

KARNAL MEDICAL CENTRE **HARYANA**

HTAU, New Delhi

Erected in a compact semi-public site in the Karnal district of Haryana, Karnal Medical Centre is planned keeping in mind the 'minimalist approach, to proposal, manifested by Delhi based firm Habitat Tectonics Architecture & Urbanism (HTAU).

Text: Shreya Shah | Drawings & Images: courtesy HTAU

At HTAU, we believe in the concept of genius loci or the spirit of a place. From the lie of the land, landscape and physical setting of a site down to materials, crafts and building technologies, various elements define the essence of a particular place. We believe that the process of design must recognize and address these. This approach manifests itself in the creation of buildings and places that are inherently sustainable.

The region around Karnal is known for its civic architecture in exposed brick. But this 'craft' has declined over the years. Brick, in the context of our local climate, is not only sustainable, but also provides flexibility due to its modular nature to create wall systems that are environmentally responsive.

Karnal Medical Centre is an attempt to use this vernacular building tradition to create a modern expression. Passive design techniques were used to address the local climate and a minimalist architectural language catered to the resources and skills available locally. The material palette was kept simple, comprising of four material finishes. Masons and fabricators were trained on site and working with them, simple tools and solutions were developed to get the desired product. We not only benefitted from this in the long run but also contributed towards local skill development through the building.

This approach also matched the client's requirement of creating a building within a limited budget and one that had low long-term operational costs. The building uses artificial lighting for only 15% of the day-light hours and mechanical cooling for an average 20% of working hours in peak summer months.

Puneet Khanna, Founding Partner, HTAU

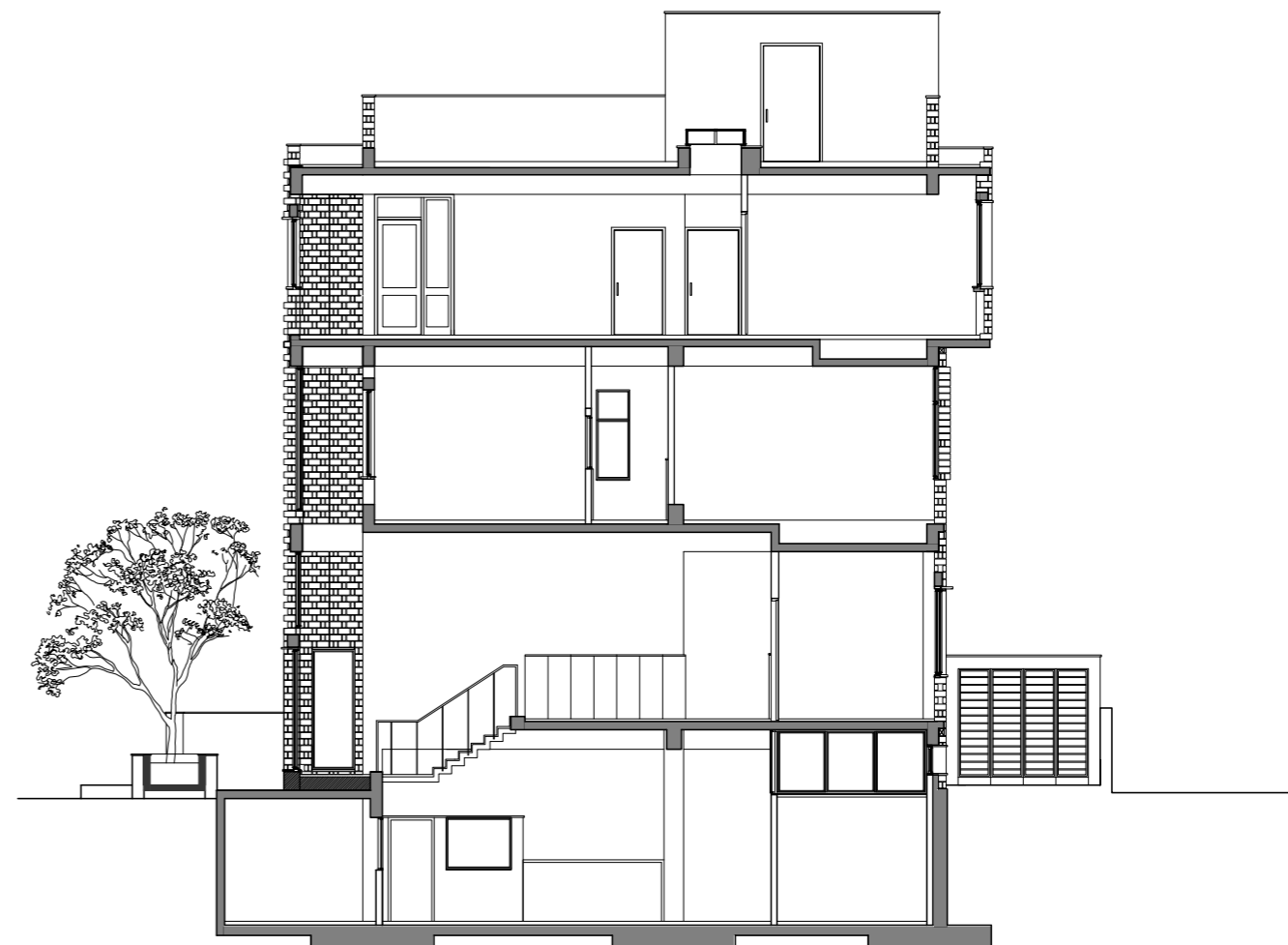
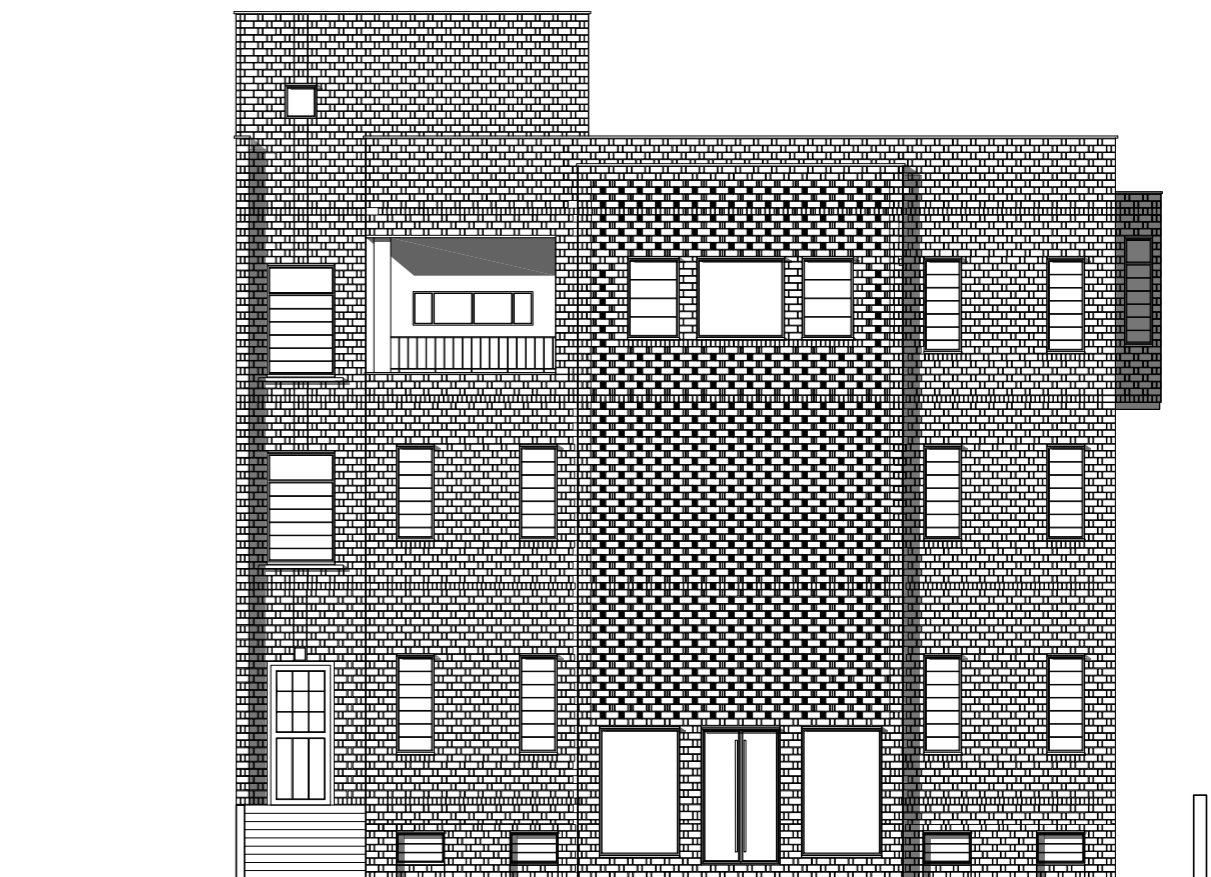
Established in the year 2010, by principle architects Mriganka Saxena and Puneet Khanna, Habitat Tectonics Architecture & Urbanism (HTAU) is a Delhi based firm aiming on providing architectural and urban services through research and innovation. The architects, after having an experience of about twelve years of practical work in UK and India, head a team that together works on projects ranging from urban level to interiors. HTAU believes in planning fundamentally sustainable buildings.





With constantly growing health issues, the number of medical centres is increasing tremendously. The important factor to be understood is, that not only medication helps to cure the illness of a patient, but also the place where they are treated makes a huge leap in the duration of getting cured. To infuse certain principles of planning with the technological needs, it should be a designer's acumen to deliver a building that incorporates elementary sustainable design decisions. Breaking the stereotype image of a medical centre, the Karnal Medical Centre sits in the semi-public neighbourhood of Karnal district, a healthcare centre specialist in paediatric and ear-nose- throat (ENT) centre along with the residence in a singular unit, objectified by HTAU based in Delhi, is a distinctive architecture that is inherently sustainable by having considered the passive cooling techniques. The formation of the building is centred on the concept of constructing a simple form derived from the square proportions of the plot.

The Centre occupies a plot of 3,303sqft with built up area of 7,905sqft housing the medical functional spaces on the lower ground floor, upper ground floor and first floor while the second floor is contained by the residence of the founder doctors' family. Planning is rooted on the levels of public accessibility in the Centre. The structure brings in people to the upper ground floor through the main entry to the Medical Centre enhanced by double height waiting area from where the regular patients and outdoor patients can be diverged through a staircase connecting to the lower ground floor. The outpatient department (OPD) is housed on the lower ground floor, to avoid clashes with the regular patients and their private rooms on the upper floor, which also houses laboratory, endoscopy room, immunisation room, and medical store and day care rooms.





Ascending up to the first floor are contained the operation theatre (OT), neo-natal intensive care unit (NICU), post operation room and OT ancillary functions. The steps leading to the main stairwell, taking up to the residence on second floor is situated in the setback portion of south-east corner to avoid public interference.

Intensive care is taken in making the Centre naturally ventilated and such that it requires minimum artificial lighting in the day, the architects have objectified the built mass using the Rat-Trap brick Bonds (RTB) for the exterior walls. The walls erected in this fashion become cavity walls helping in overall thermal efficiency and also reduces the embodied energy of the whole construction. An interesting pattern is created on the facades by incorporating brick 'jalisi' that brings in sufficient light during the day and the cross ventilation is adhered across the east and west elevations. The inner minor walls made of brick till eight feet and the portion above it made of glass to let the natural light seep in even in the innermost spaces. Further, the 'jali' acts as a 'solar chimney' owing to its narrow sandwiched volume and extracts air from the top. These, simple yet unusual, elements make the architecture more sensitive adding to its functional qualities. The services are rationalised by providing three shallow shafts detailed by carving the bricks along the minor screens which eradicates the necessity for separate service shafts needed in a medical centre.

The Karnal Medical Centre comprehends an infrequent design method under healthcare typology that assures energy efficiency and serves the described functions to the maximum in 'minimalist approach' to design. ■

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FACT FILE:

Project	:	Karnal Medical Centre
Location	:	Karnal, Haryana
Architects	:	Habitat Tectonics Architecture & Urbanism (HTAU)
Design Team	:	Puneet Khanna, Mriganka Saxena, Rajeev Sanserwal, Intekhab Alam
Clients	:	Karnal Medical Centre
Site Area	:	3,303 sqft
Built-up Area	:	7,905 sqft
Structural Consultants	:	Asian Engineering Consultants (ASC)
Civil Labour Contractor	:	Rohit Kumar
Plumbing	:	Rasheed Alam
Electrical	:	B.L. Khanna
Brick Masons	:	Kaali & Kailash
Carpentry Team	:	Mohammad Azam
Steel Fabrication	:	Mohammad Yunus & Manjeet Singh