



Devraai Phase-2

Location	: Kiwale, Pune
Site Area	: 2125 m ²
Built up Area	: 3103.48 m ²
Air-conditioned Area	: 0 m ²
Non Air-conditioned Area	: 3103.48 m ²
Typology	: Residential apartments
Energy consumption reduction	: 84.5% reduction in energy consumption compared to GRIHA benchmark
Energy Performance Index (EPI)	: 15.5 kWh/m ² /year
Renewable Energy	: Rated capacity of solar PV installed on site – 3 kW Solar hot water system met 96% of the conventional energy demand for hot water
GRIHA Final Rating	: 3 Stars
Year of Completion	: 2017

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

📍 Sustainable Site Planning:

- 51 numbers of native or naturalised species of trees were planted along the periphery of the site to enhance biodiversity.

📍 Water management:

- 34% of building water demand has been reduced against the GRIHA baseline by using measures such as installation of low flow plumbing fixtures.
- 75% of water savings was achieved in landscape water requirement due to installation of drip irrigation system.

📍 Energy Optimization:

- For achieving visual comfort:
 - » Facades with WWR 14.39% were built with a good visual connection between the occupants and the outside environment.
 - » More than 85% of the habitable spaces in the building are day lit and meet the daylight factors as prescribed by the National Building Code of India
 - » Light wells were provided to facilitate adequate lighting in long and narrow passages.
- For achieving thermal comfort:
 - » Double walls were constructed to reduce U-value and achieve better thermal comfort.
 - » Recessed windows were provided for good shading of glazed surface.
 - » The energy efficient measures incorporated in the project helped the project achieve 84.5% reduction in EPI from the GRIHA benchmark EPI.

📍 Renewable energy technologies installed on site:

- Solar hot water system has been installed to offset 96% of the conventional energy demand for hot water, thus reducing the consumption of energy generated from non-renewable sources.
- The project has installed 3 kWp capacity of solar PV panels which caters to the common area lighting requirement of the building.

📍 Sustainable building materials:

- Fly-ash bricks with minimum 70.89% fly-ash content were used for 100% of total volume of bricks.
- PPC with 30% fly-ash content by weight was used in plaster and masonry mortar of the project.

Integrated Design Team:

Client	: Sanjeevani Developers
Principal Architect	: Sole Space, Pune
Structural Consultant	: J+W Consultants LLP, Pune
Electrical Consultant	: Federal Engineering Works, Pune
Plumbing Consultant	: Aqua Product and Service Pvt. Ltd., Pune
Green Building Design and Certification	: VK:e Environmental LLP