Sona College of Technology – Sona Sigma block

Location	:	Salem, Tamil Nadu
Built up area	:	3,382 m^2
Air-conditioned Area	:	2,613 m^2
Non Air-conditioned Area	:	769 m^2
Energy Consumption Reduction	:	55 .79 % reduction in energy consumption compared to GRIHA benchmark
EPI	:	61.89 KWh/ m^2/year
Renewable Energy	:	Rated capacity of solar PV installed on site is 10 KW
GRIHA provisional rating	:	5 Stars
Year of completion	:	2014

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

- **Sustainable Site Planning**
  - Efficient site planning considering the exiting site features with minimal hardscape and also integrated utility corridors along the pathway.
  - Preservation and protection of landscape during construction.
  - Conservation and efficient utilization of resources such as building materials and water during construction by proper planning of construction schedule and adopting appropriate technologies.
- **Reducing water consumption**
  - 64.27 % reduction in water by using water efficient fixtures.
  - 100 % of generated waste water is treated onsite and reused for irrigation
  - Efforts to reduce minimization of construction water requirement are adopted during construction.
- **Reducing energy consumption (compared to GRIHA benchmarks) while maintaining occupant comfort.**

  Building has been oriented in best manner based on sun path analysis and detailed site study
  - o For achieving visual comfort:
    - Natural daylight is brought to the interior space through fenestrations such as windows and roof lights to the possible extent and also provided with necessary shading device to prevent glare.
    - The shading device for all the non-ac area are designed to provided 100% shading through the year
    - Artificial lighting design is done inline with NBC recommendation & hence over illumination is avoided.
  - o For achieving thermal comfort:
    - ECBC complaint Building envelope design with Energy Efficient Glass which permits minimal heat but allows light is used to minimize the ac load.
    - Direct evaporative cooling methodology is adopted for air-conditioning of most of the spaces which is an efficient technology.
    - Exterior roof has been provided with insulation and the exposed roof surfaces are provided with reflective finish [White tiles] .
- **Renewable energy technologies installed on site**
  - Installed 10KW of solar panels to cater the need of 30% of internal lighting and 1% external lighting & HVAC load.
- **Use of low energy materials**
  - High grade steel & concrete has been adopted to optimize the embodied energy of the materials used in structural concrete
  - Materials with recycle content such as flyash brick are used for block work
  - Regionally available materials such as athangudi tiles are used in the Project
  - All the paints, adhesives & sealants used in the Project are of Low VOC products.

Integrated Design Team

Client	:	Sona College of Technology
Principal Architect	:	M/s Kadri consultants Pvt Ltd
Landscape Architect	:	M/s Kadri consultants Pvt Ltd
Structural Consultant	:	Sona college -Civil Department
Electrical Consultant	:	Sona college - Electrical Department
HVAC consultant	:	M/s Airton Consulting Engineers Pvt Ltd
Plumbing consultant	:	Mr.A.K.Nagabhushana
Green Building Design and Certification	:	En3 Sustainability Solutions Pvt Ltd.