STANDARD
METHOD FOR
MEASURING <
FLOOR AREA
IN OFFICE
BUILDINGS

An American National Standard
Approved June 7, 1996 by American National Standards Institute, Inc.

Secretariat
Building Owners and Managers Association International

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BUILDING OWNERS AND MANAGERS ASSOCIATION (BOMA) INTERNATIONAL

The premiere trade association of the office building industry, BOMA International is a dynamic international federation of 87 U.S., ten Canadian, and three international associations. Individuals join BOMA through local BOMA associations. Principal members own and/or manage more than 6 billion square feet of commercial office space. Associate members provide the goods and services needed to operate those properties.

Founded in 1907, BOMA International’s mission is to actively and responsibly represent and promote the commercial real estate industry’s interests through effective leadership and advocacy; the collection, analysis, and dissemination of information; and professional development.

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BOMA International’s Annual Convention and The Office Building Show are held each June, with the Winter Business Meeting and Leadership Conference taking place each January. BOMA offers continuing educational opportunities through timely seminars on relevant topics. Professional certification programs are offered through the Building Owners and Managers Institute (BOMI) and BOMA Local Associations.

The combined lobbying efforts of BOMA Local Associations and BOMA International effectively represent the industry’s interests before legislative, regulatory, and code-making bodies.

BOMA’s annual Office Building of The Year (TOBY) awards recognize outstanding commercial, corporate, medical, and government office buildings.

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Members receive Skylines, BOMA’s award-winning newsmagazine. Skylines provides national and regional news and feature stories on industry issues.

BOMA International publishes numerous research and reference materials. Since 1920, the annual Experience Exchange Report has provided operating expense and income data on more than 4,700 buildings. Subjects of other BOMA publications include the Americans with Disabilities Act, Leasing, Security and Emergency Planning, Medical Office Buildings, Preventive Maintenance, Telecommunications, and Indoor Air Quality. For a publications catalog, call 1-800-426-6292, or visit BOMA’s web site, http://www.boma.org.

For information on BOMA International membership, research activities, industry representation, seminars, and the annual convention, contact BOMA International at (202) 408-2662 or visit BOMA’s home page, http://www.boma.org.
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An American National Standard
ANSI/ BOMA Z65.1-1996
DEVELOPED AND APPROVED BY THE ANSI Z65.1 CANVASS GROUP

(Note: the following list is not meant to imply that every member voted to approve the revised Standard)

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In 1915, the Building Owners and Managers Association (BOMA) International developed the *Standard Method of Floor Measurement for Office Buildings*. This first *Standard* was readily accepted as a national industry standard and stood for over 35 years without amendment. With the advent of ‘block type’ building design, a revised *Standard* was adopted by BOMA International in 1952. This was further revised in 1955 to become the American National Standard, of which BOMA International was a cosponsor.

In 1971, the *Standard* was revised to reflect leasing concepts and practices in effect at that time. BOMA International revised the *Standard* in 1980 to further clarify the point to which measurements are taken relative to the exterior wall of a building, and to establish the basic methods for measuring the office area of a given floor. The 1989 review resulted in a French translation and the addition (not officially part of the *Standard*) of a Question and Answer section with the most frequently asked questions about the *Standard*.


**AMERICAN NATIONAL STANDARD**

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INTRODUCTION

This revised Standard is a building-wide method of measurement, allowing spaces that benefit all the building occupants to be measured and allocated on a pro-rata basis. This represents a major change from the previous (1981) edition, which measured office space on a floor-by-floor basis.

The need for such a changed approach was first identified within BOMA International in 1992. While surveys showed that the Standard was the most commonly used method of measurement for office buildings, they also documented that it was not being universally applied on a floor-by-floor basis. Buildings constructed during the 1980s tended to incorporate design elements intended to benefit building occupants generally, rather than on a floor-by-floor basis (for example, spacious entrance lobbies with concierge desks, health clubs, daycare facilities, conference centers, etc.). In view of this trend, BOMA’s marketplace information indicated a widespread need to fairly account for these building-wide amenities.

Additionally, revision of the Standard meets a need for greater clarity in the presentation of concepts and definitions. The previous edition generated too many questions on too many issues to be considered adequate for continued use. These concerns have been thoroughly discussed, and are addressed in a definitive manner here.

In order to produce a revised Standard that achieves the aims in a clear and practicable way, various new definitions have been introduced, explaining concepts such as Floor Usable Area, Floor Rentable Area, Floor Common Area, and Building Common Area. With each new term, illustrations were developed to convey the new approach visually.

While additional questions will no doubt arise and further guidance materials may need to be developed, those responsible for the revised Standard believe it is a sound document that will meet the needs of architects, space planners, interior designers, engineers, building owners and managers, facility owners and managers, leasing professionals, asset managers, appraisers, and others concerned with the measurement of office space.

The document is designed to be easier to use though the inclusion of two new features: the “Overview of Method” section on page 4, and the “Global Summary of Areas” section on pages 26-27. In addition to familiarizing themselves with the definitions used in the Standard (all of which are capitalized for quick recognition), users are encouraged to reference these two sections. The “Overview of Method” outlines the steps needed to measure areas within an office building, while the “Global Summary” enables users to step back and chart the interrelationship of concepts and terms described in the Standard.
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FOREWORD

A standard’s purpose is to permit communication and computation on a clear and understandable basis. Another important purpose is to allow comparison of values on the basis of a generally agreed upon method of measurement.

For more than 75 years, BOMA International has sponsored the Standard Method for Measuring Floor Area in Office Buildings. The BOMA Standard has been the one accepted and approved by the American National Standards Institute (ANSI). The result is a method of measurement used by building owners, managers, facilities managers, tenants, appraisers, architects, leasing professionals, lending institutions and others to compute the floor area of an office building.

This Standard may be used to measure space in both existing and new office buildings. BOMA International urges all its members and others in the office building industry to use the Standard to measure office space. Facilities professionals are also encouraged to use the Standard in allocating building expenses to various cost centers or for comparing occupancy.

(This Foreword is not officially a part of the Standard Method for Measuring Floor Area in Office Buildings, ANSI/BOMA Z65.1-1996.)

PREFACE

It is not uncommon for an area calculated from the building plans to differ from the area measured on site. It is also not uncommon for a site measurement and calculation by one party to differ from the same measurement and calculation by another party. The calculation for an area, resulting from site measurement by the building owner or manager, is deemed accurate if a re-measurement gives result with variance of two percent (2%) or less. If the variance is greater than two percent (2%), BOMA International recommends that an unbiased professional third party be sought to assist in resolving the matter.
DEFINITIONS

FINISHED SURFACE shall mean a wall, ceiling or floor surface, including glass, as prepared for tenant use, excluding the thickness of any special surfacing materials such as panelling, furring strips and/or carpet.

DOMINANT PORTION shall mean the portion of the inside FINISHED SURFACE of the permanent outer building wall which is 50% or more of the vertical floor-to-ceiling dimension, at the given point being measured as one moves horizontally along the wall. DOMINANT PORTION itself is a vertical measurement between FINISHED SURFACES (or a series of vertical measurements), with the number of measurements needed based upon the conditions found along the wall. If, for instance, a window system is 4’-6” (1.372 meters) high and the floor to ceiling dimension is 9’-0” (2.743 meters), the DOMINANT PORTION is the inside surface of the glass for the full width of the window system. If, however, the window system is 4’-5” (1.346 meters), the DOMINANT PORTION is the inside surface of the wall. In designs of alternating window systems and wall sections, the DOMINANT PORTION will move in and out as often as conditions dictate. If no FINISHED SURFACE of the permanent outer building wall is 50% or more of the vertical floor-to-ceiling dimension, or if the permanent outer building wall is not vertical, the DOMINANT PORTION shall be the inside finished surface of the wall where it intersects the finished floor. In the case of STORE AREA with street level frontage, the DOMINANT PORTION shall be the building line.

GROSS BUILDING AREA shall mean the total constructed area of a building. It is generally not used for leasing purposes.

GROSS MEASURED AREA shall mean the total area of a building enclosed by the DOMINANT PORTION, excluding parking areas and loading docks (or portions of same) outside the building line. It is generally not used for leasing purposes and is calculated on a floor by floor basis.

MAJOR VERTICAL PENETRATIONs shall mean stairs, elevator shafts, flues, pipe shafts, vertical ducts, and the like, and their enclosing walls. Atria, lightwells and similar penetrations above the finished floor are included in this definition. Not included, however, are vertical penetrations built for the private use of a tenant occupying OFFICE AREAs on more than one floor. Structural columns, openings for vertical electric cable or telephone distribution, and openings for plumbing lines are not considered to be MAJOR VERTICAL PENETRATIONs.

FLOOR RENTABLE AREA shall mean the result of subtracting from the GROSS MEASURED AREA of a floor the MAJOR VERTICAL PENETRATIONs on that same floor. It is generally fixed for the life of the building and is rarely affected by changes in corridor size or configuration.

USABLE AREA shall mean the measured area of an OFFICE AREA, STORE AREA, or BUILDING COMMON AREA on a floor. The total of all the USABLE AREAs for a floor shall equal FLOOR USABLE AREA of that same floor.

OFFICE AREA shall mean the area where a tenant normally houses personnel and/or furniture, for which a measurement is to be computed.

STORE AREA shall mean the area of an office building suitable for retail occupancy. STORE AREAs are included in FLOOR RENTABLE AREA and RENTABLE AREA.

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DEFINITIONS

BUILDING COMMON AREA shall mean the areas of the building that provide services to building tenants but which are not included in the OFFICE AREA or STORE AREA of any specific tenant. These areas may include, but shall not be limited to, main and auxiliary lobbies, atrium spaces at the level of the finished floor, concierge areas or security desks, conference rooms, lounges or vending areas, food service facilities, health or fitness centers, daycare facilities, locker or shower facilities, mail rooms, fire control rooms, fully enclosed courtyards outside the exterior walls, and building core and service areas such as fully enclosed mechanical or equipment rooms. Specifically excluded from BUILDING COMMON AREA are FLOOR COMMON AREAS, parking space, portions of loading docks outside the building line, and MAJOR VERTICAL PENETRATIONS.

FLOOR USABLE AREA shall mean the sum of USABLE AREAS of OFFICE AREAS, STORE AREAS and BUILDING COMMON AREAS of a floor. The amount of FLOOR USABLE AREA can vary over the life of a building as corridors expand and contract and as floors are remodeled.

FLOOR COMMON AREA shall mean the areas on a floor such as washrooms, janitorial closets, electrical rooms, telephone rooms, mechanical rooms, elevator lobbies, and public corridors which are available primarily for the use of tenants on that floor.

FLOOR R/U RATIO shall mean the conversion factor that, when applied to USABLE AREA, gives the BASIC RENTABLE AREA of the OFFICE AREA, STORE AREA or BUILDING COMMON AREA.

BASIC RENTABLE AREA of an OFFICE AREA, STORE AREA or BUILDING COMMON AREA shall mean the USABLE AREA of that OFFICE AREA, STORE AREA or BUILDING COMMON AREA and its share of the FLOOR COMMON AREAs on that floor. BASIC RENTABLE AREA is determined by multiplying the USABLE AREA of that OFFICE AREA, STORE AREA or BUILDING COMMON AREA by the FLOOR R/U RATIO. The total BASIC RENTABLE AREA of a tenant occupying more than one floor shall be the sum of its BASIC RENTABLE AREAs on each floor. The total of all BASIC RENTABLE AREAs on a floor shall equal the FLOOR RENTABLE AREA of that same floor.

BUILDING RENTABLE AREA shall equal the sum of all the FLOOR RENTABLE AREAs.

BUILDING R/U RATIO shall mean the conversion factor that distributes the BUILDING COMMON AREA of a building.

RENTABLE AREA shall mean the USABLE AREA of an OFFICE AREA or STORE AREA with its associated share of FLOOR COMMON AREAs and BUILDING COMMON AREAs. RENTABLE AREA is determined by multiplying the USABLE AREA of an OFFICE AREA or STORE AREA by the R/U RATIO. The total of all RENTABLE AREAs equals the BUILDING RENTABLE AREA for the building.

R/U RATIO shall mean the conversion factor that, when applied to USABLE AREA, gives the RENTABLE AREA of the OFFICE AREA or STORE AREA.
OVERVIEW OF METHOD

The following steps must be followed to obtain the RENTABLE AREA of an OFFICE AREA or STORE AREA. Please note that an OFFICE AREA located in a STORE AREA is measured as a STORE AREA.

1. Determine, for record keeping, the overall GROSS BUILDING AREA.

2. Ascertain the GROSS MEASURED AREA of each floor of the building, applying the concepts of FINISHED SURFACE and DOMINANT PORTION.

3. Establish the FLOOR RENTABLE AREA for each floor by deducting from each floor GROSS MEASURED AREA the area of its MAJOR VERTICAL PENETRATIONs.

4. Measure the USABLE AREA of OFFICE AREAS, STORE AREAS and BUILDING COMMON AREAS on each floor to determine each FLOOR USABLE AREA.

5. Determine the FLOOR COMMON AREA of every floor by subtracting from each FLOOR RENTABLE AREA its FLOOR USABLE AREA.

6. The FLOOR COMMON AREA is allocated to each USABLE AREA on that floor by applying that FLOOR R/U RATIO. The result is the BASIC RENTABLE AREA.

7. The BUILDING COMMON AREA is allocated to each BASIC RENTABLE AREA by applying the BUILDING R/U RATIO. The result is the RENTABLE AREA.

Note that the RENTABLE AREA can be calculated by applying to the USABLE AREA of OFFICE AREA and STORE AREA the R/U RATIO (BUILDING R/U RATIO X FLOOR R/U RATIO). See chart on pages 26-27 for a summary of the interrelationship of areas.

 RATIOS AND EQUATIONS

\[ FLOOR\ R/U\ RATIO = \frac{FLOOR\ RENTABLE\ AREA}{FLOOR\ USABLE\ AREA} \]

\[ BASIC\ RENTABLE\ AREA = USABLE\ AREA \times FLOOR\ R/U\ RATIO \]

\[ BUILDING\ R/U\ RATIO = \frac{BUILDING\ RENTABLE\ AREA}{(BUILDING\ RENTABLE\ AREA - BASIC RENTABLE AREA of BUILDING COMMON AREA)} \]

\[ RENTABLE\ AREA = BASIC\ RENTABLE\ AREA \times BUILDING\ R/U\ RATIO \]

\[ R/U\ RATIO = FLOOR\ R/U\ RATIO \times BUILDING\ R/U\ RATIO \]

\[ RENTABLE\ AREA = USABLE\ AREA \times R/U\ RATIO \]
ILLUSTRATIONS, DOMINANT PORTION

Illustrates a vertical permanent outer building wall where the window system comprises 50% or more of the vertical floor-to-ceiling dimension and, therefore, is the DOMINANT PORTION. Points of measurement are shown by the connected arrows.

Illustrates a vertical permanent outer building wall where non-glass material comprises 50% or more of the vertical floor-to-ceiling dimension and, therefore, is the DOMINANT PORTION. Points of measurement are shown by the connected arrows.
Illustrates a partially non-vertical permanent outer building wall. Points of measurement are shown by the connected arrows.

Illustrates a non-vertical permanent outer building wall. Points of measurement are shown by the connected arrows.
ILLUSTRATIONS, DOMINANT PORTION

TYPICAL GROUND LEVEL FLOOR

Illustrates a STORE AREA condition with a street frontage, where the DOMINANT PORTION is the building line.

Illustrates a condition where the window system comprises 50% or more of the vertical floor-to-ceiling dimension and, therefore, is the DOMINANT PORTION.

Illustrates a STORE AREA condition with a street frontage, where a bay window extends outside the building line. Therefore, the DOMINANT PORTION is the building line.

Mixed condition where the column is shared

Illustrates a condition where non-glass material comprises 50% or more of the vertical floor-to-ceiling dimension and, therefore, is the DOMINANT PORTION.

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ILLUSTRATIONS, DOMINANT PORTION

OUTSIDE CORRIDORS & TERRACES
(These Styles of Building Entrances Are Common in Warmer Climates)

Illustrates a condition where non-glass material comprises 50% or more of the vertical floor-to-ceiling dimension and, therefore, is the DOMINANT PORTION.

Access Balconies and Outside Corridors Are Not Included in FLOOR RENTABLE AREAs
GROSS BUILDING AREA is not to be used for leasing purposes except where an entire building is leased to a single tenant. This area is computed by measuring to the outside finished surface of permanent outer building walls, without any deductions. All enclosed floors of the building, including basements, garages, mechanical equipment floors, penthouses, and the like, are calculated. GROSS BUILDING AREA is sometimes referred to as “construction area” in the industry.

ILLUSTRATION OF GROSS BUILDING AREA FOR A TYPICAL GROUND LEVEL FLOOR WHERE THE BUILT AREA BOWS OUT OF AN OTHERWISE STRAIGHT BUILDING LINE (Note 1) AND A BAY WINDOW EXTENDS OUTSIDE THE BUILDING LINE (Note 2)

1 Lobby 8 Ventilation Shaft 14 Exercise Club
2 Elevator 9 Trash Dumpster 15 Exit Corridor
3 Electricity 10 Loading Dock 16 Retail Service Corridor
4 Janitor 11 Electrical Room 17 Store Area
5 Fire Command 12 Fire Pump 18 Security
6 Building Maintenance 13 Vending Machines 19 Restaurant
7 Fan Room

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**MEASURING GROSS BUILDING AREA**

*GROSS BUILDING AREA* is not to be used for leasing purposes except where an entire building is leased to a single tenant. This area is computed by measuring to the outside finished surface of permanent outer building walls, without any deductions. All enclosed floors of the building, including basements, garages, mechanical equipment floors, penthouses, and the like, are calculated. *GROSS BUILDING AREA* is sometimes referred to as “construction area” in the industry.

---

**ILLUSTRATION OF GROSS BUILDING AREA FOR A TYPICAL UPPER LEVEL FLOOR**

1. Lobby  
2. Elevator  
3. Electricity  
4. Janitor  
5. Fire Command  
6. Building Maintenance  
7. Fan Room  
8. Ventilation Shaft  
9. Trash Dumpster  
10. Loading Dock  
11. Electrical Room  
12. Fire Pump  
13. Vending Machines  
14. Exercise Club  
15. Exit Corridor  
16. Retail Service Corridor  
17. Store Area  
18. Security  
19. Restaurant

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**MEASURING FLOOR RENTABLE AREA**

**FLOOR RENTABLE AREA** shall mean the result of subtracting from the **GROSS MEASURED AREA** of a floor the area of the **MAJOR VERTICAL PENETRATIONs** on that same floor. No deduction shall be made for columns and projections necessary to the building. Spaces outside the exterior walls, such as balconies, terraces, or corridors, are excluded. **BUILDING RENTABLE AREA** shall equal the sum of all **FLOOR RENTABLE AREAS**.

---

**ILLUSTRATION OF FLOOR RENTABLE AREA FOR A TYPICAL GROUND FLOOR LEVEL**

FLOOR WHERE THE BUILT AREA BOWS OUT OF AN OTHERWISE STRAIGHT BUILDING LINE (Note 1) AND A BAY WINDOW EXTENDS OUTSIDE THE BUILDING LINE (Note 2)

1. Lobby
2. Elevator
3. Electricity
4. Janitor
5. Fire Command
6. Building Maintenance
7. Fan Room
8. Ventilation Shaft
9. Trash Dumpster
10. Loading Dock
11. Electrical Room
12. Fire Pump
13. Vending Machines
14. Exercise Club
15. Exit Corridor
16. Retail Service Corridor
17. Store Area
18. Security
19. Restaurant

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**MEASURING FLOOR RENTABLE AREA**

*Floor Rentable Area* shall mean the result of subtracting from the *Gross Measured Area* of a floor the area of the *Major Vertical Penetrations* on that same floor. No deduction shall be made for columns and projections necessary to the building. Spaces outside the exterior walls, such as balconies, terraces, or corridors, are excluded. *Building Rentable Area* shall equal the sum of all *Floor Rentable Areas*.

---

**ILLUSTRATION OF FLOOR RENTABLE AREA FOR A TYPICAL UPPER LEVEL FLOOR**

1. Lobby  
2. Elevator  
3. Electricity  
4. Janitor  
5. Fire Command  
6. Building Maintenance  
7. Fan Room  
8. Ventilation Shaft  
9. Trash Dumpster  
10. Loading Dock  
11. Electrical Room  
12. Fire Pump  
13. Vending Machines  
14. Exercise Club  
15. Exit Corridor  
16. Retail Service Corridor  
17. Store Area  
18. Security  
19. Restaurant

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FLOOR USABLE AREA shall be computed by measuring the area enclosed between the FINISHED SURFACE of the OFFICE AREA side of corridors and the DOMINANT PORTION and/or MAJOR VERTICAL PENETRATIONs. BUILDING COMMON AREAS are considered to be part of FLOOR USABLE AREA. No deduction shall be made for columns and projections necessary to the building. Where alcoves, recessed entrances or similar deviation from the corridor line are present, FLOOR USABLE AREA shall be computed as if the deviation were not present.
MEASURING FLOOR USABLE AREA

FLOOR USABLE AREA shall be computed by measuring the area enclosed between the FINISHED SURFACE of the OFFICE AREA side of corridors and the DOMINANT PORTION and/or MAJOR VERTICAL PENETRATIONS. BUILDING COMMON AREAs are considered to be part of FLOOR USABLE AREA. No deduction shall be made for columns and projections necessary to the building. Where alcoves, recessed entrances or similar deviation from the corridor line are present, FLOOR USABLE AREA shall be computed as if the deviation were not present.

ILLUSTRATION OF FLOOR USABLE AREA FOR A TYPICAL UPPER LEVEL FLOOR

1 Lobby
2 Elevator
3 Electricity
4 Janitor
5 Fire Command
6 Building Maintenance
7 Fan Room
8 Ventilation Shaft
9 Trash Dumpster
10 Loading Dock
11 Electrical Room
12 Fire Pump
13 Vending Machines
14 Exercise Club
15 Exit Corridor
16 Retail Service Corridor
17 Store Area
18 Security
19 Restaurant
MEASURING USABLE AREA

USABLE AREA of an OFFICE AREA, STORE AREA or BUILDING COMMON AREA shall be computed by measuring the area enclosed by: the FINISHED SURFACE of the OFFICE side of corridor and other permanent walls; the DOMINANT PORTION or a MAJOR VERTICAL PENETRATION; and the center of partitions that separate the area being measured from adjoining OFFICE AREAs, STORE AREAs and/or BUILDING COMMON AREAs. No deductions shall be made for columns and projections necessary to the building. FLOOR USABLE AREA of a floor shall be equal to the sum of all the USABLE AREAs on that same floor. Where alcoves, recessed entrances or similar deviation from the corridor line are present, USABLE AREA shall be computed as if the deviation were not present.

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ILLUSTRATION OF FLOOR COMMON AREA FOR A TYPICAL UPPER LEVEL FLOOR

1 Lobby
2 Elevator
3 Electricity
4 Janitor
5 Fire Command
6 Building Maintenance
7 Fan Room

8 Ventilation Shaft
9 Trash Dumpster
10 Loading Dock
11 Electrical Room
12 Fire Pump
13 Vending Machines

14 Exercise Club
15 Exit Corridor
16 Retail Service Corridor
17 Store Area
18 Security
19 Restaurant
Typical Situation, Ground Level Floor

Fully Enclosed Courtyard

Landscaped Planter
STORE AREA shall be computed by measuring the area enclosed by: the building line in the case of street frontage; the FINISHED SURFACE of the STORE AREA side of corridor and other permanent walls; the DOMINANT PORTION or a MAJOR VERTICAL PENETRATION; and the center of partitions that separate the STORE AREA from adjoining STORE AREAS, OFFICE AREAS and/or BUILDING COMMON AREAS.

Where alcoves, recessed entrances or similar deviation from the corridor line are present, STORE AREA shall be computed as if the deviation were not present. Where vestibules, recessed entrances or similar deviation from the building line, in the case of street frontage, are present, STORE AREA shall be computed as if the deviation were not present. No addition should be made for bay windows extending outside the building line. No deductions shall be made for columns and projections necessary to the building.

ILLUSTRATION OF STORE AREA FOR A TYPICAL GROUND LEVEL FLOOR WHERE THE BUILT AREA BOWS OUT OF AN OTHERWISE STRAIGHT BUILDING LINE (Note 1) AND A BAY WINDOW EXTENDS OUTSIDE THE BUILDING LINE (Note 2)

1 Lobby 8 Ventilation Shaft 14 Exercise Club
2 Elevator 9 Trash Dumpster 15 Exit Corridor
3 Electricity 10 Loading Dock 16 Retail Service Corridor
4 Janitor 11 Electrical Room 17 Store Area
5 Fire Command 12 Fire Pump 18 Security
6 Building Maintenance 13 Vending Machines 19 Restaurant
7 Fan Room
CALCULATING BASIC RENTABLE AREA

The key concept to master in calculating BASIC RENTABLE AREA is the concept of FLOOR R/U RATIO in allocating FLOOR COMMON AREAS to each OFFICE AREA, STORE AREA or BUILDING COMMON AREA. The FLOOR RENTABLE AREA divided by that same FLOOR USABLE AREA equals the FLOOR R/U RATIO.

A USABLE AREA multiplied by its FLOOR R/U RATIO results in a BASIC RENTABLE AREA.

The total of all BASIC RENTABLE AREAs on a floor shall equal the FLOOR RENTABLE AREA of that same floor.

<table>
<thead>
<tr>
<th>TENANT</th>
<th>USABLE AREA</th>
<th>X</th>
<th>FLOOR R/U RATIO</th>
<th>=</th>
<th>BASIC RENTABLE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1</td>
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<td># 6</td>
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<tr>
<td>FLOOR TOTAL</td>
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</tbody>
</table>
MEASURING BUILDING COMMON AREA

BUILDING COMMON AREAS are measured like an OFFICE AREA or STORE AREA and will have a USABLE AREA and a BASIC RENTABLE AREA.

No deduction shall be made for columns and projections necessary to the building.

ILLUSTRATION OF BUILDING COMMON AREA FOR A TYPICAL GROUND LEVEL FLOOR WHERE THE BUILT AREA BOWS OUT OF AN OTHERWISE STRAIGHT BUILDING LINE (Note 1) AND A BAY WINDOW EXTENDS OUTSIDE THE BUILDING LINE (Note 2)

1 Lobby
2 Elevator
3 Electricity
4 Janitor
5 Fire Command
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7 Fan Room
8 Ventilation Shaft
9 Trash Dumpster
10 Loading Dock
11 Electrical Room
12 Fire Pump
13 Vending Machines
14 Exercise Club
15 Exit Corridor
16 Retail Service Corridor
17 Store Area
18 Security
19 Restaurant

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BUILDING COMMON AREAAs are areas that provide services to building tenants but which are not included in the OFFICE AREA or STORE AREA of any specific tenant. The following illustration is one of an OFFICE AREA that could be a shared conference room, available on a scheduled basis to every tenant. Note how this BUILDING COMMON AREA is similar to the USABLE AREA on page 17. As with any USABLE AREA being converted into RENTABLE AREA, BUILDING COMMON AREA will be assigned its share of FLOOR COMMON AREA and its share of BUILDING COMMON AREA.
ILLUSTRATION OF BUILDING COMMON AREA FOR A TYPICAL ATRIUM CONDITION

ILLUSTRATION OF BUILDING COMMON AREA HOUSING A TYPICAL BUILDING MAINTENANCE OFFICE
Calculating Rentable Area

The key concept to master in calculating Rentable Area is the concept of Building R/U Ratio in allocating Building Common Areas to each Basic Rentable Area.

Building Common Area on any floor is calculated like any Usable Area, and carries its own share of Floor Common Area through the application of the Floor R/U Factor.

The following are illustrations of Building Common Area on a ground floor and a typical above ground floor.

<table>
<thead>
<tr>
<th>BUILDING COMMON AREA</th>
<th>X</th>
<th>FLOOR R/U RATIO</th>
<th>=</th>
<th>BASIC RENTABLE AREA</th>
</tr>
</thead>
<tbody>
<tr>
<td># 5</td>
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<td>TOTAL</td>
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</tbody>
</table>

A conference center on a floor is a Building Common Area if no rent is charged for its use.
You should now be able to produce your own summary of areas. The following is an example provided for your global comprehension.

<table>
<thead>
<tr>
<th>FLOOR</th>
<th>GROSS \nBUILDING \nAREA</th>
<th>GROSS \nMEASURED \nAREA</th>
<th>MAJOR \nVERTICAL \nPENETRATION</th>
<th>FLOOR \nRENTABLE \nAREA</th>
<th>SPACE \n1D.</th>
<th>OFFICE \nAREA</th>
<th>STORE \nAREA</th>
<th>BUILDING \nCOMMON \nAREA</th>
<th>FLOOR \nUSABLE \nAREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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</tbody>
</table>

Total: (3-4) = 5
Total: (7+8+9) = 10
An alternate method for calculating the *RENTABLE AREA* for each tenant, column 20, is the application of the *R/U RATIO* to the *USEABLE AREA* of the *OFFICE AREA* and *STORE AREA*, columns 7 and 8. The *R/U RATIO* is the result of multiplying the *FLOOR R/U RATIO*, column 12, by the *BUILDING R/U RATIO*, column 17.

<p>| | | | | | | | | | |</p>
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<td>(5-10) ÷ (5÷10)</td>
<td>(7x12) ÷ 10</td>
<td>(8x12) ÷ 10</td>
<td>(9x12) ÷ 10</td>
<td>(13+14+15) ÷ 16</td>
<td>(16+17) ÷ (18+19)</td>
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<td>=20</td>
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</tbody>
</table>

**BASIC RENTABLE AREAS**

<table>
<thead>
<tr>
<th>FLOOR COMMON AREA</th>
<th>FLOOR R/U RATIO</th>
<th>OFFICE AREA</th>
<th>STORE AREA</th>
<th>BUILDING COMMON AREA</th>
<th>BUILDING RENTABLE AREA</th>
<th>BUILDING R/U RATIO</th>
<th>OFFICE AREA</th>
<th>STORE AREA</th>
<th>TOTAL RENTABLE AREA</th>
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