

# Vikalp

for a sustainable future

## Who are we..?



is an Hindi word signifies

'Option' or 'Alternate', an alternative which leads towards a Green & Sustainable Future. At Vikalp we believe in deriving "**Integrated Solutions**". An integration of Art-Culture, Heritage & Nature into the design in such a way that the product is harmonized & remains indigenous.

The dream & desire for bringing Vikalp into existence was incorporated in the year 2012. The core team of Vikalp is comprises of individual intellectuals who bring together their expertise in field of Architecture, Landscaping, Energy Efficiency & Historical Conservation with Uncompromising Sustainability in all its aspects.

The team focuses in providing the best & diverse services in order to stand in the era of global competition and promote the passion for excellence to the clients. All the team members have worked with the leading consultancy firms of the nation in their respective fields & worked on various range of projects.

## What we do...?



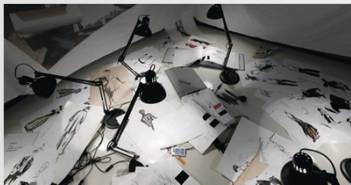
Architecture



Landscaping



Interior Designing



Design Optimization & Research



Sustainability

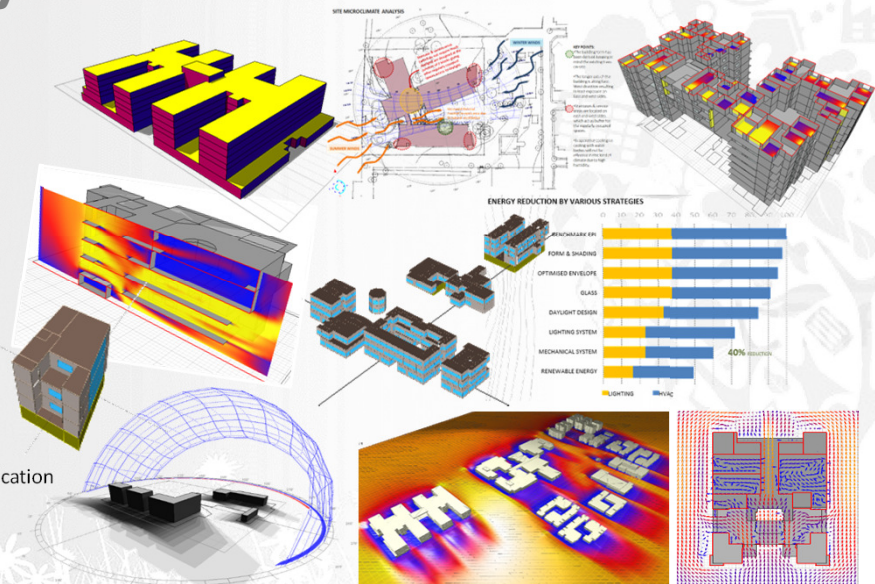


Audit & Commissioning

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## Sustainability Services...

- Building Performance Simulation
- Daylighting Analysis & Simulation
- Thermal Modelling
- Natural Ventilation Analysis
- CFD Analysis
- Solar Analysis
- Building Design Optimization
- Artificial Lighting Design
- GRIHA/IGBC/USGBC Rating Certification



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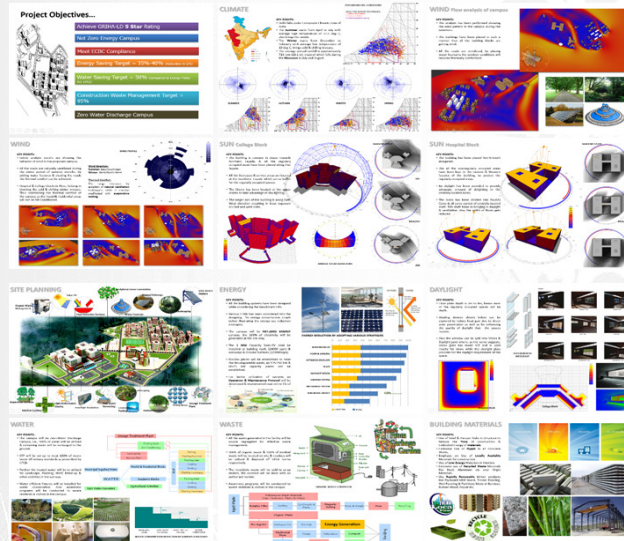


## Design Competitions...

- IDA High Rise Residential Tower, Indore
- AKVN's Corporate Office, Indore
- Hindustan Aeronautical Limited Manufacturing Unit, Bangalore
- Ascendas ITPB, Bangalore
- Central Armed Police Forces Institute of Medical Sciences, New Delhi
- Punjab National Bank, New Delhi
- Vidhan Sabha for NRDA, Raipur
- Medical College & Hospital, Khandwah
- Dr Fixit Terrace Landscape Design
- Makhan Lal Chaturvedi University, Bhopal



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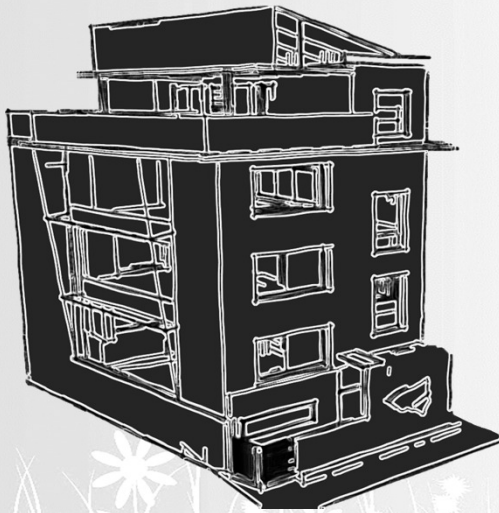


## Abhikalpan Office, Indore

Ar Keshav Sahay Saxena  
Principal Architect & Managing Director

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## Objective...



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**Example**  
**Demonstration**  
**Green Cell**  
**Knowledge Centre**  
**Motivate**  
**Education**

## Ideas, Targets & Goals...

**Optimization**

Daylighting  
 Efficient Air Conditioning  
 CO2 Sensors  
 Solar Passive Strategies  
 FSC Wood  
 Exterior Views  
 Low Energy Materials  
 Efficient Conditioning  
 High-Performance Glazing  
 Task Lighting  
 Heat Recovery  
 CO2 Sensors  
 Evaporative Cooling Plant  
 Efficient Building Envelope  
 Drought Tolerant Species  
 Green Roofs  
 Solar Photovoltaic  
 Green Living  
 BEE 5 Star Equipments  
 Net-Zero

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## Location & Climate...

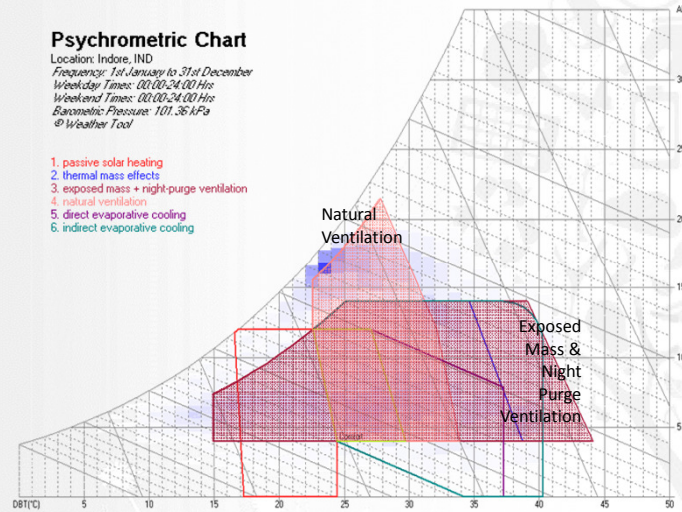
The project is located in Indore, MP OR  
**Malwa**

- Indore falls under Composite Climatic Zone of India.
- The **Summer** starts from April to July with average high temperature of 40° C, brings Hot Winds from West, but nights becomes colder with a average temperature of 22° C.
- The **Winter** starts from December to February with average low temperature of 5° C, brings cold & chilling breezes from North.
- The average annual rainfall is approximately 800 mm (31 in), most of which falls during the **Monsoon** in July and August.

### Psychrometric Chart

Location: Indore, IND  
Frequency: 1st January to 31st December  
Weekday Times: 00:00-24:00 Hrs  
Weekend Times: 00:00-24:00 Hrs  
Barometric Pressure: 101.36 kPa  
© Weather Tool

1. passive solar heating
2. thermal mass effects
3. exposed mass + night-purge ventilation
4. natural ventilation
5. direct evaporative cooling
6. indirect evaporative cooling



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## Site & Surroundings...

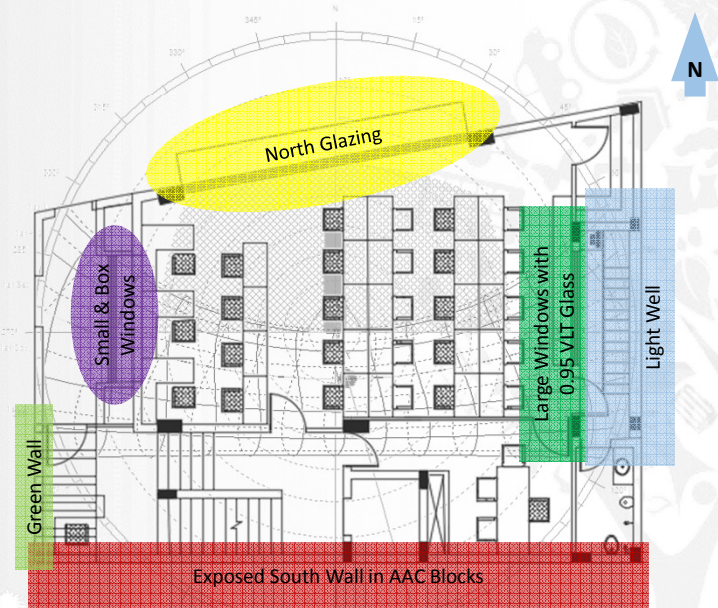
- Located in suburbs of Indore
- East-West **Elongated** Plot
- West **Facing** plot
- Having private **Garden** at North façade
- **Narrow** West side
- Very Well **connected** with city transportation system
- Walkable distance to the **basic facilities**



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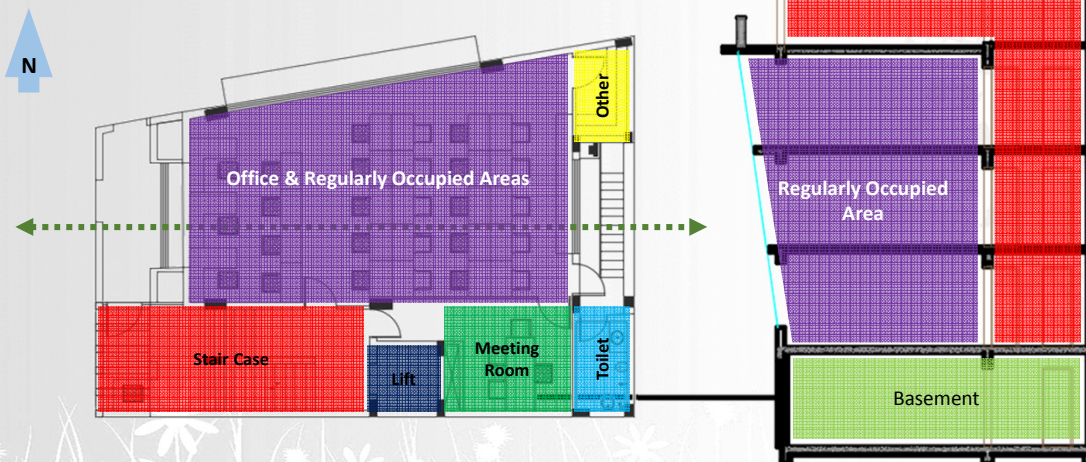
## Passive Design Strategies...

- Natural & Cross Ventilation
- Buffer Spaces on South Façade
- Maximum use of Daylighting / North Light
- Terrace Garden
- External Shading
- Light Well
- High Thermal Mass
- Night Purge Ventilation
- Green Walls
- Recessed/Box Windows
- 100% views to Outdoors



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## Buffer Spaces...



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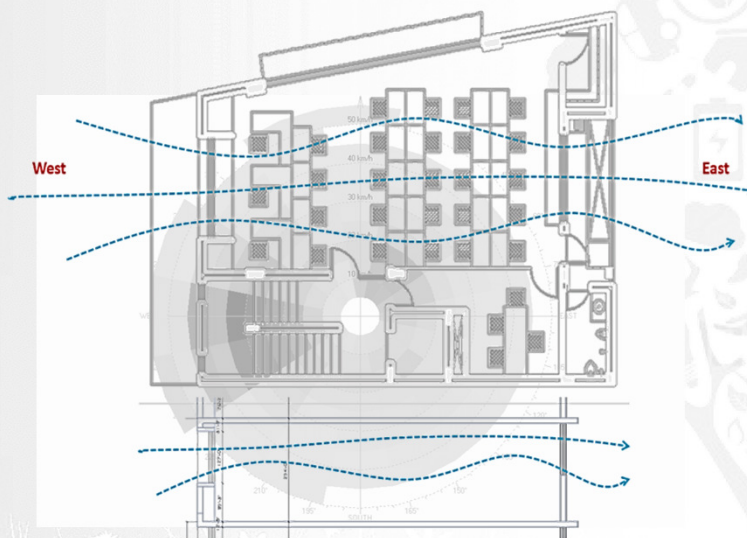


## Light Well...



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## Natural Ventilation...



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## Daylighting...

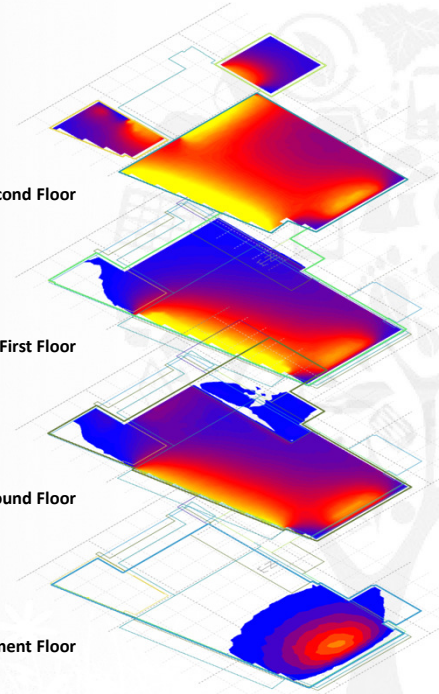


Second Floor

First Floor

Ground Floor

Basement Floor



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## Daylighting...



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## Views...



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## Building Systems...

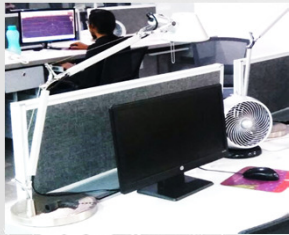
- Centralized VRV 3 Inverter based Air-Conditioning, with HRV
- CO Monitoring System
- Daylighting & Occupancy Sensors
- Dimmable LED Lights
- BEE 5 Star Super Fans
- 10 kWp Solar Photovoltaic Installation
- Energy Metering
- Saint Gobain 154 & 144 DGUs



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## Lighting Design...

- The LPD achieved is 0.45W/sqft
- The entire lighting system is integrated with Daylight & Occupancy sensors
- Further to save lighting task lighting have been installed



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## Lighting Design...

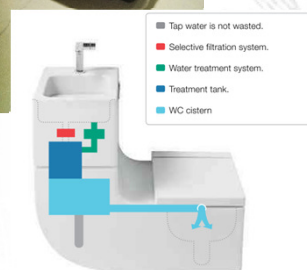
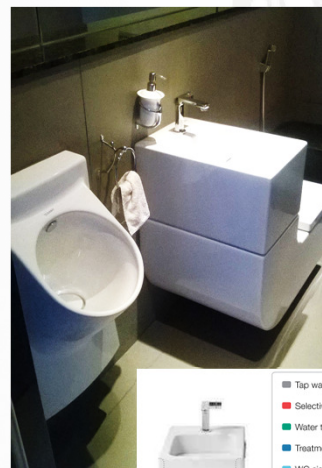


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## Water Fixtures...

- Toto **faucet** of flow rate 1.5L/min
- Toto-Neorest AH wash-let **dual flush** 3.8/3.
- Roca w+w **dual flush** 3/6 liter
- Gebrit concealed cistern bolero square plate with 3/6 liter flushing and 2/4.5 liter flushing for TOTO squatting pan & DURAVIT (WC)
- Duravit Rrchitec **urinal** 0.6litre/ flush



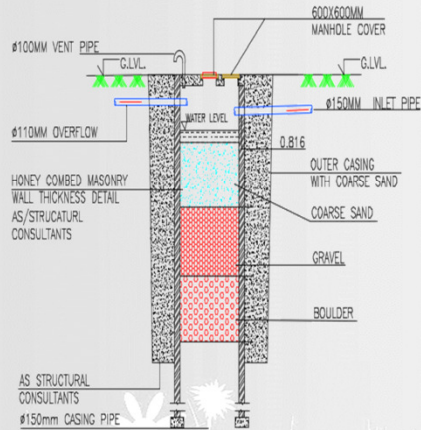
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## PEX System...



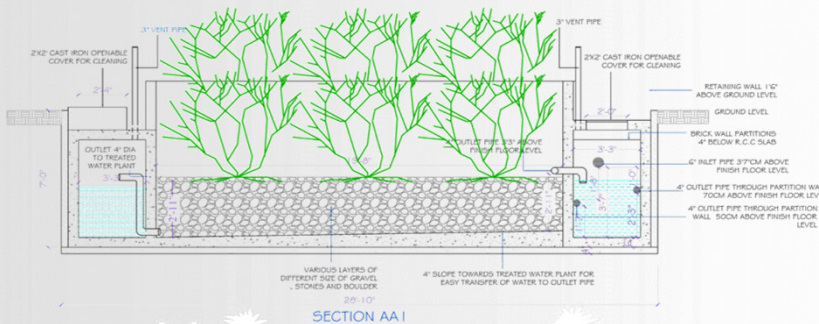
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## Rain Water Harvesting...



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## Root Zone Treatment...



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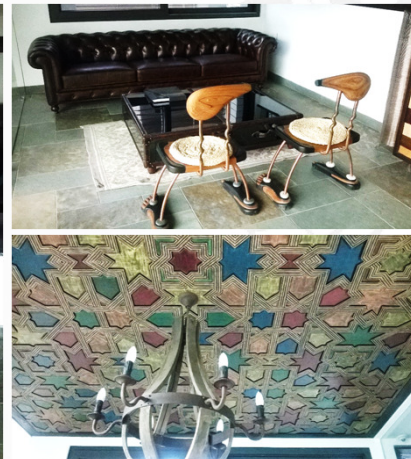
## Building Materials...

- 100% use of PPC
- Raw Kota Stone flooring except toilet
- Nerolac impressions Eco-Clean for interiors & Nerolac excel total for exterior surfaces
- The materials with recycled content were preferred like Engineered Marble (90%), Corean table tops (38%), SS Modular Furniture Bases (65%), Ply & MDF Boards (12%).
- The entire movable furniture installed in the project is salvage & refurbished furniture items.



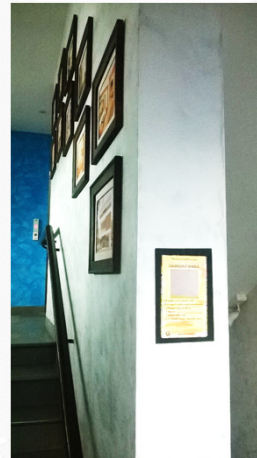
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## Designer Products...



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## Education...



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## Occupant Well Being...



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## SVA-GRIHA Scorecard...



Criterion No.	Criterion Name	Maximum Points	Points Awarded
1	Reduce UHIE and maintain native vegetation cover on site	6	6
2	Passive architectural design and systems	4	4
3	Good fenestration design for reducing direct heat gain and glare while maximising daylight penetration	6	5
4	Efficient artificial lighting system	2	2
5	Thermal efficiency of building envelope	2	2
6	Use of energy efficient appliances	3	3
7	Use of renewable energy on site	2	2
8	Reduction in building and landscape water demand	5	5
9	Rainwater harvesting	4	4
10	Generate resource from waste	0	0
11	Reduce embodied energy of building	4	4
12	Use of low-energy materials in interiors	4	2
13	Adoption of green Lifestyle	4	3
14	Innovation	-	2
Total Points		46	44

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# Thank You...



*Ar Keshav Sahay Saxena*

Principal Architect & Managing Director  
M Arch- Sustainable Architecture, LEED-GA\*, IGBC-AP, GRIHA-  
Evaluator & Representative (MP)

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