



WELCOME
To Indira Paryavaran Bhawan
Ministry of Environment, Forest
&
Climate Change

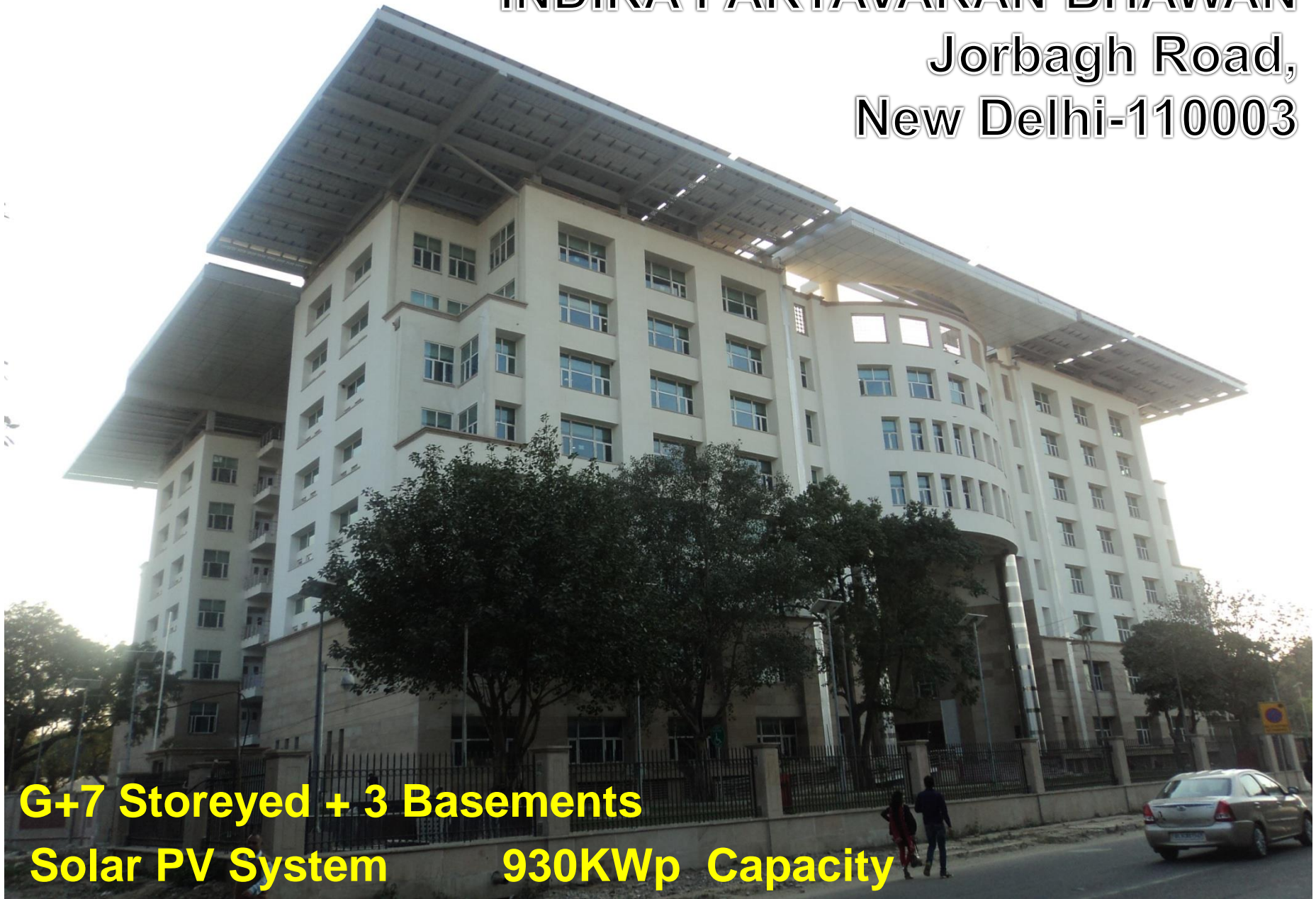


INDIRA PARYAVARAN BHAWAN

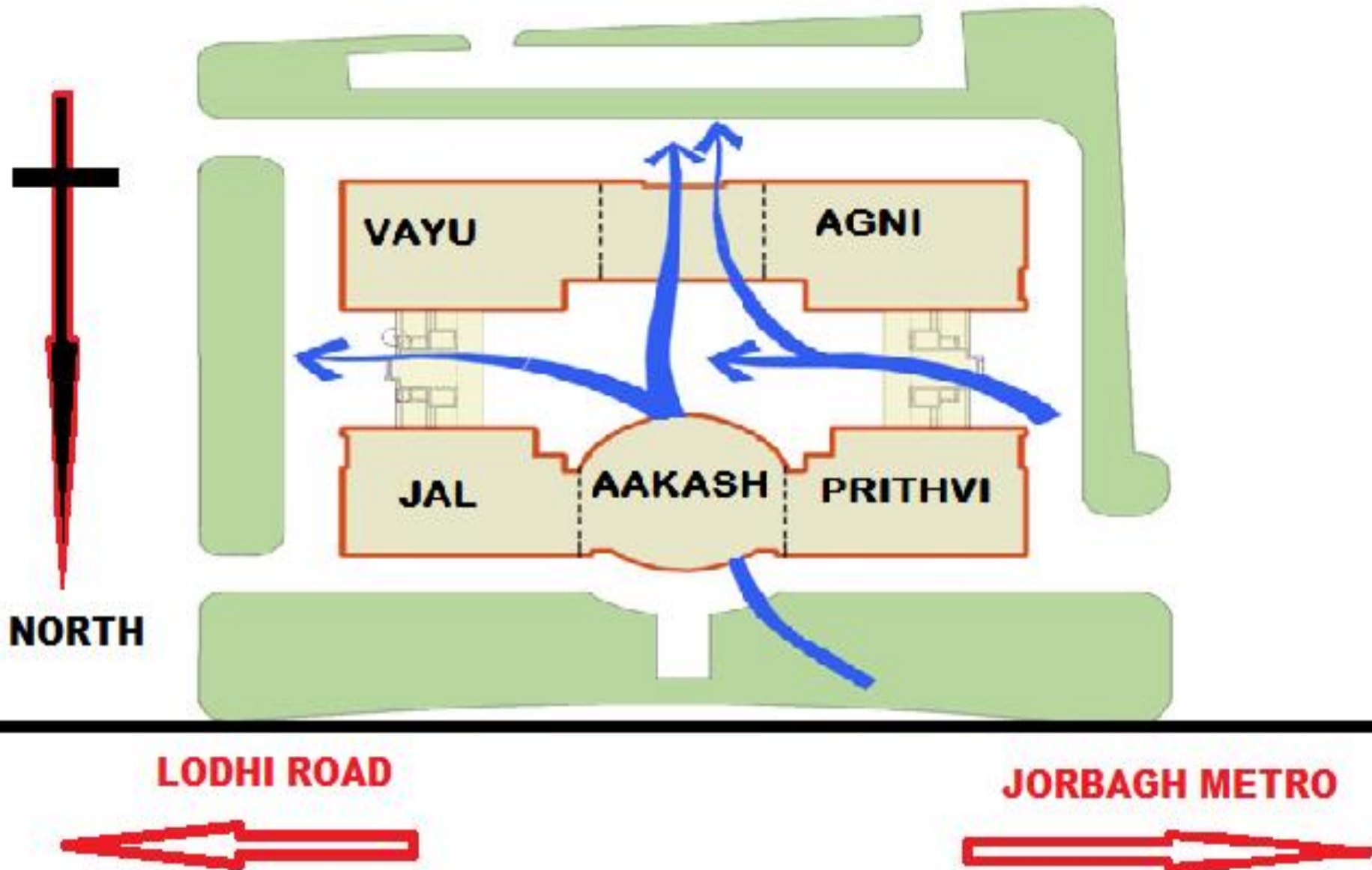
Jorbagh Road,
New Delhi-110003

G+7 Storeyed + 3 Basements

Solar PV System 930KWp Capacity



Outline of the building



Mechanical, Electrical & Plumbing Services

- ✓ **Central Air Conditioning**
- ✓ **Lifts**
- ✓ **Fire Fighting & Fire Alarm**
- ✓ **DG Sets**
- ✓ **UPS**
- ✓ **CCTV system**
- ✓ **IBMS(Integrated Building Management System)**
- ✓ **De centralised Sewage Treatment Plant**

Utilities not commonly provided in other buildings

- **Roof Top Solar Power Plant** : 930 KW Capacity
6000 sqm area
- **Fully Automated Robotic Car Parking** : 330 cars



40% Savings in Electricity

**55% Savings in Water
with
Zero Discharge**

40% Savings in Electricity

1) SOLAR PASSIVE ARCHITECTURE

2) INSULATED OUTER WALLS AND ROOF

**3) WINDOWS WITH SPECIAL GLASS
(DOUBLE GLAZED) TRANSMITTING MORE LIGHT
AND LESS HEAT**

**4) ENERGY EFFICIENT
LED LIGHTS WITH SENSORS**

40% Savings in Electricity

**5) CHILLED BEAM SYSTEM OF AIR
CONDITIONING WITH <50% OF
CONVENTIONAL ENERGY CONSUMPTION**

**6) GEOTHERMAL HEAT EXCHANGE
SYSTEM**

7) REGENERATIVE LIFTS

8) ENERGY EFFICIENT EQUIPMENT



SOLAR PV SYSTEM

930KWp CAPACITY

Grid Interactive System





**LARGEST Roof top
Solar Power system
in any multistoreyed
Building (930KWp)**

Unique Bench Mark

•**FIRST**

“NET – ZERO ENERGY”

**Multistoreyed Building
with 100% ON-SITE Power Generation**

Annual Energy Requirement	14.0 lakh KWh
Annual Energy Generation(Solar)	14.0 lakh KWh
Net Energy Consumption	Zero lakh KWh

ACTUAL SOLAR POWER GENERATION

- **Power Evacuation to grid** started on **19.11.2013**
- **Power generation achieved** **3000 KWh(per day)**
- **Total generation for a year** **13.5 lakh KWh**

Conservation of Water

55% Reduction in overall use of water

- Low discharge water fixtures
- Low demand plants in landscaping
- Use of **Geothermal Cooling**
- Recycling of waste water for **ZERO Discharge**
- Rain water harvesting
- Recharge wells, supply to NDMC Tankers

55% Savings in Water and Zero Discharge

**1)RECYCLING OF WASTE WATER AFTER
TREATMENT**

**2)GEOTHERMAL HEAT EXCHANGE
SYSTEM**

**3)LOW FLOW FIXTURES, SENSOR URINALS
& DUAL FLOW CISTERNS**

4)LOW WATER CONSUMING PLANTS

ARCHITECTURAL PLANNING AND LANDSCAPING

Internal circulation roads
with **grass paver blocks**
enabling
rain water percolation



ARCHITECTURAL PLANNING AND LANDSCAPING

- The Building Envelope has been designed
 - i) to receive **natural daylight** in **75% of area**
 - ii) **Access Friendly** to differently-abled persons.
- Out of total 79 trees existing on the site , **only 19 were cut**, and **11 transplanted**



FLY ASH BRICKS AND BLOCKS



Sustainable Building Materials

- **Maximum Utilisation of Fly Ash**
 - In Concretes, Mortars & Brick walls
- **Locally available** Stones and other materials
- **Rapidly Renewable Materials**
 - Bamboo Jute Composite for Door Shutters & Frames

LOW ENERGY MATERIALS

REGIONALLY AVAILABLE

Use of material available **within a radius of 800 km**

Dholpur stone, Kota stone, North Indian Granites, AAC Blocks, FaLG bricks etc.



**Granite
(Lakha Red)**



Dholpur Stone

LOW ENERGY MATERIALS

RECYCLED / RECYCLABLE

Use of material available having Recycled content

FaLG Bricks, Terrazo Tiles, Vitrified Tiles, Calcium Silicate Tiles, crazy marble etc.



**Calcium Silicate
Tiles**



Terrazo Tiles



Crazy Marble

LOW ENERGY MATERIALS

RAPIDLY RENEWABLE

BAMBOO – JUTE COMPOSITE DOORS

Polymer
Thermosetting Resin
(Phenol
Formal
Dehyde)

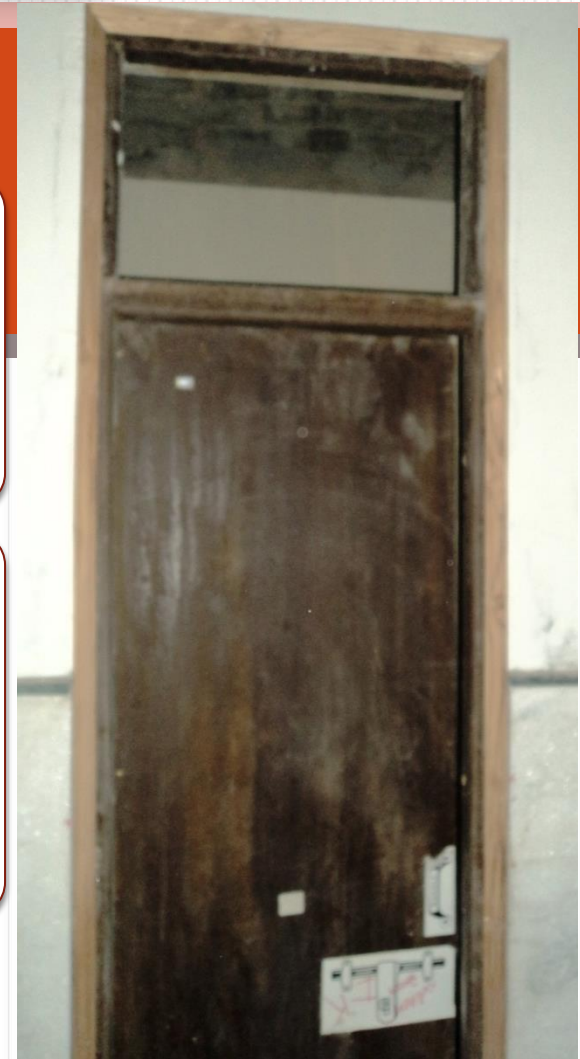
BAMBOO
MAT

Woven sheet
using
Bamboo
slivers 0.6 to
0.8mm thick
& 5mm wide

JUTE / COIR
MAT

Jute / Coir
Thread
woven into
coarse cloth

Satisfies all the quality parameters
that a normal flush door does



Other Bench Marks

**FIRST Building in GOVERNMENT
SECTOR**

With Highest Green Ratings

GRIHA

5 STAR

&

LEED India

PLATINUM



GREEN BUILDING

**5 STAR
GRIHA
Certification**

Security

- CCTV at all strategy locations. The system is keeping a watch of every movement and it is being recorded.
- There are 65 CCTV cameras.
- Entry into building through smart cards
- Attendance recording through Biometric System.
- CISF personnel at each gate and door entrance.

Thank You