

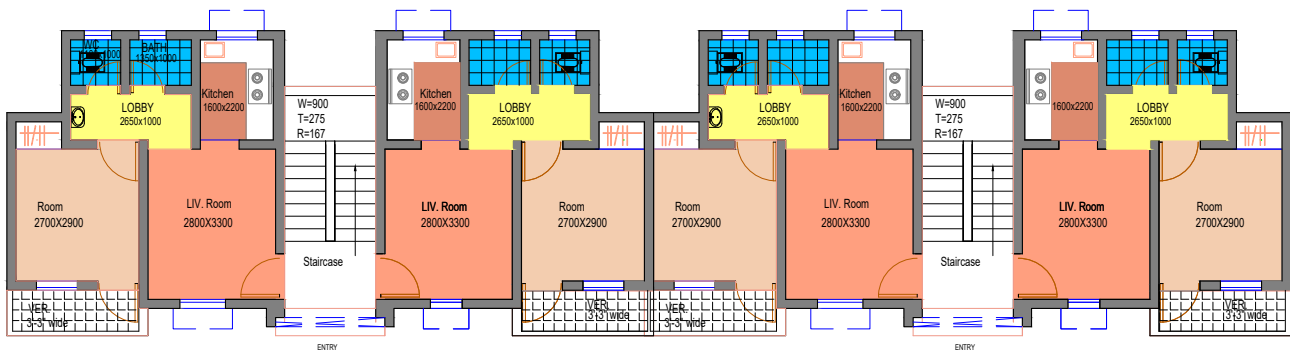
DHP AT LUCKNOW, UTTAR PRADESH

State Urban Development Agency (SUDA), Lucknow through Nagar Nigam Lucknow allotted 0.385 hectare of land at Aurangabad Jagir, Tehsil Sarojini Nagar, Lucknow for Demonstration Housing Project. The Building Plan, Sections and Layout Plan of Demonstration Housing Project was approved by Nagar Nigam Lucknow. The demonstration housing project consists of 40 Demonstration Houses (G+1) using emerging technology STAY IN PLACE FORMWORK SYSTEM- Stay in place EPS based double walled panel system with infill concrete has been completed.

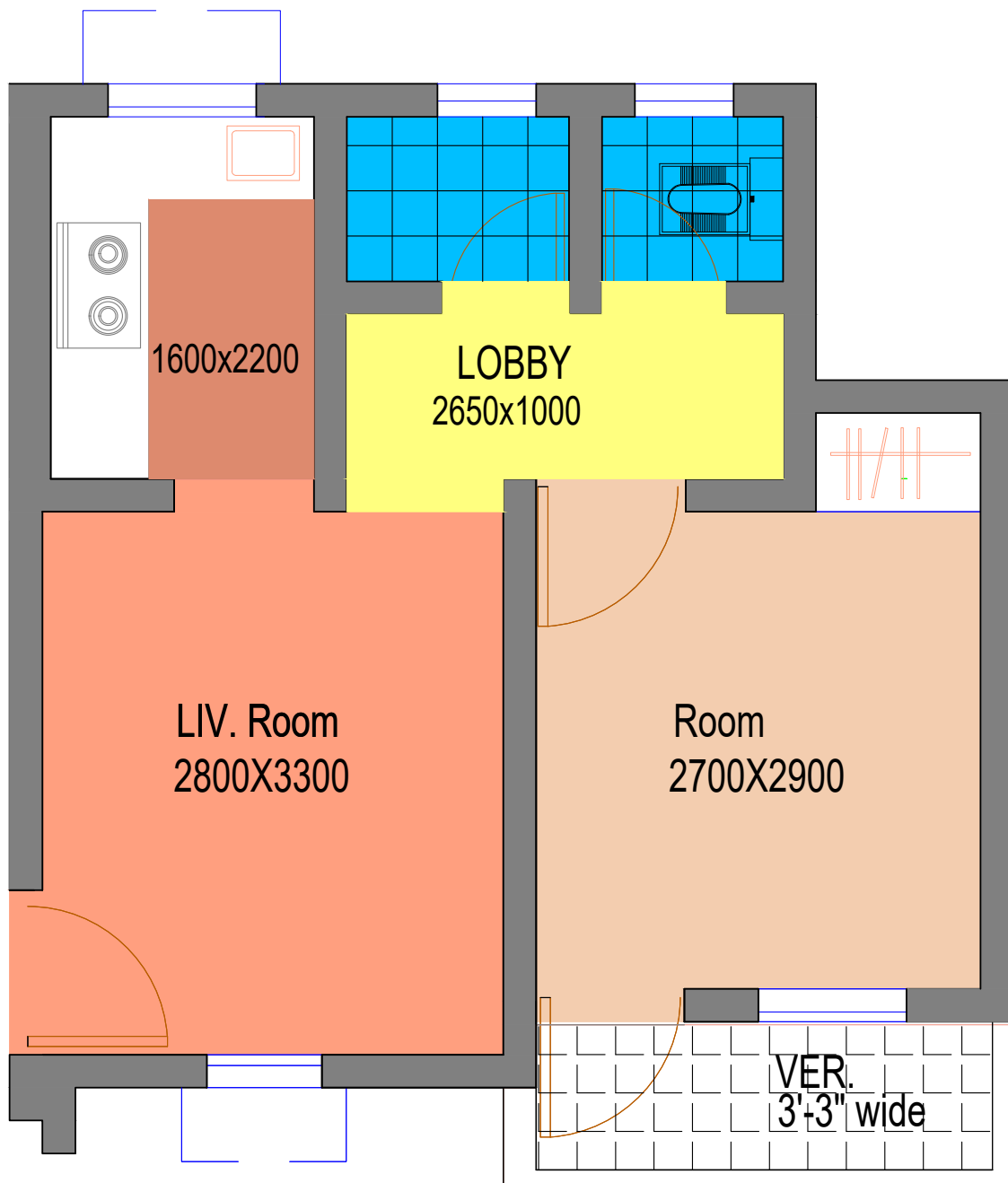
The DHP was undertaken as part of PMAY(U). The Department For International Development (DFID) & National Housing Bank (NHB) are other Partnering & Funding agencies for the project.



Layout Plan



Typical Floor Plan



Unit Plan

Project Profile

- Location: Aurangabad Jagir, Tehsil Sarojini Nagar, Lucknow
- State Level Nodal Agency : State Urban Development Agency
- Land Allotted by: Nagar Nigam Lucknow
- Usage : Hospital Patients and their attendees
- Plot area of project : 3850 sqm.
- No. of houses : 40 (G+1)
- Carpet area of each unit : 26.40 sqm.
- Built up area of each unit : 40.31 sqm.
- Total built up area : 1612 sqm.
- Technology Used: STAY IN PLACE FORMWORK SYSTEM- Stay in place EPS based double walled panel system with infill concrete
- Each Unit consists of One living room, one bedroom, kitchen, Bath, WC and balcony.
- Includes Earthquake Resistant Features.
- Infrastructure facilities : CC Road, pathways with concrete pavers, boundary wall, water supply work, UGT, septic tank, horticulture work, drainage & disposal and external electrification using solar panels, rain water harvesting, electric sub-station, etc.
- Year of completion : December 2018
- Cost per sqft. without infrastructure : Rs.1620
- Cost per sqft. with infrastructure : Rs.2080



About the Technology

Sismo Building Technology is an insulating shuttering kit for whole building based on a three-dimensional lattice made of galvanized steel wire. The lattice is filled with materials of different nature to serve as formwork. The basic structure of the Sismo building module is steel wire lattice. At the exterior sides of the lattice, infill panels are inserted, which transform the lattice into a closed structure that can be filled with concrete. The type of infill panels used depends on the purpose of the wall: load bearing or non-load bearing, insulated or otherwise, etc. The steel wire also acts as armature and anchoring for the finished material and it holds reinforcement bars in place during concrete filling. The various components of the system are 3D lattice, infill panels, structural filler and finishing. This technology was initially developed in Belgium.

In this project, this system has been used as load bearing panels with infill of cement concrete. The thickness of panel is 200mm and 20mm cement plaster on both side of wall. The thickness of roof slab is 120mm with micro beams.

Technologies/Specifications for Demonstration Houses

Foundation

- RCC strip foundation

Wall/Slab/Roof

- Stay in Place EPS based Double Walled Panel System (Sismo) for wall(load bearing)/slab/roof

Door frames & Doors

- Pressed Steel Door Frame instead of



wood

- Flush door shutters as wood substitute
- PVC door frame & shutter in toilet

Window frames

- MS Section window frame with guard rail and glazed shutter



Flooring

- Ceramic tile flooring in rooms
- Ceramic tile flooring in WC & Bath
- Kota stone flooring in passage and staircase



Kitchen Counter

- RCC cooking counter top with marble and steel sink

Wall finishes

- Oil bound distemper on internal walls
- Weather resistant paint on external walls

The structural design of DHP has been vetted by IIT Roorkee and technical evaluation of the project was carried out by Indian Institute of Technology (IIT), Kanpur.

