



High Rise Multi-storied Office Building in Unit-V

Location	: Bhubaneswar, Odisha
Site Area	: 33,588.90 m ²
Built-up Area	: 23,158 m ²
Air-Conditioned Area	: 3,131.50 m ²
Non-Air-Conditioned Area	: 20,020 m ²
Typology	: Commercial building
Energy Consumption Reduction	: 78% reduction in energy consumption compared to GRIHA benchmark
EPI	: 31 kWh/ m ² /year
Renewable Energy	: Rated capacity of solar PV installed on site is 5 KW
GRIHA Provisional Rating	: 4 Star Rating (Version 3.1)
Year of completion	: 2018

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

📍 Sustainable Site Planning:

- Out of 23 existing trees, 22 trees were cut, 1 was preserved and 83 new trees were planted.
- The utility services are consolidated and are planned along the roads for preventing unnecessary cutting and trenching of the site.
- 699.5 cu.m top soil was preserved on site and reused for landscaping.

📍 Water Management:

- Reduction of 56.69% from the GRIHA base case has been demonstrated in building water use by installing water efficient low-flow fixtures.
- Reduction of 60.60% from the GRIHA base case has been demonstrated in landscape water demand through plantation of native and adaptive landscape species.

📍 Energy Optimization & Occupant Comfort:

- Glass with 0.28 SHGC has been used in conditioned area and glass with 0.37 SHGC has been used in non-conditioned area.
- EPI reduction of 78% from GRIHA benchmark has been demonstrated. Astronomical based control has been provided for external lighting.
- 1000 kVA oil type transformer have been installed.

📍 Renewable Energy Technology installed on site:

- Solar Photovoltaic system of capacity 5 kWp is installed on-site in the project for complying with the mandatory clause.

📍 Use of low energy materials:

- Reduction of 87% in embodied energy of non-structural system of the building by using AAC blocks in external and internal walls.
- 82% of the total internal doors and windows installed in the building is low energy.
- Vitrified floor tiles and granite have been used in the project.

Integrated Design Team:

Client	: Works Department, Government of Odisha
Project Coordinator	: L&T Construction
Principal Architect	: L&T Construction
Landscape Architect	: L&T Construction
Structural Consultant	: L&T Construction
Electrical Consultant	: L&T Construction
Project Manager	: L&T Construction
Green Building Design and Certification	: L&T Construction