



# GOVERNMENT DENTAL COLLEGE AND HOSPITAL , Nagpur Nagpur division



|                           |                                             |
|---------------------------|---------------------------------------------|
| Location                  | : Nagpur, Maharashtra                       |
| Site Area                 | : 6494 sq.m.                                |
| Built up Area             | : 11170 sq.m.                               |
| Typology                  | : College & Hospital                        |
| Rating Category           | : GRIHA for Existing Buildings (EB)         |
| Version                   | : 1                                         |
| Date of Award             | : 6 June 2019                               |
| Client                    | : Government of Maharashtra                 |
| Integrated Design Team    | : Public Works Department (PWD) Maharashtra |
| Green Building Consultant | : Gadin Consultancy & Co.                   |

GRIHA EB



4 STAR

The following strategies were adopted by the project teams to reduce the impact of the existing building on the environment:

## Site Parameters:

- Preferred parking provided for electric vehicles
- Strategies implemented over 4194 sq.m. of site are to reduce the Urban Heat Island Effect.

## Energy:

- Replacing old electrical equipment and appliances with BEE star rated ones has reduced the annual energy consumption from 2,87,969 kWh/year to 78,545 kWh/year.
- Solar photovoltaic system proposed of 11 kWp and installed of 4kWp to generate 22,635 kWh of renewable energy.

## Water Efficiency:

- Building water consumption reduced from 6621.83 kiloliters/year to 4012.44 kiloliters/year
- The total sewage water generated on site is 9.89 kiloliters/day.

## Human Health and Comfort:

- Indoor comfort conditions measured in summer months; Dry bulb temperature= 28 - 32°C, Relative humidity= 59% – 64%, Daylight levels= 333 - 379 lux, Artificial lighting levels= 301 - 356 lux and Indoor noise levels: 46 - 55 dB; were complaint with benchmarks of the Indian Model for Adaptive comfort, SP41 and NBC 2005.

Total energy offset  
by renewables  
= **28.82%**

Total reduction in  
building water demand  
= **39.41%**

## TOTAL CARBON OFFSET BY THE PROJECT:

**By planting native saplings & preserving existing trees: 0.62 ton/year**

**By conservation of conventional energy: 252.71 ton/year**