase was the more 'formal', with the back stair reserved for more 'industrial' use. With the proposed residential conversion, the curved staircase will be the principle means of access in the building, and this includes not only people, but removals in and out of the proposed flats.

BS6399 on the loading of buildings allows for a live load of 1.5kN/m² where a staircase serves 3 or fewer stories, and 4 or fewer flats per storey. In this case we exceed these limits, and the required loading increases to 3kN/m². This is a high figure for a historic timber floor, and for this curved C19 timber staircase in particular. At this stage the following is recommended:

- i) Undertake a structural condition assessment of the staircase. This would need to investigate the structure and its distortions, consider what live load it was built to carry, what sensible live load it is now suited to carry, and what remedial work may be needed. Some opening up will assist with this. A historic building experienced carpenter may be able to unpick/lift individual timber treads/risers or carefully cut into them for observation-access, possibly supplemented by opening up through the plaster soffit. It may be necessary to open up areas of the stud wall too to further understand how the staircase is supported there, and to help develop strengthening solutions.

- ii) Discuss the live loading issue with Building Control and the local authority Heritage team with the aim of agreeing a sensible live loading, being a dispensation on the requirement to cater for 3kN/m².
- iii) Dependent on the outcome of the above, one option would be to 'prove the structure' with a loading test, with suitable support and measurement.
- iv) Should repairs be needed, where possible the aim would be for these to be hidden.

Also: noting that this staircase is likely to become an important access route during the construction period, it is recommended that it be protected by installing a scaffold support system to it (ie props), and also that treads, balustrades etc are covered to protect them from impact damage etc.

2.2) Booth King Appraisal of Temporary Works options on the staircase received 04-03-22:

This report highlights, the need (and difficulties) of installing (i) a means of access to open up the staircase to allow assessment, and (ii) temporary propping to allow the staircase to be repaired. My view is only limited propping would be needed to facilitate some opening up to allow further inspection and assessment of the condition of this staircase. This opening up could include lifting or cutting through one or two treads/risers to help build up the picture/assessment of this staircase.

3) The rear/alley elevation of Mindel House:

Clearly this area is in poor condition with long term rainwater ingress from the failed guttering above, and the water that has been allowed to run down the wall. The rear wall here, facing into the alley, runs parallel with the timber down stand beams to the floors within. The floor structure consists of thick millboards, spanning between beams. There are no joists. Consequently, it is these boards that tie this wall back to the structure on each floor. The boards appear to bear onto a timber wall plate fixed to the inside face of the wall. Supplementing this, a series of tie bars run across the building, through the beams, anchoring through this wall. These tie bars play an important role in improving the overall robustness/stability of the building. The wall plates, and the mill boards local to this area, exhibit decay, with areas locally so decayed to be unsafe.

As discussed on site, a conservation led approach here would be to install some propping, and the planned external scaffold, and to then tackle the issues a floor at a time, replacing decayed wall plates, and splicing in new mill board as required. Relatively standard details could be developed for these repairs. Some deep repointing of the brickwork is likely to be needed, but fundamentally it is considered that this area can be dealt with by consolidation rather than fuller dismantling and rebuilding. As with the staircase, a good first step would be to undertake a structural condition assessment. It is noted that the scaffold on this side of the alley could be linked to the scaffold on the far side of the alley (serving 11 Bloom St) for improved temporary support whilst this consolidation work is undertaken.

There is a basement/part basement on this side of the building and as such the foundation of the wall, being deeper, is less likely to have been affected by the rain water ingress/gutter failure above, although this may need further assessment. In this area, there is an internal link through into a series of brick vaulted spaces outside of the building footprint, below the alley. It is likely this was a coal store, boiler room or similar. It is recommended that these spaces be accurately plotted onto the plans, along with the proposed external scaffold leg positions loads, so that an assessment can be made as to whether or not through propping is needed.

4) The 4th Floor Ceiling within Mindel House:

4.1) It is noted there is a desire to retain the lath and plaster ceiling over the 4th floor. In my last visit to this property, I inspected and reported on the condition of this ceiling and roof structure above (March 2017, in connection with a different residential conversion proposal/layout). During that visit I used a mobile scaffold tower to gain access into the roof void at various locations. The ceiling has suffered from localized decay and collapse due to past rain water ingress, with some areas of lath and plaster cut back.

The main issue with this ceiling is the joists supporting the lath and plaster finish are undersized and have deflected significantly under load. Noting that the space below this ceiling is to be converted into flats, the main options available are as follows:

- i) Retain the ceiling, but strengthen it from above (additional ceiling joists), and repair the lath and plaster as required, with the end result being a structurally sound but distorted ceiling.
- ii) As above, but rather than repair the lath and plaster ceiling, install a new independent ceiling directly below. In essence: retain the historic fabric, now hidden above a new ceiling to serving the new flats.
- iii) 'Restoration' of the ceiling rather than conservation: fully dismantle the existing ceiling, and install a new lath and plaster ceiling on new larger joists. Whilst the original historic fabric is lost, traditional skills and materials are employed with the new ceiling.

It is noted that fire protection and acoustic requirements will need to be integrated into the solution adopted

Finally, the need to access and assess the roof structure: localized opening up of the existing lath and plaster ceiling has been raised as a way of facilitating safe access into the roof void. There are some access points already, and with careful planning and sequencing it may be possible to work outwards from these locations, installing temporary decking to walk on etc above the ceiling. Some propping to the ceilings would be needed, with the boarding spanning between truss tie beams etc.

Also, it is noted that the scaffold drawings show 11 Bloom Street is to have a temporary scaffold roof covering, but not Mindel House. If a temporary roof was installed over Mindel, this would allow the roof structure to be more fully investigated from above, with the removal

of roof finishes etc. Accessing the roof void in this way will also help with assessing the extent of any localized decay to trusses, purlins etc, and with the installation of remedial repair (flitch plates etc).

4.2) Since writing the above, it is understood that GM Structures, and others have been able to take further observations etc within the roof space, but an area of roof void over the front entrance corner has not been accessible. It is noted that if a temporary roof were to be employed, access could in time be from above in this area.

5) Mindel House & Bloom St Basements:

It is noted I have not inspected these areas on site, and comment on the drawing and report only in accordance with my brief/scope. With reference to the drawing GMS-MH-B1-PL-S-2600 and GMS report emailed to me on the 22-02-22:

5.1) Bloom St: this is mostly existing relatively modern beam and block over a void, with an area of timber floor. It is unclear as to whether or not this timber floor area is suspended over a void or resting on a slab/the ground. The report says the timber floor is rotten. Note, section 2.1 of the report refers to Mindel House, rather than Bloom St.

Comments: (i) There isn't sufficient information on the historic significance of the timber floor (is it original, perhaps the last remnant of the original floor, or does it date from the time the beam and block was installed). (ii) There isn't sufficient evidence here to justify removing/demolition of the timber floor. What is the extent of decay? Can it be repaired? Can the floor be incorporated into the conversion proposals? These are questions that need to be addressed. (iii) Will the void below the beam and block floor (and potentially the timber floor) be adequately ventilated. This is important as it will protect any suspended timber floor from decay and protect the hidden cast iron column bases and their fixings from decay. (iv)

5.2) Mindel House: this is mostly existing relatively modern beam and block over a void, with an inner core area of suspended timber floor. There is no mention of timber decay.

Comments: (i) There isn't sufficient information on the historic significance of the timber floor but it does appear to be the last remnant of the original suspended timber basement floor. (ii) No justification is given for the need to removing/demolition of the timber floor. This floor ought to be incorporated into the conversion proposals. As before, (iii), the void below the suspended floor structure will need to be adequately ventilated. Again, this will protect any suspended timber floor from decay and protect the hidden cast iron column bases and their fixings from decay.

6) Scaffold:

6.1) The following comments are based on the 'Physical Ties to Scaffold: Booth St Project, Manchester' pdf note by Bespoke Scaffolding Design, received 04/03/22:

This report notes that testing on site found pull out loads significantly less than expected, meaning the proposals for 402 ties needs to be increased to 804. It notes 7kN is required, but '<5kN' was achieved.

Comments: Clearly the conservation issue here is the scarring these ties leave behind: the drilled holes. (i) The note should be revised to include the actual test data: number of tests, their locations and the loads achieved. (ii) The type of anchor tie fixing into the masonry being proposed should be noted (eg anchor sockets, expanding anchors, resin anchors, self-tapping screw anchors). (iii) The method of making good when the anchor is removed needs to be proposed. (iv) Are the ties proposed to the mortar joints? Would ties into the body of bricks provide better results, balancing against the need for more ties? 7kN seems very high. The scaffold calculations (in the zip folder provided) appear to highlight 2.41kN required (per 1.9m x 3.2m bay). (vi) Noting that this is a historic building, whilst working within the confines of good scaffolding practice, the flowing should be considered, reducing the number of anchor ties needed:

- Lip ties (an 'L' shaped assembly of tubes and couplers arranged to hook the scaffold behind elements of the building).
- Box ties (an assembly of tubes and couplers arranged to form a square fixed around columns/piers between window openings etc, wedged as necessary).
- Through ties (an assembly of tubes and couplers clamping to the building either side of an opening).
- Reveal ties (a friction tie whereby opposing faces of a building surface, eg a window reveal, are used). A tube is wedged and jacked tight (using a reveal pin) between opposing faces. Narrow timber packers are used at either side to protect the building fabric from damage. Because reveal ties rely on friction, guidance states that they should be frequently checked for tightness, and that ideally, *they should not be used for more than 50% of the required ties (TG20:13)*.
- Return ties (scaffolding guidance also acknowledges that where a scaffold turns around a corner, this has the same positive tying effect as a vertical run of ties).
- And in this case, there is also the opportunity to brace the Bloom St Scaffold off the Mindel House scaffold in the alleyway, alleviating the need for any tension ties.

In particular, reveal and return ties, and bracing the scaffold off the buildings across the alleyway could reduce the number of tension ties installed to the masonry.

6.2) Draft '10 Minshull Street and 11 Bloom Street Scaffolding' report by Manchester Design and Build, received 04/03/22:

This report provides an appraisal of the scaffolding options considered and a summary of the preferred heritage-led solution to enable the scaffolding works to be undertaken safely and with minimal intervention.

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Comments: (i) the support of the alleyway facade: Refer to the comments in section (3) above. It is noted that further condition assessment investigations are proposed, before the consolidation/repairs are specified.

6.3) The zip folder received 04-03-22, including proposed scaffold drawings:

This includes the scaffolding proposals and calculations. It details a clamping arrangement whereby the rear façade of Mindel House is supported by the scaffold.

Comments: refer to section (3) regarding comments on the approach to consolidating this elevation, and on the loads and the basement vaulting etc (noting the scaffold drawings ought to show the vaulted areas of basement in relation to the plan leg loads), and the possibility/benefit of a temporary roof over Mindel House as well as Bloom St.

I hope the above is of help with progressing your discussions and arriving at agreed methods of working etc.

Yours faithfully



John Ruddy

Engineer Accredited in Conservation
BEng MA(Conservation) CEng MICE MStructE CARE IHBC
For Capstone Consulting Engineers Ltd

F – Planning Further Advice No. 8 (02.09.2021)

URBAN DESIGN & CONSERVATION TEAM

FURTHER ADVICE (NO.8) TO DEVELOPMENT MANAGEMENT

Site: Mindel House (formerly known as Minshull House), No.10
Minshull Street and No.11 Bloom Street (including Nos.6 - 10
Richmond Street), City Centre.

Applications Nos.: CDN/21/0542 & CDN/21/0543

Proposal: CDN/21/0542 (relating to No.11 Bloom Street): Discharge of
Condition 5 (scaffolding) attached to planning permission
119375/LO/2018
CDN/21/0543 (relating to Mindel House): Discharge of Condition
5 (Scaffolding) attached to planning permission 119373/LO/2018

DM case officer: Jennifer Connor

UD&CT officer: John Whyard

Date of initial
advice: 30th May 2018

Date of revised
advice: 20th June 2018 (Slight revision to 30th May advice following
discussion with Jennifer Connor on 20th June 2018).

Date of further
advice No.1: 28th March 2019 (Not issued to caseworker)

Date of further
advice No.2: 5th April 2019

Date of further
advice No.3: 28th August 2019 (Wider proposal for both buildings)

Date of further
advice No.4: 4th June 2021 (4th floor ceiling Mindel House)

Date of further
advice No.5: 8th June 2021 (Proposed on-site contractors accommodation
(Mindel House) and main staircase in No.11)

Date of further
advice No.6: 10th June 2021 (Building cleaning)

Date of further
advice No.7: 2nd July 2021 (Discharge of conditions)

Date of this further
Advice: 2nd September 2021 (Discharge of Condition relating to
scaffolding)

1.0 Introduction

1.1 An application for Planning Permission (covering both buildings) and two applications for Listed Building Consent (LBC) (one for each building) have been approved. The proposers are now seeking to discharge the applications relating to scaffolding attached to both LBC's. The wording of the two conditions (and both numbered Condition No.5) is identical and reads as follows:

“(5) Before any works necessary to implement the approval commence a methodology and specification for any associated scaffolding and support

structure including its location, means of affixing to the building, location of any associated fixings to the building, details of how the building fabric would be protected from potential damage as a result of the erection of the scaffolding and details of making good to the building fabric following removal shall be submitted to and approved in writing by the City Council as local planning authority. No development shall commence unless and until the above details have been agreed.

“Reason - In the interests of visual amenity and because the proposed works affect a building which is included in the Statutory List of Buildings of Special Architectural or Historic Interest and careful attention to building work is required to protect the character and appearance of this building and to ensure consistency in accordance with policies CC9 and EN3 of the Core Strategy and saved policy DC19.1 of the Unitary Development Plan for the City of Manchester.”

2.0 Submitted information

- 2.1 The same information has been submitted with both applications:
- (a) Covering letter from Paul Butler Associates dated 16th July 2021.
 - (b) Document entitled 'Perimeter Scaffold and temporary roof structure' Revision B dated 28th April 2021, by Bespoke Scaffold Design Limited for Cheshire Scaffolds.
 - (c) Three drawings numbered as follows:
21-BSD-553-01-01 Revision B
21-BSD-553-01-02 Revision B
21-BSD-553-01-03 Revision B
 - (d) Two documents that appear to relate solely to Mindel House:
 - (i) Letter dated 12th July 2021 from GM Structures entitled 'Re:A3516-PW-Mindel House-External wall temporary restraint'.
 - (ii) An undated and unattributed document entitled 'Mindel House Manchester Scaffold Tie Detail and Configuration'.
 - (e) An undated and unattributed schedule regarding proposed works to windows which is not related to the conditions being discharged. However, an initial review of this information causes concern as it seems windows expected to be retained with refurbishment are now being proposed for replacement. This needs to be checked and followed up with the proposers and the schedule should not be agreed as a part of any discharge of these conditions.

3.0 Comments

3.1 The submitted information shows a single scaffolding scheme for the two proposal buildings that would require the installation of 402 drilled wall ties. It includes an element of scaffolding for the yard (south-west) elevation of Mindel House designed to support this elevation during what the submitted information refers to as façade retention while internal structure is removed to address a structural issue only now arising and being identified.

Mindel House yard elevation

3.2 The submitted information includes a letter from GM Structures (as based at

199 Monton Road, Manchester) and their website advises this is a company of structural engineers. It would be recommended that structural advice on a listed building should be sought from a conservation accredited structural engineer to ensure a conservation-led approach that avoids harm to the heritage significance of the building by, for example, minimising harmful intervention that involves the loss of original/historic built fabric. It could usefully be confirmed if GM Structures are conservation accredited.

3.3 The submitted information advises that the yard elevation of Mindel House is now in a deteriorated and unsafe condition through, it would seem, a lack of sufficient maintenance of the building. The proposed design of the scaffolding to support the building while remedial works are undertaken is acceptable in principle subject to due regard to other comments in this advice note. This scaffolding should be implemented as soon as possible to provide the necessary support to the elevation including when remedial works are implemented. However, the proposed remedial works should not be implemented until they have been agreed in writing with the Planning Service and in this regard it is unclear if the extent of works now being proposed is covered by the current LBC. In terms of the proposed remedial works:

- (a) A report by a report is now required to identify:
 - (i) The extent and nature of this issue needs to be explained in more detail. Works to floors and windows are identified but reference is also made to possible additional works to rebuilding elevations and foundations.
 - (ii) The options that have been considered to address this issue to find the most conservation-led approach.
 - (iii) The extent and nature of the proposed works demonstrating a conservation-led approach involving the minimum of intervention/harm is being followed. The lack of detail regarding the proposed works to the existing floors involving a considerable loss of original built fabric is of particular concern. With regard the floors, for example, the approach should be to only remove those parts of individual components such as joists and floorboards that are rotten (rather than complete components) and use traditional methods to cut and splice in new timber with additional structural strength provided by the addition of judicious elements of metalwork or additional timber (whichever can be shown to have least impact on heritage significance).
- (b) It was understood that the basis of the existing approval was that existing windows were to be retained with appropriate restoration/refurbishment other than windows that had been previously inappropriately changed/alterd such as those on the ground floor. The DM case officer is requested to confirm this point as it is not recalled that information was submitted at the time of the application or subsequently that any windows had been allowed to deteriorate to the point at which the proposers are now suggesting they are beyond feasible repair and so require replacement. It is quite possible that only elements of windows may require replacement. It may be that some sash elements of windows may need to be removed (leaving the outer window frame and associated sash mechanism in situ) to allow the installation of the scaffolding, and those removed elements need to be safely stored to allow for their reinstatement to their original locations after appropriate refurbishment. A detailed restoration/refurbishment specification/methodology would be required for the works to windows using a criteria led approach for identifying the proposed approaches for dealing with a range of likely types and extents of damage. The specification/methodology should include full regard to window opening mechanisms, window furniture and glass to ensure their loss/damage

is avoided during the works to the windows or wider building. Any windows or elements of windows would need to be on an exact like-for-like basis evidenced by the submission of detailed survey drawings of appropriate existing windows as the template for new works. This would avoid replicating the design of windows that have previously been inappropriately changed or altered.

General comments applying to the whole scaffolding proposal

3.4 The submitted information includes detailed calculations to underpin the proposed scaffolding design. However, from a Planning perspective the issue is one of ensuring that options have been considered that would involve less harm to the listed built fabric than would be caused by the proposed 402 drilled ties and that any damage that would be caused would be repaired to an appropriate detailed specification/methodology. The proposers should, therefore:

- (a) Advise on other scaffold options to confirm that the proposed approach causes least harm or identify an approach that causes less harm. For example, has consideration been given to:
 - (i) Using structural scaffolding to avoid the need for ties. It may be that this is not feasible for the full height of the buildings (given the possible need for such scaffolding to encroach on surrounding highways) but could be used for the lower part of the buildings (and so avoid damage areas seen most closely by pedestrians) in conjunction with tied scaffolding above.
 - (ii) Reducing the need for ties by using the intrinsic structural stability provided by turning the corners of the building and also the ability to effectively ring each building with scaffolding.
- (b) Where ties are found to be necessary they should not be located in the mortar joints but only if the joints in any given instance are confirmed as being wide enough to take such installation without harming the adjacent bricks or stonework. Where the joints are of insufficient width the ties should be installed central to the face of individual facing bricks and not on either stonework or decorative brickwork. The least conspicuous bricks should be used wherever possible such as those just above cornices.
- (c) Where ties into facing bricks is found to be necessary:
 - (i) An approach used successfully elsewhere has been to carefully remove and set-aside individual facing bricks to expose the underlying brickwork in those locations where ties need to be located. The tie is then installed into this underlying brickwork. When the scaffolding is dismantled the ties are removed completely and the damage made good or the tie could be removed but the plug left in place for future re-use which would be dependent on an adequate record being kept. The original undamaged facing brick would then be carefully replaced with appropriate mortar to give an invisible repair. The use of mortar has been covered in previous advice and an appropriate specification methodology/specification would be required.
 - (ii) Where repairs are required to facing bricks an appropriate 'invisible' repair should be specified and achieved where ties have been installed. The detailed repair specification/methodology should allow for the collection of brick dust from the original drilling of the tie holes which can then be added to any repair mortar proposed to re-fill the holes to assist in achieving a matching colour and texture. Trial repairs should be made available for inspection by the Planning Service as a part of the detailed repair specification/methodology.

John Whyard,
2nd September 2021

G – Mindel House Façade Retention Window Schedule

Window / Door opening Ref	Outline Description	Photo
4th Floor		
W.400.25	Existing partially bricked / boarded up window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.400.26	Existing partially bricked / boarded up window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
D.405.07	Existing partially boarded over redundant hoist access service doors to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully removing and setting aside the existing doors. Note: new double doors are to be reinstated as per Architect's details. Refer to separate Architectural drawings for internal surrounds and internal finishes generally.	
W.400.28	Existing partially bricked up window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.400.29	Existing partially bricked up window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	

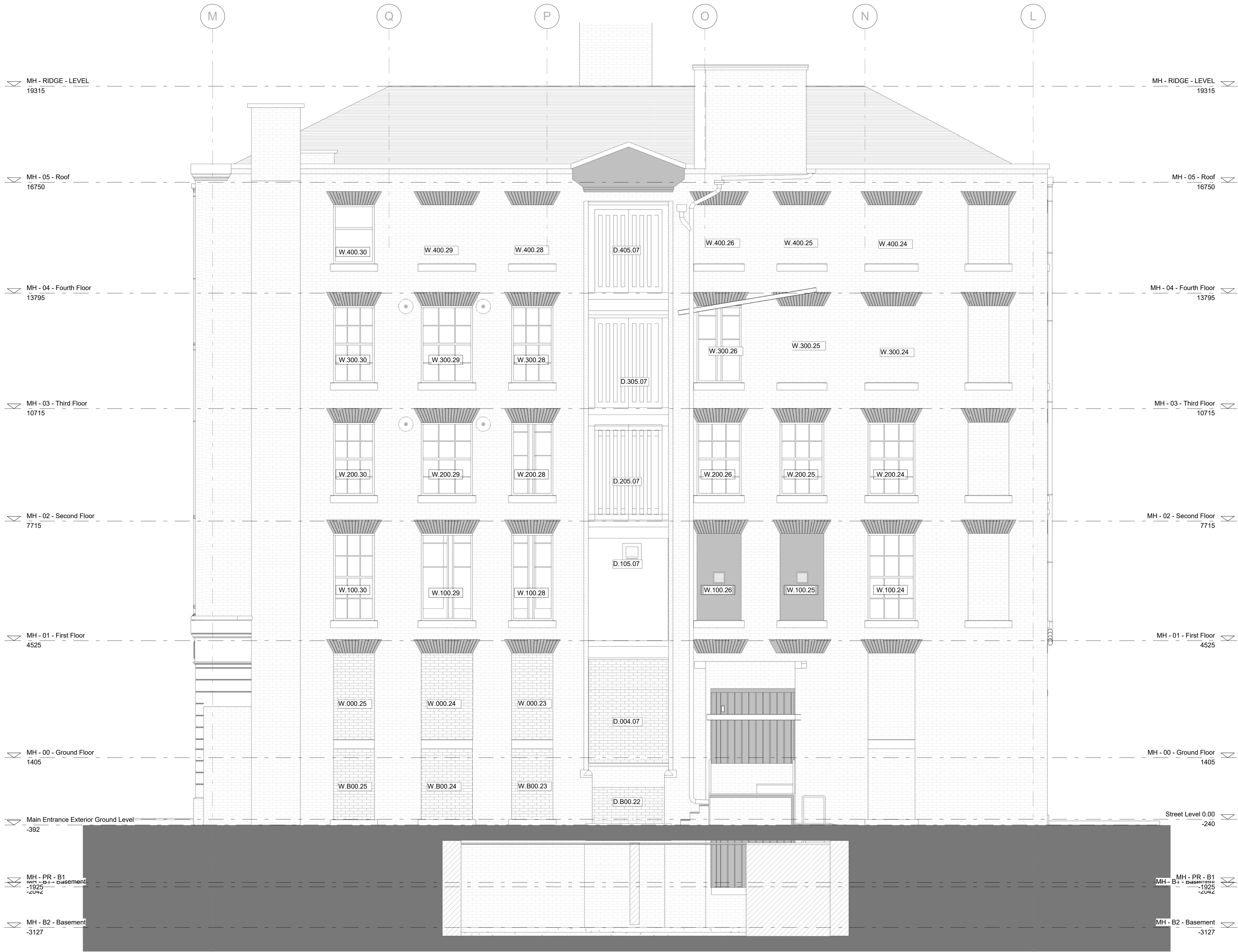
W.400.30	Non-original timber framed single glazed fixed light window with no opening casement. Existing glazing to be carefully removed to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Window to be retained as existing with localised repairs as required to ensure frames and glazing, putties etc are in good repair and sound working order. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
3rd Floor		
W.300.25	Existing partially bricked / boarded up window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.300.26	Existing partially bricked / boarded up casement window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
D.305.07	Existing partially boarded over redundant hoist access service doors to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully removing and setting aside the existing doors. Note: new double doors are to be reinstated as per Architect's details. Refer to separate Architectural drawings for internal surrounds and internal finishes generally.	
W.300.28	Existing sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	

W.300.29	Existing sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.300.30	Existing sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
2nd Floor		
W.200.25	Existing partially bricked / boarded up sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.200.26	Existing partially bricked / boarded up sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
D.205.07	Existing partially boarded over redundant hoist access service doors to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully removing and setting aside the existing doors. Note: new double doors are to be reinstated as per Architect's details. Refer to separate Architectural drawings for internal surrounds and internal finishes generally.	
W.200.28	Existing casement window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	

W.200.29	Existing sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.200.30	Existing sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
1st Floor		
W.100.25	Existing partially bricked / boarded up sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.100.26	Existing partially bricked / boarded up sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
D.205.07	Existing casement window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: structural opening to be enlarged and double doors are to be provided as per Architect's details. Refer to separate Architectural drawings for internal surrounds and internal finishes generally.	

W.100.28	Existing casement window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.100.29	Existing casement window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
W.100.30	Existing security window grilles and associated battens, fixings etc to be carefully removed and existing sash window to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing window opening to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Allowance to be made for carefully opening and or removing and setting aside the existing window. Note: detailed description of work to repair / reinstate the window is provided under separate cover to discharge planning condition 11 (i). Refer to separate Architectural drawings for internal window surrounds and internal finishes generally.	
Upper Ground Floor		
General	Existing partially bricked / boarded up openings to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing openings to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Refer to separate Architectural drawings for window and door opening treatments, surrounds and internal finishes generally etc.	
Lower Ground Floor		
General	Existing partially bricked / boarded up openings to be carefully opened up to enable temporary structural scaffolding transoms and bracing etc to pass through the existing openings to be tied to the proposed temporary facade restraint ladder beams. Refer to separate scaffold drawings for details. Refer to separate Architectural drawings for window and door opening treatments, surrounds and internal finishes generally etc.	

H – Mindel House Alleyway Elevation (reference to Window Schedule in Appendix G)



- GENERAL NOTES**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
 2. ALL LEVELS ARE IN METRES UNLESS OTHERWISE STATED.
 3. DIMENSIONS ARE NOT TO BE SCALED FROM THE DRAWING.
 4. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT EDITION OF THE BUILDING REGULATIONS 1991 (INCLUDING AMENDMENTS) AND ALL RELEVANT BRITISH STANDARDS/CODES OF PRACTICE.
 5. CONTRACTOR IS RESPONSIBLE FOR THE CORRECT SETTING OUT OF THE WORKS ON SITE. ALL DIMENSIONS TO BE CHECKED PRIOR TO FABRICATION OF MATERIALS.
 6. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND SPECIFICATIONS.
 7. THIS DRAWING SHALL NOT BE DUPLICATED WITHOUT THE EXPRESS WRITTEN PERMISSION OF BEECH DESIGN AND BUILD LIMITED.

A ISSUED FOR INFORMATION NP 10.08.21

Rev Description By Date



PICCADILLY WAREHOUSE

PROJECT:

MINDEL HOUSE
TECHNICAL ELEVATIONS
SOUTH WEST ELEVATION

DRAWING TITLE

DRAWING STATUS

DRAWN: NP CHECKED: NP

SCALE @ A1: 1:50 DATE: 10.08.21

013-MDB-MH-XX-EL-A-3003 A

DRAWING NUMBER REV:

SOUTH WEST TECHNICAL ELEVATION
1:50