



CONSTRUCTION FOR UPGRADATION OF THANJAVUR MEDICAL COLLEGE

Location	: Thanjavur, Tamil Nadu
Site Area	: 38,200.14 m ²
Built-up Area	: 23,819.3 m ²
Typology	: Institutional building
Energy Consumption Reduction	: 87.56% reduction in Energy Consumption compared to GRIHA benchmark
EPI	: 55.98 kWh/ m ² /year
GRIHA Provisional Rating	: 3 Star Rating (Version: 3.1)
Year of Completion	: 2021

The following strategies were adopted to reduce 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 430 existing mature trees on site, 210 were preserved and remaining 220 trees were transplanted. 135 new trees were planted on site.
- 219.3 cu.m of fertile top soil was preserved on site.

📍 Water Management:

- Reduction of 70% from the GRIHA base case has been demonstrated in the building water demand by installing efficient low-flow fixtures.
- Gunny bags were used for curing of columns.

📍 Energy Optimization and Occupant Comfort:

- For achieving visual comfort:
 - » 52% of the regularly occupied spaces are day-lit and meet the daylight factor as prescribed by NBC 2005.
 - » Automatic timer control has been provided for 100% of the outdoor lighting system.
- For achieving thermal comfort:
 - » EPI reduction of 87.56% 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 10 kWp has been installed.
- Flat plate collector type solar hot water system of capacity 6,200 LPD has been installed.

📍 Sustainable Building Materials:

- Pozzolana Portland cement with 28% fly-ash content by weight has been used in plaster and masonry mortar.
- Vitrified tiles, granite and ceramic tiles have been used as flooring materials in the project.
- Metal tiles and gypsum boards have been used as false ceiling materials in the project.

📍 Waste Management:

- Multi-colored bins have been provided for segregation of dry & wet waste.
- Central waste collection area has been provided for storage of segregated waste on site.
- Activated Sludge Process (ASP) type STP of 500KLD capacity has been installed.

Integrated Design Team:

Client	: HITES – HLL Infra Tech Services
Principal Architect	: Achal Kataria Architects
Landscape Architect	: Achal Kataria Architects
Structural Consultant	: TPC Technical Projects Consultants (P) Ltd
Electrical Consultant	: Acrobat Engineers Pvt. Ltd
Green Building Design and Certification	: Ela Green Building & Infrastructure Consultants Pvt. Ltd