54.8 NORTH PUKEKOHE HILL STRUCTURE PLAN AREA

54.8.1. GENERAL

The North Pukekohe Hill Structure Plan Area (Refer to Plan Maps 18, 62, 63, 64 and Diagram 54C), comprising approximately 196 ha, is located at the southern residential edge of Pukekohe township, on the northern slopes of Pukekohe Hill.

All subdivision and development within the North Pukekohe Hill Structure Plan Area shall be in general accordance with Diagram 54C.

The issues, objectives, policies and rules relating to the Residential, Rural-Residential and Rural zones of the district plan shall apply to the corresponding zoned land within the North Pukekohe Hill Structure Plan Area, with additional overriding provisions as specified in Rule 54.8.

The Structure Plan Area consists of two distinctly different parts:

a) The top part of the Hill south of Jellicoe Road, that is a Rural Zone area with a "Special Policy Area" overlay. This area is governed by the provisions that apply to the Special Policy Area, the Rural Zone provisions, and other provisions as specified in 54.8.

b) The rest of the Structure Plan Area that is within a combination of Rural, Special Residential and Special Rural-Residential 1 zonings.

Development Areas have been identified within the Special Rural-Residential 1 Zone. These areas have been selected on the basis of:

- Existing property boundaries;
- Areas that align with landscape features such as existing trees and features;
- The potential of each Development Area to provide for development:
  - that can be clustered in areas which are not prominent when viewed from beyond the Hill to the north, or from more local public places such as roads, walkways and the summit;
  - that can be served by the minimum possible number of access points off roads, and by new access driveways or roads that run along contours rather than across contours;
  - in locations that can be screened from public places by existing vegetation such as shelterbelts, or by new vegetation in areas that can best benefit through utilising vegetation to mitigate adverse visual effects of new development;
- Providing for development that can be planned for, for instance by the use of design guidelines, over a minimum area sufficient to achieve a comprehensive, complementary and consistent character.

54.8.2 KEY RESOURCE MANAGEMENT ISSUES

- Stormwater Run-off / Downstream Flooding

The North Pukekohe Hill Structure Plan Area lies within the Tutaenui catchment. A significant issue within this catchment is the downstream effects of stormwater run-off from Pukekohe Hill under heavy rainfall conditions. Development within the North Pukekohe Hill Structure Plan Area has the potential to mitigate existing and future adverse effects from North Pukekohe Hill Structure Plan Area through appropriate change of land use and further stormwater works.

Sustainable management of appropriate development within the Structure Plan Area presents opportunities to (a) improve water quality, and (b) control, divert and detain stormwater run-off.

- Soil Erosion / Silt Run-off

Soil erosion from cropped areas and the depositing of silt downhill is a significant issue affecting horticultural production within the Structure Plan Area and land uses downstream.

Sustainable management of appropriate residential and rural-residential development within the Structure Plan Area presents opportunities to mitigate existing soil erosion and siltation effects within and below the Structure Plan Area through change of land use and further stormwater works.

Given the nature of soils and slopes in the area, careful management of earthworks and land disturbing activities will be required (especially during construction of roads, building platforms and accessways).

- Groundwater recharge

Two volcanic aquifers exist within the Structure Plan Area, and these are underlain by the regional aquifer known as the Kaawa Formation. These aquifers are currently used for irrigation and potable water supply, and are recharged from rainfall falling over the whole Pukekohe plateau.

Development within the Structure Plan Area has the potential to reduce groundwater recharge capability by an increase in the impervious surface area. The impact of development, in terms of any potential reduction of recharge capability, shall be mitigated by the installation of on-site soakage systems for stormwater run-off from all buildings and impervious surfaces, restrictions on impervious surfaces, and imposition of minimum lot sizes in this area.

- Surface Run-off Contamination

Wastewater treatment and its disposal through effluent fields has the potential to affect the quality of surface and groundwater sources.

Development within the Structure Plan Area will need to be managed to ensure effluent disposal fields are properly designed and located to avoid contamination of surface water or shallow groundwater or that there are agreements in place with Council to connect to a reticulated wastewater system.

A change of land use will assist in the reduction of nitrate contamination of surface and groundwater resources.

- Soils

The costs of continuing soil erosion and siltation / flooding effects downstream are considered to outweigh the benefits of horticultural production within the Structure Plan Area.

The Structure Plan allows for horticultural production to be replaced with residential and rural-residential activities in a sustainable and balanced manner.

- Pukekohe Hill Amenity Values

Pukekohe Hill is an important local landscape feature, which gives Pukekohe its identity and its name, and is an icon for the town and its surroundings. Views of the hill can be gained from extensive areas of the district.

Although there are no known archaeological sites within the Structure Plan Area, Pukekohe Hill itself is of significant cultural importance to local tangata whenua.

Views from the summit of the hill out to the surrounding district are of significance to the whole community. Areas of the mid and upper slopes of the hill are important in respect of the views to the hill.

Urban development within the North Pukekohe Hill Structure Plan Area, and in particular in the Special Rural-Residential 1 zone, will be managed in a manner that promotes an open landscape quality.

Alternative pedestrian access to the summit of Pukekohe Hill is desirable and provided for in the Structure Plan.

- Land Use Conflicts

The existing zoning pattern at the southern edge of Pukekohe township has enabled intensive Residential land uses to be developed alongside Rural land-uses such as market gardens.

The Rural-Residential Zone provides a buffer which will reduce existing and potential conflicts between residential and rural land use activities.

- Integrated Development

The pattern of urban development at the southern edge of Pukekohe township has occurred in an ad hoc inconsistent manner, and without clear boundary limits.

Provision for limited residential and rural-residential development in the Structure Plan Area will rationalise and define the southern boundary of Pukekohe township, assist in financing necessary stormwater public works, and contribute to providing a wide range of residential locations in the town. Such development will not adversely impact on the town as a whole, nor will it be contrary to the adopted policy of providing for growth of Pukekohe primarily to the northeast of the town.

- Reserves

In order to meet the recreation needs of the community sufficient public reserves will be required.

54.8.3 OBJECTIVES AND POLICIES

54.8.3.1 Objective

To avoid, remedy or mitigate the existing and potential adverse effects on both the Pukekohe township and water resources of stormwater run-off, flooding, soil erosion and siltation from the North Pukekohe Hill Structure Plan Area and to avoid or mitigate potential adverse effects arising from the urban development occurring within the North Pukekohe Hill Structure Plan Area.

Policies

1. That limited provision be made for subdivision and residential development of land within the Structure Plan area, while avoiding, remedying or mitigating adverse effects on the downstream environment.

2. That all subdivision and development within the Structure Plan area should be designed and undertaken using a ‘minimum earthworks’ approach including the avoidance of modifying natural water courses, bulk land re-contouring and the location of roads in gullies, to ensure that the existing and potential adverse effects on water quality are avoided, remedied or mitigated.

   (Note: For explanation of a ‘minimum earthworks’ technique refer Auckland Regional Council Technical Publication 124 ‘Low Impact Design Manual for the Auckland Region’).

3. That all subdivision and development incorporate sustainable stormwater management systems including on-site detention and soakage to ground.

4. That all on-site effluent treatment and disposal systems be appropriately designed and located to avoid contamination of surface and shallow groundwater.

5. That Council will undertake to put in place a comprehensive stormwater interception and detention system for the Structure Plan Area. The system shall be generally located as shown on Diagram 54C. It shall be designed to capture excess surface run-off and will comprise a pipeline, local interceptor channels and collector channels for that system discharging to the east gully, and a diversion channel to the western detention area.

6. Development and subdivision shall not proceed until the public stormwater interception and detention system is available to capture any excess runoff from any such development or subdivision which relies on the principal public stormwater interception and detention system, or a separate discharge permit (from the Auckland Regional Council) is separately obtained which stipulates otherwise.

54.8.3.2 Objective

To promote an open space landscape character of the middle/upper slopes of Pukekohe Hill.

Policies

1. That subdivision and development within the Structure Plan area be limited to an average net site area of 1000m^2 in the Special Residential Zone and 3,500m^2 in the Special Rural-Residential 1 Zone, and designed in response to the open space qualities of the Pukekohe Hill landscape. Such open space qualities include those of the landscape not appearing to be dominated by houses, and avoidance of houses being lined behind or beside each other, visual integration with the rural open space characteristics of the area surrounding the Structure Plan area, and appropriate recognition of the existing vegetation and the general visual nature of this environment when viewed from outside the Structure Plan Area.

2. Subdivisions within the Structure Plan area should be designed to achieve the density of development provided for by the subdivision rules in 54.8.7.1, and in response to the open space qualities of the Pukekohe Hill landscape.

3. That all subdivision and development within the Structure Plan Area promote opportunities for retaining existing vegetation and incorporate landscape planting.

4. That development generally be graduated from more intensive at the bottom of the Pukekohe Hill to less intensive at the top of Pukekohe Hill, with particular attention being given when averaging site sizes to provide for the largest sites in those areas which are most visible from public places, including views to the Hill from the north.

5. That, being guided by any Council reserves strategy, and the need, location and size of reserve, reserves be designed to have either an active or a passive or a combined multi-functional role, together with providing linkages to the wider reserves network. The exact location and size of reserve will be determined at the time of subdivision. It is expected that reserves will contribute to promoting an open landscape quality and maintaining and enhancing existing natural features, and that they will be integrated with the wider development to create a safe and pleasant residential and rural-residential environment.

54.8.3.3 Objective

To avoid environmental conflicts between residential and rural land uses at the southern boundaries of Pukekohe township and to recognise that rural activities occur on rural land within the vicinity of residential and rural-residential land. Such rural activities and their associated effects are consistent with the rural environment.

Policies

1. That a transition zone and public roads be used, where possible, as a buffer between the Residential and Rural zones.

54.8.3.4 Objective

To maintain a quiet environment around the Pukekohe Hospital and to provide for its possible future expansion.

Policies

- That a Rural-Residential zone extend over, and adjacent to, the Hospital site.

54.8.4 METHODS OF IMPLEMENTATION OF POLICIES

1. Rural, Rural-Residential and Residential zoning.
2. Minimum lot sizes and limitation of one dwelling house per lot.
3. Special controls with respect to stormwater disposal (including requirements for on-site soakage systems for stormwater run-off from all buildings and impervious surfaces, restrictions on impervious surfaces, and imposition of minimum lot sizes and landscape requirements) are imposed on development to mitigate adverse effects.
4. Proposed public works for comprehensive stormwater management purposes, including a comprehensive public stormwater interceptor system, detention ponds, reserves, and road channels.

   It is important to note that proposed public stormwater control facilities will need to be constructed as a complete system as soon as practicable, involving land purchase by Council, or other agreements with land owners, as necessary.

54.8.5 REASONS AND EXPLANATIONS FOR OBJECTIVES, POLICIES AND METHODS

The development of the North Pukekohe Hill Structure Plan seeks to resolve the key resource management issues, in particular, soil erosion, siltation and flooding effects on Pukekohe township.

The North Pukekohe Hill Structure Plan addresses these environmental effects by the following:

- a reduction in tilled land area on the hill;
- development of residential and rural-residential zoned land with on-site stormwater detention and soakage systems.

The requirement for on-site stormwater soakage systems, and the retention of some areas of Rural Zone, will avoid significant adverse effects on groundwater recharge. In general, impermeable surfaces are limited to 10% of the total site area. In some cases a greater level of development may be permissible. Provision is therefore made as a restricted discretionary activity for impermeable surfaces up to 20%. This is seen as being potentially acceptable provided that it does not increase the peak runoff to be intercepted by a public proposed swale/pipe/pond system. In essence, this means that any increase in the impervious area coverage above 10% needs to be mitigated by the implementation of on-site stormwater management controls. Put another way, controls need to ensure “hydrologic neutrality”, so that the peak flow matches that from the same lot with a 10% impervious area coverage.

In respect of the significance of Pukekohe Hill as a local landscape feature, additional controls will ensure that development in the North Pukekohe Hill Structure Plan Area will be responsive to the natural landform and landscape attributes of the Hill.

The introduction of a Rural-Residential zone with special controls is considered an appropriate buffer zone between the Residential zone at the southern edge of Pukekohe township and the Rural zone.

54.8.6 ANTICIPATED RESULTS

- Reduced conflict between land uses in the Rural and Residential Zones.
- Reduction of soil erosion and siltation.
- Reduction in stormwater run-off and downstream flooding.
- Improvement in water quality.
- Minimisation of development impact on groundwater recharge.
- The maintenance of important landscape values of Pukekohe Hill.

54.8.7 REQUIREMENTS FOR SUBDIVISION - URBAN

Notwithstanding the provisions of Rule 26, all subdivision applications for land within the North Pukekohe Hill Structure Plan Area shall comply with the following:

54.8.7.1A Special Residential Zone

1. **Restricted Discretionary Activities**

Subdivision of sites with an average net* lot size of not less than 1,000m^2 provided that no lot is less than 800m² (net*).

Note*: For the purpose of Rule 54.8.7.1A "net" means exclusive of roads and any driveway shared with more than one site.

54.8.7.1B Special Rural-Residential 1 Zone

1. Controlled Activities

Subdivision that meets the conditions of a Development Area Plan prepared and approved under Rule 54.8.7.3 provided that:

- The average net* lot size is no less than 3,500m²;
- No lot is less than 2,500m² (net*).

In the event that the approved Development Area Plan includes the land at 36 Jellicoe Road, being Lot 2 DP 121566 (CT NA70C/518):

(a) No more than 5 lots (including the balance lot but excluding any access lot) are to be created from Lot 2 DP 121566 (CT NA70C/518); and

(b) The area contained in Lot 2 DP 121566 is to be excluded when calculating the average net* lot sizes for the subdivision over the remainder of the Development Area.

2. Restricted Discretionary Activities

(a) A Development Area Plan for an entire Development Area shown on the North Pukekohe Hill Structure Plan Diagram 54C, prepared in accordance with Rule 54.8.7.3A

(b) Subdivision of sites with an average net lot size of no less than 5,000m^2, provided that:

- all subdivision is to provide for roads, management of stormwater and stormwater reserves in accordance with the North Pukekohe Hill Structure Plan Diagram 54C; and
- no lot is less than 2,500m^2 (net*).

Note: Average lot sizes are to be calculated from the site area existing as at 1 December 2004. When multiple sites are included in the same subdivision consent application, the site areas (as existing at 1 December 2004) may be amalgamated for the purposes of the average lot size calculation.

3. Discretionary Activities

(a) Any subdivision that does not meet the standards of Rule 54.8.7.1B.1(b), provided that the average net* lot size is no less than 3,500m² and that the subdivision is part of a Development Area Plan approved in accordance with Rule 54.8.7.3;

(b) Any proposal for a Development Area which differs from that shown as a Development Area on the North Pukekohe Hill Structure Plan Diagram 54C provided that the area has a minimum size of 8ha and that the application is accompanied by a Development Area Plan for each of the altered Development Areas, prepared in accordance with Rule 54.8.7.3. and 54.8.7.3A;

(c) For any subdivision of the existing site at 36 Jellicoe Road, being Lot 2 DP 121566 (CT NA70C/518), the subdivision of no more than 5 lots (including the balance lot but excluding any access lot), not otherwise provided for by way of an approved Development Area Plan.

4. Non-Complying Activities

Any subdivision that does not comply with performance standards in Rule 54.8.7.1B1, Rule 54.8.7.1B2 or Rule 54.8.7.1B3.

Note*: For the purpose of Rule 54.8.7.1B "net" means exclusive of roads and any driveway less than 10.0m in width leading to a rear site.

Explanation to the Rules

These rules relate to objectives and policies seeking to manage development to maintain and enhance the special qualities of the northern slopes of the Pukekohe Hill (see Sections 17.2.7, 19.1.2B and 54.8.3).

In the Special Rural-Residential 1 zone subdivision to an average site size of not less than 5000m^2 is possible as a Restricted Discretionary Activity. Subdivision will be assessed in accordance with a range of criteria which require regard to be given to the Hill's open space and visual character, form and shape, vegetation, the pattern of rural uses and the effect on those features of the proposed development.

Subdivision will be managed in such a way as to cluster development in a way which is sensitive to the landscape values of the Hill. A minimum net size of 2500m^2 will ensure an appropriate standard of amenity in a low density environment as well as provide adequately for wastewater and stormwater disposal and groundwater recharge.

The rules provide further opportunity for subdivision site sizes to be reduced to a minimum average of 3500m^2 where approval has been given to a Development Area Plan. These plans are to be prepared for an entire Development Area Plan area as shown on the North Pukekohe Hill Structure Plan Diagram 54C. The Development Area Plan areas define discrete areas of landscape quality. There are opportunities in these areas for an overall greater density of development, to a minimum average of 3500m^2, subject to comprehensive design for the entire area. Comprehensive design should include provision for such matters as clustering of development and appropriate location and design of lot boundaries, building platforms, driveways, open space and amenity planting together with guidelines for future building development.

Applications for resource consent must indicate the provision to be made by the consent holder for public amenities, including reserves, roads and walkways as shown on the North Pukekohe Hill Structure Plan.

Special provision is made for the subdivision of 5 lots in respect of the existing site at 36 Jellicoe Road, arising from the special nature of historic development on that site and its existing position and shelterbelt screening. Subdivision of that existing site on its own is provided for by way of Discretionary Activity, or by way of Restricted Discretionary Activity if it is to be incorporated with other existing sites into a Development Area Plan.

54.8.7.2 Assessment Criteria for Subdivision in the Special Residential Zone

In assessing an application for a Restricted Discretionary Activity the Council will assess the activity in terms of:

- the assessment criteria in Rules 26.4, 26.5 and 26.6; and
- the assessment criteria in Part 53; and
- the following matters over which it has restricted the exercise of its discretion:

(a) The extent to which the subdivision design, where relevant, provides for roads, management of stormwater and stormwater reserves in accordance with the North Pukekohe Hill Structure Plan Diagram 54C;

(b) The extent to which subdivision design minimises adverse effects on the natural contours of the landform;

(c) The extent to which boundaries will assist, or constrain, the effective and efficient management and development of the resultant lots, in terms of the likely uses to which they will be put, given their size, shape and location. In particular each new boundary and identified building site shall be located in accordance with the topography and landscape character of the area to take advantage of any existing trees, hedges or other natural features;

(d) Each new boundary shall be designed to take account of responsible water management and the protection of land from soil erosion and inundation;

(e) The extent to which each new lot will have safe and stable vehicular access to the identified building site, including its gradient, width and the extent of any cutting and filling that may be required to ensure this, having regard to the need for access driveways to avoid creating visible scars on the hillside;

(f) Where access from the road to the lot is not by way of a right-of-way or similar, then the extent to which the lot has sufficient frontage to the road to allow safe ingress and egress;

(g) The extent to which amenity planting is provided, in a way that integrates built development into the landscape. It is expected that the type of plant species for planting programmes will be specified, including the use of exotic species, where appropriate;

(h) The extent to which adequate provision has been made for public reserves and reserve linkages / walkways, having regard to the wider area including the Special Rural-Residential 1 Zone.

54.8.7.3 Assessment Criteria for Development Area Plans and Subdivision in the Special Rural-Residential 1 Zone

In assessing an application for a Controlled or Restricted Discretionary Activity or Discretionary Activity the Council will assess the activity in terms of:

- the assessment criteria in Rules 26.4 and 26.5; and

- the assessment criteria in Part 53, and
- in respect of Controlled or Restricted Discretionary Activities only, the following matters over which it has reserved control and restricted the exercise of its discretion:

(a) The extent to which the subdivision design, where relevant, provides for roads, management of stormwater and stormwater reserves in accordance with the North Pukekohe Hill Structure Plan Diagram 54C and any approved Development Area Plan;

(b) The extent to which subdivision design minimises adverse effects on the natural contours of the landform;

(c) The extent to which subdivision design, including the size and layout of lots and future building platforms, where appropriate, clusters development in locations, such as close to existing residential zones, which will both maximise areas of open space and minimise adverse effects in respect of:

- views of the development site from the summit;
- views towards the Hill from the urban areas to the north;
- local views from roads and other public places.

(d) The extent to which subdivision design, including the size and layout of lots, retains areas which will remain permanently free of future building and other development, in such a way as will promote the retention of an overall open landscape quality (Note: it is expected that open space covenants will be required as a condition of consent covering those major parts of a site which will not be required for buildings);

(e) The extent to which subdivision design maximises retention of, and minimises adverse effects on, existing trees and vegetation, unless where removal of trees, such as shelter belts, may enhance an open space character;

(f) The extent to which boundaries will assist, or constrain, the effective and efficient management and development of the resultant lots, in terms of the likely uses to which they will be put, given their size, shape and location. In particular each new boundary and identified building site shall be located in accordance with the topography and the achievement of an open and comprehensively designed landscape character of the area to take advantage of any existing trees, hedges or other natural features;

(g) The extent to which each new lot is designed to take account of responsible water management and the protection of land from soil erosion and inundation;

(h) The extent to which each new lot will have safe and stable vehicular access to the identified building site, including its gradient, width and the extent of any cutting and filling that may be required to ensure this, having regard to the need for access driveways to avoid creating visible scars on the hillside;

(i) Where access from the road to the lot is not by way of a right-of-way or similar, then the extent to which the lot has sufficient frontage to the road to allow safe ingress and egress;

(j) Whether the resulting development is in harmony with and does not detract from the landscape sensitivity and natural and rural character of the area surrounding the Structure Plan area;

(k) The extent to which amenity planting is provided, in a way that integrates built development into the landscape. It is expected that the type of plant species for planting programmes will be specified, including the use of exotic species, where appropriate;

(l) The extent to which adequate provision has been made for public reserves and reserve linkages / walkways, having regard to the wider area including the Special Residential Zone;

(m) The extent to which the proposal recognises and provides for probable buildings and developments on the lots and addresses reverse sensitivity issues in respect of the rural area surrounding the Structure Plan area;

(n) The extent to which the proposal recognises and provides for existing and probable activities on adjoining properties;

(o) The extent to which the proposal achieves a high standard of rural-residential amenity, including comprehensive landscape design and minimising changes to the landform;

(p) The extent to which the proposal provides for lot design and identified building sites that:

i. Encourage innovative design styles of lots and buildings to avoid ribbon development and multiple access points;

ii. Use a variety of techniques including varied road frontage lengths, separation distances between buildings, and varied building setbacks;

(q) The extent to which future development within nominated building sites may create any adverse effects on landscape quality or visual amenity as viewed from beyond the Hill to the north and from more local public places such as roads, walkways and the summit; and whether any such effects may be able to be mitigated through landscaping and / or controls on building bulk, location or design;

(r) The extent to which the Objectives and Policies relating to the North Pukekohe Hill Structure Plan Area are met and promoted (Note: This criterion relates to Discretionary Activities only);

(s) Where sites of less than 2,500m^2 (net) are proposed, whether an overall appropriate standard of amenity in a low density environment can be maintained and that satisfactory provision can be made for wastewater disposal;

(t) In respect of any subdivision of the existing site at 36 Jellicoe Road, being Lot 2 DP 121566 (CT NA70C/518), the shelter belts around the boundaries of that site existing as at August 2006 should either be retained or replaced by alternative amenity planting that achieves the same degree of screening from off-site view.

Notes:

1. Identified building sites may be registered against the title by way of a consent notice.

2. Subject to what is more specifically provided for in terms of Part 15 of the Plan, all electricity and telecommunications lines within the land that is the subject of the subdivision proposal, shall be placed underground unless the relevant supply authority confirms in writing that for specified reasons this is not practicable or reasonable.

54.8.7.3A Development Area Plans

Having due regard to the features shown on the North Pukekohe Hill Structure Plan Diagram 54C, Development Area Plans are to show:

(a) The proposed layout of proposed sites;

(b) The proposed location of building platforms (including for dwellings and accessory buildings);

(c) The approximate location of all proposed roads, walkways, stormwater management areas, privately owned amenity planting, and reserves;

(d) The approximate location of private driveways;

(e) Proposals for earthworks;

(f) The location of all trees, hedges, and shelter belts, and details on whether they are to be retained or removed;

(g) The location of new planting;

(h) The approximate location of infrastructure, including connections with the wider network*;*

(i) Design guidelines to be established for road / driveway construction, buildings, infrastructure and planting;

(j) The provision to be made for integration with surrounding areas in respect of roading / access, walkways, landscaping, positioning of future development and infrastructure;

(k) If subdivision and development within the Development Area Plan area is to be staged, how that is to be done.

(l) Proposals for securing the maintenance of new planting until it is permanently established, for instance through a maintenance contract or bonding arrangement.

(m) Any provision to be made for public reserves and reserve linkages/ walkways.

Note: A Development Area Plan incorporating the existing site at 36 Jellicoe Road, being Lot 2 DP 121566 (CT NA70C/518), may provide for the subdivision of no more than 5 lots (including the balance lot but excluding any access lot) on that existing site.

54.8.7.3B Alterations to Development Areas

Applications for alterations to Development Areas as shown on Diagram 54C shall be assessed in terms of:

- Whether development in the revised Development Area can be clustered in areas which are not prominent when viewed from beyond the Hill to the north, or from more local public places such as roads, walkways and the summit;
- Whether development in the revised Development Area promotes a general decrease in site density from the lower slopes of the Hill to the upper slopes, thereby emphasising the buffer role the Special Rural-Residential 1 zone plays between the urban areas to the north and the rural areas to the south;
- Whether development in the revised Development Area can be served by the minimum number of access points off roads, and by new access driveways or roads that run along contours rather than across contours;
- Whether development in the revised Development Area can be provided for in locations which can be screened from public places by existing vegetation such as shelterbelts, or by new vegetation in areas that can best benefit through utilising vegetation to mitigate adverse visual effects of new development;
- Whether development in the revised Development Area can achieve a comprehensive, complementary and consistent character through the use of design guidelines, covenants or similar mechanisms.

Assistance to Applicants

The Council holds explanatory guidelines to assist in the preparation of Development Area Plans and site development plans.

In respect of Amenity Planting species the focus of landscape treatment should be on species native to the area such as: Cordyline Australis (Cabbage Tree); Sophora microphylla (Kowhai); Rhopalostylis sapida (Nikau Palm); Leptospermum scoparium (Manuka); Coprosma robusta (Coprosma); Corynocarpus laevitigus (Karaka) and Podocarpus totara (Totara).

54.8.7.4 Development Standards - Roading

1. The proposed roading layout shall be consistent with Diagram 54C and shall ensure that, as far as practicable, roading options remain available to adjoining landowners. Similarly, the subdivision layout of any one property must acknowledge the boundaries and access options of adjoining properties in order to ensure an integrated final layout (even though different landowners may choose to proceed with development independently, and/or at different times).

2. Conventional kerb and channel designs are not necessarily appropriate for stormwater management. A stormwater interception system shall be included in road design, especially where roads run along contours, to act as stormwater interception devices. However, where a stormwater interception system is not appropriate or applicable, consideration may be given to the more conventional designs. Situations that will affect the applicability and appropriateness of a stormwater interception system may include (but are not limited to):

   - Gradient of slope
   - Scale of development
   - Traffic and safety considerations
   - Existing stormwater infrastructure.

The proposed Public Stormwater Interception System will not include any area of land to be used for walkway or landscaping, and its establishment may be achieved through either public ownership or easements.

3. Full details of carriageway width and stormwater design shall be submitted along with any subdivision plan.

4. The Routly Avenue extension shall also function as stormwater interceptors as well as roads (as indicated in Diagram 54C) and shall incorporate drains on the uphill side where practical, with these being designed to intercept and divert to main drains all stormwater runoff from a 1% AEP 10-minute storm event. Allowance shall be made in the drain design for appropriate stormwater treatment if required.

5. Where roading is required to include road drains, the road drain shall be designed and constructed to provide for water quality treatment and appropriate infiltration devices.

54.8.7.5 Development Standards - Stormwater Management

1. Subdivision and development shall comply with the conditions of the comprehensive discharge permit currently being sought or as obtained by Franklin District Council.
2. Subject to the above discharge permit, on-site stormwater detention will be required unless either a stormwater discharge permit (from Auckland Regional Council) separately obtained for each new subdivision stipulates otherwise; or some other integrated solution is adopted (such as consent notices on new titles).
3. All new allotments created within the Structure Plan Area shall provide a stormwater management system to the satisfaction of Council that it is effective and appropriate.
4. Stormwater management within the Structure Plan Area shall control the rate of stormwater discharge to ensure that stormwater (including stormwater in all secondary flow systems and the public stormwater system and flows in excess of the capacity of the primary on-site systems), is provided for storm events up to 1 percent AEP.
5. A Monitoring and Maintenance Plan is required for on-site soakage systems at the time of both subdivision and development. The Plans shall be prepared as part of an application for a stormwater discharge permit (either individual subdivision, development, or to comply with a comprehensive stormwater discharge consent for the catchment). The Monitoring and Maintenance Plan shall specify who is responsible for the monitoring and maintenance, and shall be complied with at all times. A consent notice or equivalent shall be placed on titles issued as a result of subdivision noting such a requirement, to the satisfaction of Council. The Council will monitor the required continued maintenance of the established soakage systems in accordance with the Monitoring and Maintenance Plan and standards contained in Rules 54.8.7.5, 54.8.9.4 and 54.8.11.7 as appropriate.

54.8.7.6 Wastewater Disposal

1. All lots within the Residential zone within the Structure Plan Area shall have connection to an approved wastewater system of adequate capacity.
2. All lots within the Rural and Rural-Residential zones within the Structure Plan Area shall provide on-site wastewater collection, treatment and effluent disposal or shall have connection to an approved wastewater system of adequate capacity. The effluent disposal systems shall be designed to avoid any surface or groundwater contamination.
3. Any rural-residential lot connected to a reticulated water supply must have a wastewater effluent system that has sufficient capacity to ensure that the wastewater is appropriately treated and discharged without causing contamination or must be connected to the reticulated public wastewater system.

54.8.7.7 Water Supply

1. All lots within the Residential zone within the Structure Plan Area shall have connection to a reticulated water supply of adequate capacity.

2. All lots within the Rural and Rural-Residential zones within the Structure Plan Area shall be supplied by roof run-off into a site storage tank, or a reticulated water supply if it is available at the road frontage of the lot or via a driveway to the road.
3. Any rural-residential lot connected to a reticulated water supply must have a wastewater effluent system that has sufficient capacity in order to ensure that the wastewater is appropriately treated and discharged without causing contamination or must be connected to the reticulated public wastewater system.

54.8.7.8 Amenity Yard

Where the Rural-Residential zone directly adjoins a Rural zone and where these two zones are not separated by a public road, specified stormwater detention area or Public Open Space, then a 3 metre landscape amenity yard (including the provision and establishment of landscaping) shall be provided along the Rural-Residential / Rural zone boundary.

54.8.7.9 Geotechnical Investigations

Geotechnical Investigations are required on sloping ground within the residential and rural-residential areas of the Structure Plan Area. The Geotechnical Investigations shall ensure that adequate room is available on each lot for on-site disposal of stormwater and (where relevant) wastewater, and that associated ground soakage will not result in any adverse on-site or off-site effects on land stability and building foundations.

54.8.8 FINANCIAL CONTRIBUTIONS

1. The Financial Contribution provisions in Part 10 of this District Plan relating to district and local roading contributions, including Part 10.2.3: Contribution for District Roading and Part 10.2.5: Contribution for Local Roading Impact shall apply when land is being subdivided or developed.

54.8.9 LAND USE – SPECIAL RESIDENTIAL ZONE

The following provisions in Part 27 shall apply in the Special Residential Zone:

Permitted Activities (Rule 27.1 except where specified as a Non-Complying Activity in Rule 54.8.9.1)

Controlled Activities (Rule 27.2 except where specified as a Non-Complying Activity in Rule 54.8.9.1)

Restricted Discretionary Activities (Rule 27.3 except where specified as a Non-Complying Activity in Rule 54.8.9.1)

Discretionary Activities (Rule 27.4 except where specified as a Non-Complying Activity in Rule 54.8.9.1)

Non-Complying Activities (Rule 27.5)

Standards for Permitted Activities (Rule 27.6)

Assessment of Controlled Activities (Rule 27.7)

Assessment of Restricted Discretionary Activities (Rule 27.8)

54.8.9.1 Non-Complying Activities

In addition to the Non-Complying Activities specified in Rule 27.5 the following additional activities are non-complying activities in the Special Residential Zone:

- MULTI–UNIT HOUSING
- PAPAKAINGA HOUSING
- TRAVELLERS' ACCOMMODATION
- SPECIAL HOUSING DEVELOPMENTS
- SERVICE STATIONS
- All activities that do not comply with the development standards specified below.

54.8.9.2 Number of DWELLINGHOUSES per Lot

No more than one DWELLINGHOUSE per lot.

54.8.9.3 Coverage of Site by Impervious Surfaces

Buildings, driveways, paving and other impervious surfaces shall cover no more than 35% of the total site area.

54.8.9.4 Stormwater Disposal – Volume Control

1. An effective and appropriate stormwater system for sites in the Residential zone shall be achieved by the following:

   A. (i) All building roofs shall be connected to stormwater detention tanks or ponds having a capacity of at least 5 cubic metres per 100 square metres of contributing impervious surface. All other impervious surfaces shall be connected to stormwater detention tanks or ponds having a capacity of at least 3 cubic metres per 100 square metres of contributing impervious area. An orifice-controlled outflow shall be provided such that the stormwater detention tanks or ponds shall just be full at or prior to the 20 percent AEP storm event. The orifice-controlled outflow shall be no less than 10 millimetres nominal bore.

   (ii) For tanks or ponds for either building roofs or other impervious surfaces, the storage volumes can be substituted by an equivalent trench/soak hole void volume (taking into proper account the type of backfilled material). If such a storage alternative is implemented it shall be in series with the soakage trench required under D and shall include a flow control structure between the buildings or impervious surface storage feature and the soakage trench. This control structure shall meet the outflow characteristics as specified in A(i) above.

   B. Stormwater detention tanks for the control of run-off may be above or below ground.

   The discharge from the detention tanks shall be diverted to a ground soakage system to provide part of the compensation soakage for loss of groundwater recharge from impervious areas. The capacity of the soakage trench shall be designed to accommodate up to 680 millimetres per annum of runoff from the contributing area.

   C. (i) Pre-treatment

   Runoff from impervious areas other than roof areas shall be considered dirty and to avoid clogging and pollution shall be diverted to a pre-treatment system prior to disposal. Pre-treatment devices shall be designed in accordance with Auckland Regional Council Stormwater

Treatment Devices Guidelines Manual TP 10 (TP10), and may comprise a sediment trap, a vegetated buffer strip or a swale overlying a trench.

(ii) Soakage

Pre-treated water shall be diverted to a soakage system, the overflow from that soakage system being diverted to surface runoff. The soakage system shall comprise:

- Soak holes, drilled to sufficient depth to encounter permeable rock or soils, constructed with a selected backfill and tested to demonstrate the ability to dispose of the runoff volume.
- Soakage trenches constructed with selected backfill and with sufficient volume to store the design runoff.
- Infiltration ponds constructed with sufficient volume to store the design runoff and tested to demonstrate the ability to dispose of the runoff volume.

(iii) Volume

The current requirement of TP10 is to treat 75 % of the annual runoff from impervious ground. For the Pukekohe Hill catchment, the design storm depth (S_d) is 20mm and the design runoff value is 18mm as per the TP10 method of calculation. This amounts to a volume of 1.8m^3 runoff /100m^2 of impervious area. Soakage holes and infiltration ponds will need to be shown by testing to allow soakage of the derived volume. Soakage trenches will need to store this volume to enable disposal by soakage.

The required trench volume will be calculated on a sand porosity of 0.3 or on a scoria or metal porosity of 0.5 (noting the required trench volume is at 6m^3/100m^2 of impervious area based on a sand porosity of 0.3).

(iv) Recharge Mitigation

Recharge mitigation shall be achieved by diverting runoff from the detention tank orifice discharge to ground soakage and shall include consideration of the recharge obtained from diverting impervious areas other than roof runoff to ground soakage.

For impervious area runoff including roof runoff, disposal shall be either by borehole, infiltration pond or soakage trench. The ability of borehole and infiltration ponds to dispose of the roof runoff to achieve recharge mitigation disposal will require demonstration by testing. Disposal to a soakage trench does not require testing given the in-built redundancy of the methodology provided.

The discharge from the detention tank can be diverted into a common trench or into a separate trench.

D. All trenches shall be designed with an overland flow channel, or other means, to direct any surface water run-off exceeding the capacity of the on-site soakage trench and systems into the public stormwater system in such a manner to ensure that the discharge avoids damage to the public stormwater interception system and to adjacent sites.

E. A Preliminary Monitoring and Maintenance Plan is required for on-site soakage systems at the time of subdivision. The Preliminary Monitoring and Maintenance Plan shall be prepared as part of an application for a stormwater discharge permit (whether for an individual subdivision, development, or to comply with comprehensive stormwater discharge consent for the

catchment). The Preliminary Monitoring and Maintenance Plan shall include an indication of the site's or sites' soakage ability as identified in soak tests and an outline of procedures and maintenance requirements that will apply at the time of development.

The Preliminary Monitoring and Maintenance Plan shall include, but not be limited to:

- Outfall structure maintenance.
- Infiltration device and pre-treatment device maintenance.
- Post storm maintenance.
- Frequency of regular maintenance/inspections.
- General inspection checklist for all aspects of stormwater management systems.
- Details of the person(s), body or bodies that will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this ongoing responsibility.
- Location of soakage systems.
- Method of assessing reductions in soakage system performance.
- Criteria for when renovation or reconstruction of soakage systems is required.
- Renovation and reconstruction options available to the property owner.

A Detailed Monitoring and Maintenance Plan is required for on-site soakage systems at the time of development and prior to the issue of a building permit for any dwelling.

The Detailed Monitoring and Maintenance Plan shall include, in addition to those elements defined in the Preliminary Monitoring and Maintenance Plan, but not be limited to:

i) An as-built plan of the stormwater system, which will be added to the Monitoring and Maintenance Plan on completion of construction.

The Detailed Monitoring and Maintenance Plan shall specify who is responsible for the monitoring and maintenance, and shall be complied with at all times. A consent notice or equivalent shall be placed on titles issued as a result of subdivision noting such a requirement, to the satisfaction of Council. The Council will monitor the required continued maintenance of the established soakage systems in accordance with the Monitoring and Maintenance Plan and standards contained in Rules 54.8.7.5, 54.8.9.4 and 54.8.11.7 as appropriate.

Soakage Trench Methodology - Example of Methodology

The methodology involves compensating for loss of infiltration area by a combination of storage and soakage area. Below the methodology is presented using a 1000m^2 property, with 300m^2 impervious area and 200m^2 roof area.

Total Recharge Volume

Recharge compensation is calculated from:

Total impervious area (including roof areas) x 680mm/year

Where 680mm/year is the inferred recharge rate.
For 300m^2 impervious area:
Recharge compensation = 300m^2 x 0.68m/yr
= 204m^3/yr
= 0.56m^3/day
Minimum Trench volume is calculated from:
(Recharge compensation x 1.2)/0.3
where
1.2 = a factor of safety for redundancy
0.3 = porosity of sand
For 300m^2 impervious area:
Minimum Trench volume = (0.56m^3/d x 1.2)/0.3 = 2.24m^3/d
But trench has less area for soakage than total impervious area so storage in a trench is required to compensate for this difference in areas.
A storage factor is derived from:
Total impervious area/Effective trench area
Where
Effective trench area = (0.5 x (side areas + end areas) + floor area)
For a trench 30m long by 1m deep by 0.5m wide, the effective trench area = 45.5m^2
Storage factor = 300m^2/45.5m^2 = 6.6
Hence
Required trench volume = minimum trench volume x storage factor
= 2.24m^3 x 6.6 = 14.78m^3
Calculated trench volume = 30m x 1m x 0.5m = 15m^3
As calculated trench volume is greater than required trench volume, dimensions are adequate. However, as impervious area other than roofs requires 6m^3 of trench volume / 100m^2:
Additional trench volume = required trench volume – (6m^3/100m^2 of impervious area)
For the 300m^2 impervious area example
Additional trench volume = 14.78m^3 – (6m^3 x 1) ≅ 9m^3
This trench volume, together with that required for runoff control, provides the compensation for loss of recharge.
The discharge from the detention tank can be diverted into a common trench or into a separate trench.

The disposal methods offered above recognise that infiltration rates and soakage rates will differ depending on soil type. Where soils are of low permeability, infiltration rate and recharge rate will be slow and runoff will be large. Hence, slow soakage from a trench will compensate for slow infiltration and low recharge through a surface. Where soil permeabilities are higher, recharge rate will be greater, but so will be the soakage rate from a trench or a pond. Hence, the methodology offered can be considered to be self-correcting.

OR

2. An alternative method of stormwater management and recharge compensation for the site which achieves a standard of stormwater management equal to or better than that achieved by compliance with conditions A to E above, such that the adverse effects of stormwater and recharge compensation are avoided, remedied or mitigated may be submitted, with full design detail, to the satisfaction of Council.

54.8.10 LAND USE – RURAL ZONE

The provisions in Part 23 (Rural Zone) shall apply.

54.8.11 LAND USE – SPECIAL RURAL-RESIDENTIAL 1 ZONE

The following provisions in Part 28 shall apply in the Special Rural-Residential 1 Zone:

Permitted Activities (Rule 28.2)

Controlled Activities (Rule 28.3)

Discretionary Activities (Rule 28.4 except where specified as a Non-Complying Activity in Rule 54.8.11.1)

Non-Complying Activities (Rule 28.5)

Standards for Permitted Activities (Rule 28.6 subject to compliance with Rule 54.8.1.6)

Assessment of Controlled Activities (Rule 28.7)

Assessment of Discretionary Activities (Rule 28.8)

54.8.11.1 Non-Complying Activities

In addition to the Non-Complying Activities specified in Rule 28.4 the following additional activities are non-complying activities in the Special Rural-Residential 1 Zone:

- TRAVELLERS' ACCOMMODATION
- SPECIAL HOUSING DEVELOPMENTS
- SERVICE STATIONS
- All activities that do not comply with the development standards specified below.

54.8.11.2 Number of DWELLINGHOUSES per Lot

No more than one DWELLINGHOUSE per lot.

54.8.11.3 All Buildings

All BUILDINGS for Permitted Activities shall be assessed as Controlled Activities.

54.8.11.4 Assessment Criteria for Controlled Activities

In addition to the assessment criteria for Controlled Activities in Rule 28.7, all the following additional matters shall be considered:

1. The extent to which the proposal retains existing trees and vegetation.
2. The extent to which the development or proposal utilises additional landscaping to achieve an open and rural character for the Hill.
3. The extent to which proposed buildings and structures need to be screened from roads and neighbours.
4. The quality of design of proposed buildings and structures including the consideration of exterior materials and site contours in the context of the landscape objectives for Pukekohe Hill.
5. The extent to which the siting of a dwelling reduces potential conflict with any adjacent rural activities.

54.8.11.5 Height of All Buildings

No building shall exceed a maximum height of 8.0 metres.

54.8.11.6 Coverage of Site by Impervious Surfaces

Buildings, driveways (including private driveways, rights of way and access lots), paving and any other surface which creates a physical barrier to water penetration shall cover:

(a) no more than 10% of the total site area* as a Permitted Activity.
(b) more than 10% and up to 20% of the total site area* as a Restricted Discretionary Activity

* for any lot owned in common the proportion added to the “total site area” shall equate to the relative share in the common lot.

54.8.11.7 Stormwater Disposal - Volume Control

1. An effective and appropriate stormwater system for sites in the Rural-Residential zone and Rural zone (excluding dwellings on existing sites as at 30 June 2002 unless the dwelling is to be located on land being subdivided to create additional lots) shall be achieved by the following:

   A. (i) All building roofs shall be connected to stormwater detention tanks or ponds having a capacity of at least 5 cubic metres per 100 square meters of contributing impervious surface. All other impervious surfaces shall be connected to stormwater detention tanks or ponds having a capacity of at least 3 cubic metres per 100 square metres of contributing impervious area. An orifice-controlled outflow shall be provided such that the stormwater detention tanks or ponds shall just be full at or prior to the 20 percent AEP storm event. The orifice-controlled outflow shall be no less than 10 millimetres nominal bore.

   (ii) For tanks or ponds for either building roofs or other impervious surfaces, the storage volumes can be substituted by an equivalent trench/soak hole void volume (taking into proper account the type of backfilled material). If such a storage alternative is implemented it shall be in series with the soakage trench required under D and shall include a flow control structure between the buildings or impervious surface storage feature and the soakage trench. This control structure shall meet the outflow characteristics as specified in A(i) above.

   Provided that, in addition to the above, for any Restricted Discretionary activity application pursuant to Rule 54.8.11.6(b).

(a) For every 1% increase of impervious area coverage over 10% the capacity of the roof and site tanks shall be increased by 4%, or

(b) specific alternative solutions shall be provided with detailed calculations showing achievement of hydrologic neutrality such that peak flows match that from the same lot with a 10% impervious area coverage.

(see also Rule 23.9.1.2, clause 3)

B. Stormwater detention tanks for the control of run-off may be above or below ground.

C. Discharge from the detention tanks shall be diverted to a ground soakage system to provide part of the compensation soakage for loss of groundwater recharge from impervious areas. The capacity of the soakage trench shall be designed to accommodate up to 680 millimetres per annum of runoff from the contributing area.

D. (i) Pre-treatment

Runoff from impervious areas other than roof areas shall be considered dirty and to avoid clogging and pollution shall be diverted to a pre-treatment system prior to disposal. Pre-treatment devices shall be designed in accordance with Auckland Regional Council Stormwater Treatment Devices Guidelines Manual TP 10 (TP10), and may comprise a sediment trap, a vegetated buffer strip or a swale overlying a trench.

(ii) Soakage

Pre-treated water shall be diverted to a soakage system, the overflow from that soakage system being diverted to surface runoff. The soakage system shall comprise:

- Soak holes, drilled to sufficient depth to encounter permeable rock or soils, constructed with a selected backfill and tested to demonstrate the ability to dispose of the runoff volume.
- Soakage trenches constructed with selected backfill and with sufficient volume to store the design runoff.
- Infiltration ponds constructed with sufficient volume to store the design runoff and tested to demonstrate the ability to dispose of the runoff volume.

(iii) Volume

The current requirement of TP10 is to treat 75 % of the annual runoff from impervious ground. For the Pukekohe Hill catchment, the design storm depth (S_d) is 20mm and the design runoff value is 18 mm as per the TP10 method of calculation. This amounts to a volume of 1.8 m^3 runoff /100m^2 of impervious area. Soakage holes and infiltration ponds will need to be shown by testing to allow soakage of the derived volume. Soakage trenches will need to store this volume to enable disposal by soakage.

The required trench volume will be calculated on a sand porosity of 0.3 or on a scoria or metal porosity of 0.5 (noting the required trench volume is at 6m^3/100m^2 of impervious area based on a sand porosity of 0.3).

(iv) Recharge Mitigation

Recharge mitigation shall be achieved by diverting runoff from the detention tank orifice discharge to ground soakage and shall include consideration of the recharge obtained from diverting impervious areas other than roof runoff to ground soakage.

For impervious area runoff including roof runoff, disposal shall be either by borehole, infiltration pond or soakage trench. The ability of borehole and infiltration ponds to dispose of the roof runoff to achieve recharge mitigation disposal will require demonstration by testing. Disposal to a soakage trench does not require testing given the in-built redundancy of the methodology provided.

The discharge from the detention tank can be diverted into a common trench or into a separate trench.

E. All trenches shall be designed with an overland flow channel, or other means, to direct any surface water run-off exceeding the capacity of the on-site soakage trench and systems into the public stormwater system in such a manner to ensure that the discharge avoids damage to the public stormwater interception system and to adjacent sites.

F. A Preliminary Monitoring and Maintenance Plan is required for on-site soakage systems at the time of subdivision. The Preliminary Monitoring and Maintenance Plan shall be prepared as part of an application for a stormwater discharge permit (whether for an individual subdivision, development, or to comply with comprehensive stormwater discharge consent for the catchment). The Preliminary Monitoring and Maintenance Plan shall include an indication of the site's or sites' soakage ability as identified in soak tests and an outline of procedures and maintenance requirements that will apply at the time of development.

The Preliminary Monitoring and Maintenance Plan shall include, but not be limited to:

(i) Outfall structure maintenance.

(ii) Infiltration device and pre-treatment device maintenance.

(iii) Post storm maintenance.

(iv) Frequency of regular maintenance/inspections.

(v) General inspection checklist for all aspects of stormwater management systems.

(vi) Details of the person(s), body or bodies that will hold responsibility for long-term maintenance of the stormwater management system and the organisational structure which will support this on-going responsibility.

A Detailed Monitoring and Maintenance Plan is required for on-site soakage systems at the time of development and prior to the issue of a building permit for any dwelling.

The Detailed Monitoring and Maintenance Plan shall include, in addition to those elements defined in the Preliminary Monitoring and Maintenance Plan, but not be limited to:

i) An as-built plan of the stormwater system, which will be added to the Monitoring and Maintenance Plan on completion of construction.

The Detailed Monitoring and Maintenance Plan shall specify who is responsible for the monitoring and maintenance, and shall be complied with at all times. A consent notice or equivalent shall be placed on titles issued as a result of subdivision noting such a requirement, to the satisfaction of Council. The Council will monitor the required continued maintenance of the established soakage systems in accordance with the Monitoring and Maintenance Plan and standards contained in Rules 54.8.7.5, 54.8.9.4 and 54.8.11.7 as appropriate.

OR

2. An alternative method of stormwater management and recharge compensation for the site may be accepted which achieves a standard of stormwater management equal to or better than that achieved by compliance with conditions A to F above, such that the adverse effects of stormwater and recharge compensation are avoided, remedied or mitigated may be submitted, with full design detail, to the satisfaction of Council.

54.8.11.8 Wastewater Disposal

All on-site effluent disposal systems shall be properly designed in accordance with AS/NZS1547 On Site Domestic Wastewater Management to avoid contamination of surface water or shallow groundwater.

The Council may allow connections to the reticulated public wastewater system where capacity is available in that system and where the connection will not lead to inefficient wastewater networks.

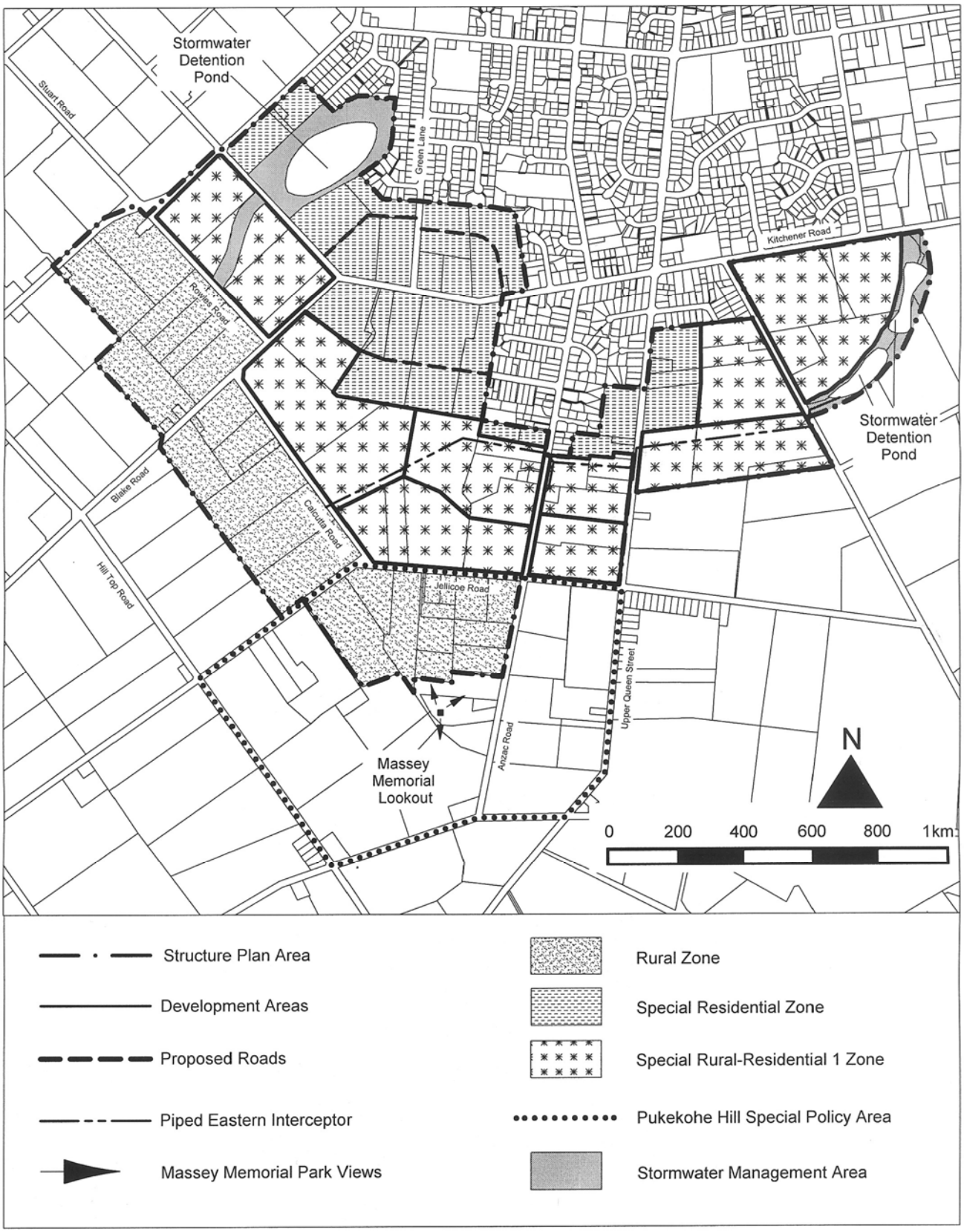
54.8.11.9 Water Supply

All lots shall be serviced by an on-site water supply system, either by roof run-off into a site storage tank, OR by an alternative method or connection appropriate for the site.

54.8.11.10 Landscaping

All applications for resource and subdivision consent shall be accompanied by a landscape plan which accurately shows the location of existing trees to be retained (including hedges and shelter belts), the proposed landscaping to be carried out and established, the location and extent of on-site development proposals. Landscape plans shall show the proposed number, height and location of specimen trees, the planting of shrubs and provision of features, and other planting to be in accordance with the Assessment Criteria 54.8.11.4 clause 1 to 4. The landscape plan shall also include an establishment and maintenance plan.

DIAGRAM 54C: NORTH PUKEKOHE HILL STRUCTURE PLAN AREA



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