

## PROJECTS

List of Projects in chronological order

- **H. P. State Co-operative Bank Ltd., Shimla:**

Incorporation of passive solar architecture techniques such as modified Trombe wall, sunspaces, lightwells, lightshelves, insulation and Solar Rooftop Collector for a bank building in cold climate with Ashok B. Lall Architects.

- **200 Bed Hospital at Khaneri, Rampur in Himachal Pradesh**

Design of special window for patients wards to collecting and distribute solar energy and day-lighting with Ashok B. Lall Architects.

- **Residential bungalows at Agra**

Integration of Evaporative Cooling System with design in hot and dry climate. Special sky lit dome design to provide daylighting throughout the year, reduce heat gain in summer and promote heat gain in winters with Ashok B. Lall Architects.

- **Project sponsored by Ministry of Non-conventional Energy Sources, Govt. of India with Indian Institute of Technology, Mumbai (IIT – Bombay)**

Project Officer for "Development of Design Guidelines on Solar Passive Architecture and recommendations for modifications of building bye-laws" - a research project funded by the Ministry of Non-conventional Energy Sources, Govt. of India. Building bye-laws of 12 cities representing Western India studied vis-à-vis solar passive architecture. Detailed simulation studies for investigating the thermal performance of a typical 4 storied residential apartment building for cities of Pune, Mumbai, Nagpur and Ahmedabad carried out.

- **Manual on Solar Passive Architecture with IIT-Bombay**

Co-author of book sponsored by Ministry of Non-conventional Energy Sources, Govt. of India. It presents relevant information in an easy to read format accompanied by detailed drawings to explain various techniques.

- **Simulation and Evaluation of Thermal performance of AFL House, Mumbai with IIT – Bombay**

Investigation of thermal performance of a 54000 sft office building using TRNSYS software to provide remedial solutions for decreasing high energy bills. A savings of 23% was achieved in cooling loads.

- **Pranic Healing Ashram, Pune**

Integration of renewable technologies such as solar and wind energy to provide streetlighting, hot water, domestic energy and water pumping.

- **Inspector General of Police Headquarters, Gulbarga**

A 30,000 sft office headquarters for police at Gulbarga, Karnataka. Design of low cost PDEC resulted in the ambient temperature brought down to 13 °C in the hot and dry season. First public building in India to get a LEED Gold rating.

- **Twin Bungalows, Ahmedabad**

Optimisation of thermal performance of twin bungalows each 12,000 sft for leading industrialists through appropriate modulation of micro-climate using a simulation tool bringing about an energy saving of 30% per annum.

- **Weekend Retreat and Training Center at Swedish Village, Kodaikanal**

50,000 sft. facility with integrated energy conscious architecture and environmental systems to get LEED rating.

- **Handbook on Energy Conscious Buildings with IIT-Bombay**

A path-breaking collaborative research project with Indian Institute of Technology - Bombay sponsored by Ministry of Non-Conventional Energy Sources

- **Satya Sai Baba Educare and Training Complex, Mumbai**

A large bio-tech institutional complex incorporating innovative passive solar design features such as day-lighting, earth air tunnels, cavity walls

- **Energy Efficient Mall, Mumbai**

Design of an energy efficient mall of about 5,00,000 sft of built-up area using simulation and passive solar techniques and daylighting to reduce energy costs.

- **Luxury Villa, Pune**

Incorporation of passive solar techniques such as shading, daylighting and modified Therm Wall to provide comfort in a villa of about 5000 sft area.

- **Auditorium, Aurangabad :**

Incorporation of passive solar techniques such as shading, daylighting, induced ventilation and evaporative cooling in hot and dry climate of Aurangabad. Optimisation of thermal performance of the building using advanced simulation softwares.

- **Farmhouse, Daman**

Incorporation of passive solar techniques such as modulation of microclimate, shading and skylights to provide comfort in a farmhouse of about 3500 sft area.

- **Service Apartment, Pune**

Green building design technology to reduce energy costs and conserve resources. Incorporation of movable blinds, building management systems, solar hot water systems, advanced glazings, etc. proposed.

- **IT Park at Calcutta**

Optimisation of thermal performance of a large information technology park of about 1.4 million sft including weather analysis, passive solar strategies and simulation

- **IT Complex at Mumbai**

Consultancy for Sustainable design and development of IT Complex at Mumbai (approx. 2,50,000 sft) as per IGBC guidelines for getting LEED (CS) gold rating. Awarded runners up trophy at IDA, New Delhi in August 2009.

- **International School and Management Institute at Mumbai**

An educational complex at Borivali of approx. 4,00,000 sft incorporating eco-friendly design for getting LEED (NC) rating.

- **Preliminary Energy Simulation for SDB-5, Mysore**

Opportunities for saving in a Software development block building of approximately 3,00,000 sft. for a large Indian multinational. An estimated saving of 17% above ASHRAE basecase was found by changing various building envelope design parameters. Studies included climate analysis, micro-climate analysis, thermal and daylighting simulation.

- **Redevelopment Projects of Residential Towers at Versova, Lokhandwala at Andheri (W) and Khar (W) at Mumbai**

Sustainable design and development of residential complexes ranging from 97,500 sft to 272000 sft

- **Shadow Analysis of MIAL, Pune for Thermax**

Studying the effect of surrounding structures on the Solar Field (for reducing cooling requirement in factory premises) of an automotive company.

- **Report on Green Building Technologies for NID, Gandhinagar**

Techno-economic feasibility report for incorporating green building technologies for the new Post graduate campus of one of the premier Design institutes of India.

- **Commercial Building at Mumbai**

Design and implementation of a 10 storeyed commercial building at Goregaon, Mumbai for Prince Hospitality

- **PEB Warehouse at Mumbai**

Design and implementation of 70,000 sft commercial warehouse at Chembur, Mumbai

- **High-rise mixed use Building at Kalyan**

Design of redevelopment of MHADA plot at Kalyan of approximately 8,00,000 sft built-up area. One of the first luxury residential tower of 90m height in the area with commercial space on the lower floors.

- **Master Plan and Design of Green Building School at Bhikangaon, M.P**

Architectural design and master plan for a zero energy building – “Education Park”, coming up in a back ward area of Madhya Pradesh incorporating green building technologies and low cost architecture. The project is of approx. 14 acres.

- **Test Lab for 1 MW Solar Power Plant at Gurgaon for IIT-Bombay**

Architectural design of Testing Laboratory for the first large scale Solar Thermal Power Plant designed and implemented by premier educational institute of India. It incorporates solar passive design features.

- **Disha Factory at Mumbai**

Daylighting and passive solar features for redevelopment of an existing building. Project incorporates Rain water harvesting.

- **Aman Asha School at Daman**

A school designed on passive solar principles. Daylighting, cross ventilation and shading are integrated. Fly ash blocks are used to reduce impact on environment.

- **Bungalow at Indore**

Row house having ample space, daylighting and cross ventilation.

- **Report for Himadri Masala Factory**

Consultancy for energy efficient design of proposed multi-storeyed factory at Navi Mumbai

- **Interior Design of Kolkar Residence**

Interior layout and design for converting 2BHK flat to 3BHK at high end luxury towers at Seawoods, Navi Mumbai

- **Design of Bungalow at Nanded**

Design of residential cum commercial structure at Nanded based on sustainable design techniques

- **Product Design of Health Atm**

Generic design of a kiosk based Health ATM powered by Solar energy

- **Report on Passive Solar Architecture for ISKCON temple, Kanakpura**

Preliminary report on passive solar architecture for proposed ISKCON temple at Kanakpura road, Bangalore. It is one of largest temples in India with built-up area of approx. 12 lakh sft and height of approx 500 ft.

- **Old Age Home “Aashray”**

Design of an Old age home near Ahmadabad

- **Agrawal Residences**

Proposed multi-family bungalows at Bhikangaon and Indore

- **Zero Energy Campus building for IIT Indore**

Design of 10000 sft estate office cum R&D lab at IIT-Indore's Simrol campus. It is the first zero energy structure on the campus incorporating solar passive architecture.

- **Training cum Residential centre for Sun Solar State**

Proposed Training and Residential complex showcasing solar applications in Madhya Pradesh on approx. 6 acres plot.