

2nd Draft

Planning and Development
Guidelines for Housing

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Ministry of Natural Resources and Environment
Apia, Samoa**

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Part A: 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 and Environment (MNRE), 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.

More recently in 2003, the Government has agreed that the functions of disaster management be located within PUMA. 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 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 by ensuring 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 forthcoming *Planning and Urban Management Act 2004* for Samoa (see Part B).

As housing is a major consumer 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 basic 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 Planning and Urban Management Act 2004 (*PUMA 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, etc. Over time, the Guidelines will be expanded 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 which 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 A 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 A: Community and Government Concerns and Issues, 2001-2003

Component	Site Planning	Neighborhood or Village Planning	Apia-wide or National Planning
Environmental Pollution			
Preventing waste dumping that pollutes marine life in coastal areas		X	X
Locating a dumpsite near village		X	X
Waste oil polluting village stream	X	X	
Noise pollution to neighbors	X	X	X
Proper disposal of harmful chemicals		X	X
Piggery giving foul odor near school	X	X	
Wastewater and Sanitation			
Discharges from factory	X	X	X
Wastewater goes directly into drains	X	X	X
National Hospital effluent and septage discharging into Lalovaea stream	X	X	X
Wastewater that ponds in drains	X	X	X
Industrial areas have blocked drainage and full soak pits	X	X	X
Laundromat wastewater empties into formal and informal stormwater drains	X	X	X
Uncontrolled cutting of trees in the watershed and catchment areas	X	X	X
Septic tank overflows/malfunction	X	X	X
Flooding and Drainage			
Need for formal drainage system		X	X
People modifying waterways and causing flooding in low-lying areas	X	X	
Flooding of Fugalei market area	X	X	
Land Development – Roads			
Provide services and infrastructure to the rapidly growing Vaitele area		X	X
Hillside development could pose danger from soil erosion, runoff, increase sediment load in streams	X	X	
Prevent encroachment on roads and services through building setbacks	X	X	
Overcrowding, over development	X	X	X
Pedestrian Access			
Need footpaths for pedestrian safety		X	
Need traffic lights in pedestrian-prone areas of heavy traffic		X	
Accommodate people with disabilities	X	X	
Business areas should have connecting footpaths and overhangs	X	X	

1.4 Planning Approaches that Have Been Used in the Past

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 Subdivision Ordinance considers subdivision and subdivision layout whilst the draft EIA Regulations consider the environmental impacts of major developments. National policies for economic development have been addressed through the Strategy for the Development of Samoa 2002-2004 (SDS).

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 during the last two decades, 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 B.

Table B: 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 New PUMA Act 2004

The new legislation 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 formalise these Guidelines at a later stage under the processes set down in the *Planning and Urban Management 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 new *Planning and Urban Management Act 2004* the legislation refers to the term “responsible authority”, which will be PUMA. PUMA will be responsible for providing guidance on planning and development matters such as reflected in these Guidelines as well as assessing, deciding and approving development applications. As discussed in Part B of this brochure, the

Guidelines will form a principal basis for the assessment of development proposals especially 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 four Parts:

- **Part A: Contextual Setting**

- **Part B: Planning and Development Assessment Process**
- **Part C: Site Analysis and Design Response**
- **Part D: Housing Elements**

Based on the above format, the formal Guidelines as relating site analysis and key elements to be considered in the planning process are contained in Part C and Part D. 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 after the passing of the new Planning and Urban Management legislation;
- (ii) after a period from adoption as policy, for example, such as 12 months, as a binding document made under the new *Planning and Urban Management Act*.

Part B: The Planning and Development Assessment Process

2.1 Context

The new *Planning and Urban Management Act 2004* has a number of key objectives that are achieved through the detailed provisions contained in the legislation. 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 PUMA 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.

Through the new *Planning and Urban Management* legislation, PUMA as the responsible authority will be able to develop national, regional, district and local policies specific to land use and development, as well as create sustainable development 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 these Guidelines for Housing.

2.2 The Development Assessment Process

The development assessment process is hereby set out as contained in the new *Planning and Urban Management Act 2004*. The planning assessment process will occur prior to the issue of a Building Permit under the National Building Code of Samoa. As part of the planning assessment process, the new *Planning and Urban Management Act* 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 part (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 Part C and Part D 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 if PUMA decides development application has to be advertised, 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 made under the new *Planning and Urban Management Act*;
- (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 including PUMA;
- (f) the potential environmental effects of any development proposal, including any environmental impact assessment which has been requested by PUMA;
- (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 the *Planning and Urban Management Act*, including the need to reach consensus; and
- (s) any other relevant matter.

Part C: Site Analysis and Design Response

3.1 Site Analysis

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 planning permit with PUMA.

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 polices are considered in the site analysis process including coastal infrastructure management (CIM) plans which identify hazard, flooding and slip areas in coastal areas.

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 neighbors, the village, and PUMA staff his/her ideas.

- **Neighbors 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.

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. A site analysis must include the following:

Physical Characteristics

- ❑ Property lines with dimensions to show size and shape of site;
- ❑ 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.

Environmental Characteristics

- ❑ Existing plantation areas including any crops;
- ❑ Existing cover of trees;
- ❑ Significant habitats and movement corridors;
- ❑ Location of any rare or threatened species;
- ❑ Solar orientation;
- ❑ Prevailing winds;
- ❑ Views;
- ❑ Drainage patterns;
- ❑ Waterways, streams or coastal areas; and
- ❑ Potential for natural hazards such as flooding and erosion.
- ❑ Reserves/ Protected Areas and Natural Water Sheds.

Socio-Cultural Characteristics

- ❑ Archeological sites and
- ❑ Burial grounds
- ❑ Recreational Areas and Industrial Areas.

3.2 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 amongst other factors, derives from the site analysis.

The design response must include the following:

- Proposed uses;
- Location of proposed development including local *fale* buildings, excavations and any fill, outbuildings, landscaping, fences and walls, shown to scale with dimensions and distances from property lines and nearby structures;
- Impact on adjacent land uses and the need to maintain 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;
- 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.

Part D: Housing Elements

4.1 Setbacks

1. Basis of the Element

This element deals with the siting of buildings in relation to street and side and rear plot boundaries. The location of development on a plot can affect street and village character including impacts on adjoining uses. Front setbacks are a significant component of 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 and reinforcing residential amenity including privacy and provision of sunlight between different households on different plots.

2. Element Objectives

- To ensure that the siting of residential buildings via front and side setbacks complements the existing character of the street and village; and
- To ensure that front and side setbacks meet varying user requirements for residential amenity including privacy, sunlight and respect for public spaces.

3. Stakeholder Perspectives

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

- **Neighbors and village:** To ensure that adjoining property owners and villagers benefit from new residential development. Neighbors 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 neighbors 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 zones reduces the burden on the Government during times of crisis such as natural disasters. The attractiveness of villages reflects well on the country including maintaining tourism.

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). 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.

- The taller the building, the greater the side and rear setbacks required.
See chart below for minimum setbacks based on height of building.

<u>Height of Building</u> (in meters)	<u>Minimum Setback</u> (in meters)
≤ 3	1.2
$3 < \text{building} \leq 4$	1.5
$4 < \text{building} \leq 5$	1.8
$5 < \text{building} \leq 6$	2.1
$6 < \text{building} \leq 7$	2.5
$7 < \text{building} \leq 8$	3.5
$8 < \text{building} \leq 9$	4.5
$9 < \text{building} \leq 10$	5.5
$10 < \text{building} \leq 11$	6.5

(Graphics)

4.2 Site Coverage

1. Basis of the Element

The extent of housing development on a site can affect residential amenity and 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.

2. Element Objectives

- To ensure that the extent of built 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 including vegetation and mature trees is minimized in the site development process.

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.
- **Neighbors and village:** To ensure that the site is not 'over developed', with development complementing existing street and village character. Neighbors 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 amenity issues and concerns with adjoining neighbors, accentuate drainage issues and stormwater flows, and thus the need to mediate disputes.

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 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.

(Graphics)

4.3 Height of Buildings

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 buildings.

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.

4. 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
- **Neighbors 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 the detrimental impact on community expectations and the environment, including street and village character, is minimized.

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).

- A residential building shall not exceed a height of 3 stories.
- The height of the building shall not result in any significant loss of amenity including views, privacy, sunlight and ventilation for adjoining housing.

(Graphics)

4.4 Drainage

1. Basis of the Element

New housing development must be adequately drained so that damage to property resulting from stormwater 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 stormwater retention where possible.

2. Element Objectives

- ❑ To minimize increases in stormwater runoff;
- ❑ To prevent local nuisance flows and stormwater 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 stormwater management.

3. Stakeholder Perspectives

- **Property owner:** To ensure that stormwater 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 stormwater impact.
- **Neighbors and village:** To ensure that stormwater 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 stormwater systems on site as far as possible so as to prevent stormwater damage to property including both private and public assets. This is especially relevant during times of peak flows.

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 stormwater.
- Stormwater must be prevented as far as possible from entering on-site sanitation systems.

(Graphics)

4.5 Sanitation

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 adjoining 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 where 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 the absorption trenches or soak pits for effluent disposal are blocked, 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.

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. 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.
- **Neighbors and village:** To ensure that the on-site systems of neighbors 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.

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 floodprone areas of Apia unless otherwise approved by PUMA.
- Compliance with the National Building Code including any amendments.
- The comments of the Samoa Water Authority or any other referral agency.

(Graphics)

4.6 Landscaping

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 and other local amenity concerns.

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, overshadowing and root damage; and
- To ensure that landscaping does not interfere with service and utility lines.

3. Stakeholder Perspectives

- **Property owner**: To ensure that landscaping meets the recreational, food resource and socio-cultural needs (medicinal, ceremonial) of the household.
- **Neighbors 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 neighbors and avoids interference with utilities.

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 neighbors' fences and property from tree root damage and overhanging tree branches.
- Treatment of on-site wet areas including any effluent disposal areas.

(Graphics)

Key Terminology Used in the Guidelines

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 downpipes
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
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
MNRE	Ministry of Natural Resources and Environment, formerly known as the Department of Lands, Survey and Environment
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	a statement of intent to identify the objectives that the provisions of that element are intended to achieve
PUMA	Planning and Urban Management Agency, within the MNRE

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 and assessment 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