Green Star – Design & As Built Submission Template

Ensure all prompts shown in **Blue text** have been responded to.

Design Review / As Built Submission [Delete as appropriate]

Credit: Thermal Comfort

Project Name: [name]

Project Number: GS-[####]

Points available: **3** Points claimed: [1 to 3]

Providing Thermal Comfort for Occupants

The project has been designed to achieve high levels of thermal comfort by addressing the following criteria:

Credit Criteria	Description	Points available	Points claimed
1. Thermal Comfort	ASHRAE Standard 55-2010 – within **80%** Acceptability Limit 1; OR PMV Modelling – PMV level between **±1.0**, inclusive; AND/OR Residential spaces – average NatHERS rating greater than **7 Stars**.	**1**	☐
	ASHRAE Standard 55-2010 – within **90%** Acceptability Limit; OR PMV Modelling – PMV level between **±0.5**, inclusive; AND/OR Residential spaces – average NatHERS rating greater than **8 Stars**. Retail spaces – second credit is 'Not Applicable'.	**2**	☐

Please enter the number of points claimed for each criterion, 0 if no points are being claimed or N/A if the criterion is not applicable to the project]

Thermal Comfort

☐ One point:

- ☐ ASHRAE Standard 55-2010 – within **80%** Acceptability Limit 1; OR
- ☐ PMV Modelling – PMV level between **±1.0**, inclusive; AND/OR
- ☐ Residential spaces – average NatHERS rating greater than **7 Stars**.

☐ Two points:

☐ ASHRAE Standard 55-2010 – within **90%** Acceptability Limit; OR

☐ PMV Modelling – PMV level between **±0.5**, inclusive; AND/OR

☐ Residential spaces – average NatHERS rating greater than **8 Stars**.

☐ Retail spaces – second credit is 'Not Applicable'.

Individual Comfort Control

☐ Additional credit not claimed; OR

☐ In Work Areas, individual comfort control is provided at the required rates; OR

☐ Residential, hotel and healthcare spaces – 50% of spaces are provided with individual comfort control.

☐ Retail and Industrial spaces – additional credit is 'Not Applicable'.

1. Thermal Comfort

1.1 Thermal Comfort – ASHRAE Standard 55-2010

The project has been designed in accordance with ASHRAE Standard 55-2010. Internal temperatures have been shown to be within [80% or 90%] of the Acceptability Limit 1 and achieved during Hours of Occupancy for [98%] of the year. The project is also targeting IEQ-10 'Individual Comfort Control' which is a prerequisite to this credit.

The Hours of Occupancy were determined to be [X hours to X hours] for the assessed areas.

[Insert hyperlinks to documents which support these claims]

Therefore, as demonstrated above, this project is eligible to achieve [1 or 2] point(s) for achieving internal temperatures within [80% or 90%] of Acceptability Limit 1 for a least 98% of the year's Standard Operating Hours of Occupancy.

1.2 Thermal Comfort – Thermal Modelling

Thermal comfort has been designed to achieve the Predicted Mean Vote (PMV) levels, calculated in accordance with ISO7730, during Hours of Occupancy for [98%] of the year using the disclosed clothing, metabolic rate and air velocity values for PMV levels between [±1 or ±0.5] inclusive.

The following information was used in the modelling [add further rows for spaces with varying requirements, as modelled]:

Table 1: Modelling Data

Modelling variable	Information source	Area(s) applied to
Hours of Occupancy		
Clothing value (CLO)		
Metabolic rate (MET)		
Air velocity rate		

Table 2: Calculating Compliance for Mechanically Air-Conditioned Spaces

Floor	Zone	Total Area	Percentage of occupied hours with PMV of [±1 or ±0.5]

Table 3: Calculating Compliance for Mixed Mode Ventilation

Floor	Zone	Total area (m^2)	Total Nominated Area meeting natural ventilation requirements of [80% or 90%]	Total Nominated Area meeting mechanical ventilation requirements of [±1 or ±0.5]

[Insert hyperlinks to documents which support these claims]

Therefore, as demonstrated above, this project is eligible to achieve [1 or 2] point(s) for achieving PMV levels between [±1 or ±0.5], inclusive for a least 98% of the year's Standard Operating Hours of Occupancy.

1.3 Thermal Comfort – Deemed to Satisfy

The project meets the HVAC and façade requirements as per the Deemed-to-Satisfy requirements of the Thermal Comfort credit for one point.

HVAC system requirements:

1. Dry Bulb Temperature in space is controlled to minimum [20°C] to maximum [24°C];
2. Relative humidity controlled between [40%] and [60%];
3. The HVAC system has separate internal and perimeter zones with independent temperature control which meet the following maximum zone size requirements (for at least 95% of the nominated area): [85m^2] perimeter zones, [120m^2] internal zones. No perimeter zone serves more than one orientation unless the second orientation is negligible (<4m perimeter length).
4. Each HVAC zone contains its own temperature sensor(s);
5. Air velocity is not more than [0.2 m/s] with no supply directed at occupants (unless they have direct control over air flow and/or direction);

Facade requirements:

1. SHGC of façade glazing is [0.3] or lower; OR
2. Maximum solar heat gain through the glass is calculated to be no greater than [250W/m^2] peak.

[Insert hyperlinks to documents which support these claims]

1.4 Thermal Comfort – Residential Spaces

The project contains residential spaces, and the dwellings have achieved an average NatHERS rating of greater than [7 or 8] Stars.

[Insert hyperlinks to documents which support these claims]

Discussion

[Insert any issues you would like to highlight and clarify to the Assessment Panel]

Author Details:

[Insert name, position and contact details of author]

[Date]

—— Report end ——