



Du Fangming  
Senior Architect  
Professional Portfolio

# Curriculum Vitae



## Fangming Du

### Senior Architect

Fangming is a Singapore and Austria trained architect. He has been involved in a wide continuum of architectural projects comprising transportation, master planning, retail, residential, institutional and commercial buildings. He holds a Master's Degree from University of Singapore, and he is a Registered Architect in Singapore.

Fangming has led the design coordination and project administration in some of the largest scale transportation and mixed development projects in Singapore, and he was also the representative Head of Computation Design (Rhino & Revit) in Hassell Singapore studio, managing the digital aspects of the design and documenting process in the office.

Fangming has acquired a vast experience working and documenting with multiple digital design platforms, including Rhino (Grasshopper, Vray etc.), Revit and other related BIM software. He has since demonstrated a great passion and knowledge in multi-discipline design with emerging technologies.

His key projects include the World's first 4-in-1 east coast depot comprising office, administration building and depots; as a leading architect, he has gone through preliminary design, tender and construction stage as well as preparing authority submissions and dealing with compliance requirement.

For the past two years, he is the Senior Architect of MKPL managing award

winning project: Bidadari Alkaff Courtview and Lakeview which consists of 1,789 units with mixed commercial and educational development, in which the masterplan of the Bidadari Estate is also designed by the same office. Currently his role is contract administration, BIM and project management. He liaises and coordinates with external consultants and clients on a daily basis.

### Qualification

- Registered Architect, Board of Architect No. 2813
- Master of Architecture, National University of Singapore, 2014
- Bachelor of Arts (Architecture), National University of Singapore, 2012
- Bachelor of Science (Architecture), Exchange Program scholarship, Innsbruck Universität, Austria, 2011

### Professional Experience

#### Singapore

- 2017-Present MKPL Architects

#### Singapore

- 2014-2017 HASSELL Design

#### Austria

- 2011-2012 Coop Himmelb(l)au Austria

### Project Experience

#### Residential and Commercial

- Bidadari Alkaff courtview and Alkaff lakeview, Singapore (Innovation Award), Singapore
- Jalan Besar / Rochor Central Residential with Commercial C7 & C8, Singapore
- One Holland Village, Singapore

#### Transportation and Workplace

- Thomson East Coast Line, Contract E1001, Singapore

- World's first 4-in-1 Mega Depot comprising Downtown Line Depot (DTL), Eastern Region Line Depot (TEL), East West Line Depot (EWL), Thomson East Coast Line Mega Multi-story Bus Depot and Office Development, Singapore

- TE31 Sungei Bedok underground Station, Singapore
- DT36 Xilin underground Station, Singapore
- ER481 Bus Depots, Singapore

#### Competition and Tender Bidding

- One Holland Village, Singapore (Success)
- Esplanade extension Waterfront Theatre, Singapore (Unbuilt)
- Outward Bound Singapore at Coney Island masterplan and development, Singapore (Unbuilt)
- Jurong Region Line MRTs, Singapore (Success)
- Jurong Region Line Depots, Singapore (Success)

### Specialist Expertise

- BIM Modelling and Management
- Computational Design
- Architectural Simulation & Analysis
- Augmented Reality (AR) Modelling

### Professional Skills

- Revit (BIM), Rhino 3D (Grasshopper, V-ray, parametric design), CAD and Sketchup
- Adobe Creative Suite, Microsoft Office
- BIM Coordination and Documentation, Perspective Rendering
- Design Simulation & Animation (Ecotect, Grasshopper, Processing)
- Design Coordination and Contract Administration
- Project Management and Client Engagement

### Pre-work Achievement

- 2003-2008 Singapore Government Scholarship holder
- Project Advisor, Community Built Project in China 2013
- Competition / Designer, NUS Student Lounge + Studio Competition
- Exhibition / Designer, NUS Department of Architecture 50th Anniversary

### Language Proficiency

- Spoken/Written English
- Spoken/Written Chinese
- Spoken/Written German (Intermediate level equivalent B2)
- Spoken/Written Japanese (Simple)

Email: fm@creaturexd.com

Phone: +65-96806048, Singapore

Portfolio: pdf.creaturexd.com

Simulation Researches: vimeo.com/bfcxfm

## **Bidadari Alkaff, Singapore**

INVOLVEMENT: DESIGN, CONSTRUCTION AND TOP

STATUS: COMPLETION TOP

ROLE: PROJECT ARCHITECT, BIM MANAGER AND CONTRACT ADMINISTRATION

**Project Brief:**

Located along Upper Serangoon Road, Alkaff CourtView and Alkaff LakeView are amongst the first few public housing developments in the new Bidadari estate. This project comprises 5 Blocks of 17-Storey and 4 Blocks of 16-Storey Residential Building (Total 1789 Units) with 2 Blocks of Multi-Storey Carpark, ESS, Precinct Pavilion, Commercial & Social Community Facilities and Common Greens.

The Bidadari estate is envisioned as a sanctuary where residents can enjoy a green and relaxed environment, well-served by a variety of amenities. Located in the new Alkaff district, these developments are near the proposed Alkaff Lake (inspired by the former Alkaff Lake) and Bidadari Park. As their names imply, each development has a distinct view. A landscaped roof deck within Alkaff LakeView overlooks the Alkaff Lake and Bidadari Park, while residents of Alkaff CourtView will enjoy landscaped courts at their doorsteps. The architectural planning and design of Bidadari is inspired by the unique history, context and natural environment of the site. We imagine Bidadari development to be a contemporary living environment which embraces and celebrates the natural setting of the site – seamlessly integrating building and landscape to achieve an attractive and livable environment, both vibrant and tranquil, which fosters a strong sense of belonging and community.





**LAYOUT IDEAS FOR 2-ROOM FLEXI  
(TYPE 2)**  
APPROX. FLOOR AREA 47 sqm  
(Inclusive of internal Floor Area 45 sqm  
and Air-Con Ledge)



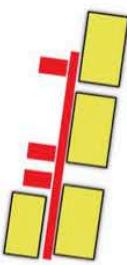
**LAYOUT IDEAS FOR 3-ROOM**  
APPROX. FLOOR AREA 71 sqm  
(Inclusive of internal Floor Area 69 sqm  
and Air-Con Ledge)



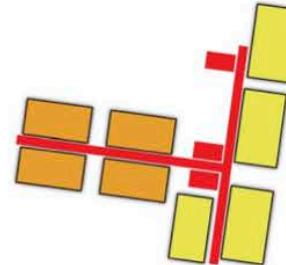
**LAYOUT IDEAS FOR 3-ROOM**  
APPROX. FLOOR AREA 72 sqm  
(Inclusive of internal Floor Area 69 sqm  
and Air-Con Ledge)



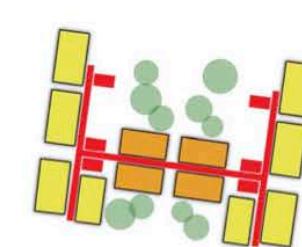
**LAYOUT IDEAS FOR 4-ROOM**  
APPROX. FLOOR AREA 93 sqm  
(Inclusive of internal Floor Area 90 sqm  
and Air-Con Ledge)



Basic module - Units around a central spine



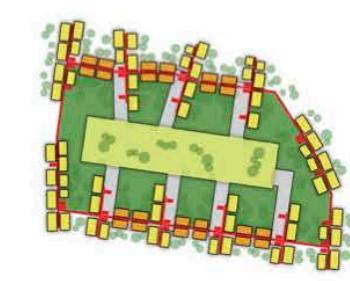
Easy connection to other modules



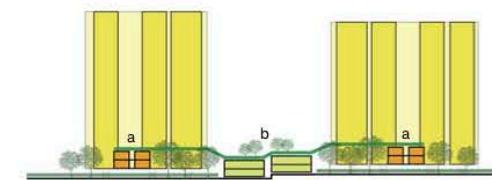
Define forecourts and community courtyards



Integration with carpark structure



Defining a neighbourhood around common green



a. Low rise block for scale and street definition

b. Common Green, the community Heart

- Linear model (high-rise)
- Linear model (low-rise)
- The green deck (carpark typology)
- The green lung
- The spine

## **World's first 4-in-1 Depot, Singapore**

**INVOLVEMENT: PRELIMINARY DESIGN, TENDER AND CONSTRUCTION**

**STATUS: CONSTRUCTION IN PROGRESS**

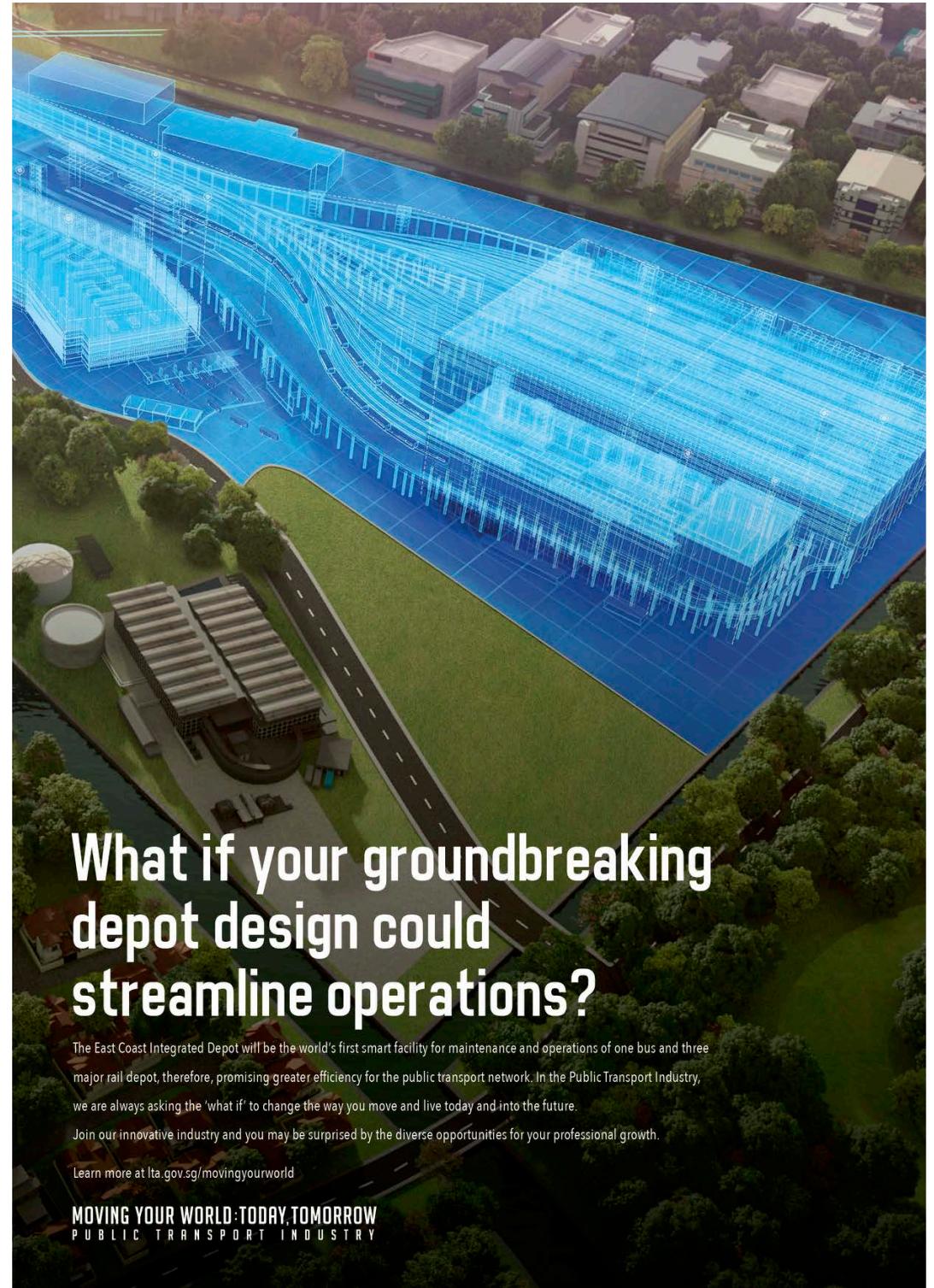
**ROLE: LEADING ARCHITECT, BIM MANAGER AND PROJECT COORDINATOR**

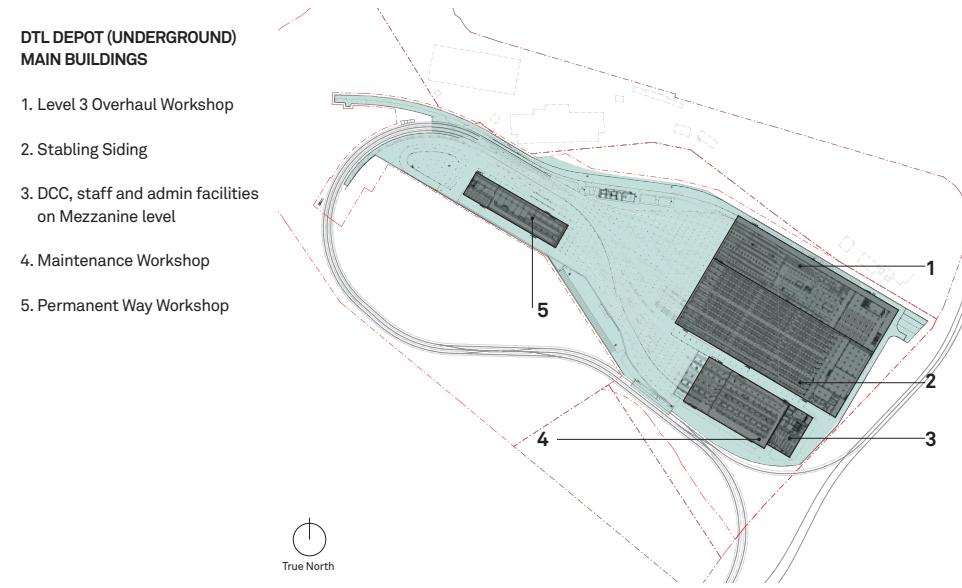
## Project Brief:

The four-in-one depot to be built together with the Thomson–East Coast Line (TEL) is a first in the world to integrate three train depots and one bus depot within a single site. As depots occupy a lot of space and are costly, we look at alternative ways to build depots cost-effectively, without compromising the land use.

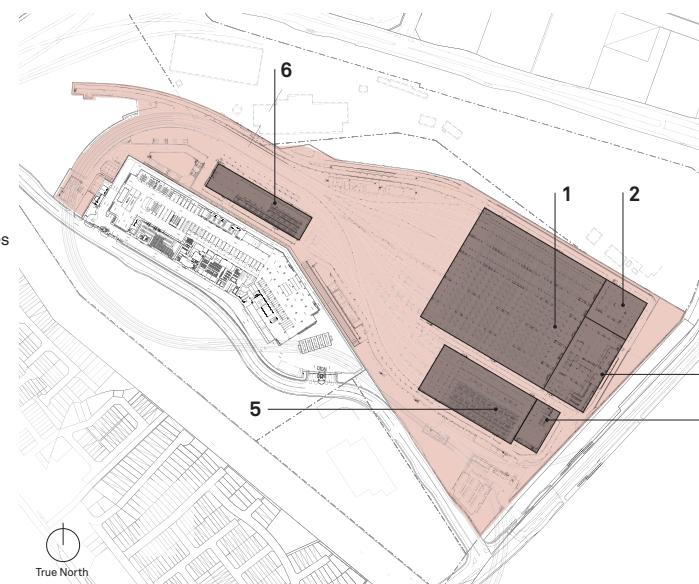
With the East-West Line (EWL), Downtown Line (DTL) and TEL running in the vicinity of the depot site, we made use of the opportunity to optimise land use by stacking three train depots above one another. With such integration, 44 hectares of land, or an area of approximately 60 football fields will be saved in land-scarce Singapore.

This depot will house 220 trains from the TEL, East-West Line and Downtown Line, as well as 550 buses. In addition, it also contains administration offices and auditorium for the staffs and daily operation.

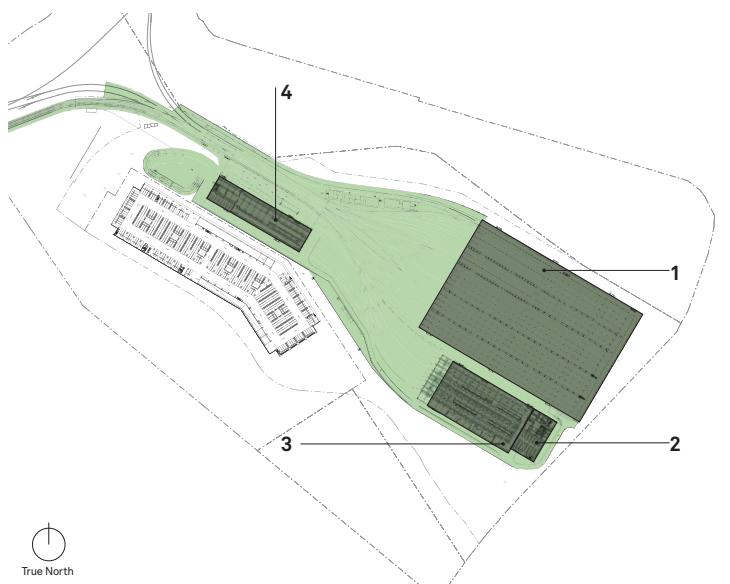




- TEL (ON GROUND) DEPOT  
MAIN BUILDINGS**
1. Stabling Siding
  2. Central Plant Facilities
  3. Car Park
  4. DCC, staff and admin facilities on Mezzanine level
  5. Maintenance Workshop
  6. Permanent Way Workshop

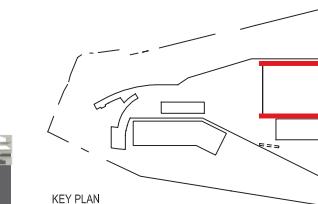
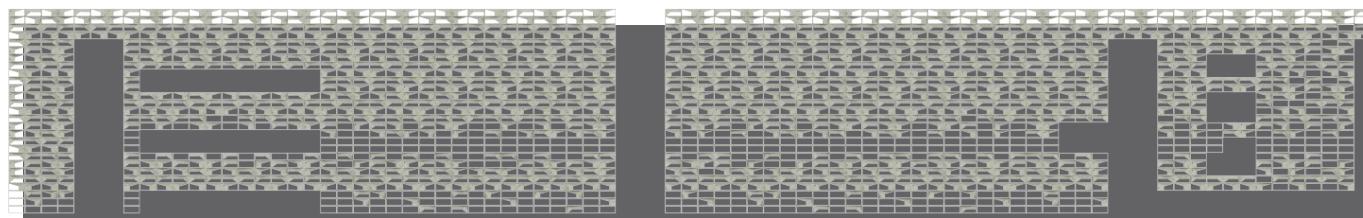


- EWL DEPOT (ABOVE GROUND)  
MAIN BUILDINGS**
1. Stabling Siding
  2. DCC, staff and admin facilities on Mezzanine level
  3. Maintenance Workshop
  4. Permanent Way Workshop



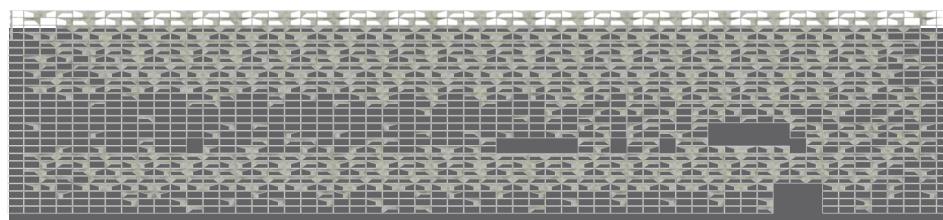
This project contains three main buildings and a few ancillary buildings. Due to its unique mega size and function, we designed this depots as one connected mega architecture to make use of the fluid layout.

**CORRESPONDING FACADE MODULES COMPOSITION**  
**\_STABLING BUILDING**

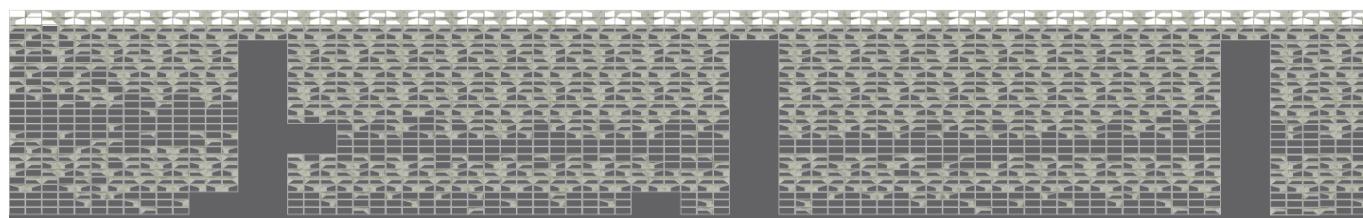


**SIMULATION OF POTENTIAL WIND-DRIVEN RAIN PENETRATION  
THROUGH FACADE**

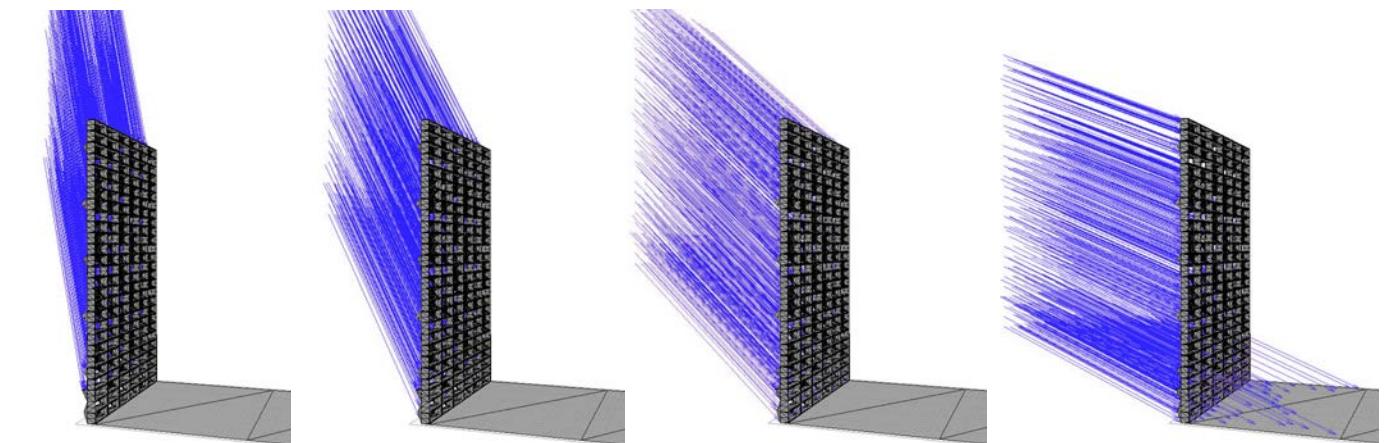
South-West Facade



South-East Facade



North-East Facade



10 Degree Rain Inclination under  
3.6m/s Wind

30 Degree Rain Inclination under  
6.6m/s Wind

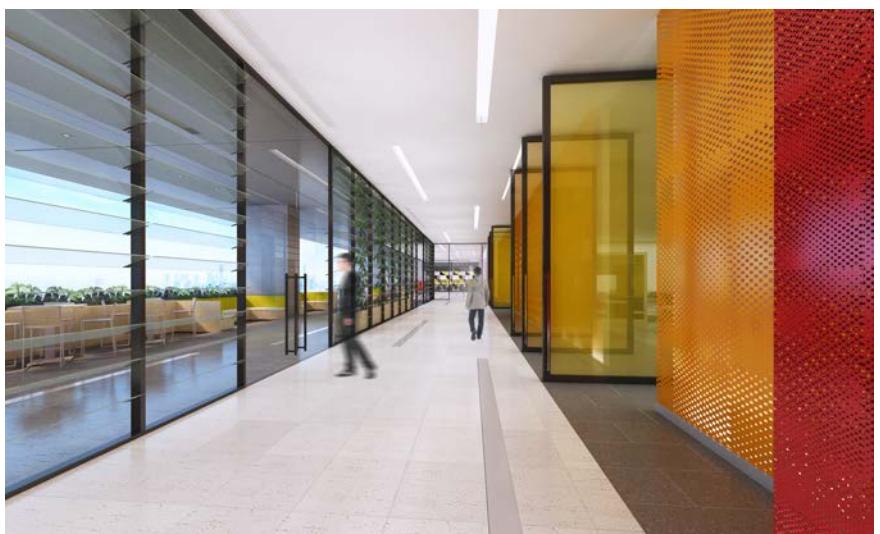
50 Degree Rain Inclination under  
9.4m/s Wind

70 Degree Rain Inclination under  
14.4m/s Wind



Facades are derived from parametric model and documented in BIM. Solar and rain simulations are carried out to ensure they could withstand the hardest weather and still provides a comfortable inner environment.

## Office and Material Detailing



### MAIN ENTRANCE A

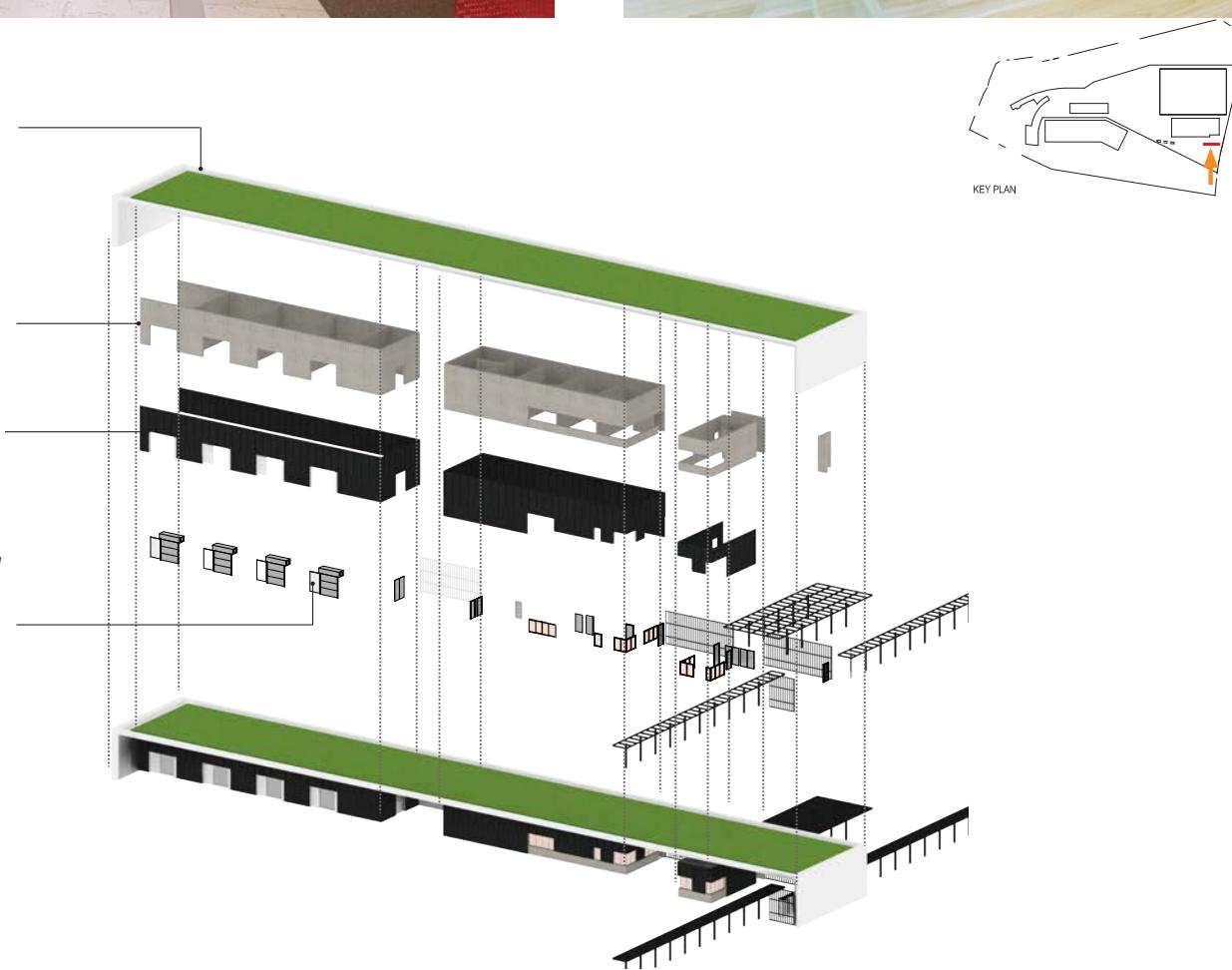
**CONCRETE 1**  
Material: Precast Concrete  
Finish: Paint  
Colour: White

**CONCRETE 2**  
Material: Precast Board formed Concrete (where exposed)  
Finish: Natural

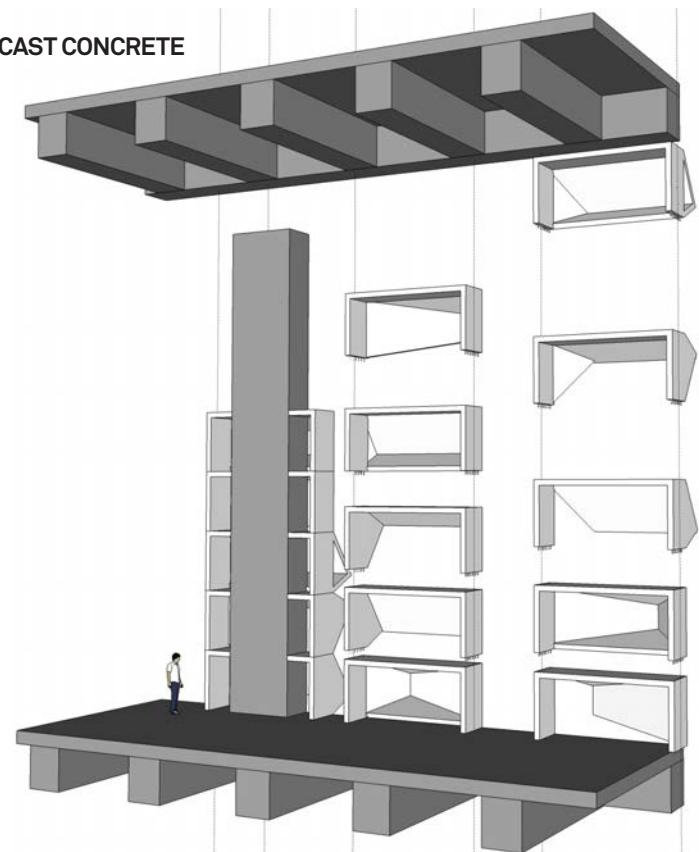
**CLADDING**  
Material: Alucobond  
Finish: Matte  
Colour: Anthrazit grey

**LOUVRES/WINDOW FRAMES**  
Material: Aluminium  
Finish: Paint  
Colour: Black

**SIGNAGE**  
Material: Metal  
Finish: Matt  
Colour: Multi



### PRECAST CONCRETE



Increase Thermal Mass, Maximise Buildability

## **Outdoor learning Campus, Singapore**

INVOLVEMENT: PRELIMINARY DESIGN, MASTER PLAN

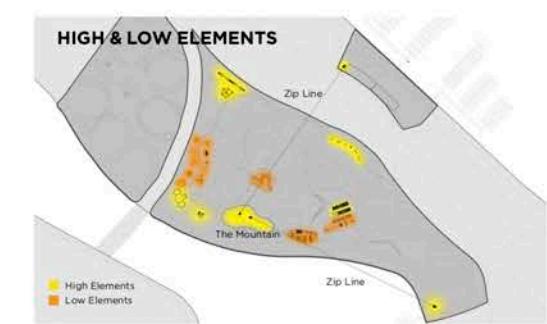
STATUS: UNBUILT

ROLE: LEADING ARCHITECT, PERSPECTIVE DESIGN AND RHINO MODELLING

## Project Brief:

When Kurt Hahn and Lawrence Holt opened their first Outward Bound School in 1941 their mission was to give young seamen the ability to survive in harsh conditions in nature and at sea. This philosophy has since shaped the OBS program worldwide, and is especially relevant in today's world where our children grow up in a very urbanised and safe environment often disconnected from Nature. This project provides an ideal opportunity to enable students to 'Learn in Nature and Learn from Nature' on the coney island Singapore.

Integration of the adventure elements with the different natural elements and ecosystems within the learning landscape create an added dimension, enriching students' experiential learning journey – the Mountain, Rain Pond, streams, rocks, boulders, forest, treetops, cave etc creates a unique setting for a memorable wilderness experience. A key design goal for the project is to create an exemplary sustainable campus. Various sustainable design strategies (eg on water resource management and food waste recycling) are envisaged to be an integral part of the learning experience, to educate students on the importance of ecological conservation and instil greater environmental awareness and responsibility.



## **One Holland Village, Singapore**

INVOLVEMENT: PRELIMINARY DESIGN

STATUS: TENDER IN PROGRESS

ROLE: ASSISTING ARCHITECT, MODELLING AND PERSPECTIVE DESIGN

## Project Brief:

The proposed mixed commercial with residential development is to feature a contextually sensitive overall development concept that is compellingly attractive on its own and yet will complement the adjacent low rise and street oriented character of holland village. The development reinforce the vibrancy of holland village and incorporate new high quality public spaces for people to gather and interact.



## **Esplanade Waterfront Theatre, Singapore**

INVOLVEMENT: PRELIMINARY DESIGN

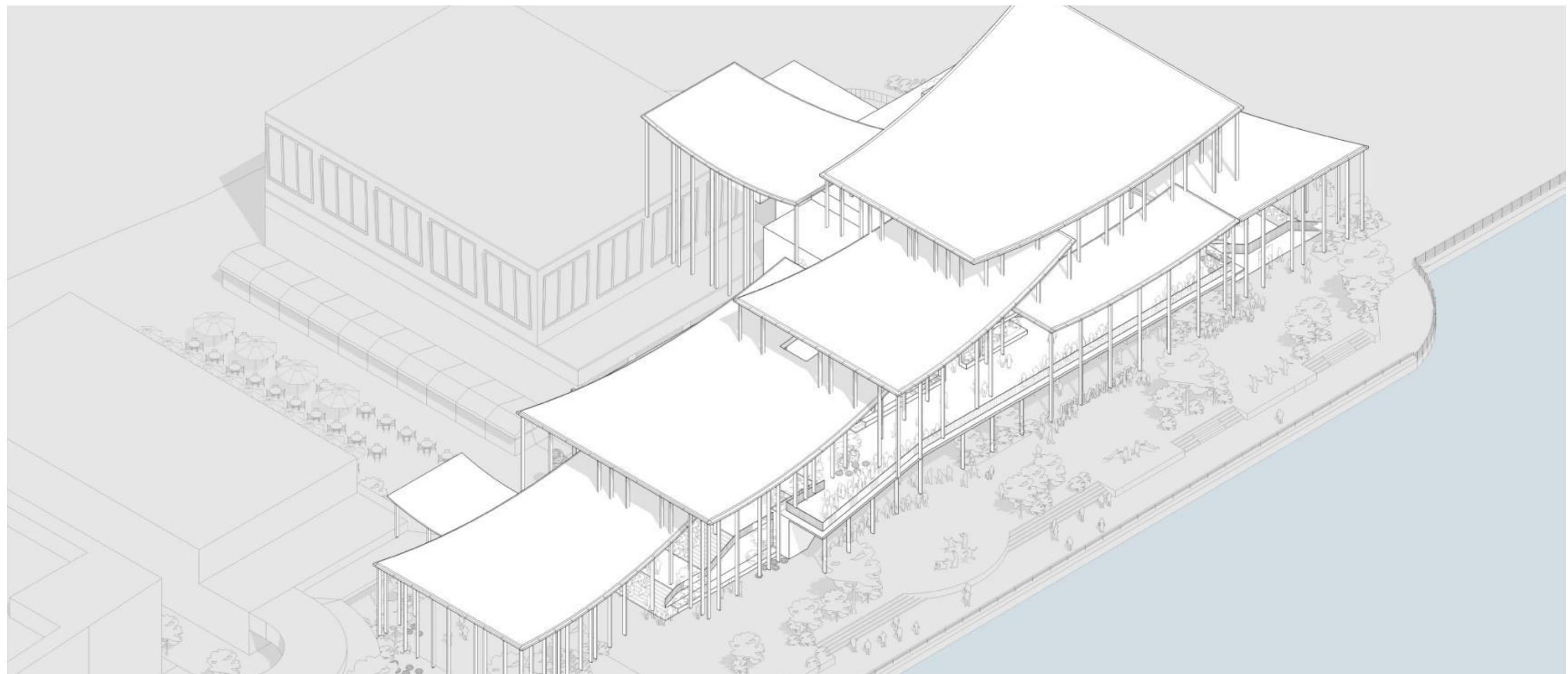
STATUS: UNBUILT

ROLE: ASSISTING ARCHITECT, MODELLING AND PERSPECTIVE DESIGN

**Project Brief:**

The proposed project situated along the Esplanade Waterfront will feature a flexible theatre which can seat about 550 people and an outdoor activities plaza integrated with popular dining outlets at the Esplanade Annexe.

This waterfront theatre hopes to inspire our young and nurture the next generation of artists, by commissioning and producing more new works by Singapore artists and companies and taking them from home to the world stage.



## **Central Area C7 & C8, Singapore**

**INVOLVEMENT: PRELIMINARY DESIGN AND TENDER**

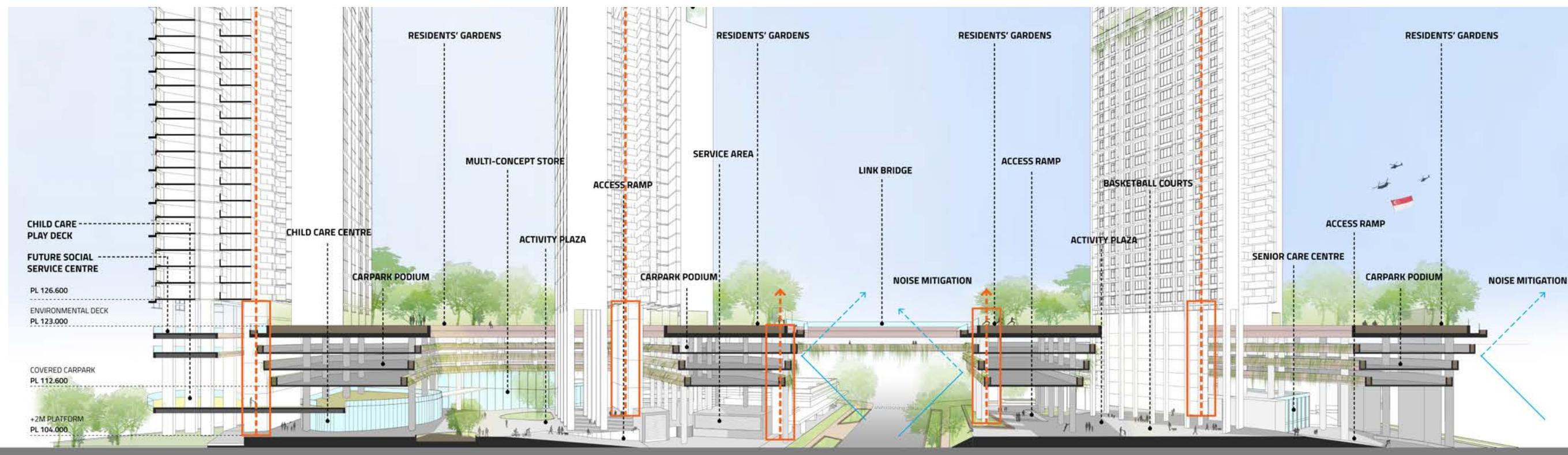
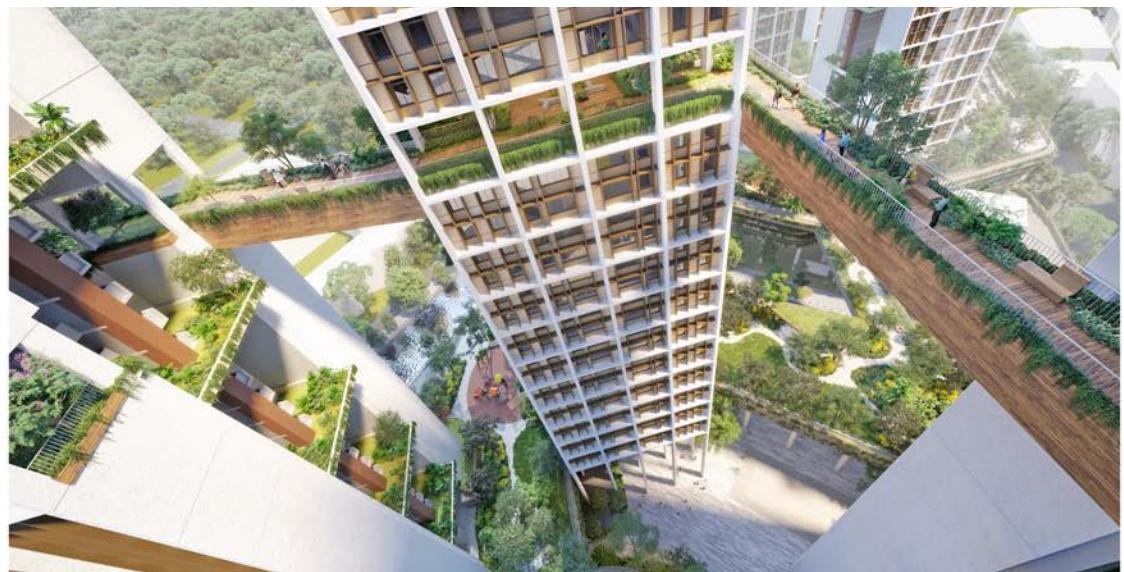
**STATUS: TENDER IN PROGRESS**

**ROLE: ASSISTING ARCHITECT, MODELLING AND PERSPECTIVE DESIGN**

## Project Brief:

The Central Area C7 & C8 developments bounded by the historical shophouses along Jalan Besar, the re-vitalized Rochor Canal promenade and the widened Weld Road, will be a new landmark place that shows a creative and sensitive way of integrating Public Housing Living in the City with the amenities of the Greater Community of the area.

The design proposal creates a more Spatially and Programmatically Enriching Environment not only for the residents but also for the Greater Community of Rochor/Jalan Besar. Rising like two interlinked terraced gardens, the two developments are like Green Oasis that is both a Landmark at this juncture of the City as well as a Gateway to the Rochor Canal.



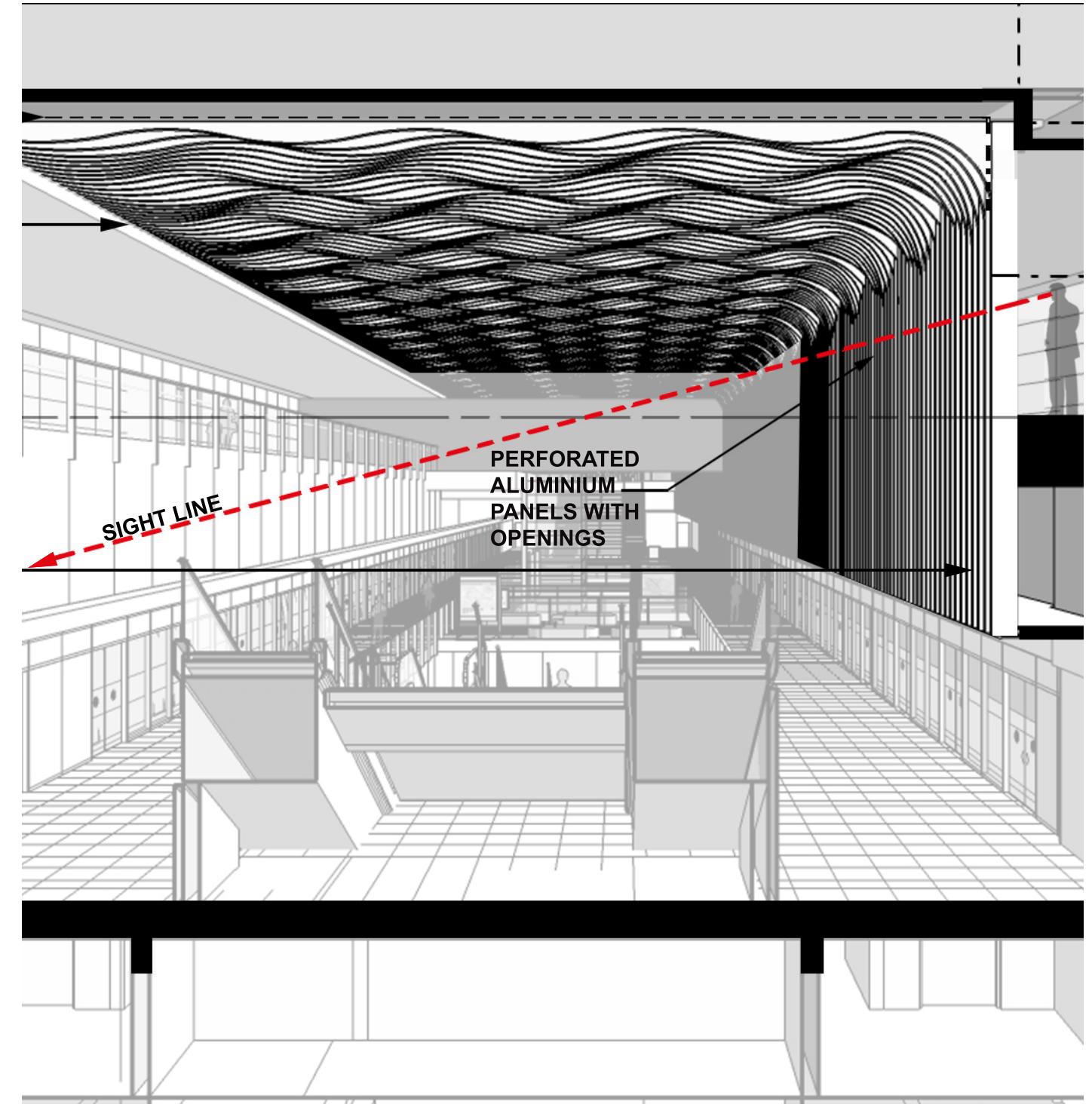
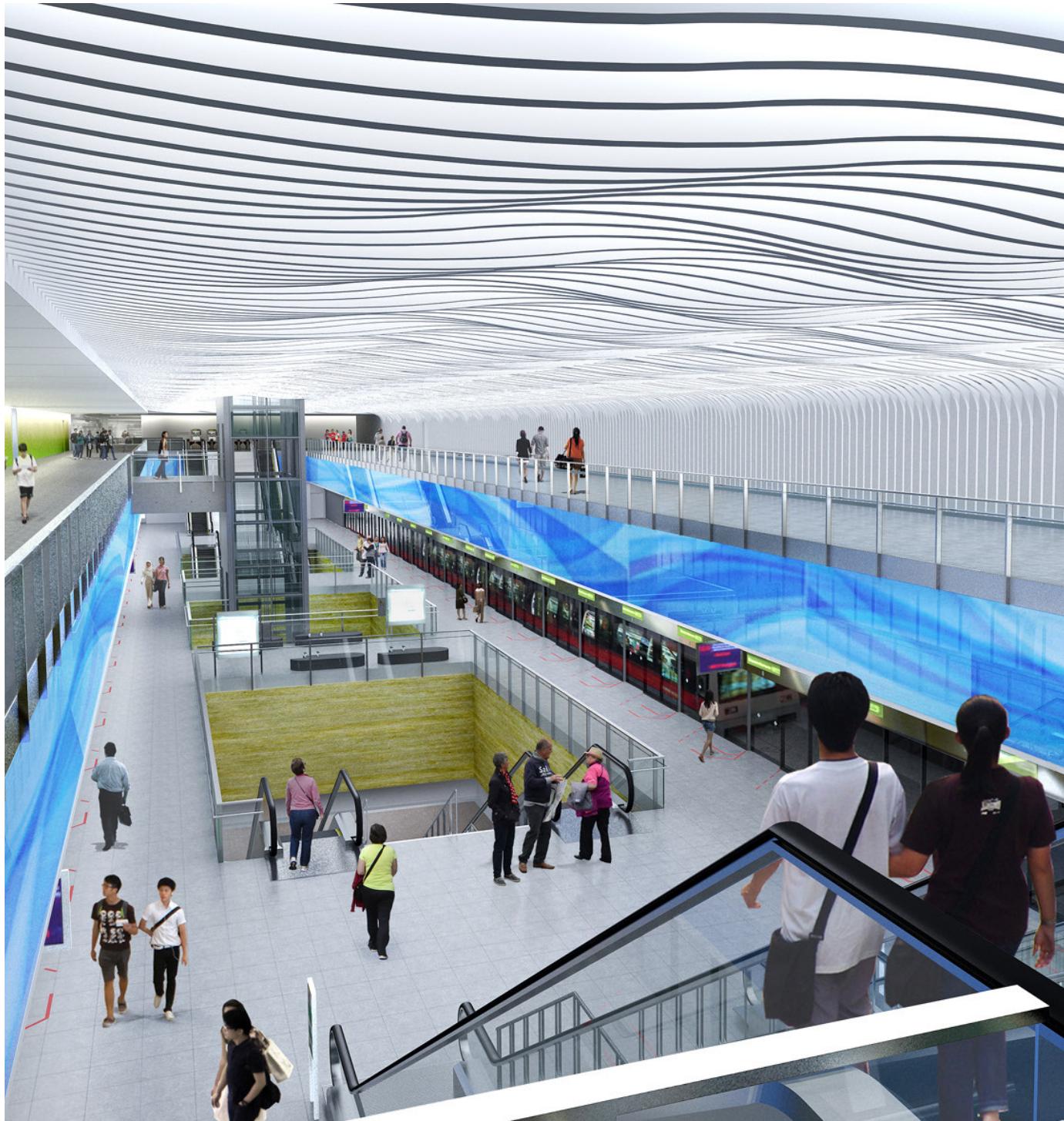
## **Sungei Bedok Underground Station, Singapore**

INVOLVEMENT: DESIGN, BIM DOCUMENTATION AND PARAMETRIC MODELLING  
STATUS: CONSTRUCTION IN PROGRESS  
ROLE: ASSISTING ARCHITECT, PARAMETRIC DESIGNER

### Project Brief:

Sungei Bedok station is one station on the Thomson East line, it's a place where land meets water (Bedok canal). The station architecture shall be sensitive, bold, blend in with the identity and history of the area.

The ceiling and wall pattern are thus derived from paramedic wave model and documented in BIM. As passengers immerse themselves into the underground station, they are welcomed by the sea breeze, a passenger experience came from this station's unique identity.



## **ER481 Bus Depots, Singapore**

INVOLVEMENT: DESIGN, BIM DOCUMENTATION AND PARAMETRIC MODELLING

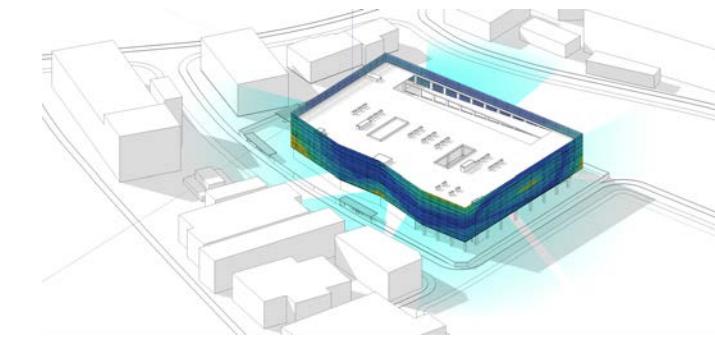
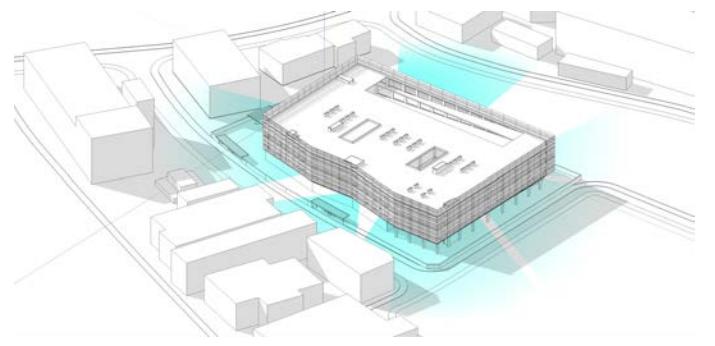
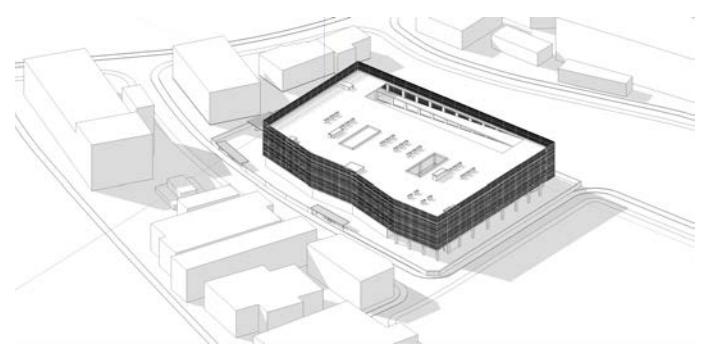
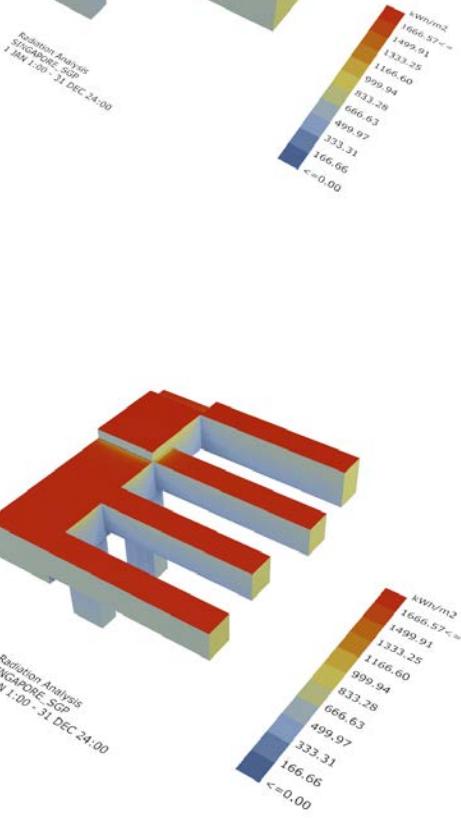
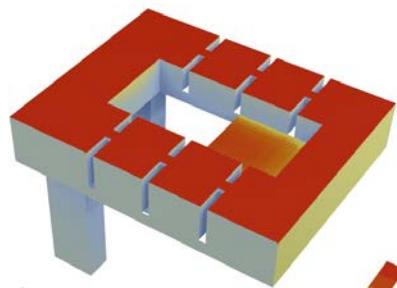
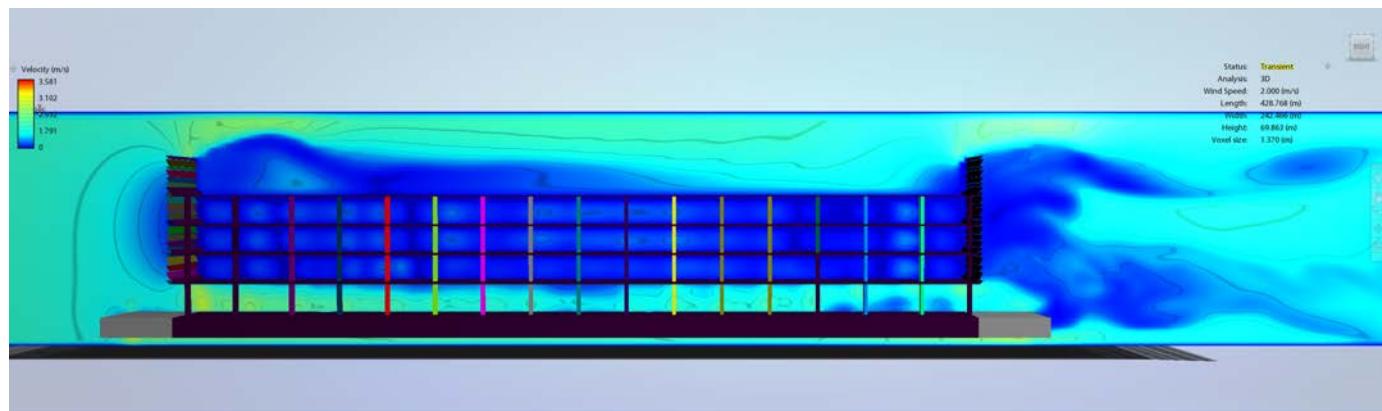
STATUS: TENDER STAGE

ROLE: ASSISTING ARCHITECT, PARAMETRIC AND SIMULATION DESIGNER

## Project Brief:

ER481 contract is comprised of four bus depots in four different locations. Transportation architecture is usually bold and intrusive in the local context. In this design process, we would like to achieve "invisibility" in the future new bus depots.

Materials such as aluminium and glasses are chosen as they could blend into the environment and reflect the context, in this case, bus depots becomes the bystander and the users are the subject.



## Jurong Region Line Bidding, Singapore

INVOLVEMENT: DESIGN, BIM DOCUMENTATION AND PARAMETRIC MODELLING

STATUS: TENDER STAGE

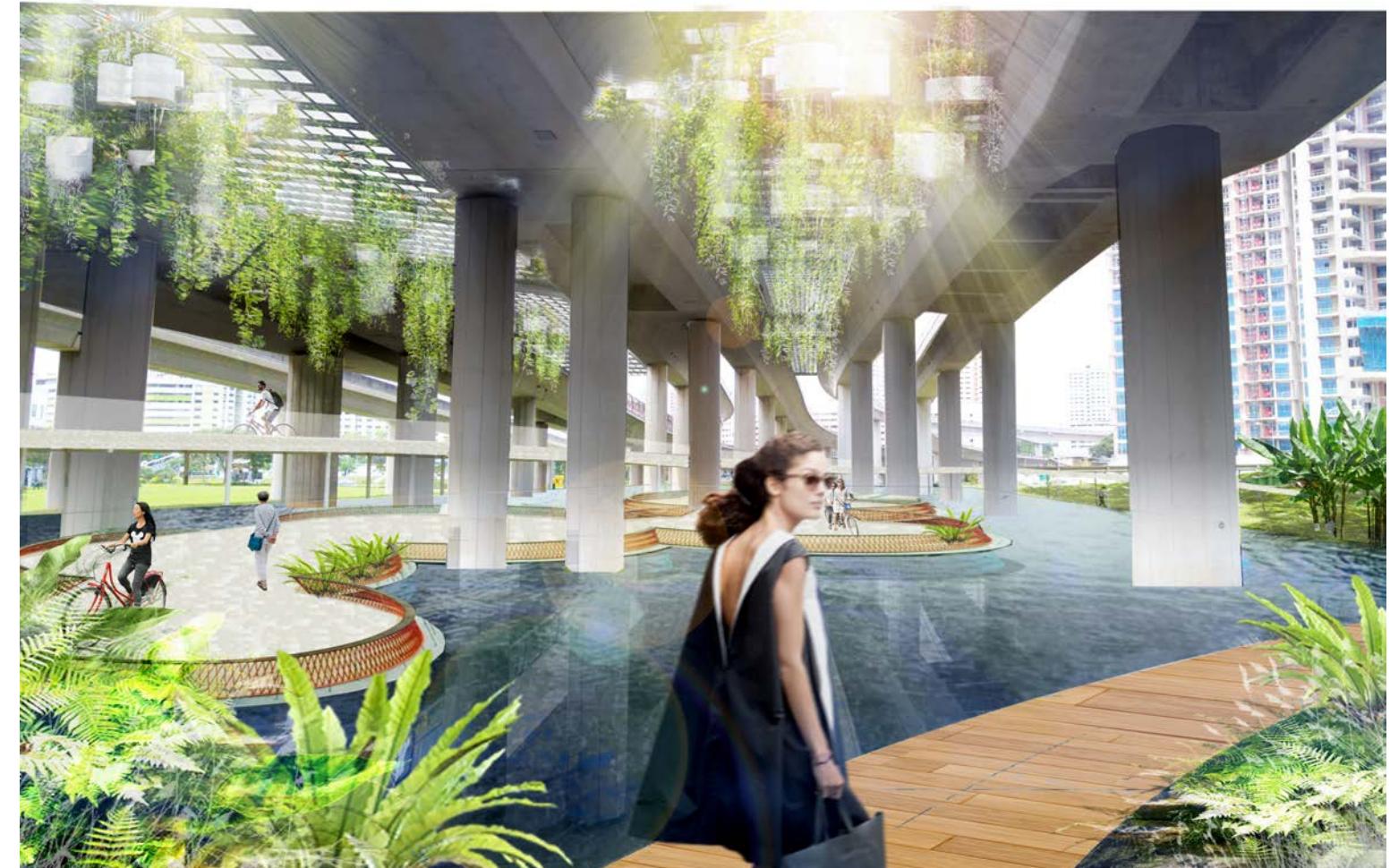
ROLE: ASSISTING ARCHITECT, PARAMETRIC DESIGNER

## **Project Brief:**

In the Jurong region line bidding design (three stations and one hub), we took this as an opportunity to give the future stations a people centric transportation experience

The design will promote a green theme that continues along the 11 Km route and is reinforced at the three stations, viaduct and at the activity hubs. The infrastructure could become a connected linear park and create a catalyst for the local community.

The Jurong regional line will be served by a interconnected network of local streets, footpaths and cycle ways, and conjoined to a substantial public place, street, park, promenade or future development. Stations and viaduct could be integrated with a proposed program for social infrastructure and public places, as well as be activated by local commerce, retail and community activities.



# the HUB

