

# Woodleigh Glen BTO Project: Infusing Innovative Design with Smart Technology

To create homes that offer both comfort and character, HDB constantly pushes the frontiers of urban design. HDB has also been leveraging technology to raise the quality of living environment for Singaporeans.

Woodleigh Glen is one such project which unites innovative design and smart technology. Located in Bidadari, this Build-To-Order (BTO) project has been wholly planned and designed by an HDB in-house team comprising planners, architects, and engineers.

Inspired by the unique confluence of the site's terrain, nature, and heritage, the team conceived bold designs to enable residents to enjoy the greenery and tranquility of the site. The team also adopted cutting-edge environmental modelling to design homes that offer maximum thermal comfort for residents.

## Innovative Design for Quality Living

Capitalising on the area's topographical features — such as hills, valleys, and basins — Woodleigh Glen has been designed with a myriad of community spaces to encourage interaction among residents:

- At ground level, the precinct is anchored by a "Village Street" and promenade along its central valley, creating a vibrant social greenway for the community to mingle.
- Atop the two-storey car parks, elevated green breezeways double up as "Urban Verandahs" where residents can take in views of the surrounding greenery, meet, and mingle.
- On the third storey, landscaped courtyards serve as canopy walks where residents can get up close to the lush canopies of the trees within the green valley. At the "Forest Courtyard" for instance, shady trees and "streams" offer a tranquil and therapeutic ambience.



*A generous 70% of the development has been infused with lush greenery, offering multiple green community spaces for residents to enjoy*

The HDB team also mooted a bird-watching sky terrace, the first in a BTO development, to make the most of Bidadari Hill Park — a well-loved bird sanctuary that is another distinctive feature of the site. Spanning 200m on the 10th storey, the terrace offers excellent views of migratory birds and of the surrounding greenery. The terrace, complete with sheltered pavilions for bird-watching activities, is connected to the residential blocks to facilitate easy access.



*A 200m-long bird-watching sky terrace on the 10th storey offers excellent views of migratory birds and of the surrounding greenery.*

For its bold and innovative design, Woodleigh Glen clinched the Innovative Design Award in the HDB Design Awards 2017. Commenting on the project, Jury panellist Mr Yip Yuen Hong — who is also principal of ipli Architects and who was Singapore’s Designer of the Year in 2013 — said: “The project is skillfully conceived, respecting the topography and making inventive use of the terrain to situate the different components of blocks, parking, and community spaces. The project has responded sensitively to nature, to scale, and to the environmental elements.”



*The HDB in-house team behind the design of Woodleigh Glen.*

## Smart Technology for Optimum Comfort

HDB also leverages smart technology to provide residents with a comfortable living environment. At Woodleigh Glen, the HDB team used the Urban Environmental Modelling (UEM) tool to simulate conditions such as wind flow, temperature fluctuations, and solar irradiance on site. Based on these studies, the team was able to position and design the blocks for maximum thermal comfort. Residential blocks have been laid out to optimise shading against the sun, while the void decks were elevated to create breezeways to cool the community spaces.

The team also used advanced design modelling tools — such as computational fluid dynamics (CFD) modelling — to derive design solutions. One unique application in Woodleigh Glen was the use of wind-driven rain simulation studies to

analyse rain patterns, to help determine the best placements for rain screens at the blocks.

When ready in 2021, the residents of Woodleigh Glen will be able to enjoy homes where natural and built forms intertwine seamlessly. Singaporeans can also look forward to more quality BTO projects that tap on smart technology and innovative design.