

Resort at Mandai Wildlife Reserve

02/11/2022



Image credit: Mandai Wildlife Group

Disclaimer: All pictures shown are for illustration purposes only. Actual product may differ.

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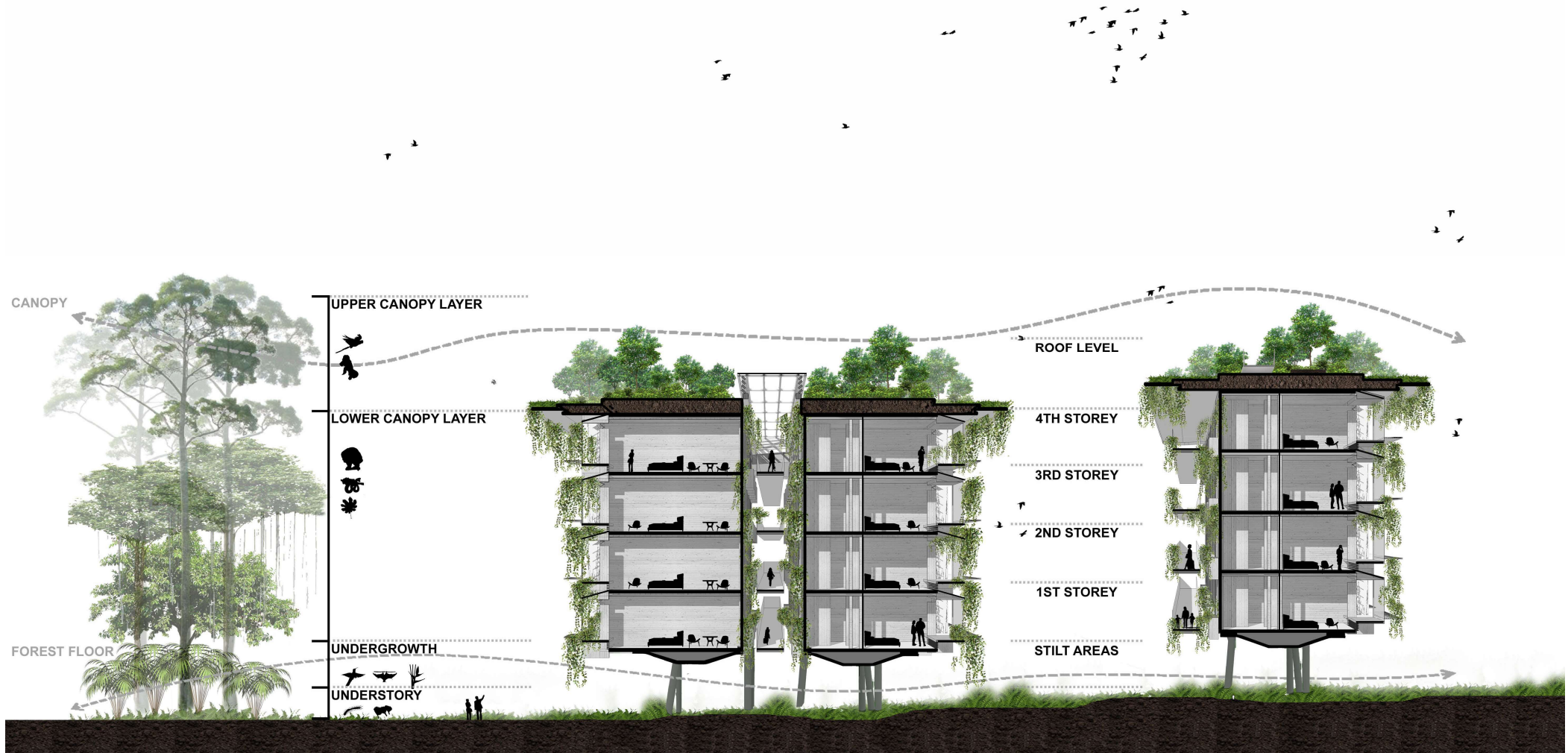
Location of Resort at Mandai Wildlife Reserve



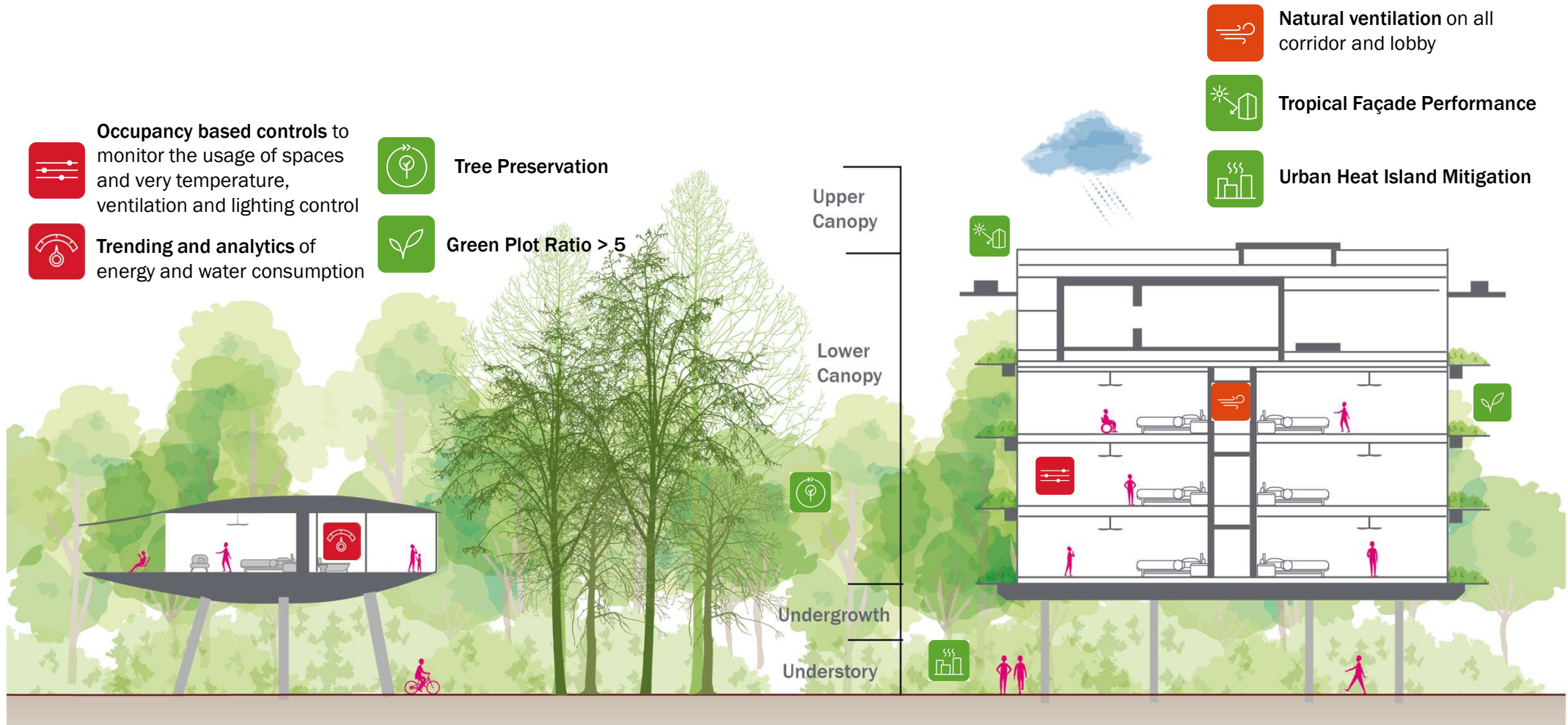
Site Plan



Mandai Resort – Integration With Surrounding

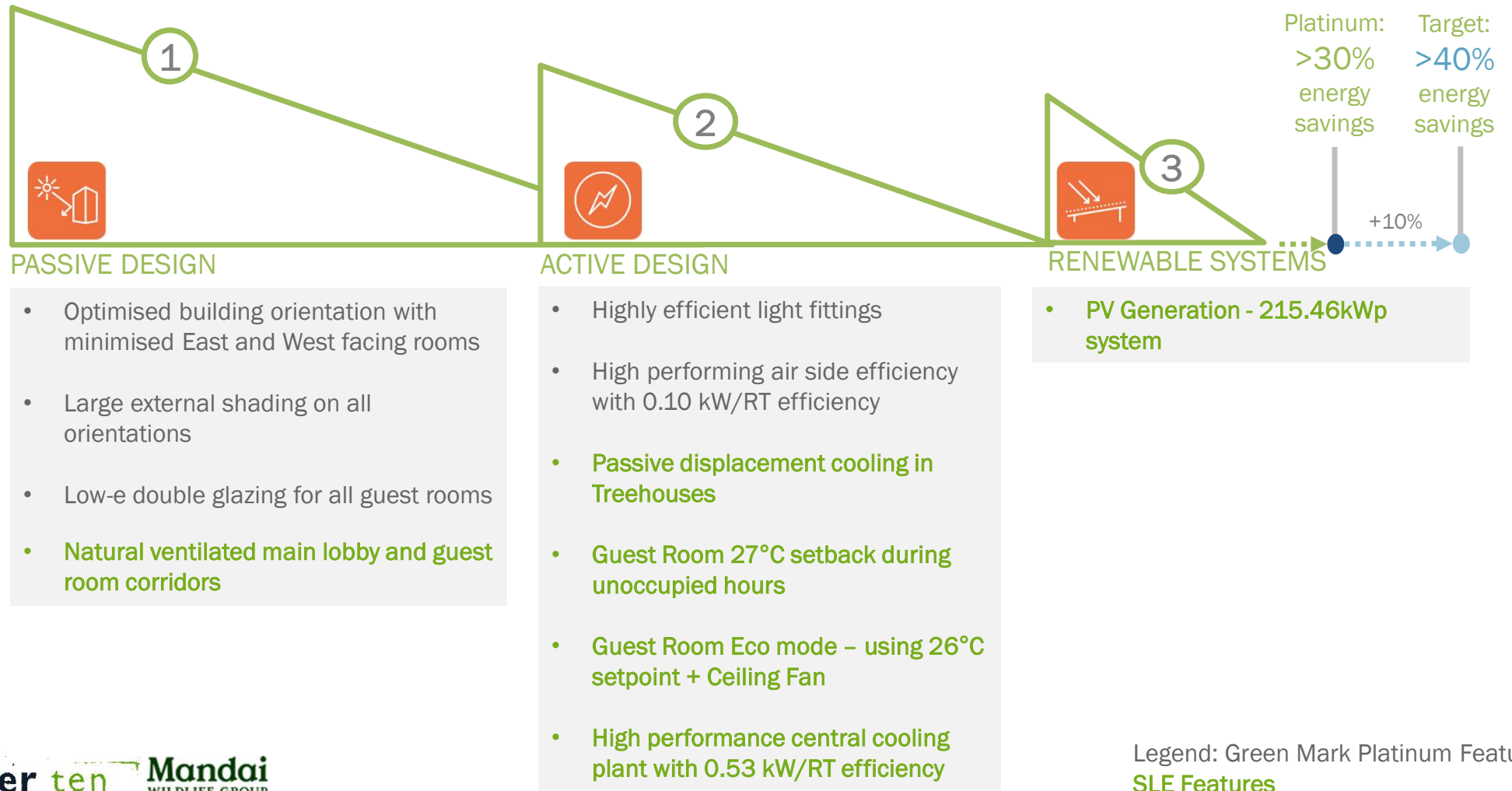


Holistic Sustainability Strategy



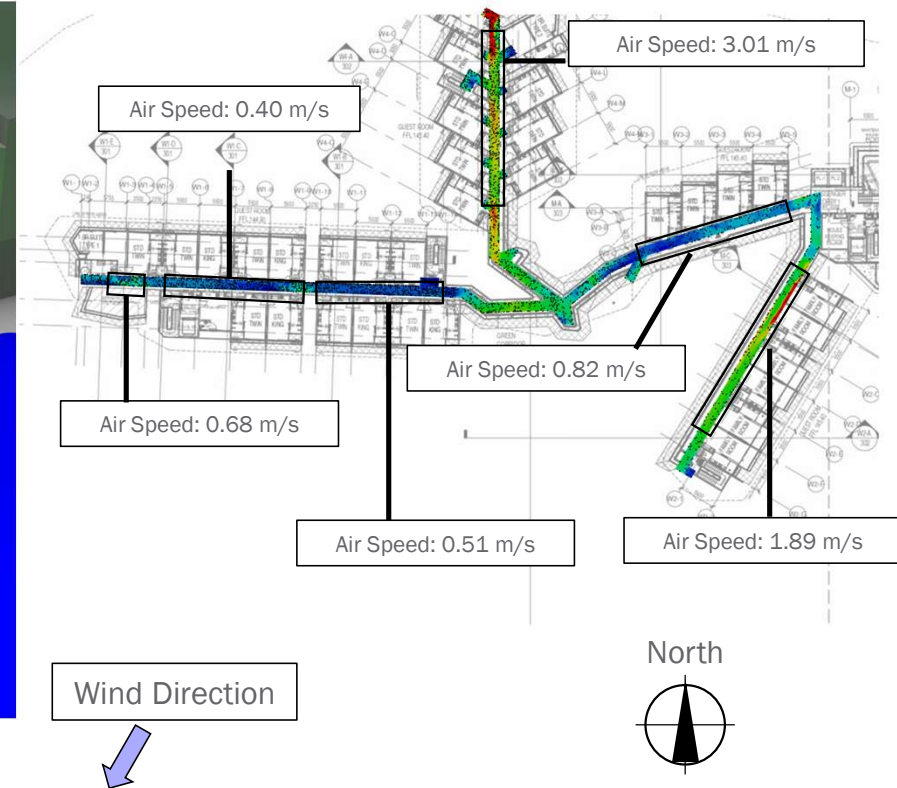
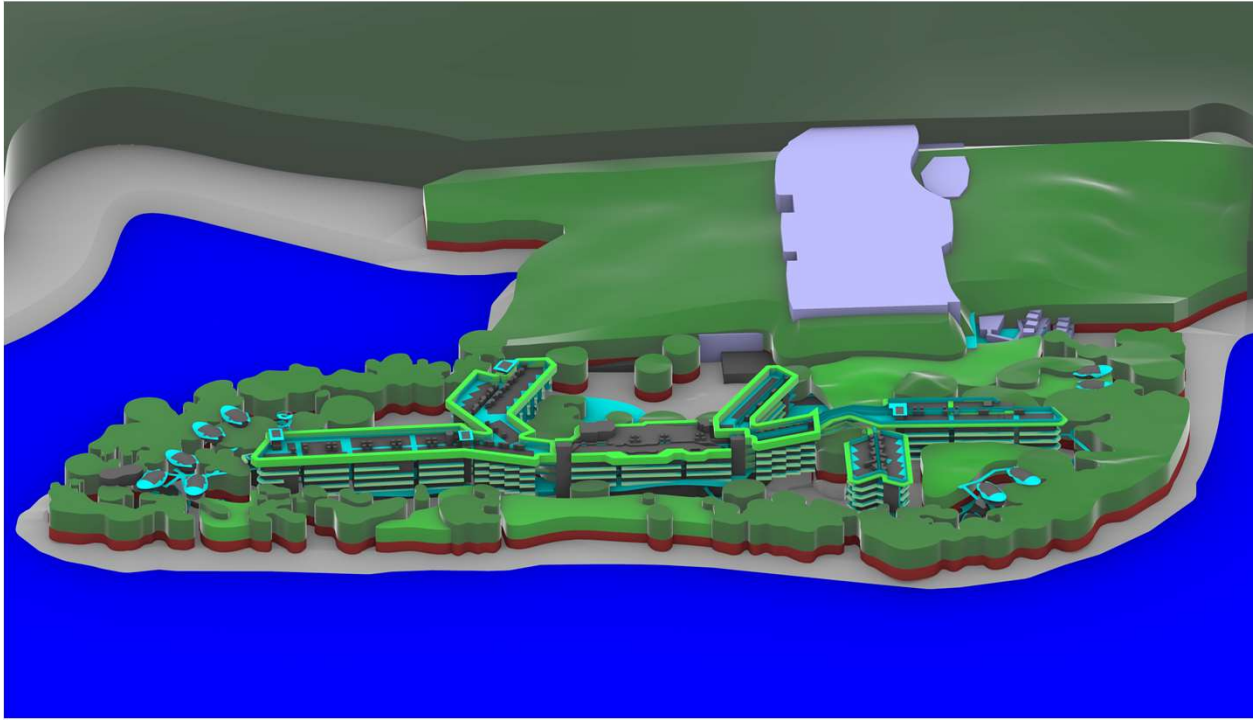
Energy Efficiency Strategy

Overview



Natural Ventilation in Corridors

Thermal Comfort Analysis



Tree House

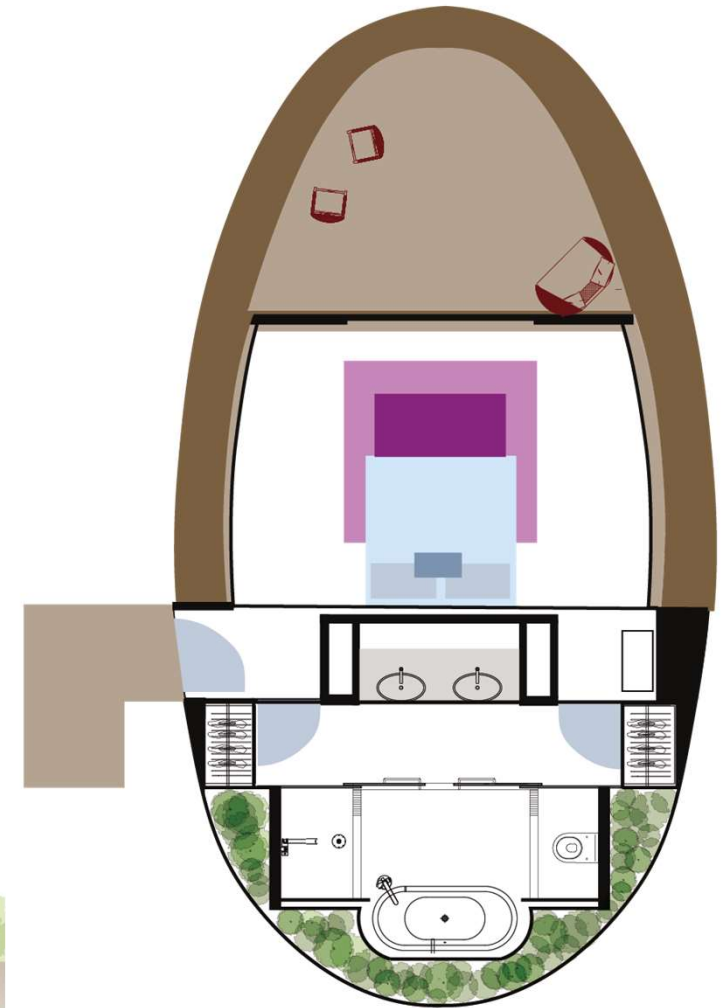


Passive Displacement Ventilation

Tree House



Section



Plan

Guest Room Eco Mode

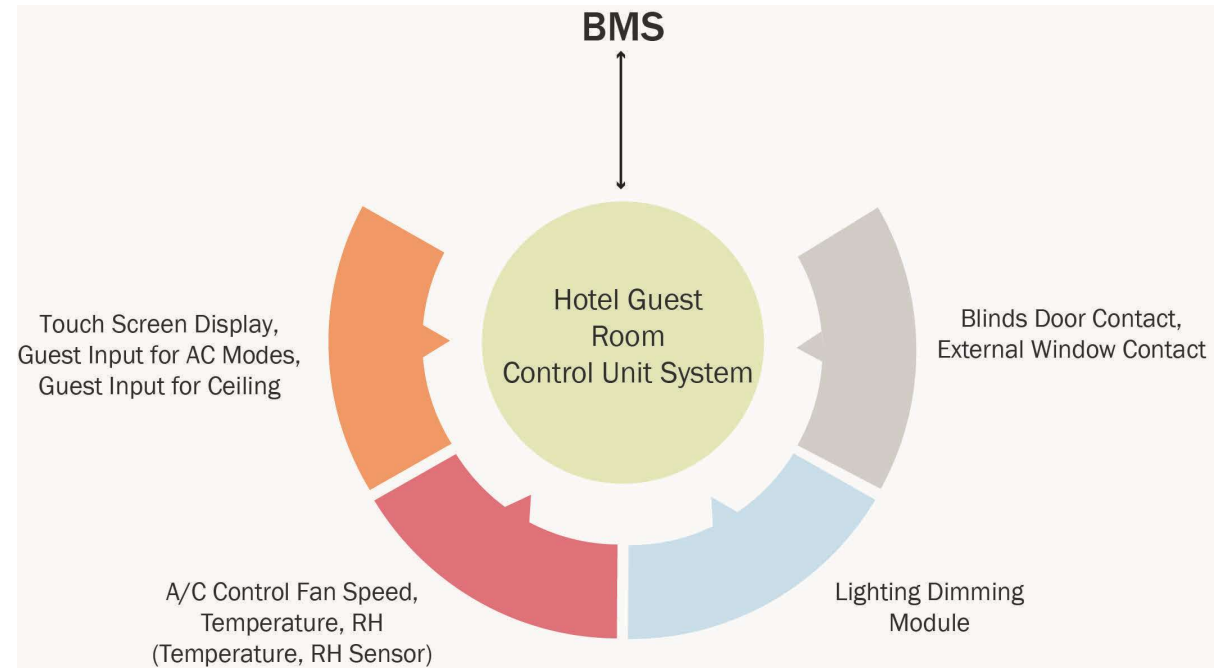
Easy Design Stage Reviews

- A **setback at 26°C** would increase the savings to **42.6%**
- A **setback at 27°C** would increase the savings to **43.2%**
- The usage of **eco-mode** by 50% of the guest also add a further **0.5%** improvement in energy saving

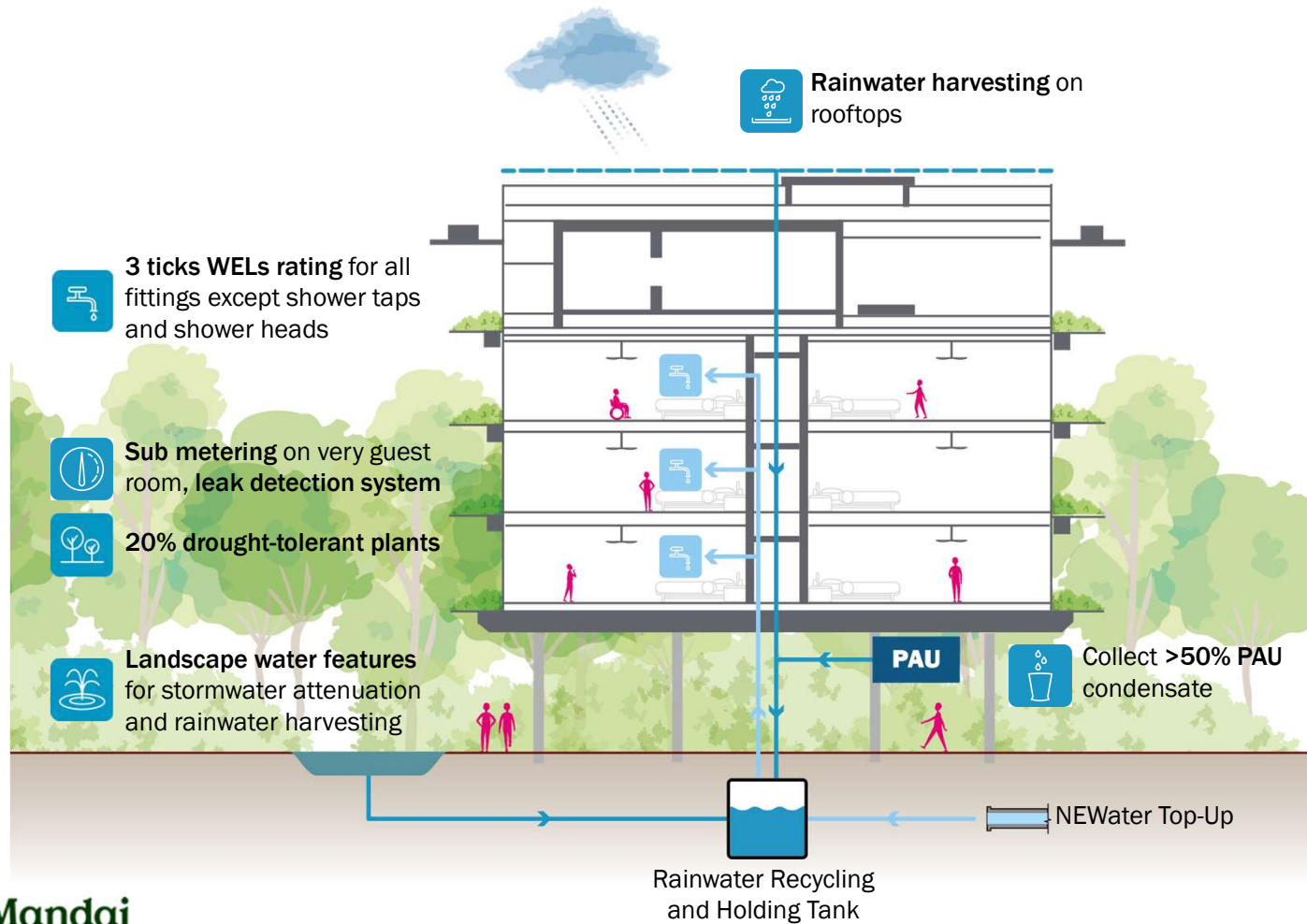
	Room Booked – Guest In	Room Booked – Guest Out	Room Not Booked	Easy Design Stage Saving (%)
Baseline	Temp. at 24°C	Temp. at 24°C	Temp. at 24°C	
Proposed Option 0	Temp. at 24°C	Temp. at 24°C	Temp. at 24°C	41.5%
Proposed Option 1	Temp. at 24°C	Setback at 26°C	Setback at 26°C	42.6%
Proposed Option 2	50% Eco-mode (26°C + ceiling fans) 50% Temp. at 24°C	Setback at 26°C	Setback at 26°C	43.2%
Proposed Option 3	Temp. at 24°C	Setback at 27°C	Setback at 27°C	43.2%
Proposed Option 4	50% with Eco-mode (26°C + ceiling fans) 50% Temp. at 24°C	Setback at 27°C	Setback at 27°C	43.7%

Guest Room Control Units

Easy Design Stage Reviews



Water Efficiency



Green Mark Overview

Green Mark Platinum Super Low Energy



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Climate Response

- Tropical Façade performance
- Green Plot ratio >5
- Urban Heat Island mitigation
- Tree preservation

Energy

- Passive displacement cooling in Treehouse
- Natural ventilation on all corridor spaces and lobby
- Hot water savings through chiller heat recovery
- Cooling temperature setback during unoccupied hours
- Internal lighting savings more than 60%

Resource

- Sub metering on every guest room, leak detection system
- Collect > 50% PAU condensate
- Rainwater harvesting

Smart & Healthy

- Occupancy based controls to monitor the usage of spaces and vary temperature, ventilation and lighting demand
- Trending and analytics of energy and water consumption



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