



## CASE STUDY: EMBASSY TECH ZONE BLOCK-6



### KEY PARAMETERS

<b>Occupancy Type</b>	Technology Park
<b>Built up area</b>	307897 Sq Ft
<b>Completed</b>	June 2013
<b>Location</b>	Pune
<b>Green consultant</b>	En3 Sustainability Solutions
<b>Rating System</b>	LEED India CS version 1.0
<b>Rating Achieved</b>	<b>GOLD</b>

### LEED SCORES



Embassy Tech Zone Block-6, Pune, an environment friendly green Tech Park, which not only saves energy and cooling costs but also gives more lung space and natural light for employees working there. En3 has done innovative work to help Technology Park get greener and achieve its LEED GOLD certification from the Indian Green Building Council.



### *SITE SUSTAINABILITY FEATURES*

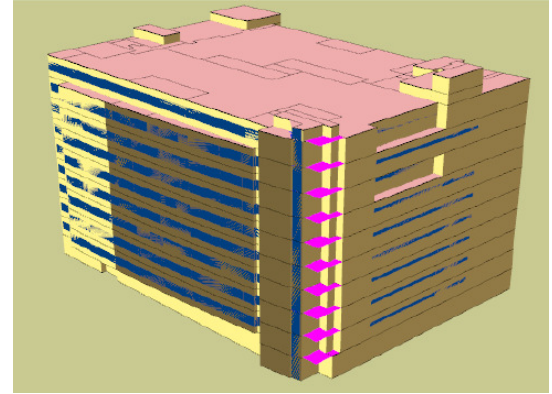
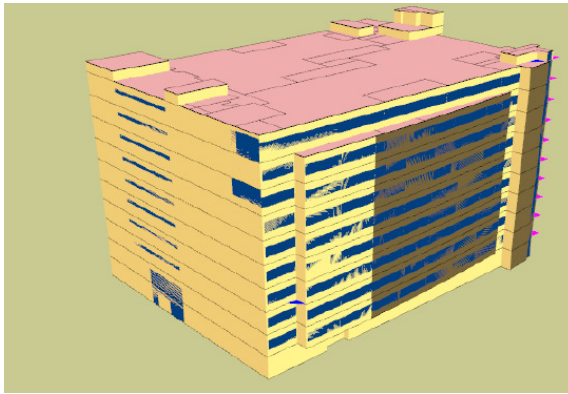
- The project has implemented erosion control measures like removing the top soil in the disturbed areas, stockpiling and stabilizing the same by covering with tarpaulin, making trenches to divert storm-water etc. sedimentation controls such as collection of storm-water during construction and storing in sedimentation pits to remove suspended particles prior to discharge have been described
- The project is in an ideal location with close proximity to public transportation thereby minimizing transportation pollution and strain on local infrastructure.
- 24 electric charging stations have been provided accounting to 3.05% of the parking capacity. Alternate Refueling stations with parking facilities promotes the usage of alternate fuel vehicles thus reducing pollution due to transportation as well as strain on local infrastructure
- The project has a parking capacity of 787 cars that does not exceed the local zoning requirements and 40 Nos. of preferred carpool/vanpool parking spaces are provided for 5.08% of the total parking capacity.
- The project has provided a vegetated open area that has exceeded the local zoning open space requirement by 25%.
- 100% of the car parks is under cover which will create more open spaces on the ground and also reduce the local heat island effect.
- Provision of high reflective albedo roofing for 81% of the roof surface thus reducing urban heat island effects.
- The project has published Tenant Design and Construction Guidelines. The provided guidelines include a description of the sustainable design and construction features incorporated in the core & shell project, information that enables a tenant to coordinate their space design and construction with the core & shell building systems

### *WATER EFFICIENCY*

- The project is treating grey water onsite and this treated water caters to 50% of the irrigation requirements for plants. Native and Adaptive species have been planted that minimize the irrigation water requirements. The project will use only treated water from common STP of 400 KLD capacity.
- 50% of cooling tower make-up water requirement will be met by treated water from STP
- Special efforts have been taken to minimize water use by installing water efficient fixtures.
- 100% of wastewater will be treated to tertiary standards on site
- Low flow dual-flush toilets, sensor based urinals and other low flow fixtures have been selected to reduce water consumption by over 49.05%.

### *ENERGISING THE BUILDING*

- In line with international standards, the refrigerants used in the air conditioning system and fire suppression systems are environmentally friendly and have very low ozone depleting and global warming potential
- A detailed metering system ensures adequate measurement and monitoring of all building systems to continuously monitor the building post-occupancy as well.
- The project has included a centrally monitored metering network in the base building design that is capable of expanded to accommodate the future tenant sub metering.
- A detailed energy analysis and modeling has been done to ascertain various options for energy savings with cost-benefit/payback analysis including Energy efficient Air Conditioning System (HVAC) using high efficiency Water Cooled Chillers, Air Handling Units (AHUs), in-built Variable Frequency Drives (VFDs).The project has achieved a energy cost savings of 18.46% compared to the ASHRAE baseline.



### *RESOURCE MANAGEMENT*

- The project has ensured up to 95.32% of total construction waste of debris has been recycled or reused thereby diverting them from landfills.
- The project has achieved a combined recyclable content value of 15.81% of total material by cost thereby reducing virgin material exploitation.
- About 43.51% of the total project's materials by cost were manufactured, extracted, harvested or recovered within 800 km thereby reducing the pollution due to transportation

### *INDOOR ENVIRONMENTAL QUALITY*



- Ventilation System is designed to provide 30% more fresh air than ASHRAE 62.1 2004 requirements.
- In order to support enhanced IAQ and long-term well-being of all occupants, adequate fresh air has been planned in line with international ASHRAE standards
- Low emitting adhesives, paints have been used to enhance the indoor environment and provide superior workplace for all employees.
- Provision of a thermally comfortable environment that supports productivity and well-being of all building occupants.



## *NOVELTIES*

- Project has diverted more than 95% construction debris from landfill
- The Project has a Green Education Policy in place to promote awareness about Green Buildings to the building occupants, construction workers, materials suppliers/vendors and for visitors.
- 43.5% of the total project's materials, based on cost, were extracted, harvested or recovered regionally.
- Green housekeeping program includes details such as purpose & requirement of green housekeeping, selection of eco-friendly chemicals, Procedural requirement for operational staff, training & implementation, cleaning procedure, thereby, promoting the green concept.
- Water use has been reduced by 49.05% through no grey water reuse and the use of efficient plumbing fixtures such as low flow water closet, low flow urinals and faucets

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](mailto:info@en3online.com) and for more information visit us at [www.en3online.com](http://www.en3online.com).