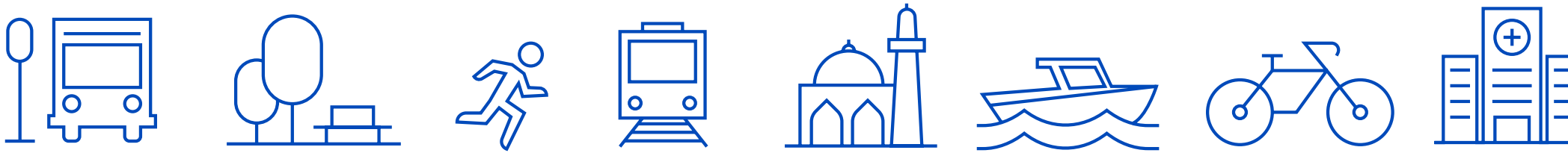
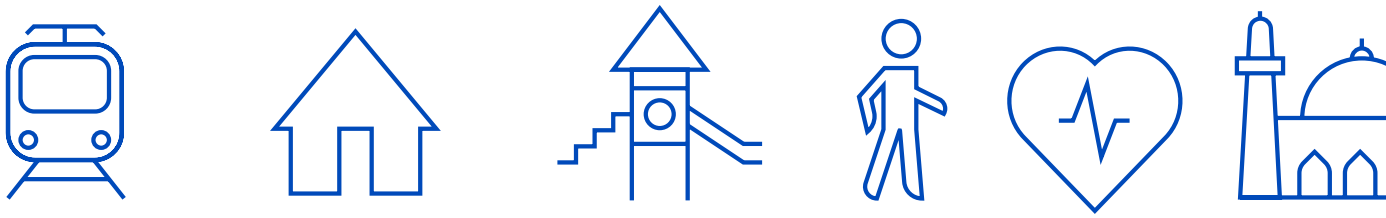
حكومة دبي
GOVERNMENT OF DUBAI

سلطة دبي للتطوير
Dubai Development Authority

Master Planning Guidelines





Issue 1

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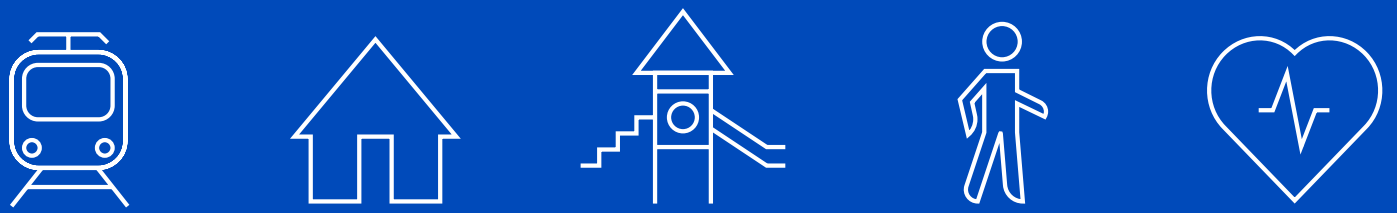
Introduction to DDA Master Planning Guidelines







Introduction

This Master Planning Guideline document was developed in 2019 by Dubai Development Authority (DDA). It sets out the process and the key priorities and principles that guide the design of the built environment for all developments under DDA planning jurisdiction.

The guideline incorporates a multidisciplinary design approach that integrates all relevant elements of the master plan. This approach facilitates a holistic and complete design focusing on the key elements of land use, buildings, open space, mobility and utility services proposals.

Developers and consultants must endeavour to achieve the minimum requirements set out in this guideline. Early consideration and engagement with the authority is recommended to achieve these requirements.

Additionally, this document aims to record the current best practices which are recommended to guide the development of the master plan.

i.1. Guideline Vision and Principles

This Master Planning Guideline provides guidance to developers and consultants on the master plan approval process. It sets out the standards that support the creation of safe and livable communities and enhance quality of life.

The development of the guideline was informed by local and international best practices while remaining mindful of the local regulatory and market context. The guideline has been developed on the basis of the key principles illustrated aside.

"Clarity and Quality" is a key principle that guided the development of the guideline document. However, the remaining principles are not only applicable to this guideline but should also guide the development of the design strategies in all master plans.



Clarity and Quality

Providing clear and consistent guidelines and requirements which support the delivery of quality master plan design and submissions.



Context Consideration

Creating master plans that consider the surrounding urban context, respond to existing and planned land uses and support the overarching structure or framework of the development.



Connectivity and Accessibility

Developing permeable master plans that promote walkability and the use of public transport modes and enhance accessibility to land uses within the master plan and its surroundings.



Built Form and Placemaking

Creating master plans which deliver human scale urban form where community building and wellbeing is achieved through the creation of spaces that are attractive to all users and residents.



Sustainability and Resilience

Developing master plans that recognize the economic, environmental and social constraints and adopt design practices that promote the efficient use of resources and provide for flexible and adaptable systems.

i.2. Guideline Jurisdiction

This guideline takes precedence over standards and guidelines that were previously used as part of the master plan development and submission to DDA.

This guideline now forms the basis for master plan requirements in all areas that fall under DDA's planning jurisdiction as per the authority's mandate. It must be used in conjunction with other relevant standards and guidelines, as applicable.

It is the responsibility of the developer and the consultant to ensure that the proposed master plan conforms with the requirements of this guideline and all subsequent updates and all other applicable standards and guidelines (beyond the remit of this guideline).

This guideline may be updated regularly with prevailing design principles and requirements. Any updates to this guideline will be announced and made available for download on DDA's website (dda.gov.ae).

i.3. How to Use This Guideline?

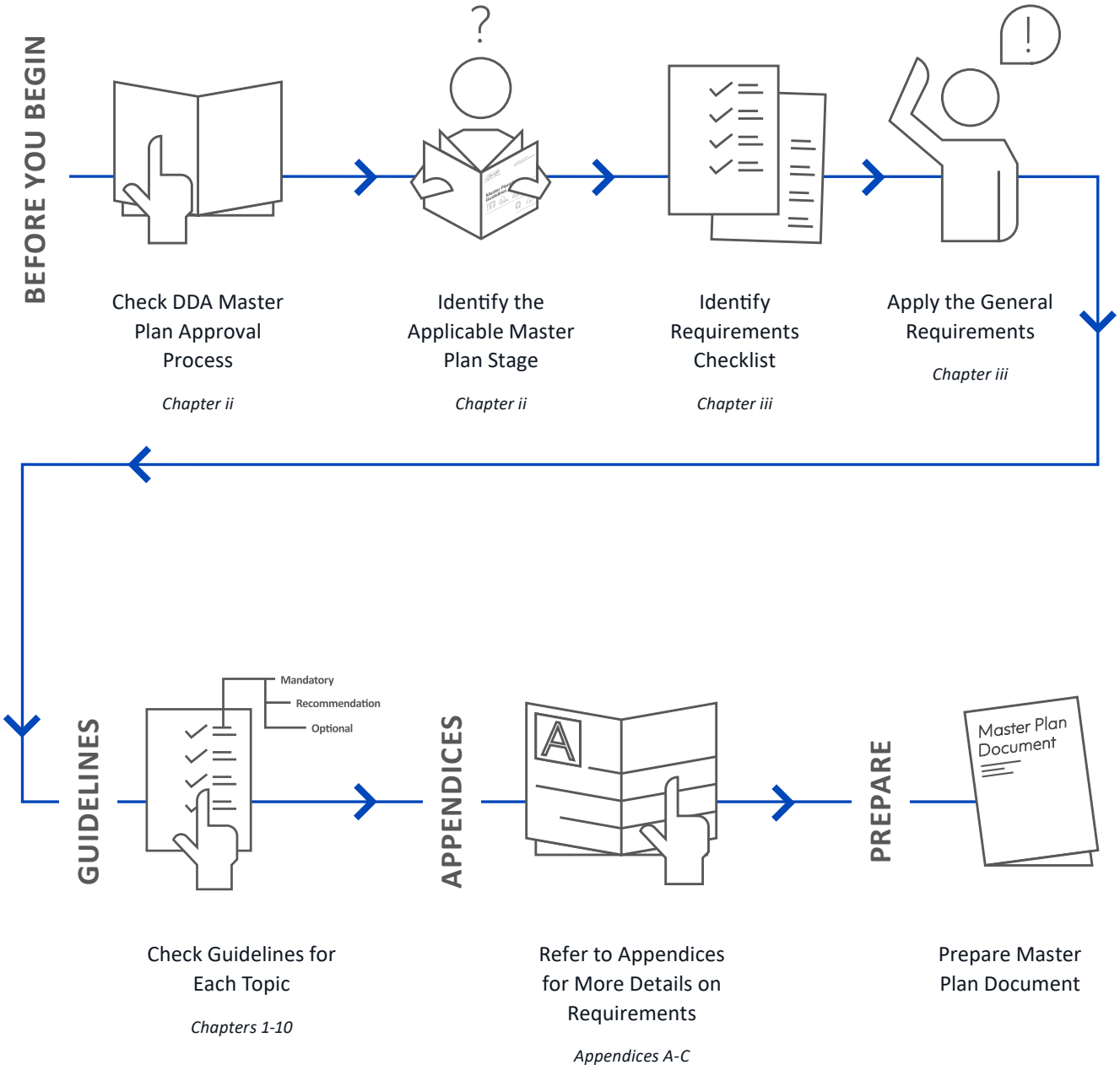
The purpose of this guideline is to guide the development of the master plan and facilitate efficient and smooth master plan review and approval processes. It provides common ground for defining proposals that constitute a master plan in a clear and simplified manner.

The guideline consists of three parts, these are:

- Introduction (i - iii) – highlights the guideline's vision, principles, purpose and structure and summarizes the overarching master planning process and submission requirements;
- Guidelines (1 - 10) – summarizes the design requirements that need to be complied with when developing the master plan; and
- Appendices (A - C) – provide supporting information to the guideline chapters including definitions and minimum requirements, as well as best practice elements that should be considered during the development of the master plan.

The required information and quality of drawings have been demonstrated throughout this guideline document on an "Mock Up Master Plan" for ease of reference.

The figure on the right provides direction on how to use this guideline.



Master Plan Approval Process





Introduction

DDA has the statutory authority to review and approve the proposals for all new developments under the authority's jurisdiction. This is aligned with the authority's mandate to ensure all elements of the built environment are designed in compliance with the requirements set out in this guideline.

A master plan must be developed for all new developments of all scales and contexts. It should form a comprehensive plan to guide the long-term physical development of a particular area based on identified objectives, strategies, and timelines for implementation. It must cover plans for land use, community facilities, open space, urban design, mobility and utilities.

The Master Planning Department in DDA requires all new master plans to be reviewed and approved to ensure compliance with the requirements set out in this guideline and approval of other relevant authorities.

This chapter outlines the review processes and the requirements that must be met when seeking master plan approvals.

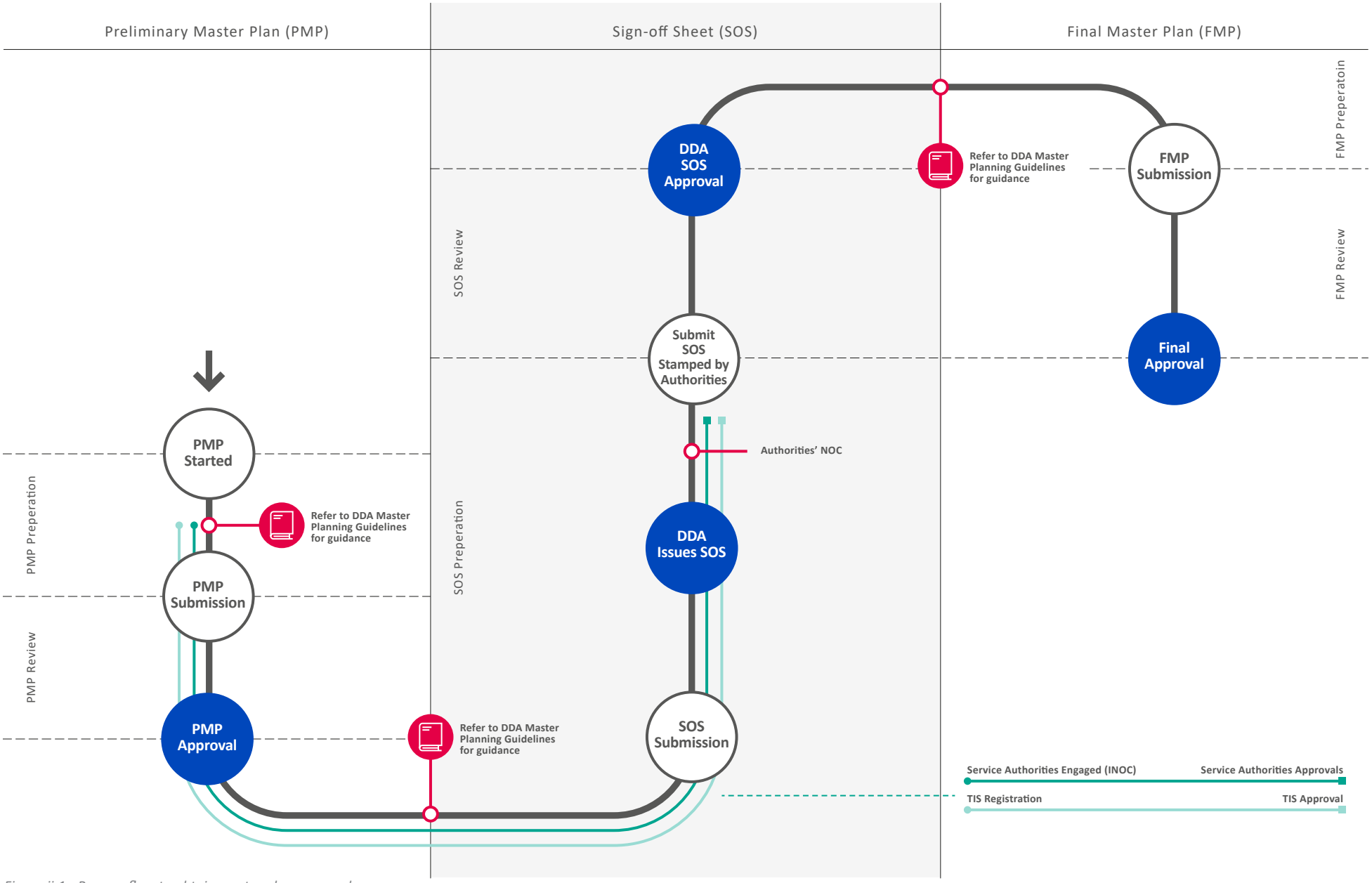


Figure ii.1: Process flow to obtain master plan approval

ii.1. Master Plan Approval Stages

The Master Planning Department in DDA is responsible for the review and approval of all master plan submissions to the authority.

The master planning process consists of three stages:

1) Preliminary Master Plan (PMP);

2) Sign off Sheet (SOS); and

3) Final Master Plan (FMP).

Figure ii.1 demonstrates a detailed flowchart of the master plan approval process. It also demonstrates parallel processes relevant to the overall master plan for engagement with authorities.

After an approval is granted for the master plan, any changes must be recorded and submitted to DDA through the Master Plan Modification application.

Stage 1: Preliminary Master Plan (PMP)

The Preliminary Master Plan (PMP) is the first stage in the master plan approval process. It describes the general vision of a project, its goals and objectives.

The PMP must provide a comprehensive report of the overall strategy to develop a particular project/area including all proposals for the development land use and the design approach for relevant elements of the built environment. These should reflect the outcomes of a complete and comprehensive assessment of the development potential and constraints.

Section iii.1 provides a detailed list of the submission requirements at the PMP stage which must be developed according to the standards set out in the following chapters.

Stage 2: Sign-Off Sheet (SOS)

Following the approval of the PMP, a sheet showing the final subdivision of a project must be developed. It must consist of a plan of the project and the different sub-plots and a table showing each plot's number, land use, area, gross floor area (GFA), number of buildings, number of dwelling units and maximum building height.

Prior to the submission of the Sign-off Sheet (SOS), coordination with relevant authorithies should be undertaken. The required documents must be submitted to DDA for the preparation and issuance of the SOS.

In case amendments to the issued SOS are required due to authorithy requirements, a master plan modification application must be submitted resulting in re-issuance of the SOS.

Upon the submission of all the stamped SOSs to DDA, the SOS stage will be deemed complete.

Section iii.2 provides a detailed list of the submission requirements at the SOS stage.

Stage 3: Final Master Plan (FMP)

The Final Master Plan (FMP) forms the final stage in the master plan approval process. Similar to the PMP, the FMP provides a comprehensive report of the overall strategy to develop a particular project/area. However, it provides some additional requirements to the previous stages including plot development guidelines and authority approvals.

The FMP must demonstrate the final proposals for the development in accordance with the agreed outcomes from the previous stages and becomes DDA's future reference document.

As such, the subdivision and plot information reflected in the approved SOS must not be amended as part of the FMP submission.

Section iii.3 provides a detailed list of the submission requirements at the FMP stage which must be developed according to the standards set out in the following chapters.

ii.2. Master Plan Review and Approval

At all stages of the master plan approval process, the procedure illustrated in Figure ii.2 will be undertaken for the review and approval of the master plan.

Upon the approval of the FMP, the master plan will be deemed approved.

ii.3. Post Master Plan Approval: Master Plan Modification (MPM)

A Master Plan Modification (MPM) is required when one or more of the following changes are proposed to the approved master plan:

- Change in GFA;
- Land Use Change;
- Reconfiguration of Plot/ROW/Utility/Open Space;
- Subdivision and Merge of Plots; and/or
- Design Guidelines Modification (ex. changes in building heights and setbacks).

To modify an approved master plan, a complete application must be submitted to DDA with the proposed changes.

Section iii.4 provides a detailed list of the submission requirements at the MPM stage which must be developed according to the standards set out in the following chapters.

The review process illustrated in Figure ii.2 will also be followed for the review and approval of the MPM.

The approved master plan will be updated upon the approval of the MPM.

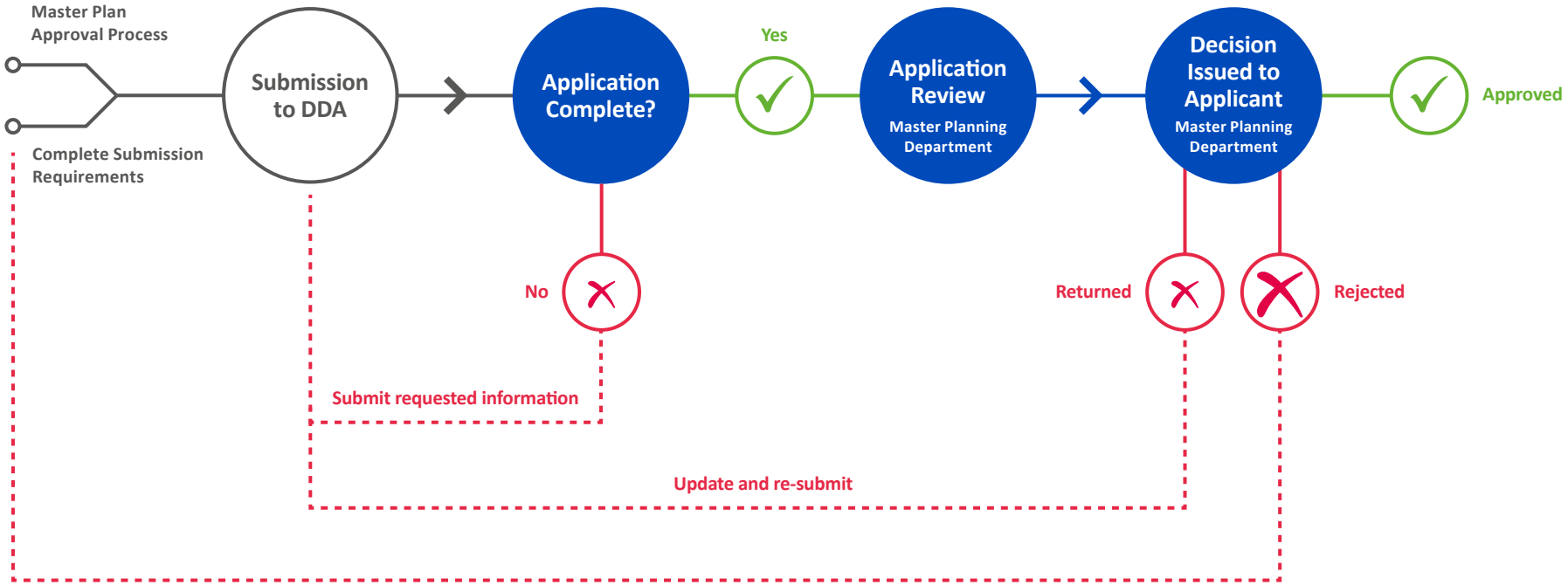
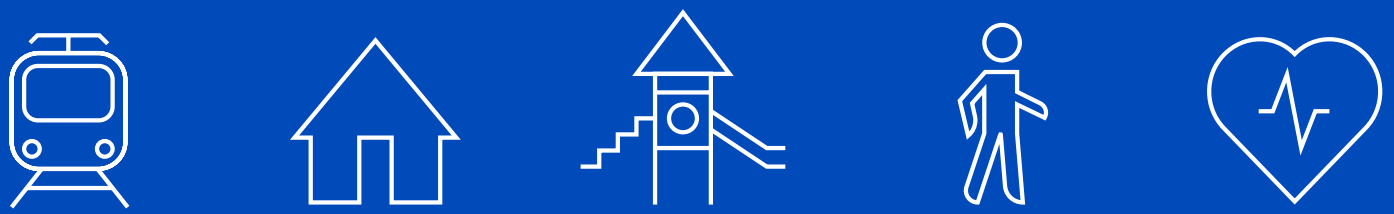


Figure ii.2: Master plan review and approval process

Submission Requirements





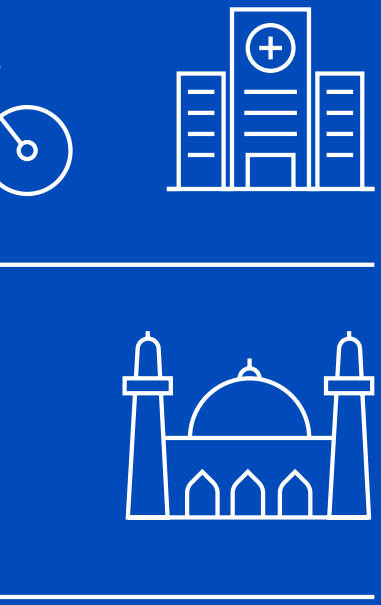
Introduction

This chapter provides a summary of DDA requirements at each stage of the master planning process which are further detailed in the guideline's chapters (1-10).

Moreover, it highlights the general requirements that need to be considered when preparing the submission documents.

The requirements set forth must be fully complied with unless otherwise stated in this guideline.

The applicability or inapplicability of a requirement (when “If Applicable” is stated) is subject to DDA discretion.



iii.1. Preliminary Master Plan (PMP)

At the PMP stage, a Master Plan Approval Request (refer to DDA's website to obtain latest copy of this form) must be completed and submitted to DDA. The following documents must be submitted with the application:

- Preliminary Master Plan report that consists of all the requirements set out in Table iii.1 in the same order and specified format. Only soft copies (PDF, DGN and Excel) of the documents must be provided;
- Consultant Appointment Letter (if applicable); and
- Preliminary Master Plan Review Checklist (refer to DDA's website to obtain latest copy of this form).

DDA Submission Requirements		PMP Requirements		
		Plan	Narrative	Table
Site Analysis	Valid Site Plan Copy (latest update)/Valid DM Affection Plan/Valid DLD Title Deed (as applicable)	✓		
	Consultant Appointment Letter		✓ Letter	
	Plot Owner Valid Trade License	✓		
	Consultant/Master Developer Valid Trade License	✓		
	Project History	✓ If Applicable	✓ If Applicable	
	Reference to overarching Structure/ Framework Plan	✓	✓	
	Regional Context Plan	✓	✓	
	Local Context plan	✓	✓	
	Site and Aerial Photographs/Topography	✓	✓	
	Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis	✓	✓	✓
Master Plan Overview	Master Plan Vision and Principles	✓	✓	
	Master Plan Overview Plan	✓	✓	
	Master Plan Response to SWOT Analysis	✓	✓	✓
Land use and Population	Land Use Budget Sheet			✓
	Land Use Plan	✓	✓	
	Residential Population Numbers			✓
Community Facilities	Community Facility Requirement and Provision Table		✓	✓
	Community Facilities Location Plan	✓	✓	
	Community Facilities Catchment Plan	✓	✓	

Table iii.1: PMP submission requirements

DDA Submission Requirements		PMP Requirements		
		Plan	Narrative	Table
Open Space and Landscape	Open Space Provision Table		✓	✓
	Open Space Hierarchy Plan	✓	✓	
	Open Space Catchment Plan	✓	✓	
Urban Design and Architectural Elements	Building Heights Plan	✓	✓	✓ Include in LUB sheet
	Building Typologies Plan	✓	✓	
	Building and Site Sections	✓	✓	
Mobility and Accessibility	Development Access Plan	✓	✓	
	Road Hierarchy Plan	✓	✓	
	ROW Cross-sections	✓	✓	
	Public Transport Plan	✓	✓	
	Public Transport Catchment Plan	✓	✓	
	Pedestrian Network Plan	✓	✓	
	Cycling Network Plan	✓	✓	
	Car Parking Strategy Plan	✓	✓	✓ Include in LUB sheet
	Plot Access Restrictions Plan	✓ If Applicable	✓ If Applicable	

iii.2. Sign-off Sheet (SOS)

At the SOS stage, a Master Plan Approval Request (refer to DDA's website to obtain latest copy of this form) must be completed and submitted to DDA. The following documents must be submitted with the application:

- Subdivision Plan as per GIS requirements set out in Section iii.5;
- Land Use Budget (LUB) sheet as set out in Section iii.5; and
- SOS Master Plan Review Checklist (refer to DDA's website to obtain latest copy of this form).

DDA Submission Requirements	SOS Requirements		
	Plan	Narrative	Table
PMP Approval	✓	✓	✓
Subdivision Plan (DGN&PDF)	✓		
Land Use Budget Sheet (Excel)			✓

Table iii.2: SOS submission requirements

iii.3. Final Master Plan (FMP)

At the FMP stage, a Master Plan Approval Request (refer to DDA's website to obtain latest copy of this form) must be completed and submitted to DDA. The following documents must be submitted with the application:

- Final Master Plan Report that consists of all the requirements set out in Table iii.3 in the same order and specified format. Only soft copies (PDF, DGN and Excel) of the documents must be provided;
- Approvals, NOCs and approved documents from relevant authorities as set out in Table iii.4; and
- Final Master Plan Review Checklist (refer to DDA's website to obtain latest copy of this form).

DDA Submission Requirements		FMP Requirements		
		Plan	Narrative	Table
Site Analysis	Valid Site Plan Copy (latest update)/Valid DM Affection Plan/Valid DLD Title Deed (as applicable)	✓		
	Consultant Appointment Letter		✓ Letter	
	Plot Owner Valid Trade License	✓		
	Consultant/Master Developer Valid Trade License	✓		
	Project History	✓ If Applicable	✓ If Applicable	
	Reference to overarching Structure/ Framework Plan	✓	✓	
	Regional Context Plan	✓	✓	
	Local Context plan	✓	✓	
	Site and Aerial Photographs/Topography	✓	✓	
	Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis	✓	✓	✓
Master Plan Overview	Master Plan Vision and Principles	✓	✓	
	Master Plan Overview Plan	✓	✓	
	Master Plan Response to SWOT Analysis	✓	✓	✓
Land Use and Population	Land Use Budget Sheet			✓
	Land Use Plan	✓	✓	
	Residential Population Numbers		✓	✓
Community Facilities	Community Facility Requirement and Provision Table		✓	✓
	Community Facilities Location Plan	✓	✓	
	Community Facilities Catchment Plan	✓	✓	

Table iii.3: FMP submission requirements

DDA Submission Requirements		FMP Requirements		
		Plan	Narrative	Table
Open Space and Landscape	Open Space Provision Table		✓	✓
	Open Space Hierarchy Plan	✓	✓	
	Open Space Catchment Plan	✓	✓	
Urban Design and Architectural Elements	Building Heights Plan	✓	✓	✓ Include in LUB sheet
	Building Typologies Plan	✓	✓	
	Build-to-Line Plan	✓ If Applicable	✓ If Applicable	
	Active Edge Plan	✓ If Applicable	✓ If Applicable	
	Architectural Character/Theme	✓	✓	
	Building and Site Sections	✓	✓	
	Perspective(s)	✓	✓	
Mobility and Accessibility	Development Access Plan	✓	✓	
	Road Hierarchy Plan	✓	✓	
	ROW Cross-sections	✓	✓	
	Public Transport Plan	✓	✓	
	Public Transport Catchment Plan	✓	✓	
	Pedestrian Network Plan	✓	✓	
	Cycling Network Plan	✓	✓	
	Car Parking Strategy Plan	✓	✓	✓ Include in LUB sheet
	Plot Access Restrictions Plan	✓	✓	
	Mobility Integration Plan	✓	✓	
Utilities	Utility Cross-sections	✓	✓	
Plot Development Guidelines		✓ (refer to chapter 10)		

DDA Submission Requirements		FMP Requirements	
		Approval/NOC	Approved Documents (Drawings, reports)
Authority Approvals	RTA	✓	✓
	DEWA - Water	✓	✓
	DEWA - Electricity	✓	✓
	Etisalat	✓	✓
	Du	✓	✓
	Dubai Civil Aviation Authority	✓	
	Dubai Civil Defense	✓	
	Dubai Police	✓	
	Dubai Corporation for Ambulance Services	✓	
	DM - Sewage Projects Department	✓	✓
	DM - Horticulture & Irrigation Department	✓	✓
	DM - Department of Environment	✓	✓
	DM - Waste Management Department	✓ If Applicable	
	DM Architectural Heritage and Antiquities Department	✓ If Applicable	
	UAE Armed Forces	✓ If Applicable	✓ If Applicable
	Dubai Supply Authority (DUSUP)	✓ If Applicable	✓ If Applicable
	District Cooling (Private DC Supplier)	✓ If Applicable	✓ If Applicable

Table iii.4: FMP submission requirements (authority approvals)

iii.4. Master Plan Modification (MPM)

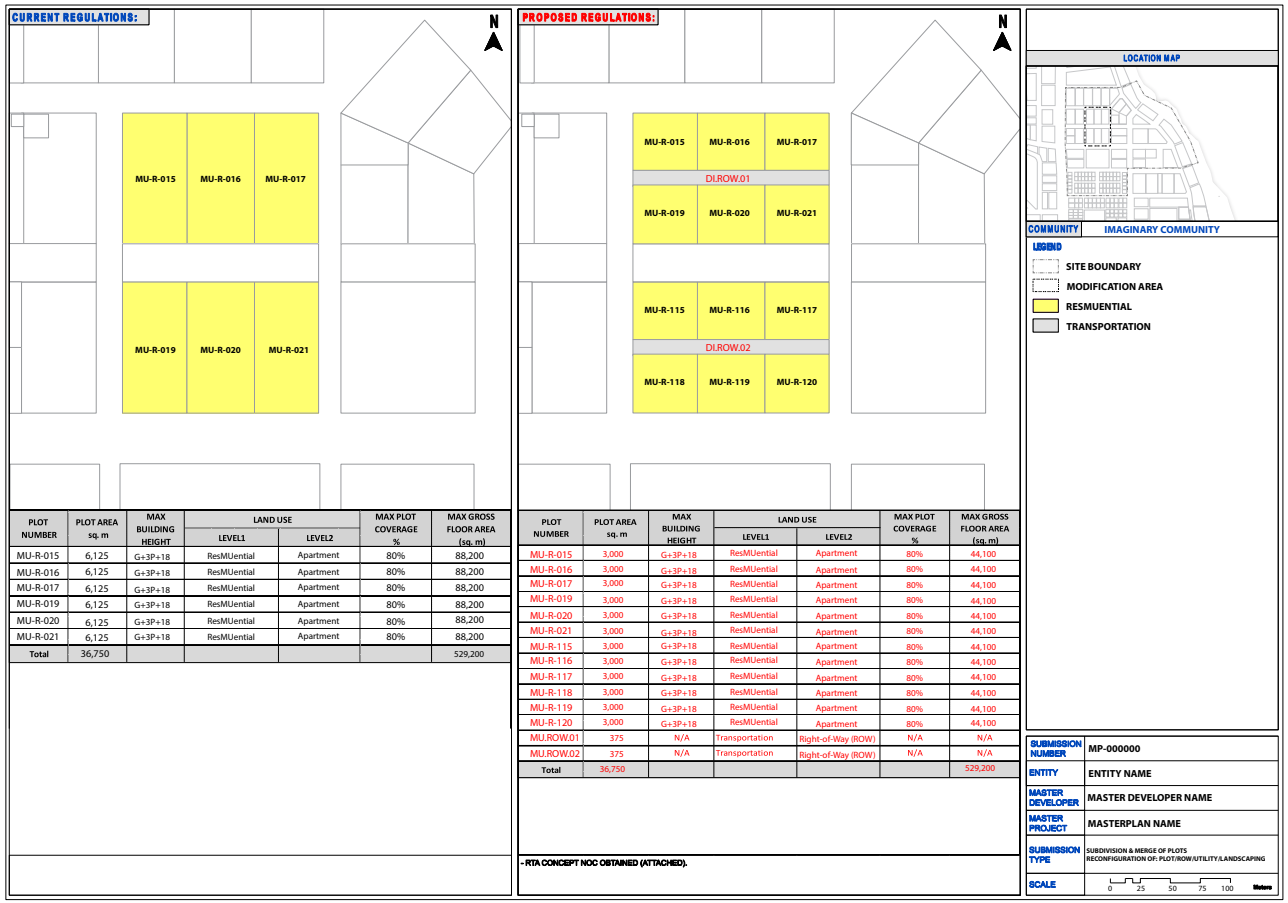
In case of MPM, a Master Plan Modification Request (refer to DDA's website to obtain a copy of this form) must be completed and submitted to DDA. The following documents must be submitted with the application:

- Description of proposed modification;
- Subdivision before and after modification in the format illustrated in Figure iii.1 (PDF and DGN format);
- LUB sheet for all plots before and after modification. Refer to Sections iii.5 for more details on the LUB sheet requirements;
- Revised Plot Development Guideline (if applicable); and
- NOC from Master Developer.

DDA Submission Requirements	MPM Requirements		
	Plan	Narrative	Table
Description of proposed modification		✓	
Subdivision Plan (before/ after modification) in PDF format	✓		
Subdivision Plan (before/ after modification) in DGN format	✓		
Land Use Budget Sheet (before/after modification) in Excel format			✓

DDA Submission Requirements	MPM Requirements		
	Plan	Narrative	Table
Revised Plot Development Guideline (if applicable)	✓		
NOC from Master Developer		✓ Letter	

Table iii.5: MPM submission requirements



PLOT NUMBER	PLOT AREA sq. m	MAX BUILDING HEIGHT	LAND USE		MAX PLOT COVERAGE %	MAX GROSS FLOOR AREA (sq. m)
			LEVEL1	LEVEL2		
MU-R-015	6,125	G+3P+18	ResMUential	Apartment	80%	88,200
MU-R-016	6,125	G+3P+18	ResMUential	Apartment	80%	88,200
MU-R-017	6,125	G+3P+18	ResMUential	Apartment	80%	88,200
MU-R-019	6,125	G+3P+18	ResMUential	Apartment	80%	88,200
MU-R-020	6,125	G+3P+18	ResMUential	Apartment	80%	88,200
MU-R-021	6,125	G+3P+18	ResMUential	Apartment	80%	88,200
Total	36,750					529,200

PLOT NUMBER	PLOT AREA sq. m	MAX BUILDING HEIGHT	LAND USE		MAX PLOT COVERAGE %	MAX GROSS FLOOR AREA (sq. m)
			LEVEL1	LEVEL2		
MU-R-015	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-016	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-017	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-019	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-020	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-021	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-115	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-116	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-117	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-118	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-119	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU-R-120	3,000	G+3P+18	ResMUential	Apartment	80%	44,100
MU.ROW.01	375	N/A	Transportation	Right-of-Way (ROW)	N/A	N/A
MU.ROW.02	375	N/A	Transportation	Right-of-Way (ROW)	N/A	N/A
Total	36,750					529,200

Figure iii.1: Subdivision before and after modification

iii.5. Spatial Data (GIS) Requirements

All master plan applications must provide spatial data (GIS), formatted based on DDA specifications as set out in Table iii.6.

The spatial data submission must include the following layers:

- Plot boundaries; and
- Plot numbers.

Spatial Information Format	DDA Specification
Data Format	Microstation DGN
Data Units	Real coordinates in meters (m)
Coordinate system	WGS 1984 Dubai Local TM (DLTM)

Table iii.6: GIS submission requirements

Temporary plot numbers must be assigned based on DDA's plot numbering system and subject to coordination with DDA officials. Once the master plan is approved, DDA will coordinate with DM to obtain DM's permanent numbers to replace the temporary ones. The below numbering system must be followed (refer to the examples provided for "Mock Up City":

- Project Initial - Zone - Plot Number (ex. MU-A-001).
- For Facilities plots, Project Initial – FC - Plot Number (ex. MU-FC-001).
- For Utilities plots, Project Initial – UT - Plot Number (MU-UT-001).
- For Open Space plots, Project Initial – OS - Plot Number (MU-OS-001).

The submitted spatial data will undergo a comprehensive review by DDA and need to be thoroughly checked before submission. DDA officials may reject the submission for incompatibility with the requirements.

The LUB sheet must be submitted with the spatial data submission. It must include detailed land use information as set out in Table iii.7. Refer to DDA customer service to obtain an electronic template of the LUB sheet.

The required information must be provided for all plots within the master plan. In the case of multiple land uses on the same plot, these must be included in separate columns assigned to the same plot with details of all the proposed land uses.

Land use symbols are not required to be provided in the spatial data submission. These will be assigned by DDA on the issued SOS.

If the information is deemed compatible with the requirements, a SOS will be issued based on the submitted spatial data and LUB sheet. An example of the SOS is illustrated in Figure iii.2.

Land Use Budget (LUB) Sheet

| Land Use Budget (LUB) Sheet | | |

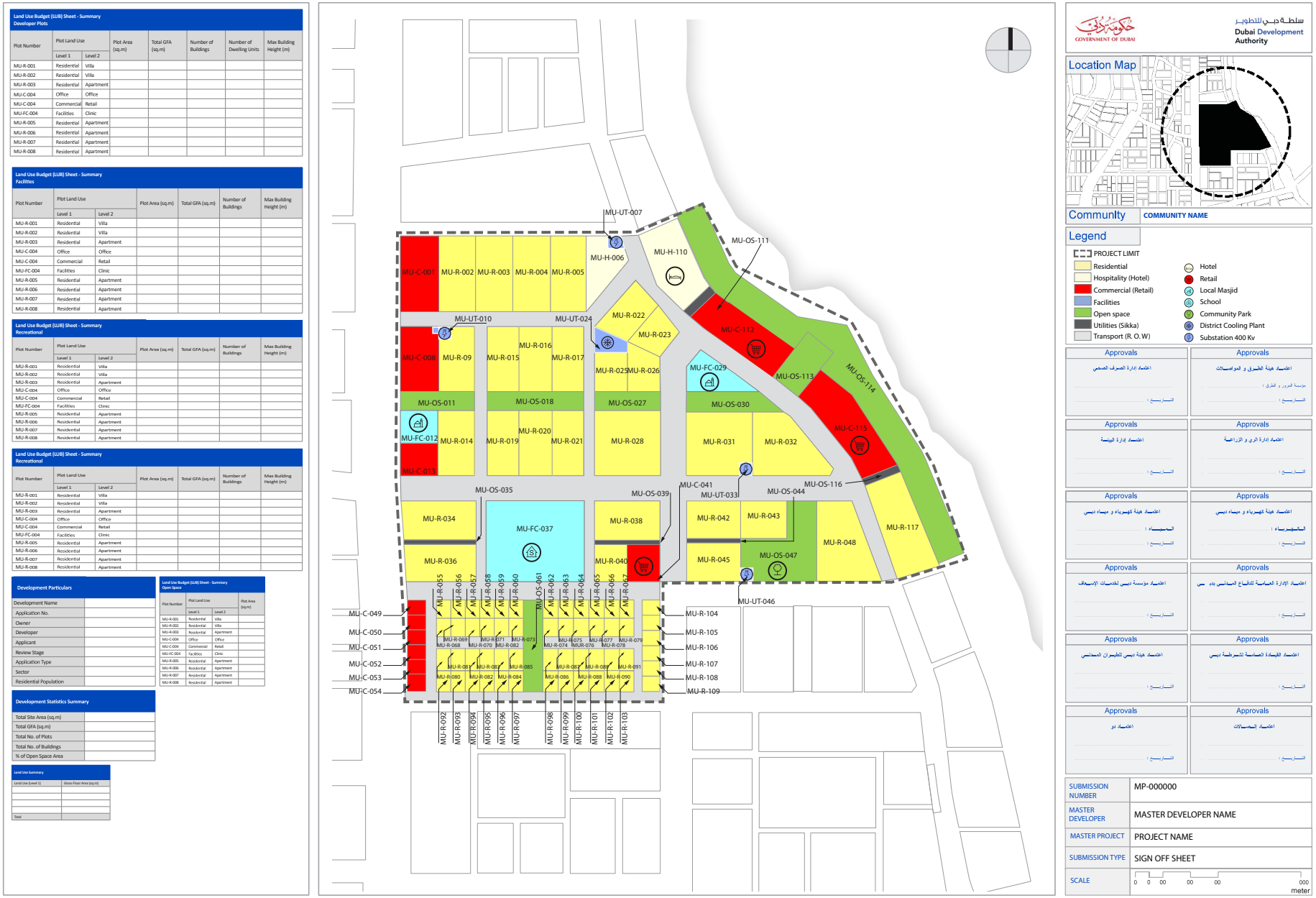


Figure iii.2: Example of SOS template

iii.6. General Requirements

In addition to the requirements set out in the previous sections, this section provides a summary of other general requirements that must be followed for all submissions to DDA.

Master Plan Preparation

For the Master Plan Report, the following must be met:

- The report must be named to match the corresponding submission requirement dependent on the stage of review;
- Include a table of contents with relevant page numbers;
- Follow the same order of the chapters and sub-chapters as set out in this guideline;
- Refer to and comply with the definitions included in Appendix A of this guideline;
- Format in color and sized to print legibly at A4 size; and
- Page numbers must be shown.

For all plans included in the master plan submission, the following must be met:

- Include plans for all phases of development, if applicable;
- Locate site in the center of the plan;
- Oriented to true north;
- Include a scale bar;
- Include a north arrow with Qibla direction;
- Clearly show and distinguish the site boundary;
- Caption to match the exact requirement as set out in this guideline; and
- All dimensions measured in meters.

Master Plan Submission

For all electronic file submissions, the following must be met:

- Submit on CD or USB compatible with Windows;
- Submit uncompressed files;
- Submit in “Portable Document Format” (PDF) version 7 or later;
- Submit LUB in Excel format;
- Submit the master plan report (including plans within it) as a single PDF file. Submit all other requirements as separate files;
- Submit all electronic submissions without password and/or restrictions; and
- Electronic file names must clearly describe the file and reference the subject property.

All submittal packages should be submitted at the Customer Service counter.

1 Site Analysis



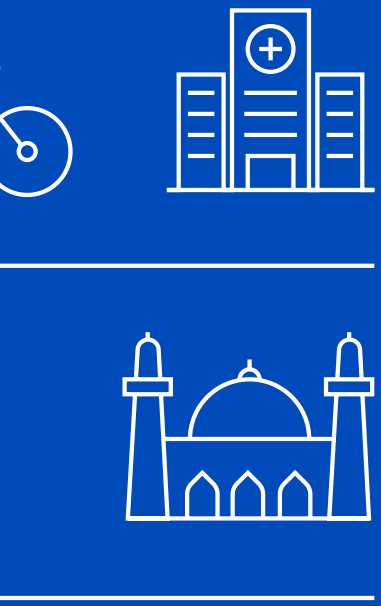
Introduction

Undertaking a Site Analysis is the starting point for a master plan. A coherent understanding of the site and its surroundings is the basis for good design.

As such, any master plan submitted to DDA must include a Site Analysis section which demonstrates that the context of the site has been considered, and the proposed master plan makes the most of the opportunities present and does not cause adverse impacts.

This chapter provides an overview of the Site Analysis items that need to be included within a submission to DDA. Visual examples are also provided.

Reasonable efforts must be undertaken to acquire information on adjacencies. Collected information on site context must include both existing and any known planned elements.



Requirement Checklist

PMP	SOS	FMP	
☑	☐	☑	Valid Site Plan Copy (latest update)/Valid DM Affection Plan/Valid DLD Title Deed (as applicable)
☑	☐	☑	Consultant Appointment Letter *(if Applicable)*
☑	☐	☑	Plot Owner Valid Trade License
☑	☐	☑	Consultant Valid Trade License
☑	☐	☑	Project History *(if Applicable)*
☑	☐	☑	Reference to Overarching Structure/Framework Plan *(if Applicable)*
☑	☐	☑	Regional Context Plan
☑	☐	☑	Local Context plan
☑	☐	☑	Site and Aerial Photographs
☑	☐	☑	SWOT Analysis Table
☑	☐	☑	SWOT Analysis Plan

1.1. Project Background

As part of the submission to DDA, information in relation to the project background must be provided. The project background must provide a succinct overview to some of the site's key parameters.

The site ownership must be confirmed through a Valid Site Plan Copy (latest update), Valid DM Affection Plan or Valid DLD Title Deed (as applicable), as illustrated in Figure 1.1, and the owner's valid trade license.

If a consultant is submitting the master plan on behalf of the developer/owner, the consultants appointment letter and valid trade license must be provided.

A brief history must be provided, through a short description, maps and/or diagrams if the site was subject to previous master planning efforts.

Compliance with overarching Structure or Framework Plan must be demonstrated by providing a short description, a map and/or a diagram showing any specific principles and relevant design considerations thereof in the proposed master plan.

Furthermore, the project background must demonstrate any historical or cultural significance and/or environmental sensitivity of the site and/or surroundings that need to be safeguarded. This must also be considered in the SWOT analysis as illustrated in Section 1.4.

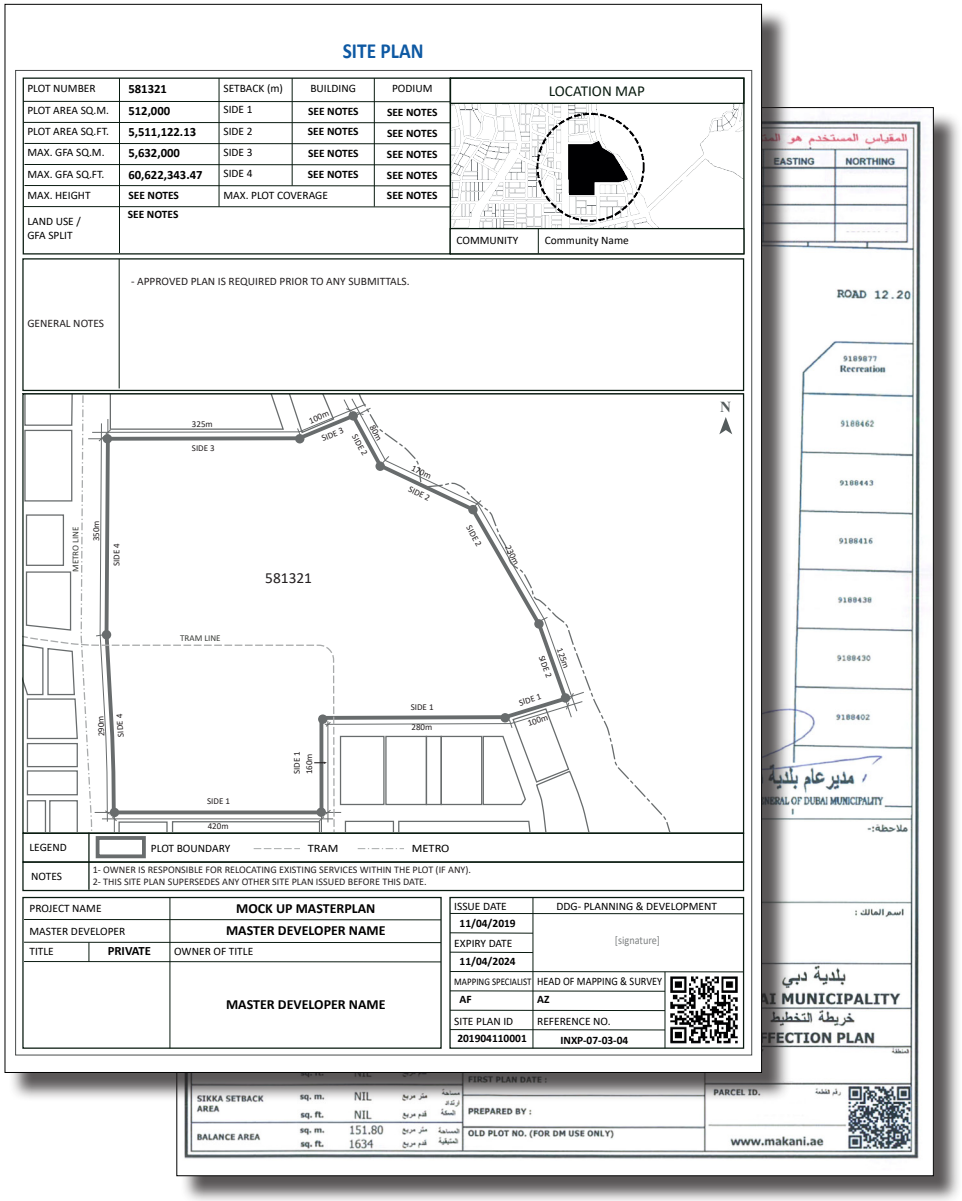


Figure 1.1: Example of Valid Site Plan Copy and Valid DM Affection Plan

1.2. Site Context

In order for DDA to assess the impact of the proposed master plan, the site's location and context must be recorded. The site's context must be provided at regional and local scales.

The level of detail at which the context scale should be considered differs depending on the scale and impact of the proposed master plan.

The extent of the regional context must cover a reasonable area of context, largely dependent on the scale of the master plan site as illustrated in Figure 1.2.

The extent of the local context must cover a reasonable area of local surroundings of the master plan site. The extent of the local context should capture 500m from all edges of the site and be offset accordingly as illustrated in Figure 1.3.

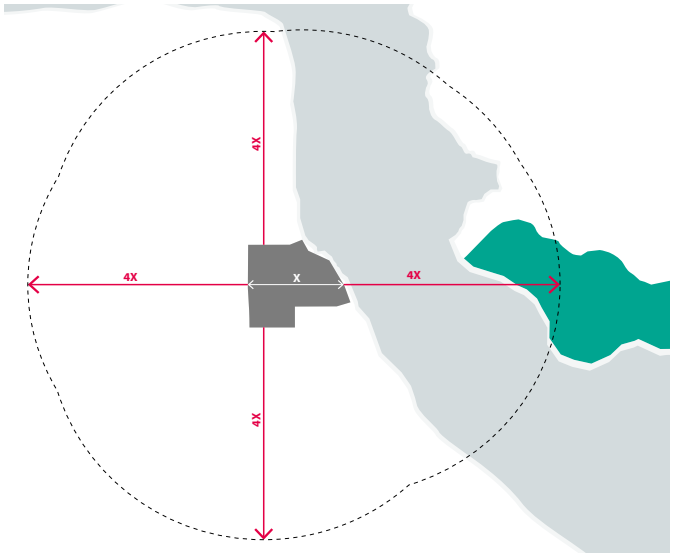


Figure 1.2: Regional context area extent

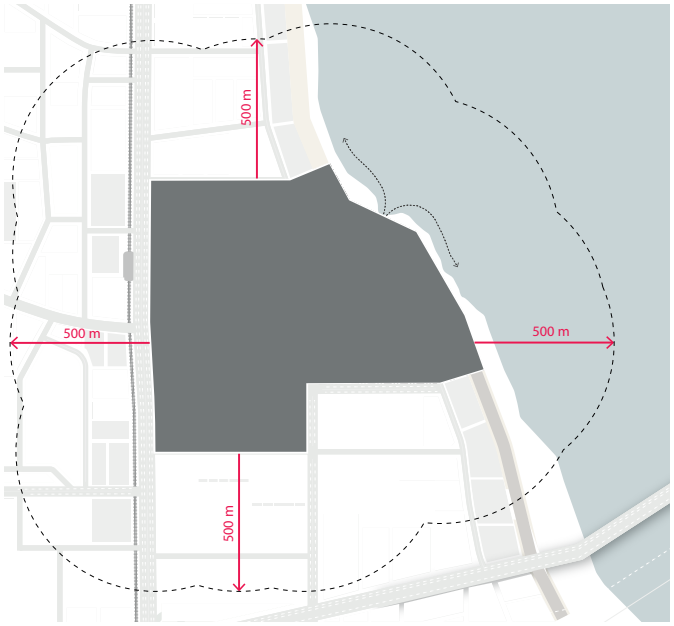


Figure 1.3: Local context area extent

Regional Context

A plan which clearly demonstrates the regional context must be provided as part of the master plan submission to DDA as illustrated in Figure 1.4.

The regional context must cover an area of influence as described in Figure 1.2.

Items covered on the plan must include, the following (both existing and planned), as a minimum:

- Major surrounding roads;
- Public transport and active travel nodes such as airports, ports, marinas, rail, metro, tram, bus and water transport stations and cycling paths and facilities;
- Major community facilities including health, education, entertainment, social and religious centers;
- Open spaces such as major parks and public beaches and promenades;
- Major landmarks such as iconic structures and spaces of unique significance;
- Mega developments such as city districts; and
- Prominent natural and topographical features such as pristine desert and mangroves.

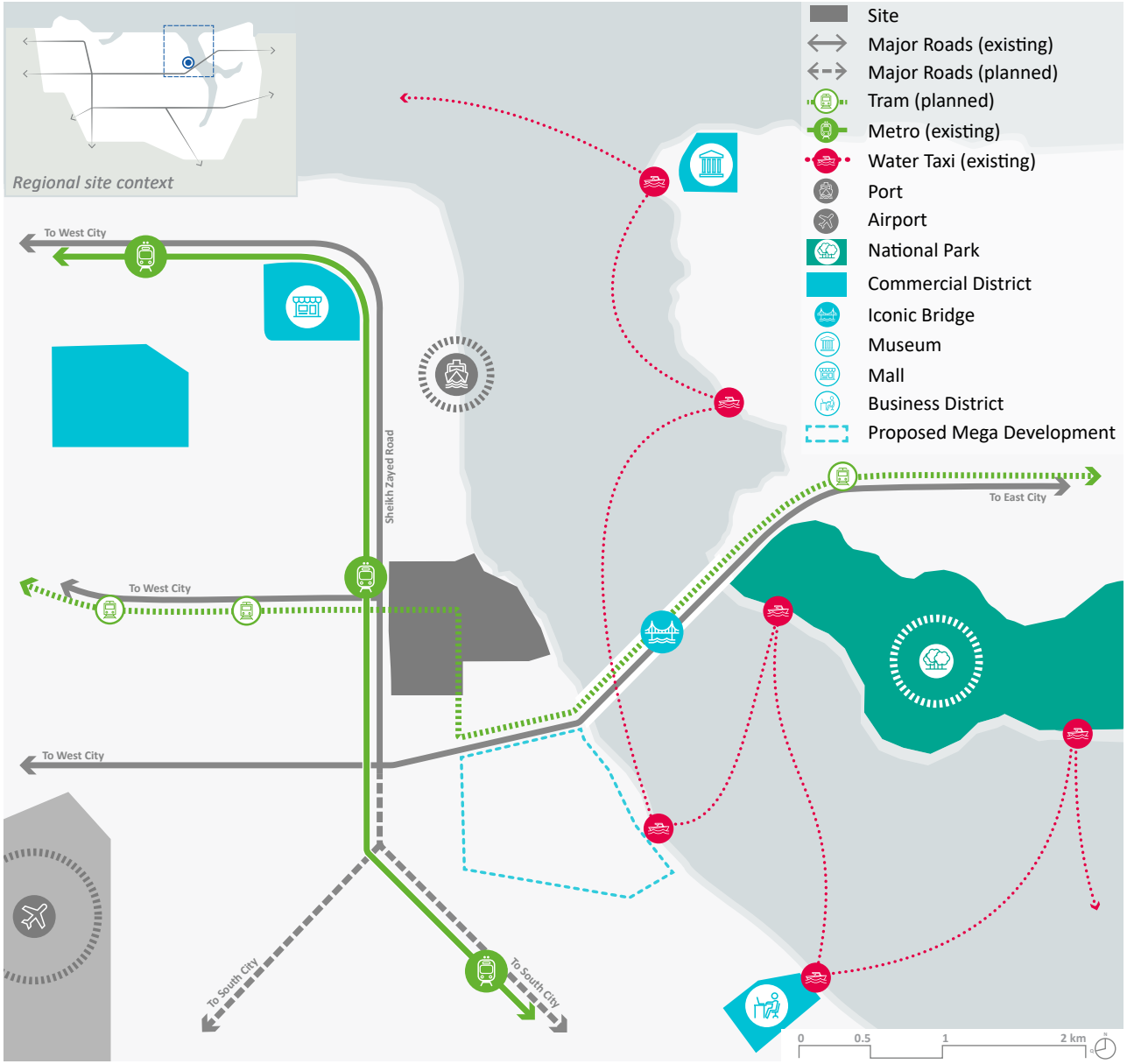


Figure 1.4: Regional context plan

Local Context

A plan which clearly demonstrates the local context of the development must be provided as part of the master plan submission to DDA as illustrated in Figure 1.5.

The local context must cover an area of influence as described in Figure 1.3.

Items covered on the plan must include, the following (both existing and planned), as a minimum:

- Connecting roads;
- Public transport and active transport nodes such as airports, ports, marinas, rail, metro, tram, bus and water transport stations and cycling paths and facilities;
- Surrounding predominant land uses and subdivisions of adjacent developments;
- Surrounding building heights;
- Community facilities such as masjids, healthcare, education and civil centers including adjacent community facilities if available;
- Public open spaces such as parks, playgrounds and promenades;
- Major visible landmarks and view corridors;
- Prominent natural and topographical features;
- Direction of prevailing winds; and
- Sun paths.

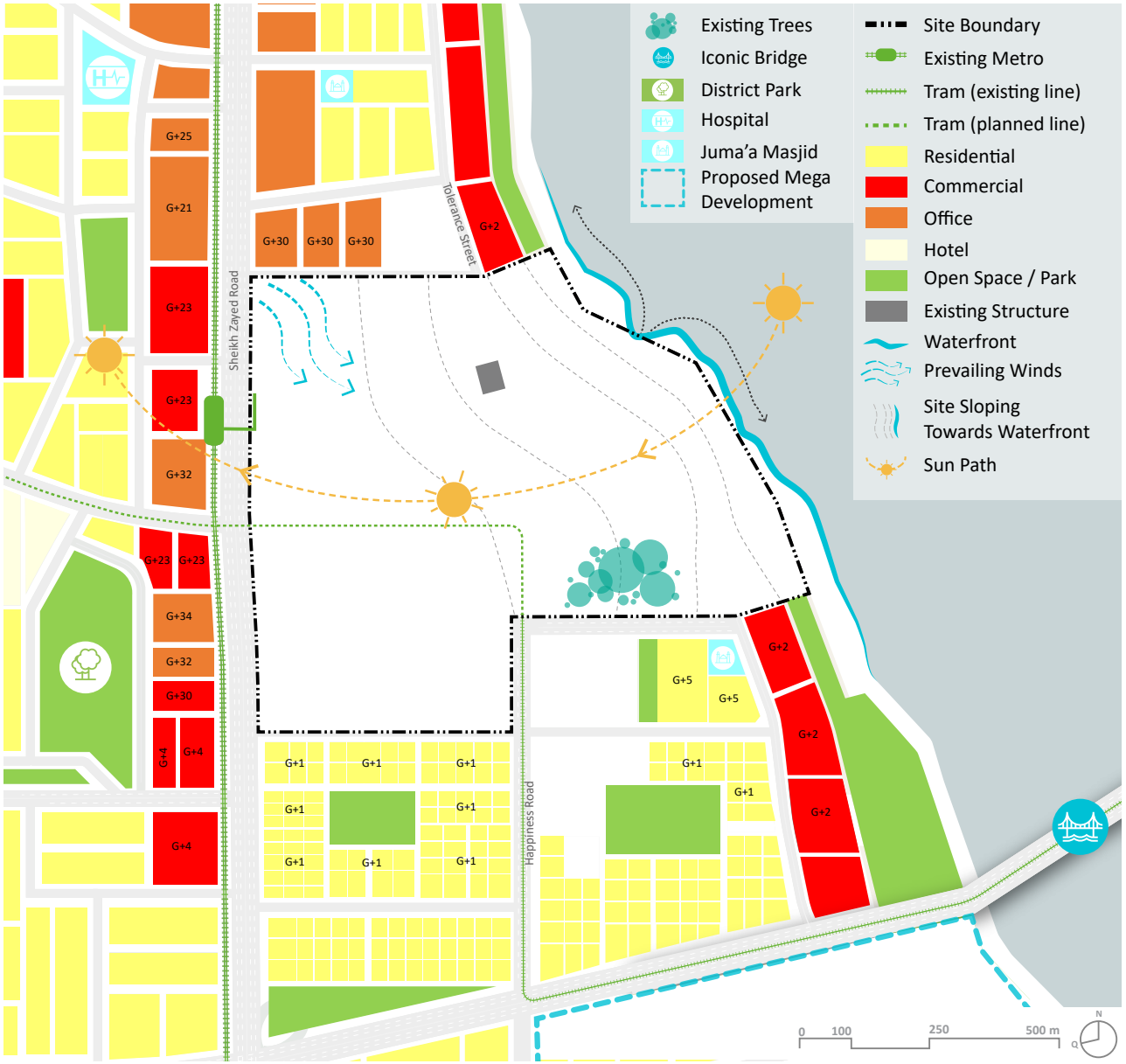


Figure 1.5: Local context plan

1.3. Site and Aerial Photographs/ Topography

A satellite image of the site must be provided in the submission to DDA which includes the site boundary.

The images and pictures must illustrate the overall character and qualities of the site and its context. It must focus on unique and noteworthy features, to allow a coherent assessment of the site.

The images to be provided must illustrate the following features, as a minimum:

- Visible topographical features such as wadis, hills, mountains or man-made elevations;
- Natural features such as existing vegetation, water bodies or significant habitats;
- Existing structures or infrastructure within the site; and
- Valuable views to-and- from the site.

The location and direction of pictures must be indexed on a plan or properly described.



Figure 1.7: View 1 - View of iconic bridge

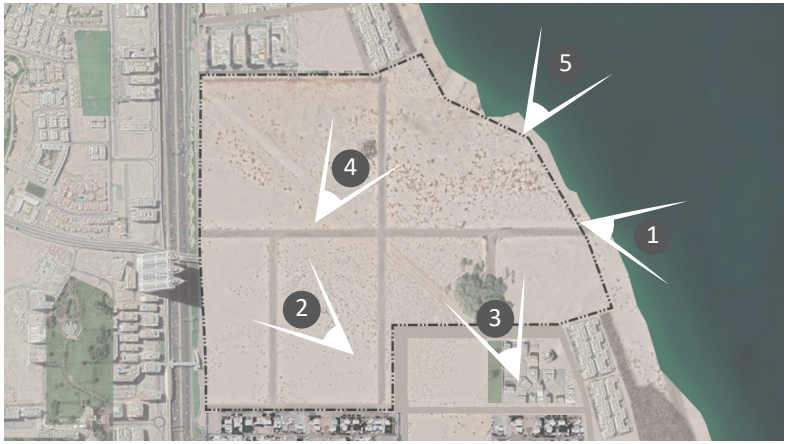


Figure 1.6: Key map



Figure 1.8: View 2 - Access to sewage facilities



Figure 1.9: View 3 - Existing trees on site



Figure 1.10: View 4 - Existing structure



Figure 1.11: View 5 - Waterfront view from site

1.4. Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

A Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis must be included as part of the site analysis. While a full analysis is not required in the master plan submission, a summary must be included which contains a plan (as illustrated in Figure 1.12) and a narrative provided in a table format (as illustrated in Table 1.1).

The analysis must include the following, as a minimum:

- Potential connections to the site (vehicular, public transport and active transport such as walking and cycling);
- Limitations of the site in relation to location, orientation, buildable land etc.;
- Potential sources of noise and pollution;
- Areas of environmental and man-made risk and opportunity;
- Areas of the site with limited or no changes allowed, such as committed/sold/built plots, environmentally sensitive areas, heritage, quality of ground materials;
- Statutory site limitations such as building heights;
- Adjacent incompatible land uses;
- Major elements from the context analysis impacting the master plan, for example provision of adjacent Juma'a masjid, major retail centers or public open spaces;
- Views to-and-from the site that require or are recommended for preservation and limitations;
- Major infrastructure or utilities with an impact on servicing the master plan;
- Visual barriers;
- Physical barriers; and
- Level change across the site and/or between site and adjacent context.

The SWOT analysis should feed into the master plan concept and design (refer to Chapter 2), and items highlighted at this stage must be reflected, taken advantage of or mitigated against as appropriate. The relationship between the outcomes of the analysis and the master plan must be clearly illustrated and referred to throughout the master plan submission to DDA.

Strengths	Opportunities
• Existing metro station on the edge of the site. • Site includes a waterfront. • Planned tram line through the site. • Surrounding promenade. • Multiple road connections and potential connections to the site. • Adjacent facilities include a Juma'a masjid and district park.	• Existing trees and vegetation on the site. • View of iconic bridge. • Views of water and cityscape. • Ferry stop within site. • Planned tram stop within site. • Pedestrian connection to adjacent promenades. • Proximity of metro and tram catchments allows for potential integration. • Change in elevation next to water allows for creative building design.
Weaknesses	**Threats**
• Potential high rise buildings next to neighbouring small villas. • Existing structure on site.	• Noise pollution from adjacent major road.

Table 1.1: SWOT analysis table

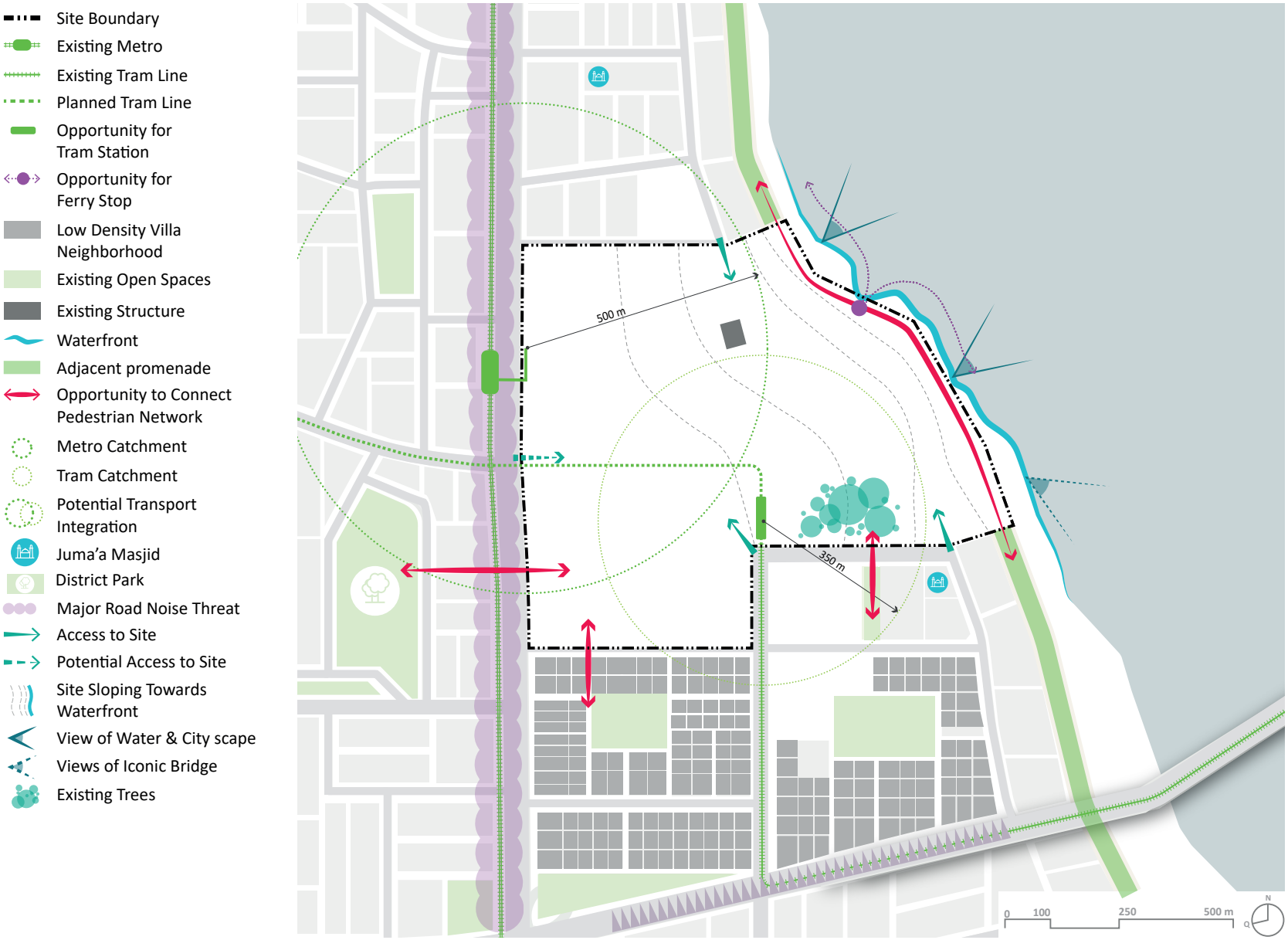


Figure 1.12: SWOT analysis plan

2 Master Plan Overview

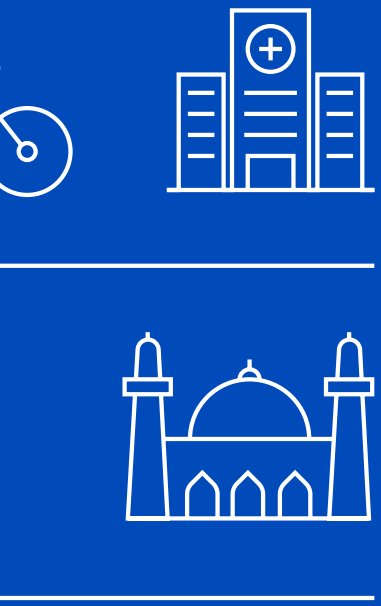


Introduction

The Master Plan Overview must demonstrate how the development objectives and design principles have shaped the emerging master plan.

Fundamental to this is to identify how the outcomes of the site analysis and the resulting understanding, translate into the design and development of the proposed master plan. It is also important to demonstrate how any high level principles and master plan aspirations translate into the spatial layout of the proposed master plan.

This chapter provides an outline of what the Master Plan Overview must contain and how this will allow DDA to asses any master plan from a qualitative perspective.



Requirement Checklist

PMP	SOS	FMP	
☑	☐	☑	Development Objectives and Design Principles
☑	☐	☑	Master Plan Overview Plan
☑	☐	☑	Master Plan Response to SWOT Analysis

2.1. Development Objectives and Design Principles

It is desirable to establish the aspirations behind the proposals for a master plan in order to assess its completeness and potential from a qualitative perspective.

Some of the elements that should guide the master plan objectives include:

- Completeness of community: meeting the needs of people of all ages, abilities and income levels through integrated land use and transport planning and community design;
- Architectural quality: ensuring that the architectural elements of the master plan establish a holistic design through development scale, built form and connectivity of spaces;
- Ease of movement: Promoting inter-modal connectivity through route design and creating strategies that provide for all users equally focusing on prioritizing pedestrian traffic and allowing for smooth transitioning between public and private spaces;
- Quality of life and wellbeing: Developing designs that address the quality of life and wellbeing of users through providing proactively for their physical and psychological needs and maximizing comfort;
- Environment and nature: identifying ways to safeguard and incorporate the natural features of sites and adopting design and execution practices that reduce adverse impacts on the environment;

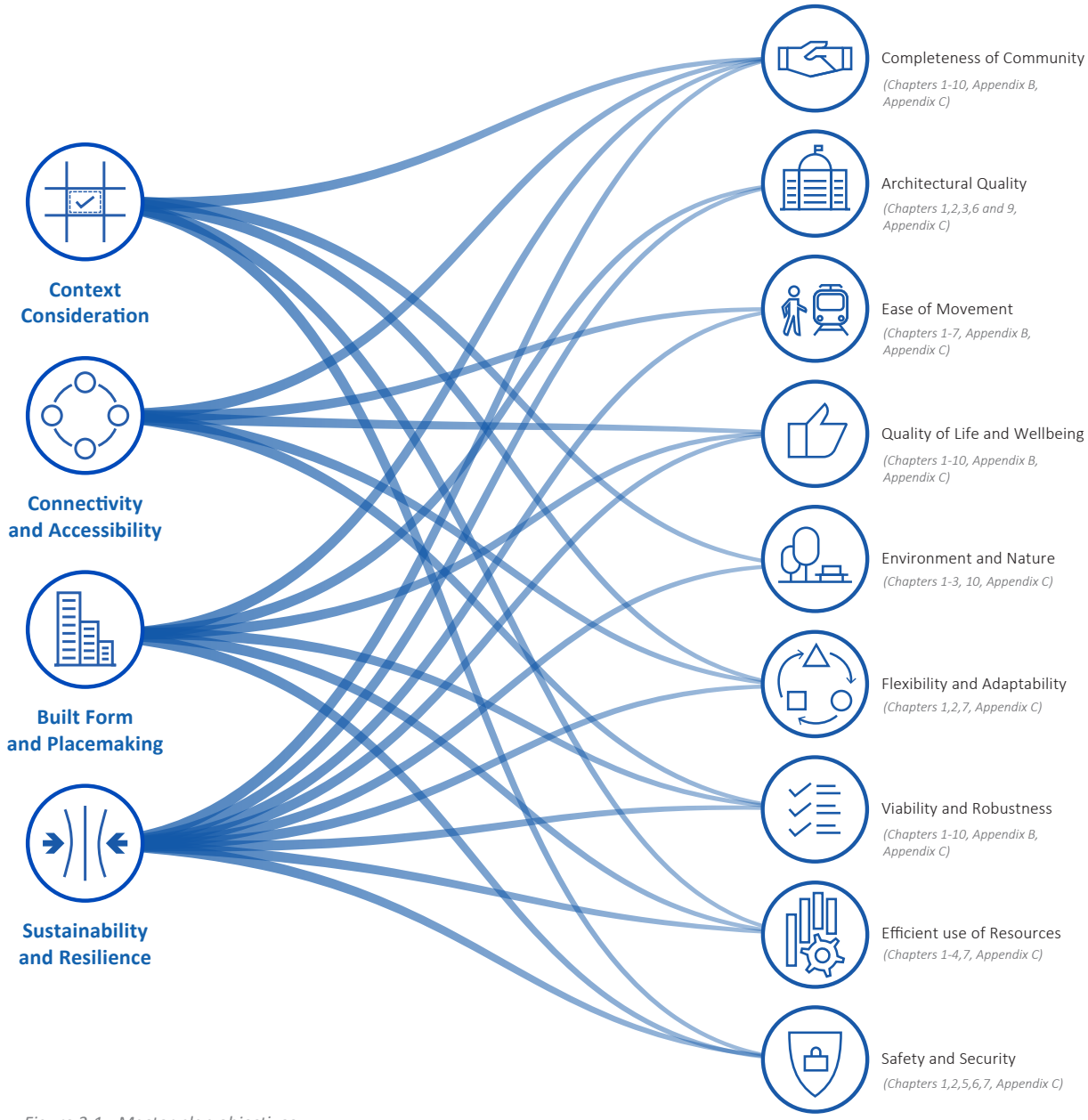


Figure 2.1: Master plan objectives

- Flexibility and adaptability: considering multi-functional uses for infrastructure and spaces supported with self-sufficient mechanisms to account for varying operational conditions and create flexible systems that can respond and adapt to change and withstand shocks;
- Viability and robustness: responding to the surrounding context and considering limitations and opportunities for the efficient use of land and supporting facilities and infrastructure;
- Efficient use of resources: incorporating sustainable practices and considering resource efficiency in the planning, design, execution and operation of infrastructure, spaces and systems; and
- Safety and security: establishing design mechanisms that ensure the safety and security of users when using available spaces and infrastructure.

The above list is not complete or exhaustive but intended to support querying some of the key questions that the development and design should respond to.

The principles and objectives that are applicable to the site and development requirement must be demonstrated in the master plan submission.

Figure 2.1 illustrates how these objectives support and align with the guideline's principles.

Figures 2.2 to 2.4 illustrate an example of the design principles that guided the development of the “Mock Up Master Plan”.

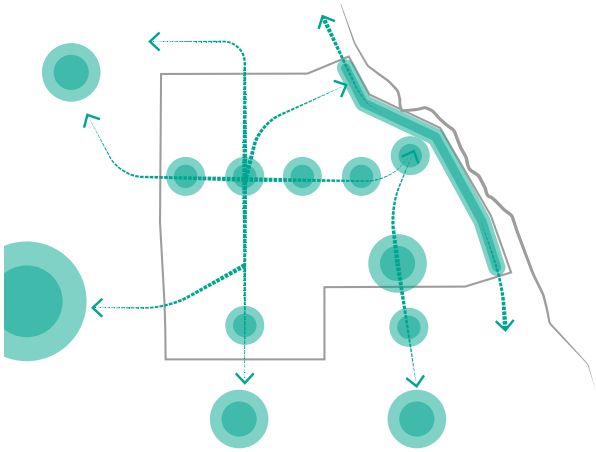


Figure 2.2: Master plan principles (1)

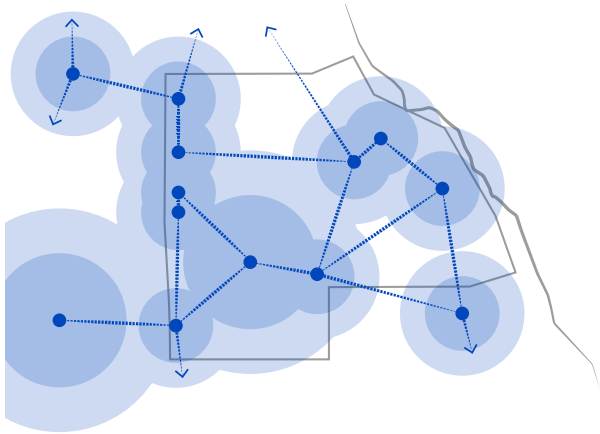


Figure 2.3: Master plan principles (2)

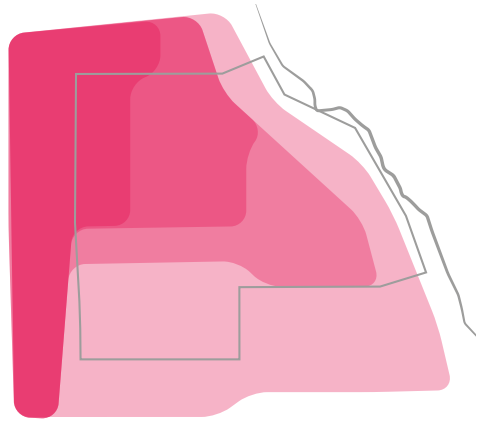


Figure 2.4: Master plan principles (3)

Open Space Network

Create an open space network with various hierarchies of open spaces and a diverse program that can cater to a wide array of users. The open spaces should be well connected and surrounded with complementary uses to create synergies within the master plan.

Complete Communities

Create complete communities that are served with all the requisite community facilities. The provision of community facilities should be supplemented with integrated pedestrian, cycling and public transport networks providing connections both within the community as well as to other parts of the city.

Massing and Land use

Create a master plan that allows for a wide range of land uses that are located to complement each other and the surrounding context in line with the massing distribution. The massing strategy should respond to the land uses and view corridors as well as internal and external adjacencies.

2.2. Master Plan Overview Plan

A Maser Plan Overview must build directly onto the Site and SWOT Analysis and summarize how the findings thereof are used to achieve the objectives and principles. This should focus on spatial elements that are used to formulate a framework for the master plan that is informed by the context, condition and ambition for the site.

Elements that should be covered in this plan will depend on the specific context and vary accordingly but typical elements will include the following items:

- Key routes and directions that will form the backbone for pedestrian, vehicle and public transport;
- Areas of natural, environmental or biodiversity value that will need to be incorporated;
- Zoning principles that maximize assets of the site and respond to adjacencies; and
- Structuring elements that provide identity to the future community being created.

This overview will form a key element of demonstrating the relationship between the outcomes of the analysis and the master plan submitted to DDA for approval. An example is illustrated in Figure 2.5.

Additionally the SWOT analysis table and the master plan's responses to these must be included as presented in the example included in Table 2.1.

Strengths	Response within master plan
Existing metro station on the edge of the site.	Pedestrian and cycling network connects the metro station to the waterfront and other major attractions. Allocation of community facilities and retail close to the metro station.
Site includes a waterfront.	Maximized through design, also a main part of the active transport networks.
Future tram line through the site.	Proposed tram stop within the site.
Surrounding promenade.	Design of promenade in line with adjacent promenades to enhance pedestrian connectivity to adjacent development.
Multiple road connections and potential connections to the site.	Road connections studied and utilized in the mobility section.
Adjacent facilities include a Juma'a masjid and district park.	Adjacent facilities taken into consideration when calculating and providing community facilities (see community facilities chapter).
Weaknesses	**Response within master plan**
Potential high rise buildings next to neighboring small villas.	Building heights distributed to work with the surrounding massing (see building typologies and building height plans).
Existing structure on site.	Investigated structures appears non-essential, structure will be removed prior to construction.
Opportunities	**Response within master plan**
Existing trees and vegetation on the site.	Neighborhood parks located there, most of the trees would be maintained as part of the park.
View of iconic bridge. Views of water and cityscape.	Views of waterfront and iconic bridge preserved in the design of waterfront plots.
Ferry stop within site.	Direct access to national park and museum via ferry stop on site.
Tram stop within site.	In agreement with RTA, a tram stop would be added within the site to increase the public transport modes and reduce dependency on cars.
Pedestrian connection to adjacent promenades.	Design of promenade in line with adjacent promenades to enhance pedestrian connectivity to adjacent development.
Proximity of metro and tram catchments allows for potential integration.	Primary active travel routes designed within the master plan to enhance connectivity between the two stations.
Change in elevation next to water allows for creative building design.	Design of waterfront plots takes into consideration change in elevation through water facing retail frontages and access from both elevations (see architectural sections).
Threats	**Response within master plan**
Noise pollution from adjacent major road.	Plots adjacent to the major road include a note within the plot development guidelines requiring a landscape buffer to be built.

Table 2.1: Master plan response to SWOT analysis

- Site Boundary
- Existing Metro
- Existing Tram Line
- Planned Tram Line
- Opportunity for Tram Station
- Opportunity for Ferry Stop
- Water Front Land with Two Level Access
- View of Water & City scape
- Views of Iconic Bridge
- Open Space Network
- Pedestrian Connections
- Adjacent Promenade
- Mid Rise Development
- Low Rise Development
- Access Roads
- Potential Location for a Post Shelter
- Potential Location for a School
- Retail
- Open Space/Park
- Potential Location for a Local Masjid
- Juma'a Masjid
- Museum
- Potential Location for Community Facilities
- Community Facilities Potential Centres
- Apartment Typology
- Villa Typology

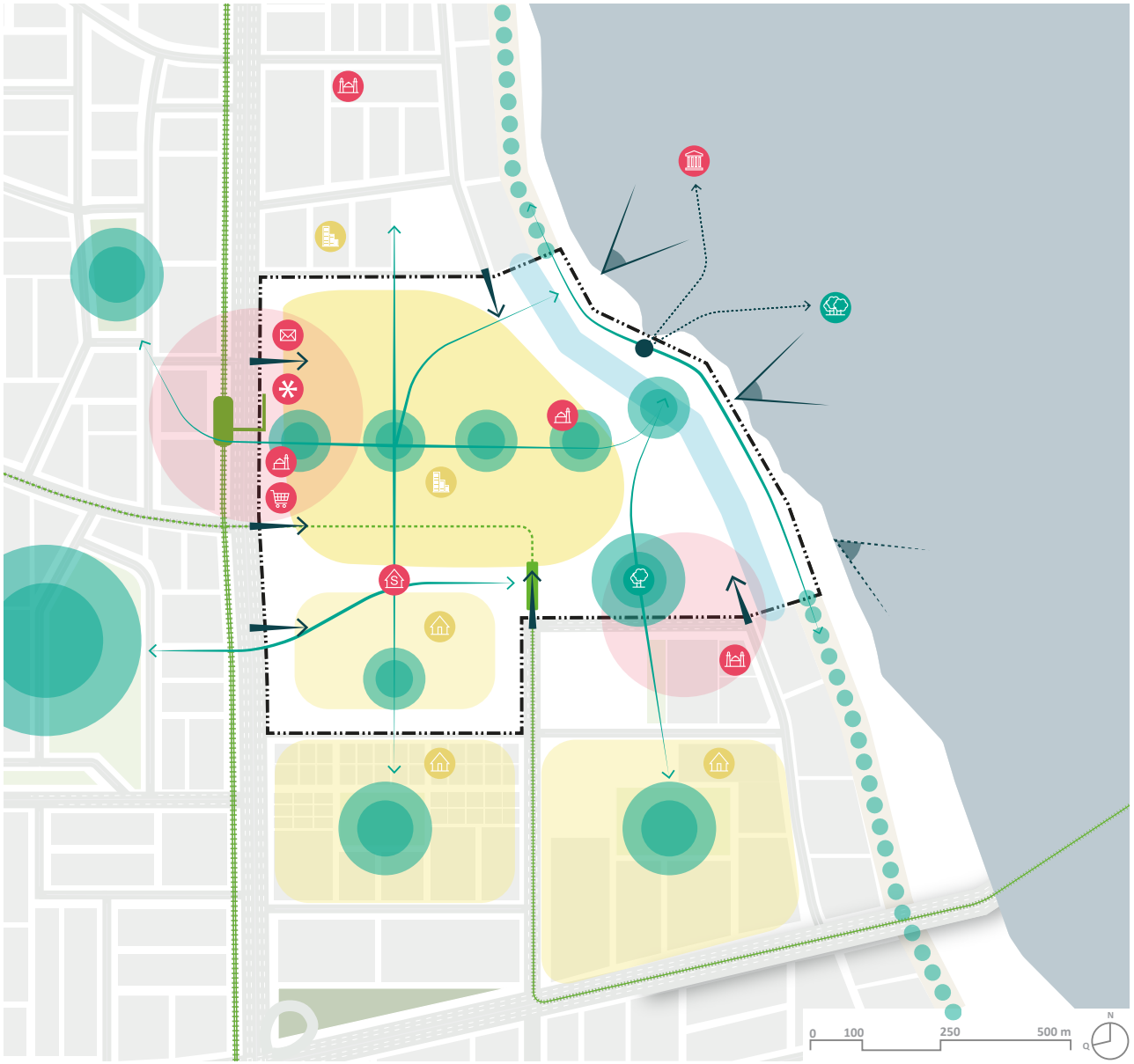


Figure 2.5: Master plan overview plan

3 Land Use and Population



Introduction

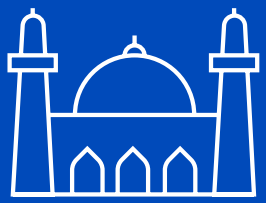
Planning to make the best use of land is the basis for creating livable communities that meet the needs of the population while safeguarding available resources. It significantly affects the quality and performance of the built environment and directly impacts quality of life.

As such, the evaluation of the land potential to select the most appropriate use must consider the physical, social and economic aspirations of the master plan and the demographics of the targeted population and population density.

The provisions that control the nature of development activities can then be determined including plot areas, land consumption, land use intensity and the technical standards of the infrastructure and buildings that will serve them.

Land uses need to be planned in accordance with DDA's requirements as set out in this guideline.





Requirement Checklist

PMP	SOS	FMP	
☑	☑	☑	Land Use Budget Sheet (including Residential Population and Plot Workability Check)
☑	☐	☑	Land Use Plan
☑	☐	☑	Residential Population Numbers

3.1. Land Use Classification

Land use reflects the purpose and the manner of using the land. This should consider land use allocation, development, ownership and management.

The land use allocation has a direct impact on other planning considerations including population estimates, trip generation and parking requirements. As such, it should be carefully planned to ensure maximized land potential, integration with mobility networks and services and creation of hubs of activity that serve the needs of the community.

Land use allocation must follow DDA's standard land use classifications as set out in Appendix B.

The standard land use classification consists of two levels. Level 1 includes ten overarching land use categories. Level 2 provides sub categories that cover a range of unique land use classifications under Level 1 categories. A summary of land use classifications is illustrated in Figure 3.1.

Reference should be made to the definitions of each land use category to ensure accurate allocation of land uses.

If multiple land uses are allocated to one plot, all land uses (Level 1 along with corresponding Level 2) must be clearly assigned and accounted for in the overall land use budget sheet.

In the case that a land use is not covered within the land use classifications, the master developer may request a new land use category to be added to the classifications subject to providing sufficient substantiation and following DDA review/approval prior to submission.

Residential

- Villa
- Attached Villas
- Apartment
- Staff Accommodation
- Labor Accommodation

Hospitality

- Hotel
- Resort
- Hotel Apartment
- Student Accomodation

Industrial

- Light Medium-Industry
- Heavy Industry
- Warehouse

Recreational

- Museum
- Cultural Center
- Performing Arts Venue
- Sports Venue
- Sports Facility
- Golf Course
- Equestrian Center
- Zoo
- Aquarium
- Club House
- Cinema
- Marina
- Theme/Amusement Park

Facilities

- Prayer Rooms
- Local Masjid
- Juma'a Masjid
- Eid Prayer Area
- Religious Facility
- Cemetery
- Police Point
- Police Station
- Civil Defense Point
- Civil Defense Station
- Ambulance Point
- Ambulance Station
- Post Shelter
- Post Office
- Library
- Government Center
- Children Nursery
- Kindergarten
- School
- University
- Educational Institute
- Clinic
- Government Hospital
- Private Hospital
- Healthcare Center
- Guard House
- Facility Management
- Driving School
- Elderly Care Facility
- Rehabilitation Center
- Public Toilet

Commerical

- Retail
- Petrol Station
- Exhibition/Conference Center
- Shopping Center

Office

- Office

Utilities

- Power Plant
- Substation 400 Kv
- Substation 132 Kv
- Substation 11 Kv
- District Cooling Plant
- Fire Fighting Facility
- Potable Water Facility
- Irrigation Facility
- Sewage Treatment Plant
- Storm Water Facility
- Storm Water Pond
- Sewage Pumping Station
- Waste Management Facility
- Meet Me Room (MMR)
- POP Room
- GSM Tower
- Gas Farm
- Desalination Plant
- Ring Main Unit (RMU)
- Feeder Pillar
- Utility Corridor

Open Space

- Landscape
- Sector Park
- District Park
- Community Park
- Neighborhood Park
- Pocket Park
- Playground
- Buffer Zone
- Promenade
- Beach
- Break Water
- Water Body
- Conservation Area
- Sikka

Transport

- Access Road
- Right-of-Way (ROW)
- Car Parking
- Car Parking Structure
- Bus Station
- Metro Station
- Tram Station
- Rail Station
- Railway
- Other Transit Station
- Ferry Terminal
- Cruise Terminal
- Truck Rest Area
- Helipad

Figure 3.1: Land Use Classification

3.2. Land Use Compatibility

Good land use planning should consider land use compatibility to ensure that land uses complement each other and do not cause adverse impacts to adjacent land uses.

The land use strategy must consider separating incompatible uses by an adequate separation distance (i.e. buffer). This primarily applies to land uses with potential nuisances such as noise, light, odors, vibration, pollution, fumes, privacy, high volume roads and others related to cultural norms and undesirable activities.

It is encouraged for compatible land uses or activities to be incorporated in the buffer zone, if possible.

Separation distances must comply with Dubai Municipality Environment Department guidelines, where applicable.

Figures 3.2 provides examples of land uses with potential adverse impacts and mitigation measures that should be considered when developing the master plan.

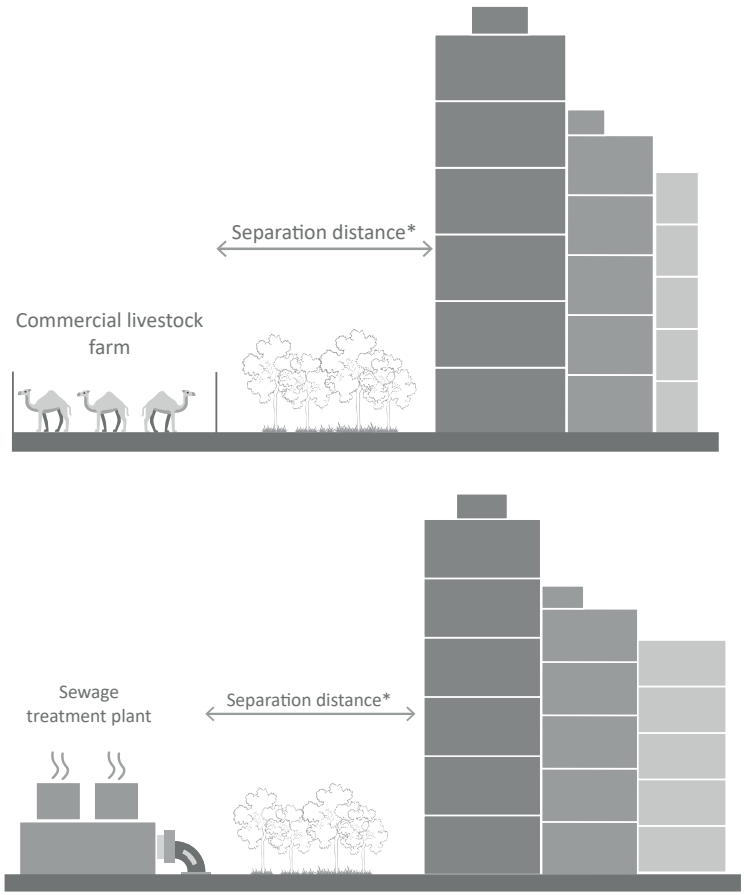


Figure 3.2: Mitigation for incompatible land uses
**Dubai Municipality Environment Department guidelines*

3.3. Land Use Budget and Plan

A plan that demonstrates the proposed land uses within the master plan must be provided as part of the master plan submission to DDA as illustrated in Figure 3.3. The selected land uses must comply with DDA's land use classifications as set out in this guideline. Level 1 land uses must be demonstrated in the land use plan in addition to some Level 2 land uses through symbols (for the Level 2 land uses that have assigned symbols only). Additionally, plot numbers must be included in the land use plan.

An accompanying land use budget sheet must also be provided at all stages of the master plan approval process. At the SOS stage, the land use budget sheet must be submitted following DDA's format as further detailed in Section iii.5 - Spatial Data (GIS) Requirements.

A table summarizing the Land Use Budget Sheet must be provided as part of the master plan submission. This summary table must specify percentage area and GFA allocation for each Land Use.

Level 1 and Level 2 land uses must be identified in the land use budget sheet.

In the case of multiple land uses on one plot, the specified color of the prevailing land use may be assigned to the plot for the purpose of preparing the land use plan. However, all land uses must be provided within the land use budget sheet.

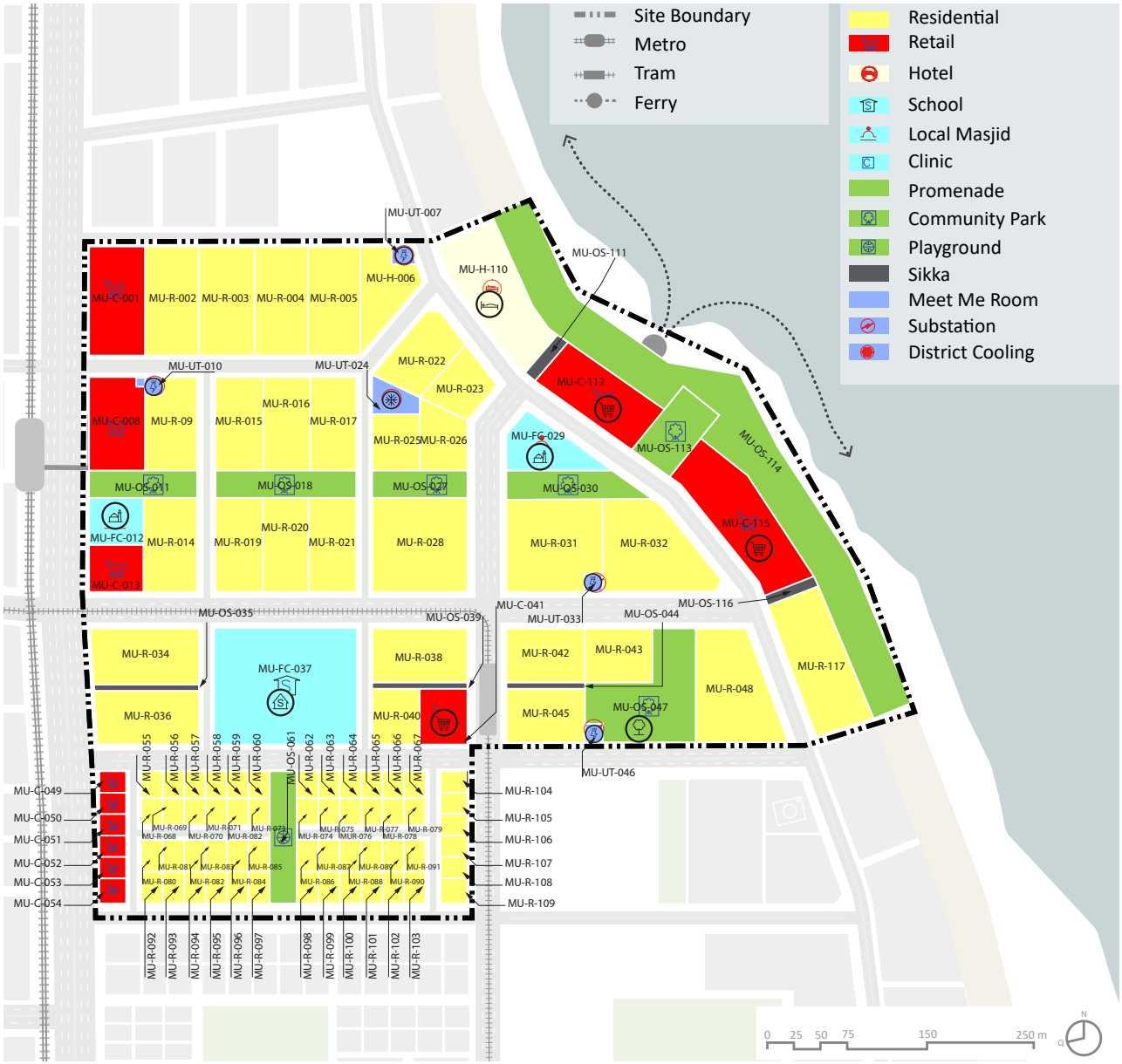


Figure 3.3: Land use plan

3.4. Plot Workability

Prior to any master plan submission, a self check must be undertaken to ensure that plots are workable and can functionally accommodate proposed development. This plot workability test (Refer to table 3.1) focuses on checking if the proposed GFAs can be accommodated in the building envelopes and if the required number of parking spaces is achievable within the space allocated for parking.

The land use budget sheet is set up to allow for a high-level self check to be conducted by any end user. When submitted to DDA, this plot workability check will also be undertaken by the designated reviewer in DDA.

Building Envelope Test

DDA will, by using the GFA from the land use budget sheet and the number of floors, establish if the proposed development will fit within the plot boundaries. The land use budget sheet accordingly establishes if the total GFA, divided by the footprint area, results in a number higher or lower than the communicated number of floors.

Parking Provision Test

DDA will, by using the proposed number of parking spaces from the land use budget sheet and the identified number of floors, establish if there is sufficient space to fit the requirements. The land use budget sheet accordingly establishes if the number of proposed spaces, multiplied by 45sq.m.*, is less than the total number of area identified for parking.

Any resulting concerns may result in rejection of the submitted plan.

Land Use Budget (LUB) Sheet																								Plot Workability Test			
Plot Number	Plot Area (sq.m)	Plot Land Use (1)		GFA (sq.m)	Other land uses (removed from this example)	Total GFA (sq. m)	Foot Print Area (sq. m)			Number of Buildings per Plot	Number of residential Units	Number of Floors			Setbacks (removed from this example)	No. of required parking	Car Parking Requirements								Building Envelope Capacity (GFA)		Parking Capacity	
		Level 1	Level 2				Ground Floor	Podium	Building			# of basement floors	# of podium floors	# of buidling floors			Ground Floor	Podium		Basement		Surface (within setback)		Total spaces provided				
																	spaces provided	# of floors	spaces provided	# of floors	spaces provided	Area utilised (m)	Spaces Provided					
MU-R-09	3,000	Residential	Apartment	25,000		25,000	1,800	1,800	1,200	1	10	1	10	10		145	-	2	60	1	10	10		80	30,000	Check	147	Check
MU-C-09	2,000	Commercial	Exhibition/ Conference Center	30,000		30,000	1,800	1,800	1,200	1	-	1	1	3		163	-	2	80	2	50	-		130	6,600	Check	164	Check

Table 3.1: Plot workability test example

** This is an average area assumption per parking space for structured parking including circulation. This number might increase depending on plot size and shape. The Consultant may propose an increase to this assumption for their specific project.*

3.5. Residential Population

Each master planned community will be home to a population which will vary and fluctuate throughout occupation. However, at the design and planning stages, it is fundamentally important to ascertain a number of residents that will be occupying the master plan at any one time.

This is not only important for the provision of utilities and ensuring that sufficient transport provision is being made, but also critical to ensuring that the community is also served with all amenities and facilities they need. In order to establish a number for residential population, the standard formula developed by Dubai Municipality (DM) must be applied.

Mixed Density

For master plans with villas and apartments, 10% for National population and 90% for non-National population must be considered. The household size that must be used is 7.8 and 4.0, respectively. Figure 3.4 provides the formula for estimating residential population in this case.

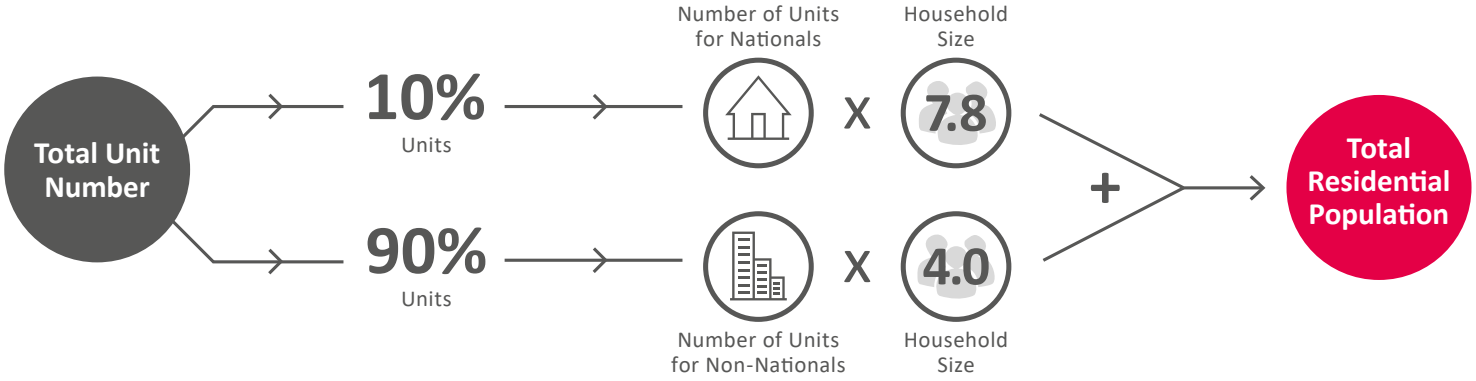


Figure 3.4: Residential Population calculation formula when total number of units is known

In the absence of a reliable number of units, which is fundamental for establishing residential population numbers, the total residential GFA should be used. A breakdown of 31% and 69% for National and non-National residential GFA should be used, respectively. These ratios were estimated based on a reversed calculation from the standard assumption of National to non-National population ratio of 10:90 explained above. An apartment unit size of 100sq. m and villa unit size of 400sq. m of GFA may be applied to convert the GFA to number of units. Figure 3.5 provides the formula for estimating residential population in this case.

High Density

For master plans with exclusively higher density apartments, the ratio of 100% apartments with a household size of 4.0 is accepted. Figure 3.6 provides two formulas for estimating residential population for this case based on available information.

These population numbers will form the basis of all pertinent calculation and be used to establish appropriate levels of service of community facilities and public open space by DDA.

Please note that residential population only refers to permanent residents and excludes any visitors or temporary residents such as hotel dwellers. It also excludes any staff or laborer accommodation for whom specific, separate standards apply.

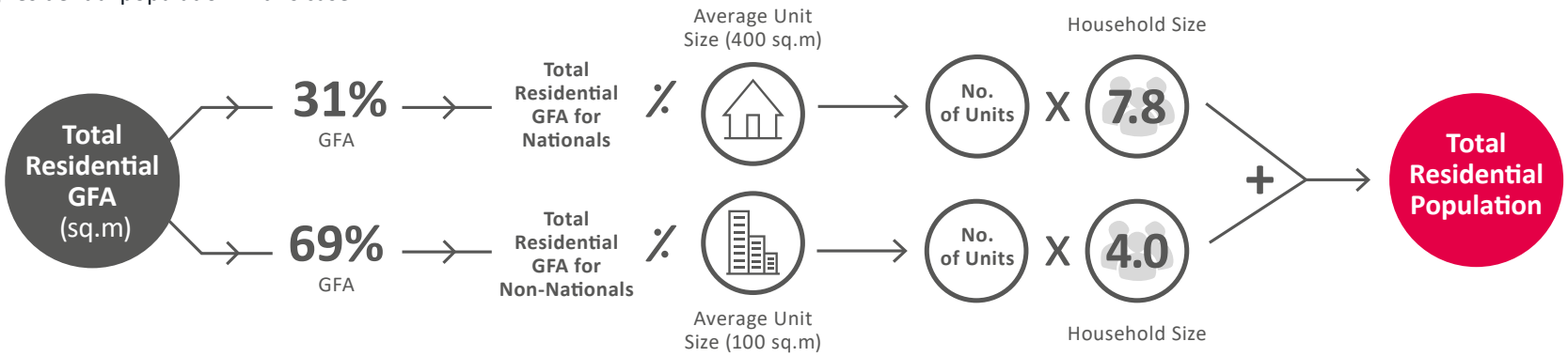


Figure 3.5: Residential Population calculation formula when total residential GFA (sq. m) is known



Figure 3.6: Population calculation formulas for higher density master plans with 100% apartments

4 Community Facilities



Introduction

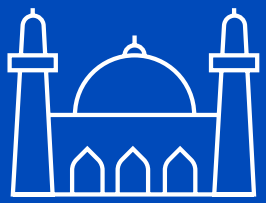
Community facilities form a vital part of creating livable places and sustainable neighborhoods.

For communities to develop in a sustainable manner, the right facilities must be available in the right locations to meet the population demand.

The type, scale and quality of community facilities should reflect the size of the community they serve. Whilst it is most efficient to locate some facilities centrally, other facilities which serve day to day needs should be located close to their catchment populations. This ensures that all residents have access to high quality community facilities delivered at the appropriate scale.

Community facility provision needs to be planned in accordance with Dubai Municipality's Community Facility Standards and DDA's requirements as set out in this guideline.





Requirement Checklist

PMP	SOS	FMP	
☑	☐	☑	Community Facilities Requirements and Provision Table
☑	☐	☑	Community Facilities Location Plan
☑	☐	☑	Community Facilities Catchment Plan

4.1. Community Facility Standards

Dubai Municipality Community Facility Standards set out requirements for Community Facility provision in Dubai and include the following:

- **Spatial scale:** The scale at which the facility should be delivered. There are four spatial scales at which community facilities must be provided where applicable (as illustrated in Figure 4.1);
- **The catchment population:** The total number of residents the community facilities need to provide for;
- **The catchment distance:** The maximum distance (in meters) to a community facility from a place of residence; and
- **Space requirements:** The minimum size area per person that needs to be provided for each type of community facility as well as the maximum building heights permitted for several of the facilities.

The standards set out that community facility provision varies according to the resident population density, as defined below:

- **Low Density:** Under 70 residents per hectare;
- **Medium Density:** 70 to 220 residents per hectare; and
- **High Density:** Over 220 residents per hectare.

The population density must be calculated as the total residential population divided by total development area (in Ha).

Tables 4.2, 4.3 and 4.4 and Figures 4.2, 4.3 and 4.4 set out the DM Community Facility Standards that must be adhered to for each population density.

Community facilities at a sector level are set and provided by the government through strategic level planning.

Information on how to estimate the population numbers for the purpose of determining community facility provision is provided in Section 3.5 Residential Population.

When recording the community facilities provision in the required tables and plans (as further explained in the following sections), it must align with the land use classification provided in Appendix B. For ease of reference, the DM community facility types have been aligned with the DDA land use categories shown in Table 4.1.

DDA Land Use	DM Community Facilities
Local Masjid	Local Mosque
Juma'a Masjid	Juma Masjid
Eid Prayer Area	Eid Prayer Area
Police Station	Police Station
Civil Defense Station	Civil Defense Center
Ambulance Point	Ambulance Point
Post Shelter	Post Shelter
Post Office	Post Office
Library	Public Library
Government Center	DM Office, DM Center
Children Nursery	Children Nursery
Kindergarten	Kindergarten
School	Primary, Intermediate, Secondary School
Clinic	Private General, Private Specialty and Private Polyclinic, Private Daycare Center
Private Hospital	Private Hospital
Government Hospital	Government Ref. Hospital
Healthcare Center	Healthcare Center
Elderly Care Facility	Elderly Rest House
Pocket Park	Local Plaza
District Park	District Park
Community Park	Community Park
Neighborhood Park	Neighborhood Park
Sector Park	Sector Park
Playground	Playground, Tot Lot
Retail	Retail Facilities
Shopping Center	Community Shopping Center

Table 4.1: DDA's Land uses aligned to DM community facility types

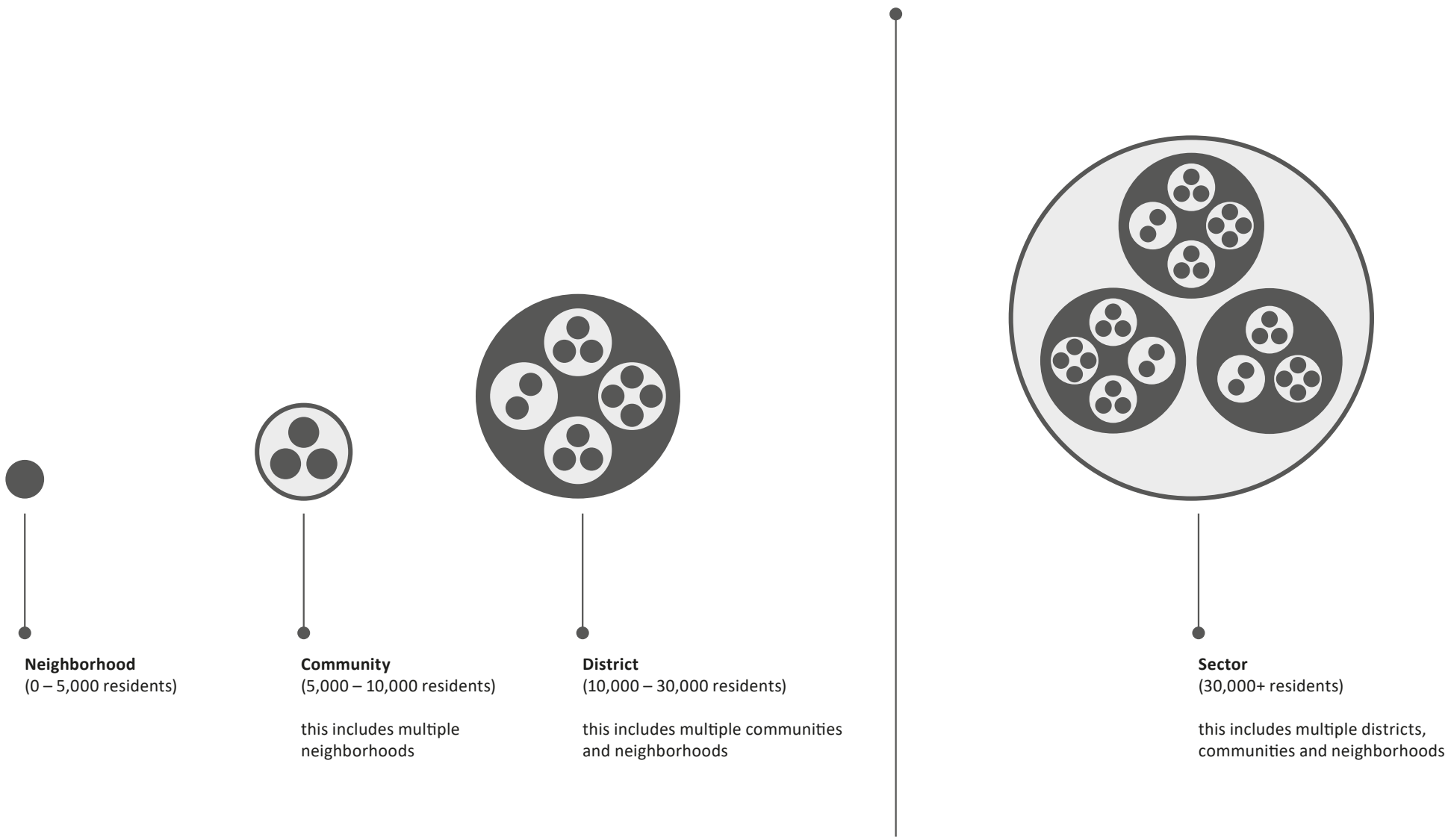


Figure 4.1: Spatial scales for community facility provision

Community facility standards for low density areas (< 70 residents per Ha)

Planning Level	Type of Facility (DM)	Population Served	Catchment Distance (m)	Minimum Site Area per Person (sq. m)	Building Height
Neighborhood Level	Post Shelter	2,000	400	Not Applicable	Ground
	Retail Facilities*			0.2	
	Local Plaza			0.75	
	Tot Lot**				
	Neighborhood Park			2	
	Local Mosque		500	0.9	
Community Level	Private General Clinic* Private Specialty Clinic* Private Polyclinic*	6,000	Varies	0.33	G+1
	Children Nursery*		800	0.1	Ground
	Kindergarten			0.5	
	Playground**			0.6	
	Community Shopping Center*			1	G+1
	Primary School			1.3	
	Community Park			2	Ground
	Juma'a Masjid		1,000	0.75	G+1
District Level	Private Daycare Center*	15,000	Varies	0.08	G+1
	Intermediate School	10,000	1,500	0.9	G+2
	Post Office*	20,000	1,800	0.1	G+1
	District Park		2,500	1	Ground
	Healthcare Center	30,000	3,000	0.25	G+1
	Secondary School	20,000	2,500	0.6	G+3
	Ambulance Point*			0.05	Ground
Sector Level	Private Hospital	35,000	Varies	0.14	G+2
	Elderly Rest House	50,000	Varies	0.05	Ground
	DM Office*		4,000	0.03	G+1
	Civil Defense Center		4,500	0.08	
	Eid Prayer Area	70,000	Varies	0.2	Ground
	Police Station		5,000	0.07	G+1
	Public Library			0.09	
	Sector Park			7	G for park | G+1 for facilities
	Government Ref. Hospital	80,000	Varies	0.15	G+2
	DM Center*	150,000	Varies	0.03	G+1

Table 4.2: Community facility standards for low density areas (<70 Persons/Hectare)

** These facilities can be provided within mixed-use buildings*

*** These facilities are optional*

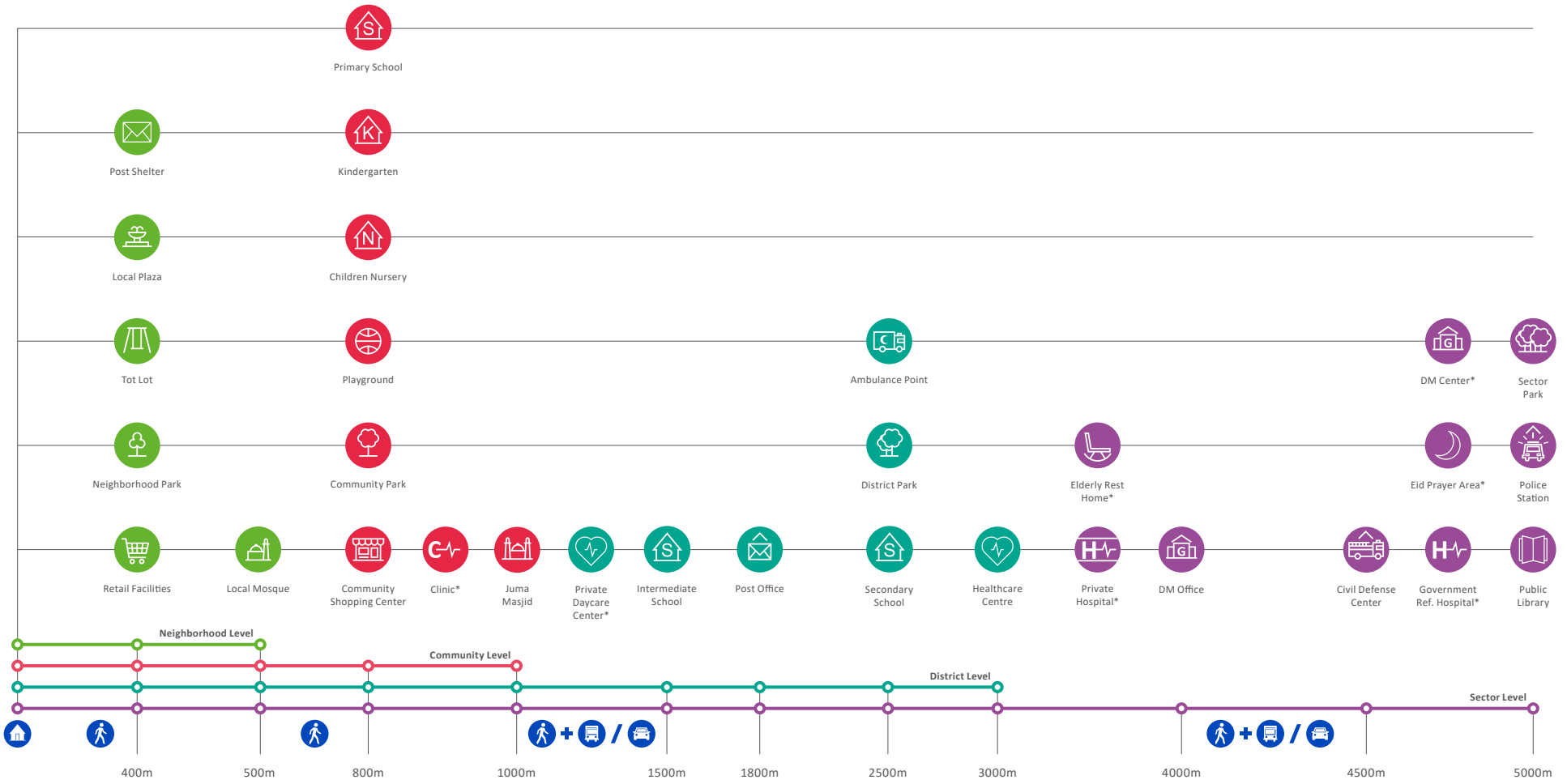


Figure 4.2: The catchment distance required for each community facility based on DM standards (for low density)

- Access to facilities on foot
- Access to facilities by public transport
- Access to facilities by cars
- * Facilities with “various” catchments

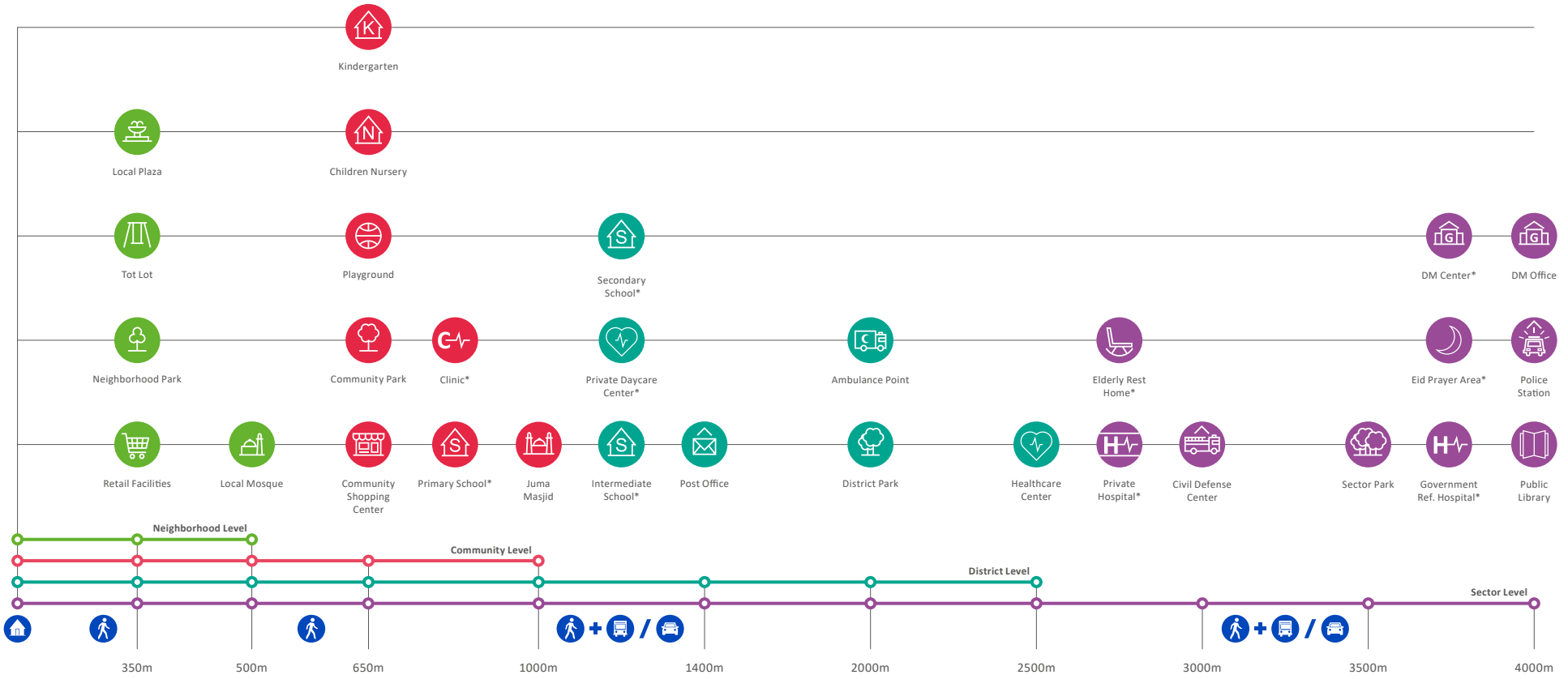
Community facility standards for medium density areas (70 - 220 residents per Ha)

Planning Level	Type of Facility (DM)	Population Served	Catchment Distance (m)	Minimum Site Area per Person (sq. m)	Building Height
Neighborhood Level	Post Shelter	3,000	-	Not Applicable	Ground
	Retail Facilities*		350	0.16	G+1
	Local Plaza			0.4	Ground
	Tot Lot**				
	Neighborhood Park			1.2	
	Local Mosque		500	0.5	G+1
Community Level	Private General Clinic* Private Specialty Clinic* Private Polyclinic*	9,000	Varies	0.16	G+2
	Primary School			0.8	G+1
	Children Nursery		650	0.08	Ground
	Kindergarten			0.3	
	Playground**				
	Community Shopping Center*			0.6	G+1
	Community Park			1	Ground
	Juma'a Masjid		1,000	0.45	G+1
District Level	Intermediate School	15,000	Varies	0.55	G+2
	Private Daycare Center*	18,000	Varies	0.04	
	Secondary School	25,000	Varies	0.4	G+3
	Post Office*		1,400	0.07	G+2
	District Park		2,000	0.6	Ground
	Healthcare Center	30,000	2,500	0.22	G+2
	Ambulance Point*		2,000	0.025	Ground
Sector Level	Private Hospital	35,000	Varies	0.07	G+4
	Elderly Rest House	70,000	Varies	0.04	Ground
	Civil Defense Center		3,000	0.05	G+1
	DM Office*		4,000	0.02	G+2
	Government Ref. Hospital	90,000	Varies	0.1	G+4
	Sector Park	100,000	3,500	3	G for park | G+1 for facilities
	Public Library		4,000	0.045	G+2
	Police Station				G+1
	Eid Prayer Area	120,000	Varies	0.15	Ground
	DM Center*	200,000	Varies	0.02	G+2

Table 4.3: Community facility standards for medium density areas (70 – 220 Persons/Hectare)

** These facilities can be provided within mixed-use buildings*

*** These facilities are optional*



Access to facilities on foot

Access to facilities by public transport

Access to facilities by cars

* Facilities with “various” catchments

Figure 4.3: The catchment distance required for each community facility based on DM standards (for medium density)

Community facility standards for high density areas (> 220 residents per Ha)

Planning Level	Type of Facility (DM)	Population Served	Catchment Distance (m)	Minimum Site Area per Person (sq. m)	Building Height
Neighborhood Level	Post Shelter	4,000	Not Applicable	Not Applicable	Ground
	Retail Facilities*		300	0.14	G+1
	Local Plaza			0.25	Ground
	Tot Lot**				
	Neighborhood Park			0.75	
	Local Mosque		500	0.3	G+1
Community Level	Private General Clinic* Private Speciality Clinic* Private Polyclinic*	12,000	Varies	0.12	G+2
	Primary School			0.65	G+1
	Children Nursery*		500	0.06	Ground
	Playground**			0.2	
	Kindergarten			0.25	
	Community Shopping Center			0.45	G+1
	Community Park		600	0.7	Ground
	Juma'a Masjid		1,000	0.23	G+1
District Level	Private Daycare Center*	20,000	Varies	0.04	G+2
	Intermediate School			0.42	
	Secondary School	30,000	Varies	0.33	G+3
	Post Office*		1,000	0.06	G+2
	District Park		1,500	0.4	Ground
	Healthcare Center		2,000	0.22	G+1
	Ambulance Point*	50,000	1,500	0.006	Ground
Sector Level	Private Hospital	35,000	Varies	0.05	G+7
	Government Ref. Hospital	100,000	Varies	0.05	G+7
	Civil Defense Center		2,000	0.035	G+1
	DM Office*		2,500	0.01	G+2
	Police Station		3,500	0.035	G+1
	Public Library	120,000	3,000		G+2
	Sector Park			1.25	G for park|G+1 for facilities
	DM Center*	250,000	Varies	0.015	G+3

Table 4.4: Community facility standards for high density areas (>220 Persons/Hectare)

** These facilities can be provided within mixed-use buildings*
*** These facilities are optional*

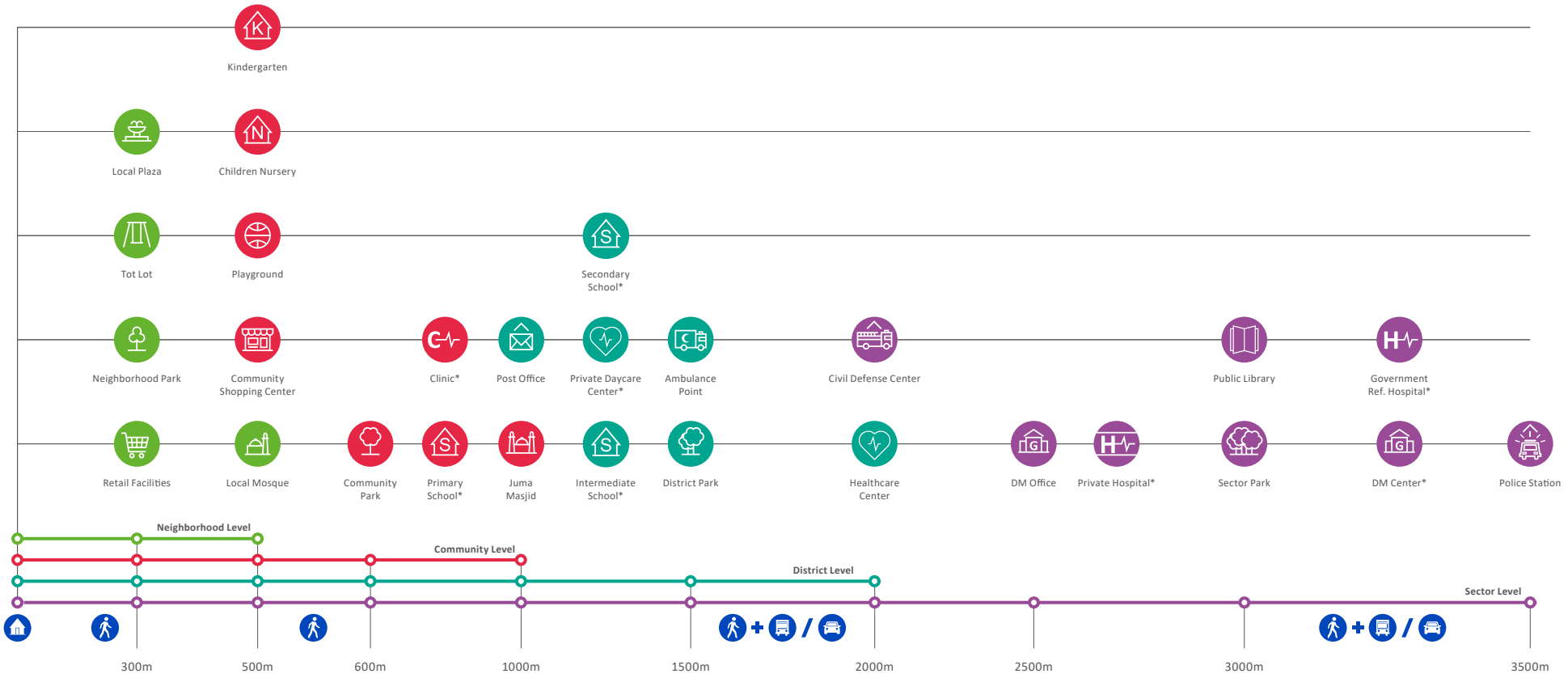


Figure 4.4: The catchment distance required for each community facility based on DM standards (for high density)

- Access to facilities on foot
- Access to facilities by public transport
- Access to facilities by cars
- ∗ Facilities with “various” catchments

4.2. Community Facility Provision

A plan illustrating the locations of the community facilities within the master plan must be submitted to DDA, as illustrated in Figure 4.5. If facilities outside of master plan are considered, they must also be included in the plan. Such facilities must be located within the maximum catchment areas as per the standards presented in the previous sections.

In the case of phased developments, neighborhood level community facility requirements must be provided in each phase as a minimum. At the final phase, for the full build development, all the applicable community facility requirements must be met.

A table with the information contained in Table 4.5 must also be provided to DDA (this information must be provided as a minimum). The example shows the community facilities requirements for medium density development with a population of 6,000.

This must be accompanied by an excel spreadsheet which contains calculations demonstrating how the community facility provision has been determined. The submission to DDA must also include a written statement setting out whether the community facility provision (according to DM Community Facility Standards) has been adequately met, or if not, an explanation as to why.

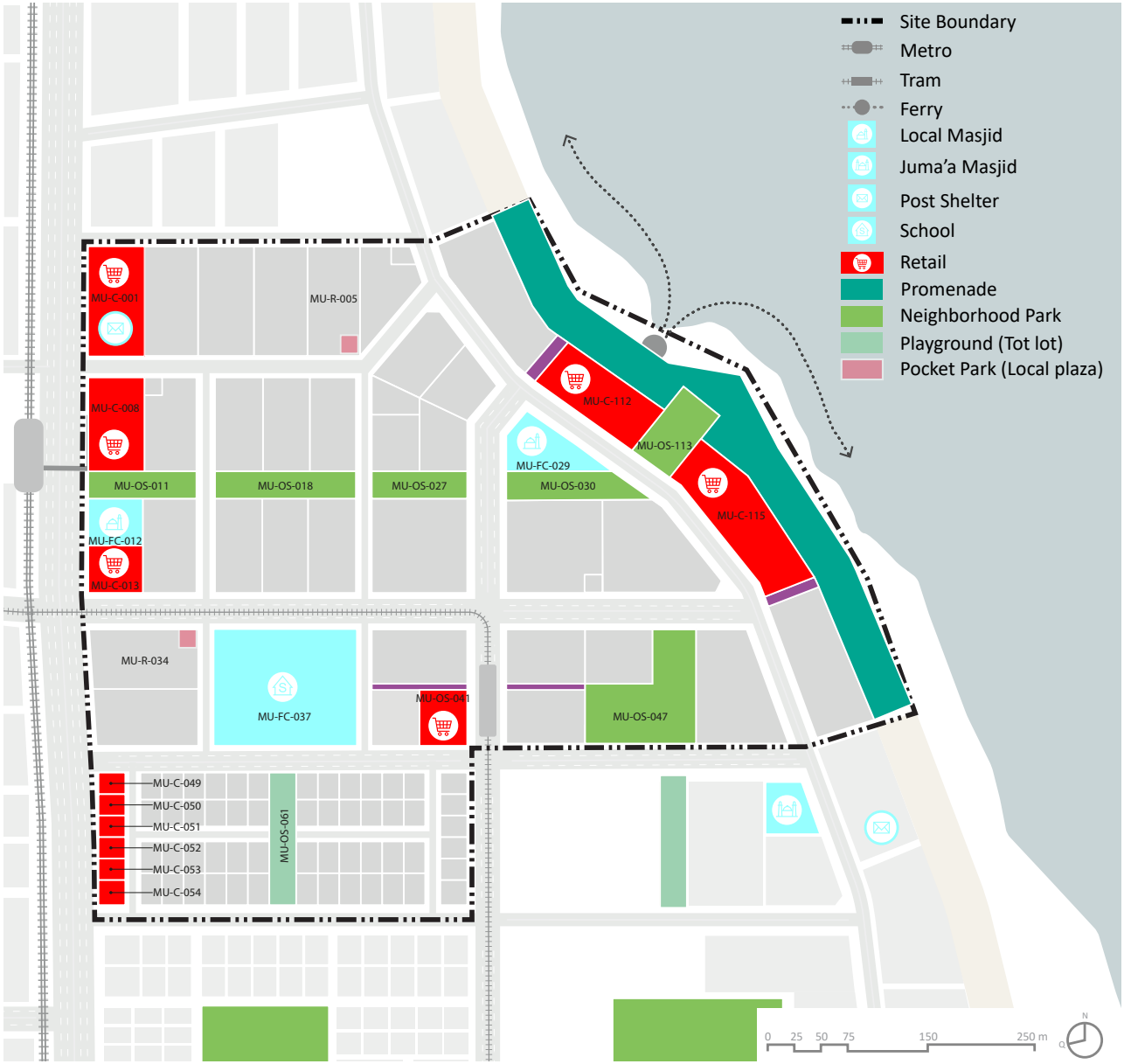


Figure 4.5: Community facilities location plan

Community Facility Type	Required Facilities		Facilities Provided Outside of Master Plan*		Facilities Provided in Master Plan					Remarks
	Total No.	Total GFA (sq. m)	Total No.	Total GFA (sq. m)	Total No.	Total Plot Area (sq. m)	Total GFA (sq. m)	Building Height	Plot No.	
Post Shelter	2.0	N/A	1	N/A	1	N/A	N/A	Ground	MU-C-001	Accounted for adjacent facilities within catchment distance to support the complete requirements of the master plan.
Retail Facilities	2.0	960	1	400	1	300	600	G+1	MU-C-001 MU-C-008 MU-C-013 MU-C-112 MU-C-115 MU-C-041 MU-C-049 to MU-C-054	Accounted for adjacent facilities within catchment distance to support the complete requirements of the master plan.
Local Plaza	2.0	2,400	1	400	2	1,200	N/A	Ground	MU-R-005 MU-R-034	Partially satisfied but supported with other open space categories that contribute to over 10% of the site area. Proximity to Promenade also provides access to a lrge area of open space that is easly accessible to the community.
Tot Lot	2.0	2,400	1	1,500	1	2,000	N/A	Ground	MU-OS-061	Accounted for adjacent facilities within catchment distance to support the complete requirements of the master plan.
Neighborhood Park	2.0	7,200	1	1,000	6	13,200	N/A	N/A	MU-OS-011 MU-OS-018 MU-OS-027 MU-OS-030 MU-OS-113 MU-OS-047	Fully satisfied within the master plan.
Local Mosque	2.0	3,000	2	1,200	2	600	1,800	G+1	MU-FC-012 MU-FC-029	Accounted for adjacent facilities within catchment distance to support the complete requirements of the master plan.
Intermediate School	none	none	none	none	1	1,500	2,800	G+2	MU-FC-037	-

Table 4.5: Community facility provision table
**Within appropriate catchment area (refer to column 'maximum distance to facility (m)' in tables 6.1, 6.2 and 6.3)*

4.3. Community Facility Catchment Plan

A Plan illustrating distance catchments for each of the community facilities provided within the master plan must be submitted to DDA, as illustrated by Figures 4.6 to 4.9.

The catchments must be based on the defined standards by DM, as per Tables 4.2, 4.3 and 4.4. This is also diagrammatically illustrated in Figures 4.2, 4.3 and 4.4.

Catchments must be set from the edges of the plot or community facility structure (see school catchment in Figure 4.6). Severances, such as road barriers (if no pedestrian crossing is available), will result in a smaller catchment area coverage (see post shelter catchment in Figure 4.7). As such, any existing facilities located beyond the reduced catchment limit will not be accessible and must not be considered towards the community facility provision of the master plan.

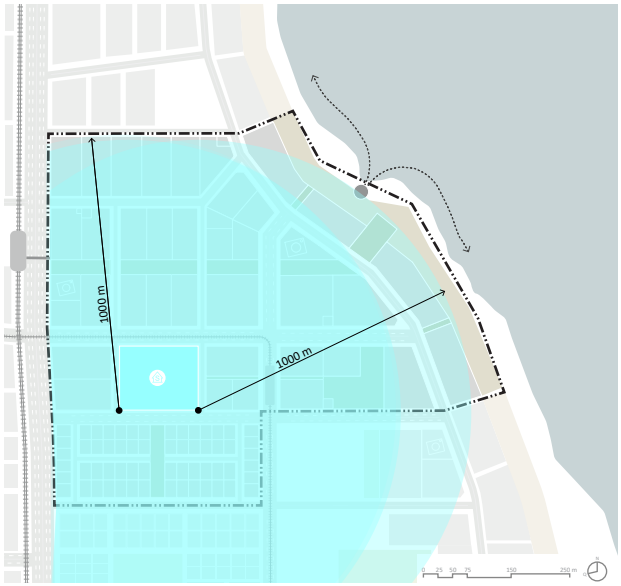


Figure 4.6: School catchment plan (catchment scale is illustrative only)

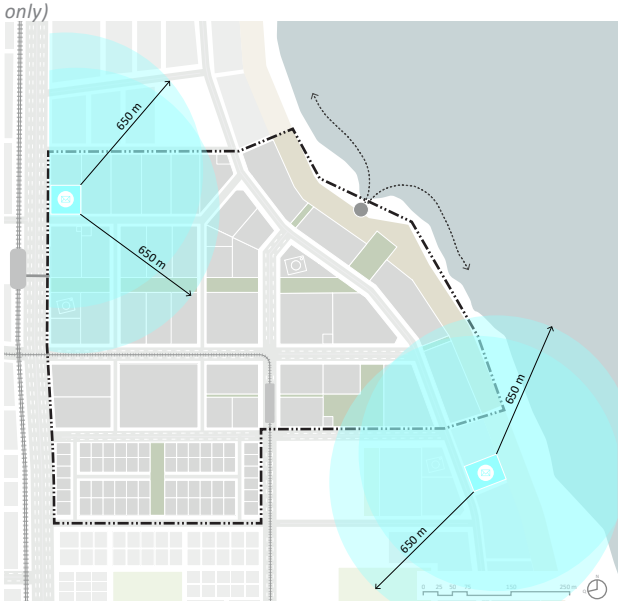


Figure 4.7: Post Shelter catchment plan (catchment scale is illustrative only)

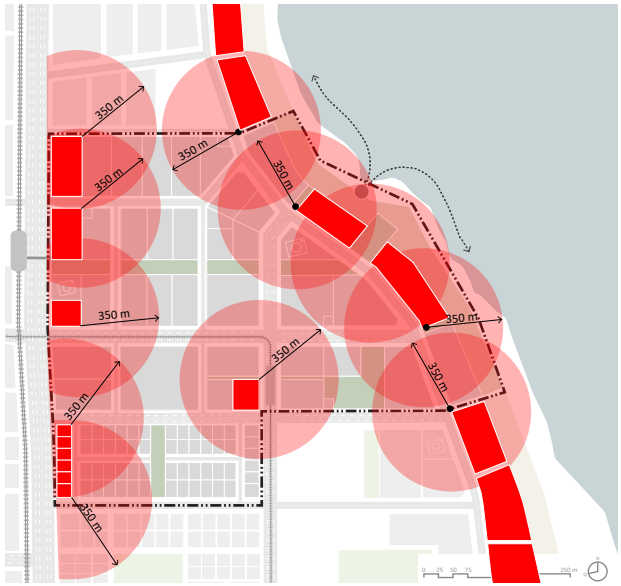


Figure 4.8: Retail catchment plan (catchment scale is illustrative only)

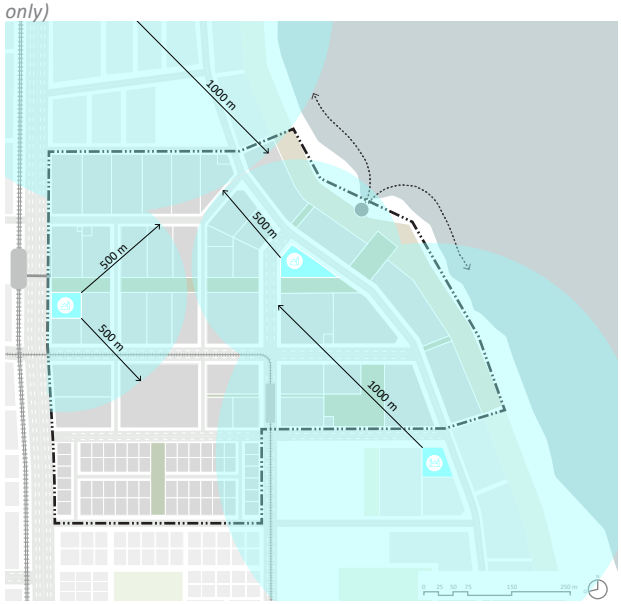


Figure 4.9: Mosque catchment plan (catchment scale is illustrative only)

4.4. Accessibility

It is recommended that the open space and active transport network between community facilities close to each other are of high quality. This will ensure accessibility between the facilities and will activate them as hubs to serve the wider master plan as demonstrated in Figure 4.10.

Neighborhood level facilities must be accessible via pedestrian infrastructure. At the community level, facilities should be accessible via pedestrian infrastructure where possible.

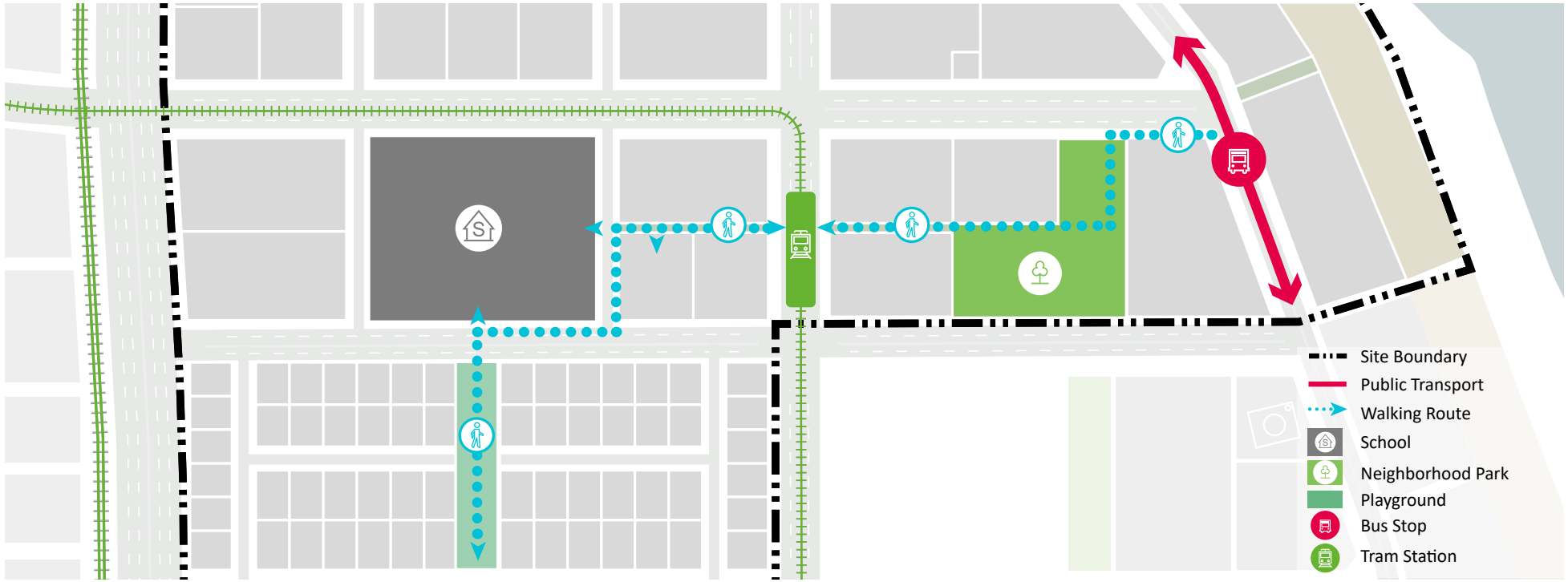


Figure 4.10: Connect community facilities to the wider environment

5 Open Space and Landscape Strategy





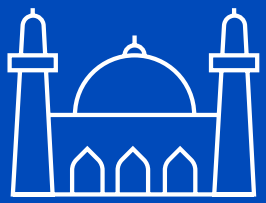
Introduction

Open space publicly accessible area of public realm or inaccessible landscape. It can include either formal or informal activities or a combination of the two and should form part of a wider open space network allowing people to move easily between one space and another.

Examples of open space include landscape, pocket park, district park, community park, playground, buffer zone, promenade, beach, break water, water body, and conservation area. It may be entirely designated as open space or included within the design of other land uses.

Open space can incorporate hard and soft landscape features such as planted gardens or stone paved plazas. It may also incorporate small pavilions or structures that provide public facilities and attractions. They should ideally be multifunctional and flexible and provide environmental, social and economic benefits.





Requirement Checklist

PMP	SOS	FMP	
☑	☐	☑	Open Space Provision Table
☑	☐	☑	Open Space Hierarchy Plan
☑	☐	☑	Open Space Catchment Plan

5.1. Open Space Provision

Open space provision must meet the requirements of the proposed development and its residential population as well as ensure there is a minimum level of service that is proportional to the total area of the development, regardless of land use.

Open space must constitute 10% of the total land area of the master plan. The types of open space included in this provision are further explained in Section 5.2.

Open space must also meet the requirements of Dubai Municipality Community Facilities Standards corresponding to the proposed residential population as outlined in Chapter 4.

5.2. Open Space Classification

Open space can be classified to two types:

- Primary open space; and
- Secondary open space.

The minimum required provision of open space must consist of primary open space types only.



10% of total land area must be primary open space

Primary Open Space

Primary open space is defined as accessible and usable parks and open spaces including spaces within plot areas.

The primary open space provision must be calculated as below (This percentage must be equal to or more than 10%):

$$\frac{\text{Total area of all primary open space}}{\text{Total land area of the master plan}}$$

Primary Open Space	
DDA Land Use	**DM Community Facilities**
Pocket Park	Local Plaza
District Park	District Park
Neighborhood Park	Neighborhood Park
Community Park	Community Park
Playground	Playground Tot Lot
Landscape	N/A
Promenade	N/A
Beach	N/A
Sikka	N/A

Table 5.1: DDA primary open space categories aligned to DM community facility types

Secondary Open Space

Secondary open space is defined as open space or other land uses with a significant open space provision that have unique or niche programs and functions and may provide environmental and social benefits. Secondary open spaces are typically privately owned and therefore must not be calculated as part of the primary minimum.

For example, canals, lakes and water bodies contribute to the quality and experience of open spaces they are adjacent to, but must not be recognized as contributing to open space and are therefore categorized separately.

Secondary Open Space
Break Water
Water Body
Buffer Zone
Conservation Area
Sports Facility
Golf Course
Equestrian Center
Zoo
Marina

Table 5.2: DDA secondary open space categories

Open Space Hierarchy

Primary open space typologies provide a range of landscape programs and functions that cater to the diverse and varied needs of a community, from children and families to business professionals.

Examples of primary open space typologies are provided below. The definitions and recommended catchment and size range for each typology is available in the land use classification in Appendix B.



Beach

Common uses of the space include walking, cycling, picnics, yoga, food and beverage kiosks, sports and recreational activities.



District Park

Common uses of the space include walking, cycling, picnics, yoga, playgrounds, food and beverage kiosks, sports and recreational activities and music festivals.



Playground

Common uses of the space include walking, cycling, picnics, playgrounds, food and beverage kiosks.



Promenade

Common uses of the space include walking, cycling, sports and recreational activities.



Community Park

Common uses of the space include walking, cycling, picnics, playgrounds, food and beverage kiosks, sports facilities, recreational activities and music festivals.



Pocket Park

Common uses of the space include walking, cycling, picnic, food and beverage kiosks.

5.3. Open Space Hierarchy Plan

An Open Space Hierarchy Plan must be provided as part of the master plan submission to DDA. It must include the location of different open space typologies as illustrated in Figures 5.1.

For Community, District and Sector parks only, the location of associated car parking must be shown in the plan, as well as confirming that the minimum area of required parking is not included within the park area and excluded from the overall 10%.

An accompanying table that provides the areas for all open spaces within the master plan must also be submitted to DDA outlining that the necessary open space provision has been met. Table 5.3 provides an example of the information that must be provided.



Figure 5.1: Open space hierarchy plan

Open Space (DDA land use)	Plot Number	Area of Open Space in (sq. m)
Pocket Park	MU-R-005	600
Pocket Park	MU-R-034	600
Neighborhood Park	MU-OS-011	1,700
Neighborhood Park	MU-OS-018	2,000
Neighborhood Park	MU-OS-027	1,500
Neighborhood Park	MU-OS-030	2,000
Neighborhood Park	MU-OS-113	2,000
Neighborhood Park	MU-OS-047	4,000
Playground	MU-OS-061	2,000
Promenade	MU-OS-114	3,500
Sikka	MU-OS-035	480
Sikka	MU-OS-039	450
Sikka	MU-OS-044	510
Sikka	MU-OS-116	480
Sikka	MU-OS-111	480
Total Open Space		22,300
Total Development		190,000
% of Open Space		11.7%

Table 5.3: Open space provision

Open Space Catchment Plan

An Open Space Catchment Plan or plans must be provided as part of the master plan submission to DDA. It must include the catchments of different open space typologies as illustrated in Figures 5.2 to 5.4. The catchment distance for each typology must comply with the community facilities standards provided in Tables 4.2, 4.3 and 4.4.

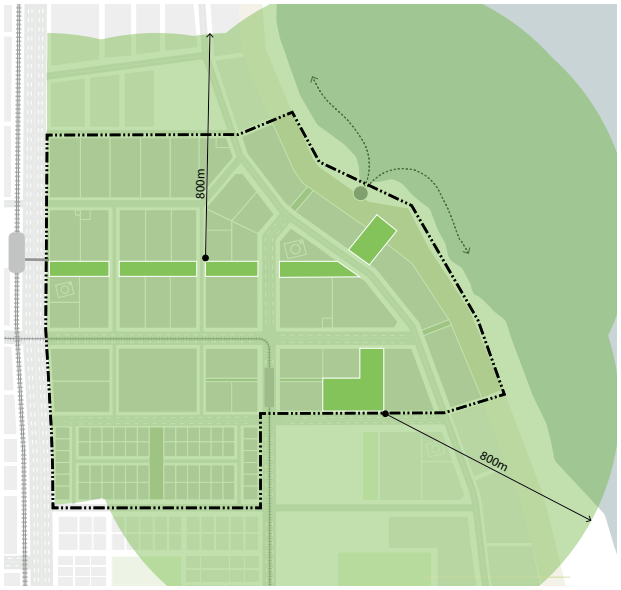


Figure 5.3: Neighborhood park catchment plan

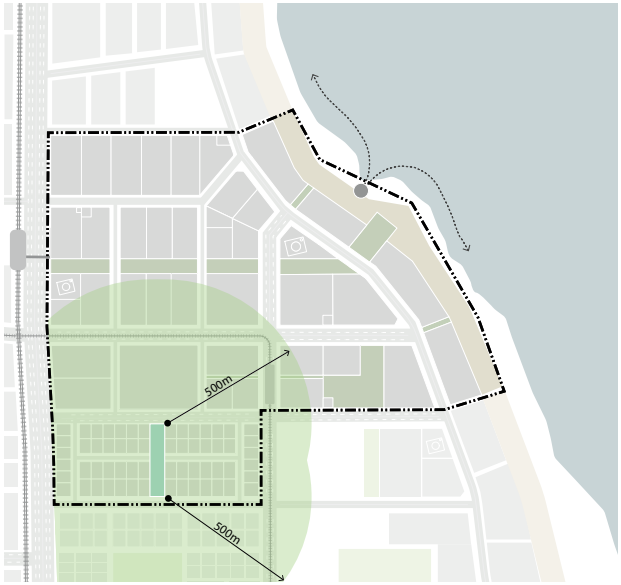


Figure 5.2: Playground catchment plan

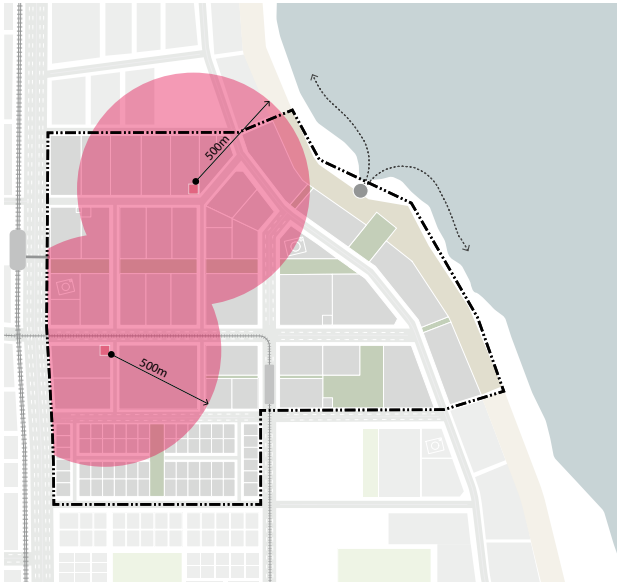


Figure 5.4: Pocket park catchment plan

6 Urban Design and Architectural Elements

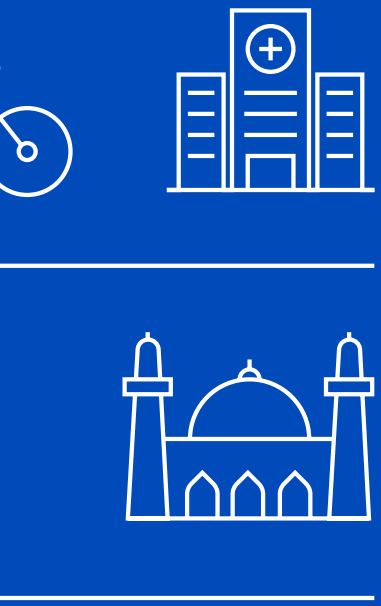




Introduction

The individual architectural and urban design elements of the buildings and public space derive the built form of the overall master plan. These elements must be coordinated between the various plots to achieve the development's vision for urban design and recorded per plot to ensure their proper implementation.

This chapter provides an overview of the individual elements such as building heights, setbacks, and architectural themes that need to be included within a submission to DDA. Visual examples are also provided.



Requirement Checklist

PMP	SOS	FMP	
☑	☐	☑	Building Heights Plan
☑	☐	☑	Building Typologies Plan
☐	☐	☑	Build-to-Line Plan *(If Applicable)*
☐	☐	☑	Active Edge Plan *(If Applicable)*
☐	☐	☑	Architectural Character/Theme
☑	☐	☑	Building and Site Sections
☐	☐	☑	Perspective(s)

6.1. Building Heights

Building heights are important for developing the massing strategy for any master plan. They directly influence the views, skyline and shading strategies. As such, building heights must be clearly defined for each plot in order to achieve the massing vision of the master plan.

When estimated in meters, building heights must be measured as the maximum height from gate level (GL) to the top of the building envelope. This includes architectural elements and special features such as domes, mechanical floors, machine rooms. Figure 6.1 illustrates the correct approach to determining the building height in different settings.

In master plan submissions to DDA, building heights must be provided in number of floors. The standard conversion rate of 4.25m for floor height will be used to convert the numbers of floors to meters (e.g. 10 floors or G+9 equals 42.5m). In addition, height can be provided in meters, if it is intended for the total building height to exceed the standard height estimated based on the above criteria. In any case, the number of floors must always be maintained as provided.

The number of podiums must be generally clearly stated in the Land Use Budget sheet and Plot Development Guidelines (example: G+3P+6).

Mezzanine

Mezzanine floor must be counted as a typical habitable floor of the buildings, except for industrial land uses.

This is particularly relevant in retail land uses (especially malls) as the double height and atrium are considered part of the design.

In industrial land uses, the mezzanine must not be counted as a separate floor. It is considered a part of the maximum building height.

Building Height Standards

The height requirements must be provided in the master plan submission. If standard building heights are set out by relevant authorities such as in the case of some utility (see chapter 8), transport and community facilities plots (see chapter 4), compliance with the same must be demonstrated in the master plan submission to DDA.

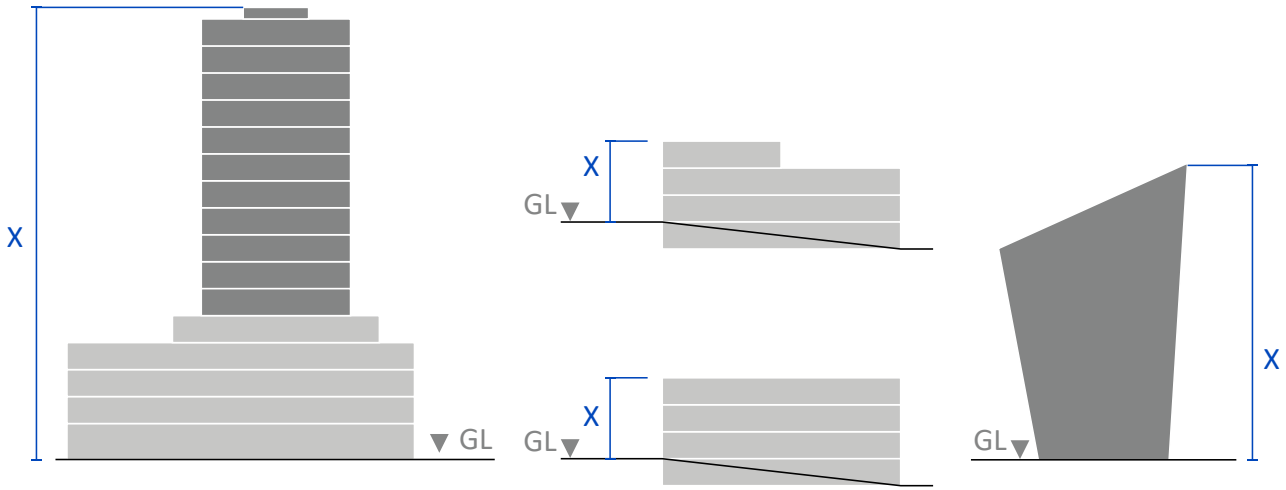


Figure 6.1: Building height

Building Height Plan (Restriction)

A plan that demonstrates the proposed building heights (in range) must be submitted as part of the master plan submission to DDA as illustrated in Figure 6.2.

If the massing (Building Heights) aims to achieve a specific vision for the master plan, this must be clearly demonstrated with a written statement.

This may include achieving a specific skyline or continuous podium strategy for pedestrian perspective.

Building heights will also be regulated through the Plot Development Guidelines as further detailed in Chapter 9 .

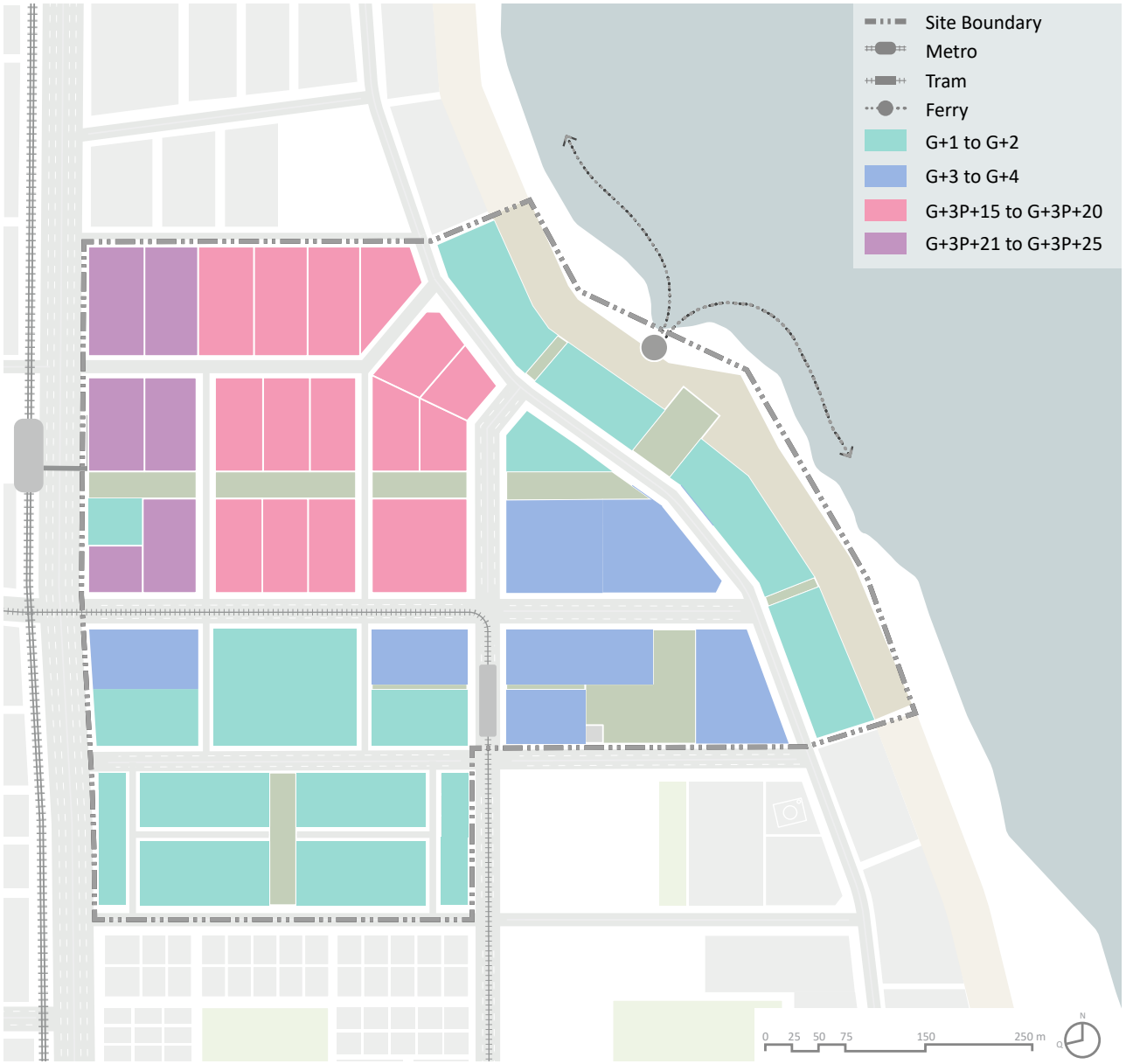


Figure 6.2: Building height plan

6.2. Building Typology

Building typologies impact the pedestrian realm and the massing strategy. While building typologies may vary significantly, the basic typologies are:

- Villa;
- Attached villas;
- Buildings (without podium);
- Buildings with podium (one or multiple towers); and
- Big-box (e.g. shopping center and industrial).

There are also variations within each typology. Figure 6.3 illustrates some examples of these typologies.

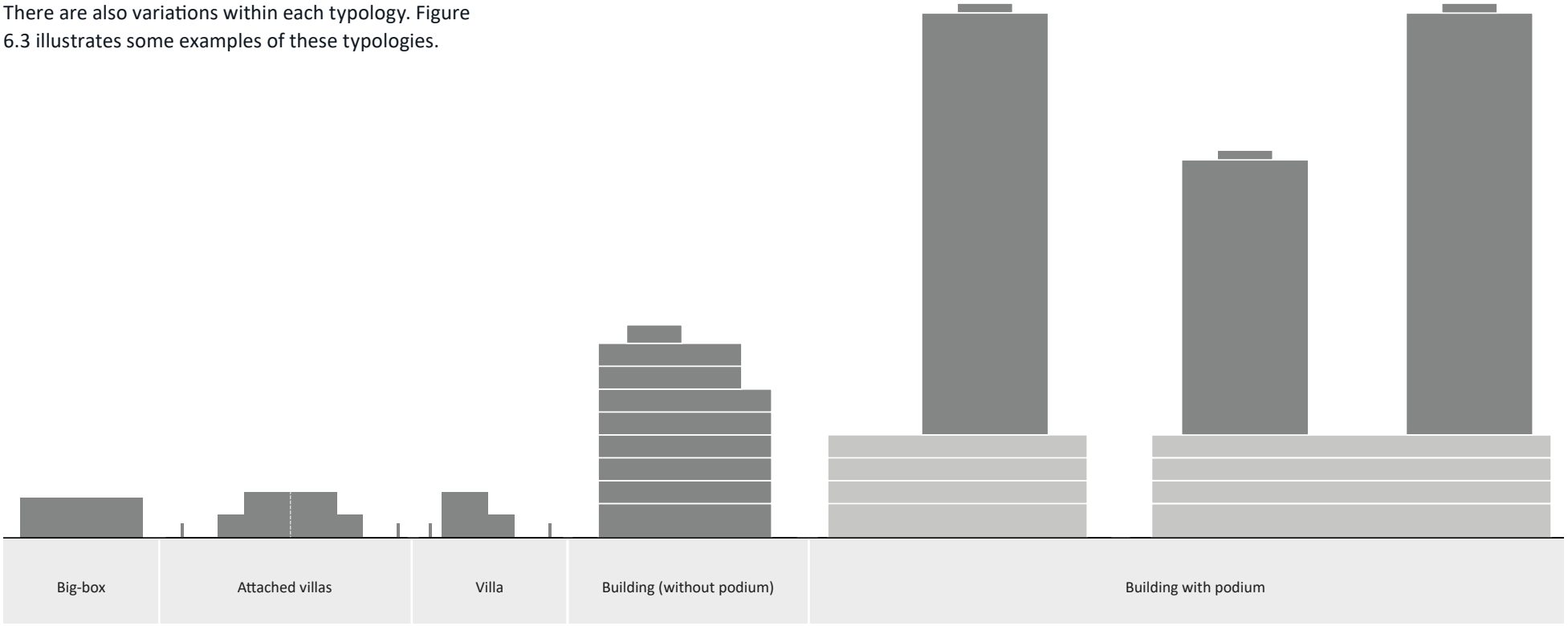


Figure 6.3: Building typologies

Building Typology Plan

A plan that demonstrates the proposed building typologies must be submitted as part of the master plan submission to DDA. It must cover the five basic typologies outlined earlier, show the building/podium envelope limits in addition to the setbacks for all plots as a minimum as illustrated in Figure 6.4.

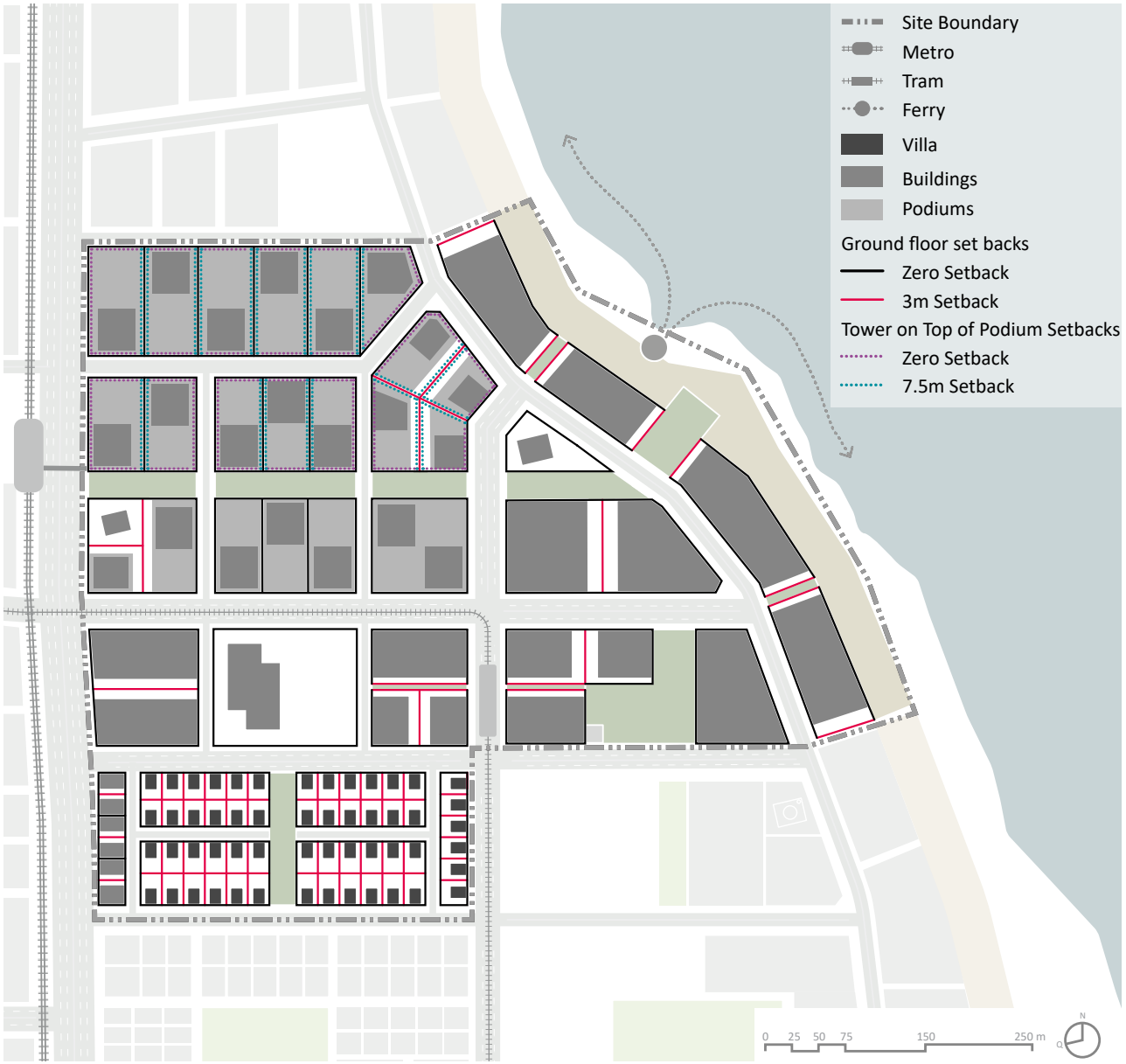


Figure 6.4: Building typologies plan

6.3. Setbacks

Building setbacks must be estimated as the horizontal distance measured at right angles to the boundary of the plot between the nearest part of any building or structure on the plot and the plot boundary.

Building setbacks' minimum requirements differ depending on the building typology and adjacent infrastructure and land uses such as roads, open space or other buildings.

The minimum requirements for building setbacks are set out in this section. In special cases, higher setbacks than required may be proposed to some or all sides of plots. These must be clearly demonstrated and will be subject to approval from DDA.

The impact of building setbacks on the public space must be considered at the master plan level. Building setbacks must also be set out in the Plot Development Guidelines for each plot. Further information is provided in Chapter 9.

The following rules must be followed when defining the setbacks for all building typologies:

- Building projections (such as balconies and overhangs) are allowed in setbacks and limited to a maximum of 1.5m. However, in case of balcony projection, clear setback beyond the balcony must be maintained in line with Table 6.3. Projections are not permitted to extend beyond the plot limit;
- Setbacks must be applied to all floors. In the case of buildings with podiums, podium setbacks are applied to all podium floors and building setbacks are applied to all building floors; and
- Additional Setback of 1.5m is required for the roof.

Villas and Attached Villas

The minimum setback for villas and attached villas from adjacent neighboring sides is three meters. Zero setback is allowed with the following conditions:

- No projections (like balconies); and
- Adjacent to a ROW with a minimum width of 18m.

Tables 6.1 and 6.2 and Figures 6.5 and 6.6 illustrate the setback requirements for villas and attached villas.

Garages and service blocks are the only allowed uses in villa and attached villa setbacks.

	Minimum Setback (m)	Minimum Setback Adjacent Attached Villas or ROW (m)
Attached Villas	3	0

Table 6.1: Attached villas setbacks

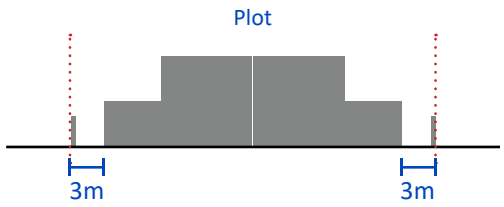


Figure 6.5: Attached villas setbacks

	Minimum Setbacks (m)	Minimum Setback from ROW and Adjacent Villas* (m)
Villa	3	3

Table 6.2: Villa setbacks

** in special cases such as attached villas with expansion joints (structurally independent units) or townhouses setback can be zero between adjacent villas.*

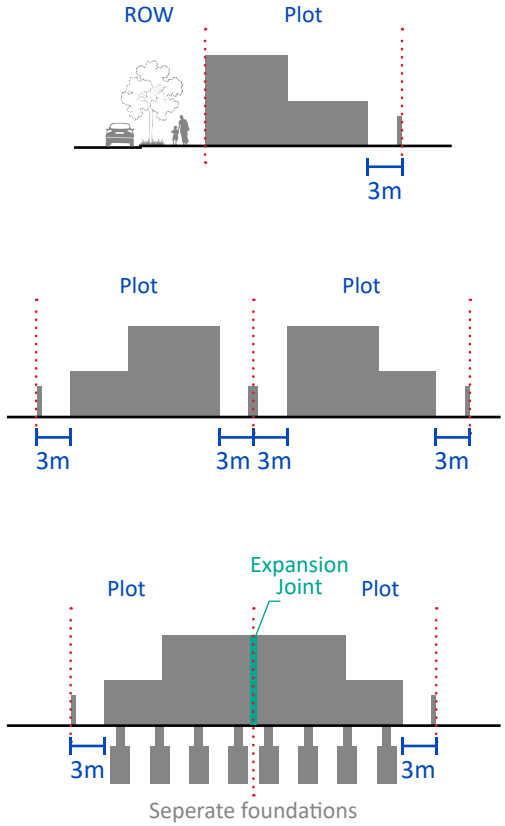


Figure 6.6: Villa setbacks

Buildings without Podium

The minimum setback for buildings depends on the building height and adjacencies. Building setback requirements as illustrated in Table 6.3 sets out the setbacks in different settings. These are further illustrated in Figure 6.7.

Building Floor Number	Total Number of Floors	Setback Side Conditions and Adjacencies			
		Neighboring Plots (X)	Road, Car Park or Open Space	Sikka*	
				Setback Distance within plot (Y)	Setback Distance from Center of Sikka (Z)
G	1	3	0	3	0
G+1	2	3	0	3	0
G+2	3	3	0	3	0
G+3	4	3	0	3	0
G+4	5	3.75	0	3	0.75
G+5	6	4.5	0	3	1.5
G+6	7	5.25	0	3	2.25
G+7	8	6	0	3	3
G+8	9	6.75	0	3.75	3
G+9 (or more)	10 (or more)	7.5	0	4.5	3

Table 6.3: Building setbacks

** A standard Sikka width is 6m. If a Sikka is wider than 6 m, then the setback distance from center of Sikka can be increased as long as a minimum of 3m setback is provided within the plot.*

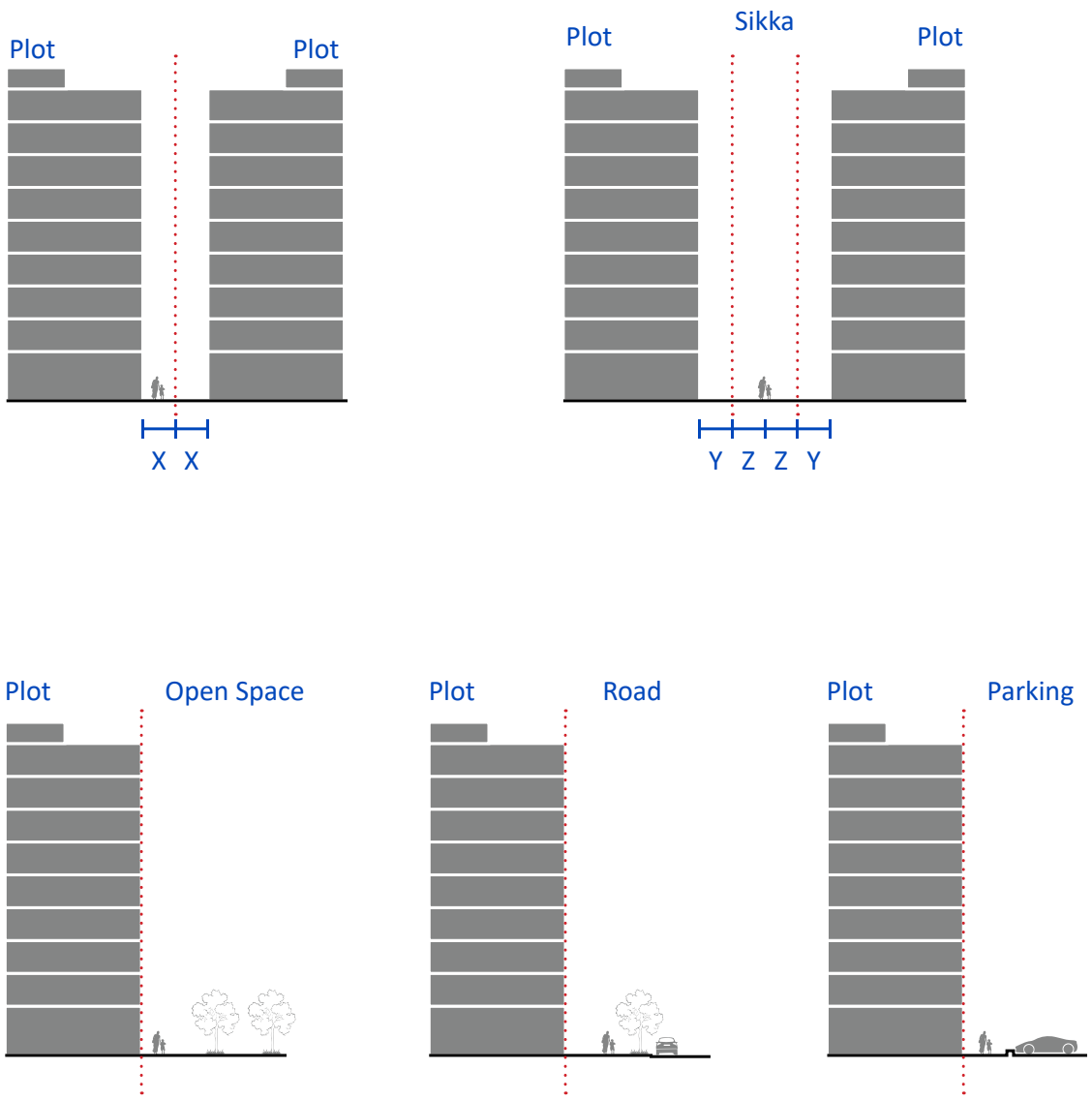


Figure 6.7: Building setback examples based on adjacencies

Buildings with Podium

Setbacks for podium buildings are split into podium setbacks and building/tower setbacks. These must be calculated and assigned separately as illustrated in Figure 6.9 and Figure 6.10.

Podiums setbacks (X) are identified through:

- The number of floors including ground floor; and
- Minimum setback depending on the podium height and adjacent land use as set out in Table 6.3 and illustrated in Figure 6.9.

Building/tower setbacks (Y) are identified through:

- Identification of number of floors; and
- Minimum setback depending on the building height and adjacent land use as set out in Table 6.3 and illustrated in Figure 6.9.

In the case of connected podiums or multiple towers on a single podium, the podium height must be provided in meters in addition to number of floors.

The minimum setback between the two buildings must be equal to the total sum of the setbacks (Y_C) for each individual building/tower (refer to Table 6.3) as illustrated in Figure 6.10. For instance, if building (A) has a setback of Y_A=6m and building (B) has a setback of Y_B=7.5m, the minimum distance between the two buildings must be Y_A (6m) + Y_B (7.5m) = Y_C (13.5m) as illustrated in Figure 6.10.

Buildings connected through an open or closed pedestrian bridge must be treated as two separate buildings. Setbacks must be calculated for each building separately based on the requirements set out earlier.

The minimum distance between the different wings of buildings with unique shape must allow for privacy and adequate sunlight access.

Big-box

The minimum setback for buildings depends on the building height and adjacent land use as illustrated in Table 6.3. Conversion rate from height in meter to number of floors is three meters per floor. For example: a building of 20m height equals 7 floors and requires a 5.25m setback.

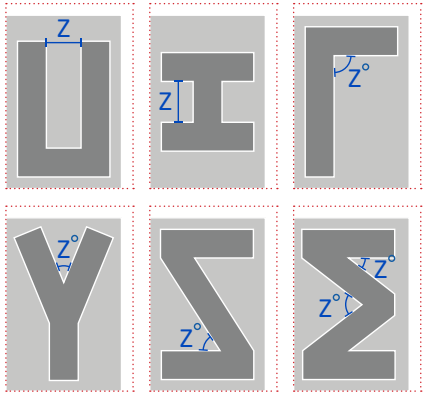


Figure 6.8: Setbacks for buildings with unique shape

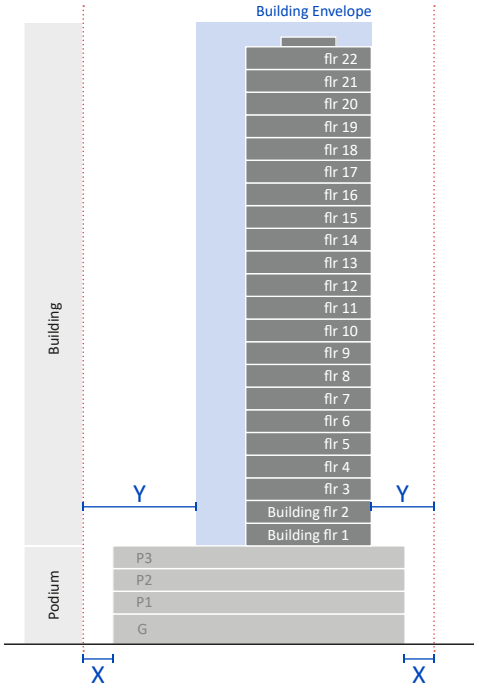


Figure 6.9: Building with podium setbacks for one tower

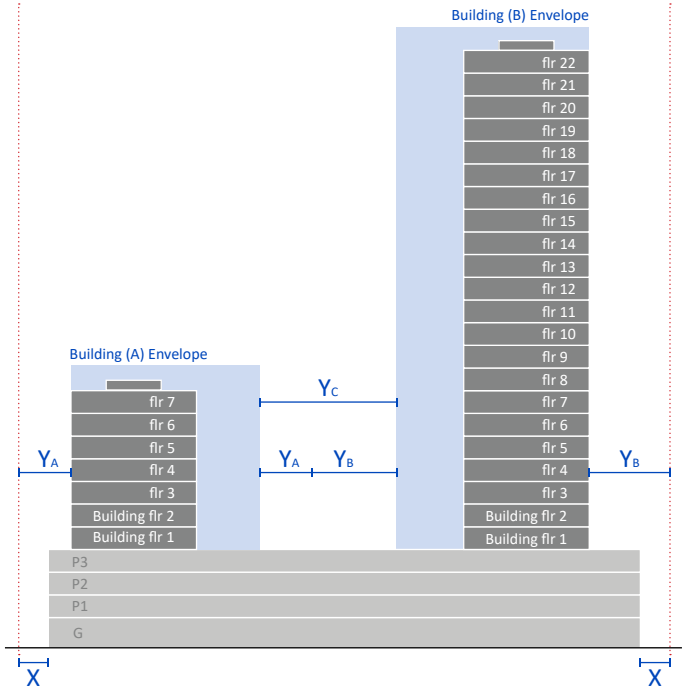


Figure 6.10: Building with podium setbacks for multiple towers

6.4. Build-to-Line

The build-to-line is used as a means of enforcing the continuity of the building façades on a series of adjacent sites, in order to emphasize a street frontage or the definition of a public open space.

If proposed, the strategy which justifies the implementation of build-to-line must be clearly demonstrated in the submission to DDA. Build-to-lines must be illustrated in a full master plan scale map with the following items clearly defined:

- The set compliance percentage(s); and
- Whether the build-to-line is applicable to ground floor only.

Additionally it must be illustrated in the PDG in two ways:

- Include build-to-lines in the plan view; and
- Include a table outlining the distance and number of floors affected and percentage compliance for each side of the plot where a build-to-line is included as illustrated in Table 6.4.

If a build-to-line is specified on a plot, the master plan must include a minimum acceptable compliance percentage. If a compliance percentage is not specified, 30% must be used. Examples of correct and incorrect build-to-lines compliance are illustrated in Figure 6.11.

Modifications in the build-to-line for any plot must be considered as a master plan modification.

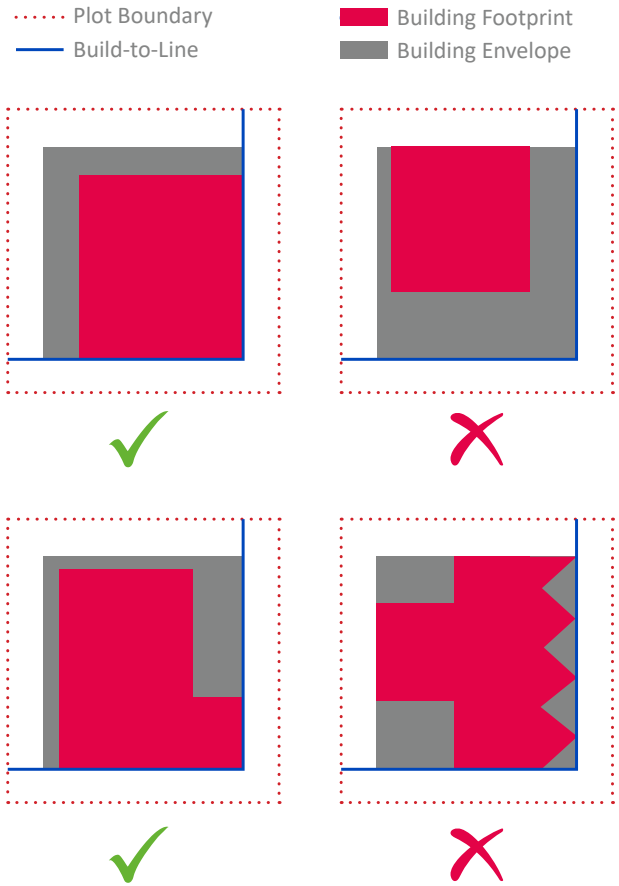


Figure 6.11: Example of correct and incorrect build-to lines compliance

Build-to-Line	Side 1	Side 2	Side 3	Side 4
Number of Floors Affected				
Compliance Percentage (%)				

Table 6.4: Build-to-line table to include in the PDG

Boundary Wall

The ownership, treatment and role within the public realm of the boundary walls must be specified within the Plot Development Guidelines.

In some situations, a boundary wall is required for a villa or a building specifically in desert areas. The requirement of boundary walls for other land uses could be set by the developer when required.

If a boundary wall is shared between two plots, it must be built within the plot limit of either of the sharing plots. Figure 6.12 illustrates examples of correct and incorrect provision of shared boundary wall. The maximum height for a boundary wall must be 2.5m. If a boundary wall is required for security purposes, they should not limit the interaction with the public space and adjacent land uses. Figure 6.13 illustrates some examples of disrupted public space.



Figure 6.12: Shared boundary wall

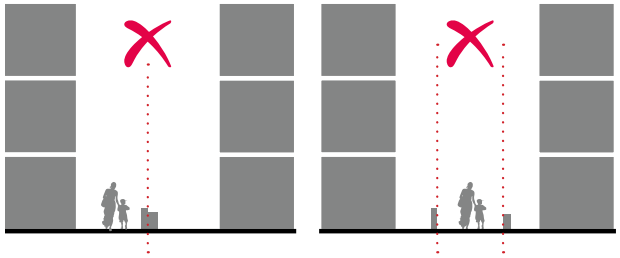


Figure 6.13: Boundary wall interrupting public realm access

6.5. Active Edge Plan

Active building edges are the building sides that host commercial land uses and are open to the public. This includes shops, restaurants and cafés. These uses draw pedestrians to them and offer a visual richness that enhances the public realm.

The allocation of active edges is an important element in the pedestrian network validity and the overall open space design. It should be coordinated between the plots from the master plan stage. The active edge applies to ground floor levels only and hosts commercial uses such as restaurants, cafés, bakeries, retail stores, laundromat, cafeterias, repair shops and lobbies/entrances.

If continuous active edge is envisioned and/or active edge along more than one side of the plot is provided, sufficient retail allocation must be ensured to that plot.

If provided, the active edges must be demonstrated on a plan and submitted to DDA as part of the master plan submission as illustrated in Figure 6.14.

The plan must be aligned with the pedestrian and cycling network with the overall allocation of active edges.

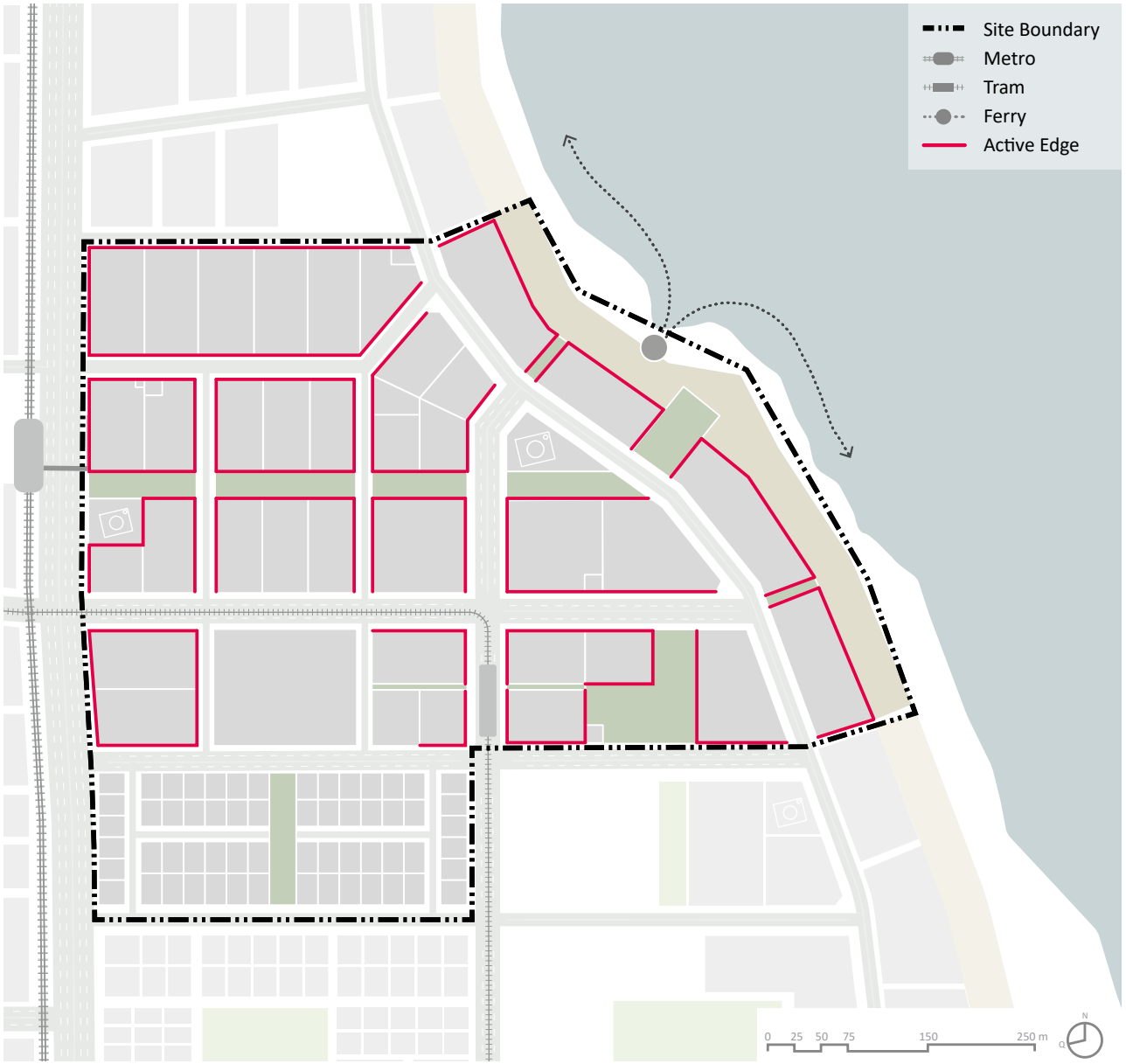


Figure 6.14: Active edge plan

6.6. Architectural Character/Theme

A minimum of one Architectural Character must be provided for each zone as part of the master plan submission to DDA.

A simple explanation for each Architectural Character must be provided to include as a minimum:

- Façade character;
- Podium treatment;
- Boundary wall treatment;
- Colors; and
- Canopies.

Architectural theme/character must be described using photos and drawings instead of using architectural style descriptions (i.e. Contemporary or Mediterranean).

Requirements for colors must contain a color palette with CMYK/RGB instead of color names.



Boundary wall treatment





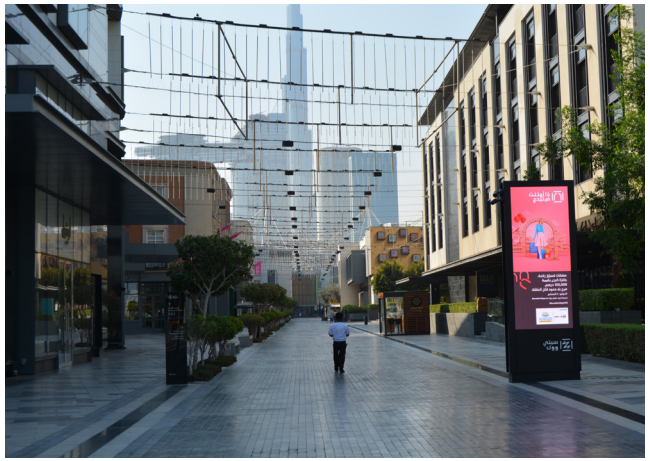
Canopies



Façade character

R:255 G:255 B:255	R:212 G:203 B:195	R:123 G:155 B:166	R:32 G:78 B:95	R:102 G:45 B:52	Maximum 20% coverage of surface area

Color swatch



Open spaces and promenade



Podium treatment

Figure 6.15: Architectural character/theme example sheet

6.7. Building and Site Sections

Two site wide sections, each across one axis must be provided as part of the master plan submission to DDA. The location of the sections must be selected to best illustrate significant topographical elements, changes in level or major elements in the master plan.

Providing additional sections is recommended to illustrate special features such as waterfront treatment or buildings with access to two different levels.

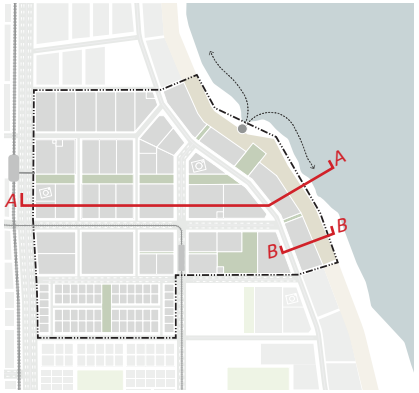


Figure 6.17: Section locations

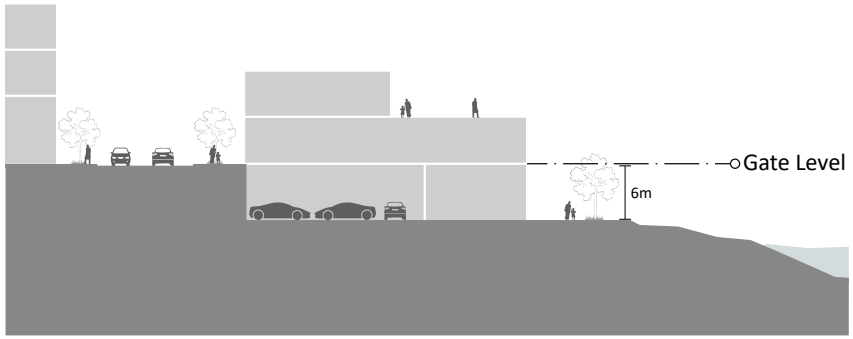


Figure 6.18: Example of additional sections (Section B-B: level difference between street level and beach frontage)

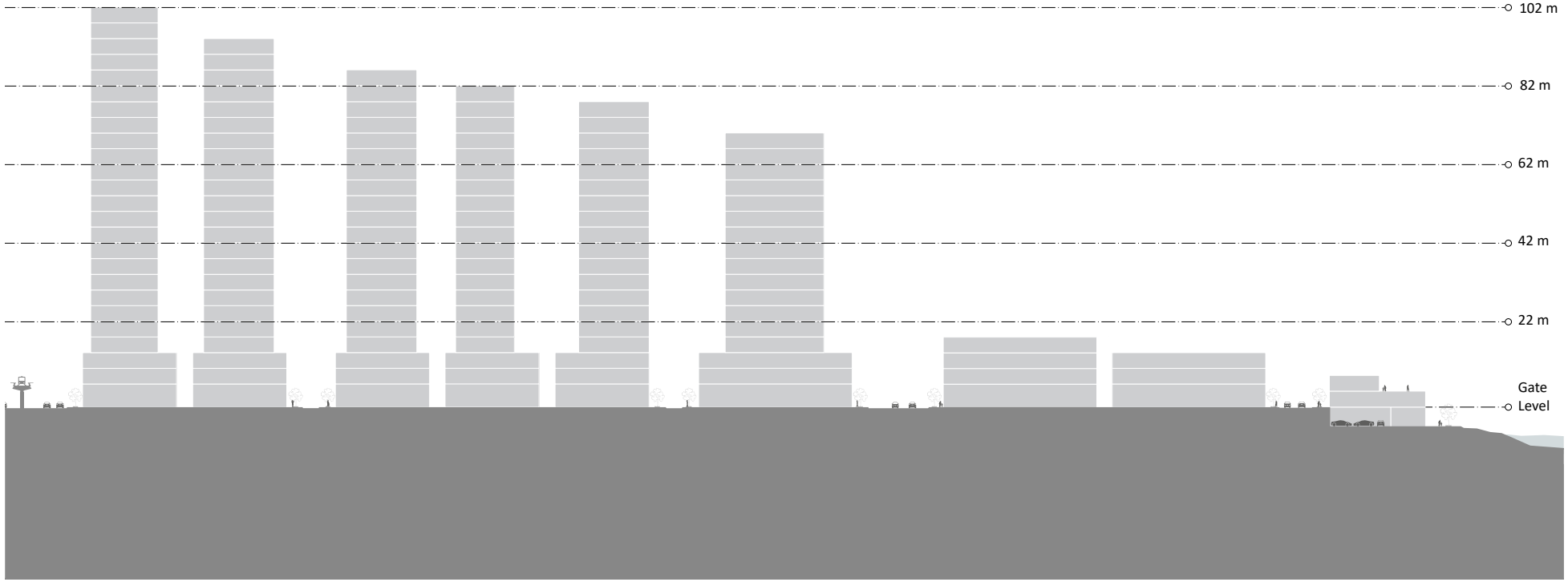


Figure 6.16: Example of a site wide section (Section A-A)

6.8. Perspectives

The overall design vision of the master plan must be illustrated through a perspective image of the full development (bird's eye view). This image must be included in the master plan submission to DDA.

Additional perspectives which illustrate specific spaces or special features in the master plan are recommended to be included in the master plan submission to support in demonstrating the development's vision and principles.



Figure 6.21: Bird's eye view



Figure 6.19: Pedestrian perspective (example 1)



Figure 6.20: Pedestrian perspective (example 2)

7 Mobility and Accessibility



Introduction

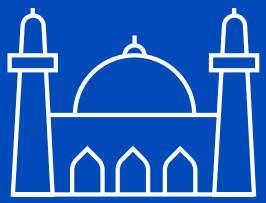
Developing an integrated mobility strategy is key to delivering accessible and safe communities that ensure an enhanced quality of life for all.

All elements of the mobility strategy including infrastructure and systems must support the master plan vision in line with the overall vision for the city.

The safety of all transport users must be a priority in the design of transport systems. The enhancement to both human and environmental health must be allowed for in the provision of a range of safe and inviting modes of transport that integrate seamlessly into the city's transport network.

They should be planned and designed in accordance with the relevant authority guidelines and DDA's requirements as set out in this guideline. This must be demonstrated in all master plan submissions to DDA.





Requirement Checklist

PMP	SOS	FMP	
☑	☐	☑	Development Access Plan
☑	☐	☑	Road Hierarchy Plan
☑	☐	☑	ROW Cross-sections
☑	☐	☑	Public Transport Plan
☑	☐	☑	Public Transport Catchment Plan
☑	☐	☑	Pedestrian Network Plan
☑	☐	☑	Cycling Network Plan
☑	☐	☑	Car Parking Strategy Plan
☑	☐	☑	Plot Access Restrictions Plan
☐	☐	☑	Mobility Integration Plan
☐	☐	☑	RTA Approvals

7.1. RTA Approvals

The Roads and Transport Authority (RTA) is responsible for the development and management of the transport system in Dubai. All developments must comply with the requirements set out by RTA when developing the transport system within their master plans.

RTA requests for a Traffic Impact Study (TIS) to be submitted for all proposed developments as described in Law No. 6 of 2006 and subsequent circulars. The level of the TIS is identified depending on the estimated expected generated trips from the proposed development. Different levels of analysis and requirements are required to be fulfilled for each TIS level.

7.2. DDA Approvals

At the PMP stage, the master plan submission must comply with all the requirements set out in this chapter. Moreover, a TIS should be initiated with RTA. This will help facilitate a smooth approval of the TIS and minimize any future changes to the master plan concept.

At the SOS stage and following the issuance of the SOS, an update should be provided to DDA on the TIS progress every two months. An approval of the TIS is required to be obtained from RTA.

At the FMP stage, a copy of the approved TIS report and the stamped approved drawings from RTA must be submitted to DDA as an appendix to the FMP report.

Refer to Chapter iii for further information on the submission requirements at each master plan stage.

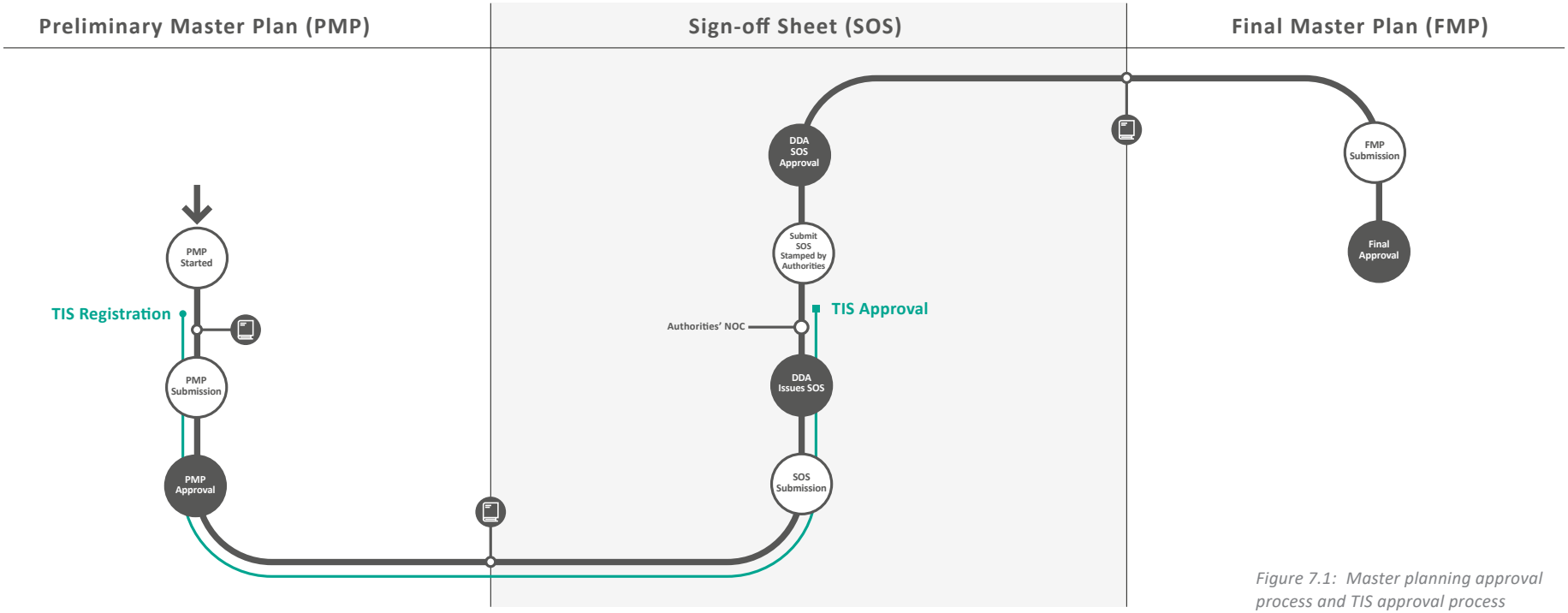


Figure 7.1: Master planning approval process and TIS approval process

7.3. Development Access

The development access strategy must highlight the access and exit points to and from the development.

The strategy should promote connectivity with the surrounding developments and with the wider transport network. It should also ensure proper connectivity to the existing or planned landmarks and/or major nodes.

The development access strategy must be demonstrated on a plan and submitted to DDA as part of the master plan submission as illustrated in Figure 7.2.

At the FMP stage, all connections to major roads must be demonstrated including the type of connection proposed (i.e. grade-separated, signalized intersection, right-in/right-out, etc.).

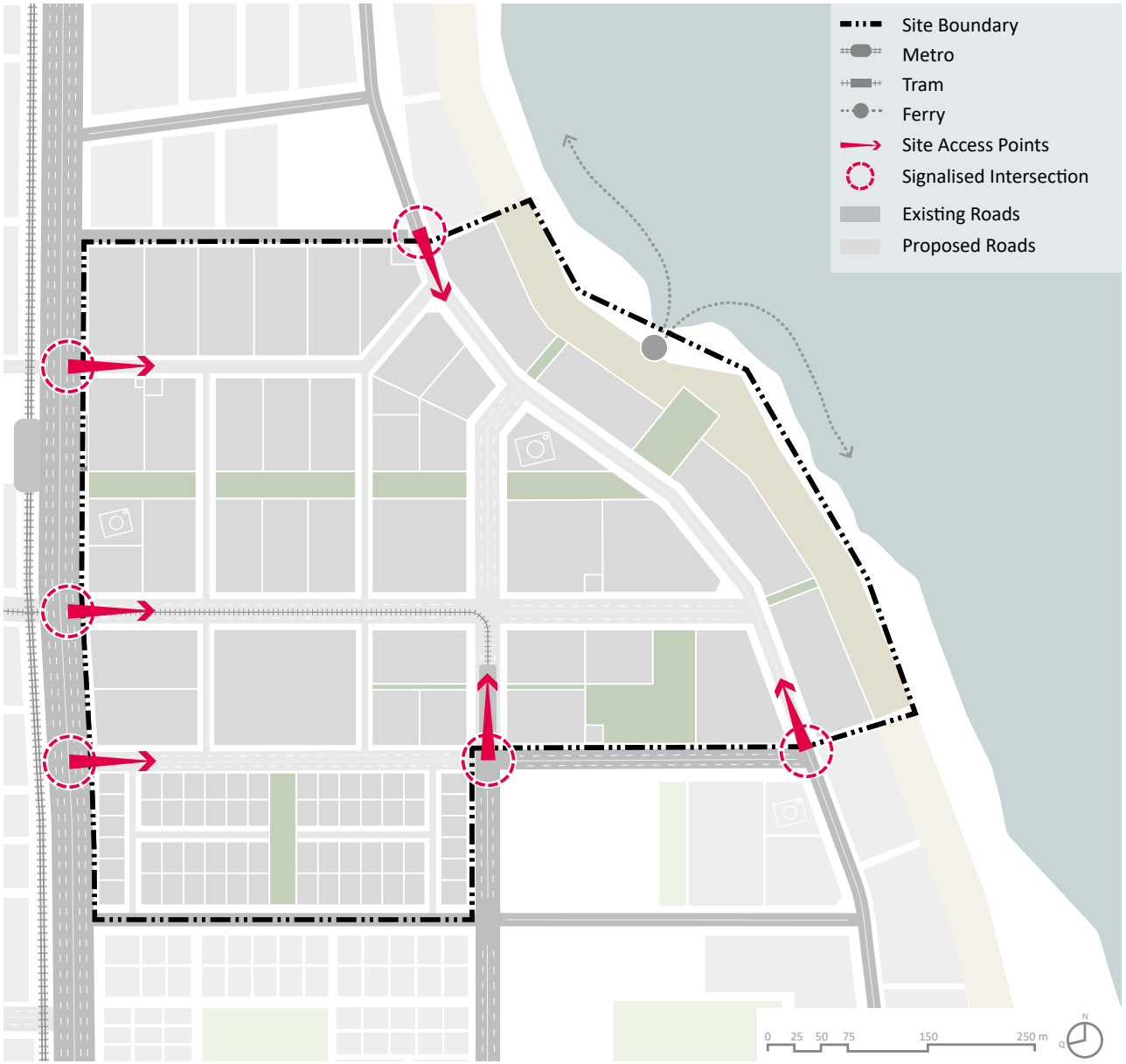


Figure 7.2: Development access plan

7.4. Road Hierarchy

The design of city roads should reflect the way the city would like to be shaped in terms of look, feel, and function. More than just corridors for movement, roads play a vital role in defining a city's communal identity. Considering the importance of roads, within their placemaking roles in tandem with their roles in transportation, informs their use as places where people socialize, meet and interact.

Careful consideration must be given to identify the distinct function, character and level of access control for each road. This will ensure that the community is served by a complete and integrated road system that provides smooth, efficient and safe mobility and maximizes the level of permeability and accessibility to destinations.

The road hierarchy strategy must be demonstrated on a plan and submitted to DDA as part of the master plan submission as illustrated in Figure 7.3. This must fully comply with RTA guidelines and correspond to the approved TIS.

Additionally, the plan must demonstrate efficient connections with the external road system in adjacent developments and the overall city system.

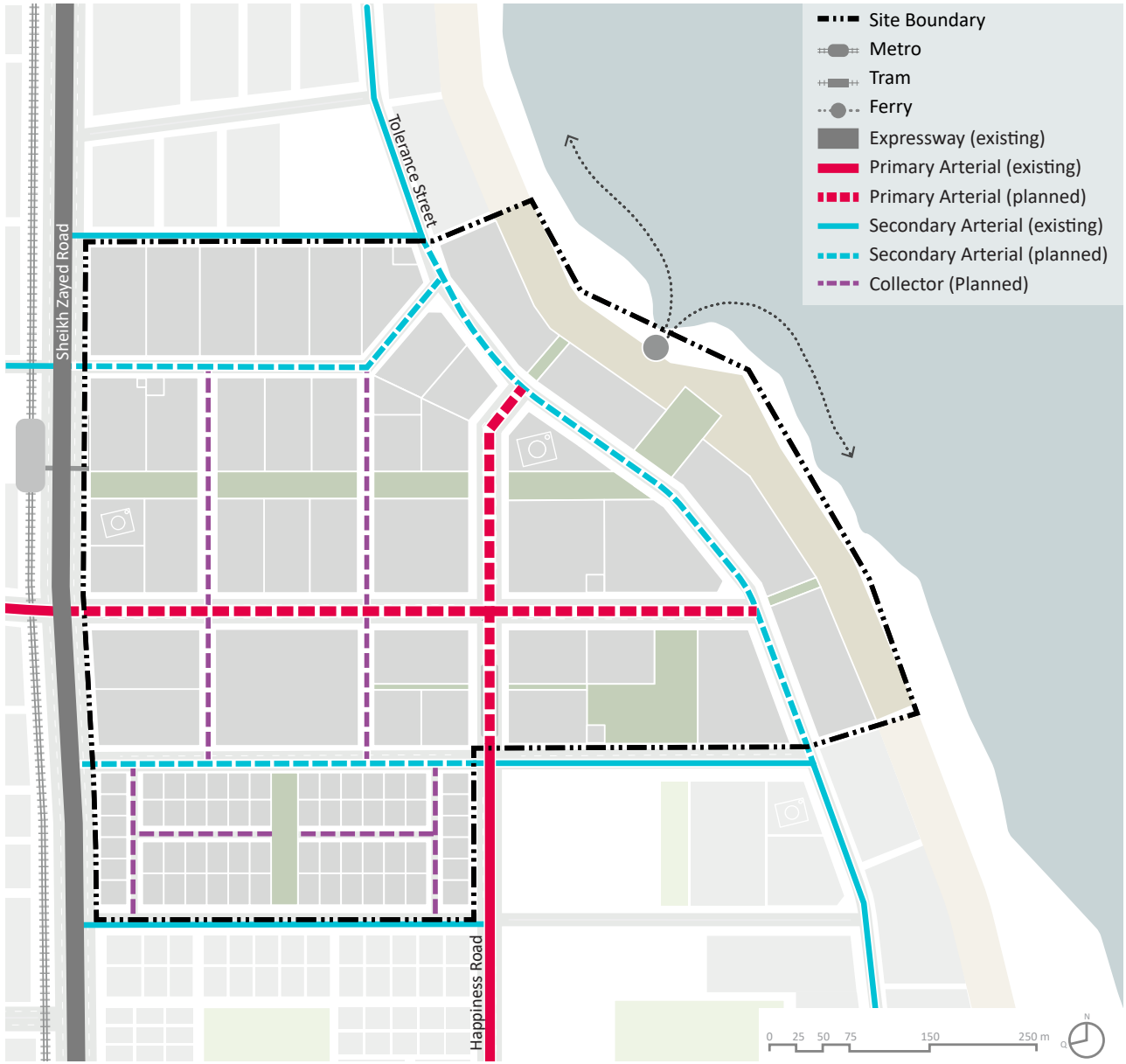


Figure 7.3: Road hierarchy plan

7.5. Right of Way (ROW) Cross Sections

The rights-of-way (ROW) must be designed to efficiently utilize the available space and ensure maximized benefit to all users.

Uninterrupted and safe spaces must be provided for pedestrians and cyclists. The minimum widths for these spaces should comply with the minimum requirements for each component of the footway zone and cycling provisions as set out in the Dubai Transport Integration Manual (DTIM).

The following components constitute the sidewalk (Footway Zone):

- Furnishing Zone: is located between the curb and the through zone, and creates an important buffer between pedestrians and vehicles;
- Through Zone: is dedicated for pedestrian movement; and
- Frontage Zone: is the space between the property line and the through zone.

All ROW components must be clearly defined in the cross-section plans submitted to DDA and must include road space, pedestrian realm and, where applicable, spaces for cycling as illustrated in Figure 7.4.



Figure 7.5: Footway Zone

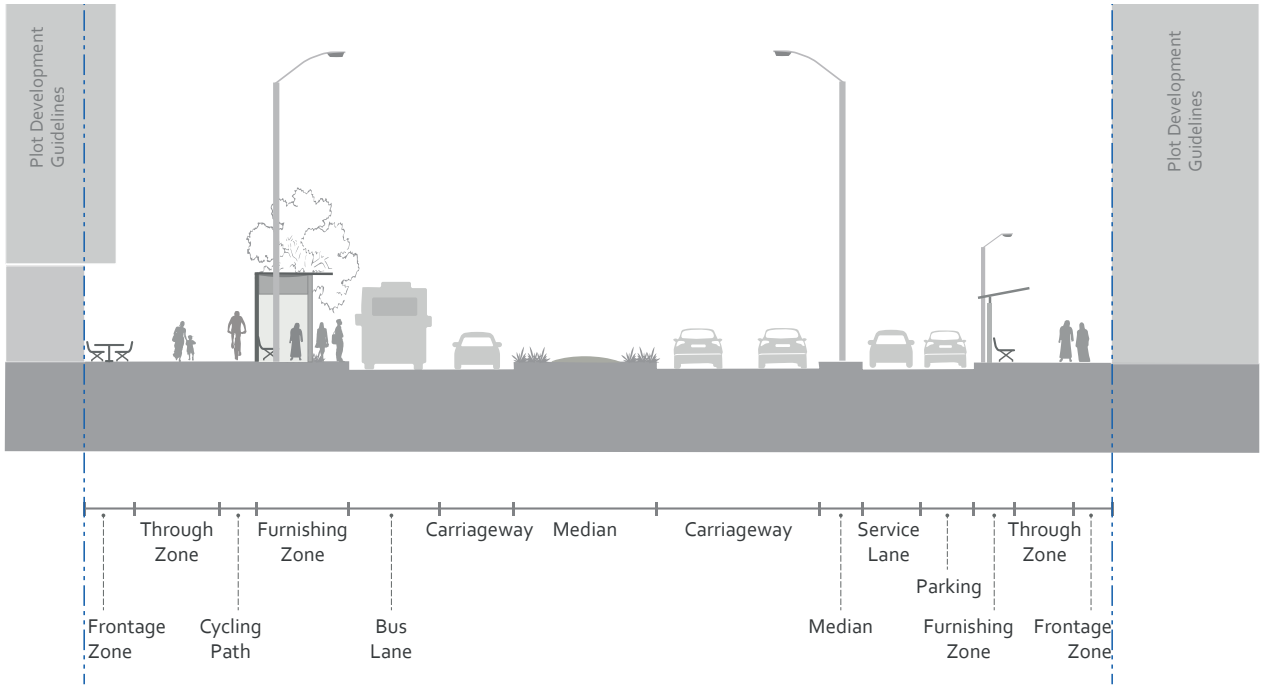


Figure 7.4: ROW Cross section typical components

7.6. Public Transport

Dubai is aiming to achieve a 30% public transport share of all trips by 2030, which is aligned with the Emirate's vision towards sustainable travel. To achieve this, all developments in the city should aim to provide an accessible and permeable network of integrated transport infrastructure and services that is well-connected locally and to the city wide public transport system.

This should be integrated with the land use plan within the development and its surroundings, offering a variety of viable travel choices that stimulate a modal shift away from private cars.

A public transport plan must be submitted as part of the master plan submission to DDA as illustrated in Figure 7.6. Connections to Dubai metro, tram and bus networks, where applicable, must be clearly demonstrated in the public transport plan including the location of all stops and stations within the development. Public transport nodes that are outside of the development and can be accessed by active travel modes from within the development must also be included with access paths clearly demonstrated.

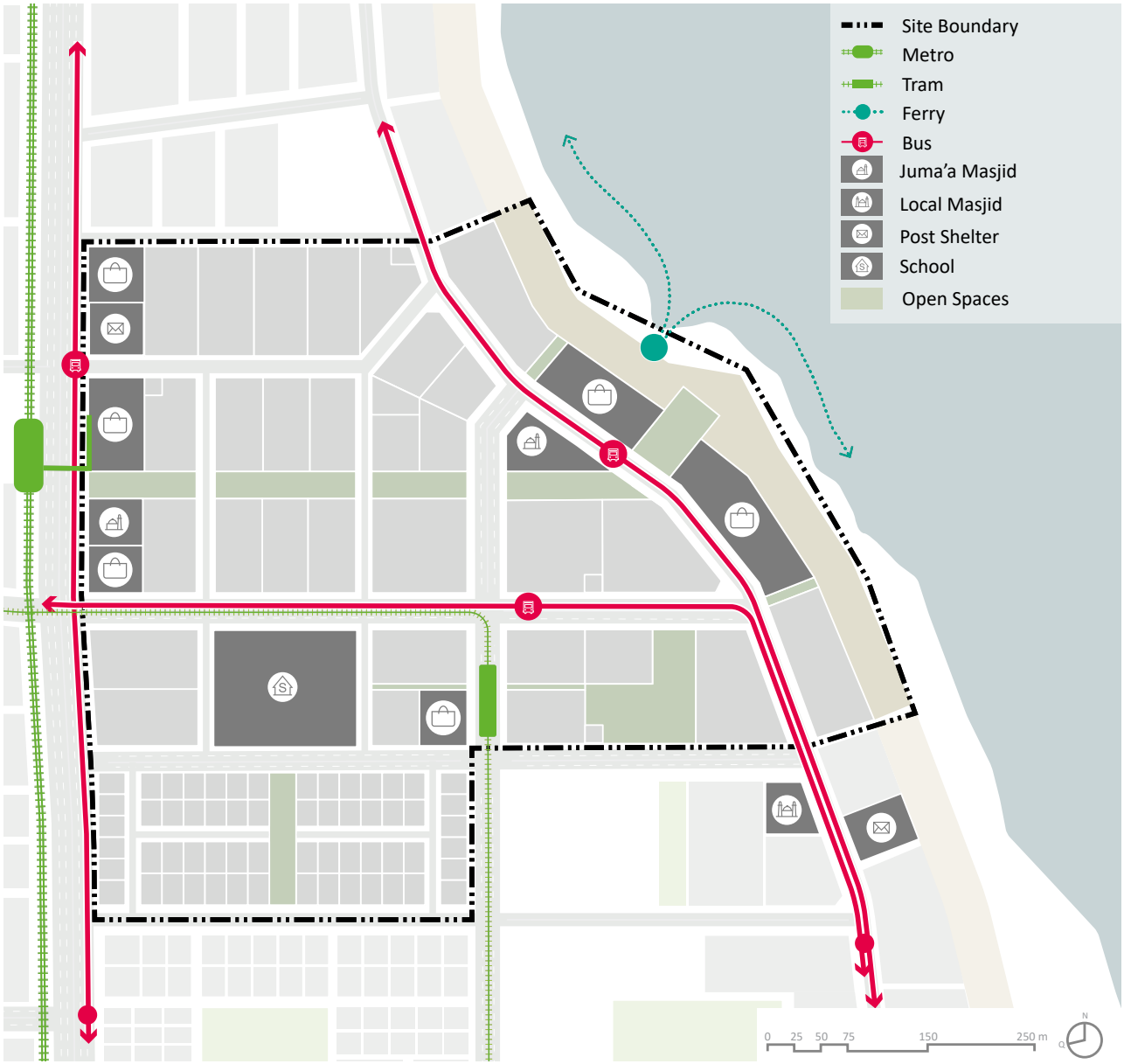


Figure 7.6: Public transport

Public Transport Catchment

A plan demonstrating the walkable catchment area of public transport stops and stations must be provided as illustrated in Figures 7.7 to 7.10. This should typically be based on a walkable distance of 350m (5-minute walk).

For the metro, the catchment area may be extended to cover a 500m walkable distance.

All public transport strategies must be approved by RTA as part of the TIS process.

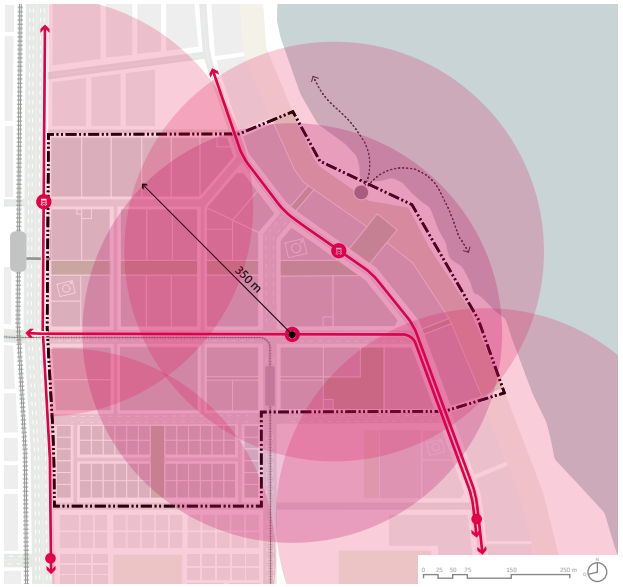


Figure 7.7: Bus catchment



Figure 7.9: Water taxi catchment



Figure 7.8: Metro catchment



Figure 7.10: Tram catchment

7.7. Pedestrian Network

Every trip starts and ends with pedestrianization (active transport). An emphasis on walkability ensures complete journeys to destinations, encourages walkability as a key mode of travel and enhances the quality of life for all. This will support in creating liveable and happy communities in line with the overall city vision.

Complete streets should be designed with resilience in mind and recognizing seasonal changes and major climate events. They should feature accessible and clearly marked sidewalks that provide pedestrians with clear paths allowing for unobstructed movement regardless of physical ability or age and an enhanced pedestrian realm. They should also emphasize street element requirements such as sufficient lighting, street furniture, and tree cover which gives a street its placement as a unique public space.

To ensure that the master plan is providing for pedestrians, a plan that demonstrates the proposed pedestrian network and strategy must be submitted to DDA as illustrated in Figure 7.11.

This must clearly present the pedestrian network within the development, how this is integrated with the land uses and how it is connected to surrounding developments and the public transport network.

The pedestrian network must comply with the relevant RTA guidelines and standards.

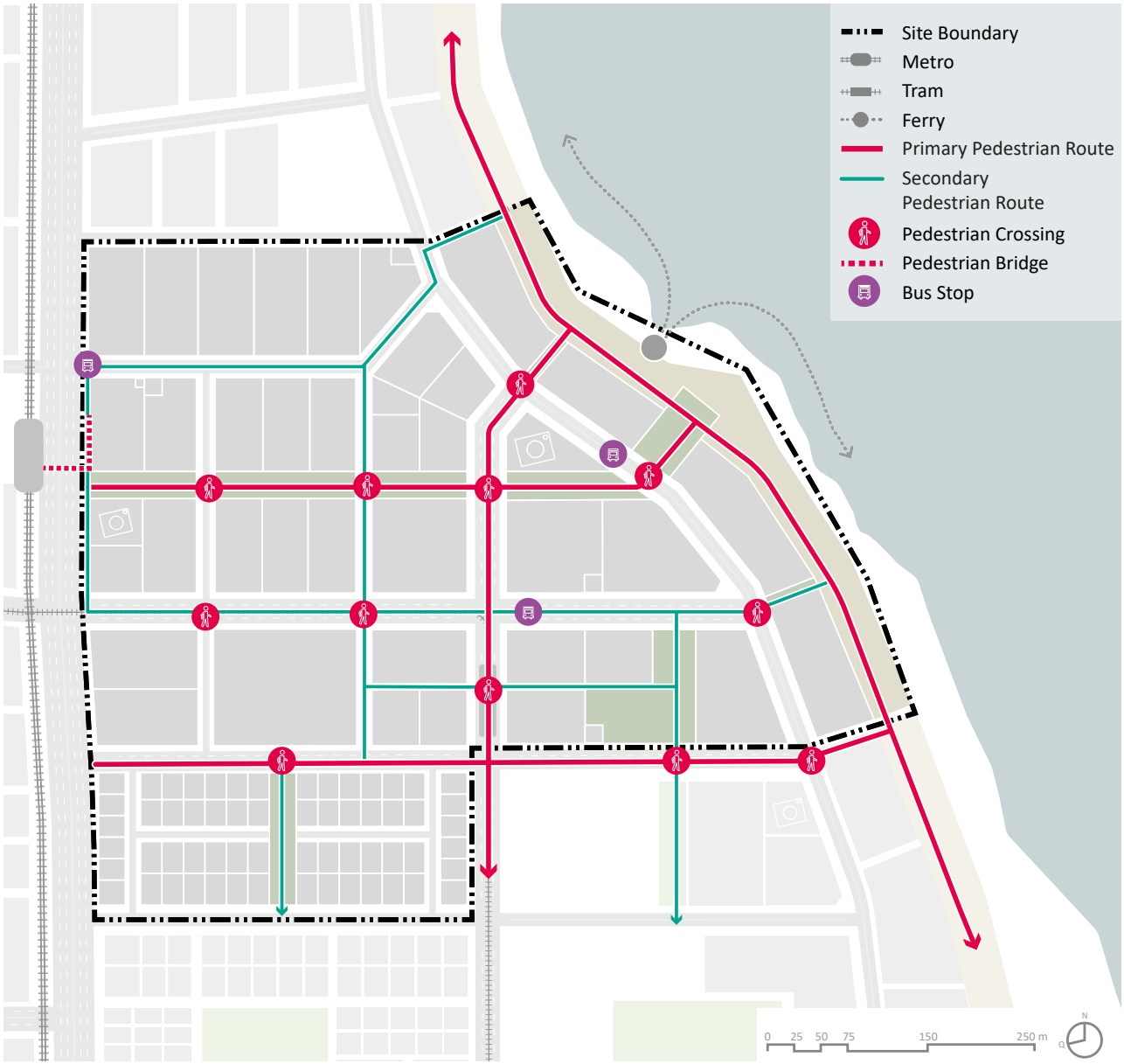


Figure 7.11: Pedestrian network

7.8. Cycling Network

Providing for cyclists must be taken into consideration when developing a comprehensive and multimodal mobility strategy.

A city-wide cycling master plan was developed for Dubai and is led by RTA. To promote cycling as a viable mode of travel, the proposed cycling network must be well-connected to the city network, where applicable. It must also be aligned with the functional classifications of cycling routes and facilities set out in the cycling master plan and all other applicable RTA standards.

A plan that demonstrates the proposed cycling network and strategy must be submitted as part of the master plan submission to DDA as illustrated in Figure 7.12.

The plan should clearly demonstrate the hierarchy of cycling routes. This may include:

- Cycling lanes that are dedicated for cyclists and provided on-street;
- Cycling paths that are dedicated for cyclists and provided off-street; and/or
- Other cycling routes that can be used by cyclists but in mixed conditions (with pedestrians or traffic).

The plan must also demonstrate connections to existing or planned cycling networks and locations of cycling parking and facilities.

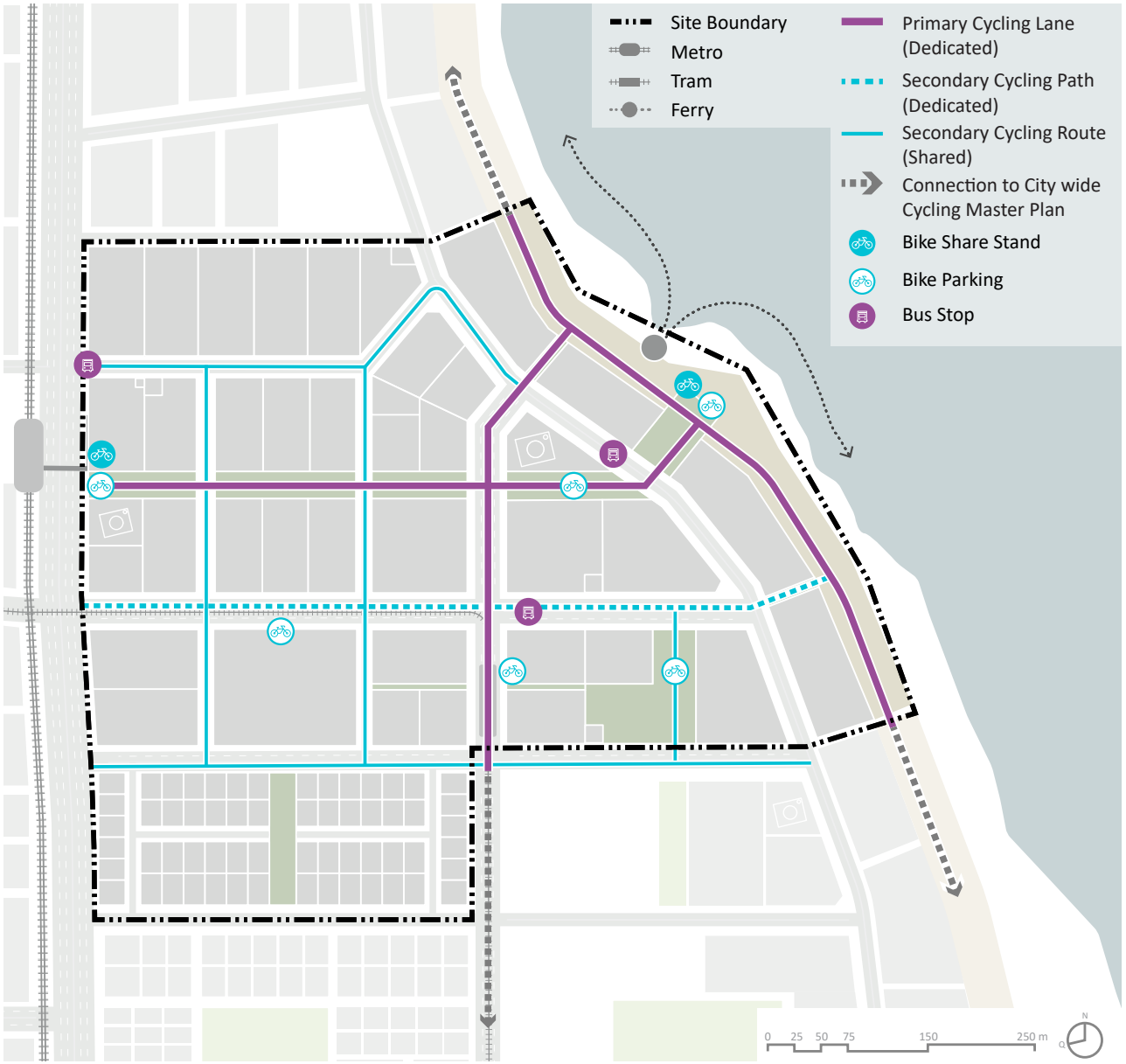


Figure 7.12: Cycling network

7.9. Car Parking Strategy

The adequate provision of parking coupled with efficient design and management are essential to delivering a complete and integrated journeys from/ to destinations. This needs to be considered in line with the overall modal shift towards more sustainable transport.

At present, all master plans must comply with the minimum parking requirements set out in this guideline based on the associated rates for each distinct land use category.

The parking requirements for each plot must be sufficiently provided within that plot. Refer to the parking requirements enclosed in Appendix B of this guideline.

As part of the plot workability check, the estimated number of parking spaces must be provided to ensure that the allocated parking space is sufficient for the estimated parking provision. Refer to Section 3.4 of this guideline for further details on plot workability check.

On-street parking is allowed for all developments. However, the design of on-street parking should not adversely affect providing for pedestrians or cyclists. On-street parking is considered to serve visitors and should not be accounted for as part of the plot parking requirements.

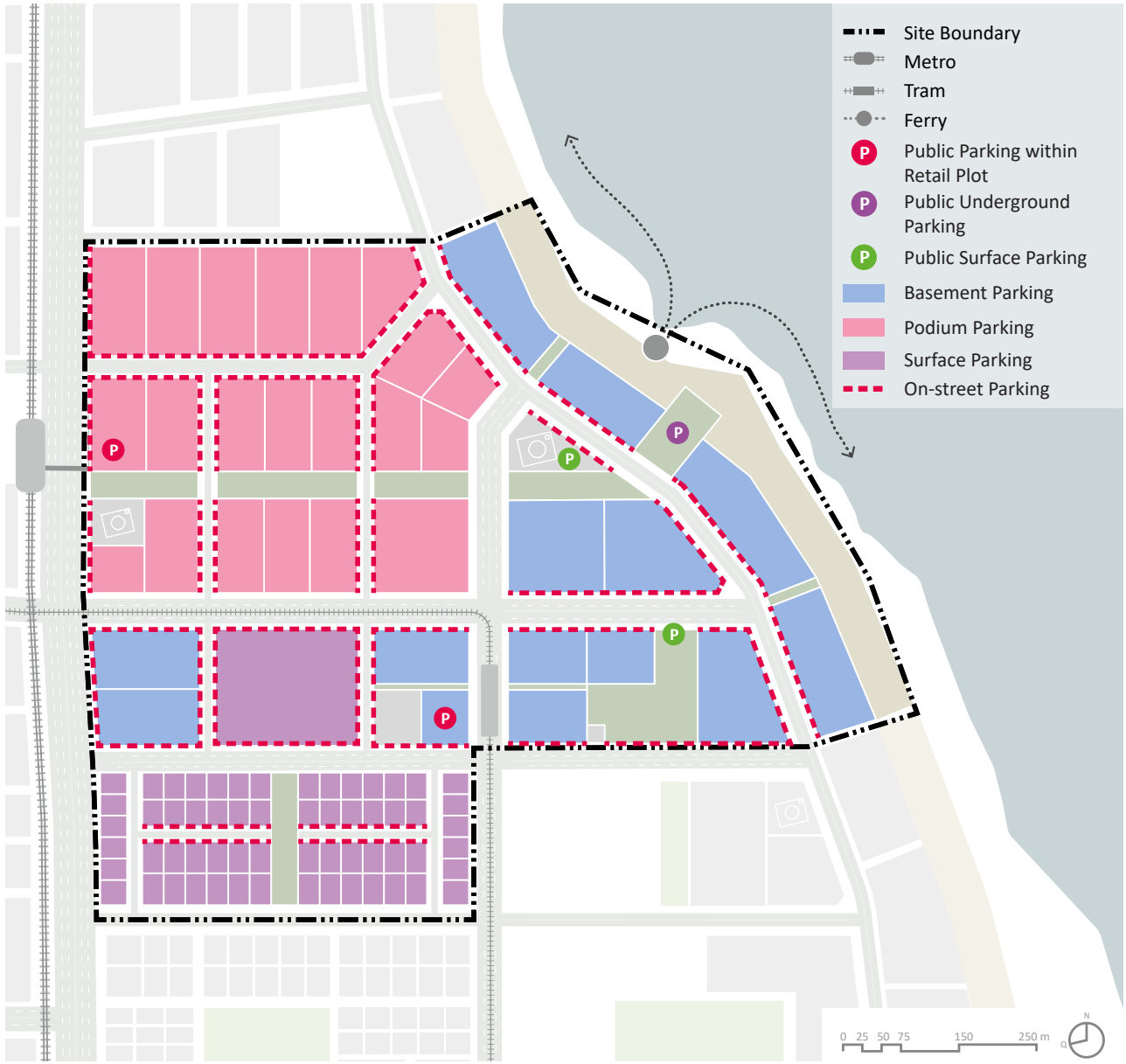


Figure 7.13: Car parking plan

7.10. Plot Access Restrictions

It is expected that individual plot access will be defined at a later stage of site development and subject to RTA approval which is beyond the remit of this guideline. However, any potential vehicular access restriction must be considered at the master planning stage and must follow the applicable guidelines provided by the RTA. These could include, but not be limited to, the following cases:

- Direct access to highways or roads with high traffic volumes;
- Level differences between the plot and adjacent road which does not allow for enough ramp distance (including bridges); or
- Proximity to another access point and/or intersection.

A plan that demonstrates the plot access restrictions must be provided as part of the master plan submission to DDA as illustrated in Figures 7.14 to 7.16. Furthermore, plot access restrictions must be provided in the PDG.

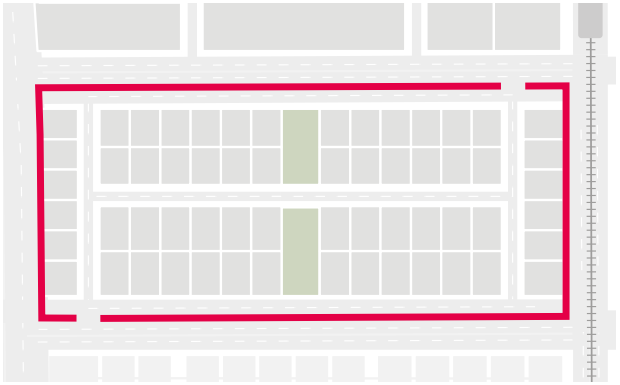


Figure 7.14: Plot access restriction example (gated community)

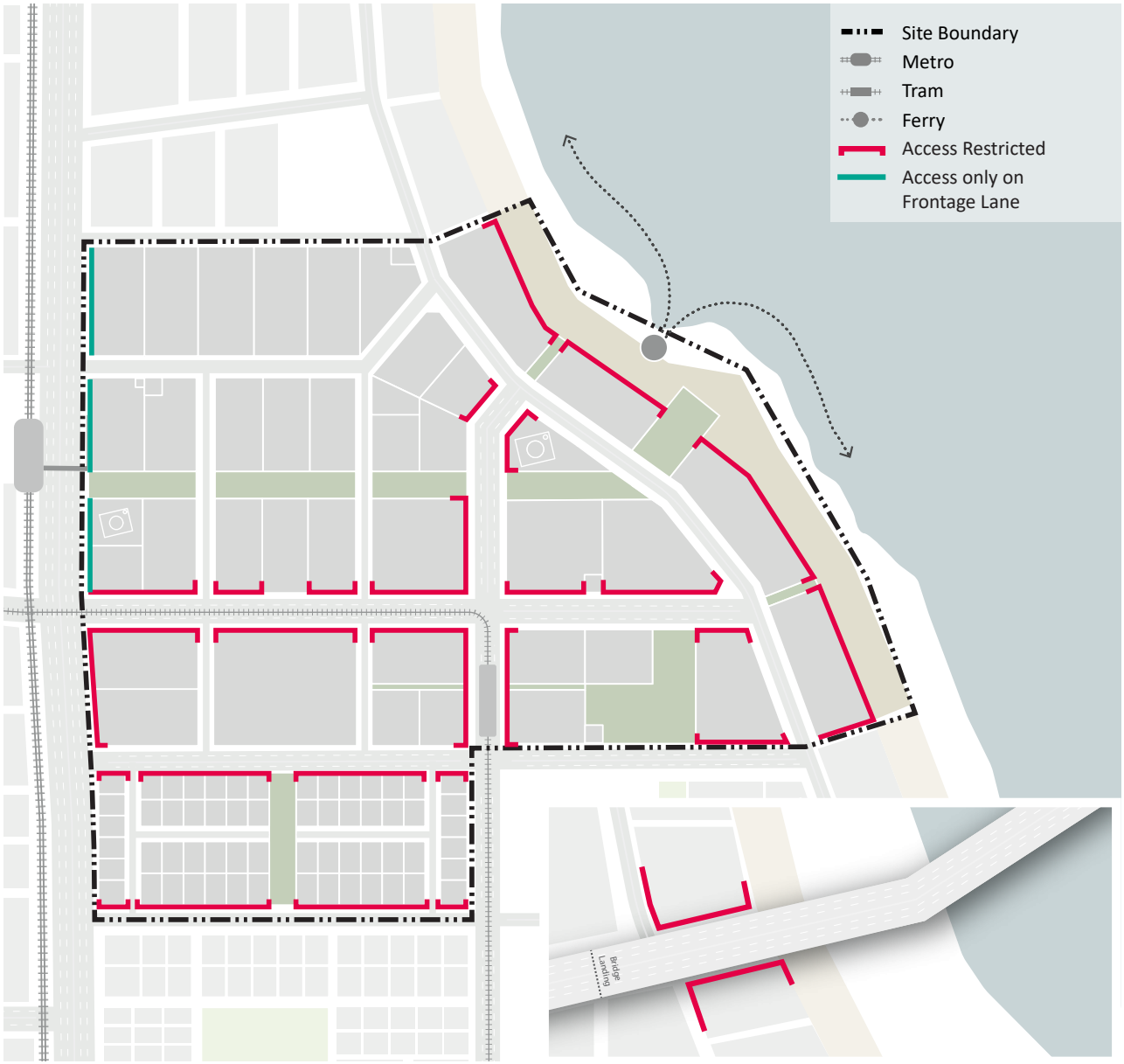


Figure 7.16: Plot access restriction plan

Figure 7.15: Plot access restriction example (proximity to bridge)

7.11. Mobility Integration Plan

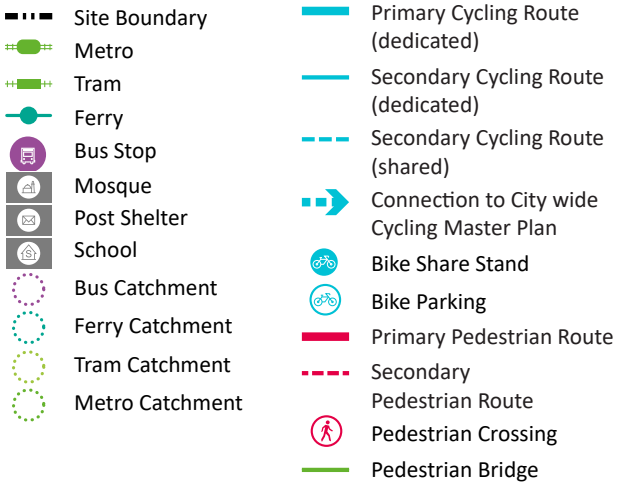
The integration of all transport services is key to ensure the transport systems are accessible and integrated for users.

This should focus on the following key principles:

- Enhancing integration between transport and urban planning;
- Making roads friendly for all users;
- Promoting public transport; and
- Managing travel demand and congestion.

The mobility integration strategy for the whole development must be demonstrated in a plan and included in the master plan submission to DDA as illustrated in Figure 7.18.

The Dubai Transport Integration Manual (RTA, 2016) should be referenced when developing the integration strategy for any development.



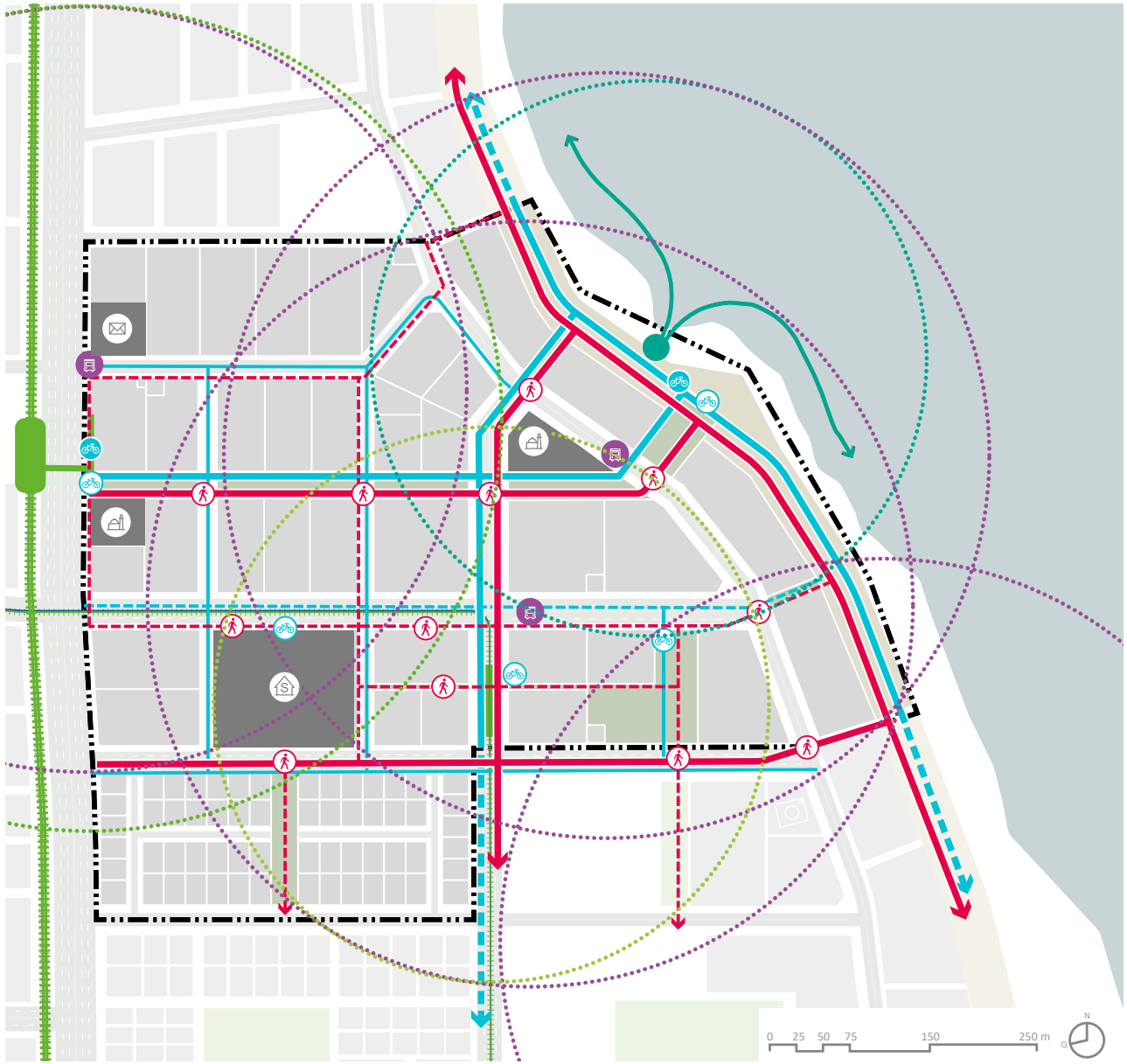


Figure 7.17: Mobility integration plan

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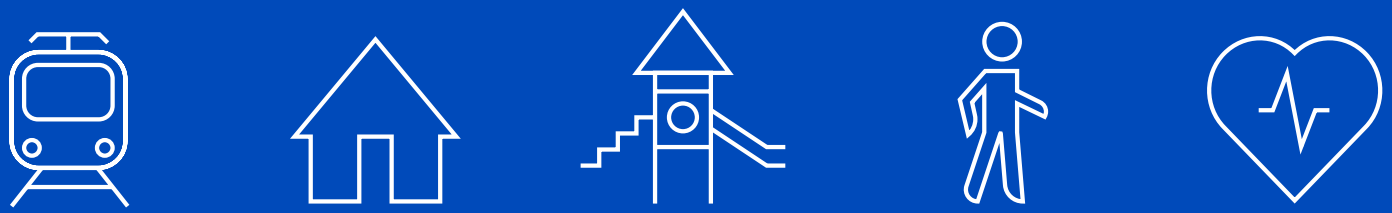
8 Utilities





Introduction

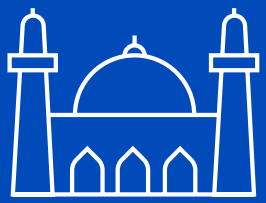
At the early planning stage of a development, considering infrastructure opportunities and constraints is key to the development of a successful master plan. Taking a coordinated and holistic approach across the various utilities, especially water and energy, is essential for the implementation of sustainable utility strategies.

As such, considering interconnections across utilities allows for the provision of effective infrastructure that is flexible, resilient and efficient. Moreover, careful spatial planning and coordination in identifying the utility demands to service a development and the associated infrastructure ensures a cost-effective supply and distribution of services.

Liaising with local authorities and service providers at the various master planning stages to agree the utility supply strategies should be undertaken for all master plans.

These efforts and the agreed strategies must be demonstrated in master plan submissions to DDA.





Requirement Checklist

PMP	SOS	FMP	
☐	☐	☑	Utility Cross Sections
☐	☐	☑	Authority Approvals

8.1. Utility Authorities Approvals

Coordination with all utility authorities and local service providers must be undertaken including:

- Dubai Electricity and Water Authority (DEWA);
- Dubai Municipality Drainage and Irrigation Department;
- Etisalat and Du;
- Dubai Civil Defense;
- Dubai Supply Authority (DUSUP);
- UAE Armed Forces; and
- District Cooling (private suppliers).

At the PMP stage, liaising with each of the utility authorities/service providers should be undertaken to obtain existing utility information within and surrounding the site. This process is coordinated through RTA, which is responsible for collating information from the various authorities. The informational NOC (INOC) application should be submitted through the RTA portal.

Approvals from utility authorities/service providers are not required at the PMP stage of the master plan. However, early engagement and discussions with utility authorities should to be initiated at this stage to obtain the required INOCs.

At the SOS stage, more detailed utility infrastructure strategies must be developed. Engagement with utility authorities and preparation of formal submission must be undertaken to obtain necessary approvals.

The approval from each relevant authority/service provider on the utility strategy must be provided as part of the master plan submission to DDA.

All information related to the obtained approvals submitted to utility authorities must be provided in an enclosed appendix to the FMP submission.

Refer to Chapter iii for further details on the submission requirements.

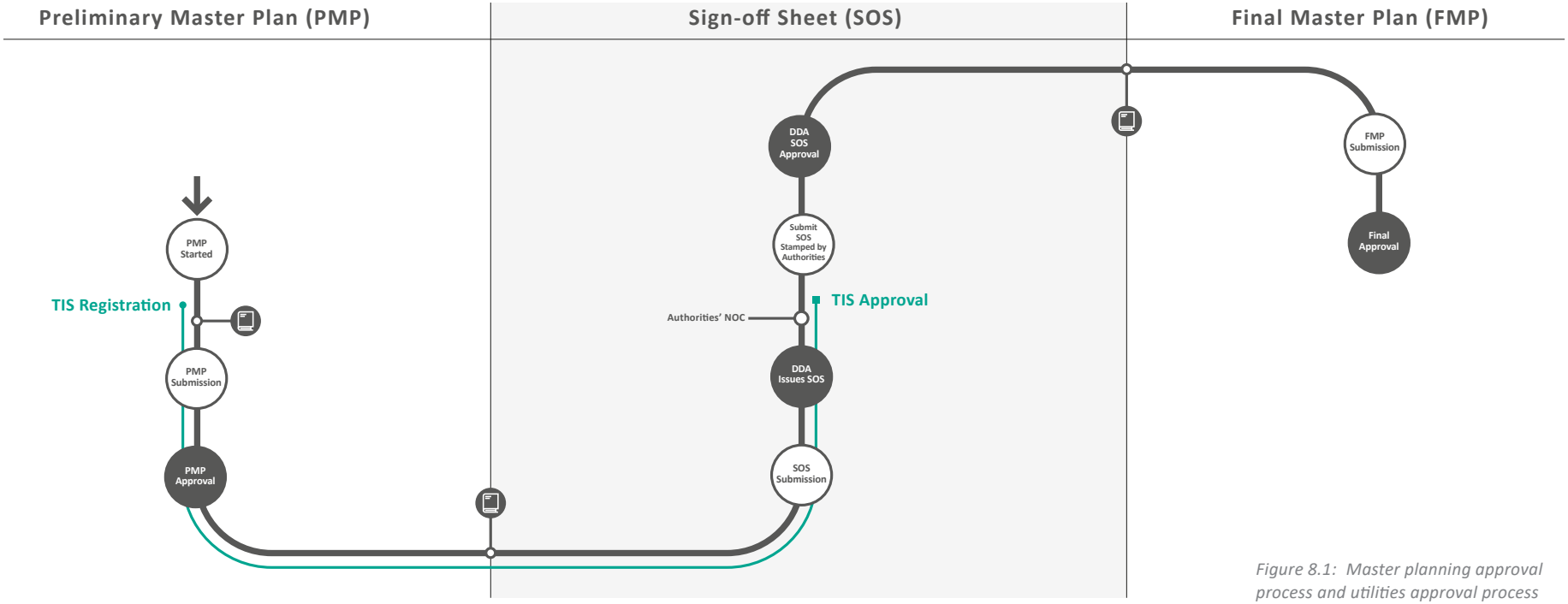


Figure 8.1: Master planning approval process and utilities approval process

8.2. Utility Plots Requirements

The utility plots include the bulk infrastructure facilities required to supply the master plan with the required utility demands.

Depending on the master plan scale, existing site conditions and utility requirements, the utility plots required may vary from one development to another and need to be agreed/approved by utility authorities and service providers.

The key bulk infrastructure facilities may include, but are not limited to, the following;

- Power Substation (400 kV);
- Primary Substation (132kV);
- Pocket Substations (11kV);
- District Cooling Plant;
- Potable Water Facility (tanks and pumping stations);
- Irrigation Facility (tanks and pumping stations);
- Storm Water Facility (tanks and pumping stations);
- Meet Me Room (MMR);
- Point of Presence (POP); and
- GSM Tower.

Refer to the standard land use classification in Appendix B for a full list of utility land uses.

The following figures highlight the standard requirements for some utility plots in terms of plot dimensions, height, setbacks and accessibility, where applicable, as per the utility authorities and service providers standards.

These requirements must be approved by the relevant utility authorities.

Other utility plots sizes (such as Sewage Treatment Plants, Irrigation Facilities and District Cooling Facilities) are based on capacity and need to be discussed in detail with the relevant authority/service provider.

DEWA Power – Substation 400kV

Item	Description
Substation	**400 kV**
Plot dimensions	200 X 200m
Height	TBC with DEWA
Setbacks	Subject to DEWA approval
Accessibility	Substation plot must have access for heavy vehicles
Reference	DEWA - Power Supply Guidelines for Major Projects

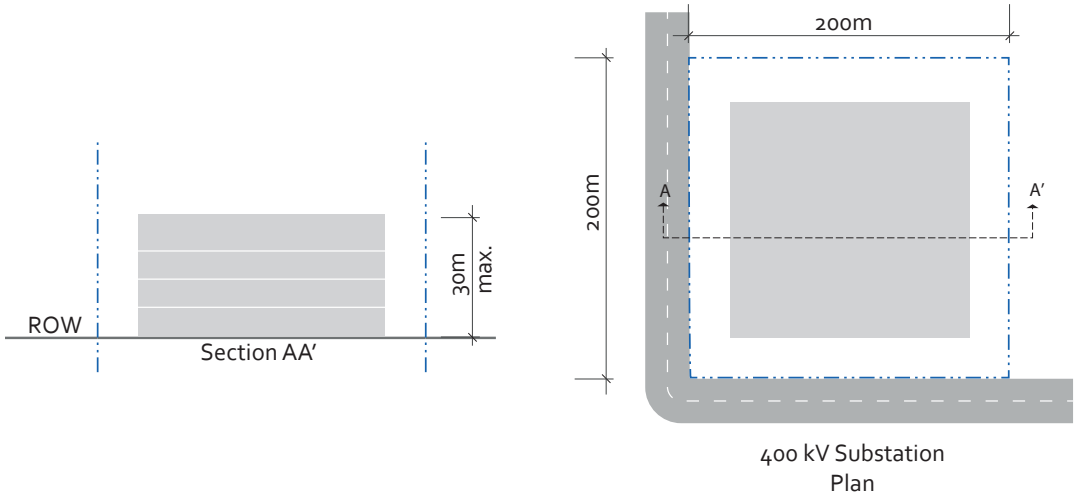


Figure 8.2: DEWA 400kV substation plan and section

DEWA Power – Substation 132kV

Item	Description
Substation	**132 kV**
Plot Dimensions	50 X 60m
Height	20m (G+1)*
Setbacks	3 meters from neighbouring plots only (excluding open space and utility corridors), no setbacks required from other sides
Accessibility	Access from two major roads or one major road and Sikka (min 7m wide). The longer side to face the road.
Reference	DEWA - Power Supply Guidelines for Major Projects

* 30m (G+2) building height may apply to substandard plot dimentions subject to DEWA approval

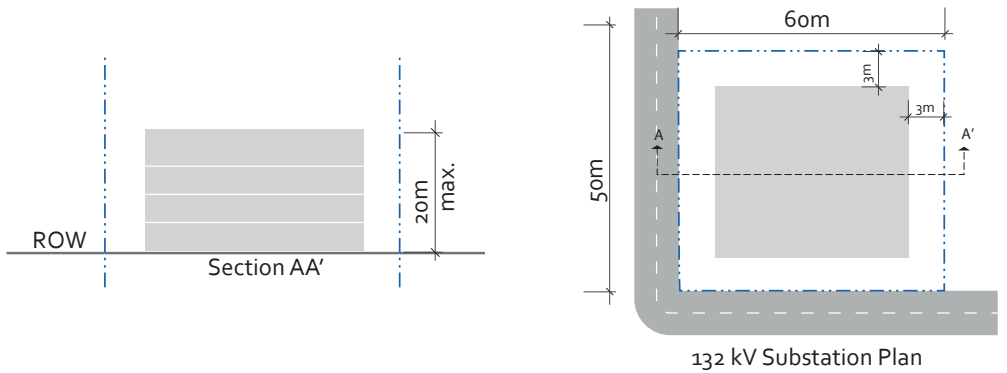


Figure 8.3: DEWA 132kV substation plan and section

DEWA Power – Substation 11kV

Item	Description
Substation	**11 kV**
Plot Dimensions	6.1 X 6.1m
Height	3m
Setbacks	N/A
Accessibility	Access from main road
Reference	DEWA - Power Supply Guidelines for Major Projects

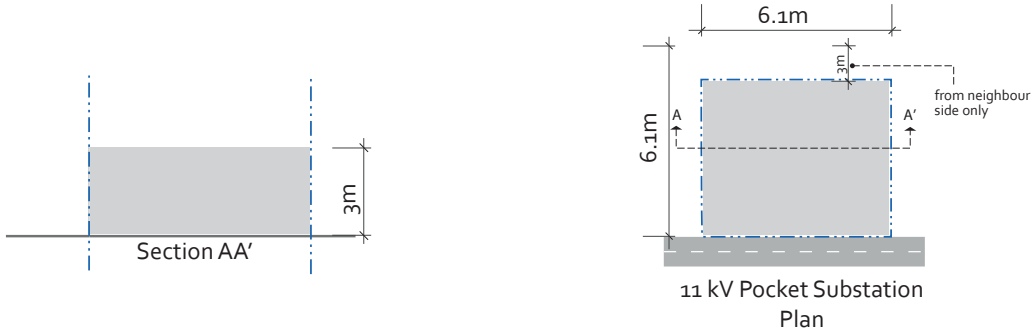


Figure 8.4: DEWA 11kV substation plan and section

DEWA Water

Item	Description
	Potable Water Facility
Plot Dimensions	Varies based on capacity
Height	5m
Setbacks	3m from neighboring plot
Accessibility	Access from main road
Reference	DEWA - Water Transmission Planning Guidelines for Development Projects
Notes	Subject to Dubai Civil Defense approval, this could be combined with fire water storage tank

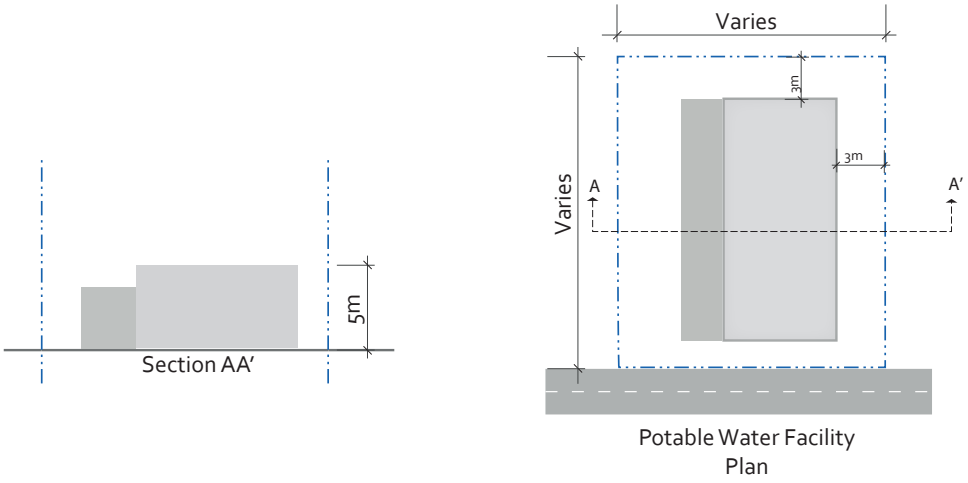


Figure 8.6: Potable Water Facility plan and section

Dubai Municipality

Item	Description
	Irrigation Facility
Plot Dimensions	Varies based on capacity
Height	5m
Setbacks	3m from neighboring plot
Accessibility	Access from main road
Reference	Dubai municipality guidelines
Notes	Subject to Dubai Civil Defense approval, this could be combined with fire water storage tank

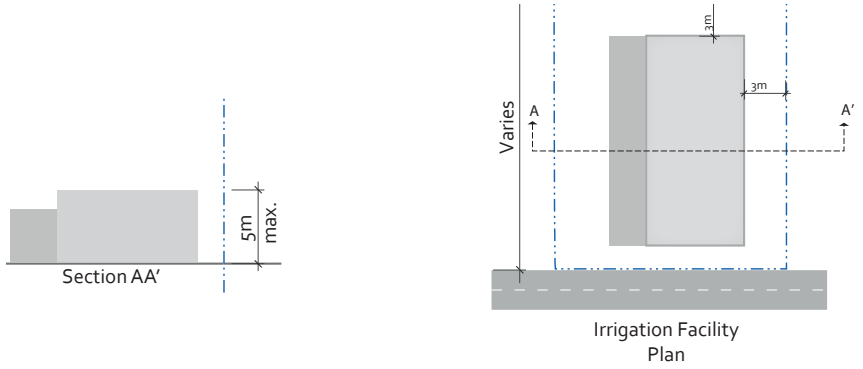


Figure 8.5: Irrigation facility plan and section

Etisalat/Du

Item	Description
MMR, POP, GSM	**Meet Me Room, Point of Presence and GSM Tower**
Plot Dimensions	**MMR and GSM Tower**: 10m X 10m
	POP Room: 35m X 35m
Height	**MMR and GSM Tower**: G
	POP Room: G+1
Setbacks	**MMR and GSM Tower**: 1.5m from neighboring plot
	POP Room: 5m from all sides
Accessibility	**MMR and POP Room**: Could be integrated within a building, subject to the service provider approval.
	GSM Tower: Vehicular Access
Reference	TRA Telecommunication Network Specification Manual

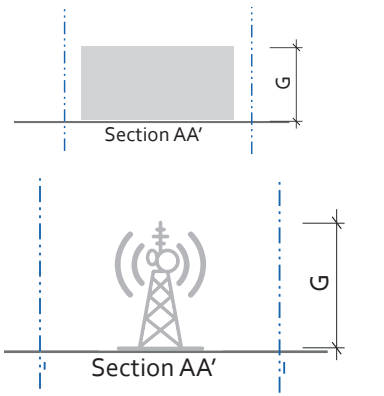
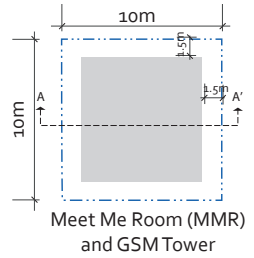


Figure 8.7: MMR and GSM Tower plan and section



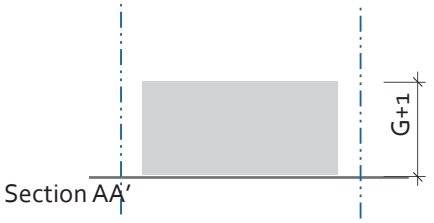
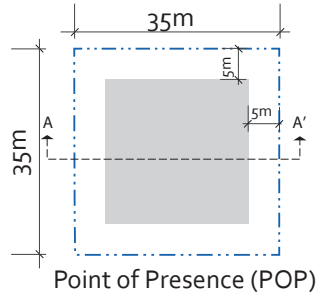


Figure 8.8: POP Room plan and section



District Cooling Provider

Item	Description
DCP	**District Cooling Plant**
Plot Dimensions	Varies based on capacity
Height	30m
Setbacks	5m (10m vehicular access to be provided)
Accessibility	Access from main road
Reference	Private district cooling supplier requirements

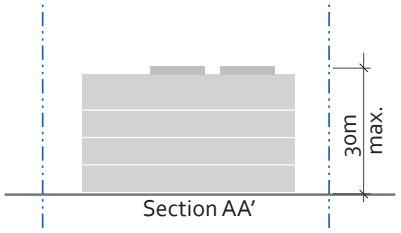
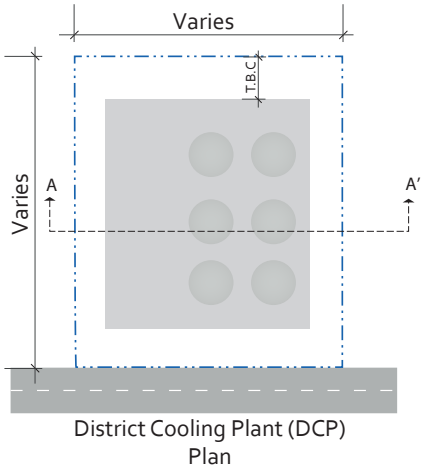


Figure 8.9: District cooling plant plan and section



8.3. Utility ROW Cross Sections

The Right of Way (ROW) cross sections must comply with the typical RTA standards as an initial baseline for minimum utility corridor requirement.

Additional/substandard/wider utility corridors may be required due to master plan specific requirements needs to be considered, agreed and approved by relevant utility authorities.

Typical cross sections must be based on the RTA design guidelines (Right of Way Utilities Distribution Manual).

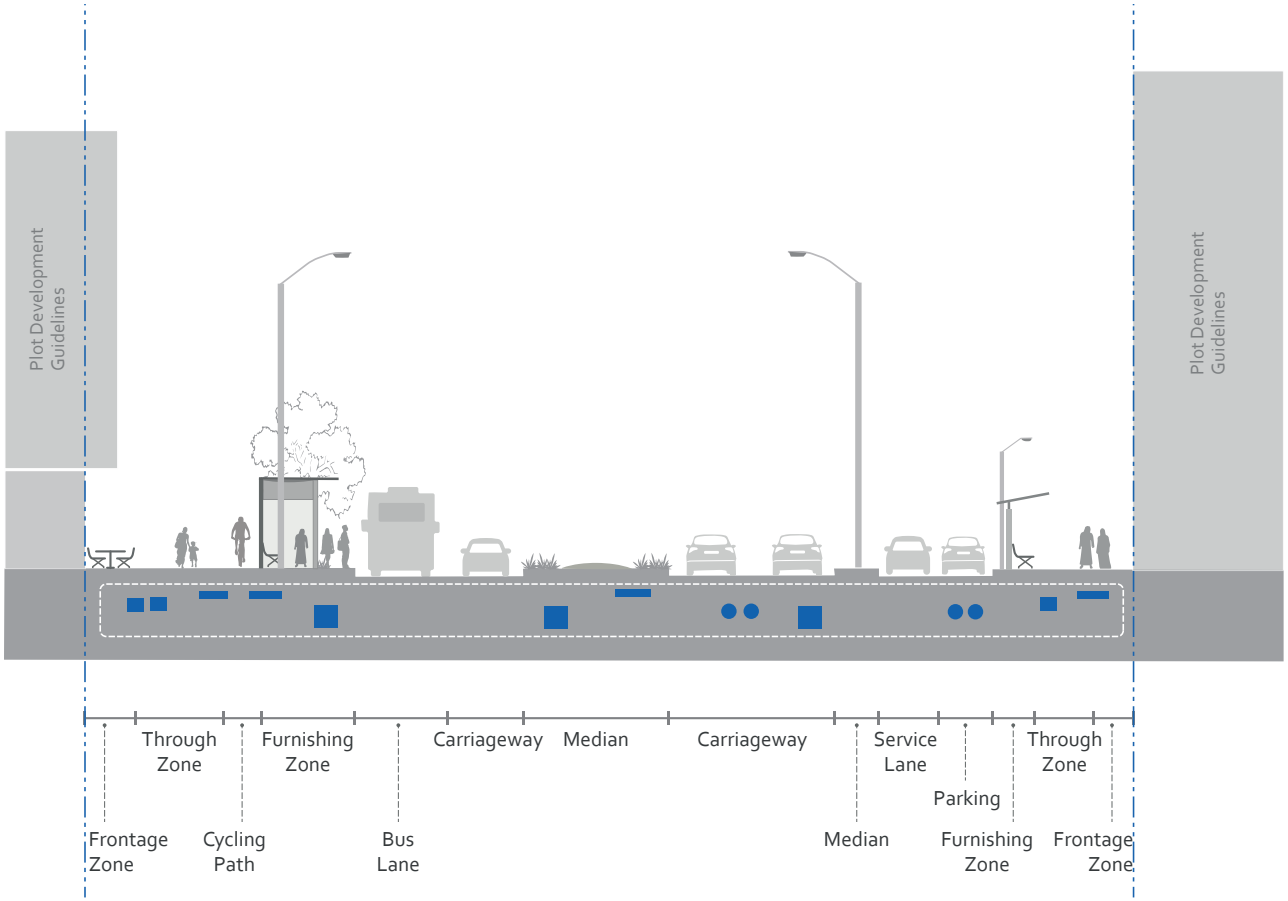


Figure 8.10: Utilities cross section

9 Plot Development Guidelines (PDG)

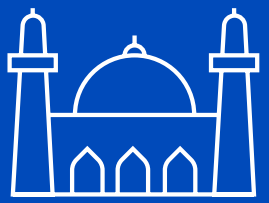


Introduction

The translation of the master plan design vision into final construction requires distilling the information from a master plan level to a plot level. Only then can the individual plots develop in a coherent manner to achieve the plan vision.

Plot Development Guidelines are the link that provides this information and consistency to take place. This section covers the key information at a plot level for both development data and visual information. In addition to a few PDG examples.





Requirement Checklist

PMP	SOS	FMP	
☐	☐	☑	Plot Development Guidelines

9.1. Plot Development Guidelines

Plot Development Guidelines (PDG) contain key development information for every plot. It is the summary sheet for the role of each plot in the overall design and vision of the master plan. The PDG complements the site plan document and together they provide the minimum requirements for every plot.

For identical plots, one typical Plot Development Guideline that applies to all relevant plots can be provided. In this case, all the information contained within the PDG must be applicable to all identified plots.

The minimum information that must be covered in the PDG include:

- Plot location key plan(s);
- Plot guidelines plan;
- Cross section;
- Axonometric (building massing);
- Development details;
- General notes; and
- Plot specific notes.

Requirements for each element are further described in the following sections.

Plot Location Key Plan(s)

The location of a plot (or group of plots the PDG applies to within the overall master plan development) must be provided in the PDG. The plot number(s) must be included in the location key plans. Two different scales of the map must be provided. The first must identify the plot within the local context of the master plan as described in Section 1.2 and illustrated in Figure 9.1. A second location plan that provides identifiable plot outlines and immediate surrounding plots and ROW as illustrated in Figures 9.2 must also be provided.

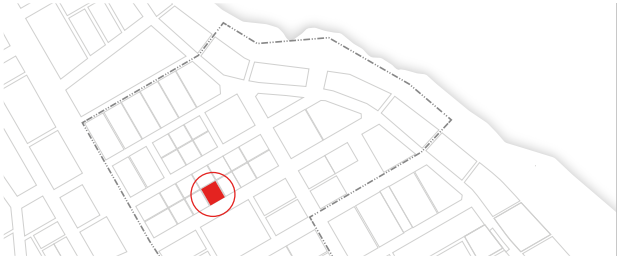


Figure 9.1: Example of a plot location Key Plan 1; Context

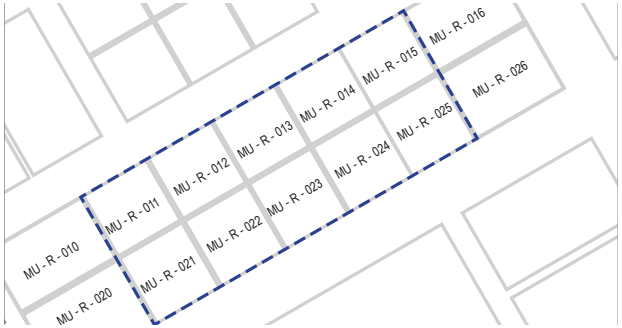


Figure 9.2: Example of plot location Key Plan 2; Zoom In

Plot Guidelines Plan

The plan view of the plot(s) must be provided. Items covered in the plan must include the following as a minimum:

- Plot boundary;
- Plot number;
- Plot dimensions;
- Building setback lines and dimensions;
- Podium setback lines and dimensions (if applicable);
- Minimum dimension between towers (if applicable);
- Building envelope;
- Podium envelope (if applicable);
- Basement (if applicable);
- Edges with restricted access (if applicable);
- Build-to-line (if applicable);
- Active frontages (if applicable);
- Side numbers (aligned counter-clockwise);
- Retail location (if applicable);
- Colonnades (if applicable);
- Context (adjacent plots and roads);
- North arrow with Qibla direction;
- Scale bar;
- Cross section mark; and
- View angle for the axonometric drawing.

Two examples of plot guidelines plan are illustrated in Figures 9.3 and 9.4.

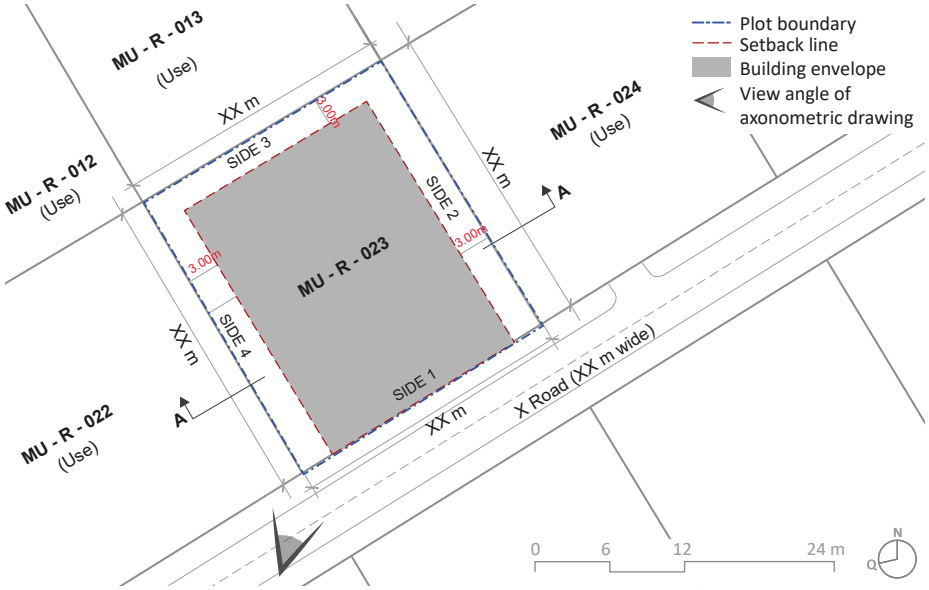


Figure 9.4: Example 1 of plot guidelines plan (villa)

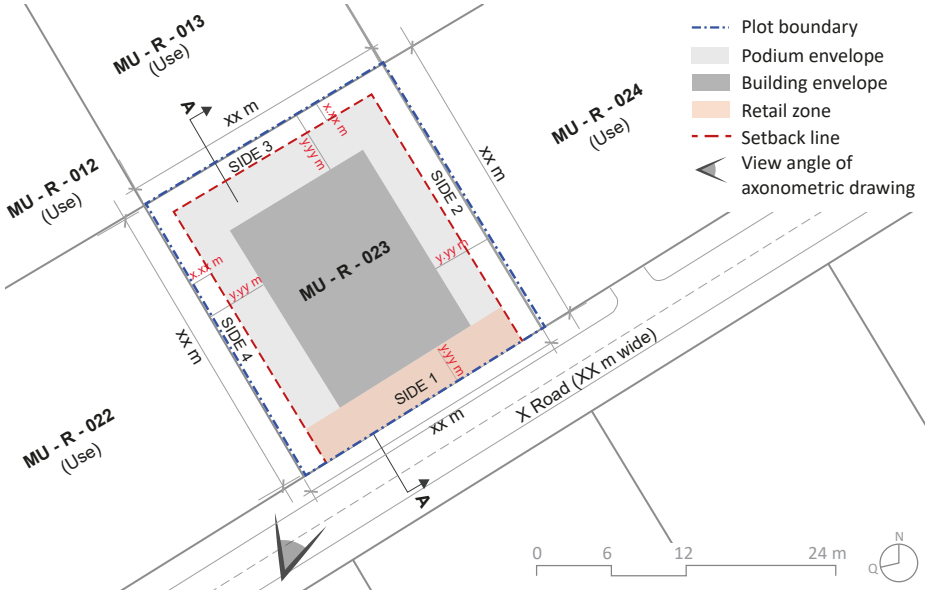


Figure 9.3: Example 2 of plot guidelines plan (building with podium)

Building Sections

One section must be provided for the buildings on each plot. The scale of the section must match the plan view. Items covered in the plan must include the following as a minimum:

- Plot boundary;
- Building and podium setbacks;
- Building envelope;
- Podium envelope;
- Basement (if applicable);
- Gate level;
- Building height (floor number and meters in special cases as per Section 6.1);
- Retail location (if applicable);
- Colonnades (if applicable);
- Parking location annotation; and
- Measurements in meters.

An example of a section is illustrated in Figures 9.5 and 9.6.

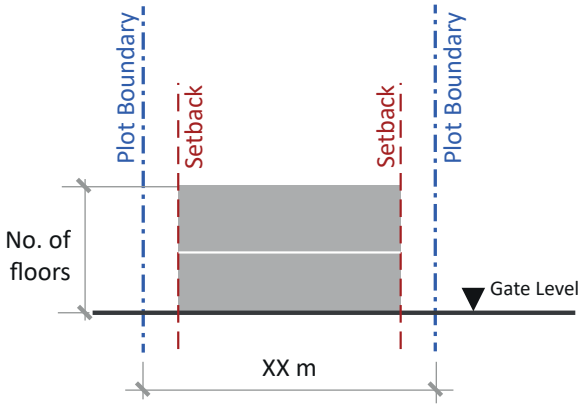


Figure 9.5: Example 1 of plot development guidelines building section (villa)

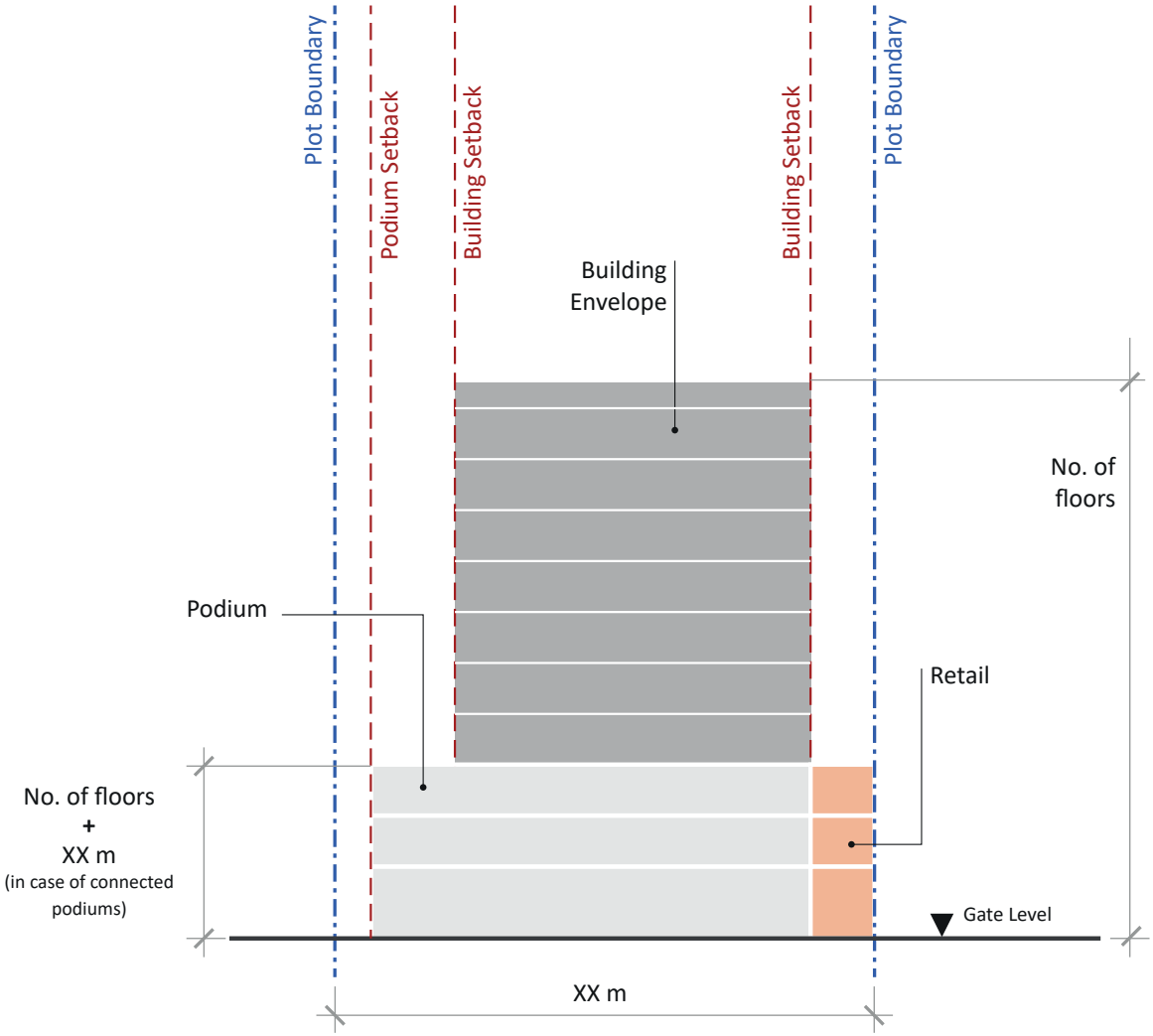


Figure 9.6: Example 2 of plot development guidelines building section (building with podium)

Axonometric Layout (Building Massing)

One axonometric layout must be provided for the plot. Items covered in the drawing must include the following as a minimum:

- Plot boundary;
- Side numbers;
- Building envelope;
- Podium envelope;
- Basement (if applicable);
- Building height (floor number and meters in special cases as per Section 6.1); and
- Retail location (if applicable).

An example of an axonometric layout plan illustrated in Figures 9.7 and 9.8.

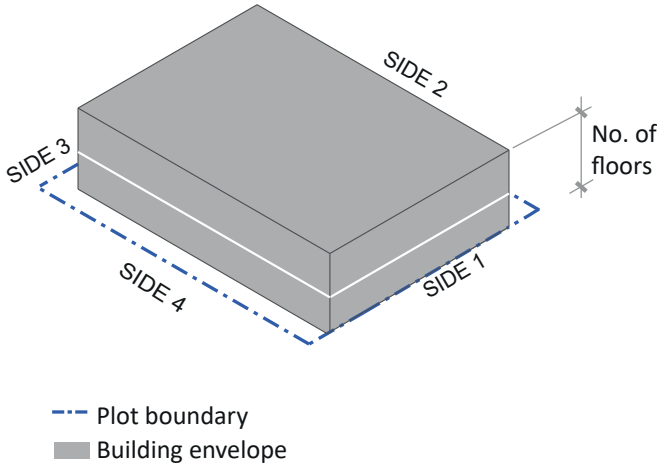


Figure 9.8: Example 1 of plot development guidelines axonometry (Villa)

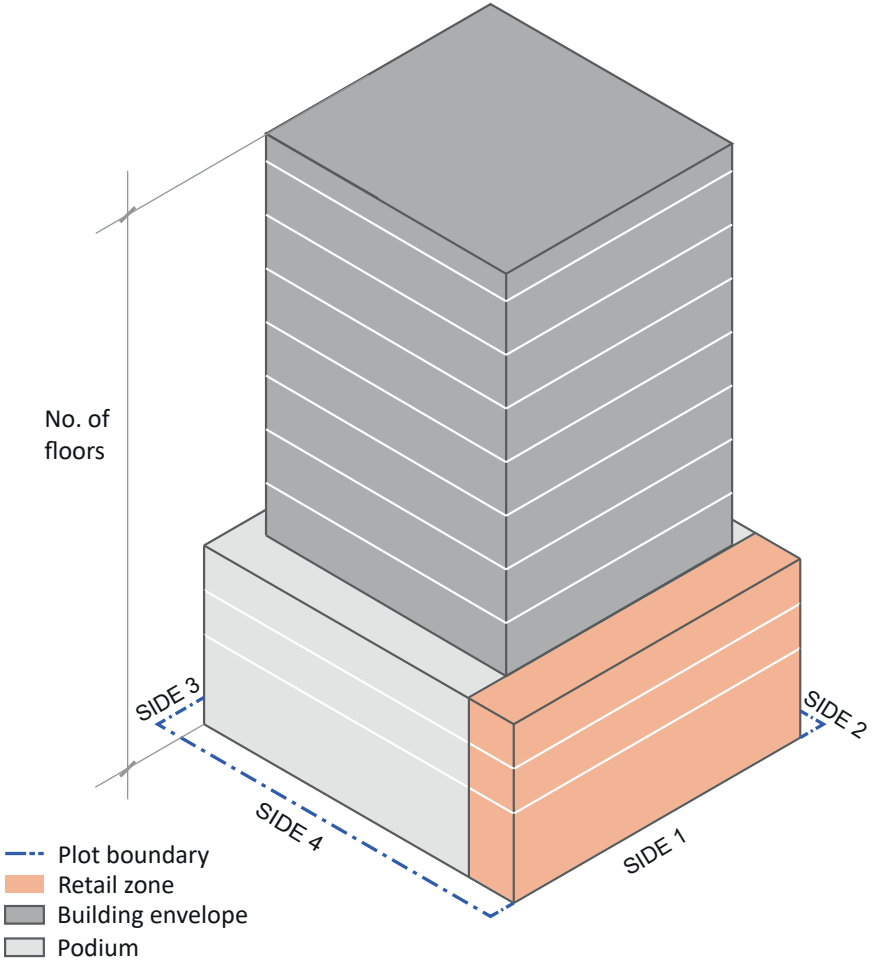


Figure 9.7: Example 2 of plot development guidelines axonometry (buildings with podium)

Development Details

The development details for the plot must be provided in the form of a table within the PDG. Items covered in the table vary slightly based on the building typologies. Table 9.1 provides a complete list of the items that must be included:

Buildings with podium requirements are the most comprehensive. Other building typologies such as villas, attached villas, buildings (no podium) and industrial must include only applicable items. An example of a villa development table is illustrated in Table 9.2 .

Plot(s) ID					MU - R - 023
Land uses		**GFA (sqm)**		**Parking rate**	
Level 1	**Level 2**				
Residential	Apartment				
Commercial	Retail				
Total GFA (sq. m)					
Total plot area (sq. m)					
Building height		G+ xP +xx (xxm)*			

**To be provided in special cases only, see chapter 6.1 of the Master Planning Guidelines.*

Minimum setback (m)	**Side 1**	**Side 2**	**Side 3**	**Side 4**
Building / Tower				
Podium				
Minimum setback between towers			xxm	

Surface parking	Permitted	Y / N
Surface parking within setbacks		Y / N

Podium		Permitted /	Y / N
Max. (floors)		Mandatory	Y / N
Mandated height from gate level (meters) *for connected podiums only*			
Allowed podium uses	*Retail use is allowed. Playground and outdoor seatings are allowed on podium roof*		

Boundary wall *Architectural guidelines of boundary wall treatment must be followed.*	Permitted	Y / N
	Mandatory	Y / N
Maximum wall height	xxm	

Table 9.1: Development details table (comprehensive)

Plot(s) ID					MU - R - 023
Number of villas in plot					
Land uses		**GFA (sq. m)**		**Parking rate**	
Level 1	**Level 2**				
Residential	Villa				
Total plot area (sq. m)					
Building height		G+ xx (xxm)*			

**To be provided in special cases only, see chapter 6.1 of the Master Planning Guidelines.*

Minimum setback (m)	**Side 1**	**Side 2**	**Side 3**	**Side 4**
Villa				

Boundary wall *Architectural guidelines of boundary wall treatment must be followed.*	Permitted	Y / N
	Mandatory	Y / N
Boundary wall height		xxm

Table 9.2: Development details table (villa example)

General Notes

Basic general notes must be included within the PDG below the development details. These notes differ slightly for different building typologies. For each typology, the following notes and details (*or an edited version as appropriate for the plot*) must be provided, as a minimum:

- **Buildings (No Podiums):**
    - (*Pergola/shading devices, guard house, utilities*) are allowed uses in setbacks; and
    - Architectural guidelines must be followed.
- **Buildings with Podiums:**
    - (*Pergolas/shading devices, guard house, utilities*) are allowed uses in setbacks, maximum height is (*indicate in meters)*;
    - Architectural guidelines must be followed;
    - Usable roof is (*allowed*). The maximum percentage of usable roof coverage is (*indicate percentage*), mandated setback for usable roof is (*indicate in meters*)and the allowed uses for roof are (*include uses*);
    - Balcony projections are (*allowed*) in setbacks. Projection allowed within setback is (*indicate in meters*) for all sides; and
    - Allowed uses in podium are (*parking and retail*).
- **Villas and Attached Villas:**
    - Architectural guidelines must be followed;
    - (*Service block, garage and pergolas/shading devices*) are allowed within setback at a maximum height of (*indicate in meters)*;
    - Balcony projection are (*allowed*) in setbacks. Projection allowed within setback is (*indicate in meters)* for all sides; and
    - (*indicate in percentage)* of the roof can be usable with a (*indicate in meters)* setback. Allowed uses of the roof include (*gym and storage*).
- **Industrial Buildings**
    - (*Utility and surface parking*) are allowed uses in setbacks;
    - Architectural guidelines must be followed (*master developer may remove this statement if no set architectural guidelines are specified*); and
    - Mezzanine is (*allowed*) and does not count as a floor.

Other general notes can be included such as:

- The final plot dimensions and area are defined in the valid Site Plan Copy/Valid DM Affection Plan/Valid DLD Title Deed (as applicable) issued.

Plot Specific Notes

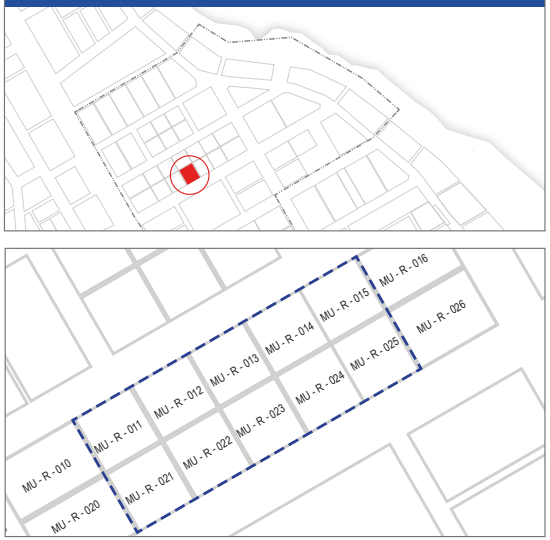
Additional specific notes should be included within the PDG below the general notes. Examples of notes that may be added in the plot specific notes include:

- Specifications on which usages are allowed in different side's setback;
- Changes in roof usage and percentage; and
- Any other specific claim.

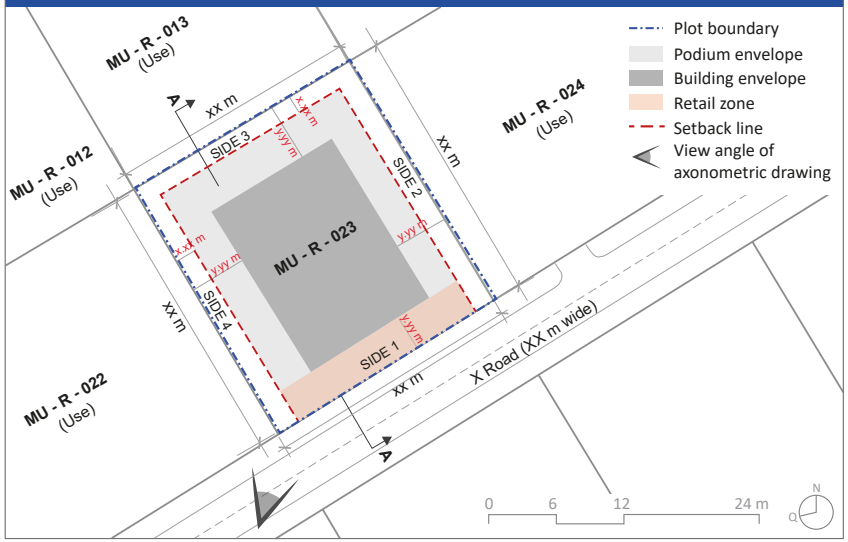
Plot Development Guidelines (PDG) Templates

Four examples of PDGs for a building with podium, building without podium, villa and big-box building are illustrated in Figure 9.9 to 9.12. These templates must be followed when developing plot development guidelines for the master plan.

Plot Location Key Plan(s)



Plot Guidelines Plan



Development Details

Plot(s) ID	MU - R - 023

Land uses		GFA (sqm)	Parking rate
Level 1	**Level 2**		
Residential	Apartment		
Commercial	Retail		
Total GFA (sq. m)			
Total plot area (sq. m)			
Building height		G+ xP +xx (xxm)*	

**To be provided in special cases only, see chapter 6.1 of the Master Planning Guidelines.*

Minimum setback (m)	**Side 1**	**Side 2**	**Side 3**	**Side 4**
Building / Tower				
Podium				
Minimum setback between towers			xxm	

Surface parking	Permitted	Y / N
Surface parking within setbacks		Y / N

Podium	Permitted /	Y / N
Max. (floors)	Mandatory	Y / N
Mandated height from gate level (meters) *for connected podiums only*		
Allowed podium uses	*Retail use is allowed. Playground and outdoor seatings are allowed on podium roof*	

Boundary wall *Architectural guidelines of boundary wall treatment must be followed.*	Permitted	Y / N
	Mandatory	Y / N
Maximum wall height	xxm	

General Notes

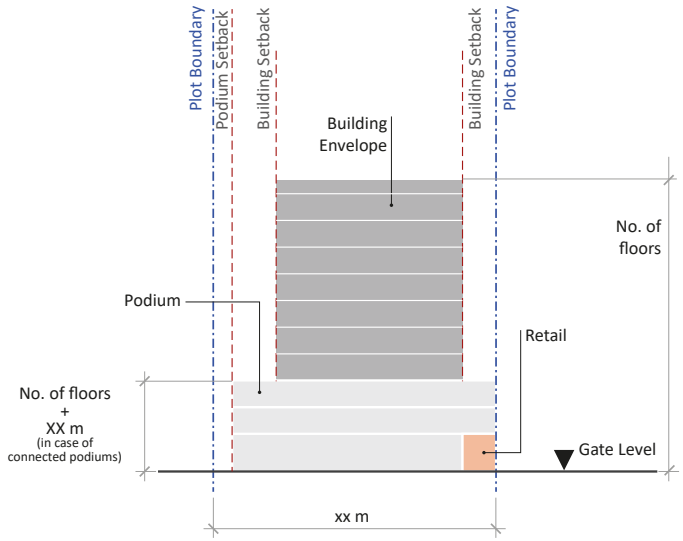
- (*Pergolas/shading devices, guard house, utilities*) are allowed uses in setbacks, maximum height is (*indicate in meters*).
- Architectural guidelines must be followed.
- Usable roof is (*allowed*). The maximum percentage of usable roof coverage is (*indicate percentage*), mandated setback for usable roof is (*indicate in meters*) and the allowed uses for roof are (*include uses*).
- Balcony projections are (*allowed*) in setbacks. Projection allowed within setback is (*indicate in meters*) for all sides.
- Allowed uses in podium are (*parking and retail*).

(Edit these statements to fit the master plan)

Plot Specific Notes

-Any ddditional notes (if available) by the master developer must be added in this box

Cross Section AA



Axonometric - Building Massing

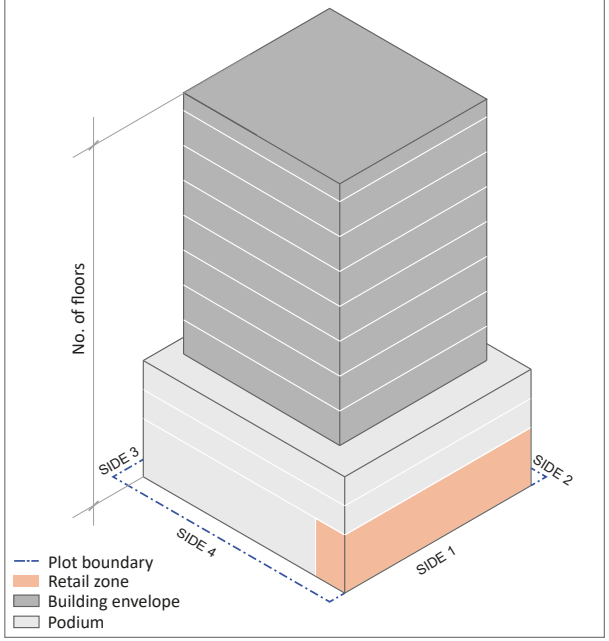
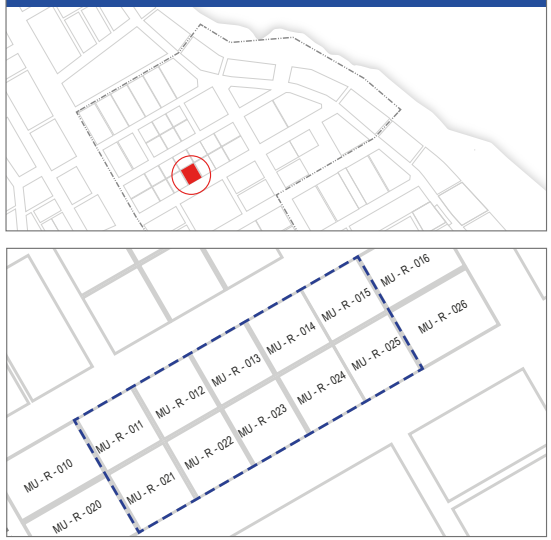
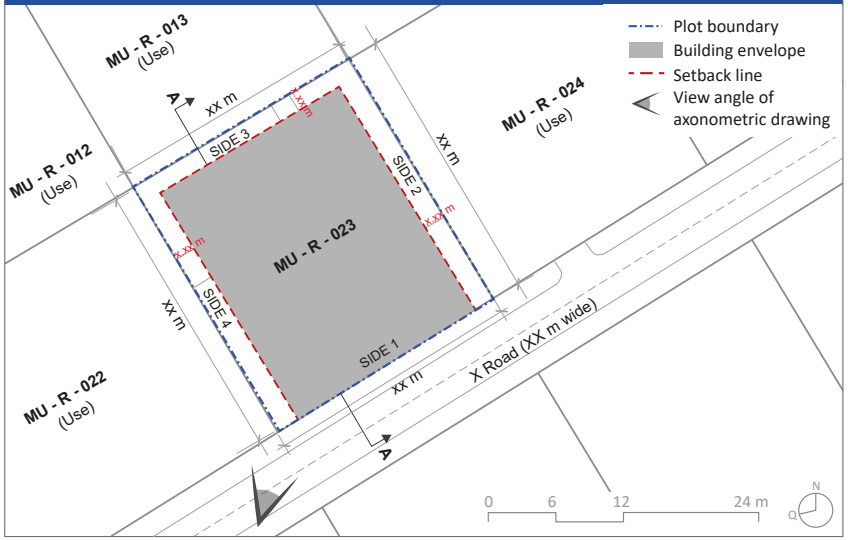


Figure 9.9: Example plot development guideline for a building with podium

Plot Location Key Plan(s)



Plot Guidelines Plan



Development Details

Plot(s) ID	MU - R - 023

Land uses		GFA (sq. m)	Parking rate
Level 1	**Level 2**		
Residential	Apartment		
Commercial	Retail		
Total GFA (sq. m)			
Total plot area (sq. m)			
Building height		G+xx (xxm)*	

**To be provided in special cases only, see chapter 6.1 of the Master Planning Guidelines.*

Minimum setback (m)	**Side 1**	**Side 2**	**Side 3**	**Side 4**
Building / Tower				
Minimum setback between towers	xxm			

Surface parking	Permitted	Y / N
Surface parking within setbacks		Y / N

Boundary wall *Architectural guidelines of boundary wall treatment must be followed.*	Permitted	Y / N
	Mandatory	Y / N
Maximum wall height	xxm	

General Notes

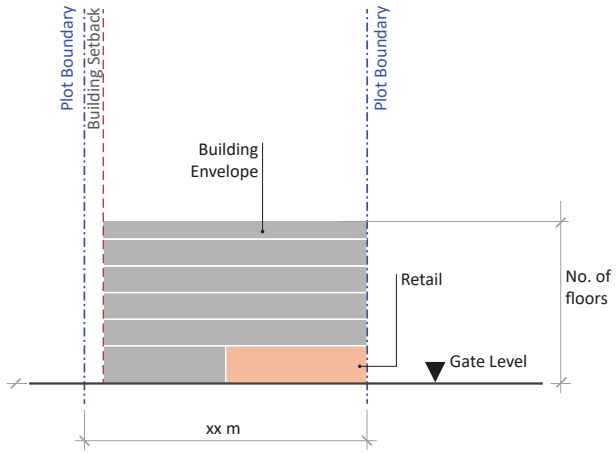
- (*Pergola/shading devices, guard house, utilities*) are allowed uses in setbacks.
- Architectural guidelines must be followed.

(master developer may edit this statement)

Plot Specific Notes

-Any ddditional notes (if available) by the master developer must be added in this box

Cross Section AA



Axonometric - Building Massing

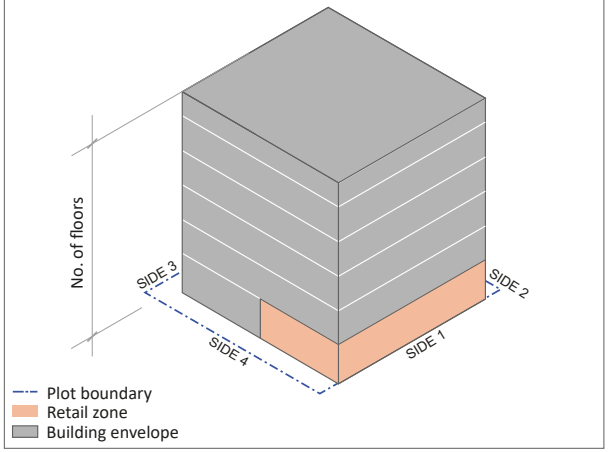
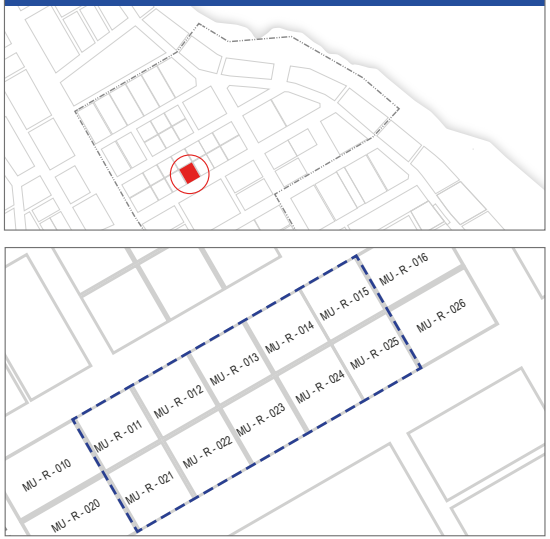
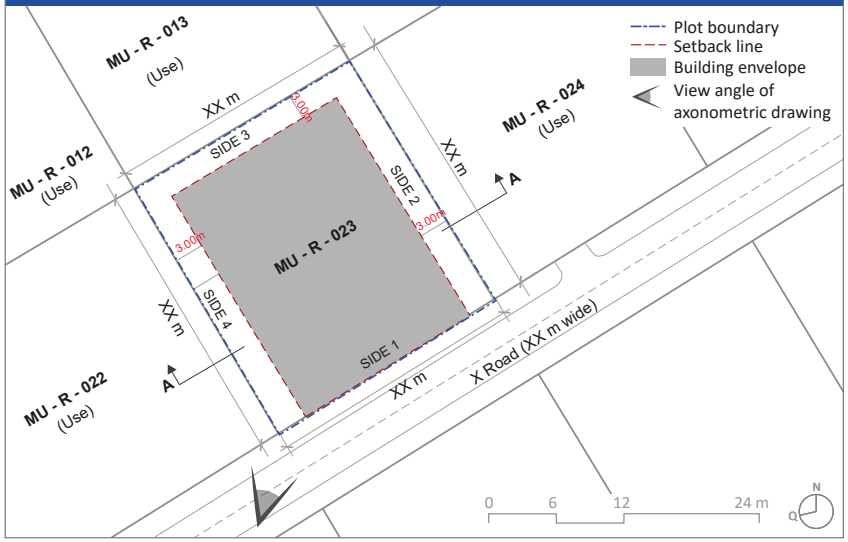


Figure 9.10: Example plot development guideline for a building without podium

Plot Location Key Plan(s)



Plot Guidelines Plan



Development Details

Plot(s) ID	MU - R - 023
Number of villas in plot	

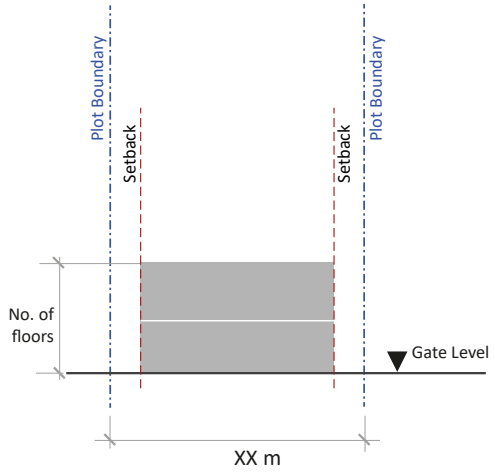
Land uses		GFA (sq. m)	Parking rate
Level 1	Level 2		
Residential	Villa		
Total plot area (sq. m)			
Building height		G+ xx (xxm)*	

**To be provided in special cases only, see chapter 6.1 of the Master Planning Guidelines.*

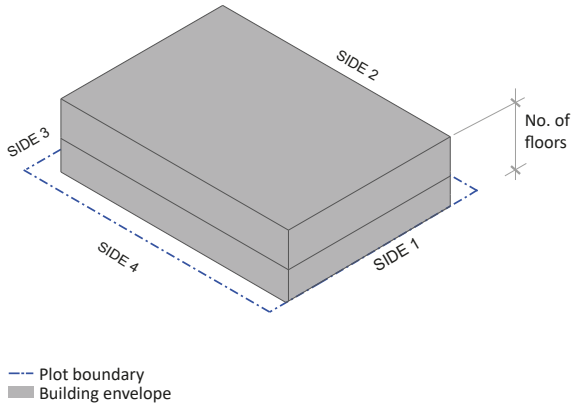
Minimum setback (m)	Side 1	Side 2	Side 3	Side 4
Villa				

Boundary wall *Architectural guidelines of boundary wall treatment must be followed.*	Permitted	Y / N
	Mandatory	Y / N
Boundary wall height		xxm

Cross Section AA



Axonometric - Building Massing



General Notes

- Architectural guidelines must be followed.
- (*Service block, garage and pergolas/shading devices*) are allowed within setback at a maximum height of (*indicate in meters*).
- Balcony projection are (*allowed*) in setbacks. Projection allowed within setback is (*indicate in meters*) for all sides.
- (*indicate in percentage*) of the roof can be usable with a (*indicate in meters*) setback. Allowed uses of the roof include (*gym and storage*).

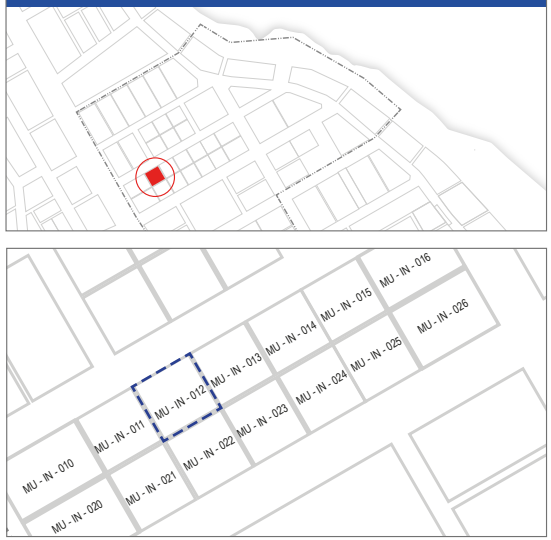
(master developer may edit these statements to fit the masterplan)

Plot Specific Notes

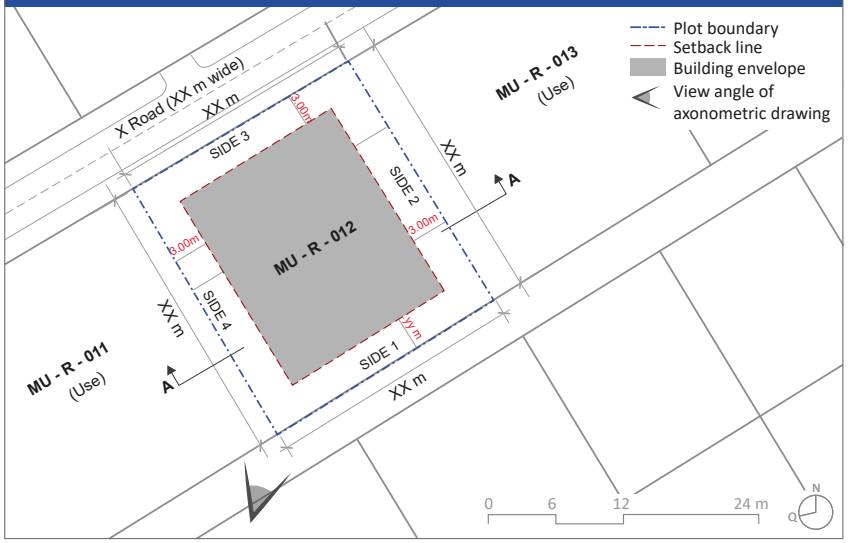
-Any ddtional notes (if available) by the master developer must be added in this box

Figure 9.11: Example plot development guideline for a villa

Plot Location Key Plan(s)



Plot Guidelines Plan



Development Details

Plot(s) ID	MU - R - 012

Land uses		GFA (sq. m)	Parking rate
Level 1	**Level 2**		
Industrial	Light Industry		
Total GFA (sq. m)			
Total plot area (sq. m)			
Building height		G+ xx (xxm)*	
Building coverage		xx %	

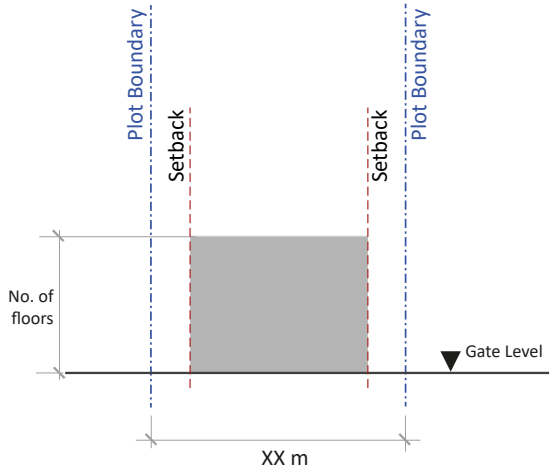
**To be provided in special cases only, see chapter 6.1 of the Master Planning Guidelines.*

Minimum setback (m)	Side 1	Side 2	Side 3	Side 4
Building				

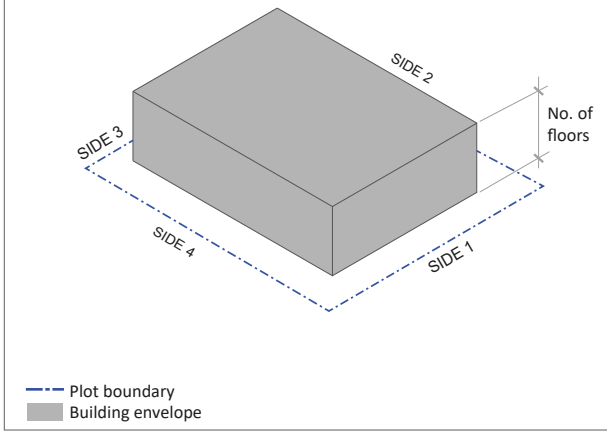
Surface parking	Permitted	Y / N
Surface parking within setbacks		Y / N

Boundary wall *Architectural guidelines of boundary wall treatment must be followed.*	Permitted	Y / N
	Mandatory	Y / N

Cross Section AA



Axonometric - Building Massing



General Notes

-(*Utility and surface parking*) are allowed uses in setbacks.
- Architectural guidelines must be followed *(master developer may remove this statement if no set architectural guidelines are specified).*
- Mezzanine is (*allowed*) and does not count as a floor.

Plot Specific Notes

-Any ddditional notes (if available) by the master developer must be added in this box

Figure 9.12: Example plot development guideline for a big-box building

10 Authority Approvals and NOCs



Introduction

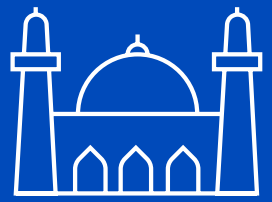
Obtaining the relevant local authorities approvals on certain aspects of the master plan is required as part of the master plan submission to DDA. This entails liaising with all authorities to ensure compliance with their relevant standards and guidelines as pertaining to their regulatory jurisdictions.

Authority approvals are required to be provided at the SOS and FMP stages of the master plan. However, it is expected that coordination is initiated at the PMP stages.

At the SOS stage, official approvals must be obtained from the authorities in the form of stamped SOS.

At the FMP stage, relevant approved drawings and reports accompanied by the official approval letters from each authority must be submitted as part of the master plan submission to DDA as further detailed in this chapter.





Requirement Checklist

PMP	SOS	FMP	
☐	☑	☑	RTA
☐	☑	☑	DEWA - Water
☐	☑	☑	DEWA - Electricity
☐	☑	☑	Telecommunication Etisalat
☐	☑	☑	Telecommunication Du
☐	☑	☑	Dubai Civil Aviation Authority
☐	☑	☑	Dubai Civil Defense
☐	☑	☑	Dubai Police
☐	☑	☑	Dubai Corporation for Ambulance Services
☐	☑	☑	DM Drainage Department
☐	☑	☑	DM Horticulture & Irrigation Department
☐	☑	☑	DM Department of Environment
☐	☑	☑	DM Waste Management Department *(if applicable)*
☐	☑	☑	DM Architectural Heritage and Antiquities Department *(if applicable)*
☐	☑	☑	UAE Armed Forces *(if applicable)*
☐	☑	☑	Dubai Supply Authority (DUSUP) *(if applicable)*
☐	☑	☑	District Cooling (Private DC Supplier) *(if applicable)*

10.1. Authority Approvals and NOCs

The key authorities that must be consulted to provide a NOC for all master plans are:

- Roads and Transport Authority (RTA);
- Dubai Electricity & Water Authority (DEWA) - Water;
- Dubai Electricity & Water Authority (DEWA) - Electricity;
- Telecommunication Etisalat;
- Telecommunication Du;
- Dubai Civil Aviation Authority;
- Dubai Civil Defense;
- Dubai Police;
- Dubai Corporation for Ambulance Services;
- Dubai Municipality Drainage Department;
- Dubai Municipality Horticulture & Irrigation Department; and
- Dubai Municipality Department of Environment.

Other authorities that must be consulted for a NOC for certain master plans, when applicable, are:

- Dubai Municipality Waste Management Department;
- Dubai Municipality Architectural Heritage and Antiquities Department;
- UAE Armed Forces;
- Dubai Supply Authority (DUSUP); and
- District Cooling (Private DC Supplier).

10.2. Road and Transport Authority (RTA)

RTA is responsible for the planning and development of Dubai's transport system.

Obtaining an official approval from RTA on the transport systems and strategies is required as part of the master plan development.

Table 10.1 provides a summary of the submission requirements that must be obtained from the RTA and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
RTA Approval	• RTA Approval • Approved Drawings (provide in FMP submission Appendix) • Approved TIS Report (provide in FMP submission Appendix)

Table 10.1: Submission requirements to be obtained from RTA

10.3. Dubai Electricity & Water Authority: Water Transmission Planning Department

The Water Transmission Planning Department of Dubai Electricity and Water Authority (DEWA) is responsible for the supply of potable water throughout the Emirate of Dubai.

The Water Transmission Planning Department must be consulted for clearance NOCs and design approvals for potable water distribution network.

DEWA has developed major project guidelines for potable water which set out information that Developers and Consultants need to provide when submitting master plans for DEWA's review and approval. The approval process will vary from project to project and will need to be discussed with the department.

Table 10.2 provides a summary of the submission requirements that must be obtained from the DEWA Water Transmission Planning Department and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
DEWA Water Transmission Planning Department Approval	• DEWA Water Transmission Planning Department Approval • Approved Drawings (provide in FMP submission Appendix) • Approved Demands (provide in FMP submission Appendix)

Table 10.2: Submission requirements to be obtained from DEWA Water Transmission Planning Department

10.4. Dubai Electricity & Water Authority: Power Transmission Planning Department

The Power Transmission Planning Department of Dubai Electricity and Water Authority (DEWA) is responsible for the supply of electricity throughout the Emirate of Dubai.

The Power Transmission and Planning Department must be consulted for clearance NOCs and design approvals related to electrical power supply and approving design of the distribution network for a project.

DEWA has developed major project guidelines for power, which set out information that Developers and Consultants need to provide when submitting master plans for DEWA's review and approval. The approval process will vary from project to project and will need to be discussed with the department.

Table 10.3 provides a summary of the submission requirements that must be obtained from the DEWA Power Transmission Planning Department and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
DEWA Power Transmission Planning Department Approval	• DEWA Power Transmission Planning Department Approval • Approved Drawings (provide in FMP submission Appendix) • Approved Demands (provide in FMP submission Appendix)

Table 10.3: Submission requirements to be obtained from DEWA Power Transmission Planning Department

10.5. Telecommunication: Etisalat/Du

There are two telecommunication providers in Dubai—Etisalat and Du. The choice of provider will depend on developer preference/existing telecommunications infrastructure. However, the Taawun initiative between Du and Etisalat offers residential and business customers the option to select the telecom service provider of their choice.

Etisalat and Du must be consulted to obtain information on existing telecommunication (data/voice/GSM) services to obtain clearance NOCs. They will also approve the final design of the telecommunication (data/voice/GSM services) package to issue a final design approval.

Etisalat and Du should be consulted early in the design process to identify their individual requirements.

Table 10.4 provides a summary of the submission requirements that must be obtained from the Etisalat and Du and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Etisalat/Du Approval	• Etisalat/Du Approval • Approved Drawings (provide in FMP submission Appendix)

Table 10.4: Submission requirements to be obtained from Etisalat/Du

10.6. Dubai Civil Aviation Authority

Dubai Civil Aviation Authority (DCAA) is responsible for the development of the air transport industry in the Emirate of Dubai and to oversee all aviation related activities.

To ensure that a building will not impact the flight safety of Dubai airports and capacity of Dubai airspace, it is required to obtain an approval from DCAA on the building heights proposed within a master plan. This is mandatory according to the International Civil Aviation Regulation (ICAO Annex 14).

Table 10.5 provides a summary of the submission requirements that must be obtained from DCAA and submitted to DDA at the different master plan stages.

10.7. Directorate General of Dubai Civil Defense (DCD)

The Directorate General of Dubai Civil Defense (DCD) is the authority having jurisdiction in terms of fire safety and is responsible for approving the fire strategy for the master plan design. DCD provides the minimum guidelines for determining the design, construction, modification and installation of buildings, structures and all fire and life safety systems.

An approval must be obtained from DCD indicating their no objection on all relevant Fire and Life Safety strategies.

Table 10.6 provides a summary of the submission requirements that must be obtained from DCD and submitted to DDA at the different master plan stages.

10.8. Dubai Police

An approval is required to be obtained from Dubai Police indicating their acceptance of the proposed police station's location, size and type, if applicable.

In the cases of projects with special character and sensitivity, an NOC is required from the General Department of State Security indicating that there are no security risks associated with the development.

Table 10.7 provides a summary of the submission requirements that must be obtained from Dubai Police and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Civil Aviation Authority Approval	Dubai Civil Aviation Authority Approval

Table 10.6: Submission requirements to be obtained from Dubai Civil Aviation Authority

SOS Stage	FMP Stage
Dubai Civil Defense Approval	Dubai Civil Defense Approval

Table 10.7: Submission requirements to be obtained from Dubai Civil Defense

SOS Stage	FMP Stage
Dubai Police Approval	Dubai Police Approval

Table 10.5: Submission requirements to be obtained from Dubai Police

10.9. Dubai Corporation for Ambulance Services

An approval must be obtained from Dubai Corporation for Ambulance Services indicating their authorization of the inclusion of ambulance station within the development, if applicable.

Table 10.8 provides a summary of the submission requirements that must be obtained from Dubai Corporation for Ambulance Services and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Corporation of Ambulance Services Approval	Dubai Corporation of Ambulance Services Approval

Table 10.8: Submission requirements to be obtained from Dubai Corporation for Ambulance Services

10.10. Dubai Municipality Agriculture and Irrigation Department

Dubai Municipality Agriculture and Irrigation Department is responsible for the irrigation supply throughout the Emirate of Dubai.

An approval must be obtained from Dubai Municipality Agriculture and Irrigation Department during the master plan and design stages to approve each strategy and secure discharge consent for treated sewerage effluent (TSE) supply.

Table 10.9 provides a summary of the submission requirements that must be obtained from Dubai Municipality Agriculture and Irrigation Department and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Municipality Agriculture and Irrigation Department Approval	• Dubai Municipality Agriculture and Irrigation Department Approval • Approved tie-in points (provide in FMP submission Appendix) • Approved demands (provide in FMP submission Appendix)

Table 10.9: Submission requirements to be obtained from Dubai Municipality Agriculture and Irrigation Department

10.11. Dubai Municipality Sewage Projects Department

Dubai Municipality Sewage Projects Department is responsible for managing sewerage and storm water collection networks throughout the Emirate of Dubai.

An approval must be obtained from the department during the master plan and design stages on each strategy and secure discharge consent for sewerage and storm water.

Table 10.10 provides a summary of the submission requirements that must be obtained from Dubai Municipality Sewage Projects Department and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Municipality Sewage Projects Department Approval	• Dubai Municipality Sewage Projects Department Approval • Approved tie-in points (provide in FMP submission Appendix) • Approved demands (provide in FMP submission Appendix)

Table 10.10: Submission requirements to be obtained from Dubai Municipality Sewage Projects Department

10.12. Dubai Municipality Architectural Heritage and Antiquities Department

A NOC must be obtained from the Dubai Municipality Architectural Heritage and Antiquities Department for projects located in or near to historical districts or have historical buildings or sites with their boundaries.

Table 10.11 provides a summary of the submission requirements that must be obtained Dubai Municipality Architectural Heritage and Antiquities Department and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Municipality Architectural Heritage and Antiquities Department NOC	Dubai Municipality Architectural Heritage and Antiquities Department NOC

Table 10.12: Submission requirements to be obtained from Dubai Municipality Architectural Heritage and Antiques Department

10.13. Dubai Municipality Environment Department

To evaluate the environmental aspects of the master plan design, an Environmental Impact Assessment (EIA) must be developed following DM's standards for the including all the environmental aspects and impacts expected from the project and proposed mitigation measures.

To ensure coastal protections and management, when relevant, an approval may be required to be obtained from the relevant division within the Environment Department. Additionally, if the implementation of any project, development, activity has a potential to cause change in the ecological character of any established protected and classified ecologically sensitive areas, an approval from the department may be required to be obtained.

Table 10.12 provides a summary of the submission requirements that must be obtained Dubai Municipality Environment Department and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Municipality Environment Department Approval	• Dubai Municipality Environment Department Approval • Approved EIA Report (provide in FMP submission Appendix)

Table 10.13: Submission requirements to be obtained from Dubai Municipality Environment Department

10.14. Dubai Municipality Waste Management Department

The Waste Management Department regulates the collection, transportation, disposal and recycling of waste in all forms. This includes overseeing the proposed strategies for waste collection at the master plan level and collection, disposal and recycling strategies during building construction and operation.

A NOC must be obtained from the department indicating their no objection on the proposed waste collection or recycling system provided within the project.

Table 10.13 provides a summary of the submission requirements that must be obtained Dubai Municipality Waste Management Department and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Municipality Waste Management Department Approval (when applicable)	Dubai Municipality Waste Management Department Approval (when applicable)

Table 10.11: Submission requirements to be obtained from Dubai Municipality Waste Management Department

10.15. UAE Armed Forces

A NOC must be obtained from the UAE Army confirming that there are no existing services that belong to the UAE Army within the project boundary.

This is mainly relevant to any fibre optic cables that run through a development site to obtain a Clearance NOC. In the case of proposed relocation of any services, a proof of the UAE Armed Forces approval on the same should be provided for the master plan to be approved.

Table 10.14 provides a summary of the submission requirements that must be obtained from UAE Armed Forces and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
UAE Armed Forces NOC (when applicable)	UAE Armed Forces NOC (when applicable)

Table 10.14: Submission requirements to be obtained from UAE Armed Forces

10.16. Dubai Supply Authority (DUSUP)

Dubai Supply Authority (DUSUP) supplies the natural gas to several key utility and industrial companies in Dubai, including DEWA, Dubal, Dugas, ENOC and Dubai Petroleum for their power generation, desalination and other industrial needs.

DUSUP must be consulted during the information NOC stage (prior to the PMP) to identify whether they have infrastructure within the vicinity of the proposed development that may pose a constraint or influence development proposals. DUSUP do not supply natural gas to individual master plan projects.

There are a number of private suppliers in Dubai that will cater for the Liquid Petroleum Gas (LPG) supply to serve domestic and small commercial demands of a development. Developers must liaise with the key service provider to ensure the development of the most efficient strategies for the master plan.

Table 10.15 provides a summary of the submission requirements that must be obtained from DUSUP and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
Dubai Supply Authority (DUSUP) Approval (when applicable)	Dubai Supply Authority (DUSUP) Approval (when applicable)

Table 10.15: Submission requirements to be obtained from Dubai Supply Authority (DUSUP)

10.17. District Cooling (Private DC Supplier)

There are several companies that design, operate and maintain district cooling plants in Dubai including Empower, Tabreed, Emicool, Emaar District Cooling.

The choice of supplier will be choice of the master developer. Each supplier will have individual requirements for securing the supply of chilled water to serve a development.

Where a district cooling supplier is currently serving an existing master plan, NOC approval must be obtained from the supplier. Currently Empower is the only supplier consulted via the information NOC process.

Table 10.16 provides a summary of the submission requirements that must be obtained from the DC Supplier and submitted to DDA at the different master plan stages.

SOS Stage	FMP Stage
District Cooling (Private DC Supplier) Approval (when applicable)	District Cooling (Private DC Supplier) Approval (when applicable)

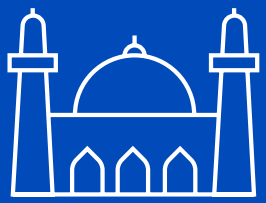
Table 10.16: Submission requirements to be obtained District Cooling (Private DC Supplier)

A

Acronyms and Definitions







CAD	- Computer Aided Design
DC	- District Cooling
DCAA	- Dubai Civil Aviation Authority
DCD	- Dubai Civil Defense
DCP	- District Cooling Plant
DDA	- Dubai Development Authority
DEWA	- Dubai Electricity and Water Authority
DGN	- MicroStation Design File
DM	- Dubai Municipality
DTIM	- Dubai Transportation Integration Manual
DUSUP	- Dubai Supply Authority
EIA	- Environmental Impact Assessment
ENOC	- Emirates National Oil Company
ETS	- Energy Transfer Station
FMP	- Final Master Plan
G	- Ground
GFA	- Gross Floor Area
GIS	- Geographic Information System
GL	- Gate Level
GSM	- Global System for Mobile Communications
INOC	- Informational No Objection Certificate
LPG	- Liquid Petroleum Gas
LUB	- Landuse Budget Sheet
m	- Meter
MMR	- Meet Me Room
MPM	- Master Plan Modification
NOC	- No Objection Certificate
P	- Podium
PDG	- Plot Development Guidelines
PMP	- Preliminary Master Plan
POP	- Point of Presence
RO	- Reversal Osmosis
ROW	- Right-of-Way
RTA	- Road Transport Authority
SOS	- Sign-Off Sheet
sq. m	- Square Meters
STP	- Sewage Treatment Plant
SWOT	- Strengths, Weakness, Opportunities, and Threats
TBC	- To Be Confirmed
TIS	- Traffic Impact Study
TSE	- Treated Sewage Effluent

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Glossary of Terms	
Access	A way of approaching or entering a property.
Accessibility	The ability for all people of all ages, including people with impaired mobility, to physically reach desired destinations, services and/or activities.
Active Transport	Non-motorized forms of transport involving physical activity, such as walking and cycling.
Arterial (Road)	A road primarily for the movement of through traffic, which also gives access to abutting properties as a secondary function. Access is generally controlled by at-grade intersections but grade separated intersections are also used. Arterials normally link Collectors with Freeways or Expressways.
Ancillary	Providing necessary support to the primary activities or operation of an organization, system, etc.
Authority	A person or organization having political or administrative power and control.
Axonometric	Using or denoting an orthographic projection of an object, such as a building, on a plane inclined to each of the three principal axes of the object; three-dimensional but without perspective.
Basement	That portion of a building fully or partly underground
Best Practice	A method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark.
Boundary Wall	Artificial boundary wall constructed from any approved material(s) in order to surround a plot of land, intended either for blocking view, division into parts, or for any other permitted reason.
Building	A structure which has one or more floors and a roof and which is permanently affixed to the land.
Building Envelope	The three dimensional space within which a structure is permitted to be built on a plot defined by plot regulations such as permissible height, setbacks, building coverage, etc.

Glossary of Terms	
Building Heights	The vertical distance from the grade plane to the average elevation of the highest roof surface.
Building Setback	The least horizontal distance permitted between a plot limit of a plot and the nearest portion of any building envelope on such lot.
Build-to-line	A type of building line used as means of enforcing the continuity of the building façades on a series of adjacent sites, in order to emphasize a street frontage or the definition of a public open space. The object is to achieve perceptual continuity.
Canopy	A roof-like structure of a permanent nature that projects from the wall of structure and overhangs the public way sheltering a platform, sidewalk and entrance to a building.
Catchment	In human geography, a catchment area is the area from which a city, service or institution attracts a population that uses its services.
Classification	Division of uses or activities into groups or subgroups for regulatory purposes.
Collector	A road which provides land access and traffic circulation service within residential, commercial and industrial urban areas or in scattered rural areas. Collectors generally link local roads with arterials.
Colonnade	A passage or walkway covered over by a succession of arches or vault supported by column.
Co-located	Share a location or facility with something else.
Community Facilities	Facilities used by local communities for leisure and social purposes, including community centers and meeting places, community halls, community learning, adventure play centers and leisure centers.
Compliance	The action of fullfilling all requirements that constitute an acceptable deliverable.

Glossary of Terms	
Context Plan	It is a plan that likely illustrates the schematic locations of neighborhoods, principal land uses, infrastructure network, road and rail corridors and utility infrastructure.
Cross section	A drawing showing the different section of a road and service corridors.
Developer	A person or entity who prepares raw land for building sites, constructs buildings, creates residential subdivisions or commercial centers, rehabilitates existing buildings and performs similar activities.
Environmental Impact Assessment (EIA)	A preliminary study of an area and the proposed development and what impact it may have on the area and its surroundings.
Expressway	A multi-lane, divided road designed to move large volumes of traffic at speed under free flow conditions. Expressways have full control of access, with grade separated intersections, but some access to major frontage uses may be provided by means of service roads connected by free-flow ramps.
Facade	The exterior front plane of a building; it sets the visual tone and contains many of the identifiable architectural features that are typically used to classify architecture.
Final Master Plan	A comprehensive report providing overall strategy to develop a particular project/area and provides final findings.
Flexible	Able to be easily modified to respond to altered circumstances.
Freeway	A multi-lane divided road, designed to the highest standards to move large volumes of traffic at speed under free flow conditions. Freeways are provided with shoulders and have a full control of access, with all intersections being grade separated.
Frontage Zone	An uniterrupted space between the building and the through-zone and can be part of a plot.
Furnishing Zone	Is located between the kerb and the through-zone, creating an important buffer between pedestrians and vehicles

Glossary of Terms	
G+1	The ground floor at ground level, usually having no number, and identified sometimes as “G” or “0”. The next floor up is assigned the number 1 and is the first floor.
Gate Level	The elevation with respect to Dubai or a city-wide datum at the plot boundary and at a point indicated at the center of the vehicular access.
Guideline	The required practice to be complied with, including advisory statements on how to be applied.
Geographic Information System (GIS)	A system of hardware and software for storage, retrieval, mapping and analysis of geographical data.
Gross Floor Area (GFA)	The sum of the floor area of all the floors of a building measured from the exterior walls (including cladding) and from the centerlines of common walls joining two spaces. The following areas are excluded from GFA: • Prayer rooms + ablution area; • Balconies; • Basement if used only for parking, and mechanical services; • Elevator shafts (must be calculated once in GFA at ground floor); • Storage in basement floors; • Mechanical floors/ducts/chases; • Utilities (i.e. RMU, substation, etc.); and • Garbage room and chute.
Hardscape	The permanent, man-made features of a landscape made from stone etc., rather than plants such as patios, decks, driveways, paths and sidewalks that do not require irrigation.
Hierarchy	An organizing system where each element is ranked as subordinate or superior to another element.
Incompatible Land Uses	An existing or committed land use or activity that cannot co-exist with a neighbouring use/activity or uses/activities, without either creating or experiencing one or more off-site ‘adverse effect(s)’.

Glossary of Terms	
Infrastructure	Physical structures that form the foundation for development including public sewage and water systems, storm-water disposal systems, waste management facilities, electric power, communications and transportation corridors and facilities, oil and gas pipelines and district cooling facilities and corridors.
Intersection	A facility to permit the meeting of two or more roads.
Jurisdiction	The official power to make legal decisions and judgements.
Land Use Compatibility	A good land use planning principle, whereby land uses which are known or expected to cause adverse impacts, when in proximity from one another, are considered incompatible and are protected by separation and/or other means.
Land Use	The activities, operations, or purposes that are employed in a particular geographic area; the specific manner in which a plot of land is utilized. Land use is usually regulated through zoning ordinances.
Land Use Budget	A table showing total area for each land use in a project and its percentage to the overall area
Local Road	The lowest class of road, intended for short journeys only. Its primary function is to rejoin the outer lane.
Masjid	A place of worship for Muslims.
Master Planning	The macro-planning process that seeks to create attractive environments through integrated planning of urban centers.
Master Plan	A comprehensive plan to guide the long-term physical development of a particular area based on identified objectives, strategies and timelines for implementation. Includes plans for land use, community facilities and utilities, transportation of goods and people and energy use and conservation. Zoning ordinances and policies are developed for different areas or zoning districts based on the master plan.

Glossary of Terms	
Massing	The overall bulk or size of a building or project, its physical volume or magnitude.
Master Plan Modification	To modify an approved master plan to incorporate changes that may or may not have a significant impact on the overall project.
Mezzanine	A partial floor in industrial buildings that is not counted as a separate floor and considered part of the maximum building height.
Micro-climate	The climate of a very small or restricted area, especially when this differs from the climate of the surrounding area.
Mobility	The ability of people or goods to move within the transport system.
Mobility Integration	Mobility integration is a strategic tool designed to ensure people and places can connect, now and in the future.
Must	Means it is a mandatory requirement.
NOCs	No Objection Certificates issued by concerned authorities/ entities.
Open Space	Publicly accessible area of public realm or inaccessible landscape. It can include either formal or informal activities or a combination of the two, and forms part of a wider network allowing people to move easily between one space and another.
Orientation	The specific positioning of a building.
Owner	The person who holds legal title to a piece of property.
Pergola	Non-solid ceiled shed of openings of no less than 50% of the total area normally built for architectural beautification or for weather purposes.
Perspectives	The art of representing three-dimensional objects on a two-dimensional surface so as to give the right impression of their height, width, depth and position in relation to each other.

Glossary of Terms	
Placemaking	A holistic and community-based approach to the development and revitalization of cities and neighborhoods.
Plot	A tract of land comprising a single property within a subdivision that complies with applicable regulations
Plot Area	The total horizontal area within the plot limit of a plot.
Plot Boundary	A line of legal record that demarcates the extent(s) of an individual plot.
Plot Development Guidelines	A document that shows planning regulations such as height, land use, area, setbacks, building lines and others for each plot in a subdivision plan.
Plot Dimensions	The length and width of the plot.
Plot Limit	The defined limits of any plot.
Plot Workability	The plot can functionally accommodate proposed development such that the proposed GFAs can be accommodated in the building envelopes, and the required number of parking spaces are achievable within the space allocated for parking.
Podium	The low-rise building out of which the high-rise tower projects. Podiums usually house lobbies, restaurants, etc.
Podium Envelope	The three dimensional space within which the podium is permitted to be built defined by plot regulations such as permissible height and setbacks.
Potable Water	Water that is suitable for human consumption.
Preliminary Master Plan	The first stage in the master plan review process. It describes the general vision of a project, its goals and its objectives.
Primary Cycling Route	A primary cycling path is a bikeway separated from motorized traffic and dedicated to cycling or shared with pedestrians or other non-motorized users.

Glossary of Terms	
Population Density	Refers to residential population and is the ratio between total number of people residing within the development and the overall development area in hectares.
Public Transport	Buses, trains, and other forms of transport that are available to the public, charge set fares and run on fixed routes.
Qibla	The direction of the Kaaba (the sacred building at Mecca) to which Muslims turn at prayer.
Scale	Scale is a method of making comparisons between elements of different sizes.
Setbacks	The horizontal distance measured at right angles to the boundary of the plot between the nearest part of any building or structure on the plot and the plot boundary.
Sewage	The waste water and matter from domestic, commercial or industrial uses.
Shared Cycling Route	Shared cycle routes may be segregated or unsegregated. A segregated route is one where pedestrians and cyclists are separated by a feature such as a white line, a curb or some other feature. On an unsegregated route, pedestrians and cyclists mix freely and share the full width of the route.
Shared Parking	Shared parking is a tool through which adjacent property owners share their parking lots and reduce the number of parking spaces that each would provide on their individual properties.
Should	Means it is recommended to be provided.
Sign-off Sheet	A template used to show the final subdivision plan of a project. It shows a map of the project and the different sub plots. It also has a table showing each plot's number, land use, area, gross floor area (GFA), number of buildings, number of dwelling units and maximum building height.

Glossary of Terms	
Site Plan	A document showing plot boundary, area, location, ownership as well as other planning regulations.
Skyline	The horizon formed by the profile of city buildings from a viewing point.
Solar Orientation	The location of a building relative to the direction of the sun.
Storm Water	The discharge to drains, ponds, lakes or streams of catchment runoff as a result of storm rainfall over the catchment.
Subdivision Plan	A plan provided through the process of dividing a plot into smaller plots with different land uses and sets of regulations. The final product shows all plots boundaries, plot numbers, land uses and right-of-ways.
Sustainability	In architecture, sustainability refers to the use of natural resources in the construction and design in such a way that does not deplete them unnecessarily or wastefully.
Through-Zone	Is dedicated for pedestrian movement.
Topography	The arrangement of the natural and artificial physical features of an area.
Total Footway Zone	The sum of all three zones (Through, Frontage and Furnishing).
Traffic Impact Study (TIS)	A general study of the degree or extent to which proposed land use developments, and the traffic they are expected to generate, will affect the adjacent or surrounding transportation system.
Trip Generation	Trip generation is the first step in the conventional four-step transportation forecasting process, widely used for forecasting travel demands. It predicts the number of trips originating in or destined for a particular traffic analysis zone.
Typology	The classification according to general type.

Glossary of Terms	
Urban Design	The process of providing a design vision for the City or portions of the City. Urban design encompasses architectural treatments, landscaping, pedestrian circulation and traffic controls to provide a pleasant, harmonious and livable open space.
Utility	Any above-ground structures or facilities used in connection with the production, generation, transmission, delivery, collection or storage of water, sewage, electricity, gas, electronic signals and/or any other relevant services.
Waterfront	All land areas along the water's edge.

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B

Land Use Classification and Parking Requirements





Introduction

This Appendix provides a detailed list of all the standard land use classifications that must be referred to and utilized in all master plan submissions to DDA. Land uses are classified under ten main categories (Level 1) under which a range of uses (Level 2) are provided. All plots within the master plan must be assigned a Level 2 land use(s).

A definition is provided for each land use clarifying the functions and activities that define the land use category. Ancillary uses that are allowed within certain land uses are also highlighted.

Moreover, parking requirements for each land use are provided. These requirements must be complied with for each land use.

For plots with multiple uses, all Level 2 land uses within that plot must be assigned. However, ancillary land uses that are clearly identified in the definitions to provide support services to the overarching use may be accounted as part of the land use and not required to be allocated as a separate land use.

At first instance, the developer/consultant must endeavour to assign the applicable land use category. In the special case that a new land use, not covered within DDA's land use classification list, a new land use may be proposed if sufficient reasoning and substantiation are provided and subject to agreement with DDA.

Colour	Land Use	Definition
Land Use Level 1		
R: 255 G: 255 B: 112	1. Residential	The use of land, building or structure for human habitation.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Villa	A separate building located on a separate plot allocated with all its floors for the dwelling of one single family with one entrance and an independent car parking space in addition to independent external open space.	Minimum one parking for each villa.
Attached Villas	Mutiple villas located on the same plot and connected by one or more walls to a series of similar villas.	Minimum one parking for each villa.
Apartment	A building or part thereof allocated for accommodation purpose, comprising of one or more rooms each with a minimum room size of 10sq. m. Each independent apartment unit accommodates one or more persons, and includes a kitchen and at least one bathroom, with a separate entrance directly from outside or through a common inside area.	One bay for each unit less than or equal to 150sq. m (GFA) and two bays for each unit exceeding 150sq. m. (GFA).

Land Use	Definition	Parking Requirements
Land Use Level 2		
Staff Accommodation	A building or part thereof in which sleeping units are provided and/or rented with private toilets and shared cooking facilities for occupancy by staff members affiliated with a university, hospital, school or similar institutions, and which is regulated by such institution.	One bay per every 5 rooms or 1 bay per every 50sq. m of GFA whichever is greater.
Labor Accommodation	A building or part thereof in which sleeping units are provided and/or rented for occupancy by laborers. This usually includes shared facilities for the sole purpose of serving labours including living, cooking, and washing facilities and other facilities such as a Masjid or prayer room, retail and other public or recreational facilities.	One bus parking bay per 50 laborers.

Colour	Land Use	Definition
Land Use Level 1		
R: 255 G: 255 B: 225	2. Hospitality	A premise that provides transient or short-term accommodation with or without food services.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Hotel	A building or part thereof that provides transient or short-term accommodation for the public for gain or profit, by supplying them with sleeping accommodation in rooms or suites (with or without meals) but without individual private cooking facilities. Ancillary uses as part of the same land use may include hotel management offices, food and beverage and retail to serve guests. This includes 1-5-star hotels, motels and inns.	One bay for each 5 hotel rooms and 1 bay for each 2 suites and one bay for every 50sq. m (GFA) of food and beverage, management office and retail areas and one bay per every 20sq. m (GFA) of meeting and ballroom hall area.
Resort	A building or part thereof that provides transient or short-term accommodation for the public for gain or profit without individual private cooking facilities where the primary attraction is generally recreational features or activities. Ancillary uses as part of the same land use may include management offices, food and beverage and retail to serve the guests.	One bay for each 5 hotel rooms and 1 bay for each 2 suites and one bay for every 50sq. m (GFA) of food and beverage, staff office and retail areas and one bay per every 20sq. m (GFA) of meeting and ballroom hall area.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Hotel Apartment	A building or part thereof with furnished apartments or studios rented on a transient or short-term basis to the public on daily, weekly, monthly or yearly basis and includes a cooking space and at least one washroom within the same unit.	One bay for each unit less than or equal to 150 (GFA) and two bays for each unit exceeding 150sq. m (GFA).
Student Accommodation	A building or part thereof in which sleeping units are provided for occupancy by university, school or other educational institute's students and which is regulated by such institution. This usually includes shared facilities for the sole purpose of students including cooking, and washing facilities and other facilities such as a Masjid or prayer room, retail and other public or recreational facilities. The residential unit may have shared toilets or private toilets within rooms but no kitchen. Units with kitchen and bathroom inside the unit must be counted as standard residential apartment.	One bay per every 40 residents and bus parking for 50% of staff residing within the complex.

Colour	Land Use	Definition
Land Use Level 1		
R: 237 G: 125 B: 49	3. Office	A building or part thereof, designed, intended or used for the practice of a profession, the carrying on of a business or the conduct of public administration.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Office	A building or part thereof, designed, intended or used for the practice of a profession, the carrying on of a business or the conduct of public administration.	One bay for each 50sq. m of total office GFA.

Colour	Land Use	Definition
Land Use Level 1		
R: 255 G: 0 B: 0	4. Commercial	The use of land, building or structure for the purpose of buying and selling commodities and supplying services.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Retail	A building or part thereof dedicated for the selling of goods or commodities in small quantities directly to consumers which may be located separately or as part of a collection of retail shops.	One bay for each 70sq. m of total GFA.
Petrol Station	The use of land, or building, or structure where vehicle fuels are offered for sale. This may include ancillary use for staff offices and retail.	Two bays for petrol station and one bay for every 70sq. m. of supporting services GFA.
Exhibition/ Conference Center	A building or part thereof designed for the holding of conventions, seminars, workshops, trade shows or similar activities, including dining and lodging facilities for the use of participants.	One bay for each 50sq. m of total GFA.
Shopping Center	A collection of independent retail stores and services including restaurants, banks, cinemas, service stations, and other establishments conceived, constructed, and maintained by a management firm as a unit and served by a dedicated parking area.	One bay per every 50sq. m of total GFA.

Colour	Land Use	Definition
Land Use Level 1		
R: 112 G: 48 B: 160	5. Industrial	The use of land, building or structure for the manufacturing or storing of goods or wares.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Light Medium-Industry	Areas for production or service-oriented industries that are primarily concerned with manufacturing products or providing services for the direct benefit of end-users or businesses. They may also be concerned with the fabrication of products that require further processing by other industries and labratories. 10% of the overall area is allowed as ancillary management office space.	One bay for every 70sq. m of management office GFA and a minimum area of 9x9sq. m for loading and unloading.
Heavy Industry	Areas for high capital-intensive manufacturing units and are often termed “large industries”. The uses have potential to create adverse visual, noise or other impacts to adjacent public and residential properties. 10% of the overall area is allowed as ancillary management office space.	One bay for every 70sq. m of management office GFA and a minimum area of 9x9sq. m for loading and unloading.
Warehouse	A building or part thereof which is used primarily for the housing, storage, adapting for sale, package or wholesale distribution of goods, wares, merchandise, food stuff substances, articles and the like. 10% of the overall area is allowed as ancillary management office space.	One bay for every 70sq. m of management office GFA and a minimum area of 9x9sq. m for loading and unloading.

Colour	Land Use	Definition
Land Use Level 1		
R: 150 G: 255 B: 255	6. Facilities	Private or public premises wherein supporting services for the community are provided.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Prayer Rooms	A place of worship for the followers of Islam wherein daily prayers may be performed by individual worshipers with no available Imam or Mua'then. Prayer rooms are usually smaller than local Masjids and attract worshipers from close areas.	One bay for each 15 worshipers (1 worshipper for every 0.74sq. m GFA).
Local Masjid	A place of worship for the followers of Islam wherein daily prayers are regularly performed. Local Masjids serve a population size of 2,000-4,000.	One bay for each 15 worshipers (1 worshipper for every 0.74sq. m GFA).
Juma'a Masjid	A place of worship for the followers of Islam wherein Juma'a prayer are regularly performed in addition to daily prayers. It usually includes an ancillary building for the accommodation of Imam and Mua'then and may include assembly halls, meeting rooms and classrooms. Juma'a Masjids serve a population size of 6,000-12,000.	Two bays and 1 bay for each 15 worshipers (1 worshipper for every 0.74sq. m GFA).
Eid Prayer Area	A land dedicated for the performing of Eid Prayers (done on an Islamic holiday).	One bay for each 15 worshipers (1 worshipper for every 0.74sq. m GFA).
Religious Facility	A place of worship (other than prayer rooms and Masjids) used primarily for religious services, ceremonies or rites. It may include ancillary buildings such as assembly halls, meeting rooms or classrooms.	One bay for each 15 worshipers (1 worshipper for every 0.74sq. m GFA).

Land Use	Definition	Parking Requirements
Land Use Level 2		
Cemetery	A land that is specifically designated for the interment of human remains. This use may include management offices.	One bay for each 50sq. m of management office GFA.
Police Point	A premise usually part of a building established for police officers to keep order and security in certain areas. This may include ancillary use for staff (i.e. Police) offices.	One bay for each 50sq. m of staff office GFA.
Police Station	A station that serves as headquarters for police in a particular district; serves as a place from which policemen are dispatched and to which arrested persons are brought.	One bay for each 50sq. m of total GFA.
Civil Defense Point	A small firehouse where firefighting equipment and firemen are stationed which is located in certain areas of special economic or social importance such as airports, sea ports, industrial and commercial complexes. This may include ancillary use for staff offices.	One bay for each 50sq. m of staff office GFA.
Civil Defense Station	A firehouse where firefighting equipment and firemen are stationed.	One bay for each 50sq. m of total GFA.

Colour	Land Use	Definition
Land Use Level 1		
R: 150 G: 255 B: 255	6. Facilities	Private or public premises wherein supporting services for the community are provided.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Ambulance Point	A building or part thereof usually provided in major attractions with potential large footfall such as entertainment, sports or conference areas and universities placed to address medical emergencies on site. This may include ancillary use for staff offices.	One bay for each 50sq. m of staff office GFA.
Ambulance Station	A designated building with ambulances present for quick dispatch in emergency situations. These may be located within hospitals or at other health-related establishments.	One bay for each 50sq. m of total GFA.
Post Shelter	An area with private shelters that contain a number of private post boxes each, and serves mainly individuals and business establishments.	-
Post Office	A building or part thereof that serves as a local branch of a national post office handling the mail for a particular place or area.	One bay for each 50sq. m of total GFA.
Library	A building containing printed and pictorial material for public use for purposes of study, reference and recreation.	One bay for each 50sq. m of total GFA.
Government Center	A building or part thereof dedicated for any government use that caters to the needs of the general public.	One bay for each 50sq. m of total GFA.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Children Nursery	An establishment where the education and caring of children under the age of four are provided. This includes ancillary use for staff offices. A nursery may be an independent establishment or part of a school (in both cases, it must be demonstrated as a separate land use).	One bay per classroom and one bay for each 50sq. m of staff office GFA and one bus parking.
Kindergarten	An establishment where the education and caring of children between the ages of four and six years are provided. This includes ancillary use for staff offices. A kindergarten may be an independent establishment or part of a school (a kindergarten must be demonstrated as a separate land use only if it is an independent establishment).	One bay per classroom and one bay for each 50sq. m of staff office GFA and one bus parking for each 3 classrooms.
School	An establishment where educational services for all grades from 1-12, including kindergarten, may be offered on a single plot along with all supporting facilities. This includes ancillary use for staff offices, playgrounds and sports courts.	One bay per classroom and one bay each 50sq. m of staff office GFA and one bus parking for each 3 classrooms.
University	A post school educational institute that grants academic degrees in a variety of subjects including higher diploma, bachelor's degree or post graduate degree.	One bay per every 50sq. m of total GFA excluding sports hall, one bus parking for every 200 students and 10% additional parking for visitors.

Colour	Land Use	Definition
Land Use Level 1		
R: 150 G: 255 B: 255	6. Facilities	Private or public premises wherein supporting services for the community are provided.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Educational Institute	An establishment where educational certified courses are provided other than kindergartens, schools and universities. Examples include language centers, fine arts institutes and design and vocational training institutes.	One bay per every 50sq. m of total GFA.
Clinic	An establishment run by one or a group of medical specialists to provide regular medical treatments and short-term patients admission.	One bay for each 50sq. m of total GFA.
Government Hospital	A government establishment that provides in-patient and out-patient medical services in addition to other ancillary services such as staff offices and internal clinics, pharmacy, cafeteria and medical laboratories.	One bay for each patient bed plus one bay for every 50sq. m of GFA for internal clinics, staff offices and all other habitable spaces.
Private Hospital	A private establishment that provides in-patient and out-patient medical services in addition to other ancillary services staff offices and internal clinics, pharmacy, cafeteria and medical laboratories.	One bay for each patient bed plus one bay for every 50sq. m of GFA for internal clinics, staff offices and all other habitable spaces.
Healthcare Center	A standalone government medical establishment in which a range of healthcare service are provided.	One bay for each 50sq. m of total GFA.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Guard House	A structure dedicated for security guards usually located at the main entrances of a development.	-
Facility Management	A building or part thereof that serves as the headquarter for the facility management staff of a building(s) or a development. Facility management services may include operational, security, maintenance and inspection and cleaning services.	One bay for each 50sq. m of total GFA.
Driving School	An establishment where education and training services for driving are provided.	One bay for each 20sq. m of total GFA.
Elderly Care Facility	A building or buildings designed to provide, for compensation, housing of the elderly. Such facilities may provide services to its permanent residents similar to those services provided by hotels and located entirely within the facility.	One bay for each 50sq. m of total GFA.
Rehabilitation Center	A facility providing therapy and training for rehabilitation such as occupational therapy, physical therapy and/or special training.	One bay for each 50sq. m of total GFA.
Public Toilet	A structure designated for the provision of toilets for public use (not as part of another use).	-

Colour	Land Use	Definition
Land Use Level 1		
R: 255 G: 215 B: 210	7. Recreational	A space or structure where recreational activities, either in or out of doors are provided.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Museum	A building or part thereof used for the preservation of a collection of paintings and/or other works of art, and/or of objects of natural history, and/or of mechanical, scientific and/or philosophical inventions, instruments, models and/or designs and dedicated to the recreation of the public, together with any libraries, reading rooms, laboratories and/or staff offices and premises used or to be used in connection therewith.	One bay for each 50sq. m of total GFA.
Cultural Center	A facility which provides a place for all kinds of cultural activities.	One bay for each 50sq. m of total GFA.
Performing Arts Venue	A facility which provides a place for showing live performances made for spectators, such as a grandstand, and to which spectators are usually charged admission. This may include ancillary uses such as staff offices, food and beverage and retail uses.	One bay for each 50sq. m of GFA for staff office and food and beverage use, 1 bay for each 70sq. m of retail GFA and one bay for each 3 seats or 20sq. m of GFA of hall use whichever is greater.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Sports Venue	A facility which provides a place for leisure, recreation or sport, and where there is substantial provision made for spectators, and to which spectators are usually charged admission. This may include ancillary uses such as staff offices, food and beverage and retail uses.	One bay for each 50sq. m of GFA for staff office and food and beverage use; 1 bay for each 70sq. m of retail GFA and one bay for each 3 seats or 20sq. m of GFA of hall use whichever is greater.
Sports facility	A facility that is predominantly used to actively participate in all types of sports activity within a building or more on the same plot.	One bay for each 70sq. m of total GFA.
Golf Course	An area of land designated for the game of golf with a series of 9 or 18 holes each including tee, fairway and putting green. This excludes Club House which must be counted as a separate land use.	One bay for each 50sq. m of staff office GFA and One bay for each 100sq. m. of training area and stadiums.
Equestrian	A facility that is used for the boarding of horses, the training of horses and riders, and the staging of equestrian events, but does not include the racing of horses. This may include ancillary use for management offices.	One bay for every 50sq. m of management office GFA and a minimum area of 9x9sq. m for loading and unloading to be provided.

Colour	Land Use	Definition
Land Use Level 1		
R: 255 G: 215 B: 210	7. Recreational	A space or structure where recreational activities, either in or out of doors, are provided.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Zoo	A facility that is used for the keeping of live animals for public exhibition. This may include ancillary uses such as staff offices, food and beverage facilities and retail uses.	One bay for each 50sq. m of GFA for offices and food and beverage area and one bay for each 70sq. m of retail GFA and one bay for each 100sq. m. of zoo area.
Aquarium	A facility that is used for the keeping of aquatic animals and fish for public exhibition. This may include ancillary uses such as staff offices, food and beverage facilities and retail uses.	One bay for every 50sq. m of total GFA.
Club House	A building or part thereof that is used as a meeting place for persons associated with a social, sporting, athletic, literary or other interests and includes premises in respect of which a club licence is held. Examples include golf clubs, book clubs, beach clubs, yacht clubs, players' lounges and gated community club facilities. This excludes any retail land use within the plot which must be counted as separate land use.	One bay for each 50sq. m of total GFA.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Cinema	A building or part thereof where screen based entertainment or information to the public is screen played. This may include ancillary uses such as staff offices, food and beverage facilities and retail uses.	One bay for each 50sq. m of GFA for staff office and food and beverage use; 1 bay for each 70sq. m of retail GFA and one bay for each 3 seats or 20sq. m of GFA of hall use whichever is greater.
Marina	An area containing docking facilities or mooring facilities where boats or boat accessories are berthed.	-
Theme/Amusement Park	A facility where entertainment or amusement services are provided including rides and shows served with other ancillary facilities mainly providing food and beverage.	One bay for every 50sq. m of total GFA.

Colour	Land Use	Definition
Land Use Level 1		
R: 146 G: 208 B: 80	8. Open Space	Areas of public realm which can be publicly accessible or provided for aesthetic reasons only. It can include either formal or informal activities or a combination of the two, and forms part of a wider network allowing people to move easily between one space and another.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Landscape	Publicly accessible and usable areas that may include plant materials, topography, and other natural physical elements combined in relation to one another and to man-made structures.	-
Sector Park	A publicly accessible park that is provided as part of a strategic plan for the city to serve a large population catchment and used in both active or passive recreational uses; and includes softscape and hardscape areas, facilities, playing fields, utilities, buildings and other structures that are consistent with the general purposes of public parkland. Sector parks serve a population size of 70,000-120,000.	One bay for each 200sq. m of total park area. Public parking surrounding the park and the neighborhood is included within the required number of bays.
District Park	A publicly accessible park used in both active or passive recreational uses, and includes softscape and hardscape areas, facilities, playing fields, utilities, buildings and other structures that are consistent with the general purposes of public parkland. District parks serve a population size of 10,000-30,000.	One bay for each 200sq. m of total park area. Public parking surrounding the park and the neighbourhood is included within the required number of bays.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Community Park	A publicly accessible medium-sized park which may include a recreational area, playground, playfield or similar use for community gathering and small events. Community parks serve a population size of 6,000-12,000.	One bay for each 200sq. m of total park area. Public parking surrounding the park and the neighborhood is included within the required number of bays.
Neighborhood Park	A publicly accessible small-sized park which may include a recreational area, playground, playfield or similar use serving a small population within a neighborhood. Neighborhood parks serve a population size of 2,000-4,000.	-
Pocket Park	A public area consisting largely of hardscape and landscape features, may be a plaza between buildings or a small linear park.	-
Playground	A play area with formal and informal play, for children of any age group (includes Tot Lot).	-
Buffer Zone	Landscaped areas, fences, walls, berms or any combination thereof used to physically separate or screen one use or property from another so as to visually shield or block noise, lights or other nuisances.	-

Colour	Land Use	Definition
Land Use Level 1		
R: 146 G: 208 B: 80	8. Open Space	Areas of public realm which can be publicly accessible or provided for aesthetic reasons only. It can include either formal or informal activities or a combination of the two, and forms part of a wider network allowing people to move easily between one space and another.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Promenade	A linear and accessible public space intended primarily for walking and cycling which may be bordering a waterbody or within an urban context.	-
Beach	Seaside waterfront park that may include swimming and water activities and which is usually publicly accessible.	One bay for each 200sq. m of total beach area. Public parking surrounding the beach and the neighborhood is included within the required number of bays.
Break Water	An offshore structure such as a wall protecting a harbour or beach from the force of waves.	-
Water Body	Any pond, lake, lagoon, channel, wetland, or basin which ordinarily or intermittently contains water and which has a discernible shoreline and is the result of development.	-

Land Use	Definition	Parking Requirements
Land Use Level 2		
Conservation Area	Land that is left in its natural state for the purpose of providing sanctuary, habitat and breeding grounds for wild birds, animals and plant-life. This may include ancillary use for management offices, food and beverage facilities and retail uses.	One bay for each 50sq. m of GFA for management offices, food and beverage and exhibition area and one bay for each 70sq. m of retail GFA.
Sikka	A pedestrian path between plots that may carry utilities underground and therefore allows only for limited landscape treatment (no trees, only interlock tiles) with a standard width of 6m. Sikka is often shaded and may have some softscape or lighting. It may also be used by cyclists and for emergency access.	-

Colour	Land Use	Definition
Land Use Level 1		
R: 145 G: 175 B: 255	9. Utilities	Facilities that are designed for the generation, transmission, and/or distribution of electricity, gas or steam, including water and irrigation systems and sanitary systems used for the collection and disposal of garbage, sewage and other wastes.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Power Plant	The use of land, building, or structure or part thereof for the generation of electric power. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA .
Substation 400 Kv	Electrical substation for the purpose of power transmission, where voltage is transformed from one distribution level to another. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA.
Substation 132 Kv	Electrical substation for the purpose of power transmission, where voltage is transformed from one distribution level to another. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA.
Substation 11 Kv	Electrical substation for the purpose of power distribution, where voltage is transformed from one distribution level to another.	-
District Cooling Plant	Mechanical plant and equipment for distributing chilled/cooled water generated in a centralized facility. The plot could also include Energy Transfer Station (ETS) which carries the cold properties of the primary fluid to a secondary one by an exchange process. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA and a minimum area of 9 x 9sq. m for loading and unloading to be provided.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Fire Fighting Facility	Facility to contain and disperse firefighting water. Consisting of a combination of tanks, pump stations, underground pipes and hydrants.	-
Potable Water Facility	Facility to contain and disperse accumulation of potable water. Consisting of a combination of tanks, pump stations and underground pipes.	-
Irrigation Facility	Facility to contain and disperse irrigation water for soft landscape areas. Consisting of a combination of tanks, pump stations and underground pipes.	-
Storm Water Facility	Drainage network consisting of one or a combination of underground pipes, tanks and pump stations to contain and disperse storm water flows. This could also include stormwater holding tanks.	-
Storm Water Pond	Drainage technique that retains or detains excessive stormwater runoff.	-
Sewage Treatment Plant	Facility designed to receive the waste from domestic, commercial and industrial sources and to remove materials that damage water quality and compromise public health and safety. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA and a minimum area of 9 x 9sq. m for loading and unloading to be provided.

Colour	Land Use	Definition
Land Use Level 1		
R: 145 G: 175 B: 255	9. Utilities	Facilities that are designed for the generation, transmission, and/or distribution of electricity, gas or steam, including water and irrigation systems and sanitary systems used for the collection and disposal of garbage, sewage and other wastes.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Sewage Pumping Station	Sewage pumping/lifting-up stations are facilities including pumps and equipment for pumping sewage fluids from one place to another.	-
Waste Management Facility	A facility used for the collection, source separation, storage, transportation, transfer, processing, treatment or disposal of wastes. This may include waste recycle facility and solid waste compactor facility. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA and a minimum area of 9 x 9sq. m for loading and unloading to be provided.
GSM Tower	Telecommunications facility where antennas and electronic communications equipment are placed for wireless transmission of telecommunications data/information.	-
Meet Me Room (MMR)	Meet Me Rooms are telecommunication rooms used to interconnect telecom networks from different service providers.	-
POP Room	Point of Presence (POP), facility to accommodate telecoms service connection interface in a large development and distributes them to each plot. This may include ancillary use for management offices.	One bay for each 50sq.m of management office GFA.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Gas Farm	Facility for storing liquefied petroleum gas in large tanks for local distribution. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA.
Desalination Plant	Facility for removing mineral components from saline water. Also referred to as reversal osmosis (RO) plants. This may include ancillary use for management offices.	One bay for each 50sq. m of management office GFA and a minimum area of 9 x 9sq. m for loading and unloading to be provided.
Ring Main Unit (RMU)	Metal enclosed unit used for electrical power distribution.	-
Feeder Pillar	Cabinet for electrical requirement usually located in the streets to control electrical supply of street lighting and traffic signals.	-
Utility Corridor	A dedicated plot allocated for a specific service installation including pipes, cables and ducts.	-

Colour	Land Use	Definition
Land Use Level 1		
R: 217 G: 217 B: 217	10. Transport	Public corridors, transit systems, roads, pathways and other facilities for the movement of people or goods.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Access Road	A public or private way permanently reserved as a secondary means of access to a property for vehicles.	-
Right-of-Way (ROW)	Public right of way or areas designated as public property for the location of roads, walkways or utilities.	-
Car Parking	An area or areas of land which are provided and maintained for the purpose of stopping or standing of vehicles, whether occupied or not.	-
Car Parking Structure	A building or part thereof which is provided and maintained for the purpose of stopping or standing of vehicles, whether occupied or not, and includes more than one level of parking space above or under ground.	-
Bus Station	An area with built structures which is designated for the pick-up and drop-off of fare-paying, passengers by commercial buses. Ancillary uses may include ticket offices, luggage checking facilities and similar uses. A space for parking or storing of buses may also be provided.	As per design.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Metro Station	A railway station for a rapid transit system, which as a whole is usually called a metro or subway. The station provides a means for passengers to purchase tickets, access trains stopping at its platforms and evacuate the system in the case of an emergency.	As per design.
Tram Station	A railway station for a light transit system, which as a whole is usually called a tram, streetcar or trolley. The station provides a means for passengers to purchase tickets, access trains stopping at its platforms and evacuate the system in the case of an emergency.	As per design.

Colour	Land Use	Definition
Land Use Level 1		
R: 217 G: 217 B: 217	10. Transport	Public corridors, transit systems, roads, pathways and other facilities for the movement of people or goods.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Rail Station	A railway station for a rapid transit system, which as a whole is usually called rail. It may be provided to handle passengers or cargo movement. Passenger rail stations usually provide means for passengers to purchase tickets, access trains stopping at their platforms and evacuate the system in the case of an emergency. Freight rail stations usually provide cargo handling facilities, storage and warehouses and other logistics facilities.	As per design.
Railway	The system and network of tracks that trains travel on.	-
Other Transit Station	A station for any other transport means such as cable car or monorail.	As per design.
Ferry Terminal	A specialized docking facility that receives a ferry boat.	As per design.

Land Use	Definition	Parking Requirements
Land Use Level 2		
Cruise Terminal	A specialized docking facility that receives cruise ships.	As per design.
Truck Rest Area	An area designated as a rest area for trucks. In addition to truck parking ,these areas may provide other services such as retail uses or prayer rooms. Truck area permitted uses are hotel, retail, offices, industrial and petrol station.	As per design.
Helipad	An area designated for the take-off and landing of helicopters.	-

C

Best Practice





Introduction

This chapter provides a range of examples of best practices for some of the design elements of a master plan. The examples provided are intent on improving the quality of the built environment and tools for implementation are shown. This chapter is intended to support creating master plans that efficiently utilize development assets and create communities that enhance the quality of life of its residents. This can only be achieved if the requirements prescribed in the guidelines chapters of this document are complied with as a baseline. The design best practice here is recommended for voluntary adoption by the developer/ consultant.

Completeness of Community

Ease of Movement

Quality of Life & Wellbeing

Flexibility & Adaptability

Viability & Robustness

Efficient Use of Resources

C.1. Context and Quality

It is essential for the master plan design to respond to the scale and type of the proposed development taking into consideration the surrounding urban context. Understanding the surrounding context is an important step in ensuring successful master plan development. The master plan design should respond to and complement the surrounding land uses and facilities and the wider transport and existing road network. This will help to optimize the placement of new uses and facilities and hence support existing ones ensuring maximum benefits within the confines of a connected block.

Applying the following principles will help to ensure that the proposed urban form provides good amenity and safe interfaces between infrastructure corridors and adjacent land uses and optimizes the use of development assets:

- Provide land uses and facilities that are missing or lacking in the surrounding neighborhood;
- Promote multi-functionality and duality of use. For example, allow a school's amenity area to be used in the evenings and weekends by the local community;
- Optimize access to higher intensity activities by locating such activities on well-connected roads or close to public transport;
- Provide the size and types of public open spaces to serve all residents of the development;
- Connect public open spaces with existing or planned open space networks to maximize their efficiency;
- Align mid-block passages and entries with existing pedestrian routes; and
- Consider maintaining legibility to enable people to intuitively read and use space.

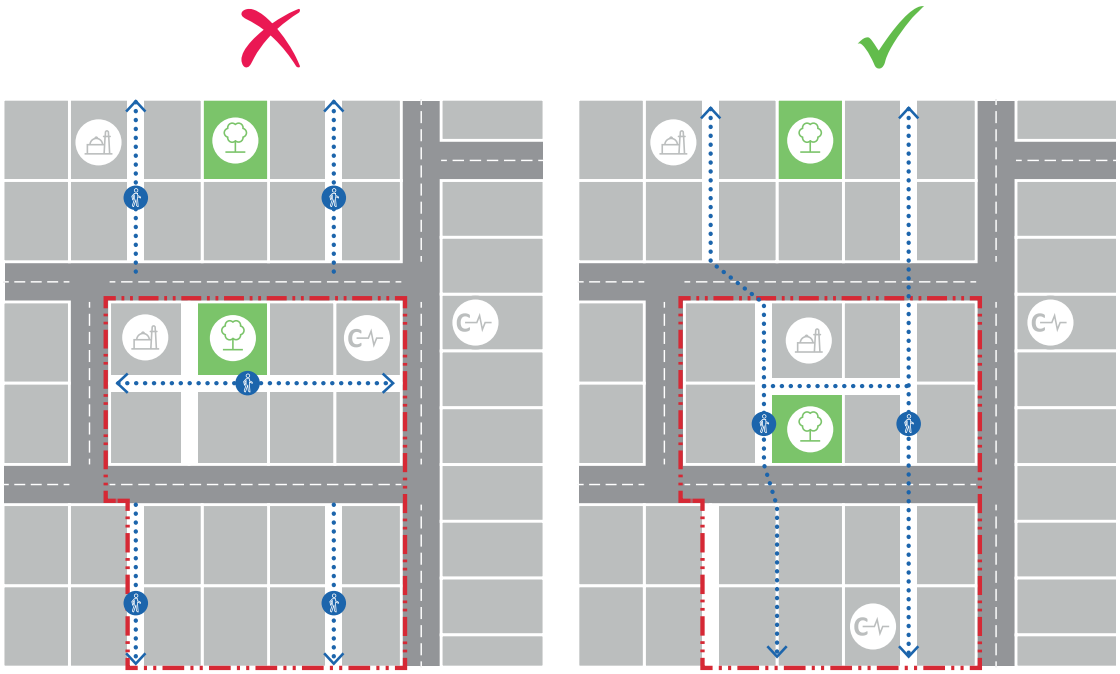


Figure C.1: Consider context when allocation land uses, facilities and pedestrian network



C.2. Phasing

A coherently phased development requires certain elements of a master plan to be delivered at key stages. Phasing should ensure a logical and coordinated delivery that supports the planning and sustainable development of the site. For instance, providing adequate levels of utilities, community facilities and services at an early stage will allow for the delivery of self-sufficient and resilient developments at every stage of the development's life cycle.

As such, it is essential to consider the limitations and opportunities of existing and planned infrastructure and their impact on the viability of the phasing strategy.

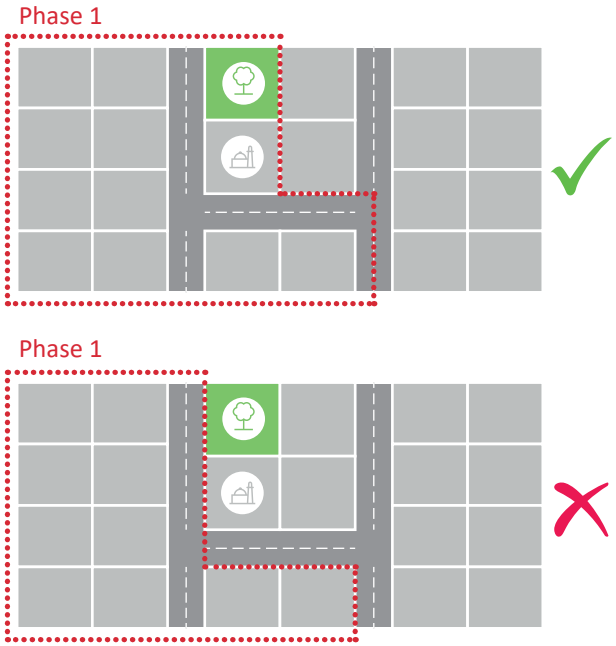


Figure C.2: Ensure facilities or access is provided within the first phases



C.3. Natural Environment

During the site analysis, it is essential to assess, identify and explore ways to incorporate natural features. For example, a site's existing trees, vegetation and animal habitats should be incorporated into a master plan's design. Considering the site's topography to minimize the need for cut and fill will reduce the costs and lessen the adverse impact to the environment.

Similarly, maximizing catchment and utilization of infrastructure during planning reduces the adverse impacts on the environment and conserves natural areas for habitat and ecological functions.

Promoting walkability and creating a transit-oriented development supports in conserving energy and improving air quality.

Moreover, to promote local biodiversity, water, and energy conservation, it is recommended to use sustainable and environmentally friendly landscaping, such as native or naturalized vegetation, and green infrastructure features, such as planted drainage swales. In addition to their benefits to the environment, such features will enhance the quality of life and create a unique and natural experience for all.

Completeness of Community

Ease of Movement

Quality of Life & Wellbeing

Flexibility & Adaptability

Viability & Robustness

Efficient Use of Resources

C.4. Co-location of Community Facilities

Co-location of community facilities (the placement of several facilities adjacent to one another) is recommended. Co-located facilities can provide a range of services to the community in a single, accessible location, promoting the efficient use of developable land and leading to reduced space requirements. As co-location creates centers and a sense of community and enables the sharing of infrastructure and amenities, such as parking.

Figure C.3 provides an illustration of the efficient use of land when delivering co-located community facilities. The community facilities that are recommended to be co-located are set out in Table C.1.

DDA Land Use	Type of Facility (DM)
Retail	Retail Facilities
Shopping Center	Community Shopping Center
Children Nursery	Children Nursery
Clinic	Private General Clinic
Clinic	Private Specialty Clinic
Clinic	Private Polyclinic
Clinic	Private Day-care Center
Post Office	Post Office
Ambulance Point	Ambulance Point
Government Center	DM Office
Government Center	DM Center

Table C.1: Community facilities recommended to be co-located

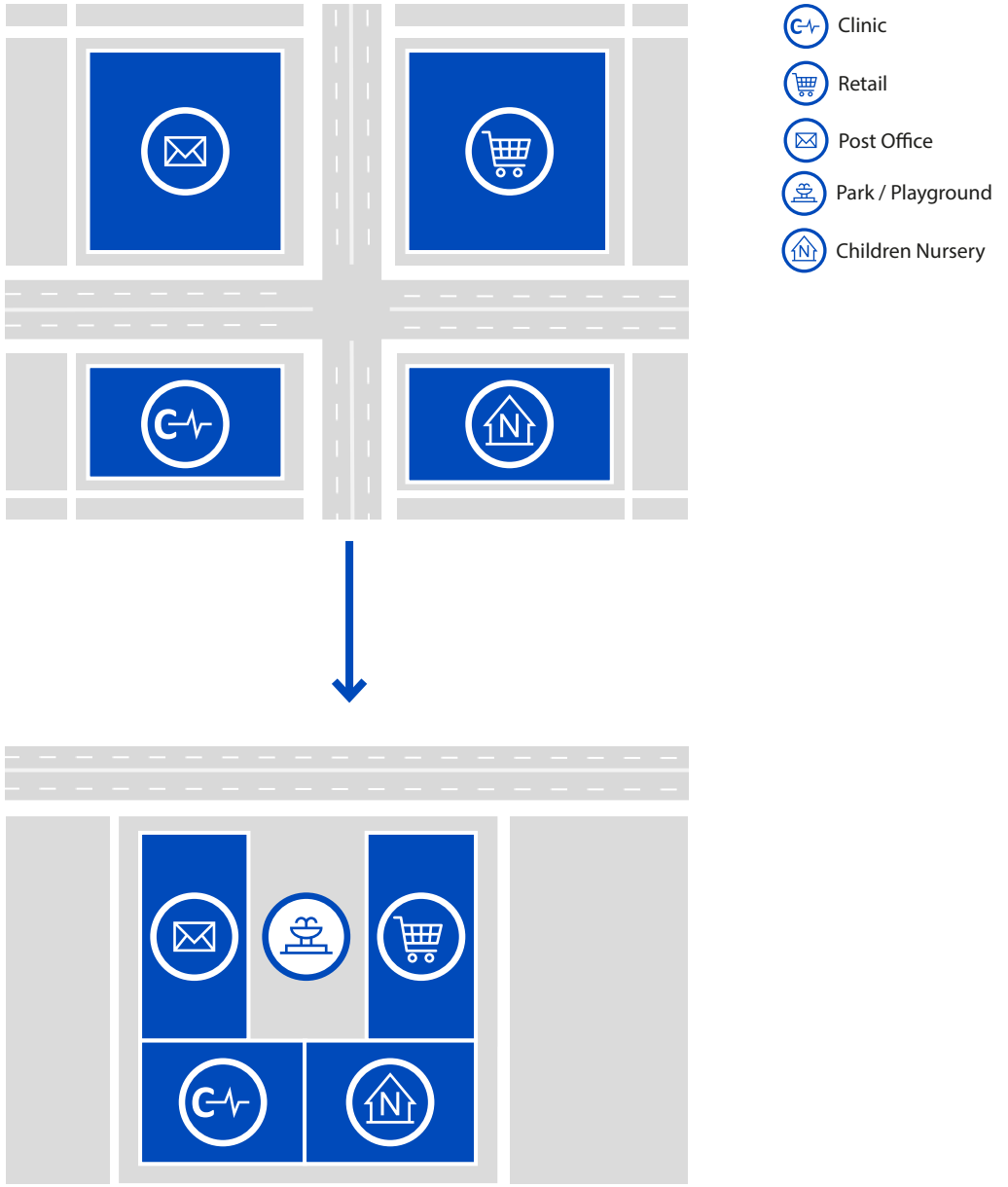


Figure C.3: Efficient use of land in co-located community facilities

Completeness of Community

Quality of Life & Wellbeing

Environment & Nature

Flexibility & Adaptability

Viability & Robustness

Efficient Use of Resources

C.5. Allocation of Open Spaces

Distributing open space in a master plan is integral to creating a liveable place for all residents. It is important to consider the location of open spaces in relation to adjacent buildings and explore engaging and connecting them to active building frontages to maximize vitality. To achieve this, open spaces of varied size and quality must be provided, in order to serve their intended function. For instance, large open spaces can feel desolate and even unsafe. Small open spaces may feel comfortable for intimate uses, but may not serve other active uses well.

Moreover, open spaces should be located and oriented to maximize physical comfort. This should consider solar orientation, shading, noise and wind. For instance, considering the location and shadow coverage of adjacent buildings will ensure optimal shade coverage during usable parts of the day and protection from wind, without additional costs.

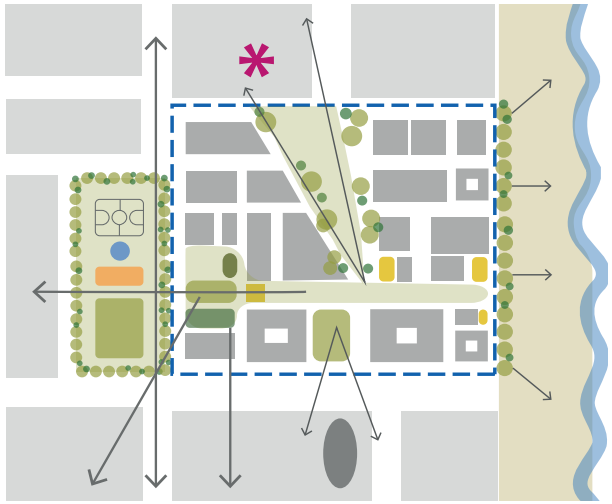


Figure C.4: Connecting open spaces to context

Architectural Quality

Quality of Life & Wellbeing

Flexibility & Adaptability

Viability & Robustness

Safety & Security

C.6. Massing

Building massing should consider the size and scale of adjacent existing and planned buildings, and provide a gradual transition in height. To achieve this transition, a combination of measures in development scale, built form, land uses and road design can be applied.

For instance, if a future high-rise building development is planned to be built adjacent to an existing villa development, appropriate separation distance, building setbacks with vegetation could be provided to maintain a comfortable relationship between the buildings. If not achievable, the design of villa-facing facade that should consider maintaining the privacy of villa residents as illustrated in Figure C.5.

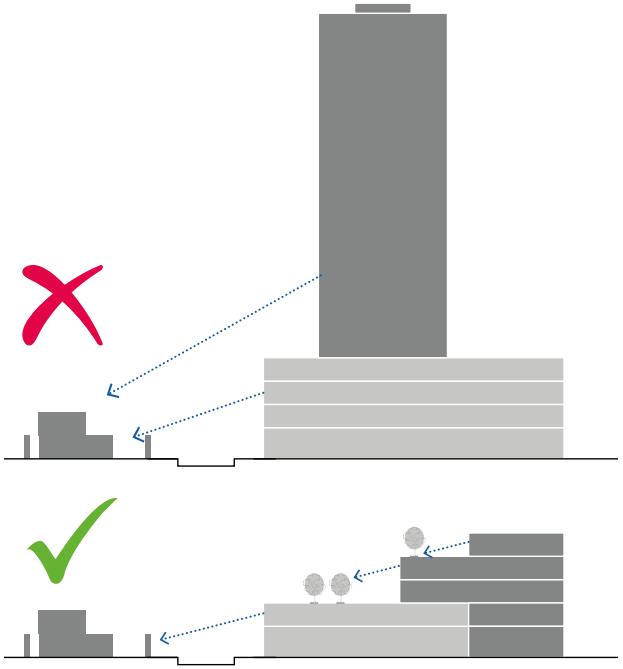


Figure C.5: High-rise buildings next to villa development

Quality of Life & Wellbeing

Environment & Nature

Flexibility & Adaptability

Viability & Robustness

Efficient Use of Resources

C.7. Shading

The orientation of the urban grid and building massing play a major role in creating spaces with pleasant micro-climate and thermal comfort. By assessing the shadow casts in the area at different times of the day, the optimal location, orientation and massing of buildings can be identified.

Considering the prevailing wind direction and adopting an orientation to optimize the wind capture will support the implementation of a passive cooling system within the master plan. Such systems will support creating pleasant and liveable spaces while reducing the potential water and energy consumption and associated costs.

Considering the provision of other shading features to the building façade design can also improve the quality of open spaces. For instance, façade design that supports the shading of pedestrian paths, by integrating elements such as building overhang, attached canopies, or even colonnades will enhance the viability and utilization of the space.



Figure C.6: Urban grid in line with wind direction

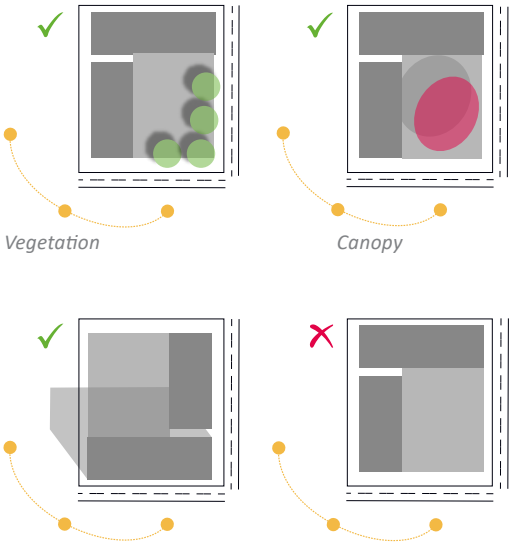


Figure C.8: Placement of buildings and elements to maximize shading

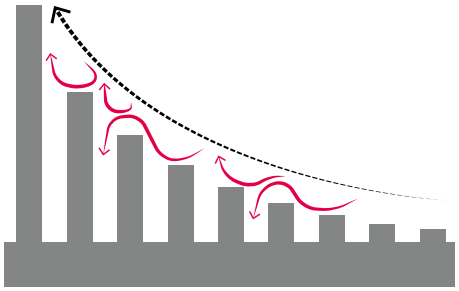
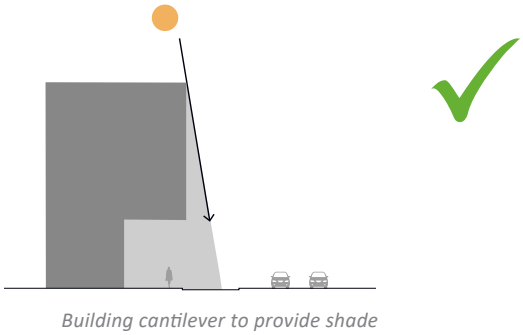
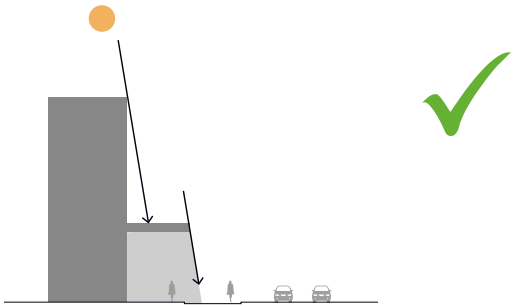


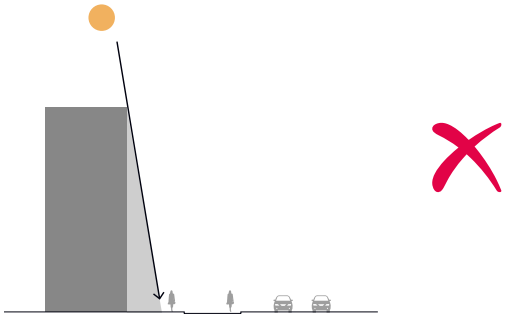
Figure C.7: Massing in line with wind direction



Building cantilever to provide shade



Attached canopy shading



No shading

Architectural Quality
Ease of Movement
Quality of Life & Wellbeing
Flexibility & Adaptability
Viability & Robustness
Safety & Security

C.8. Frontages and Level Change

It is essential to consider the level change across a site, especially its impacts on building frontages and other access points. For example, focusing on the frontage design for a building with access points at varying levels without consideration to the potential impacts on other access points, may result in undesirable access design such as through a basement parking or inaccessible frontages.

As such, the scale and permeability of the frontage at all levels should match the scale and role of the street or open space it faces.

Moreover, ensuring a continuous and integrated frontage level is essential to allow for an accessible and walkable pedestrian environment. Avoiding long frontages without active access points will also enhance accessibility, maintain the vitality of the space and increase perceived safety.

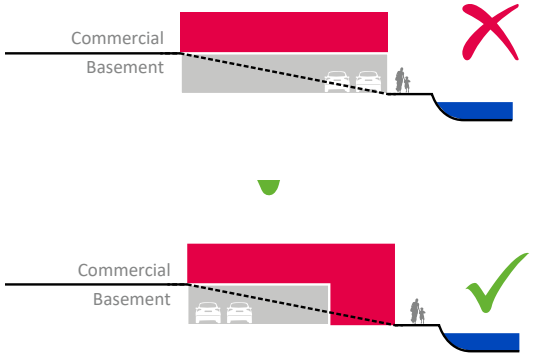


Figure C.9: Design frontages for level changes

Architectural Quality
Ease of Movement
Quality of Life & Wellbeing
Flexibility & Adaptability
Viability & Robustness
Efficient Use of Resources

C.9. Colonnades

Using colonnades provides shade for pedestrian routes, supports the smooth transition and connectivity between private and public spaces and contributes to creating active frontages.

To maximize their efficiency, colonnades should be continuous and allow for multiple entry points that are not obstructed by any landscape feature or vegetation. Colonnades should not be obstructed at either ends. Maintaining one level for furnished floors between the pedestrian routes within the colonnade is recommended. If not achievable, the change in level should be treated through the provision of accessible ramps, steps or a combination of both.

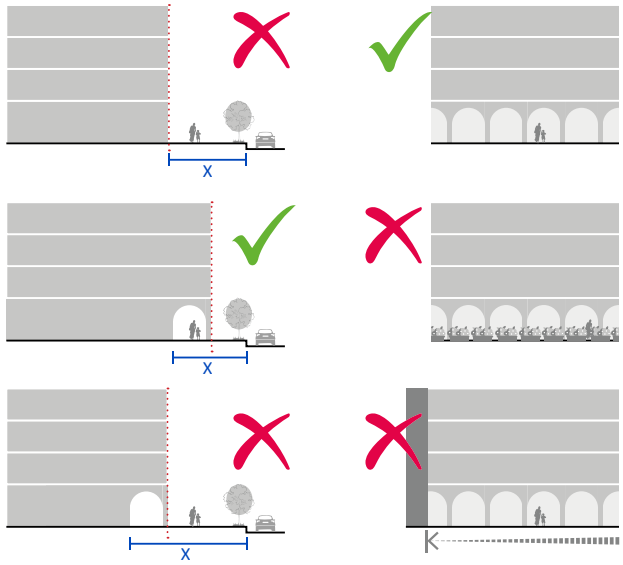


Figure C.10: Maximize colonnades allocation and design

Ease of Movement

Quality of Life & Wellbeing

Flexibility & Adaptability

Viability & Robustness

Efficient Use of Resources

Safety & Security

C.10. Innovative Parking Solutions

Shared parking occurs when two or more land uses can share one parking supply. Such strategy allows for a reduction in the number of parking spaces provided. The benefit of shared parking is maximized when parking demand for the developments is at different times of the day.

Parking spaces at shopping centers that are underutilized during morning hours on Fridays could be used by visitors to Juma'a masjid during prayer time for instance as part of a shared parking scheme.

Shared parking is particularly recommended between community facilities and a strategy should be provided to justify the proposed scheme. To ensure this is implemented and operated well, the shared parking should remain under the ownership of the master developer.

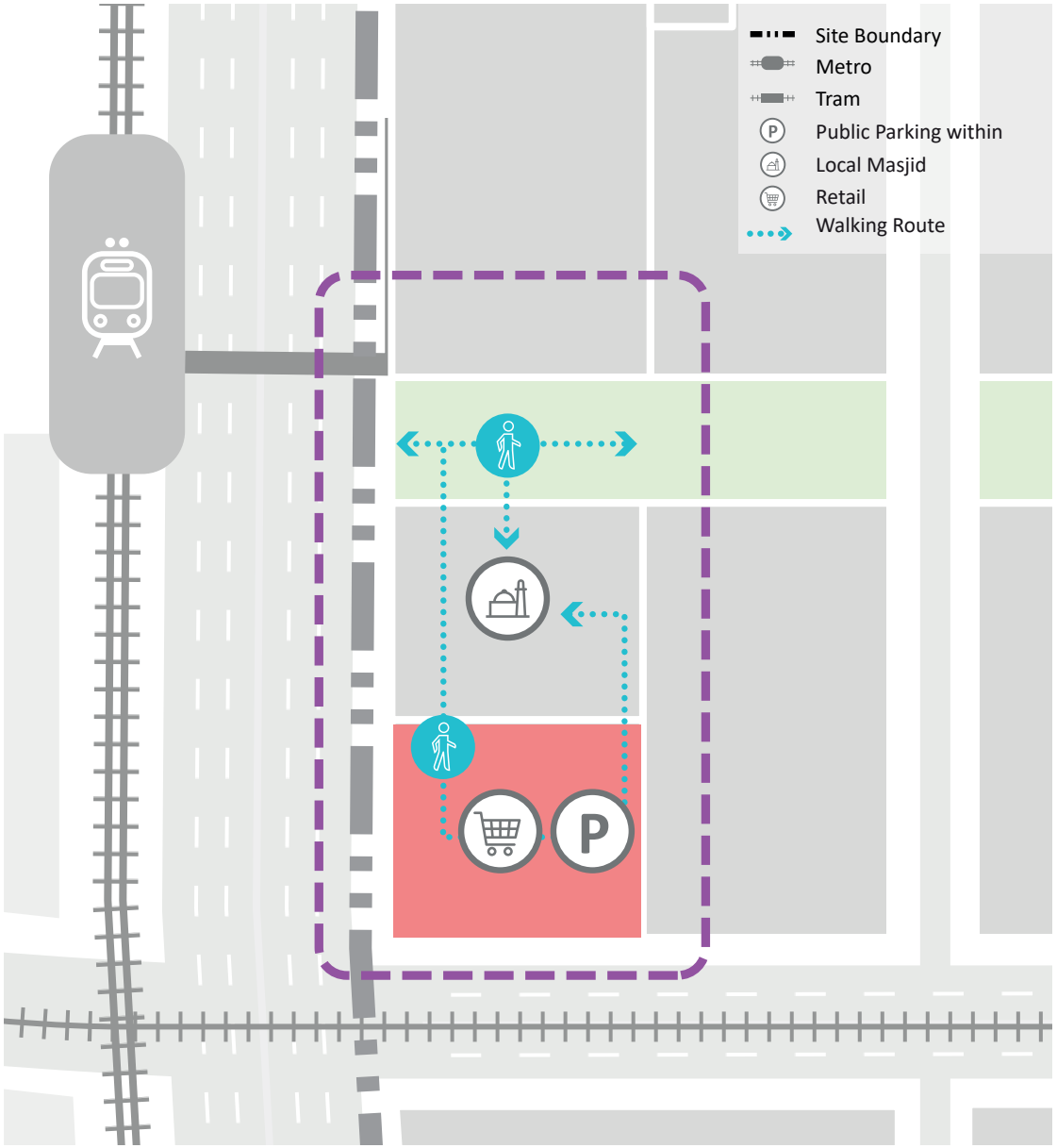


Figure C.11: Shared car parking

Master plans should consider the technological change and the impact of these on human behavior. For instance, the potential shift towards less car ownership associated with the take up of automated vehicle technology and hence reduced parking needs will impact master plans. Ultimately it is likely that there will be less parking demand and hence master plans should be flexible in this regard.

Taking that into consideration, it is recommended to design parking structures with the ability to be converted to serve other uses when demand for parking declines. While empty surface parking can be reallocated to other land uses, parking podiums would be more difficult to re-use if built strictly to parking height standards.

In order to make best use of developed structures, it is recommended to design adaptable podium parking heights.

This should enable the conversion of parking spaces to alternative uses such as offices, retail spaces and residential units. The following factors, should be considered when designing flexible parking:

- Provide minimum clear height as required for an alternative use;
- Avoid slanting floors that serve as ramps;
- Use simple column grids; and
- Design slabs with larger structural capacity.



Figure C.12: Future proofing podiums

In a situation where parking must be provided within either basements or podiums, podiums are the recommended option. Podiums help create a continuous building edge that defines the street, especially when combined with retail or other active frontages. Additionally, adaptive podiums can be more easily converted to usable spaces than basements.

This can also be applied to separate parking structures which can be located in proximity to the activities they support. If designed properly, these structures can be easily re-purposed to serve other uses in the future.



Figure C.14: Re-purpose parking structures

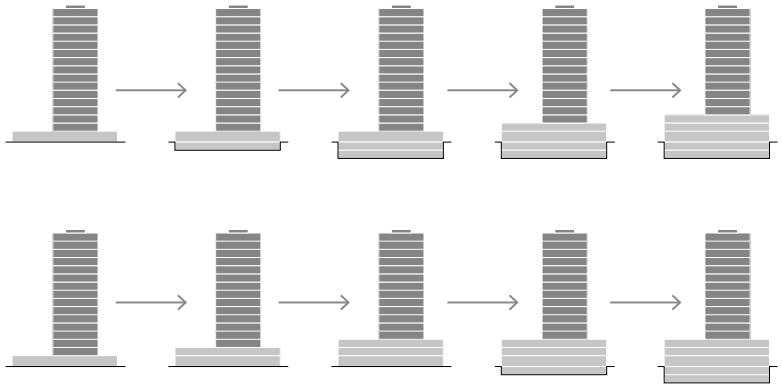


Figure C.13: Prioritize podiums before basements for parking allocation

C.11. Mobility Integration



Completeness of Community



Ease of Movement



Quality of Life & Wellbeing



Flexibility & Adaptability



Viability & Robustness



Safety & Security

In order to promote inter-modal connectivity and the enhancement of the passenger experience aboard the public transport system, it is recommended that the key principles outlined in the Dubai Transport Integration Manual (DTIM) are followed.

The manual prescribes the road-map to achieve integration at both strategic and local levels.

The strategic integration tool captures the land uses and transport facilities across the site and assesses these in the context of different transit nodes and land use importance and density. For instance, some of the mandatory elements for a medium density site close to a transit node include:

- Develop “Transit Oriented Development” within the site;
- Provide public transport within site;
- Provide Park and Ride facilities for public transport;
- Reduce parking provision; and
- Apply DTIM local integration analysis and provision.

Setting up the strategic integration measures allows for the localized measures to be identified. For the local integration, the manual provides a methodology to define routes, route types and local measures to be applied to routes.

Different route types are made up of a range of components of design treatments and requirements including land use and development, footway zones, micro-climate, signage and wayfinding, and the provision for cyclists and local buses.

An example of the resulting integration strategy for the mock-up master plan is illustrated in Figure C.14.

A Route

This type provides a safe, shaded and level route with clear definition of space and a separate cycle path provision. This type is used to connect metro to bus and other modes; integrates key attractions, and provides for delivery of cycling links ideally integrating to Dubai cycling master plan network.

B Route

This type provides the same level of safety and comfort as the A route (above), though without a separate cycle path, and forms the basis of a high-quality pedestrian priority environment. This type is used to connect metro to bus and other modes; integrates key attractions.

C Route

This type prioritizes pedestrians over vehicles and ensures a safe and comfortable environment for all non-motorized modes of movement. This type is used to feed into the B route type; runs along busy corridors.



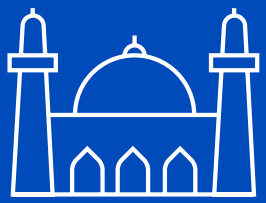
Figure C.15: Integration strategy based on the application of DTIM

D

Figures and Tables







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