



Kenya Affordable Housing Programme

Urban Design Guidelines

June 2018

Document History

A	First Issue	20.06.2018
Revision	Purpose Description	Date



Definition and Abbreviations

Entity or Term	Abbreviation
Built Up Area	BUA
Floor Area Ratio	FAR
Gross Floor Area	GFA
Strengths, Weaknesses, Opportunities and Threats	SWOT



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1. Introduction

1.1 Purpose and Intent

The guidelines and development standards contained in this document are set out for new affordable housing development or redevelopment of land that falls under the Affordable Housing Programme.

This document is intended to provide urban design and architectural guidelines for development massing, urban form and character, edge treatments, access and circulation and public realm to promote liveable and sustainable communities and in so doing meet the desired vision for affordable housing development within Kenya.

This document supplements current Planning Regulations, Building Codes and Standards administered by the Government of Kenya, and by City and County Authorities across Kenya.

1.2 Intended Users

These Guidelines are essential in the design process and are to be used by Developers, Contractors, Consultants, and City and County Authorities in the design, review and development of affordable housing projects being implemented through the affordable housing programme.

The authorities shall also use these guidelines in assessing and determining the appropriateness of development proposals and applications received for affordable housing developments under the affordable housing programme.

1.3 Aims and Objectives

The aims of the Guidelines are to encourage good planning and urban design that has the capacity to add value to proposed affordable housing developments. This is through:

- Creating a safe and secure and environment for all people who live and work in the affordable housing community;
- Supporting walkability and increasing access to public transport networks;
- Creating distinctive socially inclusive communities that are integrated into the surrounding urban fabric;
- Promoting the efficient use of land and maximising its potential in terms of location and development density;
- Creating communities supported by a range of accessible social and community facilities such as schools, health care, religious sites and retail outlets;
- Providing access to public open space to promote healthy lifestyles and living;
- Providing access to job opportunities and economic development
- Assisting affordable housing developments to maintain and increase their economic and property values;
- Minimising adverse environmental impacts, through the implementation of sustainable development and its ongoing management.

The objectives of these Guidelines are to create, enhance and protect a high-quality living environment for all affordable housing developments within the affordable housing programme.

For this purpose, all developments should -

- Be legible - easy to understand and move around;



- Be socially inclusive and used by all members of society;
- Be responsive to its physical and natural settings;
- Be economically sustainable and able to adapt to changing needs over time;
- Have a mix of activities, facilities and densities;
- Be able to combine traffic movement with pedestrian mobility;
- Be accessible and well connected to surrounding areas;
- Have buildings which respond positively to adjoining public spaces; and
- Have attractive and actively used outdoor areas.

1.4 Section Organisation

The Urban Design Guidelines are organised into the following sections:

- **Urban Design Principles** – this section sets out the key urban design principles that have informed the strategies and guidelines adopted for affordable housing development
- **Urban Framework** – this section presents the spatial framework for each community outlining the site assessment and target land use breakdown
- **Development Guidelines** – this section sets out the general and specific guidelines for new development and redevelopment of plots by identifying the applicable site standards to be addressed as part of any affordable housing development within the affordable housing programme.



2. Urban Design Principles

This section provides a list of the guiding urban design principles and their objectives which form the basis of the proposed development guidelines for the future development of affordable housing within the affordable housing programme.

2.1 Principle 1 – Accessibility and Development Integration

To promote development that is integrated and connected with both its immediate adjacent environment and other surrounding areas. This facilitates ease of access (both vehicular and pedestrian), economy of movement, and improved social interaction.



Figure 2.1 – Accessibility and Development Integration

2.2 Principle 2 – Legibility and Visual Character

To promote affordable housing environments that are easily understood by all users (including pedestrians and motorists as well as residents and visitors), display a strong 'local' identity, and deliver a varied and appealing visual character. This helps to promote a 'sense of place', facilitate enhanced usage social enjoyment and pride in place

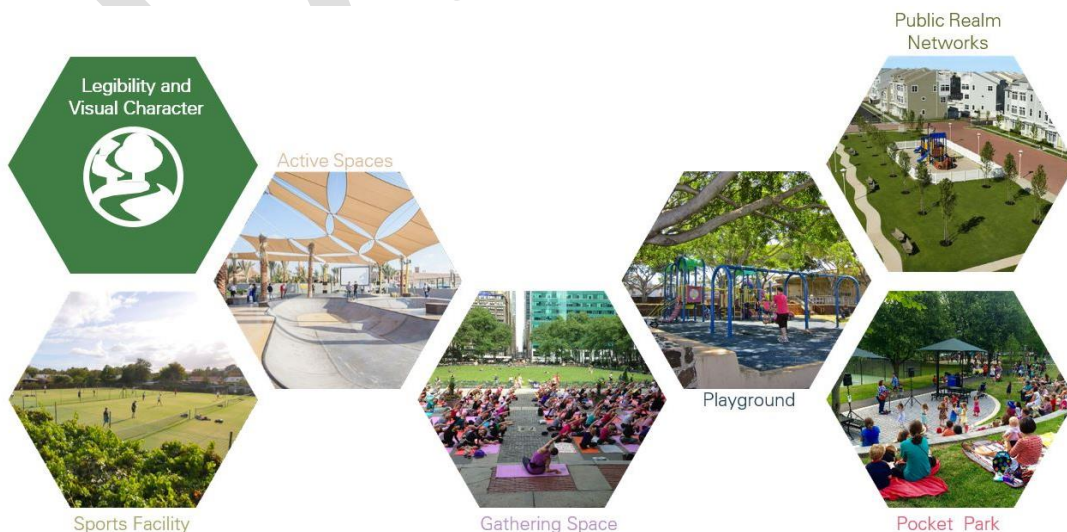


Figure 2.2 – Legibility and Visual Character



2.3 Principle 3 – Security by Design

To promote safe and secure communities using non-invasive methods. Security through design can be achieved by using building frontages and sensitive hard and soft landscape planting to form barriers, natural surveillance, shared ownership of spaces and strategically located guardhouses whose vernacular is in keeping with the design language of the surrounding development. Walled communities that are separated from the surrounding neighbours and communities are not to be encouraged as they undermine integration and social inclusion.



Figure 2.3 – Security by Design

2.4 Principle 4 – Creating Communities

To promote the inclusion of centralised community facilities to serve, as a minimum, the needs of the local affordable housing community on a day-to-day basis. These facilities should include schools and nursery schools (where appropriate), community centres, meeting places, retail centres, health clinics and religious facilities.

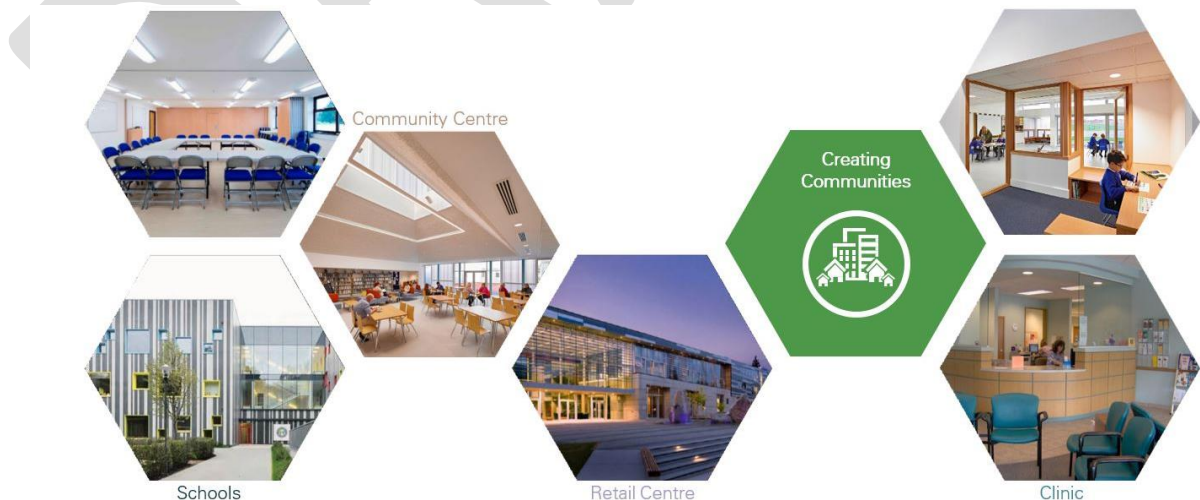


Figure 2.4 – Creating Communities

2.5 Principle 5 – Building Technologies

The affordable housing programme encourages the utilisation of innovative and cost-effective building technologies and materials. Typical technologies will include, but not be limited to, off-site



modular and precast panel construction, in-situ formwork, monolithic construction and traditional frame and fill.

Of utmost importance is the development of high quality, sustainable and economical buildings within accelerated timescales.

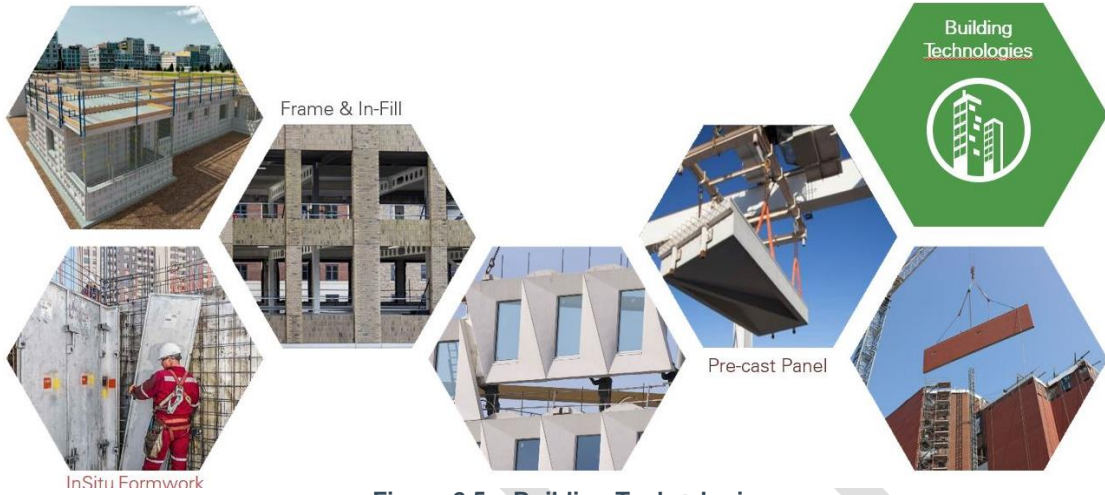


Figure 2.5 – Building Technologies

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3. Urban Design Framework

3.1 Site Assessment

Given that the sites to be developed for affordable housing will be situated in various locations throughout Kenya it is important to ensure that a consistent approach to site assessment is maintained. This will enable the appropriate understanding of the site's context and opportunities and constraints to be undertaken.

The main basis for the site assessment should be premised on the principles of a SWOT analysis – Strengths, Weaknesses, Opportunities, Threats - which should be graphically represented and enumerated with supporting text.

The site assessment should not only focus on the site's physical attributes, including any existing development that may occur, but also, it's broader context within the urban and socio-economic environment that it is situate.

Typical site assessment information that would need to be considered as a minimum includes:

- Site size and configuration;
- Topography, natural features and geotechnical considerations;
- Access and circulation;
- Surrounding road network;
- Public transportation opportunities;
- Bulk infrastructure provision (all utilities);
- Surrounding community facilities such as schools, health care, security (police posts) commercial/retail, religious and community meeting places, open space and recreation;
- Centres of employment and job opportunity;
- Environmental assessment;

The following are graphic examples of the type of information to be captured.

3.2 Typical Land Breakdown

At the outset of development there should be the aspiration to achieve the target percentages defined in the Figure below. Achieving the target percentages will ensure the community is developed with the correct balance of land uses and safeguard land required for open space, utilities, roads and public services.

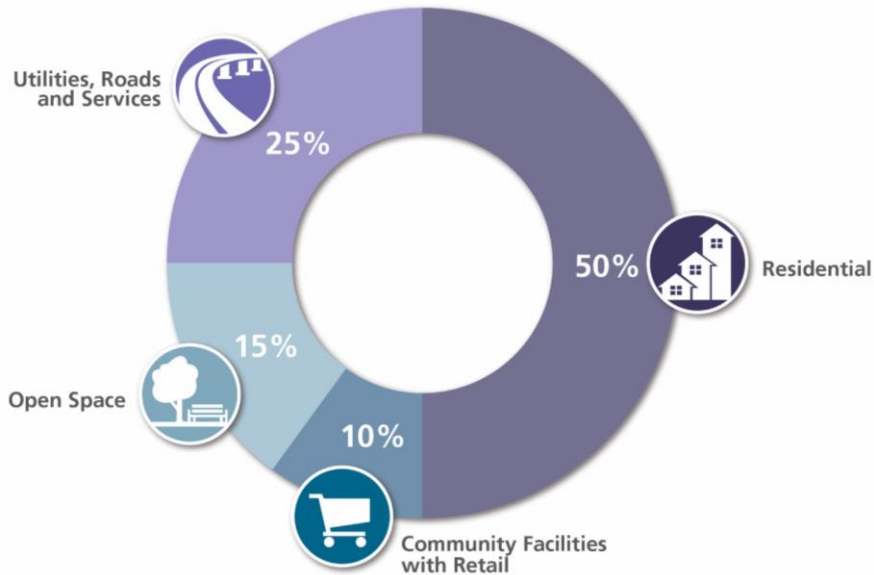


Figure 3.1 – Typical Land Breakdown

Open space shall include indoor shared spaces such as meeting/ common rooms, and roof tops. Exterior shared spaces such as colour coded pavements that additionally serve as kids play area shall be recognized when assessing open space provision.

Educational facilities should be provided based on the catchment population summarised in Table 3.1 below:

Education facility	Secondary School	Primary School	Nursery School
Catchment Population	25,000	5,000	2,500
Walking Distance (Km)	0.5-3	0.5-2	0.5

Table 3.1 – Educational Facilities

3.3 Character Area Framework

To help promote community environments that are easily understood by all users, display a strong 'local' identity, and deliver a varied and appealing visual character, the identification and reinforcement of existing and proposed new character areas is important.

The future development / re-development of affordable housing communities in Kenya provides an ideal opportunity for the strengthening of existing and creation of new distinct character areas. Based primarily on existing (and envisaged) functions and urban form, we have identified the following nine main character areas within the community.

3.3.1 Street Based Commercial

Street Based Commercial is generally characterised by developments that orient toward, connect to, and interact with the adjacent public realm (street, park or plaza). Uses along the public street edge are generally more active, predominantly retail / commercial and benefit from higher levels of pedestrian movement whilst building heights vary however they ensure pedestrian cover from the elements.





Figure 3.2 – Street Based Commercial

3.3.2 Modern Commercial

Modern Commercial is generally characterised by more contemporary, standalone buildings.



Figure 3.3 – Modern Commercial

3.3.3 Mixed Use District

These areas are proposed to have a permeable, well connected network of pedestrian friendly streets and parks. They are aimed at delivering a vibrant mix of uses including retail, office, residential, higher education and health.

3.3.4 Community Facilities

The community facility provision within the development should be placed at the heart of the scheme and accessible by pedestrian, cycle and vehicular means. The character should be defined by complimentary open space and seek to further define the urban structure of the community.



Figure 3.4 – Community Facilities

3.3.5 Residential

The residential character area comprises midrise apartment blocks. There is opportunity to strengthen the character of the district with increased residential options, home zone type public realm treatment, corner shop conveniences and added landscaped amenity.



Figure 3.5 – Residential



4. Development Guidelines

4.1 Plot Development Controls

The following development controls will be applicable to recognised development proposed for affordable housing. The area of the plot is used as a base for applying the development controls such as maximum GFA (Gross Floor Area) or BUA (Built Up Area) by multiplying it by the applicable FAR (Floor Area Ratio).

4.1.1 FAR

Floor Area Ratio is a measurement of development intensity and the most important governing factor when determining the maximum buildable area on a plot. The total quantity of Gross Floor Area permitted on a plot is obtained by multiplying the FAR to the plot area.

The permitted FAR for each land use zone shall be determined by the governing authority. The AHP provides Density Bonuses to allow developers to build more than conventional zoning would allow as an incentive to developers. The density bonus shall be determined case by case with due consideration to County regulations, and the current and future infrastructure programs.

FAR uplift can be applicable for the various land use zones and is contingent on approval from the governing authority.

4.1.2 Ground Coverage

Ground Coverage of a plot is expressed as a percentage of the site area and refers to that area of the site which is covered by a permanent building structure. It excludes any permitted temporary structure, shaded cover over parking, roof overhangs and projecting balconies.

The permitted coverage for each land use zone shall be determined by the Physical Planning handbook and the building codes as stipulated under the Physical Planning Act (286).

If a conflict arises between achieving the permissible coverage ratio and the FAR, the Owner or Developer shall be required to conform to the smaller, more restrictive control.

4.2 Building Heights

Building height shall be used as a regulatory tool to control a consistent urban character and streetscape. Height limitations preserve views and open spaces and allow for the creation of signature, landmark buildings.

Height restrictions will be determined on a site-by-site basis depending on the specific planning controls.

4.3 Build-to Line / Building Setbacks

Build-to lines are a type of control used as a means of enforcing the continuity of the building facades on a series of adjacent sites, in order to emphasize a route or the definition of a public open space. The objectives are to achieve perceptual continuity; however, it is not intended that a façade must be designed as a continuous smooth surface.

The following requirements for adherence to build-to-lines are outlined below:

- Build-to lines indicate where the building must be planned to sit at the plot boundary or setback line as applicable.
- Build-to lines are not applicable within mandatory setback areas where building will not be permitted.



- Where a plot has more than one street frontage the corresponding street frontage guidelines will be applicable to the different plot edges
- Where a plot is adjacent to water body the building line will adhere to specifications of The Water Resources Management Rules, 2007 and EMCA (Water Quality Regulation), 2006 Act i.e. minimum of 6m and a maximum of 3m from the edge of the river

The following diagrams illustrate the minimum distances required for building to plot edge and building to curb edge depending on the adjacent street category.

4.3.1 Primary Road - Building to Plot Line

Along a Primary Road, a minimum distance of 1m should be safeguarded between the building and the edge of the plot.

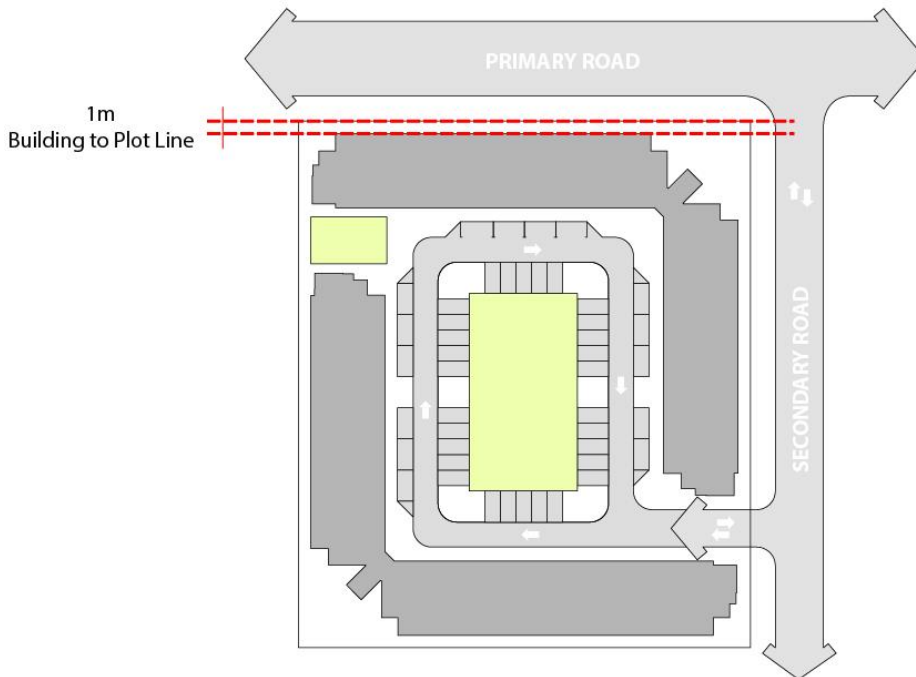


Figure 4.1 – Building to Plot Line at Primary Road

4.3.2 Primary Road – Building to Kerb Line

Along a Primary Road, a minimum distance of 9m should be safeguarded between the building and the road kerb. The diagram should also red 9m should be

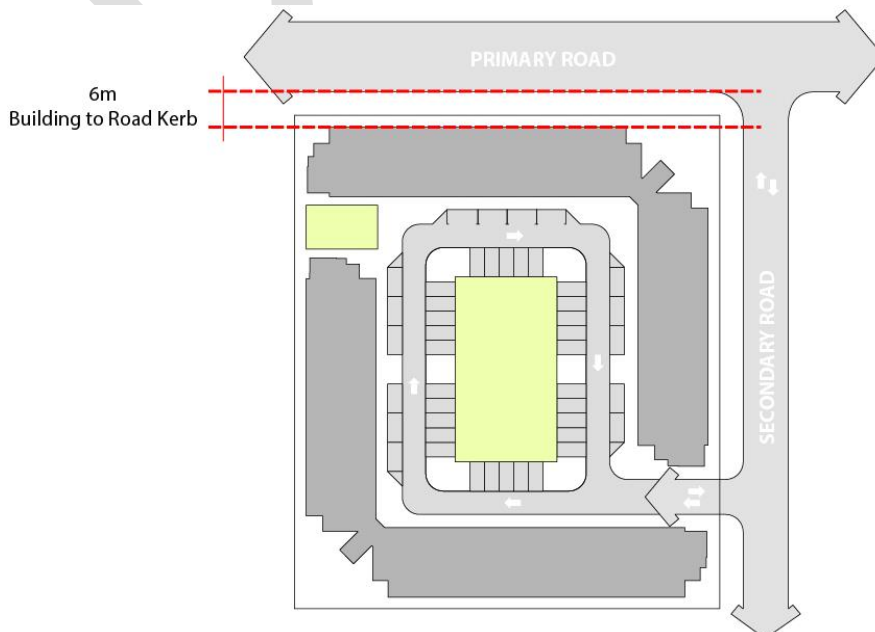




Figure 4.2 – Building to Kerb Line at Primary Road

4.3.3 Secondary Road – Building to Plot Line

Along a Secondary Road, a minimum distance of 1m should be safeguarded between the building and the edge of the plot.

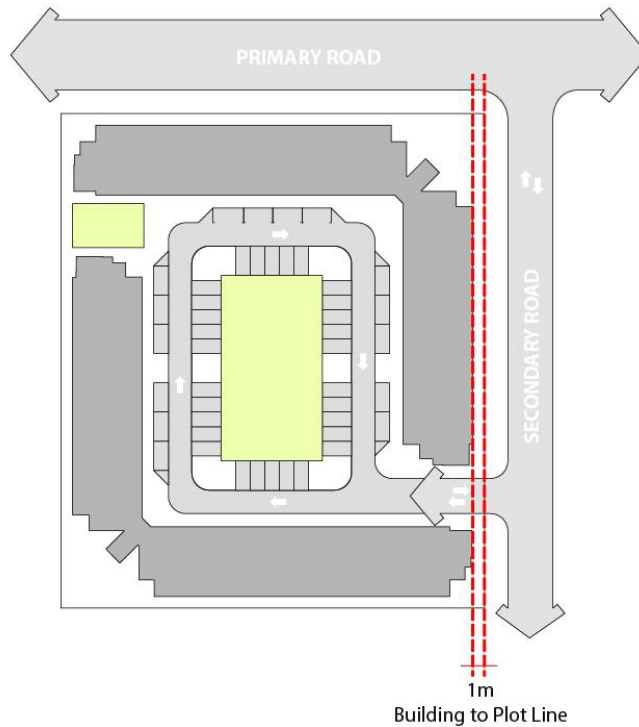


Figure 4.3 – Building to Plot Line at Secondary Road

4.3.4 Secondary Road – Building to Kerb Line

Along a Secondary Road, a minimum distance of 6m should be safeguarded between the building and the road kerb.

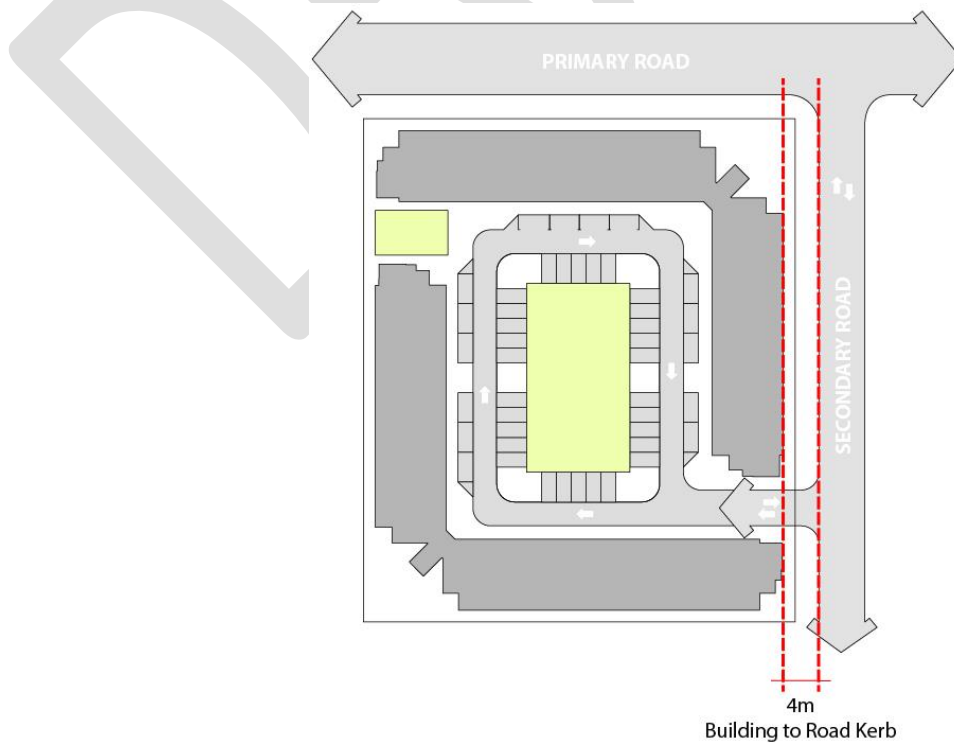




Figure 4.4 – Building to Kerb Line at Secondary Road

4.4 Building Offsets

4.4.1 Residential Façade to Façade

A minimum distance of 10m should separate the facades of two residential buildings. Furthermore, no building shall be sited as to have a principal frontage abutting on to a street of less width than 10m.

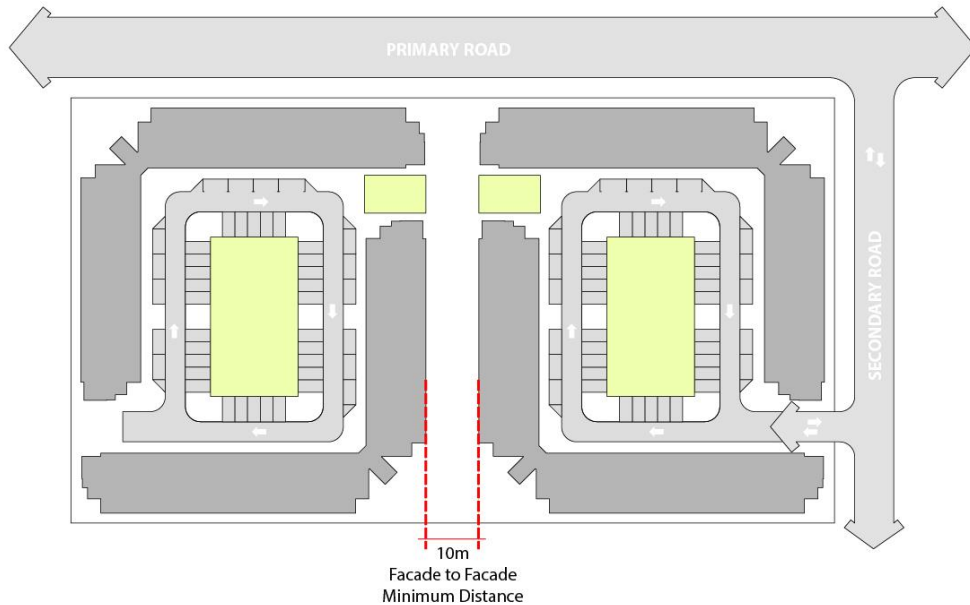


Figure 4.5 – Residential Building Façade to Façade

4.4.2 Residential Façade to Building End

A minimum distance of 8m should separate the facades of a residential buildings with the building end of another.

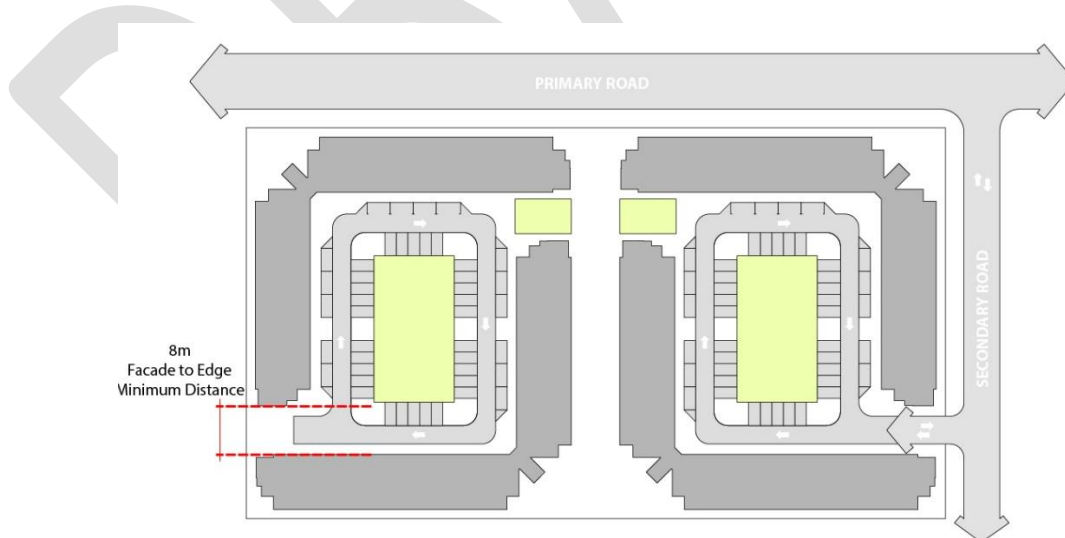


Figure 4.6 – Residential Building Façade to Building Edge

4.4.3 Residential Building End to Building End

A minimum distance of 6m should separate the ends of two residential buildings.

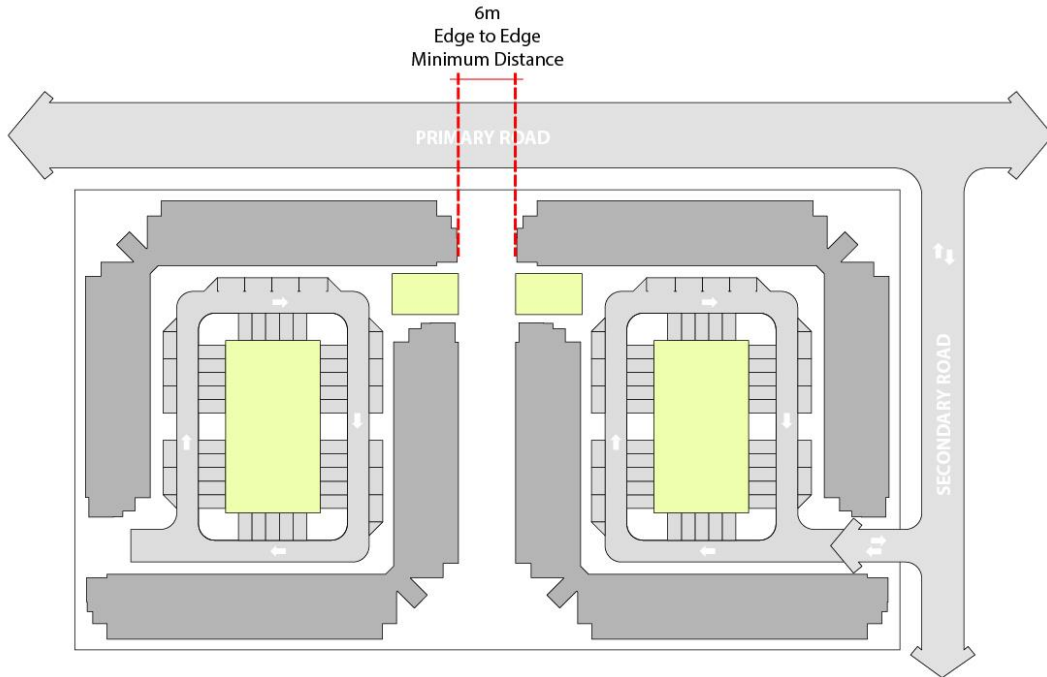


Figure 4.7 – Residential Building End to Building End

4.4.4 Minimum Setback Guidelines

The following Table 4.1 provides guidelines on the minimum setback distances.

Dev. Type	Front	Side	Rear
Upgrade scheme	2.5m	1.5m	3m
Low Cost Housing	3m	1.5m	4.5m

Table 4.1 – Minimum Setback

4.5 Internal Site Parking Strategy

It is required that suitable parking standards will be applied to cater for the needs of the residential community, as well as for any other parking-generating uses. For instance, parking facilities should be related to the level of residential units or commercial activities created

The location of parking should seek to be:

- Directly adjacent to residential land uses
- Easily accessible to building entrances
- Connected into the wider pedestrian network
- Visible from residential units for natural surveillance

Below are a few examples of how parking might be achieved within a courtyard community:

4.5.1 Roadside Parking

Parking should be aligned along the access road and circulate around an open space provision. The parking bays should not act as a barrier, restricting access to the open space.

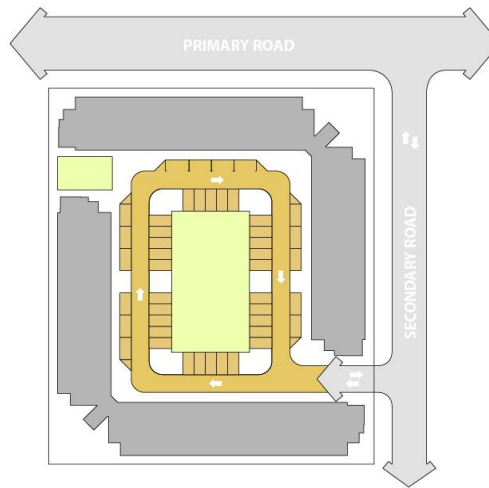


Figure 4.8 – Roadside Parking

4.5.2 Clustered Parking

Designers are encouraged to develop alternative parking arrangements in order to service the apartment blocks such as clustered and split cluster parking as shown below.

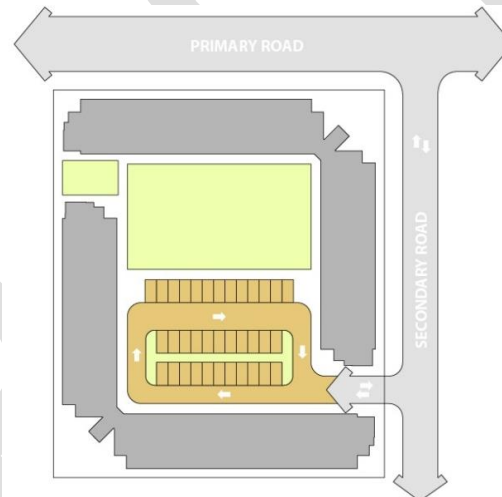


Figure 4.9 – Cluster Parking

4.5.3 Split Cluster Parking

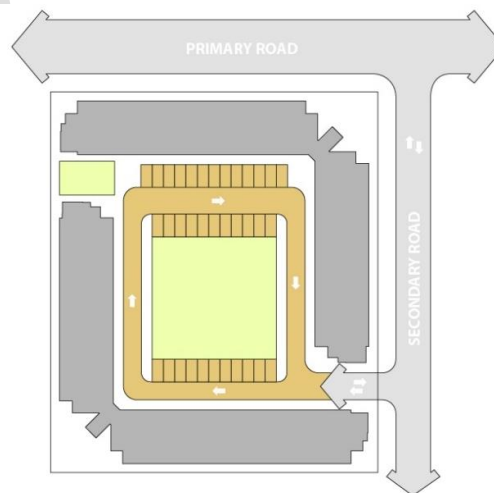


Figure 4.10 – Split Cluster Parking



Given that parking requirements is one of the main regulatory barriers to affordability, the AHP recommends for the adoption of parking management strategies that include but are not limited to:

- Shared parking; where an apartment and an office building can share parking facilities, since the office peak demand occurs during weekdays, while the apartment's peak occurs during evenings and weekends
- Reduced standards for housing that serves lower income people, students and elderly; for housing in more accessible locations (such as near transit stations and in mixed-use neighborhoods); and where parking is priced.
- Car free parking for housing developments specifically designed to accommodate households that do not own a motor vehicle in exchange for common space
- Unbundling where parking costs can be borne directly by users by "unbundling," which means that parking is rented or sold separately
- Transport management associations which are member-controlled organizations that help home owners to share, trade, lease and rent parking.

4.6 Building Orientation Strategy

Building orientations shall be in such a manner that permits maximum natural lighting and ventilation. Where feasible, artificial lighting and ventilation will be added to enhance natural lighting and ventilation. East/west orientation will be adopted in the development of affordable housing. Orientation, location and layout will be considered from the beginning of the design process – ideally, from the time the site is being selected. Once a building has been completed, it is normally impractical and expensive to reorient later. The aim is to ensure that affordable housing units adapts to a suitable direction for sunlight and wind directions.

4.7 Pedestrian Access

Pedestrian access path is an essential function within the built-up area. Every building shall be provided with adequate access to and from the main road as shown the figure below.

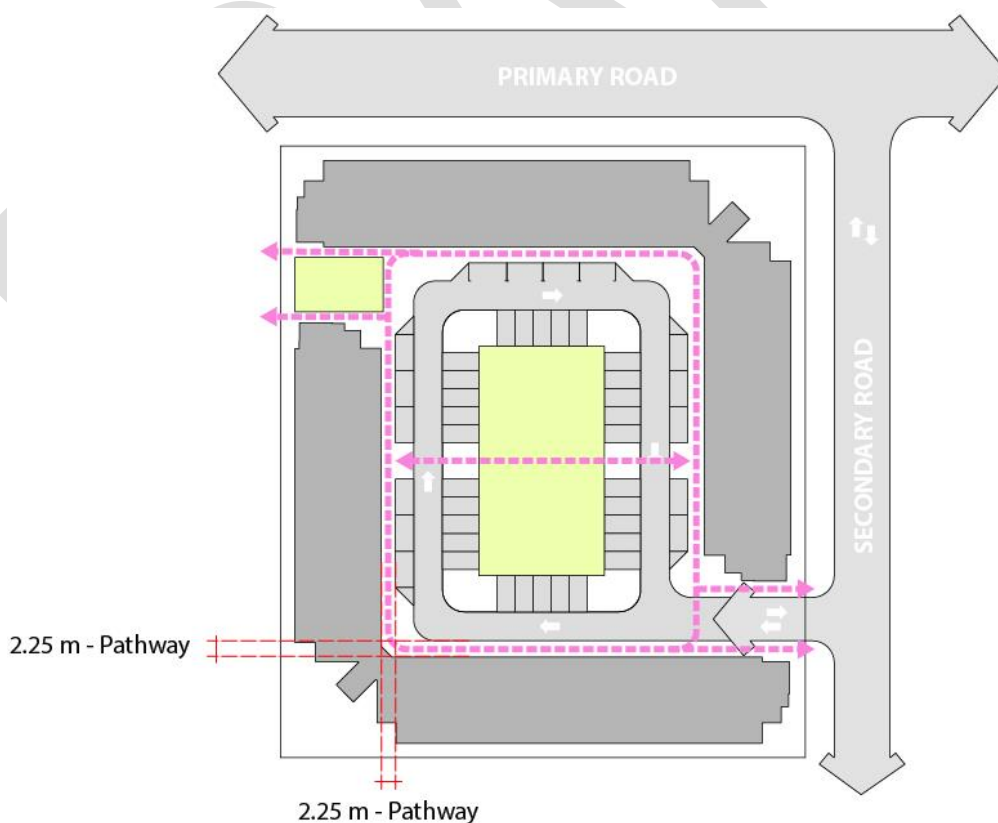


Figure 4.11 – Pedestrian Access



4.8 Rights of Way / Way Leave

Various road, highway and utilities infrastructure will require rights of way or way leaves. The tables below provide recommended minimum standards to be utilised.

Type of road	Recommended RoW
Highways	60m
Major roads	25m
Collector roads	18m
Access streets	15m
Service lanes	6m

Table 4.2 – Right of Way / Way Leave

4.8.1 Electricity Cables

The way leaves expressed in the table below should be confirmed by the relevant service authority.

Capacity of line	Way leave
11 KV	10m
33 KV	20m
40 KV	20m
66 KV	30m
132 KV single circuit towers	50m
132 KV double circuit towers	60m

Table 4.3 – Electrical Cables

4.9 Street Frontage Guidelines

Recommended minimum plot frontage for slum upgrade and low-cost housing is summarised in the Table 4.4 below:

Type of residential development	Minimum frontage in meters		
	Detached (%)	Semi-detached (%)	Row Housing (%)
Low Cost Housing	70	75	75
Slum rehabilitation and upgrading scheme	70	75	75

Table 4.4 – Street Frontage Guideline

