



Hostel Block – 1 & 2 For Manipal Integrated Services Private Limited at Manipal County.

Location	: Bangalore
Site Area	: 25494 m ²
Built up Area	: 13536 m ²
Air-conditioned Area	: 6465 m ²
Non Air- conditioned Area	: 11020 m ²
Energy Performance Index (EPI)	: 35.66 KWh/m ² /year
Renewable Energy	: 150 KwP Solar PV installation
GRIHA provisional rating	: 5 Stars
Year of completion	: 2015

The following strategies were adopted to reduce the building impact on the natural environment:

📍 Sustainable Site Planning:

- The project site is densely vegetated, thus minimizing the cutting of trees was a challenge.
- Out of a 53 existing mature trees, 31 mature trees were cut and 22 trees were transplanted. The project has also planted 130 new trees and exceeded 25% than the requisite compensatory plantation requirement of GRIHA.
- Sustainable Urban Drainage Strategies (SUDS) have been incorporated on site to manage storm water.

📍 Water management:

- A zero-discharge site has been achieved through managing water efficiently on site by reducing the overall water demand, efficient water reuse and recharge.
- Reduction of 53.28% from the GRIHA base case has been demonstrated in landscape water demand through use of efficient landscape methodologies & native plant species.
- Reduction of 58% from the GRIHA base case has been demonstrated in building water use by installing water efficient flush and flow fixtures.

📍 Energy Optimisation:

- Strong visual connection has been maintained between all the occupied spaces and public spaces.
- 86% of the habitable spaces are day lit and meet the daylight factors as prescribed by the National Building Code of India.
- All operable windows face the vegetated areas on site.
- The Energy Performance Index of the project has been reduced by 58.05% below the GRIHA base case through envelope optimization, and integrating high performance systems.
- Ambient temperature of 26 °C ± 1 °C. is being maintained for 100% of the occupied hours.
- The massing of the buildings was designed to enhance cross ventilation.

📍 Renewable energy technologies installed on site:

- A 150 kWp solar PV system has been installed for the project which meets 100% interior lighting requirement.
- The installed solar hot water system is offsetting 73% of annual energy required for water heating.

📍 Sustainable Building Materials:

- 30% cement is replaced with fly ash by weight in both structural and non-structural application i.e. concrete and masonry work.
- Materials such as gypsum board for false ceiling, glazed ceramic tiles for ceiling; kota stone, vitrified tiles and granite for flooring and flush doors made of block board and laminates have been used, all of which have low carbon footprint.
- Indoor air quality has been maintained by using 100% interiors finishes with no or low VOC content.

Integrated Design Team:

Client	: Manipal Integrated Services
Principal Architect	: Architect Hafeez Contractor
Landscape Architect	: Masterplan Architects
Project Management Consultant	: Diligent Project Management Consultancy
HVAC Consultant	: ARCO
Green Building Design and Certification	: Terra Viridis