

**Candidate Number :**

**Seat No. :**

## **The HKIA / ARB Professional Assessment 2023**

### **Paper 6 Site Design**

15 November 2023  
09:00 – 13:00 (4 hours)

#### Venue

Rotunda 2, 3/F  
Kowloon Bay International Trade & Exhibition Centre  
(KITEC) Kowloon Bay

#### **ONE COMPULSORY QUESTION**

**Total Mark: 100**

#### **General Notes:**

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Format	Use the A3 plain and A3 tracing papers provided as appropriate.
Presentation	Black ink line drawings are preferred. You may use colour for clarity. DO NOT use RED.

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Attachment 1	Design Data Sheet		A4 size
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

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## Residential Development with Joint-user Complex

### 1. Introduction

A Developer would submit a tender for a coming sale of government land for residential use in the New Territories. Your office is to carry out a feasibility study on the master plan for the client.

The subject site is a residential site in a new development area. In addition to residential flats, the tender notice also requires the tenderer to provide a Joint-user Complex within the development. It will include a community hall, child care centre and elderly centre with direct pedestrian access from the street.

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

- Residential flats;
- A Joint-user Complex including a community hall, child care centre and elderly centre;

Besides the basic design parameters stipulated in the tender notice, the client would like to promote a healthy living environment in the development and would like to include the following features in the master planning,

- A 300m long vehicular-free jogging path,
- An urban farm for residents in 400sq.m (on-grade).

### 2. The Site

#### 2.1 Site Context

The site is located on a flat land in the new district of New Territories, surrounded by two public roads (Road A and B) to the north and west, with the vehicular ingress/egress point XYZ from public road A. To the south is a common boundary abutting the public promenade along the river. The promenade could not be used as an Emergency Vehicular Access (EVA). There are residential developments in 30 storeys high at the opposite side of Road A and B, as well as a Police Station in 8 storeys high at the junction of the road. A district electric sub-station in 40m high is located at the north side of the subject site. 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. Besides, the client requests that residential units should be away from the electric sub-station with a minimum distance of 20m to avoid a negative impression from future buyers.

## 2.2 Planning and Lease Restrictions

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

- Site Area : 10,895m<sup>2</sup>
- Uses : Residential Flats with GIC
- Gross Floor Area : total domestic gross floor area: 90,000m<sup>2</sup> (Max.)  
total non-domestic gross floor area: 2,400m<sup>2</sup> (Max.)
- Site Coverage : not to exceed 65%
- Open Space : Not less than 25% of the site area
- Height Restrictions : Residential - Max. 185 meters above principal datum (mPD)  
GIC - Max. 45 meters above principal datum (mPD)
- Vehicular Access : Vehicular ingress/egress shall be between X and Y through Z in **Attachment 2 and 3**. Both residential use and Joint-user Complex will share the same ingress/egress. The security control point for the residential part should be set back from the ingress/egress to ensure an uninterrupted access to the Joint-user Complex from the public road.

## 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

#### 3.1 Schedule of Accommodations

Accommodation	Area Required/ Numbers	Remarks
1) Residential Flats	Maximum 90,000 m <sup>2</sup>	<ul style="list-style-type: none"><li>• To <b>MAXIMIZE</b> domestic GFA but <b>SHOULD NOT</b> exceed.</li><li>• 3.3m floor to floor height for typical floors.</li><li>• Ground floor subject to design.</li></ul>
2) Joint-user Complex	2,400 m <sup>2</sup>	<ul style="list-style-type: none"><li>• Convenient public access</li><li>• 5m floor to floor height</li><li>• Minimum footprint: 600m<sup>2</sup></li></ul>
3) Carpark	<ul style="list-style-type: none"><li>• 50 Basement carpark for Residential Development</li><li>• 5 numbers at grade parking and 2 dropoff for Joint-user Complex</li></ul>	
4) Loading/Unloading Bays	<ul style="list-style-type: none"><li>• 1 no. for each residential block</li><li>• 2 no. for Joint-user Complex</li></ul>	<ul style="list-style-type: none"><li>• On G/F</li><li>• 3.5x7m, 3.6m clear headroom</li></ul>

### 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 Prototype 2 is a point tower. You are required to use **both** prototypes for the master planning study in order to have a better flat mix. 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, in response 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, 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**

Candidate Number :

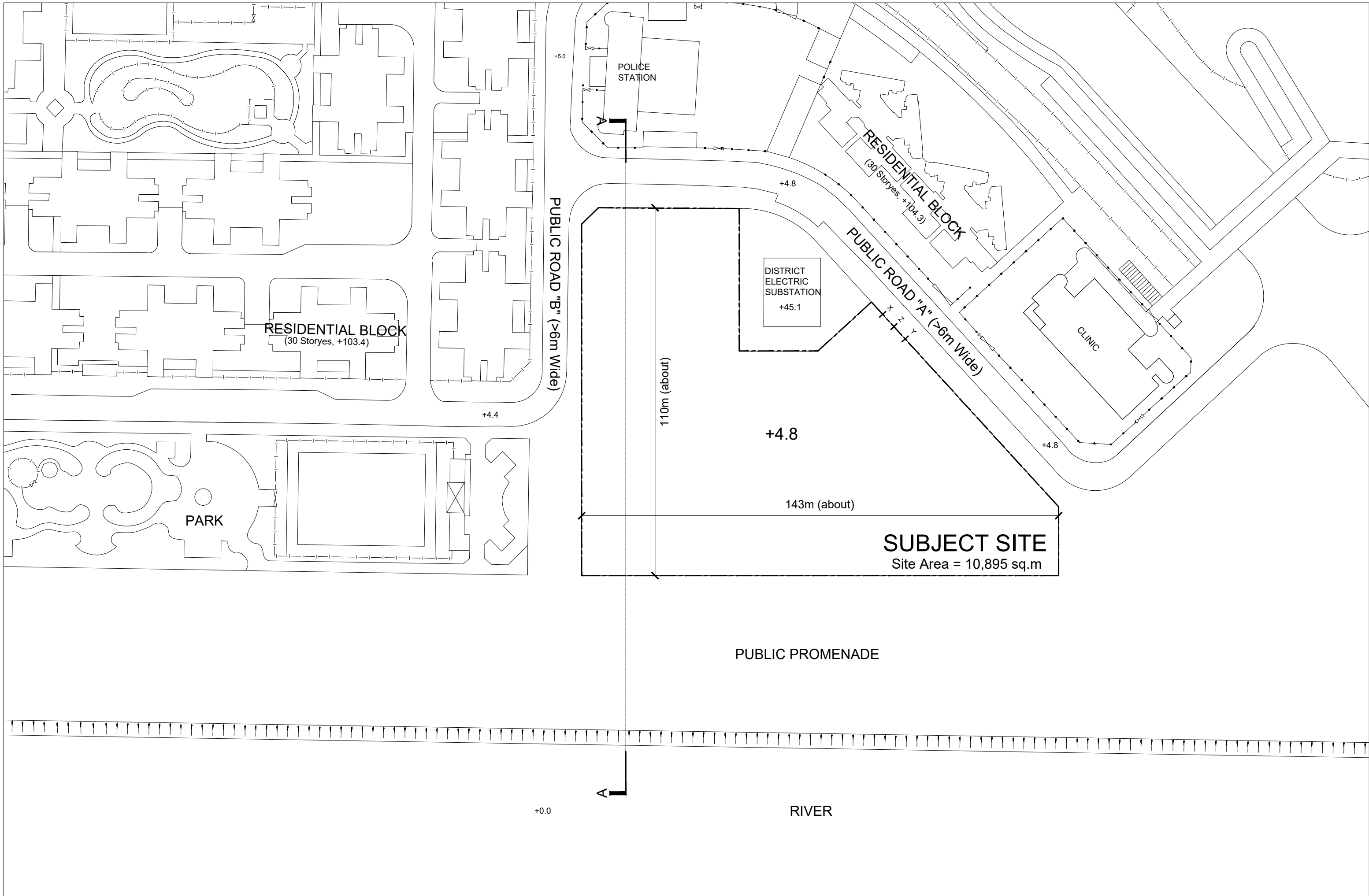
Attachment 1

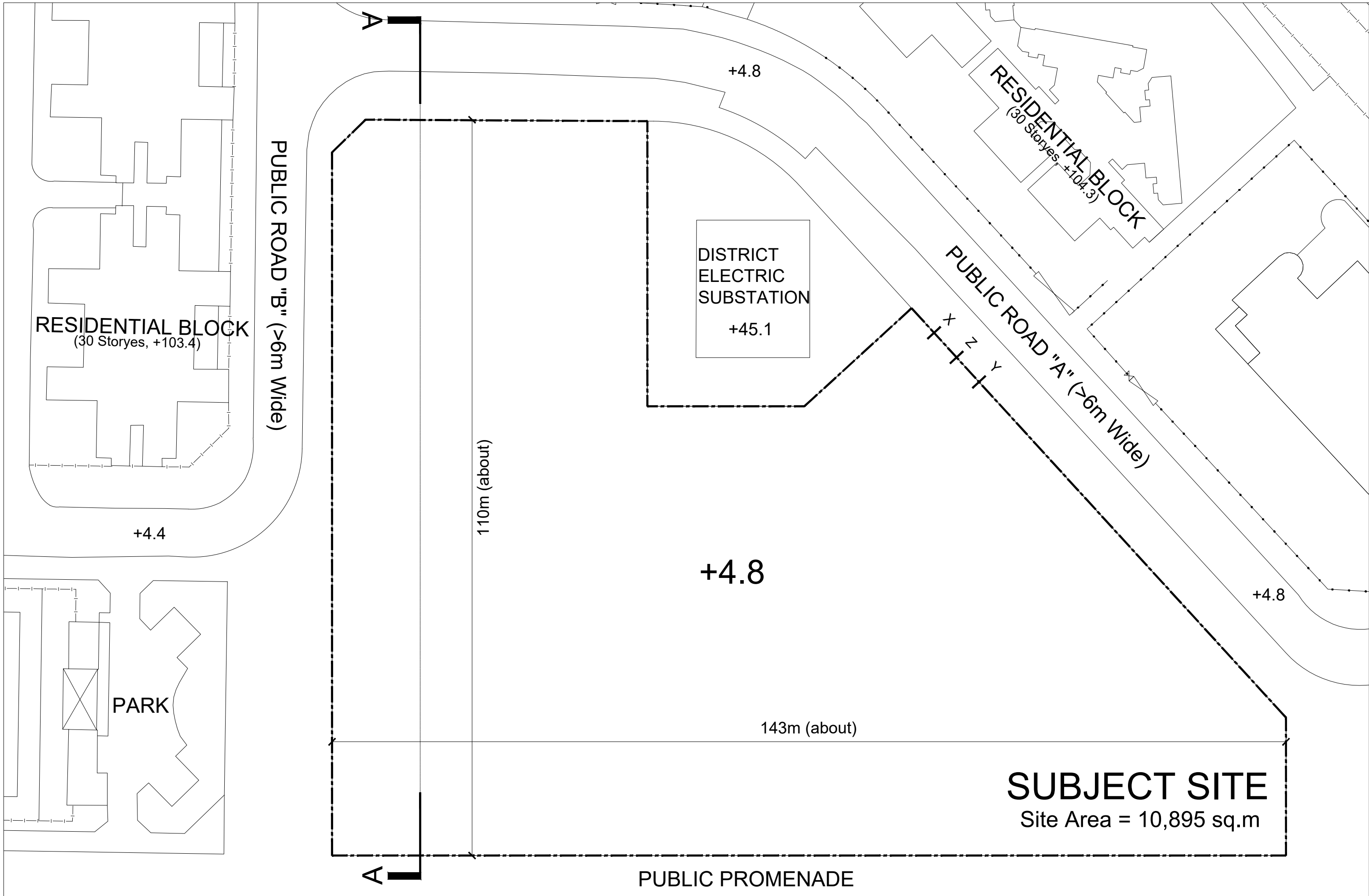
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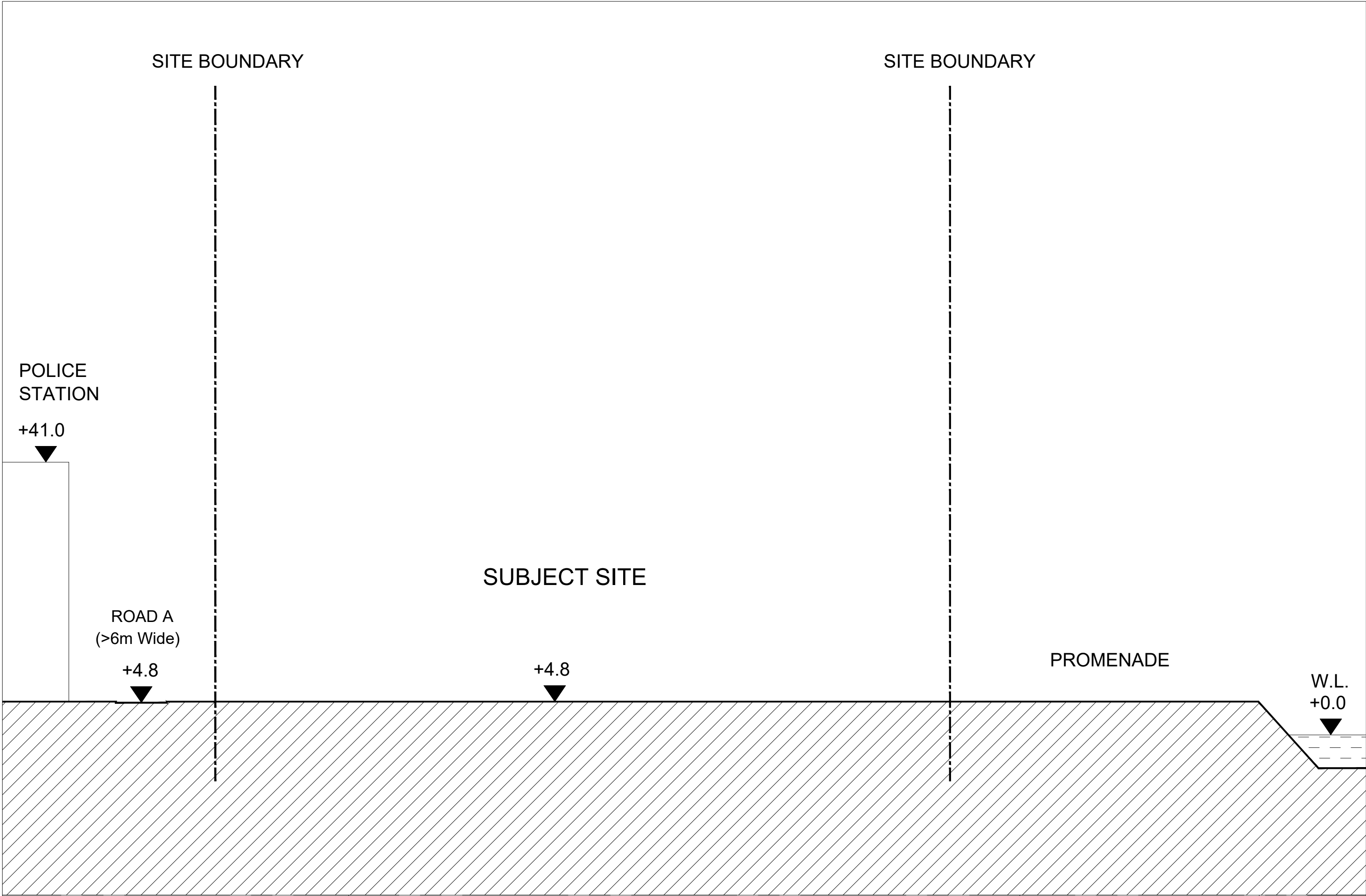
Attachment 1 – Design Data Sheet

Accommodation	Statutory/Brief Requirements	Proposed
Site Area	10,895 m <sup>2</sup>	--
Gross Floor Area		
• Residential Flats	90,000 m <sup>2</sup>	
• Joint-user Complex	2,400 m <sup>2</sup>	
Loading/Unloading Bays	<ul style="list-style-type: none"><li>• 1 no. for each residential block</li><li>• 2 nos. for Joint-user Complex</li></ul>	
At Grade Carpark for Joint-user Complex	Private cars 5 nos. Dropoff 2 nos.	
Height Restrictions:		
• Domestic	185 mPD	
• Non Domestic	45 mPD	
Site Coverage:	Max 65%	
Green Coverage (at grade level)	Min 20% (2,120 m <sup>2</sup> )	
Open Space Provisions	Min 25% (2,650 m <sup>2</sup> )	



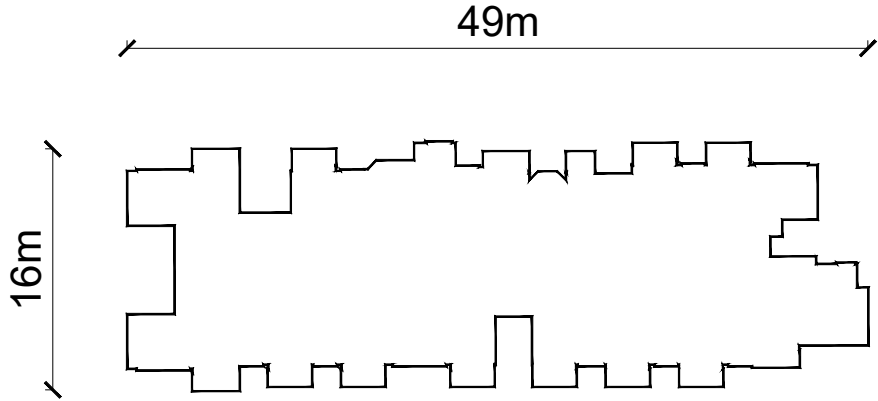
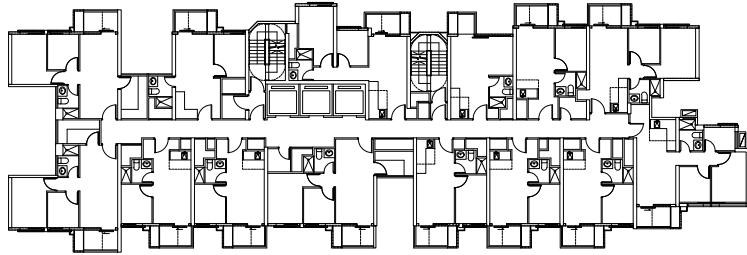






# Simplified Block Plan for Presentation in Master Plan

**Prototype 1**  
GFA per Floor = 580 sq.m  
Floor Plate = 630 sq.m



**Prototype 2**  
GFA per Floor = 640 sq.m  
Floor Plate = 690 sq.m

