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Rating Division (Valuation)
7 Lanyon Place
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Belfast
BT1 3LP

18 April 2023

Dear Sirs

Our Client: Victoria Square (Chichester Street) Residential Management Ltd
Property: Victoria Square Residential Apartments, Chichester Street, Belfast

We act for Victoria Square (Chichester Street) Residential Management Ltd ("VS(CS)RML") which is the operational management company for the section of the residential apartment development at Victoria Square ("the Development") that fronts Chichester Street.

The Chichester Street section of the Development contains the 91x apartments which are listed in the Schedule attached hereto. We have referred to the relevant Property ID and Capital Value for each property as set out in the Land & Property Services (LPS) Domestic Valuation List. The owners of these 91x apartments are the shareholders of VS(CS)RML.

VS(CS)RML is one of the registered owners of Folio AN175422L County Antrim which constitutes the leasehold title for the entire Development. This Folio is held under a Lease dated 19 April 2009 ("the Residential Lease") subject to but with the benefit of 105x leases relating to individual apartments in the Development, including the 91x Chichester Street properties listed in the Schedule attached hereto. There are 14x apartments contained in a physically distinct section of the Development fronting William Street South but these apartments are not the subject of this correspondence. Please see Folio AN175422L County Antrim and related Land Registry Map annexed hereto at **Appendix 1**.

We are engaged to act for VS(CS)RML in connection with legal proceedings relating to the failure of a structural column passing through two of the Chichester Street apartments and wider issues of concern with the structural integrity of the building. These issues have resulted in the entirety of the Chichester Street section of the Development (including the 91x properties mentioned in the Schedule hereto) being evacuated in April 2019.

Background relating to structural damage

On 1 February 2019, it became apparent on inspection by VS(CS)RML that there was a partial failure of a structural column (E2) within the Chichester Street section of the Development. The structural damage was physically evident within 2x fourth floor apartments (Apartments 406 & 407).



On inspection by structural engineers (White Young Green, McFarland Associates & Design ID), it was recommended as a safety measure that a number of apartments along the vertical line of the damaged structural column were to be evacuated, including all the Chichester Street apartments above and below the location of the damaged column E2. This was promptly arranged by VS(CS)RML.

Building Control and Health & Safety Executive NI were notified about the situation as were the original contractors, Farrans Construction Limited and Gilbert-Ash Limited. The structural damage was deemed by the insurer for the Development as not qualifying as an insured risk under the insurance policies held by VS(CS)RML on the basis that the damage was apparently caused by a latent defect in construction.

VS(CS)RML engaged its own structural engineering consultants to carry out a preliminary structural assessment of the building with a view to implementing any necessary safety measures. This assessment was carried out by McFarland Associates who also installed monitoring sensors within Apartments 406 & 407 to monitor for any further structural movement in this area of the building.

It was recommended by the consultants engaged by VS(CS)RML that steel props should be installed along the vertical line of the damaged column as a supporting mechanism. Please 11 of 'Structural Assessment' prepared by Design ID and McFarland Associates annexed hereto at **Appendix 2**. A design for the props was promptly completed by the structural engineering and design consultant (Design ID) and refined in consultation with the contractor (FK Lowry Ltd) ultimately appointed by VS(CS)RML to install the propping. It was intended that the propping would function as a temporary measure to allow for forensic examination and ultimately physical repairs to the failed column E2.

On 10 April 2019, VS(CS)RML received a further recommendation from Design ID to the effect that all apartments within an exclusion zone taking in the Chichester Street section of the Development were to be "decanted" (meaning 'vacated') immediately as a further safety measure. Please see Design ID Letter dated 10 April 2019 annexed hereto at **Appendix 3**. The structural engineering and design consultant was concerned about potential further movement in the building due to the delay in commencing the installation of the supporting props. This recommendation was actioned by VS(CS)RML, and written notices were hand delivered to each apartment within a matter of hours.

As mentioned, Design ID recommended an exclusion zone which extended to include the entirety of the Chichester Street section of the Development. These recommendations were communicated to the owners of Victoria Square Shopping Centre (CGI Victoria Square Partnership) with whom VS(CS)RML has been in regular correspondence with since early February 2019. CGI has engaged its own consultants on the matter.

Installation of steel propping around damaged column

VS(CS)RML raised the necessary finance to install the steel props by way of a special service charge levy against the 91x apartment owners in the Chichester Street section of the Development. CGI Victoria Square Partnership granted a Licence for Works to VS(CS)RML to facilitate the propping in relation to those areas within the commercial shopping centre and the propping installation commenced in June 2019. Please see the Licence for Works dated 2 July 2019 annexed hereto at **Appendix 4**.



The propping works, completed in September 2019, extend from the basement levels of Victoria Square shopping centre up to Floor Level 5 in the Chichester Street section of the Development. Building Control (Belfast City Council) periodically inspected the propping during the works programme and raised no concerns with the propping works. VS(CS)RML also appointed an experienced independent Project Manager (Colin Loughran of Loughran Associates) to ensure that the propping works were completed satisfactorily and to liaise with the various consultants on behalf of VS(CS)RML.

During the period of works to install the steel propping above and below the location of failed column E2, the Chichester Street section of the Development was effectively a building site. It was a condition of the works contract that the contractor's access to the 'Defined Site' taking in all the access and common areas of the Chichester Street section of the Development were unobstructed. Please see the plans for the propping works contract annexed hereto at **Appendix 5**. Even if the building had not been evacuated beforehand it would have been necessary to do so for the purpose of the propping works. Furthermore, following the completion of the works (as VS(CS)RML has demonstrated to LPS during a recent inspection) those apartments where props have been installed are largely uninhabitable as a result of the major works which have been carried out. We note props have been installed in Apartments 206, 207, 306, 307, 406, 407, 506, 507 which are contained within the areas coloured yellow on the enclosed plans which were attached to the propping works contract.

Electrical strain gauges have been fitted to the steel props by McFarland Associates to determine the extent of the physical load which the props are taking. Essentially, following the failure of column E2, the physical load the damaged column would have been taking from above is now being supported by the steel props. The strain gauge data (together with the data that is being collected from on-site sensitive monitoring equipment) was intended to assist our client's consultants in determining how to proceed with the next phase of the repair project, including the forensic examination of materials to be extracted from the damaged column and any physical repairs that are to be carried out.

The monitoring equipment also serves the purpose of detecting any ongoing structural movement within the Chichester Street section of the Development. A period of time has been allowed for the readings from the monitoring equipment to be reviewed and analysed before a determination can be made as to whether or not there is ongoing structural movement.

Design ID September 2019 Structural Analysis Report

In addition to the design for steel propping around column E2, Design ID were engaged by VS(CS)RML to carry out a structural analysis of the Chichester Street section of the Development. The purpose of this analysis (completed September 2019) was to determine how the structural failure of column E2 has affected other structural parts of the building (i.e. how the load previously supported by column E2 has been redistributed throughout the building) and to identify other at-risk columns that may require further inspection and/or remediation. The findings of the structural analysis carried out by Design ID are very concerning and effectively halted the repair process which VS(CS)RML had originally embarked upon. Please see the extract of the Design ID Report (*'Phase 2 Structural Assessment'*) dated September 2019 annexed hereto at **Appendix 6**. The original document is 1261 pages long so we have extracted the sections relevant to commentary on structurally defective columns.



Following a review of the original design based on plans obtained from Building Control, it has been recommended that addressing the structural issues within the Chichester Street section of the Development will require the strengthening of 15x column sections. 3x of those columns have been affected by load distribution following the partial failure of column E2 which means the design of any strengthening works for these particular columns will be especially complicated and may first require steel propping similar to the props installed along the line of column E2. You will appreciate there would be significant costs involved in procuring the recommended column strengthening works which are currently beyond the financial means of a residential management company such as VS(CS)RML.

Design ID have also recommended a visual inspection of ALL columns within the Chichester Street section of the Development to ascertain if any historic defective construction works (similar to those apparent in the fourth floor level of damaged column E2) have been carried out which may contribute to further column failures. Facilitating such an inspection would involve stripping out adjacent walls in the 91x Chichester Street apartments. Again, this would involve significant costs being incurred which are not currently within the financial resources of VS(CS)RML.

Since the structural damage became evident in February, the owners of the 91x properties in the Chichester Street section of the Development began making preparations for litigation against those parties that may be potentially liable for the damage, and therefore responsible for the requirement to evacuate the building. The instruction of Design ID to carry out the structural analysis was intended to identify at-risk columns and potential remedial solutions but also to assist in these property owners for any future litigation. As such, the instruction to Design ID to carry out the structural analysis was given in contemplation of legal proceedings and therefore the corresponding Report prepared by Design ID is legally privileged. We have however enclosed for your reference a plan which indicates the location of the props installed around the damage column E2 and other columns identified as 'at-risk' or 'highly utilised'. We confirm that legal proceedings have now commenced at the instigation of the Chichester Street apartment owners and the litigation is ongoing.

The costs incurred by VS(CS)RML in relation to the steel propping along damaged column E2 and the ongoing monitoring have been significantly expensive and funded entirely by the property owners within the Chichester Street section of the Development. VS(CS)RML has not been in a position to avail of any insurance policy or commercial loan funding to fund the propping works. The directors of VS(CC)RML and all professional consultants and advisors engaged on its behalf have invested considerable time and effort in attempting to resolve the structural issues affecting the building. However, based on the expert advice from its structural engineering consultants, the costs involved in implementing the recommended strengthening works to the 15x column sections and further column inspections are simply beyond the financial means of VS(CC)RML. On that basis, we must emphasise that VS(CS)RML is not in a position to adequately repair the structural damage caused by the failure of column E2 or to resolve the more fundamental problems relating to the original design of the building structure.



Until the structural issues affecting the building are adequately resolved, the residents of the 91x properties within the Chichester Street section of the Development cannot return to their apartments. These properties are unmarketable in the current circumstances but the relevant owners are still being asked to make payments towards mortgage loan repayments, service charge for ongoing costs relating to the maintenance of the building and property rates payable to LPS.

2021 LPS Inspection

██████████ of our office, ██████████ of Simon Brien Residential (Managing Agent for the Development, and ██████████ attended at the Development on 28 September 2021 to facilitate an inspection by ██████████ of LPS. The purpose of the inspection was to enable ██████████ to complete a report to LPS Rating Division to determine if the Chichester Street apartments can be re-valued to zero for rating purposes. We understand this would effectively mean that property owners the Chichester Street section of the Development would not be required to pay property rates on the vacant apartments.

██████████ was able to facilitate access to a number of the apartments where props were installed, including Apartments 406 & 407 where the failed column E2 is located. We provided ██████████ with a timeline of the events to date and explained the reasoning behind the building being evacuated. We outlined the background of the installation of the props, the need for the building to be vacant to ensure accuracy of readings from the sensitive monitoring, the absence of Public Liability Insurance (as this cover had been withdrawn by the insurer for the building) and the wider questions around column (under)design posed by the Design ID Sept 19 Report which have stopped repairs from being progressed. We also informed ██████████ about recent issues with spalling brickwork on the Montgomery Street facade.

De-commissioning of Gas Heating by Phoenix Gas

On 5 December 2022, Phoenix Gas informed VS(CS)RML that due to the ongoing health and safety concerns relating to the structural damage in the Chichester Street section of the Development, it was taking steps to decommission the gas heating supply to the 91x Chichester Street apartments. These measures were implemented on 6 December 2022. Consequently, the 91x Chichester Street apartments are now without heating and are therefore uninhabitable. A copy of the Letter dated 5 December 2022 to VS(CS)RML is annexed hereto at **Appendix 7** for your information.

Request for de-rating of Chichester Street apartments

We have been instructed by VS(CS)RML to make an application to LPS to have the 91x Chichester Street effectively de-valued for rating purposes or to have some form of exclusion applied on the basis the properties listed in the Schedule attached hereto are uninhabitable. We would summarise our comments above by way of the following points:-

1. The structural defects flagged up by Design ID in its September 2019 Report affects the entire Chichester Street section of the Development, even the steel props have been physically installed in the number of apartments mentioned above.
2. McFarland Associates and Design ID have provided written professional advice that the building must remain vacant for safety reasons.



3. The integrity of the sensitive monitoring data obtained by McFarland Associates is undermined by movement of persons within the building. It is therefore essential for the detection of actual structural movement that the building remain vacant. This is important for the safety of those in the vicinity of the building, including pedestrians on Chichester Street.
4. VS(CS)RML as superior title holder has imposed a policy to the effect that apartment owners are not permitted to enter the Chichester Street section of the Development. It is the position of VS(CS)RML that any apartments owners breaching this policy are trespassing on private land.
5. Public Liability Insurance has been withdrawn by the insurer so VS(CS)RML cannot insure against the risk of injury to occupiers. The insurer has also imposed strict conditions on Buildings Insurance remaining in effect which include the prevention of access to the building by unauthorised occupiers, additional alarm systems being imposed and regular inspections by authorised personnel of VS(CS)RML.
6. During the installation of the steel props and up to the contractor leaving site in December 2019, the entire Chichester Street section of the Development was essentially a building site.
7. A number of services in the building, including the KONE lift services, have been decommissioned. Phoenix Gas have decommissioned the gas heating supply so the 91x Chichester Street apartments have not heating facilities and are therefore uninhabitable.

We should be grateful if LPS would consider the representations made in this letter with a view to facilitating the de-valuation of the 91x properties referred to in the Schedule attached hereto to the effect that property owners are not required to pay rates for the period from 1 April 2019 or some exclusion being applied to that effect. We understand a number of property owners have already written to LPS with similar requests. However, LPS may not have been provided with the above information or enclosed documentation in order to make a fully informed decision on how to address such correspondence.

We would be happy to address any queries LPS have in relation to the enclosed documentation where this is necessary.

Thank you for your assistance and we look forward to hearing from you.

Yours faithfully

Email: [REDACTED]
Enc [REDACTED]

SCHEDULE

Chichester Street Apartments (LPS Property Information)

LPS Property ID	Address	Description	Capital Value (£)	Property Type
956707	Apt 201, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960554	Apt 202, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960555	Apt 203, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960556	Apt 204, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960557	Apt 205, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
956708	Apt 206, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
956710	Apt 207, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960558	Apt 208, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960559	Apt 209, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960560	Apt 210, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960561	Apt 211, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960562	Apt 212, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960563	Apt 213, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
956711	Apt 214, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960564	Apt 215, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960566	Apt 216, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 1st & 2nd Floor	£140,000.00	Domestic
960567	Apt 301, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£140,000.00	Domestic
956712	Apt 302, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£160,000.00	Domestic
960568	Apt 303, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£120,000.00	Domestic
960569	Apt 304, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£150,000.00	Domestic
960570	Apt 305, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£120,000.00	Domestic
960571	Apt 306, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£120,000.00	Domestic
956713	Apt 307, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£170,000.00	Domestic
956714	Apt 308, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£165,000.00	Domestic
956715	Apt 309, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£170,000.00	Domestic
956716	Apt 310, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£165,000.00	Domestic
956717	Apt 311, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£170,000.00	Domestic
956718	Apt 312, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£165,000.00	Domestic
956720	Apt 313, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 3rd Floor	£170,000.00	Domestic
956722	Apt 401, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£140,000.00	Domestic
960572	Apt 402, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£160,000.00	Domestic
960573	Apt 403, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£120,000.00	Domestic

960574	Apt 404, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£150,000.00	Domestic
960575	Apt 405, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£125,000.00	Domestic
960576	Apt 406, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£120,000.00	Domestic
956724	Apt 407, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£165,000.00	Domestic
956725	Apt 408, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£160,000.00	Domestic
956726	Apt 409, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£165,000.00	Domestic
956729	Apt 410, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£160,000.00	Domestic
956730	Apt 411, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£165,000.00	Domestic
956733	Apt 412, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£160,000.00	Domestic
956735	Apt 413, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£160,000.00	Domestic
956747	Apt 414, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 4th Floor	£140,000.00	Domestic
960595	Apt 501, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£140,000.00	Domestic
960596	Apt 502, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£160,000.00	Domestic
960597	Apt 503, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£120,000.00	Domestic
960598	Apt 504, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£150,000.00	Domestic
960599	Apt 505, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£125,000.00	Domestic
960600	Apt 506, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£120,000.00	Domestic
956748	Apt 507, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£165,000.00	Domestic
956749	Apt 508, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£160,000.00	Domestic
956751	Apt 509, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£165,000.00	Domestic
956865	Apt 510, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£160,000.00	Domestic
956866	Apt 511, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£165,000.00	Domestic
956867	Apt 512, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£160,000.00	Domestic
956868	Apt 513, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£160,000.00	Domestic
956869	Apt 514, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 5th Floor	£140,000.00	Domestic
960601	Apt 601, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£140,000.00	Domestic
960602	Apt 602, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£160,000.00	Domestic
960603	Apt 603, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£120,000.00	Domestic
960604	Apt 604, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£150,000.00	Domestic
960605	Apt 605, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£125,000.00	Domestic
960606	Apt 606, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£120,000.00	Domestic
956872	Apt 607, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£220,000.00	Domestic
956874	Apt 608, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£180,000.00	Domestic

956875	Apt 609, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£185,000.00	Domestic
956881	Apt 610, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£180,000.00	Domestic
956888	Apt 611, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£185,000.00	Domestic
956893	Apt 612, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£180,000.00	Domestic
956894	Apt 613, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£180,000.00	Domestic
956895	Apt 614, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 6th Floor	£160,000.00	Domestic
956896	Apt 701, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 7th Floor	£150,000.00	Domestic
956898	Apt 702, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 7th Floor	£170,000.00	Domestic
956899	Apt 703, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 7th Floor	£130,000.00	Domestic
956900	Apt 704, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 7th Floor	£160,000.00	Domestic
956902	Apt 705, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 7th Floor	£150,000.00	Domestic
956903	Apt 801, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 8th Floor	£160,000.00	Domestic
956904	Apt 802, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 8th Floor	£180,000.00	Domestic
956949	Apt 803, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 8th Floor	£170,000.00	Domestic
956950	Apt 804, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 8th Floor	£170,000.00	Domestic
956951	Apt 805, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 8th Floor	£160,000.00	Domestic
956952	Apt 901, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 9th Floor	£170,000.00	Domestic
956953	Apt 902, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 9th Floor	£190,000.00	Domestic
956954	Apt 903, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 9th Floor	£180,000.00	Domestic
956960	Apt 904, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 9th Floor	£180,000.00	Domestic
956962	Apt 905, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 9th Floor	£170,000.00	Domestic
956702	Apt 1001, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 10th Floor	£180,000.00	Domestic
956703	Apt 1002, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 10th Floor	£200,000.00	Domestic
956704	Apt 1003, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 10th Floor	£150,000.00	Domestic
956705	Apt 1004, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 10th Floor	£190,000.00	Domestic
956706	Apt 1005, 70 Chichester Street, Town Parks, Belfast BT1 4JQ	Apartment, 10th Floor	£180,000.00	Domestic

Appendix 1 – Folio AN175422L County Antrim

Folio: AN175422L

County: Antrim

Date Searched to: 7/2/2019

Details of Pending Applications:

Application Number	Application Type	Client Name	Applicant	Date Lodged
2010/348422	DEV. PREC	Victoria Sq	LPS LAND REGISTRATION	21/09/2010

Land & Property Services – The Land Registry

TITLE REGISTER

Date of First Registration:	21/09/2010	Folio: AN175422L
Edition: 1		County: Antrim
Opened: 21/09/2010		L.R. Map Reference:
Prior Title (if any):		Grid Reference:
Superior Title(s): AN175421		Area: Under one hectare

PART I – containing a description of the land and, where appropriate, particulars of the lease under which it is held.

The leasehold land described in Document No 2009/270695CC and shown for identification purposes on the Registry map relating to the above Folio and comprising land in the Townland of TownParks and comprising the Residential Accomodation, Victoria Square, Belfast.

Appurtenance
Registered 21st September
2010
Document No:
2009/270695/CC

There is appurtenant to the land herein the following easements created by the Lease hereinafter mentioned.

(a) Rights affecting so much of the land in Folio AN175421 as is hatched red on the Lease map.

(b) Unmapped rights affecting the land in Folio AN175421

There are excepted and reserved out of the said land all such matters and things as are excepted and reserved in and by the Lease hereinafter mentioned.

Short particulars of lease under which the land is held

Date of Lease: 16th April 2009
Document No. 2009/270695CC
Term: 250 years from 16th April 2009

Note: The title of the lessor is registered in folio AN175421

PART II – containing the name and address of the registered owner and the other particulars relating to ownership of the land.

Date of Registration & Remarks	Particulars
	CLASS OF TITLE: Good Leasehold

Date of Registration & Remarks	Particulars
<p>Registered 1st December 2015 Document No: 2015/578522/E</p>	<p>Part of Folio Charge Priority Search Number: 2011/355150</p> <p>VICTORIA SQUARE (CHICHESTER STREET) RESIDENTIAL MANAGEMENT LIMITED of 85 UNIVERSITY STREET, BELFAST, BT7 1HP and VICTORIA SQUARE (WILLIAM STREET SOUTH) RESIDENTIAL MANAGEMENT LIMITED of 85 UNIVERSITY STREET, BELFAST, BT7 1HP is full owner.</p>

PART III – containing particulars relating to burdens and charges etc.

Date of Registration & Remarks	Particulars
<p>Registered 21st September 2010 Document No: 2009/270695/CC</p>	<p>The yearly rent reserved by the said Lease payable as therein provided.</p>
<p>Lease Registered 12th October 2010 Document No: 2009/364938/B Lessee's Title: AN176872L</p>	<p>Part of the land herein is subject to a lease made on 5th August 2009 from Multi Residential Developments UK Limited to [REDACTED] and another for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 25th October 2010 Document No: 2010/276227/J Lessee's Title: AN181854L</p>	<p>Part of the land herein is subject to a lease made on 2nd July 2010 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 5th November 2010 Document No: 2009/372511/K Lessee's Title: AN176928L</p>	<p>Part of the land herein is subject to a lease made on 1st May 2009 from Multi Residential Developments UK Limited to [REDACTED] and another for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 30th November 2010 Document No: 2009/401455/G Lessee's Title: AN177409L</p>	<p>Part of the land herein is subject to a lease made on 19th October 2009 from Multi Residential Developments UK Limited to [REDACTED] and another for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 30th November 2010 Document No: 2010/104092/L Lessee's Title: AN179587L</p>	<p>Part of the land herein is subject to a lease made on 29th January 2010 from Multi Residential Developments UK Limited to [REDACTED] and another for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease</p>	<p>Part of the land herein is subject to a lease made on 9th October 2009 from Multi Residential Developments UK Limited to [REDACTED] for 250 years</p>

Date of Registration & Remarks	Particulars
Document No: 2010/323942/Q Lessee's Title: AN182499L	There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 2nd December 2010 Document No: 2010/106189/L Lessee's Title: AN179603L	Part of the land herein is subject to a lease made on 5th February 2010 from Multi Residential Developments UK Limited to [REDACTED] and another for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 3rd December 2010 Document No: 2009/448509/H Lessee's Title: AN178138L	Part of the land herein is subject to a lease made on 11th September 2009 from Multi Residential Developments UK Limited to [REDACTED] and others for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 3rd December 2010 Document No: 2010/37632/I Lessee's Title: AN178694L	Part of the land herein is subject to a lease made on 21st December 2009 from Multi Residential Developments UK Limited to [REDACTED] and others for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 6th December 2010 Document No: 2010/365060/N Lessee's Title: AN183001L	Part of the land herein is subject to a lease made on 19th June 2009 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 8th December 2010 Document No: 2010/139407/I Lessee's Title: AN180094L	Part of the land herein is subject to a lease made on 1st May 2009 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 9th December 2010 Document No: 2009/259465/J Lessee's Title: AN175241L	Part of the land herein is subject to a lease made on 18th May 2009 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 13th December 2010 Document No: 2009/365493/I Lessee's Title: AN176878L	Part of the land herein is subject to a lease made on 15th May 2009 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 16th December 2010 Document No: 2010/170391/I	Part of the land herein is subject to a lease made on 27th November 2009 from Multi Residential Developments UK Limited to [REDACTED] and others for 250 years less 10 days. There is also demised by the said lease the following rights:

Date of Registration & Remarks	Particulars
<p>Lease Registered 14th April 2011 Document No: 2011/140768/N Lessee's Title: AN186242L</p>	<p>Unmapped rights.</p> <p>Part of the land herein is subject to a lease made on 31st January 2011 from Multi Residential Developments UK Limited to [REDACTED] and others for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 19th May 2011 Document No: 2011/181387/C Lessee's Title: AN186772L</p>	<p>Part of the land herein is subject to a lease made on 5th May 2011 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 26th May 2011 Document No: 2011/197893/I Lessee's Title: AN186980L</p>	<p>Part of the land herein is subject to a lease made on 18th October 2010 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 6th June 2011 Document No: 2011/213998/L Lessee's Title AN187218L</p>	<p>Part of the land herein is subject to a lease made on 31st March 2011 from Multi Residential Developments UK Limited to [REDACTED] and another for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 19th July 2011 Document No: 2011/278548/C Lessee's Title: AN187964L</p>	<p>Part of the land herein is subject to a lease made on 13th May 2011 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 3rd August 2011 Document No: 2011/288681/N Lessee's Title: AN188085L</p>	<p>Part of the land herein is subject to a lease made on 27th July 2011 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 24th October 2011 Document No: 2011/409639/K Lessee's Title: AN189493L</p>	<p>Part of the land herein is subject to a lease made on 29th July 2011 from Multi Residential Developments UK Limited to [REDACTED] for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>

Date of Registration & Remarks	Particulars
Lease Registered 21st December 2011 Document No: 2011/508710/AY Lessee's Title: AN129243L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011 Document No: 2011/508710/BG Lessee's Title: AN129244L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011 Document No: 2011/508710/BK Lessee's Title: AN129245L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011 Document No: 2011/508710/BO Lessee's Title: AN129246L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011 Document No: 2011/508710/BS Lessee's Title: AN129247L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011 Document No: 2011/508710/CA Lessee's Title: AN129249L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011 Document No: 2011/508710/CE Lessee's Title: AN129250L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011 Document No: 2011/508710/CI Lessee's Title: AN129251L	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.
Lease Registered 21st December 2011	Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days.

Date of Registration & Remarks	Particulars
<p>Lease Registered 21st December 2011 Document No: 2011/508710/DS Lessee's Title: AN129260L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>
<p>Unmapped rights.</p>	
<p>Lease Registered 21st December 2011 Document No: 2011/508710/DW Lessee's Title: AN129261L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>
<p>Unmapped rights.</p>	
<p>Lease Registered 21st December 2011 Document No: 2011/508710/EE Lessee's Title: AN129262L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>
<p>Unmapped rights.</p>	
<p>Lease Registered 21st December 2011 Document No: 2011/508710/EA Lessee's Title: AN129263L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>
<p>Unmapped rights.</p>	
<p>Lease Registered 21st December 2011 Document No: 2011/508710/EI Lessee's Title: AN129264L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>
<p>Unmapped rights.</p>	
<p>Lease Registered 21st December 2011 Document No: 2011/508710/EM Lessee's Title: AN129265L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>
<p>Unmapped rights.</p>	
<p>Lease Registered 21st December 2011 Document No: 2011/508710/EQ Lessee's Title: AN129266L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>
<p>Unmapped rights.</p>	
<p>Lease Registered 21st December 2011 Document No: 2011/508710/EU</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>

Date of Registration & Remarks	Particulars
<p>Lease Registered 21st December 2011 Document No: 2011/508710/GA Lessee's Title: AN129275L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/GE Lessee's Title: AN129276L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/GL Lessee's Title: AN129277L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/GP Lessee's Title: AN129278L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/GT Lessee's Title: AN129279L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/GX Lessee's Title: AN129280L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/HB Lessee's Title: AN129281L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p> <p>Unmapped rights.</p>

Date of Registration & Remarks	Particulars
<p>Lease Registered 21st December 2011 Document No: 2011/508710/IH Lessee's Title: AN129289L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/IL Lessee's Title: AN129290L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/IP Lessee's Title: AN129291L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/IT Lessee's Title: AN129292L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/IX Lessee's Title: AN129293L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/JB Lessee's Title: AN129294L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/JF Lessee's Title: AN129295L</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights: Unmapped rights.</p>
<p>Lease Registered 21st December 2011 Document No: 2011/508710/JJ</p>	<p>Part of the land herein is subject to a lease made on 30th September 2011 from Multi Residential Developments UK Limited to Ulster Garden Villages Limited for 250 years less 10 days. There is also demised by the said lease the following rights:</p>



Land & Property Services
 Sairbhíis Tuaim & Maoin
 THE LAND REGISTRY - CLÉIRIANN TUAIM

Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: Not applicable
 Our Ref: 2019/124951
 Your Ref: EMCK/P
 Map Ref(s): See individual sheets

Layout Sheet

Key to folio labels:

- a - AN175422L 1.3 Pts. 1st Floor
- b - AN175422L Pt. 10, 10th Floor
- c - AN175422L Pt. 11, 1st level 1
- d - AN175422L Pt. 12, 1st level 2
- e - AN175422L Pt. 13, 1st level 3
- f - AN175422L Pt. 2, 2nd Floor
- g - AN175422L Pt. 3, 3rd Floor
- h - AN175422L Pt. 4, 4th Floor
- i - AN175422L Pt. 5, 5th Floor
- j - AN175422L Pt. 6, 6th Floor
- k - AN175422L Pt. 7, 7th Floor
- l - AN175422L Pt. 8, 8th Floor
- m - AN175422L Pt. 9, 9th Floor
- n - AN143072L
- o - AN175422L 8th Floor
- p - AN175422L Ground Floor
- q - AN176871L 4th Floor
- r - AN176871L 1st level 1
- s - AN176923L 3rd Floor

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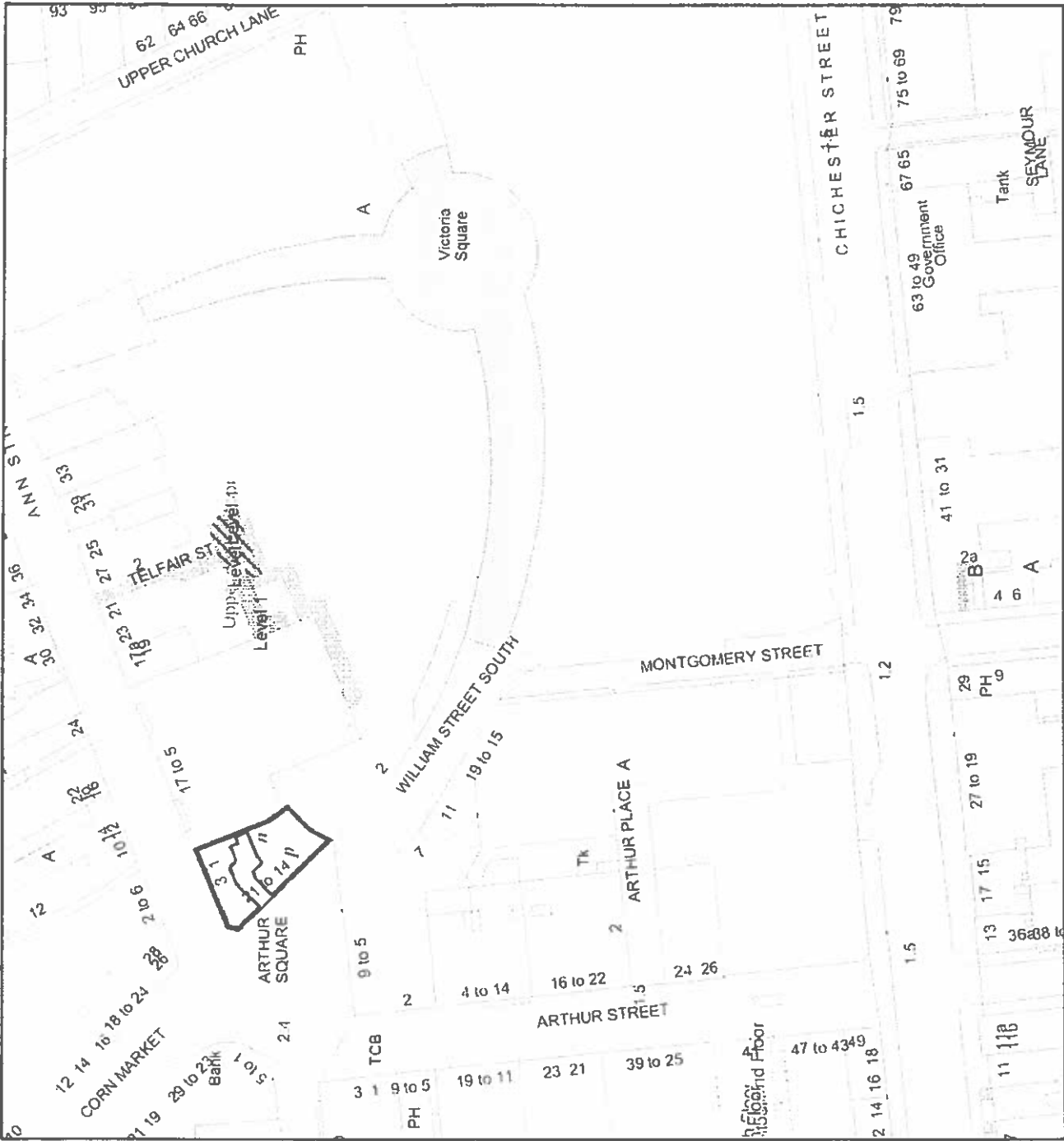
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1,2,3,4,5,6,7,8,9,10,11,12,13,14



Extra Labels for the layout sheet for AN175422L on application 2019/124951

l	- AN1760281, 7th Floor	br	- AN1912451, 2 Pts, 4th Floor	dp	- AN1912811, 3rd Floor
u	- AN1774091, 1th Floor	bs	- AN1912461, 2 Pts, 1st Floor	dq	- AN1912821, 3rd Floor
v	- AN1774391, 5th Floor	bt	- AN1912461, Pt, 2, 2nd Floor	dr	- AN1912831, 3rd Floor
w	- AN1781181, 6th Floor	bu	- AN1912471, 2 Pts, 1st Floor	ds	- AN1912841, 3rd Floor
x	- AN1781171, 10th Floor	bv	- AN1912471, Pt, 2, 2nd Floor	dt	- AN1912851, 3rd Floor
y	- AN1786941, 10th Floor	bw	- AN1912481, 2 Pts, 1st Floor	du	- AN1912861, 4th Floor
z	- AN1791891, 6th Floor	bx	- AN1912481, Pt, 2, 2nd Floor	dv	- AN1912871, 4th Floor
aa	- AN1795681, 5th Floor	by	- AN1912491, 2 Pts, 2nd Floor	dw	- AN1912881, 4th Floor
ab	- AN1795671, 10th Floor	bz	- AN1912491, Pt, 2, 1st Floor	dx	- AN1912891, 4th Floor
ac	- AN1796031, 4th Floor	ca	- AN1912501, 2 Pts, 1st Floor	dy	- AN1912901, 6th Floor
ad	- AN1797211, 5th Floor	cb	- AN1912501, Pt, 2, 2nd Floor	dz	- AN1912911, 6th Floor
ae	- AN1797661, 2 Pts, 3rd Floor	cc	- AN1912511, 2 Pts, 2nd Floor	ea	- AN1912921, 6th Floor
af	- AN1799331, 9th Floor	cd	- AN1912511, Pt, 2, 1st Floor	eb	- AN1912931, 7th Floor
ag	- AN1800761, 4th Floor	ce	- AN1912521, 2 Pts, 1st Floor	ec	- AN1912941, 8th Floor
ah	- AN1800941, 8th Floor	cf	- AN1912521, Pt, 2, 2nd Floor	ed	- AN1912951, 8th Floor
ai	- AN1800241, 2 Pts, 1st Floor	cg	- AN1912531, 2 Pts, 1st Floor	ee	- AN1912961, 9th Floor
aj	- AN1800241, Pt, 2, 2nd Floor	ch	- AN1912531, Pt, 2, 2nd Floor	ef	- AN1912971, 9th Floor
ak	- AN1810701, 5th Floor	ci	- AN1912541, 2 Pts, 1st Floor	eg	- AN1989951, 2 Pts, 3rd Floor
al	- AN1811851, 7th Floor	cj	- AN1912541, Pt, 2, 2nd Floor	eh	- AN1989951, Pt, 2, 4th Floor
am	- AN1818541, 10th Floor	ck	- AN1912551, 2 Pts, 1st Floor	ei	- AN2070211, Pt, 1st Floor
an	- AN1824991, 5th Floor	cl	- AN1912551, Pt, 2, 2nd Floor	ej	- AN2070211, Pt, 7, 1st Floor
ao	- AN1827081, 7th Floor	cm	- AN1912561, 2 Pts, 1st Floor	ek	- AN2070211, Pt, 8, 2nd Floor
ap	- AN1830011, 2 Pts, 3rd Floor	cn	- AN1912561, Pt, 2, 2nd Floor		
aq	- AN1847251, 2 Pts, 1st Floor	co	- AN1912571, 2 Pts, 1st Floor		
ar	- AN1847251, Pt, 2, 2nd Floor	cp	- AN1912571, Pt, 2, 2nd Floor		
as	- AN1848001, 4th Floor	cq	- AN1912581, 2 Pts, 1st Floor		
at	- AN1853221, 2nd Floor	cr	- AN1912581, Pt, 2, 2nd Floor		
au	- AN1853301, 6th Floor	cs	- AN1912591, 2 Pts, 1st Floor		
av	- AN1862421, 5th Floor	ct	- AN1912591, Pt, 2, 2nd Floor		
aw	- AN1867211, 3rd Floor	cu	- AN1912601, 3rd Floor		
ax	- AN1869801, 8th Floor	cv	- AN1912601, 3rd Floor		
ay	- AN1872181, 9th Floor	cw	- AN1912621, 3rd Floor		
az	- AN1879641, 9th Floor	cx	- AN1912631, 3rd Floor		
ba	- AN1880851, 6th Floor	cy	- AN1912641, 3rd Floor		
bb	- AN1883551, 6th Floor	cz	- AN1912651, 4th Floor		
bc	- AN1887471, 3rd Floor	da	- AN1912661, 4th Floor		
bd	- AN1894931, 5th Floor	db	- AN1912671, 4th Floor		
be	- AN1901641, 5th Floor	dc	- AN1912681, 4th Floor		
bf	- AN1912341, 4th Floor	dd	- AN1912691, 5th Floor		
bg	- AN1912351, 4th Floor	de	- AN1912701, 5th Floor		
bh	- AN1912361, 1st Floor	df	- AN1912711, 5th Floor		
bi	- AN1912371, 1st Floor	dg	- AN1912721, 5th Floor		
bj	- AN1912381, 1st Floor	dh	- AN1912731, 5th Floor		
bk	- AN1912391, 1st Floor	di	- AN1912741, 5th Floor		
bl	- AN1912401, 2nd Floor	dj	- AN1912751, 6th Floor		
bm	- AN1912411, 10th Floor	dk	- AN1912761, 6th Floor		
bn	- AN1912421, 2nd Floor	dl	- AN1912771, 6th Floor		
bo	- AN1912431, 2nd Floor	dm	- AN1912781, 6th Floor		
bp	- AN1912441, 2nd Floor	dn	- AN1912791, 6th Floor		
bq	- AN1912451, 2 Pts, 3rd Floor	do	- AN1912801, 6th Floor		



Faulk & Property Services
Seaboard Estate & More
 THE LAND REGISTRY - CLAREMONT, BA TALLIN

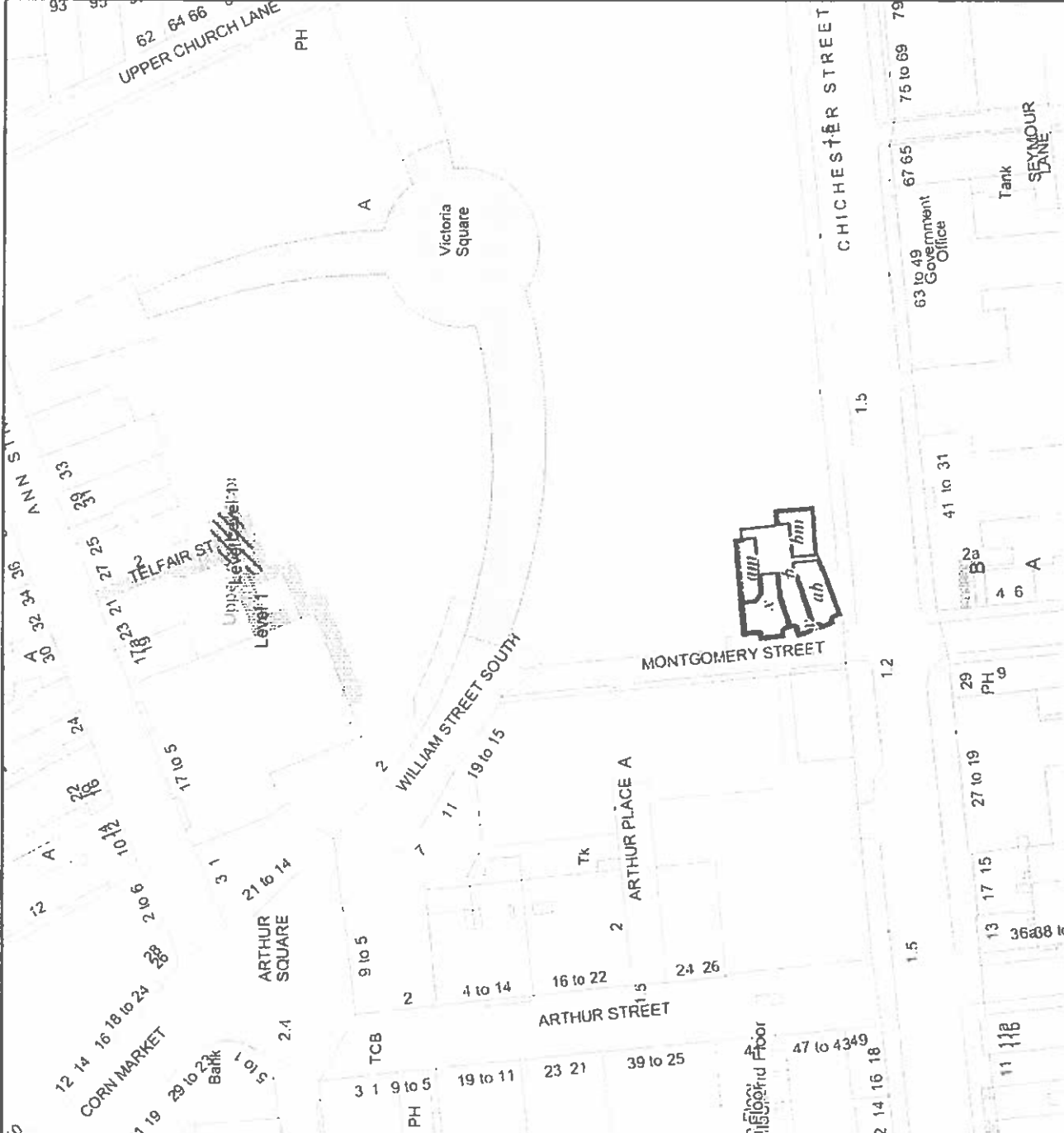
Date: 12 Feb 2019
County: Antrim
Folio: AN175422L
Scale: 1:1250
Our Ref: 2019/124951
Your Ref: EMCK/P
Map Ref(s): 130135E2

Sheet 1 of 14

Key to folio labels:
 n - N14302L
 p - N175422L, Ground Floor

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Land & Property Services
 Scarborough Urban & Mobile
 100 EAST BEAVER CREEK AVENUE, SCARBOROUGH, ONTARIO

Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:1250
 Our Ref: 2019/124951
 Your Ref: EMCKIP
 Map Ref(s): 13013SE2

Sheet 2 of 14

Key to folio labels:

- b* - AN175422L, 4th Floor
- x* - AN178517L, 10th Floor
- y* - AN178694L, 10th Floor
- ab* - AN179587L, 10th Floor
- am* - AN181854L, 10th Floor
- hm* - AN191241L, 10th Floor

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Land & Property Services
Southwest Talisman Marine
THE LAND REGISTRY - CHARLTON, SAITERN

Date: 12 Feb 2019
County: Antrim
Folio: AN175422L
Scale: 1:500
Our Ref: 2019/124951
Your Ref: EMCK/P
Map Ref(s): See Map Sheet 2

Clarification Sheet 1 for map sheet 2

Key to folio labels:

- b* - AN175422J, Pt. 10, 10th Floor
- x* - AN178517J, 10th Floor
- y* - AN178694J, 10th Floor
- ab* - AN179587J, 10th Floor
- am* - AN181854J, 10th Floor
- bm* - AN191241J, 10th Floor



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Land & Property Services
 Scrumbley, Edou & Macdonald
 THE LAND SERVICES - GUERNSEY ISLAND

Date: 12 Feb 2019
 County: Antigua
 Folio: AN175422L
 Scale: 1:1250
 Our Ref: 2019/124951
 Your Ref: EMCK/P
 Map Ref(s): 13013SE2

Sheet 3 of 14

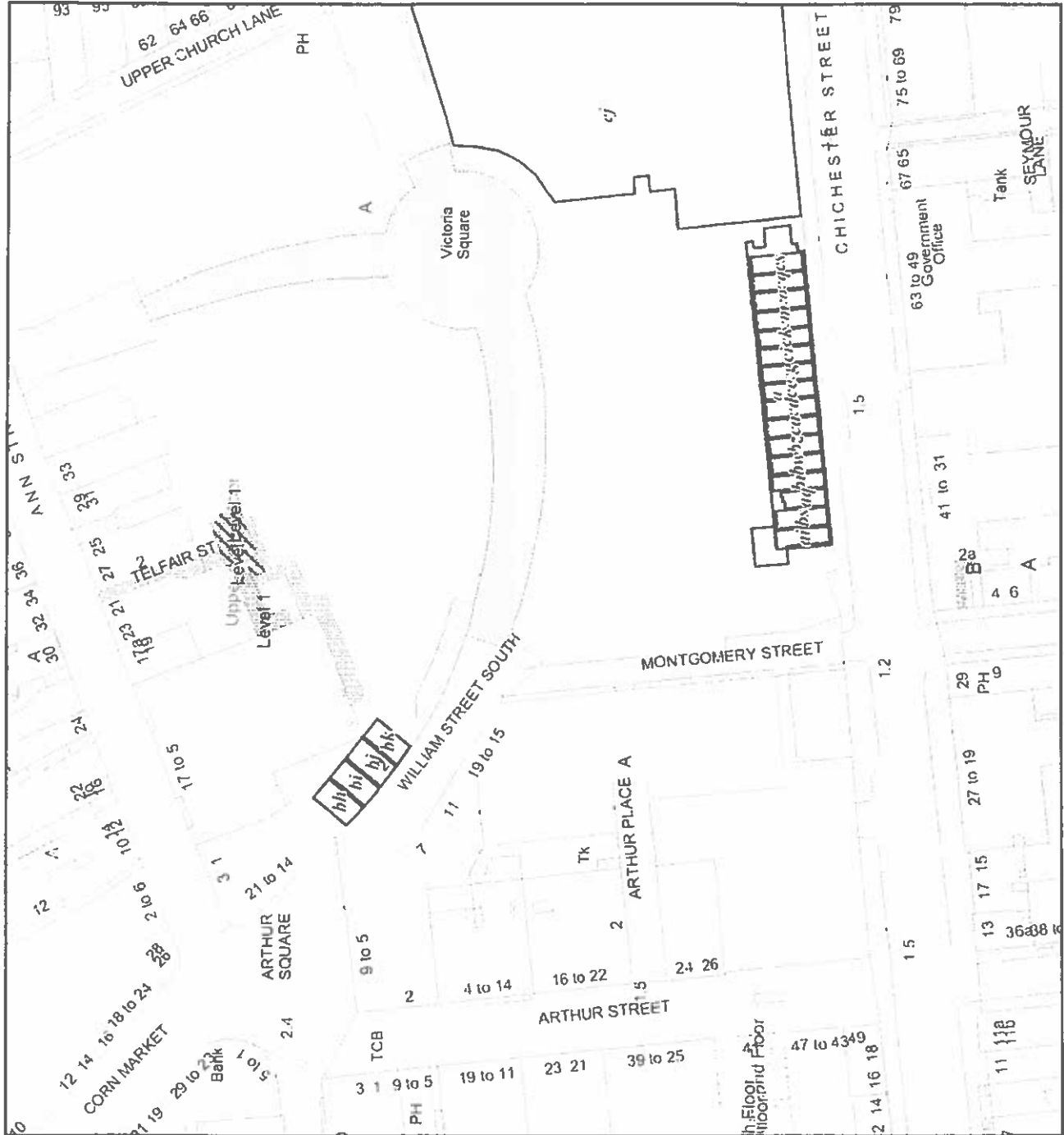
Key to folio labels:

- ai - AN/54221, 13 Pts, 1st Floor
- aj - AN/804241, 2 Pts, 1st Floor
- ak - AN/84251, 2 Pts, 1st Floor
- al - AN/912361, 1st Floor
- am - AN/91237, 1st Floor
- an - AN/912381, 1st Floor
- ao - AN/912391, 1st Floor
- ap - AN/912401, 2 Pts, 1st Floor
- aq - AN/91247, 2 Pts, 1st Floor
- ar - AN/912481, 2 Pts, 1st Floor
- as - AN/912491, Pt, 2, 1st Floor
- at - AN/912501, 2 Pts, 1st Floor
- au - AN/912511, Pt, 2, 1st Floor
- av - AN/912521, 2 Pts, 1st Floor
- aw - AN/912531, 2 Pts, 1st Floor
- ax - AN/912541, 2 Pts, 1st Floor
- ay - AN/912551, 2 Pts, 1st Floor
- az - AN/912561, 2 Pts, 1st Floor
- ba - AN/91257, 2 Pts, 1st Floor

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Extra Labels for sheet 3 for AN175422L on application 2019/124951

04 - AN191258I 2 Pgs, 1st Floor
05 - AN191259I 2 Pgs, 1st Floor
06 - AN207021I Pt. 2, 1st Floor



Land & Property Services
 Scrubbin' Tallinn & Marine
 THE LAND REGISTRY - CLAREMOUNT TALLIN

Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:500
 Our Ref: 2019/12495/1
 Your Ref: EMCK/P
 Map Ref(s): See Map Sheet 3

Clarification Sheet 1 for map sheet 3

Key to folio labels:

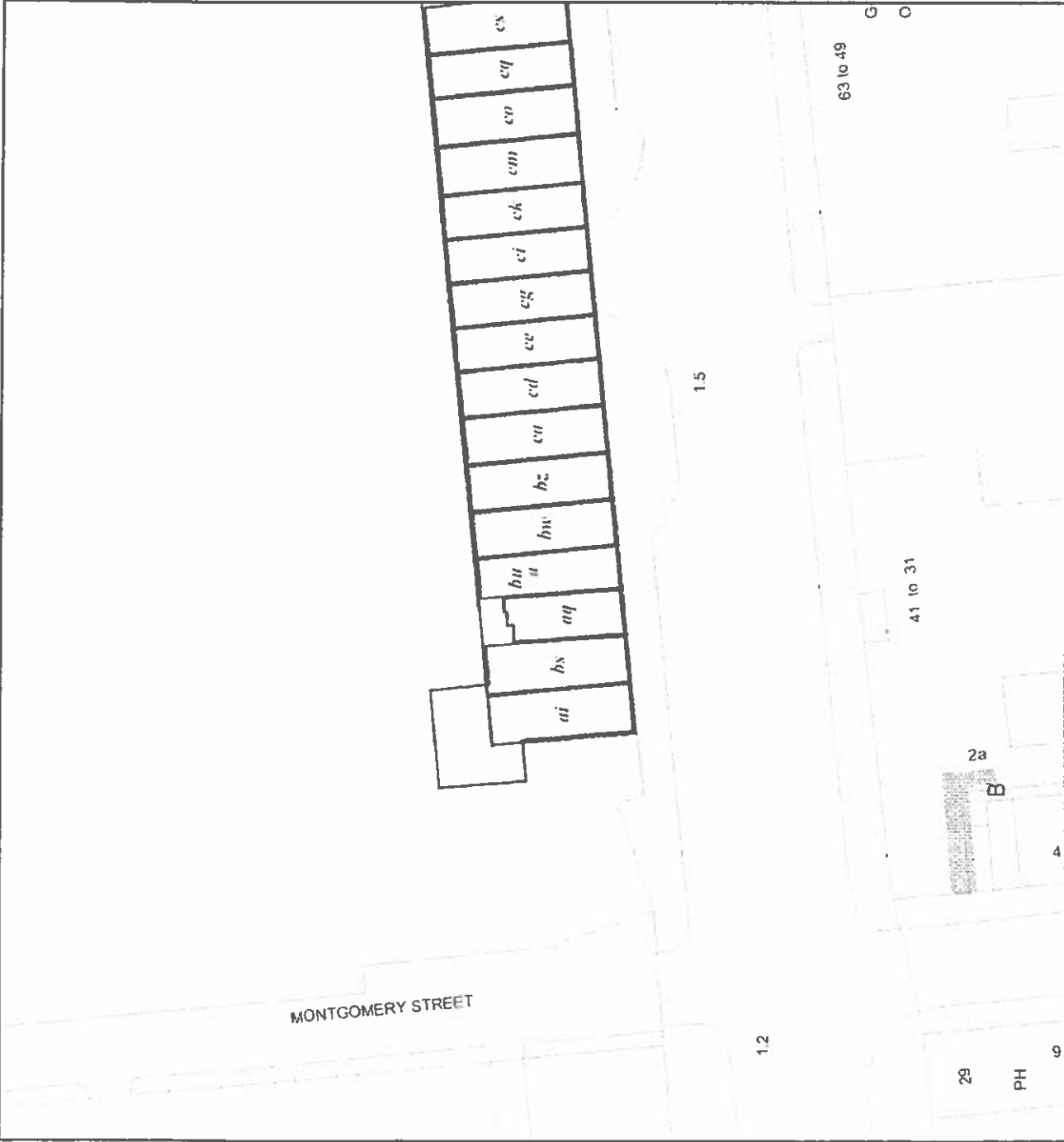
- a - AN175422L 1/3 Pts, 1st Floor
- ai - AN180424L 2 Pts, 1st Floor
- aq - AN184258L 2 Pts, 1st Floor
- bs - AN191246L 2 Pts, 1st Floor
- bu - AN191247L 2 Pts, 1st Floor
- bu - AN191248L 2 Pts, 1st Floor
- bc - AN191249L Pt 2, 1st Floor
- cv - AN191250L 2 Pts, 1st Floor
- cv - AN191251L Pt 2, 1st Floor
- cv - AN191252L 2 Pts, 1st Floor
- cx - AN191253L 2 Pts, 1st Floor
- ci - AN191254L 2 Pts, 1st Floor
- ck - AN191255L 2 Pts, 1st Floor
- cm - AN191256L 2 Pts, 1st Floor
- co - AN191257L 2 Pts, 1st Floor
- cq - AN191258L 2 Pts, 1st Floor
- cs - AN191259L 2 Pts, 1st Floor

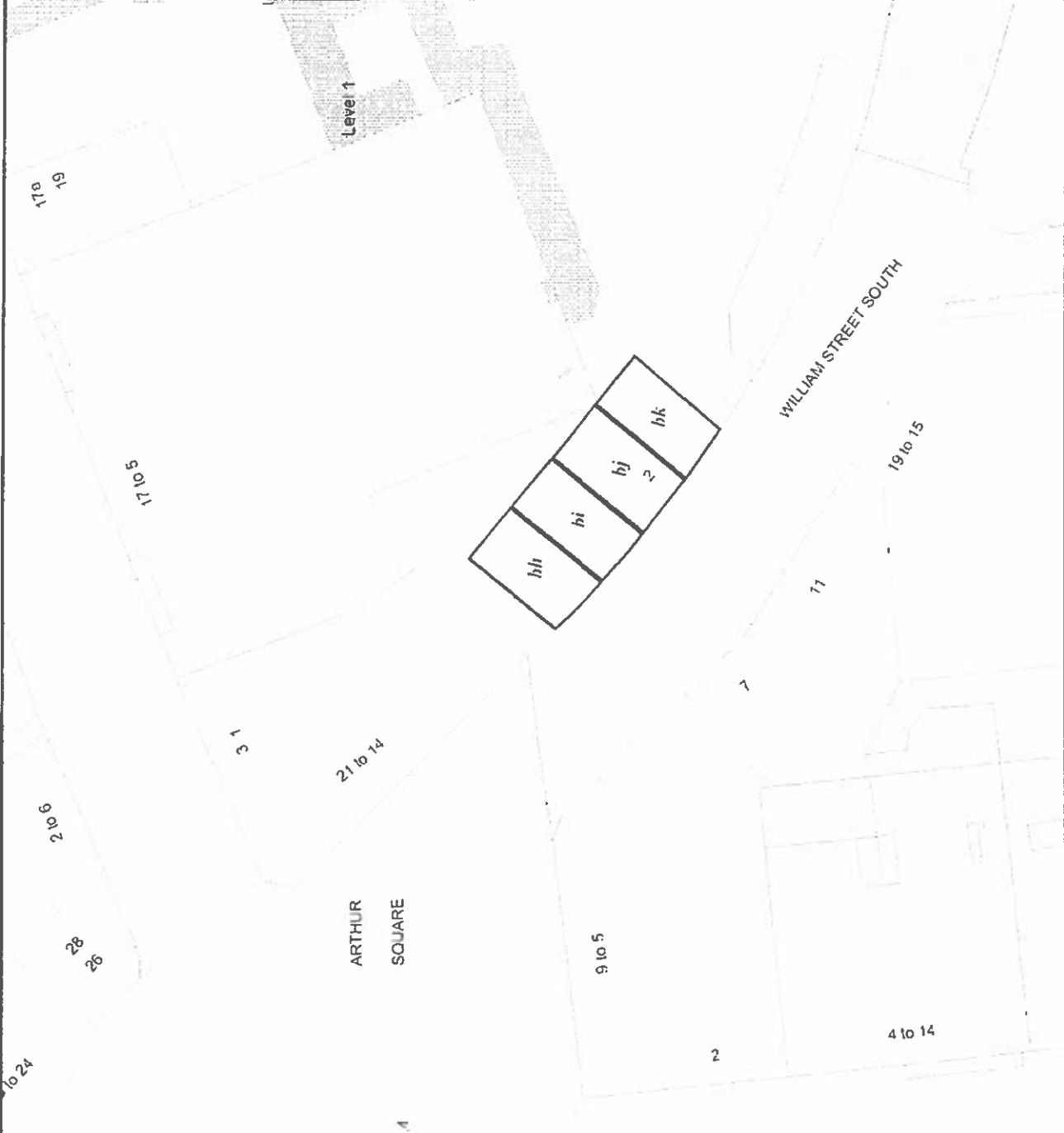
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Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:500
 Our Ref: 2019/124951
 Your Ref: EMCKIP
 Map Ref(s): See Map Sheet 3

Clarification Sheet 2 for map sheet 3

Key to folio labels:

- hh - AN191236L, 1st Floor
- hi - AN191237L, 1st Floor
- hj - AN191238L, 1st Floor
- hk - AN191239L, 1st Floor

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Landmark Property Services
Scotchman, Faim & Malone
THE LAND REGISTRY - CHARLESTON - TASMANIA

Date: 12 Feb 2019
County: Antrim
Folio: AN175422L
Scale: 1:1250
Our Ref: 2019/124951
Your Ref: EMCK/P
Map Ref(s): 13013SE2

Sheet 4 of 14

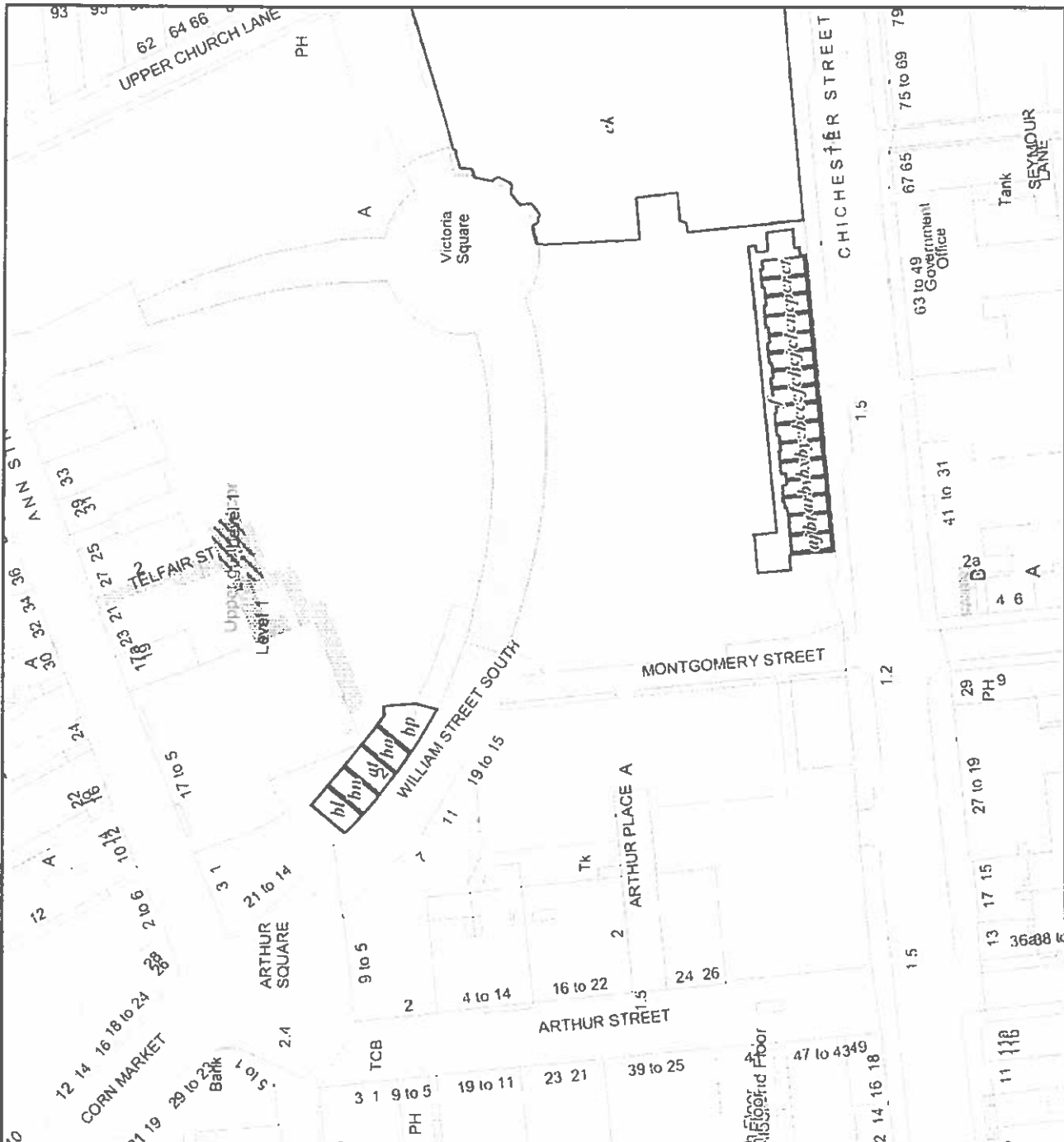
Key to folio labels:

i - AN175422L Pt.2,2nd Floor
aj - AN180234L Pt.2,2nd Floor
ar - AN184725L Pt.2,2nd Floor
at - AN185322L 2nd Floor
hl - AN191240L 2nd Floor
hn - AN191241L 2nd Floor
ho - AN191243L 2nd Floor
hp - AN191244L 2nd Floor
ho - AN191246L Pt.2,2nd Floor
hv - AN191247L Pt.2,2nd Floor
hx - AN191248L Pt.2,2nd Floor
hy - AN191249L 2 Pts, 2nd Floor
cb - AN191250L Pt.2,2nd Floor
cc - AN191251L 2 Pts, 2nd Floor
cf - AN191252L Pt.2,2nd Floor
ch - AN191253L Pt.2,2nd Floor
cj - AN191254L Pt.2,2nd Floor
cl - AN191255L Pt.2,2nd Floor
cn - AN191256L Pt.2,2nd Floor

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Map of the land shown in this plan was prepared from a plan deposited in the office of the Registrar of Deeds, Hobart, Tasmania, on the 12th day of February, 1919, under No. 124951, and is a true and correct copy of the plan as shown to the Registrar at the time of its deposit.

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Extra Labels for sheet 4 for AN175422L on application 2019/124951

cp - AN1912571 Pt.2,2nd Floor
cr - AN1912581 Pt.2,2nd Floor
cc - AN1912591 Pt.2,2nd Floor
ck - AN2070211 Pt.8,2nd Floor



Land & Property Services
Seirbhís Talamh & Maoinic
THE LAND REGISTRY CLARKEAN RUA TALUN

Date: 12 Feb 2019
County: Antrim
Folio: AN175422L
Scale: 1:500
Our Ref: 2019/12495/1
Your Ref: EMCK/P
Map Ref(s): See Map Sheet 4

Clarification Sheet 1 for map sheet 4

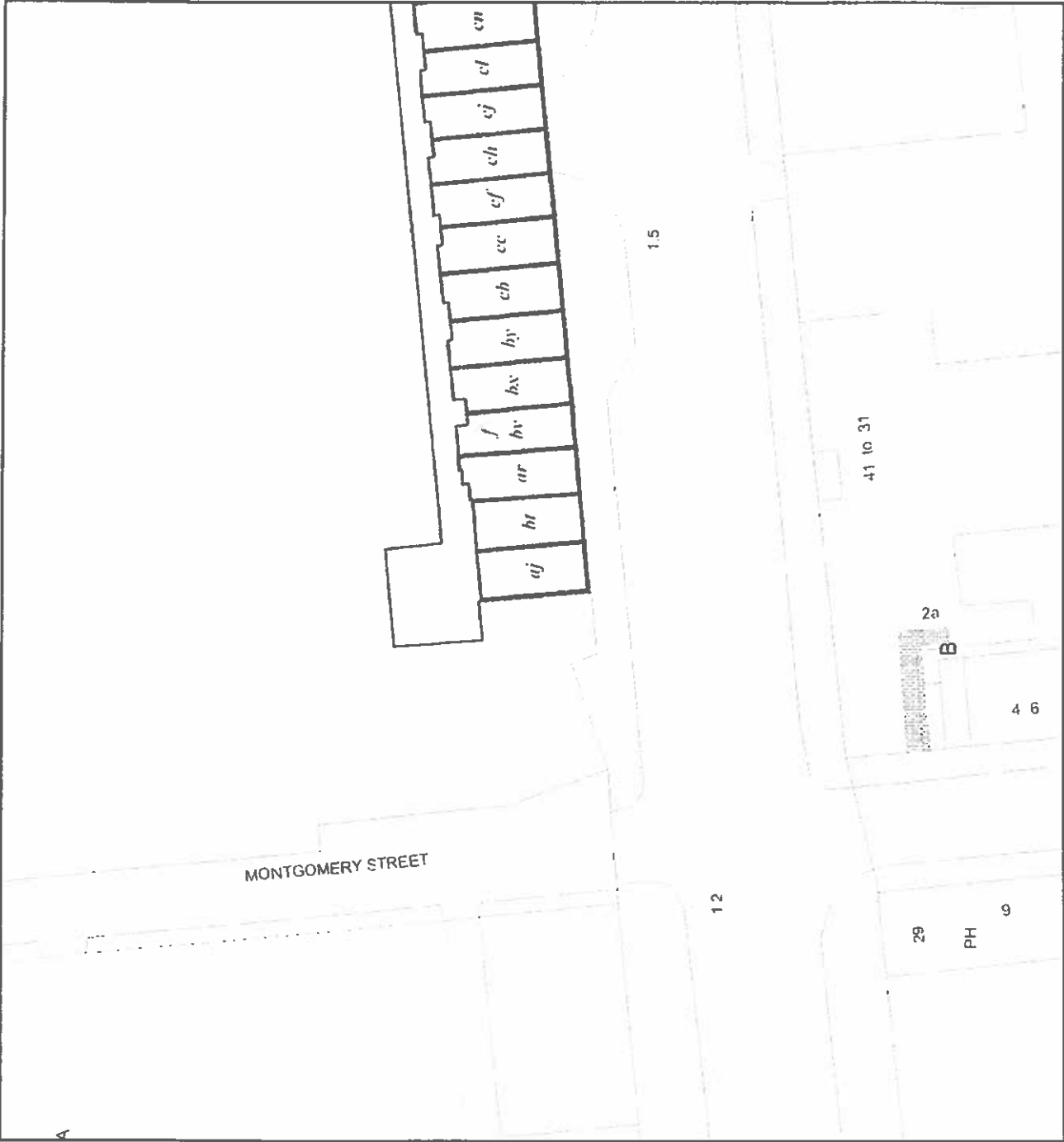
Key to folio labels:

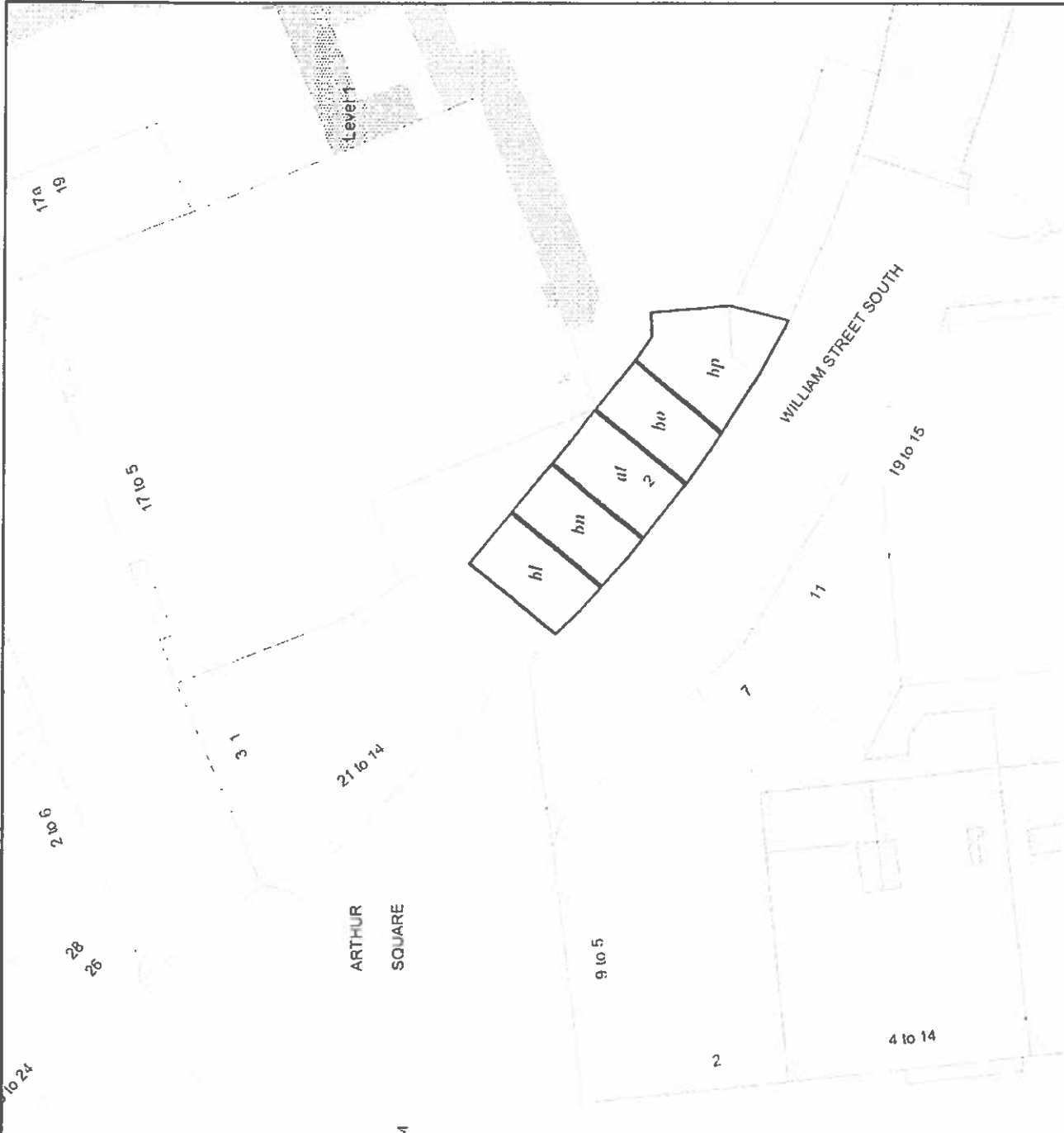

- f* - AN175422L Pt. 2, 2nd Floor
- aj* - AN188424J Pt. 2, 2nd Floor
- ar* - AN184728L Pt. 2, 2nd Floor
- bt* - AN191246J Pt. 2, 2nd Floor
- bx* - AN191247I Pt. 2, 2nd Floor
- by* - AN191248I Pt. 2, 2nd Floor
- cb* - AN191249I Pt. 2, 2nd Floor
- cc* - AN191250I Pt. 2, 2nd Floor
- cf* - AN191252I Pt. 2, 2nd Floor
- ch* - AN191253I Pt. 2, 2nd Floor
- cj* - AN191254I Pt. 2, 2nd Floor
- cl* - AN191255L Pt. 2, 2nd Floor
- cn* - AN191256J Pt. 2, 2nd Floor

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Land & Property Services
Scottish Land & Malone
 HIGHLAND REGION GLASGOW AND SOUTH

Date: 12 Feb 2019
County: Antrim
Folio: AN175422L
Scale: 1:500
Our Ref: 2019/124951
Your Ref: EMCK/P
Map Ref(s): See Map Sheet 4

Clarification Sheet 2 for map sheet 4

Key to folio labels:

- al - AN1913221, 2nd Floor
- hl - AN1912401, 2nd Floor
- bn - AN1912421, 2nd Floor
- bo - AN1912431, 2nd Floor
- hp - AN1912441, 2nd Floor

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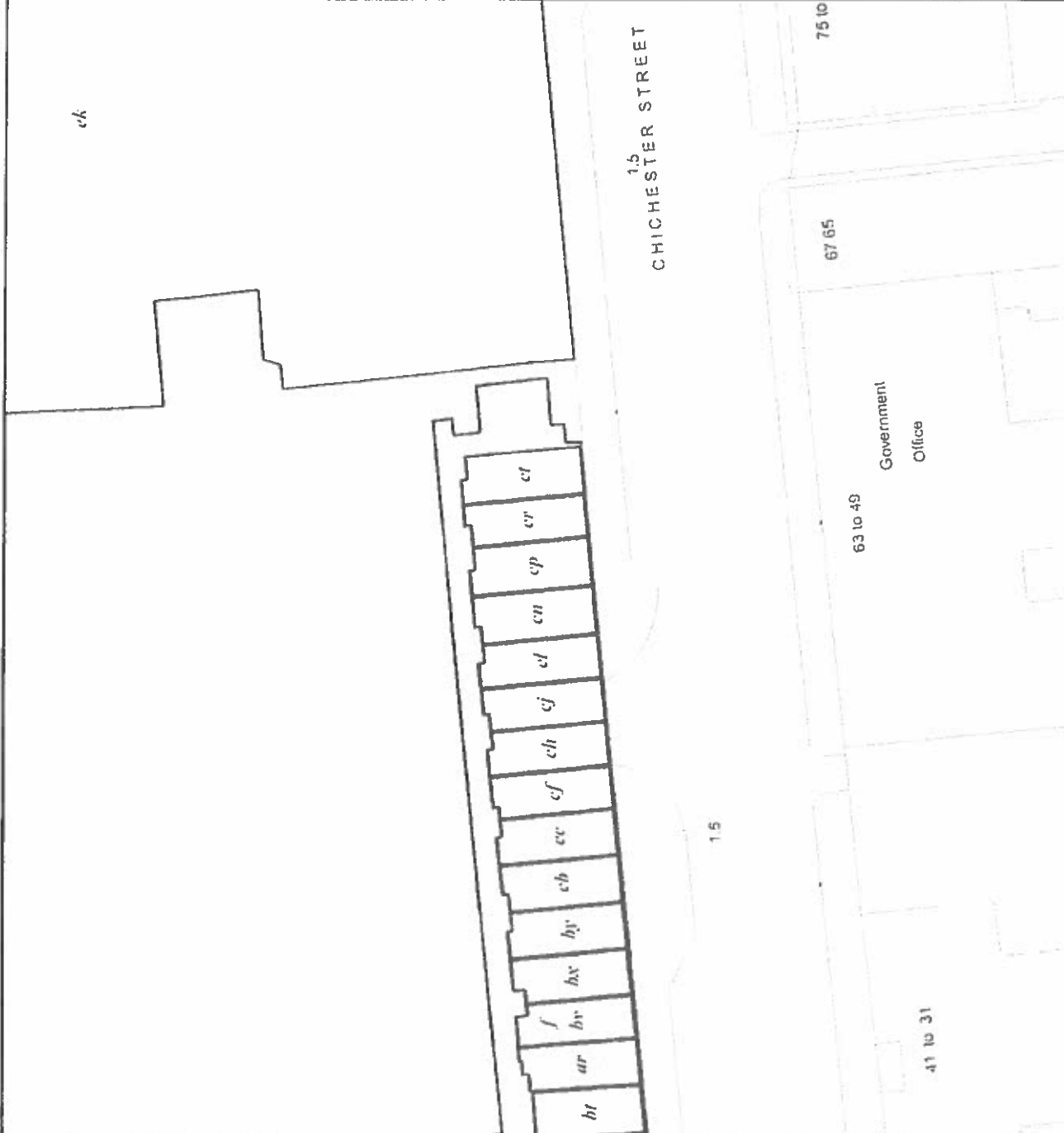
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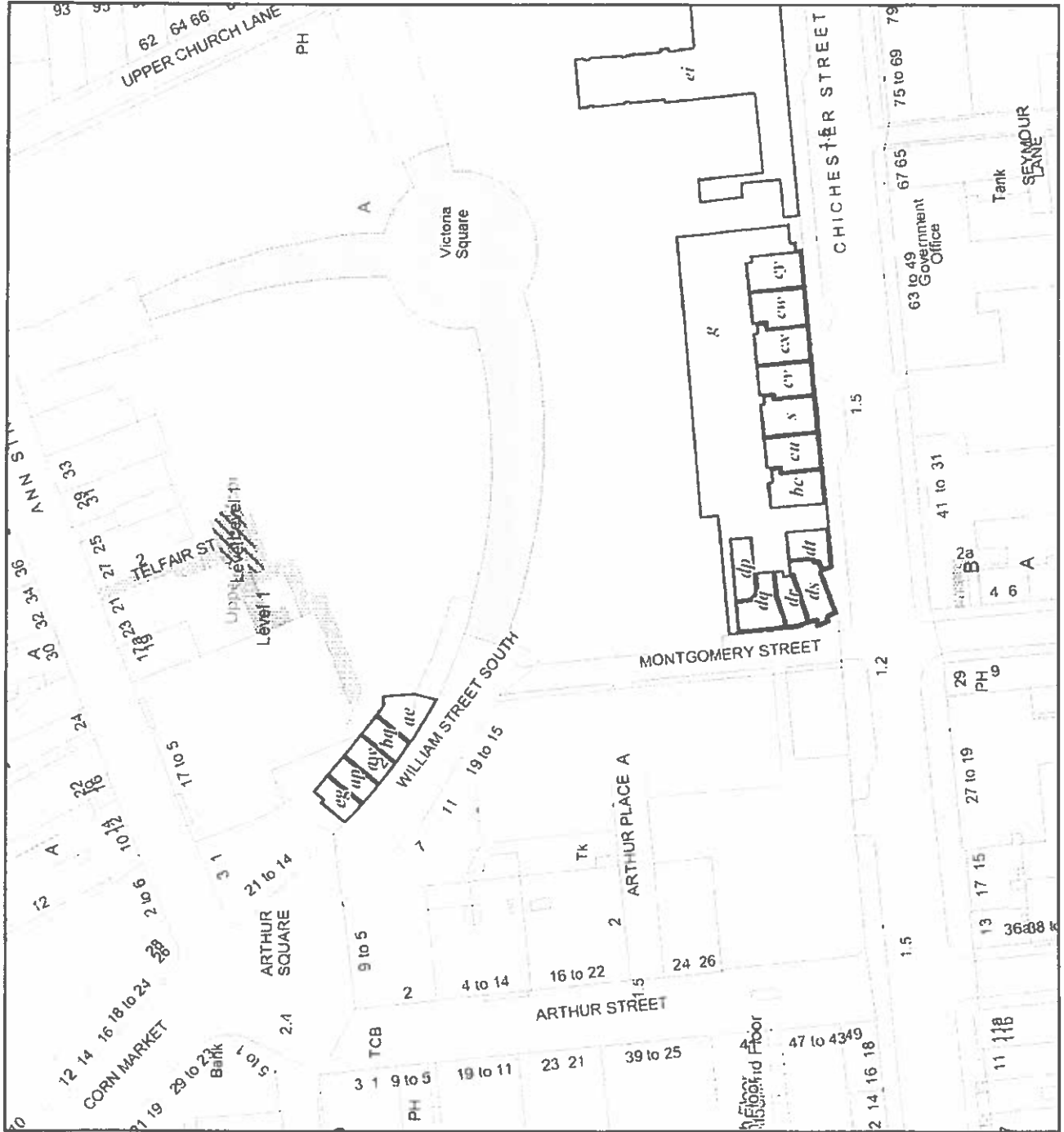
Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:500
 Our Ref: 2019/12495/1
 Your Ref: EMCK/P
 Map Ref(s): See Map Sheet 4

Classification Sheet 3 for map sheet 4

Key to folio labels:

- f* - AN175422L Pt. 2.2nd Floor
- ar* - AN184735L Pt. 2.2nd Floor
- bt* - AN191246L Pt. 2.2nd Floor
- bv* - AN191247L Pt. 2.2nd Floor
- bw* - AN191248L Pt. 2.2nd Floor
- bx* - AN191249L 2 Pts. 2nd Floor
- by* - AN191250L Pt. 2.2nd Floor
- cb* - AN191251L 2 Pts. 2nd Floor
- cc* - AN191252L Pt. 2.2nd Floor
- cd* - AN191253L Pt. 2.2nd Floor
- ce* - AN191254L Pt. 2.2nd Floor
- cf* - AN191255L Pt. 2.2nd Floor
- cg* - AN191256L Pt. 2.2nd Floor
- ch* - AN191257L Pt. 2.2nd Floor
- ci* - AN191258L Pt. 2.2nd Floor
- cj* - AN191259L Pt. 2.2nd Floor
- ck* - AN207021L Pt. 8.2nd Floor



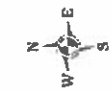


Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:1250
 Our Ref: 2019/124951
 Your Ref: EMCKIP
 Map Ref(s): 13013SE2
 Sheet 5 of 14

Key to folio labels:

- g - AN175422L Pt. 3, 3rd Floor
- v - AN176921L 3rd Floor
- ac - AN179766L 2 Pt. 3rd Floor
- ap - AN183091L 2 Pt. 3rd Floor
- aw - AN186771 3rd Floor
- bx - AN188771 3rd Floor
- by - AN191345L 2 Pt. 3rd Floor
- cu - AN191569L 3rd Floor
- cv - AN191561L 3rd Floor
- ew - AN191562L 3rd Floor
- cx - AN191563L 3rd Floor
- cy - AN191264L 3rd Floor
- dp - AN191281L 3rd Floor
- dq - AN191282L 3rd Floor
- dr - AN191283L 3rd Floor
- ds - AN191284L 3rd Floor
- dt - AN191285L 3rd Floor
- er - AN198995L 2 Pt. 3rd Floor
- ei - AN207021L Pt. 10, 3rd Floor

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Land A Property Services
 Sorbusus Taurin & Maione
 THE LAND REGISTRY - CLAREMONT SAUSTRALIA

Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:500
 Our Ref: 2019/124951
 Your Ref: EMCK/P
 Map Ref(s): See Map Sheet 5

Clarification Sheet 1 for map sheet 5

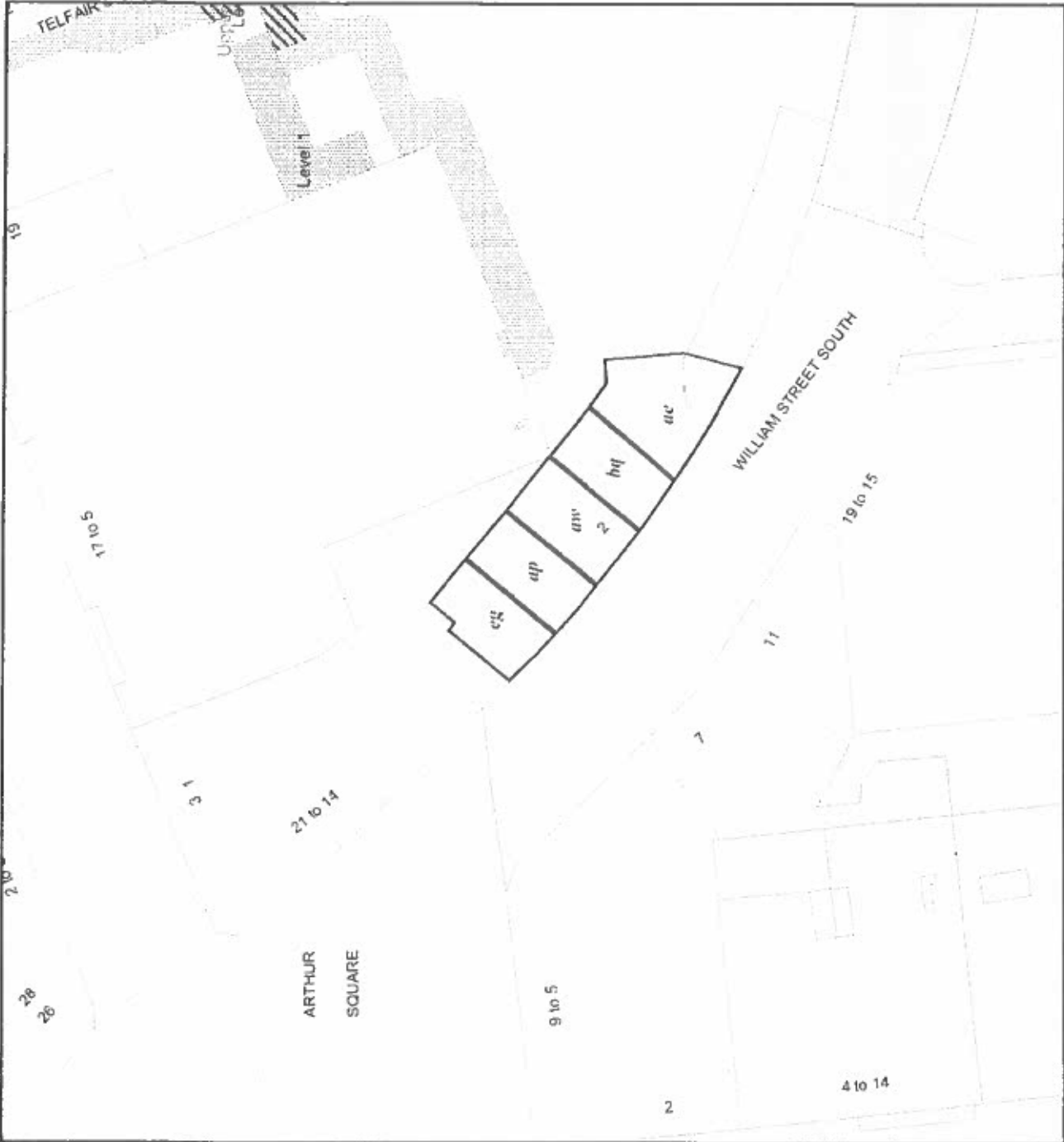
Key to folio labels:

- ac - AN179760L 2 Pts, 3rd Floor
- ap - AN183001L 2 Pts, 3rd Floor
- atc - AN186721, 3rd Floor
- bg - AN191345L 2 Pts, 3rd Floor
- ng - AN198993L 2 Pts, 3rd Floor

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Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:500
 Our Ref: 2019/124951
 Your Ref: EMCKIP
 Map Ref(s): See Map Sheet 5

Classification Sheet 2 for map sheet 5

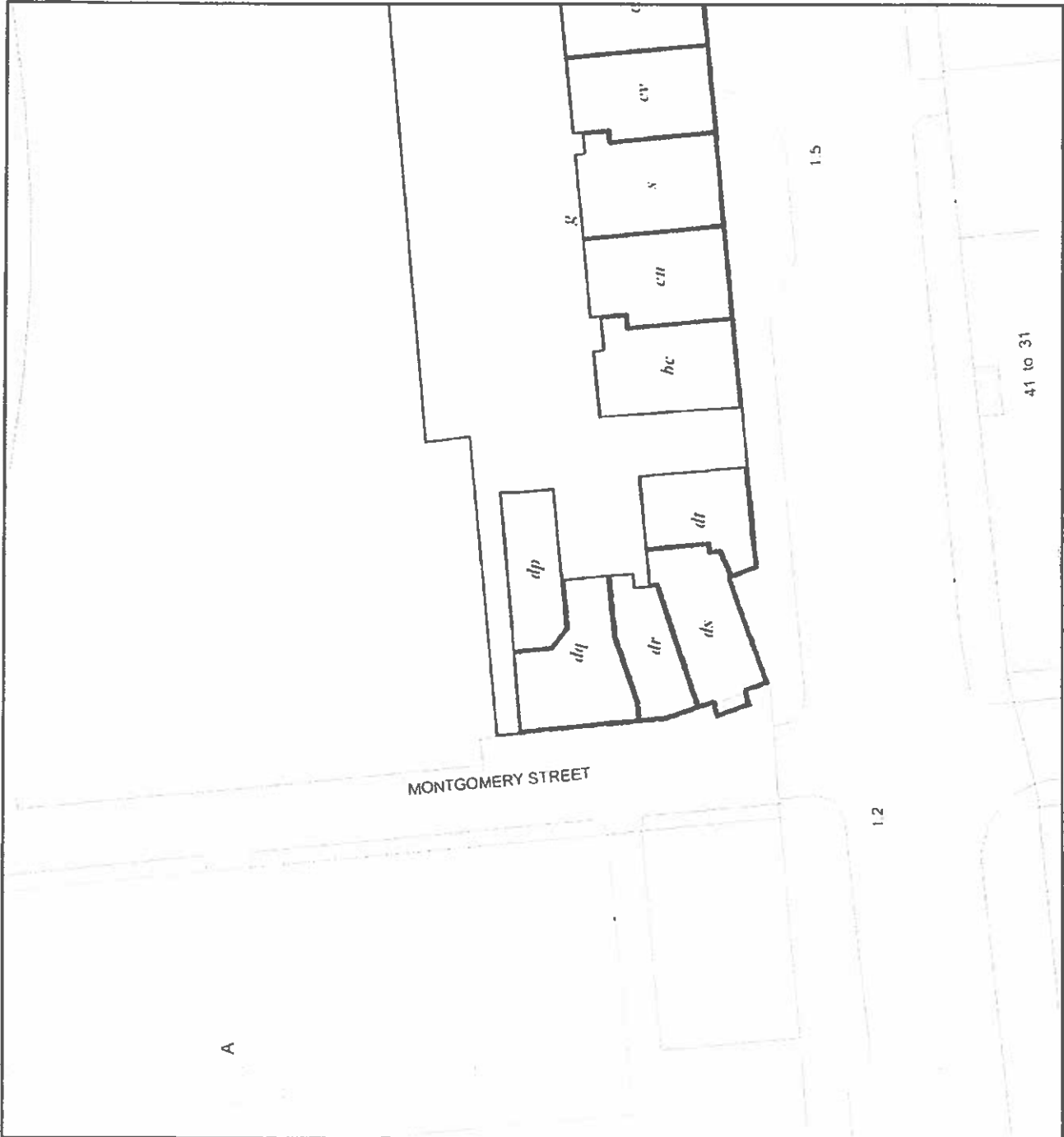
Key to folio labels:

- r* - IN1754221 Pl.,3rd Floor
- s* - IN1769231,3rd Floor
- bc* - IN188747,3rd Floor
- cn* - IN1912601,3rd Floor
- cv* - IN1912611,3rd Floor
- dp* - IN1912811,3rd Floor
- dq* - IN1912821,3rd Floor
- dr* - IN1912831,3rd Floor
- ds* - IN1912841,3rd Floor
- dt* - IN1912851,3rd Floor

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Landmark Property Services
Southern Earth & Marine
 THE LAND REGISTRY - 33 ABEL STREET, AUCKLAND

Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:1250
 Our Ref: 2019/124951
 Your Ref: EMCK/P
 Map Ref(s): 13013SE2

Sheet 6 of 14

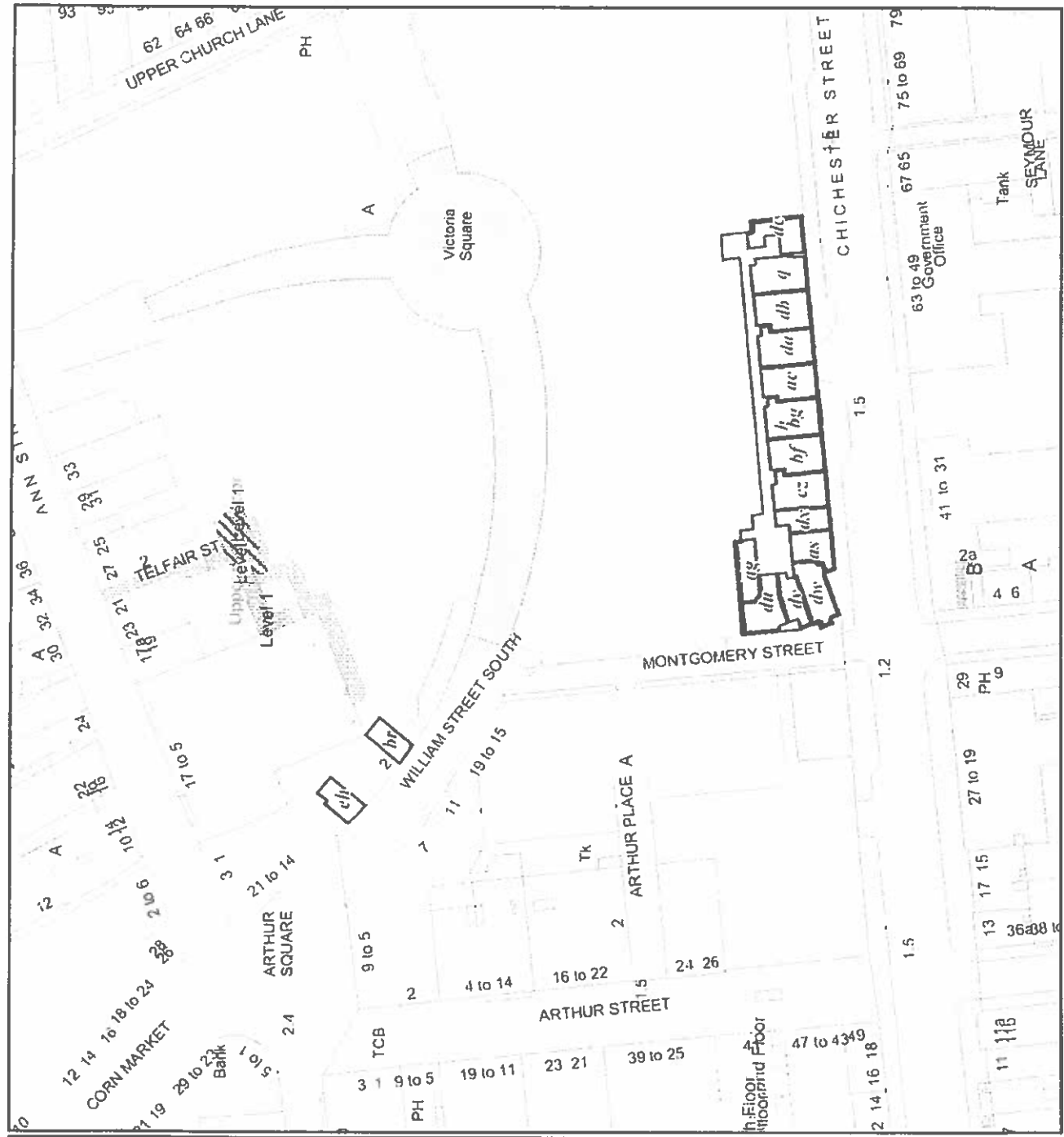
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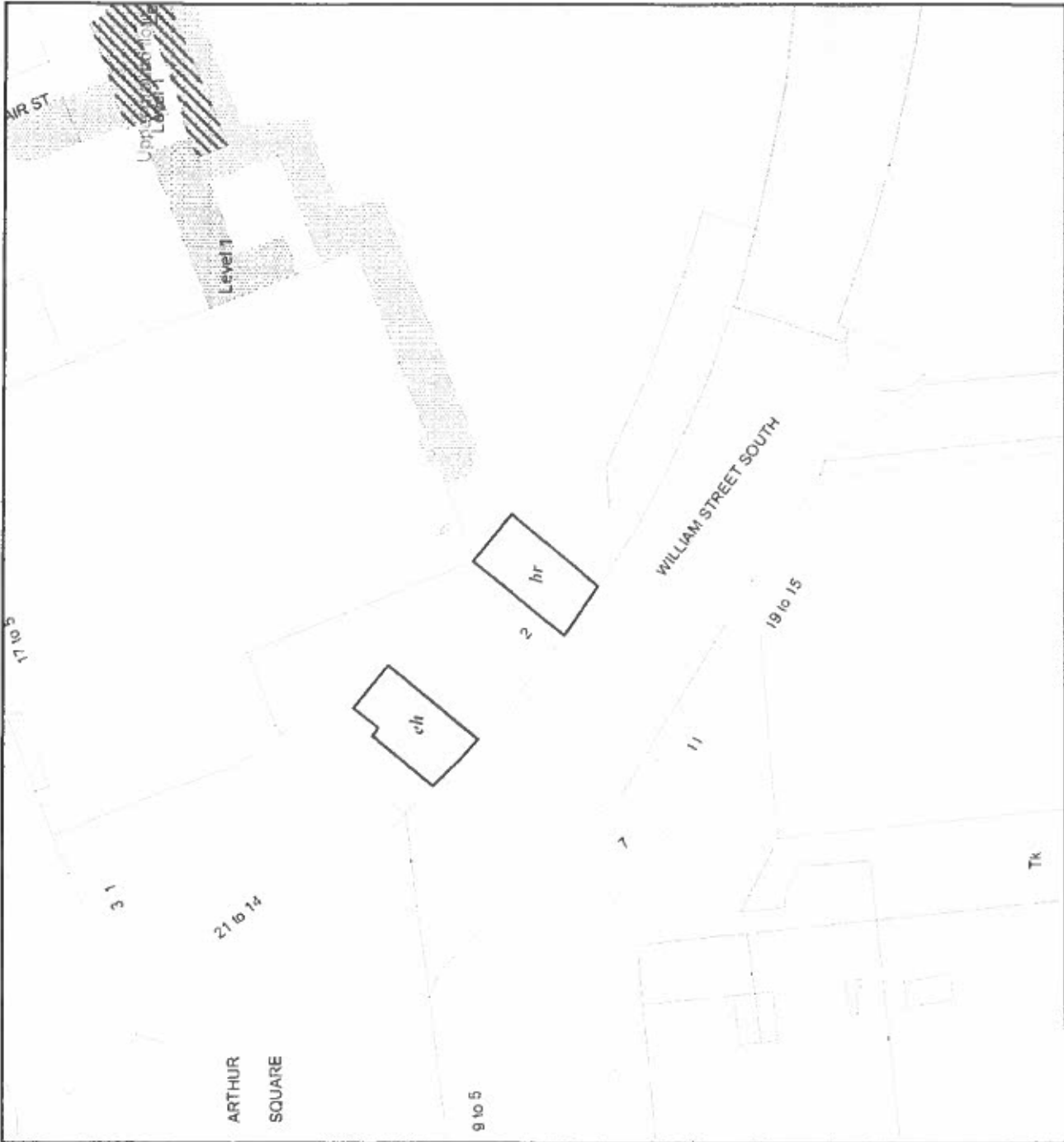
- h* - IN175422L, Pt 2-4th Floor
- q* - IN176872L, 4th Floor
- ac* - IN196031L, 4th Floor
- ag* - IN198076L, 4th Floor
- as* - IN194800L, 4th Floor
- bf* - IN191234L, 4th Floor
- bg* - IN191235L, 4th Floor
- br* - IN191245L, 2 Pts, 4th Floor
- cc* - IN191265L, 4th Floor
- da* - IN191266L, 4th Floor
- db* - IN191267L, 4th Floor
- dc* - IN191268L, 4th Floor
- de* - IN191269L, 4th Floor
- dv* - IN191287L, 4th Floor
- dw* - IN191288L, 4th Floor
- dx* - IN191289L, 4th Floor
- eh* - IN198995L, Pt 2-4th Floor

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Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:500
 Our Ref: 2019/124951
 Your Ref: EMCK/P
 Map Ref(s): See Map Sheet 6

Clarification Sheet 2 for map sheet 6

Key to folio labels:

hr - 4/1/12451, 2 Pts, 4th Floor
ch - 4/1/12451, Pt 2, 4th Floor

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Land & Property Services
 Sciphus, Philip & Nicholas
 THE LAND REGISTRY - DREAMING IS TAKING

Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:500
 Our Ref: 2019/124951
 Your Ref: EMCK/P
 Map Ref(s): See Map Sheet 6

Classification Sheet 3 for map sheet 6

Key to folio labels:

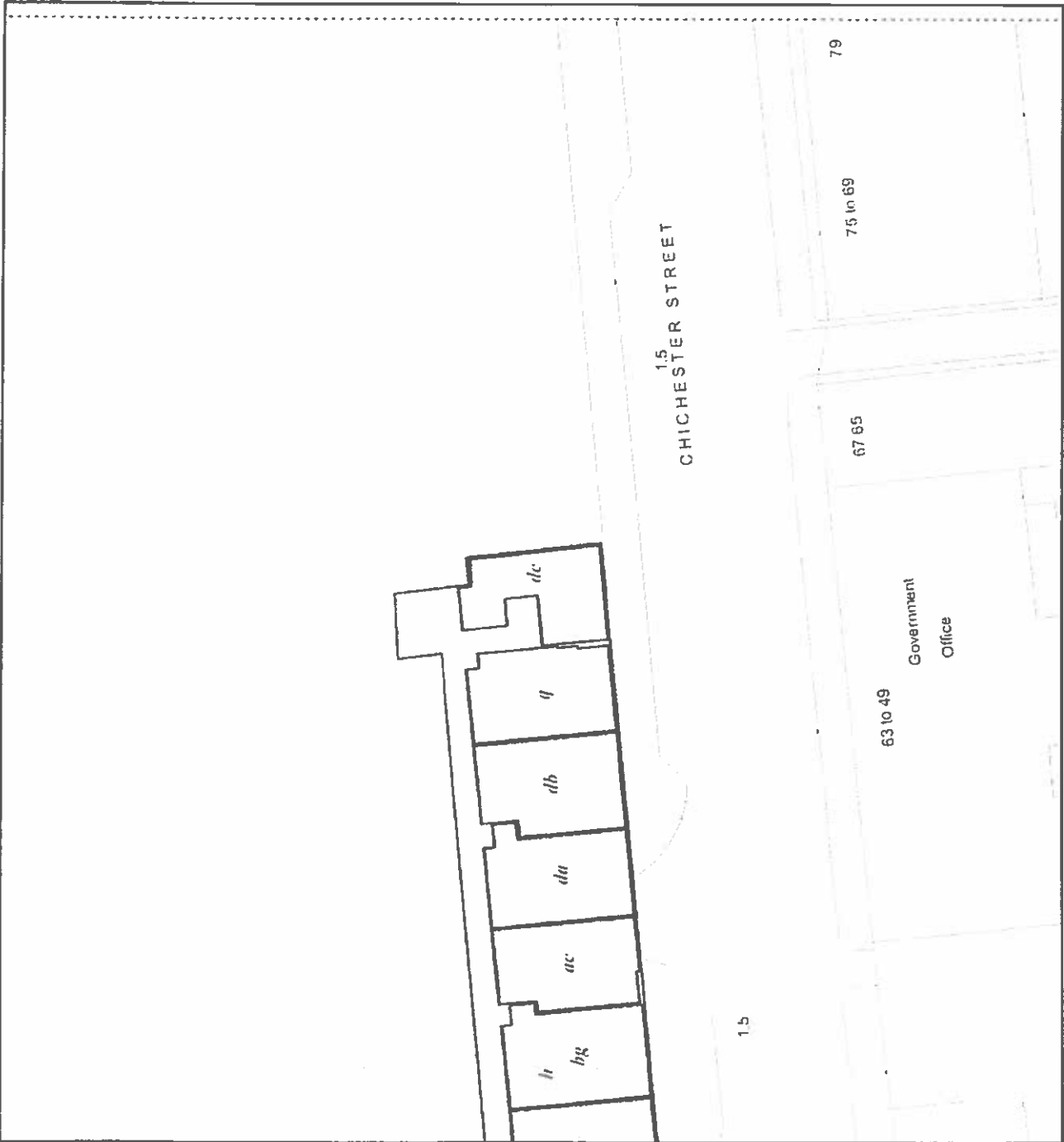
- h* - AN175422L Pl. 4, 4th Floor
- q* - AN1708721 4th Floor
- ac* - AN1706031, 4th Floor
- bg* - AN1912351, 4th Floor
- da* - AN1912661, 4th Floor
- db* - AN1912671, 4th Floor
- dc* - AN1912681, 4th Floor

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Date: 12 Feb 2019
 County: Antrim
 Folio: AN175422L
 Scale: 1:1250
 Our Ref: 2019/124951
 Your Ref: EMCKIP
 Map Ref(s): 13013SE2

Sheet 7 of 14

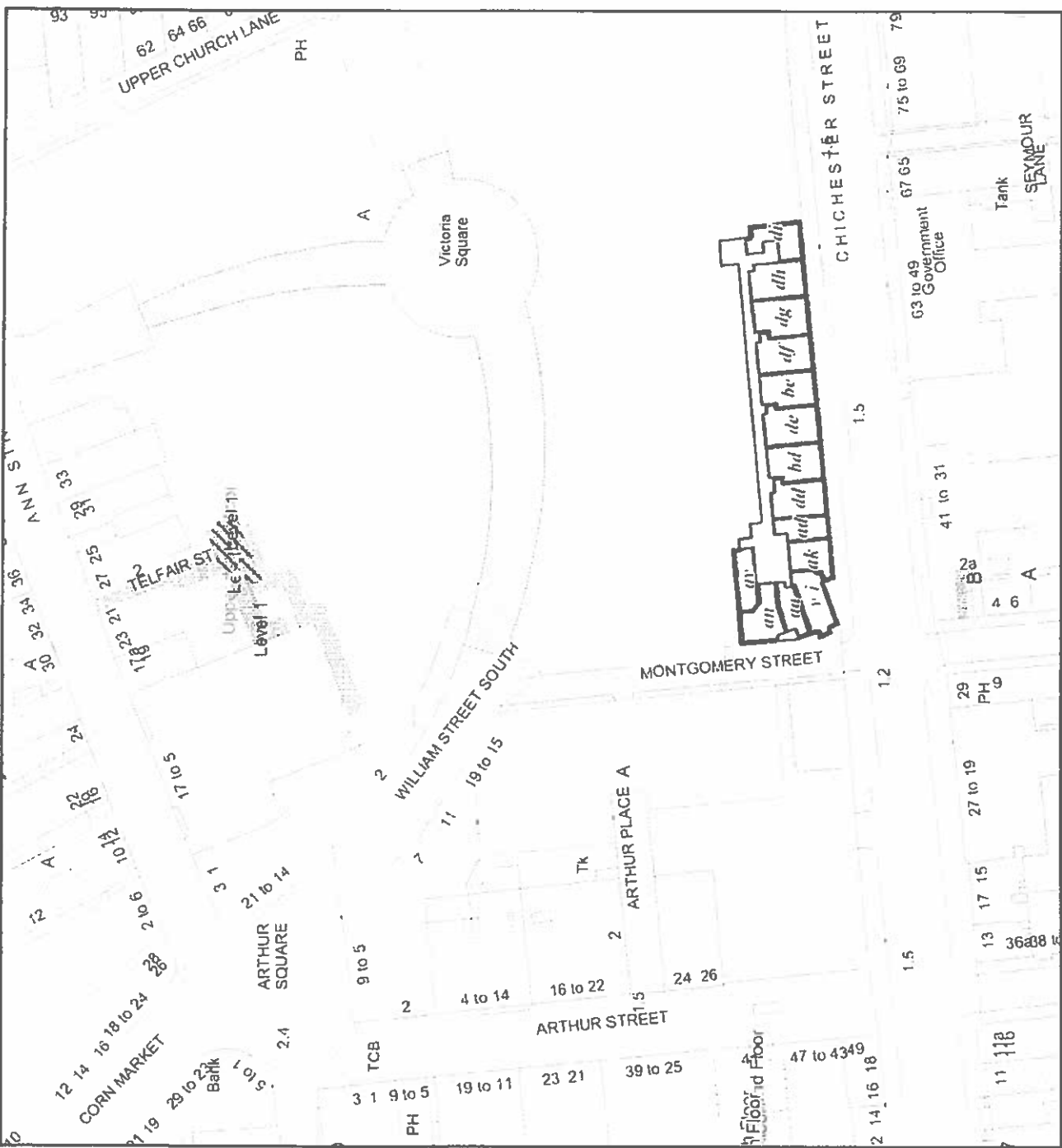
Key to folio labels:

- i - IN175221 Pt 5, 5th Floor
- v - IN175491 5th Floor
- av - IN179568L 5th Floor
- ad - IN179421 5th Floor
- ak - IN181070 5th Floor
- an - IN182499 5th Floor
- av - IN186242 5th Floor
- bc - IN190163 5th Floor
- dd - IN191249 5th Floor
- de - IN191271 5th Floor
- df - IN191271 5th Floor
- dg - IN191271 5th Floor
- dh - IN191271 5th Floor
- di - IN191271 5th Floor

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Clarification Sheet 1 for map sheet 7

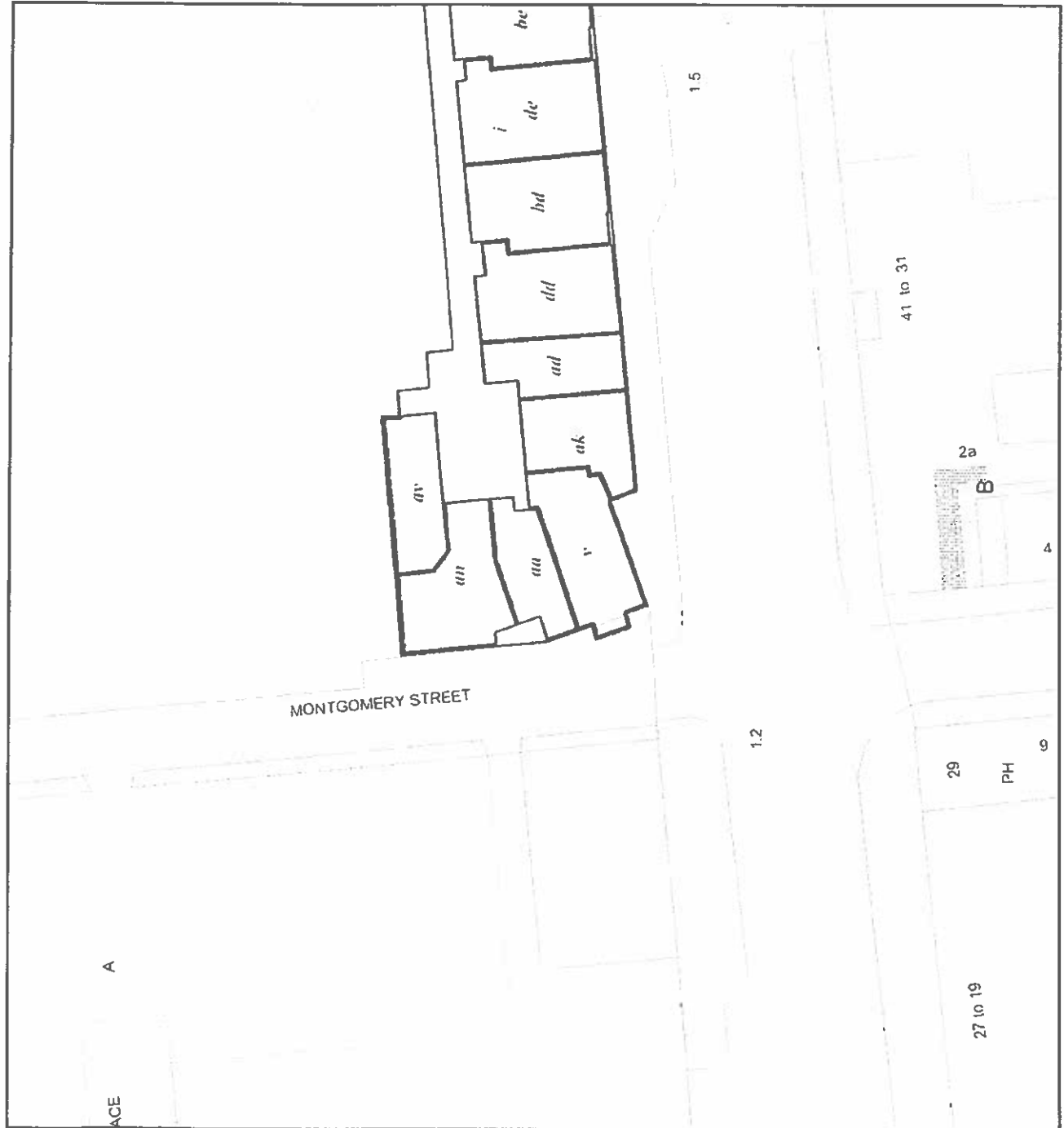
Key to folio labels:

- i* - AN175422L Pt 5, 5th Floor
- v* - AN175491, 5th Floor
- au* - AN176508L, 5th Floor
- ad* - AN179723L, 5th Floor
- ak* - AN181070L, 5th Floor
- am* - AN182399L, 5th Floor
- av* - AN186242L, 5th Floor
- bc* - AN189493L, 5th Floor
- bd* - AN190163L, 5th Floor
- dd* - AN191269L, 5th Floor
- de* - AN191270L, 5th Floor

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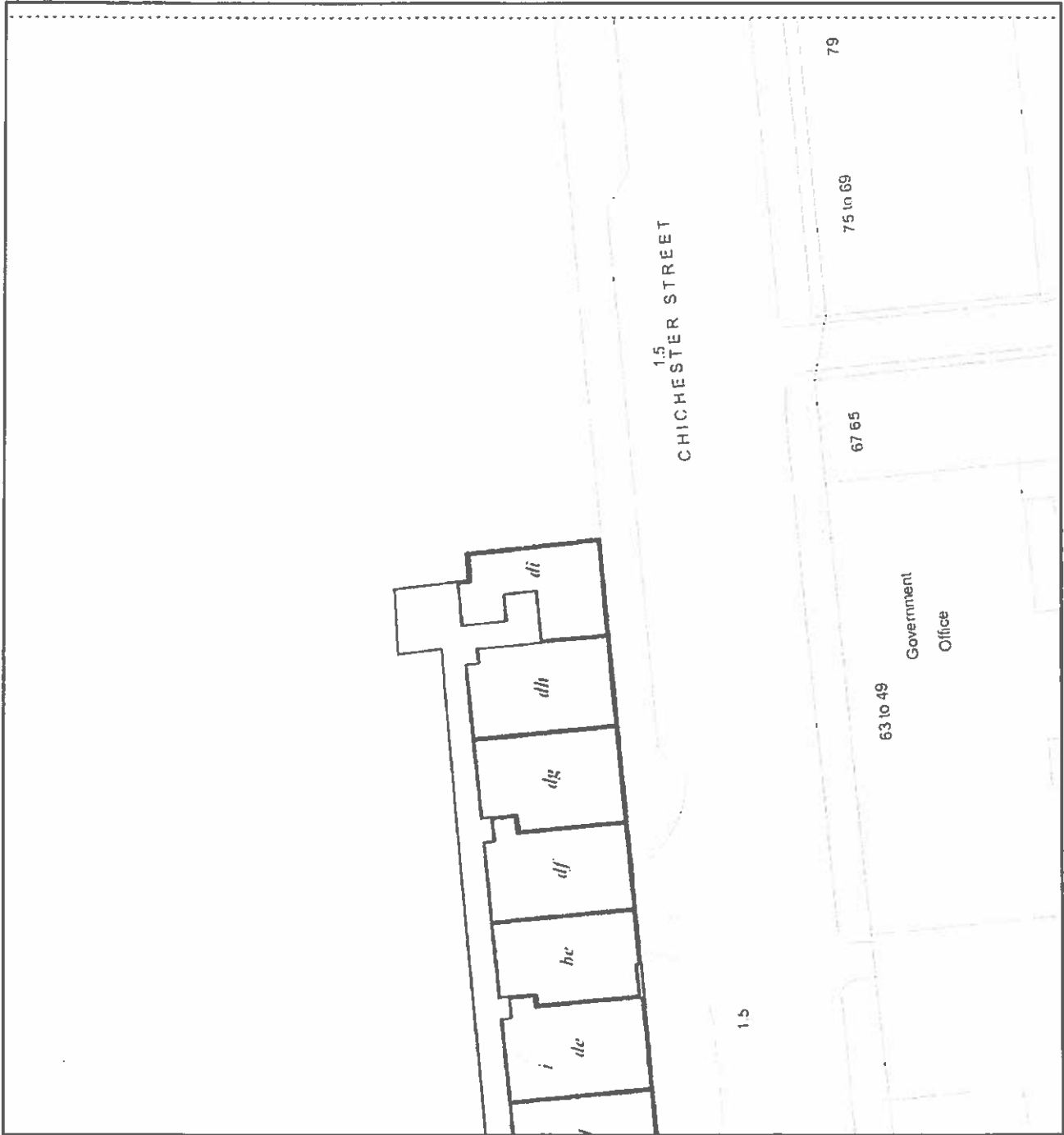
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 Southern Region & Valuing
 BELFAST REGION - BELFAST DISTRICT

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Clarification Sheet 2 for map sheet 7

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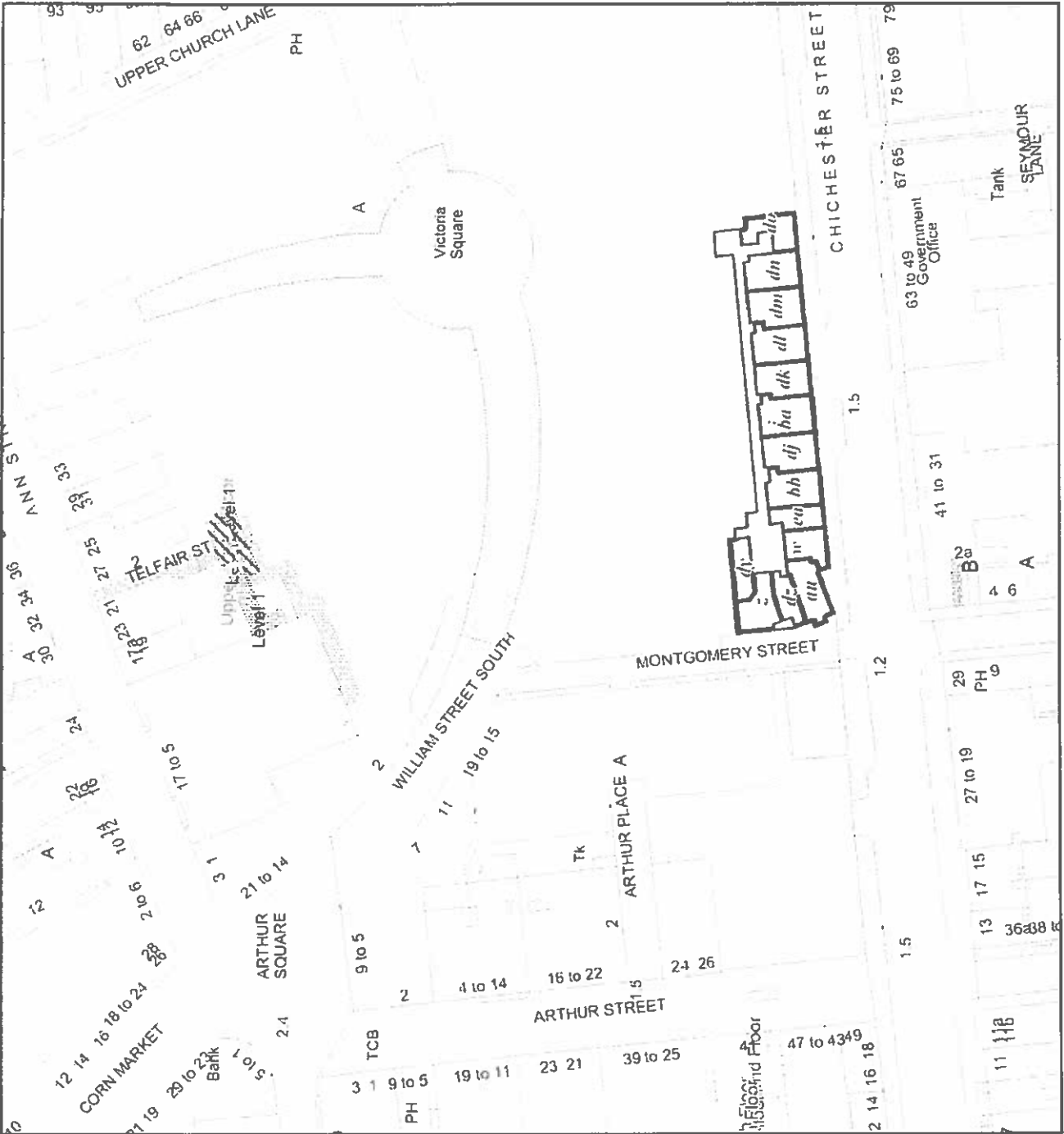
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- hc* - AN1901641, 5th Floor
- de* - AN1912701, 5th Floor
- df* - AN1912711, 5th Floor
- dg* - AN1912721, 5th Floor
- dh* - AN1912731, 5th Floor
- di* - AN1912741, 5th Floor



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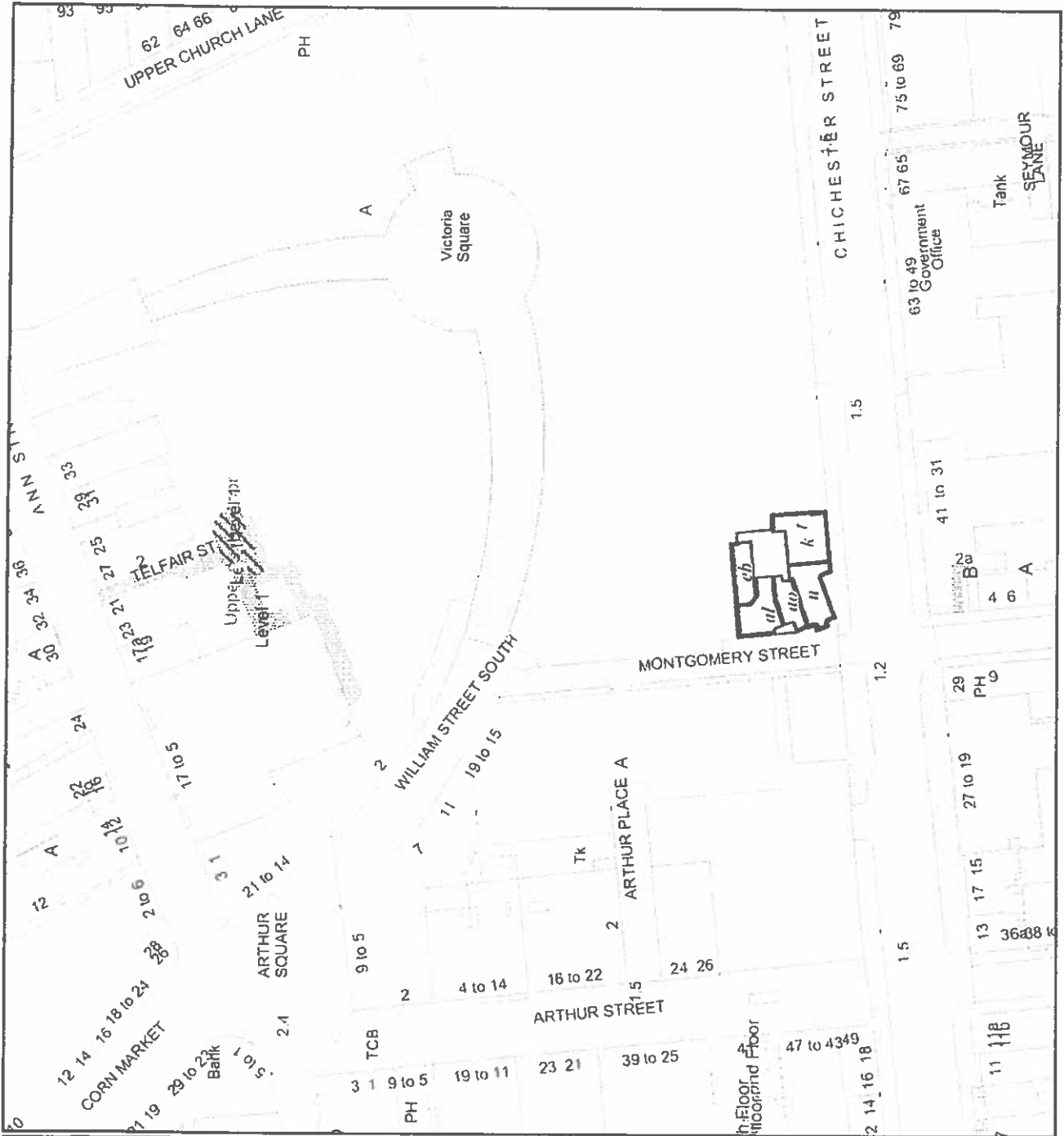
Sheet 8 of 14

Key to folio labels

- 1 - AN1754221, 1st, 6th Floor
- w - AN1791381, 6th Floor
- z - AN1791891, 6th Floor
- aa - AN1853301, 6th Floor
- ba - AN1880851, 6th Floor
- bb - AN1884551, 6th Floor
- dj - AN1912751, 6th Floor
- dk - AN1912761, 6th Floor
- dl - AN1912771, 6th Floor
- dm - AN1912781, 6th Floor
- dn - AN1912791, 6th Floor
- do - AN1912801, 6th Floor
- dy - AN1912901, 6th Floor
- dz - AN1912911, 6th Floor
- ea - AN1912921, 6th Floor

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 Map Ref(s): T3013SE2

Sheet 9 of 14

Key to folio labels:

- k* - AN175422L Pt. 7, 7th Floor
- t* - AN175422L Pt. 7, 7th Floor
- u* - AN175422L Pt. 7, 7th Floor
- al* - AN175422L Pt. 7, 7th Floor
- au* - AN175422L Pt. 7, 7th Floor
- eb* - AN175422L Pt. 7, 7th Floor

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Clarification Sheet 1 for map sheet 9

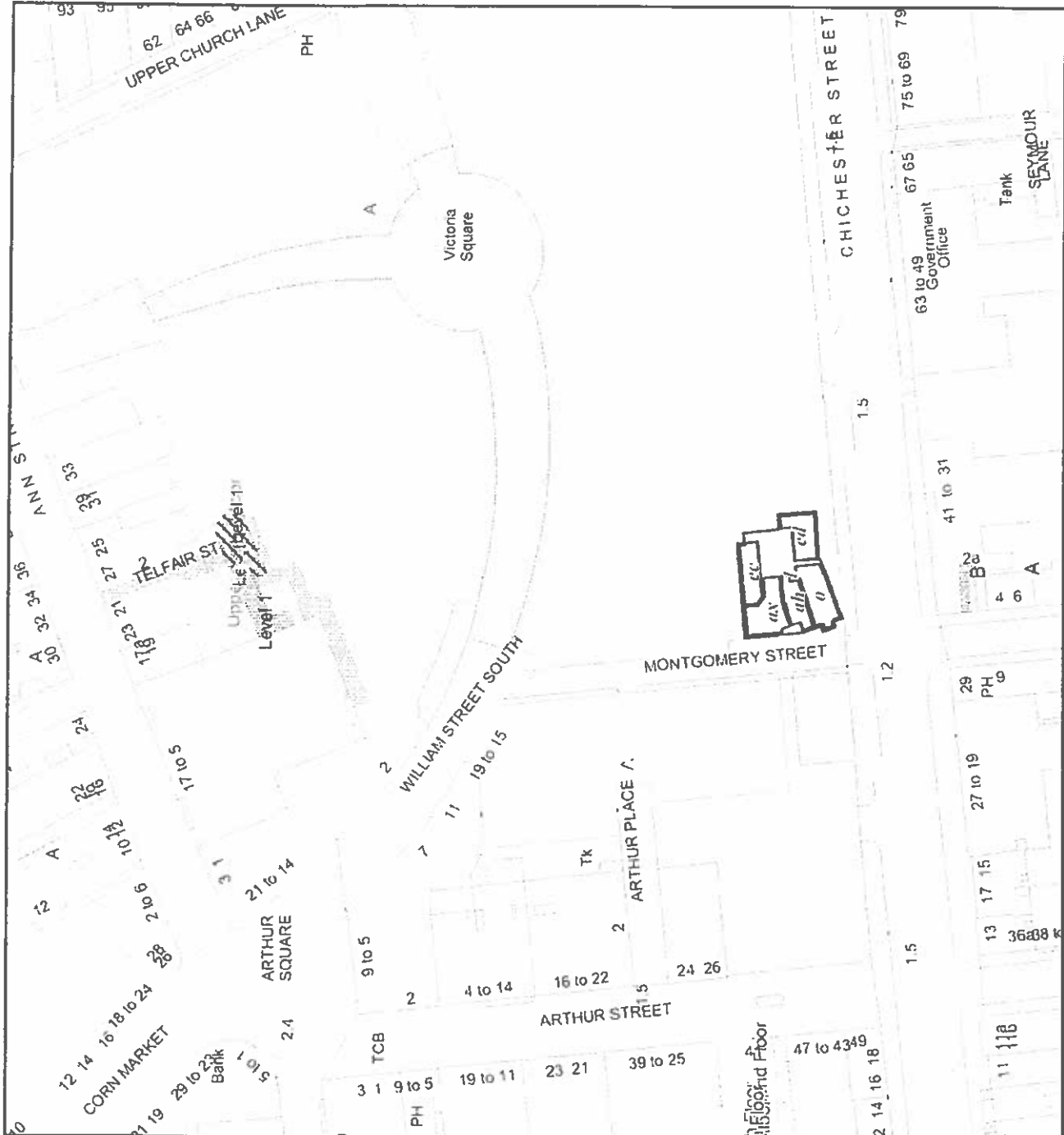
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- k - AN175422L Pt. 7th Floor
- r - AN175422L Pt. 7th Floor
- u - AN175422L Pt. 7th Floor
- al - AN181185L 7th Floor
- aa - AN182488L 7th Floor
- eb - AN191293L 7th Floor

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Scarbush Land & Marine
 THE LANE - CHICHESTER - 51 MERRIMAN AVENUE

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Sheet 10 of 14

Key to folio labels:

l - AN175422L 1st, 2nd Floor
o - AN175422L 3rd Floor
ah - AN180894L 3rd Floor
aw - AN180980L 3rd Floor
er - AN191244L 3rd Floor
ed - AN191295L 3rd Floor

1500 Ground Floor

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N
W E
S



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 THE FLOOR REGISTER - 31 ARIANE ROAD, TAUNTON

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Classification Sheet 1 for map sheet 10

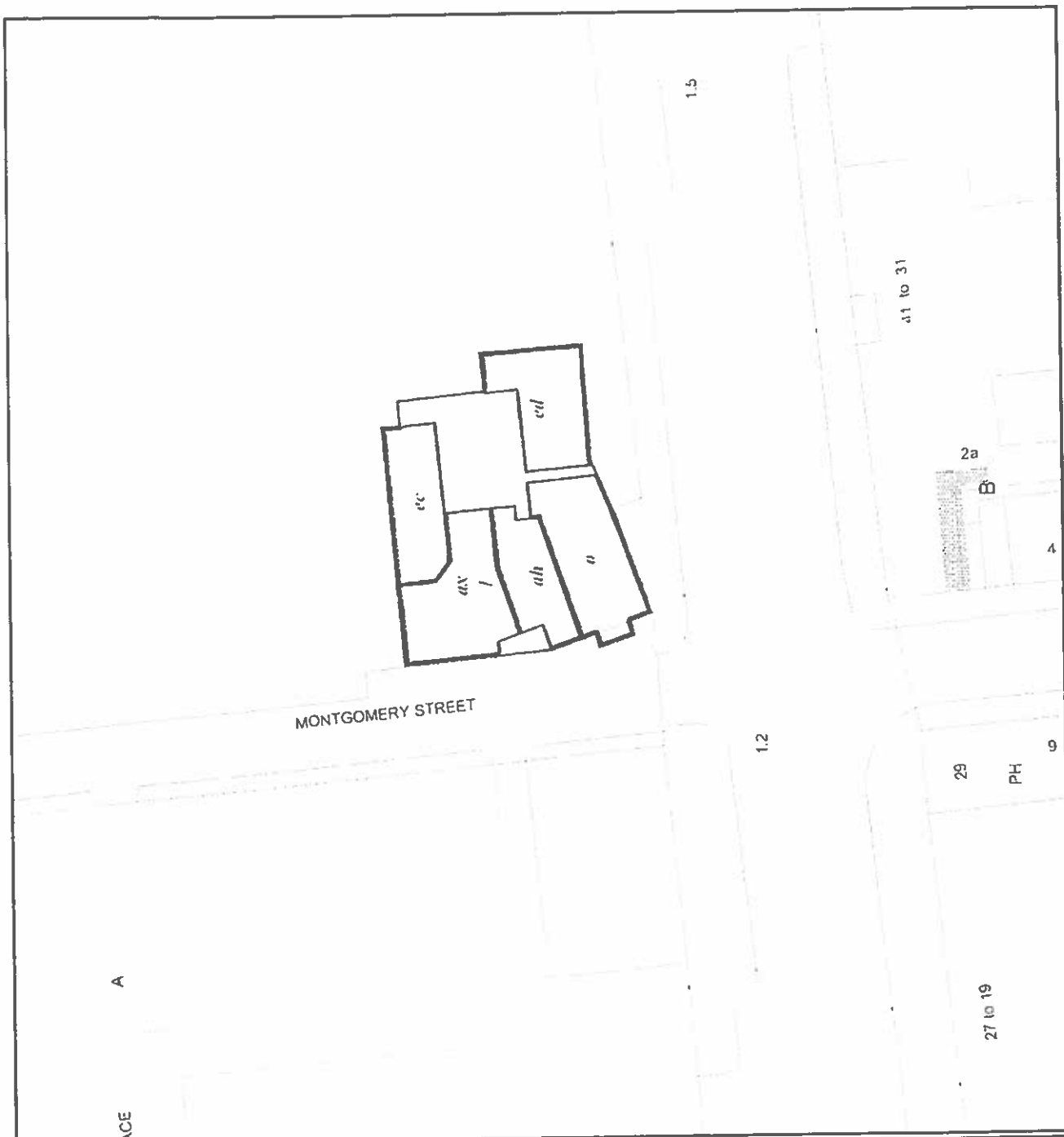
Key to folio labels:

- l* - AN175422L, 1st & 8th Floor
- n* - AN175422L, 8th Floor
- ah* - AN180094L, 8th Floor
- ax* - AN180980L, 8th Floor
- ay* - AN191294J, 8th Floor
- ed* - AN191295J, 8th Floor

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Clarification Sheet 1 for map sheet 11

Key to folio labels:

- m* - AN175422L Pt 4, 9th Floor
- af* - AN175422L 9th Floor
- ay* - AN175422L 9th Floor
- az* - AN175422L 9th Floor
- aa* - AN175422L 9th Floor
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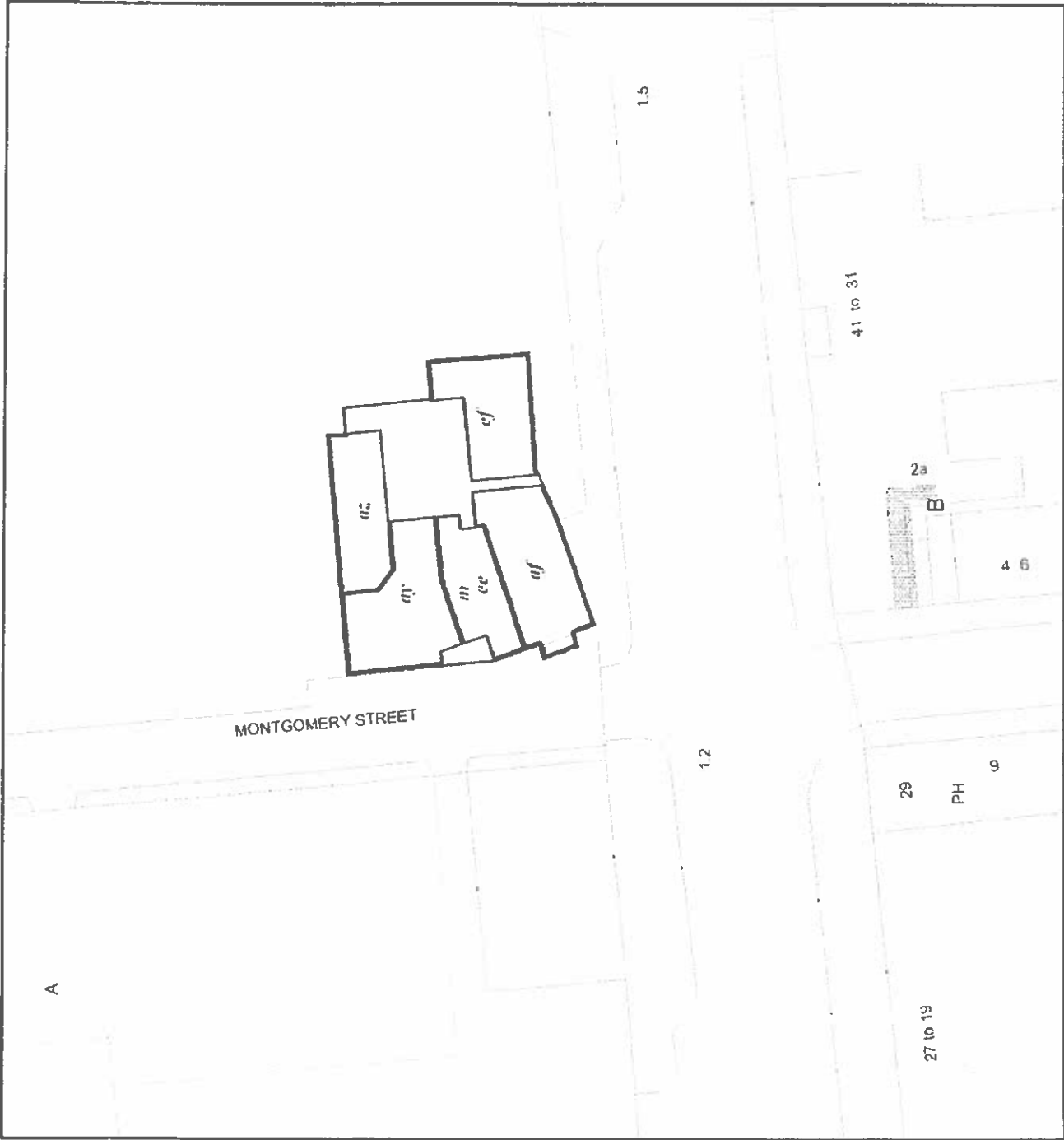
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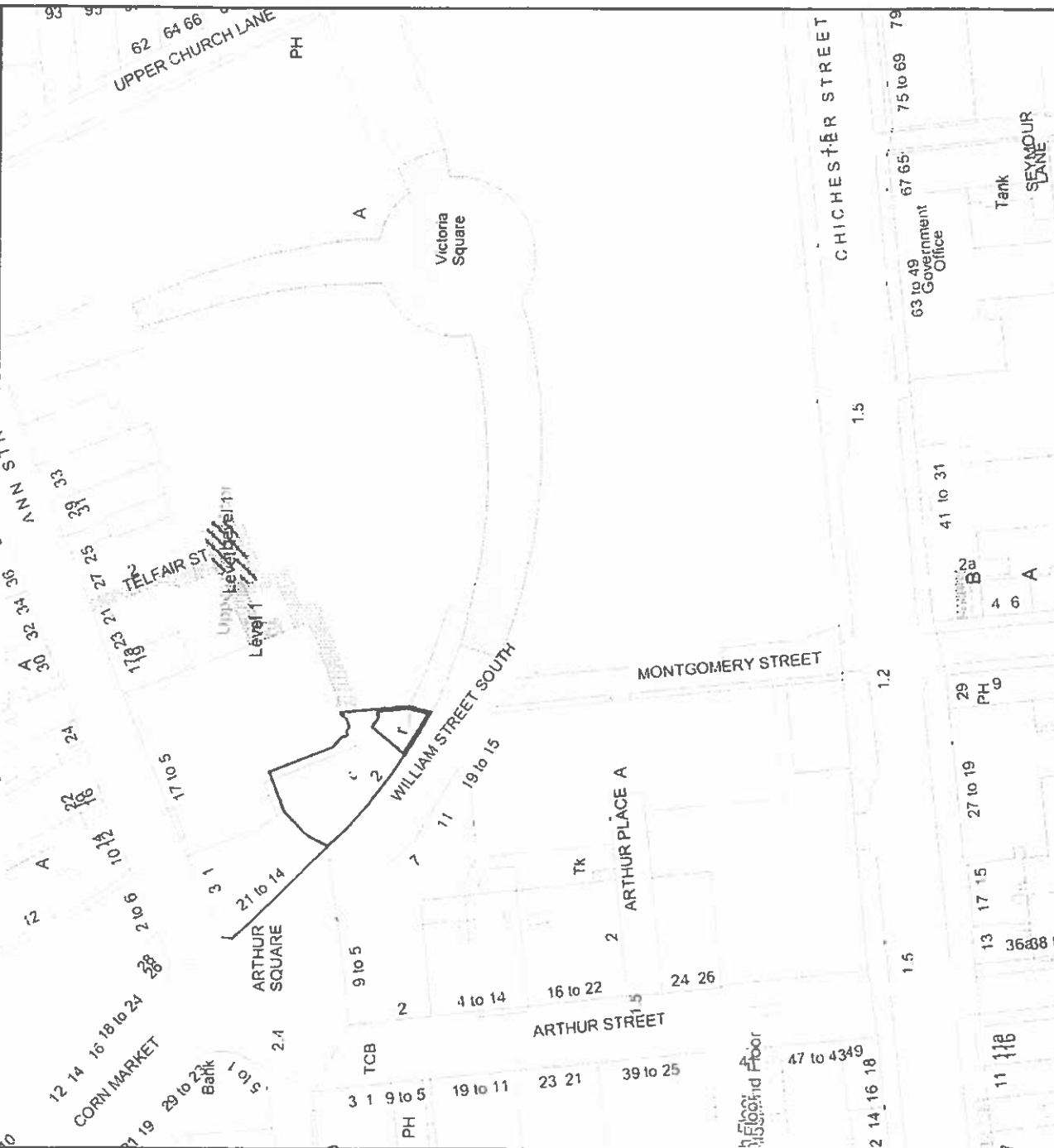
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Sheet 12 of 14

Key to folio labels:

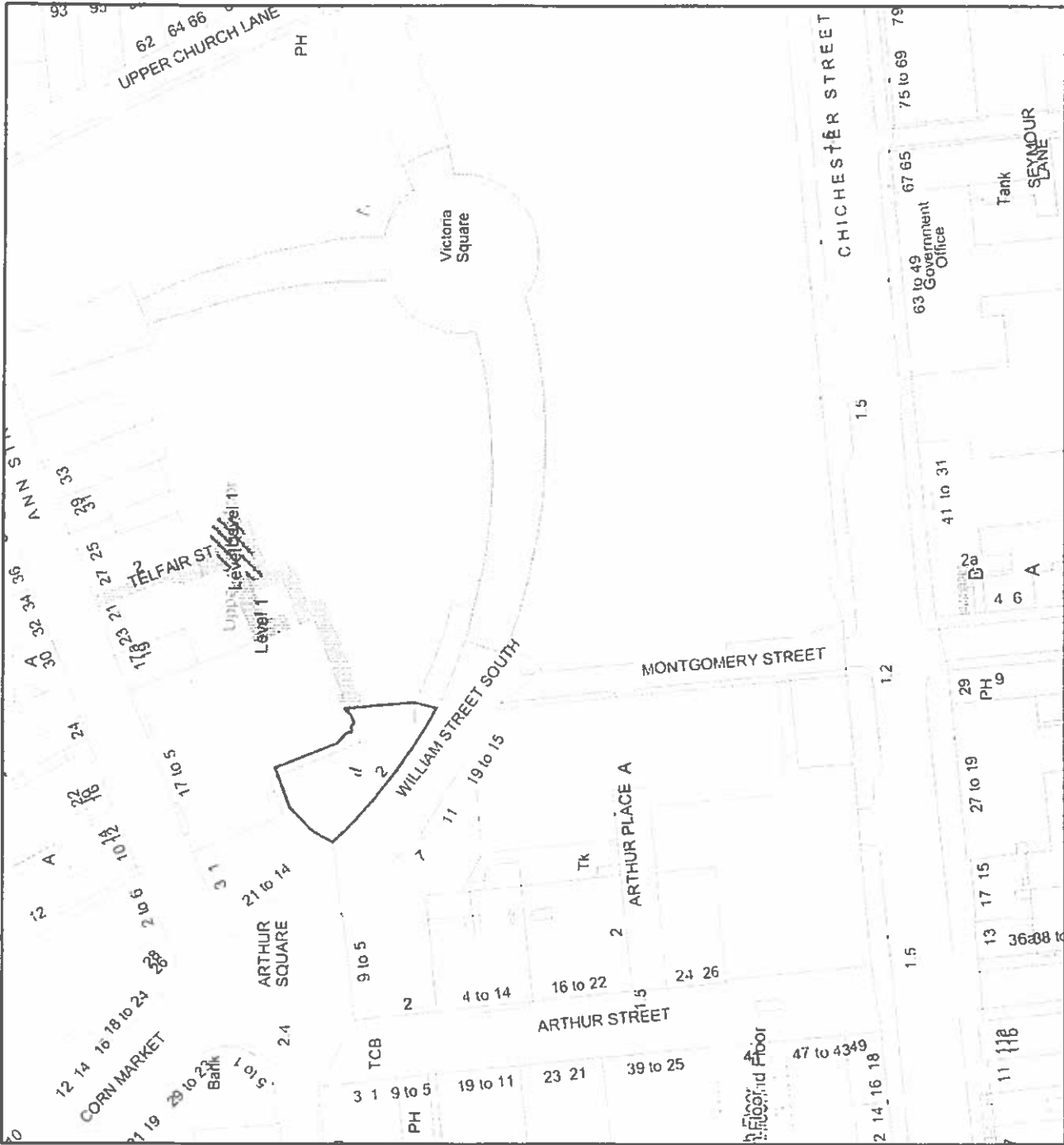
- C - AN175422L PH, Level 1
- Z - AN175422L PH, Level 1

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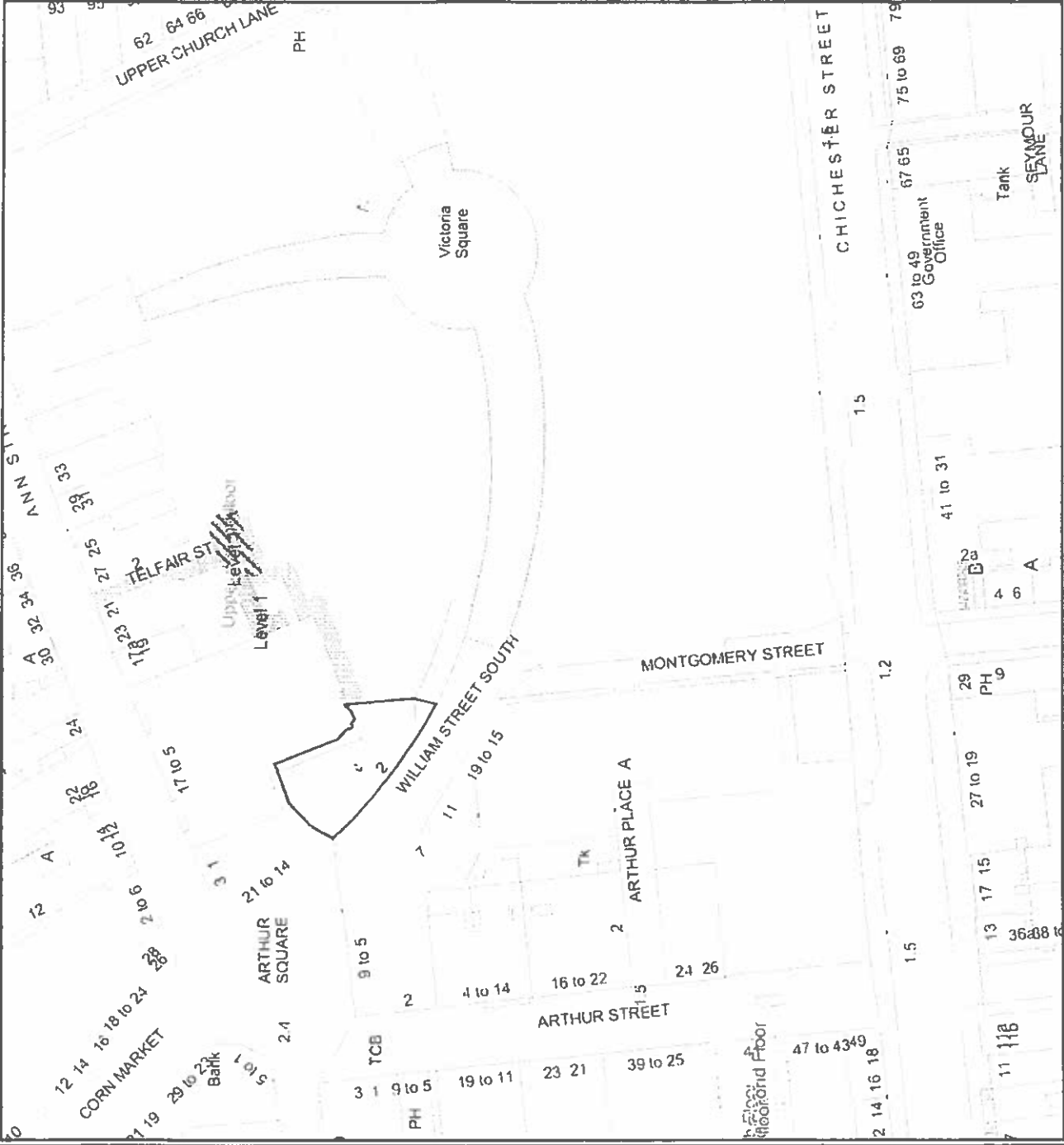


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 Sheet 14 of 14

Key to folio labels
 AN175422L PH11E2

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Appendix 2 – Preliminary Structural Assessment by Design ID and McFarland Associates

VICTORIA SQUARE APARTMENTS

STRUCTURAL ASSESSMENT

19037-DID-ZZ-XX-RP-S-0002



Document Details

Project: Victoria Square Apartments
Title: Structural Assessment
Project Number: 19037
Document Reference: 19037-DID-ZZ-XX-RP-S-0002
Design ID Job Number: 19037
Date: Feb 2019
Current revision: P02
Suitability: S2
Suitability Description: Issued for information
Design Engineer: [REDACTED] Initial: LJK
Checking Engineer: [REDACTED] Initial: ID

Revision	Description	Date Revised	Revised By	Checked By
P01	First Issue	20/02/2019	[REDACTED]	[REDACTED]
P02	Minor updates	21/02/2019	[REDACTED]	[REDACTED]

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REPORT OVERVIEW

Introduction

Victoria Square is a shopping and leisure complex located in Belfast city centre. There is also a residential aspect to the development, with over 100 apartments in the centre. The centre opened in March 2008. BDP were the designers, with Benaim designing the basement. The Contractor was a joint venture between Farrans Construction and Gilbert-Ash.

Design ID have been appointed by McFarland Associates to complete a structural assessment of a column within an apartment block which has recently displayed signs of distress.

Scope of the Report

Following concern raised over a column present in apartments 406 & 407 on the fourth floor, this report was commissioned to:

- Carry out a baseline condition survey- reviewing existing Architectural and Structural drawings, and reviewing the visible structure on site.
- Report on the current state of the existing structure
- Assess the existing structure
- Advise on immediate & long-term remedial actions

Location

The affected apartment block is highlighted in yellow in the aerial photo adjacent.



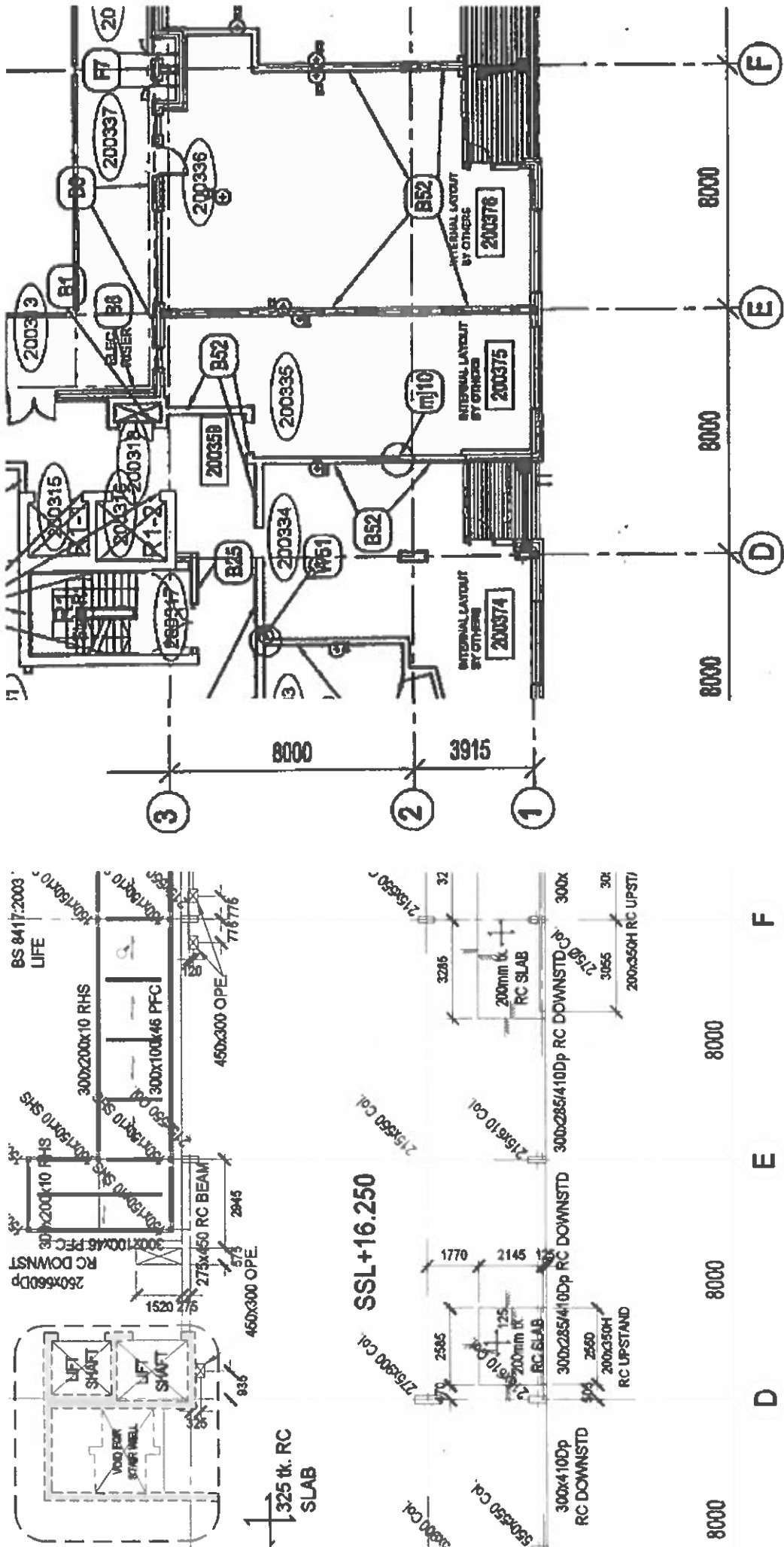
INITIAL DESKTOP STUDY & SURVEY

RESIDENTIAL LEVEL 04

Existing Information

Column E2 highlighted on both the structural and architectural drawings available below. Apartment 406 is between gridlines D & E, apartment 407 is between gridlines E & F. The structural drawing denotes the column as 215mm x 550mm, this dimension was confirmed on site.

The structural drawing also shows us the structural floor is a 325mm deep reinforced concrete slab. From a review of the available reinforcement drawings we can see the slab here is a flat slab, generally on a 8m x 8m grid..



RESIDENTIAL LEVEL 04

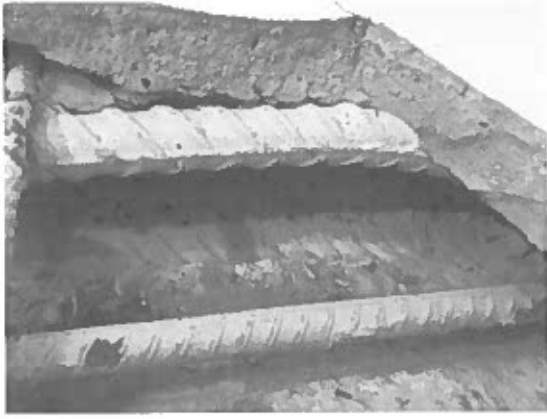
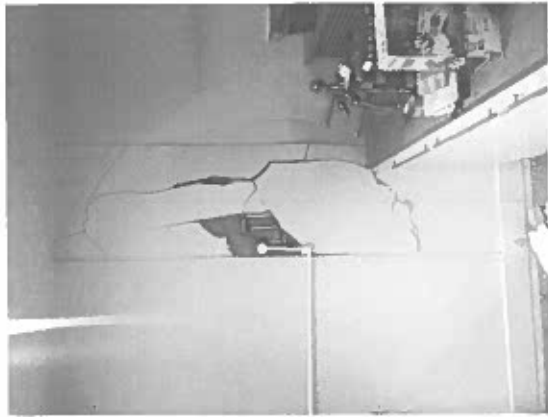
Apartments 406 & 407

Column E2 is located in the dividing wall between apartment 406 & 407. The top row of photographs show the distress of the column at this level.

We can see the reinforcement bars within the column have bulged and deformed, by approximately 80mm laterally. There is material loss where the bars have displaced. The reinforcement bars have been painted white at some stage. It is clear that a repair has taken place on the column, we would assume prior to fit-out stage. The repair material is pink in colour, and does not appear to be a concrete repair product- this should be confirmed by sampling.

The bottom row of photographs show the damage in apartment 407. There appeared to be less damage evident on this side of the column. There were no obvious signs of repair to this side of the column.

We can reasonably assume the reinforced concrete column has partially failed at this level due to the historic repair work.



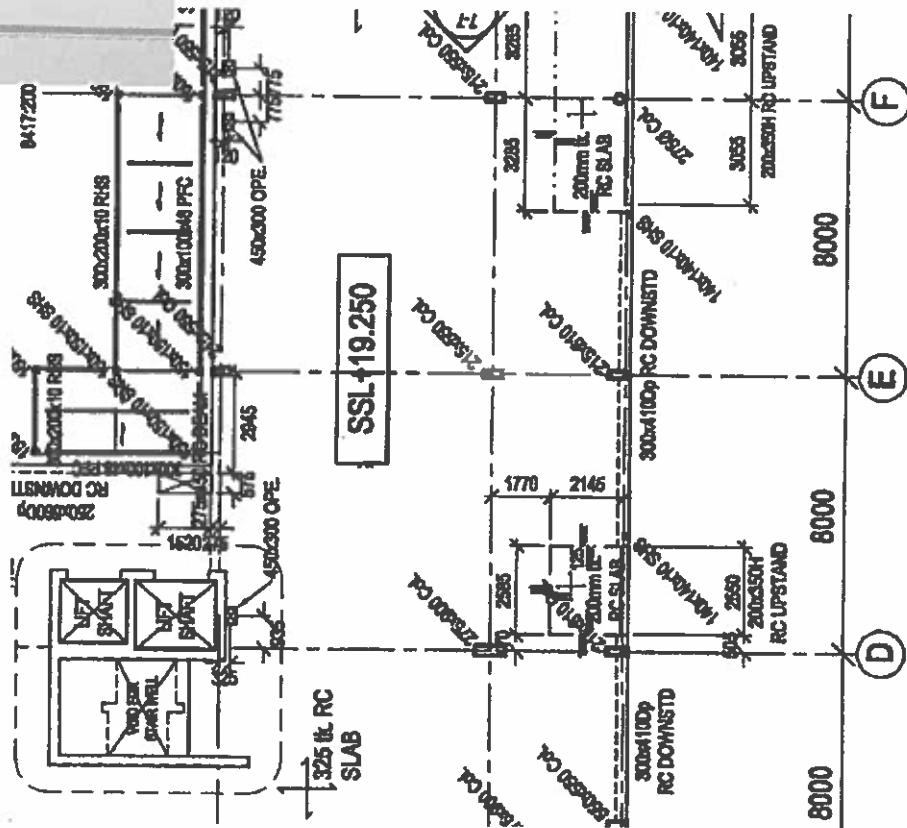
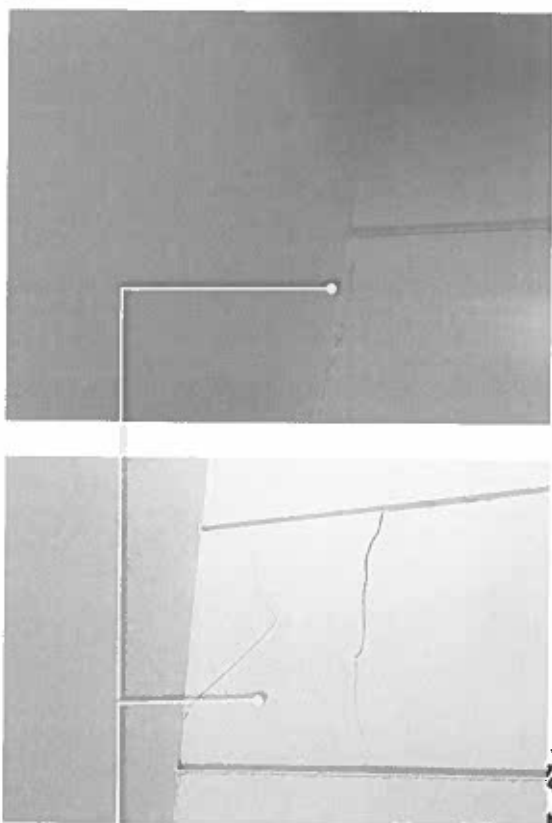
RESIDENTIAL LEVEL 05

Apartment 507

Apartment 506 was not available to view. We viewed apartment 507. Distress can be seen in the adjacent photographs - cracking in the plasterwork at column E2. Further cracks were noted where the dividing blockwork wall meets column E1. We would assume these cracks have appeared due to movement caused by the partial failure of the column at level 04, coupled with some downward displacement.

Column E2 has been highlighted in the record structural drawing below. At level 05 we can see the same structural form as level 04, a 325mm deep reinforced concrete flat slab and column E2 is a 215mm x 550mm reinforced concrete column.

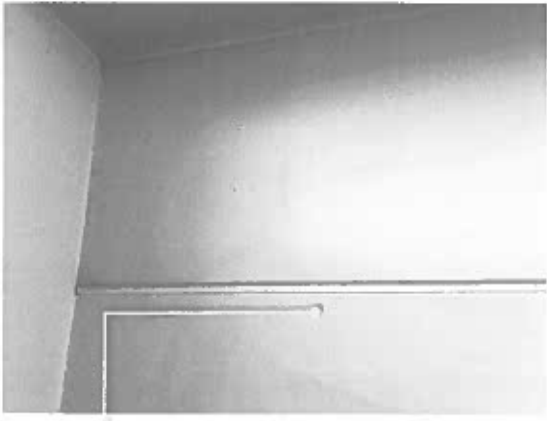
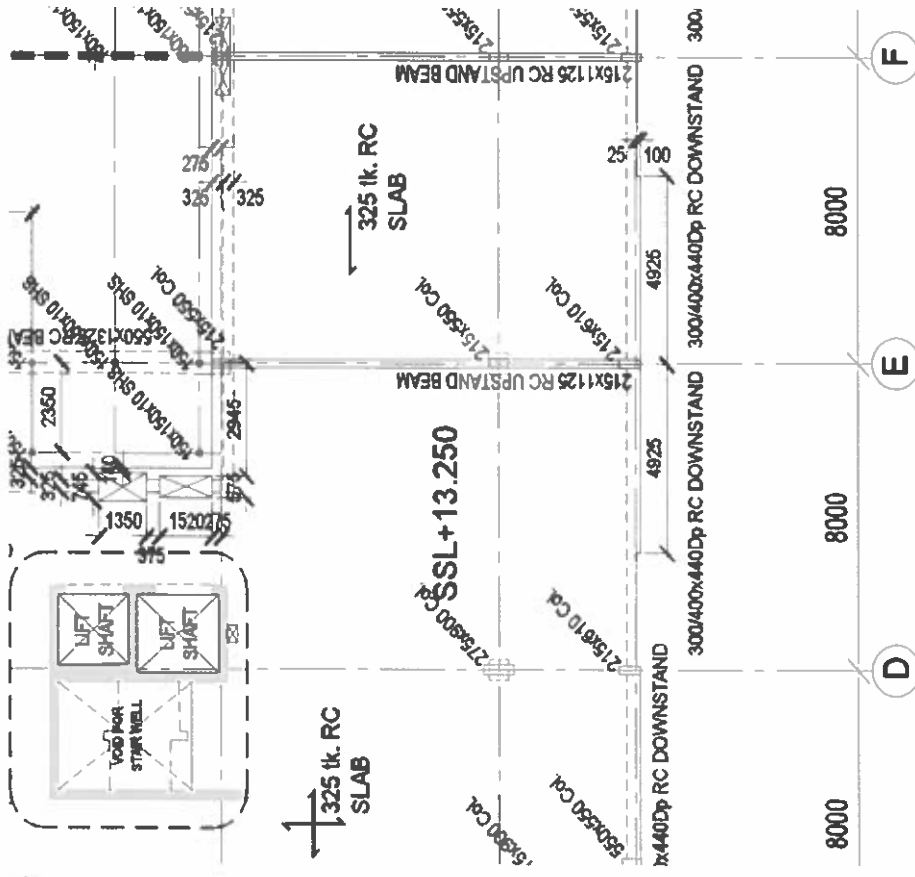
We would advise that a level survey takes place on the level 05 slab in this area to determine how much the slab has deflected due to the partial failure in the column at level 04.



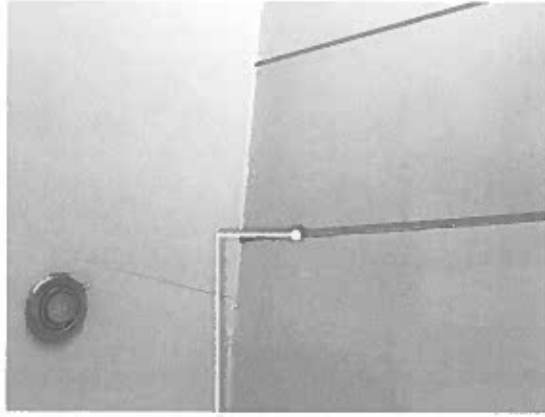
RESIDENTIAL LEVEL 03

Apartment 307

Apartment 306 was not available to view. We viewed apartment 307. Minor distress can be seen in the adjacent photographs - cracking in the plasterwork at column E2. Further cracks were noted where the dividing blockwork wall meets column E1, and along the line of the ceiling and the dividing wall. We would assume these cracks have appeared due to movement caused by the partial failure of the column at level 04.



Column E2 has been highlighted in the record structural drawing on the left, and in the photograph to the right. At level 03 we can see the same structural form as level 04 between gridlines D and E, a 325mm deep reinforced concrete flat slab and column E2 is a 215mm x 550mm reinforced concrete column. There is a one way spanning 325mm deep reinforced concrete slab between gridlines E and F, spanning onto a 215mm x 1125mm high upstand beam on gridline E.



BASEMENT LEVELS

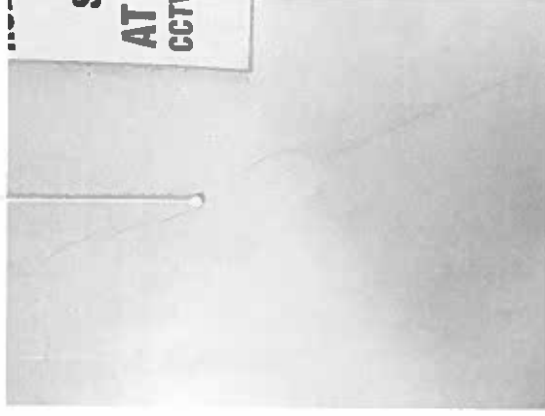
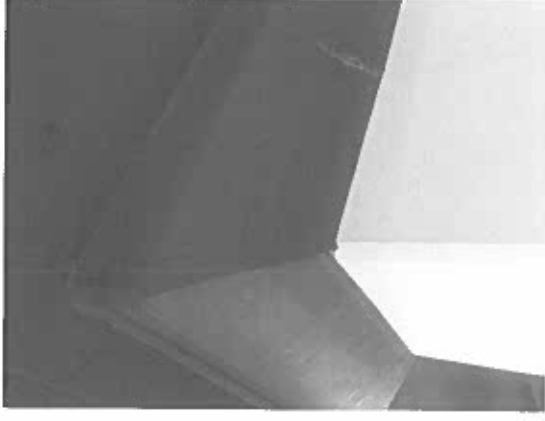
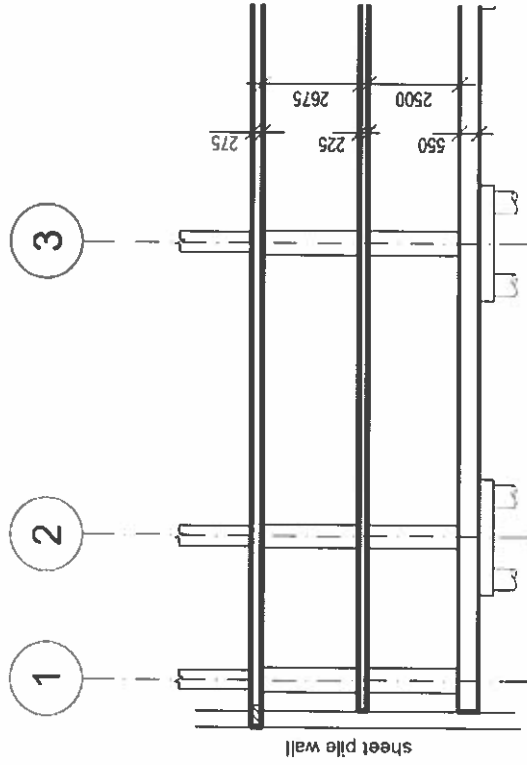
Levels B1 & B2

Levels B1 & B2 are in the basement, and both levels are currently used for carparking. Based on the limited historical information available, the basement was designed by Benaim. Level B1 appears to be a 225mm deep post tensioned concrete slab. The lower basement level B2 is indicated as a 550mm deep concrete slab with local pilecap thickenings.- this can be seen on the extract of a basement section below.

The top row photograph shows the flared column head at level B1. The column measured as a 1500mm x 700mm concrete column. No significant cracks were present in column E2 at B1 level.

The bottom row of photographs show column E2 at B2 level. Cracking can be seen in the adjacent photographs. This seemed to be common in a few of the columns observed in this basement area, therefore we can assume it is not connected with the issue at level 04.

We also carried out a review of the load acting on the B2 column, and calculated the column capacity based on limited record information and reasonable assumptions. The column does not appear to be over stressed for the intended design load at this location.



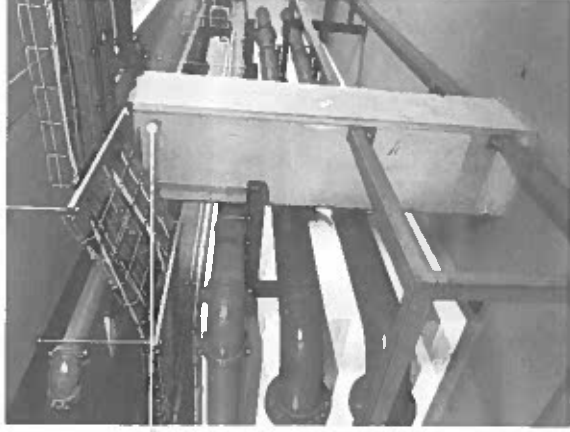
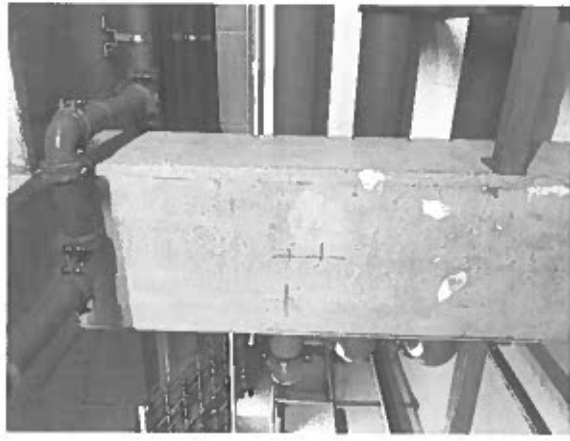
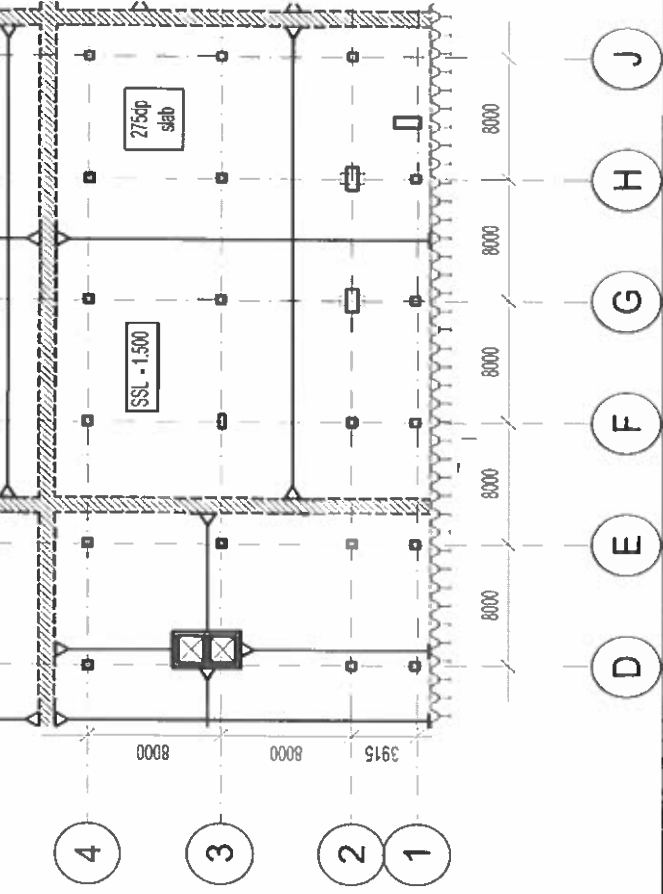
GROUND & LOWER GROUND LEVEL

Service Yard & Back of House

Column E2 was viewed in both the Service Yard and the Bin Store at ground level. The column was measured, 550mm x 550 mm square. No obvious defects were noted here. The top photographs show the column in the Service Yard.

Ground level slab is noted as a 350mm thick two way spanning reinforced concrete slab on Building Control structural drawings.

The bottom row of photographs shows column E2 at the lower ground level. This is in a service run at the back of the retail units. The column was measured, 550mm x 550 mm square. No obvious defects were noted here. The density of services in pipework in this area will need to be considered for the propping design and installation. Some of these services may need to be re-routed or removed temporarily. From record information the lower ground floor slab appears to be a 275mm deep post tensioned slab.

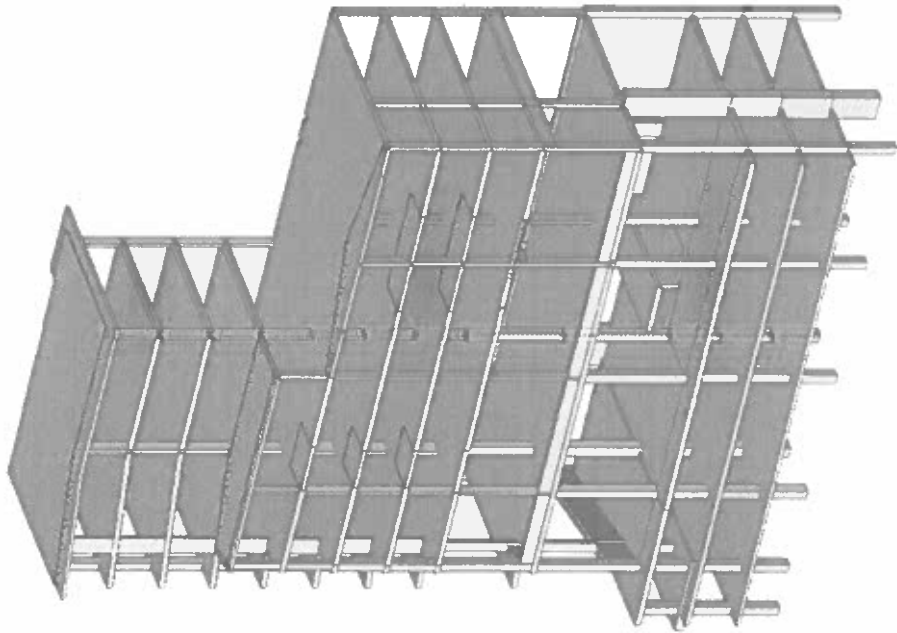


STRUCTURAL ASSESSMENT

3D ANALYSIS

Finite Element Analysis

The existing structure has been modelled in 3D to make an accurate estimation of the loads carried by column E2. This is based on the available information from Building Control records and John Hutchinson, which is not a complete package. Extracts from the 3D model can be seen below, with column E2 highlighted in magenta.



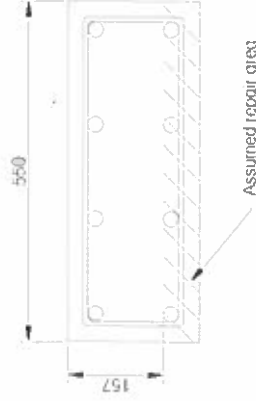
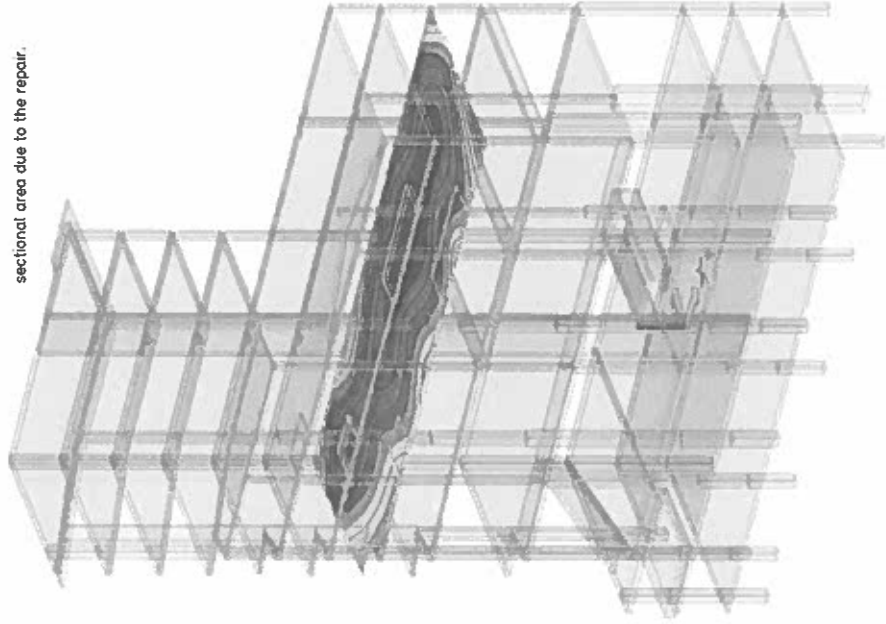
Column Load Capacity

The capacity of the 215mm x 550mm reinforced concrete column was checked at level 04 and we found the column to be capable of carrying the loads it was intended to support at this level, however it should be noted the column capacity is only marginally greater than the design load. An assumed concrete strength of 40N was used in our assessment.

We then checked the column capacity for a reduced cross sectional area due to the repair.

The load capacity of the reduced column cross section was based on an area of concrete behind the bars that have deflected (157mm x 550mm), further investigation could determine remaining concrete cross section.

The reduced cross section has approximately 20-30% less load carrying capacity than the 215mm x 550mm cross section, which is therefore a theoretical design failure.

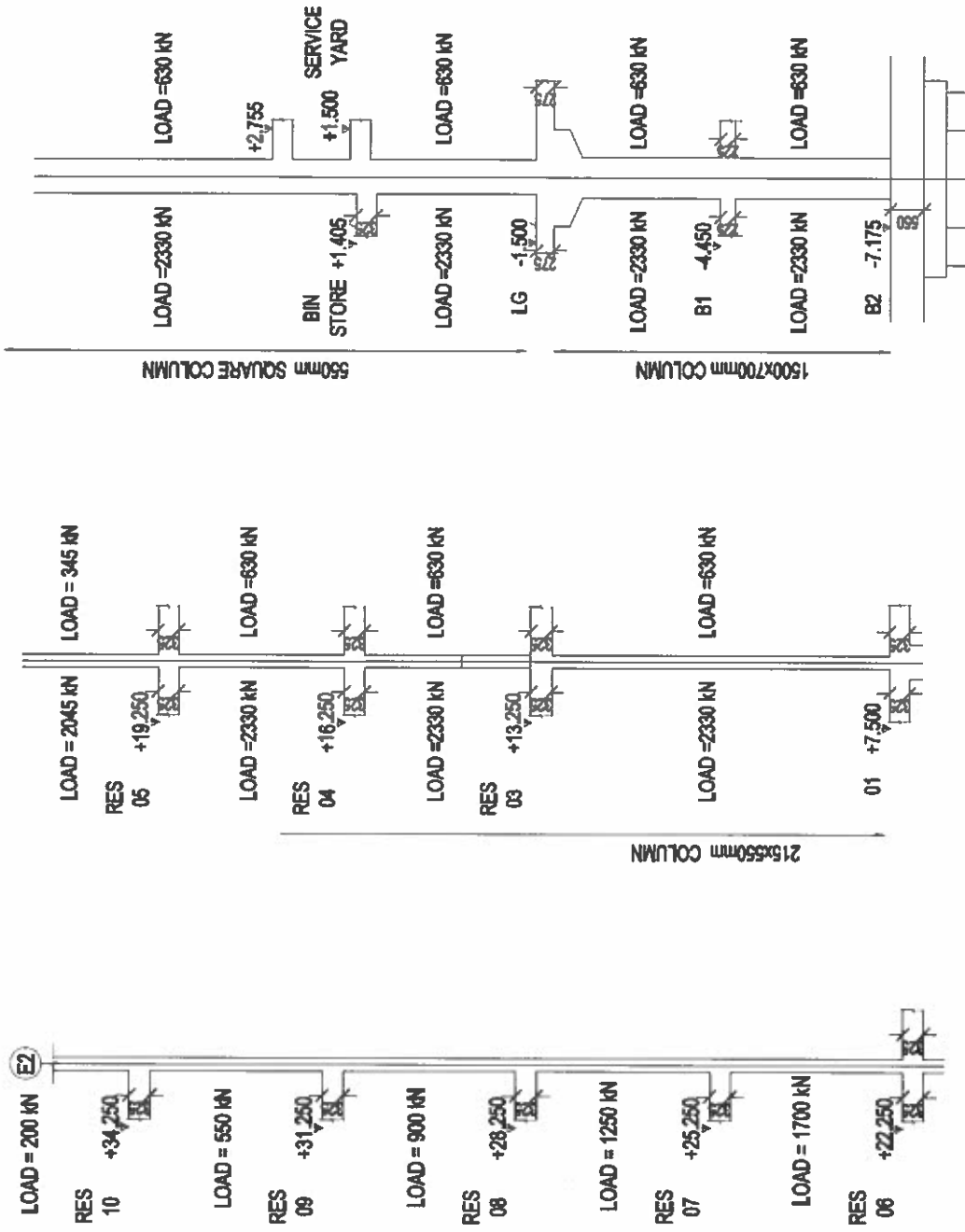


LOAD TO BE PROPPED

Load Takedown

The loads were extracted from the 3D finite analysis model for column E2 and are noted adjacent. From this we can see the total load to be propped at level 04 is 2960 kN. The propping will carry through to basement level.

ALL LOADS NOTED ARE UNFACTORED
(DEAD LOAD = 75%, IMPOSED LOAD = 25%)




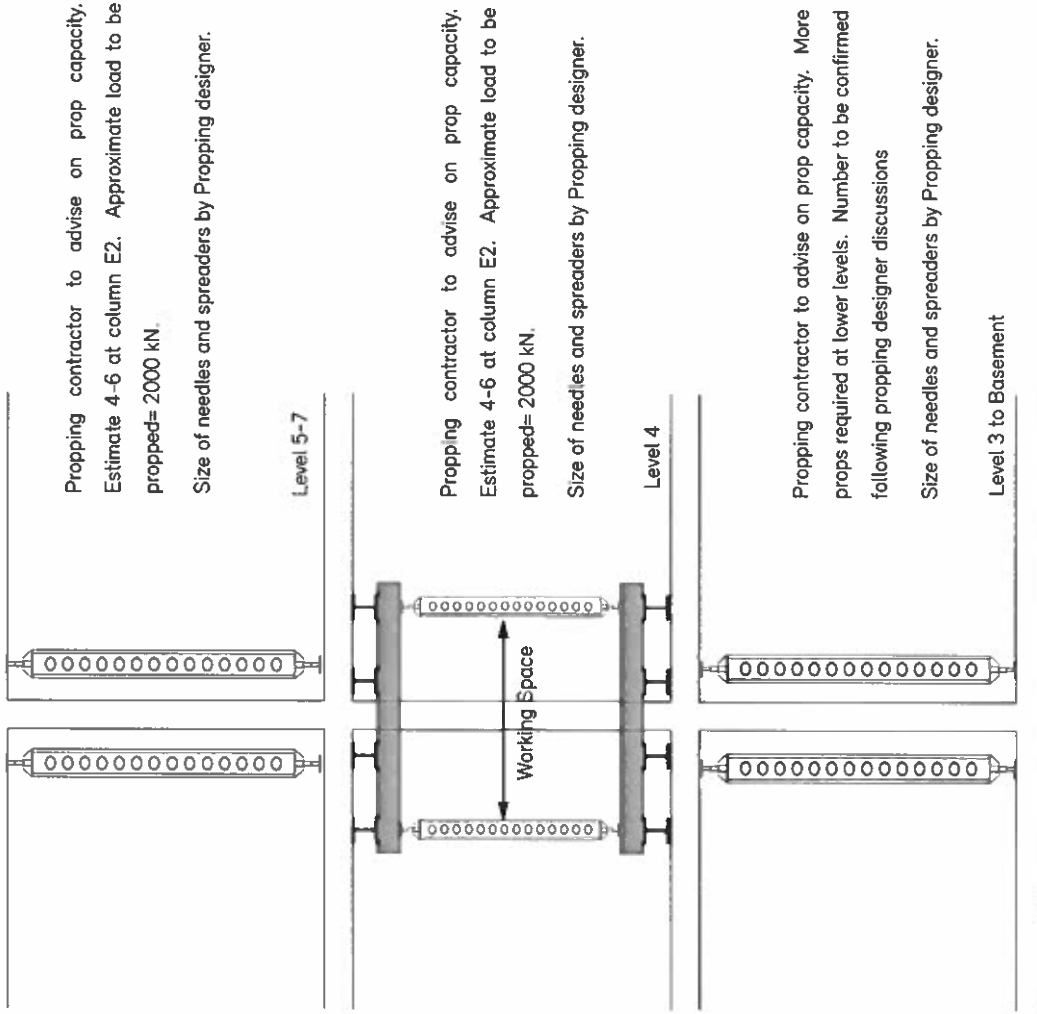
INITIAL PROPPING CONCEPT

Propping

We issued the sketch, 13th February 2019, alongside to the propping designer to give them an idea of the form and extent of propping required. This has been developed further following a review of historical information supplied at a later date. Extent and loading has since been updated.

Legend

-  - Denotes Primary Needle, fully dry packed
-  - Temporary Works steelwork indicated in RED
-  - Denotes Temporary bracing to props



ACTION LIST

1.0 Immediate Actions

1. We have recommended that propping should be installed around column E2 immediately.
2. We have notified both Building Control and HSE.
3. We have supplied loads to be propped to the propping designer, we will review their proposal once received.
4. We have met the propping designer and installer on site for a walkaround- identifying complications which could arise during prop installation such as pipework & ductwork close to the column, to be taken into account in the propping design.
5. Propping should remain in place until the column is repaired, it has been highlighted that the working space should be considered with prop placement.
6. The level 05 slab should be surveyed to determine level difference. This will allow it to be assessed to see if jacking of the slab is required or not.
7. Displacement sensors should be used on level 05 slab to see if the slab is continuing to displace, and provide an early warning to any further movement, these should be linked to an alarm system.
8. McFarland Associates to advise on further monitoring to be installed, to allow ongoing assessment. This should include tell tale monitors on existing cracks.

2.0 Recommendations

1. It would be prudent to investigate if other repair works, similar to that on column E2 at level 04, were carried out elsewhere on site. This may be determined via reviewing correspondence during the build / fit-out, or contacting the Contractor & Designer to see if they remember any repair discussions/ advice supplied.
2. Some of the load acting on column E2 will have redistributed into other structural members following the partial failure. A further detailed inspection should be carried out, our initial site visit focussed on the immediate area surrounding column E2, and some floors were not accessible. An analysis model should be used to review the redistribution.
3. It is likely the blockwork wall adjacent to column E2 on level 04 is now taking a share of the column's load. Opening up would be advised to review the blockwork wall head detail.
4. Design review of structural elements, identifying those that are close to full utilisation. Further inspection on those members. Full extent of review to be confirmed.
5. Possible opening up to expose the concrete columns for a visual inspection to check for obvious repairs.
6. Possible opening up to expose the concrete columns to scan and check concrete density, which could identify repair areas.
7. Full design needs to be undertaken for the column repair. This is likely to be significant due to the structural utilisation of the column

Appendix 3 – Design ID Letter (10/04/2019) recommending decanting of residents and exclusion zone

██████████
McGuinness Fleck
433-435 Lisburn Road
Belfast
BT9 7EY

10/04/2019

19037 – Victoria Square

Dear ██████████

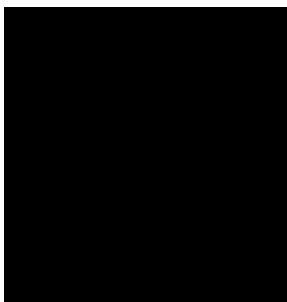
As requested, formalising our email issued this morning on this matter.

Upon receiving reports of indications of further movement within the apartment building at Victoria Square, and the fact that props have not been installed, we would suggest that all tenants and occupants within 30m horizontally of the affected column should be decanted over the full height of the building (basement to roof) and that an agreed exclusion zone should be set up at ground level until the propping is installed and a full structural assessment can be made. We cannot overstate the serious nature of the failures and further failures may not be so minor and could lead to a partial collapse with the associated risk of that.

Please note immediate propping was first recommended 1st February 2019, and subsequently re-iterated. Given the delay in propping being installed and the additional defects coming to light, it would appear that there is some progressive movement in the structure. This is likely the result of forces being redistributed to surrounding structure. We would have significant concerns that further failures could occur due to the redistribution of forces and that at some point this could even result in some degree of partial collapse.

Should you wish to meet and discuss the above, please do not hesitate to contact me.

Yours sincerely,



BEng CEng MStructE
Director

cc ██████████ - McFarland Associates Ltd.

Design ID Consulting Limited

Directors: Ian Douglas CEng BEng MStructE
Jonathan Macauley CEng BEng MStructE MIEI

Appendix 4 – CGI Licence for Works (Propping Installation)

DATED 2nd July 2019

(1) CGI VICTORIA SQUARE LIMITED and GCI VICTORIA SQUARE NOMINEES LIMITED as trustees of
CGI VICTORIA SQUARE PARTNERSHIP

(2) VICTORIA SQUARE (CHICHESTER STREET) RESIDENTIAL MANAGEMENT LIMITED and
VICTORIA SQUARE (WILLIAM STREET SOUTH) RESIDENTIAL MANAGEMENT LIMITED

(3) Q-PARK (NI) LIMITED

(4) Q-PARK NV

LICENCE FOR WORKS
(OUTSIDE THE DEMISE)

Premises:

Residential Accommodation, Victoria
Square, Belfast

Lease dated:

16 April 2009

We hereby certify that this
is a copy of the original
DATED 2019
Pinsent Masons Belfast LLP
Place
BT1 3LP

THIS LICENCE is made on the date and between the parties specified in the Particulars

IT IS AGREED as follows:-

1. **DEFINITIONS AND INTERPRETATION**

1.1 In this Licence the following words and expressions have the following meanings:-

"Building Contract" means a building contract entered into or to be entered into between VS(CC)RML (being one of the parties comprising the Tenant) and its contractor in respect of the Works

"CAR Regulations" means the Control of Asbestos Regulations (Northern Ireland) 2012

"CDM Regulations" means the Construction (Design and Management) Regulations (Northern Ireland) 2016

"Consents" means:-

- (a) planning permission(s) under the Planning Acts
- (b) the consent of the Insurers
- (c) permissions, licences, certificates, consents and approvals required by any Legislation and
- (d) consents from the owners and occupiers of adjoining or neighbouring property or any other person to, for or in respect of the commencement, execution or retention of any Works and any other persons interested in the the Centre

and **"Consent"** shall be construed accordingly

"Q-Park" means the party described as Q-Park in the Particulars and its successors in title

"Q-Park Lease" means the Lease of the Q-Park Premises and includes all or any deeds and documents made pursuant to or supplemental to that Q-Park Lease whether or not expressed to be so

"Q-Park Guarantor" means the party described as the Q-Park Guarantor in the Particulars and where the party is an individual it includes his personal representative(s)

"Insurers" means the insurers with whom the Centre are for the time being insured

"Landlord" means the party described as the Landlord in the Particulars and includes the party in whom the reversion immediately expectant on the determination of the Term is for the time being vested

"Lease" means the lease of the Premises described in the Particulars and includes all or any deeds and documents made pursuant to or supplemental to that Lease whether

- 1.2.5 reference to persons includes bodies corporate, unincorporated associations and partnerships;
- 1.2.6 the singular includes the plural and vice versa and reference to any gender includes any other gender;
- 1.2.7 any reference to a specific statute, statutory provision or order in Council includes reference to any statutory modification, extension or re-enactment of such statute, statutory provision or order in Council and to any regulations, orders, bye-laws or other subordinate regulation made under such statute, statutory provisions or order in Council from time to time;
- 1.2.8 any covenant in this Licence by the Tenant not to do any act or thing shall be deemed to include an obligation not to permit or suffer that act or thing by another person.

2. RECITAL

This Licence is supplemental to the Lease.

3. LICENCE TO CARRY OUT WORKS

- 3.1 In consideration of the covenants on the part of the Tenant contained in this Licence the Landlord and Q-Park grant to the Tenant licence:-

- 3.1.1 to carry out the Works subject to and in accordance with the provisions of this Licence;
- 3.1.2 subject to the Tenant complying with all reasonable requirements made by the Landlord and Q-Park in relation to such entry, to enter with or without workmen and equipment the Centre for the purposes of carrying out (in accordance with the Tenant's obligations under this Licence) the Works.

4. TENANT'S COVENANTS

The Tenant covenants with the Landlord and Q-Park:-

- 4.1 before commencing the Works:-

- 4.1.1 at its own expense to obtain all Consents (save and except for consent from the Insurers which shall be obtained by the Landlord) required for the execution of the Works and to comply with all conditions and make all payments thereunder and supply copies of the same to the Landlord and Q-Park;
- 4.1.2 to obtain the Landlord's written acknowledgement (not to be unreasonably withheld or delayed) that all such Consents are approved and not to implement any such Consents until such approval has been given;
- 4.1.3 without prejudice to Clause 8, to procure that the contractor appointed to carry out the Works takes out and maintains fully comprehensive public liability insurance in such sum as the Landlord approves in writing against liability to any person arising from or in connection with the Works, and to ensure that such insurance extends to indemnifying the Landlord, Q-Park and to produce evidence to the Landlord of such insurance;

- 4.2 once the Works are commenced:-

- 4.2.1 promptly to give notice in writing to the Landlord and the Insurers of the commencement and completion of the Works;
- 4.2.2 to pay on demand, as additional rent, any increase in the insurance premiums attributable to the Centre and any adjoining or neighbouring property of the Landlord by reason of the Works and to comply with the requirements of such insurers;

- 4.2.10 to permit the Landlord and those authorised by the Landlord to inspect the quality and workmanship of the Works and to view the state and progress of the same and for all other reasonable purposes in connection with this Licence;
- 4.2.11 to produce to the Landlord and Q-Park on demand copies of all letters, notices, applications, Consents or other documents sent, served, received or made by or granted to the Tenant in connection with the Works and to supply to the Landlord on demand such information or evidence as the Landlord and Q-Park may require in order to satisfy itself that the provisions of this Licence have been complied with;
- 4.3 on completion of the Works:-
- 4.3.1 where the CDM Regulations require a health and safety file to be prepared (or the existing health and safety file to be updated and reviewed) in respect of the Works to provide to the Landlord a certified copy of the health and safety file;
- 4.3.2 to procure that the Landlord is granted the required licences to allow it lawfully to use and copy the information and documentation contained in the health and safety file for any purpose in connection with Centre;
- 4.3.3 on the date of this Licence the Tenant must procure that the Warranties are delivered to the Landlord;
- 4.3.4 VS(CC)RML must deliver to the Landlord a true copy of the Building Contract and of each contract of engagement on or before completion of the Works but may delete or redact pricing and commercially sensitive information from them; and
- 4.3.5 if there is any change in the identity of any of the parties giving the Warranties, the Tenant must procure that the party who has or is exercising the role in place of the former party grants a warranty in respect of their period of appointment.

5. CDM REGULATIONS

- 5.1 This Clause applies to the extent that the CDM Regulations apply in relation to the Works.
- 5.2 If and to the extent that the Landlord may be a client for the purposes of the CDM Regulations in relation to the Works, the Landlord appoints the Tenant as the only client in respect of them.
- 5.3 Before starting the Works, the Tenant must have made a declaration that it is the only client in respect of the Works for the purposes of the CDM Regulations and have given the Landlord a copy of the declaration and the acknowledgement of it from the Health and Safety Executive.
- 5.4 The Tenant must comply with its obligations as a client for the purposes of the CDM Regulations and must ensure that the planning supervisor and the principal contractor that it appoints in relation to the Works comply with their respective obligations under the CDM Regulations.
- 5.5 The Tenant must place all relevant documents relating to the Works in the health and safety file for the Premises in accordance with the CDM Regulations. The Tenant must maintain the health and safety file for the Premises in accordance with the CDM Regulations and give it to the Landlord at the end of the Term. The Tenant must allow the Landlord and its surveyors to inspect the health and safety file and must at its own cost supply the Landlord with copies of any of the documents in it.

6. INSURANCE

- 6.1 Notwithstanding the covenants on the Landlord's part and other provisions contained in the Lease all parts of the Works from time to time executed shall be at the sole risk of the Tenant.

- 9.3 the approval of any Consent may be withheld on the grounds that anything contained in it required or prohibited under it, omitted from it or its duration would or might adversely affect the Landlord's interest (with regard to the Centre or adjoining or neighbouring property or otherwise whether financially or otherwise);
- 9.4 this Licence and any approval, Consent, instruction, certification, supervision or works granted, given or carried out by or on behalf of the Landlord under this Licence are granted, given or carried out without any liability on the part of the Landlord, its surveyors, agents or workmen and imply no responsibility for any of the Works or their design, execution or existence nor do they imply, warrant or constitute any representation that it is lawful to execute such works or limit or discharge any of the obligations of the Tenant under this Licence;
- 9.5 without prejudice to any other remedy of the Landlord if the Tenant is in breach of any of its obligations under this Licence the Landlord may serve notice on the Tenant specifying the breach and if such breach is not remedied within a reasonable time the Landlord may either serve notice on the Tenant requiring the Tenant to the parts of the Centre affected by the Works or itself remedy the breach at the expense of the Tenant;
- 9.6 the right of re-entry contained in the Lease is exercisable equally on any breach of any covenant in this Licence as on the happening of any event which gives rise to such right under the terms of the Lease;
- 9.7 this Licence shall not release or in any way lessen the liability of the Tenant to the Landlord under the tenant's covenants in the Lease or the liability of any other party to the Landlord under those covenants;
- 9.8 all of the covenants on the part of the Tenant contained in this Licence are to be incorporated into the Lease;
- 9.9 any sum payable under this Licence or the Lease is deemed to be exclusive of any Value Added Tax (or any equivalent tax which may be imposed in substitution for it or in addition to it) which may from time to time be chargeable in respect of any supply or supplies made or to be made by virtue of this Licence and the party to whom the supply is being made shall pay such tax to the party making the supply;
- 9.10 this Licence is restricted to the particular Works and Reinstatement Works authorised and the provisions in the Lease remain in full force and effect and this Licence does not prejudice the rights of the Landlord in respect of any breach (whether known to the Landlord or not) of the tenant's covenants in the Lease and on the Tenant's part to be observed and performed;
- 9.11 any notice given pursuant to this Licence shall be in writing and shall be delivered by hand or sent by pre-paid first class post or recorded delivery or by any other means permitted by the Lease and a correctly addressed notice sent by pre-paid first class post shall be deemed to have been delivered at the time at which it would have been delivered in the normal course of the post.

10. **CONSENT OF Q-PARK GUARANTOR**

The Q-Park Guarantor consents to the Q-Park entering into this Licence and agrees that the obligations on the part of the Q-Park Guarantor contained in the Q-Park Lease shall continue in full force and effect.

11. **COSTS**

- 11.1 The Tenant shall on the grant of this Licence pay the Landlord's and Q-Park's solicitors', surveyors' and other professional advisers' proper and reasonable fees and disbursements (including any Value Added Tax) reasonably and properly incurred in relation to the preparation, execution and completion of this Licence and the approval and inspection of the Works and the Reinstatement Works and those arising from the consideration of the application for this Licence.

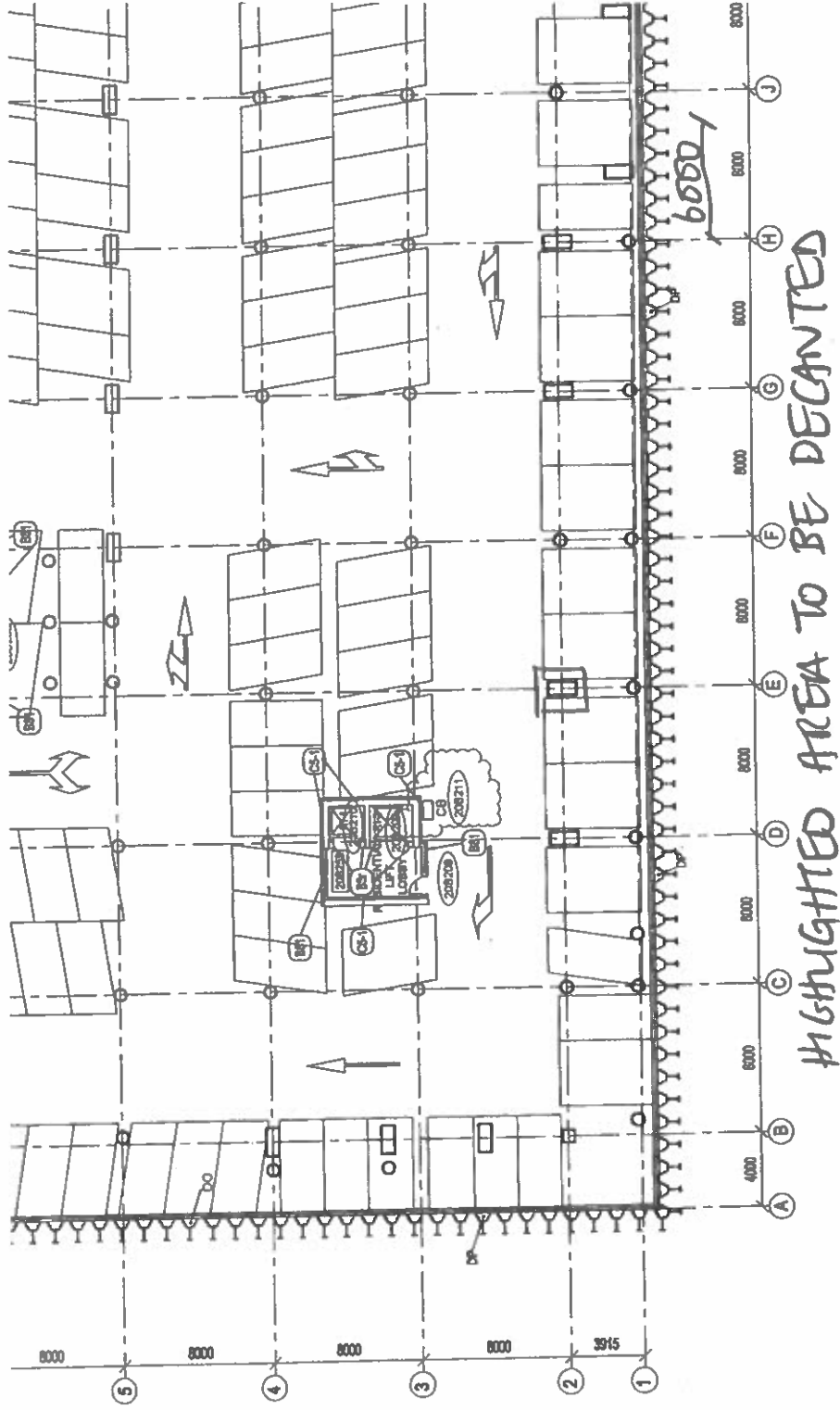
SCHEDULE

PART 1

PLANS

Appendix 5 – Propping Works Contract Plans for ‘Defined Site’

LOWER BASEMENT



Project:

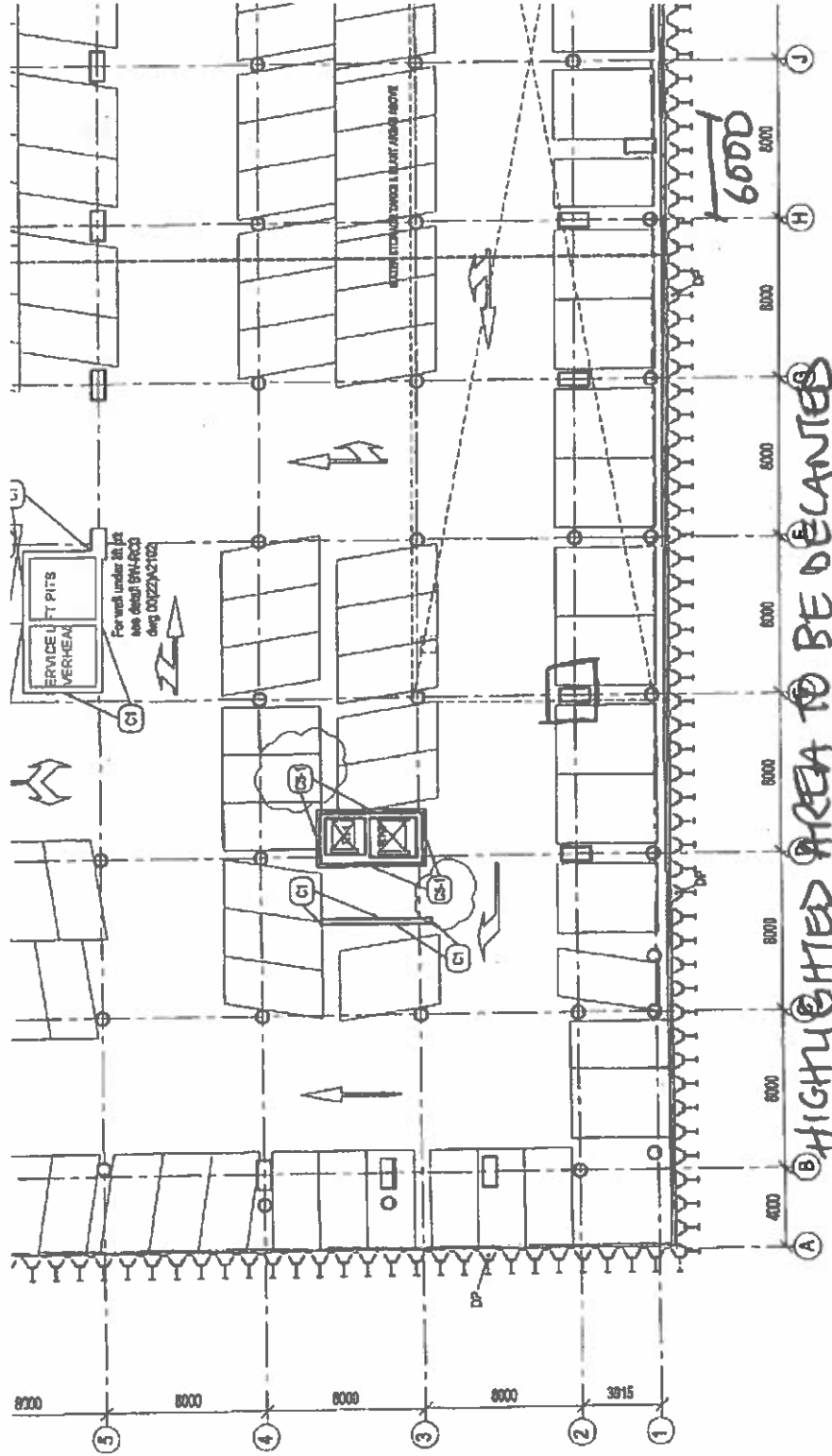
Victoria Square Apartments

Document Title: Lower Basement

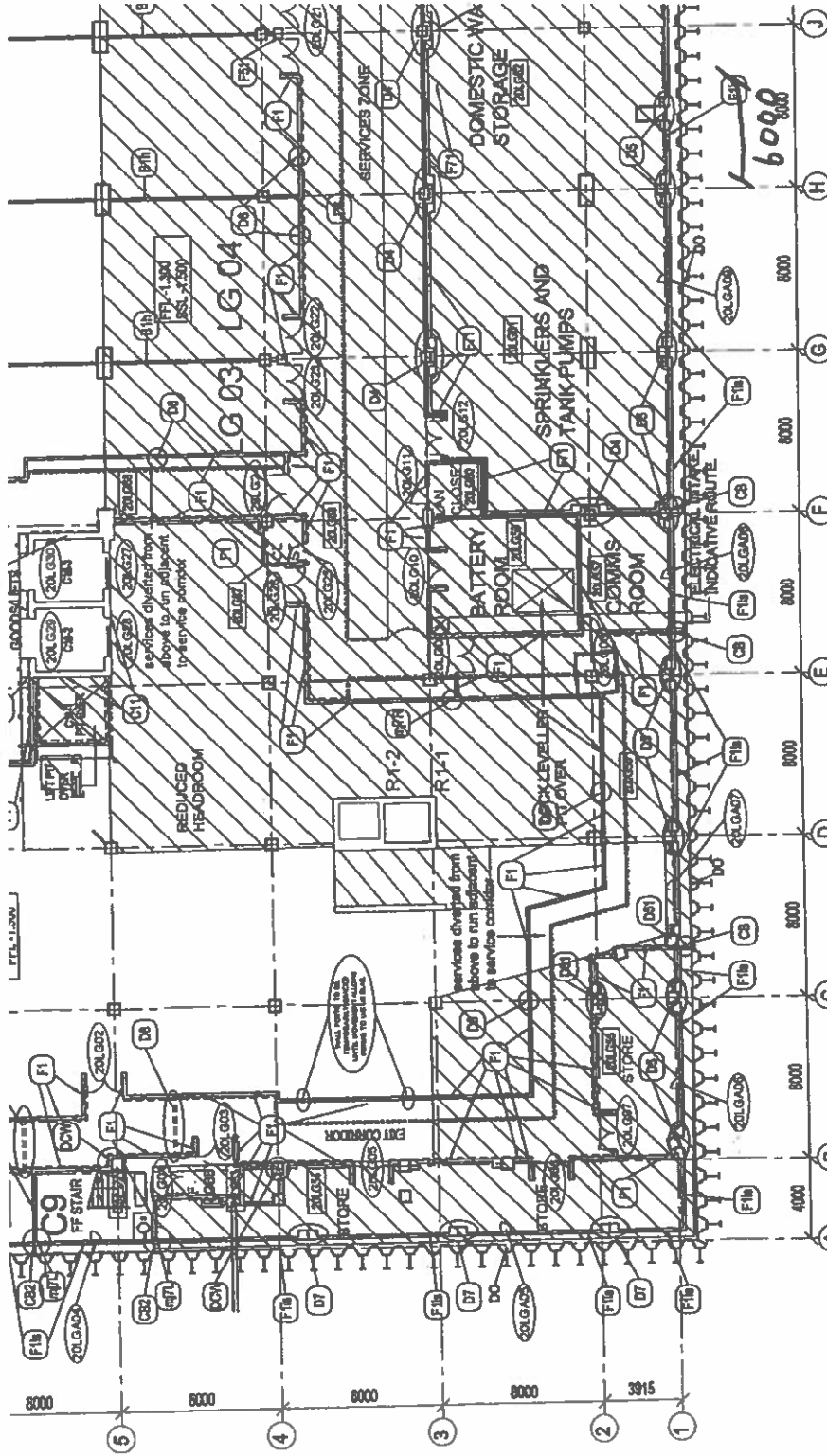
Design ID Project No.: 19037

Document Reference: 19037-DID-ZZ-XX-SK-S-0002

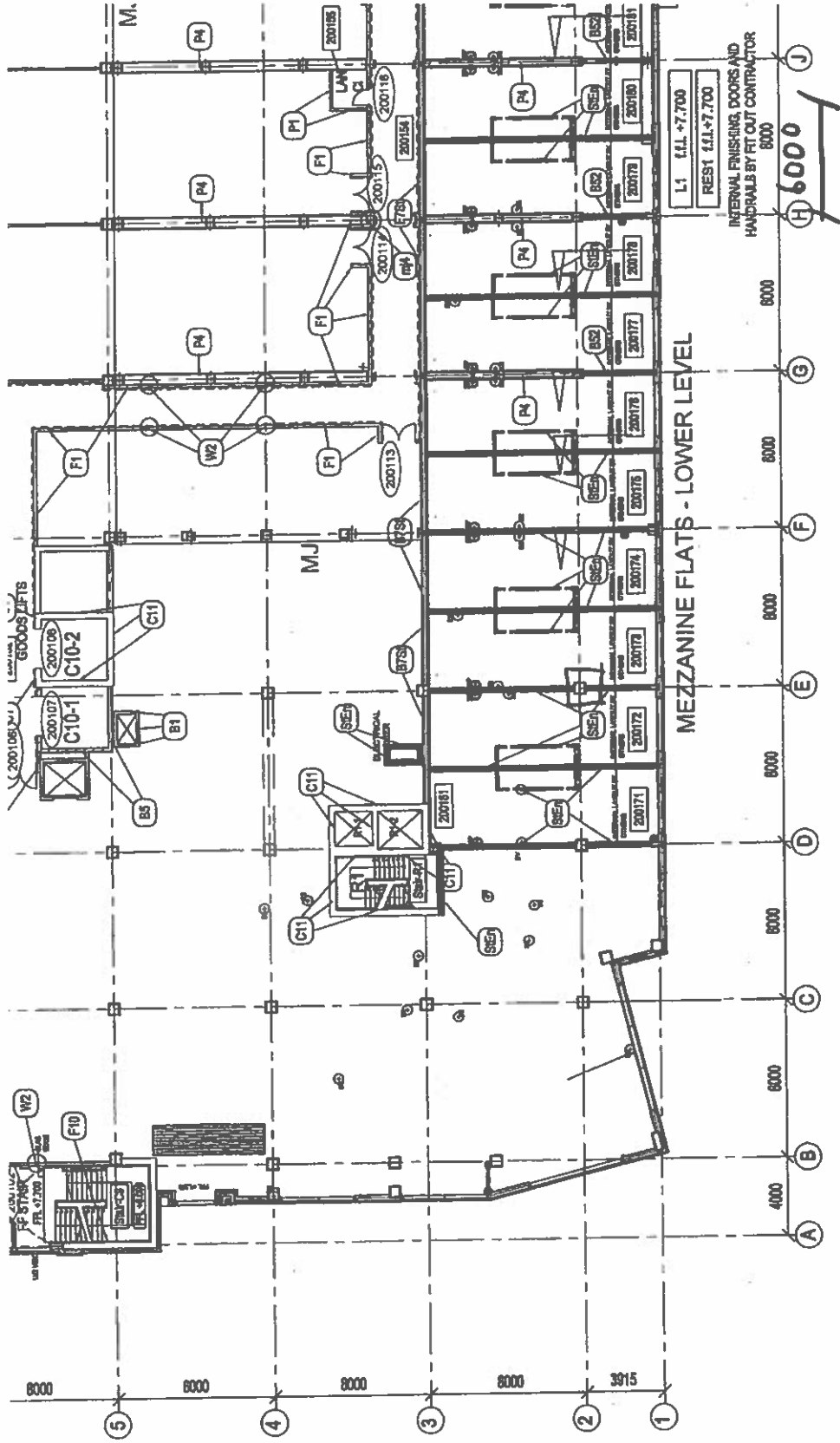
UPPER BASEMENT



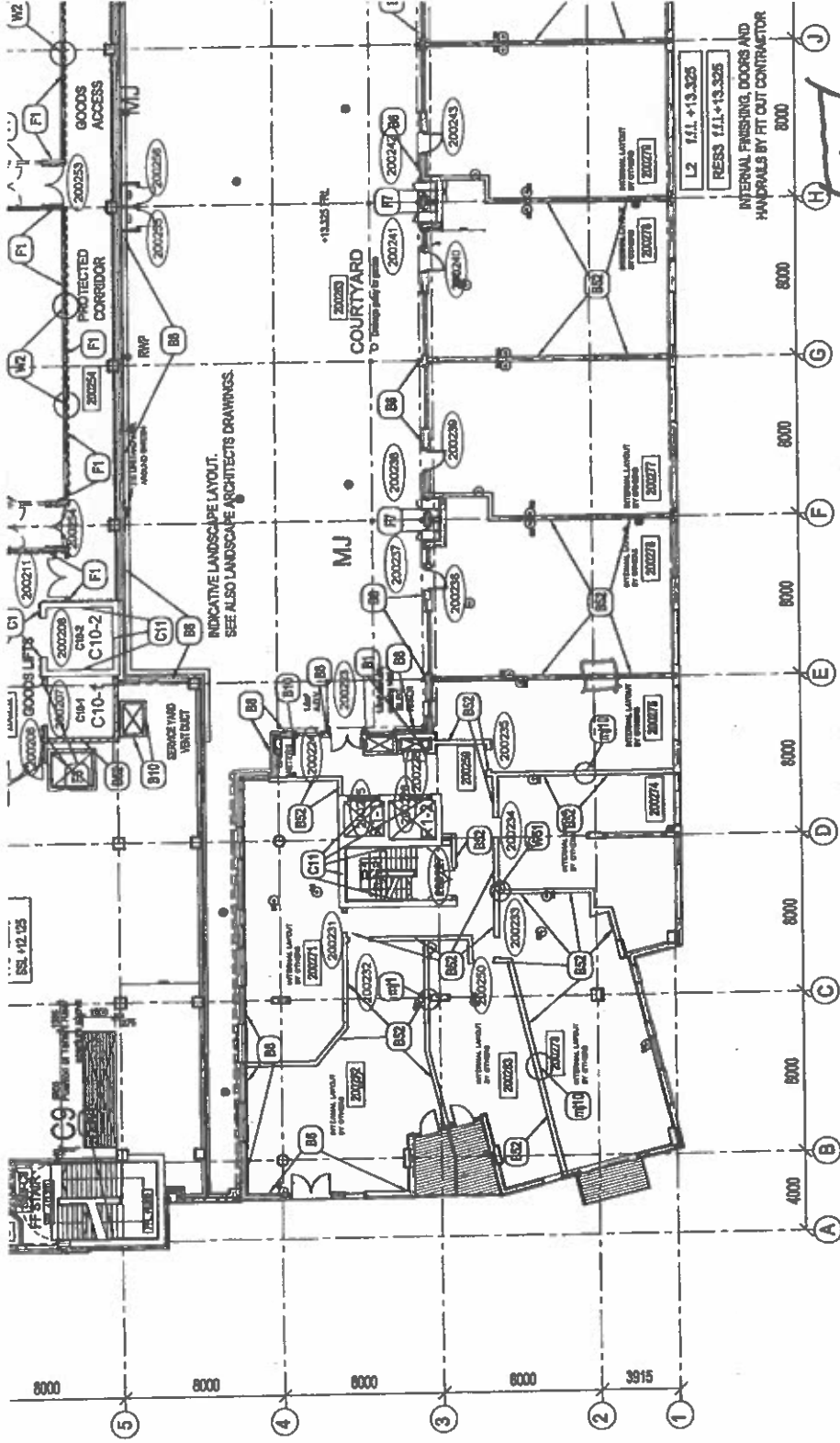
LOWER GROUND



HIGHLIGHTED AREA TO BE DECANTED

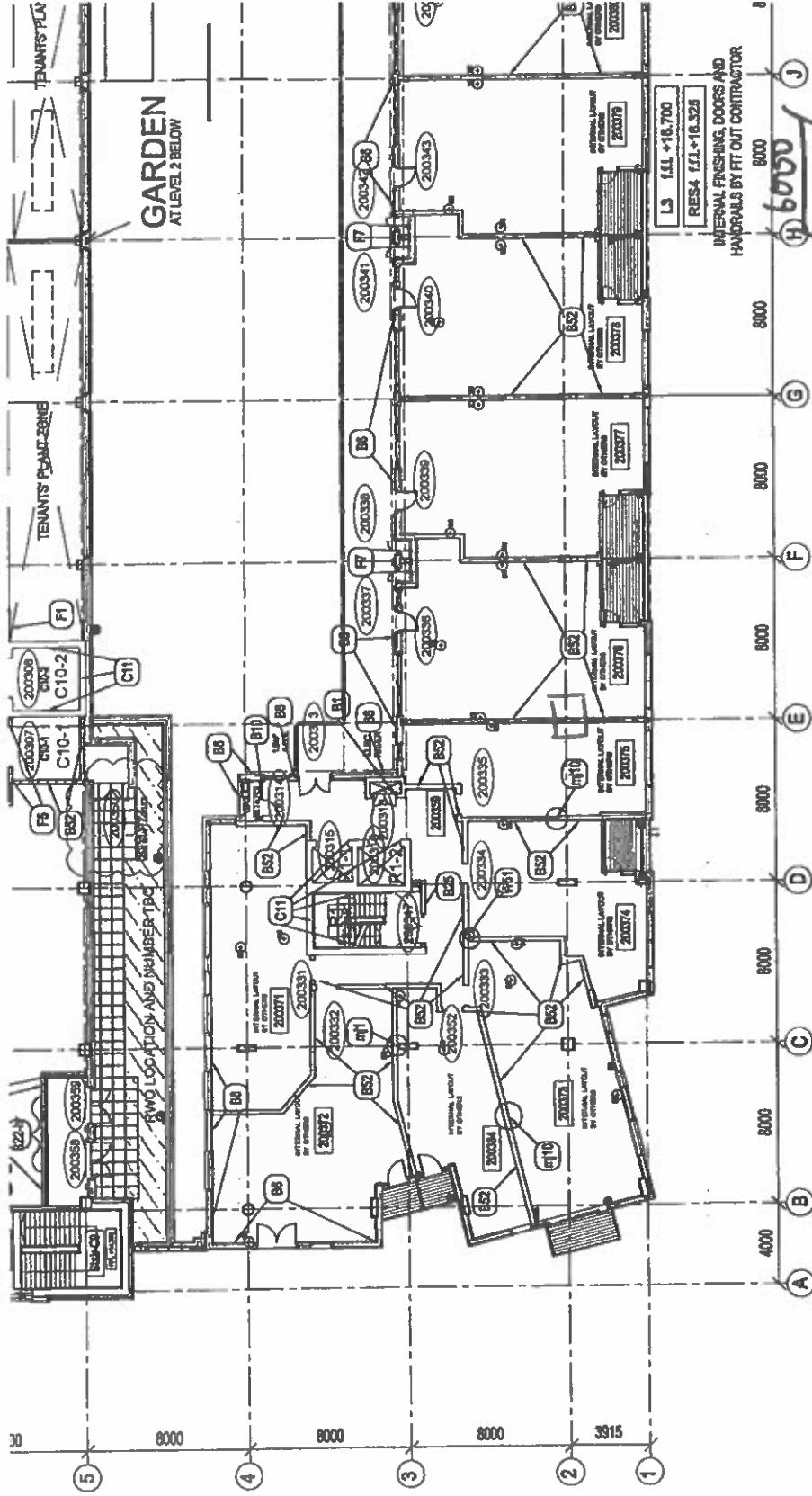


HIGHLIGHTED AREA TO BE DECANTED

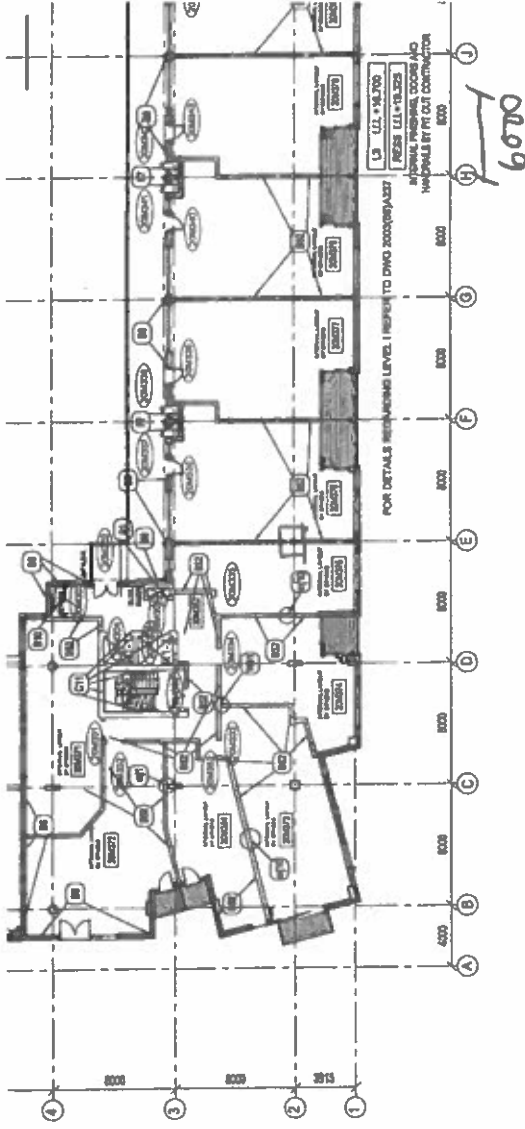


HIGHLIGHTED AREA TO BE DECAINTE

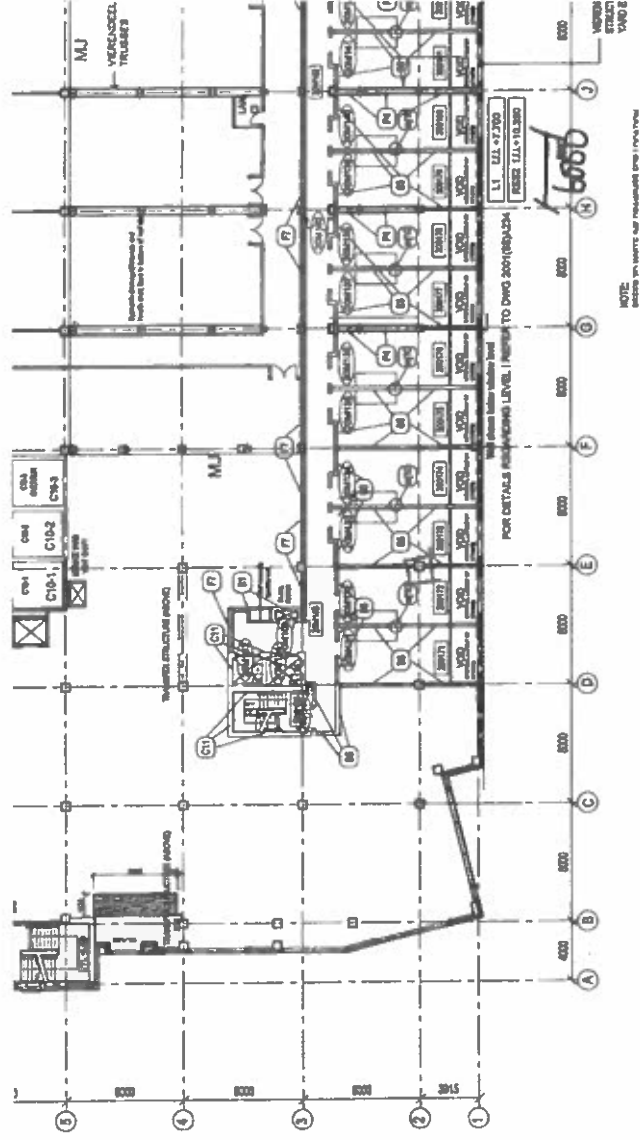
6000



HIGHLIGHTED AREA TO BE DECANTED

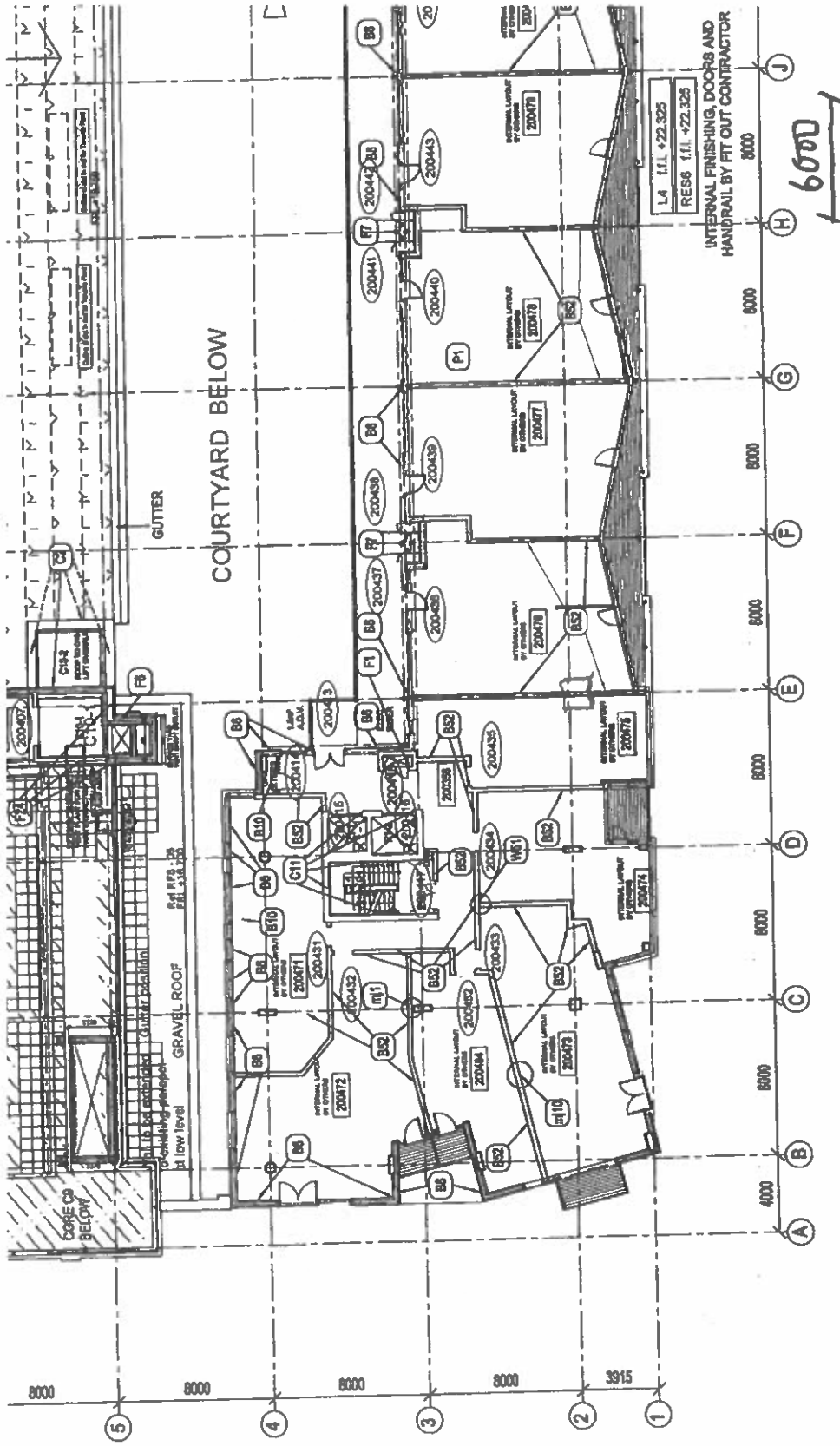


LEVEL M3 Res 5 PLAN

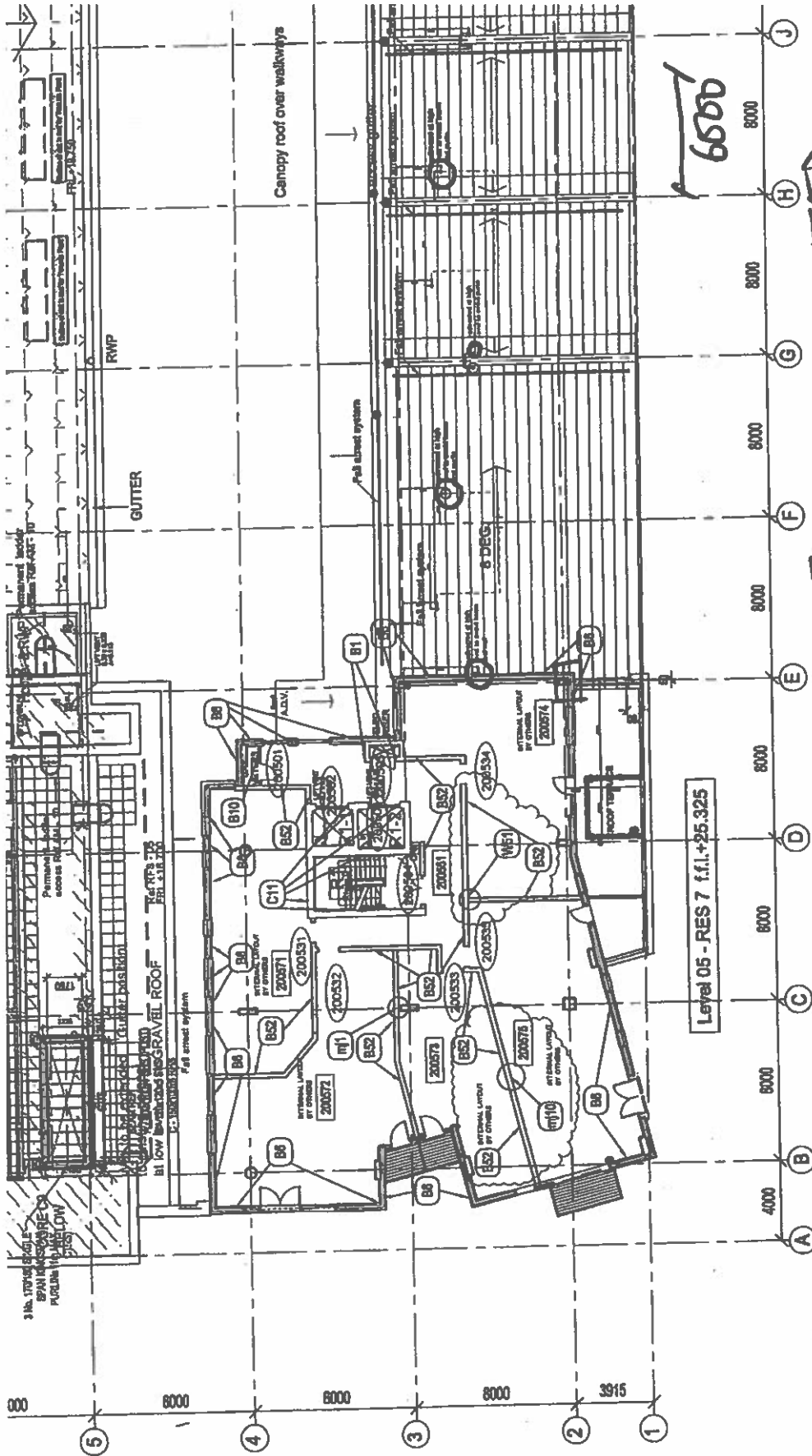


LEVEL M1 Res 2 PLAN

HIGHLIGHTED AREA TO BE DELETED

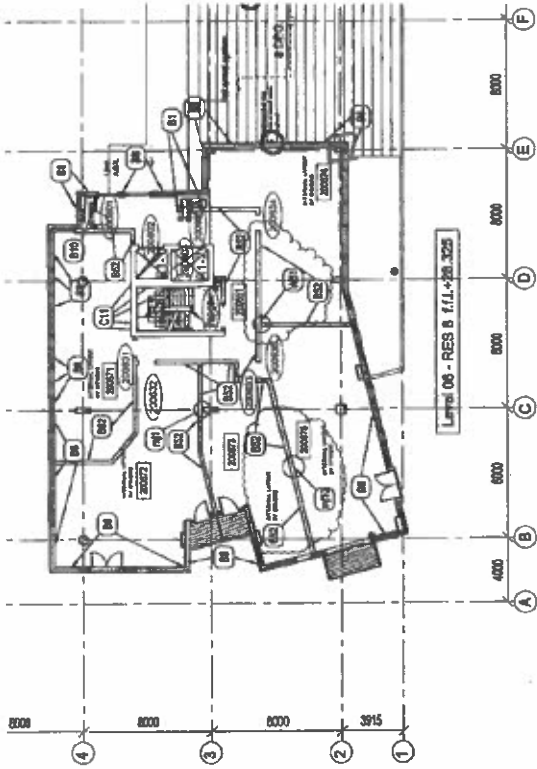


HIGHLIGHTED AREA TO BE DECONTAMATED

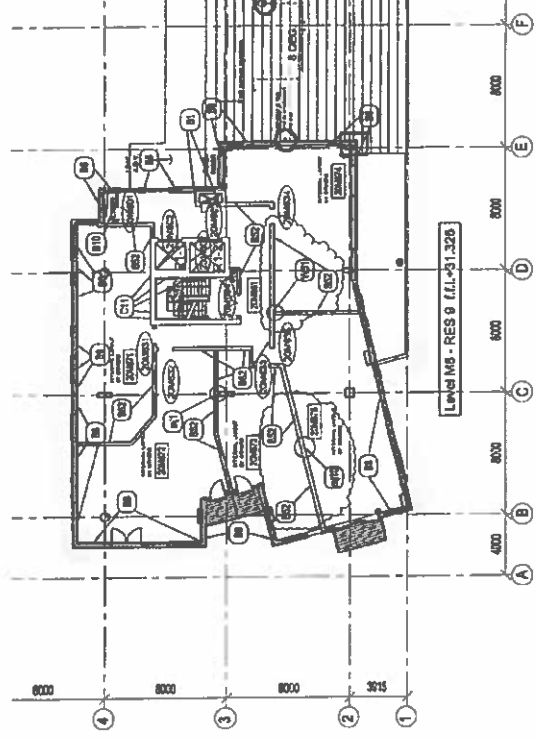


IN CITYLIGHTED AREA TO BE DECANATED

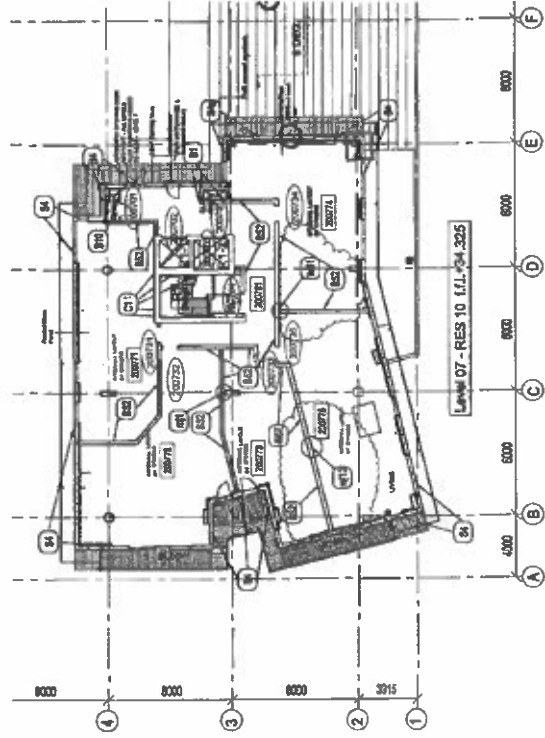
RESIDENTIAL 08, 09 & 10



LEVEL 06 Res 8 PLAN



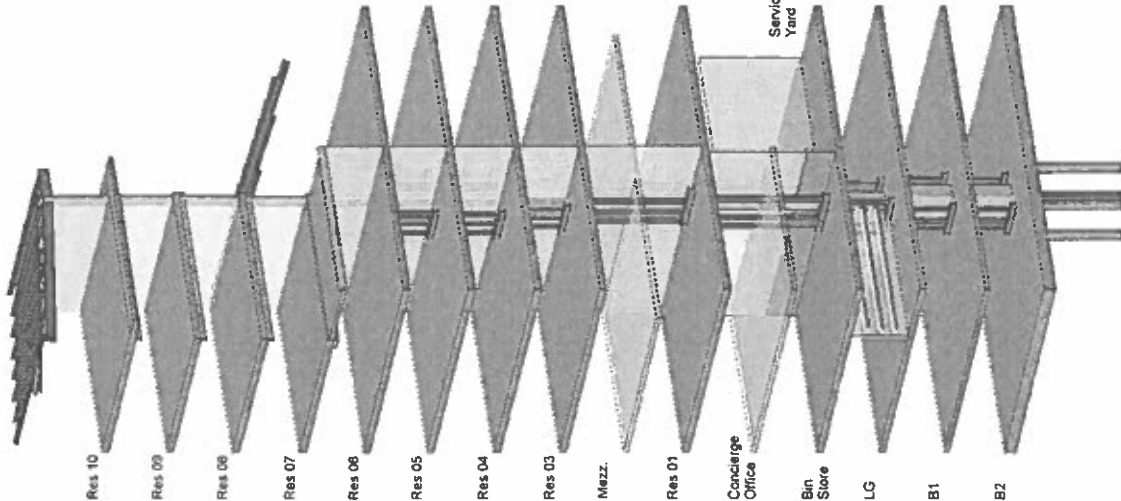
LEVEL M6 Res 9 PLAN



LEVEL 07 Res 10 PLAN

HIGHLIGHTED AREA TO
BE DELETED

Appendix 5 – Propping Works Contract Plans for 'Defined Site'



Steelwork Notes

1. All steelwork to have CE Marking to BS EN 1090-1 & 2. A certificate must be provided by the steel fabricator prior to commencing fabrication drawings to demonstrate compliance.
2. All rolled steelwork in internal braced environment to be Grade S355JR to BS EN 10025 (1993) U.L.D. All external rolled steelwork to be Grade S355J0 to BS EN 10025 (1993) U.L.D. All structural hollow sections to be hot rolled Grade S355J0 to BS EN 10210. All structural steelwork to comply with the National Structural Steelwork Specification for Building Construction, BCSA & SCI Publication No. 203/04 & the requirements of BS EN 1993 - Eurocode 3.
3. Internal exposed steelwork to be coated with intumescent paint to regulated fire resistance UNO. Refer paint specification for steelwork.
4. Contractor to provide all necessary temporary bracing to facilitate installation.
5. The contractor shall be responsible for checking all dimensions and levels shown against all other drawings which pertain to this part of the works.
6. All welds to be a minimum of 6mm fillet welds unless noted otherwise.
7. Fabrication Drawings
8. All steelwork fabrication drawings shall be submitted to the Engineer for approval at least two days prior to the programmed fabrication date. Fabrication drawings must be checked by the steelwork fabricator and Main Contractor prior to issuing to the Engineer.
9. Additional costs incurred by the Design ID and other Consultants resulting from non-compliance with the specification or drawings will require reimbursement from the Main Contractor and/or their sub-contractors.

Connection Design

10. All steel to steel connections shall be designed and detailed to BS EN 1993 - Eurocode 3, and bolts must be ISO metric to BS 4190 Grade 8.8, minimum 18mm Ø U.H.C; manufactured by a BS registered firm. Minimum Z₁₆, bolts per connection.
11. All hot rolled steel connections are designed by Design ID and can be found on drawing 1016.

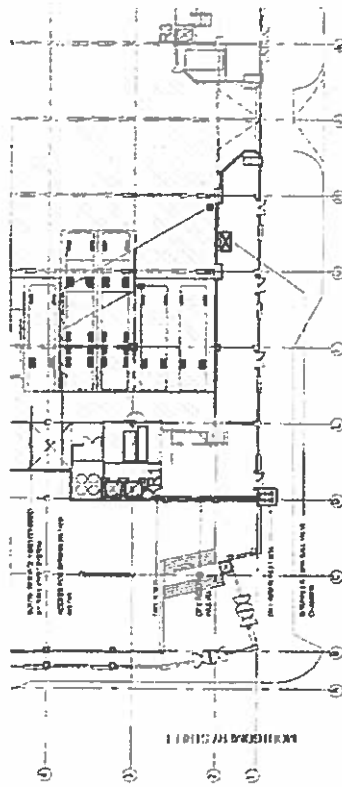
General Notes

1. This drawing to be read in conjunction with all other Architectural and Engineering drawings and all other relevant drawings and Specifications.
2. DO NOT SCALE FROM THIS DRAWING. Use figured dimensions only.
3. CE Marking:
 - All structural components to be CE Marked in accordance EN 1090 Pts 1 and 2.
 - Building Execution class: EXC1 EXG3 EXC3 EXC4
 - Any steel fabricator used must be a member of the BCSA or demonstrate they are CE Marked by another approved notified body.
4. Construction (Design and Management) Regulations 2015 (CDM 2015) - Client's roles and responsibilities
 - To comply with CDM 2015, the Client (unless a domestic client) will need to:
 - Check competence and resources of all appointees
 - Ensure there are suitable management arrangements for the project welfare facilities
 - Allow sufficient time and resources for all stages
 - Provide pre-construction information to designers and contractors
 - Where projects are notifiable under CDM 2015, clients must also:
 - Appoint a CDM co-ordinator
 - Appoint a principal contractor
 - Make sure that construction work does not start unless a construction phase plan is in place and there are adequate welfare facilities on site
 - Provide information relating to the health and safety file to the CDM co-ordinator
 - Retain and provide access to the health and safety file

Outline Methodology

1. Temporary proprietary props to be installed on level 03, then level 04, then level 05 before any other works begin.
2. Following the installation of the temporary proprietary props, propping installation can begin at level B2.
3. Contractor to confirm Service Yard structural arrangement via exploratory core in proposed prop locations.
4. Propping is to be between structural concrete slabs at all levels. Openings in timber and concrete floors required to accommodate this. Contractor to confirm joint size, span and concrete upon opening up. Contractor to forward temporary support to mazzanine floor proposal.
5. Propping to begin at level B2 and extend to level 06, floor by floor in sequence from the bottom up. Install beamer beam on top of structural slabs, then props - in 2 or 3 pieces with bolted splice connections, then the insular beam.
6. Contractor to inform Design ID of any requirements to adjust set out dimensions of props.
7. Ensure a tight fit to the underside of the structural slab via hydraulic jack or grouted steel wedges - to be agreed with Contractor prior to start on site.
8. Contractor to submit RAMS per floor to project engineer for comment, prior to commencement on site.
9. Load cell gauges to be installed on all props on all levels. Contractor to co-ordinate with McFarland Associates.
10. Structural monitoring to be developed and agreed with McFarland Associates. Monitor existing cracks which appear new (in the last 6 months) throughout works. Additional props may be required above level 04 for the repair works, this is to be developed as part of the repair works design.
11. Contractor storage of materials not to exceed 1.5 kN/m².
- 12.

Note: Drawings are based on existing record information and should be confirmed by the Contractor onsite. Contractor should inform Design ID of any differences.



Key Plan - Column E2 highlighted to be propped.

Rev	Date	Issued By	Drawn/Checked
002	16/02/17	SE	Issued for construction
001	28/02/17	SE	For issue

Notes:

1. This drawing is to be read in conjunction with all other drawings and specifications.
2. All dimensions are in millimeters unless otherwise stated.
3. All dimensions are to be taken to the centerline of the member unless otherwise stated.
4. All dimensions are to be taken to the centerline of the member unless otherwise stated.
5. All dimensions are to be taken to the centerline of the member unless otherwise stated.
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Project	Structural Repair	Drawn By	Project Number
19037 <td>DID <td>ZZ <td>19037</td> </td></td>	DID <td>ZZ <td>19037</td> </td>	ZZ <td>19037</td>	19037
Drawing Title	Date Drawn	Scale	Sheet # of #
Project Notes	05/07/19	DR	1001
Subsidiary Description	Level	Type	Revision
A	ZZ	ZZ	1001
Issued for Construction	DR	S	P02

Design ID

Structural & Civil Engineers
 13 Main Street
 Hillsborough
 BT26 6AE

+44 (0)28 9285 1055
 mail@designid.co.uk
 www.designid.co.uk

Think | Design | Engineer

1:27.75
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NOTES
 1. ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED
 2. ALL DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED
 3. ALL DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED
 4. ALL DIMENSIONS TO FACE UNLESS OTHERWISE SPECIFIED

Defined Site

Shared Access

BELFAST CITY COUNCIL
 Building Control Service
 Approved

JUN 2008

Head of Service

NO.	DATE	DESCRIPTION
1	15/06/08	ISSUED FOR APPROVAL
2	15/06/08	ISSUED FOR APPROVAL
3	15/06/08	ISSUED FOR APPROVAL
4	15/06/08	ISSUED FOR APPROVAL
5	15/06/08	ISSUED FOR APPROVAL
6	15/06/08	ISSUED FOR APPROVAL
7	15/06/08	ISSUED FOR APPROVAL
8	15/06/08	ISSUED FOR APPROVAL
9	15/06/08	ISSUED FOR APPROVAL
10	15/06/08	ISSUED FOR APPROVAL

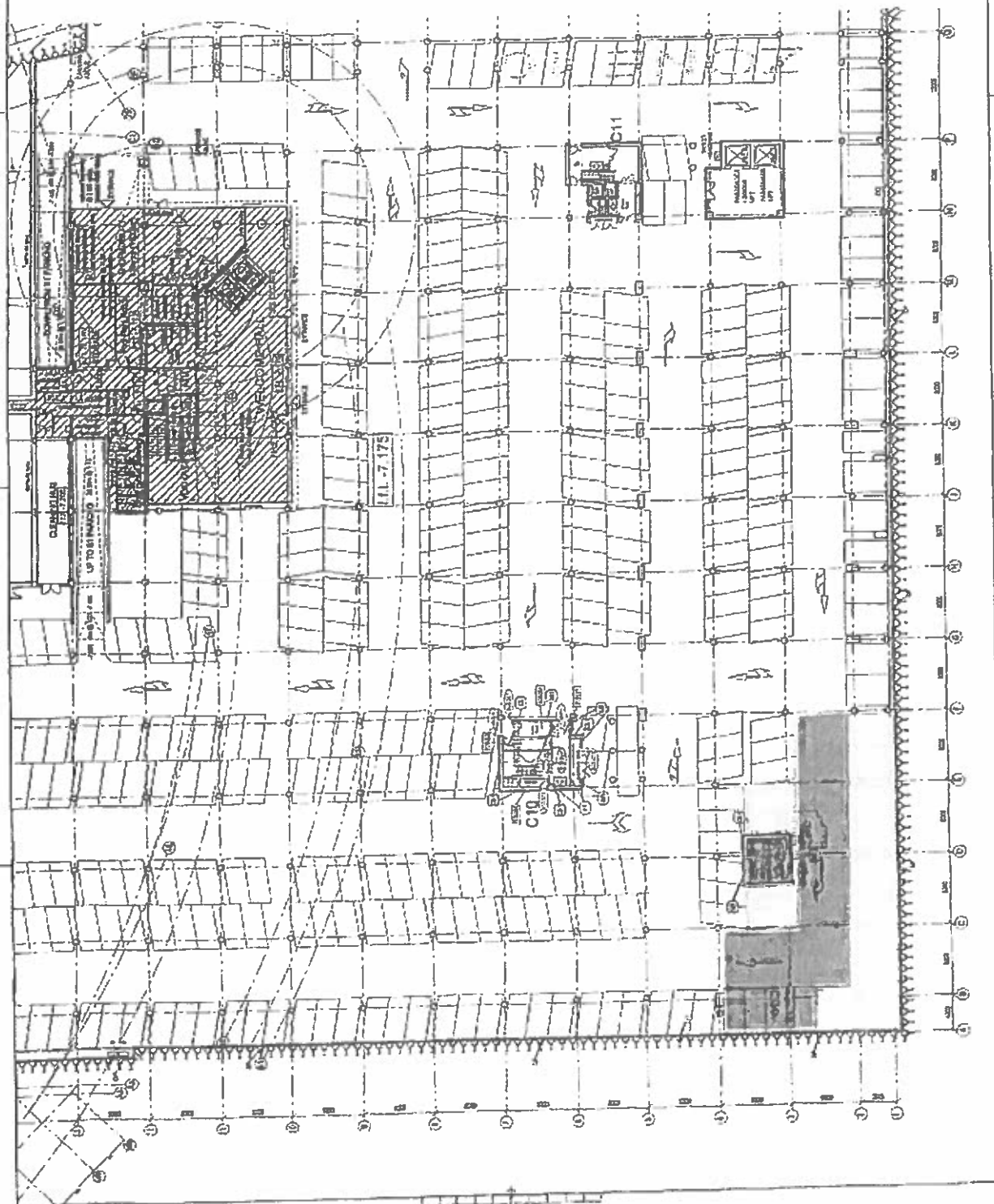


310
 All Development International BV
 T+T Design bv

BDP

Building Control
 Building Control
 Building Control
 Building Control

VICTORIA SQUARE
 DEVELOPMENT PROJECT
 COVER BASEMENT
 Wall, Door & Space Ref
 ZONE 20
 1:27.75
 1:27.75
 1:27.75
 1:27.75

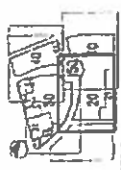


NOTES
 1. ALL WORK TO BE DONE IN ACCORDANCE WITH THE BUILDING REGULATIONS AND THE BUILDING ACT 2004.
 2. ALL WORK TO BE DONE IN ACCORDANCE WITH THE BUILDING REGULATIONS AND THE BUILDING ACT 2004.
 3. ALL WORK TO BE DONE IN ACCORDANCE WITH THE BUILDING REGULATIONS AND THE BUILDING ACT 2004.

Defined Site

BELFAST CITY COUNCIL
 Building Control Service
 Approved
 10/10/2018

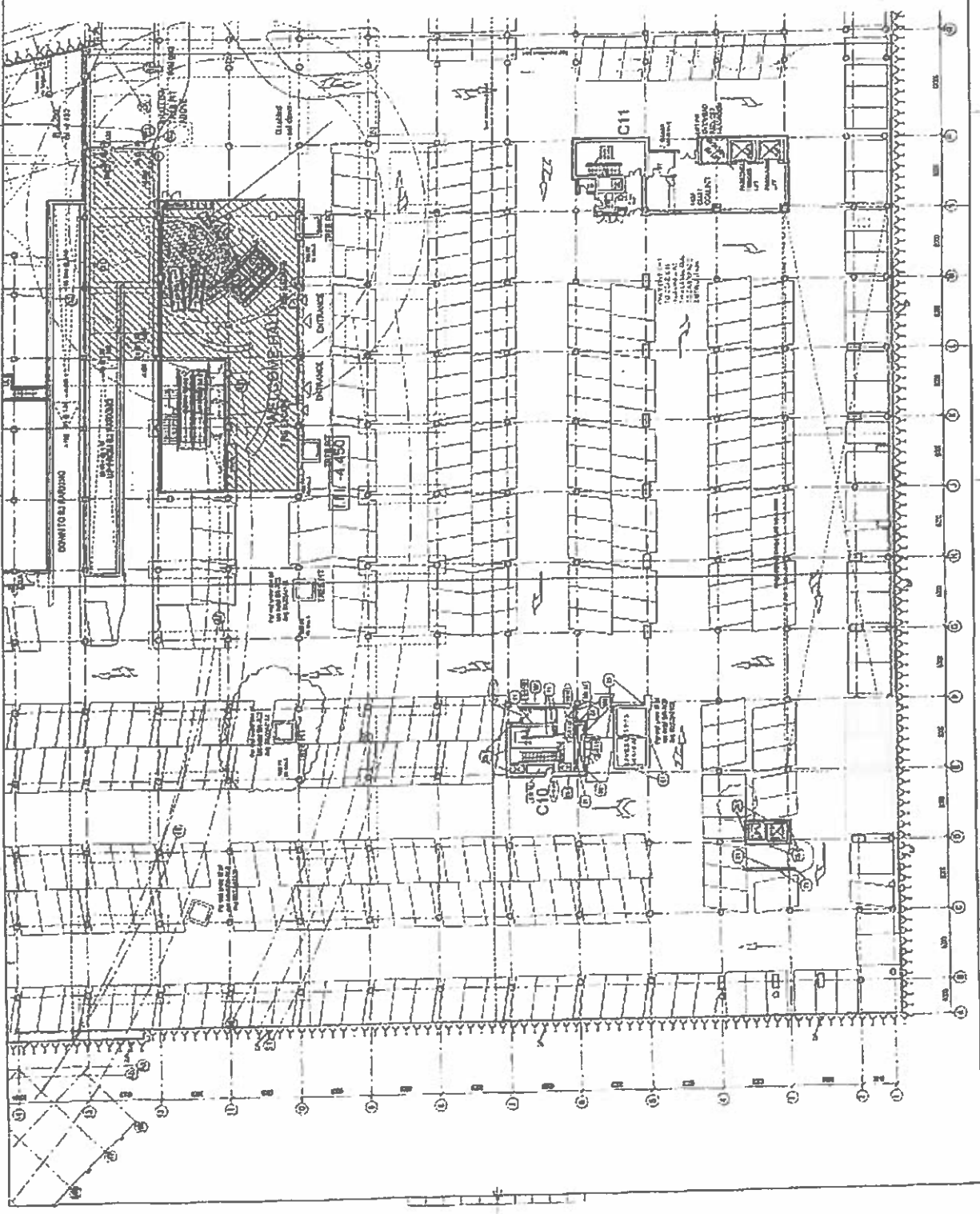
ARCHITECT
 T & T DESIGN LTD
 10/10/2018



AK development International BV
 T & T Design Ltd

BDP
 Building Design Partnership
 Architects, Engineers & Interiors
 10/10/2018

VICTORIA SQUARE
 DEVELOPMENT PROJECT
 UPPER BASEMENT
 Wall, Door & Space Ref
 ZONE 20
 24/1/18



NOTES

1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.

2. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.

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10. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.

Grated Deck

Shelving Racks



ART development international BV

1:1 Design by

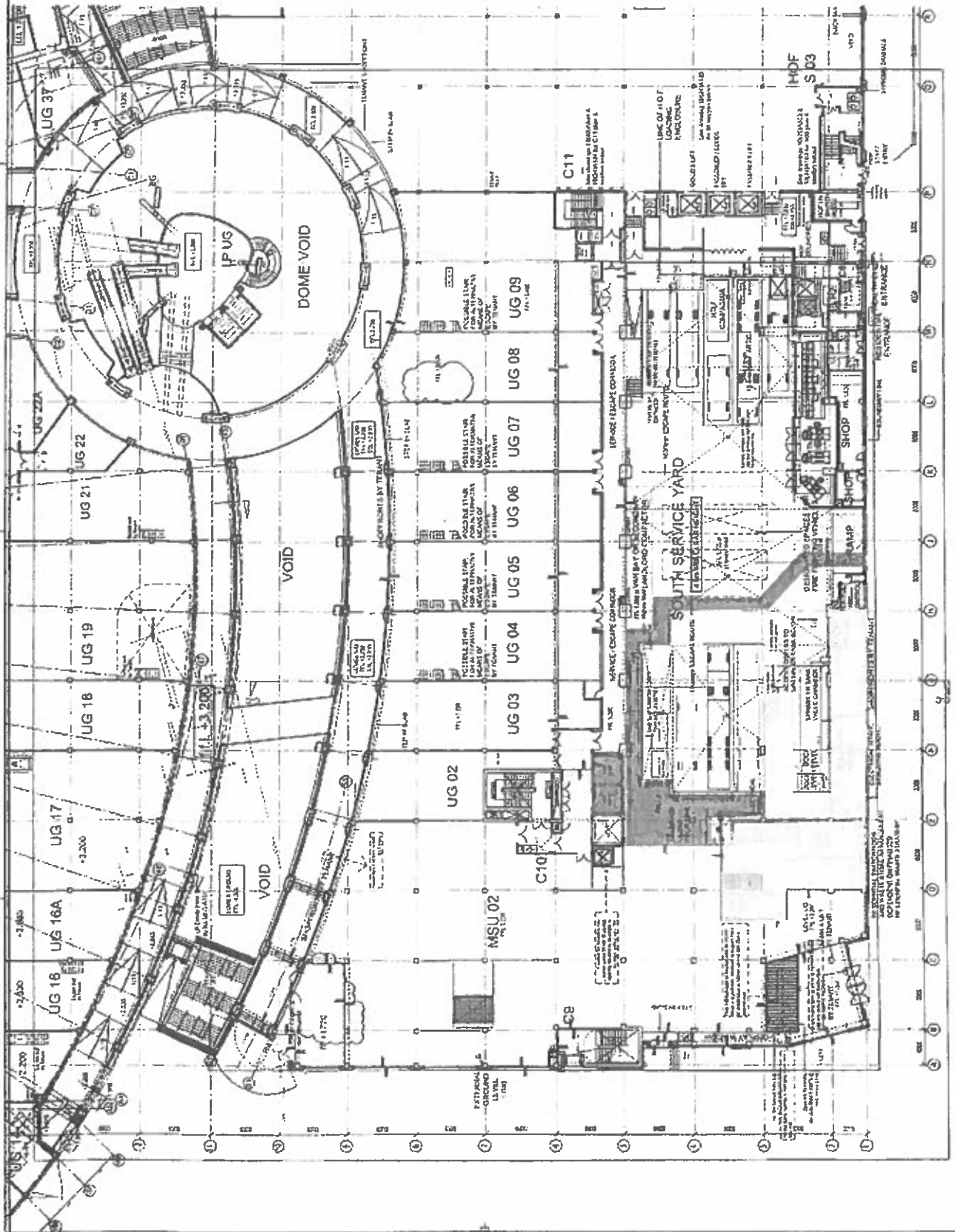
BDP

Building Design Partnership
 100 West 47th Street
 10th Floor
 New York, NY 10036
 Tel: +1 212 633 3300
 Fax: +1 212 633 3301
 www.bdp.com

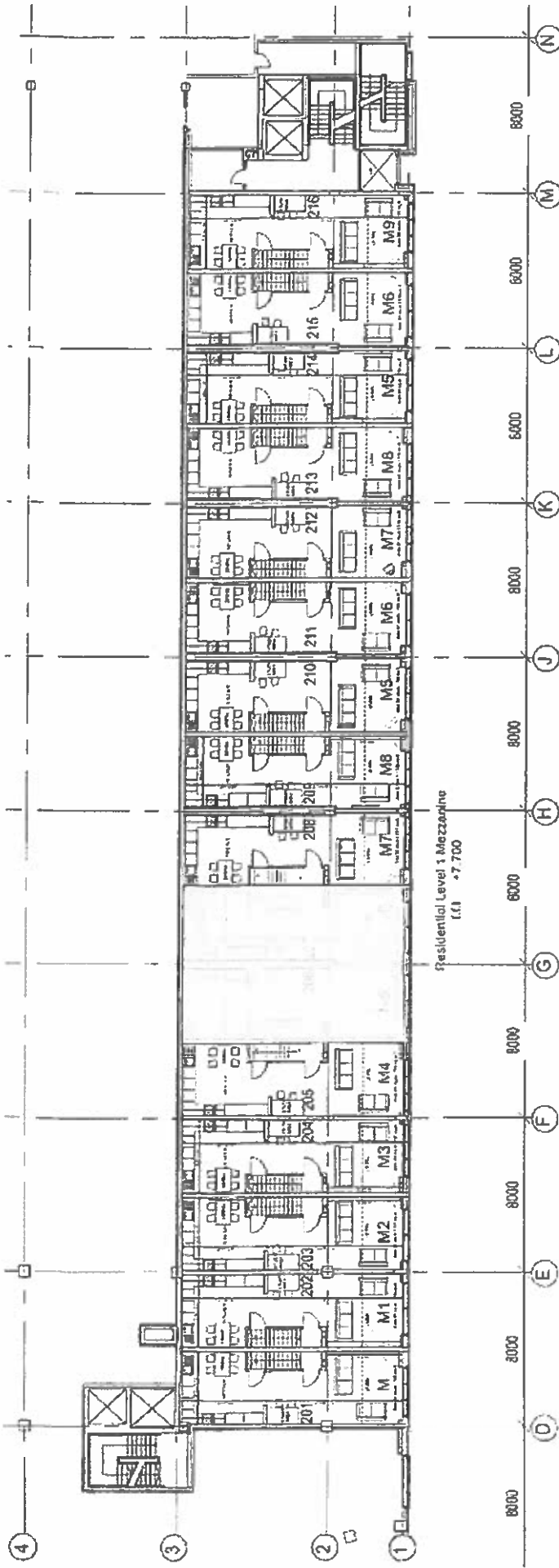
VICTORIA SQUARE
 DEVELOPMENT PROJECT

UPPER GROUND FLOOR
 ZONE 20
 RESI BOUNDARY
 VSS1000-EG-20UGZ02A13

2.11
 1:200
 14.08.04



The building is to be designed to meet the requirements of the International Building Code (IBC) 2018 Edition, with the exception of the provisions of the code that are specifically noted as being not applicable. The design shall be in accordance with the applicable provisions of the code and the provisions of the code that are specifically noted as being not applicable.



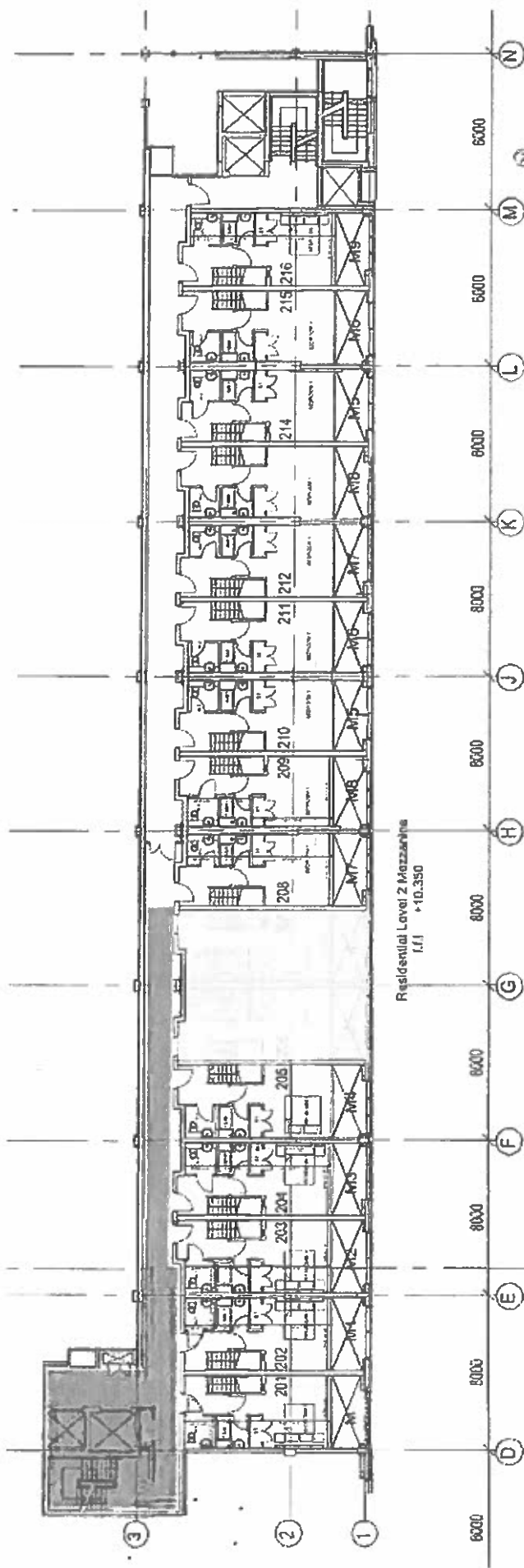
Residential Level 1 Merzazzanine
1.11 +7.700

RES/20 R01A.1701

Defined Access

White Ink
ARCHITECTS
100 Street, 4th Floor, New York, NY 10013
Tel: +1 212 512 1234
www.whiteink.com

Not to be used for construction without the approval of the
 Architect. All dimensions are in millimeters unless otherwise
 indicated. All dimensions are to the centerline of the
 member unless otherwise indicated. All dimensions are to
 the centerline of the member unless otherwise indicated.
 1:200



RES/20 R02/L1702
 Project:
 ELA 015 Mazzanine 2
 Architect:
 White Ink
 Date:
 2020/02/17
 Scale:
 1:200
 Sheet:
 RES/20 R02/L1702

Defined Site
 Shared Access

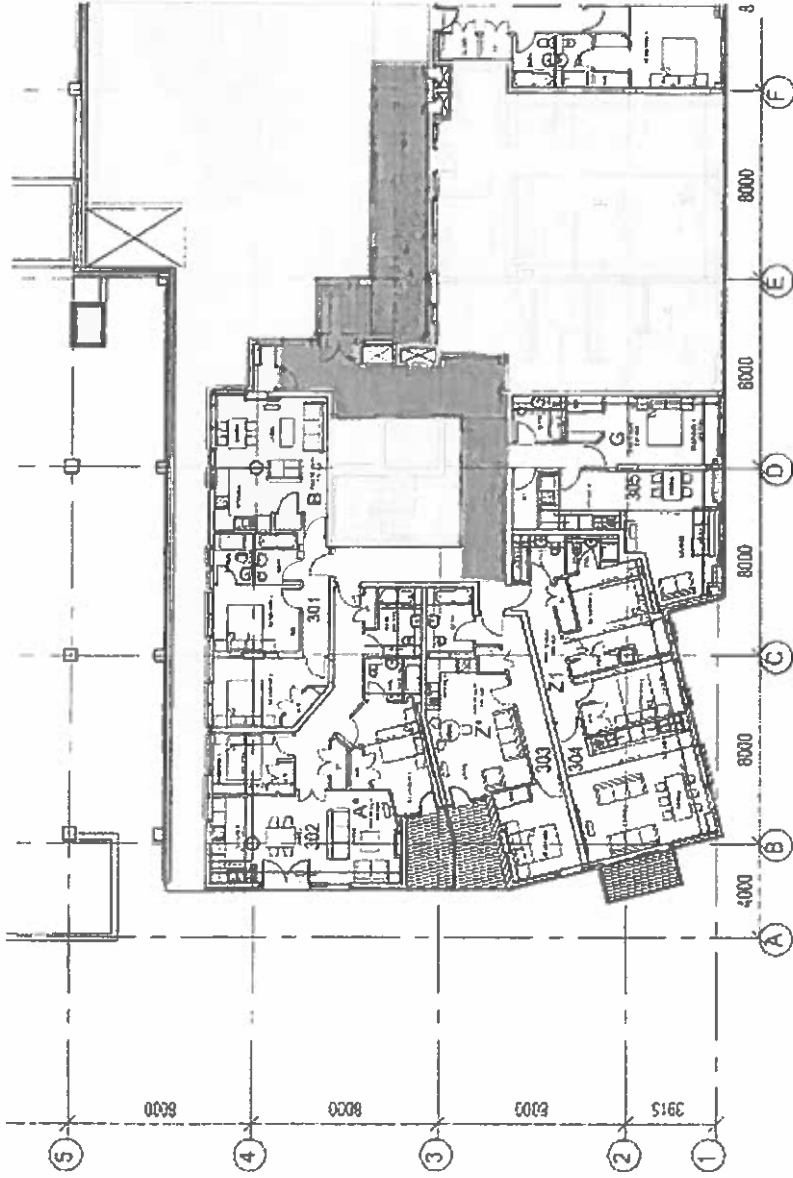
White Ink
 ARCHITECTS
 Via...
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Any of existing areas retained for approval by the...
 All work shall be in accordance with the...
 and is not to be construed as a warranty or...
 of any kind or type.

1:200

Defined Site

Shared Access



Residential Level 3 f.f.f. +13.325

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 ARCHITECTS
 11 Street View, London, UK
 www.whiteink.com

Project: 11 Street View, London, UK
 Architect: White Ink Architects
 Date: 2020

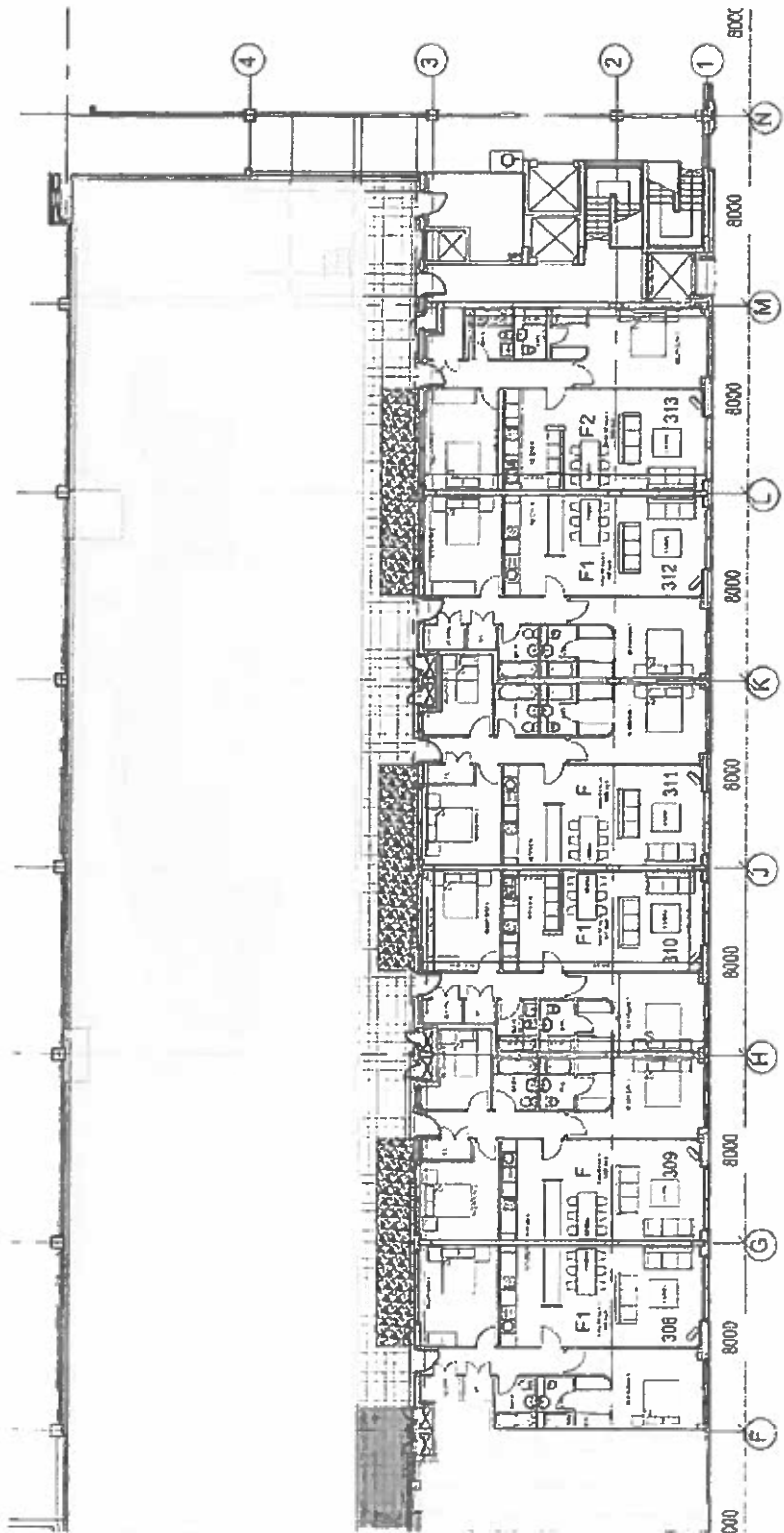
RESU20 R03/L1703A

White Ink
 ARCHITECTS
 11 Street View, London, UK
 www.whiteink.com

All work shall be in accordance with the approved plans and specifications. The contractor shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The contractor shall be responsible for coordinating with all other trades and subcontractors. The contractor shall be responsible for maintaining the site in a safe and secure condition at all times.

1:200

Defined Site
Shared Access



Residential Level 3 (F1) +13.325

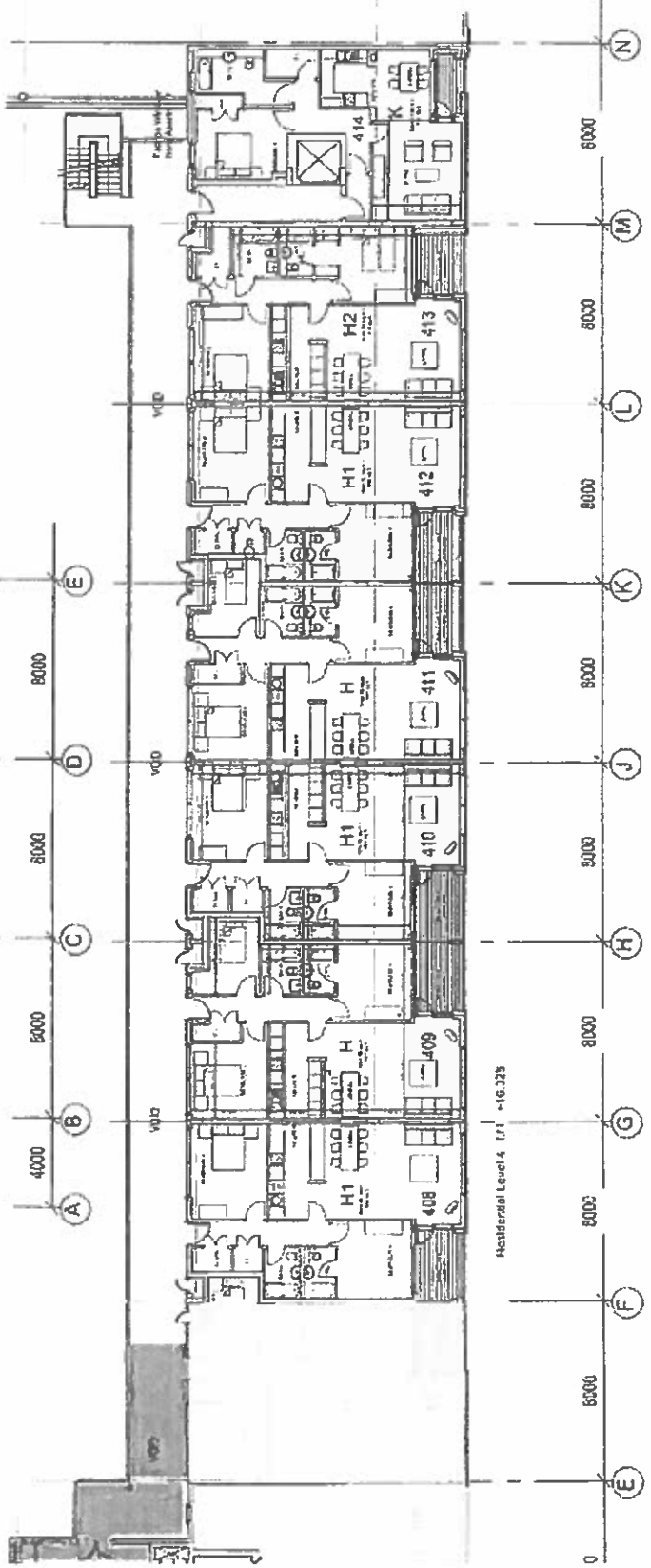
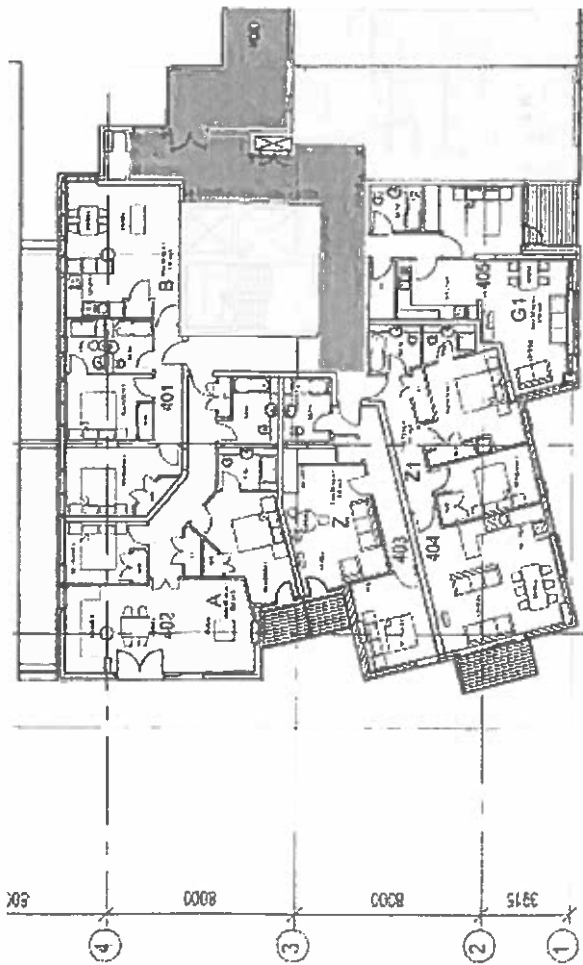
RES/20 R03/L1703B

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ARCHITECTS

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ARCHITECTS
1111 14th Street, Suite 1000
San Francisco, CA 94103
415.774.1111
www.whiteink.com

All spaces, areas, and rooms shown on this floor plan are intended to be used in accordance with the applicable codes and regulations. The architect and engineer shall not be responsible for any changes or modifications to the floor plan after the date of issuance.

1:200



RES/20 ROAD/1704

White Ink Architecture

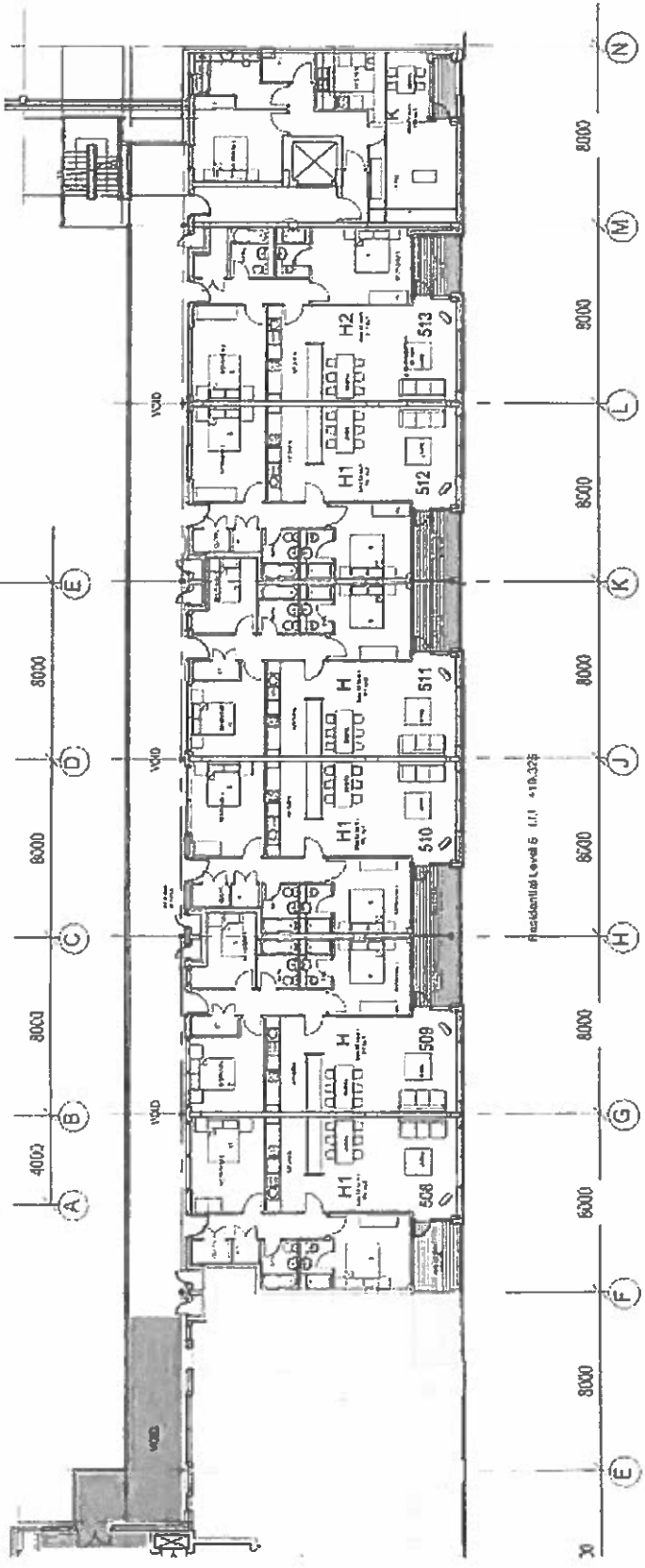
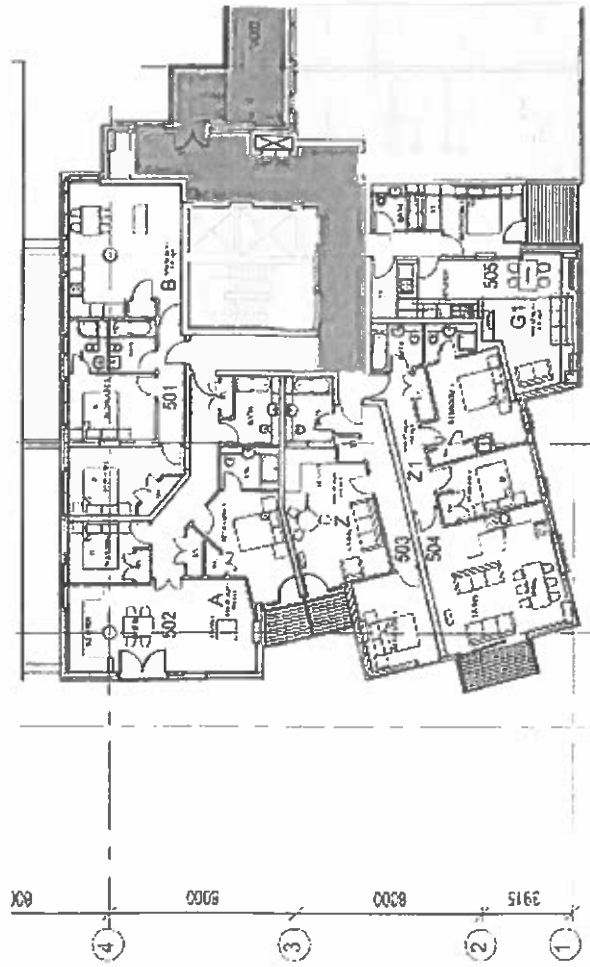
1111 16th Street, Suite 200
San Francisco, CA 94103
Tel: (415) 434-1704
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ARCHITECTURE

NOT TO SCALE
 ALL DIMENSIONS SHALL BE SHOWN TO THE CENTER OF THE LINE UNLESS OTHERWISE NOTED.
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 ALL DIMENSIONS SHALL BE SHOWN TO THE CENTER OF THE LINE UNLESS OTHERWISE NOTED.

Defined Site
 Shared Access



RESIDUAL LEVEL 5 (1:1) 118-325
 White Ink
 ARCHITECTS
 1100 15th Street, Suite 1000
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Appendix 6 - Design ID Phase 2 Structural Assessment (September 2019)

VICTORIA SQUARE APARTMENTS

PHASE 2 STRUCTURAL ASSESSMENT

19037-DID-ZZ-XX-RP-S-0003

Private & confidential. Legally privileged information contained herein.



Document Details

Project: Victoria Square Apartments
Title: Phase 2 Structural Assessment
Project Number: 19037
Document Reference: 19037-DID-ZZ-XX-RP-S-0003
Design ID Job Number: 19037
Date: September 2019
Current revision: P04
Suitability : S2
Suitability Description: Issued for information
Design Engineer: [REDACTED] Initial: LK
Checking Engineer: [REDACTED] Initial: ID

Revision	Description	Date Revised	Revised By	Checked By
P01	First Issue	30/08/2019	[REDACTED]	[REDACTED]
P02	Progress Update	10/09/2019	[REDACTED]	[REDACTED]
P03	Figure update	16/09/2019	[REDACTED]	[REDACTED]
P04	Summary pages added	18/09/2019	[REDACTED]	[REDACTED]

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REPORT OVERVIEW

Introduction

Victoria Square is a shopping and leisure complex located in Belfast city centre. There is also a residential aspect to the development, with over 100 apartments in the centre. The centre opened in March 2008. BDP were the designers, with Benaim designing the basement. The Contractor was a joint venture between Farrans Construction and Gilbert-Ash.

Design ID have been appointed by Victoria Square (Chichester Street) Residential Management Ltd. to complete a structural impact assessment following a partial failure of a column within the development.

Previous work carried out to date regarding the partial failure of the column includes the initial structural assessment (19037-DID-ZZ-XX-RP-S-0002), and the propping design, both the report and the drawings are included in the appendix.

Scope of the Report

Following the partial failure of a column, E2, present in apartments 406 & 407 on the fourth floor, this report was commissioned to:

- Full desktop structural review of the apartment building – reviewing original design and identifying any areas where the columns or slabs are highly utilised and have the potential to be at a high risk where a repair might have been carried out.
- Establish the structure which could have been impacted by the failure by way of load redistribution.
- Advise on the risk of potential further failures.

Location

The affected apartment block is highlighted in yellow in the aerial photo adjacent.



DESKTOP STUDY

DESKTOP STUDY

Historical Information – Design Criteria

The structure is classed as a Class 2B building as it is residential and does not exceed 15 storeys. Horizontal and vertical ties should have been provided to satisfy disproportionate collapse requirements.

Fire Resistance

Record information states that the apartment building structure has 2 hours fire resistance.

Concrete Grade

Slabs: C28/35
Columns: C40/50 (above ground)

Steelwork

Grade S275 and S355

Design Codes

BS 6399 Loadings for Buildings
BS 8110 Code of Practice for the Structural Use of Concrete
BS5950 Structural Use of Steelwork in Buildings

Cladding

Due to the limited record information available we have assumed the perimeter wall make-up is a 140mm block inner leaf and a 102mm outer brick leaf. We have assumed that this make-up is supported at every structural slab level based on the details found within the record information.

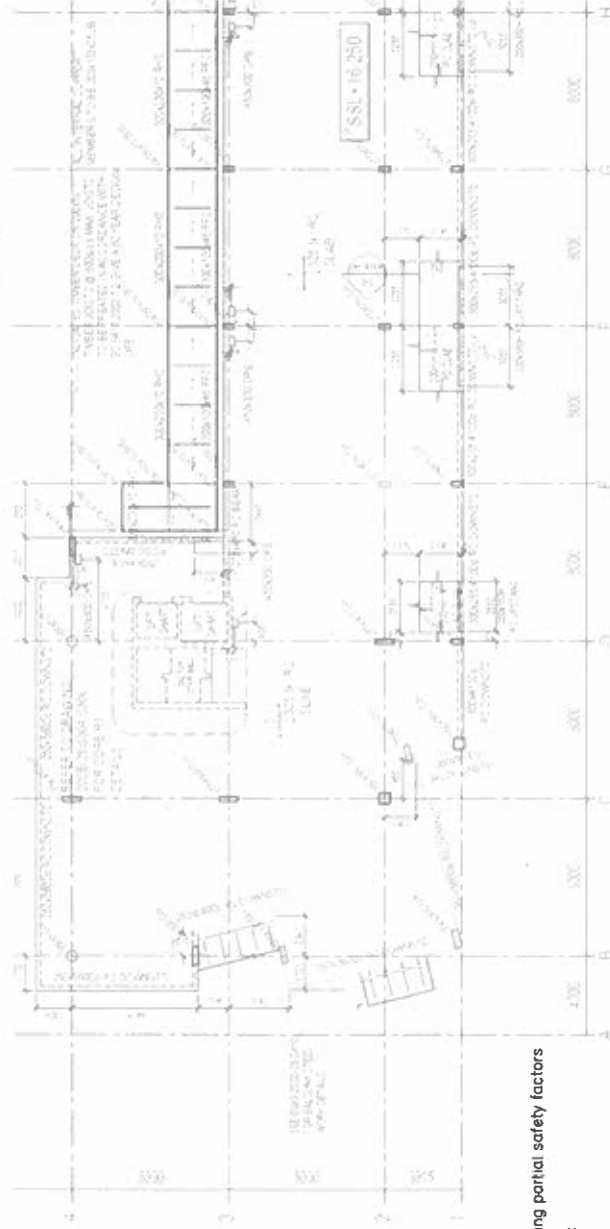
Design Loads

Generally the structure will be reviewed for the following loads, taken from record Building Control information, and assumptions made where information hasn't been available:

Imposed
General Roof Maintenance Access 1.5 kN/m²
Domestic areas: 1.5 kN/m²
Lightweight Partitions: 1.0 kN/m²
Plant areas: 7.5 kN/m²
UPS rooms: 7.5 kN/m²
Stair cases: 4.0 kN/m²

PROJECT REVIEW TEAM

ROLE	ORGANISATION	REPRESENTATIVE
Client	Victoria Square (Chichester Street) Residential Management Ltd.	Enmet McKeown (Johns Elliot Solicitors)
Project Manager	Loughran Associates	[REDACTED]
CDM	WH Stephens	
Structural Engineer	Design ID	
Structural Health Monitoring	McFarland Consulting	
Super Imposed		Cladding load- slab perimeter 15.5 kN/m
Ceiling services	0.25kN/m ²	215mm Backwork dividing walls 12.4 kN/m
75mm screed	1.8 kN/m ²	The screed load allowance was confirmed from the cores taken on site to allow prop installation.



Plan extract from record drawings highlighting column E2 location

Material Factors

In accordance with BS8110-1 the following partial safety factors for strength of materials have been used:

Reinforcement 1.15
Concrete 1.50

DESIGN APPROACH & ASSUMPTIONS

Design Approach

Based on the record drawings available we can see that the apartment block is a concrete framed building. The majority of the floor slabs are flat slabs. The slabs span a maximum of 8m onto reinforced concrete columns. Column sizes vary and typically increase in size for the lower storeys of the building. There are reinforced concrete core walls in the lift shafts and stairwells. It would be reasonable to assume the concrete cores provide stability to the type of building.

Finite Element Analysis was chosen to assess this structure due to the following points:

- The building geometry.
- The scale of the building.
- The various assessment stages to be reviewed.
- To allow us to carry out an accurate deflection assessment.
- To reduce the analysis time, as this would be a much more lengthy process by hand.

Design Tools

Listed below are the various programmes and methods used in the design review:

- Scia Engineer – 3D Finite Element Analysis
- MasterSeries – MasterColumn Element design
- TEDDS – Column Design
- Reinforced Concrete Council Design Spreadsheets – Column Design
- Excel – in-house developed column design spreadsheet.
- Hand calculations for verification.

Assumptions

Due to the age of the structure we have assumed that British Standards were used in the original design, therefore we will use the same codes for our assessment

We have assumed the imposed load (1.5 kN/m²), and the ceiling and services load (0.25 kN/m²) as this information was not contained within the available record information.

The blockwork dividing walls from level 03 upwards are non-structural walls, they have not been indicated on the structural drawings.

Assessment Stages

For clarity we have divided the assessment into stages as outlined below:

- Stage 1 – Full desktop structural review of the apartment building- reviewing original design and identifying any areas where the columns or slabs are highly utilised
- Stage 2 – Establish the structure which could have been impacted by the failure by way of load redistribution.
- Stage 3 – Advise on the risk of potential further failures.
- Recommendations, conclusions and further actions.



Street view highlighting approximate apartment demise

STAGE 1 - STRUCTURAL MODELLING

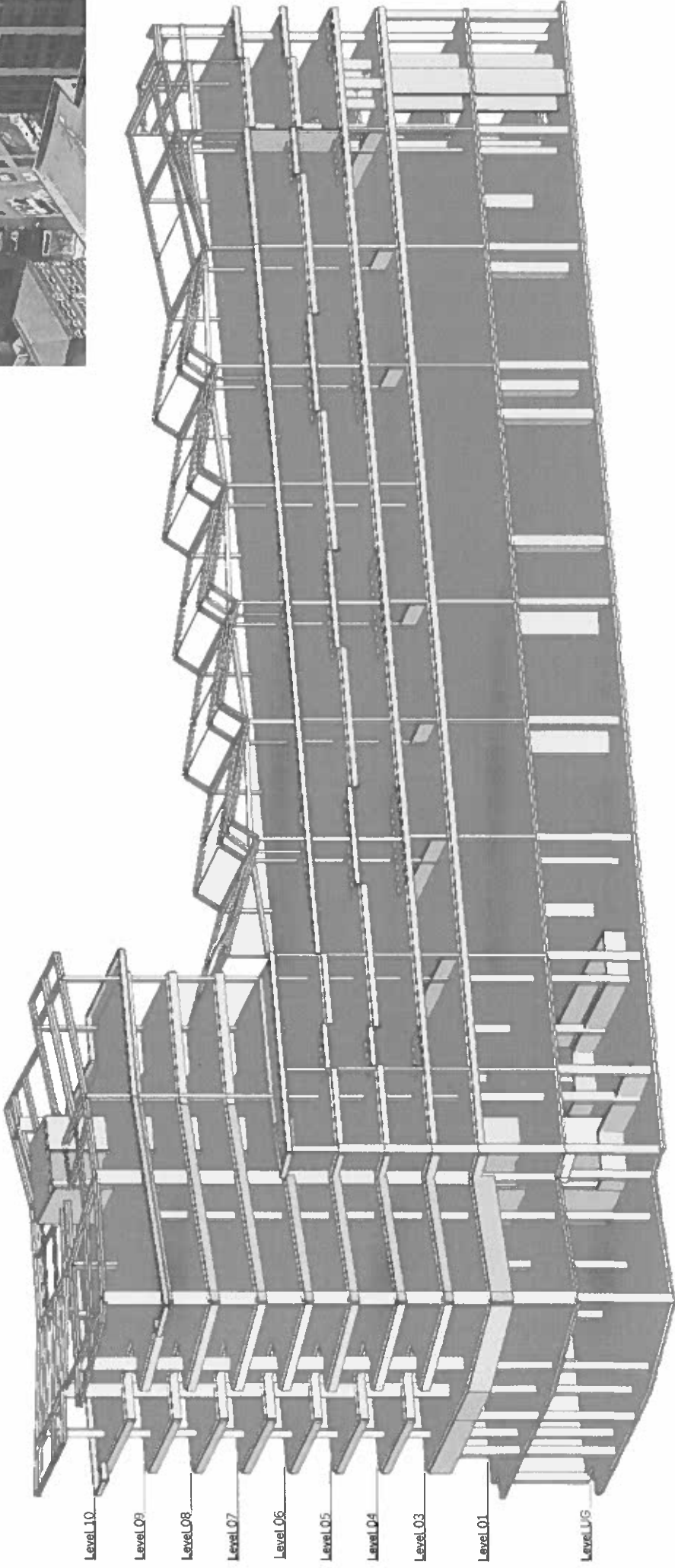
DESKTOP STUDY – 3D MODEL

Finite Element Analysis Model

Based on all the record information available for the structure, we built a 3D finite element analysis model. This model will allow us to assess the forces on all the columns within the apartment block. It will also allow us to examine the effect of the partial column failure at level 04.

The structure comprises of a reinforced concrete frame. There is a 10 storey portion on the corner of Chichester Street and Montgomery Street, with an adjacent 5 storey block. Both areas have a steel frame on the top storey.

The concrete frame generally spans a maximum of 8m x 8m, the floor slab is 325mm deep on all floors. The majority of floor slabs within the apartment block are flat slabs. There are a range of circular, rectangular and square column sections. Full fixity has been assumed for all columns section in the model.



3D finite element analysis model

TEMPORARY PROPPING

Propping Model

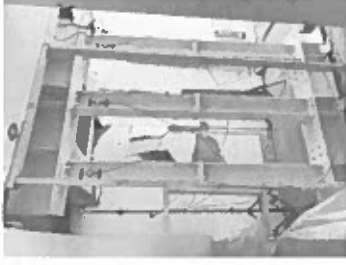
Previous to the instruction of this report, we were appointed to design the temporary propping. Propping around column E2 has been installed, and will remain in place until column C18.05 is repaired. The temporary props, comprising of Universal Column structural steel sections, have been modelled. The ground floor to level 05 props have been highlighted in the model extract below. It should be noted that the temporary propping extends to foundation level at B2.

The props have been designed and installed to allow for working space around column E2 level 04 (C18.05) to enable the column repair works to be carried out. The detail drawings for the propping arrangement at each floor level can be found in the appendix of this report. The props are installed touch tight, and grouted in place.

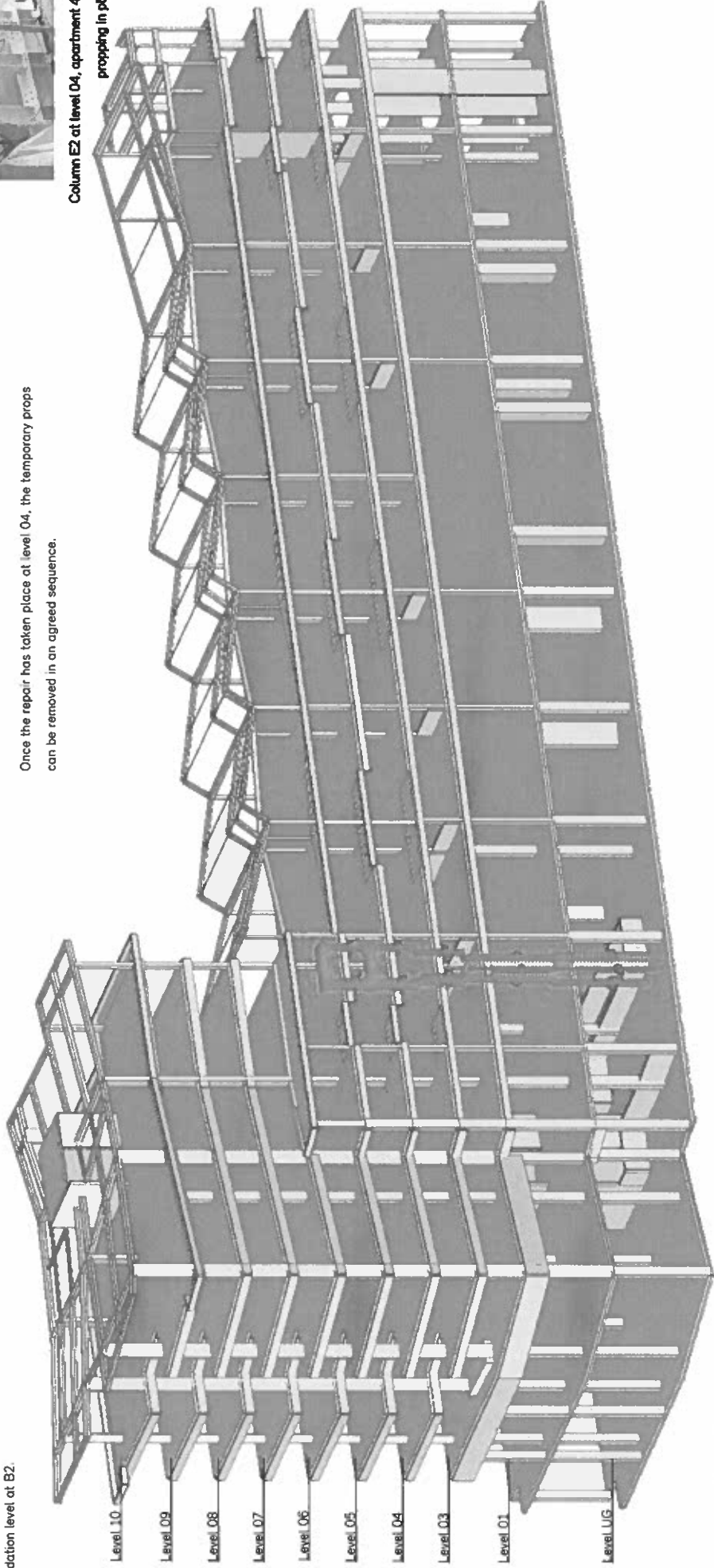
This model allows us to predict how the structure is reacting to the propping works. The model allow us to see how much load should be realised in each prop.

McFarland Consulting have installed strain sensors on all props and will provide axial load values for each prop. We can compare these to the model to see if the props are taking the load we expect at each location.

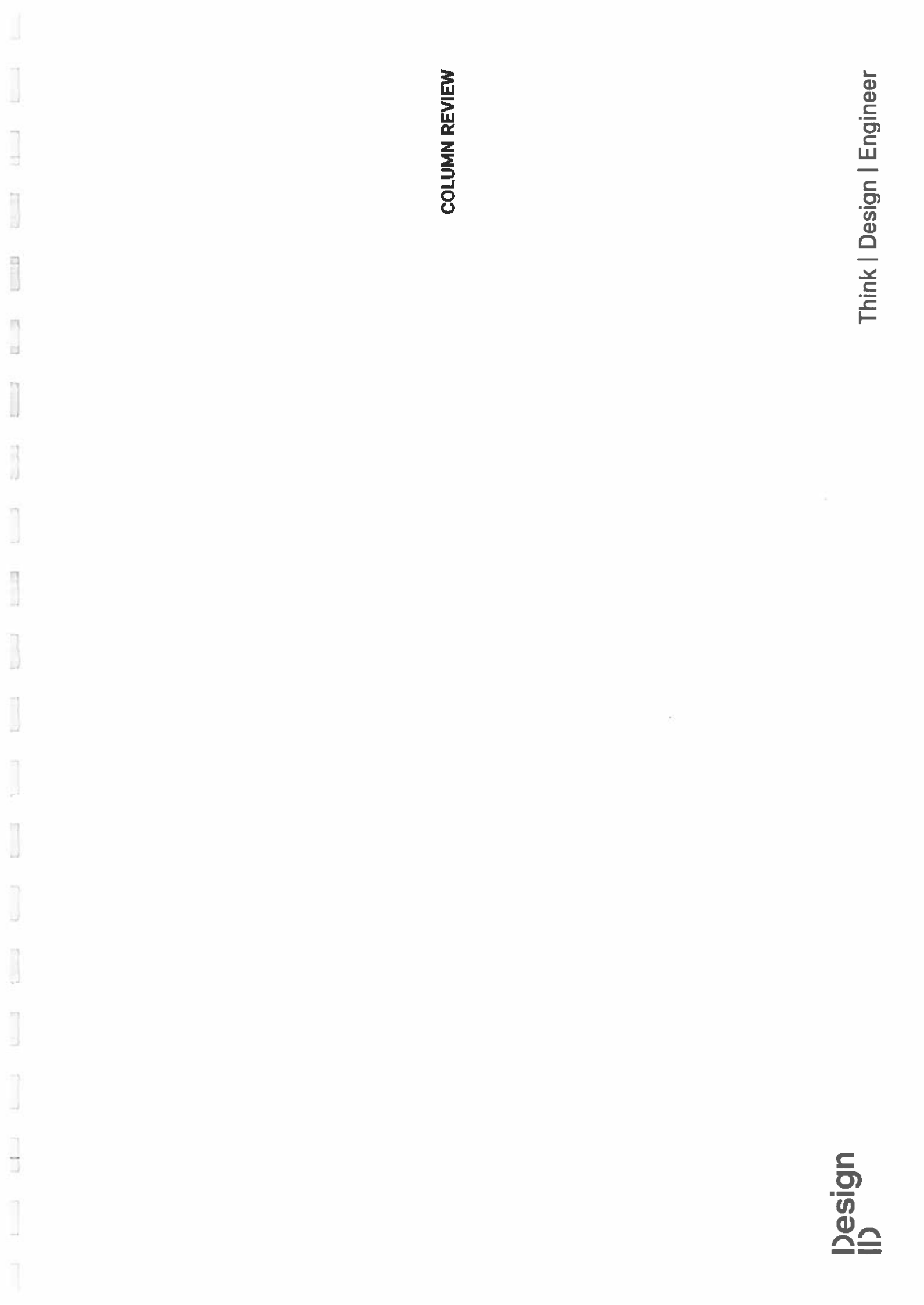
Once the repair has taken place at level 04, the temporary props can be removed in an agreed sequence.



Column E2 at level 04, apartment 406, propping in place



3D model showing highlighted temporary props



COLUMN REVIEW

COLUMNS TO BE REVIEWED

Apartment Block Demise

Head Lease Plans received from Johns Elliot were used to determine the number of concrete columns within the apartment block. The below extract from the finite element analysis model shows the columns to be reviewed. We have given each column section an identity, key plans can be found in the appendix of this report.

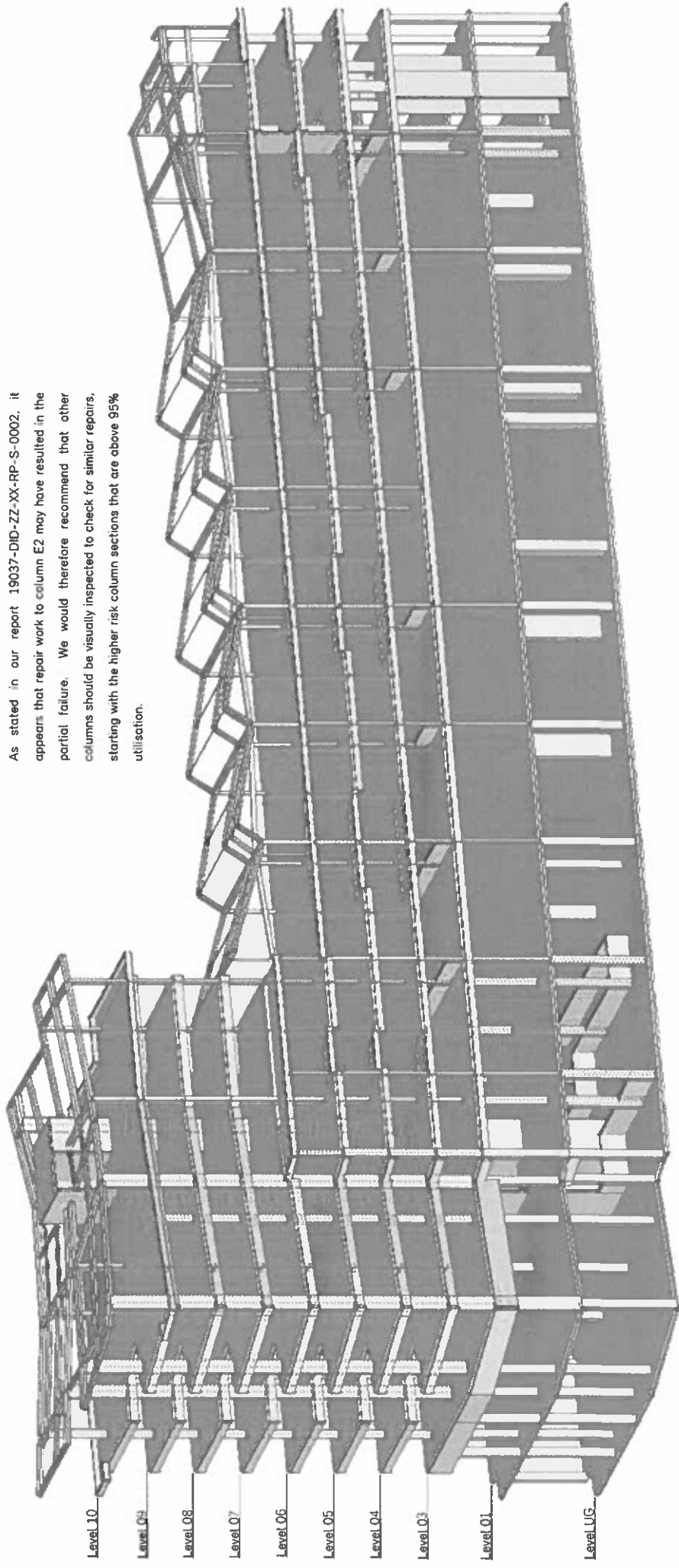
There are 207 column sections, spanning floor slab to floor slab, the forces for each section have been taken from our finite element analysis model and the design of each column has been reviewed.

The finite element analysis model load takeover has been verified by hand calculations.

The reinforcement drawings for all 207 column sections were reviewed, the relevant information extracted and used in our review of the column designs.

Any columns at 95% utilisation or above have been flagged in our calculations and a summary table has been included in this report.

As stated in our report 19037-DID-ZZ-XX-RP-S-0002, it appears that repair work to column E2 may have resulted in the partial failure. We would therefore recommend that other columns should be visually inspected to check for similar repairs, starting with the higher risk column sections that are above 95% utilisation.



3D model showing highlighted columns within apartment demise

COLUMN DETAILED DESIGN

Detailed Design Process

Further to the column design verification process we discovered most of the tools being used approached the column design differently. We investigated each process to ensure we were using the most suitable method for this project.

We found that the TEDDS column design to British Standards could only be used for square column sections, and was not suitable for rectangular columns with differing rebar arrangements.

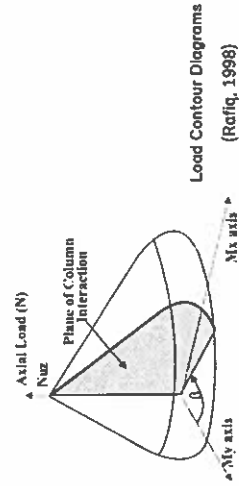
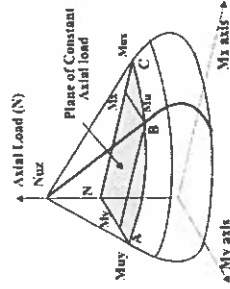
Typically, design to British Standards (BS8110-1: 1997) for biaxial bending in columns adopts the 'simplified approach' whereby 'symmetrically reinforced sections may be designed to withstand an increased moment about one axis.' (CL 3.8.4.5) and the column designed as uniaxial under the applied axial load and 'modified' moment, as below:

$$M_x h' > M_y / b', M_x' = M_x + \beta \frac{b'}{h'} M_y$$

$$M_x h' < M_y / b', M_y' = M_y + \beta \frac{h'}{b'} M_x$$

Simplified Increased Moment Equations (BS8110-1:1997)

The resisting capacity of the section can be conventionally estimated through simplified design charts for columns subjected to axial loads and uniaxial bending, given in BS8110-3:1985, or via more rigorous calculations as per BS8110-1 Cl.3.4.4.1.



The column interaction charts provide a design envelope for uniaxial bending about one axis at a time of a given column section, where the maximum design loading is dictated by the effect of axial load on the moment resistance, and vice versa.

It is possible to better approximate the capacity of the column to resist design moments about each axis simultaneously using the 'Load Contour Method', discussed by Rafiq, 1998, and adopted by Code of Practice CP 110. It should be noted that this approach has also been employed, but adapted, in the Eurocodes for the safe design of biaxially bent columns. Rafiq, 1998, states the "the load contour method must be used for checking the resisting capacity of columns sections", using the equation below:

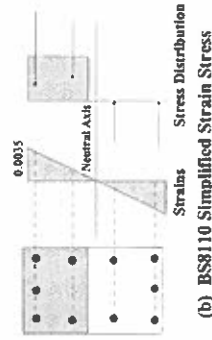
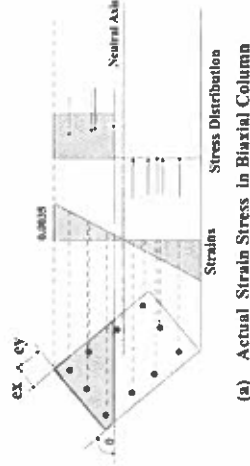
$$\left(\frac{M_x}{M_{rx}}\right)^2 + \left(\frac{M_y}{M_{ry}}\right)^2 \leq 1.0.$$

Load Contour Method Check Equation to CP110 (Rafiq, 1998)

This method can be visualised as shown below, where a 3D surface is approximated between the interaction chart of each column axis to estimate a maximum allowable axial load based on the design moments applied, and vice versa.

Structural design software such as MasterSeries employs more rigorous algorithms that can more accurately approximate the biaxial capacity of the column compared to simplified methods to BS8110-1:1997. Hence, MasterSeries (MasterColumn software) was consulted throughout the process for columns approaching or exceeding full capacity.

It is important to note that all methods provided different utilisation approximations due to differing design capacities of the sections, especially for elongated rectangular sections, and some engineering judgement is required to determine a suitable section size. With a degree of uncertainty in the design process, it may prove prudent to ensure some redundancy is provided in the design section capacities.



Stress Block Diagrams (Rafiq, 1998)

In summary, a three-part methodology has been used to assess the structural capacity of columns to resist their original and 'redistributed' design loading:

1. An in-house spreadsheet was developed, using similar methods to RCC spreadsheets, providing initial utilisations based on the Simplified Approach to BS8110-1:1997
2. The 'Load Contour Method' Check was adopted within the in-house calculations to ensure safety of design, with respective column utilisations.
3. RCCS3 Spreadsheets by The Concrete Centre, TEDDS by Tekla and, primarily, MasterSeries were consulted to assess biaxial column capacities and support results for columns exceeding 95% utilisation.

Based on this information presented, the 'Load Contour Method' check takes precedence over the simplified increased moment approach. All resulting column capacity information is based on this check.

References:

1. Rafiq, M.Y. and Southcombe, C., 1998. Genetic algorithms in optimal design and detailing of reinforced concrete biaxial columns supported by a declarative approach for capacity checking. *Computers & Structures*, 69(4), pp.443-457.
2. CP110, B.S.I., 1972. Part 1. *Code of Practice for the Structural Use of Concrete*, BSI, UK 497.
3. BSI, B.S., 8110-1: 1997. *Structural use of concrete-Part 1: Code of practice for design and construction*.

COLUMNS REVIEW SUMMARY

Column Utilisation

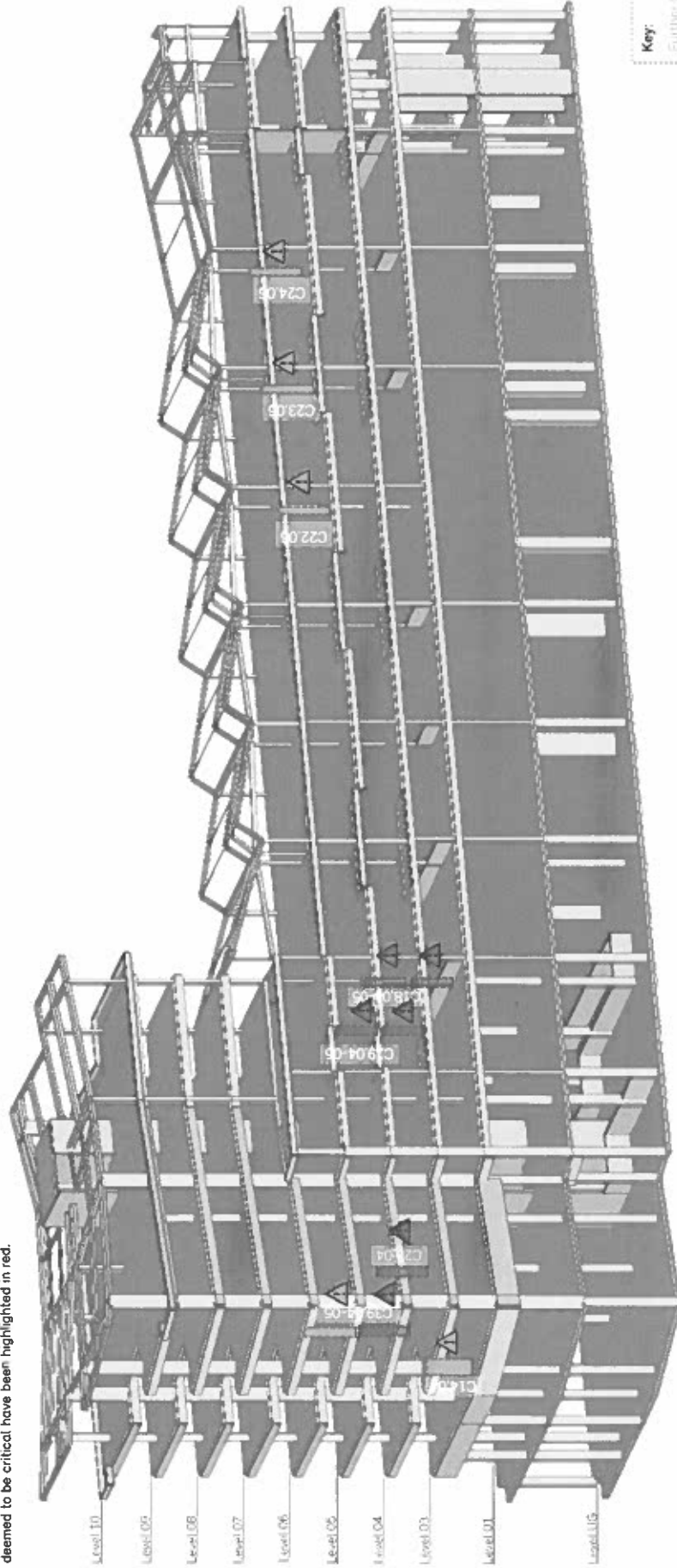
From our review of the column designs, under ultimate limit state forces, we have identified 11 no. column sections spanning floor slab to floor slab which are exceeding or approaching 95% utilisation according to our in-house calculations, as listed in the adjacent table.

These column sections which have been selected to be of concern and to further consider, have been highlighted in amber colour in the model extract below. Columns which have been deemed to be critical have been highlighted in red.

These columns have been similarly reflected in the key reference plans in Appendix A. The Client should consider strengthening works for these columns exceeding 95% utilisation.

It should be noted that the column that partially failed, E2 at level 04, identified as column C18.05, is quite considerably over capacity at both level 03 and 04 and therefore critical, as discussed in Page 13.

Columns shown in magenta in the 3D below are approaching 95% utilisation. Their percentage utilisation can be seen in the following slide.



3D model showing highlighted columns above 95% utilisation under original design load

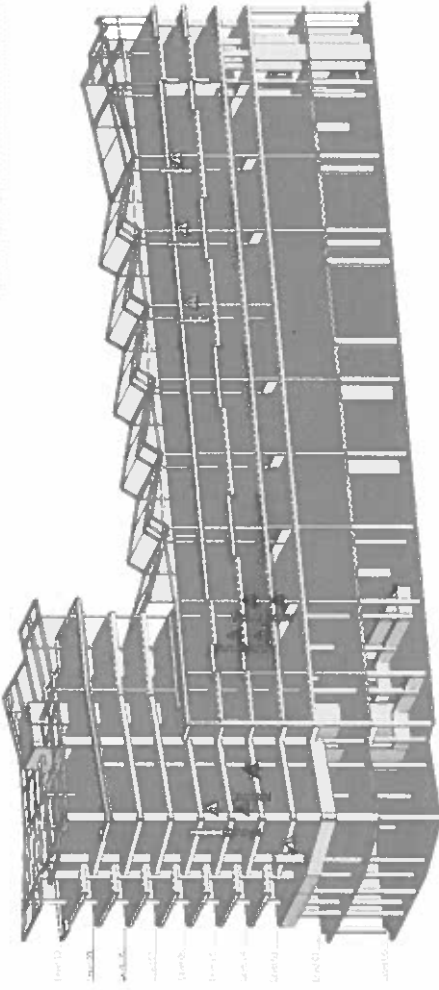
Columns Exceeding Design Capacity

C14.04	
C18.04	
C18.05	
C22.06	
C23.06	
C24.06	
C28.04	
C29.04	
C29.05	
C39.04	
C39.05	

Key:
 Further Consideration required
 Critical

COLUMNS REVIEW SUMMARY

Column Utilisation Envelope



Key:

- ▲ Further Consideration required
- ▲ Critical

3D model showing highlighted columns above 95% utilisation under original design load

Column sections found exceeding 95% utilisation during initial checks have been highlighted in amber colour in the adjacent table and noted for further review. Columns which have been deemed to be over-utilised and therefore 'critical' have been highlighted in red. It is recommended that these columns be considered for propping and remedial works immediately.

Columns which have been denoted as requiring further consideration have been found to be greater than 95% utilisation according to Method 1 calculations but not necessarily over capacity according to further Method 3 (MasterSeries) calculation checks. These utilisations may be presented as a design envelope (see Figure to right), where engineering judgement is required to definitively state which columns require remedial work.

Three key points are shown on the utilisation envelope: Axial only utilisation, which is only one aspect of the design checks, however, as the design must allow for design moments encountered.

There are a number of methods of checking design moments and particularly where bi-axial moments are concerned. The Load Contour Method discussed is common practice, but in some cases may provide less accurate bi-axial utilisations when compared to the design method employed by MasterSeries, which is the third point within the design envelope. For example, the Load Contour Method cannot be employed where the column fails under axial load, denoted as ' $N > N_{ax}$ ' in the adjacent table. Columns marked as 'critical' are found to be beyond design capacity by all software checks, while the remainder of columns are potentially justifiable, but require further detailed analysis, paying cognisance to the following:

- Factors of safety may have prevented failure
- There is a risk of construction defects in the remaining columns
- To date, live load reduction to BS 6399-1 clause 6.2 has been deemed inappropriate and excluded

Column Reference	Axial Load (kN)	Ultimate Axial Capacity (kN)	Design Moment, Mx (kNm)	Design Moment, My (kNm)	Axial only Utilisation	Check 1	Check 2	Check 3
C14.04	6102.8	6991.9	99.3	290.1	88.5%	159.7%	89%	Bi-axial Moment Utilisation - MasterSeries
C14.11	134.0	6991.9	98.9	269.0	1.9%	94.3%	47%	
C18.04	5154.1	5089.5	174.3	55.4	96.6%	$N > N_{ax}$	131.7%	
C18.05*	4147.4	4143.1	140.0	44.6	96.6%	$N > N_{ax}$	165.7%	
C21.06	1189.3	3267.8	243.0	12.8	37.5%	93.5%	86.8%	
C22.06	1202.4	3267.8	252.2	12.9	36.1%	97.6%	92.1%	
C23.06	1167.4	3267.8	262.6	12.5	35.1%	102.6%	96.0%	
C24.06	1361.6	3267.8	268.0	28.1	40.9%	114.3%	98.4%	
C28.04	6748.9	6991.9	73.4	92.8	94.6%	> 200%	135.4%	
C29.04	4520.6	5089.5	234.7	48.6	84.7%	> 200%	141.4%	
C29.05	3721.1	4143.1	206.7	40.0	86.7%	> 200%	169.8%	
C39.04	7334.9	6991.9	54.0	100.9	102.8%	$N > N_{ax}$	168.1%	
C39.05	6317.4	6991.9	44.1	86.9	88.5%	116.3%	58.9%	
C40-1.10	256.3	7023.8	92.8	367.8	30.6%	125.2%	73%	

* Note Column C18.05 refers to the column that partially failed on site.

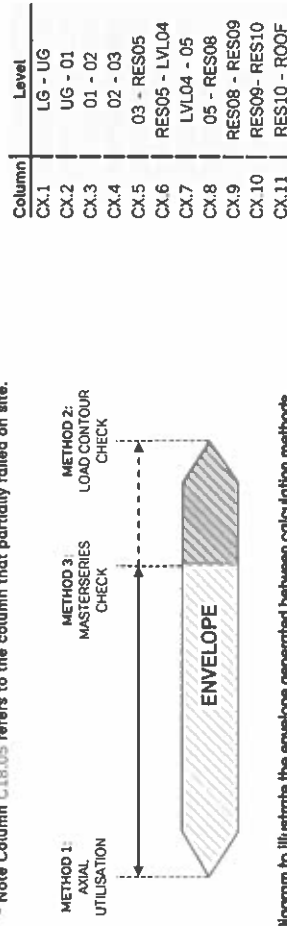
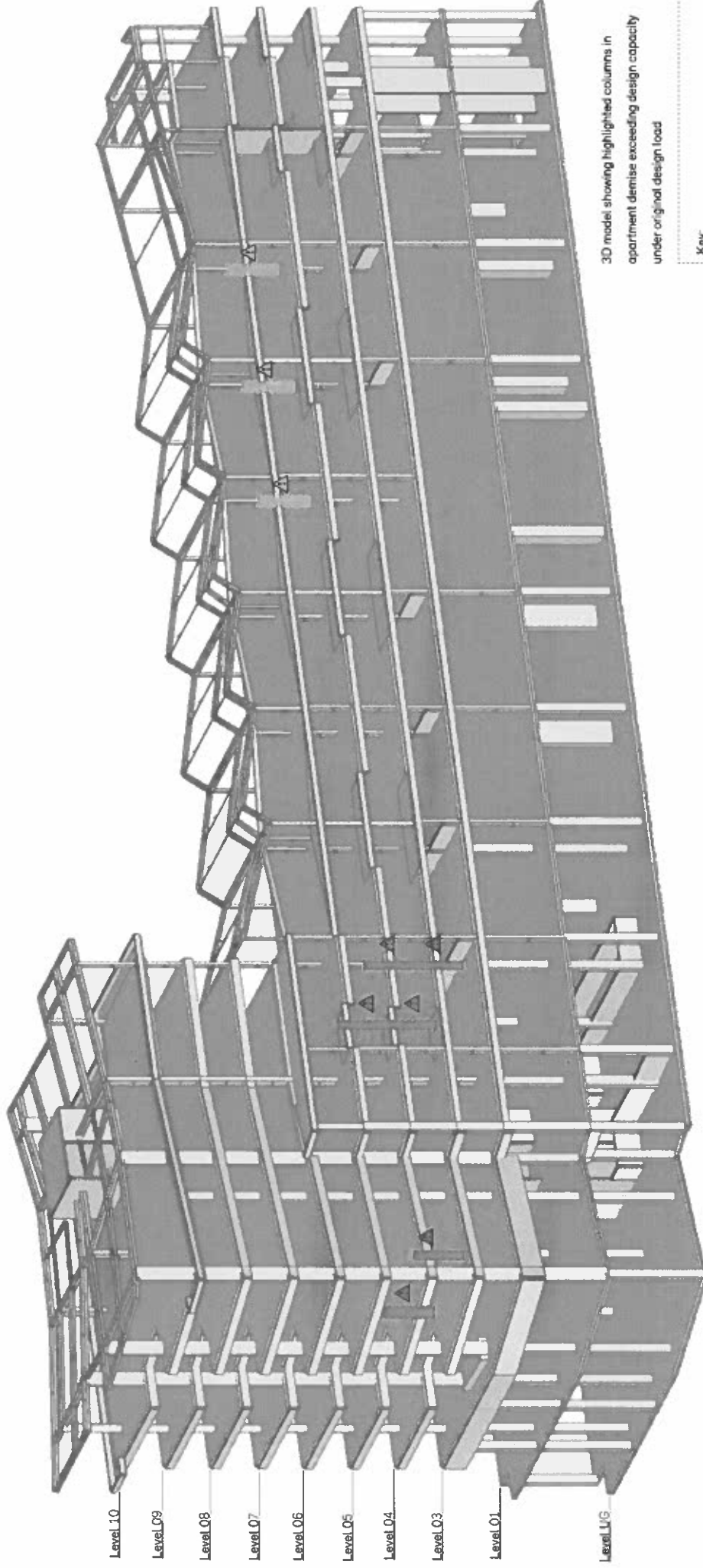


Diagram to illustrate the envelope generated between calculation methods

STAGE 1 SUMMARY - ORIGINAL DESIGN REVIEW



3D model showing highlighted columns in apartment demise exceeding design capacity under original design load

Key:

- Columns highly utilised
- Columns identified as critical

STAGE 2 - LOAD REDISTRIBUTION

COLUMN E2 – LEVEL 04

Load Redistribution Model

Column E2 at level 04 (C18.05), dimensions 215 x 610 mm, has been highlighted in the below image from our finite element analysis model. This is the column that has partially failed and been propped in the interim.

The adjacent photograph shows column E2 at level 04 (C18.05) prior to prop installation. It is believed that column E2 partially failed due to apparent repair work with a non structural repair product, this should be confirmed by testing by others.

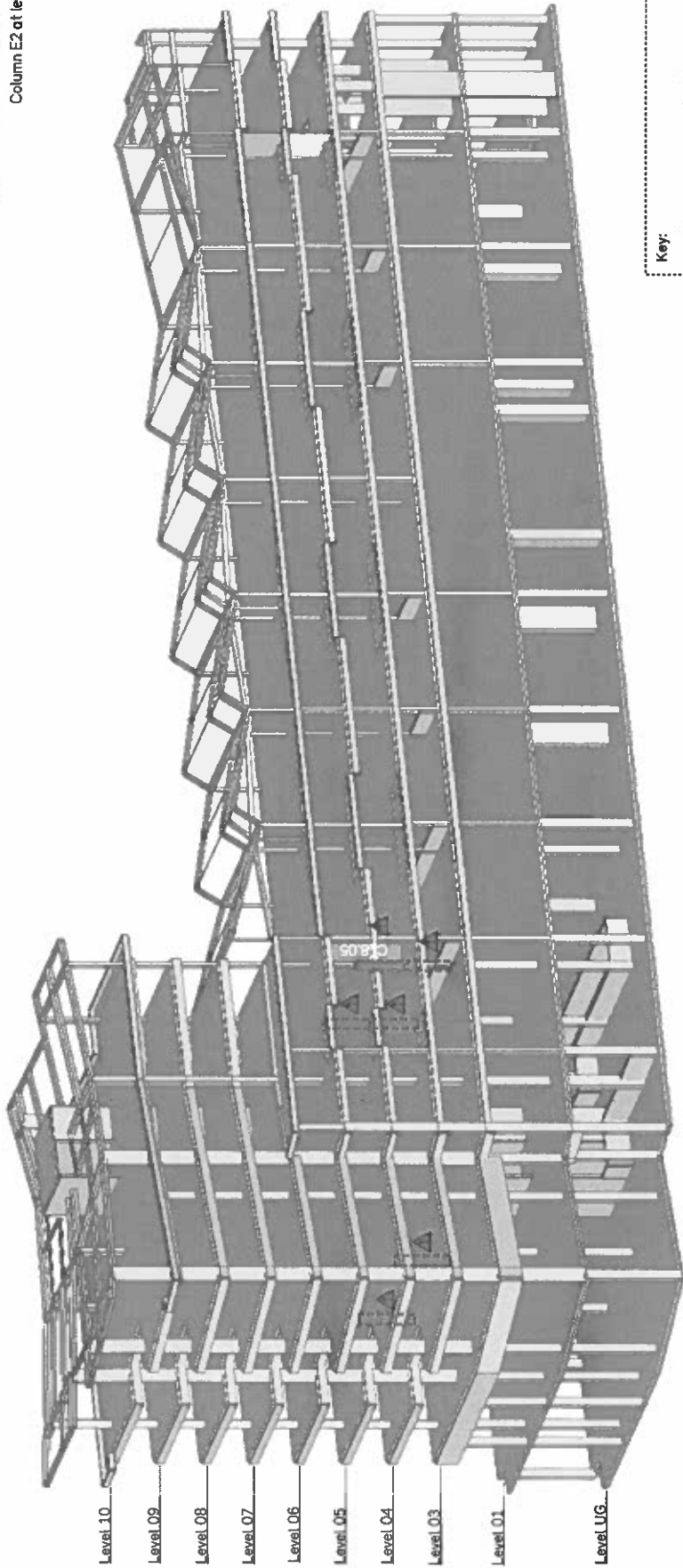
From site measurements we can see that the column cross section is greatly reduced in the middle third of the column, to approximately half or less of the intended cross section. The effect of reducing the width of the section of structural concrete was studied and it was estimated that that column would begin to fail, under serviceability loading, when the concrete section reduces to approximately 165 x 610 mm, with original arrangement of reinforcement.

Due to the undefinable capacity of this column currently, we have removed this column section from the analysis model to safely assess the load redistribution.

Removing column E2 at level 04 (C18.05) entirely from the model will give us the worse case load redistribution. The dividing block walls have not been modelled as these were not intended to be structural load bearing walls in the original design. It is likely the dividing block walls on gridline E are now carrying additional load due to the partial failure and redistribution.



Column E2 at level 04, apartment 406



3D model showing highlighted column C18.05

LOAD REDISTRIBUTION

Load Redistribution Effect

As previously described, we have removed column E2 at level 04 (C18.05) from our finite element analysis model. From this analysis we can see that 21 no. columns in the apartment block demise are now carrying more load than the original design would have intended.

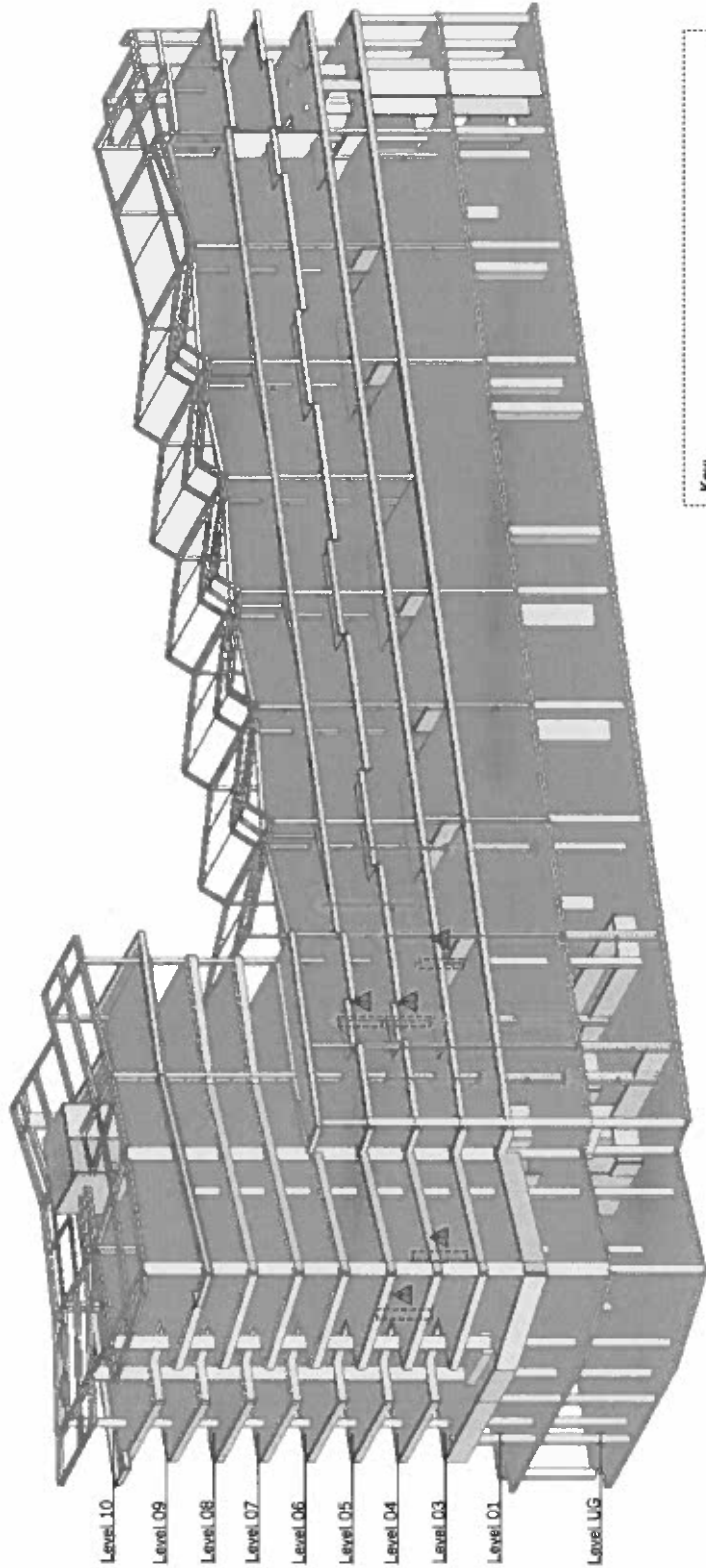
The extract from the model below shows the columns that were adversely affected by the load redistribution, these columns are concentrated around the immediate E2 area.

The summary table adjacent lists the columns affected and the percentage increase of load from their original design load due to the redistribution.

We can see from the model and the table that the columns adversely affected by the potential load redistribution are one structural bay either side of column E2.

The next step of our review is to check the column design of these 21 column sections and determine their utilisation due to load redistribution.

We also reviewed the load redistribution effect on the concrete core- the double lift shaft and stairwell that runs from basement to roof. The additional load transferred to the core via redistribution is negligible.



3D model showing highlighted columns in apartment demise affected by redistribution

Load Redistribution	
Column	% Increase in Axial load from design load
C04.02	4.7%
C04.03	5.1%
C04.04	4.7%
C05.02	42.7%
C05.03	52.5%
C05.04	102.1%
C05.05	188.7%
C06.03	2.5%
C17.02	13.0%
C17.03	15.7%
C17.04	19.2%
C17.05	24.1%
C19.03	11.6%
C19.04	16.9%
C19.05	27.4%
C29.02	11.6%
C29.03	14.8%
C29.04	21.8%
C29.05	27.8%
C30.04	1.3%
C30.05	1.6%

LOAD REDISTRIBUTION

Load Redistribution Column Capacities

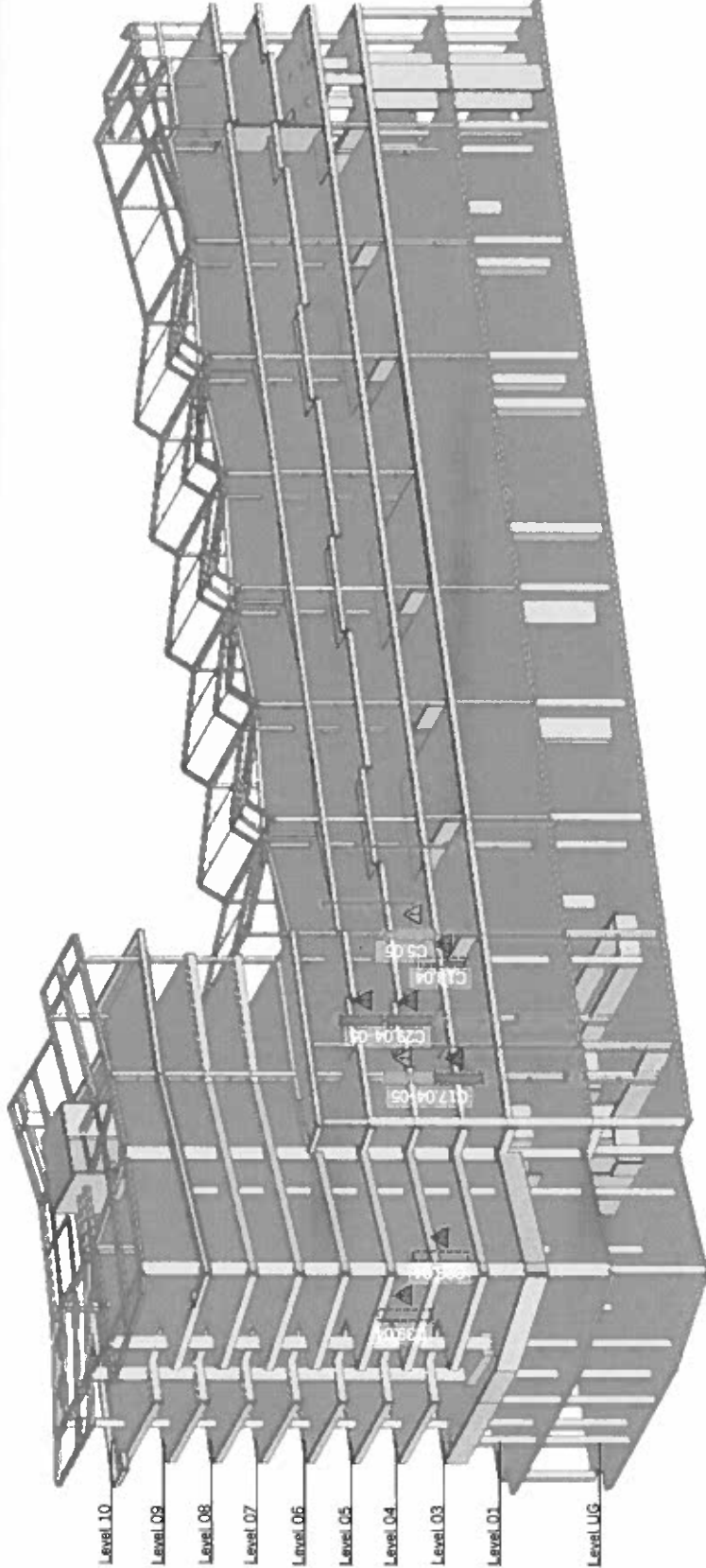
We have checked the design of the 21 no. column sections spanning between floor slabs under the increased load due to the redistribution.

The adjacent table shows if the column sections exceed design capacity before and after load redistribution. We can see that the majority of the columns affected by the redistribution of load are still within capacity. The utilisation of all of the sections has increased. 5 no. sections are exceeding design capacity as per the in-house biaxial moment capacity checks. Check 3 shows 3 no. columns are over capacity.

*It should be noted that 2 sections were already above 100% utilisation, according to in-house calculations, before the partial failure of column E2 at level 04 (C18.05). The additional load due to the redistribution has increased the utilisation further and these columns are now at higher risk due to the redistribution. Of which, columns C29.04 and C29.05 previously being identified as 'critical'.

As previously advised under the original design load utilisation review, these 5 no. sections should be strengthened. The strengthening works will be designed for the redistributed forces where applicable.

Column Affected	Column Capacity		Check 1 Axial only Utilisation	Check 2 Bi-axial Moment Utilisation - Calculations	Check 3 Bi-axial Moment Utilisation - MasterSeries
	Exceeds Original Design Loading	Exceeds Redistributed Loading			
C05.05	X	X	50.1%	94.2%	88.0%
C17.04	X	✓	96.2%	> 200%	152.0%
C17.05	X	✓	85.5%	125.9%	64.8%
C19.03	X	✓	82.4%	161.5%	79.5%
C29.04*	✓	✓	103.2%	N > Nu2	110.6%
C29.05*	✓	✓	110.8%	N > Nu2	> 200%

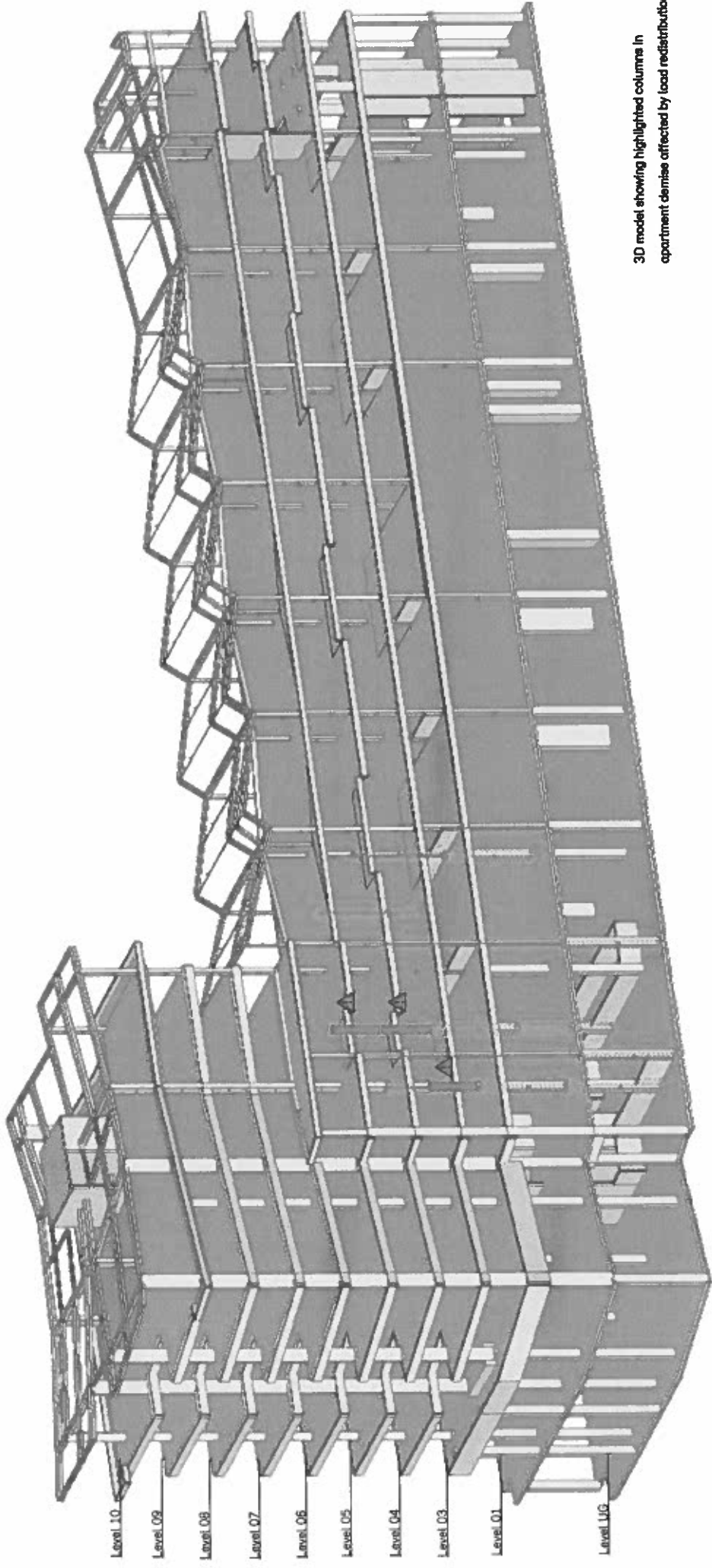


3D model showing highlighted columns in apartment demise exceeding design capacity due to redistribution.

Key:

- Previously Identified as Critical
- Columns Affected by Load Redistribution
- Columns Identified for Further Consideration Upon Load Redistribution
- Columns Identified as Critical Upon Load Redistribution

STAGE 2 SUMMARY – LOAD REDISTRIBUTION



3D model showing highlighted columns in apartment demise affected by load redistribution

Key:

- Columns Affected by Load Redistribution
- Columns Identified as critical





STAGE 3

RISK OF POTENTIAL FURTHER FAILURES

Pre and Post Load Redistribution

The risk of potential further failures based on column capacities has been summarised in the adjacent table showing current status and shown in the 3D image below.

Currently 5 no. columns are over capacity. It should be noted that 4 of these columns were over capacity prior to the load redistribution. The load redistribution has pushed 2 of these columns further over capacity.

Furthermore there are 3 no. columns which should be reviewed as their capacity is exceeding 95% utilisation, this is prior to the load redistribution.

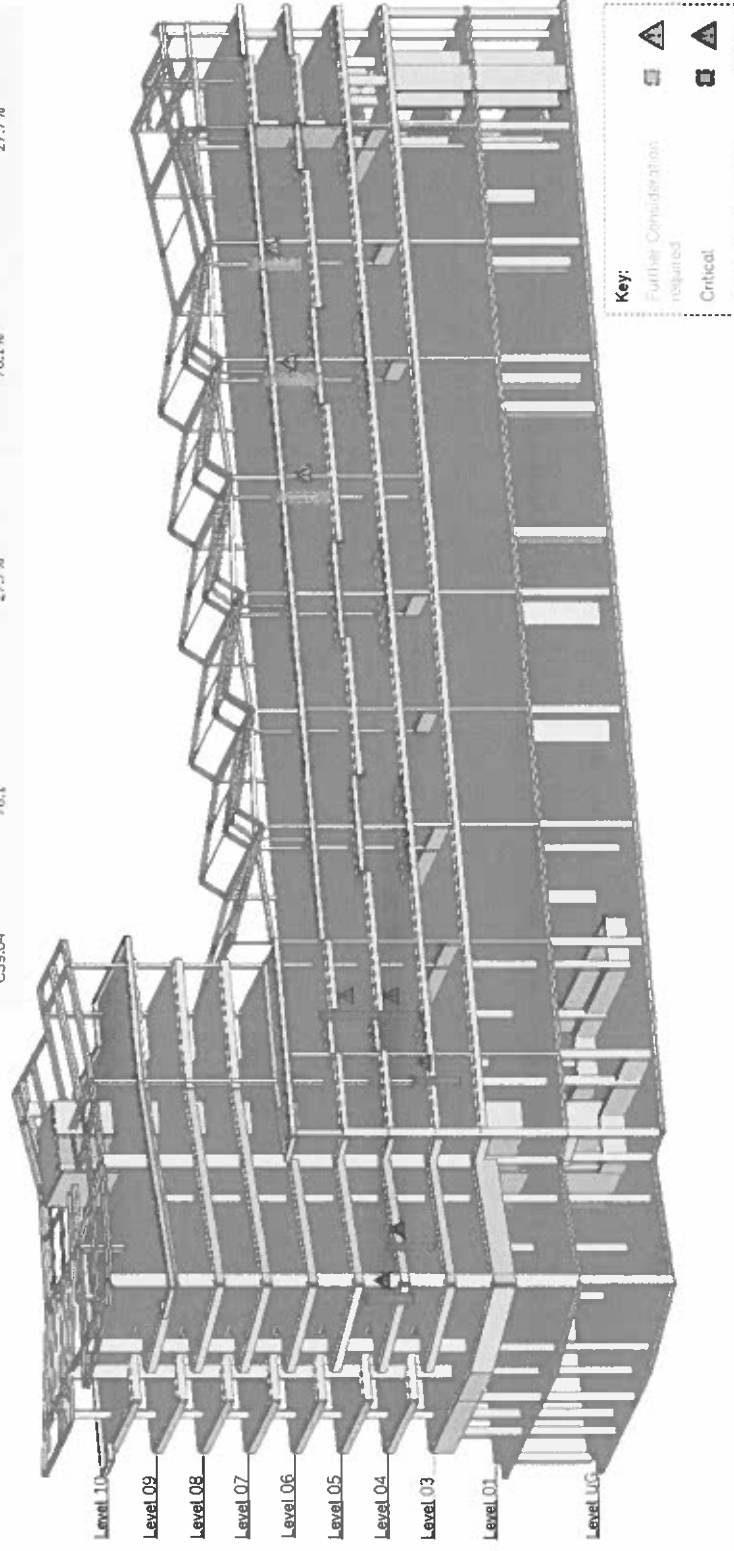
We then reviewed the total of 8 columns under an exceptional load combination. Clause 2.4.3.2 in BS 8110-1 states a load factor of 1.05 can be used when considering the effects of excessive loads caused by misuse or accident. This combination would not normally be considered for column design but we are using it to assess the current risk. The typical ULS combination for typical British Standard column design is *1.4 Dead Load + 1.6 Imposed Load*. The effect of exceptional loads or localised damage combination which we have summarised as an "accidental" load combination is *1.05 Dead Load + 1.05 Imposed Load*. This considerably reduces the column loads. The partial safety factor for the strength of the concrete can also be reduced from 1.5 to 1.3 in accordance with clause 2.4.4.2 for this assessment, this has not been carried out due to software limitations. The findings of this review can be found in the adjacent table.

We can see from the table that only column C29.05 is not within capacity under this accidental combination. Following this check we would class C29.05 at highest risk.

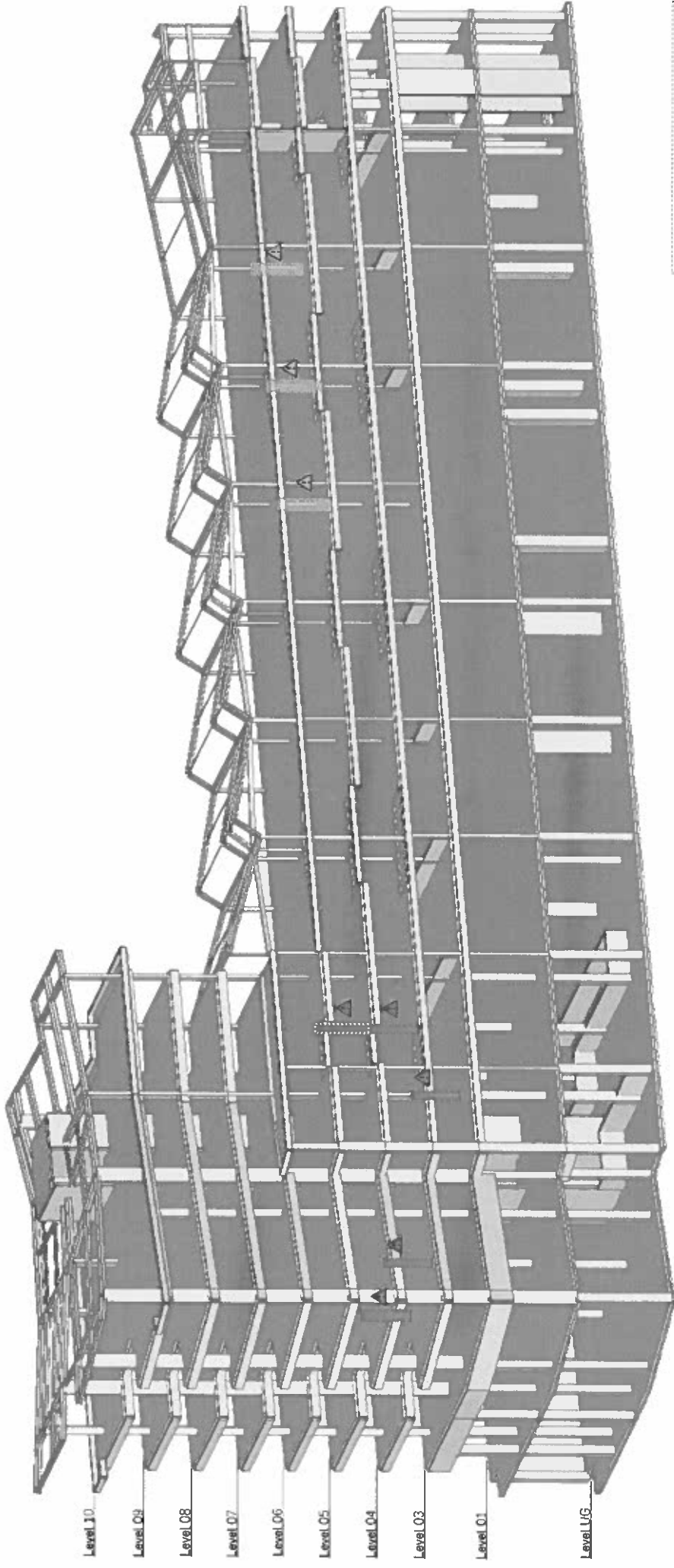
Column C18.05 under the accidental load combination is also within capacity, therefore further confirmation that the failure may have occurred due to the construction defect. It is imperative that this list of 8 columns are checked for construction defects.

Column Ref.	Current Status
C17.04	▲
C18.05	▲
C22.06	▲
C23.06	▲
C24.06	▲
C28.04	▲
C29.04	▲
C29.05	▲
C39.04	▲

Column Ref.	(Original Loads- Accidental Load Combination)		(Redistributed Loads- Accidental Load Combination)	
	Axial Only Utilisation	Method 3 – Masterseries Utilisation	Axial Only Utilisation	Method 3 – Masterseries Utilisation
C17.04	59.8%	17%	71.2%	23.5%
C18.05	71.4%	46.7%	N/A	N/A
C22.06	26.4%	69.7%	26.4%	69.7%
C23.06	25.6%	72.9%	25.6%	72.9%
C24.06	29.9%	73.7%	29.9%	73.7%
C28.04	69.8%	20.2%	69.8%	20.2%
C29.04	62.7%	50.6%	76.3%	44.7%
C29.05	64.1%	55.9%	81.9%	156.9%
C39.04	76.1	27.7%	76.1%	27.7%



STAGE 3 SUMMARY – RISK OF POTENTIAL FURTHER FAILURES



Key:

- Columns highly utilised
- Columns identified as critical
- Columns identified as highest risk



LEVEL 05 SLAB REVIEW

Level 05 Slab

Level 05 Slab Deflections

As column E2 at level 04 (C18.05) is designed to directly support the level 05 slab, the partial failure of the column will have increased the deflection in the level 05 slab. The first image shows the predicted slab deflections for the original design.

Following the removal of column E2 (C18.05) from the model to see the impact on slab deflections. The deflection at the column position increases from 0mm to 25mm.

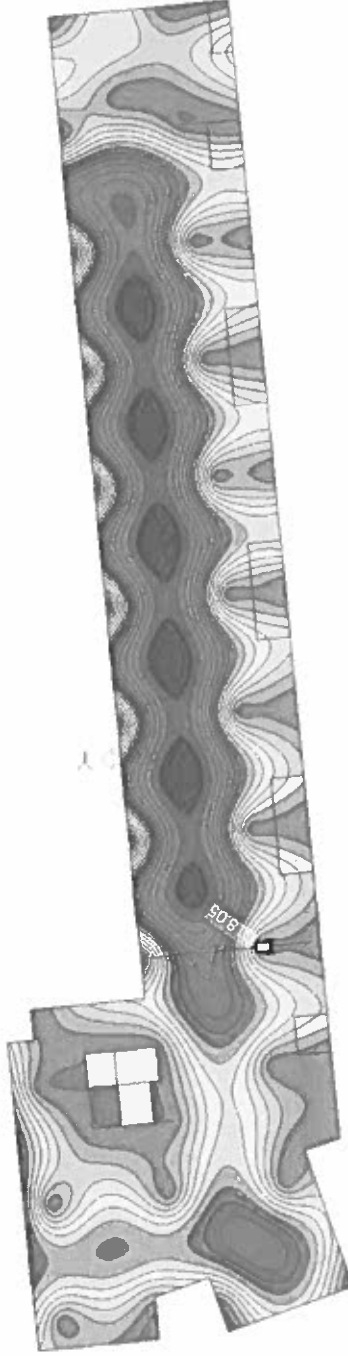
A survey was carried out on site and the deflection measured and estimated to be 13mm. As discussed previously, we believe the block wall and the column are still carrying some load and providing some support to level 05 slab. It should be noted the predicted deflection is within allowable limits for these spans.

Column	407-04	LOCATION	CEILING	FLOOR
		407-01	10.0000	7.41961
		407-03	9.98253	7.41452
		407-01	9.97579	7.19278
		407-04	9.96694	7.19128
		407-01	9.96801	6.99801
		407-04	0.01029	0.01029
		£ 1000000		
Column	407-02	Floor Levels	Reading	
		Element Type	7.19128	
		Member	7.19128	
		Difference	0.01029	
Column	407-01			

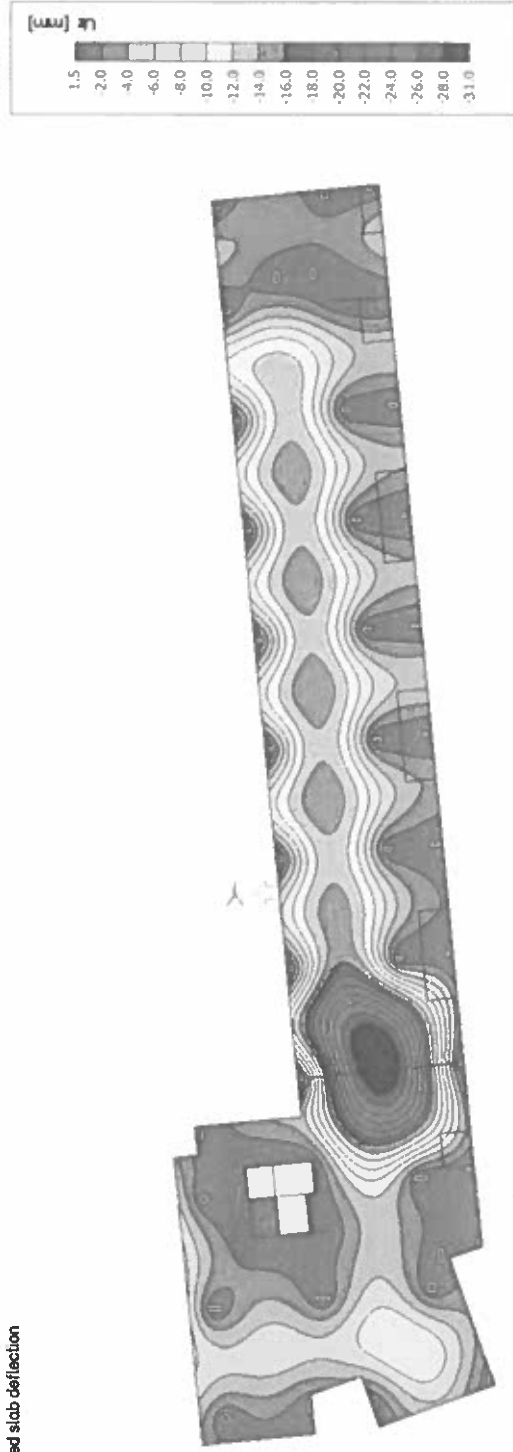
The Concrete Centre 'Finite Element Analysis' publication states: *Deflection in concrete is a complex phenomenon, which is dependent on the final tensile and compressive strength, elastic modulus, shrinkage, creep, ambient conditions, restraint, loading, time and duration of loading, and cracking of the member.*

Many of these factors are inter-related and often difficult to assess. Deflection prediction is based on assumptions and is therefore an estimate in the range +15% to -30%, even when using the most sophisticated computer software.

Due to the above extract the deflection values within this report should be viewed with the +15% to -30% range.



As designed slab deflection



Slab deflection assuming column E2 at level 04 is removed entirely

CONCLUSION

CONCLUSIONS & RECOMMENDATIONS

Conclusions

It should be noted that equal importance is given to both design and construction errors. This report is a design assessment, and as such focuses principally on column design, but cognisance should be paid to the fact that the construction defect likely played a critical role in the column failure.

Stage 1: Desktop structural review of original design

Following an independent review of the original design, with assumptions made as stated within this report, we identified 6 no. columns over capacity, which have been identified as critical, including column C18.05 which is to be repaired, and another on the storey below (C18.04). C18.04 will not need strengthened due to C18.05 shedding load when it partially failed. Due to the partial failure on site this leaves 4 no. columns over design capacity, and 3 no. with high utilisation. The remainder of the columns have been highlighted for further investigation as per page 13.

Stage 2: Load redistribution

The load redistribution analysis shows 3 no. columns are over capacity, 2 of which were over capacity under the original design load as stage 1 has shown- they have now been pushed further over capacity.

Stage 3: The risk of potential future failures

Currently 5 no. columns are over capacity. It should be noted that 4 of these columns were over capacity prior to the load redistribution. The load redistribution has pushed 2 of these columns further over capacity.

There are a further 3 no. columns which should be reviewed as their capacity is exceeding 95% utilisation, this is prior to the load redistribution.

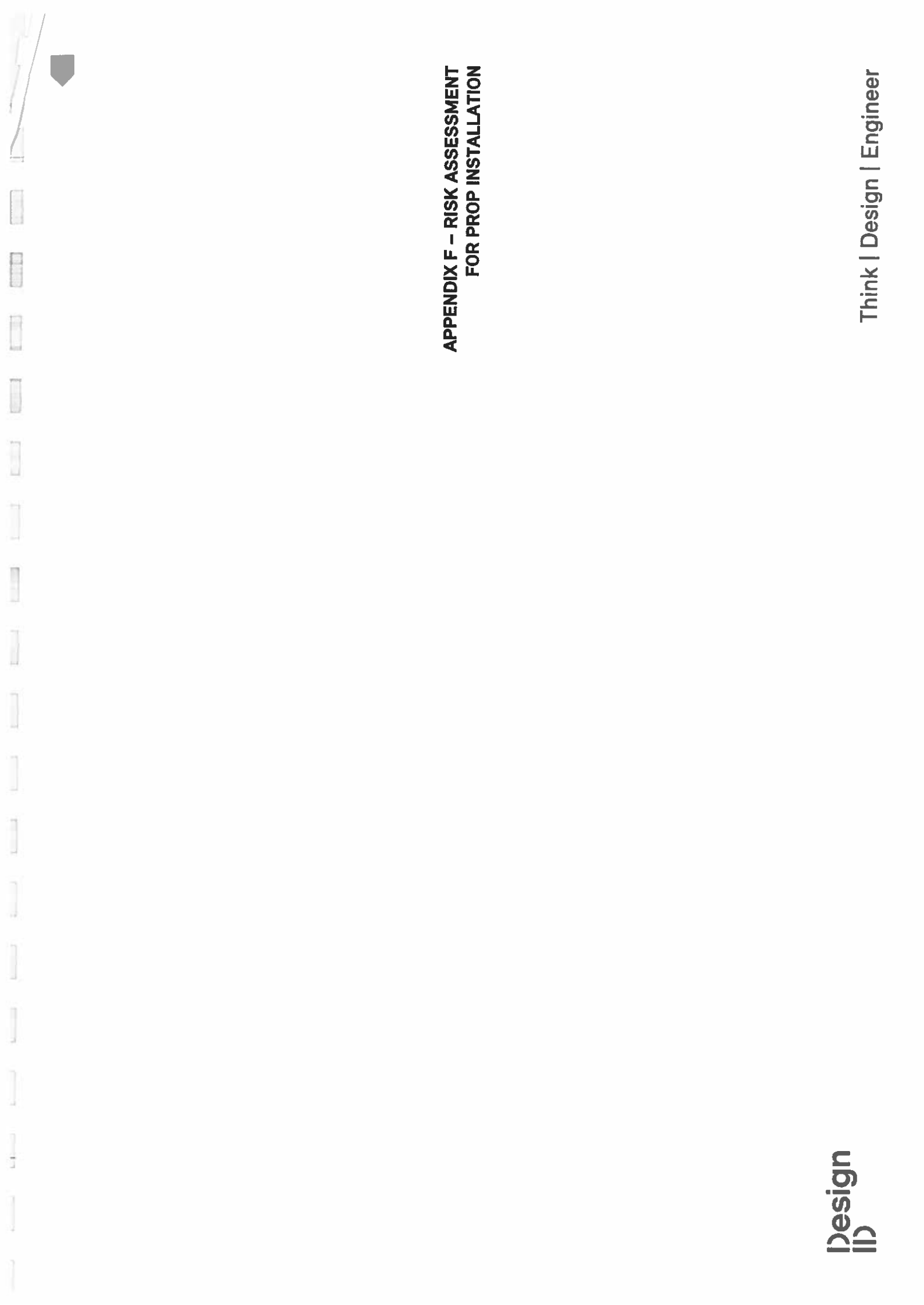
The accidental load combination check shows that the risk of these columns failing is not as severe as the standard ultimate limit state review may suggest. Particular attention should be paid to column C29.05 which even under the accidental load combination is exceeding capacity. To reduce the risk of a failure, C29.05 should be propped or strengthened immediately.

All 8 columns must be reviewed immediately for construction defects as these would lead to further failures.

Ideas for repair of column C18.05 and strengthening of others have been included within the appendix of this report.

Recommendations

1. Building to remain unoccupied as previously advised.
2. Immediate propping or strengthening of column C29.05.
3. Visual inspection of columns highlighted as highly utilised or exceeding their design capacity to ascertain whether similar patch repair works have occurred as with the partially failed column C18.05.
4. Scanning columns identified as above to confirm reinforcement is as the design intent and record drawings.
5. Testing of the above columns to confirm design strength.
6. Notify Building Control of review outcomes.
7. Ongoing movement monitoring, to be advised by McFarland Consulting.
8. No openings or alterations to the dividing block wall on gridline E are permitted without Design ID being consulted first.
9. Overall visual inspection of the apartment building structure.
10. Consideration of a full review of the entire Victoria Square development for possible design and construction defects.
11. Any parties wishing to enter the apartment building should review this report and carry out their own risk assessment before doing so.



**APPENDIX F – RISK ASSESSMENT
FOR PROP INSTALLATION**

Victoria Square Apartments, Belfast
Prop Installation

Designer's Risk Assessment

19037-DID-ZZ-XX-RA-S-0001



Document Details

Project: Victoria Square Apartments, Belfast
Title: Designer's Risk Assessment - Prop Installation
Document Reference: 19037-DID-ZZ-XX-RA-S-0001
Project Number: 19037
Date: May 2019
Current revision: P01
Design Engineer: [Redacted] Initial: [Redacted]
Checking Engineer: [Redacted] Initial: [Redacted]

Revision	Description	Date Revised	Revised By	Checked By
P01	Issued for information	07-05-19	[Redacted]	[Redacted]

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Calculating the Risk Rating

The risk rating (R), whether initial or residual, is calculated in the following way:

The likelihood (L) of the hazard and the severity (S) of the outcome is rated either low, medium or high. Each of these categories is given an equivalent points rating, a breakdown of which is shown below.

Likelihood	Description	Score
Low	Unlikely to Occur	1
Medium	Moderate Chance	2
High	Very Likely	3

Severity	Description	Score
Low	Minor Injury/Illness	1
Medium	Moderate Injury/Illness	2
High	Major, Fatal Injury/Illness	3

To calculate the risk rating the likelihood is simply multiplied by the severity. Hence $R = L \times S$. The resulting score will range from 1 to 9, with a score of 1 representing a low risk and a score of 9 representing a high risk. This sliding scale is broken down into three distinct categories for simplicity, these are shown below. The table shows how increasing the severity or the likelihood of a hazard will increase the associated risk.

		Risk Rating Table		
Severity ↓	M	H	H	This table shows how risks can be assessed, based on their likelihood and severity. All decisions made during this process are subjective.
	L	M	H	
	L	L	M	
		Likelihood →		

Risk Rating Score Risk Level

- 1-2 Low
- 3-4 Medium
- >4 High

Appendix 7 – Phoenix Gas Letter (5 December 2022)



Our Ref:

Victoria Square (Chichester Street)
Residential Management Company Limited
c/o Simon Brien Residential,
525 Lisburn Rd
Belfast, BT9 7GQ

5 December 2022

Dear Sirs

RE: Residential Apartment Development at Victoria Square, Chichester Street, Belfast

We are aware of structural issues at the Chichester Street residential development and have been liaising with Simon Brien Residential, the current managing agent for the development, in relation to the gas supply to the building.

Please be aware that, due to ongoing health and safety concerns relating to the structural issues, Phoenix Gas is planning to decommission its supply to the Chichester Street residential apartments. We plan to undertake this work on 6th December 2022 and will liaise with Simon Brien Residential to arrange access for the required works.

Yours faithfully



**Network Operations Manager
Phoenix Natural Gas Ltd.**

Phoenix Natural Gas Ltd, 197 Airport Road West, Belfast, BT3 9ED
Tel: 03454 55 55 55 Fax: 028 9055 5500 Web: www.phoenixnaturalgas.com Email: info@phoenixnaturalgas.com

PHOENIX 4032156

24 hr gas escape number: 0800 602 001 MINI-COM EMERGENCY: 0800 7314710 *Calls may be recorded and monitored
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