

## Vesta House: A Case Study for an Open Approach to Housing Designing in London

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### PAPER ABSTRACT

Designed by DSDHA, Vesta House is as an example of a new housing typology that emerged from the delivery of a gateway tower for the Olympic Village at the London 2012 Games. The realisation of this bespoke building exemplifies three aspects of DSDHA's design methodology that speak to the idea of 'openness', namely future openness, contextual openness, and social openness. This paper will explicate how DSDHA anticipated future changes to the urban density of the local area beyond the Games, responded to the immediate specificity of its context, and approached tenure mixture in a radically new way.

**KEYWORDS:** Olympics, London, Vesta House, Masterplan, Residential, DSDHA

### AUTHOR BIOGRAPHY:

Deborah Saunt founded the award-winning architectural studio DSDHA in 1998; since then she has led the practice in establishing an international reputation, delivering a range of high profile buildings and urban schemes. Deborah holds a PhD from the RMIT Practice Research programme. She was awarded the 2010 Research Fellowship in the Built Environment by the Royal Commission for the Exhibition of 1851. She currently teaches a diploma design unit at the CASS School of Architecture in London, and was a guest professor at EPFL in Lausanne, Switzerland. Deborah also regularly writes and broadcasts on architecture.

John Zhang joined DSDHA in 2005, having studied at Cambridge University and the Royal College of Art. An associate since 2013 John has worked on and led a number of diverse projects, including Vesta House as part of the Olympic Village athletes housing. He is currently undertaking a PhD at the Royal College of Art in the field of contemporary Chinese architecture.

## 1 Openness in the Context of UK Practice

The concept of 'openness' in the context of housing in the UK can take on several meanings. At the most basic level, it may refer to typological matters, to how rooms are laid out and spaces are organised to respond to the needs of the dweller, i.e. to the ability of a building to connect nature and culture, inside and outside, public and private, and its inhabitants with one another. This understanding of openness is part of a larger narrative of how a building responds to its context and negotiates the relationship between its interior spaces and the external setting, where the personal landscape of the inhabitants begin to relate to the wider cultural and physical landscape of the city.

Openness can also take on a temporal dimension. A level of control and anticipation is actually a much-needed public good in the delivery of the built environment in the UK, so that it can be 'open' to the future and accommodate subsequent transformation. In this regards residential developments in the UK are already obliged under statutory regulations to provide appropriate levels of 'Lifetime Homes', allowing the residents to remain within their community and locale even as their personal circumstances change as they age. In addition, documents such as Code of Sustainable Homes are providing the critical guidelines to developers and architects to ensure that the long-term environmental viability of any residential scheme is an integral part of the design process. However, these considerations often stay within the curtilage of their own development limits and often do not anticipate the impact of future urban growth beyond the site boundary.

Critically, and particularly pertinent in the residential sector, openness necessarily relates to the social consequences of architecture, where the balance of mixture of private, affordable, and social housing in any residential scheme dictates the kind of community that will inhabit it as well as the financial success of

development. In the UK, however, the financial models generally pursued by commercial led developers requires different forms of tenure to be kept separate for ease of management. Affordable Housing, as a statutory obligation, is habitually regarded as an independent entity, often given separate site locations and separate entrances, as well as often lower standard of specifications. In the worst cases, the entire affordable portion of developments, particularly in prime central London locations, are traded off site or converted to financial contributions. This results in developments where a sense of openness has been lost, as a certain level of spatial and organisational segregation occurs to separate different tenure types. Internally, another aspect of control is exercised over common spaces shared between residents, where concerns over privacy, security as well as Health and Safety often produce over sanitised and under-utilised spaces, devoid of activity and charm, where a lack of trust in the residents and the community becomes visibly self-evident.

In designing and delivering Vesta House (Fig.1), a gateway tower for the East London Olympic Village, DSDHA's ambition was to address these issues of openness that relates to community, context and future.

## 2 Open to the Future



Fig. 1. Main approach view of Vesta House



## 2.1 Appointment & Brief

The narrative of future openness really begins with a visionary client, the Olympic Delivery Authority. Despite a well-established framework of control and monitoring as well as complex constraints to work with, the Call for Entry to design the various plots within the Athletes Village was specifically designed to encourage small and medium sized practices and studios to participate. This reflected the openness of the process and the ambition of the Olympic Delivery Authority to use Olympic Village as a great showcase for young and undiscovered talent within the spectrum of the British architectural profession.

At the time of the competition, DSDHA had little experience in residential design at the scale of the Athletes Village. However, being a studio with a strong research agenda, DSDHA was able to draw on this resource in the development of the competition entry. Consequently, DSDHA were given one of the most challenging sites to work with in the Athletes Village: a landmark triangular plot defined by the two main axial roads of the Zonal Masterplan (ZMP) (Fig. 2).



East Village Masterplan

**Fig. 2.** Olympic Village Zonal Master Plan

With the future legacy in mind, The Zonal Masterplan established a vision for the entire Olympic Village site. It defined street layout, land use distribution and overall maximum building heights, creating a flexible framework within which architects responsible for each plot could begin to articulate their own contributions, as a fine balance of urban coherence and individual creative freedom needed to be struck in the development of the architectural proposal. A dedicated planning panel was established for the Olympic Village with monthly workshops to review progress. Architects of each plot within the Village had to work in consultation with a number of different comprehensive design review groups to ensure the design proposals met the aspirations of the project Design Guidelines and the ZMP. This was supplemented with monthly presentations to the wider stakeholder groups to ensure that wider project aspirations were being maintained.

## 2.2 Games Mode, Legacy Mode, and Beyond

The building has been designed from the outset with both the Games Mode and Legacy Mode in mind. During the Games, apartments were subdivided into smaller dormitories for the competing athletes, without impacting on window locations or access to balconies, or affecting the daylight that comes into the smaller temporary bedrooms.

In Legacy Mode, the apartments were developed to meet the requirements of both Lifetime Homes and The London Housing Design Guide. A key element of the client's brief was their ambition for the Athletes Village to set new standards for eco-friendly living in London. Through the use of energy-efficient technologies, district heating, water recycling and an emphasis on nurturing the natural environment, Vesta House achieves Code for Sustainable Homes Level 4, with the average apartment in the building assessed to have an environmental impact of Level A rating, in terms of CO2 emissions.

## 3 Open to the Context

### 3.1 Form & Layout

As the tallest building in the Olympic Village and sitting at a prominent cross road, Vesta House acts as a gateway. Its peculiar form is the result of the careful analysis of the context, analysis which took into consideration a number of different views and approaches towards the site, but also from the building towards its surrounding, for instance offering views out to the adjacent park (Fig.3).



**Fig. 3.** View from apartment entrance, photography by Dennis Gilbert

With a triangular site, DSDHA saw the architectural potential embedded within the geometry. An extrusion of the plot on all three sides could maximize apartment numbers, but critically for DSDHA, also create an internal shared space, where our ideas about fostering a more open sense of community could be tested.

As design progressed, the layouts were carefully studied so that each residential unit provides generous bedrooms and comfortable living spaces, whilst ensuring that a view to the outside is always available upon entering any apartment. This expedient mitigates the inconvenience of having windows only on one side in each apartment, a condition dictated by the peculiar geometry of the site (Fig. 4 & Fig. 5).

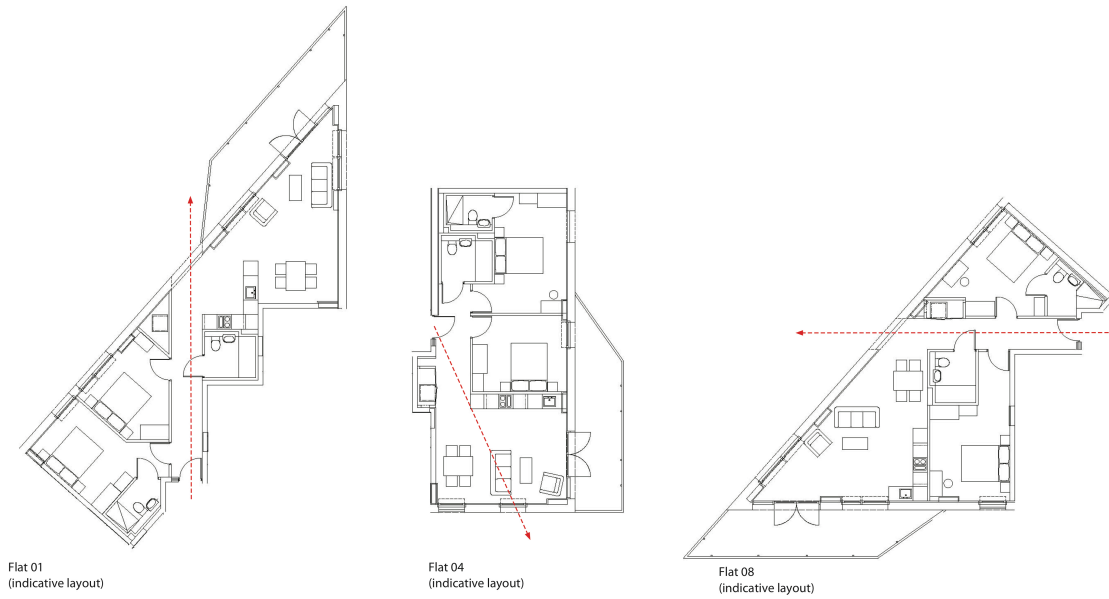


Fig. 4. Typical apartment layouts

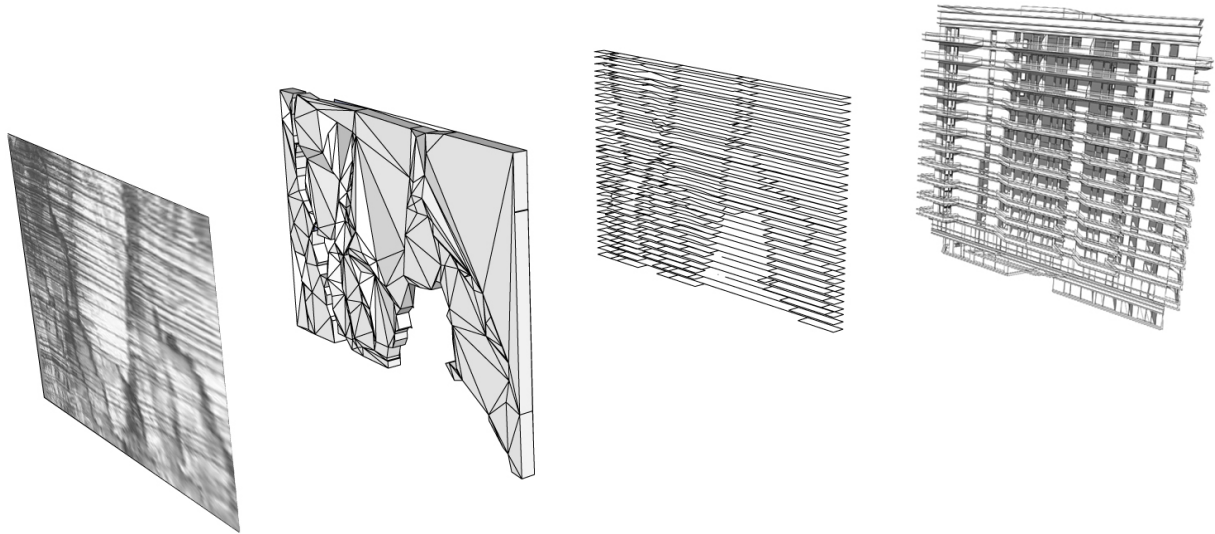


Fig. 5. Typical living space, photography by Dennis Gilbert

### 3.2 Façade & Materiality

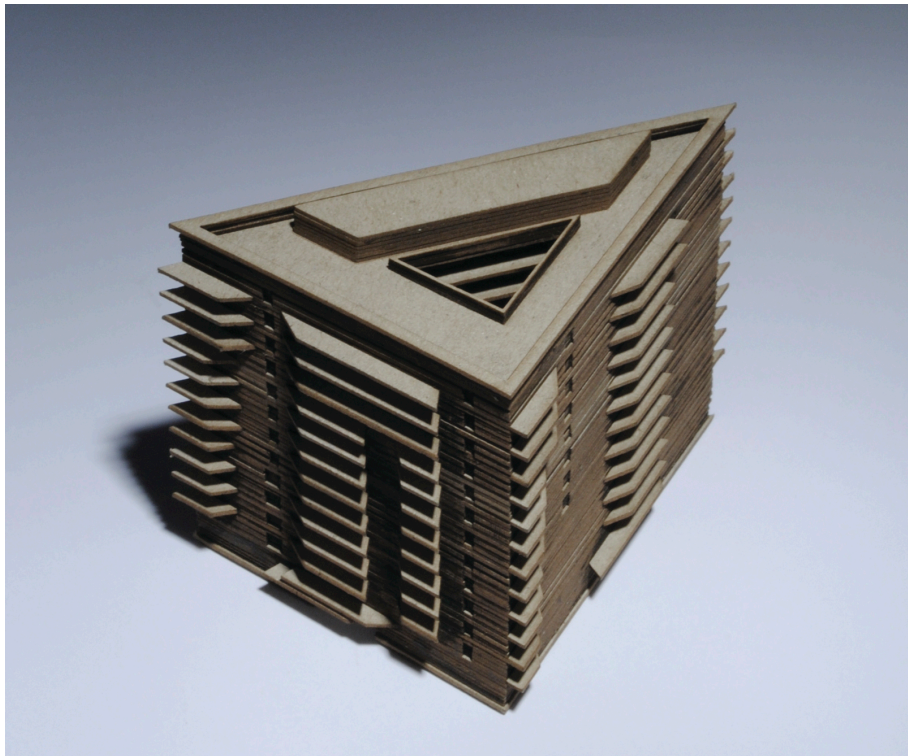
The building's overall articulation and materiality also draws inspirations from the local geology, as it alludes to the deep chalk seam, which lies just beneath the whole Olympic site and the Lea River (Fig. 6).





**Fig. 6.** Façade development informed by local geology

Bespoke lightweight GRC panels were developed to achieve the dynamically carved elevations and avoid services perforations, which would have disturbed the composition of the façade. Critical details and interfaces of the design were modelled, prototyped and mocked up at 1:1 to ensure the design intent was maintained (Fig. 7).



**Fig. 7.** Development model

### 3.1 Daylight & Sunlight

The elevation, with its carefully distributed aperture and dramatic sculptural balconies, was designed to respond to the changing level of daylight and sunlight on various floors and orientations (Fig. 8). Lower apartments were given larger windows and smaller balconies to maximise daylight penetration and avoid overshadowing. The intent was that of filtering the daylight whilst providing larger outdoor spaces where greater privacy is possible away from the street.



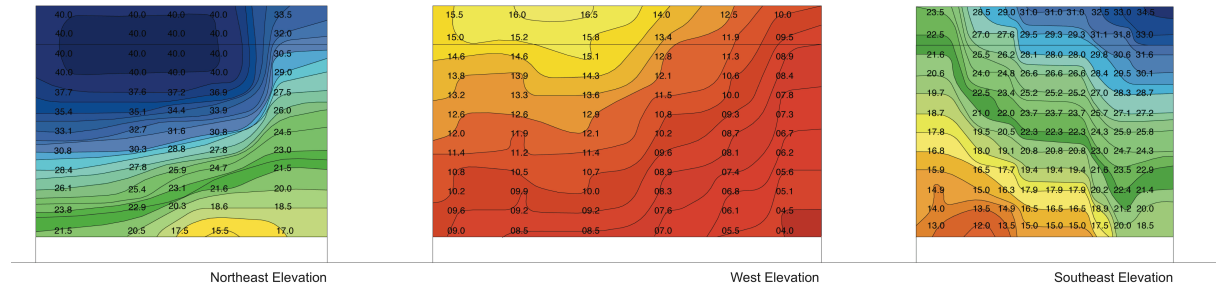
Fig. 8. Development of façade composition and materiality

More significantly, the analysis of daylight and sunlight, also took into account on the future phases of the Village, anticipating the imminent densification of the site immediately to the west of Vesta House (Fig. 9), where two high rise towers are likely to be built and cast shadow over the west façade of Vesta House. This is where openness to context overlaps with openness to the future.



Fig. 9. Detail of shifting balconies, photography by Tim Crocker

Therefore the composition of windows and balconies has been adjusted for the future. As the balconies on the mid-western façade increasing in size as they rise towards the top, they also gradually ‘dance’ across the facade in anticipation of future neighbours, preserving the daylighting and quality of the lower level apartments while enhancing the dynamism of this the widest prospect (Fig. 10).

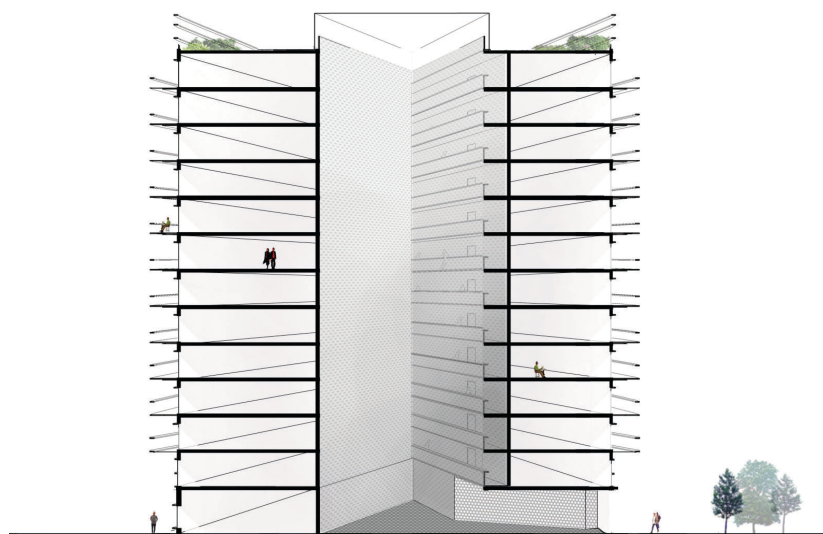


**Fig. 10.** Daylight/Sunlight analysis of building facades

## 3 Social Openness

### 3.1 Shared Spaces

With the efficiency of the apartment layout becoming self evident, DSDHA was able to convince the client that the shared spaces on each floor of the plan can be consolidated into a spectacular 13 storey tall internal atrium (Fig. 11 & Fig. 12), opening up the vertical volume of the building to offer a unique protected communal space that brings natural daylight to all floors and provides access to each residential unit, avoiding the predictable solution of corridors and lift lobby. Critically, the atrium proved important in stimulating a sense of community: it mediates between public and the private while also offering unimpeded visual access to the whole building, allowing for chance encounters between residents on their way to or from home, which in turns creates a sense of openness and security without the need to have a reception or concierge constantly monitoring the entrance. DSDHA was able to secure the spaces needed to create this atrium by arguing that car parking provisions will not be efficient given the site geometry and should be shared with the building’s neighbouring plots. This made cost savings that enabled the delivery of the shared atrium space.



**Fig. 11.** Diagram of communal atrium





**Fig. 12.** View looking up at atrium, photography by Dennis Gilbert

This narrative of openness is then further extended at the top of the building, where a shared roof terrace (Fig.13) accessible to all residents democratises what is normally the preserve of the penthouse apartment, providing a convivial space with unrivalled views across the whole of London and Queen Elizabeth II Park.



**Fig. 13.** Roof top terrace, photography by Dennis Gilbert

## 4.1 Tenure Blind

Building on the openness embedded within the fabric of the architecture, Vesta house also presents a rather uncommon 'Tenure Blind' model of apartment mix. This means that there are no distinctions, separation or segregation between the privately rented apartments and the affordable social housing apartments. This 'blindness' is comprehensive and proudly so: from the layout of flats and internal finishes, to access and amenities, both typologies are conceived and delivered to the same standards, as well as sharing entrance, circulation and common areas (Fig. 14).



**Fig. 14.** Typical floor apartment layout and mix

All residents are afforded the same dignity and grandeur in the experience of the building, fostering a sense of shared ownership of the common spaces. This rather unique proposition speaks highly of the social ambition of the building to be inclusive, and trusting to all its residents. The faith put into the residents as a community has paid dividend in the championing of the shared space. This is demonstrated in the use and enjoyment of the shared atrium space, where contrary to what many may assume, there has been no incident of vandalism or neglect.

The additional benefit of such a tenure blind approach is that, typologically speaking, it is more flexible in adapting to future changes in housing demands and urban densities in the local area, where new tenants and/or owners can continue to collectively benefit from the quality of the architecture and common spaces.

Since its completion, the atrium has been so successful that additional funding has now been secured to enhance it further with the introduction of a hanging light sculpture, which had always formed part of DSDHA's design, but were omitted due to cost constraints. A member of the residents is now on the client panel for the delivery of the atrium light sculpture.

## 5 Conclusion

Vesta House reflects DSDHA's position on openness and is defined in three different ways:

- As Contextual Openness, where the building establishes, through tectonics, views and layout, a connection between the personal landscape of the building's user and the wider urban landscape, reflecting the geological, topographical and lighting conditions of its context;
- As Social Openness, where a tenure blind mix of accommodations is employed to engender a sense of shared ownership and community within a residential development, where trust in the residents in their maintenance and enjoyment of these space will further enhance the sense of openness and community, encouraging a more fulfilled public life of the building;
- As Future Openness, where the legacy and the long-term sustainability of the building forms an integral part of the design considerations from the outset, allowing the building to respond to changing contexts beyond the site boundary, and adopt its new identity in part of what is now called East Village.