



New Interim Terminal Building (Domestic), Vijayawada Airport

Location	: Krishna District, Vijayawada, Andhra Pradesh
Site Area	: 70150 m ²
Built up Area	: 12999 m ²
Air-conditioned Area	: 11660 m ²
Non Air- conditioned Area	: 1339 m ²
Energy Consumption Reduction	: 42.67% reduction in energy consumption compared to GRIHA benchmark has been achieved by the project.
Energy Performance Index (EPI)	: 257.99 KWh/ m ² /year
Renewable Energy	: 15 kWp Solar PV installation
GRIHA provisional rating	: 3 Stars
Year of completion	: 2018

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

🌱 Sustainable Site Planning:

- Top soil was preserved and mulched with organic matter to maintain its fertility and was later reused for landscaping.
- Air pollution control measures such as site barricading were implemented during construction to contain pollution.
- Out of 4 existing mature trees, 2 mature trees were preserved and in addition compensatory plantation of 254 trees was done on site.

🌱 Reducing water consumption:

- Reduction of 64.4% from the GRIHA base case has been demonstrated in building water use by installing water efficient flush systems and flow fixtures.
- STP with 200 KLD capacity is proposed at site with MBBR technology process to treat 100% of the waste water generated at site.
- Water stored in temporary sedimentation tank at site was used for curing during construction.

🌱 Energy Optimization:

- For achieving visual comfort:
 - » 54% of the habitable spaces in the building are day lit and meet the daylight factors as per GRIHA requirements.
 - » 36% of the habitable spaces in the building are day lit and meet the daylight factors as per GRIHA.
 - » Longer sides of most of the building blocks are facing Eastern and Western direction.
- For achieving thermal comfort:
 - » AAC blocks and rock wool insulation was considered for external wall & roof respectively to maintain the thermal comfort within the building.
 - » Water cooled screw chillers and VRF system have been installed to achieve cooling load & thermal comfort of the project.
 - » Longer sides of most of the building blocks are facing Northern and Southern direction.

🌱 Renewable energy technologies integration:

- 15kW solar PV system has been installed, which will offset 8.37% of the total internal lighting energy consumption requirement.

🌱 Sustainable Building Materials:

- The embodied energy of the non-structural applications has been reduced by 8.48% by using solid AAC block and fly ash bricks.
- Indoor air quality has been maintained by using 100% interiors finishes with no/low VOC content (adhesives and sealants).

Integrated Design Team:

Client	: M/s., Airports Authority of India
Main Contractor, Structure Consultant & Electrical Consultant	: M/s., Simplex Infrastructure Limited
Project Management Consultancy	: M/s STUP Consultants Pvt. Ltd.
Design Consultant	: M/s MEINHARDT
Main Architect & Landscape Architect	: M/s Studio Dra Architects
Green Building Design & Certification	: M/s GreenTree Building Energy Pvt. Ltd