

## STRUCTURAL ENGINEER'S REPORT

TO INSPECT THE STABILITY OF THE CERAMIC FRIEZE COPING TILES  
AT THE HEAD OF 18 COLUMNS



PROJECT REF:	M19070/BCS/LS/AY
SUBJECT ADDRESS:	<b>Royal College of General Practitioners 30 Euston Square Kings Cross London, NW1 2FB</b>
COMMISSIONING CLIENT/ ADDRESS:	Lewis Berkeley Limited 92 Banner Street London EC1Y 8JU
DATE OF INSPECTION:	Wednesday 3 <sup>rd</sup> April 2019

This document has been prepared by;

Eur Ing **Barry C. Smith** BSc C. Eng. MICE FFPWS



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STRUCTURAL OVERVIEW	
Weather	Overcast/Occasional rain.
Property Description	<p>All locations are given assuming the reader is standing on the kerb side looking towards the property.</p> <p>The subject property was a substantial office block located over six storeys.</p> <p>The areas on which the columns were to be inspected were on levels 0 and 3. In total there were eighteen columns.</p> <p>The property was constructed with solid concrete floors which were supported on downstand beams and columns.</p> <p>The subject columns appeared to be of a universal column steel section, which had been encased with ceramic finishes with an ornate frieze corncicing at the top.</p> <p>At one location the ceramic cornice detail had been replaced by a timber moulding of a similar profile.</p> <p>The columns are believed to be of a considerable age, as did the ceramics.</p>
Structural Observations	<p>Each of the subject columns were inspected at high level by way of a ladder (see photographic record as referenced on drawings M19070/SK01-SK04 and the Register of Photos).</p> <p>Generally where the columns were inspected, except for the one from which sections have recently fallen, the ceramic sections all felt firm (see Appendix).</p> <p>Occasional small sections of grouting were observed to have been lost and there were small fractures, however this had not compromised the structural integrity of the ceramic sections. (See photos Level 3 C2-3; C1-3.)</p> <p>In one location there was a section of cracked frieze corncicing adjacent to one of the beam/column interfaces. (See photos Level 3: C3-3; C3-4; C4-2; Level 2: C3-3 &amp; C3-5.)</p> <p>To one column on level 2, sections had fallen from the cornice frieze detail at the top. This column had been wrapped at high level to prevent further sections falling away. (See photo Level 2 C5-1.)</p> <p>Prior to commencing our inspection, we were shown sections of a timber cornice which had fallen away from the aforementioned column.</p>

<p><b>Discussion</b></p>	<p>Generally where the ceramic corning had been fixed, these were all secure and showed no signs of loss of support.</p> <p>The corning was noted to be of a considerable age, probably in excess of 100 years.</p> <p>Except for the two columns, one on Level 2 and one on Level 3, all column corning was considered secure with no evidence to suggest that any sections have moved in the recent past, or are likely to do so in the future.</p> <p>Occasional small areas of lost grout were identified, however this was not considered to compromise the sections generally. It would be prudent to replace any loose or missing grout to ensure integrity of the tile adhesive behind, which may be susceptible to moisture penetration.</p> <p>Where a section of cornice frieze was cracked and loose we would recommend this should be re-set using a proprietary adhesive and thereafter re-grouted. (See photos Level 3: C3-3 &amp; C3-4).</p> <p>Where sections of the column corning have fallen away, these sections were replacement timber moulding. Presumably this is because the original ceramic sections have been damaged in the past. (See photos Level 2: C5-2; C5-3; C5-4; C5-5; C5-6)</p> <p>Based upon our inspection of one of the sections we would suggest that they lost support due to an original inadequate fixing.</p> <p>It would appear that the original securing system was an adhesive as opposed to a mechanical fixing.</p> <p>We would suggest that these sections should be fixed back using both adhesive and mechanical fixings.</p> <p>We would also suggest that it would be appropriate to consider fitting a strip around these top sections. The straps could be wrapped around the four sides of the column corning at the top, and mechanically screwed in to the timber section.</p> <p>Thereafter these could be painted to blend in with the existing detail.</p>
<p><b>Conclusion</b></p>	<p>Based upon our single site visit we identified only one section of the column corning other than that of the defective column that we consider requires remedial repair. Further, we did not identify any reason why the other sections should lose support in the future.</p> <p>We would suggest that the cause of the sections' failure, was due to a previous repair which was of a substandard quality.</p> <p>Within the previous sections of this report we have discussed these matters in a greater detail, to which we would recommend you should give your consideration.</p>

**Extent of Report**

The purpose of the report is to inspect the stability of the ceramic frieze coping tiles at the head of 18 columns.

It is not intended to be a full building survey, specification or list of every defect which may already exist, or which may come to light in the future. It must be appreciated that consideration is, and should be given to the age of, construction and usage of the property over the years.

It should be appreciated that this report is submitted on the basis that we have not carried out any tests on the drains or other services or inspected other parts of the structure that were inaccessible or covered at the time of our inspection or tested any of the materials used in its construction. We are therefore unable to report that such parts are free from rot, beetle attack, insect infestation or other defects.

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We trust the information contained within this report is sufficient for your immediate needs.

Kind Regards,



Eur Ing **Barry C. Smith** BSc C. Eng. MICE FFPWS  
**for MiNT Structures.**

## **APPENDIX**

### **Survey photo notes**

Photo Number	Location (as referenced on drawing)	Type of Frieze Cornice Tile	Comments
<b>Level 3 – see M19070/SK01</b>			
Level 3 C1 -1	Column 1	Ceramic	No loose sections identified
Level 3 C1 -2	Column 1	Ceramic	“
Level 3 C1 -3	Column 1	Ceramic	“
Level 3 C1 -4	Column 1	Ceramic	“
Level 3 C1 -5	Column 1	Ceramic	“
Level 3 C2 -1	Column 2	Ceramic	No loose sections identified but set against the wall. I x no. joint not grouted.
Level 3 C2 -2	Column 2	Ceramic	“
Level 3 C2 -3	Column 2	Ceramic	“
Level 3 C3 -1	Column 3	Ceramic	. Corner section loose and needs re-setting.
Level 3 C3 -2	Column 3	Ceramic	“
Level 3 C3 -3	Column 3	Ceramic	“
Level 3 C3 -4	Column 3	Ceramic	“
Level 3 C4 -1	Column 4	Ceramic	No loose sections identified.
Level 3 C4 -2	Column 4	Ceramic	“
Level 3 C4 -3	Column 4	Ceramic	“
Level 3 C4 -4	Column 4	Ceramic	“
Level 3 C5 -1	Column 5	Ceramic	No loose sections identified
Level 3 C5 -2	Column 5	Ceramic	“
Level 3 C5 -3	Column 5	Ceramic	“
<b>Level 2 – see M19070/SK02</b>			
Level 2 C1 -1	Column 1	Ceramic	No loose sections identified.
Level 2 C1 -2	Column 1	Ceramic	“
Level 2 C2 -1	Column 2	Ceramic	No loose sections identified. Inspection not possible on one sides (desks present)
Level 2 C2 -2	Column 2	Ceramic	“
Level 2 C2 -3	Column 2	Ceramic	“

Photo Number	Location (as referenced on drawing)	Type of Frieze Cornice Tile	Comments
Level 2 C3 -1	Column 3	Ceramic	No loose sections identified.
Level 2 C3 -2	Column 3	Ceramic	"
Level 2 C3 -3	Column 3	Ceramic	"
Level 2 C3 -4	Column 3	Ceramic	"
Level 2 C3 -5	Column 3	Ceramic	"
Level 2 C4 -1	Column 4	Ceramic	"
Level 2 C4 -2	Column 4	Ceramic	"
Level 2 C4 -3	Column 4	Ceramic	"
Level 2 C4 -4	Column 4	Ceramic	"
Level 2 C5 -1	Column 5	Part ceramic, with timber sections	Column wrapped and sections missing
Level 2 C5 -2	Column 5	"	"
Level 2 C5 -3	Column 5	"	"
Level 2 C5 -4	Column 5	"	"
Level 2 C5 -5	Column 5	"	"
Level 2 C5 -6	Column 5	"	"
<b>Level 1 - see M19070/SK03</b>			
Level 1 C1 -1	Column 1	Ceramic	No loose sections identified. Paint peeling to beam soffit.
Level 1 C1 -2	Column 1	Ceramic	"
Level 1 C1 -3	Column 1	Ceramic	"
Level 1 C2 -1	Column 2	Ceramic	No loose sections identified.
Level 1 C2 -2	Column 2	Ceramic	"
Level 1 C2 -3	Column 2	Ceramic	"
Level 1 C2 -4	Column 2	Ceramic	"
Level 1 C3 -1	Column 3	Ceramic	No loose sections identified.
Level 1 C3 -2	Column 3	Ceramic	"
Level 1 C3 -3	Column 3	Ceramic	"
Level 1 C3 -4	Column 3	Ceramic	"

Photo Number	Location (as referenced on drawing)	Type of Frieze Cornice Tile	Comments
Ground floor level – see M19070/SK04			
Ground C1 -1	Column 1	Ceramic	No loose sections identified. Restricted access due to glazed panel
Ground C1 -2	Column 1	Ceramic	“
Ground C1 -3	Column 1	Ceramic	“
Ground C1 -4	Column 1	Ceramic	“
Ground C1 -5	Column 1	Ceramic	“
Ground C2 -1	Column 2	Ceramic	No loose sections identified. Restricted access due to glazed panel
Ground C2 -2	Column 2	Ceramic	“
Ground C2 -3	Column 2	Ceramic	“
Ground C3 -1	Column 3	Ceramic	No loose sections identified. Access restricted due to service counter
Ground C3 -2	Column 3	Ceramic	“
Ground C3 -3	Column 3	Ceramic	“
Ground C4 -1	Column 4	Ceramic	No loose sections identified.
Ground C4 -2	Column 4	Ceramic	“
Ground C4 -3	Column 4	Ceramic	“
Ground C5 -1	Column 5	Ceramic	“
Ground C5 -2	Column 5	Ceramic	“
Ground C5 -3	Column 5	Ceramic	“



### **PHOTOGRAPHS : LEVEL 3**



Level 3 C1 -1



Level 3 C1 -2



Level 3 C1 -3



Level 3 C1 -4



Level 3 C1 -5



Level 3 C2 -1



Level 3 C2 -2



Level 3 C2 -3





Level 3 C3 -1



Level 3 C3 -2



Level 3 C3 -3



Level 3 C3 -4



Level 3 C4 -1



Level 3 C4 -2





Level 3 C4 -3



Level 3 C4 -4



Level 3 C5 -1



Level 3 C5 -2



Level 3 C5 -3



Level 2 C1 -1





Level 2 C1 -2



Level 2 C2 -1



Level 2 C2 -2



Level 2 C2 -3



Level 2 C3 -1



Level 2 C3 -2





Level 2 C3 -3



Level 2 C3 -4



Level 2 C3 -5



Level 2 C4 -1





Level 2 C4 -2



Level 2 C4 -3



Level 2 C4 -4



Level 2 C5 -1



Level 2 C5 -2



Level 2 C5 -3





Level 2 C5 -4



Level 2 C5 -5



Level 2 C5 -6



Level 1 C1 -1



Level 1 C1 -2



Level 1 C1 -3





Level 1 C2 -1



Level 1 C2 -2



Level 1 C2 -3



Level 1 C2 -4





Level 1 C3 -1



Level 1 C3 -2



Level 1 C3 -3



Level 1 C3 -4



Ground C1 -1



Ground C1 -2





Ground C1 -3



Ground C1 -4



Ground C1 -5

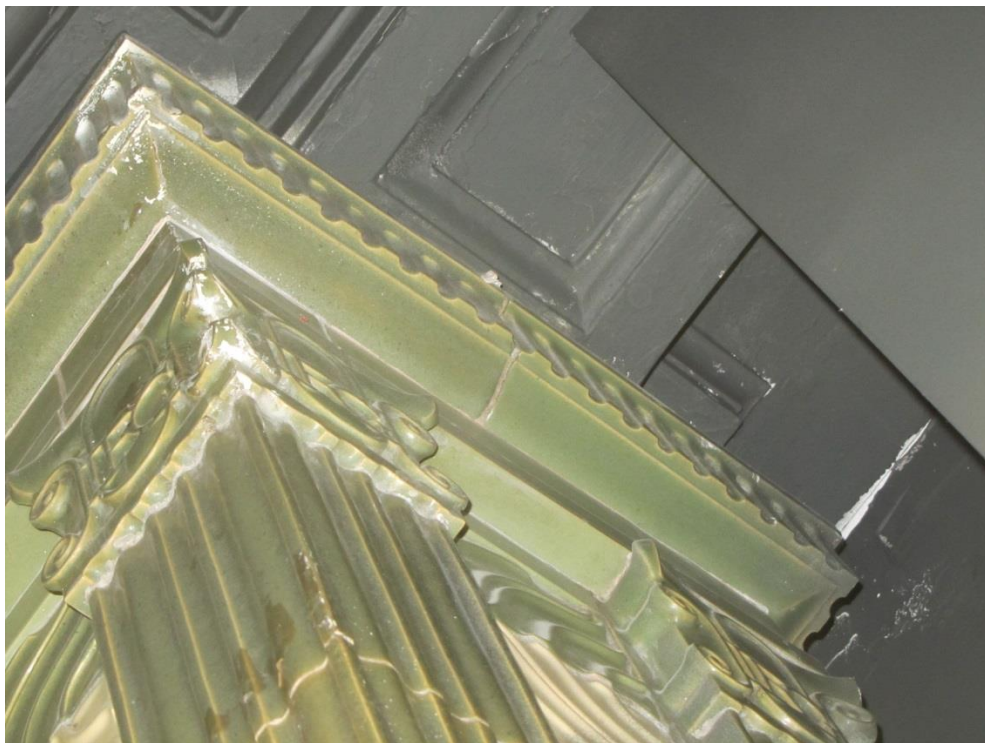


Ground C2 -1





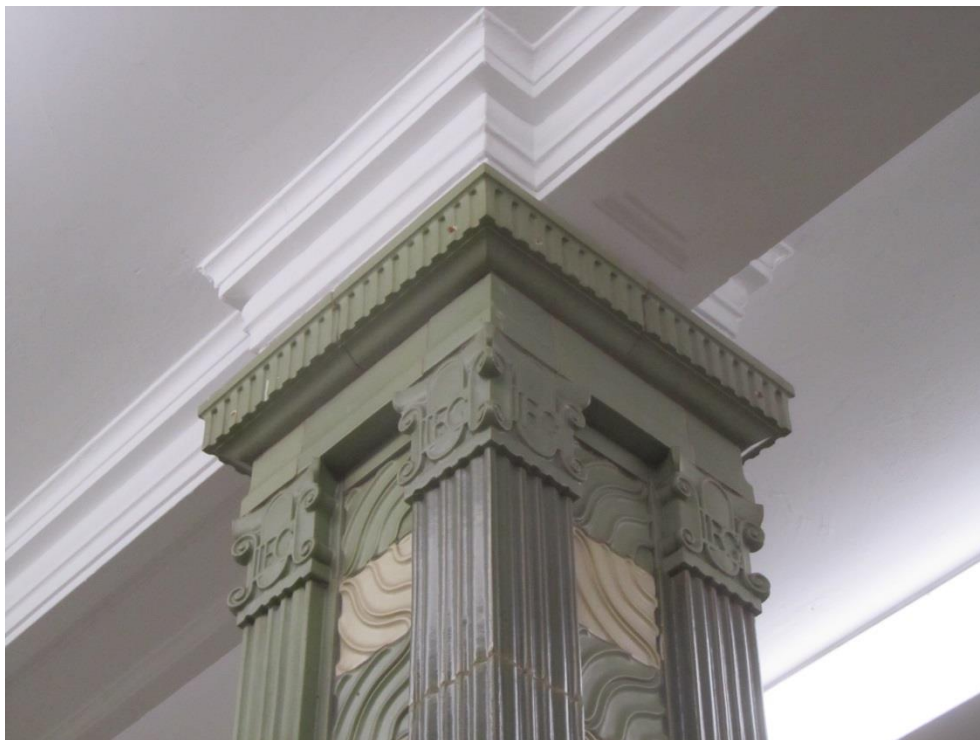
Ground C2 -2



Ground C2 -3



Ground C3 -1



Ground C3 -2





Ground C3 -3



Ground C4 -1





Ground C4 -2



Ground C4 -3



Ground C5 -1



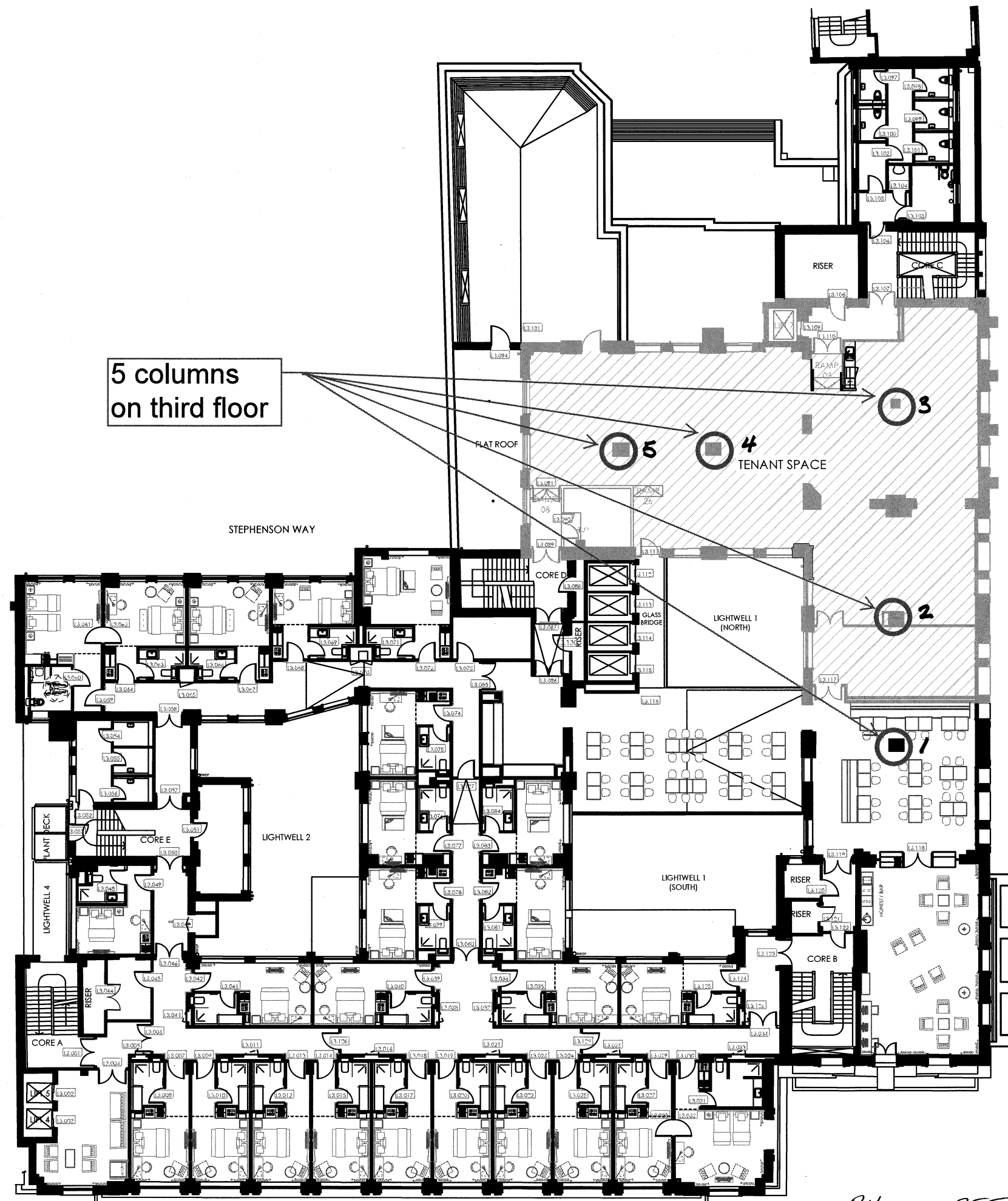
Ground C5 -2



Ground C5 -3

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Figured dimensions take preference to scale readings. Verify all dimensions on site. Report any discrepancies to PRSM Facilities Management for decision before proceeding with the work.



5 columns  
on third floor

MELTON STREET

STEPHENSON WAY

MINI STRUCTURES  
DRG NO  
M19070/SK01

Rev	Date	Details	App

30 Euston Square, London, NW1 2FB

MASTER DRAWING

PROJECT  
30 Euston Square

DRAWING TITLE  
Level 3 Office Layout

DRAWN BY: CMc DATE: 09.11.15 SCALE: NTS

DRAWING NUMBER  
Euston-Level 3-OfficeSpace

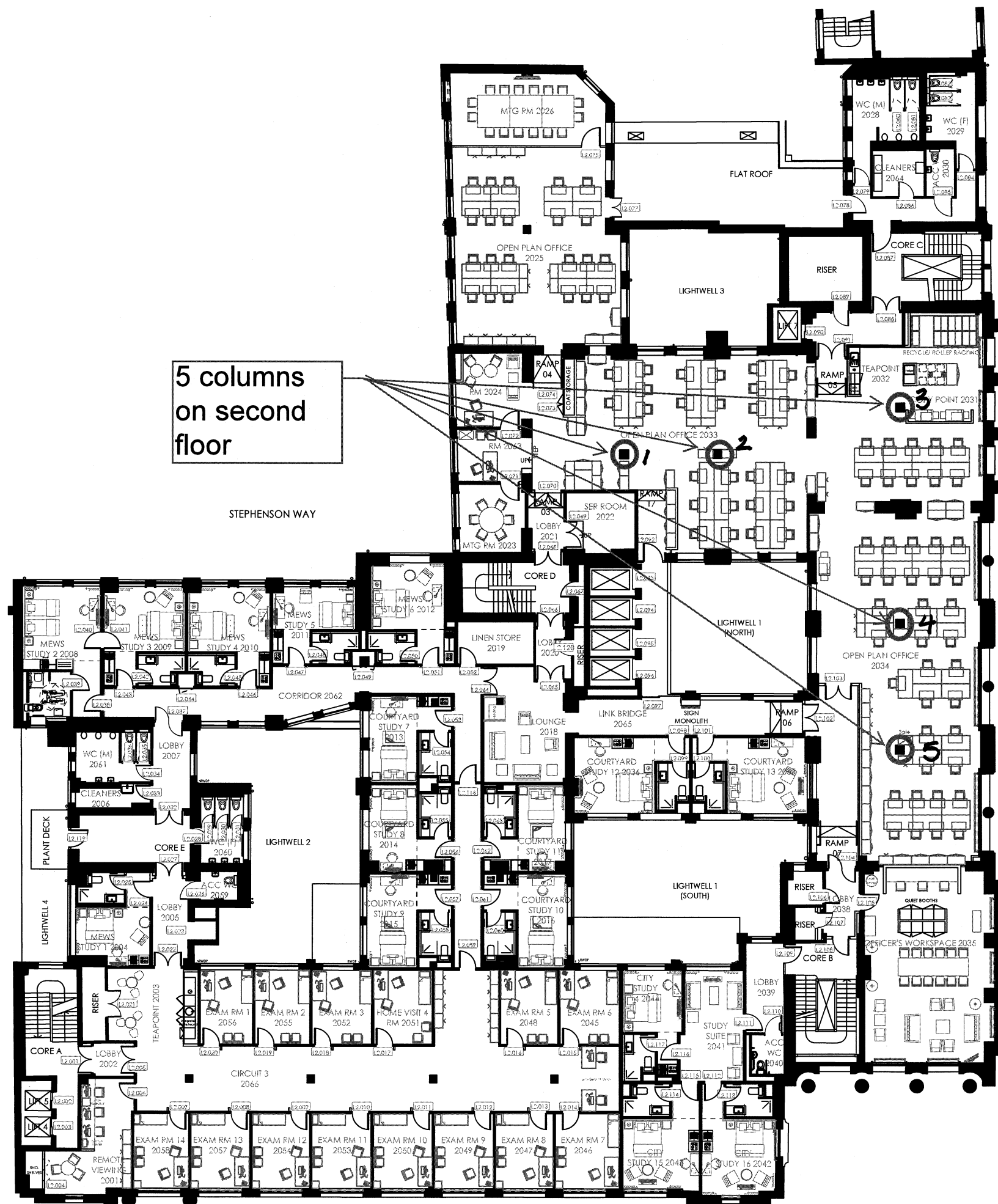
REV  
-

PHOTO REFERENCE DRAWING.



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5 columns  
on second  
floor

STEPHENSON WAY

MELTON STREET

MINI STRUCTURES  
DRG N°  
M19070/SK02

Rev	Date	Details	App

30 Euston Square, London, NW1 2FB

MASTER DRAWING

PROJECT  
30 Euston Square

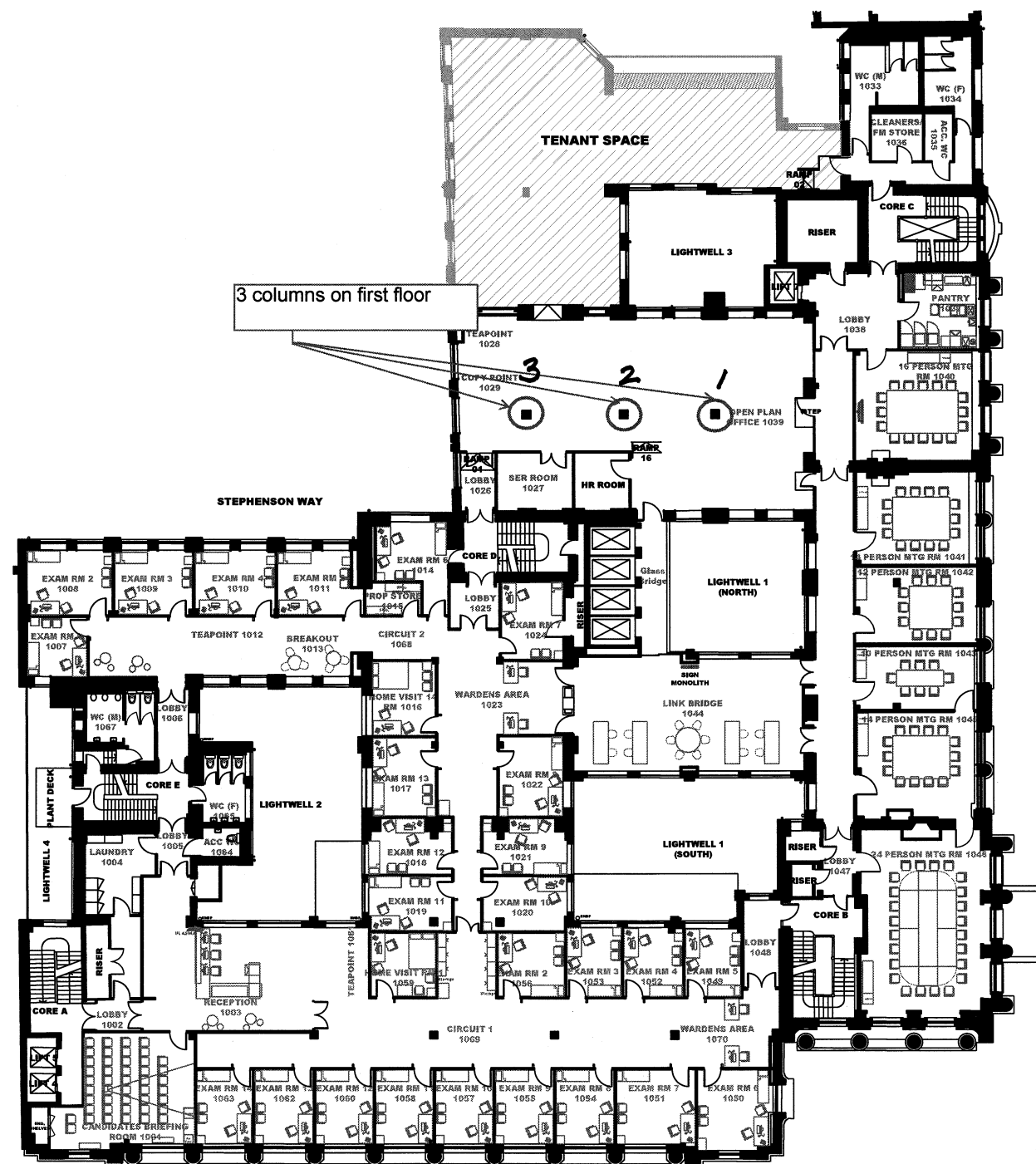
DRAWING TITLE  
Level 2 Office Layout

DRAWN BY: CMc DATE: 09.11.15 SCALE: NTS

DRAWING NUMBER  
Euston—Level 2—OfficeSpace

REV  
—

PHOTO REFERENCE DRAWING.



MINT STRUCTURES

DRG NO

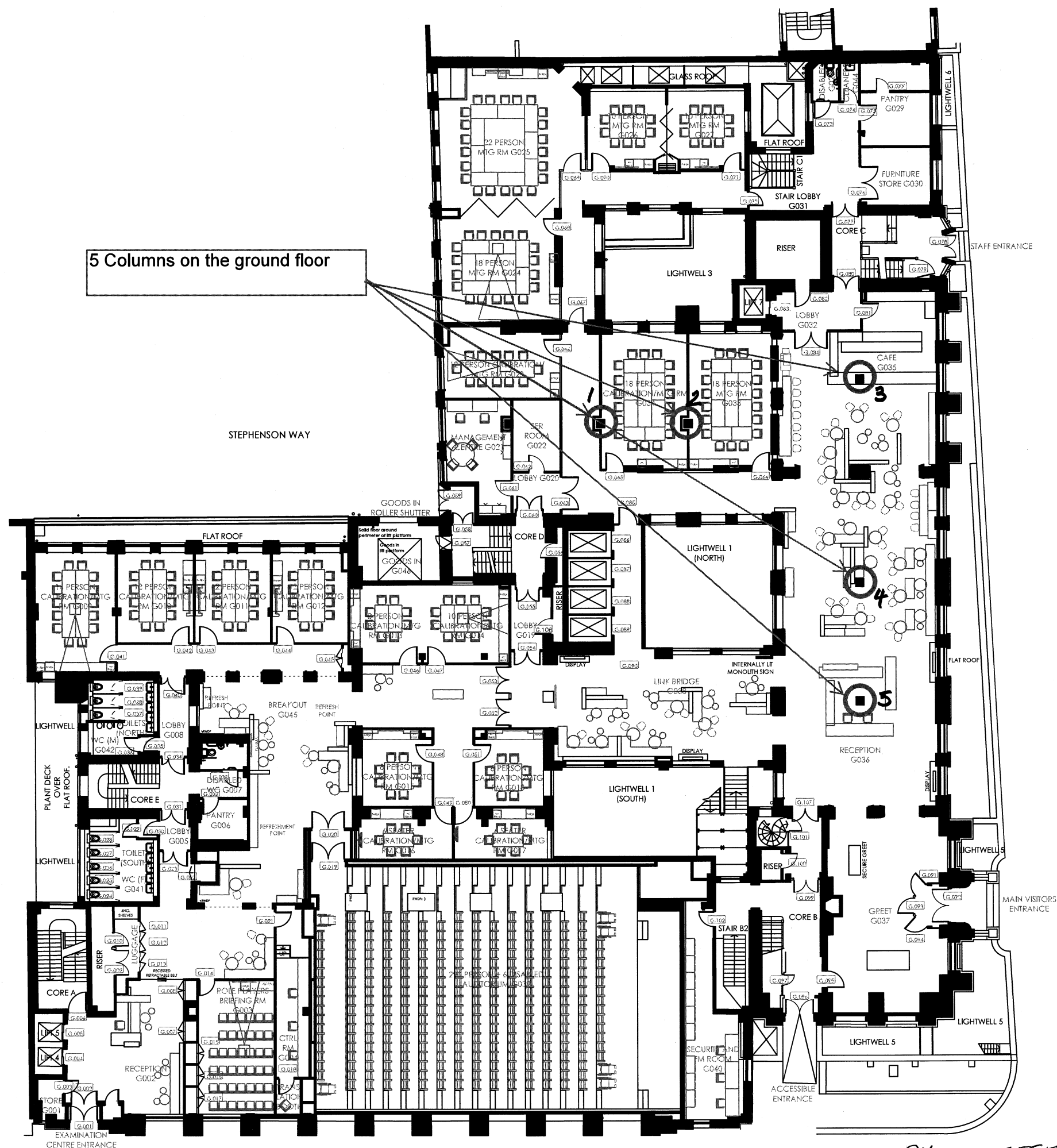
M19070/SK03

LEVEL 1

PHOTO REFERENCE DRAWING

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MINT STRUCTURES

DRG NO

M19070/SK04

Rev	Date	Details	App

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MASTER DRAWING

PROJECT  
30 Euston Square

DRAWING TITLE  
Level 0 Office Layout

DRAWN BY: CMC DATE: 09.11.15 SCALE: NTS

DRAWING NUMBER  
Euston-Level 0-OfficeSpace REV

PHOTO REFERENCE DRAWING