



Determination 2014/053

The compliance of a new commercial laboratory building without an accessible lift to the first floor, at 207 Gracefield Road, Gracefield, Lower Hutt

1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations and Assurance, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.
- 1.2 The parties to the determination are:
 - the owner of the proposed building, Gemini Research Limited (“the applicant”), acting through a designer
 - Hutt City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority
 - the company that has signed an agreement to lease the building, Arotec Diagnostics Limited (“the tenant”).
- 1.3 The Office for Disability Issues (“the ODI”) at the Ministry of Social Development has been included as being a department with which the Chief Executive must consult under section 170 of the Act.
- 1.4 This determination arises from a decision of the authority to refuse to issue building consent for the proposed building. The refusal arose because the authority was not satisfied that the proposed building, without an accessible lift to the first floor and with a first floor area in excess of 400m², complies with the Building Code (First Schedule, Building Regulations 1992). The authority later confirmed it would grant the building consent on the basis that the owner seek a determination on the matter and that there would be spatial provisions in the proposed building for a lift to be installed dependent on the determination.
- 1.5 The matter to be determined² is therefore whether the proposed building without a lift would comply with Clause D1 of the Building Code³ to the extent required under section 118 of the Act.
- 1.6 In making my decision I have considered the submissions of the parties and the other evidence in this matter.

¹ The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at www.dbh.govt.nz or by contacting the Ministry on 0800 242 243.

² Under section 177(1)(a) of the Act

³ In this determination, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

2. The proposed building work

- 2.1 The proposed building work consists of two-storey commercial building. The ground floor has a gross floor area (“GFA”⁴) of 835m² and contains a number of laboratory rooms and related rooms for specialist laboratory functions, offices, and sanitary facilities.
- 2.2 The first floor has a GFA of 567m² and contains the following rooms:
- Incubation
 - Workshop
 - Research and development (4 rooms)
 - A café/lunch room (“the lunch room”)
 - Sanitary facilities
 - Offices (4 rooms)
 - Boardroom and sales room
 - Lobby
- 2.3 The consent application provided for two accessible stairs to the first floor.

3. Background

- 3.1 The application for building consent was made on 17 February 2014. I have not seen a copy of the consent application and supporting documentation, however I understand it included an ‘accessibility report’ from the designer. I take the submission included in the application to be representative of the content of that report (refer paragraph 4.2).
- 3.2 In a request for information to the designer, dated 1 April 2014, the authority referred to the accessibility report. The authority stated that a lift was required for compliance with Clause D1 and noting the following (in summary):
- The comments in the Acceptable Solution are provided for guidance only and should not be used for determining the mandatory requirements.
 - Even if the upper floor was to be changed to offices for example, there would be no change of use under Schedule 2 of the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations 2005 (“the Regulations”); the upper floor would still be classified as WL despite the increase in design occupancy. Occupancy could therefore be increased significantly without the authority having to be satisfied that the building complies to the extent required by the Act.
 - The relevant design density is the highest that could apply to the relevant use specified in the Building Regulations. ‘In this case that ... would be 0.01 users/m² which gives a design occupancy 00 (*sic*) for the occupied areas...’.
 - The lunch room is located on the first floor; without a lift this would not comply with Clause D1 as required under section 118(1)(b).

⁴ “Gross floor area” is defined in the New Zealand Standard NZS 4121 as ‘the superficial area on the plan of a floor of a building measured over its outside dimensions including walls.’

- The combined effect of Clause D1.3.4(c)(iii) and paragraph 9.1.3.2 of NZS 4121⁵ is that a lift is required in a building having two storeys if the floor served by the lift has both a total design occupancy of 40 persons or more and a gross floor area of 400m² or more; therefore the building without a lift cannot be accepted as complying with the Building Code.
- Under section 69 of the Act the authority cannot grant the building consent subject to a waiver or modification of the Building Code relating to access and facilities for people with disabilities.

3.3 The designer responded in an undated letter and provided revised drawings showing provision for where a lift could be installed ‘if a future change of use occurs within the building’ and a kitchenette station installed on the ground floor. The designer stated that:

If a lift is required to be used in the building, it is likely that the lift will be unused by the few staff who occupy the building with its present use. If a change of use occurs for the building i.e. the tenant leaves and an office conversion occurs, then future provision of a lift shaft has been provided. A lift can be installed at this stage in the buildings life cycle.

[The revised drawings show] provision for where a lift shaft could be installed... if a future change of use occurs within the building. This would be where in a future situation, the number of occupants is increased on the first floor to more than the 22 staff in the declaration. Also note a kitchenette station has been installed on the ground floor to allow wheelchair access to facilities along an accessible route ...

3.3.1 On 6 May 2014 the authority sent the designer a further request for information. In regards to the lift the authority noted that it still considered a lift was required for compliance with Clause D1, and that:

Furthermore, the statement re change of use does not provide any assurance this would be addressed in the future as the building could be occupied by a future tenant for office use only which would not trigger a change of use.

... it has been decided reasonable ... to allow the building consent to be granted (subject to the additional issues to be addressed as contained in the RFI letter) to allow the lift issue to be addressed prior to Code Compliance Application based on due consideration of the delay in obtaining a determination decision on the requirement for provision of a lift and the clients timeframes and the special provisions provided in the building for a lift to be installed, dependent on the [Ministry’s] decision.

3.3.2 The designer responded to the authority in an undated letter, accepting the proposal that the authority grant the consent and for the issue of the lift to be addressed prior to any application for a code compliance certificate.

3.4 The Ministry received an application for a determination on 12 September 2014.

4. The submissions

4.1 In a submission with the application for determination, the designer provided a description of the proposed building work and details of some of the background. The designer submitted that:

- the Building Code allows for the authority to determine the applicability of the occupancy loading in specific cases such as factories where the processing

⁵ New Zealand Standard NZS 4121: Design for Access and Mobility – Buildings and Associated Facilities

equipment may occupy a large area of the floor and the occupancy loading is best determined by the declaration of the staff

- the requirement for a lift to be installed if there is a change of use ‘can be noted on the on the certificate of title’
- ‘suitable accessible services’ to any of the 15 staff working on the ground floor include an accessible toilet, shower, and a café station facility (“the kitchenette”).

4.2 In support of the view that a lift is not required in order to comply the designer set out the following in regards to the use of the first floor:

- The gross floor area is 567m², however a significant portion of the floor is dedicated to building services (58m²) and laboratories (204m²). The remaining 305m² is offices and amenities. (Refer figure 1 below)
- The building services area is allocated for building electrical and water services.
- The tenant will have four staff permanently stationed in the laboratory spaces on the first floor. The spaces are largely occupied by complex processing machinery, including incubators and custom building processing equipment; typically these are set in operation and monitored by computer process controls.
- The remaining offices and amenities area is expected to be accessed by 15 staff from the ground floor along with staff of the first floor (4 laboratory staff plus office staff).
- For the purposes of NZS 4121 and Clause D1, it is reasonable to assess the practical first floor area as being 305m² and alongside the declaration that only 22 staff in total will work in the building, a lift would not therefore not be required and the two accessible staircases are more than suitable to provide sufficient access to the first floor.

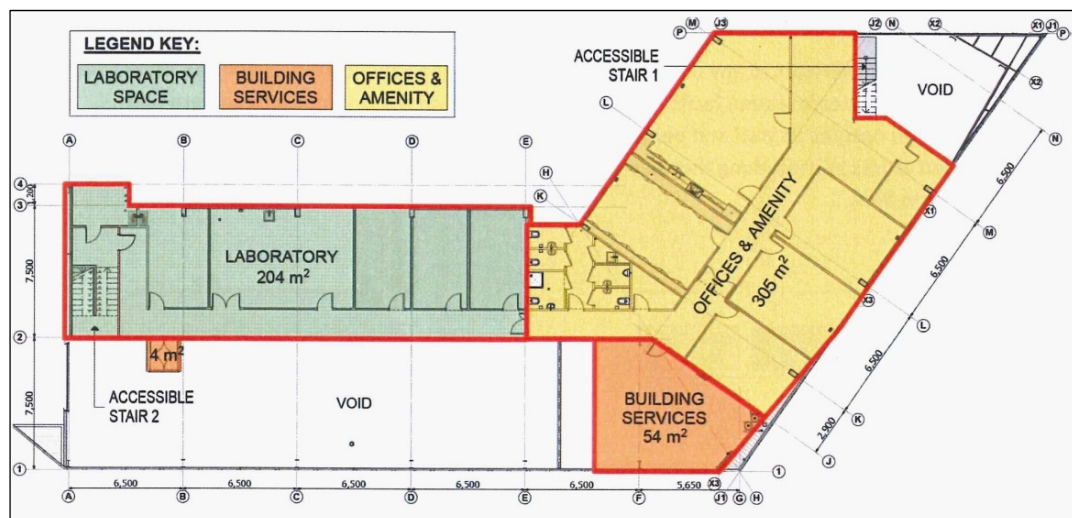


Figure 1: First floor plan, from applicant's submission (not to scale)

- 4.3 A draft determination was issued to the parties and ODI for comment on 6 October 2014.
- 4.4 A response from the authority was received on 8 October 2014, accepting the draft without further comment.
- 4.5 ODI responded by email on 16 October 2014, noting that it supported the decision in the draft and commenting that
- while the intended workforce may not have any mobility impairments that situation could change at any time (such as the result of injury or disease, which are the biggest causes of impairment)
 - it is not good practice to guess or anticipate the future workforce, either for the intended user or subsequent users
 - incorporating a lift in the design and build is significantly more efficient than having to retrofit a lift at a future stage.
- 4.6 The designer responded to the draft by email on 19 October 2014, accepting the conclusion and noting that a lift will be installed.
- 4.7 The tenant accepted the draft without further comment in a response received on 24 October 2014.

5. Discussion

5.1 General

- 5.1.1 There is no dispute that the proposed building is one to which section 118 of the Act applies under Schedule 2(f); it is a new building that houses laboratory facilities and associated offices and amenities for staff. The matter in dispute is whether a lift to the upper floor is required to satisfy the provisions of Clause D1 to the extent required by section 118.
- 5.1.2 Section 118 of the Act says:
- If provision is being made for the construction or alteration of any building to which members of the public are to be admitted, whether for free or on payment of a charge, reasonable and adequate provision by way of access, parking provisions, and sanitary facilities must be made for persons with disabilities who may be expected to—
- (a) visit or work in that building; and
 - (b) carry out normal activities and processes in that building.
- 5.1.3 The clear intention of the Building Act is that buildings must not be constructed in such a way as to prevent people with disabilities from carrying out normal activities to the fullest extent that their abilities allow. Reasonable and adequate provision by way of access is required for people with disabilities to carry out ‘normal activities’ associated with working or visiting the proposed building.
- 5.1.4 In this case I consider that the ‘normal activities’ carried out in the building would be those activities related to working in the laboratories and the associated offices, and use of staff facilities such as the boardroom, sales area, lunch room and sanitary facilities. I also consider that visitors may be expected to be present in the sales area, boardroom, lunch room, and to use the sanitary facilities.
- 5.1.5 It is noted that the designer has provided a revised set of plans showing a kitchenette on the ground floor located in an open plan office.

5.1.6 Sections 17 and 18 of the Act state:

- 17 All building work must comply with building code
- All building work must comply with the building code to the extent required by this Act, whether or not a building consent is required in respect of that building work.
- 18 Building work not required to achieve performance criteria additional to or more restrictive than building code
- (1) A person who carries out any building work is not required by this Act to—
- (a) achieve performance criteria that are additional to, or more restrictive than, the performance criteria prescribed in the building code in relation to that building work; or
 - (b) take any action in respect of that building work if it complies with the building code.
- (2) Subsection (1) is subject to any express provision to the contrary in any Act.

5.1.7 The relevant clause in regards to access is Clause D1. Clause D1.3.2 requires that at least one access route shall have features to enable people with disabilities to approach the building from the street boundary, have access to the internal space served by the principal access, and have access to and within those spaces where they may be expected to work or visit. Clause D1.3.3 sets out the requirements for Access Routes, and Clause D1.3.4 sets out the additional requirements for Accessible Routes (refer Appendix A.2).

5.2 Establishing compliance

5.2.1 The Building Code is a performance-based document and compliance may be achieved through a number of methods, such as by way of the relevant Acceptable Solution (in this case D1/AS1) or Verification Method. Section 119 also states that NZS 4121 is to be taken as a compliance document.

5.2.2 Clause D1.3.4(c)(iii) of the Building Code says:

An accessible route, in addition to the requirement of Clause D1.3.3, shall:

- (c) include a lift complying with Clause D2 Mechanical installations for access to upper floors where:
 - (iii) buildings are two storeys high and have a total design occupancy of 40 or more persons on the upper floor, or ...

5.2.3 For the purposes of determining whether a lift must be provided for people with disabilities, section 12 of the Acceptable Solution D1/AS1 provides for the design occupancy to be determined by reference to the relevant compliance document for Clause C⁶.

5.2.4 The commentary to section 12 of D1/AS1 states

Alternative design occupancies being less than derived from [the relevant Table] must be justified with clear supporting information. [The table] already takes account of effective floor area reductions for normal furnishings associated with a given activity, such as desks or workstations in offices. However, in a factory situation with fixed machinery, actual operator numbers may be acceptable as the occupant load.

⁶ I note here that the reference to C/AS1 cited in section 12 of D1/AS1 is no longer current. In this case the relevant compliance document is C/AS5, specifically section 14 and Table 1.2 (refer Appendix A.3)

5.3 Application of the various methods of compliance

NZS 4121 and Gross floor area

5.3.1 Paragraph 9.1.3.2 of NZS 4121 states that a lift is not required for two storied buildings where the gross floor area of the upper floor is less than 400m² providing that the ground floor complies with NZS 4121 and the upper floor has access for ambulant people with disabilities. I note here that the gross floor area of the upper level in this case is 567m² and accordingly paragraph 9.1.3.2 of NZS 4121 does not apply.

D1/AS1 and occupancy load

- 5.3.2 Whether a lift is required in order to comply with Clause D1.3.4(c)(iii) turns on establishing whether the design occupancy for the upper floor is 40 persons or more. In turn D1/AS1 refers to the use of the Acceptable Solutions for Clause C to establish the relevant occupant load.
- 5.3.3 The relevant Acceptable Solution is established by the Risk Group that the building falls within. Risk groups are set out in Table 1.1 of C/AS1 to C/AS7. In this case the building contains laboratory facilities and offices and falls within the Risk Group WB and the relevant Acceptable Solution is C/AS5 (refer Appendix A.3). The calculated occupant load for the upper floor is 52 using Table 1.2 of C/AS5 (refer Appendix B).
- 5.3.4 The designer has raised the question regarding the application of the occupant densities in Table 1.2 for the laboratory areas. The comment to paragraph 12.0.1 of D1/AS1 states that an alternative design occupancy that is less than that derived from Table 1.2 'must be justified with clear supporting information'.
- 5.3.5 The designer has stated that the total intended occupancy of the building is 22 staff and that the laboratory rooms in the upper floor will be used by a total of 4 staff at any given time. This would reduce the calculated occupant load for the upper floor. However I am of the view the use of the lunch room by staff from the ground floor must still be taken into account, and accordingly the reduction of the occupancy of the upper floor laboratory area does not reduce the total below 40 persons.
- 5.3.6 The authority raised concerns regarding the possibility of a change in the use of the rooms in the upper floor that would increase the occupancy load but that would not trigger a change of use under the Regulations. As I have concluded that the proposed building without a lift would not comply, there is no need for me to consider the future use of the building. However, I offer the following as general comment.
- 5.3.7 In a previous determination⁷ I considered the issue of a change of occupancy load given the possibility of a change in the tenancy of the building. In that determination I stated:

5.2.6 I take the point, and also recognise that if there was a change of tenants such that part or all of the tenancy areas came to be used as personal service facilities instead of as offices or reception areas, the upper floor would still be classified as use WL in terms of the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations. In other words there would be no change of use for the purposes of the Act despite the significant increase in the design occupancy.

⁷ Determination 2006/73: Access for people with disabilities to the upper floor of a two storey warehouse and office building at 4 Daly Street, Lower Hutt (*Department of Building and Housing*) 11 August 2006

- 5.2.7 That means that the design occupancy could be increased without the territorial authority having to be satisfied that the building, with the increased occupancy, complies as nearly as is reasonably practicable with the provision of the Building Code for access and facilities for use by people with disabilities.
- 5.2.8 I therefore consider that, when calculating the design occupancy from C/AS1 for the purposes of clause D1.3.4(c), the relevant design density is the highest that could apply to the relevant use specified in the Building (Specified Systems, Change the Use, and Earthquake-prone Buildings) Regulations. In this case, that design density is 0.2 users/m², see 5.2.2 above, which gives a design occupancy of 79.
- 5.3.8 I consider the same approach would apply in this case. A change of occupancy load could occur in respect of the laboratory spaces being converted to offices, in which case the occupant density would change to 10m²/person, resulting in an occupancy load of 13 as opposed to the total of occupancy of 4 stated by the designer. Such a change would not constitute a change of use under the Regulations, and the requirements under section 114 and 115 of the Act would not come into effect. In addition, it would be possible for internal alterations to the building to be carried out under Schedule 1, meaning that there would be no requirement to comply as nearly as reasonably practicable under section 112 in respect of access for people with disabilities to the upper floor.
- 5.3.9 Accordingly I conclude that the occupancy load of the upper floor is more than the 40 persons or more set out in D1.3.4(c)(iii), and therefore a lift is required in order to achieve compliance. I therefore consider that the proposed building without a lift to the upper floor does not comply with Clause D1.

6. The decision

- 6.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the proposed building without a lift to the upper floor does not comply with Clause D1 to the extent required by the Act.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 3 November 2014.

John Gardiner
Manager Determinations and Assurance

Appendix A

A.1 Relevant sections of the Building Act 2004

17 All building work must comply with building code

All building work must comply with the building code to the extent required by this Act, whether or not a building consent is required in respect of that building work.

18 Building work not required to achieve performance criteria additional to or more restrictive than building code

(1) A person who carries out any building work is not required by this Act to—

(a) achieve performance criteria that are additional to, or more restrictive than, the performance criteria prescribed in the building code in relation to that building work; or

(b) take any action in respect of that building work if it complies with the building code.

(2) Subsection (1) is subject to any express provision to the contrary in any Act.

118 Access and facilities for persons with disabilities to and within buildings

(1) If provision is being made for the construction or alteration of any building to which members of the public are to be admitted, whether for free or on payment of a charge, reasonable and adequate provision by way of access, parking provisions, and sanitary facilities must be made for persons with disabilities who may be expected to—

(a) visit or work in that building; and

(b) carry out normal activities and processes in that building.

(2) This section applies, but is not limited, to buildings that are intended to be used for, or associated with, 1 or more of the purposes specified in Schedule 2.

Schedule 2

Buildings in respect of which requirement for provision of access and facilities for persons with disabilities applies

The buildings in respect of which the requirement for the provision of access and facilities for persons with disabilities apply are, without limitation, as follows:

(f) commercial buildings and premises for business and professional purposes, including computer centres:

A.2 Relevant clause of the Building Code

Clause D1—ACCESS ROUTES

Objective

D1.1 The objective of this provision is to:

(c) ensure that people with disabilities are able to enter and carry out normal activities and functions within buildings.

Functional requirement

D1.2.1 Buildings shall be provided with reasonable and adequate access to enable safe and easy movement of people.

Performance

D1.3.4 An accessible route, in addition to the requirement of Clause D1.3.3, shall:

(c) include a lift complying with Clause D2 Mechanical installations for access to upper floors where:

(iii) buildings are two storeys high and have a total design occupancy of 40 or more persons on the upper floor, or

...

A.3 Relevant sections of the Acceptable Solutions D1/AS1⁸ and C/AS5

D/AS1

11.0 Other Acceptable Solutions

11.0.1 Accessible routes – The access provisions of NZS 4121 are an acceptable solution for accessible routes, but may exceed the requirements of NZBC D1.

12.0 Lifts

12.0.1 For the purposes of determining whether a lift must be provided for people with disabilities to access upper floors, the design occupancy shall be determined using C/AS1 Paragraph 2.3.7 and Table 2.2.

Comment:

Alternative design occupancies being less than derived from Table 2.2, must be justified with clear supporting information. Table 2.2 already takes account of effective floor area reductions for normal furnishings associated with a given activity, such as desks or workstations in offices. However, in a factory situation with fixed machinery, actual operator numbers may be acceptable as the occupant load.

12.0.2 Building size may also be used to determine the need for a lift for people with disabilities. NZS 4121 is an acceptable solution based on gross floor area.

C/AS1 to C/AS7

From Table 1.1:

Acceptable Solution: C/AS5 Business, commercial and low level storage

Risk Group: WB

Applies to: Offices (including professional services such as law and accountancy practices), laboratories, workshops, manufacturing (excluding foamed plastics), factories, processing, temperature controlled storage (capable of <3.0 m storage height other than some limited areas in processing areas) and other storage buildings capable of <5.0 m storage height (except some limited areas <8.0 m to the apex), light aircraft hangars

C/AS5

1.4 Calculating occupant loads

Occupant load

1.4.1 The occupant load shall be determined from the risk group and number of people in each space of the building. The occupant load may need to be evaluated not only for each risk group but also for:

- a) A space or open floor area involving one or more activities, and
- b) A floor containing more than one *risk group*, and
- c) A single *firecell*, and
- d) Each floor within a *firecell*.

⁸ The references to C/AS1 and Table 2.2 of C/AS1 in this section of the Acceptable Solution are no longer current. The relevant compliance document in this case would be C/AS5 and Table 1.2 of C/AS5

- 1.4.2 *Occupant loads* shall be calculated from the occupant densities given in Table 1.2 based on the floor area of the part of the *building* housing the activity (see Figure 1.1). The floor area to be used is the total floor area (except where Paragraph 1.4.3 applies) including that occupied by internal partitions and permanent *fixtures* (see Figure 1.1), and if a *building* space has alternative activity uses, the activity having the greatest occupant density shall be used. If an activity is not specifically described in Table 1.2, the nearest reasonable description shall be used.

Comment:

When using Table 1.2 to calculate the occupant load note that the part of the building housing the activity the occupant densities in Table 1.2 already allow for a proportion of the floor area appropriate to the activity being occupied by furniture, partitions, fixtures and associated equipment.

1.4.3 Duplication shall be avoided by:

- a) Ensuring that, where people may be involved in more than one activity, they are counted only once, and
- b) Not including an *occupant load* for areas such as *exitways*, lift lobbies or sanitary facilities that are used intermittently by people already counted elsewhere in the *building*.

...

Justification for exceptions

1.4.6 If, in a particular situation, the *occupant load* derived from Table 1.2 is clearly more than that which will occur, the basis of any proposal for a lesser *occupant load* shall be substantiated to the *building consent authority*.

Comment:

This may make it possible to reduce the occupant load to below a trigger point for a fire safety system (eg, if the occupant load is less than 1000, no sprinkler is required).

However, note that designing a building for a reduced occupant load can severely restrict future occupancy options and may involve significant expense in meeting the means of escape from fire provisions for increased numbers.

1.4.7 If the maximum *occupant load* is greater than that calculated from Table 1.2, the higher number shall be used as the basis for the *fire safety* design and will need to be justified to the *building consent authority*.

A.4 Relevant sections of the New Zealand Standard NZS 4121

9 Lifts

9.1 General

9.1.3 Provision of Lifts

9.1.3.1 (does not apply in this case)

9.1.3.2 Two and three storey buildings

Where 9.1.3.1 is not applicable a lift is not required when:

- (a) Buildings are two storeys high and have a gross floor area of the upper floor of less than 400 m²;
- (b) ...;

provided that the ground floor complies with the requirements of this Standard and the upper floors have access for ambulant people with disabilities.

Appendix B

Calculated occupancy load from Table 1.2, C/AS5

Location (First Floor)		Floor Area (m ²)	Occupant Density (m ² /person)	Number of Occupants
0.1	Incubator	7.5	10	1
0.3	Workshop	19.6	5	4
0.4 – 0.8	Research & Development	98.7	10	10
0.9	Storage	4.4	100	1 ¹
0.11	Board Room	34.4	2.5	14 ²
0.12	Café/Lunch Room	60	5	12
0.14 – 0.18	Offices & Sales	101.6	10	11
0.20	Services	51.2	30	2 ¹
TOTAL				52

Notes:

- (1) The occupant load of the Storage and Services rooms does not contribute to the total occupant load, as these spaces will rarely be occupied, and be occupied by people counted elsewhere in the building.
- (2) The board room is included within the total occupant load as it may be used by people other than the occupants of the building.