



Vastukar Design Studio

Location	: Bhubaneswar, Odisha
Site Area	: 308 sq.m.
Built up area	: 453 sq.m.
Typology	: Office
SVA GRIHA rating	: 5 star

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

Landscape

- 3 new native trees have been planted on site.

Energy

- Over 88% of total living area falls under daylight zone.
- Lighting power density of the project is 2.19 W/sq.m, which is lower than the ECBC specified LPD limit, of 10.80 W/sq.m for offices.
- 1.75 kWp solar photovoltaic panels have been installed on the roof of the building.
- All air-conditioners and fans installed in the residence are BEE 5 star rated.
- Thermal efficiency of the building envelope is 105 W/sq.m.

Water and waste

- Use of low-flow fixtures reduces the building water demand by 40% as compared to SVAGRIHA base case.
- Rainwater storage tank of 13.52 kL capacity water pond has been constructed in the building to capture rainwater; surplus rainwater is recharged in groundwater aquifer through filtration bed.
- The project has reduced its landscape water demand by 52% as compared to the SVA GRIHA base case.

Materials

- Use of low-VOC and lead free paints has been used to maintain good indoor air quality.
- The project has demonstrated a reduction in embodied energy of over 40% against the SVA GRIHA base case by using autoclaved aerated concrete (AAC) blocks.
- Over 74% of interior finishes are low-energy like khandolite stone, granite stone, plywood etc.

Lifestyle

- Most of the basic amenities like park, grocery store, convenience store, pharmacy, ATM etc. are in close proximity to the site.
- A dedicated toilet and resting area has been provided for service staff in the office building.
- The project is taking initiatives to create more environmental awareness on green buildings and the environment.
- Organic chemicals are used for all housekeeping activities like cleaning floors, toilets, and other associated operations in the project.
- Waste generated from the building (Dry waste, wet waste, paper waste, organic waste, electronic waste) is properly segregated on site.

Integrated Design Team

Client	: Professor S.S. Ray, President & Founder, Vastukar Foundation
Architect	: Ar. S.S. Ray, Director, Vastukar Design Studio
Green building consultant	: Ar. Sudipta Singh, Sustainable Buildings & Habitat, Odisha