HKIA / ARB Professional Assessment 2022

Paper 6
SITE DESIGN

16 November 2022
09:00 – 13:00 (4 hours)

Kowloon Bay International Trade & Exhibition Centre (KITEC)
Kowloon Bay

ONE COMPULSORY QUESTION
Total Mark: 100

General Notes:

Format Presentation	Use the A3 plain and A3 tracing papers provided as appropriate. Black ink line drawings are preferred. Use colour(s) for highlights if necessary. DO NOT use RED.

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Attachment 2	Location Plan	1:1000	A3 size
Attachment 3	Site Plan	1:500	A3 size
Attachment 4	Site Section A	1:500	A3 size
Attachment 5	Prototypes	1:500	A3 size

Civil Servants Quarters cum Community Health Facilities

1. Introduction

Your office is appointed by the government to carry out a feasibility study on the master plan for Civil Servants Quarters and Community Health Facilities on a vacant site in Kowloon.

The subject site is a residential/GIC site in a new development area. In addition to residential flats, the design brief requires a Community Health Complex, and a Public Refuse Collection Point. Both will serve the community in this new area.

According to the brief, the following should be included in the master layout plan:

- Residential flats;
- A Community Health Complex including a clinic providing clinical services to public and a wellness centre, with individual ambulance lay-by for the clinic;
- A Public Refuse Collection Point with access for refuse collection vehicle

2. The Site

2.1 Site Context

The site is located at the mid-level of the hill, abutting a road with natural slope and country park beyond to the north. A Community Centre of 5 storeys is located to the west of the site and there is a park to the east. To the south are existing public housing estates of 40 storeys. The road to the south of the subject lot (Road A) is the major road in the district which provides the vehicular ingress/egress points XYZ and UVW, while Road B to the north has no access point. The site is generally flat. There are several trees at the site which should be **preserved**. Please refer to Location Plan, Site Plan and Site Section in **Attachment 2 to 4**.

The building blocks should be well dispositioned with optimized prospect and aspect, and away from traffic nuisance. Traffic noise from Road A should be addressed. Environmental consultant advised that residential blocks should be setback **15m** from the edge of **ROAD A** to mitigate the noise impact to the units.

2.2 Planning and Lease Restrictions

Major planning parameters stipulated in Outline Zoning Plan and Government Lease are summarized below:

- Site Area : 13,900 m²
- User : Residential Flats with GIC
- Gross Floor Area : total domestic gross floor area: 75,000m² (Max.)
  total non-domestic gross floor area: 2,500m² (Max.)
- Site Coverage : not to exceed 65%
- Open Space : Not less than 25% of the site area
- Height Restrictions : Residential - Max. 325 meters above principal datum (mPD)
  GIC - Max. 180 meters above principal datum (mPD)
- Vehicular Access : Vehicular ingress/egress shall be between X and Y through Z, and U and V through W as indicated in **Attachment 2 and 3**. One of the access points should be designated for residential flat and the community health complex, and the other one designated for Public Refuse Collection Point.

2.3 Sustainable Design

Your master planning should generally comply Sustainable Building Design (SBD) Guidelines as stipulated in PNAP APP-152, and demonstrate in-principle compliance only; detailed illustrations/ calculations are not required. In this regard, the site arrangement shall comply with the following:

a) Building separation
For the purpose of this Paper, it is NOT required to demonstrate building permeability if the proposed continuous projected façade length (Lp) for any building or group of buildings does not exceed the requirement under PNAP APP-152.

b) Street setbacks
For the purpose of this Paper, setback is NOT required for the internal road(s) within the Site.

c) Green coverage
The minimum site coverage of greenery (% of total site area) shall be provided. For the purpose of this Paper, all greenery shall be provided at pedestrian zone level with a minimum 25% of the site area.

3. The Brief

Schedule of Accommodations

Accommodation	Area Required/ Numbers	Remarks
1) Residential Flats	Maximum 75,000 m^2	• To **MAXIMIZE** domestic GFA but **SHOULD NOT** exceed. • 3.3m floor to floor height for typical floors. • Ground floor subject to design.
2) Community Health Complex	2,000 m^2	• Convenient public access • 5m floor to floor height • Minimum footprint: 500m^2
3) Public Refuse Collection Point with vehicular access	600 m^2	• 22m x 27m (including refuse vehicle maneuvering space) • 6m floor to floor height • With separate run in/out
4) Carpark	• 50 Basement carpark for Civil Servants Quarters • 5 numbers at grade parking for Community Health Complex	
5) Loading/Unloading Bays	• 1 no. for <u>each</u> residential block • 1 no. for Community Health Complex • 1 no. ambulance for Community Health Complex	• On G/F • 3.5x7m, 3.6m clear headroom • 3.5x7m, 3.6m clear headroom

3.2 Prototypes for Residential Towers

Two (2) prototypes of typical floor plans for residential flats are provided in **Attachment 5.**

Prototype 1 is slab block while Protype 2 is a point tower. You are required to use **both** prototypes for the master planning study in order to test the buildability. Prescribed Window requirements for natural lighting and ventilation for habitable spaces and kitchens should be complied.

The profile and the configuration of the prototypes can be modified with reasons. The size can be adjusted to suit your proposed master layout plan within 10% area variation. Any adjustment in size must be clearly specified on plan and the Design Data Sheet.

4. The Task

You shall demonstrate the optimum arrangement of the building blocks with the Site to meet the design brief, to respond to site constraints and opportunities, and to comply with the statutory requirements.

Special attention shall be paid to the accessibility of each individual building, pedestrian and vehicular circulation, provision of emergency vehicular access (EVA), provision of greenery and amenity landscape areas for the residents, and the relationship between private and public areas within the lot.

The masterplan shall be modest yet imaginative, functionally and ecologically sensible, technically feasible, and shall comply with the relevant statutory requirements. Barrier free access should be allowed to all buildings within the site and indicated clearly.

Apart from maximizing development potential, as a model project to promote sustainable development in Hong Kong, holistic integration of sustainable design features in your proposed design is always encouraged.

5. Submission Requirements

All submissions for items below should be provided on the blank A3 sized answer sheets provided.

1) Master Layout Plan in the scale of 1:500 to illustrate/indicate:

- Overall development at the roof level;
- Buildings/Road and other relevant features adjacent to the Site;
- Use and number of storeys for each proposed building, external areas, levels, etc.;
- Emergency Vehicular Access (EVA) arrangements;
- Access points for vehicles and pedestrians;
- Provisions of natural lighting and ventilation, and open spaces where appropriate;
- Transport facilities including carpark, ramp to basement carpark, vehicular drop-off points and loading/unloading facilities.

2) **At least one Master Section drawing through the entire site in the scale of 1:500 to demonstrate the proposed design:**
   - The proposed building height, and floor levels of different building blocks;
   - Site boundary, site formation levels;
   - External levels, landscape features, and other design features.

3) **Development Schedule**
   To complete the Design Data Sheet in **Attachment 1.**

End of Paper 6

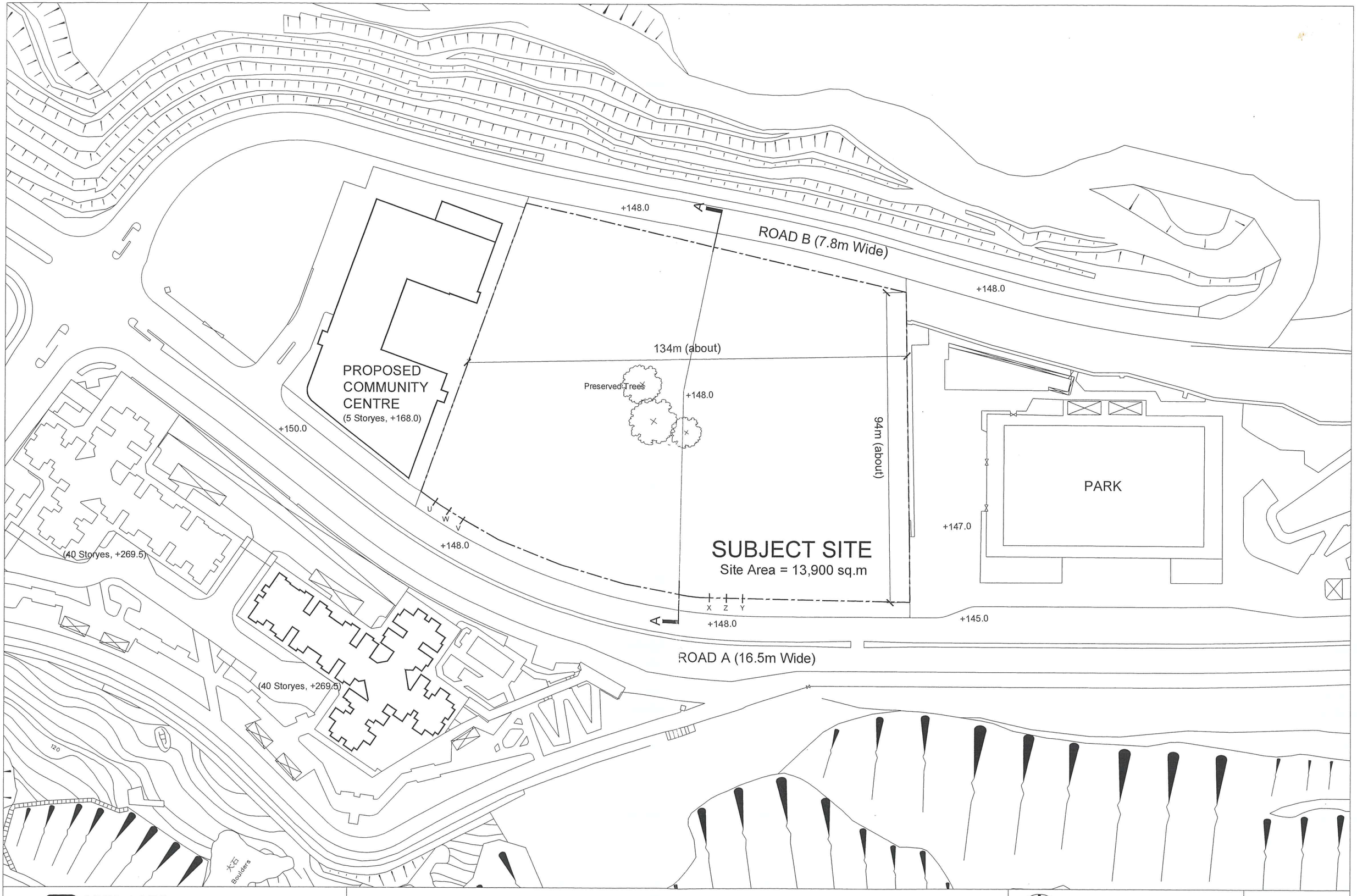
Attachment 1

Candidate Number:

Seat Number:

Attachment 1 – Design Data Sheet

Accommodation	Statutory/Brief Requirements	Proposed
Site Area	13,900 m^2	--
Gross Floor Area • Civil Servants Quarters • Community Health Complex • Public Refuse Collection Point	 75,000 m^2 2,000 m^2 600 m^2	
Loading/Unloading Bays		
At Grade Carpark for Community Health Complex	Private cars 5 nos. Ambulance 1 no.	
Height Restrictions: • Domestic • Non Domestic	 325 mPD 180 mPD	
Site Coverage:	Max 65%	
Green Coverage (at grade level)	Min 20% (2,720 m^2)	
Open Space Provisions	Min 25% (3,400 m^2)	



HKIA / ARB Professional Assessment 2022	Paper 6 SITE DESIGN	Attachment 2 Location Plan	Scale 1:1000

PROPOSED
COMMUNITY
CENTRE
(5 Storeys, +168.0)

+148.0

A

ROAD B (7.8m Wide)

+148.0

134m (about)

Preserved Trees

+148.0

94m (about)

PARK

+147.0

U

W

V

+148.0

SUBJECT SITE

Site Area = 13,900 sq.m

ROAD A (16.5m Wide)

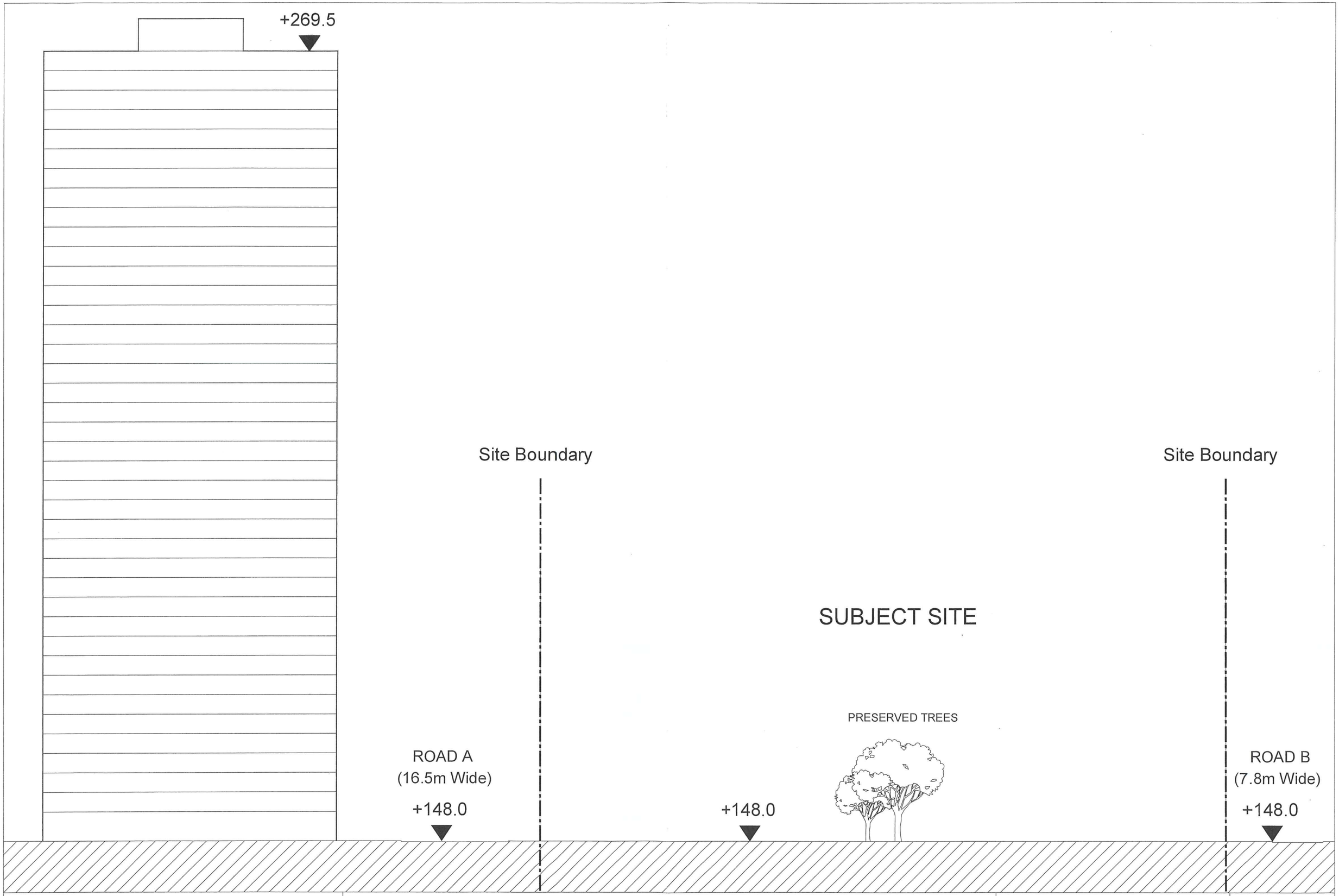
X Z Y

A

+148.0

+145.0

HKIA / ARB Professional Assessment 2022	Paper 6 SITE DESIGN	Attachment 3 Location Plan	Scale 1:500



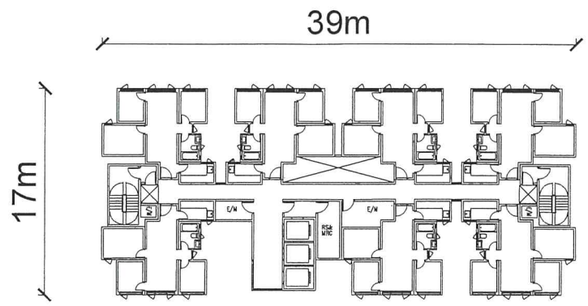
HKIA / ARB Professional Assessment 2022	Paper 6 SITE DESIGN	Attachment 4 SITE SECTION A	Scale 1:500

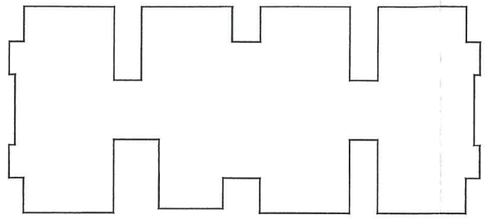
Simplified Block Plan for Presentation in Master Plan

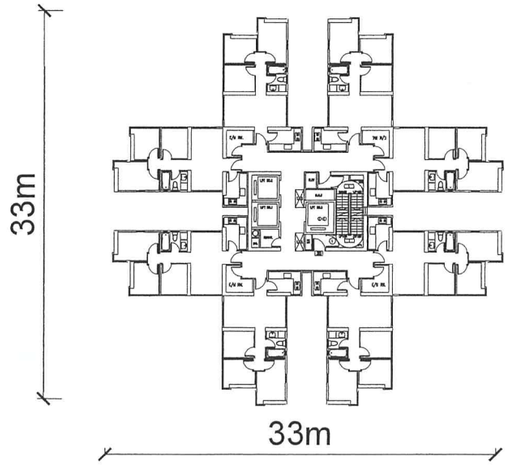
Prototype 1

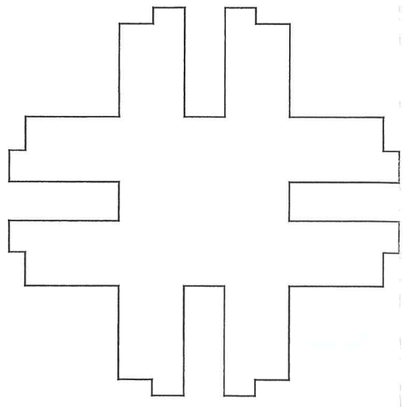
GFA per Floor = 500 sq.m

Floor Plate = 544 sq.m









Prototype 2

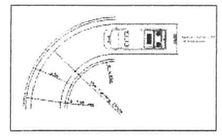
GFA per Floor = 500 sq.m

Floor Plate = 550 sq.m

Turning Circle for Ambulance and Refuse Collection Vehicle

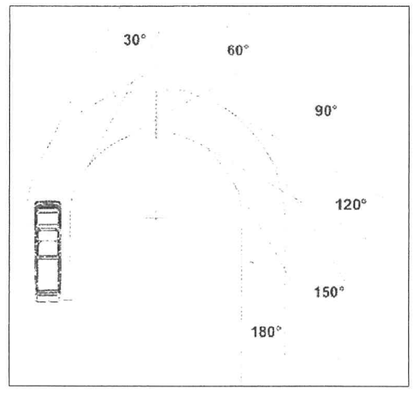
Ambulance

Turning Circle: 15m



Refuse Collection Vehicle

Turning Circle: 20m



HKIA / ARB Professional Assessment 2022	Paper 6 SITE DESIGN	Attachment 5 PROTOTYPES	Scale 1:500