ITC Mud Fort

Location	:	8, Jeevanahalli Main Road, Maruthiseva Nagar, Bengaluru
Site Area	:	7673.15 m^2
Built-up Area	:	13875 m^2
Air-Conditioned Area	:	3889.2 m^2
Non-Air-Conditioned Area	:	1288.6 m^2
Typology	:	Residential
Energy Consumption Reduction	:	30.9% reduction in energy consumption compared to GRIHA benchmark
Energy Performance Index (EPI)	:	58.7 kWh/m^2/year
Renewable Energy	:	Solar water heater of 6.5 kL capacity installed on site with a potential of saving 47677 kWh per year
GRIHA Provisional Rating	:	5 Stars
Year of Completion	:	2017

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

Solar Passive Design Strategies:
- Well-designed balconies have been provided along the façade to avoid solar radiation and heat ingress.
- Adequate window to wall ratio has been maintained in the project which allows cross ventilation and 75% day-lighting.
- Concrete wall offering a U-value of 0.39 W/m^2K adds to the overall energy savings. Overall building envelope is ECBC compliant.
- The architecture of the building with a central courtyard allows for a seamless flow of wind across the site.
- Apart from green spaces on the ground, the project has also provided green spaces at different levels with terrace gardens adding to the thermal comfort.

Sustainable Site Planning:
- 3 meters high barricading was constructed all around the site to prevent air pollution.
- Out of the 49 existing trees, 7 trees were cut and 22 new trees were planted which are native to the region.
- More than 50% paved area uses high SRI pavers.
- Openings have been designed in the building to maximize cross ventilation.

Water management:
- Reduction of more than 59% from the GRIHA base case has been demonstrated in landscape water demand through use of highly efficient drip irrigation system.
- Reduction of 60% from the GRIHA base case has been demonstrated in building water use by installing water efficient flush and flow fixtures.
- Total fresh water demand of the building is reduced by 89% because of circulation of recycled waste water for various building activities.

Energy Optimization:
- High efficacy lamps are installed for exterior lighting which is operated by timer controller.
- Energy consumption is reduced to 31% as against the GRIHA benchmark. Building is equipped with efficient LEDs and BEE 5-star rated air conditioners in the interiors.
- EPI reduction of 34.3% from GRIHA benchmark has been demonstrated.
- 68.5% of the habitable spaces are day lit and meet the daylight factors prescribed by the National Building Code of India.

Renewable Energy Technology installed on site:
- Solar water heater of 6.5 kL capacity is installed in the building which has a saving potential of 47677 kWh per year amounting to 73% savings as against conventional energy consumption.

Waste Management:
- Multi-colored bins are used in the building for segregation of dry and wet waste.
- Demarcated segregated space has been allocated for collecting waste from the entire building before transferring it to the recycling/disposal stations.

Sustainable Building Materials:
- Pozzolana Portland Cement (PPC) and Gyproc plaster indicating use of 30% fly-ash content by weight has been used in plaster and masonry mortar.
- Low embodied energy materials are used for building construction.

Integrated Design Team:

Client	:	ITC Limited
Project Coordinator	:	Central Projects Organisation, ITC Limited
Principal Architect	:	M/s CnT Architects
Landscape Architect	:	M/s OIKOS Studios
Project Management Consultant	:	Central Projects Organisation, ITC Limited
Structural Consultant	:	M/s isa –Structural Studio
Electrical Consultant	:	M/s AECOM
Green Building Design and Certification	:	M/s Environment Design Consultant Pvt. Ltd.