



CODE OF MEASURING PRACTICE FOR RATING PURPOSES

Valuation Office Ireland

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1. INTRODUCTION

Purpose of Code:

The purpose of the code is to provide precise definitions to permit the accurate measurement of buildings for rating purposes on a common and consistent basis.

Code Usage:

The Code deals only with standard measurement practice. Valuation techniques such as the zoning of shops for comparison purposes and the like do not form part of the Code. The interpretation of meanings within the Code should be ruled by common sense.

Core Definitions:

The Code contains three core definitions as follows:

- GEA (Gross External Area)
- GIA (Gross Internal Area)
- NIA (Net Internal Area)

Adoption of SCSI Measuring Practice Guidance Notes:

The Valuation Office generally adopts the SCSI Measuring Practice Guidance Notes as its basis for measuring property for rating purposes. This is subject to the following exceptions:

- Specialist type properties such as Hotels, Nursing Homes, Public Houses etc.
- Entrance Halls for offices converted from a dwelling house (Diagram J), in a single occupation, are excluded except if used as a reception etc. (Ref 3.2)
- Notional Lift Lobbies are included if opening directly onto the office area (Diagram I). If opening onto a lift lobby they are excluded (Ref. 3.3).

2. APPLICATION REFERENCE

Property Type	Measurement Method
<u>Offices</u>	
Business Park Offices	NIA
Offices attached to Industrial Unit (Either separately let or leased with unit)	GEA
Purpose Built Office Block	NIA
Purpose Built Office Block (Industrial Setting)	NIA
Georgian Offices	NIA
Surgeries	NIA
Offices in converted domestic dwellings	NIA
<u>Industrial</u>	
Industrial	GEA
Old Multi storey Industrial. Building	GEA
	Where it is not possible to survey on a GEA basis, GIA should be used
<u>Retail</u>	
Department Stores (incl. Shopping Centres)	GIA
Drive-thru Restaurant	GIA
Motor Showroom	GIA
Retail Standard	NIA
Retail in Shopping Centres (include staff Toilets)	NIA
Retail Warehousing	GIA
Supermarkets >500sq.m.	GIA
Supermarkets <500sq.m.	NIA
<u>Non-Bulk</u>	
ATM (Remote)	GEA
Caravan Parks	GEA & Shop NIA
Cinema	GIA
Club Houses	GEA
Crèches	NIA

Property Type	Measurement Method
Fire Stations	GEA
Fish Farms	GEA
Food Court	GIA
Funeral Home	GEA
Guesthouse	GEA
Halls	GEA
Holiday Camps	GEA
Hospital	GEA
Hostel	GEA
Hotel	GEA Public areas NIA (Reval)
Land	Site Area
Leisure-plex/Leisure Centre	GEA
Livestock Marts	GEA
Marinas	GEA
Masts	GEA
Nursing Home	GEA
Public House	NIA
Racetracks	GEA
School	GEA
Service Stations	GIA Workshops, external stores GEA
Snooker Halls	GIA
Sports Grounds	GEA
Theatres	GIA
Yard	GEA

3. CORE DEFINITIONS & DIAGRAMS

1.0 Gross External Area (GEA)

Gross External Area is the area of a building measured externally at each floor level.

Including

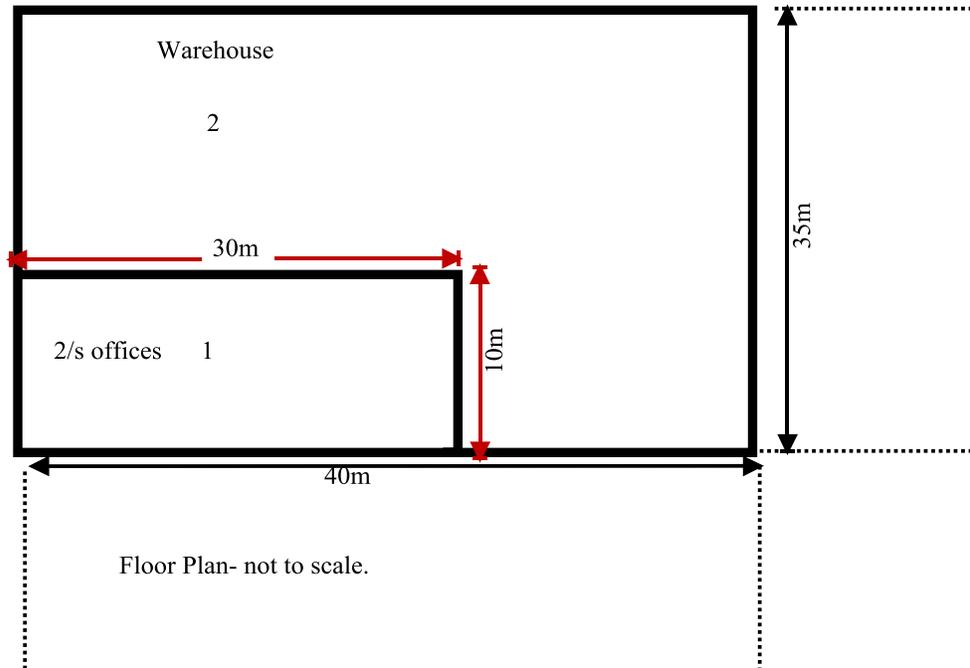
- 1.1 Perimeter wall thicknesses.
- 1.2 Areas occupied by internal walls and partitions.
- 1.3 Columns, piers, chimney breasts, stairwells, lift-wells, and the like.
- 1.4 Atria with clear height above, measured at base level only.
- 1.5 Internal balconies.
- 1.5 Structural, raked or stepped floors are to be treated as a level floor measured horizontally.
- 1.7 Horizontal floors, whether accessible or not, below structural, raked or stepped floors.
- 1.8 Mezzanine areas intended for use with permanent access.
- 1.9 Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered structure of a permanent nature, whether or not above main roof level.
- 1.10 Outbuildings which share at least one wall with main building (domestic).
- 1.11 Covered loading bays.
- 1.12 Areas with a headroom of less than 1.5m.
- 1.13 Pavement vaults.
- 1.14 Garages.
- 1.15 Conservatories.

Excluding

- 1.16 External open-sided balconies, covered ways and external fire escapes.
- 1.17 Canopies over loading doors and the like.
- 1.18 Open vehicle parking areas, roof terraces, and the like.
- 1.19 Voids.
- 1.20 Greenhouses, garden stores, fuel stores, and the like (Domestic).
- 1.21 Sub-stations not used exclusively by the subject property (ESB sub-stations)

DIAGRAMS (GEA)

Diagram A: Example of standard detached industrial warehouse unit with two storey offices to front.



Calculation of area

1.	<i>Offices (Two Storey)</i>	30m X 10m X 2	= 600m ²
		↓ ↓	
	(Incl. both side walls)	(Incl. both front and back walls)	

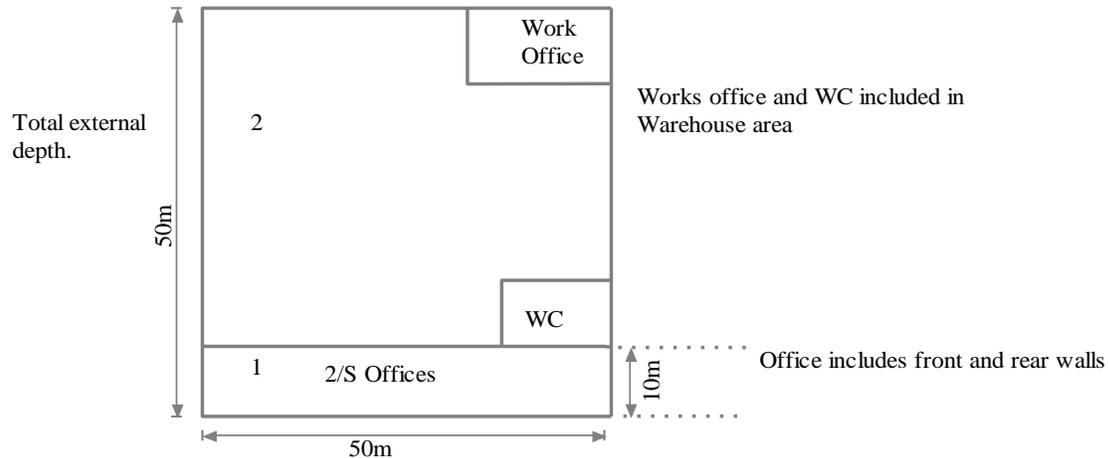
2.	<i>Warehouse</i>	40m X 35m (Less 30m X 10m = - 300m ²)	= <u>1,100m²</u>
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<i>Total Area</i>	<u>1,700m²</u>
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Comment:

Industrial buildings generally measured GEA. Exceptions to this would be an old multi-storey industrial building where a GEA survey is not possible, and should be measured GIA.

**Diagram B: Example of standard detached warehouse with full two storeys
offices to front**



Floor Plan-not to scale
Arrows include wall thickness

Calculation of area

1.	Offices	50m X 10m x 2	= <u>1,000m²</u>
2.	Warehouse	50m X 50m (Less offices GF 50m x 10m = -500m ²)	= <u>2,000m²</u>
	Total area		<u>3,000m²</u>

Notes:

1. Offices in an Industrial building:

- a. Offices in an industrial building that are let with the unit are measured on a Gross External Area (GEA) basis.
- b. Offices in an industrial building that are sub-let, are measured on a Gross External Area (GEA) basis. If there are common areas, these should be excluded and the area noted on file.
- c. In old multi-storey industrial buildings where a GEA survey is not possible, the building is surveyed on a GIA basis; this should be recorded as such.

Diagram C: Example of Industrial End of Terrace Unit.

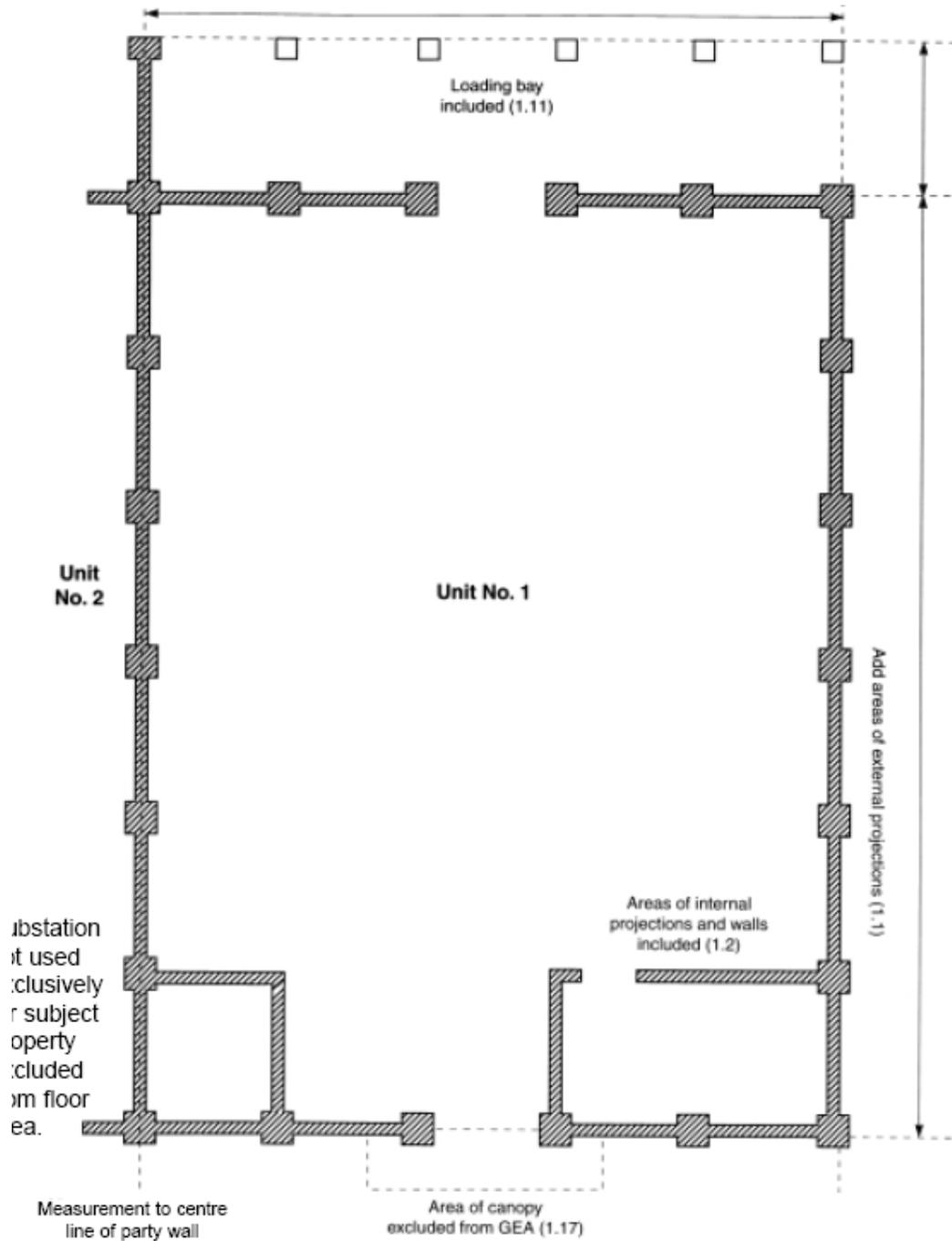
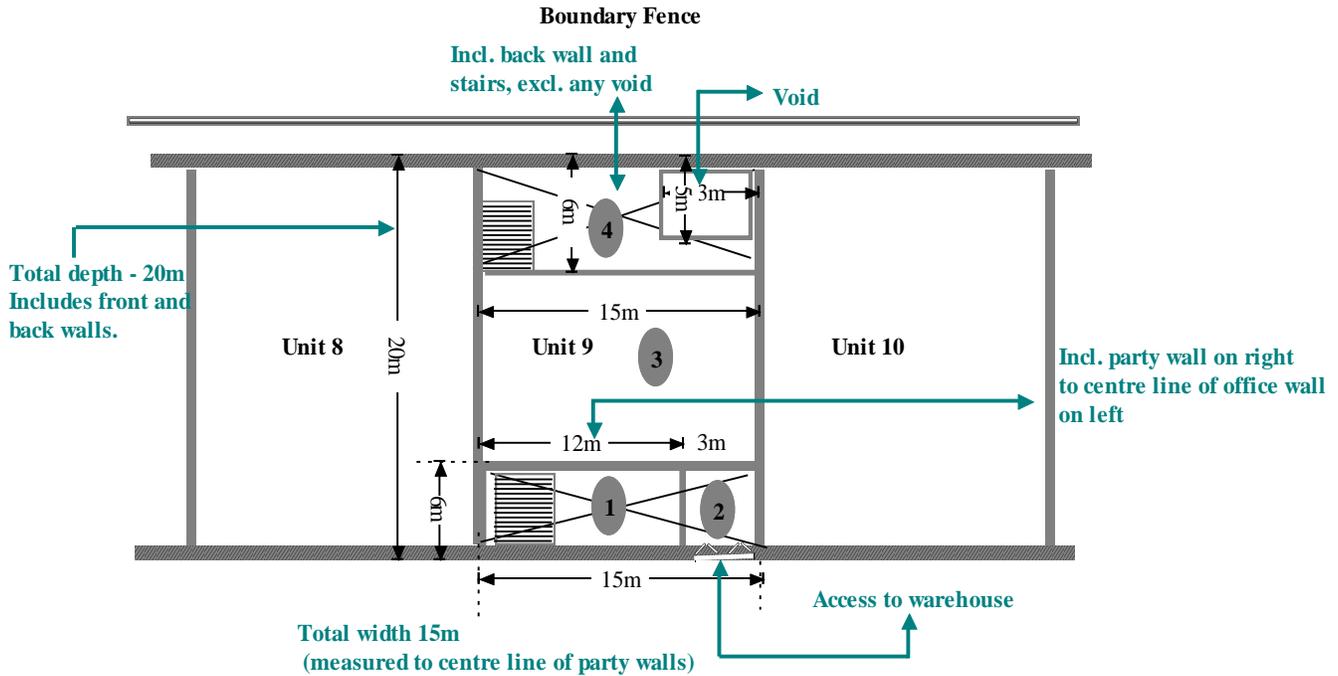


Diagram D: Example of Mid terrace warehouse with two storey offices and mezzanine.

Mid terrace warehouse with two storey offices with warehouse door to front and mezzanine floor



Floor Plan - not to scale

Calculation of area

Offices

1.	Ground floor	12m x 6m	=	72m ²
1-2	1 st floor	15m x 6m	=	<u>90m²</u>
				162m²

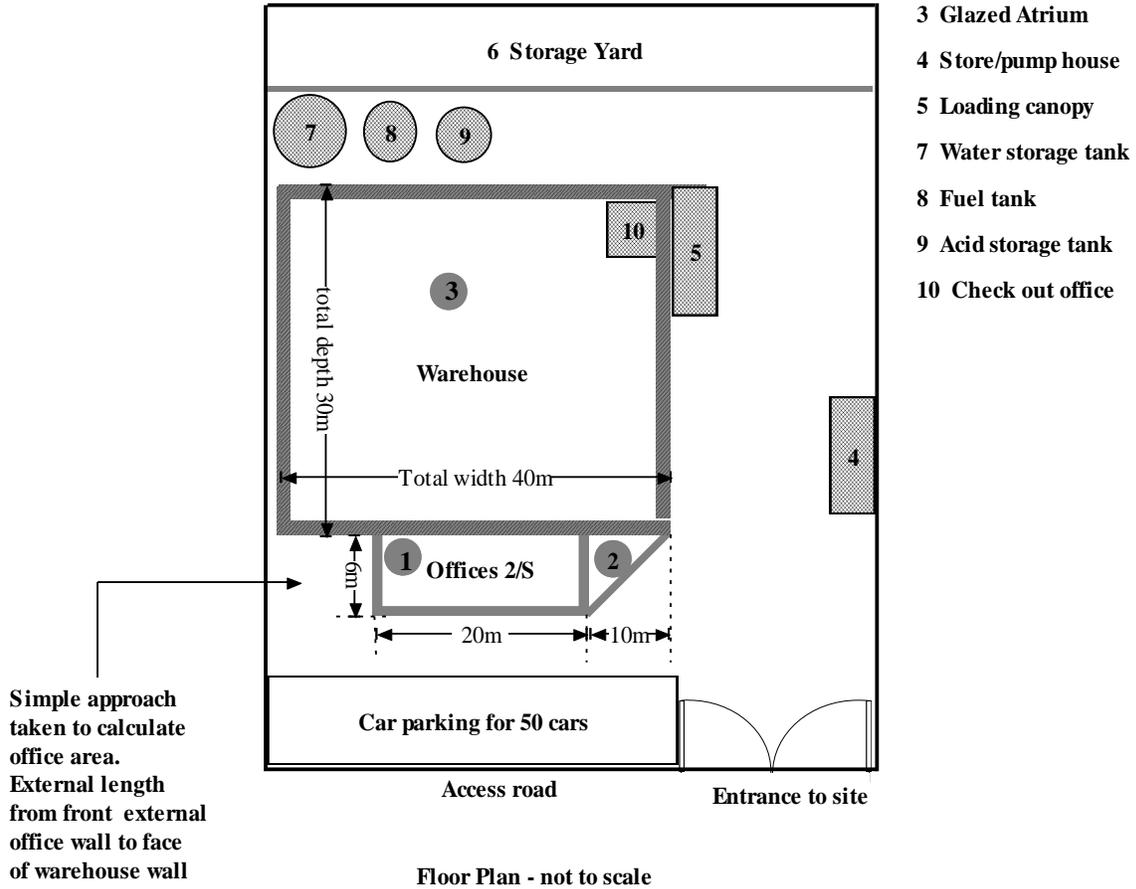
Warehouse

2-3	Ground floor	15m x 20m	=	300m ²
	Less 1(G.F.)	12m x 6m	=	<u>72m²</u>
				228m²

4.	Mezzanine	15m x 6m	=	90m ²
	Less Void Gross	5m x 3m	=	<u>15m²</u>
			=	75m²

Diagram E: Example of Factory with offices protruding from building, atrium, loading canopy, storage yard and plant.

Factory with offices protruding from building, atrium, loading canopy, storage yard and plant



Calculation of area

1. Offices 2S	20m X 6m X 2	= 240m ²
2. Atrium	$\frac{1}{2}(6)$ 3m X 10m	= <u>30m²</u>
		270m ²
3. Warehouse	40m X 30m	=1,200m ²
Total		<u>1,470m²</u>
Other		
4. Store/Pump Ho.	6m X 12m	= 72m ²
5. Canopy	4m X 10m	= 40m ²
6. Storage yard	80m X 20m	= 1600m ²

Plant- Horse power and storage tanks (See practice note)

2.0 Gross Internal Area (GIA)

Gross Internal Area is the area of a building measured to the internal face of the perimeter walls at each floor level.

Including

- 2.1 Areas occupied by internal walls and partitions.
- 2.2 Columns, piers, chimney breasts, stairwells, lift-wells, and the like.
- 2.3 Atria with clear height above, measured at base level only.
- 2.4 Internal open-sided balconies and the like.
- 2.5 Structural, raked or stepped floors are to be treated as a level floor measured horizontally.
- 2.6 Horizontal floors, with permanent access below structural, raked or stepped floors.
- 2.7 Corridors of a permanent essential nature (e.g. Fire corridors, smoke lobbies etc)
- 2.8 Mezzanine areas intended for use with permanent access.
- 2.9 Lift rooms, plant rooms, fuel stores, tank rooms which are housed in a covered
- 2.10 Service accommodation such as toilets, toilet lobbies, bathrooms, showers, changing rooms, cleaners rooms and the like.
- 2.11 Projection rooms.
- 2.12 Voids over stairwells and lift shafts on Upper floors.
- 2.13 Loading Bays
- 2.14 Areas with a headroom of less than 1.5m.
- 2.15 Pavement vaults. (Domestic)
- 2.16 Garages. (Domestic)

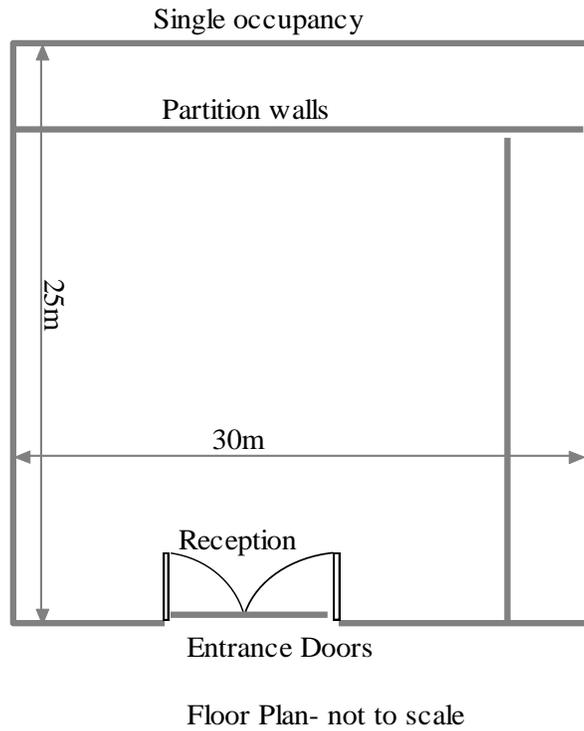
- 2.17 Conservatories. (Domestic) structure of a permanent nature, whether or not above main roof level.

Excluding

- 2.18 Perimeter wall thickness.
- 2.19 External open-sided balconies, covered ways and external fire escapes.
- 2.20 Canopies over loading doors and the like.
- 2.21 Voids
- 2.22 Greenhouses, garden stores, fuel stores, and the like (Domestic).
- 2.23 Sub-stations not used exclusively by the subject property (ESB sub-stations)

DIAGRAMS (GIA)

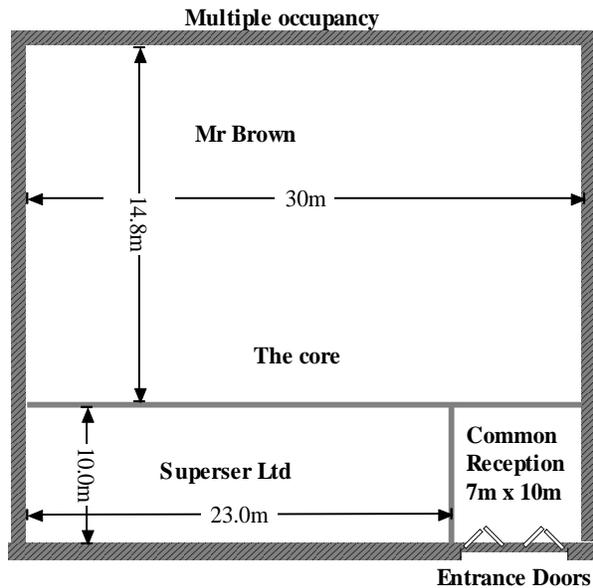
Diagram F: Example of GIA (Single occupancy)



The GIA is $30\text{m} \times 25\text{m} = 750\text{m}^2$.

Diagram G: Example of Multiple Occupation

Each occupier's section should be measured on a Gross Internal Area basis.



Floor Plan - not to scale

Common areas such as reception, canteen, should be measured separately and noted on file.

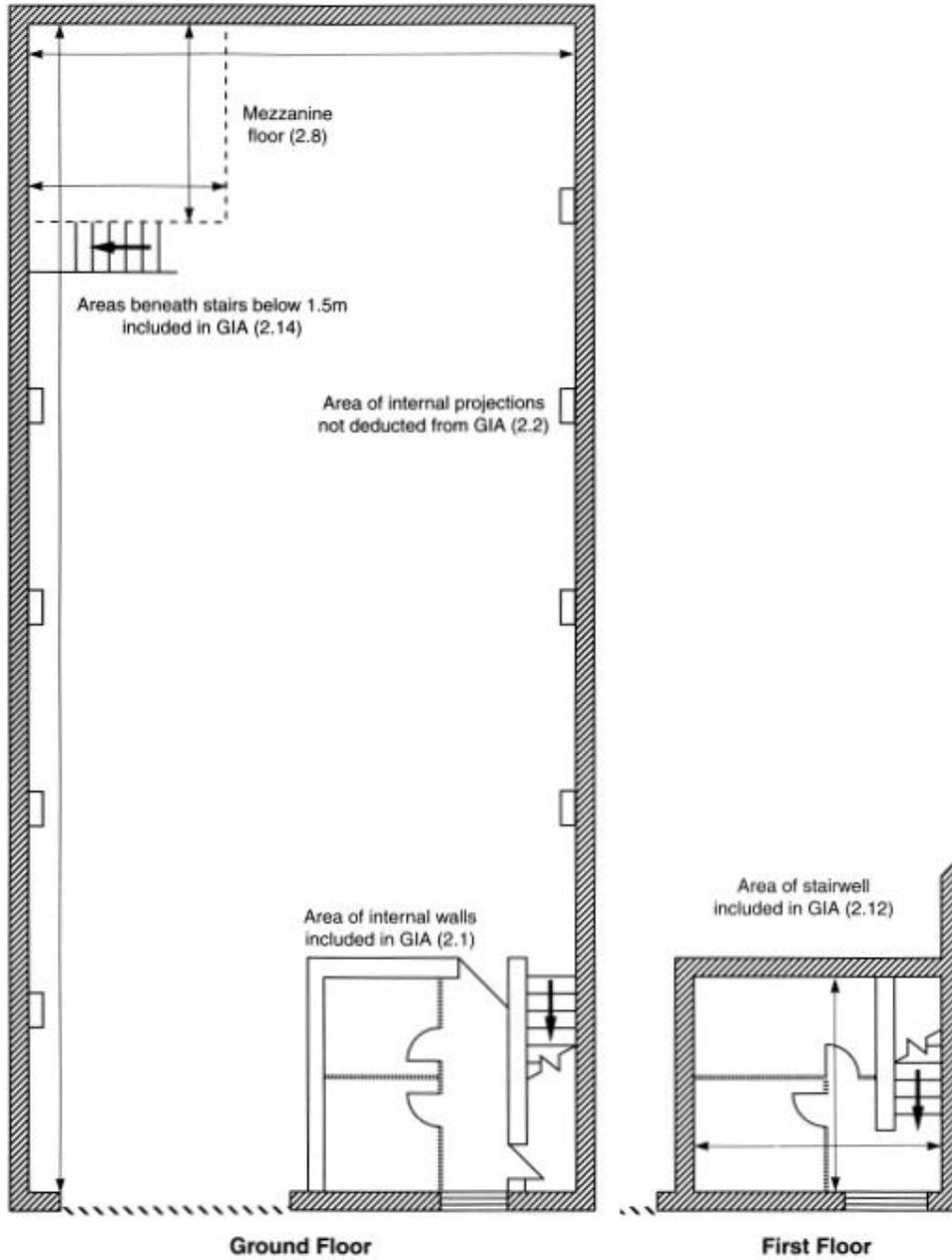
$$\text{Mr Brown: } 30\text{m} \times 14.8\text{m} = 444\text{m}^2$$

$$\text{Superser Ltd: } 23\text{m} \times 10\text{m} = 230\text{m}^2$$

Note

Because GIA excludes the thicknesses of external walls, but includes the thicknesses of all internal walls, it is important to identify what constitutes a separate building.

Diagram H: Example of GIA for Retail Warehouse



3.0 Net Internal Area (NIA)

Net Internal Area is the usable area within a building measured to the internal face of the perimeter walls at each floor level.

Including

- 3.1 Atria with clear height above, measured at base level only (but see 3.11 below).
- 3.2 Entrance halls (but see 3.12 below).
- 3.3 Notional lift lobbies (Fronting directly onto office/retail area).
- 3.4 Kitchens.
- 3.5 Built-in units, cupboards, and the like occupying usable areas.
- 3.6 Ramps of lightweight construction to false floors.
- 3.7 Area occupied by ventilation/heating grilles, where such equipment does not protrude above the floor level.
- 3.8 Area occupied by skirting and perimeter trunking.
- 3.9 Areas severed by internal non-structural walls, demountable partitions, whether or not permanent, and the like, where the purpose of the division is partition of use, not support, provided the area beyond is not used in common.
- 3.10 Pavement vaults.
- 3.11 Mezzanine areas intended for use with permanent access.
- 3.11A Public toilets (e.g. Restaurant and the like).

Excluding

- 3.12 Those parts of entrance halls, atria, landings and balconies used **in common**. (see 3.1 and 3.2). Entrance Halls in single occupation excluded if not in use as reception etc.
- 3.13 Toilets, toilet lobbies, bathrooms, cleaners rooms, and the like.
Staff toilets are excluded while public toilets are included.eg Restaurants and Creches.
- 3.14 Lift rooms, plant rooms, tank rooms (other than those of a trade process nature), fuel stores, and the like.
- 3.15 Stairwells, lift-wells and permanent lift lobbies.
- 3.16 Corridors and other circulation areas (incl. internal bridges over voids where the width is such that they are capable of use only as corridors) where used in common with other occupiers or of a permanent essential nature (e.g. fire corridors, smoke lobbies, etc.).
- 3.17 Areas under the control of service or other external authorities including meter cupboards and statutory service supply points.
- 3.18 Internal structural walls, walls enclosing excluded areas, columns, piers, chimney breasts, other projections, vertical ducts, and the like.
- 3.19 The space occupied by permanent and continuous air-conditioning heating or cooling apparatus, and ducting insofar as the space it occupies is rendered substantially unusable.
- 3.20 Areas with headroom of < 1.5m.
- 3.21 Areas rendered substantially unusable by virtue of having a dimension between opposite faces of less than 0.25m.
- 3.22 Vehicle parking areas (number and type of spaces noted)

DIAGRAMS (NIA)

Diagram I: Example of NIA for first floor purpose built offices.

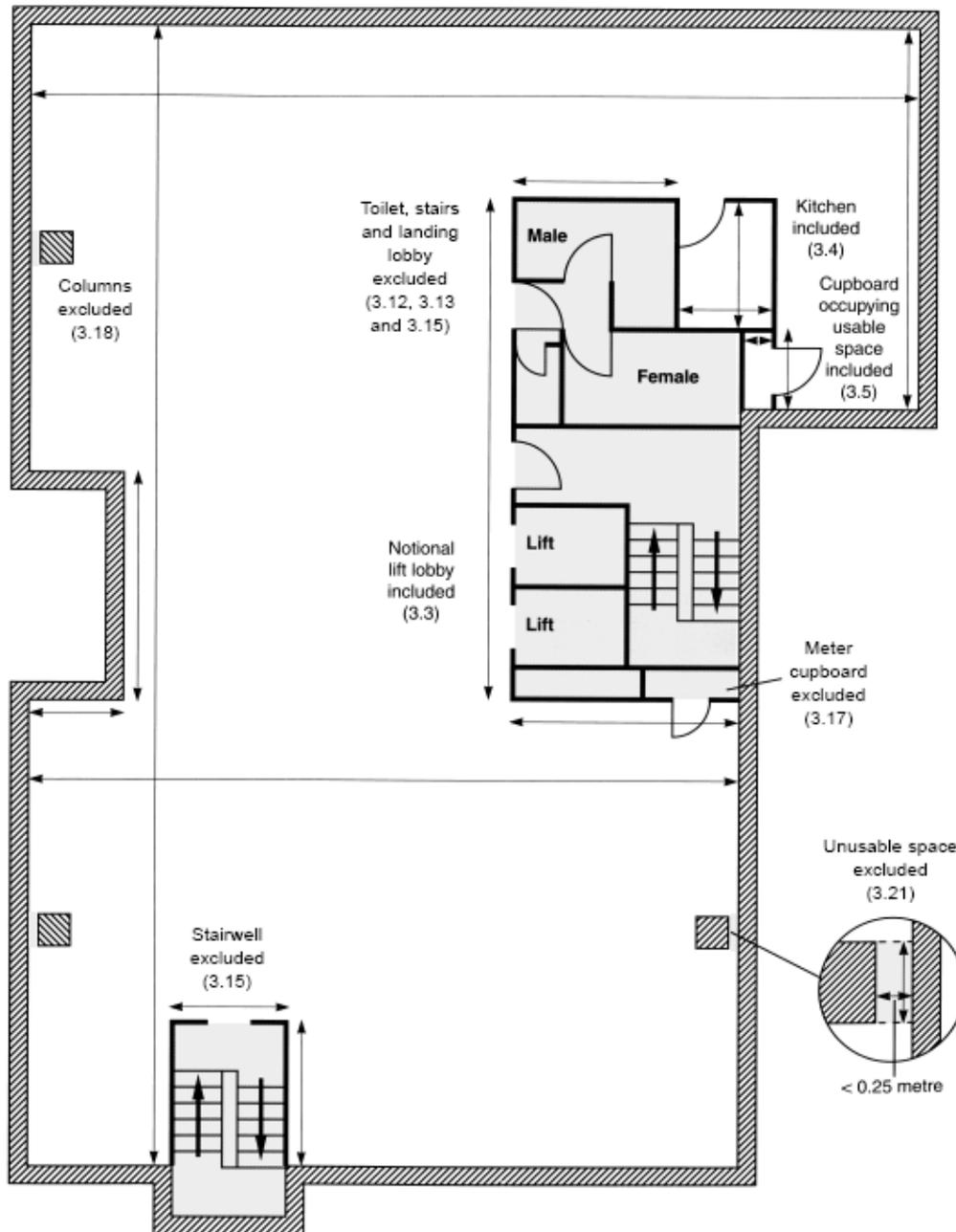


Diagram J: Example of NIA for Offices converted from dwelling house.

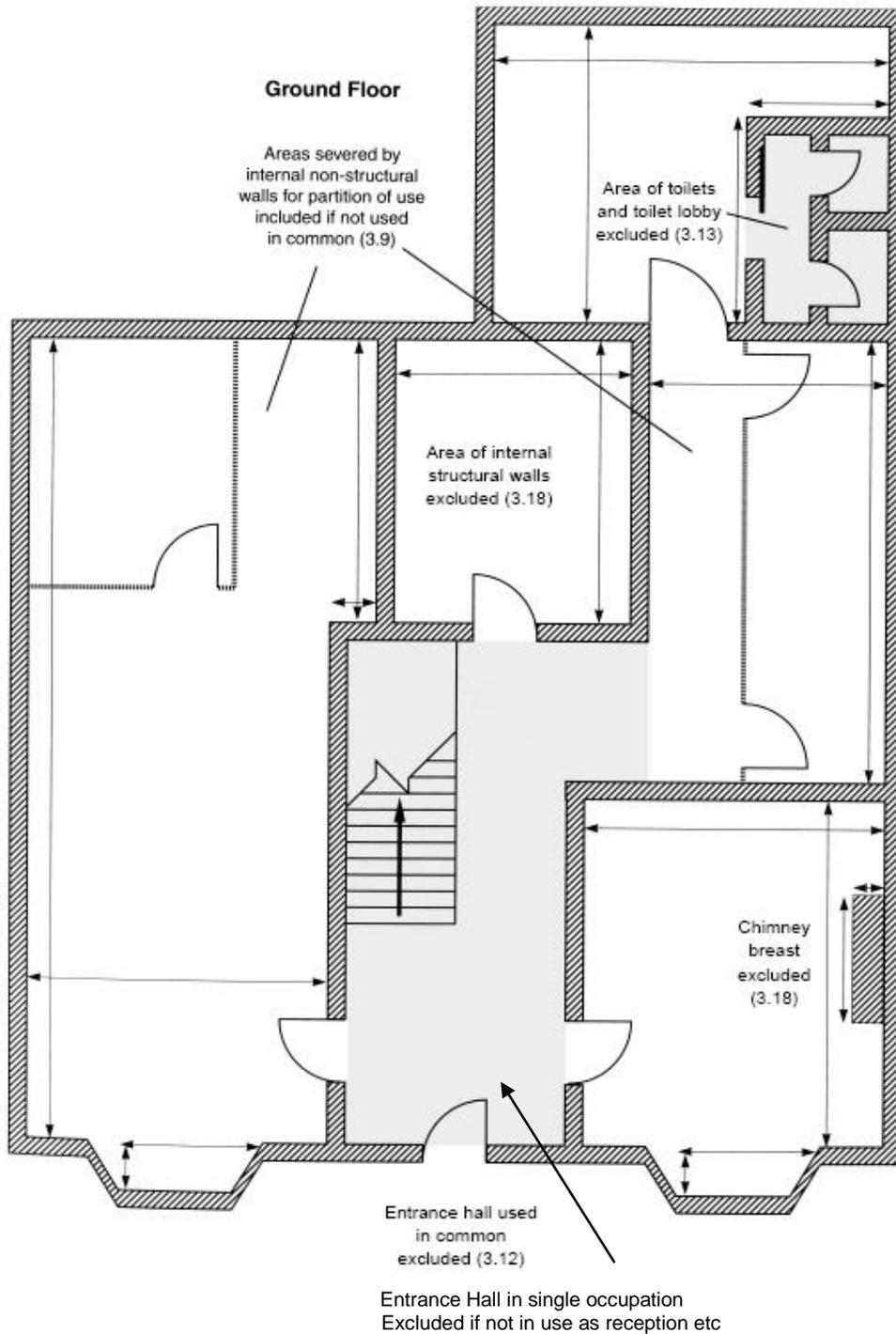
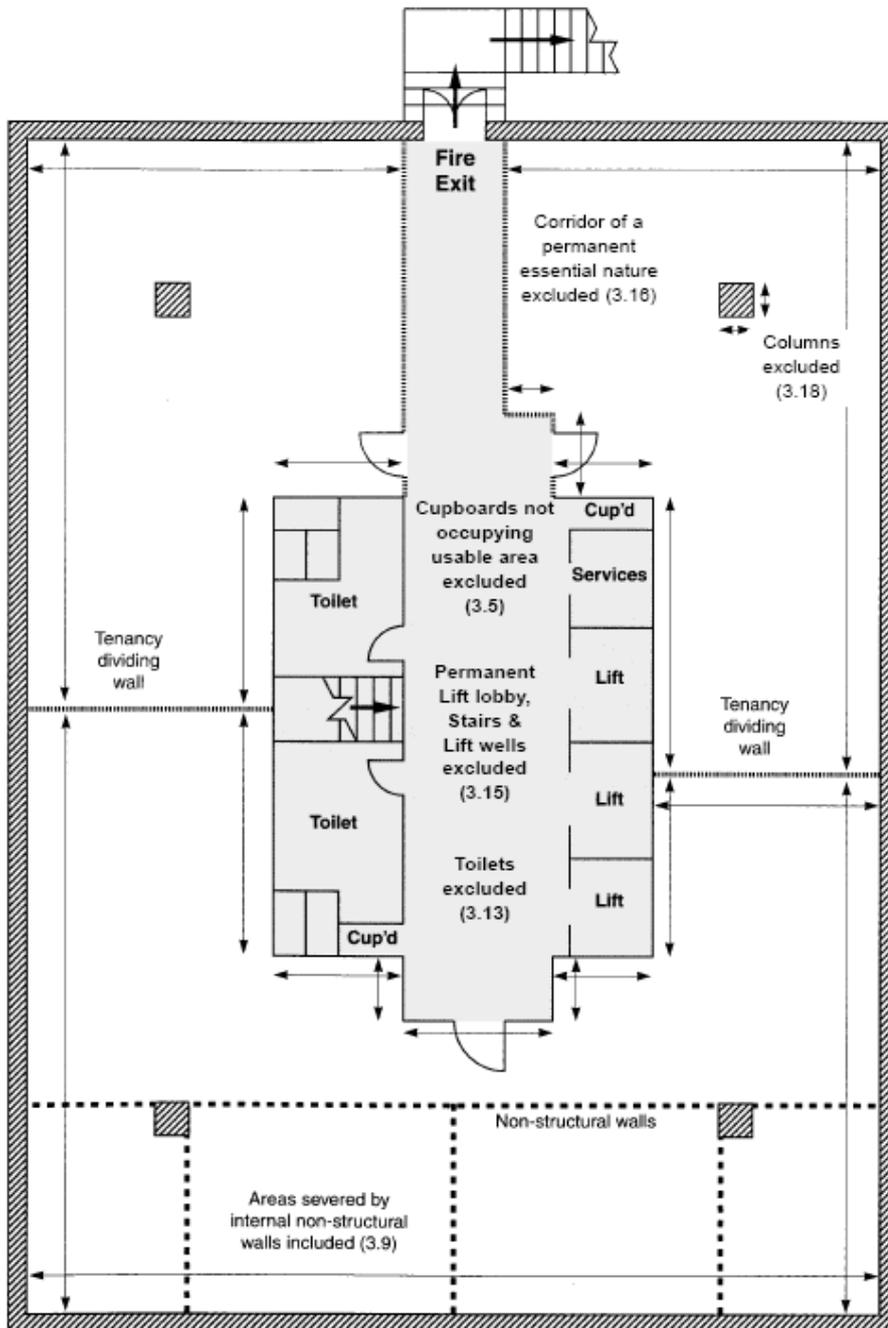


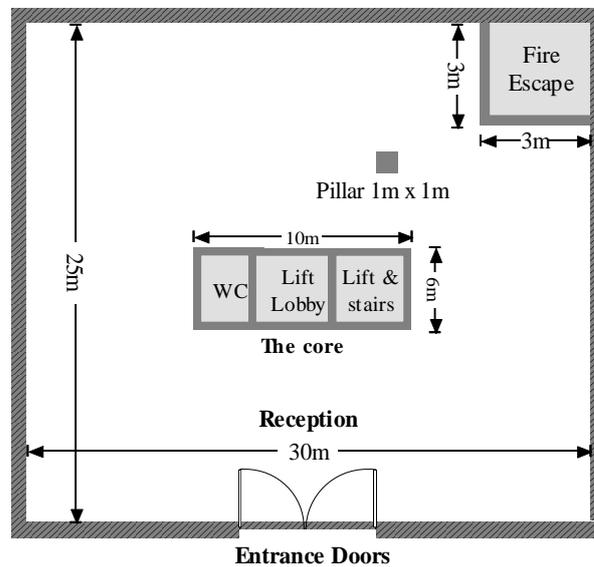
Diagram K: Example of NIA for open plan Offices in multiple occupation.



Each occupier's space should be measured on a net internal area basis. Common areas such as reception, canteen, should be measured separately and noted on file.

Diagram L: Modern Offices (Single Occupation) – Example of Net Internal Area (NIA).

Modern Offices - Example of Net Internal Area/one occupier



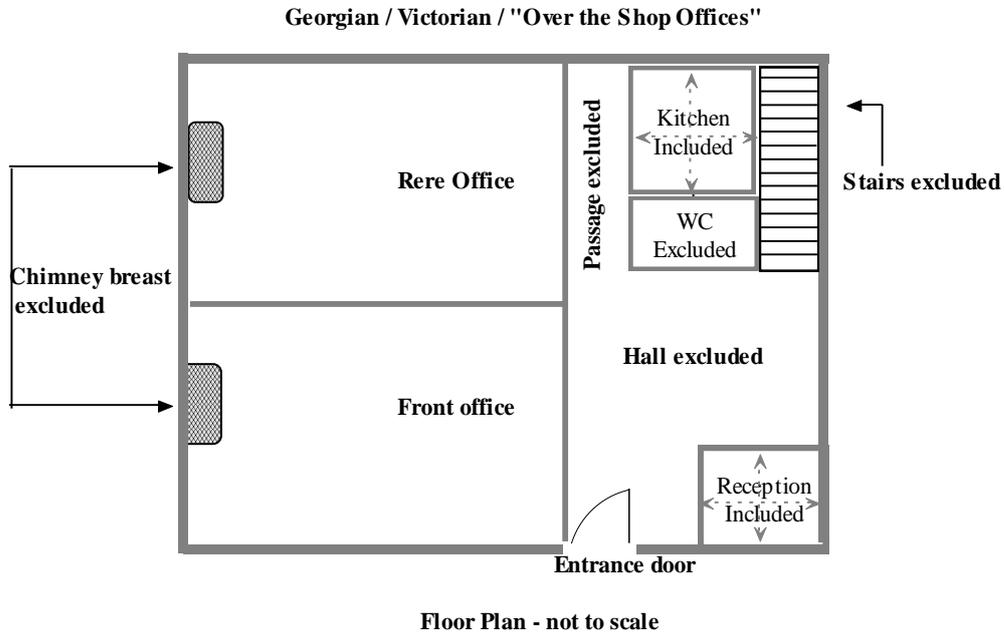
Floor Plan - not to scale

The overall area is $30\text{m} \times 25\text{m} = 750\text{m}^2$
 The net internal area = 680m^2

Areas excluded.

Lift lobby, WCs, lift, pillars, fire escape, total = 70m^2 . Therefore the net internal area is 680m^2 . The measurement of the core and fire escape is taken to the outer edges (i.e. - including the wall thickness).

Diagram M: Example of Georgian/Victorian/ "Over the shop offices" (NIA).



The diagram shows a ground/hall floor of a building in the above categories. In this example as the reception area is in the hall its extent should be measured. It may or may not be enclosed by a partition wall. The other more common situation is where the reception is located in the front office area.

Multiple Occupancy

Where the building is in multiple occupancy, the measurements of common areas such as canteen/kitchen and reception area should be noted on file.

Car Spaces

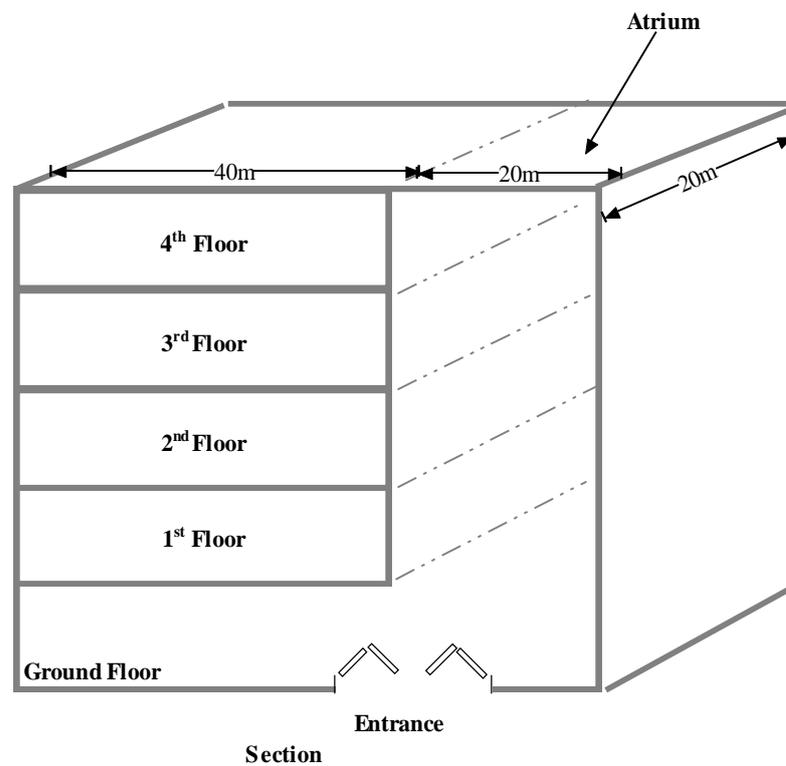
Details of all car spaces should be recorded.

Diagram N: Modern Offices – Example of Atrium Measurement – Net Internal Area (NIA).

Atrium

An atrium is a sky lit central court rising through several storeys with rooms opening off at each level.

Only the lowest section should be measured, the void areas above should not be included in the measurements but shown on the plan.



Only the ground floor measurement of the atrium is to be included.

Ground floor	40m x 20m	=	800m ²
Atrium	20m x 20m	=	400 m ²
1 st floor	40m x 20m	=	800m ²
2 nd floor	40m x 20m	=	800m ²
3 rd floor	40m x 20m	=	800m ²
4 th floor	40m x 20m	=	800m ²

Diagram O: Example of NIA measurement – Point from which to measure adjacent to heating installations.

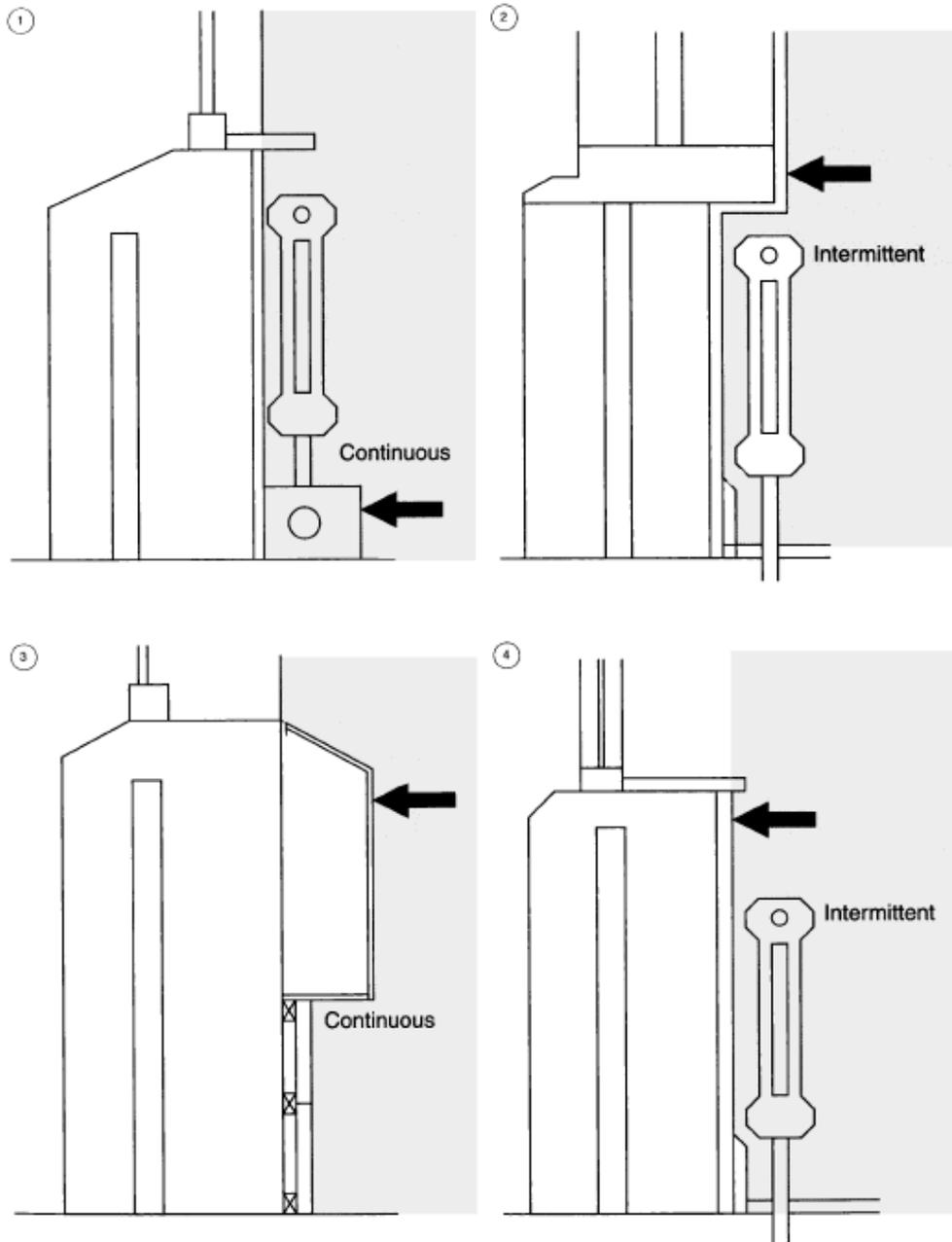


Diagram P: Example of NIA in a Retail Context.

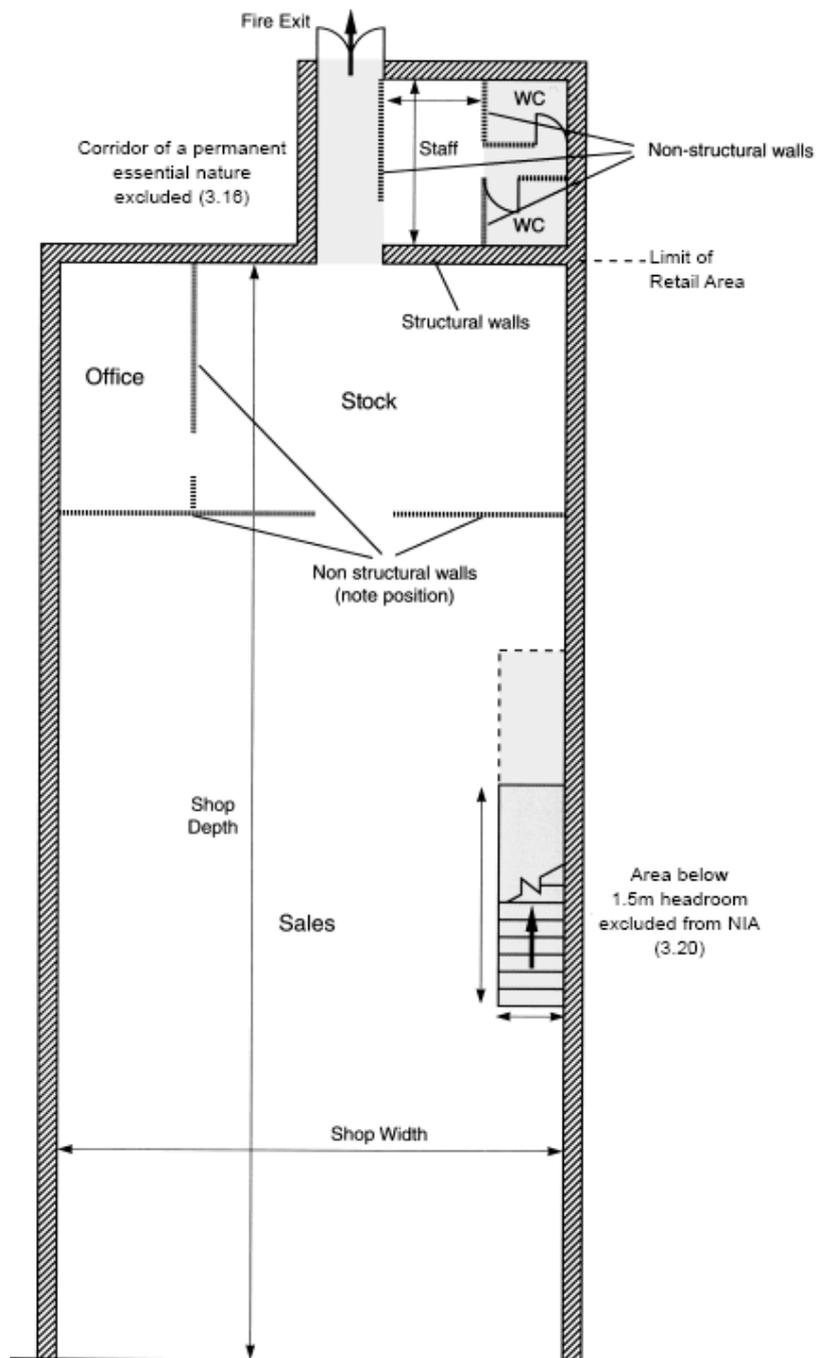
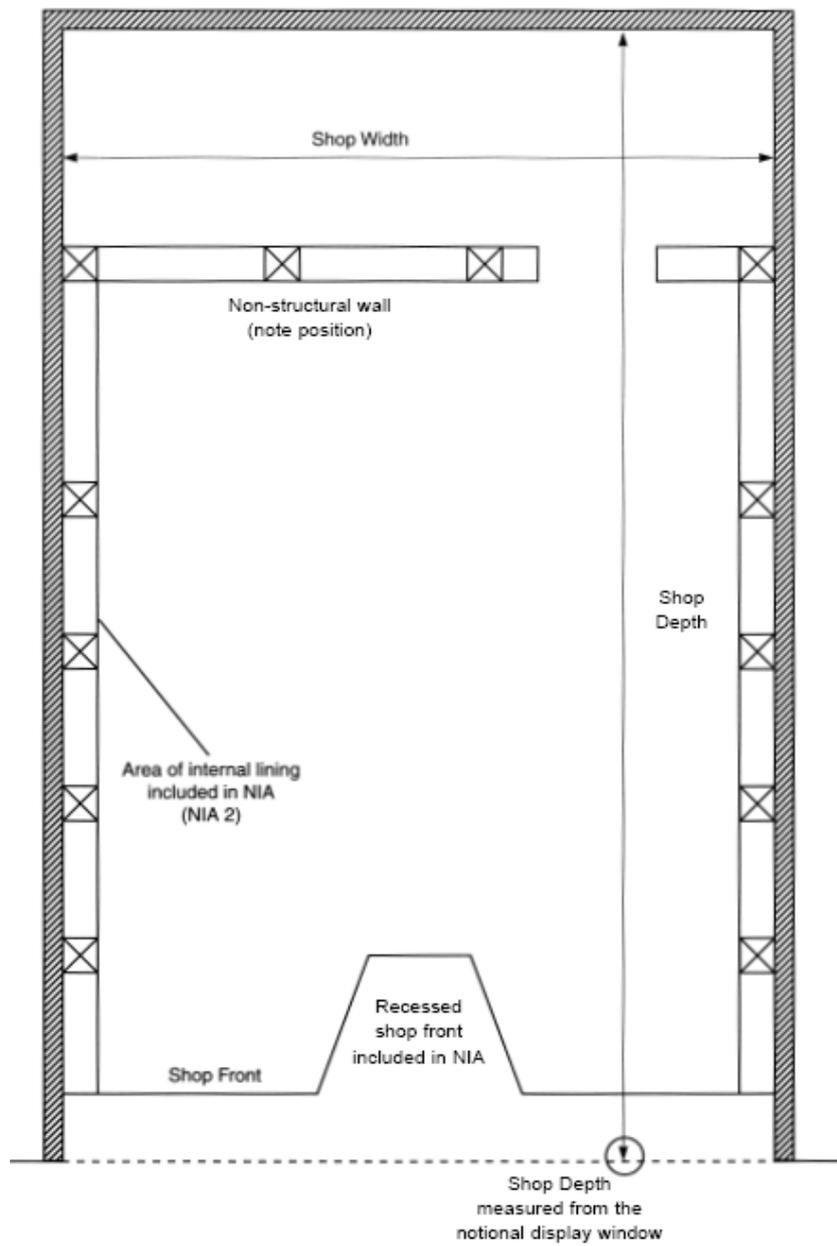


Diagram Q: Example of NIA in a Retail Context.



4. TECHNICAL DEFINITIONS

General

1.0 Clear Internal Height (CIH):

The height between the structural floor surface and the underside of the lowest point of the structural ceiling or roof – see diagram R.

2.0 Eaves Height (EH):

Internal: The height between the floor surface and the underside of the roof covering, supporting the purlins or underlining (whichever is lower) at the eaves on the internal wall face. See diagram R

External: The height between the ground surface and the exterior of the roof covering at the eaves on the external wall face ignoring any parapet. See diagram O.

3.0 Ceiling Height:

The height between the topmost floor surface and the underside of the ceiling. See Diagram S.

4.0 Raised Floor Void:

The minimum clearance between the structural floor surface and the underside of the raised floor. See Diagram S.

5.0 Maximum Internal height (MIH):

The height between the structural floor surface and the underside of the highest point of the structural ceiling or roof. See Diagram S.

6.0 Building Frontage (BF):

The measurement along the front of the building from the outside of external walls or the centre line of party walls. See Diagram T.

Shops

7.0 Retail Area (RA):

The retail area of the shop is the Net Internal Area (NIA), including storerooms, and ancillary accommodation formed by non-structural partitions. Recessed and arcaded areas of shops created by the location and design of the window display frontage should be included. Storerooms and ancillary accommodation formed by structural accommodation should be excluded.

8.0 Storage Area (StoA):

The Storage area which is formed by structural partitions and does not form part of the retail area (RA).

9.0 Ancillary Areas (AA):

All NIA not included in retail area and Storage area but capable of beneficial occupation.

10.0 Gross Frontage (GF):

The overall external measurement in a straight line across the front of the building, from the outside of the external walls, or the centre line of the party walls. See Diagram T.

11.0 Net Frontage (NF):

The overall external frontage on the shop line measured between the internal face of the external walls, including the display window frame and shop entrance but excluding recesses, doorways or access to other accommodation. See Diagram T

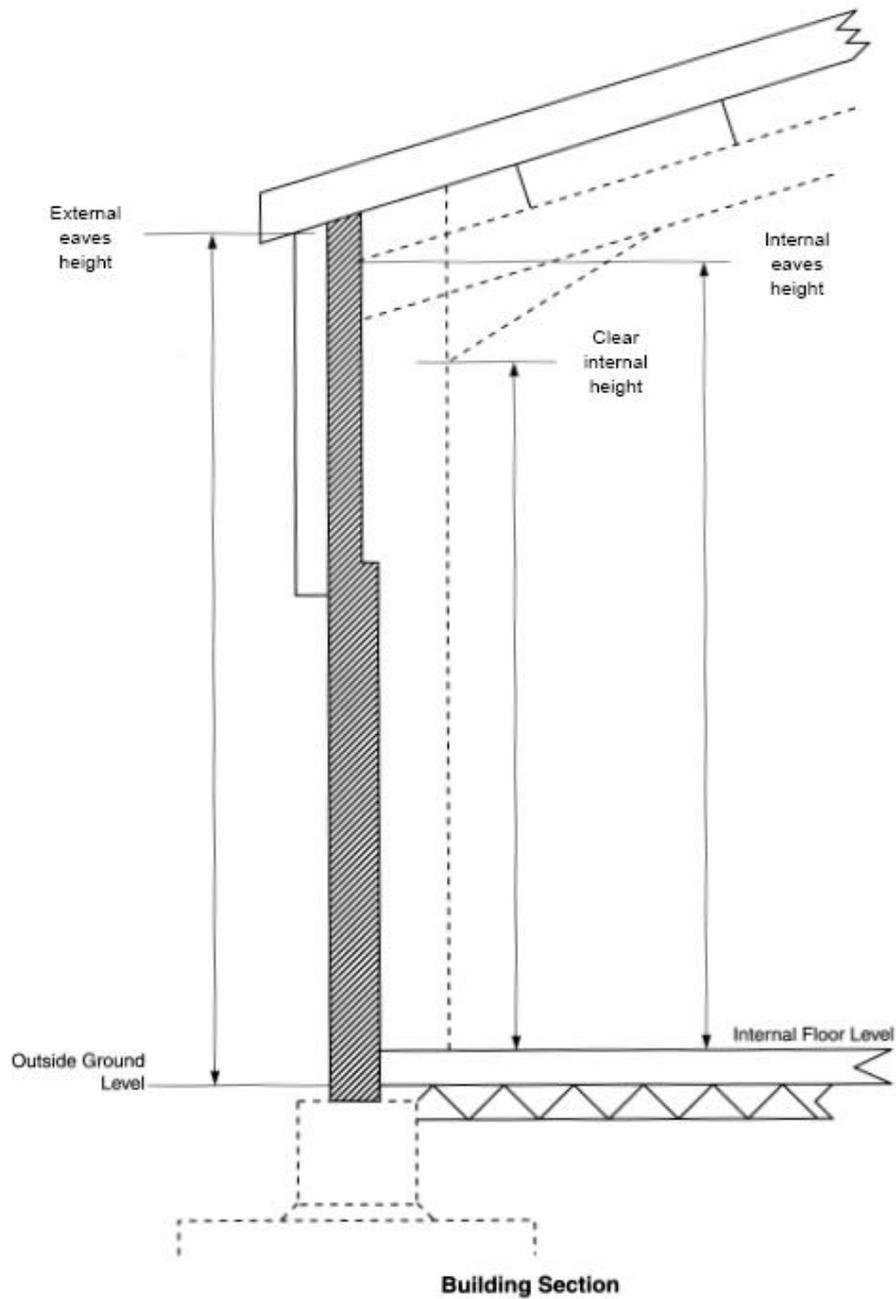
12.0 Shop Width (SW):

The internal width between inside faces of external walls at front of shop.
See Diagram. T.

13.0 Shop Depth (SD):

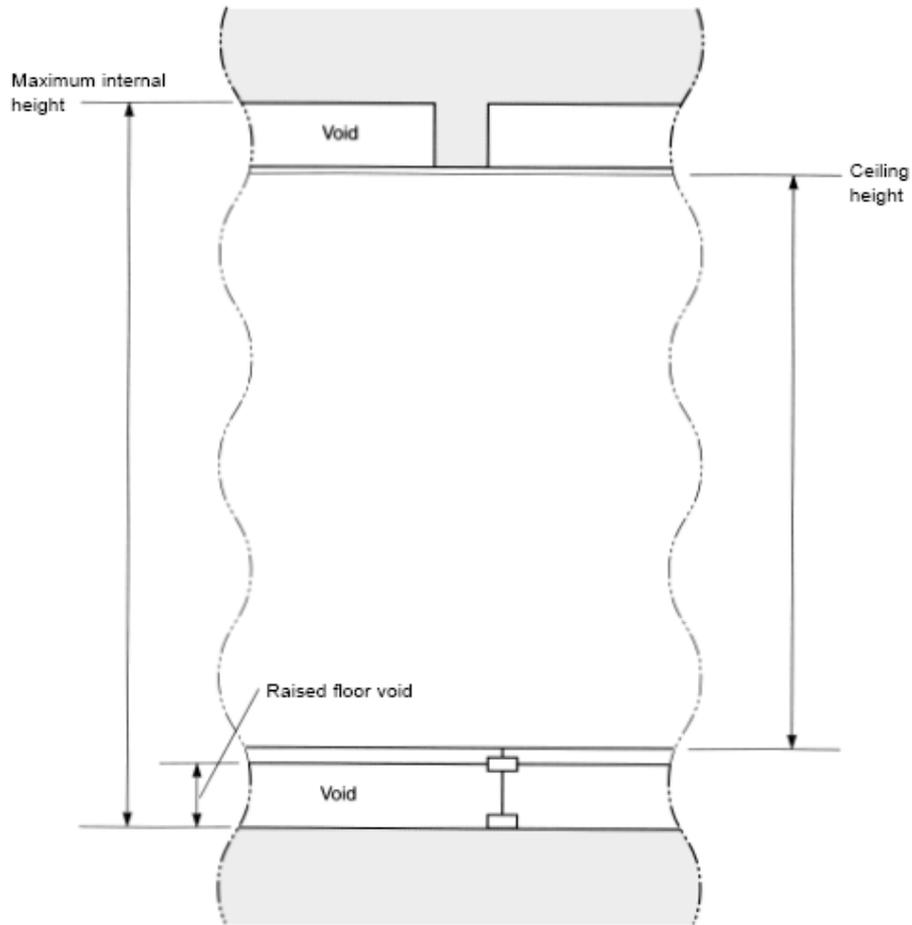
The measurement from the notional display window to the rear of the retail area, including the thickness of the display window.

Diagram R: Example of measurement of Eaves Height



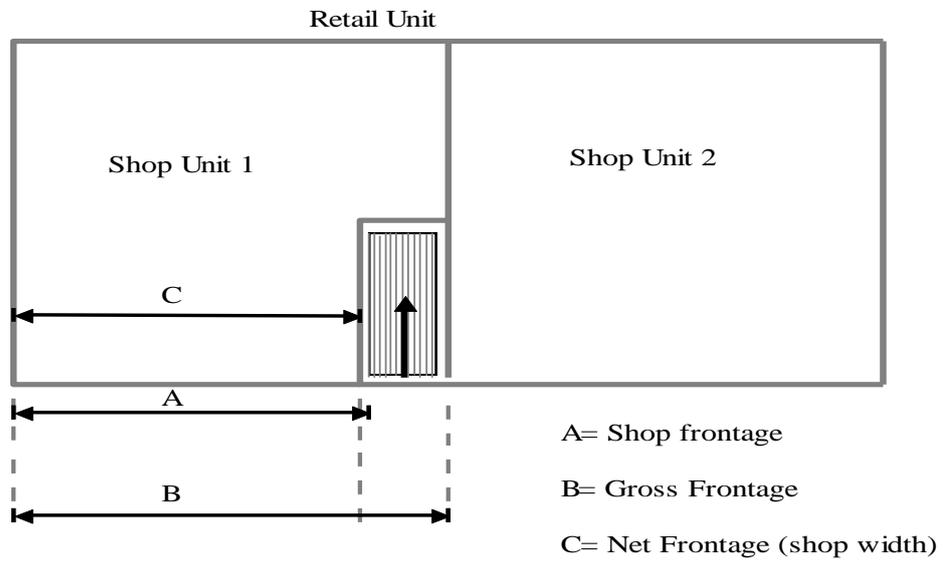
Clear Height: The heights between floor surface and lowest part of roof trusses, ceiling beams, or roof beams or haunches at the eaves.

Diagram S: Example of dimensions for heights.



Internal Section (part)

Diagram T: Example of frontages for a Retail Unit.



Floor Plan -Not to scale