About NASA India

The National Association of Students of Architecture (NASA, India) is the world's largest architectural student-run organization. Founded in 1957 with just seven colleges, it has grown to include over 350+ colleges and more than 66,000+ students, making it a significant voice for architecture students across India. The association aims to provide a platform for learning and interaction among students from diverse cultural backgrounds.

NASA India functions as a non-profit and non-political organization. It is officially registered under the Societies Act of 1860, with its headquarters at the Department of Architecture, School of Planning and Architecture in New Delhi.

NASA India organizes various events, programs, and competitions throughout the year. These include partnerships with organizations like HUDCO, GRIHA, and CPK for design trophies. There are 11 design trophies in total, with the Annual NASA Design Competition being the flagship trophy and offering students a platform to showcase their creative talents and design innovations. We have partnered with the Council of Architecture, India, for the Student of the Year trophy as well.

The association's flagship event is the Annual NASA Convention (ANC), the world's largest gathering of student architects. This event attracts over 4000+ students participating in workshops, masterclasses, and programs led by more than 200 esteemed architects. Additionally, there are regional Zonal NASA Conventions held annually.

NASA India's initiatives extend beyond traditional academics. The summer-winter school programs offer immersive experiences that enhance students' practical skills and broaden their educational horizons. The "Insider" initiative allows students to engage directly with experienced architects, gaining insights into office management and professional practice. This interaction fosters mentorship and provides valuable guidance. The Louis I Kahn Documentation series aims to preserve and disseminate architectural knowledge by documenting significant but often overlooked sites.

NASA India hosts programs both nationally and internationally, in countries like Japan, Sri Lanka, the USA, and South Korea. These experiences provide students with enriching learning opportunities and enhance their networking capabilities.

The NEXUS is an informal meeting ground where students can form bonds, share ideas, and collaborate. It emphasizes learning, mentoring, and networking, allowing students to showcase their talents and develop new ideas with peers from around the globe. We have also expanded into podcasts with our Spotify exclusive, The Archade.

For more information, you can visit NASA India's website - https://www.nasaindia.co/
Our social media pages are @wenasaindia and @mynasaindia on Instagram.

CATALYSE

Catalyse - Our Annual Theme

For nearly seven decades, NASA India has stood as a movement - built by students & led by students. As we step into the 68th year of our association's existence, I call upon the stakeholders to honour the legacy not by looking back, but by asking what we can spark next.

NASA India has always been more than just an association. It's been a force: a surge of youthful energy, ideas, voices, and action. This year, we recognise and compound over the force for what it truly is.

In the grand reaction of change, whether in our built environments, our learning systems, or the profession itself, we, the students, are the accelerators. With over 66,000 students across the country, our numbers are not just statistics. They are the untapped potential of a generation ready to shape what's next. This year, we reflect on the immense power of coming together - not just to participate, but to instigate. A catalyst doesn't wait for change. It creates movement, breaks inertia, and opens new paths. **NASA India today stands not just as a platform for learning and collaboration, but as an agent of impact - nationally & globally.** One that ignites bold conversations, challenges outdated practices, and pushes the profession toward more inclusive, ethical, and relevant futures.

So what does it mean to catalyse?

It means taking responsibility.
It means using architecture as a lens to rethink society, equity, and the future.
It means challenging what no longer serves us.
It means questioning the boundaries of architecture and expanding its purpose.

This is a call to all students, designers, thinkers, makers, rebels:
Catalyse conversations, communities & the future.

Because this is our moment in the reaction.
Let's use it to spark something irreversible.

Come, let's **CATALYSE** the reaction that serves the greater good!

CATALYSE NASA

Introduction

The built environment has become one of the largest contributors of resource depletion, waste generation, and carbon emissions as global cities continue to expand at an unprecedented pace. In this context, adopting low-impact design strategies is no longer optional, it is essential for reducing environmental harm, safeguarding limited resources, and creating buildings and cities that are resilient, efficient, and healthier for the people who inhabit them.

With rapid urbanization and climate change intensifying, traditional construction practices are no longer adequate. Buildings today must be designed not only for performance but also with responsibility towards ecosystems, natural resources, and future generations. Low-impact design strategies offer a wide range of environmental, economic, and social benefits. By reducing energy and water demand through passive design, efficient systems, and water-sensitive features, buildings significantly lower their operational costs while minimizing their carbon footprint. They enhance indoor comfort and occupant wellbeing by improving natural ventilation, daylighting, and overall building performance.

To achieve this, site landscape, energy, and water management must be taken into consideration while planning and enhanced through the use of environment-friendly systems and building materials during construction. Comfortable and efficient living spaces can be achieved through a thoughtful combination of active and passive design features.

Passive design integrates climate responsiveness into the structure by enhancing its ability to store or reject thermal energy and provide light and ventilation through natural processes. These interventions maximize energy efficiency through design interventions that do not require electrical energy inputs to create an impact.

In contrast, active design strategies are design approaches that use mechanical systems, but their impacts are much lower than those of conventional mechanical systems. These strategies may include advanced energy-efficient technologies such as Earth Air Tunnels, evaporative cooling, desiccant cooling systems, radiant cooling systems, and trigeneration (waste-to-heat) systems, among others.

Hybrid design blends natural and mechanical ventilation methods, allowing each system to complement the other and maintain comfortable indoor conditions more efficiently. For example, the use of efficient centrifugal fans with operable windows to assist and augment a predominantly natural ventilation strategy.

Buildings that effectively balance active and passive features can achieve comfortable indoor conditions with minimal energy demand, significantly reducing their overall carbon footprint.

GRIHA Council has been consistently encouraging the adoption of low-impact design strategies through its various rating variants. To further promote these principles among students, this year's GRIHA NASA Trophy aims to develop innovative and practical design solutions that effectively integrate low-impact strategies into the built environment.
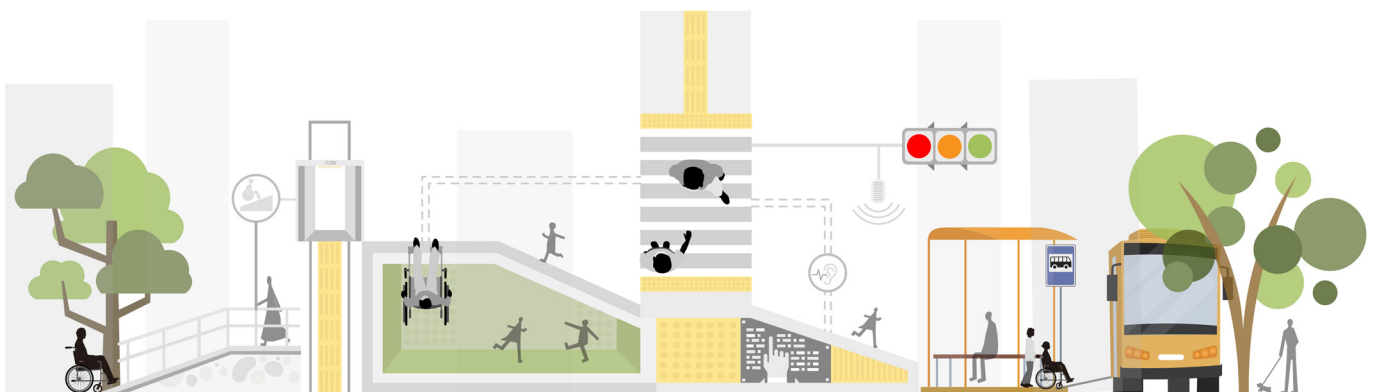
The Task

Objectives

1. Design an eco-friendly mixed-use residential building complex that combines passive and active low-impact design strategies at the site and building levels.
2. Ensure universal accessibility by designing in accordance with the Harmonized Guidelines and Space Standards issued by the Ministry of Urban Development.
3. Develop a design concept based on Mivan construction technology, demonstrating its applicability and advantages within the overall proposal.

Note: Ensure that your design reflects practical applications and solutions that can realistically be implemented and adopted within the project.

Programme

To design a mixed-use residential building complex that combines passive and active low-impact design strategies at the site and building levels. The design must also demonstrate a quantitative comparison with a conventional, fully air-conditioned building sized at 160 sqft/TR, which will be used as the baseline for the comparison.

Design Expectations:

Participants are expected to develop an integrated design proposal that demonstrates thoughtful application of both passive and active low-impact strategies at the masterplan and building levels. Students must optimize site planning, building orientation, landscape, massing, and structural efficiency while appropriately integrating Mivan construction technology into the design. The design should include clear quantitative analyses such as cooling load reduction, energy savings, improved sqft/TR performance, and material/resource efficiency and present a data-backed comparison with the baseline conventional building.

Design Component:

The design is expected to include the following components:
- **Total Buildings: 12**
  Residential Towers: 11 towers (mix of 3BHK and 4BHK typologies)
  Additional Building: 1 Clubhouse
- **Basements:** 2-level basement across the development
- **Amenities:** Club/recreational areas, landscaped open spaces, essential services, and support facilities.
- **Social Impact Requirement:** At least one planning or design intervention for social upliftment of people within the low income group.

Side Note: Understanding sqft/TR

A lower sqft/TR value (e.g., 160 sqft/TR) indicates a higher cooling demand and therefore a less efficient building. In contrast, a higher sqft/TR value (e.g., 250–300 sqft/TR) reflects lower cooling demand, typically achieved through passive design measures such as effective shading, high-performance envelope, optimal orientation, and natural ventilation, lower u-value of the building envelope (wall, roof and fenestrations), lower SHGC value of glass, etc.

Site Details

- Location - Sector 111, Gurugram
  Google Map Link: https://maps.app.goo.gl/uP18BBbJYEP5FsRWA
- Climatic condition - Warm and humid
- Site Area - 15.99 acres
- FAR - 5.12
- Maximum Ground Coverage - 25%
- Maximum Height - 100 m
- Front Set Back - 16 m
- Rear Set Back - 16 m
- Set back on other sides - 16 m

The AutoCAD Drawing of the site -
https://drive.google.com/drive/folders/1ekB_eSBcu7GBaV67FIRTBsuy6QI4eLJj?usp=sharing
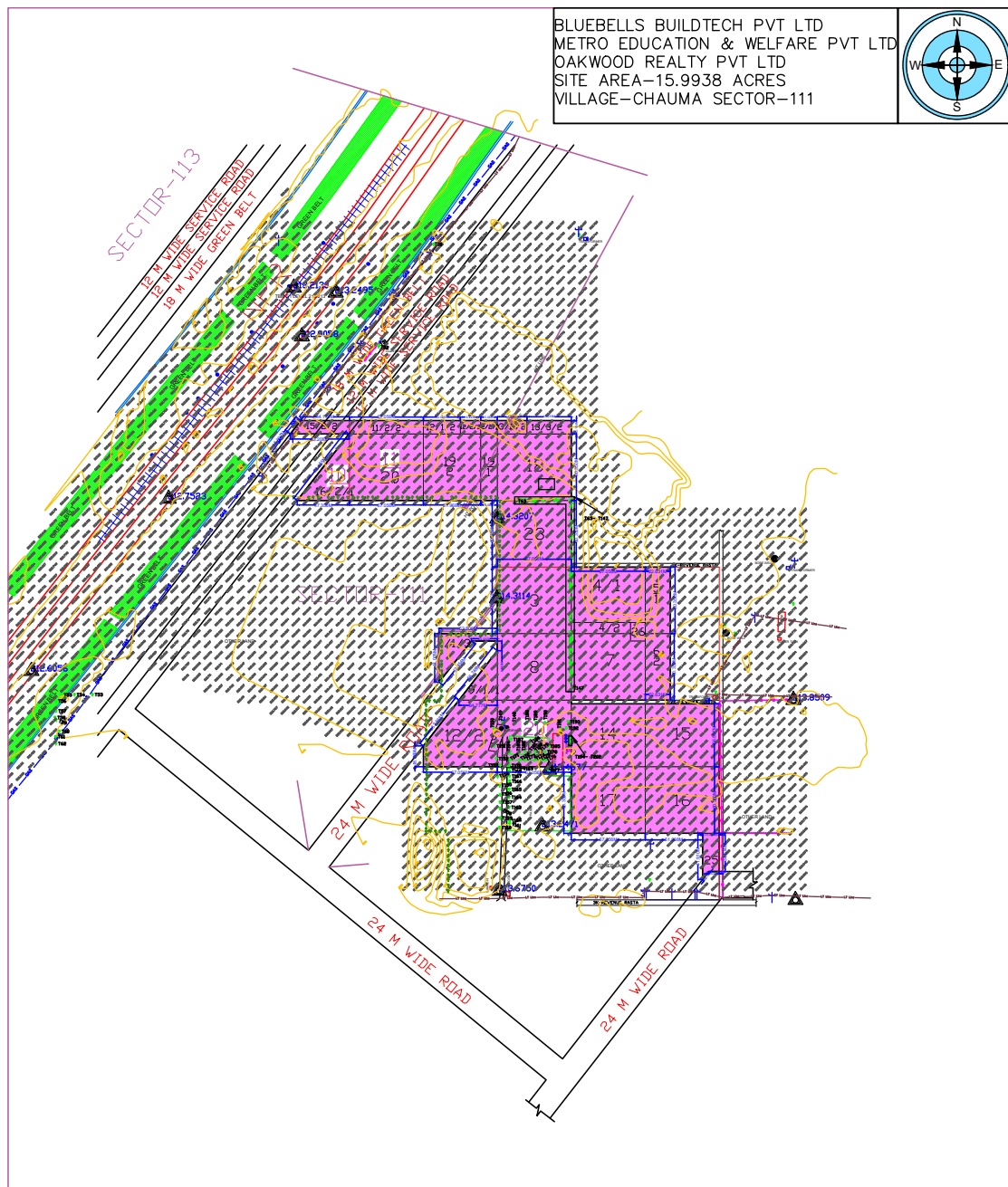
Guidelines

Submission Requirements

A maximum of 12 A2 sheets are to be submitted, which will include
- Site plan
- Design concept and architectural plans, elevations and sections
- Detailed documentation of passive and active low-impact design strategies
- Views, perspectives, and any additional visual representations necessary to explain the design proposal
- A quantitative comparison with a conventional, fully air-conditioned building sized at 160 sqft/TR, which will be used as the baseline for the comparison.
- A scaled model of the entire project
- LCA & LCC calculations (recommended)

Stage 1

1. Online Submission in form of PDF of sheets
2. Original Copy of Authentication Letter
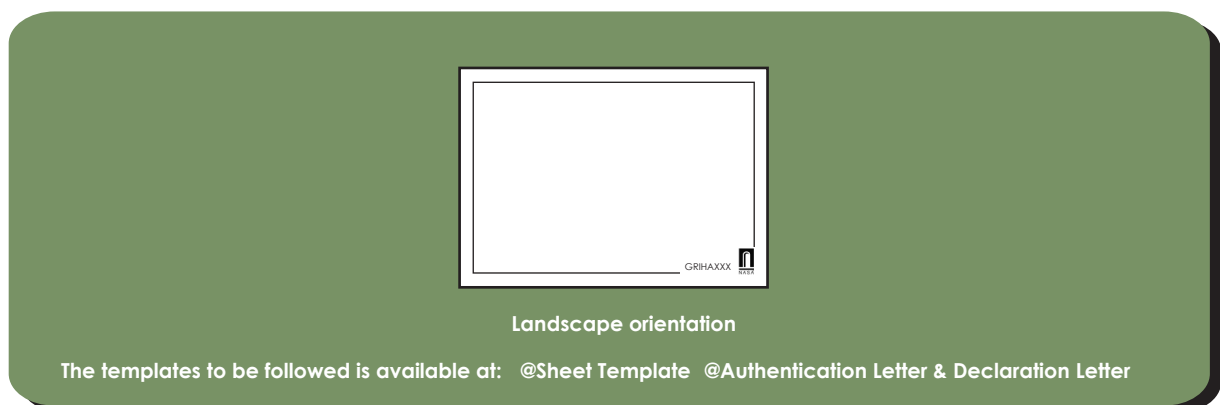3. Original Copy of Declaration Letter

Stage 2

1. A presentation (PowerPoint/pdf/any other audio-visual format)of NOT more than 15 Slides or a running time of 15 minutes.
2. Walkthrough of the entire project (cover both interior and exterior spaces).
3. Editable Format of the Sheets

Sheet & NASA India Logo Guidelines

Failing to comply with any of the guidelines may lead to disqualification at the discretion of the executive council.
- NASA India Internal Logo shall always be placed on the right-hand bottom corner of the sheet.
- NASA India logo should not be merged, overlapped etc. with any sort of text, graphic, image, etc.
- NASA India logo should be in true black with a perfectly white background.
- Sheet Template to be followed is available in the drive link - https://drive.google.com/drive/folders/1ekB_eSBcu7GBaV67FIRTBsuy6QI4eLJj?usp=sharing

GRIHAXXX

Landscape orientation

The templates to be followed is available at: @Sheet Template @Authentication Letter & Declaration Letter

General Submission Guidelines

Failing to comply with any of the guidelines may lead to disqualification at the discretion of the executive council.

- All text should be in English.
- The projects should use the decimal metric system and contain a metric graphic scale in order to enable publication in reduced formats.
- The format of the sheets should clearly mention the name of the trophy followed by the year i.e. "GRIHA Trophy 2025-26"
- The format of the sheet should contain a square box of 25mm*25mm at the bottom right-hand corner, next to the NASA INDIA logo which should have the unique registration number allotted to the participants after registrations.
- 10MM White margin is to be left on all sides of sheets.
- The scale is left to the discretion of the participant(s) to the condition that the scale should be in metric system and all the drawings should be clear and legible.
- Manually rendered entry should be scanned at least in 300*300dpi (dots per Inch) resolution.
- The soft copy (non-editable format) of the sheets along with authentication letter, declaration letter and any other required documents prescribed in the submission requirements should be uploaded on the website by the submission deadline.
- The soft copy file of the sheets should not be corrupted or incomplete or in low resolution.
- It is mandatory to produce the original copy of the Authentication Letter for each entry(entry code should be mentioned if allotted) with the name of participant(s) and stating the unit will abide by whatever may be the final results and also agree that this entry is a property of both the institute and NASA India.
- The Authentication Letter should be signed by the HOD/Principal/Director of the unit.
- It is mandatory for the colleges to produce the original copy of the Declaration Letter for each entry(entry code should be mentioned if allotted) signed by the participants stating the work submitted is genuine and they have endorsed copy- rights for the same and to adhere by all the rules and regulations, jury process and the results.
- Failure to submit the Authentication Letter and Declaration Letter will result in the disqualification of the entry.
- Authetication & Declaration formats to be followed are available in the drive link - https://drive.google.com/drive/folders/1mschiSd0GIM4gjzg5914bdkUi54ZzluS?usp=sharing
- The Prize Money Authenticating Letter signed by the Director/ Principal / HOD in the college letterhead specifying the account details (Account Name, Account Number, Bank Name, IFSC Code) in which the money is to be credited for each entry (entry code should be mentioned if allotted) shall be collected at a later stage.
- The working files in editable formats of the Shortlisted Entries should be submitted to the Council, failing which, the submission requirements would be deemed incomplete leading to the prize money being withheld.
- Shortlisted Entries with manual hand-done sheets should submit high quality scans(min. 300*300dpi) along with the content in a word document of the shortlisted entries should be submitted to the Council, failing which, the submission requirements would be deemed incomplete leading to the prize money being withheld.
- Any disclosure of a college's identity through any method or medium will result in disqualification.

Other Information

- **Maximum One (01) Entry Will Be Accepted Per College For GRIHA Trophy.**
- Queries to be put forward through the trophy page on the website (https://www.nasaindia.co/Trophy?groupid=1&trophyid=MTJ4WXoxMjMhQCM=)
- Registration should be done by the Unit secretary in NASA India website before the registration deadline.
- Registration of the trophies will be final and cannot be changed or withdrawn henceforth.
- Late Registration and submission will not be entertained and henceforth the defaulters shall be disqualified

Important Dates

Release of Brief:
3rd December 2025, Wednesday

Queries Deadline:
18th December 2025, Thursday 1800 hrs IST

Registration Deadline:
22nd December 2025, Monday 1800 hrs IST

Submission Deadline
23rd January 2026, Friday 1800 hrs IST

A brief decoding session will be conducted in the week following the conclusion of the registration period.

Prize Money

Prize money of *1.5 Lakh INR* is allotted

In addition to prize money, GRIHA shall consider the winners for internship opportunities following interview round.

Prize money of Rupees 1.5 Lakh is allotted to the trophy and it will be divided according to the number of the Citations and Special Mentions.

CATALYSE NASA

Moderator

GRIHA is an acronym that stands for Green Rating for Integrated Habitat Assessment. Recognized as India's own rating system for sustainable habitats, GRIHA was jointly developed by TERI - The Energy and Resources Institute) and the Ministry of New and Renewable Energy (MNRE).

GRIHA Council evaluates the environmental performance of a building holistically over its entire life cycle, thereby providing a definitive standard for green buildings and sustainable habitats. The Government of India has recognized 'GRIHA' as an indigenous tool to evaluate Greenhouse Gas (GHG) reduction from habitats under its obligations to mitigate climate change as contained in the Nationally Determined Contributions (NDCs) documentation submitted to the United Nations Framework Convention on Climate Change (UNFCCC). India, in its fourth biennial report submitted to the UNFCCC, has recognised GRIHA as India's own national rating system for green buildings.

Services provided by GRIHA Council are versatile and holistic which include the measurement, assessment, and validation of building performance in synchronization with national and international targets, for scales ranging from structures under 2500 sqm to large developments beyond 50 hectares and even for towns and cities. GRIHA Council systems abide by the national standards and guidelines such as the National Building Code 2016 and the Energy Conservation Building Code 2017. These systems are periodically upgraded to align with evolving global sustainability target.

GRIHA Council provides a three-stage technical assistance and assessment service which includes the entire life cycle of the project starting from design, through construction and carried forward during operation and maintenance stages. This process helps in assuring that the design intent of all the energy saving systems proposed are implemented and running efficiently throughout the life cycle of the project viz. "concept to commissioning," To facilitate the project teams, GRIHA Council ensures the validation of various strategies through multiple site visits conducted throughout the process. The evaluation includes achieving acceptable Indoor Environmental Quality (IEQ which includes indoor air quality, thermal comfort, visual comfort & acoustical comfort), higher energy savings, water savings, optimum waste management, use of sustainable building materials and implementing O&M protocols.

For more information: https://www.grihaindia.org/

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Catalyse