

A&B

ARCHITECTURE

Crescent School of Architecture, architectureRED
Red Earth Tadoba, Inspiration & Vistaar Associates
RAAS Chhatrasagar, Studio Lotus
House of Three Streams, Malik Architecture



Bentley Systems Announces the Year in Infrastructure 2021 Founders' Honorees



Bentley Systems, Incorporated (Nasdaq: BSY), the infrastructure engineering software company, today announced the Year in Infrastructure 2021 Founders' Honorees. During the 2021 Year in Infrastructure and Going Digital Awards virtual event today, 22 Founders' Honorees were recognized, representing organizations or individuals whose undertakings contribute notably to infrastructure advancement and/or environmental/social development goals.

Bentley Systems founders Keith and Greg Bentley, and Bentley's Director of ES(D)G Rodrigo Fernandes, reviewed the compelling credentials of 18 Honorees selected from 230 organizations who submitted nominations for the company's annual Going Digital Awards in Infrastructure program. Chief Acceleration Officer Santanu Das recognized three Honoree organizations respectively for Infrastructure IoT, iTwin Enterprise, and iTwin Entrepreneur. Nick Smallwood, CEO, on behalf of the U.K.'s Infrastructure and Projects Authority, was honored for ES(D)G Advocacy.

The Year in Infrastructure 2021 Founders' Honorees are:

ES(D)G Honoree for Affordable and Clean Energy, Fujian Yongfu Power Engineering Co., Ltd.

Fujian Changle Zone C Offshore Wind Farm
Changle/Fuzhou, Fujian, China

ES(D)G Honoree for Climate Action Evides NV

Pumping Energy Optimization and CO2 Reduction Evides Case Study
Rotterdam, Netherlands

ES(D)G Honoree for Sustainable Cities and Communities , GenMap

Tree Modeling and Feature Extraction Using Mobile Mapping, Mendoza, Argentina

For 4D Design Review

PT MRT Jakarta (Perseroda)

MRT Jakarta Phase II, Jakarta, Indonesia

For 4D Digital Twins Advancement - WSB

TH 169: Redefine Elk River

Elk River, Minnesota, United States

To view the project descriptions and access the images, visit the Founders' Honorees webpage. Detailed descriptions of all nominated projects will be published in the print and digital versions of Bentley's 2021 Infrastructure Yearbook in early 2022. To review the past editions of this publication, access Bentley's Infrastructure Yearbooks.

Watch the executive sessions and the Going Digital Awards finalists' presentations from the 2021 Year in Infrastructure and Going Digital Awards virtual event on-demand. ■



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Lutron introduces Athena – the dynamic Lighting Control System that brings the magic of light to elevate everyday moments

The dynamic lighting control system that brings the magic of light to elevate everyday moments.



Ripu Daman Sharma, Sr. Country Manager - India Subcon, Lutron Electronics

Lutron Electronics, the leader in lighting controls and automated shading solutions, recently launched Athena, the highly awarded lighting and shading solution in India. Athena is a flexible, simple, all-in-one solution that combines the

world's most advanced light source with intelligent shades and connected apps to deliver a holistic light experience.

With Athena, light is yours to create, control, and personalize. Make a design statement with any other light fixture – all controlled from one system. Nurture a mood in large and small spaces, with tunable white, warm dimming, and saturated colors. Athena uses light as an amenity – enhancing the experience in restaurants, galleries, spas, and more, personalizing the moment with user-friendly apps that make it easy to change the lighting scene – and then change it back.

Ripu Daman Sharma, Country Manager, Lutron's India Subcon region discusses the company's scrupulous attention to detail and precisely balanced designs by adding, "We at Lutron understand that every detail matters while designing a space, and technology contributes to enhancing the design vision. The Athena

Lighting Control System demonstrates and brings to life that vision via craftsmanship, style, and versatility. We have created a sophisticated system with integrated technology. Our team has brought about innovation in every aspect of the product and made the design, ordering, installation, and programming better for everyone."



Athena creates a cohesive light story, starting with daylight and bringing the outdoors in with Lutron shades. Integrate any other light fixtures you like; for instance, a best-in-class LED+ universal phase control dimmer allows control of all load types from a single system, thus allowing design flexibility. Curated content gives a preset lighting that mimics natural daylight. A new right-sized processor delivers a solution fit for spaces – and budgets – small and large. ■



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Located alongside lake Chhatrasagar in Rajasthan's Pali district, RAAS Chhatrasagar by Studio Lotus offers guests a wildlife camping experience that reinterprets the historical and weaves in the biodiversity of its setting via resilient ways of building.

40 Flowing with the land

Built to serve as a second home for 4 generations of one family, the 'House of Three Streams' by MALIK Architecture has been designed as a condensed village that allows for private and communal life.

Cover: ©Studio Lotus



Beyond Designs Unveils Artistic Lounge Spaces



Photo caption- With a muted backdrop, this lounge space highlights the custom crafted contemporary furniture embellished with vibrant cushions. An exotic marble forms an eye-catching backdrop to the mantel made of mirror. The centre table with cut glass legs makes a style statement, while a classic chandelier adds splendor.

About the Brand

For the past 20 years, Beyond Designs has captured the residential designs narrative of creating highly individual & exquisitely finished projects, concentrating on residences, many of them for well-known personalities. Specializing in luxury interior design & decoration in New Delhi and across the world, renowned designers & entrepreneurs Sachin & Neha's iconic, neutral style has featured in high acclaimed journals. Their design philosophy is to keep it stylish yet effortless. Get inspired by the old-world charm to create a fusion, contemporary & timeless design. ■

Renowned for their bespoke furniture and accessories, and luxurious and elaborately designed interiors, Beyond Designs presents a collection of lounge spaces that revel in exclusive artistic interiors.

Beyond Designs' interiors are a celebration of art and artistic touches at multiple levels. From the flooring to the walls and ceilings, from the custom designed furniture pieces, lights to the accessories and paintings, every element is interpreted in an artistic language. These lounge spaces are no exception. Exuding elegance and warmth, they offer perfect environments for families to relax.

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Shahi Furniture by Anil Shahi Launches Ornate Classical Furniture Collection



Known for their bespoke furniture ranging in style from classical to neo-classical to contemporary, Shahi Furniture by Anil Shahi has launched a new collection of ornate classical furniture. The richly crafted wooden furniture pieces bring a majestic look to your spaces – be it your residence or commercial space.

With their exquisitely crafted design and immaculate finish, these ornate furniture pieces by Shahi Furniture by Anil Shahi are in a class of their own. Whether you're looking to create a classic-contemporary environment, or just want to bring a hint of classic flair into your modern home, they make for perfect additions to your spaces.

- With its perfectly curved silhouette, the Rococo Victorian High Table in natural nude finish strikes a stylish pose.
- The Baroque style Olive Chester is a stunning piece of furniture with an antique gold and green finish.
- This premium Office Chair with a structure in wood is upholstered in luxurious tan leather. It has a solid wheel base for easy movement.

- The baroque style Antoine Sofa is upholstered with a crafted, luxury fabric, and touched up with an antique finish giving it a regal appearance.
- The Eliza Sofa, made of wood, has a back in natural cane and walnut finish, giving it a warm and cosy look. The rich beige and gold fabric and antique gold highlights enhance its luxury quotient. ■



For further details, please contact:

Address - Shahi® Furnishers & Exporters,
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Shyam Steel expands its retail footprint in Punjab and Jammu & Kashmir, Aims to create a base of 5000 MTs through 500 retail outlets across North India



Shyam Steel, one of leading producers and manufacturers of primary TMT Bars today announced its plan to expand the retail operations in Punjab and Jammu & Kashmir market. The company will expand the dealer distribution network to increase its retail footprint across both the states. Punjab and Jammu & Kashmir has a huge growth potential for the steel sector and Shyam Steel will aim to be one of the leaders in the primary TMT bar segment across North India.

Commenting on the development, Mr Lalit Beriwal, Director, Shyam Steel said, "We are on a major expansion drive to revamp our retail business operation Pan India. We are starting our expansion with Punjab and Jammu & Kashmir which will be followed by Himachal Pradesh and Haryana. Both Punjab and Jammu & Kashmir has a huge growth potential, and we are looking forward to explore the untapped markets."

In Punjab, Shyam Steel has started its retail operations in Sangrur, Amritsar, Bhatinda, Ludhiana, Patiala, Moga, Jalandhar, Barnala and Ropar area. In Jammu, Shyam Steel has reached its retail operations in Kathua, Samba, Jammu, Udhampur, Reasi, Rojouri, Poonch, Doda and Ramban area. In Kashmir, Shyam Steel has started the operations in Baramulla, Srinagar, Pulwama, Shopian, Ganderbal and Budgam area. The company aims to cover the both the states in its retail network followed by expansion in other parts of North India. The company will target to create a base of 5000 MTs through 500 retail outlets across North India covering the states of Punjab, Jammu and Kashmir, Himachal Pradesh and Haryana.

Shyam Steel have also signed Olympic medallists Lovlina Borgohain and Manpreet Singh as their Build India Brand Ambassadors, in addition to Sonu Sood. The brand is also associated with Virat Kohli and Anushka Sharma as the face of the company. The brand associations will help to elevate the brand value of Shyam Steel in the respective markets. The company has also launched Shyam Steel Apna Ghar app to provide consumers hassle-free purchase of TMT bars and to boost the sales of their dealer distributor network. ■

A step in the right direction

Distinctly identifiable by its stepped terraces and red striated facade, the Crescent School of Architecture by architectureRED occupies a relatively small plot of the 60-acre university campus, in Vandalur, Chennai. The project brief envisioned studio spaces along with lecture halls and administration areas which the architects chose to augment with necessary 'de-programmed' spaces for collective working and gathering. This allowed for the exploration of redefining not only the nature of spaces found in an architecture school, but also offering the possibility to inform the future pedagogic programme that it could accommodate.

Text: architectureRED

Images: Fazal Hussain, Lakshiminaraayanan, Smrithi M Kulkarni

Drawings: architectureRED

An architecture school has socio-spatial requirements that are two-fold in nature, both extroverted and introverted, with spaces that allow its users to work in multiple ways. The ideal school should allow for an open-ended programme, where spaces offering opportunity for discussions and chance encounter become key in shaping the student experience. Therefore, spaces that can have transformative pedagogical implications are imperative to this effort; wherein collective creation is encouraged within the institution's

pedagogic programme, by explicitly offering spaces that urge for learning outside of the confines of the classroom. Through means of an unconventional spatial method, the architecture school presents its users with various options for inhabitation and use.

Extending the ground plane into the building became imperative because of the limited site allocated for the large programme of the architecture school. It was decided to eschew the need for a restricted entrance and instead choose to maximise the



A view of the sectional courtyard, tying the building to the ground plane.

openness of the building's connection to the ground – creating a large shared piazza that extends the urban structure of the university campus into the school, and flows through an open stilt area to the edge of the reserved forest. One is offered a multiple choice of accesses, including an open yet shaded access to the first floor.

A reinterpretation of the traditional courtyards found in institutional buildings; a sectional courtyard is carved out of the built mass, across floors. This is articulated by a multiplication of the ground, staggered

at each level and overlapped. An additional 'new ground' is thus created at every floor level within the building – that extends the ground upwards into the building volume. This facilitates a series of spaces that work independently on every floor as a place for congregation while collectively, they tie the building back to the ground plane and the larger campus.

These voids, in addition to making the building mass lighter, also perform the important task of creating an 'outdoor-like' experience – with the wind blowing through,



A view of the sectional courtyard.

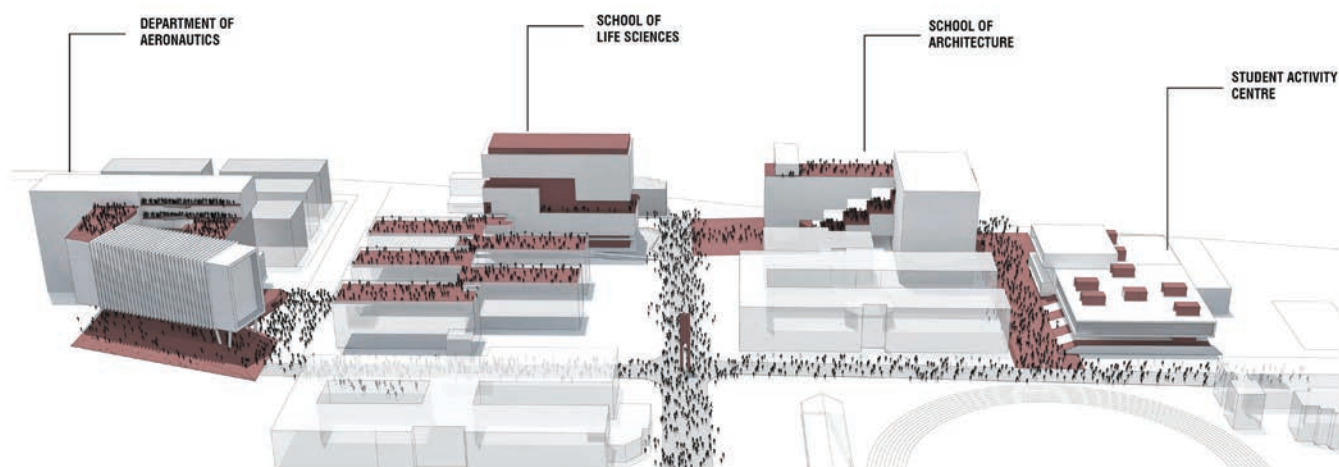
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The staircase ties the ground plane to the upper courtyard.

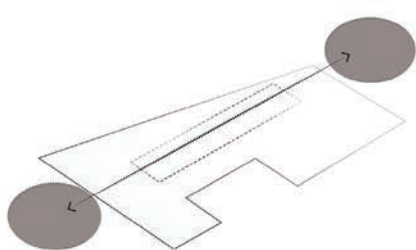


The campus during daytime.

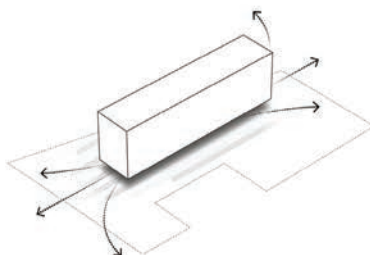


The architecture school is located within the premises of the B.S. Abdur Rahman Crescent University in Chennai.

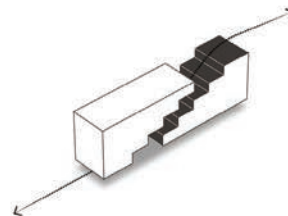
CONCEPTUAL FRAMEWORK



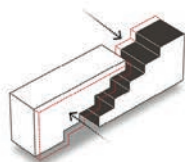
01. Forging a connection through the site with the rest of the campus



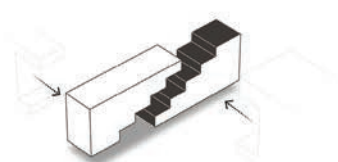
02. The linear mass elevated maximises the openness of the building and its connection to the ground



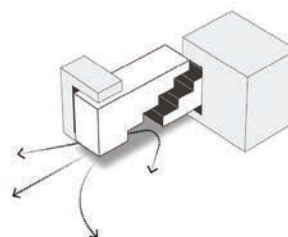
03. Introducing each floor with a 'new ground', augmenting the relationship the building aims to maintain with its context



04. Staggering the masses to induce shade onto these 'new grounds'



05. Plugging in the larger studio programmes into the linear mass



06. The Crescent School of Architecture

Form development for the school of architecture.



Views to the reserved forest, as seen from the courtyards.



Common areas of the ground floor.

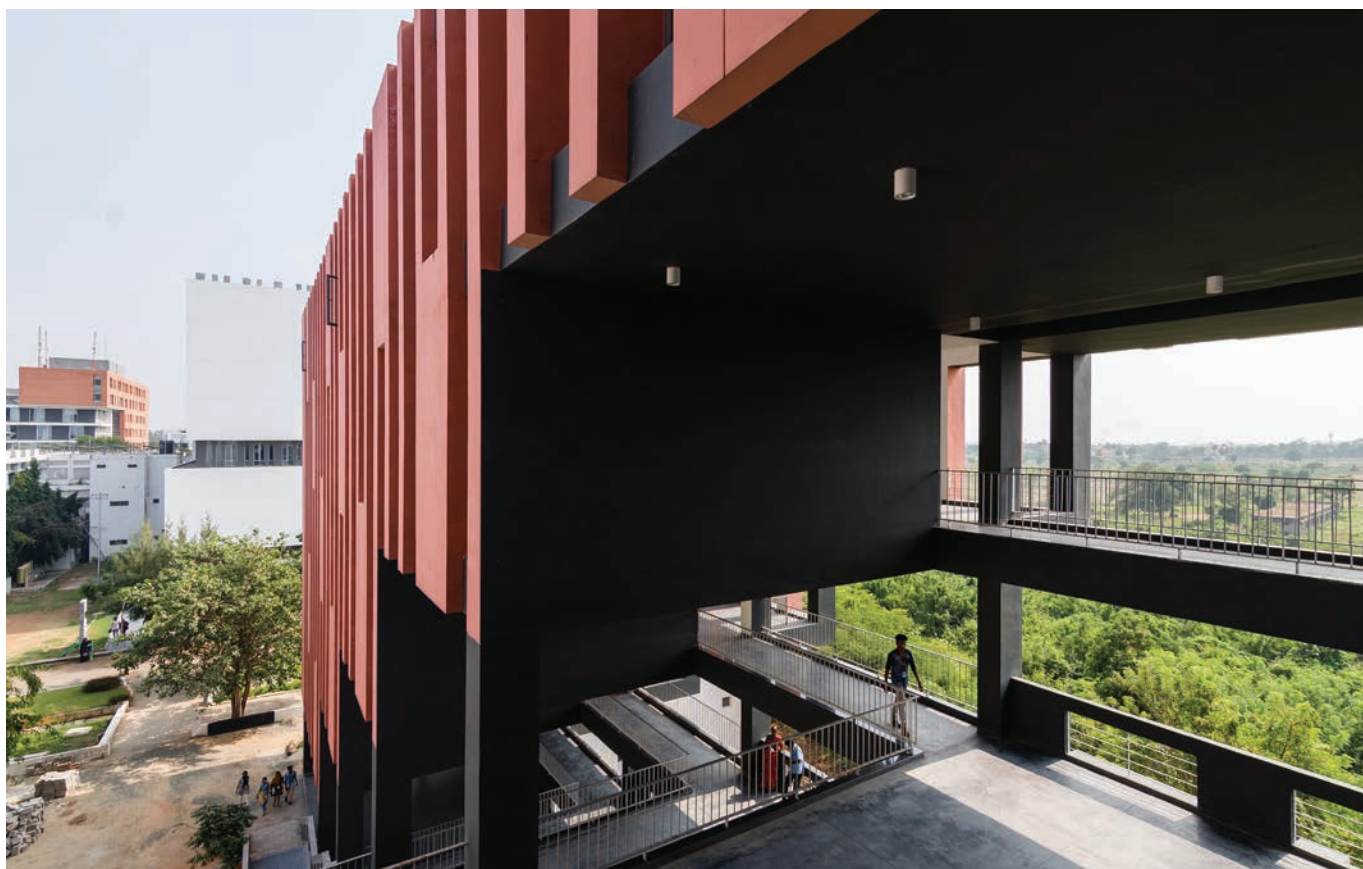


Articulation of the ground plane

16



The seating court at the ground level is a place for social interaction.



Open courtyards in the form of double height spaces.

the sun traversing across the spaces during the day, and the shaded spaces feeling connected to the elements and the campus (to which the building forms and urban edge) – with views across the reserved forest on the west side and the campus towards the east and south. From a social perspective, they serve as dynamic spaces that allow for chance interactions, student discussions, class reviews and much more. They become a place to celebrate the collective, where over time, diverse activities and functions stitch together a strong memory of place.

Each studio space opens onto its adjoining double height terrace (shaded by the

overhanging floors) through a set of large sliding folding doors – offering the possibility of open studio/workshop spaces and/or open exhibition and review spaces – that can be viewed together diagonally across, during ‘open-house’ days and common review days. Design studios that are placed adjacent to one another may be transformed into one large space hosting shared classes or studios between two different sections, avoiding complete isolation. Each design studio also accommodates a mezzanine level that houses its respective lecture hall.

The Crescent School of Architecture aims to deploy a spatial methodology to suggest possibilities in which different programmes

Elevated courtyards offer extensive views of the surrounding.

may be adapted through innovative infrastructural and spatial solutions and possibilities.

With open spaces present at its base that offer possibility of intense activity, gathering and socialising, a strong connection between the school building and the campus is reinforced. This connection permeates the structure enhancing its

experience in the hope of giving birth to a new system where users can begin to take charge and re-configure spaces that adapt to changing needs and demands, tuned towards their own specific purposes, and as such the building posits a proposition for a sustainable institutional architecture that will adapt to its times. ■

FACT FILE

| | |
|---------------------|---|
| Typology | : Institution |
| Project name | : Crescent School of Architecture |
| Project location | : Vandalur, Chennai, India |
| Architect's firm | : architectureRED |
| Design team | : Biju Kuriakose, Kishore Panikkar, Kani Pandian, Yasir Azami, Gero Rajan, Jagadesh, Chandana Ramesh, Reshma Chandrashekar, Syed Munavar, Shashank Muralidharan |
| Total Built-up Area | : 1,25,000 Sq. Ft. |
| Year of Completion | : 2019 |

Wild at heart

Located along the periphery of the Tadoba Andhari Tiger Reserve in the Chandrapur district of Maharashtra, 'Red Earth Tadoba' by Inspiration & Vistaar Associates is a 24-key eco-resort engulfed within a 15-acre forest reserve. This socially and environmentally conscious eco-resort focuses on delivering a unique experience while retaining a low carbon footprint and offers a sustainable travel experience while paying homage to the natural beauty of the sanctuary.

*Text: Sailee Bhandarkar-Correa
Images: Bharat Ramamrutham*



Each cottage comes with its own lap pool and overlooks the surrounding landscapes.



All built form has been planned around the existing vegetation on site. The grass thatched roofs, experiments with mud plastered walls and the interplay of color through natural stone have been emulated from the local Gondi architecture.

Red Earth Tadoba marries the historical, cultural and architectural significance of its region with reverence to the natural splendor of its surroundings. It promotes slow travel with rich and deeply rooted local experiences that manifest a strong focus on mindfulness towards environmental and social impact. This authentically and holistically sustainable retreat has a site positive approach and ensures conservation of the resources associated with the resort. With equal importance to land, energy and water conservation, Red

Earth Tadoba also promotes inclusion and diversity by training and engaging local communities from the Gond tribe, one of the largest ethnic tribal communities of India, as resort staff members.

The sloping terrain it stands on facilitates easy rainwater harvesting and ensures recharging of the ground water table by capturing all surface run-off. 6 open wells with numerous catchment areas further aid this natural replenishment process and supply water to an RO plant which has



22 The resort comprises single and twin cottages.



The existing flora of the land was incorporated into the plan of the resort to nurture existing birds, bees and butterflies. Native species have been abundantly planted without employing any pesticides to make sure the land remains safe and fertile.



A suspension bridge finished in locally available bamboo extends over the river and connects the lobby to the rest of the resort.



Each cottage comes with its private sit-out.



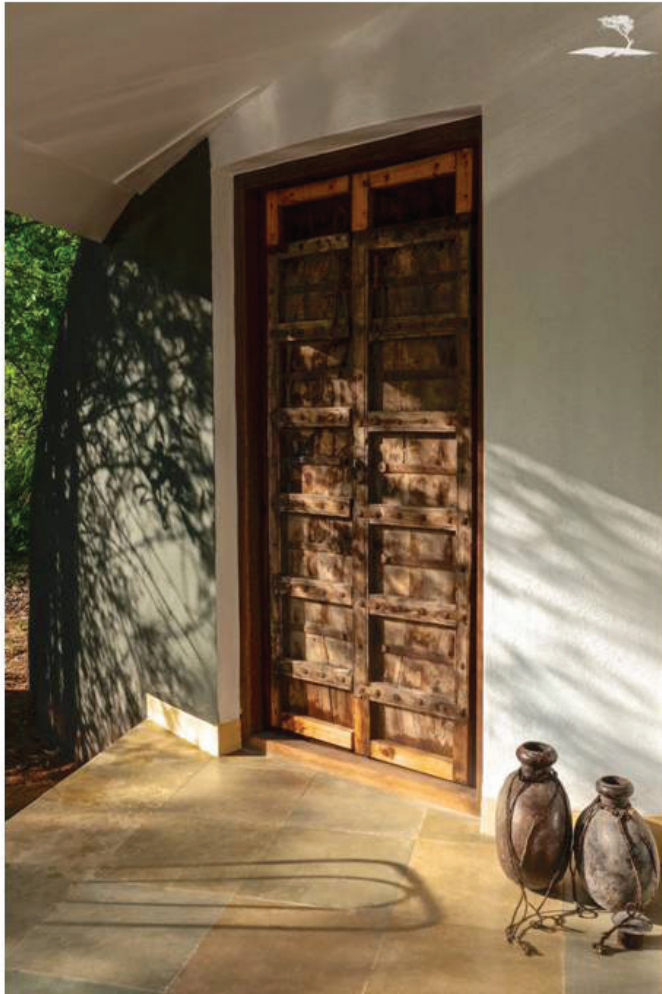
Each cottage boasts of an outdoor shower.



By virtue of its proximity to the Chandrapur Super Thermal Power Station, the by-product fly-ash is normally a nuisance; the resort's response to this - fly ash bricks were incorporated into the architecture of the resort.

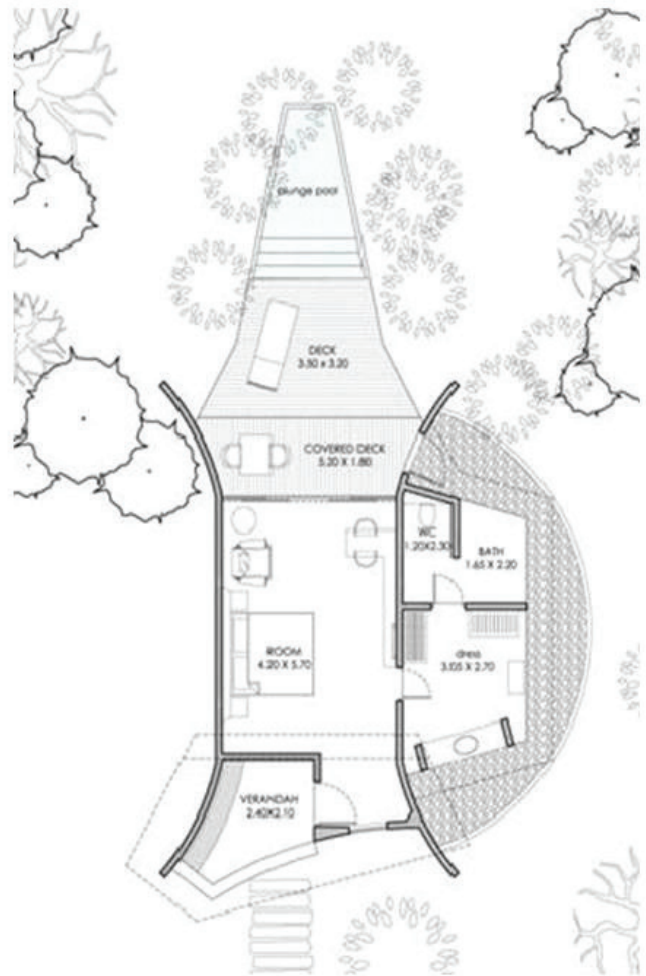


All flooring across the resort has been finished in Betamcherla and Tandur stone whereas the roofs have been finished in bamboo mats, insulated puff sheets and elephant grass.



All the doors in the resort have been sourced locally and are more than 75 years old.

been provided to treat the water from these wells to use for cooking and drinking. This reduces dependence on bottled water and allows to minimize the amount of resources that are transported or wasted, thereby reducing their carbon footprint. The resort also houses two Decentralized Wastewater Treatment Systems (commonly known as DEWATS) which treat and recycle waste water organically. This treatment does not involve any electro-mechanical processes and treats water through nature-based



approaches. The recycled water is used for irrigating the garden.

In the endeavor to minimize power consumption and emissions, modern conveniences have been rationalized and complemented with traditional solutions to ensure energy efficiency and conservation. Solar power is used for heating water and guests are encouraged to move around on cycles rather than fuel powered vehicles. Most of the resort staff has been hired from

the local Gond tribe, one of the largest ethnic tribal communities of India. Blessed with an intricate culture and an innate knowledge of the forest, the Gonds are ideal counterparts to a resort like Red Earth. Through upskilling and formalized training in hospitality, local communities are empowered to interact with guests and expose themselves to various avenues of the hospitality industry. In an effort to increase diversity, the resort also invites students from the northeastern parts of India to join their staff.

True to their ethos, all furniture and housing material has been sourced locally with a clear mandate to steer clear of urban materials. All forms of plastic have been prohibited from the resort, especially single use items such as water bottles, plastic wrapping and straws. The resort also recycles all its garbage, wet and dry, to ensure no waste is generated from the site. ■

FACT FILE

| | |
|-----------------------------|--|
| Typology | : Hospitality |
| Project name | : Red Earth Tadoba |
| Project location | : Tadoba, Chandrapur district, India |
| Architect's firm | : Inspiration, Kochi |
| Principal architects | : G. Jaigopal Rao, Lata Raman Jaigopal |
| Interior design firm | : Vistaar Associates, Hyderabad |
| Principal interior designer | : Shweta Balasubramoni |
| Total built-up area | : 42,000 Sq. Ft. |
| Year of completion | : 2018 |



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Where nature meets craftsmanship

RAAS Chhatrasagar by Studio Lotus is a 16-key resort located alongside lake Chhatrasagar in Rajasthan's Pali district that offers guest a wildlife camping experience which reinterprets the historical and weaves in the biodiversity of its setting with resilient ways of building.

Text: Studio Lotus

Edited by: Sailee Bhandarkar-Correa

Images: Noughts & Crosses LLP, Andre J. Fanthome | Avesh Gaur

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Every piece of furniture crafted for the resort tells a story.

Perched atop a 150-year-old check dam near the town of Nimaj, in Rajasthan's Pali district, RAAS Chhatrasagar is a 16-key boutique resort that lies tucked amidst 800 acres of pristine forestland. The hotel reinvents an earlier property that used to operate out of seasonal tents and provided

guests with a year-round opportunity to observe the region's abundant biodiversity. The original tourist camp at Chhatrasagar, run by the noble's grandsons, comprised an 11-key tented accommodation that was operational from October to March and dismantled during the harsh summer



Bespoke teakwood furniture by Mangrove Collective adds to the immersive design experience of the guestrooms.



A stone kund lies at the heart of the resort and is flanked by stepped landscaping.

months, only to be re-assembled again at the onset of autumn. While the canvas tents were charming in their simplicity, they offered dismal insulation and lacked visual and acoustic privacy, which made for a tough business model to sustain. With this background, RAAS Hotels, a local, highly successful boutique hotel company with a history of turning around difficult projects, was brought on board to chalk out a comprehensive blueprint that would improve and enhance the guest experience, while retaining the essence of what the guests loved about the property.

The design brief called for developing a perennial property resilient to the harsh summers and cold winters of the region. In addition, there was a need to increase the existing capacity to sixteen tented units and augment the public spaces with a richer amenity mix. Of paramount concern was the site's sensitive ecological context, which made it imperative that all additions be erected on minimal environmental footprint. To establish an intimate connection with the outdoors while being mindful of the surroundings, the design team conceptualized a system of low-impact foundations and lightweight



The sit-out for the central courtyard alongside lake Chhatrasagar.



The waterfront forms a key element of the resort's experiences.



All guestrooms overlook the Chhatrasagar lake.



Each guestroom comes with sweeping views of the environs and welcomes ample natural light through its sit-outs and skylights.



Custom-printed fabrics line the walls of the guestrooms and form an extension of the surrounding landscapes.

superstructures for the project. Keeping in mind environmental concerns, the team set out to construct almost entirely without cement, employing a dry construction methodology and using lime as a binder wherever minimal wet work was required.

Known as a perennial rainwater lake today, Chhatrasagar was engineered by Rajput noble Thakur Chhatra Singh in the late 1890s by creating an embankment across a tributary to the rain-fed Luni with the intent of providing farmers continuous water supply for irrigation. Replenished by monsoon showers, the reservoir soon transformed the nearby scrubland into

a lush arable tract. Over the years, the property mushroomed into a vast stretch of forest, attracting wildlife and native avifauna, including migratory species. Most farming activities were suspended nearly a couple of decades ago when the owners decided to re-wild the landscape, reserving a small parcel of land for organic farming.

The design team sought to reveal the site in layers, weaving in the experience of discovery with an element of surprise. This was achieved by working in harmony with the context and tying numerous touchpoints to establish meaningful and immersive connections. While vehicles would earlier

All building services have been concealed within the built form which allows for a seamless, sanctuary-like experience of the meticulously crafted interior design.

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The material palette has been carefully selected to withstand the elements and blend into the surrounding.

be permitted access right up to the base of the dam, the current facility has guests arrive at a drop-off point further away, in a dense grove of trees which screens all views. As they walk through a shaded path flanked by orchards and thick underbrush, a stone wall and planted slopes of the dam reveal themselves. Oblivious to what's in store next, guests climb up a series of stepped stone plinths before emerging in a courtyard that frames a view of the Chhatrasagar Lake with sweeping vistas of the surrounding wooded landscape. Thus, this small courtyard gets established as the heart of the property, unifying the project's public and private spaces.

The functional program comprises public and private spaces laid out in a linear configuration along the length of the dam. To the north of the central court is the reception-cum-bar and restaurant, abutted by an all-season infinity pool to the west; screened by a small garden is the owners' private residence along its northern edge. The single-storied structure is placed strategically alongside the back-of-house functions to receive a continuous supply of fresh, farm-to-table produce. Bordering the southern periphery of the court is the camp consisting of stilted tented pods that build on the legacy of the erstwhile tents.



The verandah offers al fresco dining.

The site plan lays out the sixteen 'pods' as an arrangement of conjoined suites raised on stilts to preserve the embankment's structural integrity and enable all building services to run elevated off the dam, allowing the rainwater to drain freely into the lake. Stone-clad steps lined by tree-covered sloping greens bring guests to the main deck of the resort from where they access their guestrooms.

The underlying design principle for the camp was to frame the outdoor experiences along both edges of the pods making the sunrises over the lake and sunsets into the forest a transcendental and integral

part of the guest experience. To capitalize on this feature, all pods offer spill-outs for outdoor lounging and seamlessly integrate the diversity of views—from the lake on the east to the farms and forest along the west.

The thermally and acoustically insulated shell of each pod comprises fibre-cement board panels in the walls and a roofing system that are separated by metal screens with bamboo infill, extending towards the edge of the embankment to allow for privacy. The structure is made of a lightweight metal weave that springs off pile foundations made of precast concrete hume pipes with compacted waste rubble.



The swimming pool at RAAS Chhatrasagar.

A continuous tensile fabric canopy stretches over the lightweight partitions spanning the entire length of the structure, providing water proofing and added insulation. This secondary membrane extends beyond the footprint of the pods to create shaded verandahs overlooking the surrounding panorama. Retractable skylights installed within the roof capture the changing kaleidoscope of diurnal and nocturnal variations.

The pods are fabric-lined internally as well, offering both acoustic comfort and serving as a vibrant canvas celebrating the diversity of plant and animal forms from the region, reinforcing sightings that one observes

in the environs. Native babul and neem trees, indigenous birds and animal life find evocative expression through woodblock, screen, and digital prints as well as intricate hand-embroidered fabrics that adorn the resort. The interiors feature a bedroom with an attached study and bespoke, teak furniture. En-suite bathrooms are complemented by walk-in wardrobes that help to demarcate the dry and wet areas. Private, free-standing bathtubs are placed against glazed surfaces to afford views of the lake. Air-conditioning for when the space needs to be closed-off is enabled via floor-mounted AC units, which also serve as hand-crafted wooden consoles.

The Baradari restaurant has been designed using a lightweight metal frame dry mounted with hand-dressed stone infills, the Baradari is a contemporary expression of the Rajputana twelve-pillared pavilion. Housing the restaurant for the new property, the Baradari creates a seamless connection between the two key experiences offered by the site—the panoramic views of the lake, and the serenity of the forest belt. It does so with its naturally-ventilated wraparound verandah extending up to the embankment walls on one side and stepping down onto the deck lining the private, all-season infinity pool on the other. Its softened edges maximize outdoor vistas and quietly nod to the Art Deco sensibilities of the bygone era of the British Raj; when nobles entertained Western dignitaries with sumptuous feasts and hunting expeditions in tented lodges. In addition to the dining pockets, the interior features a buffet counter that doubles up as a bar and serves the swimming pool deck. The construction is a grid of metal columns supporting a double-ring structural system featuring insulated Chhota stone walls capped by a traditional tukdi (stone slabs installed on a metal framework) roof. The hollow circular columns are composed of L-sections clad in hand-dressed stone with lightweight steel cables running through them as lightweight safety balustrades. Cable trusses maintain the structural integrity of the system by holding the central members in place, allowing for open, column-free spaces. Air conditioning ducts

are concealed within the roofing system, an unobtrusive intervention that further heightens the scale and aesthetic impact of the interiors.

The interiors channel a soft and restrained material palette composed of hand dressed local Chhota stone to heighten the element of understated luxury. Woodblock printed patterns are translated into stone panels—chiselled by hand to depict the idyllic landscape and biodiversity. Upholstered country-style furniture, fashioned out of locally-sourced Acacia (kikar) wood marks a subtle counterpoint to the pink stone surfaces. The bar counter features elaborate hand carved relief work depicting a flock of flamingos; the overall design expression conjures up images of the surrounding landscape while injecting the space with a series of tactile gestures. ■

FACT FILE

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| ypology | : Hospitality |
| Project name | : RAAS Chhatrasagar |
| Project location | : Chhatrasagar Lake, Nimaj District, Rajasthan, India |
| Architect's Firm | : Studio Lotus |
| Design team | : Ambrish Arora, Ayesha Hussain, Deepesh Harbola, Pranvi Jain, Mallika Gupta |
| Landscape | : Akshay Kaul and Associates |
| Site Area | : 20,000 Sq. Ft. |
| Furnishing | : Build Kraft India |
| Furniture | : Mangrove Collective |
| Paint & ceiling foiling | : Build Kraft India |
| Wallpaper | : Nilaya |
| Environmental graphics | : Flora for Fauna |
| Year of Completion | : 2019 |

Flowing with the land

Built to serve as a second home for 4 generations of one family, the 'House of Three Streams' by MALIK Architecture has been designed as a condensed village that allows for private and communal life. Located in the Sahyadri range of the Western Ghats, Lonavala is one of the most visited hill stations of Maharashtra and is a 2-hour drive away from Mumbai. The 'City of Caves' is also popular for its lakes and forts, both of which have heavily influenced the material palette and planning for the House of Three Streams.

Text: MALIK Architecture

Drawings: MALIK Architecture

Images: Bharat Ramamrutham

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A composite structural tree-like truss section shades the outdoor living area.

Formal planning strategies are incapable of absorbing the radical flow of the land and water, and everything from the spatial quality to the material language echoes the spirit of the site. The wall ruptures at points where the verandah bridges over the

ravine and continues into the forest to the second ravine beyond the ridge. Sleeping spaces are embedded in the forest while public spaces assume the mannerism of suspended flight to the north and east. The roof follows the topography of the

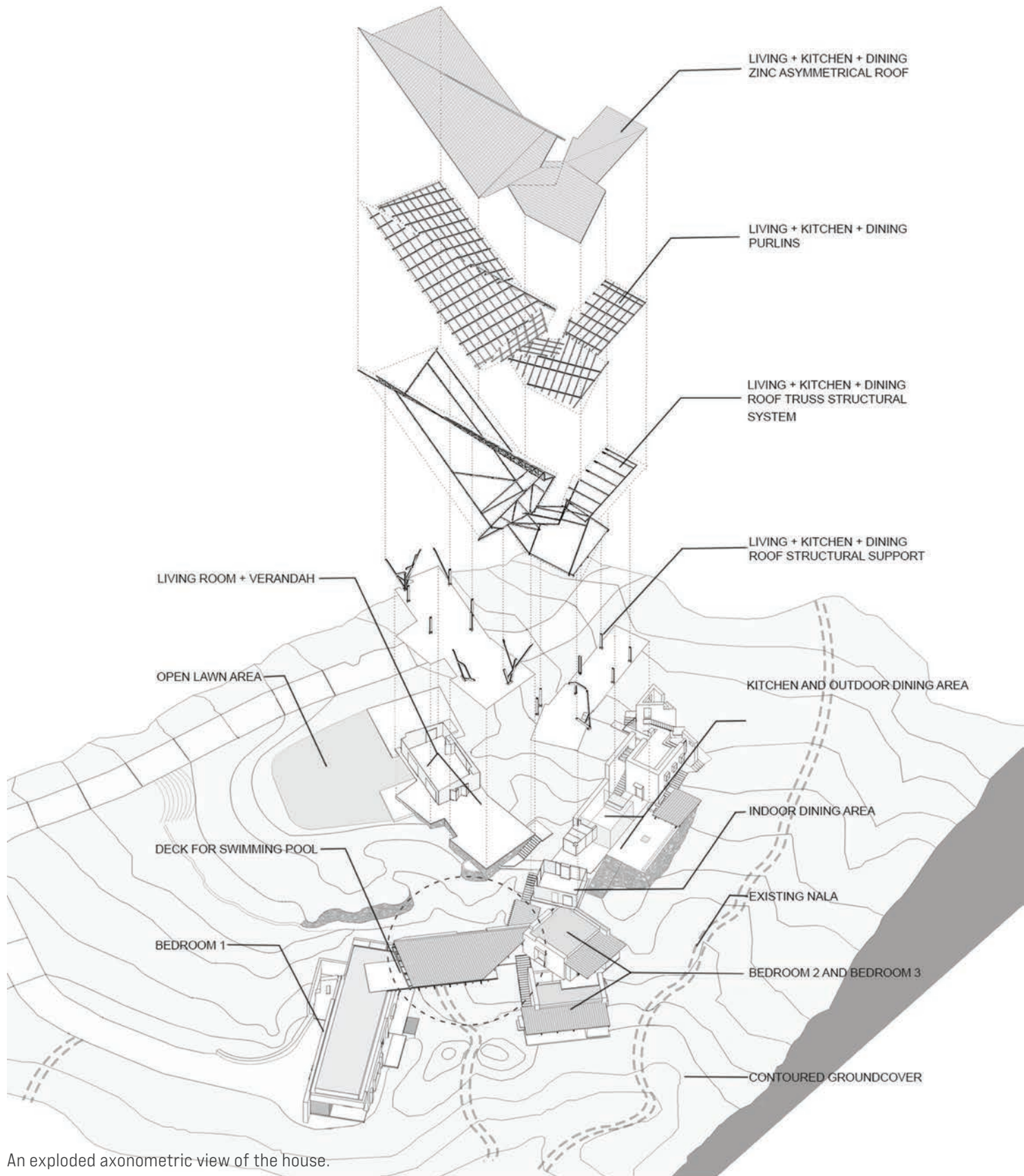


An aerial view of the house.

perch points, tracing the path laid down by the hill; its language of fletched rafters and weathering zinc a natural foil to the robustness of the locally quarried basalt. Its contours reference the horizon and the hill. The deconstructed language of the tree-

like structures that support the roof liberate the edges where shaded spaces and the forest merge.

The design approach can be loosely summarized into three aspects – disperse, float and embed.





The living room against the backdrop of Tung Fort.

Dispersion: The house occupies vacant spaces between areas of dense vegetation to prevent the cutting of existing trees. This allows the natural flow to thrive and enhances the experiential contact between built space and nature, improves the micro-climate and amplifies the cooling effect of

the prevailing breeze, ensuring that the entire house is 100% naturally ventilated.

Float: Existing mountain streams have been mapped and preserved to retain the pattern of water discharge during the monsoon. Parts of the house are built on a



The home spans across various levels and welcomes ample breeze and natural light.



A hardy material palette has been selected to withstand the natural elements and blend into the surroundings.



The infinity-edge swimming pool overlooks the valley.



The form embraces and meanders around the lay of the land.



Glass facades maintain visual connectivity across social areas of the home while private areas have been enclosed with stone walls.



The living room verandah at the entry level of the house.



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Each bedroom comes with its own sit-out.



Each bedroom offers sprawling views of the valley.



Pivot windows with wooden slats welcome dappled sunlight into the master bathroom.



Wooden slats also demarcate the shower area in the master bathroom.



The staff quarters and kitchen block as seen from the living room.

ridge between 2 such streams to maximise their cooling potential and one of the major verandahs floats over the stream like a bridge. This also amplifies the flow of wind through the house. The public areas towards the north and east (desirable orientations in

this region) are porous verandahs with deep roof overhangs providing protection from direct sun and rain, but allowing continuous movement of breeze and landscape.



Embed: Effective thermal banking:

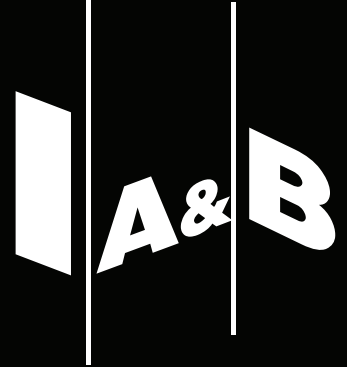
The private spaces are banked into the southern edge of the main ridge, overlooking the large ravine/monsoon stream. A large stone wall running from south to north

along the ridge binds these spaces but breaks open to allow east-west breezes and landscape to flow horizontally. The dense forest on the west, shades these spaces and the south west corner rises above the land to shield the house from the afternoon sun. The placement of two bedrooms below the pool ensures natural cooling, while the orientation of the pool along the axis of the spine allows the breeze to be cooled before travelling through the house. The elevation of the pool also minimises the likelihood of rats/ frogs/ snakes in the warm/ dry summer months. ■

FACT FILE

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|-----------------------------|--|
| Typology | : Second home |
| Project name | : House of three streams |
| Project location | : Lonavala, Maharashtra, India |
| Architect's firm | : MALIK Architecture |
| Principal architect | : Kamal Malik |
| Design team | : Kamal Malik, Arjun Malik, Suzanna Machado, Sundeep Sarangi, Sidhika Merchant, Kesha Talati |
| Principal interior designer | : Kamal Malik, Arjun Malik |
| Total built-up area | : 12,245 Sq. Ft. |
| Site area | : 87,120 Sq. Ft. |
| Year of completion | : 2017 |

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