



New Academic Complex and Canteen Building at IIT Madras

Location	: Chennai
Site Area	: 19,240 m ²
Built-up Area	: 21,842 m ²
Air-Conditioned Area	: 8,906 m ²
Non-Air-Conditioned Area	: 12,937 m ²
Typology	: Institutional building
Energy Consumption Reduction	: 50.21% reduction in energy consumption compared to GRIHA benchmark
Energy Performance Index (EPI)	: 69.71 kWh/m ² /year
GRIHA Provisional Rating	: 4 Star Rating (Version: 3.1)
Year of Completion	: 2020

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

📍 Sustainable Site Planning:

- Air pollution control measures such as site barricading, wheel washing facility and other appropriate measures were strictly adhered to during construction.
- Out of 210 existing mature trees, 113 trees were cut and 365 new trees were planted.

📍 Water Management:

- Reduction of 45.73% from the GRIHA base case has been demonstrated in building water demand by installing water efficient fixtures.
- Reduction of 39.45 % from the GRIHA base case has been demonstrated in the landscape water demand.
- Gunny bags were used for curing of columns.

📍 Energy Optimization:

- For achieving visual comfort:
 - » 77% of the total living area is day-lit and meets the daylight factor as prescribed by NBC 2005.
 - » 100% of the outdoor lights have been connected with automatic switches.
- For achieving thermal comfort:
 - » EPI reduction of 50.21% from the GRIHA base case has been demonstrated through the integration of high-performance systems.

📍 Renewable Energy Technology installed on Site:

- Solar Photovoltaic system of capacity 178kWp has been installed.

📍 Sustainable Building Materials:

- AAC blocks and flyash bricks have been used for walling in the project.
- Kota stone, vitrified tiles and glazed ceramic tiles have been used as a flooring materials in the project.

📍 Waste Management:

- Multi-colored bins have been provided for segregation of dry and wet waste.
- Central waste collection area has been provided for storage of segregated waste on site.
- 100% of the organic waste shall be treated through vermi-composting.

Integrated Design Team:

Client	: M/s. Indian Institute of Technology Madras
Project Coordinator	: Dr. M. Ramachandran
Principal Architect	: M/s. STUP Consultant Pvt Ltd
Landscape Architect	: M/s. Engineering Division of IIT Madras
Project Management	: M/s. Central Public Works Department
Electrical Consultant	: M/s. Engineering Division of IIT Madras
Green Building Design and Certification	: Air Design Engineered Solution Pvt Ltd & INNOWELL Engineering International Pvt Ltd.