AQUARIA GRANDE

Location	Mumbai, Maharashtra
Site Area	: ~13678.7 sq.m
Built-up Area	: 1,05,144.37 sq. m
Typology	: Residential building
Energy Consumption Reduction	: 55.82% reduction in Energy Consumption compared to GRIHA benchmark
EPI	: 41.23 kWh/m2/year
GRIHA Provisional Rating	: 3 Star Rating (Version: 3.1)
Year of Completion	: 2009

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.
- 85.19 cum top soil was preserved on site and reused for landscaping.
- Buffer spaces were created on 66.76% of unfavorable orientation façade.

Water Management:

- Reduction of 46.95% from the GRIHA base case has been demonstrated in the building water demand by installing efficient low-flow fixtures.
- Reduction of 31.05% from the GRIHA base case has been demonstrated in the landscape water demand by installing efficient irrigation systems.
- Gunny bags were used for curing of columns.

Energy Optimization and Occupant Comfort:

- For achieving visual comfort:
  - » 76% of the regularly occupied spaces are day-lit and meet the daylight factor as prescribed by NBC 2005.
  - » Automatic timer-based controls have been provided for 100% of the outdoor lighting system.
- For achieving thermal comfort:
  - » EPI reduction of 85.82% from the GRIHA base case has been demonstrated through the performance systems.
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Renewable Energy Technology installed on site:

- Solar photovoltaic system of capacity 4 kWp has been installed.

Sustainable Building Materials:

- Sustainable Building Materials:
- Reduction of 84.68% from GRIHA base case has been achieved in the embodied energy of nonstructural system.
- Project has used PPC with 42% replacement of cement with fly-ash by weight in the structural concrete..

Waste Management:

- Separate garbage chutes were provided on each floor for dry and wet waste segregation.
- Central waste collection area has been provided for storage of segregated waste on site.

Integrated Design Team:

Client	: Polite Precisa, Ravet
Principal Architect	: James Law Cybertecture International
Landscape Architect	: James Law Cybertecturel Architects
Structural Consultant	: Ravindra A Karnavat
Electrical Consultant	: Mep System Solutions Private Limited