Passenger Terminal Building, Maharishi Valmiki International Airport, Ayodhya Dham, Faizabad, Uttar Pradesh

GRIHA

★★★★★

4 STAR

Location	: Faizabad, Uttar Pradesh
Site Area	: 73,814.26 sq.m.
Built up Area	: 6,170 sq.m.
Typology	: Transit terminal
Rating Category	: GRIHA Provisional Rating
Version	: Version 2019
Year of Award	: 2025
Client	: Airports Authority of India
Green Building Consultant	: MAG Consultancy

The following strategies were adopted by the project team to reduce the building impact on the environment:

Sustainable Site Planning:

- 64% of areas on the unfavorable orientations such as west and south have spaces such as staircase, toilets, lifts, etc. which act as buffer zones.
- More than 20% annual heat-gain reduction over the GRIHA base case has been achieved through optimized window orientation and effective shading.
- A reduction in insolation from 131 kWh/m² to 127 kWh/m² has been demonstrated by optimizing the building massing.

Energy Optimization:

- EPI reduction of 64.50% from the GRIHA base case has been demonstrated through the integration of high-performance systems.
- Solar photovoltaic system of capacity 250 kWp has been installed.

Occupant Comfort:

- More than 40% of the regularly occupied floor area achieves illuminance levels between 100 lux and 2000 lux for over 90% of the annual potential daylight hours.
- MERV 8 pre-filters and MERV 14 fine filters have been installed in all air handling unit (AHU).

Water Management:

- Reduction of 58.86% from the GRIHA base case has been demonstrated in the building water demand by installing efficient low-flow fixtures.
- Reduction of 60.40% from the GRIHA base case has been demonstrated in the landscape water demand by installing efficient irrigation system.
- Moving Bed Biofilm Reactor (MBBR)–based STP with a capacity of 100 KLD was installed in the project.

Sustainable Building Materials:

- Pozzolana Portland cement with 34% fly ash content were used in plaster and masonry mortar.
- AAC blocks with 65% of fly ash content have been used for walling in the project.
- A reduction of 52% in the GWP value of the building superstructure has been achieved by selecting low-GWP ($kgCO_2eq$) products through LCA.