



## Indian Institute of Technology, Ropar

<b>GRIHA LD Masterplan Rating (Version 2)</b>	: 5 stars
<b>Location</b>	: Bara Phool, Nunowal, Rupnagar, Chamkaur Sahib, Ropar, Punjab
<b>Site area</b>	: 99.8 hectares / 998808 m <sup>2</sup>
<b>Built-up area</b>	: 237776 m <sup>2</sup>
<b>Energy reduction</b>	: 28% below GRIHA LD base case
<b>Water reduction</b>	: 28% below GRIHA LD base case
<b>Organic waste reduction</b>	: 100%
<b>Renewable energy installation proposed</b>	: 75 kWp

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

### Sustainable Site Planning

- The project is attempting to reduce hard paving and increasing landscape interspersed between the building clusters to minimize increase in outdoor ambient air temperature.
- Storm water management has been planned to reduce peak run-off quantity.
- Sustainable Urban Drainage systems will be implemented in the form of swales and collection ponds.
- Over 50% of total area under existing tree clusters will be preserved and total tree cover on site will be increased by 25%.

### Energy Efficiency

- The buildings are designed to be about 27.5% more energy efficient than GRIHA LD base case.
- Street lighting is designed to be almost 80% more energy efficient than the GRIHA LD base case.
- Street lights to be designed to meet minimum lighting requirements and installed with photo sensors.

### Water Efficiency

- The project plans to reduce its annual water demand by 28% through reuse of treated wastewater and captured rainwater.
- All fixtures in the project will be low-flow fixtures.
- STP based on SAFF and MBBR technology will be installed for treating waste water.

### Solid Waste Management

- The project is attempting to convert all its organic kitchen and landscape waste into manure by implementing vermi-composting measures.
- Waste from campus including e-waste and medical waste will be segregated and sent for recycling through authorized recyclers.

### Efficient Transport

- Site planning has been done to improve walkability of the campus through continuous and universally accessible footpaths.
- Footpaths, cycle tracks, parking and benches will be provided to facilitate pedestrians and encourage walking/cycling on campus.

### Social

- All construction workers to have proper safety gear and equipment.
- All construction workers to have clean drinking water, toilets and accommodation.
- Service staff will be provided dedicated resting areas and toilets in the campus.
- Campus will be made universally accessible.
- IIT plans to implement educational tours to increase environment awareness.

## Integrated Design Team

Client	: IIT Ropar
Principal Architect	: Sikka Associates Architects
Green Building Design and Certification	: Kalpakrit Sustainable Environments Pvt. Ltd.