



## Sports Facility at IIT Bombay, Mumbai

Location	: IITB Powai-Mumbai
Site Area	: 2585 m <sup>2</sup>
Built up Area	: 6929.45 m <sup>2</sup>
Air-conditioned Area	: 3492.22 m <sup>2</sup>
Non Air- conditioned Area	: 2796.66 m <sup>2</sup>
Energy Consumption Reduction:	64% reduction in energy consumption compared to GRIHA benchmark
EPI	: 50.30 KWh/m <sup>2</sup> /year
Renewable Energy	: Rated capacity of solar PV installed on site is 25 KW
GRIHA provisional rating	: 4 Stars
Year of completion	: 2016

The following strategies were adopted to reduce the building impact on the natural environment:

### 📍 Sustainable Site Planning:

- Existing trees were preserved and transplanted
- Excavation and construction started after the monsoon season to prevent soil erosion and soil run off from the site
- Aggregate utility/service corridors are planned to cause minimum damage to the site and natural topography. All utility corridors run parallel to the transportation corridors.

### 📍 Reducing water consumption:

- Reduction in building water consumption by use of low-flow fixtures : 65%
- Reduction in irrigation water consumption by using less of lawn & more of trees/Shurbs: 44.24%.

### 📍 Reducing energy consumption (compared to GRIHA benchmarks) while maintaining occupant comfort:

- For achieving visual comfort:
  - » Energy efficient artificial lighting design is compliant with ECBC recommendations
  - » External shading and efficient glazing to reduce solar heat gain and have glare-free daylight have been installed.
- For achieving thermal comfort:
  - » Efficient SGU and AAC block walls to reduce solar heat gain
  - » Facade placed at an angle to cut direct sun rays and glare inside the building
  - » Building envelope is ECBC compliant, which helps reduce cooling loads in AC spaces and meets thermal comfort levels in non AC spaces

### 📍 Renewable energy technologies installed on site:

Rooftop Solar PV systems of 1MW installed for catering the entire academic campus; Out of which 25kW is dedicated/apportioned for this project.

### 📍 Use of low energy materials:

The project has used AAC blocks in place of burnt clay bricks, project has reduced embodied energy of non-structural material by 56%.

### Integrated Design Team:

Client	: IIT Bombay
Project Coordinator	: Mr. Borkar (OSD from IIT)
Principal Architect	: SSA
Landscape Architect	: SSA
Project Management Consultant	: Kicons Ltd.
Structural Consultant	: NA
Electrical Consultant	: Godrej & Boyce Mfg. Co. Ltd.
Green Building Design and Certification	: Godrej & Boyce Mfg. Co. Ltd.