Planning and Development Guidelines for Housing

Prepared by
Planning and Urban Management Agency
Ministry of Natural Resources, Environment and Meteorology
Apia, Samoa

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Foreword

This guideline reflects on an important stage in the planning and design of new residential development. The guideline puts in place provisions to balance social and economic needs along with environmental protection. The Guideline has been prepared by the Planning and Urban Management Agency (PUMA) for all of Samoa. The guideline is a result of extensive consultation between May 2003 and October 2005.

Outcomes of consultation with the community in 2001 highlighted issues and concerns over the state of housing. The public envisaged guidelines that ensure acceptable standards are maintained at the individual site level, as well as ensuring that reasonable levels of safety, health and amenity are provided for.

Government prompted the development of these housing guidelines in 2003 under the Technical Assistance Implementation of the Urban Planning and Management Strategy (TA 3860 SAM). The draft guidelines was submitted and endorsed by the project steering committee on 13 June 2003. PUMA has since given key stakeholder groups an opportunity to provide feedback. The guidelines has undergone further review and now include a section on off-street parking, graves, and accessibility features. The final draft was submitted and approved by the Planning and Urban Management Board on 20 October 2005.

These guidelines therefore introduce consistent objectives and guidelines that should be met for all housing. We believe these guidelines will allow better residential development outcomes to be achieved, particularly because the emphasis of the guidelines is on basic local planning issues including the need for proper site analysis and appropriate design response.

The provisions highlighted in the guidelines offer a fresh look at how development consent applications for housing are assessed. The guidelines are aimed towards all stakeholders with a role in shaping the urban and rural setting including landowners, developers, Government, surveyors, planners, real estate agents, engineers, architects, and builders.

I trust that you will take interest in the application of performance criteria developed through the guidelines and trust that these will facilitate your development needs whether you are a public or private developer.

Hon. Faumuina Luiga
Minister for Natural Resources, Environment and Meteorology

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1 *Contextual Setting*

1.1 Background

Since March 2002, the responsibility for planning and urban management throughout Samoa rests with the Planning and Urban Management Agency (PUMA). Located within the Ministry of Natural Resources, Environment and Meteorology (MNREM), PUMA is vested by Government to improve the quality of urban and rural life by:

- making plans and policies for land use and the development of land;
- regulating land use and development; and
- Coordinating urban management services.

Prior to PUMA, there was no lead agency to coordinate land use and development activities, with the responsibility for *de facto* urban planning and management activities fragmented across many national agencies. PUMA was agreed upon by Government as the preferred institutional arrangement for planning because there was an absence of legislative and institutional arrangements for managing urban change and growth, especially in Apia. The key outcomes of the planning and urban management system as agreed by the Government in 2002, are:

- **Outcome 1**: safe, healthy and cohesive communities that meet people's needs and support and enhance village character;
- **Outcome 2**: sustainable natural resource management in Apia and associated catchments;
- **Outcome 3**: a supportive environment in which business can develop and which assists in economic growth opportunities; and
- **Outcome 4**: appropriate urban structure and form for Apia's development so as to provide equitable access to transport, services, recreational facilities and jobs.

It is within the context of working towards achieving these outcomes that the Planning and Development Guidelines for Housing (the 'Guidelines') have been prepared.

1.2 Aim and Objectives of the Planning and Development Guidelines for Housing (the 'Guidelines')

The aim of the Guidelines is to provide a resource document, which addresses social and environmental concerns at the individual site level for housing. They will ensure that acceptable standards for planning and development are maintained for the benefit of the community now and in the future. The Guidelines have been developed so as to support the development assessment

process and criteria set out in the *Planning and Urban Management Act 2004* (*PUM Act 2004)* for Samoa (see Chapter 2).

Housing is one of the major consumers of land for development in Samoa. The focus of the Guidelines is on ensuring reasonable levels of safety, health and amenity are provided for in the planning process for residential development. The Guidelines are intended to promote good land planning and residential development within a framework that:

- responds to site analysis;
- seeks to obtain more consistency and certainty in the planning process at the local site and village level;
- aims to enhance the quality of life and health of village communities and environment; and
- supports the aims and objectives of the *PUM Act 2004* for Samoa.

It is increasingly clear in Samoa that those involved in the planning and development of residential land need to be aware of the effects and impacts that accrue from the development of individual lands. Environmental degradation from increased run off, land clearing, poor drainage control, vegetation removal and soil disturbance combined with amenity concerns such as noise, privacy, views and sunlight, have made the need for the Guidelines paramount at the individual site level. As such, the Guidelines are aimed towards all stakeholders that play a role in shaping the urban and village environment in Samoa including residents, landowners, developers, Government, surveyors, engineers, and architects. Over time, Guidelines will be prepared to cater for other land use and development activities such as industry, land reclamation, sand and gravel mining as well as other matters where Government and community support exists to provide guidance and direction.

1.3 Issues and Concerns to be Addressed

Through the community consultation process (commenced in 2001) to develop a better planning system, the community and Government have expressed many concerns and issues that need to be more adequately addressed through the planning and development process. Table 1 lists these community issues and concerns, identifying them in terms of the spatial level at which they can be best resolved. In this context, the emphasis in these Guidelines is on resolving issues and concerns at the **site planning level.**

Table 1: Community and Government Concerns and Issues

Component	*Site Planning*	*Neighborhood or Village Planning*	*Apia-wide or National Planning*
Environmental Pollution			
Preventing waste dumping that pollutes marine life in coastal areas		×	×
Locating a dumpsite near village		×	×
Waste oil polluting village stream	×	×	
Noise pollution to neighbors	×	×	×
Proper disposal of harmful chemicals		×	×
Piggery giving foul odor near school	×	×	
Wastewater and Sanitation			
Discharges from factory	×	×	×
Wastewater goes directly into drains	×	×	×
National Hospital effluent and septage discharging into Lalovaea stream	×	×	×
Wastewater that ponds in drains	×	×	×
Industrial areas have blocked drainage and full soak pits	×	×	×
Laundromat wastewater empties into formal and informal storm water drains	×	×	×
Uncontrolled cutting of trees in the watershed and catchment areas	×	×	×
Septic tank overflows/malfunction	×	×	×
Flooding and Drainage			
Need for formal drainage system		×	×
People modifying waterways and causing flooding in low-lying areas	×	×	
Flooding of Fugalei market area	×	×	

Component	Site Planning	Neighborhood or Village Planning	Apia-wide or National Planning
Land Development – Roads			
Provide services and infrastructure to the rapidly growing Vaitele area		×	×
Hillside development could pose danger from soil erosion, runoff, increase sediment load in streams	×	×	
Prevent encroachment on roads and services through building setbacks	×	×	
Overcrowding, over development	×	×	×
Pedestrian Access			
Need footpaths for pedestrian safety		×	
Need traffic lights in pedestrian-prone areas of heavy traffic		×	
Accommodate people with disabilities and special needs	×	×	
Business areas should have connecting footpaths and overhangs	×	×	

1.4 Planning Approaches

In countries where planning and development systems for land and land use are well developed, a range of approaches have been used to deal with the issue of development outcomes at the individual site, village, district and national levels. In Samoa prior to PUMA, there had been no integrated and formal system of plans, policies and guidelines to facilitate sound and orderly planning at a range of levels. Development at the individual site level is assessed via the *National Building Code*, prepared in 1992 and adopted by Government in 2002. The *Survey Ordinance 1961* considers subdivision and subdivision layout whilst the draft *Environment Impact Assessment (EIA) Regulations 1998*[1] consider the environmental impacts of major developments. National policies for economic development have been addressed through the *Strategy for the*

[1] The EIA Regulations 1998 are currently being reviewed under the Infrastructure Asset Management Project II. This review shall take into account the development consent procedures outlined in the PUM Act 2004.

Development of Samoa 2005-2007 (SDS) and include improving infrastructure and services, health standards and private sector development

Where formal planning and development systems have been established in other countries, two main approaches have been used to facilitate the desired outcomes at the individual site level:

- development standards; and
- performance based approaches.

Development standards, primarily quantitative, set the minimum standards to be achieved such as setback levels, plot size, area for built site coverage and height of buildings. More recently, performance based approaches have been used to overcome the shortcomings of focusing solely on development standards. The emphasis has been on addressing specific environmental, social and economic concerns in the planning and development process and their 'required performance' at the individual site level – for example, building siting, open space and drainage.

Performance based approaches are founded on maintaining acceptable standards whilst setting:

- objectives for each key element in the planning and development process; and
- the criteria to be achieved in reaching that objective.

The purpose and objective of each design element and the range of actions by which it is achieved - that is, the performance based criteria - is paramount. The performance based approach can include a combination of both performance based criteria and qualitative standards. The advantages and disadvantages of each approach are shown in Table 2.

Table 2: Development Standards and Performance Based Approaches for Planning and Development: Advantages and Disadvantages

Regulatory Approach	Advantages	Disadvantages
Development Standards *(standards primarily quantitative)*	• easy to understand • easy to administer	• often mandatory and legally binding • discourage innovation in design outcomes • minimum standards often become the norm • standards often not directly related to objectives and purpose, thus, difficult to adapt to special circumstances
Performance Based *(performance criteria may include quantitative and descriptive standards)*	• links objectives and purpose together • outcome sought is more clearly identified • encourages pre-application consultation	• outcome sought needs to be clearly articulated and substantiated • some non-quantitative performance criteria can be interpreted 'widely'

In terms of their formal expression in the planning process, such planning and development approaches may be presented in the form of:

- guidelines,
- standards,
- development control plans,
- regulations,
- codes,
- practice notes or the like.

All of these tools, however presented, may be advisory only or legally binding, or a combination of both. As such, guidelines provide guidance either with or without the context of a wider legally binding planning system, stating which components are mandatory or not. Guidelines can be all encompassing and can provide direction on development standards, performance objectives, policies, site planning criteria and the like.

A code on the other hand is a set of uniform provisions that may or may not be legally binding. Codes increasingly deal with a specific land use, development or industry activity such as a Code of Practice for road and seawall construction, Code of Practice for piggeries or Code of Practice for forestry. In the Samoan context where PUMA is starting from a point where insufficient

resource information exists on planning for housing, it was considered appropriate to use an approach based on guidelines.

1.5 Relationship to the PUM Act 2004

The *PUM Act 2004* under Section 9(b)(iv) allows for guidelines such as those contained in this resource document to be prepared if they assist in achieving better development outcomes. Thus, the intention is to formalize these Guidelines under the processes set down in the *PUM Act 2004*.

The Guidelines complement the provisions of the National Building Code for Samoa, but with an emphasis on site planning issues rather than building and structural provisions. In the *PUM Act 2004* the legislation refers to the term "responsible authority", which is PUMA. PUMA is responsible for providing guidance on planning and development matters such as reflected in these Guidelines as well as assessing and determining Development Consent applications. As discussed in Chapter 2 of this document, the Guidelines will form a principal basis for the assessment of development proposals principally for housing.

1.6 Format of the Guidelines

In the context of the need for clarity and consistency in advice as well as user friendliness in documentation, the format of the Guidelines is as follows:

- *identification of the housing element to be addressed*: for example, drainage, site coverage, setbacks;
- *the basis for each element*: a statement about the issues and concerns, that is, the background about that element which generated the need to develop the guidelines of that specific element;
- *the performance objective for the element*: that is, a statement of intent to identify the objectives that the provisions of that element are intended to achieve;
- *the varying perspectives and outcomes that the affected groups wish to achieve*: this is fundamental to the planning process given planning at the site, district, regional and national levels is sometimes a trade off between the broader public interest and the private interest; and
- *a set of performance criteria to meet the objective*: that is, how the objectives can be achieved.

The emphasis in the Guidelines is on addressing basic planning issues including an emphasis on the need for proper site analysis before design commences. An understanding of the site and its environmental constraints and opportunities is a fundamental step in the design and development process.

The Guidelines have been divided into three Parts:

- ***Chapter 1: Contextual Setting***
- ***Chapter 2: Planning and Development Assessment Process***
- ***Chapter 3: Performance Standards***

Based on the above format, the formal Guidelines as relating to site analysis and key elements to be considered in the planning process are contained in Chapter 3.

Other Parts can be added over time such as Guidelines for the siting of industry, subdivision involving two or more lots, planning and development guidelines for Apia Central Business Area (CBA), developer contributions, land reclamation and the like.

1.7 Application of the Guidelines

The Guidelines will apply to all of Samoa but with an emphasis on Apia and Salelologa. They will be used in the development consultation and assessment process. The Guidelines are suggested as applying in two stages:

(i) adopted as policy under the *Planning and Urban Management Act 2004*; and

(ii) after a period from adoption as policy, for example, such as 12 months, as a binding document made under the *Planning and Urban Management Act 2004*.

2 *Planning and Development Assessment*

2.1 Context

The *PUM Act 2004* has a number of key objectives that are achieved through the detailed provisions contained in Part V of the Act. The setting of clear objectives in the Act is paramount as they provide the purpose for which the legislation has been developed - they are the overarching statement of intent. The objectives of the *PUM Act 2004* as set out under Section 8 are as follows:

(a) to provide for the fair, orderly, economic and sustainable use, development and management of land including the protection of natural and man-made resources and maintenance of ecological process and genetic diversity;

(b) to enable land use and development planning and policy to be integrated with environmental, social, economic, conservation and resource management policies at national, regional, district, village and site specific levels;

(c) to create an appropriate urban structure and form for the development of Apia and other centres so as to provide equitable and orderly access to transportation, recreation, employment and other opportunities;

(d) to secure a pleasant, efficient and safe working, living and recreational environment for all Samoans and visitors to Samoa;

(e) to protect public utilities and other assets and enable the orderly provision and co-ordination of public utilities and other facilities for the benefit of the community; and

(f) to balance the present and future interests of all Samoans.

All development needs consent under the Act (Section 34) and shall not be carried out unless such consent is obtained and is in force. Under section 2 the term development is interpreted as:

> *"Development" includes the use of land (whether for a long term or temporary purpose), the erection of a building or other structure, the carrying out of a work, subdivision, and any other activity regulated under this Act.*

Such development must be carried out in accordance with the consent granted. A sustainable management plan or regulations could identify that certain development does not need consent if in accordance with the plan or regulations.

Through the *PUM Act*, PUMA as the responsible authority is able to develop national, regional, district and local policies specific to land use and development, as well as create sustainable

management plans and policies to address issues at various levels including village and district wide. This includes the making of guidelines such as those contained in this document.

2.2 Development Consent Assessment Process

The development consent assessment process is hereby set out as contained in the *PUM Act 2004*. The planning approval process will occur prior to the issuing of a Building Permit under the National Building Code 1992 of Samoa, where all building work must be carried out in accordance with the provisions of the Building Code and standards therein.

As part of the planning assessment process, the *PUM Act 2004* clearly states under Section 46 the range of matters that PUMA as the responsible authority must consider when a development proposal is submitted in an application. The assessment criteria listed are wide and while they will not apply to all applications, it is important they be considered by those intending to undertake development as a 'checklist'. Importantly, the assessment criteria under Subsection (e) make reference to the need to consider any strategic plan, policy statement, development standard or guideline. In this context, the Housing Guidelines outlined in Chapter 3 and Chapter 4 of this document must be used in the planning and development assessment process.

Under Section 46, it is important that any development proposal be discussed with PUMA to see which of the following matters may or may not be relevant to a proposal:

(a) any submissions received, including any objections;

(b) any decision and comments of a relevant authority;

(c) the provisions of any sustainable management plan or draft sustainable management plan;

(d) the contents of any development plan which PUMA may have requested the applicant to supply;

(e) any strategic plan, policy statement, development standards, guideline, or the like, which has been adopted by a public authority;

(f) the potential environmental effects of any development proposal, including any environmental impact assessment, which has been prepared;

(g) potential social and economic effects;

(h) likely effects on cultural and natural heritage;

(i) the sustainability of the proposed development;

(j) suitability of the site for the proposed development, including consideration of natural hazards such as flooding, earthquake, cyclone, subsidence, slip, drainage and erosion;

(k) the character of the proposed development, including its bulk, size and shape;

(l) adequacy of arrangements relating to waste water, sanitation and access to the proposed development;

(m) provision of private and public open space;

(n) adequacy of arrangements made for the parking of vehicles generated by the proposed development;

(o) proposed safety features of the development, including fire safety features;

(p) adequacy of the structure of buildings and other structures to fulfill the purpose for which they are to be used;

(q) the public interest;

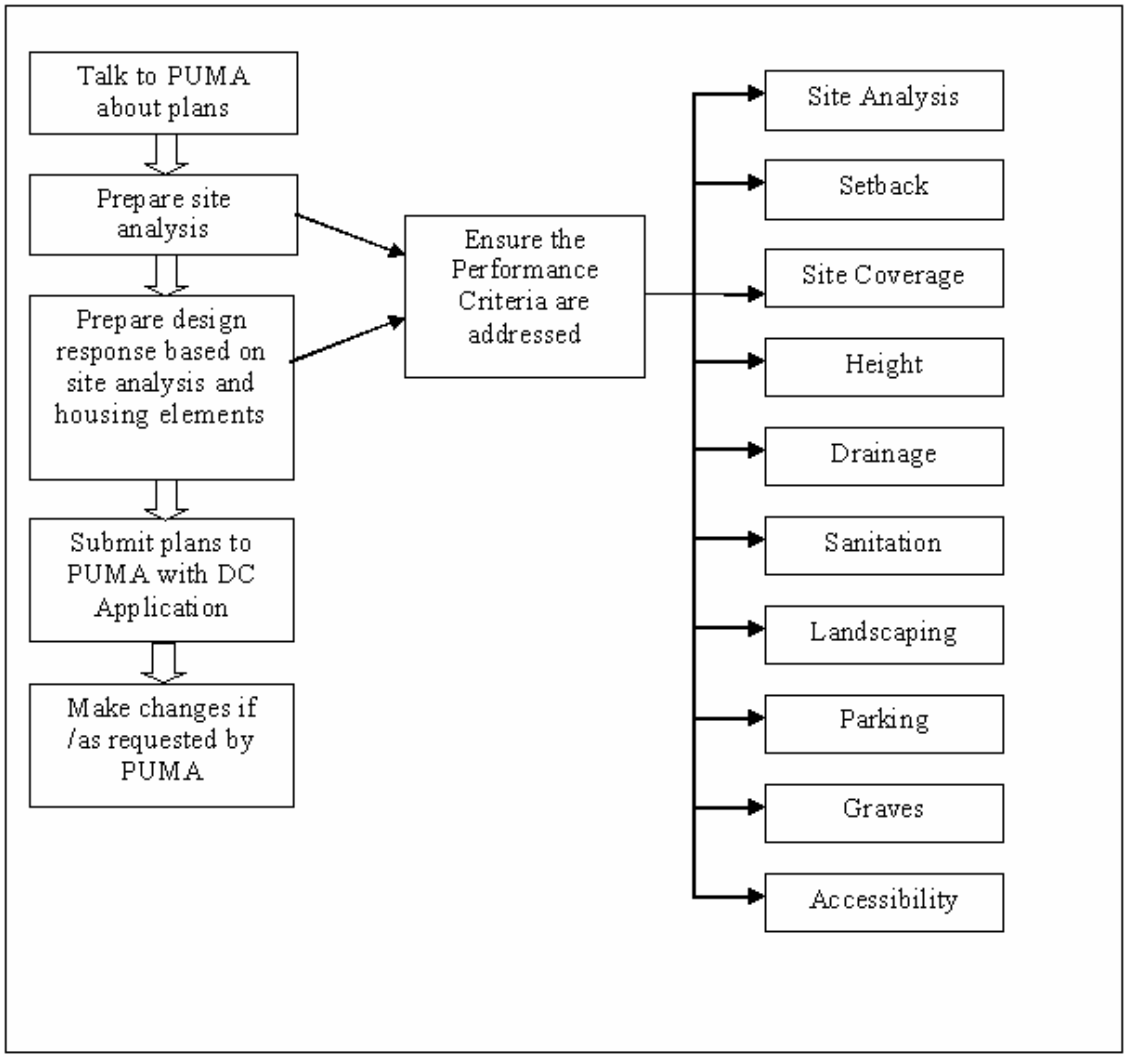
(r) the objectives of this Act, including the need to reach consensus; and

(s) any other relevant matter.

3 *Housing Guidelines*

Figure 1 shows the typical procedures when applying for development consent with regard to housing.

Figure 1: The Processes for Housing Development Consent Applications



3.1 Site Analysis

3.1.1 Basis of the Element

The design of residential development should respect the conditions of the site and external influences on the site environs. Preparing a site analysis will ensure that the site and its environs have been considered during the site assessment process. The applicant can then view these features as opportunities or constraints during the design process. In this way, the applicant can potentially take advantage of the special features of the site including any risks and hazards, thus contributing to a better quality living environment. The applicant must submit a site analysis and the design response when applying for a Development Consent with PUMA.

3.1.2 Element Objectives

- To ensure that the proposed residential development is supported by an appropriate level of site analysis;
- To site buildings with regards to the physical, environmental and cultural features of the site and external surrounds including natural hazards;
- To ensure the design of the residential development responds to the physical, environmental, social and cultural features of the site including any external influences; and
- To ensure other existing plans and policies are considered in the site analysis process including coastal infrastructure management (CIM) plans which identify natural hazards such as flooding, erosion, landslip and areas sensitive to coastal hazards.

3.1.3 Stakeholder Perspectives

- **Property owner:** Through a site analysis, the property owner and household can appreciate the conditions under which the proposed development will occur and how the design responds to the opportunities and constraints of the site. This analysis and design response can assist the property owner in showing neighbours, the village, and PUMA staff his / her ideas.

- **Neighbours and village:** To ensure that the physical, environmental and cultural aspects of the site have been taken into account in the design of the proposed development, thus contributing and adding to street and village character rather than potentially detracting from it.

- **Government:** To allow staff of PUMA and other key infrastructure and service organizations to obtain an understanding of the site to be developed through good site analysis and an appropriate design response including mitigating any detrimental environmental impact. Understanding the context of the development via a site analysis will allow PUMA and other affected parties to better evaluate whether or not the proposed design meets the adopted performance criteria. Hazards in coastal areas such as flooding, erosion and landslip, need to be considered in the site analysis process.

3.1.4 Performance Criteria

The site analysis must include a plan or sketches showing existing conditions to scale and include an analysis of existing environmental, physical and socio-cultural features (see Figure 1 and 2 for example). A site analysis must include the following:

A. Physical Characteristics

- Property lines with dimensions to show size and shape of site (in metres);
- Existing buildings and other improvements on or near the site;
- Existing land uses of site and adjacent properties;
- Existing roads, footpaths, signs, etc. on or near the site;
- Existing utility lines on or near the site (telecommunications, water, electricity);
- Topography including slope of the site; and
- Soil conditions and geology.

B. Environmental Characteristics

- Existing plantation areas including any crops;
- Existing cover of trees, and any vegetation removed in last 12 months;
- Significant habitats and movement corridors;
- Location of any rare or threatened species;
- Solar orientation;
- Prevailing winds;
- Views;
- Drainage patterns;
- Potential for natural hazards such as flooding, erosion and landslip;
- Reserves / protected areas;
- Waterways, streams or coastal areas; and
- Water catchments.

C. Socio-Cultural Characteristics

- Archeological sites;
- Burial grounds;
- Predominant surrounding land uses; and
- Recreational / park areas.

Figure 2: Site Analysis

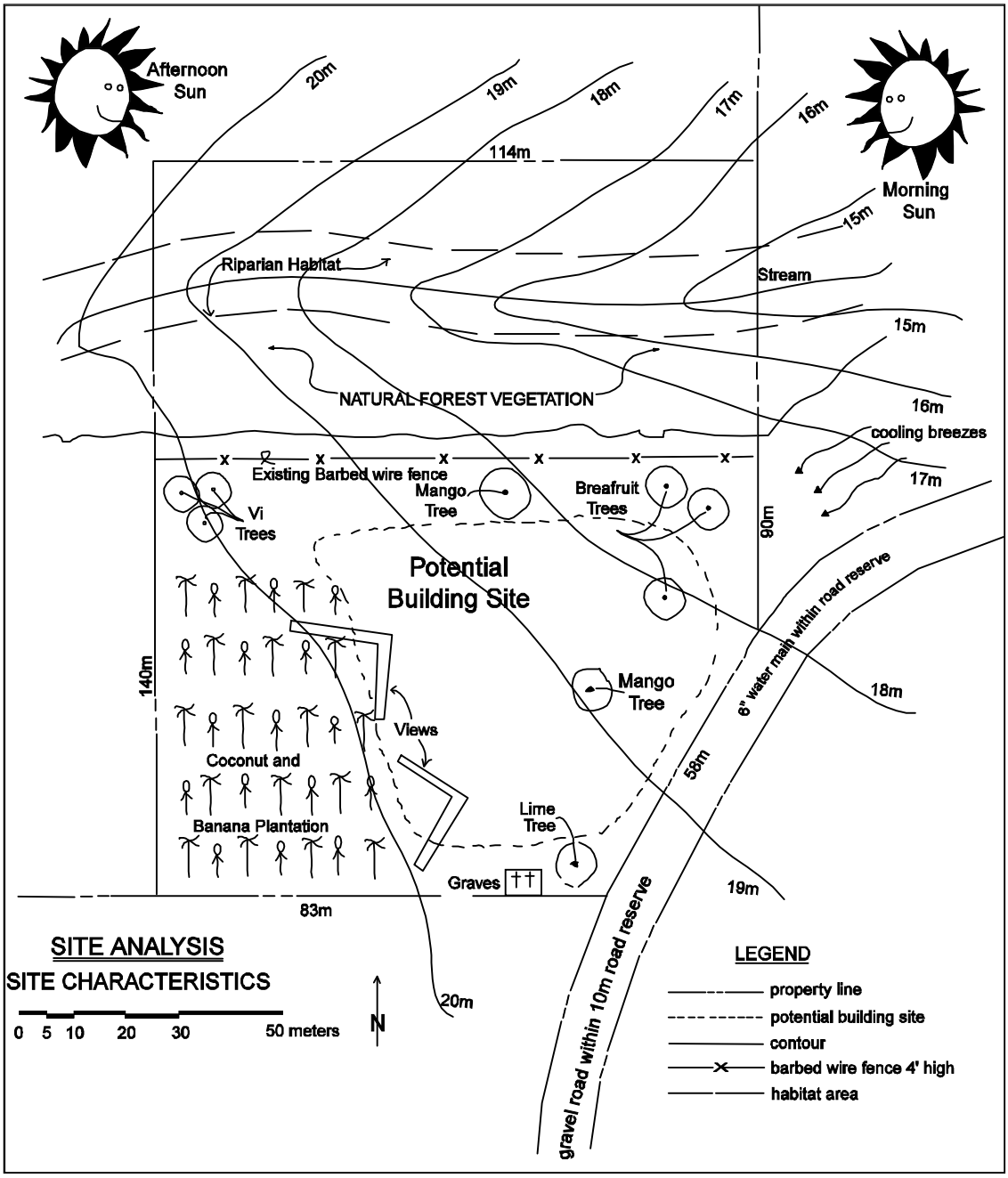
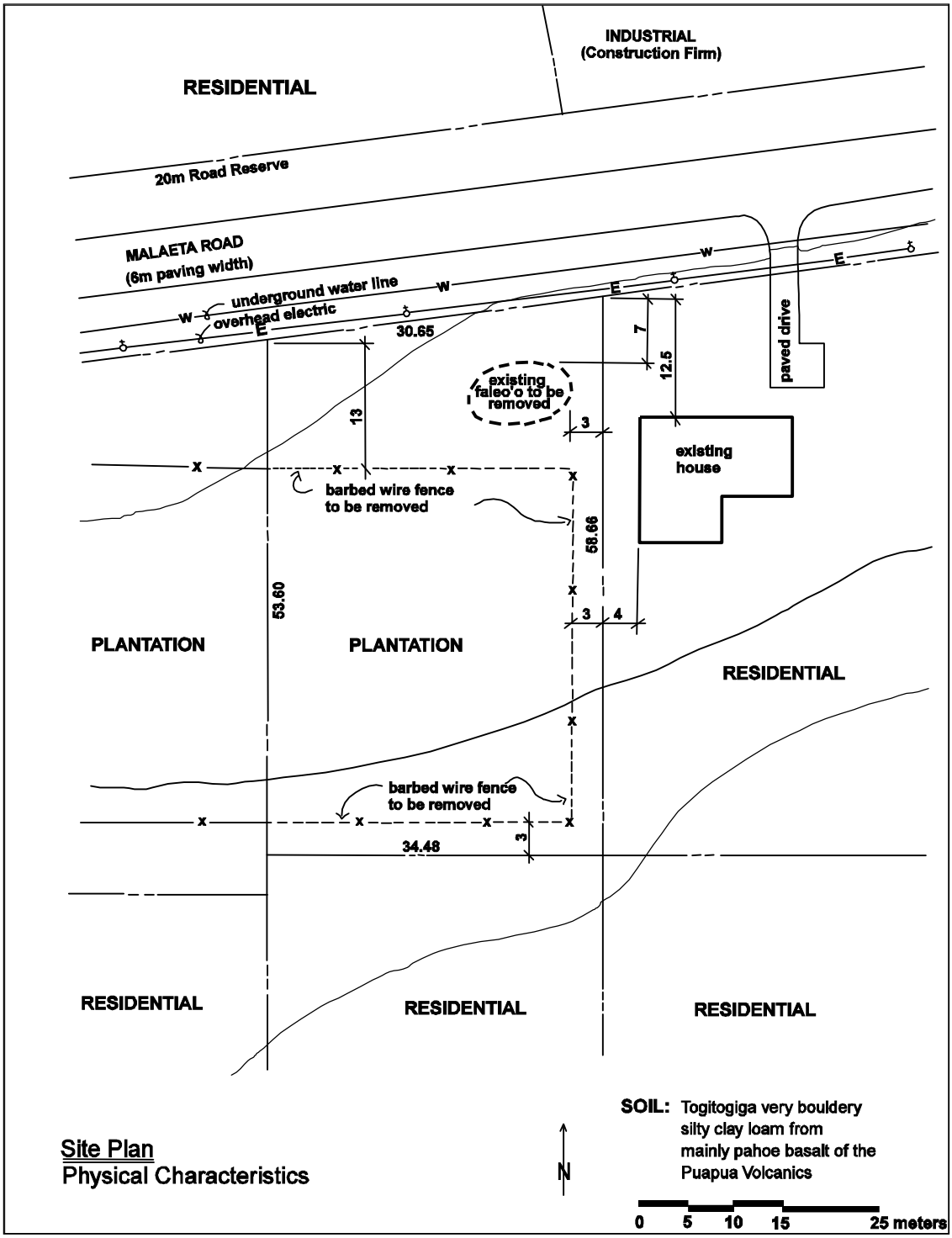


Figure 3: Site Plan Illustrating Physical Characteristics

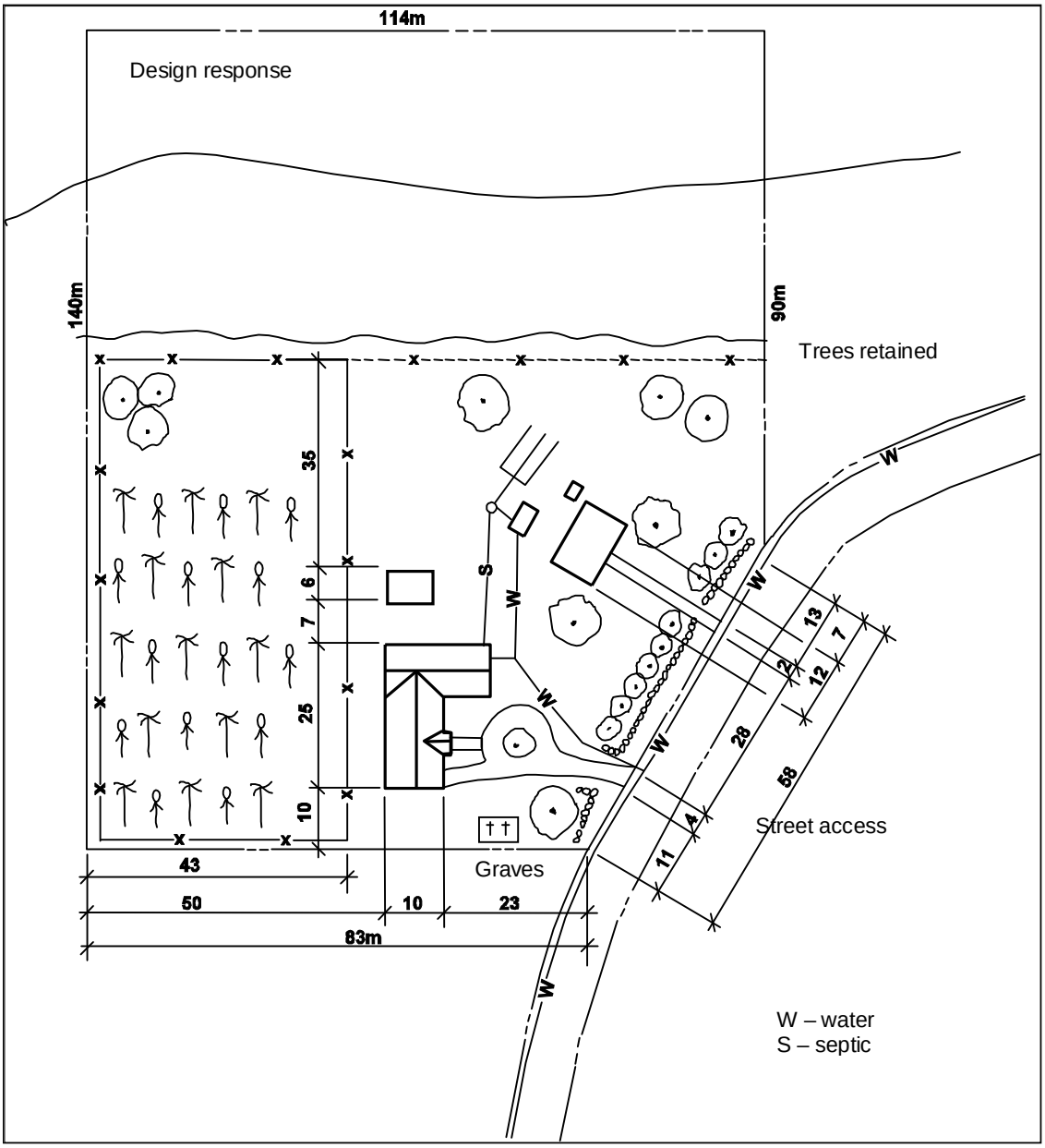


3.1.5 Design Response

The design response must include a site plan or sketches showing the proposed development to scale. The applicant will be expected to show how the design of the proposed development derives from the site analysis. The design response must include the following (for example see Figure 4):

- Proposed uses;
- Location of proposed development including local *fale* / *faleo'o* buildings, excavations and any fill, out-buildings, burial place (grave or tomb), rainwater tanks, *umu* (traditional kitchen), landscaping, pig sty (*sai pua'a*), fences and walls, shown to scale with dimensions and distances from property lines, utilities and nearby structures (in metres);
- Impact on adjacent land uses including maintainance of privacy, particularly for outside private spaces such as outdoor cooking and washing areas;
- Availability of street access and utilities;
- Preservation of large trees, significant vegetation areas, and plantation crops;
- Impact on waterways, streams and coastal areas;
- Size, shape and bulk of proposed structures;
- Any alterations to existing vegetation and natural habitats;
- Proposed access and egress;
- Any features for special needs groups;
- Proposed parking / vehicle storage;
- Proposed utility extensions (water, telecommunications, electricity);
- Proposed sanitation including the siting of the main chamber(s) of the septic tank, pit latrine or other approved system and the location; the extent of effluent disposal areas in relation to the dwelling house(s) and plot boundaries; and location of absorption trenches; and
- How balance of land could be subdivided if there is future development potential.

Figure 4: Proposed Site Plan



3.2 Setback

3.2.1 Basis of the Element

This element deals with the siting of buildings in relation to street, side and rear plot boundaries. The location of development on a plot can affect street and village character and impacts on adjoining uses. Front setbacks are a significant component of the streetscape providing a safety buffer between private residences and the public street whilst making an important contribution to

village character. Where there is a consistent front setback on adjacent properties, it is preferable to match this setback. Side and rear setbacks produce space between buildings and boundaries, contributing to, and reinforcing residential amenity (including privacy and provision of sunlight) for different households on different plots.

3.2.2 Element Objectives

- To ensure that the siting of residential buildings via front, rear and side setbacks complements the existing character of the street and village; and
- To ensure that front, rear and side setbacks limit impacts on local amenity such as privacy and overshadowing existing dwellings.

3.2.3 Stakeholder Perspectives

- **Property owner:** To maximize the development of the site in a way that meets the needs of the family and household.

- **Neighbours and village:** To ensure that adjoining property owners and villagers benefit from (or are not negatively impacted by) new residential development. Neighbours want to maintain their privacy, sense of space and residential amenity, and not be bothered by uses that may become a potential nuisance when located in close proximity to their boundaries or intrude onto the public space. They want development to fit into the existing street and village character. Requiring minimal setbacks between buildings on adjoining properties will reduce the potential for conflict among neighbours with regards to noise and smoke from fires, for example.

- **Government:** To ensure that households are satisfactorily located on the plot, balancing private and public interests. Adequate siting of new buildings with regard to adequate setbacks and spacing in coastal hazard zones reduces the burden on the Government during times of crisis such as natural disasters. The attractiveness of villages reflects well on the country and supports tourism initiatives.

3.2.4 Performance Criteria

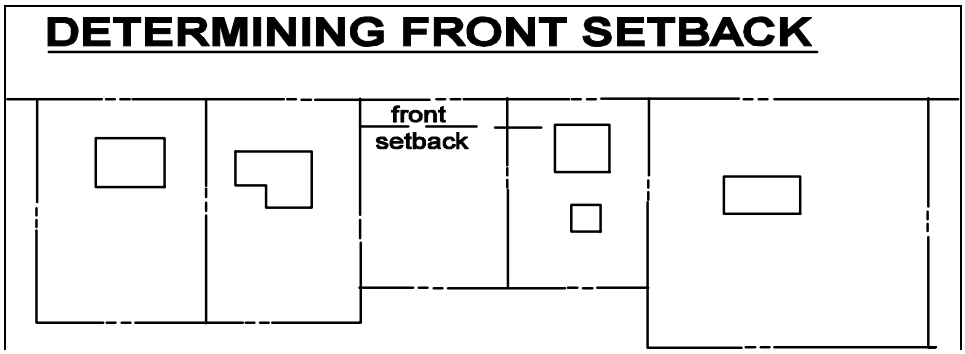
Buildings should be sited after consideration of the physical, environmental, social and cultural features of the site and external surrounds (that is, the **Site Analysis and the Design Response**) For example see Figure 4. The location of the building(s) on the site will ensure that:

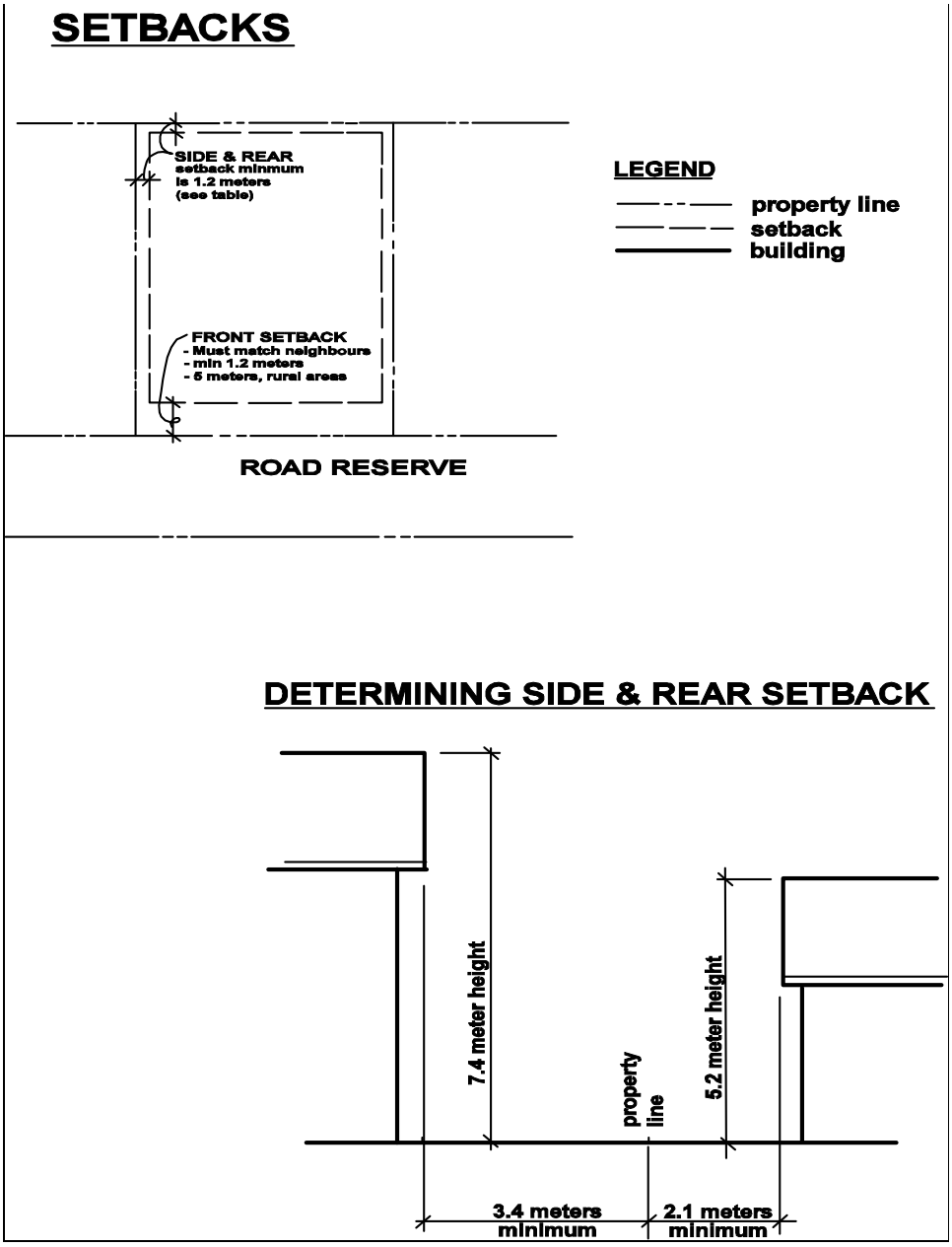
- The minimum front setback for the building must not be closer to the street reserve than that of the nearest four properties on the same side of the street, and in no case less than 1.2 meters.
- If the building is in a rural area with no surrounding housing, the minimum front setback is 5 meters to provide enough area for landscaping for an attractive streetscape and minimum interference from local traffic.
- If more than one building are constructed on the same property, should comply with *Schedule DCP1.1 of the National Building Code* which requires external walls of Class 1 Building located 3 meters from other buildings than of Class 10(a) building.
- The taller the building, the greater the side and rear setbacks required. See chart below for minimum setbacks based on height of building.

Table 3: Minimum Standards for Side and Rear Setbacks

Height of Building (in meters)	Minimum Setback (in meters)
≤ 3	1.2
$3 >$ building ≤ 4	1.5
$4 >$ building ≤ 5	1.8
$5 >$ building ≤ 6	2.1
$6 >$ building ≤ 7	2.5
$7 >$ building ≤ 8	3.5
$8 >$ building ≤ 9	4.5
$9 >$ building ≤ 10	5.5
$10 >$ building ≤ 11	6.5

Figure 5: Setback Designs for Front, Side and Rear





3.3 Site Coverage

3.3.1 Basis of the Element

The extent of housing development on a site can affect residential amenity as well as street and village character. The degree to which a building covers a site must consider a combination of elements such as the need to meet setbacks whilst considering the amount of open space, retention of trees and shade cover as well as issues of residential amenity such as privacy and sunlight access.

3.3.2 Element Objectives

- To ensure that the extent of housing development on site has regard to residential amenity, street and village character; and
- To ensure that on-site environmental concerns such as the degree of excavation and disturbance of vegetation and mature trees, are minimized in the site development process; and
- To ensure that housing development responds to the features of the site

3.3.3 Stakeholder Perspectives

- **Property owner:** To maximize the extent of development on site so as to meet the needs of the family and household, including the need for any outbuildings and storage sheds.

- **Neighbours and village:** To ensure that the site is not 'over developed', with development complementing existing street and village character. Neighbours want to maintain their level of residential amenity, such as privacy on their own plots, and not be concerned by potentially excessive development that does not find a 'balance' between an appropriate level of built area and open space on site.

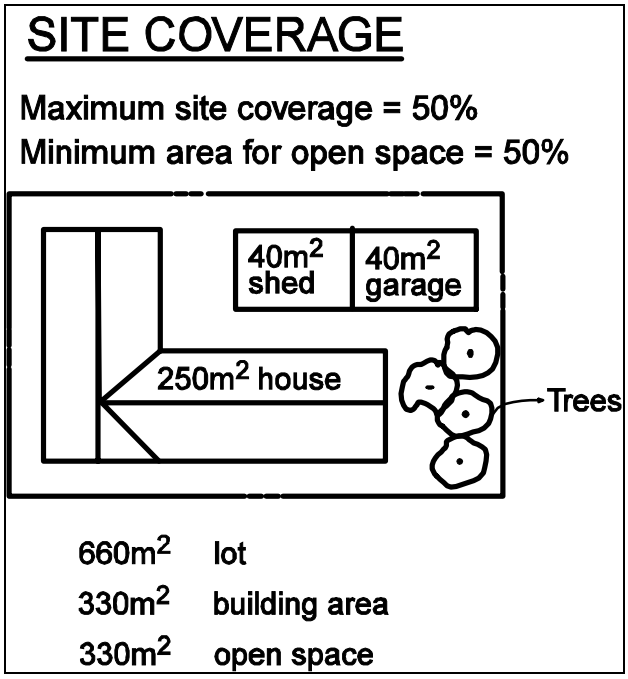
- **Government:** To ensure that residential development is satisfactorily located on the plot, balancing private concerns and public interest including environmental concerns both on and off site. Over development of the site can lead to excessive demands on infrastructure, raise local amenity issues and concerns with adjoining neighbours, accentuate drainage issues and storm water flows, and may lead to disputes.

3.3.4 Performance Criteria

Buildings should be sited after consideration of the physical, environmental, social and cultural features of the site and external surrounds, including the prevailing street and village character (that is, the **Site Analysis and the Design Response**). The location of the building(s) on the site (for example see Figure 5) will ensure that:

- The maximum site coverage of all buildings is 50% of the plot.
- The minimum area for open space is 50% of the plot.
- The site coverage of buildings and sealed surfaces must be limited to assist in reducing increases in storm water and site runoff as well as retaining vegetation where possible.

Figure 6: Site Coverage



3.4 Height of Building

3.4.1 Basis of the Element

Height can adversely affect street and village character in combination with other design elements such as building setbacks. Excessive height results in detriment to privacy and daylight as well as excessive visual bulk. Height can become a significant concern when the height of the building exceeds the prevailing scale and bulk of surrounding buildings.

3.4.2 Element Objectives

- To ensure that the proposed height of the residential development is sympathetic to the prevailing street and village character, in scale with prevailing streetscape, and complementing village character rather than detracting from it; and
- To ensure that residential buildings do not compromise considerations of privacy, sunlight and ventilation and radio frequencies for adjoining property owners.

3.4.3 Stakeholder perspectives

- **Property owner:** To maximize the height of the building so as to accommodate lifestyle needs and site opportunities including views and prevailing winds

- **Neighbours and village:** To ensure that the height of adjoining and neighboring houses does not lead to issues and concerns associated with lack of privacy and daylight, as well as any detrimental impact on the streetscape. Building height must respect customary rules and regulations in traditional villages.

- **Government:** To ensure a mix of housing types that meets the needs of various households whilst ensuring that any detrimental impact on community expectations and the environment, including street and village character, is minimized.

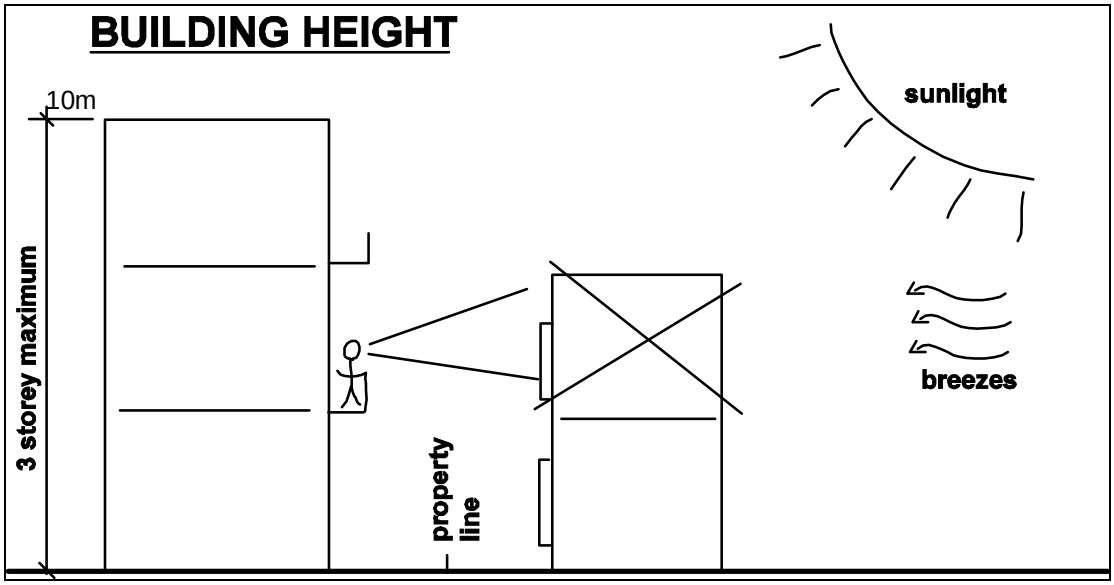
3.4.4 Performance Criteria

The height of the building should be determined after consideration of the physical, environmental, social and cultural features of the site and external surrounds, including the prevailing street and village character (that is, the **Site Analysis and the Design Response**). For example see Figure 6.

- A residential building shall not exceed 3 storeys (up to a maximum of 10 metres).

- The height of the building shall not result in any significant loss of amenity such as views, privacy, sunlight and ventilation for adjoining housing.

Figure 7: Building Height



3.5 Drainage

3.5.1 Basis of the Element

New housing development must be adequately drained so that damage to property resulting from storm water flows and flooding is minimized. On-site changes to natural landform for housing such as site excavation, tree and vegetation clearance as well as changes to levels for roads and bridges often results in alteration of drainage patterns. Thus, drainage systems must be designed with capacity to accommodate the appropriate storm flows. Where possible, downstream flows should reflect flow rates that do not exceed levels prior to development. Importantly, the environmental values and physical characteristics of receiving streams, waterways and inshore marine waters should be protected from degradation resulting from changes to the quality and quantity of runoff from residential development. Drainage systems need to be designed as part of the **Site Analysis and Design Response**, utilizing on-site open space for runoff infiltration and storm water retention where possible.

3.5.2 Element Objectives

- To minimize increases in storm water runoff;
- To prevent local nuisance flows and storm water damage to property and people;
- To contain drainage flows to levels which are acceptable to the community;
- To provide for drainage systems which are economical and which utilize open space and on-site undeveloped land for infiltration as far as possible;
- To protect where possible from runoff the soil resources and village amenity including physical characteristics of receiving streams; and
- To enhance the environmental values of the site where possible through the integration of storm water management.

3.5.3 Stakeholder Perspectives

- **Property owner:** To ensure that storm water runoff is taken as far away as possible from the built area, preferably to a public space such as a road or stream, thus minimizing any local on-site storm water impact.

- **Neighbours and village:** To ensure that storm water flows to adjoining properties and streets do not occur, thus minimizing the potential for flooding and reduced water quality of streams and marine environs.

- **Government:** To ensure landowners take responsibility for developing and maintaining storm water systems on site as far as possible so as to prevent storm water damage to property including both private and public assets. This is especially relevant during times of peak flows.

3.5.4 Performance Criteria

The drainage system should be developed after consideration of the physical, environmental, social and cultural features of the site and external surrounds (that is, the **Site Analysis and the Design Response**). The drainage plans shall reflect that:

- The on-site drainage system be designed to ensure that existing downstream flows are restricted to predevelopment levels unless otherwise agreed by PUMA or other referral agency.
- The drainage system shall be accessible and designed for easy maintenance with no hidden flow paths.
- The drainage system shall be designed to minimize potential for accumulation of silt and debris by including traps for collection and removal at accessible locations.
- The drainage system shall be designed so that any on-site overflow will be directed to the major drainage system, thus minimizing damage to property and village safety.
- Where soil permeability allows, soak pits in terms of size and spacing shall be strategically provided on site for infiltration of storm water.
- Storm water must be prevented as far as possible from entering on-site sanitation systems.

3.6 Sanitation

3.6.1 Basis of the Element

On-site sanitation systems for housing such as septic tanks and pit latrines need to be located appropriately and function properly. Inappropriate siting of pit latrines and septic tanks in the Apia urban area has meant that some on-site systems drain directly into adjoining streams and rivers, some are located adjacent to housing and food preparation areas, while some are in close proximity to wells or are placed directly on side and rear boundaries.

In low lying areas were the water table is high, on-site systems (especially pit latrines) are subject to flooding and inundation, making it hard for effective anaerobic and aerobic decomposition to take place and effluent to be properly absorbed. If not properly designed and maintained, septic tanks can often smell because either the absorption trenches or soak pits for effluent disposal are blocked, or the soil and hence the design of the soak pit or absorption trench is not suitable to absorb the effluent, or desludging of the tank is not carried out on a regular basis. There are good public health and environmental reasons for promoting the effective siting of pit latrines and septic tanks in all housing areas. Alternative forms of on-site sanitation such as composting toilets should be encouraged in areas where there is a high water table. Where a reticulated sewage system does exist, development proposals will be required to connect to that system.

3.6.2 Element Objectives

- To promote good public health practices with regard to the siting of on-site sanitation systems;
- To minimize the impact of effluent from on-site systems on the environment, especially in low lying high water table areas;
- To promote good design and layout of on-site sanitation systems which have regard to the prevailing environment, including the results of the site analysis and relationship to external surrounds; and
- To ensure that where a reticulated sewage system does exist, development will be required to connect to it.

3.6.3 Stakeholder Perspectives

- **Property owner:** To ensure that the on-site system is cost effective and efficient, has no effect on amenity such as smells or creating water logged areas, and requires minimal maintenance and desludging.

- **Neighbours and village:** To ensure that the on-site systems of neighbours including the location of absorption trenches and soak pits are located away from side and rear boundaries, do not flow into adjoining properties especially after rain, and do not smell. That is, on-site systems should be sited correctly and work efficiently. On-site systems should not affect local drinking water sourced from wells or food sourced from inshore areas such as mangroves.

- **Government:** To ensure landowners take responsibility for selecting the right choice of on-site sanitation system including regard to local soil conditions and water table (for example, unlined pit latrines are not appropriate in low lying areas), that systems are sited and constructed correctly and that the impact on the environment and external surrounds is minimized. Where a public reticulated sewage system does exist adjoining a property, landowners will be required connect to it rather than install their own individual on-site system.

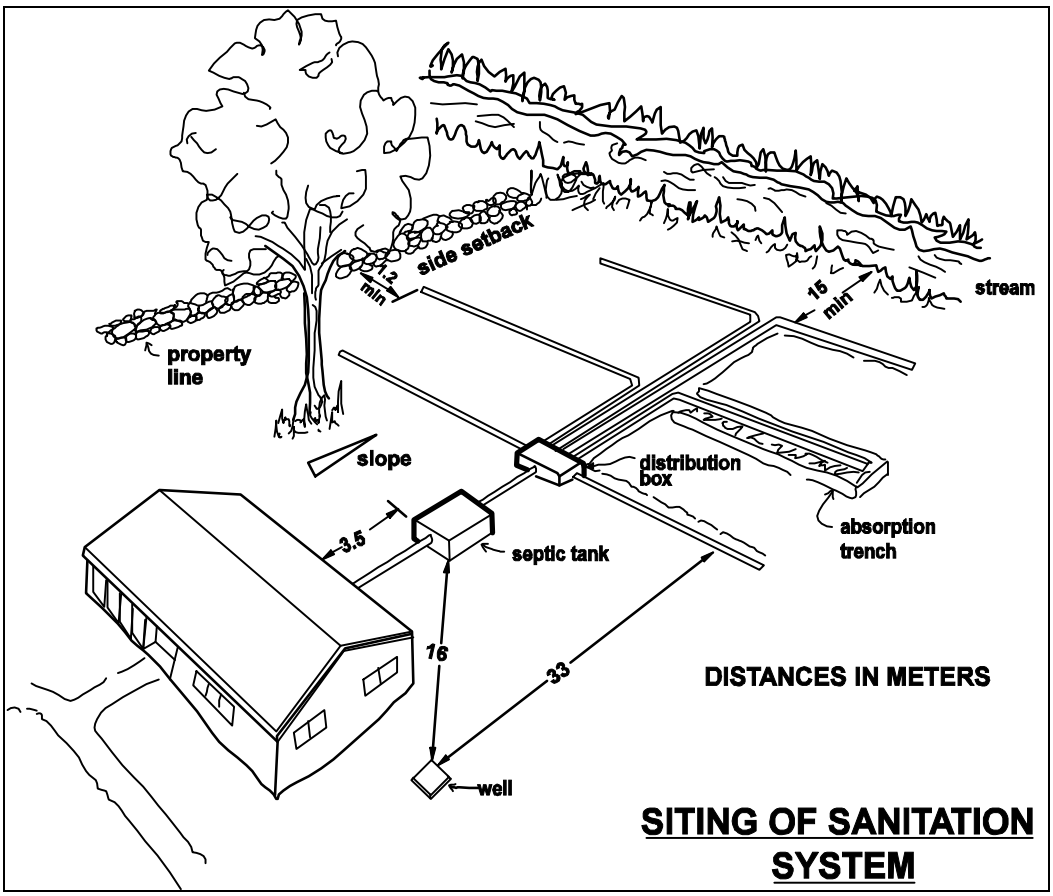
3.6.4 Performance Criteria

The choice of on-site sanitation system should be developed after consideration of the physical, environmental, social and cultural features of the site and external surrounds (that is, the **Site Analysis and the Design Response**). The plan for the on-site sanitation system shall indicate:

- The siting of the main chamber(s) of the septic tank, pit latrine or other approved system and the location.
- The extent of effluent disposal areas in relation to the dwelling house(s) and plot boundaries.
- The siting of any on-site wells used for potable water supply in relation to the location of the sanitation system including effluent areas.
- Absorption trenches, such trenches to be no closer than 15 meters from a stream or river.
- Soak pits, such pits to be no closer than 30 meters from a stream or river.
- Absorption trenches and soak pits shall not be located within the designated setbacks for front and side boundaries.

- No discharge by pipe or trench to adjoining properties, stream, river, drain, public space or the like.
- No unlined pit latrine to be provided in low lying flood prone areas of Apia unless otherwise approved by PUMA.
- Compliance with the National Building Code including any amendments.
- The comments of the Samoa Water Authority, Ministry of Health or any other referral authority.

Figure 8: Siting of Sanitation System



3.7 Landscaping

3.7.1 Basis of the Element

The Guidelines require a minimum of 50% of the site to be reserved for open space. Landscaping of the open space and non-built areas including road reserves, plays a major role in contributing to residential amenity, street and village character in both urban and rural areas of Samoa. The retention of existing vegetation including plantation areas and fruit trees as well as the planting of new vegetation can address on-site considerations such as provision of food sources, reducing visual intrusion, minimizing site disturbance, stabilizing drainage flows, provision of noise buffer and other local amenity concerns.

3.7.2 Element Objectives

- To ensure that landscaping takes advantage of the natural features of the site;
- To ensure that both existing and proposed landscaping considers the impact on adjacent properties including privacy, earth instability, erosion, overshadowing and root damage; and
- To ensure that landscaping does not interfere with service and utility lines.
- Retention of significant trees on the site.

3.7.3 Stakeholder Perspectives

- **Property owner:** To ensure that landscaping meets the aesthetic, recreational, food resource and socio-cultural needs (medicinal, ceremonial) of the household.

- **Neighbours and village:** To ensure that landscaping does not detract from on-site amenity issues such as overshadowing, whilst contributing to the neat and orderly layout of the street and village.

- **Government:** To ensure maintenance of on-site vegetation as far as possible whilst ensuring new vegetation respects the property of neighbours and avoids interference with utilities.

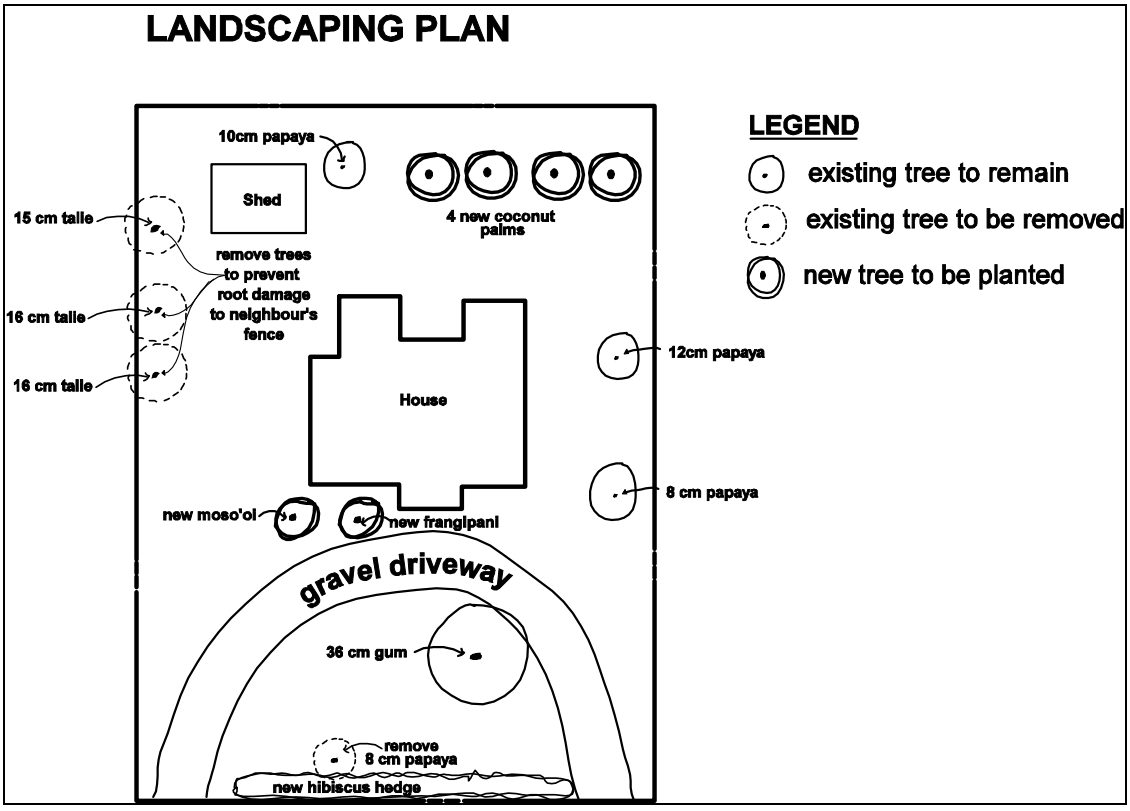
3.7.4 Performance Criteria

A landscaping plan should be developed after consideration of the physical, environmental, social and cultural features of the site and external surrounds, including the prevailing street and village character (that is, the **Site Analysis and the Design Response**) as well as household needs. The

Design Response shall indicate any mature trees and vegetation to be removed. The landscaping plan shall indicate:

- Maintenance of on-site vegetation and tree cover including schedule of trees to be removed and schedule of trees to be replanted.
- Protection of neighbouring fences and property from tree root damage and overhanging tree branches.
- Restrict safe sight distances for drivers approaching the corner adjoining any property.
- Treatment of on-site wet areas including any effluent disposal areas.
- Landscaping of the front setback area with plants that reflect the natural streetscape and enhance the appearance of the locality.

Figure 9: Landscape Design and Plan



3.8 Parking

3.8.1 Basis of the Element

The absence of adequate parking requirements for residential developments have led to adverse impacts on environmental (land degradation) and aesthetic (visual clatter) values. Whilst residential land uses in Apia continue to expand and car ownership increases, it is important that the applicant provides for adequate parking on-site. The average household size in the urban area's is 7.6 persons, therefore this element ensures that parking is made available in new residential development. Provision of off-street parking is an important component of creating a safe streetscape and ensuring improved traffic flow.

3.8.2 Element Objectives

- To ensure that car parking is adequate for needs of residents;
- To protect environmental and streetscape characteristics of the locality; and
- To improve visual aesthetics and neighbourhood character.

3.8.3 Stakeholder Perspective

- **Property owner:** To design for parking space that includes a minimum of two (2) car spaces and responds to the needs of the proposed development. To ensure existing surrounding developments are not detrimentally affected.

- **Neighbours and village:** To ensure that the proposed design does not detrimentally affect existing residential land uses such as spill over parking and congested streets, the space is to be screened by landscape treatments such as planting and fencing.

- **Government:** To ensure provision of off-street car parking that considers the locality, surrounding land uses, street safety and traffic flow, visual amenity. Details of such treatment to be submitted to PUMA as part of the Development Consent application demonstrating that a satisfactory appearance to the street will be presented.

3.8.4 Performance Criterion

- Design the layout of the lot and the associated building envelope to allow for at least two (2) accessible space to accompany a standard dwelling design.
- Parking must be designed so that either ingress to, and egress from, each space can be achieved in one movement.
- Minimize the visual impact of parking on the streetscape.

- Where feasible, setback the parking area a minimum of 5 meters from the front boundary of the site to reduce visual impacts.
- Driveways are to be designed with a pavement width of 3 meters.
- Provision of an appropriate level of on-site parking to meet occupant and visitor parking requirements.
- On main roads, visitor parking must be accommodated on-site.

3.9 Burial Sites and Graves

3.9.1 Basis of the Element

Family Burial Sites and Graves in residential lots need to be located appropriately and constructed properly. Inappropriate siting or construction of graves in the Apia urban area could cause health issues, land disturbances and negative drainage and run-off effects.

Graves and tombs sited in the coastal hazard zones are highly susceptible and are at risk from erosion. In low lying areas where the water table is high, graves may be subject to flooding and inundation. If graves are poorly designed and maintained, they are likely to deteriorate and wear away by coastal processes. There are public health and environmental reasons for promoting the effective siting of burial sites and graves in all housing areas. Alternative locations of burial sites such as cemeteries, should be encouraged in areas where there is a high water table. Where a nearby cemetery does exist, development proposals will be encouraged to locate their burial sites within it.

3.9.2 Element Objectives

- To promote best public health practices with regard to siting of burial sites and graves;
- To minimize the impact of poorly constructed graves, particularly in low lying, high water table areas;
- To promote good design and construction of burial sites and graves which have regard to the existing environment. This includes regarding the results of the site analysis and the relationship of the development to surrounding environment; and
- To ensure that where a nearby cemetery exists, its use will be encouraged for the location of graves.

3.9.3 Stakeholder Perspective

- **Property owner:** To ensure that the burial site or grave has no effect on amenity, such as creating water logged areas, and requires minimal maintenance.

- **Neighbours and village:** To ensure that the burial sites and graves of neighbours are located away from side and rear boundaries. That is, burial sites and graves should be located in appropriate sites and well constructed.

- **Government:** To ensure landowners and developers take responsibility for selecting the appropriate site and to use construction methods that take into consideration the environmental context. Where a cemetery serves a community, developers will be encouraged to use this area.

3.9.4 Performance Criterion

Locating burial sites should be developed after considering the physical, environmental, social and cultural features of the site (that is, the **Site analysis and Design Response**). The plan for the burial site and grave shall indicate:

- The siting of the graves or burial site.
- The construction of the grave, including the depth and proposed materials.
- Compliance with the Burials Ordinance including any amendments.
- The comments of any referral authority.

3.10 Accessibility

3.10.1 Basis of the Element

New housing development should consider accessibility for differently abled people, such as those in wheelchairs, the blind, the aged, pregnant women, parents with prams or people with mobility problems.

Accessibility factors need to be taken into account in the design of houses and outlined as part of the **Site Analysis and Design Response**. Further detail should be presented as part of the building permit application.

3.10.2 Element Objectives

- To ensure residential development provides adequately for those with mobility impairments.
- To ensure space is provided for adequate manoeuvring of a wheelchair, pram or other mobility assistance aid in residential development.
- To provide an accessible and continuous path of travel within the site with minimal slope.

3.10.3 Stakeholder Perspectives

- **Property owner:** To ensure the development of the site and buildings are accessible to all those within the household and any visitors to the property.

- **Neighbours and village:** To ensure that adjoining property owners and villagers benefit from (or are not negatively impacted by) new residential development.

- **Government:** To ensure that households are satisfactorily accessible to those with a disability, balancing private and public interests. To ensure a mix of housing types that meets the needs of various households, such as those with disabled members, whilst ensuring that any detrimental impact on community expectations and the environment is minimized.

3.10.4 Performance Criteria

The following performance criteria should be adhered to when designing housing developments.

General

- Development should avoid abrupt vertical changes of level (kerbs, steps, ruts, gutters etc) to ensure a continuous accessible path of travel.
- Development should avoid excessive slope (camber) across the direction of travel on a footpath (which makes control of a wheelchair difficult).
- Buildings should provide adequate forward reach and available clearance under basins, tables and benches to allow access for a person in a wheelchair as well as their wheelchair footrests and front wheels.
- Buildings should provide adequate space into doorways and within rooms to allow for wheelchair dimensions and turning circles.
- Development should avoid surface finishes which hamper wheelchair mobility (e.g. gravel, grass or deep-pile carpet) and surfaces that do not provide sufficient traction (e.g. polished surfaces).

External Access: Pathways/Ramps

- All pathways and ramps should be a minimum width of 1000mm (1200mm recommended).
- The full length of the pathway/ramp should have an overhead clearance of 2000mm.
- The pathway/ramp should have a firm, level and slip-resistant surface in all weather conditions.
- A ramp should have a slope gradient where the ratio is 1:14 or greater.
- A 1:14 ramp should have a landing every 9 metres. (Recommended landings every 6 metres).
- The landings should be 1200mm in length or greater.

Entrances

- The minimum clear opening of a doorway required is 800mm (preferred 850mm).
- The door handles should be at a height of 800mm – 1100mm.
- The door should ideally be threshold level. If there is a threshold at the entrance or doorway, a step ramp of not more than 450mm in length, less than 56mm in height and greater than 1:8 should be installed.
- There needs to be adequate wheelchair circulation space on both sides of the entrances/doorway.

Interiors

- Internal walkways should be a minimum of 1000mm wide (1200mm recommended).If there are stairs, each step should be of equal height and less than 190mm

Definitions

Amenity	the status of the living environment at the site, street and district level as reflected in the prevailing levels of site facilities, standards of built development, daylight, open space, visual privacy, noise, site coverage and the like
Building	A fixed structure which includes carports, garages, eaves and down pipes
Class 1 Building	a residence that may comprise one or more buildings including any habitable outbuilding, such buildings as defined as Class 1 in the National Building Code 1992
Class 10(a) Building	a non-habitable outbuilding or structure such as a carport, private garage, shed or the like
Design Response	a design which considers and responds to the results of the Site Analysis required by the Guidelines
Development	includes the use of land for a particular purpose, the construction of new buildings, the alteration and demolition of new buildings, the carrying out of works such as excavation and filling, and subdivision of land
Element	an essential component for assessment in the planning and development of residential buildings
Guidelines	means the *Planning and Development Guidelines for Housing*
MNREM	Ministry of Natural Resources, Environment and Meteorology
Objective	a statement of intent so as to clearly identify the objectives that the provisions of the element section are intended to achieve. Located at the beginning of each element in the Guidelines
Performance Criteria	to identify the criterion that the provisions of that element are intended to achieve
PUMA	Planning and Urban Management Agency, within MWTI
Relevant authority	means a public authority considered by the Agency to have a function or functions relevant to a development application
Site Analysis Plan	a plan which indicates the results of an evaluation of the site in the context of its surrounds including constraints and opportunities
Storey	means the space within a building which is situated between one floor level and the floor level next above, or if there is no floor above, the ceiling or roof above
Streetscape	the interplay of natural, built, social and cultural environments that make one street distinct or different from another

References

Burial Ordinance 1961

Environment Impact Assessment Regulation 1998

Government of Western Samoa, 1992, *National Building Code*, Public Works Department, Western Samoa

Subdivision Ordinance 1961