



CASE STUDY: NOKIA SIEMENS NETWORKS



KEY PARAMETERS

Occupancy Type	Office Space
Built up area	86,787 Sq ft
Completed	June 2014
Location	Chennai
Green consultant	En3 Sustainability Solutions
Rating System	LEED USGBC ID+C
Rating Achieved	GOLD

LEED SCORES



The Nokia Siemens Networks Office space in Chennai has been awarded Gold certification under USGBC's LEED ID+C rating system. The building has many unique distinctions to its credit including achieving exemplary performance in water savings.



SITE SUSTAINABILITY FEATURES

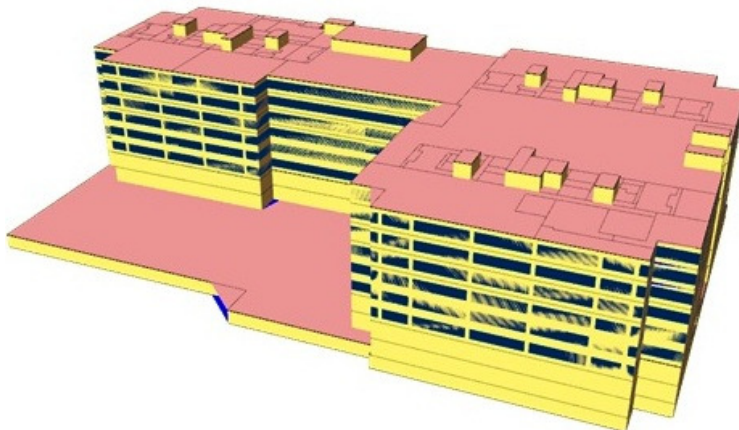
- The project is in ideal location with close proximity to public transportation thereby minimizing transportation pollution and strain on local infrastructure, protects green-field site and preserve habitat and natural resources.
- Provision of Bicycle and Shower facility for their staff reduces pollution and land development impacts from automobile use.
- 100% of the base building on-site parking is located underground.
- 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. The number of parking spaces provided to the LEED-CI project does not exceed the minimum number required by local zoning regulations and preferred parking for car/vanpools is provided for 5.07% of LEED-CI project FTE occupants

WATER EFFICIENCY

- Low flow dual-flush toilets, sensor based urinals and other low flow fixtures installed have resulted in potable water reduction of water use of **46.66%**.

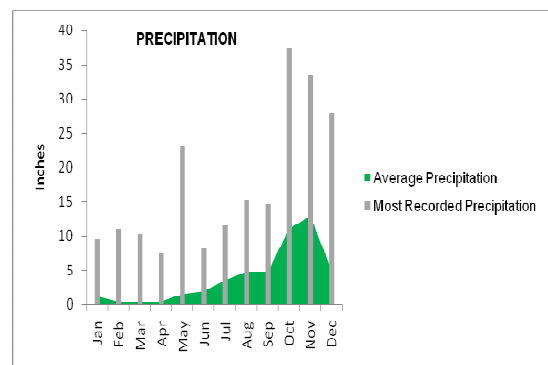
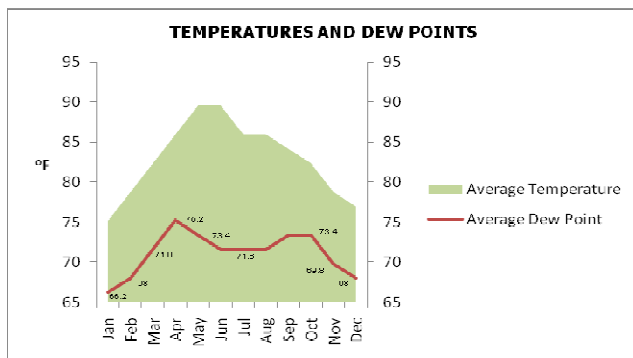
ENERGISING THE BUILDING

- Provision of high performance glazing, energy efficient HVAC design and lighting has contributed to energy savings of about **56.18%** over conventional building and HVAC systems.
- Selection of CFC free and HCFC free refrigerants avoids global warming and ozone depletion.
- Light fixtures and efficient lighting design contribute to **10.82%** of reduction in connected lighting power density over the base case of ASHRAE standards.



- Daylight responsive controls have been installed in 100% of all regularly occupied spaces within 15 feet of windows or under skylights.
- ENERGY STAR-rated equipment and appliances equal to **95.5%**, by rated power, have been installed on the project.
- 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.





RESOURCE MANAGEMENT

- The project has diverted 87.62% of the on-site generated construction waste from landfill
- 20.48% of the total building materials, by value, have been manufactured using recycled materials.
- Rapidly Renewable materials account for 5.59% of the project's material cost.

INDOOR ENVIRONMENTAL QUALITY

- Better air quality and additional fresh air by 30% have been provided for enhanced indoor environment
- The project developed and implemented a Construction IAQ Management Plan that followed the referenced SMACNA Guidelines
- The project conducted a flush-out prior to occupancy by supplying while maintaining an internal temperature of at least 60 degrees F and relative humidity no higher than 60%
- A CO2 sensor has been installed within each densely occupied space and an outdoor airflow measurement device has been installed for all systems where 20% or more of the design supply airflow services non-densely occupied spaces.
- Low emitting adhesives, paints, carpets and composite wood products have been used to enhance the indoor environment and provide superior workplace for all employees.

NOVELTIES

The project provides alternative-fuel fueling stations for 3.73% of the total parking capacity .The building has many unique distinctions to its credit including achieving exemplary performance in water savings and HVAC energy savings. The project is really an excellent example of true sustainable development from design stage until execution and shall definitely become a benchmark for future projects to emulate.

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.