Government of Samoa

URBAN DESIGN STANDARDS

Apia Central Business District (CBD) and Waterfront Areas

Australian Aid

Planning and Urban Management Agency
Ministry Of Natural Resources and Environment

28 February 2018

FOREWORD

The *Urban Design Standards* constitute a significant milestone in the development of Apia. They comprise clear guidelines that provide for safe, functional, resilient and sustainable urban spaces, and give special consideration to the interests of pedestrians and visual attractiveness of proposed developments. Our city has developed rapidly in recent years and it is timely that we now have some comprehensive development standards to guide future growth.

Every development in Apia has the potential to contribute positively to our city's overall quality of design. Compliance with the *Urban Design Standards* will help to create a positive experience for people who live and work in Apia, and for visitors to our city.

The standards in this document also address other important aspects of urban development such as cultural value, traffic congestion, public safety, stormwater management, landscaping and vegetation, consistency of design style, and the needs of people with disabilities.

The *Urban Design Standards* have been written primarily for those involved in the planning and design of developments in the Apia CBD and waterfront areas. I encourage you to review these standards and consider how to improve and enhance your developments. Changing the way we design Apia will improve urban conditions not only for us, but for future generations and for visitors to our city.

Ulu Bismarck Crawley
Chief Executive Officer
Ministry of Natural Resources and Environment

ACRONYMS

CBD - Central Business District

CPTED - Crime Prevention through Environmental Design

DMO - Disaster Management Office

EPC - Electric Power Corporation

LED - Light-Emitting Diode

LTA - Land Transport Authority

MESC - Ministry of Education, Sport and Culture

MNRE - Ministry of Natural Resources and Environment

MWTI - Ministry of Works, Transport and Infrastructure

PUMA - Planning and Urban Management Agency

SFESA - Samoa Fire and Emergency Services Authority

SWA - Samoa Water Authority

UDS - Urban Design Standards (this document)

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DEFINITIONS

Active frontages are building façades, and areas between a façade and a public footpath, that provide opportunities for people on the street to engage with interior building uses. They also enhance public safety and passive surveillance. Examples include attractive building entrances, shop fronts, open façades (e.g., café overlooking a public footpath), translucent building façades, street-side dining, and interactive window displays.

Adaptive re-use means to change an old site or building into a new and appropriate use (e.g., an adaptive re-use of an old government administration building into modern commercial offices with ground floor retail uses). This helps to maintain an otherwise neglected heritage building.

Crime Prevention through Environmental Design (CPTED) is an approach used to deter criminal and antisocial behaviour through careful design of the built and natural environment. Refer to **Annex H4** for further detail.

Heritage value in urban design refers to any places, buildings, structures, objects or practices that have special value to the community and to future generations.

Impermeable surfaces are hard surfaces that do not allow surface water to penetrate through, forcing it to run off (e.g., concrete; asphalt; impermeable rooftops; and traditional pavers made of stone, brick or concrete).

Light-Emitting Diode (LED) is a type of light source used in sustainable lighting solutions.

Passive surveillance is a CPTED strategy and occurs when there are direct lines of sight between buildings and streets/public spaces (e.g., through active frontages, balconies and upper windows). It enhances pedestrian safety on streets and public spaces.

Pedestrian paths are paths (minimum width of 1.5 metres) located within individual sites for pedestrians to walk along. They can be constructed using a variety of materials including concrete, pavement, asphalt, rubber, brick, stone and timber.

Permeable surfaces allow surface water to infiltrate and filter out pollutants (e.g., areas with grass and plants; gravel; porous materials; permeable pavers; rain gardens; and green roofs).

Public footpaths are paths (minimum width of 1.5 metres) located on public streets or thoroughfares for pedestrians to walk along. They are generally constructed using concrete or asphalt but can also include other materials such as pavement or timber in certain areas (e.g., on boardwalks and at thresholds to site entrances, pedestrian crossings and street intersections).

Road verge is the part of a street located between the edge of vehicular travel lanes and the adjacent property boundary. The area is allocated to provide public footpaths, utilities (e.g., water pipes and stormwater management drainage system) landscaping and lighting. It can also include street furniture such as seating and waste receptacles.

Shared-use paths are paths (minimum width of 3 metres) on public streets or thoroughfares, or within sites, for pedestrians and cyclists to use.

Traffic-calming measures are physical and environmental design strategies that help reduce vehicular speeds and encourage responsible driving. They can include raised pedestrian crossings, pedestrian refuge islands and road surface markings.

Turning paths refer to safe routes that a vehicle takes to turn a corner at an intersection, driveway, or within a parking or loading area. They are used to design adequate vehicular access within a site by accommodating the spatial needs of turning vehicles.

Urban heat island effect refers to the higher temperatures experienced in city and town areas due to a lack of green spaces, an increase in built form, and additional human activities.

Views are sights or perspectives, typically of attractive natural or built environments, that can be observed from a particular place.

Vistas refer to long and narrow corridor views between rows of trees, landscaping or buildings. Attractive vistas help to generate interest and activity.

Water-sensitive urban design refers to a design approach that regards water (stormwater, groundwater and wastewater) as a resource that can be retained on a site for re-use or filtration. Examples include rainwater collection and recycling, stormwater detention ponds, plant beds with proper discharge outlets ('rain gardens'), porous paving materials, and tree pits.

A. INTRODUCTION

This section sets out the objectives of the Urban Design Standards and the rationale and principles that underlie them. It also specifies the geographical area in which the standards are to be applied and provides guidelines for their interpretation and for complying with the standards.

A1. BACKGROUND

Urban design is the design of sites, buildings, streets and public spaces in towns and cities. It refers to how they are shaped, how they function, and how people use them. Urban design is not just about aesthetics or how something looks. Good urban design can help to protect the environment, create safe and inclusive spaces, encourage social interaction, enhance cultural identity, and stimulate economic growth.

The purpose of the *Urban Design Standards (UDS)* is to set minimum (achievable) standards for the planning and design of developments in the Apia CBD and waterfront areas. They are intended to be helpful to all interested parties including landowners, developers, designers and government agencies. They should be particularly useful to architects, engineers, planners and other consultants involved in the preparation of design plans for proposed developments.

The UDS are consistent with the *Strategy for the Development of Samoa*, various sector plans, and strategic plans for Apia. In particular, they help to implement key urban design principles and strategies set out in the *City Spatial Plan* and the *Waterfront Plan*. By adhering to the UDS, urban developments will contribute to a sustainable, resilient and inclusive city, and improve urban conditions for all.

A2. STATUTORY CONTEXT

The UDS have been developed by the Planning and Urban Management Agency (PUMA) and are development standards under the *Planning and Urban Management Act 2004*. They are integral to the assessment of development proposals in the Apia CBD and waterfront areas as part of PUMA's Development Consent Application (DCA) process. Fig. A2.1 shows how the UDS shall be implemented within the DCA process. See Part G for further detail.

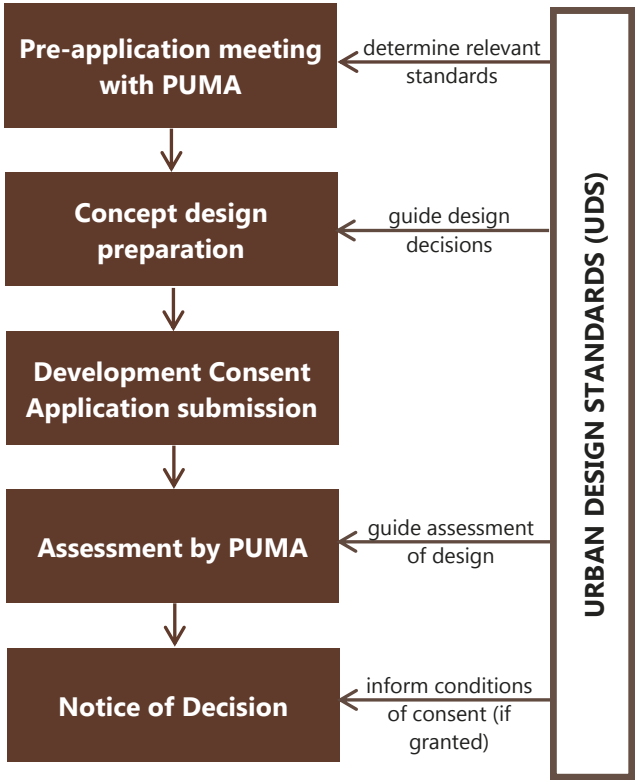


Fig. A2.1 implementation of UDS

A3. APPLICABILITY

The UDS apply to all lots in the **Apia Central Business District (CBD) and waterfront** areas (refer to **Annex H1**). The Apia CBD area is bounded by Fugalei Street to the west, Vaitele Street to the south, and Cross Island road to the east. The Apia waterfront area is the area covered by the *Waterfront Plan* from Mulinu'u to Vaiala.

The UDS apply to **all developments** in the lots specified above that require a DCA, except for single residential houses. For example, if you are developing a single residential house within the above areas, the UDS do not apply to your development. However, if you are developing a mixed-use development (that includes residential uses) or a multi-residential development within the above areas, then the UDS do apply to your development.

Key sites and prominent buildings along the Apia waterfront may also be subject to site-specific guidelines set by PUMA, MWTI and other government agencies such as EPC, LTA, SFESA and SWA. Developers of these sites and buildings are required to consult with PUMA and other agencies early in the planning process.

The UDS will not be applied retrospectively to existing developments. They only apply to new developments in the specified area, including any proposed change of land use.

A4. INTERPRETATION

Parts B to F categorise the UDS into five key urban design themes, each with a set of design elements. A statement of **Design Intent** introduces each design element and presents the rationale.

Mandatory Outcomes indicate what *must* be done to meet the design intent, followed by a list of items that *must* be done to achieve each outcome. **Desirable Outcomes** indicate what *should* be done wherever possible or feasible to achieve the design intent, followed by a list of items that *could* be done to achieve each outcome. Each design element is accompanied by illustrations that are intended to assist with the interpretation of the standards.

Some design elements list **Other References** that are relevant to that section. Key words are underlined and defined in grey boxes throughout the UDS and are also contained in the definitions section (see page 6). See overleaf for a diagram (Fig. A4.1) that illustrates how to use the UDS.

The UDS do not set out any DCA procedures and processes. Advice should be sought from PUMA in the first instance regarding such matters.

A5. COMPLIANCE

Applicants for DCAs to which the UDS apply must demonstrate compliance with all of the mandatory outcomes, and as many of the desirable outcomes as possible, that apply to their DCA. However, Compliance with the UDS does not guarantee the granting of development consent, which is determined under all matters contained in the *Planning and Urban Management Act 2004*. Other PUMA policies and guidelines that must be considered when preparing a DCA include:

- *Codes of Environmental Practice*
- *Container Storage Guideline*
- *Disability Access Guideline*
- *Floodplain Management Guideline*
- *Noise Policy*
- *Planning & Development Guidelines for Housing*
- *Parking Policy and Standards*
- *Signage Policy*.

In addition, designers need to ensure compliance with other standards that are considered through MWTI's building permit application process including the *National Building Code of Samoa*, relevant Australian and New Zealand standards, and any particular manufacturer's installation details.

PUMA recognises that it may not be possible for a development to comply with every mandatory outcome in the UDS. In such cases, applicants may seek exemption from the UDS and propose an alternative solution that is acceptable to PUMA. The approval of an alternative design solution shall not necessarily set a precedent for other DCAs.

A6. GUIDING PRINCIPLES

The following guiding principles for the UDS help to realise the directions set by the *City Spatial Plan* and *Waterfront Plan*:

Prioritise pedestrians

Design spaces that promote the safety and comfort of people living in and visiting Apia.

Create a unique and attractive city

Design spaces that celebrate Samoan culture, encourage vibrant activities, and exhibit a high design quality.

Protect the environment

Design spaces that have minimal impact on the environment and incorporate sustainable design practices.

Plan resilient spaces

Design spaces that are resilient to the effects of climate change, disaster and coastal conditions.

Consider the needs of all

Design spaces that consider the needs of people of all abilities, genders, ages and other diverse groups.

PUMA also encourages applicants to consider public safety when planning and designing developments. Refer to **Annex H4** for an outline of the principles and strategies of Crime Prevention through Environmental Design (CPTED).

HOW TO USE THIS DOCUMENT

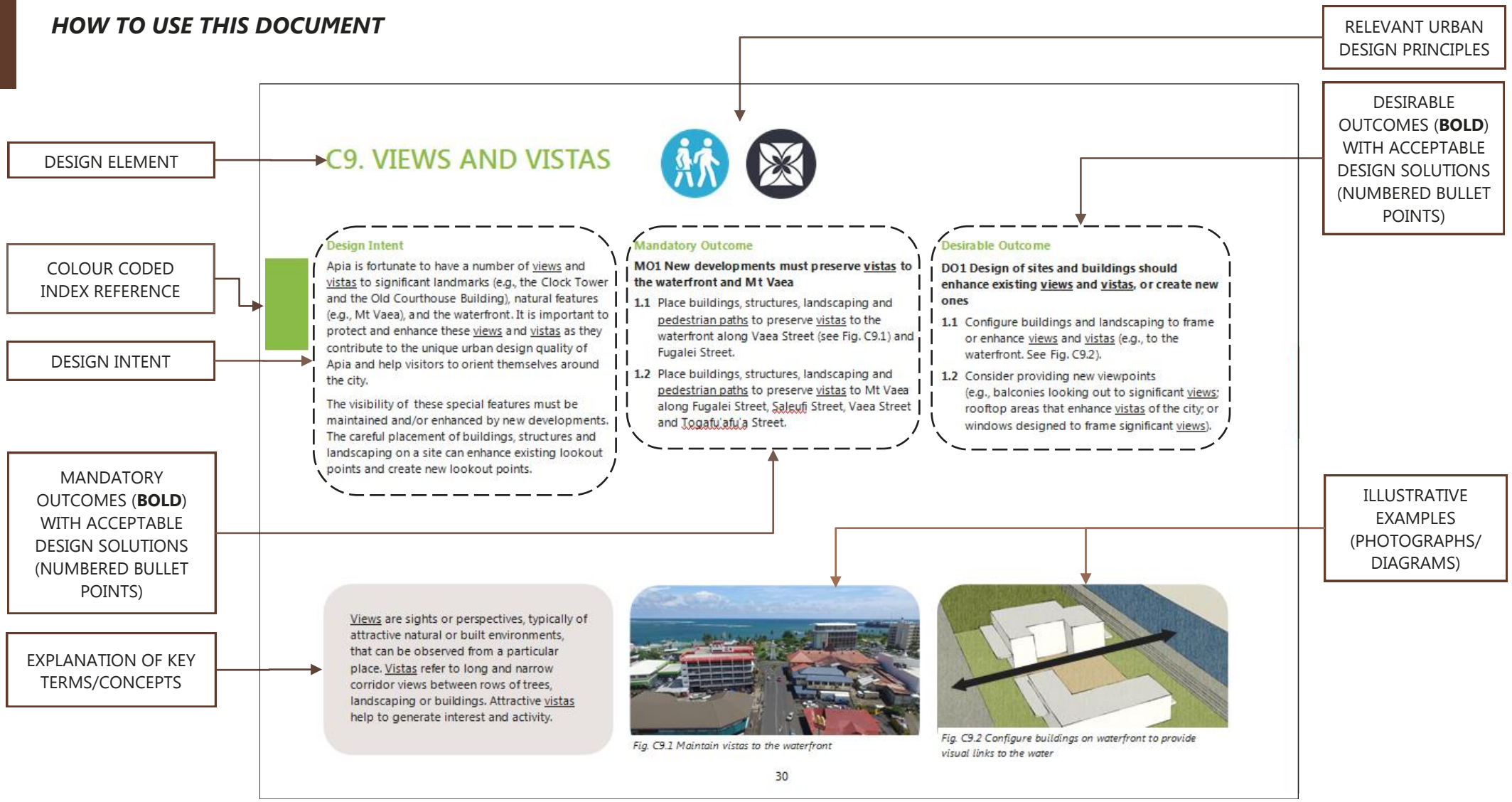


Fig. A4.1 Diagram on how to use this document

Note on referencing**:** each standard is referenced by the design element, followed by the mandatory or desirable outcome, and the numbered bullet point. For example, the first bullet point of the first mandatory outcome in the Views and Vistas section would be **C9-MO1.1**, and the second bullet point of the second desirable outcome in the Heritage Value section would be **H2-DO2.2**.

B. CULTURE AND HERITAGE

This section applies to all developments. It sets out standards for the incorporation of Samoan culture, heritage and art in the design of proposed developments.

B1. CULTURAL IDENTITY

Design Intent

Sense of culture is strong in our country - it is a part of our lives and identities. The inclusion of cultural expressions such as Samoan art, architecture, materials, patterns, stories, and cultural values in the design of buildings and public spaces helps to develop a unique cultural identity for Apia and deepen our sense of place. Designers should also respect the *Fa'asamoa* way and enhance family, community and church connections, where appropriate.

Samoa has a long history of encouraging 'openness' in urban design: traditional villages are centred around a village *aai*, which is demarcated by the location of the *malaefono*. This openness is enhanced by *maota/laoa* located at the front with *faleo'o* at the back. Traditional *fale* are open to suit the local climate, and occupants usually sit around the edge facing the central open area.

Mandatory Outcome

MO1 New developments must respect the character of adjacent villages

1.1 Place compatible land uses adjacent to residential and religious uses in villages (e.g., bars, mechanical workshops, warehouses and factories are not appropriate adjacent to houses or churches).

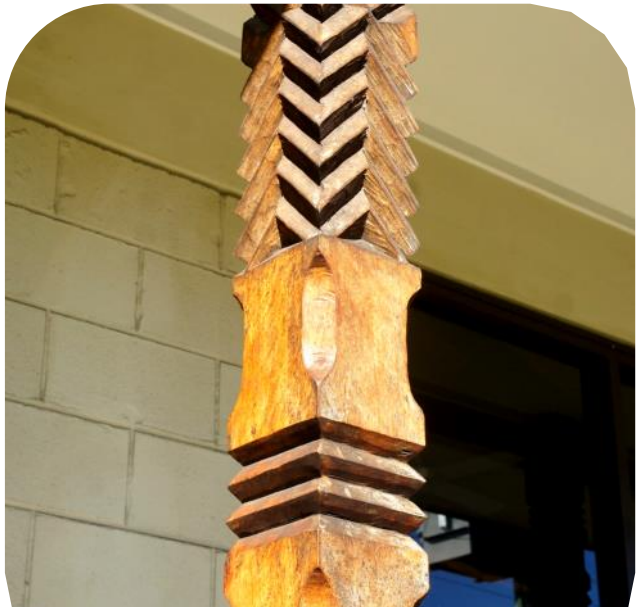


Fig. B1.2 Carved timber post used in a modern building

Fig. B1.1 Vaiala village

Fig. B1.3 Seawall detail

Desirable Outcome

DO1 Design of buildings and public spaces should promote the culture and identity of Samoa

1.1 Design developments to minimise visual obstructions to adjacent village layouts and preserve their low-density character (see Fig. B1.1).

1.2 Consider consulting local artists and artisans in the design of key public spaces and prominent buildings early in the design process.

1.3 Incorporate Samoan art, design and natural patterns into site or building design elements (e.g., building forms, building façades, rooflines, entrances, architectural features, landscapes or public areas, where appropriate. See Fig. B1.2 to Fig. B1.6).

1.4 Consider incorporating the idea of 'openness' in site and building design, where appropriate.

Other References

- *National Culture Policy* (MESC)

Fig. B1.4 Planter box with flower pattern

Fig. B1.6 Traditional fale incorporating Samoan art and construction methods

Fig. B1.5 Samoan patterns and materials on building façade

B2. HERITAGE VALUE

Design Intent

Heritage value refers to any places, buildings, structures, objects and practices that have special value to the community and to future generations. Tangible cultural heritage items such as buildings (see Fig. B2.1), culturally significant places, archaeological sites, historical monuments, burial tombs (see Fig. B2.2), and relics are part of Samoa's identity and history. Intangible cultural heritage (e.g., oral traditions and expressions, visual and performing arts, music, social systems and practices) are also significant parts of our heritage.

Buildings and structures with heritage value are important 'attractors' for tourists and visitors to Apia. Developers should consider opportunities to enhance these items, thereby contributing positively to tourism and Samoa's economic growth.

Mandatory Outcome

MO1 Buildings and structures with heritage value must be preserved

1.1 Preserve buildings listed in **Annex H2** (e.g., maintain original form or use; undertake adaptive re-use of the building, site or activity; relocate the item; and/or remove and record an item if there is a justifiable reason for not achieving the above).

1.2 Set back new buildings and structures (including fences) a minimum of 5 metres from any historical monument or burial tomb (see Fig. B2.3). Trees, plants and pedestrian paths are permitted (and encouraged) within this setback but must not detract from an item's heritage value. Maintain clear pedestrian paths from street frontages to these items.

Fig. B2.1 Old Courthouse building

Fig. B2.2 Burial tomb in the Apia waterfront area

Adaptive re-use means to change an old site or building into a new and appropriate use (e.g., an adaptive re-use of an old government administration building into modern commercial offices with ground floor retail uses). This helps to maintain an otherwise neglected heritage building.

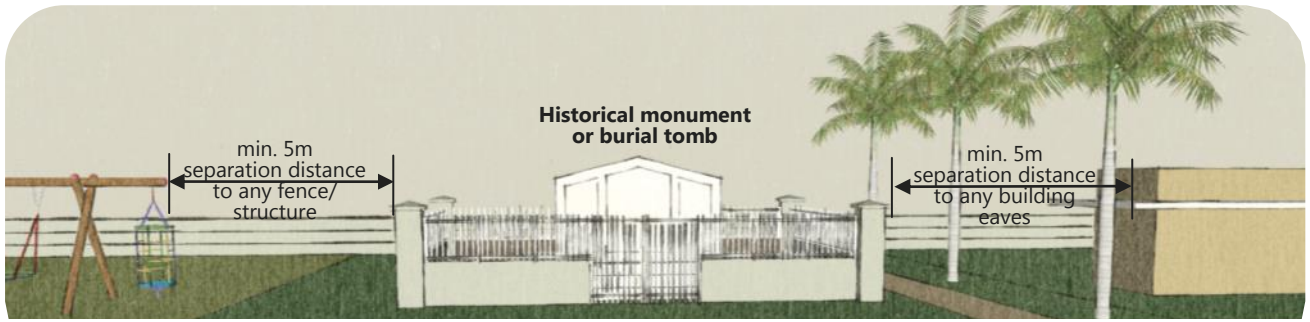


Fig. B2.3 Required setbacks to historical monuments or burial tombs

Desirable Outcomes

DO1 Visual appearance of new buildings, alterations and additions should not detract from the heritage value of existing buildings

1.1 Limit the height of new buildings to 160% of the height of an adjacent building that is listed in **Annex H2** (see Fig. B2.4).

1.2 Limit the height of new additions to a building listed in **Annex H2** to a maximum of 60% of the height of the existing building (see Fig. B2.4).

1.3 Blend the scale, proportion and materials of any alterations/additions to a building listed in **Annex H2** with the existing building.

1.4 Replicate or interpret details and features of adjacent items with heritage value in new building designs where appropriate (e.g., roofline, materials, colours, windows), but ensure that new work is recognisable and does not 'mimic' the existing item (see Fig. B2.4).

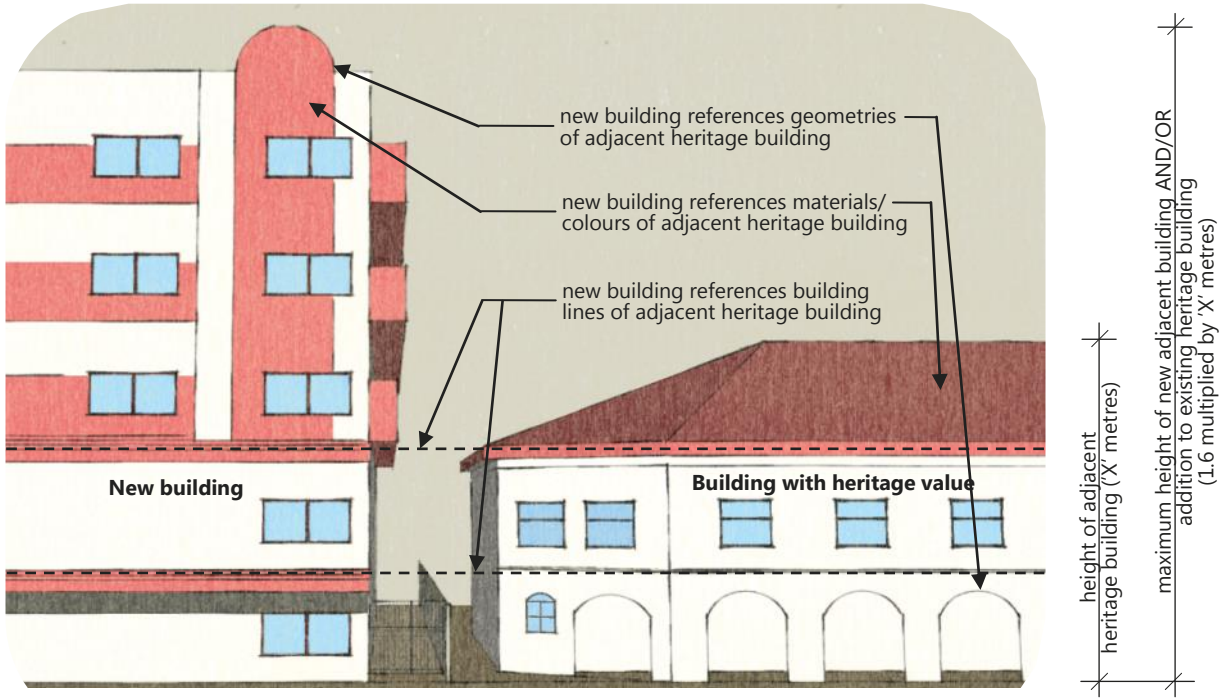


Fig. B2.4 Complementary design ideas for new buildings adjacent to heritage buildings

DO2 Key public spaces and prominent buildings with heritage value should commemorate and raise awareness of the site's heritage

2.1 Install interpretive signage or public art (see Part B3) describing the history of the site (e.g., relevant myths and legends, stories about previous land uses and inhabitants).

2.2 Help people to understand the stories, legends and heritage that are relevant to the proposed development (e.g., incorporate the footprint of demolished buildings into the design of new buildings; use site design to illustrate a traditional Samoan legend; provide an educational display of found objects and relics).

Other References

- *National Culture Policy* (MESC)

B3. PUBLIC ART

Design Intent

Public art is any creative expression that is installed in a public space, or is located within a private development but accessible to the general public. It can help to enhance the unique character of a city, encourage people to use public spaces, and create recognisable 'markers' or landmarks. It can also help to celebrate the cultural heritage of Samoa.

Artwork may take any form such as sculptures, wall murals (see Fig. B3.1), objects (see Fig. B3.2), statues and interactive installations. Public art could also be integrated within building and site design: for example, artwork integrated in a building structure; or artwork incorporated into utility infrastructure.

PUMA encourages designers to consider incorporating some form of public art in all developments, particularly key public spaces and prominent buildings.

Mandatory Outcome

MO1 Public art must be safe, durable and respectful

1.1 Make public art as safe as possible for pedestrians (e.g., no protruding sharp edges, provide sufficient head clearances).

1.2 Ensure public art does not obstruct pedestrian or vehicular traffic.

1.3 Minimise the extent to which public art distracts motorists (e.g., no flickering lights).

1.4 Use materials that are durable, low-maintenance and resistant to coastal conditions and heavy rainfall.

1.5 Do not create public art that could be considered offensive (e.g., artwork that may demean a particular gender, race or religion).

Desirable Outcome

DO1 Public spaces and buildings should provide interpretations of Samoan art and cultural heritage

1.1 Consider consulting local artists and artisans to design key public spaces and prominent buildings.

1.2 Promote awareness of public art (e.g., install interpretative panels or plaques next to artwork).

Fig. B3.1 Painted wall mural

Fig. B3.2 Found object displayed in public space

C. SITE DESIGN

This section applies to all developments. It sets out standards that address the streetscape character, site features, geography and climate of Samoa, natural disaster, and climate change resilience.

C1. SITE LAYOUT

Design Intent

The placement and configuration of site elements—buildings and structures; open spaces; landscaping; access and parking; and service areas—can contribute positively or negatively to the urban design character of an area. Designers should consider how site layouts can affect:

- quality of the natural environment;
- resilience to climate change and disaster; and
- pedestrian safety, comfort and enjoyment.

As part of the DCA submission, a site analysis should be undertaken to inform the proposed site layout. This is a study of a site to understand its climatic, geographical, historical, legal and infrastructural context. It allows designers to understand the unique challenges and opportunities of each site, so that they can be addressed during design development.

Mandatory Outcome

MO1 Site layouts must protect the natural environment

1.1 Minimise development of buildings and structures on hilltops and steep slopes with a gradient of 2:1 and steeper, or ensure adequate erosion control measures are in place.

1.2 Retain established mangrove areas and minimise disturbance by any proposed boardwalks and rehabilitation projects.

Desirable Outcomes

DO1 Site layouts should consider the effects of climate change, disaster and potential hazards

1.1 Develop critical buildings and infrastructure on lots that are not affected by potential hazards (e.g., storm surges, flooding and landslides).

1.2 Position back-up generators, fire control devices and critical communication devices above flood lines.

DO2 Site layouts should encourage pedestrian interest and activity

2.1 Orient buildings towards the primary street that borders the site.

2.2 Allow mid-block pedestrian-only connections, where feasible and appropriate (e.g., provide pedestrian access through large lots connected to the public footpath network - see Fig. C1.1).

2.3 Position buildings and structures to create defined outdoor spaces (e.g., plazas and courtyards - see Fig. C1.2).

Other References

- *National Water Resources Management Policy* (MNRE)
- *National Disaster Management Plan* (DMO)
- *National Building Code of Samoa* (MWTI)

Fig. C1.1 Mid-block pedestrian-only connection

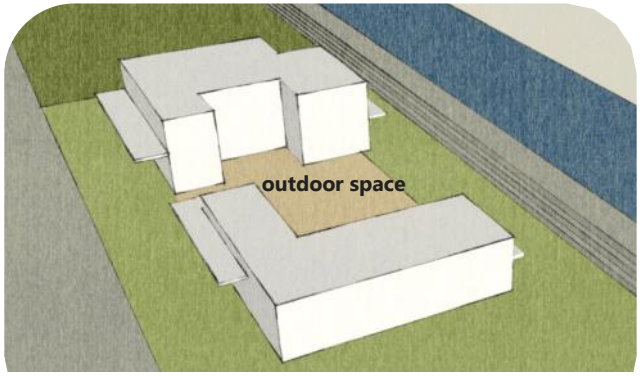


Fig. C1.2 Locate buildings to create outdoor spaces

C2. SITE COVERAGE

Design Intent

Overdevelopment of urban land can lead to unnecessary loss of the natural environment; create an unattractive city dominated by built form; and increase stormwater runoff, thereby increasing the potential for localised flooding. An excessive amount of materials such as concrete and asphalt can also increase air temperatures in urban areas, known as the urban heat island effect (see Part C7).

Designers can address these issues by maximising the amount of permeable surfaces and minimising the amount of impermeable surfaces on a site.

Mandatory Outcome

MO1 Land must not be developed excessively

1.1 Ensure that the site coverage of impermeable surfaces does not exceed the maximum allowable percentages in Table C2.1.

Table C2.1: maximum allowable site coverage

Lot size	Maximum site coverage
Up to 2,000sqm	90%
2,001-4,000sqm	80%
4,001sqm and over	75%

Note: the table above applies only to developments on government or freehold land. See Fig. C2.1 for instructions on how to calculate site coverage.

1.2 Maximise the amount of permeable surfaces, wherever possible.

Impermeable surfaces are hard surfaces that do not allow surface water to penetrate through, forcing it to run off (e.g., concrete; asphalt; impermeable rooftops; and traditional pavers made of stone, brick or concrete). Permeable surfaces allow surface water to infiltrate and filter out pollutants (e.g., areas with grass and plants; gravel; porous materials; permeable pavers; rain gardens; and green roofs).

Impermeable surfaces
1,800qm
Lot area
2,400 sqm
Site coverage
1,800/2,400sqm
= 75%

Fig. C2.1 How to calculate site coverage

Add up the areas of all impermeable surfaces used for buildings, driveways, access roads and parking. Divide this by the total site area and multiply by 100 for a percentage value.

See worked example across for a hypothetical retail building. Refer to Table C2.1 to determine the maximum allowable site coverage.

Fig. C2.2 Gravel parking area allows infiltration of rainwater

Fig. C2.3 Permeable paving allows vegetation to grow between pavers

C3. BUILDING SETBACKS

Design Intent

The placement of a building on a site affects how the site will be used, as well as the character and quality of the streetscape. In some instances, buildings are placed directly adjacent to a public footpath to promote an active frontage (see Part D2) and create a strong street edge. In other situations, buildings are set back from the public footpath to allow more space for pedestrian access, retail opportunities, and recreation. An adequate physical distance must also be provided between buildings and property boundaries so that the amenity of an area is not compromised by issues such as excessive noise, odour and ventilation.

When determining appropriate setbacks, designers must also consider other factors including:

- the nature, mix and location of adjacent land uses (e.g., a co-located mechanical workshop and petrol station needs to be set back sufficiently to prevent fire safety hazards);
- the height and mass of the proposed building (see Part D1);
- the size of the site (e.g., larger setbacks may be appropriate for buildings on sites larger sites; and
- the frequency of potential disturbances generated by the building use (e.g., excessive noise, odour, heat and pollution);
- the streetscape character; and
- the *National Building Code of Samoa*.

Desirable Outcomes

DO1 Buildings should be set back an adequate distance according to their proposed use and the existing uses of adjacent buildings

1.1 Adhere to the minimum required building setbacks set out in Table C3.1 and Part D1. Setbacks shall be measured from the property boundary to the closest edge of any part of a structure (e.g. a building eave. See Fig. C3.1).

Table C3.1: minimum required building setbacks - refer to Section 7 of the Vaitele Sustainable Management Plan for a full list of building uses

Proposed Building Use	Adjacent Building Use	Minimum required setback (m)		
		Front	Side	Rear
Retail or mixed-use	Residential	2	3	2.5
Retail or mixed-use	All other non -residential	0* or 2	0* or 1.5	2.5
Industry (light industry only)	Residential	5	5	5
Industry (light industry only)	All other non -residential	5	2	5
Entertainment, Recreation, Religious Institution, or Transport	All	5	5	5

** see DO2 in this section*

DO2 Setbacks of new buildings in the core commercial area of the Apia CBD should contribute to a high-quality built form along the street edge

2.1 Allow zero metre front and side setbacks for retail building uses on Convent Street, Vaea Street, Saleufi Street, and Beach Road from Fugalei Street to Matautu Street - if zero metre setbacks currently exist on adjacent lots. This means that building walls are permitted to be placed directly adjacent to a public footpath and to abut adjacent buildings.

Other References

- *National Building Code of Samoa* (MWTI)

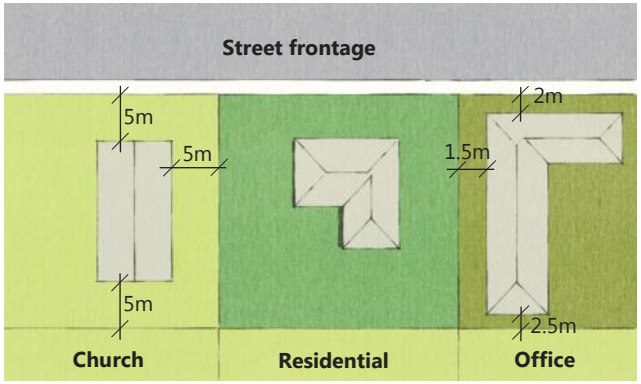


Fig. C3.1 Examples of building setbacks according to use

C4. ACCESS AND OFF-STREET PARKING

Design Intent

Pedestrians must be prioritised over vehicles in urban developments. Increasing pedestrian activity and walkability of a site will help to create a vibrant and safe urban environment in Apia. To achieve this, the design of access and parking needs to provide for the safety of pedestrians and motorists, attractive street character, and accessibility for all.

Access and off-street parking should also allow for the efficient and safe movement of vehicular traffic to, and through, a site with minimal impact on the natural environment and physical street appearance.

Off-street parking refers to surface parking and parking structures located within a site (i.e., not on a street). Parking structures provide long-stay parking for those working in Apia and for people visiting for extended periods. They may be a standalone structure or they can be incorporated in the design of a multi-storey building.

Fig. C4.1 Clear pedestrian paths on site

Mandatory Outcomes

MO1 Clear, safe and accessible pedestrian access must be provided through sites

1.1 Allow 1.5 metre (minimum) wide pedestrian paths (e.g. concrete path, paved path) from any existing public footpath to all building entrances, as well as from parking areas to all main building entrances (see Fig. C4.1). Pedestrian access must be: slip-resistant; unobstructed by any object or hindrance; and free of uneven surfaces. Required level changes must be designed to allow accessible connections (e.g., kerb ramps or access ramps).

1.2 Limit vehicular access points to clear and defined driveways in order to minimise pedestrian conflict. Table C4.1 sets out the suggested maximum number of driveways for a site. Sharing a driveway between two adjacent properties is encouraged to minimise kerb cuts.

Table C4.1: maximum no. of driveways

Length of boundary facing a street	Max number of driveways
Less than 25m	1 two-way
25m to 50m	1 two-way or 2 one-way
Greater than 50m	2 one-way or 2 two-way*

** PUMA may approve additional driveways if the nature and scale of the proposed development warrants it.*

1.3 Install a sign that warns pedestrians of exiting vehicles at locations such as underground parking garages and other blind spots.

MO2 Driveways and parking design must permit all vehicles to enter and exit the site safely in a forward direction

2.1 Position driveways no closer than 1 metre from any side boundary (unless a shared driveway is proposed and allows clear lines of sight). Driveways must also be positioned at least 10 metres from any intersection (see Fig. C4.2).

2.2 Design the width and radius of kerb cuts (driveways) to suit the proposed land use, expected vehicle types and movements, and the number and direction of adjacent travel lanes (e.g., single one-way, two lanes in both directions). Driveways leading to on-site surface parking areas must have a maximum grade of 4:1 (14 degrees or 25% slope).

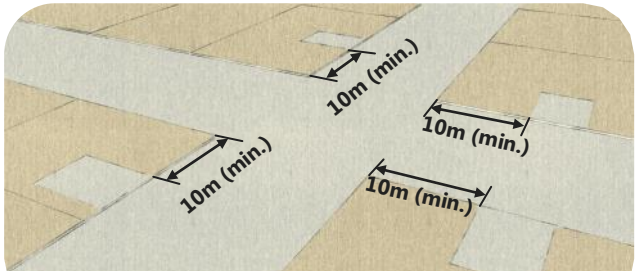


Fig C4.2 Driveways near intersections

2.3 Do not locate parking spaces at the front of lots if possible. If there is a justifiable reason for doing so (e.g., due to site constraints), the far edge of parking spaces must be a minimum of 11 metres from the surveyed road reserve boundary (usually the edge of the public footpath - see Fig. C4.3).

2.4 Provide clear signs to distinguish between vehicular entry and exit points, and if 'left only' or 'right only' turns are permitted at exit points.

Turning paths refer to safe routes that a vehicle takes to turn a corner at an intersection, driveway, or within a parking or loading area. They are used to design adequate vehicular access within a site by accommodating the spatial needs of turning vehicles.

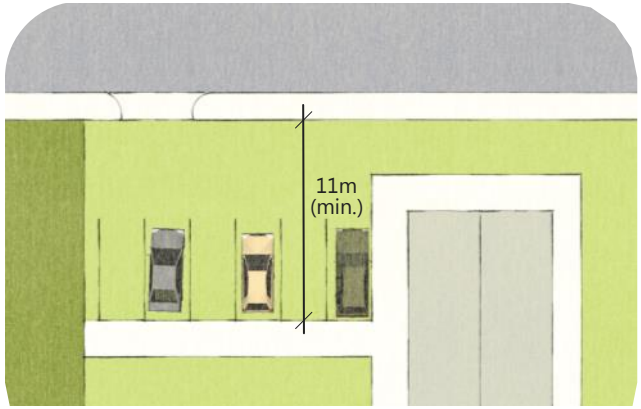


Fig. C4.3 Parking setback on street frontages

MO3 Vehicular access must be provided through the site safely and efficiently

3.1 Design driveways, vehicular paths and parking areas to accommodate the turning paths of all vehicle types expected to access the site (including trucks, emergency vehicles and service vehicles).

3.2 Allocate at least one loading bay for small- and medium-sized developments likely to use vans, utilities or small trucks. Larger developments may require additional bays. Demarcate bays with signs and/or pavement marking. Design the size of loading bays to suit the vehicle type expected to access the site. The design must allow service vehicles to park entirely within the site during all loading/unloading operations, and be clear of pedestrian paths and vehicular paths (see Fig. C4.4).

3.3 Ensure clear and unobstructed access for emergency vehicles to and through the site. Provide 4 metre (minimum) wide clear vehicular paths with sufficient turning radii.

Fig. C4.4 Designated loading/unloading area clear of pedestrian/vehicular paths

MO4 Parking design must be safe, accessible and adequate for the proposed land use

4.1 Design parking spaces as per PUMA's *Parking Policy and Standards*, which set standards for required number of spaces; dimensions; demarcation of spaces; safety and security requirements; and maintenance of spaces.

4.2 Design parking spaces for people with disabilities as per PUMA's *Parking Policy and Standards*, positioned near the building entrance and marked clearly (see Fig. C4.5). Design must comply with PUMA's *Disability Access Guideline* and include a kerb ramp to any connecting pedestrian paths.

4.3 Allocate a designated area for the parking of at least 2 motorcycles or scooters (including electric).

4.4 Design measures (e.g. vehicular wheel stops) to prevent vehicles from driving over building edges of parking structures, or into pedestrian paths or buildings from surface parking areas.

Fig. C4.5 Parking spaces for people with disabilities

Desirable Outcomes

DO1 Parking design and loading areas should have minimal visual impact

1.1 Position parking and loading areas to the interior of the site (e.g., side and rear), where feasible.

1.2 Buffer parking and loading areas (e.g., with plants, decorative fencing, screens, artwork) from public view along street frontages and the seawall (see Fig. C4.6).

1.3 Plant at least 1 shade tree (without large surface roots) and other plants for every 10 parking spaces within a site (see Fig. C4.7). This does not apply to parking spaces within parking structures. Ensure that trees and other plants do not obscure lines of sight, particularly at site entry and exit points.

DO2 Site access should encourage and accommodate pedestrian activity

2.1 Provide bicycle parking facilities (e.g., bicycle racks or stands - see Fig. C4.8) within the sites of key public spaces and tourist attractions in the waterfront area.

2.2 Allocate designated bus/coach parking areas within the sites of key public spaces and tourist attractions in the waterfront area. The number, size and location of these will depend on the nature of the development.

2.3 Allocate a designated taxi pick-up and drop-off bay near the main entrances of buildings.

Other References

- *National Building Code of Samoa* (MWTI)
- *Parking Policy and Standards* (PUMA)
- *Disability Access Guideline* (PUMA)
- LTA requirements

Fig. C4.6 Soft landscaping buffer on street frontage

Fig. C4.7 Shade trees in parking areas

Fig. C4.8 Example of cycling racks

C5. SITE LIGHTING

Design Intent

Lighting allows people to use and enjoy public spaces in the evening hours. Well-designed lighting helps to make public places feel safer and is a key component of Crime Prevention through Environmental Design (CPTED).

Site lighting can also help to create attractive sites and public spaces that people want to use after dark. Spaces that are not intended for use after dark should not be over-lit, but designers must include adequate lighting for pedestrians in key locations to allow safe movement. Refer to **Annex H4** for some general guidance on safe lighting.

Crime Prevention through Environmental Design (CPTED) is an approach used to deter criminal and antisocial behaviour through careful design of the built and natural environment. Refer to **Annex H4** for further detail.

Light-Emitting Diode (LED) is a type of light source used in sustainable lighting solutions.

Mandatory Outcome

MO1 Site lighting design must enhance sense of security for pedestrians

1.1 Illuminate pedestrian paths, parking areas, building entrances, service areas, edges of parks, public spaces that are intended to be open after dark, and directional signage.

1.2 Use light fittings that produce a uniform natural white light (e.g., metal halide bulbs, rather than high-pressure sodium bulbs, which produce a yellow-coloured light that reduces visibility).

1.3 Place light fixtures (e.g. lighting poles) in locations that are not obstructed by existing or future growth of trees and other plants.

Fig. C5.1 Bollard lights provide better illumination for pedestrians than tall lighting poles designed for vehicles

Desirable Outcomes

DO1 Site lighting should complement the surrounding streetscape character

1.1 Use consistent light fixtures that are complementary with the size of the site, building style and landscaping.

1.2 Use light fittings that do not produce excessive glare and ensure light is cast downward only. Do not cast light directly into adjacent properties.

1.3 Install pedestrian-scale lighting (e.g., bollards - see Fig. C5.1, and shorter light poles up to 5.5 metres high) at regular intervals. The exact spacing will depend on the type and luminosity of light fittings but will generally be between 12 to 15 metres.

DO2 Site lighting should address site-specific safety concerns

2.1 Consider conducting a site audit with users of different genders and from local community groups to identify vulnerable areas where lighting may help to improve public safety.

DO3 Street lighting should consume a minimum amount of electricity

3.1 Use low-energy fittings (e.g., LED) or solar-powered lights.

Other References

- *National Building Code of Samoa* (MWTI)

C6. SITE UTILITIES

Design Intent

Site utilities include equipment and infrastructure for potable water, electricity, fire protection, wastewater, and solid waste. Such infrastructure should not be prominent and obtrusive, but should be accessible for maintenance purposes. Design of site utilities must also have regard to public safety and resilience against disaster and extreme weather events. Applicants are advised to consult with EPC, LTA and SWA early in the planning process to determine specific requirements for site utilities.

Fig. C6.1 Adequate enclosure and warning sign

Fig. C6.2 Clear access to service entrances

Fig. C6.3 Screened waste disposal area

Mandatory Outcomes

MO1 Site utilities systems and equipment must maintain public safety

1.1 Do not locate utilities equipment on pedestrian paths or in places that could disrupt the flow of pedestrian or vehicular traffic.

1.2 Install a warning sign, design an enclosure, and/or provide a buffer zones to protect the public from potential dangers (see Fig. C6.1).

1.3 Install bollards or fencing around critical equipment to protect them from vehicular traffic.

1.4 Do not create entrapment areas (spaces in which people can become trapped) or potential hiding places in service areas that may compromise public safety (refer to **Annex H4**).

MO2 Design of site utilities must allow ease of access for service personnel

2.1 Allow clear and unimpeded access to service entrances, access panels and maintenance doors for service personnel (see Fig. C6.2).

2.2 Allow for unobstructed access to external fire hydrants (e.g., clear of landscaping or parked vehicles).

Desirable Outcome

DO1 Site utilities should be integrated seamlessly into the site design

1.1 Position service entrances, waste disposal areas and other similar uses toward service lanes and away from the seawall and main street frontages, where feasible. Screen any service areas that are in public view using plants, public art or an attractive structure (see Fig. C6.3).

1.2 Design dumpster enclosures to prevent access by stray animals and birds.

1.3 Allow to install all electrical cables underground, where feasible. If above-ground utilities are unavoidable, design them to be compatible with the site design.

Other References

- *National Building Code of Samoa* (MWTI)
- EPC, LTA and SWA requirements

C7. SITE LANDSCAPING

Design Intent

Site landscaping can have a number of benefits:

- creates attractive urban spaces;
- softens the visual impact of buildings/structures;
- helps to manage stormwater runoff;
- reduces the urban heat island effect;
- delineates property boundaries; and
- provides a source of food and income.

It can include 'soft' landscaping (e.g., trees, plants, shrubs and grasses) and 'hard' landscaping (e.g., street furniture such as seating and waste receptacles, fencing, pavers, bollards, water features and pedestrian paths). Refer to **Annex H3** for a list of suggested plant species.

Urban heat island effect refers to the higher temperatures experienced in city and town areas due to a lack of green spaces, an increase in built form and additional human activities.

Fig. C7.1 Non-slip concrete tile pavers

Fig. C7.2 Non-slip slate tiles

Mandatory Outcomes

MO1 Landscape design must be safe for all

1.1 Select anti-slip paving that is suitable for use by people of all abilities (see Fig. C7.1 and Fig. C7.2).

1.2 For safety reasons, do not plant dense landscaping near pedestrian paths that could be used as hiding places.

1.3 Ensure the design of landscaping on corner lots does not obscure lines of sight for motorists. Limit landscaping to a maximum height of 1 metre for a 5 metre distance along both frontages (see Fig. C7.3).

1.4 Provide proper drainage for landscaped areas to prevent the creation of mosquito breeding grounds due to stagnant water.

1.5 Position fruit-bearing trees and plants clear of public footpaths, pedestrian paths and parking areas so that fallen fruit does not create slip hazards, damage vehicles, or cause injuries.

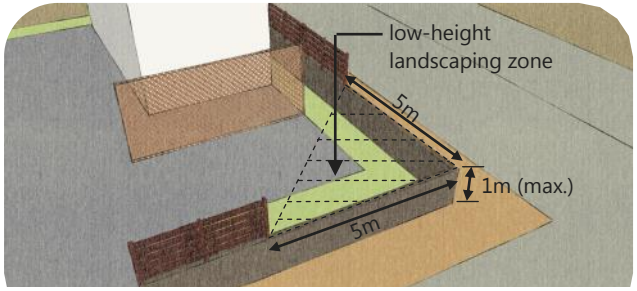


Fig. C7.3 Low-height landscaping on corner lots

MO2 Fencing design must complement the street character

2.1 Ensure any solid side and rear property fences are no higher than 2.4 metres.

2.2 Ensure front fencing is no higher than 1.2 metres for a solid wall or 1.8 metres for an open fence with a solid base no higher than 1.2 metres (see Fig. C7.4).

2.3 Do not use chain-link fencing or barbed wire on street frontages in the Apia waterfront area, unless required for safety and security reasons (e.g., car yard or hazardous facility). Provide soft landscaping alongside any required chain-link fencing to maintain an attractive visual appearance.

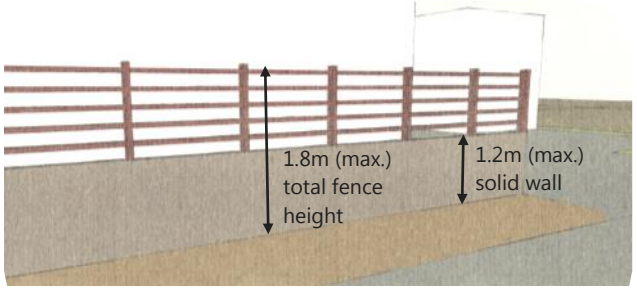


Fig. C7.4 Maximum permitted front fencing heights

MO3 Landscaping must be appropriate to the climate and geography of Samoa

3.1 Use low-maintenance species and coastal trees that can withstand harsh marine conditions on sites along the waterfront (refer to **Annex H3**).

3.2 Avoid dark-coloured (e.g., blacks, dark greys and browns) paving materials, and maximise soft landscaping, to minimise the urban heat island effect.

Desirable Outcomes

DO1 Soft landscaping should be provided on boundary lines and street frontages

1.1 Create a 2 metre (minimum) wide landscape strip along street frontages between driveways (see Fig. C7.5) unless there is zero setback provided (and permitted - see Part C3). Public buildings such as hospitals, schools and churches should have wider landscape strips.

1.2 Maximise the amount of soft landscaping within any side boundary setbacks.

DO2 Landscaping should blend in with, and complement, the existing local character

2.1 Use vegetation types and landscaping styles that blend with the existing streetscape.

2.2 Plant shade trees within street frontages and parking spaces, and along pedestrian paths.

2.3 Design fencing that complements the materials, colours and textures of existing fencing in the area. Use soft landscaping rather than fencing (see Fig. C7.6) to delineate street frontages, where feasible.

2.4 Design multi-functional street furniture (e.g., incorporate seating into a tree planter box. See. Fig. C7.7).

DO3 Landscaping should contribute positively to site resilience

3.1 Maintain existing landscape features on sites that contribute positively to site stability, clean air and hydrology (e.g., mature trees and water ponds).

3.2 Select non-invasive plant species that are resilient and suit local soil conditions.

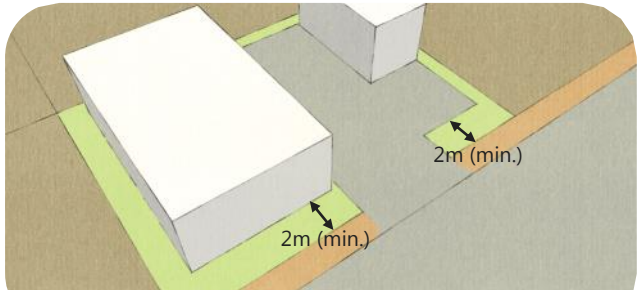


Fig. C7.5 Landscape strips along street frontages

Fig. C7.6 Use of landscaping on street frontages

Fig. C7.7 Incorporate seating into a tree planter box

C8. STORMWATER MANAGEMENT

Design Intent

Urban flooding is a major issue in Apia but its effects can be mitigated. Using water-sensitive urban design and effective stormwater management measures on a development site can help to reduce localised flooding and minimise environmental degradation.

Site design should minimise the demands that urban developments place on already overloaded public drainage infrastructure. Applicants should demonstrate clearly how they will manage stormwater run-off via some combination of detention, filtration, storage, evaporation, and recycling and reuse. Effective management may also produce a potable water supply, thereby reducing demand on town water supply.

Applicants must consult with LTA for permission to connect to any public drainage asset.

Water-sensitive urban design refers to a design approach that regards water (stormwater, groundwater and wastewater) as a resource that can be retained on a site for re-use or filtration. Examples include rainwater collection and recycling, stormwater detention ponds, plant beds with proper discharge outlets ('rain gardens'), porous paving materials, and tree pits.

Mandatory Outcome

MO1 Stormwater management systems must be effective and designed to suit the type and scale of the proposed development

1.1 Design gutters and downpipes that are sized according to the type and scale of building, as per the *National Building Code of Samoa*.

1.2 Connect all impermeable surfaces (see Part C2), such as building roofs, driveways and parking areas, to a proper stormwater management system (e.g., via soak pits, drains). Ensure stormwater is detained properly onsite using water-sensitive urban design measures to suit the nature and scale of the development (e.g., stormwater detention tanks - see Fig. C8.1, detention ponds, soak pits, drains, landscaped swales - see Fig. C8.2, rain gardens - see Fig. C8.3, constructed wetlands, and ditches).

1.3 Ensure any overflow stormwater is discharged properly (via gravity-drained system) to a public drainage system to the satisfaction of LTA, should off-site discharge be approved.

1.4 Install pollutant traps (such as grates and pit inserts - see Fig. C8.4) to trap solid non-biodegradable pollutants such as litter and coarse sediment. Pollutant traps should not be hazardous to cyclists (e.g., openings in grates should be horizontal to traffic flow so as to reduce the chances of bicycle tyres becoming trapped).

1.5 Grade sites to integrate with overland flow paths and direct stormwater away from water bodies, streams, wetlands and steep slopes.

Fig. C8.1 Stormwater detention tank

Fig. C8.2 Landscaped swales should have proper filtration and piping connected to drainage systems

Desirable Outcomes

DO1 Stormwater should be reused on site

1.1 Use aboveground or underground stormwater detention tanks (see Fig. C8.1) that are sized according to the nature and scale of development to capture stormwater runoff from buildings and structures. Recycle captured water for non-potable uses (e.g., to irrigate landscaping or for use in bathrooms).

DO2 Site design should minimise potential localised flooding

2.1 Consider using dry detention ponds with vegetative buffers, particularly on sites larger than 4,000 square metres. Wet retention ponds are discouraged as stagnant water may create mosquito breeding grounds and bad odours.

2.2 Design basement levels to prevent flooding of underground spaces during storm events (e.g., use of floodgates in basement parking). Avoid including basement levels in low-lying flood-prone areas, unless they have been designed to withstand flooding as per the *National Building Code of Samoa*.

Other References

- *National Water Resources Management Policy* (MNRE)
- *National Building Code of Samoa* (MWTI)

Fig. C8.3 Create rain gardens with overflow drainage

Fig. C8.4 Pollutant traps

C9. VIEWS AND VISTAS

Design Intent

Apia is fortunate to have a number of views and vistas to significant landmarks (e.g., the Clock Tower and the Old Courthouse Building), natural features (e.g., Mt Vaea), and the waterfront. It is important to protect and enhance these views and vistas as they contribute to the unique urban design quality of Apia and help visitors to orient themselves around the city.

The visibility of these special features must be maintained and/or enhanced by new developments. The careful placement of buildings, structures and landscaping on a site can enhance existing lookout points and create new lookout points.

Mandatory Outcome

MO1 New developments must preserve vistas to the waterfront and Mt Vaea

1.1 Place buildings, structures, landscaping and pedestrian paths to preserve vistas to the waterfront along Vaea Street (see Fig. C9.1) and Fugalei Street.

1.2 Place buildings, structures, landscaping and pedestrian paths to preserve vistas to Mt Vaea along Fugalei Street, Saleufi Street, Vaea Street and Togafu'afu'a Street.

Desirable Outcome

DO1 Design of sites and buildings should enhance existing views and vistas, or create new ones

1.1 Configure buildings and landscaping to frame or enhance views and vistas (e.g., to the waterfront. See Fig. C9.2).

1.2 Consider providing new viewpoints (e.g., balconies looking out to significant views; rooftop areas that enhance vistas of the city; or windows designed to frame significant views).

Views are sights or perspectives, typically of attractive natural or built environments, that can be observed from a particular place. Vistas refer to long and narrow corridor views between rows of trees, landscaping or buildings. Attractive vistas help to generate interest and activity.

Fig. C9.1 Maintain vistas to the waterfront

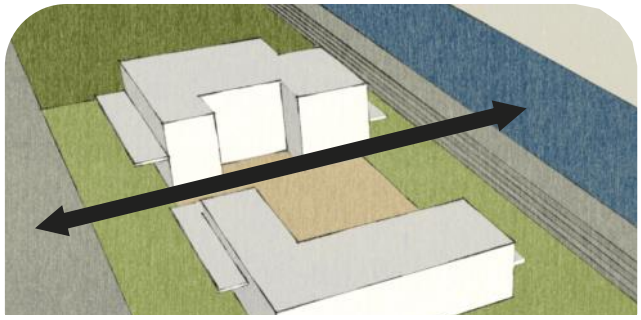


Fig. C9.2 Configure buildings on waterfront to provide visual links to the water

D. BUILDING DESIGN

This section applies to all developments that include new buildings or alterations and additions to an existing building. It sets out standards that address streetscape character, pedestrian safety and amenity, the climate of Samoa, and functionality.

D1. HEIGHT AND MASS

Design Intent

The dimensions (height, width and depth), shape and volume of a building, as well as how large or small it appears compared to adjacent buildings, have significant effects on urban street character and how pedestrians can interact with buildings. Tall or 'bulky' buildings can overshadow adjacent buildings, and block sunlight and natural breezes.

The height and mass of buildings in Apia must be designed to suit the desired built form character and not overwhelm the existing streetscape. The maximum height of existing buildings in Apia is approximately 6 storeys (see Fig. D1.1 and Fig. D1.2) and this shall be the height limitation of most new buildings. Heights of new buildings in the Apia waterfront area should be limited further to protect views to the water edge. However, increased maximum building heights in the core commercial area of Apia will be permitted to encourage modest future growth and development of our city.

Mandatory Outcome

MO1 Heights of new buildings must suit the surrounding context and preserve views and vistas along the waterfront

1.1 Limit the height of new buildings on lots in the core commercial area (see Fig. D1.3) to a maximum of 35 metres (approximately 7 to 8 storeys) from the street level to the highest roofline.

1.2 Limit the height of new buildings on all other lots in the Apia CBD area not specified in MO1.1 above to a maximum of 25 metres (approximately 5 to 6 storeys) from the street level to the highest roofline.

1.3 Limit the height of new buildings on all other lots in the Apia waterfront area not specified in MO1.1 above to a maximum of 15 metres (approximately 2 to 3 storeys) from the street level to the highest roofline.

Note: these standards set *maximum* allowable building heights in the Apia CBD and waterfront areas. Designers must also comply with *minimum* required floor-to-ceiling clearance heights, and any other building height provisions, as may be required by the *National Building Code of Samoa*. Any proposed building heights that exceed the maximum limits must be accompanied by supporting documentation for consideration by PUMA as a special exemption to these standards.

Fig. D1.1 Existing taller building in Apia CBD area

Fig. D1.2 Existing taller building in Apia waterfront area

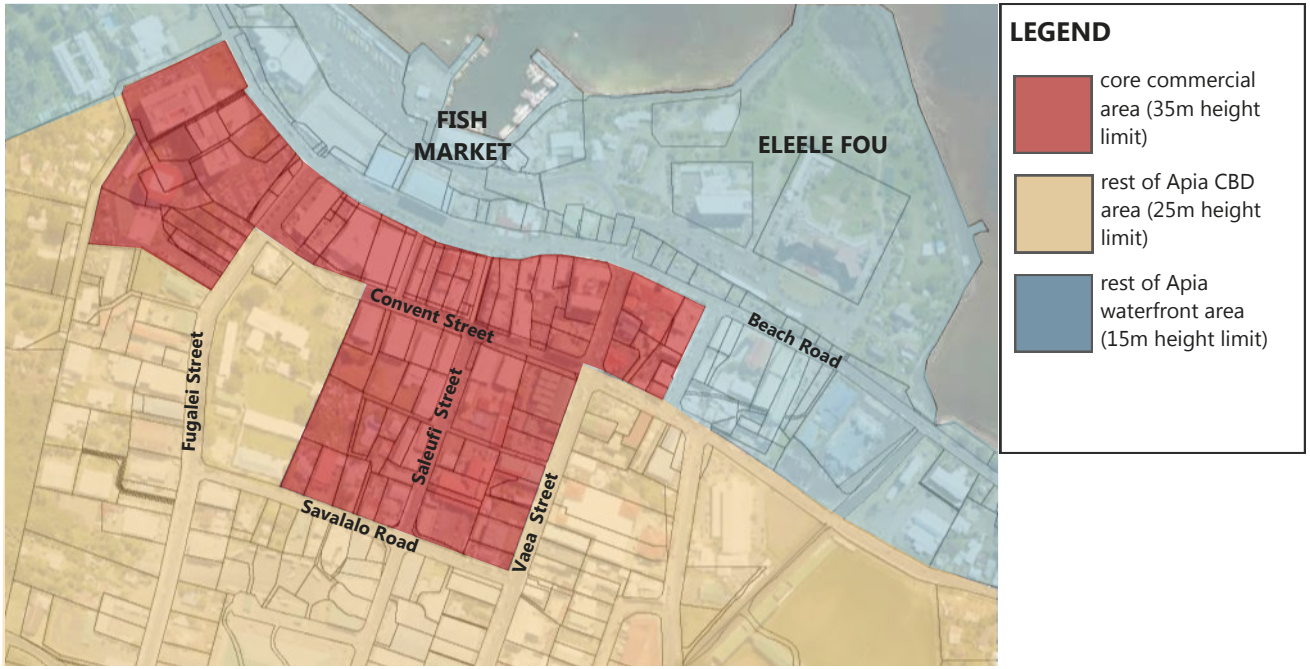


Fig. D1.3 Map showing maximum permissible building heights in the core commercial area of Apia and surrounding area

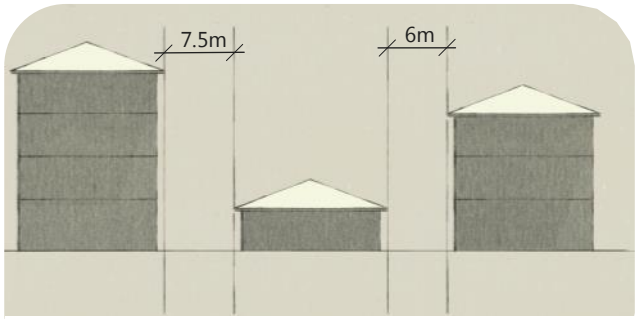


Fig. D1.4 Set back taller buildings from any adjacent single residential houses

Fig. D1.5 Taller buildings - set back upper storeys

Desirable Outcomes

DO1 Taller buildings (3 storeys or more) should minimise shadows cast on adjacent single residential houses

1.1 Allow a minimum separation distance of 6 metres from a three-storey building to any adjacent single residential houses. Increase this distance a further 1.5 metres for each storey thereafter (see Fig. D1.4).

DO2 Taller buildings (3 storeys or more) should not dominate the streetscape

2.1 Set back upper storeys (above 3 storeys) a minimum of 3 metres from the lower storeys on the street frontage side (see Fig. D1.5). Balconies can be designed within the setback.

2.2 Articulate the number of floors in a building through changes in colour, material or other detail on the exterior façades.

Other References

- *National Building Code of Samoa* (MWTI)

D2. GROUND LEVELS AND ENTRANCES

Design Intent

Good design of ground levels and entrances is critical to achieving a pedestrian-friendly, accessible and attractive town. Active frontages along designated key pedestrian routes in the core commercial area of Apia will help to provide visual interest and generate pedestrian activity. Vibrant pedestrian activity and visual linkages between building interiors and streets also help to promote safety through opportunities for passive surveillance (refer to **Annex H4**). It must also be easy and safe for pedestrians of all abilities and ages to enter a building from its main street frontage.

Active frontages are building façades, and areas between a façade and a public footpath, that provide opportunities for people on the street to engage with interior building uses. They also enhance public safety and passive surveillance. Examples include attractive building entrances, shop fronts, open façades (e.g., café overlooking a public footpath), translucent building façades, street-side dining, and interactive window displays.

Passive surveillance is a CPTED strategy and occurs when there are direct lines of sight between buildings and streets/public spaces (e.g., through active frontages, balconies and upper windows). It enhances pedestrian safety on streets and public spaces.

Mandatory Outcomes

MO1 Design of ground levels and entrances must be safe, accessible and flexible

1.1 Face main building entrances towards a street frontage and design them to be prominent and clearly visible.

1.2 Design a shelter or cover at all main building entrances (e.g., awning, canopy or architectural feature) for rain protection.

1.3 Design main building entrances to allow access for all users (e.g., with disabilities, people who use mobility aids and elderly people).

1.4 Recess main building entrances by at least 1 metre if they open directly onto a public footpath (e.g., buildings with zero metre front or side setbacks. See Fig. D2.1).

1.5 Do not use reflective or mirrored glass on façades at the ground level to avoid reflection of vehicular lights and potential safety hazards.

Fig. D2.1 Recessed building entrance

MO2 Ground levels of new buildings in the core commercial area of Apia must create a pedestrian-friendly walking environment

2.1 Create active frontages (see Fig. D2.2, Fig. D2.4 and Fig. D2.5) at the ground level along the sides of buildings that face designated key pedestrian routes and mid-block pedestrian links specified in Fig. D2.3.

2.2 Design a continuous canopy or awning (see Fig. D2.4 and Fig. D2.5) along designated key pedestrian routes and mid-block pedestrian links specified in Fig. D2.3. Canopies and awnings shall be integrated into the building design and not angled across the façade. If necessary, they can be stepped down.

2.3 Incorporate exterior design elements to help create pedestrian interest at the ground floor (e.g., feature lighting, landscaping, architectural details, pedestrian-scale signage, shopfront windows, planter boxes, seating, canopy, overhangs, and interesting materials/colours).

Fig. D2.2 Active frontage - shopfront and cafes

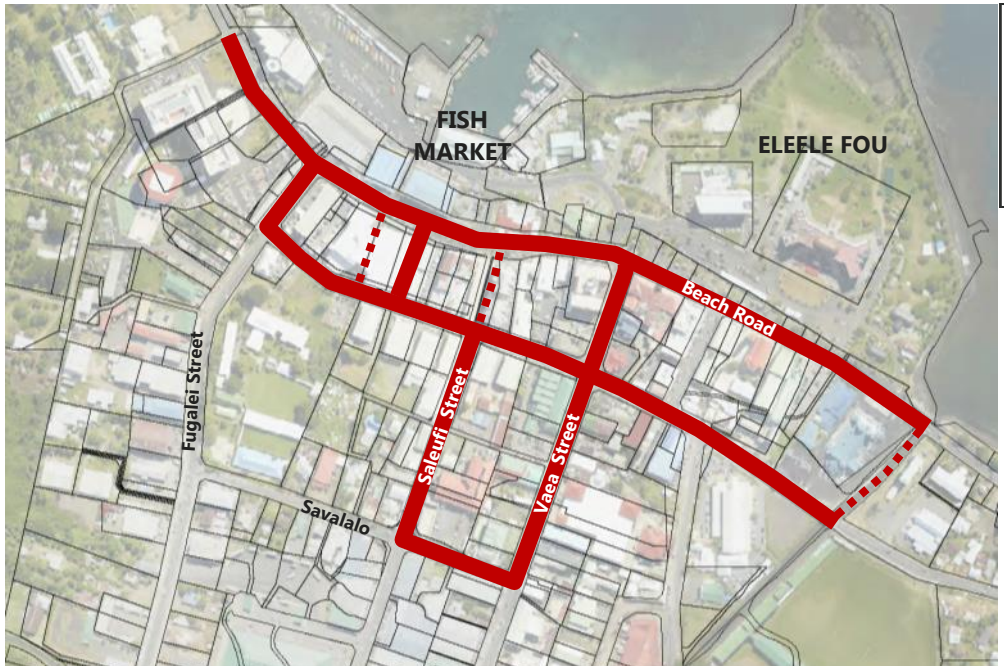


Fig. D2.3 Map showing designated (existing) key pedestrian routes and mid-block pedestrian links in the core commercial area of Apia. Note that future key pedestrian routes and mid-block pedestrian links may be added to this map.

Fig. D2.4 Active frontage - shopfront

Fig. D2.5 Active frontage - continuous street awning

Desirable Outcome

DO1 Ground levels of all new buildings should convey visual interest to pedestrians

1.1 Incorporate external design elements listed in MO2.3 above.

1.2 Avoid using dark or tinted glass/film vinyl on façades at the ground level of a building.

1.3 Consider creating openings in the façade that allow direct physical or visual access to the interior from the street (e.g., a folding wall for a retail store, or a takeaway shop that is open to the street).

1.4 Provide 'double-fronted' buildings with entrances on two opposing streets, or both the street side and waterfront edge, where possible and appropriate (e.g., when developing restaurants, tourist facilities, retail uses or public buildings).

Other References

- *National Building Code of Samoa* (MWTI)
- *Disability Access Guideline* (PUMA)
- *Signage Policy* (PUMA)

D3. EXTERIOR FAÇADES

Design Intent

Exterior façades (exterior walls or 'faces' of a building) have a functional role to protect building occupants and provide shelter for pedestrians. They also help to create a distinctive urban design character through a sense of rhythm and variety. This is achieved through the selection of materials, colours, windows, doors, building forms and shapes, architectural features, and exterior lighting.

Apia does not have a distinctive building façade design theme such as a particular architectural style or heritage character. Designers therefore have an opportunity to propose distinctive façade designs that comply with these standards.

Designers must also refer to the *National Building Code of Samoa* for other exterior façade design requirements including use of fire-resistant materials, glazing specifications, and energy efficiency standards.

Fig. D3.1 Façades provide visual interest

Mandatory Outcome

MO1 Exterior façades must be durable and complement the surrounding streetscape and coastal environment

1.1 Do not design large expanses of 'blank' façades that are visible from a public street. Break up any long walls (over 30 metres) that are visible from a public street using building design features (e.g., bays, recesses, material/colour changes, balconies, height/width variations, joints, panel/glazing patterns, and public art. See Fig. D3.1 and Fig. D3.2).

1.2 Screen the façades of parking structures (either standalone or one that is integrated into a mixed-use building) with attractive street edges (e.g., interesting materials, architectural detailing, public art, landscaping, or retail spaces and other active frontages).

1.3 Use marine-grade materials (e.g., marine-grade steel and concrete) on façades in close proximity to the coastal edge.

Fig. D3.2 Break up long façades

Desirable Outcomes

DO1 Exterior façades should complement the overall building design

1.1 Select or design windows and doors that complement the building design and style.

1.2 Consider the use of feature lighting to highlight building façades. Do not illuminate buildings excessively or cast direct light into neighbouring properties.

DO2 Exterior façades should be easy to maintain and suit the climate of Samoa.

2.1 Use low-maintenance materials that can be serviced or maintained by local contractors.

2.2 Design façades to allow for ease of cleaning, and consider specifying self-cleaning façades and coating systems.

2.3 Use high-quality and durable materials that can withstand extreme sun exposure, high winds and heavy rain (e.g., stone, steel, masonry and concrete). Limit the use of exposed timber features on façades in close proximity to the coastal edge.

2.4 Limit the use of dark materials that have high heat absorption properties.

Other References

- *National Building Code of Samoa* (MWTI)

D4. ROOFS

Design Intent

The primary purpose of a roof is to provide a building with adequate shelter and protection from the elements. The pitch, materials and shape of a roof can also affect the functionality and overall appearance of a building. Roofs could also have a multi-functional purpose by providing additional usable building spaces, particularly for developments on lots that have limited space.

Mandatory Outcome

MO1 Roof design must suit the local climate

1.1 Direct all rainwater from roofs to a suitable gutter, downpipe and/or drain system as per the *National Building Code of Samoa*. Flat roofs must have a sufficient grade to prevent the ponding of water on a roof surface

1.2 Do not use dark-coloured (e.g., blacks and dark greys/browns) roofing materials in order to minimise heat absorption (see Fig. D4.1).

1.3 Fasten all rooftop equipment securely to roofs and provide protection from rain and wind.

Desirable Outcomes

DO1 Rooflines should complement the surrounding environment

1.1 Design rooflines to complement the rooflines of surrounding buildings and topography (e.g., a natural ridgeline)

1.2 Incorporate external roof lighting to highlight the roof shape or roofline of a significant building. Do not illuminate a roof excessively or cast direct light into neighbouring properties.

1.3 Incorporate and conceal any roof equipment (e.g., plant machinery, lift overruns, antennae, satellite dishes, solar panels, and wind turbines) as an integral part of the building design.

DO2 Developments should create multi-functional roof spaces

2.1 Use roofing to incorporate solar panels, satellite dishes, wind turbines, and antennae (see Fig. D4.2).

2.2 Consider incorporating functional roof-top spaces in public buildings and residential apartment buildings (e.g., public space, communal garden, green roof).

Other References

- *National Building Code of Samoa* (MWTI)

Fig. D4.1 Light coloured roofs

Fig. D4.2 Incorporate solar panels and antennae

D5. BUILDING IDENTIFICATION SIGNS

Design Intent

Building identification signs are signs that are fixed or attached to a building and are used to identify the name and/or use of that building. When designed properly, they can also provide pedestrian interest, help to orient people around town, and contribute positively to the urban design qualities of a city.

Building identification signs are not mandatory but are strongly encouraged for all buildings, particularly those that are intended to be accessed by the general public. Signs should be designed to suit the type, size and location of the development.

Refer to PUMA's *Signage Policy* for comprehensive standards on all types of other signage including advertising signs, freestanding signs and illuminated signs.

Mandatory Outcome

MO1 Building identification signs must suit the surrounding context

1.1 Blend the type, size, shape, materials and content of building identification signs with the surrounding context.

1.2 Ensure building identification signs are clearly visible but do not create a pedestrian safety hazard or distract passing motorists excessively.

Desirable Outcome

DO1 Building identification signs should contribute positively to the urban design qualities of Apia

1.1 Integrate signage into the building design (e.g., within an awning or as part of an architectural feature - see Fig. D5.1).

1.2 Design signage that is representative of the building function and complements the building design (see Fig. D5.2).

1.3 Position building identification signs to be clearly visible from significant viewpoints on the street and surrounding urban area.

Other References

- *Signage Policy* (PUMA)

Fig. D5.1 Signage integrated into building canopy

Fig. D5.2 Signage integrated into building style

D6. SUSTAINABLE DESIGN

Design Intent

Sustainable design materials, systems and technologies help to create resilient buildings. Integrating them into the building design can save construction time and operational costs, and contribute to the maintenance of an attractive streetscape. They must be suited to the tropical climate of Samoa, which experiences a hot and dry season from around May to October and a humid and wet season from around November to April.

Sustainable design technologies can either be 'passive' (taking advantage of natural energy such as sunlight, wind and temperature differences) or 'active' (equipment that uses electricity or other fuel).

Desirable Outcomes

DO1 Buildings should incorporate passive sustainable design technologies suited to the climate of Samoa

1.1 Provide operable windows (e.g., louvers) that allow access to natural ventilation in order to reduce energy use, where feasible. Incorporate cross ventilation (windows or vents placed on opposite sides of a building) to allow effective air flow (see Fig. D6.1).

1.2 Design deep eaves and window shutters to help reduce solar heat gain (see Fig. D6.2).

1.3 Orientate buildings to: reduce the impact of sun exposure; take advantage of prevailing winds (for cooling building interiors); and take advantage of shade cast by trees or structures.

1.4 Design roofs to enhance natural lighting without reducing indoor comfort (e.g., install energy-efficient skylights or design a section of translucent roof panels).

DO2 Buildings should incorporate active sustainable design technologies suited to the climate of Samoa

2.1 Consider the use of renewable energy technologies (e.g. solar panels, wind turbines)

2.2 Consider the use of sustainable cooling systems (e.g. evaporative coolers, green roofs).

Other References

- *National Building Code of Samoa* (MWTI)

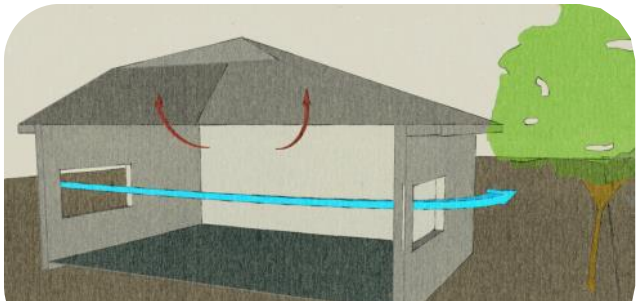


Fig. D6.1 Cross ventilate buildings to allow cool air to pass through and hot air to rise

Fig. D6.2 Design deep eaves and window shutters help to reduce solar heat gain

D7. SERVICE EQUIPMENT

Design Intent

Service equipment such as air-conditioning units, telecommunication devices, utility connections and pipes, satellite dishes and roof equipment can make buildings and streetscapes appear attractive and 'cluttered'. Designers need to consider the location, screening and concealment of service equipment to maintain a high-quality and attractive urban design character in Apia.

Mandatory Outcome

MO1 Service equipment must be positioned to maintain public health and safety

1.1 Position mechanical units (e.g., air-conditioning units and back-up generators) to direct exhaust and noise away from adjacent lots and street frontages.

1.2 Fasten any above-ground mechanical units securely as per the *National Building Code of Samoa* and allow a minimum head clearance of 2.4 metres between the street level and the underside of the unit.

1.3 Maximise the distance between external back-up generators and property lines, and provide sufficient acoustic buffers (e.g., decorative walls, enclosures, landscaping).

Desirable Outcome

DO1 Service equipment should be screened from public view and integrated into the building design

1.1 Screen mechanical units (e.g., air-conditioning units and back-up generators) from public view and street frontages (e.g., through landscaping, screens, integration into building design. See Fig. D7.1).

1.2 Conceal or integrate utility equipment (e.g., pipes, service meters, pumps, transformers and any other utility requirements) that are visible from a public street into the building design (see Fig. D7.2).

Other References

- *Signage Policy* (PUMA)
- EPC, LTA and SWA requirements

Fig. D7.1 Screen air-conditioning units from public view

Fig. D7.2 Service piping (downpipes) are integrated into this building design

This section applies only to developments that propose to create a new street or amend an existing street. It sets out standards that consider pedestrian amenity, user safety, visual attractiveness and functionality.

E. STREET DESIGN

E1. STREET WIDTHS

Design Intent

Streets in Apia include vehicular lanes (roads), on-street parking lanes (for all types of vehicles) and road verges. The 'government road reserve' refers to the above parts of the street that are maintained by government for public use.

The *City Spatial Plan* and *Waterfront Plan* call for a pedestrian-oriented city in which people are prioritised over vehicles. Street widths should therefore be designed to allow enhanced pedestrian access, and minimise the space assigned to vehicles without compromising street safety and traffic operations.

Applicants are advised to consult with LTA early in the planning process when designing new streets or modifying existing streets. LTA has specific requirements for road design.

A road verge is the part of a street located between the edge of vehicular travel lanes and the adjacent property boundary. The area is allocated to provide public footpaths, utilities (e.g., water pipes and stormwater management drainage system), landscaping and lighting. It can also include street furniture such as seating and waste receptacles.

Mandatory Outcomes

MO1 Street widths must maximise space for pedestrians and promote safe driving speeds

1.1 Minimise the width of vehicular travel lanes (roads) as much as practicable according to standards set by LTA (e.g., between 3 metres and 3.5 metres).

1.2 Provide a 1.5 metre (minimum) wide clear public footpath on at least one side of all streets. Allow a wider public footpath (see Fig. E1.1) on sides of streets that have high volumes of pedestrian activity, including key pedestrian routes in the core commercial area of Apia (see Part D2).

MO2 Widths of on-street parking lanes must be minimised as much as practicable without obstructing traffic flow

2.1 Minimise the width of car parking lanes as much as practicable according to standards set by LTA (e.g., between 2.4 and 2.7 metres for parallel parking lanes. See Fig. E1.2).

2.2 Minimise the width of taxi bays as much as practicable according to standards set by LTA (e.g., between 2.4 metres and 2.7 metres).

2.3 Minimise the width of bus bays as much as practicable according to standards set by LTA (e.g., between 2.7 metres and 3 metres).

Fig. E1.1 Wider public footpaths

Fig. E1.2 Parallel parking is preferred for on-street parking

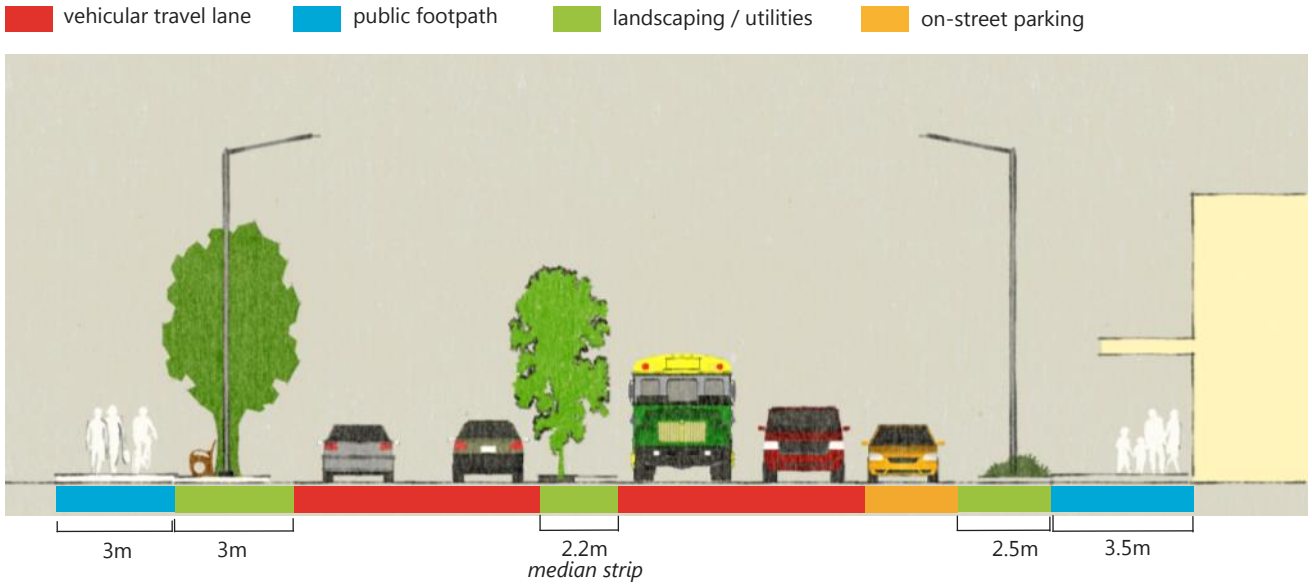


Fig. E1.3 Potential street width of Beach Road

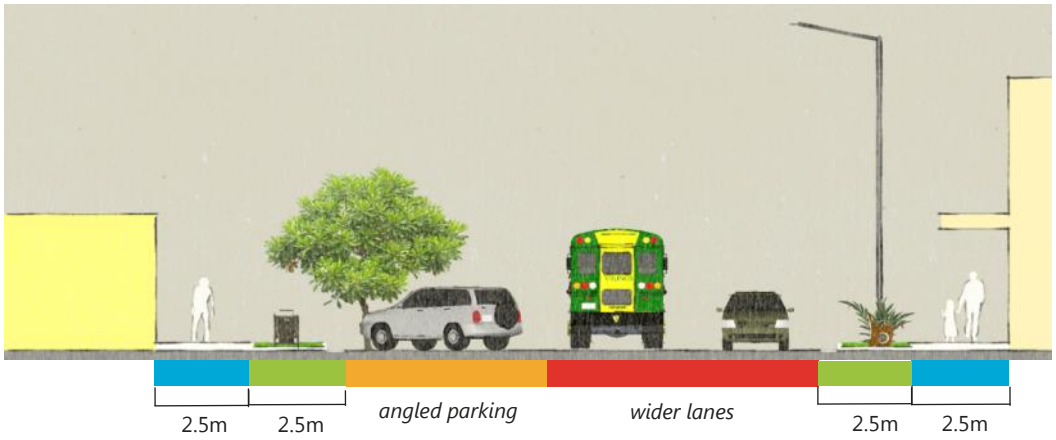


Fig. E1.4 Potential street width of Vaea Street

Desirable Outcome

DO1 Streets should accommodate a variety of functions and pedestrian activity

1.1 Maintain a sufficient road verge on all streets to allow space for a 1.5 metre (minimum) wide public footpath, utility connections, plants, shade trees, signage, lighting, and seating (see Fig. E1.3 and Fig. E1.4). Due to spatial constraints in the Apia CBD and waterfront areas, it may be necessary to locate some of the above elements on adjacent government land rather than within the government road reserve. For example, Part F1 sets out standards for a public promenade along the seawall, which could be used to contain some or all of the above elements.

1.2 Allow a 1.5 metre (minimum) wide one-way cycling lane with a 0.5 metre buffer (demarcated or landscaped) from vehicular travel lanes if there is sufficient space.

1.3 Allow a 1.5 metre (minimum) wide median strip with low-height plants on new streets and existing streets (where possible) in the Apia waterfront area. This width should be increased to 2.2 metres for any median strips with street trees.

Other References

- LTA requirements

E2. ON-STREET PARKING

Design Intent

On-street parking (or parking lanes) and standing areas (e.g., taxi bays and bus bays) allow vehicles to stop safely and efficiently on the street. They should be integrated physically and visually into the surrounding streets and built form, and allow vehicles to enter and exit with minimal disruption to traffic flows. They provide supplementary parking for the city and must not be used in lieu of required off-street parking (see Part C4).

Designers are advised to consult with LTA when proposing on-street parking.

Mandatory Outcomes

MO1 On-street parking areas and standing areas must be located to minimise disruptions to the traffic flow

1.1 Allow a 10 metre setback between any on-street parking or standing area and any street intersection.

1.2 Allow for angled parking (45 degrees or 60 degrees) if there is sufficient overall street width and the width of vehicular travel lanes are wide enough (at least 3.3 metres). Angled parking at 90 degrees is not permitted, as reversing vehicles disrupt traffic flows and create pedestrian and vehicular safety hazards.

MO2 On-street parking areas and standing areas must be demarcated clearly

2.1 Install signs in on-street parking areas to demarcate the permitted parking area and specify the parking time limit (e.g., 2 to 4 hours for short-stay parking).

2.2 Install clear signs or road surface markings to demarcate taxi bays (see Fig. E2.1) and bus bays (see Fig. E2.2). Indicate that only taxis or buses are permitted to stop in these areas.

Desirable Outcome

DO1 On-street parking should be integrated visually into the streetscape

1.1 Design streets to complement on-street parking areas (e.g., create occasional kerb 'bumpouts' or extensions where the road verge or public footpath protrudes into on-street parking areas - this will allow additional space for street furniture and street landscaping. See Fig E2.3).

Other References

- *Parking Policy and Standards* (PUMA)
- *Disability Access Guideline* (PUMA)
- LTA requirements

Fig. E2.1 Taxi stand sign

Fig. E2.2 Bus bay sign

Fig. E2.3 Kerb 'bumpouts' or extensions

E3. PEDESTRIAN SAFETY

Design Intent

A safe pedestrian-oriented street helps to create a vibrant city that is attractive, increases overall sense of security (refer to **Annex H4**), and is inclusive for all. This can be achieved through well-designed public footpaths that are comfortable for people of all ages and abilities, encouraging people to walk around the city. Street design should also incorporate traffic-calming measures to help to slow down traffic and create safer street environments for both pedestrians and motorists.

Traffic-calming measures are physical and environmental design strategies that help reduce vehicular speeds and encourage responsible driving. They can include raised pedestrian crossings, pedestrian refuge islands and road surface treatments.

Fig. E3.1 Example of kerb ramp

Mandatory Outcome

MO1 Public footpath design must minimise safety hazards and be accessible for all

1.1 Use broom-finished concrete as the predominant pavement material. Slip-resistant feature pavement (e.g., concrete or stone pavers) may be used sparingly to highlight special areas.

1.2 Design paving to be free of uneven surfaces.

1.3 Design kerb ramps (see Fig. E3.1) at all level changes (e.g., at pedestrian crossings and street intersections).

1.4 Place any drains or grates clear of public footpaths. If this is not possible, ensure they do not create trip or fall hazards.

Fig. E3.2 Pedestrian crossing with raised hump, pedestrian refuge area and flashing lights

Desirable Outcome

DO1 Street design should incorporate traffic-calming measures in areas that have high volumes of pedestrian traffic

1.1 Design safe pedestrian street crossings (e.g., raised crossing with pedestrian refuge areas - see Fig. E3.2; crossing controlled by traffic lights; or pedestrian refuge islands). Install warning devices (e.g., warning signs, flashing lights, or change in road surface) to warn motorists of crossing points and identify the maximum permitted vehicular speed limit.

1.2 Demarcate busy pedestrian zones through a change in road surface (e.g., use a different colour, texture or material).

Other References

- *Disability Access Guideline* (PUMA)
- *National Building Code of Samoa* (MWTI)
- LTA requirements

E4. STREET FURNITURE

Design Intent

Well-designed streets contribute significantly to urban design character and help to enhance pedestrian enjoyment of the street. This can be done with street furniture (e.g., seating, waste receptacles, signage, utility equipment and parking meters), street lighting (see Part E5) and street landscaping (see Part E6). These design elements should be of a similar or uniform style and their placement should take into account effects on ease of maintenance.

This section sets out general standards for street furniture. See Part F for standards on street furniture to be placed in the Apia waterfront area.

Fig. E4.1 Position street furniture clear of footpaths

Mandatory Outcomes

MO1 Street furniture must not obstruct public footpaths

1.1 Place all street furniture and other structures (e.g., outdoor kiosks) clear of public footpaths (e.g., on landscape strips - see Fig. E4.1, at bus stops, in front of major attractions). Retail display stands and tents are not permitted on public footpaths as they impede the flow of pedestrians. Occasional street planter boxes are permitted on public footpaths, as long as the minimum 1.5 metre wide access required in E1-MO1.1 is kept clear.

MO2 Street furniture must be durable and easy to maintain

2.1 Design using robust and durable materials that will not break easily or encourage vandalism (e.g., use vandal-resistant finishes and minimise blank surfaces; use components that can be fastened securely to the ground; use stainless steel components that will not corrode).

2.2 Design using components, materials and finishes that can be maintained locally.

MO3 Street furniture must be able to accommodate people of all abilities and ages

3.1 Design street furniture to consider the needs of people with mobility impairments (e.g., include arms on seating and some lowered seating; waste receptacles that do not require users to lift or push components; use of braille and/or audio recordings on signs).

Desirable Outcome

DO1 Street furniture should minimise visual 'clutter' and complement the streetscape

1.1 Combine street furniture to create an integrated appearance and function (e.g., incorporate seating with a planter box).

1.2 Group street furniture together (e.g., locate waste receptacles near seating, but far away enough to limit unpleasant odours).

1.3 Select colours, materials and styles that blend in with the streetscape.

1.4 Orient street seating and waste receptacles to face public footpaths.

Other References

- EPC, LTA and SWA requirements

E5. STREET LIGHTING

Design Intent

Street lighting clearly has a functional purpose to improve night-time visibility for both motorists and pedestrians but it can also help to create a uniform and attractive street character. Designers should consider the spacing, height of light fixture (e.g., light pole or bollard), type of bulb, and light colour emitted in order to provide enough illumination to cover all vehicular lanes and public footpaths.

Designers are advised to consult with EPC when designing street lighting. Refer to **Annex H4** for some general guidance on safe lighting.

Mandatory Outcomes

MO1 Street lighting must enhance street safety

1.1 Space light fixtures according to their height and luminosity, the desired illumination, and any manufacturer's instructions. Spacing should be roughly 2.5 to 3 times the height of the pole and provide uniform distribution of illumination along the street.

MO2 Street lighting must minimise its effects on neighbouring properties

2.1 Minimise glare and light pollution using fixture designs that are fully shielded or cut-off to direct light downwards only (see Fig. E5.1 and Fig. E5.2).

2.2 Use lamps that emit natural white lights to cast a similar colour to daylight (e.g., metal halide lamps). White lights are also preferred for safety reasons (refer to **Annex H4**).

Desirable Outcomes

DO1 Street lighting should consume a minimum amount of electricity

1.1 Use low-energy fittings (e.g., LED) or solar-powered lights (see Fig. E5.3).

DO2 Street lighting should be attractive and contribute positively to the local streetscape

2.1 Use a uniform light fixture design along a street, where possible.

2.2 Space light fixtures consistently throughout a street or area.

Other References

- EPC and LTA requirements

Fig. E5.1 Light on the left is not shielded; light on the right is shielded to direct light downwards only

Fig. E5.2 Shielded light fitting design

Fig. E5.3 Solar-powered street lighting

E6. STREET LANDSCAPING

Design Intent

Street landscaping includes trees and other plants that can create attractive and pedestrian-friendly streets, as well as accessories such as planter boxes, tree gates, and tree guards. Well-designed lighting can help to manage stormwater effectively by absorbing and filtering pollutants before they are discharged. Plant species need to be selected carefully so that they require minimal maintenance and do not cause any physical obstructions, and enhance the character and attractiveness of the streetscape.

PUMA encourages use of native tree species suitable for coastal conditions, when possible. Street landscaping must also be consistent with general standards contained in Part C7 - Site Landscaping.

Fig. E6.1 Pavement damage due to large root spread and insufficient space between the pavement and tree trunk

Mandatory Outcome

MO1 Street trees and plants must not cause any physical obstructions or create potential safety hazards.

1.1 Select street tree species with minimal root spread to prevent damage to public footpaths (refer to **Annex H3** and Fig. E6.1).

1.2 Position street trees so that their heights (at maturity) do not conflict with any overhead utility lines.

1.3 Plant street trees approximately 8 to 10 metres apart to minimise visual obstructions to building shop fronts and signage. Trees must be planted in a sufficiently-sized hole (according to the mature size of the tree) with a minimum depth of 0.6 metres. Cover the hole with a permeable design (e.g., tree grate, permeable paving or low-growth plants) and do not pave with concrete.

1.4 Design irrigation and drainage systems (e.g., tree pits and rain gardens with overflow drainage systems) to prevent ponding of water.

1.5 Select low-maintenance plant species suitable for coastal conditions (refer to **Annex H3**).

Desirable Outcome

DO1 Street landscaping should be used to create an attractive urban character and encourage people to walk

1.1 Place plant beds adjacent to kerbs and in median strips, traffic islands and roundabouts. When planting in median strips and within a road verge, select plants with heights (at maturity) that will not obstruct any lines of sight for passing motorists.

1.2 Plant street trees along a median strip on main streets to create a sense of entry, as long as there is sufficient room.

1.3 Position shade trees adjacent to public footpaths and over street seating (see Part E4).

1.4 Use feature paving (e.g., coloured or textured concrete) to highlight street intersections and pedestrian crossings.

1.5 Design areas on the street where people can sit, relax and meet. Provide suitable shade (e.g., shade trees, awnings or other shade devices).

E7. GATEWAY FEATURES

Design Intent

The *City Spatial Plan* and *Waterfront Plan* identify suitable locations for gateway features in the Apia CBD and waterfront areas. Gateway features can enhance the sense of arrival into the city, create identifiable entry points, and promote positive first impressions of Apia. They may include a combination of signs, public art, landscaping and lighting (see Fig. E7.1).

Fig. E7.1 Example of indicative gateway marker

Mandatory Outcomes

MO1 Gateway features must not create safety hazards or excessive distractions

1.1 Do not create visual or physical obstructions to motorists or pedestrians. Gateway features must not obstruct lines of sight for turning vehicles at intersections (e.g., plant low-height landscaping, place public art and signs clear of blind spots).

1.2 Design attractive signs that are not overly distracting (e.g., roadside sign or monument-type sign).

1.3 Allow a minimum headroom of 2.4 metres to the underside of any overhead signs above public footpaths. Overhead signs are not permitted over roads and bridges.

MO2 Gateway features must be durable and require minimal maintenance

2.1 Use high-quality durable materials that can withstand strong winds and heavy rain.

2.2 Use low-maintenance plants suitable for coastal conditions (refer to **Annex H3**).

MO3 Gateway features must incorporate the Apia waterfront branding

3.1 Use the official Apia waterfront logo and follow the branding guidelines (available from PUMA) when designing gateway features in the Apia waterfront area.

Desirable Outcome

DO1 Gateway features should be attractive and distinctive

1.1 Use trees and plants that distinguish the gateway feature clearly from surrounding landscapes.

1.2 Use feature lighting to enhance the waterfront area at night. Lighting must not project into the sky.

1.3 Incorporate Samoan art and cultural expressions (see Part B).

Other References

- *Signage Policy* (PUMA))

This section applies only to developments within the Apia waterfront area (refer to **Annex H1**). It sets out standards for particular features of the waterfront.

F. WATERFRONT FEATURES

F1. PUBLIC PROMENADE

Design Intent

A key strategy of the *Waterfront Plan* is to create a continuous high-quality and attractive public promenade (paved public path), along the seawall. The public promenade will be an attractive feature of the waterfront and connect people to coastal activities, allowing them to walk, jog, cycle or relax on the waterfront. The design of this public promenade must be of sufficient width to accommodate these different activities and minimise conflict between different users.

Fig. F1.1 Minimum width of public promenade.

Mandatory Outcomes

MO1 Public promenade must provide a safe and functional space for all pedestrians

1.1 Allow a minimum public promenade width of 5 metres with a designated 3 metre (minimum) wide shared-use path and a 2 metre (minimum) wide area for landscaping and street furniture (see Fig. F1.1). The width of the promenade can be reduced to a 3 metre shared-use path only (i.e., no area for landscaping and street furniture) in areas where space is limited or constrained by existing land uses and narrow roads. The width of the shared-use path shall be increased to up to 5 metres (maximum) wide in areas that have high volumes of pedestrian traffic, where practicable.

1.2 Install signs at key locations along the public promenade to indicate that the shared-use path is to be used by pedestrians and cyclists, and that the maximum speed for bicycles and non-motorised forms of transport sharing the path shall be 10km/hr.

1.3 Set back buildings and structures a minimum of 1.5 metres from the landward edge of the public promenade.

1.4 Plant shade trees at regular intervals (approximately 8 to 10 metres), and install public seating and waste receptacles at regular intervals (approximately 20 metres), along the public promenade.

1.5 Install pedestrian-scale lighting (e.g., bollard lighting) at regular intervals. The exact spacing will depend on the type and luminosity of light fittings but will generally be between 12 to 15 metres.

MO2 Public promenade materials must be suited to the coastal environment

2.1 Use low-maintenance plant species suitable for coastal environments (refer to **Annex H3**).

2.2 Use durable marine-grade quality materials (e.g., concrete, pressure-treated timber and stainless steel components).

2.3 Avoid using dark-coloured pavements (e.g., black and dark greys/browns) in order to reduce heat absorption.

Desirable Outcome

DO1 Public promenade should be attractive and express Samoan identity

1.1 Create a public promenade that is of a uniform style. Elevated boardwalks (see Part F6) and textured pavement may be used to highlight special areas.

1.2 Incorporate Samoan cultural, heritage and artistic elements (see Part B) in the design of street furniture (e.g., signage, seating, lighting and public art) and promenade pavement.

1.3 Design landscaping and plants according to a clear overall strategy.

F2. PARKS AND PLAY SPACES

Design Intent

Public parks and play spaces offer opportunities for exercise and recreation, and can provide relief from the built environment. They should be designed as multi-functional and flexible spaces that have clear connections to the city's pedestrian network, and can be enjoyed by all citizens.

The *Waterfront Plan* identifies potential locations for new parks, as well as existing parks that should be improved. Play spaces may be incorporated in the design of all parks and should be scaled according to the size of the site.

Fig. F2.1 Play equipment suitable for children of all ages and abilities

Mandatory Outcome

MO1 Parks and play spaces must create a safe, inclusive and healthy environment

1.1 Connect parks and play spaces to existing public footpaths with unobstructed pedestrian paths that are free of uneven surfaces.

1.2 Design entry and exit points to be clearly visible from street frontages and lit well (refer to **Annex H4**).

1.3 Provide a clearly visible sign that displays the name of the park or playground, opening hours (if applicable), maintenance contacts, relevant emergency numbers, and directions for emergency escape (e.g., in case of a fire or tsunami).

1.4 Install signage to indicate that play spaces are smoke-free and alcohol-free public spaces.

1.5 Allow access for people of all abilities within parks and play spaces (e.g., design access ramps, lowered seating with arms, and handrails for any level changes).

1.6 Provide public facilities (see Part F8), shaded seating and waste receptacles that are sufficient to meet the anticipated quantity and type of demand.

1.7 Install signs adjacent to play equipment to indicate any relevant age and weight restrictions.

Desirable Outcome

DO1 Parks and play spaces should contain a variety of complementary features according to their size, location and function

1.1 Allocate sufficient parking (refer to PUMA's *Parking Policy and Standards*) that is sufficient to cope with anticipated uses and quantity of demand. Include the provision of parking spaces for people with disabilities, designated drop-off areas, and taxi bays.

1.2 Position seating and waste receptacles under existing or new shade trees.

1.3 Design landscaping and plants according to a clear overall strategy.

1.4 Design multi-functional playing fields that can accommodate a variety of sports (e.g., touch football, volleyball and soccer) according to the size and location of the park.

1.5 Incorporate a variety of play opportunities including natural features (e.g., climbing areas and sand pits), equipment for older children, and equipment for children with disabilities (see Fig. F2.1).

F3. PUBLIC SQUARES AND PLAZAS

Design Intent

Public squares and plazas (see Fig. F3.1) are urban spaces in which people can meet, relax, and interact with each other. They are important features of any city and can contribute to its vibrancy and enjoyment by citizens. Public squares and plazas may be included in public land as well as in private developments with public uses (e.g., public buildings such as government buildings and churches).

Fig. F3.1 Example of a public plaza

Mandatory Outcome

MO1 Public squares and plazas must create a safe, inclusive and healthy environment

1.1 Connect public squares and plazas to existing public footpaths with unobstructed pedestrian paths that are free of uneven surfaces.

1.2 Design entry and exit points to be clearly visible from street frontages and lit well (refer to **Annex H4**).

1.3 Install a clearly visible sign that displays the name of the square or plaza, opening hours (if applicable), maintenance contacts, relevant emergency numbers, and directions for emergency escape (e.g., in case of a fire or tsunami).

1.4 Install signage to indicate that public squares and plazas are smoke free.

1.5 Allow access for people of all abilities within public squares and plazas (e.g., design access ramps, lowered seating with arms, and handrails for any level changes).

1.6 Install shaded seating and waste receptacles sufficient for the intended use and demand.

Desirable Outcomes

DO1 Public squares and plazas should be attractive and provide good pedestrian amenity

1.1 Allow as much shade as possible for pedestrians (e.g., plant shade trees or design sun-shade devices and other built features such as awnings and canopies).

1.2 Use public art, signs, striking colours or materials, and architectural forms that are likely to be attractive to pedestrians.

1.3 Design active frontages on the edges to encourage passive surveillance and create pedestrian interest.

DO2 Public squares and plazas should offer flexible urban spaces for a range of activities

2.1 Design flexible spaces that can accommodate a variety of public events (e.g., festivals, market stalls, and performances).

2.2 Place seating in shaded and sunny areas with waste receptacles, landscaping and lighting (if the space is intended to be open after dark). Integrate seating with other design elements (e.g., planter boxes with seating; wide steps or building edges that can double as informal seating).

F4. BEACHES

Design Intent

Beaches in urban areas connect locals and visitors to the water edge, providing opportunities for recreation and relaxation. They are usually engineered using coastal infrastructure such as breakwaters, groynes and rock walls to protect the shoreline. Provision of safe and well-designed beaches will help to create an attractive, functional and vibrant waterfront (see Fig. F4.1).

Fig. F4.1 Artificial beach (source: Waterfront Plan)

Mandatory Outcomes

MO1 Beaches must be designed to offer multi-functional recreational spaces

1.1 Engineer site-specific coastal infrastructure to form a beach with a minimum length of 20 metres and a minimum width of 10 metres at mid-tide. Integrate the beach access point with the seawall design.

1.2 Design areas for pedestrians that include seating, waste receptacles and shade trees.

1.3 Connect entrances to beaches with any existing public footpaths, the public promenade (see Part F1) and boardwalks (see Part F6).

MO2 Beaches must enhance user safety

2.1 Install a sign to warn users of any potential hazards (e.g., dangerous rips). Display emergency numbers and directions for emergency escape (e.g., in case of tsunami), as well as anti-littering messages.

2.2 Place lighting at the beach edge (near the seawall) but not on the beach in order to discourage access after dark.

Desirable Outcome

DO1 Beaches should be attractive and promote recreational use

1.1 Provide at least one connection to beaches that allows access for people with disabilities, where feasible.

1.2 Use white sand (rather than black sand), when feasible.

1.3 Design the edge of beaches to restrict vehicular access to beaches (with the exception of maintenance and emergency vehicles).

1.4 Include public facilities (e.g., an outdoor shower and changing cubicle. See Part F8) and parking spaces, where feasible.

F5. TIDAL STEPS AND BOAT RAMPS

Design Intent

Tidal steps (see Fig. F5.1) and boat ramps provide essential access points to the sea for recreational activities such as swimming, paddling and fishing. Designers must consider safety and functionality for all user types.

Fig. F5.1 Example of tidal steps

Mandatory Outcomes

MO1 Tidal steps and boat ramps must be designed to minimise potential safety hazards

1.1 Use slip-resistant materials (e.g., cast in-situ concrete with deep grooves moulded into the surface to allow drainage of excess water and debris; other anti-slip devices such as resin or steel anti-slip strips; or anti-slip paint).

1.2 Limit the main slope of boat ramps to between 1:8 and 1:10. Limit the secondary slope at the end of the ramp (for local steepening) to no more than twice as steep as the main slope.

1.3 Install a sign to warn users of any potential hazards (e.g., dangerous rips). Display emergency numbers and directions for emergency escape (e.g., in case of tsunami), as well as anti-littering messages.

1.4 Install street lighting at street edges adjacent to tidal steps and boat ramps.

MO2 Tidal steps and boat ramps must be designed to allow for different uses

2.1 Allow a minimum clear width of 4.5 metres for boat ramps to provide access for a variety of water vessels including *va'a*, *fautasi* and small fishing boats.

2.2 Design tidal steps to have step widths between a minimum of 600mm and a maximum of 1,500mm. Varied step heights between 190mm and 600mm are permitted to support different activities (e.g., sitting, informal play, water access) but for safety reasons no more than two different step heights are permissible.

Desirable Outcome

DO1 Tidal steps and boat ramps should be user-friendly

1.1 Consider providing complementary facilities such as vehicular parking, *va'a* storage facilities and public facilities (see Part F8).

1.2 Highlight entrance points using special features (e.g., textured paving, bright accent colours, lighting, signage and/or plants).

1.3 Allow access to the water for people of all abilities and ages (e.g., design access ramps, include non-corrosive handrails), where possible.

Other References

- *National Building Code of Samoa* (MWTI))

F6. PIERS AND BOARDWALKS

Design Intent

Piers provide access to the sea for recreational water activities and water transport (e.g., water taxis and small traditional Samoan boats. See Fig. F6.1). Boardwalks are constructed pedestrian walkways that may be used along the waterfront or provide a walking trail through a special area (e.g., the Mulinu'u mangrove area. See Fig. F6.2). Piers and boardwalks help to restrict public use of vulnerable coastal environments, while providing physical and visual access to natural attractions. Refer to the *National Building Code of Samoa* for further standards.

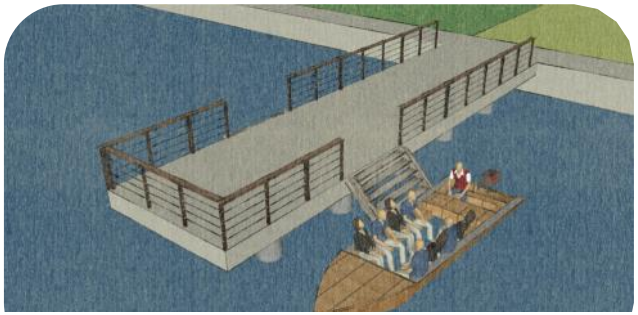


Fig. F6.1 Example of a pier

Fig. F6.2 Example of a boardwalk

Mandatory Outcomes

MO1 Piers and boardwalks must allow safe pedestrian access to coastal features

1.1 Use slip-resistant materials (e.g., reinforced precast concrete or pressure treated wood with anti-slip devices such as deep grooves, resin or steel anti-slip strips, or anti-slip paint).

1.2 Allow a minimum headroom of 2.4 metres along the entire length of a boardwalk or at any point on top of a pier.

1.3 Install lighting (e.g., bollard lighting or lighting integrated into the floor or railing design) at regular intervals for boardwalks and piers intended to be used after dark.

1.4 Install handrails on all piers and on boardwalks as per the *National Building Code of Samoa*. Use thin balusters (e.g., metal, wire or cable) to minimise obstruction of attractive views.

1.5 Provide passenger loading facilities for piers to service small water vessels (e.g., water taxis and small traditional Samoan boats).

1.6 Install a water depth marker adjacent to piers and include warning signage to discourage diving.

MO2 Piers and boardwalks must maximise pedestrian functionality and be suited to the coastal environment

2.1 Allow a minimum clear width of 1.5 metres for boardwalks, or 3 metres if the boardwalk is part of a shared-use path for pedestrians and cyclists.

2.2 Provide a minimum clear width of 4 metres for piers.

2.3 Use marine-grade materials that can be assembled easily.

2.4 Install seating and waste receptacles on piers and along boardwalks. Ensure they are clear of the minimum widths set out in MO2.1 and MO2.2 above (e.g., create 'bumpouts' or protrusions of the boardwalk if necessary).

Other References

- *National Building Code of Samoa* (MWTI))

F7. REST AREAS

Design Intent

Rest areas along the waterfront provide opportunities for pedestrians to relax and take shelter from the sun and rain. They should include a shelter structure, seating, lighting, waste receptacles, and complementary landscaping. A standard rest area design (including standalone seating and waste receptacle) has been developed by PUMA and may be used in public spaces along the waterfront (see Fig. F7.1). Please contact PUMA for further information.

These standards apply to PUMA's standard design and any other custom-designed rest area.

Fig. F7.1 Standard rest area design

Mandatory Outcomes

MO1 Rest areas must be constructed from durable and resilient materials

1.1 Use durable and marine-grade materials, and construction technologies appropriate to the coastal areas of the waterfront.

1.2 Use low-maintenance materials and plant species.

1.3 Design to minimise opportunities for vandalism (e.g., place rest area near well-used pedestrian paths, minimise the amount of blank surfaces).

MO2 Rest areas must be inclusive and safe for all

2.1 Allow an 'open' wall design (rather than a 'closed' design with full-height walls).

2.2 Allow clear access for people with disabilities to and within the rest area including unobstructed pedestrian paths free of uneven surfaces; some lowered seating with arms; and access ramps for any level changes.

2.3 Install a community notice board that displays a maintenance contact, emergency numbers, and directions to emergency assistance.

2.4 Install lighting to illuminate the rest area and entrance points.

Desirable Outcome

DO1 Design of rest areas should complement the surrounding area and developments

1.1 Scale rest areas to suit the size of the site.

1.2 Use materials and colours that complement the surrounding urban landscape and minimise obstruction of attractive views.

Other References

- *National Building Code of Samoa* (MWTI))

F8. PUBLIC FACILITIES

Design Intent

Public facilities (toilets and change rooms) help to complement recreational uses along the waterfront such as parks, play spaces, beaches and other public spaces. They must be designed carefully to maximise user safety and accessibility, and to minimise maintenance and operational costs. Public facilities may be placed on government-owned land intended for recreational use but not on public streets.

Refer to **Annex H4** for general guidance on safe public facilities.

Fig. F8.1 Example of screened public facilities

Mandatory Outcome

MO1 Public facilities must provide safe and comfortable access for all users

1.1 Maximise visibility of public facilities by placing them near pedestrian paths, car parking areas and other high-activity uses such as parks and play spaces. For safety reasons (potential concealment), surrounding vegetation should not be too dense or too high.

1.2 Install site lighting to illuminate all access points and entrances of public facilities (see Part C5).

1.3 Orient the entrances of all public facilities towards a well-used public space or nearby street frontage.

1.4 Design gender-segregated bathrooms and changerooms, or single unisex toilet and changing stalls with doors oriented as per MO1.3 above. A translucent, mesh or battened screen can be used to provide privacy (see Fig. F8.1).

1.5 Allow a small gap (e.g., 75 to 300mm) to the underside of all cubicle doors to allow some visibility into cubicles but sufficient to maintain user privacy.

1.6 Design at least one unisex accessible toilet.

1.7 Provide a baby-changing facility (e.g., fold-down stainless steel table).

Desirable Outcome

DO1 Public facilities should be easy to maintain and self-sufficient

1.1 Use durable, weather-resistant and graffiti-resistant materials that are easy to clean.

1.2 Incorporate sustainable technologies and practices (e.g., collect rainwater for toilet flushing, incorporate solar-powered lighting, and maximise natural daylight through translucent roof sheeting).

Other References

- *National Building Code of Samoa* (MWTI))
- *Disability Access Guideline* (PUMA)

F9. SIGNAGE

Design Intent

The *Waterfront Plan* encourages the installation of two particular types of signage: directional signs to guide pedestrians to significant places, recreational areas, attractions and key buildings on the waterfront; and interpretive signs to help people understand the culture and heritage of the Apia waterfront area (see Fig. F9.1).

Wayfinding devices help orient pedestrians around the waterfront and may include directional signs, marker signs with coordinated symbols and colours, location maps, coordinated lighting design, markings on public footpaths and pedestrian paths, and public art.

Signage in the waterfront area should be designed to capture the interest of both visitors and locals. Attractive and coordinated signage will help to establish a consistent, organised and high-quality urban environment for pedestrians walking along the waterfront. A standard design for interpretive signs has been developed by PUMA and may be used in public spaces along the waterfront. Please contact PUMA for further information.

PUMA's *Signage Policy* provides comprehensive standards for all other types of signage including advertising signs, freestanding signs and illuminated signs. Billboard signs for commercial advertising are *not permitted* in the Apia waterfront area to minimise visual 'clutter' and preserve a high-quality public waterfront experience.

Mandatory Outcomes

MO1 Signage must be sturdy and resilient

1.1 Use durable and marine-grade materials, and construction technologies that suit the coastal environment.

1.2 Design to minimise opportunities for vandalism (e.g., place signs near well-used pedestrian paths, minimise the amount of blank surfaces).

MO2 Signage in public spaces located on government-owned land must incorporate the Apia waterfront branding

2.1 Include the official Apia waterfront logo and follow the branding guidelines (available from PUMA) for any signs installed in public spaces.

Desirable Outcomes

DO1 Signage should be attractive and user-friendly

1.1 Maximise use of graphics, photos, maps and illustrations to attract passers-by, and minimise the amount of text.

1.2 Incorporate lighting so that signs can be read after dark and, where necessary, provide additional sources of street illumination.

1.3 Place signs on the landward side (not the seaward side) of the seawall to permit clear views over the waterfront.

DO2 Signage should accommodate a variety of users

2.1 Display text in Samoan and English. Samoan text should be slightly more prominent (e.g., through a larger font size) on directional signs or signs used as wayfinding devices to encourage use and understanding of the Samoan language.

2.2 Consider the needs of people with disabilities (e.g., use braille and/or audio recordings).

2.3 Consider the use of universal symbols, icons and colours on signage, particularly on signs used as wayfinding devices.

Other References

- *Signage Policy* (PUMA)

Fig. F9.1 Example of signage design

F10. OUTDOOR KIOSKS

Design Intent

Outdoor kiosks are encouraged along the waterfront as they support opportunities for local income generation and encourage pedestrian activity, helping to create a vibrant city. They are permanent structures that provide independent goods and services with minimum servicing requirements, such as food and beverage stands or tourism-related kiosks (e.g., water sports equipment hire booth, tour operations kiosk. See Fig. F10.1).

Outdoor kiosks must be located in designated areas approved by MNRE and applicants should consult early with PUMA to discuss potential locations. MNRE may consider a pre-fabricated caravan or small shipping container-style kiosk. Mobile or temporary carts (e.g., coffee carts) that are not installed permanently on a government-owned site are also subject to approval by MNRE.

Fig. F10.1 Example of outdoor kiosk design

Mandatory Outcome

MO1 Outdoor kiosks must be sturdy and fit-for-purpose

1.1 Use durable and marine-grade materials, and construction technologies that suit the coastal environment (e.g., concrete slab base, steel-frame construction and marine-grade façades with cyclone-proof construction as per the *National Building Code of Samoa*).

1.2 Limit the maximum external dimensions of an outdoor kiosk to 4 metres wide by 3 metres deep by 3.5 metres high, or any smaller size appropriate to the intended use.

1.3 Allow connection to essential utility services (e.g., potable water, wastewater and electricity).

Desirable Outcome

DO1 Outdoor kiosk design should complement the surrounding urban landscape

1.1 Use materials and colours that complement the surrounding streetscape and adjacent buildings.

1.2 Screen any associated service piping, utilities, back-up generators and sound speakers from public view. Any sound speakers must comply with PUMA's *Noise Policy*.

1.3 Position outdoor kiosks under or near shade.

Other References

- *National Building Code of Samoa* (MWTI)
- *Noise Policy* (PUMA)

F11. OUTDOOR EXERCISE EQUIPMENT

Design Intent

Urban developments can promote healthy and active lifestyles by providing supportive infrastructure. Outdoor exercise equipment along the waterfront will encourage people to stay fit and be more active. The *Waterfront Plan* identifies potential locations for outdoor exercise equipment such as parks, the Eleele Fou central park, and the stretch of seawall between Sogi and Mulinu'u.

Designers could consider consulting with local sporting and recreational groups to design outdoor exercise equipment that complements their exercise routines.

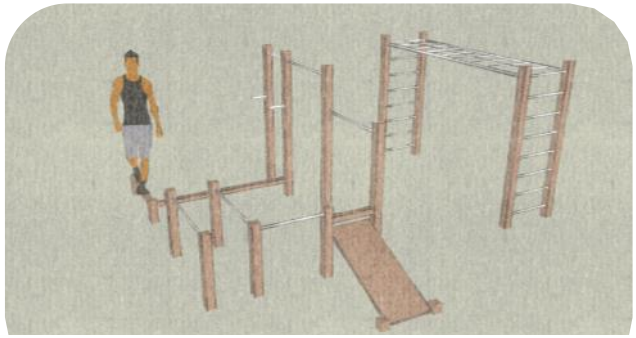


Fig. F11.1 Example of simple structures

Mandatory Outcome

MO1 Outdoor exercise equipment must be safe, durable and easy to maintain

1.1 Place outdoor exercise equipment near areas with high levels of passive surveillance (e.g., adjacent to play spaces, in parks, or close to pedestrian paths). Equipment must not obstruct pedestrian paths, public footpaths or lines of sight for passing motorists.

1.2 Install instructional signs on or adjacent to equipment.

1.3 Specify a ground surface material that protects against falls (e.g., sand, grass, rubberised matting).

1.4 Use durable and marine-grade materials that can be sourced locally and are easy to assemble. Ensure that equipment can be serviced locally.

1.5 Design simple structures that can be used for non-structured exercise activities such as sit-ups, dips and stretching (e.g., steps, rails and bars. See Fig. F11.1 and Fig. F11.2).

Desirable Outcome

DO1 Outdoor exercise equipment should be designed for a variety of users and activities

1.1 Incorporate equipment that targets a variety of abilities (e.g., people with physical disabilities) and ages (e.g., elderly and children).

1.2 Consider including equipment that accommodates both weight training and cardiovascular activities. Prefabricated mechanical equipment could be considered if it can be maintained and serviced locally.

Fig. F11.2 Example of outdoor exercise equipment

This section outlines PUMA's DCA process and explains how the Urban Design Standards will be implemented.

G. DCA PROCESS

G1. PRE-DCA ADVICE

When should I meet with PUMA?

PUMA can provide landowners, developers, applicants and designers with "pre-DCA advice" on submission requirements, relevant policies and standards (including this document), and other planning and design issues to consider.

Applicants for 'major' developments in the Apia CBD and waterfront areas are encouraged to seek advice from PUMA *before* preparing a DCA. The following developments could be deemed as major:

- developments with a proposed capital value over $1 million;
- developments that are nationally significant (e.g., public space, government building);
- developments proposing unusual or complex land uses (e.g., entertainment uses, tourist accommodation, health facility); and/or
- any other development as agreed by the ACEO PUMA or CEO MNRE.

What information should I bring?

Should you wish to seek pre-DCA advice, PUMA encourages you to bring any concept designs or sketches, survey plans and photographs of the site to the meeting. Planning and design advice may be provided during the meeting if the proposed development is not too complex. However, for more complex developments, PUMA may provide written advice after further review with internal stakeholders.

What is a design review?

Pre-DCA advice may include a review of the design of your proposed development. Such design reviews assist PUMA to provide consistent, accurate and relevant technical advice on significant developments in Samoa. The aim is to offer design recommendations to improve (but not redesign completely) a proposed development. The process is intended to enhance the quality of public spaces and benefit the community. PUMA considers relevant standards from this document during a design review, as well as any other relevant policies, guidelines and other matters under the *Planning and Urban Management Act 2004*.

The design review team usually comprises representatives from MNRE. For complex developments, PUMA may invite representatives from other agencies such as the EPC, LTA, MWTI, SFESA and SWA.

Following the review, PUMA will provide written advice for applicants to consider when finalising their design plans for DCA submission.

Why should I have a design review?

Feedback could help applicants to:

- amend the concept design to better suit the site, neighbourhood and environment;
- consider unforeseen planning and design parameters;
- identify relevant issues for an Environmental Impact Assessment; and
- save time and money by identifying planning and design issues early in the process.

When is a design review required?

Design reviews are not mandatory, but are strongly recommended for any major developments (as defined above). They should be conducted when landowners and developers are still in the early concept design phase of the project so that recommendations and suggestions can be incorporated easily without incurring unnecessary costs.

G2. DCA SUBMISSION

Please seek PUMA's advice to discuss specific requirements for your proposed development. You will need to submit a number of other documents in addition to the design plans below.

Standard Submission Requirements

Applicants are required to submit the following design plans for all developments to which the Urban Design Standards are applied.

- ☐ **Site plan—**showing property boundaries; adjacent land uses; existing structures; locations and dimensions of proposed buildings; setbacks; locations of utility services, service equipment and external lighting; easements (e.g., drainage or access); locations of parking, kerbs, driveways, emergency access, public footpaths and pedestrian paths; topographical data; vegetation and natural features; site coverage calculations; and views and vistas.
- ☐ **Floor plans**—showing room functions and sizes; locations of entrances, doors and windows.
- ☐ **Elevations**—showing external faces of a building; exterior finishes; building heights (from the street level); roof pitches and roofline; location of service equipment (and details of concealment); site grading and earthworks; details of exterior lighting and signage; and location and details of any active frontages.
- ☐ **Sections**—showing ceiling height/type; window and door dimensions; internal building uses.
- ☐ **Stormwater management plan**—concept plan showing existing property boundaries; locations of all impermeable surfaces, parking facilities, pedestrian paths, concrete areas; natural features; sensitive resources (e.g., water bodies and streams, floodplains, wetlands and steep slopes); existing and proposed drainage lines; details of proposed stormwater management systems (e.g., type, volume, sizing, locations) and other water-sensitive urban design strategies; location and method of all points of discharge from site; and existing and proposed easements.

Additional Submission Requirements

The following design plans or documents *may be required* to be submitted as part of a DCA, particularly for more complex urban developments. Please consult with PUMA early in the planning process to determine if you will be required to submit the following.

- ☐ **Design statement**—describing how urban design elements (e.g., cultural values, energy efficiency, climate change resilience) have been incorporated into the development.
- ☐ **Landscape plan and planting schedule**—showing details of existing and proposed soft landscaping (including locations, species, heights, dimensions) and hard landscaping (including locations, types, dimensions, materials).
- ☐ **Design details**—of any proposed driveways, signage, fencing, public art or lighting.
- ☐ **Shadow diagrams**—showing shadows created by taller buildings at 9.00am, 12.00pm and 3.00pm on the June solstice (21 June).
- ☐ **Three-dimensional perspectives**—of the proposed development within the existing context, including photomontages.
- ☐ **Noise management plan—**a report outlining measures to reduce the noise impact of sources associated with a proposed land use activity.
- ☐ **Waste management plan—**a report outlining how construction waste and waste produced during the operational phase will be managed.
- ☐ **Conservation management plan**—a guide for the conservation and management of a heritage place or item.

Please note that construction and engineering details are generally *not required* for DCAs. These should be submitted as part of MWTI's Building Permit Application process.

G3. DCA ASSESSMENT

Assessment Process

PUMA will not commence assessing a DCA until all required information, including requested additional information, has been received. Once PUMA has received this, a DCA may need to be publicly notified and referred to other authorities for their consideration.

If a pre-DCA design review was not conducted for a major development, PUMA may require a design review to be conducted as part of the assessment process. PUMA may also require applicants to submit additional information or amend design plans until the DCA meets relevant standards contained in this document.

Compliance with the UDS does not mean that development consent shall be granted. PUMA considers all matters provided under the *Planning and Urban Management Act 2004* during the assessment of a DCA. These include all relevant documentation; any submissions arising from public notification procedures; comments from referral agencies; and outcomes from any pre-DCA design reviews conducted by PUMA.

Processing Times

The application processing time depends on the complexity and scale of the proposed development. Once PUMA receives a DCA, staff will check for 'completeness of application' before it is processed. It is therefore very important that applicants provide all required information at the initial submission of the DCA, otherwise incompleteness of the DCA may prolong the assessment period.

However, as a general guide, minor urban developments may take up to 20 working days, whilst major urban developments may take up to 40 working days to determine.

Notice of Decision

The Notice of Decision is a legal document issued for a DCA informing the applicant of the decision reached by PUMA, which may decide to:

- grant a development consent; or
- grant a development consent subject to conditions; or
- refuse to grant a development consent on any grounds it thinks fit.

When determining a DCA, PUMA may apply particular conditions of consent (should it be granted) requiring the consent holder to meet certain standards. Applicants must comply with any relevant conditions of consent before submitting an application for a Building Permit to MWTI.

Next Steps

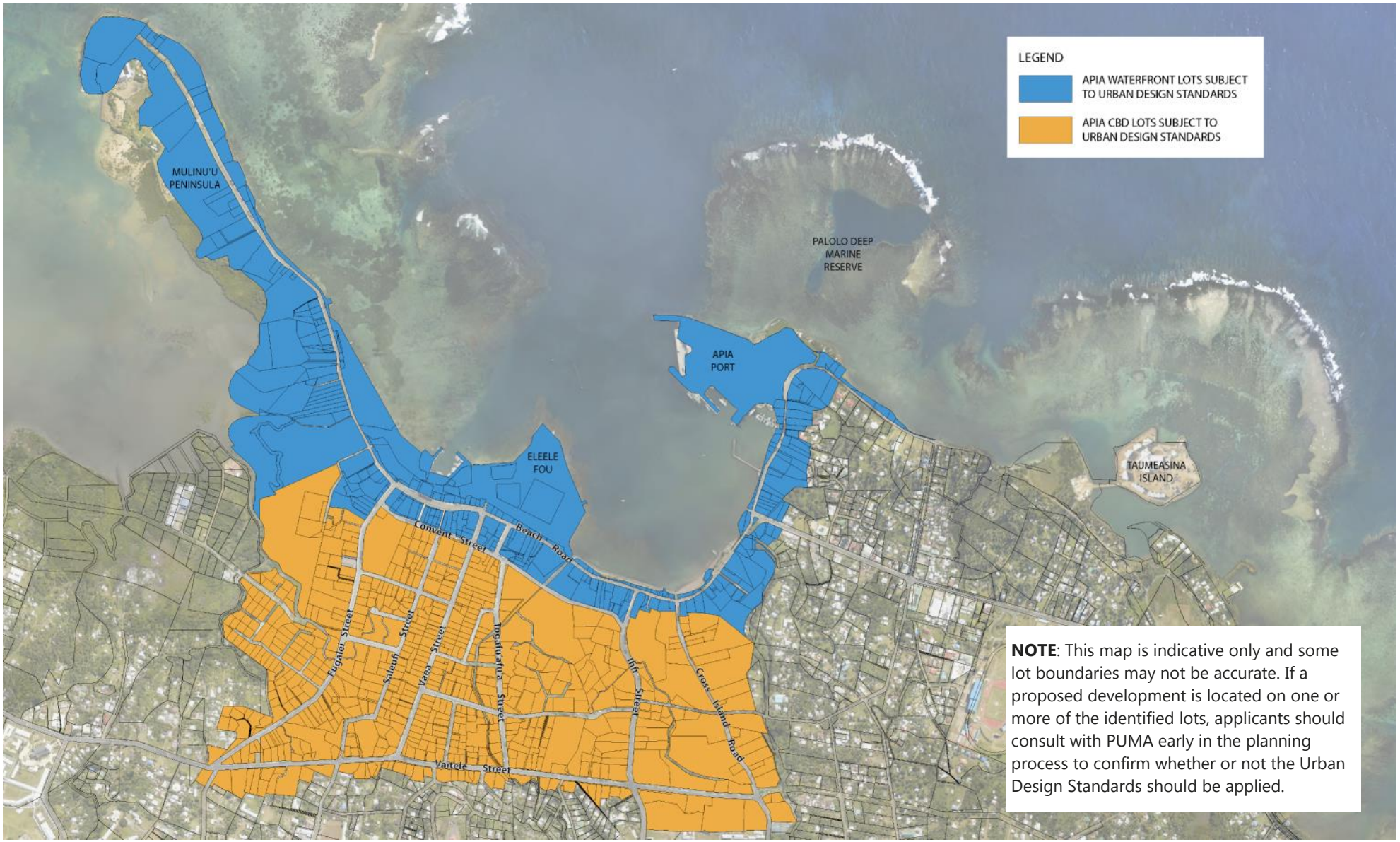
Should PUMA grant development consent for a particular DCA, the applicant must then obtain other necessary permits. These may include permits and licenses from the following authorities:

- ☐ **EPC** - 'Compliancy Confirmation' and electrical connection permit
- ☐ **LTA** - 'Compliancy Confirmation' and permit for any public drainage connections
- ☐ **MWTI** - Building Permit
- ☐ **SFESA** - 'Compliancy Confirmation'
- ☐ **SWA - '**Compliancy Confirmation' and water connection permit

Applicants should also be aware that there are other inspections and certificates of compliance that may be required (e.g., a certificate of health for food premises), depending on the type of development.

H. ANNEXES

H1. LOTS SUBJECT TO URBAN DESIGN STANDARDS



H2. ITEMS WITH HERITAGE VALUE

LEGEND

APIA WATERFRONT AREA

1 Burial tombs
2 Parliamentary Complex
3 Land and Titles Court
4 Independence Memorial
5 Historical monument
6 Historical monument
7 Historical monument
8 Kalolo Bartley Building
9 Carruthers Building
10 Fale Pulenu'u
11 Town Clock
12 Chan Mow Building
13 Historical monument
14 Historical monument
15 Methodist Church Building
16 Mulivai Cathedral and Pio Taofinuu Hall
17 Old Courthouse Building
18 Apia Ekalesia Faapotopototoga Kerisiano Samoa (EFKS) Church
19 Historical monument
20 Apia Protestant Church
21 Aggie Grey's Hotel

APIA CBD AREA

22 Convent Building
23 Saint Mary's Primary School Administration Building

NOTE: This map is indicative only and some lot boundaries may not be accurate. If a proposed development is located near one of the listed items, applicants should consult with PUMA early in the planning process to confirm whether or not the standards in Part B2 are applicable.

H3. SUGGESTED PLANT SPECIES

NOTE: This list of suggested plant species includes some of the most common ones used in Samoa and is intended to be a guide only. PUMA encourages applicants and designers to source their own plant species most suitable for their proposed development.

Botanical Name	Samoan Name	English Name	Height (metres)	Native	Description
TREES					
Aglaia samoensis	Laga'ali	Mahogany	7		Fragrant flowers used for garlands, suitable as standalone shade trees, **large root growth**
Aleurites moluccana	Lama	Candlewood	15 - 25		Good shade tree, ornamental tree, nut can be used as a candle
Alphitonia zizyphoides	Toi	Soap Tree	20 - 30		Flowers in white flat clusters from January to March, **large root growth**
Atuna racemosa	Ifiifi		20		Small root growth, suitable in parking areas
Barringtonia samoensis	Falaga	Barrington Tree	20	*	Red-pink flowers, suitable as standalone shade trees within a site, **large root growth**
Calophyllum inophyllum	Fetau	Alexandrian Laurel	20	*	Good shade tree, white flowers, suitable as standalone shade trees, **large root growth**
Cananga odorata	Moso'oi / Lei Lei	Ylang-ylang	12	*	Fragrant flowers, fast-growing, good as a street tree or ornamental tree
Cinnamomum verum	Tigamoni	Cinnamon Tree	10 - 15		Evergreen, green flower panicles, good for street or shade tree
Commersonia bartramia	Ma'o	Christmas Tree	5 - 10		Long white flower panicles, fast-growing, good for group plantings, **large root growth**
Cyathea spp.	Olioli	Large Tree Fern	8 - 12		Short trunk of 5.0 m, long, fern-like leaves, good as a street tree or in parking lots
Eugenia reinwardtiana	Unuoi	Beach Cherry	2 - 6		Edible, sweet fruit, good in group plantings, buffers
Fagraea berteroana	Pua Lulu	Perfume Tree	1.5 - 20	*	Fragrant, rich yellow flowers, multi-stem, good for group plantings, **large root growth**
Ficus obliqua	Aoa	Polynesian Banyan	15 - 60	*	Important food source for wildlife, good as a specimen tree or buffer
Manilkara samoensis	Pau		20		Small root growth, suitable in parking areas
Metrosideros collina		Springfire	6		Beautiful red feathery flowers, good in a hedge, buffer or group planting
Micromelum minutum	Talafalu	Lime Berry	8		Green / cream flowers, multi-coloured berry, good in a hedge, buffer or group planting
Millettia pinnata		Pongam	15		Straight or crooked trunk, beautiful clusters of white, purple or pink flowers throughout the year, good in group plantings or as a street tree
Neisosperma oppositifolium	Fao	Twin Apple	18	*	White flowers, suitable for standalone shade trees, **large root growth**
Pandanus tectorius	Fala	Screwpine	4 - 8		Sculptural form, good as a specimen or in group plantings, along footpaths
Paraserianthes falcataria	Tamalini	White Albizia	40		Fern-like leaves, good as a specimen tree, in a park
Plumeria sp.	Pua Hawaii	Frangipani	8		Deciduous, loses leaves for 3 months, red, pink or white fragrant flowers
Polyscias samonensis	TagiTagi	Plum Aralia	2 - 5	*	Narrow leaves, pale yellow, green or red leaves if planted in the sun, good in hedges, buffers, parks, footpaths
Rhus taitensis	Tavai	Sumac	6		White flower panicles, good for hedges/buffers, in groups, in parks, **large root growth**
Syzygium samoense	Fena Vao / Asi vai	Clove	15	*	White feathery flowers, good as a Street Tree, ornamental, in parks, parking lots

Botanical Name	Samoan Name	English Name	Height (metres)	Native	Description
FRUIT AND NUT TREES					
Ancardium occidentale	Apu initia	Cashew	14		Large, yellow cashew apple, green-reddish flower panicles, good for parks, groups
Artocarpus altilis	'Ulu	Breadfruit	40		Large, lobed leaves, good as a shade tree, in parks or group plantings
Averrhoa carambola		Starfruit	8		Slow-growing, good in parks, group plantings, as a specimen
Carica papaya	Esi	Papaya	5 - 10		Large lobed leaves, fast-growing, good in parks, group plantings, as a specimen tree
Citrus medica	Tipolo	Lemon Tree	2 - 5		Small leaves, fragrant, good in parks, group plantings, hedges
Cocos nucifera	Niu	Coconut Palm	60		Tall, coconut trees, use away from pathways, parking lots or other places where dropping fruit could be hazardous
Inocarpus fagifer	Ifilele	Polynesian Chestnut	20 - 30		Fragrant white / cream flower panicles, good for parks, groups, **large root growth**
Mangifera indica	Mago	Mango	40		Good for parks, group plantings, specimen tree
Musa paradisiaca	Fa'I	Banana	5		Good for parks, group plantings, specimen tree
Terminala catappa	Talie	Tropical Almond	35	*	Green fruits, large root growth, suitable as standalone shade trees
PALMS					
Adonidia merrillii		Christmas Palm	8		Showy red fruit clusters, multi-trunk, good as a specimen tree, accent tree, in parks
Areca lutescens		Golden Palm	6		Golden yellow leaves, good as a specimen tree, accent tree, in parks
Clinostigma samoense	Niu vao	Samoan Palm	25	*	Light leaves, singular trunk, arching branches
Cyrtostaachys renda		Lipstick Palm	15		Prominent red stems, grows in clumps, good as a specimen tree, in group plantings, accent plantings
Pritchardia pacifica		Pacific Fan Palm	15	*	Large fan palm leaves, good as a street tree, buffer plant or specimen tree
Ptychosperma macarthurii		MacArthur Palm	8		Multi-stem, good in parks, footpaths, group plantings
Wodyetia bifurcata		Foxtail Palm	10		Showy, rounded leaves, single trunk, good as a street tree, in parks, as a specimen tree
GROUNDCOVER					
Caladium bicolor		Caladium	0.3		Large, lobed leaves, some with red or white margins
Coleus blumei	Pate	Coleus	0.5		Multi-coloured small leaves, mounded form
Epidendrum radicans		Ground Orchid	0.5		Soft, delicate purple flowers, long, arching, narrow leaves
Ipomoea pes-caprae	Fue moa	Sea Morning Glory	0.2		Large leaves, large hibiscus-like flowers of white, pink and purple
Rhoeo spathacea nana		Rhoeo - Moses in the Cradle	0.2		Dark purple, leathery, upright leaves, very dense
HERBS / PERENNIALS					
Amaranthus tricolor	Toto'e	Amaranthus	1		Tri-colour leaves - green, yellow and red
Bromilead sp		Bromeliad	0.8		Many varieties, leathery leaves with flower in centre, will only bloom once
Colocasia esculenta	Talo	Taro	1.2		Large, ornamental leaves spreading out from one stem
Curcuma longa	Ago	Turmeric	1		Long leaves all joined at stalk, purple / fuchsia flowers, edible roots
Cymbopogon citratus	Moegālō	Lemongrass	1		Grows in clumps, fragrant leaves
Impatiens balsamina	Patiale	Impatiens	0.5		Mounded form with flowers all season from white to purple, red, pink and fuchsia
Strelitzia reginae		Bird of Paradise	1.5		Long leaves all joined at stalk, orange/red flowers
Zamia furfuracea		Cardboard Palm	1		Thick, leathery leaves all joined at stalk, arching branches
Zingiber zerumbet	'Avapui	Wild Ginger	1.2		Leafy stems, blade-shaped leaves, bright red and aromatic flowers at maturity

Botanical Name	Samoan Name	English Name	Height (metres)	Native	Description
SHRUBS					
Allamanda cathartica	Puataunofo	Golden Trumpet	6		Yellow flowers all year long
Aloe vera	Aloe	Aloe vera	1		Succulent leaves, low growing
Alpinia purpurata	Teuila	Red Ginger	4.5	*	Samoa's national flower, fuchsia coloured, blooms all year
Alpinia samoensis	‘Avapui tuasivi	Samoan Ginger	5	*	Pale pink-red ginger flowers, blooms all year
Ananas comosus	Fala	Pineapple	1.2		Sharp thorny leaves, plume shaped with large flower and fruit
Bougainvillea glabra	Felila	Bougainvillea	4		Evergreen climbing shrub, thorny stems, purple-white flowers
Canna indicata		Canna Lily	1.5		Green or purple leaves, upright shape, large flowers at top of plant
Clerodendron inerme	Manioka	Cassava	3.5		Attracts butterflies and birds, reddish leaves, black fruit
Colubrina asiatica	Fisoa	Snakewood	3		Climbing vine, green glossy leaves, small greenish flowers
Cordyline fruticosa	Ti	Ti Plant	2.5		Popular shrub in Samoa, multi-coloured leaves
Croton sp.		Croton	2.5		Colourful foliage, thick shiny red-green leaves, white and yellow flowers
Cycas revoluta		Sago Palm	2		Sharp thorny evergreen leaves, all growing from a centre stalk, ornamental
Dracaena marginata		Dragon Tree	5		Spike-like leaves growing from multi-stems, resembles a tree form
Dracaena reflexa		Song of India	4		Long leaves, many different varieties, some with green leaves, orange, red, yellow & green/white
Gardenia taitensis	Pua	Tahitian Gardenia	4		White, fragrant flowers
Guettarda speciosa	Puapua	Zebra Wood / Beach Gardenia	2 - 6		Dark green leaves with white zebra-stripes
Heliconia laufoa	Laufoa	Helicon / Dragon Claws	1 - 5	*	Long leaves, red/yellow, showy flowers at top of stem
Hibiscus rosa-sinensis	'Aute Samoa	Red Hibiscus	3 - 5	*	Flowers all year, every day, range from white to red, pin, purple, yellow, orange and combinations of the above
Hibiscus tiliaceus	Fau	Sea Hibiscus	4 - 10		Yellow-orange flowers, new flower daily
Ixora sp.	Suni Mumu	Ixora	1.5		Many different varieties, flower colour ranges from white, purple, yellow, red, orange and pink
Jasminum multi florum		Jasmine	3		White, fragrant flowers
Manihot esculenta	Manioka	Cassava	1.5		Multiple, long leaflets from a single frond, edible roots,
Nerium oleander	Oliana	Oleander	3.5		Long, slender leaves, light green with many flower colours: white, yellow, orange, purple, pink, red
Passiflora foetida	Pasio vao	Passion Flower	2	*	White-purple flowers
Piper methysticum	'Ava	Ava	5		Large leaves, used in Samoan cultural ceremonies
Roippa armentosa	A'atasi	Poynesian cress	1		Yellow flower groups
Sansevieria trifasciata		Snake Plant	1		Upright, long, leathery leaves, dark green with white markings, dense foliage
Schefflera samoensis		Samoan Schefflera	2		Narrow leaves around a central step, medium green, glossy and showy
Zingiber officinale	Fiu (ginger)	Ginger	2		Upright, long, leathery leaves, dark green with white markings, dense foliage

H4. CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

Crime Prevention Through Environmental Design (CPTED) is a concept used in the planning and design of cities and towns to address public safety. It involves the careful design and maintenance of the built and natural environment to reduce the incidence of crime and increase the overall sense of security. The key principles of CPTED are:

- **increase passive surveillance**: put more 'eyes on the street' to monitor pedestrian activity;
- **create well-defined spaces**: clear routes, spaces and access points allow safer movement;
- **promote a sense of ownership**: design spaces that are maintained regularly; and
- **complement with 'active' security measures**: use security cameras, security staff and police patrols to support 'passive' security measures.

The following urban design strategies support the above CPTED principles.

Passive and active surveillance

- provide direct lines of sight between buildings and streets/public spaces (e.g., through active frontages, balconies and upper windows)
- position public spaces (e.g., parks, playgrounds, plazas) adjacent to active frontages and frequently-used spaces (e.g., bus stops, seawall)
- include Closed Circuit Television (CCTV) cameras where appropriate and display signs to indicate that security cameras are in operation
- work with village councils, community groups and police to identify vulnerable areas that may need to be patrolled after dark.

Movement and access

- design obvious entry and exit points that are visible from street frontages
- provide well-lit pedestrian paths (with at least one alternative route) in and out of public spaces - there must be opportunities for easy escape to safety during an emergency
- provide clear access within the space (e.g., no physical obstructions)
- do not create small and confined areas that are hidden from public view (e.g., alleys, underpasses).

Lighting

- provide consistent lighting along pedestrian paths, public footpaths and to all associated parking areas
- ensure lighting is not obscured by trees, shrubs, buildings or other obstructions
- use light fittings with a natural white colour to allow good night-time visibility
- maintain lighting regularly and replace broken bulbs quickly.

Information and wayfinding

- provide signage to identify a public space and its opening hours (if applicable)
- provide a community noticeboard to display maintenance contacts, emergency numbers and emergency access
- provide directional signs to help users find their way to and from a space (e.g., street signs or map).

Public facilities (toilets, change rooms)

- position public facilities in high traffic areas
- ensure entrances and access points are visible
- position car parking close to public facilities
- maintain facilities regularly and remove graffiti quickly.

General design

- create clear and open spatial layouts with minimal visual obstructions (e.g., dense bushes, blind spots and alleyways)
- minimise opportunities for potential vandalism (e.g., minimise blank spaces and use vandal-resistant materials and finishes)
- use materials and surfaces that can be cleaned easily
- provide adequate physical and buffers to any land uses that may encourage anti-social behaviour (e.g., bars, nightclubs).

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