CALCULATION PACKAGE
OCCUPANT LOAD CALCULATIONS
FOR ASSEMBLY OCCUPANCIES AND LICENSED BEVERAGE ESTABLISHMENTS

Please keep the first three pages for your information
This guideline is set up pursuant to Vancouver Fire Bylaw Sentence 2.7.1.3. on determining occupant loads for assembly occupancies and licensed beverage establishments.

Any assembly space more than 60 persons, including a licensed beverage establishment, will be required to comply with the following procedure. Licensed beverage establishment is defined to be:

> *"An assembly occupancy or part thereof, including Class 2 restaurants as defined in the Zoning and Development Bylaw, where alcohol may be consumed and may include lounges, pubs, recreational centers, community halls, cabarets, neighborhood public houses, marine public houses, and similar facilities."*

Applicants requiring an occupant load permit can apply directly to the Fire Prevention Office at 201-456 West Broadway (tel.: 873-7595).

Applicants are required to make their first determination of the maximum occupant load with the enclosed procedure. The submission must include:

- □ Scaled drawings **(2 full size + 1 reduced copy)** to the Fire Department for verification of accuracy and a stamp of acceptance. Where applicable, the drawings must show the seating layout of the floor area or room in question. If the room is on a floor other than the ground floor, other drawings must be submitted to indicate where are the discharge locations of the exits from that floor area. The drawings must be dimensioned and should include the building's fire safety system such as locations of exit signs, pull stations, fire alarm panel and emergency lighting.

- □ A cheque made out to "City of Vancouver" for **$300** for an occupant load of 150 or less**,** and **$500** for an occupant load of 151 or more. This permit fee includes an on-site inspection to determine conformance with the plans.

- □ Worksheet on page 4 of this package. Kindly return the work sheet with your plans and allow a minimum of 5 working days for processing.

Upon acceptance and inspection, an occupant load permit and placard indicating the maximum capacity will be issued by the Fire Department. Either the permit or the placard must be displayed in a conspicuous location in your establishment.

You will be notified by the inspector when the permit is ready, and the inspector will contact you to set up an appointment for an inspection and delivery of the approved plans. If you do not hear back from the inspector after 5 working days, contact the Fire Prevention Office at 873-7595 when the work is complete and ready for inspection.

Please indicate on the worksheet if you need the plans back prior to the site inspection for your liquor licensing review. You will then be contacted to pick up the drawings when they are ready.

PLAN VERIFICATION INFORMATION FORM FOR MAXIMUM OCCUPANT LOAD DETERMINATION

A. DETERMINING NET FLOOR AREA

'Net floor area' is defined in the Fire By-law as:

> *Net floor area means the floor area of a room intended for occupancy, excluding ancillary areas such as kitchens, washrooms, service rooms, janitor closets, cloakrooms, vestibules adjacent to designated entry or exit doors, structural elements and partitions, and fixtures permanently attached to the floor.*

In general, net floor area in an assembly space is where the public is expected to or can assembly. Areas that are generally deducted from the gross floor area of a room include:

- circulation spaces in front of the washrooms or exits,
- areas behind the bar and including the bar fixtures,
- structural elements,
- fixtures, either permanently attached to the floor, or deemed by their nature to be not easily moved (e.g. pool and gaming tables),
- music booths, stages and platforms which, are intended for performances and fixed counter tops.

Do not deduct seating, either fixed or unattached, or tables incidental to such seating.

B. DETERMINING TOTAL EXIT WIDTH

Measure the actual opening size of each designated exit and express the combined total in mm, to determine the total exit width. The exits must comply with the Vancouver Building By-law. Here are a few Building By-law requirements that are applicable:

1. Where there is only 1 exit, the maximum occupant load for the room is limited to 60 persons [VBBL 3.4.2.1.(2)]
2. If there are more than 1 exit, every exit shall be considered as contributing not more than ½ the required exit width, i.e. the exit capacity is limited to 2 x the capacity as determined by the more restricted exit. [VBBL 3.4.2.5.(3)]

Also Note:

1. Doors must open in the direction of exit travel to be considered exit doors.
2. Access through an open kitchen cannot be deemed as public access to exit.
3. All exits, particularly for existing buildings, must comply with all requirements in the Building By-law for exits (e.g. flame spread rating, emergency lights, exit lights, door hardware, etc.) in order to be considered as contributing in exit widths.

MAXIMUM OCCUPANT LOAD CALCULATION

The maximum occupant load of a room or floor area for an assembly occupancy or licensed beverage establishment shall be the lesser number derived by:

(a) Dividing the net floor area by the pertinent factor in Table A and,
(b) Determining the number of persons for whom there is sufficient exit capacity using the factors in Table B.

The number of persons permitted to occupy a room shall not exceed the maximum occupant load calculated.

TABLE A

TYPE OF USE OF ROOM OR *FLOOR AREA*	AREA PER PERSON m^2
Assembly uses:	
space with non-fixed seats	0.75
stages for theatrical performances	0.75
space with non-fixed seats and tables	0.95
standing space	0.40
stadia and grandstands	0.60
bowling alleys, pool and billiard rooms	9.30
classrooms	1.85
school shops and vocational rooms	9.30
reading or writing rooms or lounges	1.85
laboratories in schools	4.60
dining and cafeteria space	1.20
licensed beverage establishment	1.20

Table B
EXIT CAPACITY

Assembly Hall (1) Except as permitted by Sentence (3) and required by Sentence (4), the aggregate required width of exits serving floor areas intended for assembly occupancies, residential occupancies, business and personal services occupancies, mercantile occupancies, and industrial occupancies shall be determined by multiplying the occupant load of the area served by

a) 6.1 mm per person for ramps with a slope not more than 1 in 8, doorways, corridors and passageways, or
b) 8 mm per person for a stair consisting of steps whose rise is not more than 180 mm and whose run is not less than 280 mm, or
c) 9.2 mm per person for
   i) ramps with a slope more than 1 in 8, or
   ii) stairs, other than stairs conforming to Clause (b).

Licensed Beverage Establishment (2) For a **licensed beverage establishment** the exit capacity shall be twice the capacity calculated pursuant to sentence 1, or the occupant load shall be ½ of that number calculated for a non-licensed assembly use, if exits are the governing factor.

MAXIMUM OCCUPANT LOAD CALCULATION:

#1. Net floor area (m^2) = no. of persons
Appropriate figure from Table A.

#2. Total exit width (mm) = no. of persons
Appropriate figure from Table B

Therefore, the maximum occupant load capacity will be the lowest number of persons calculated above. Place this figure on Form 1.

NOTE:
Reinspection for work not completed in conformance with accepted drawings will require an additional fee at the approved hourly rate.

FORM 1

1 set of drawings
back to applicant _____
for LCB process

APPLICATION FORM FOR MAXIMUM OCCUPANT LOAD DETERMINATION

Building Address: _____

Business Name: _____ Business Phone: _____

Previously Known As: _____

Occupancy (restaurant, pub, etc.): _____

Applicant	Premise Owner
Name: _____	Name: _____
Title: _____	Address: _____
Address: _____	City: _____ Postal Code:_____
City: _____ Postal Code: _____	
Phone: (day)_____	Phone: _____
Fax: _____ Cell: _____	

Associated Permit: DE _____ BU _____

Previously Approved Occupant Load: Yes ___ No ___

By: (office)_____ Date: _____

For L.C.B.C. Approval: Yes ___ No ___ Class ___ license

(If you have more than 2 rooms/areas, submit a list in a similar format)

Room/Area #1 (name) _____
Gross floor area: _____m^2 Net floor area: _____m^2 @ _____ m^2/person = _____
# of exits: _____ Total exit width: _____mm @ _____mm/person = _____*
Occupant load = _____

_____

Room/Area #2 (name)
Gross floor area: _____m^2 Net floor area: _____m^2 @ _____ m^2/person = _____
# of exits: _____ Total exit width: _____mm @ _____mm/person = _____*
Occupant load = _____

* assuming both exits are equal in width

I hereby certify that the figures entered above represent a true and accurate calculation of the premises in question.

Signature: _____ Date: _____

Return completed form with your scale drawings of the specific areas along with a cheque in the amount of $300 (up to 150) or $500 (151+) to the Fire Prevention Division Office: 201- 456 W. Broadway, Vancouver, B.C. V5Y 1R3

Faxback Document No. 508