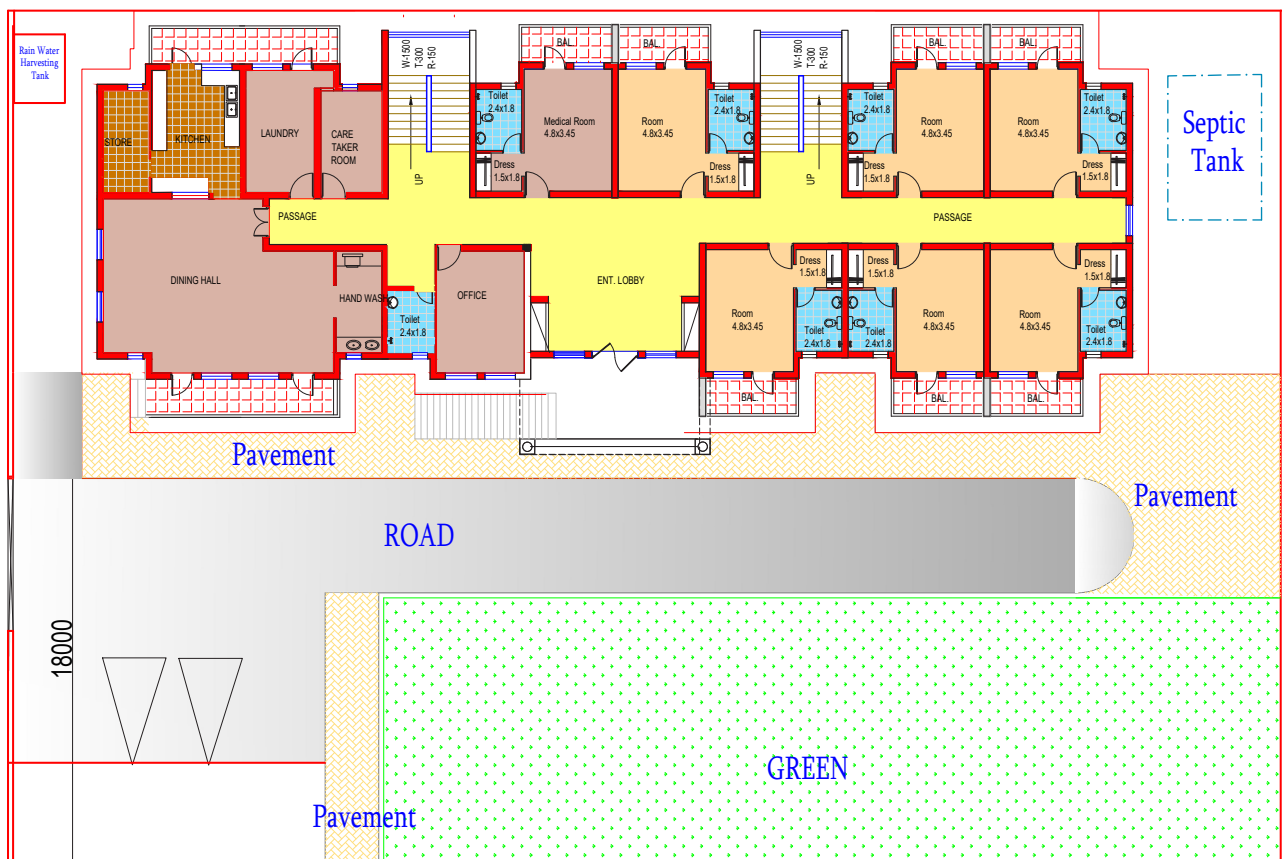
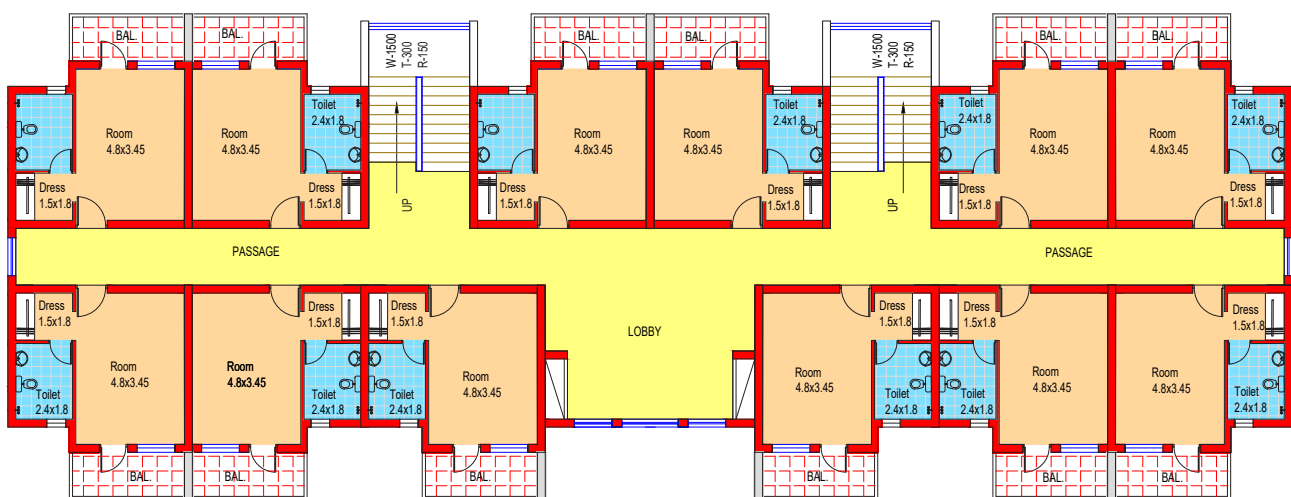


## DHP AT BHOPAL, MADHYA PRADESH

Directorate of Urban Administration & Development, Bhopal, MP allotted the land measuring 2709 sqm. in premises of SPNIUM Campus at Bhouri, Bhopal to be used as Sports Hostel. The Bhopal Municipal Corporation approved the plan and layout consisting of 40 Dwelling Units with other provisions. The DHP is in G+3 configurations and being constructed using STAY IN PLACE FORMWORK SYSTEM - Insulating Concrete Forms (ICF).



Layout Plan



Typical Floor Plan

### Project Profile:

- Location: SPNIUM Campus at Bhouri, Bhopal
- State Level Nodal Agency : Directorate of Urban Administration & Development, Bhopal
- Land Allotted by: Directorate of Urban Administration & Development, Bhopal
- Usage : Sports Hostel
- Plot area of project : 2709 sqm.
- No. of houses : 40 (G+3); Other Provisions includes Office with Toilet, Dining Hall with Kitchen and store, Common Room with toilet, Medical Room with toilet, Care Taker Room, Activity Rooms & Laundry
- Carpet area of each unit : 29.05 sqm.
- Built up area of each unit : 34.15 sqm.
- Total built up area : 2180 sqm.
- Technology Used: STAY IN PLACE FORMWORK SYSTEM - Insulating Concrete Forms (ICF).
- Each Unit consists of one room, dressing, combined Bath & WC and balcony.
- Includes Earthquake Resistant Features.
- Infrastructure facilities : CC Road, pathways with concrete pavers, water supply work, UGT, septic tank, horticulture work, boundary wall, drainage & disposal and external electrification using solar panels, rain water harvesting, fire fighting system, etc.
- Status of project : Completed.



### About the Technology:

Insulating concrete Forms (ICF) System comprises of a panel of two walls of Expandable Polystyrene (EPS) separated by a nominal distance of 150mm by hard plastic ties. These are assembled on site to hold reinforced concrete. The forms are open ended hollow polystyrene blocks which fit tightly together to form a shuttering system. Concrete poured into the hollow space to form a continuous wall. When cured, this wall supports the structural loads from floors and roofs, and the shuttering provides thermal insulation. Reinforcing steel shall be as required from design.

Upper and lower surfaces of the polystyrene panels are castellated and the vertical mating surfaces are tongue-and-groove to form a tight fit when joined together. The rig-

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id formwork does not require supporting falsework. The inner surfaces have tapered grooves running vertically and have offset on opposite faces to ensure uniform concrete thickness. They also form locks for end stops. The outer surfaces are grooved vertically at 50mm centres to aid cutting and trimming.

In this project, the system has been used as load bearing wall panels. The thickness of ICF panel is 250mm with infill of 150mm cement concrete and 5mm polymerised cementitious plaster on both side of wall.



### **Technologies/Specifications being Used**

#### *Foundation*

- Isolated RCC column/strip footing with Plinth beam

#### *Walling*

- Insulating Concrete Forms (ICF) Concrete filled Expandable Polystyrene (EPS) blocks.





*Floor Slabs/Roofing*

- RCC slab/Roof as per specifications

*Door frame/shutters:*

- Pressed steel door frame with flush shutters
- PVC door frame with PVC Shutters in toilets

*Window Fame/ Shutter:*

- uPVC frame with glazed panel and wire mesh shutters.

*Flooring:*

- Vitrified tile flooring in Rooms & Kitchen
- Anti-skid ceramic tiles in bath & WC
- Kota Stone Flooring in Common area and Staircase

*Finishing:*

- Weather Proof Acrylic Emulsion paint on external walls
- Oil Bound distemper over POP on internal walls

*Others:*

- o Electrical fixtures such as ceiling fans, LED tube lights, exhaust fan; wooden shutters in cupboard and under kitchen cabinet

The structural design of DHP has been vetted by Shibpur Engineering College, Kolkata and Technical evaluation is being carried out by Samrat Ashok Technological Institute (SATI) Vidisha.



