



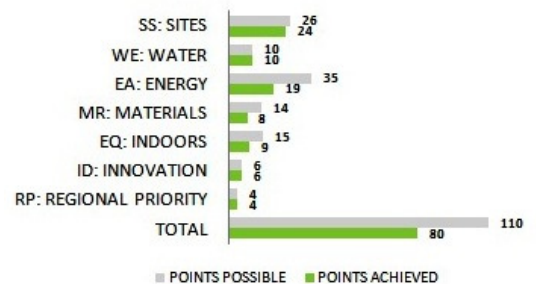
CASE STUDY: VANA MALSI HOTEL



KEY PARAMETERS

Occupancy Type	Mixed Use building – Commercial hotel & Residences
Built up area	278244 sqft
Completed	March 2015
Location	Dehradun, Uttrakhand
Owner	Malsi Estates
Green consultant	En3 Sustainability Solutions
Rating System	LEED BD+C NC version 3.0
Ratng	PLATINUM

LEED SCORES



The Vana Malsi Hotel, Dehradun is the **first LEED Platinum certified resort** in India. This project has been awarded LEED Platinum under BD+C NC v2009 from USGBC. The Vana Retreats & Hotels Pvt Ltd, Dehradun project space comprises of Hotel, Ayurvedic SPA, Gym, Yoga, Office Spaces, Villas, Residences, Lobby, Recreation spaces and Cafeteria. Vana Retreats & Hotels Pvt Ltd, Dehradun is an environmentally responsible organization and is always striving to protect the environment and has taken enormous efforts along with En3 to implement various sustainability and green measures within its project space.



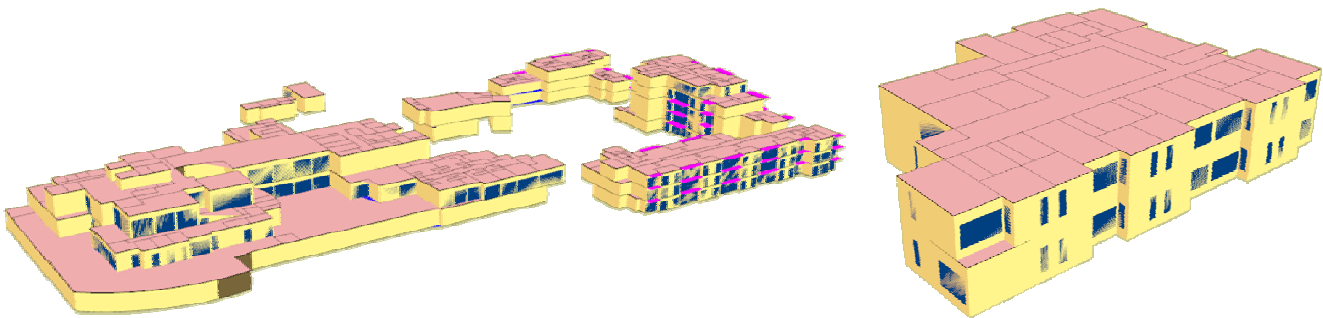
SITE SUSTAINABILITY FEATURES

- The project has public transportation within 0.25 miles from the main building entrance for its building occupants thereby minimizing transportation pollution and strain on local infrastructure, protects green-field site and preserve habitat and natural resources.
- Provision of Bicycle and Shower facility for their staff reduces pollution and land development impacts from automobile use.
- Carpooling spaces within the premises in an effort to promote and ride sharing to reduce transportation pollution as well as strain on the local infrastructure.
- More than 50% of the on-site parking is located underground or under cover. This will create more open spaces on the ground and also reduce the local heat island effect.

WATER EFFICIENCY

- Water plays an integral part in the greening process of the Vana Retreats & Hotels Pvt Ltd, Dehradun.
- The project has reduced potable water use more than 40% from the calculated baseline design fixture performance requirements established by the Energy Policy Act of 2005 through the installation of low flow urinals, showers, kitchen faucets, flush water closets

ENERGISING THE BUILDING



- Provision of high reflective material on roof, high performance glazing, efficient HVAC design, AHU's with VFD and Heat recovery in the base building, has contributed to HVAC energy savings of about 39% over conventional building HVAC systems.
- Selection of CFC free and HCFC free refrigerants avoids global warming and ozone depletion.
- Light fixtures and efficient lighting design contribute to better reduction in connected lighting power density over the base case of ASHRAE standards with the interior spaces achieving a low lighting power density in watts/square feet.
- Metering equipments have been installed for monitoring the energy use in the building such as EB and DG energy monitoring, individual meters for common area lighting, lifts, chillers, pumps, office area lighting, power and AHUs independently for each tenant, measuring chilled water consumption for each tenant using BTU meters for the ongoing accountability and optimization of building energy and water consumption performance over time.
- The project has a two-year purchase agreement to procure 49.85% of electricity for this LEED project that meets the Green-e definition for renewable power

RESOURCE MANAGEMENT

- The project has achieved a combined recyclable content value of more than 20% of total material by cost thereby reducing virgin material exploitation.
- More than 20% of the total building materials value including building materials and products has been manufactured within 500 miles of the project site and the total building materials value including building materials and products has been extracted within 500 miles of the project site.
- Rapidly Renewable materials account for more than 5% of the project's material cost. Special emphasis has been made to use these rapidly renewable materials to reduce virgin material exploitation.
- More than 50% of the total new wood cost is incurred by the purchase of FSC Certified Wood.



INDOOR ENVIRONMENTAL QUALITY



- In order to support enhanced IAQ and long-term well-being of all occupants, 30% more than the minimum ventilation rates as per ASHRAE standards have been provided.
- The entire building is a non-smoking building thereby ensuring the health and safety of all its occupants.
- Low emitting adhesives, paints and composite wood products have been used to enhance the indoor environment and provide superior workplace for all employees.
- All system seating and furniture used in the project reduce indoor air contaminants that are odorous, potentially irritating and/or harmful to the comfort and well-being of installers and occupants
- Provision of MERV13 filters and 3M dust removal mats at all building entrances minimizes the exposure of building occupants to potentially hazardous particulates, biological contaminants and chemical pollutants that adversely impact air and water quality.
- Provision of a thermally comfortable environment that supports productivity and well-being of all building occupants.

NOVELTIES

The Mixed Use building achieves exemplary performance in using water savings and HVAC Savings. Moreover the buildings have been designed to showcase various green and sustainability measures and practices and the effort is to use these buildings to create greater awareness on green concepts and sustainability to all its visitors and occupants & spearhead the green movement in the state and the country.

En3 would be glad to answer any queries or questions you have on any green or sustainability related topics. Feel free to contact us at info@en3online.com and for more information visit us at www.en3online.com.