

**NCC 2019 Section J Compliance Report**  
**Issue A – 10<sup>th</sup> September 2021**

**Proposed Service Station**  
**8 Bylong Valley Way, ILFORD NSW 2850**

For

**Michael Khoury**

Authored by

**Brett Moulds Design & Drafting Pty Lt**

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<b>Part J Section</b>	<b>Applicable</b>	<b>Not Applicable</b>
<b>Part J1 Building Fabric</b>		
J1.2 Thermal Construction	X	
J1.3 Roof and Ceiling Construction	X	
J1.4 Roof Lights		X
J1.5 Walls and Glazing	X	
J1.6 Floors	X	
<b>Part J3 Building Sealing</b>		
J3.3 Roof Lights		X
J3.4 Windows and Doors	X	
J3.5 Exhaust Fans	X	
J3.6 Construction of Ceilings, Walls & Floors	X	
J3.7 Evaporative Coolers		X
<b>Part J5 Air-conditioning &amp; Ventilation Systems</b>		
J5.2 Air-conditioning System Control	X	
J5.3 Mechanical Ventilation Systems	X	
J5.4 Fan Systems		X
<b>Part J6 Artificial Lighting and Power</b>		
J6.2 Artificial Lighting	X	
J6.3 Interior Artificial Lighting & Power Control	X	
J6.4 Exterior Artificial Lighting	X	
J6.6 Boiling Water & Chilled Water Storage Units		X
<b>Part J7 Heated Water Supply</b>		
J7.2 Heated Water Supply	X	
<b>Part J8 Facilities for Monitoring</b>		
J8.3 Facilities for Energy Monitoring	X	

## 1. Project Description

### Development Description

The proposed development is for the construction of a Service Station in two stages.

### NCC Building Classification

The proposed building is a Class 6 building.

### Climate Zone

The proposed building works are in Climate Zone 7.

## 2. Part J1 Building Fabric

The conditioned portion of the proposed building uses the following construction materials.

Floor Construction: Concrete slab on ground

Wall Construction: Brick veneer

Roof Construction: Framed roof with metal roof sheeting

### J1.3 Roof and Ceiling Construction

The minimum Total R-Value for a roof or ceiling that is part of the envelope in Climate Zone 7 is R3.7 for a downward direction of heat flow.

#### Proposed Roof System:

Roof	Required R-value	Achieved R-value	Construction example
Pitched 3 deg.	R3.7	R3.86	Metal sheeting / air space / 140mm R3.5 insulation / plasterboard

### J1.5 Walls and Glazing

The minimum Total R-Value for a wall area with glazing area less than 80% of wall glazing construction area that is part of the envelope in Climate Zone 4 is R1.4.

#### Proposed Wall System:

Wall	Required R-value	Achieved R-value	Construction example
Brick Veneer	R1.4	R1.98	Brick wall / 90mm stud wall with R1.5 bulk insulation / plasterboard

Refer to Glazing Calculator for glazing requirements.

### J1.6 Floors

The minimum Total R-Value for a floor, without an in-slab heating or cooling system, is R2.0 downwards heat flow.

The minimum Total R-Value for a floor, with an in-slab heating or cooling system, is R3.25 downwards heat flow.

#### Proposed Floor System:

Floor	Required R-value	Achieved R-value	Construction example
Concrete Slab	R2.0	R2.03	Concrete slab / Foam Insulation R1.8

### 3. Part J6.2 Artificial Lighting

The maximum allowable illumination power density for the proposed works is 4651W. Refer to lighting calculations attached, a total of 2048W is being proposed for this development. Refer to Lighting Calculator for additional information.

## 4. Section J Requirements

The following specifications is required for the proposed building to comply with Section J, of the Building Code of Australia 2019

### PART J1 BUILDING FABRIC

#### J1.1 Application of part

The deemed to satisfy provisions of this part apply to building elements in accordance with the envelope of a Class 5 building.

p

#### J1.2. Thermal construction – general

- a) Where required, insulation must comply with AS/NZS 4859.1 and be installed so that it;
  - i) Abuts or overlaps adjoining insulation other than at supporting members such as studs, noggings, joists, furring channels and the like where the insulation must be against the member; and
  - ii) Forms a continuous barrier with the ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and
  - iii) Does not affect the safe or effective operation of a service or fitting.
  
- b) Where required, reflective insulation must be installed with –
  - i) The necessary airspace to achieve the required R-Value between a reflective side of the reflective insulation and a building lining or cladding; and
  - ii) The reflective insulation closely fitted against any penetration, door or window opening; and
  - iii) The reflective insulation adequately supported by framing members; and
  - iv) Each adjoining sheet of roll membrane being –
    - a) Overlapped not less than 50mm; or
    - b) Taped together.
  
- c) Where required, bulk insulation must be installed so that -
  - i) It maintains its position and thickness, other than where it is compressed between cladding and supporting members, water pipes, electrical cabling or the like; and
  - ii) In a ceiling, where there is no bulk insulation or reflective insulation in the wall beneath, it overlaps the wall by not less than 50mm.
  
- d) Roof, ceiling, wall and floor materials, and associated surfaces are deemed to have the thermal properties listed in Specification J1.2.

### J1.3 Roof and Ceiling Construction

(a) A roof or ceiling must achieve a total R-value greater than or equal to –  
 (i) in Climate Zones 1, 2, 3, 4 and 5, R3.7 for a downward direction of heat flow; and  
 (ii) in Climate Zone 6, R3.2 for a downward direction of heat flow; and  
 (iii) in Climate Zone 7, R3.7 for an upward direction of heat flow; and  
 (iii) in Climate Zone 8, R4.8 for an upward direction of heat flow; and

(b) in Climate Zones 1, 2, 3, 4, 5, 6 and 7 the solar absorptance of the upper surface of the roof must not be more than 0.45.

SAJ1.3(c)

### J1.4 Roof Lights

Roof lights must have -

a) A total area of not more than 5% of the floor area of the room or space; and

b) Transparent and translucent elements, including and imperforate ceiling diffuser, with a combined performance of –

i) For Total system SHGC, in accordance with table J1.4; and

ii) For Total system U-Value, not more than U3.9.

**Table J1.4 Roof lights - Total system SHGC**

Roof light shaft index	Total area of roof lights up to 3.5% of the floor area of the room or space	Total area of roof lights more than 3.5% and up to 5% of the floor area of the room or space
< 1.0	≤ 0.45	≤ 0.29
≥ 1.0 to < 2.5	≤ 0.51	≤ 0.33
≥ 2.5	≤ 0.76	≤ 0.49

### J1.5. Walls and Glazing

i) The Total System U-Value of wall-glazing construction must not be greater than—

ii) for a Class 2 common area, a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area, U2.0

iii) The Total System U-Value of display glazing must not be greater than U5.8.

iv) The Total System U-Value of wall-glazing construction must be calculated in accordance with Specification J1.5a.

v) Wall components of a wall-glazing construction must achieve a minimum Total R-Value of—

i) where the wall is less than 80% of the area of the wall-glazing construction, R1.0; or

ii) where the wall is 80% or more of the area of the wall-glazing construction, the value specified in Table J1.5a.

Table J1.5a Minimum wall Total R-Value – wall area 80% or more of wall glazing construction area

- v) The solar admittance of externally facing wall-glazing construction must not be greater than - for a Class 2 common area, a Class 5, 6, 7, 8 or 9b building or a Class 9a building other than a ward area, the values specified in Table J1.5b
- vi) The solar admittance of a wall-glazing construction must be calculated in accordance with Specification J1.5a.
- vii) The Total system SHGC of display glazing must not be greater than 0.81 divided by the applicable shading factor specified in Clause 7 of Specification J1.5a.

Table J1.5b Maximum wall-glazing construction solar admittance - Class 2 common area, Class 5, 6, 7, 8 or 9b building or Class 9a building other than a ward area. The solar admittance of Eastern, Northern, Southern and Western aspects for climate zone 5 is 0.13.

### **J1.6 Floors**

- a) A floor must achieve the Total R-Value specified in Table J1.6.
- b) A floor must be insulated around the vertical edge of its perimeter with insulation having an R-Value greater than or equal to 1.0 when the floor—
  - i) is a concrete slab-on-ground in climate zone 8; or
  - ii) has an in-slab or in-screed heating or cooling system, except where used solely in a bathroom, amenity area or the like.
- c) Insulation required by (b) for a concrete slab-on-ground must—
  - i) be water resistant; and
  - ii) be continuous from the adjacent finished ground level—
    - a) to a depth not less than 300 mm; or
    - b) for the full depth of the vertical edge of the concrete slab-on-ground

Table J1.6 Floors – Minimum Total R-Value

The minimum Total R-Value for a floor, without an in-slab heating or cooling system, is R2.0 downwards heat flow.

The minimum Total R-Value for a floor, with an in-slab heating or cooling system, is R3.25 downwards heat flow.

## **PART J3 BUILDING SEALING**

### **J3.3 Roof lights**

- a) A roof light must be sealed, or capable of being sealed, when serving—
- 1) a conditioned space; or
  - ii) a habitable room in climate zones 4, 5, 6, 7 or 8.

### **J3.4 Windows and Doors**

- a) A door, operable window or the like must be sealed -
- i) When forming part of the envelope; or
  - ii) In climate zones 4, 5, 6, 7 or 8
- b) The requirements of (a) do not apply to -
- i) a window complying with AS 2047; or
  - ii) a fire door or smoke door; or
  - iii) a roller shutter door, roller shutter grille or other security door or device installed only for out-of-hours security.
- c) A seal to restrict air infiltration -
- i) for the bottom edge of a door, must be a draft protection device; and
  - ii) for the other edges of a door or the edges of an operable window or other such opening, may be a foam or rubber compression strip, fibrous seal or the like.
- d) An entrance to a building, if leading into a conditioned space must have an airlock, self-closing door, rapid roller door, revolving door or the like, other than—
- i) where the conditioned space has a floor area of not more than 50 m<sup>2</sup>; or
  - ii) where a café, restaurant, open front shop or the like has—
    - a) a 3m deep un-conditioned zone between the main entrance, including an open front, and the conditioned space; and
    - b) at all other entrances to the café, restaurant, open front shop or the like, self-closing doors.
- e) A loading dock entrance, if leading to a conditioned space, must be fitted with a rapid roller door or the like.

### **J3.5. Exhaust Fans**

An exhaust fan must be fitted with a sealing device such as a self-closing damper or the like when serving-

- a) A conditioned space; or
- b) A habitable room in climate zones 4, 5, 6, 7 and 8.

### **J3.6. Construction of Ceilings, Walls and Floors**

- a) Ceilings, walls, floors and any opening such as a window frame, door frame, roof light frame or the like must be constructed to minimise air leakage in accordance with (b).
- b) Construction required by (a) must be -



- i) Enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or
- ii) Sealed at junctions and penetrations with –
  - a) Close fitting architrave, skirting or cornice; or
  - b) Expanding foam, rubber compressible strip, caulking or the like
- c) The requirements of (a) do not apply to openings, grilles and the like required for smoke hazard management.

### **J3.7 Evaporative Coolers**

An Evaporative Cooler must be fitted with a self-closing damper or the like when serving –

- a. A heated space or; or
- b. in climate zones 4, 5, 6, 7 or 8.

## **PART J5 AIR-CONDITIONING AND VENTILATION SYSTEMS**

### **J5.2 Air-conditioning system control**

- a) An air-conditioning system must;
  - i) be capable of being deactivated when the building or building or part of the building served is not occupied; and
  - ii) when serving more than one air-conditioning zone or area with different heating or cooling needs, must -
    - a) thermostatically control the temperature of each zone or area; and
    - b) not control the temperature by mixing actively heated air and actively cooled air and
    - c) limit reheating to not more than –
      - (aa) for a fixed supply air rate, a 7.5 K rise in temperature; and
      - (bb) for a variable supply air rate, a 7.5 K rise in temperature at the nominal supply air rate but increased or decreased at the same rate that the supply air rate is respectively decreased or increased; and
  - iii) which provides the required mechanical ventilation, other than in climate zone 1 or where dehumidification control is needed, must have an outdoor air economy cycle if the total air flow rate of any airside component of an air-conditioning system is greater than or equal to the figures in Table J5.2; and
  - iv) which contains more than one water heater, chiller or coil, must be capable of stopping the flow of water to those not operating; and
  - v) with an airflow of more than 1000 L/s, must have a variable speed fan when its supply air quantity is capable of being varied; and

vi) when serving a sole-occupancy unit in a Class 3 building, must not operate when any external door of the sole-occupancy unit that opens to a balcony or the like, is open for more than one minute; and

vii) must have the ability to use direct signals from the control components responsible for the delivery of comfort conditions in the building to regulate the operation of central plant; and

viii) must have a control dead band of not less than 2°C, except where a smaller range is required for specialised applications; and

ix) must be provided with balancing dampers and balancing valves that ensure the maximum design air or fluid flow is achieved but not exceeded by more than 15% above design at each—

a) component; or

b) group of components operating under a common control in a system containing multiple components, as required to meet the needs of the system at its maximum operating condition; and

x) must ensure that each independently operating space of more than 1 000 m<sup>2</sup> and every separate floor of the building has provision to terminate airflow independently of the remainder of the system sufficient to allow for different operating times; and

xi) must have automatic variable temperature operation of heated water and chilled water circuits; and

xii) when deactivated, must close any motorised outdoor air or return air damper that is not otherwise being actively controlled.

Table J5.2 Requirement for an outdoor air economy cycle

Total air flow rate requiring an economy cycle (L/s) in climate zone 5 is 3000

a) When two or more *air-conditioning* systems serve the same space, they must use control sequences that prevent the systems from operating in opposing heating and cooling modes.

b) Time switches—

i) A time switch must be provided to control—

a) an *air-conditioning* system of more than 2 kW<sub>r</sub>; and

b) a heater of more than 1 kW heating used for *air-conditioning*.

ii) The time switch must be capable of switching electric power on and off at variable pre-programmed times and on variable pre-programmed days.

iii) The requirements of (i) and (ii) do not apply to—

a) an *air-conditioning* system that serves—

aa) only one *sole-occupancy unit* in a Class 2, 3 or 9c building; or

bb) a Class 4 part of a building; or

b) conditioned space where *air-conditioning* is needed for 24-hour continuous use.

### J5.3 Mechanical Ventilation Systems

- a) General - A mechanical ventilation system, including one that is part of an air-conditioning system, except where the mechanical system serves only one sole occupancy unit in a class 2 building or serves only a class 4 part of a building, must –
- i) Be capable of deactivating when the building or part of the building served by the system is not occupied; and
  - ii) When serving a conditioned space in periods when evaporative cooling is being used—
    - a) where specified in Table J5.3, have—
      - aa) an energy reclaiming system that preconditions outdoor air at a minimum sensible heat transfer effectiveness of 60%; or
      - bb) demand control ventilation in accordance with AS 1668.2 if appropriate to the application; and
    - b) not exceed the minimum outdoor air quantity *required* by Part F4 by more than 20%, except where—
      - aa) additional unconditioned outdoor air is supplied for free cooling; or
      - bb) additional mechanical ventilation is needed to balance the *required* exhaust or process exhaust; or
      - cc) an energy reclaiming system preconditions all the outdoor air; and
      - i) for an airflow of more than 1000 L/s, have a variable speed fan unless the downstream airflow is *required* by Part F4 to be constant.
- b) Exhaust systems — An exhaust system with an air flow rate of more than 1000 L/s must be capable of stopping the motor when the system is not needed
- c) -
- d) Time Switches –
- i) A time switch in accordance with Specification J6 must be provided to control a mechanical system with an air flow rate of more than 1000 L/s.

### J5.4 Fan systems

- a) A miscellaneous exhaust system with an air flow rate of more than 1000 L/s, that is associated with equipment having a variable demand must –
- a) Be capable of stopping the motor when the system is not needed; and
  - b) Have a variable speed fan or the like.

## PART J6 ARTIFICIAL LIGHTING AND POWER

### J6.2 Artificial lighting

- b) In a building of this classification, the aggregate design illumination power load must not exceed the sum of the allowances obtained by multiplying the area of each space by the maximum illumination power density in Table J6.2a.

### **J6.3 Interior artificial lighting and power control**

- a) Artificial lighting of a room or space must be individually operated by a switch or other control device.
- b) An occupant activated device, such as a room security device, a motion detector in accordance with Specification J6, or the like, must be provided to be able to cut power to the artificial lighting, air conditioning, local exhaust fans and bathroom heater when the sole-occupancy unit is unoccupied.
- c) An artificial lighting switch or other control device in a. must –
  - i) If an artificial lighting switch, be located in a visible position-
    - a) In the room or space being switched; or
    - b) In an adjacent room or space from where the lighting being switched is visible
  - d) 95% of the lighting in a building or storey of a building of more than 250m<sup>2</sup> must be controlled by –
    - i) A time switch in accordance with Specification J6; or
    - ii) An occupant seeking device such as –
      - a) A security key card reader; or
      - b) A motion detector in accordance with Specification J6.
- f) The requirements of a, c, and d do not apply to emergency lighting in accordance with Part E4.

### **J6.5 Exterior artificial lighting**

- a) Exterior artificial lighting attached to or directed at the facade of a building, must-
    - i) Be controlled by –
      - a) A daylight sensor; or
      - b) A time switch that is capable of switching on and off electric power to the system at variable pre-programmed times and on variable pre-programmed days; and
      - ii) When the total perimeter lighting load exceeds 100w –
        - a) Have an average light source efficiency of not less than 60 Lumens/W; or
        - b) Be controlled by a motion detector in accordance with Specification J6.
- And
- c) When used for decorative purposes, such as façade lighting or signage lighting, have a separate time switch in accordance with specification J6.
  - b) The requirements of a.ii do not apply to emergency lighting in accordance with Part E4.

### **J6.6 Boiling water and chilled water storage units**

Power supply to a boiling unit or chilled water storage unit must be controlled by a time switch in accordance with Specification J6.

## **PART J7 HEATED WATER SUPPLY**

### **J7.2 Heated water supply**

A hot water supply system for food preparation and sanitary purposes must be designed and installed in accordance with Part B2 of the NCC Volume three – Plumbing Code of Australia

## **PART J8 FACILITIES FOR MONITORING**

### **J8.3 Facilities for energy monitoring**

a) This building must have the facility to record the consumption of electricity.



# Non-residential Lighting

Class 3 and 5-9 buildings



Main Menu

Help

Multiple Lighting Systems Calculator

Calculator

Building name/description

8 Bylong Valley Drive ILFORD

Classification

Class 6

Number of rows preferred in table below

15 (as currently displayed)

ID	Description	Floor area of the space	Perimeter of the space	Floor to ceiling height	Design illumination Power Load	Space	Illuminance		Adjustment Factor One		Adjustment Factor Two		Light Colour Adjustment Factors		SATISFIES PART J6.2	
							Designed Lux Level	Recommended Lux Level	Adjustment Factor One	Adjustment Factor Two	Light Colour Adjustment Factor One	Light Colour Adjustment Factor Two	System Illumination Power Load Allowance	Lighting System Share of % of Aggregate Allowance Used		
1	Workshop	43.5 m <sup>2</sup>	28 m	3.0 m	172 W	An illuminance more than 180 lx to 240 lx									198 W	8% of 44%
2	Accessible WC	8.8 m <sup>2</sup>	12 m	3.0 m	40 W	Toilet, locker room, staff room, rest room and the like									45 W	2% of 44%
3	Ambulant WC	3.5 m <sup>2</sup>	9 m	3.0 m	20 W	Toilet, locker room, staff room, rest room and the like									20 W	1% of 44%
4	Staff Room	16.6 m <sup>2</sup>	17 m	3.0 m	40 W	Toilet, locker room, staff room, rest room and the like									82 W	2% of 44%
5	Office	8.0 m <sup>2</sup>	12 m	3.0 m	24 W	Office - artificially lit to an ambient level of less than 200 lx									35 W	1% of 44%
6	Convenience Store	108.0 m <sup>2</sup>	45 m	3.0 m	1000 W	Retail space including a museum and gallery whose purpose is the sale of objects									1984 W	49% of 44%
7	Office	10.8 m <sup>2</sup>	13 m	3.0 m	40 W	Office - artificially lit to an ambient level of less than 200 lx									46 W	2% of 44%
8	Dry Store	18.7 m <sup>2</sup>	18 m	3.0 m	40 W	Storage									45 W	2% of 44%
9	Kitchen	42.2 m <sup>2</sup>	34 m	3.0 m	240 W	Kitchen and food preparation area									264 W	12% of 44%
10	Dining	90.0 m <sup>2</sup>	45 m	3.0 m	280 W	Restaurant, cafe, bar, hotel lounge and a space for the serving and consumption of food or drinks									1750 W	14% of 44%
11	Staff Room	20.9 m <sup>2</sup>	19 m	3.0 m	80 W	Toilet, locker room, staff room, rest room and the like									102 W	4% of 44%
12	Shower	5.8 m <sup>2</sup>	10 m	3.0 m	20 W	Toilet, locker room and the like									30 W	1% of 44%
13	Laundry	4.3 m <sup>2</sup>	8 m	3.0 m	20 W	Toilet, locker room, staff room, rest room and the like									23 W	1% of 44%
14	Garbage Store	7.4 m <sup>2</sup>	11 m	3.0 m	12 W	Service area, cleaner's room and the like									19 W	1% of 44%
15	Laundry	5.8 m <sup>2</sup>	10 m	3.0 m	20 W	Toilet, locker room, staff room, rest room and the like									30 W	1% of 44%
					<b>Total</b>	<b>2048 W</b>									<b>Total</b>	<b>4651 W</b>

Total 4651 W

Total 2048 W



if inputs are valid

IMPORTANT NOTICE AND DISCLAIMER IN RESPECT OF THIS LIGHTING CALCULATOR

By accessing or using this calculator, you agree to the following: While care has been taken in the preparation of this calculator, it may not be complete and up-to-date. You can ensure that you are using a complete and up-to-date version by checking the Australian Building Codes Board website ([www.abcb.gov.au](http://www.abcb.gov.au)). The Australian Building Codes Board, the Commonwealth of Australia and States and Territories of Australia do not accept any liability, including liability for negligence, for any loss or damage, including consequential loss or damage, arising from the use of this calculator. The calculator is provided as a guide only and does not constitute a contract. The calculator is not a substitute for professional advice. Persons rely upon this calculator entirely at their own risk, and must take responsibility for assessing the relevance and accuracy of the information in relation to their particular circumstances.

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# Façade

Report



Calculator

## Project Summary

**Date**  
10/09/2021

**Name**  
0

**Company**  
Brett Moulds Design and Drafting

**Position**  
0

**Building Name / Address**  
8 Bylong Valley Way ILFORD  
0

**Building State**  
NSW

**Climate Zone**  
Climate Zone 7 - Cool temperate

**Building Classification**  
Class 6 - restaurants, cafes, bars

**Storeys Above Ground**  
1

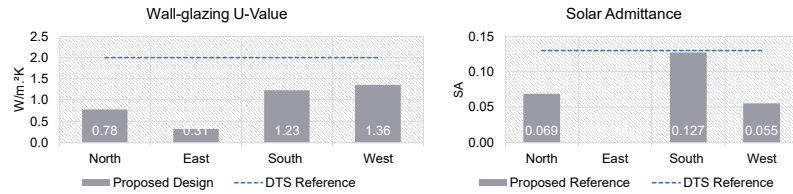
**Tool Version**  
1.2 (June 2020)

The summary below provides an overview of where compliance has been achieved for Specification J1.5a - Calculation of U-Value and solar admittance - Method 1 (Single Aspect) and Method 2 (Multiple Aspects).

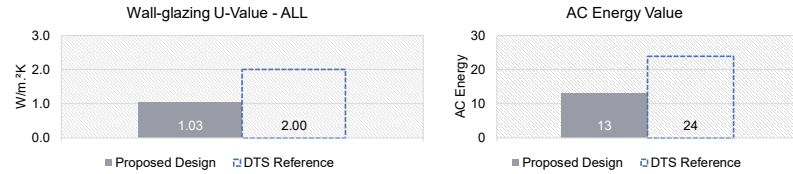
Compliant Solution =    
Non-Compliant Solution =  

	North	East	Method 1 South	West	Method 2 All
<b>Wall-glazing U-Value (W/m<sup>2</sup>.K)</b>	0.78	0.31	1.23	1.36	1.03
<b>Solar Admittance</b>	0.07		0.13	0.06	
<b>AC Energy Value</b>					13

### Method 1



### Method 2



## Project Details

	North	East	South	West
<b>Glazing Area (m<sup>2</sup>)</b>	8.7	0	9.3	20.2
<b>Glazing to Façade Ratio</b>	12%	0%	24%	27%
<b>Glazing References</b>	Fixed Window		Fixed Window Sliding Door	Fixed Window Sliding Door
<b>Glazing System Types</b>	USER (DEFINED)		USER (DEFINED)	USER (DEFINED)
<b>Glass Types</b>	USER (DEFINED)		USER (DEFINED)	USER (DEFINED)
<b>Frame Types</b>	DEFAULTS (GENERIC)		DEFAULTS (GENERIC) USER (DEFINED)	DEFAULTS (GENERIC) USER (DEFINED)
<b>Average Glazing U-Value (W/m<sup>2</sup>.K)</b>	4.20		4.20	4.20
<b>Average Glazing SHGC</b>	0.59	0.00	0.57	0.58
<b>Shading Systems</b>	Horizontal	Horizontal	Horizontal	Horizontal
<b>Wall Area (m<sup>2</sup>)</b>	63.9	20.6	30.2	54.8
<b>Wall Types</b>	Wall	Wall	Wall	Wall
<b>Methodology</b>	Wall			
<b>Wall Construction</b>	Brick Veneer	Brick Veneer	Brick Veneer	Brick Veneer
<b>Wall Thickness</b>	90	90	90	90

**Average Wall R-value (m<sup>2</sup>.K/W)**

3.18	3.18	3.18	3.18
------	------	------	------

**Solar Absorptance**

0.6	0.6	0.6	0.6
-----	-----	-----	-----