

Chapter 6: Built Environment

6.1 Introduction

The location of the Waikato District relative to Auckland and Hamilton means that it is under increasing pressure for strategic development associated with servicing those centres. Road, rail, power, gas and telephone all pass through the district as part of strategic national networks, and provision should be made for their continued and uninterrupted use. Development should be grouped in order to make the most efficient use of existing utilities, with growth of an urban nature occurring within towns and villages. Where this is not possible, on-site management of the effects of land use and development is expected.

There are also some very large industries in the district that are significant from a local and national perspective. Some of them, like the Te Rapa dairy factory, Horotiu meat processing plant, and agricultural research centres including Ruakura Agricultural Research Centre, Whatawhata Agricultural Research Farm, Dexcel Agricultural Research Centre and Livestock Improvement Corporation (LIC) Agricultural Research Centre, are an integral part of the agricultural sector prevalent in the district. Recognition of, and protection for, the continued operation of these sites is necessary.

Huntly Power Station and the Waikato coalfields from where it obtains its raw resource are of strategic national importance and this plan recognises and protects them to ensure continuity of energy supply to the nation.

Although Hamilton International Airport is not located in this district, it is important that land use and development that does occur in this district does not unreasonably constrain its operation.

Hampton Downs accommodates a number of large-scale land use activities and may be suitable for further similar developments because of its strategic location and infrastructure. It is desirable for new land uses in this area to be compatible with these established activities. The possibility of the Meremere B power station being developed in this area is recognised through notation on the planning maps.

The plan recognises the positive aspects of utilities, current large-scale industries, research centres and electricity generation facilities, and anticipates a lower level of development around them in order to avoid reverse sensitivity issues arising. Chapter 13: Amenity Values has objectives and policies regarding containing effects of activities on site.

6.2 Issue – Scattered Development

Development that is disconnected or scattered may reduce open space, increase land use conflicts, reduce the range of possible land uses, and increase the cost of providing public facilities and utilities.

OBJECTIVE	POLICIES
<p>6.2.1 Development that is connected or grouped around infrastructure.</p>	<p>6.2.2 Subdivision or development should be located, and have a density, scale and intensity, to ensure efficient use of land, public facilities and utilities.</p> <p>6.2.3 Residential and business development should occur in current towns and villages in preference to isolated rural locations.</p> <p>6.2.4 Ribbon development should be avoided.</p> <p>6.2.4A Rural residential subdivision and development should be focused into defined growth areas where infrastructure, utilities and services are provided and to a limited degree in the Rural Zone.</p> <p>6.2.4B Rural residential subdivision and development in the Rural and Coastal zones should be limited so that these do not compromise the ability to provide infrastructure and services in towns, villages and other defined growth areas.</p> <p>6.2.5 Industry should be grouped:</p> <ul style="list-style-type: none"> (a) in a suitably defined area within towns and villages, or (b) near a national or regional arterial route, or (c) near the North Island main trunk railway, or (d) where it can link to existing infrastructure or associated industries, or manage its effects on site. <p>6.2.6 Business and industrial activities should be separated from residential activities.</p>

6.3 Reasons and Explanations

6.3.1 Disconnected and Scattered Development

This objective encourages urban consolidation to safeguard the environment, promote community wellbeing, and ensure public infrastructure and utilities are used as efficiently as possible. In smaller villages that are not fully serviced, a compact urban form is desirable to achieve the economies of scale necessary to provide new services. The objective also contributes to other objectives of the plan relating to preserving agricultural land, rural character and natural features and landscapes.

6.3.2 Efficiency and Effects

While the first policy encourages efficiency through urban consolidation, it also recognises that there are limits to the density, scale and intensity of development. The adverse effects of over development include loss of character of the locality, environmental effects and conflicts between activities that are too close in proximity.

6.3.3 Residential and Business Development

This policy ensures that residential, business and industrial development is consolidated into current towns and villages. This promotes the vitality of existing towns and villages, and the efficient use of infrastructure. The policy is also aimed at preventing new residential clusters being created in rural areas by cumulative rural subdivisions. The

Tamahere Commercial Area is recognised and protected as an existing business development.

The Tamahere Village Business Zone provides for the establishment of a compact village retail centre. This village centre will be a focal point of the community that will provide opportunities for a diverse range of small scale commercial development and community activities. Having a single neighbourhood village centre for these activities is considered preferable to having commercial development scattered throughout the Tamahere Country Living Zone. The neighbourhood village centre is intended to provide for local service needs which will reduce trip generation to commercial centres in larger urban areas.

6.3.4 Ribbon Development

Ribbon development is where development is packed close along a road, but is only one section deep. This makes servicing uneconomic and impinges on rural character, road safety and road efficiency. It also reduces opportunities to enjoy views of countryside.

6.3.4A Rural Residential Development

Rural residential subdivision and development should be focused into a defined growth area (the Country Living Zone) where infrastructure, utilities and services exist, or are planned for the future and to a limited degree in the Rural Zone. Unplanned subdivision and development in the Rural and Coastal Zones for rural residential purposes can divert demand and utilisation of land from areas identified for Country Living. This can impact on the cost and reduce the efficiency of providing infrastructure, utilities and services in Country Living, and to some extent, Living Zones. It can also result in demands for improved levels of service in the Rural and Coastal Zones which are difficult to provide economically. The cumulative effects of rural residential subdivision, use and development in the Rural and Coastal Zones can have significant impacts over time which require effective management.

6.3.5 Establishment and Location of New Industry

Development of activities in strategically situated industrial areas with appropriate infrastructure, either reticulated or provided for on-site, or near to main transport routes is encouraged. In some cases, some industry will need to locate in more isolated rural areas, for example for reasons of existing infrastructure, safety or reverse sensitivity. Incompatible activities should not locate in close proximity to one another, unless any adverse effects of the new activity are able to be avoided, remedied or mitigated. Identification on planning maps of the possible future location of the Meremere B power station recognises that this site could be important for future electricity generation.

6.4 Issue – Location and Scale of Utilities

Utilities are important for community wellbeing and provide significant health, safety, social and economic benefits to the community, while in some instances their location and scale can degrade the natural and physical qualities and characteristics of environments.

OBJECTIVE	POLICIES
<p>6.4.1 Network utilities are provided in a manner that does not compromise qualities and characteristics of surrounding environments.</p>	<p>6.4.2 Utilities should be designed and located to avoid, remedy or mitigate any adverse effects from their structures on the environment, community health and amenity.</p> <p>6.4.3 Compatible utilities should, where technically and practicably feasible, share locations or facilities where advantages are achieved in terms of visual, landscape or other positive effects.</p> <p>6.4.4 Utilities should be placed underground unless:</p> <ul style="list-style-type: none"> (a) the adverse effects on the environment are greater than placing the utility above ground, or (b) a natural or physical feature or structure renders underground placement impractical or undesirable, or (c) the utility must be placed above ground for practical, operational or technical reasons. <p>6.4.5 Land close to electricity transmission lines should remain open space.</p> <p>6.4.6 Raglan Harbour (Whaingaroa) navigational beacons and associated view shafts must not be obscured.</p> <p>6.4.7 New use or development should not compromise the potential for, or use and operation of, utilities.</p> <p>6.4.8 Utilities in developments near the Hamilton city boundary should be compatible with and capable of connection to those same utilities in Hamilton city.</p> <p>6.4.9 Network utilities should make a positive contribution to community wellbeing including by being of a quality and standard appropriate to meet the needs of the community.</p> <p>6.4.9A Positive effects of network utilities, including the national grid transmission network, should be recognised and provided for, whilst managing the adverse effects of the network.</p>

6.5 Reasons and Explanations

Utilities are physical resources that are necessary for the social and economic wellbeing and health and safety of people and communities. They also support the functioning of other activities in the district. Key components include distribution of water, electricity and gas, stormwater drainage or wastewater disposal, telecommunication and radio communications, as well as meteorological facilities and navigational aids. The provision of utilities entails some environmental impacts, and adverse effects from the establishment, operation and improvement of utilities must be evaluated.

6.5.1 Design and Location

Emphasis is placed on protecting the qualities and characteristics of surrounding environments. The scale of development and where the utility is located should not unduly compromise the environmental qualities expected by neighbouring communities. Utilities play a role in maintaining the health and safety of the community and environment. Adverse effects may result from establishing or operating a utility, although minor utilities may have little or no impact on the environment or community health. Radio communication utilities generate radio frequency emissions. Research on the health effects from radio frequency emissions is ongoing and therefore a precautionary approach to the location of radio communication equipment has been adopted in line with the Ministry for the Environment's and the Ministry of Health's "National Guidelines for Managing the Effects of Radio Frequency Transmitters", and the New Zealand Standard NZS 2772.1:1999.

6.5.2 Co-siting or Sharing

Where practical, and where utilities are compatible, the district plan encourages utility providers to share facilities or locations. This can result in more efficient use of land and reduce the impact of the utility on the surrounding environment. It is accepted that co-siting will not always be appropriate, especially in sensitive areas where co-siting would lead to greater effects than individual sites.

6.5.3 Underground Placement

The intrusion of structures can degrade the natural and physical characteristics of an area. An effective method of avoiding conflict with the surrounding environment is to place utilities underground where possible. Some areas, such as important habitats or cultural heritage sites, may be sensitive to underground placement, and it is accepted that in these situations above ground placement may be more appropriate. Similarly, the practical, operational or technical requirements of some utilities dictate that above ground placement is more appropriate. Above ground placement of electricity transmission and telecommunications lines may, for practical reasons, be necessary in rural and coastal areas.

6.5.4 Transmission Lines

Development located too close to electricity transmission and distribution facilities may give rise to a number of risks such as electrocution, electric and magnetic fields, and radiation. Extensive research about whether the electric and magnetic fields around power lines may be harmful to health has failed to establish a solid link between the presence of those fields and adverse health effects. However, it is proposed to adopt a precautionary approach when assessing proposed development around transmission lines in order to minimise the risks associated with siting buildings and land use activities directly under or near to these lines. This will ensure that public health and safety, and the integrity of electricity supply, is maintained; that operational access to the lines is ensured; and that a minimum level of amenity is retained. There is potential for the electricity transmission corridor to also meet the future needs of other utilities.

6.5.5 Navigational Beacons

Views of the Raglan Harbour (Whaingaroa) navigational beacons and sector light must remain unobscured because they provide safe navigation into Raglan Harbour (Whaingaroa).

6.5.6 New Use

Utilities are an important resource, being central to the working of modern communities and the economy. Utilities can be adversely affected by activities and subdivision around them. The presence of residential development or other sensitive land uses near a utility can constrain use of the site because of perceived adverse effects on that development.

6.5.7 Hamilton City Boundary

Hamilton city is expected to continue to grow, increasing demand for intensified development in neighbouring areas of the Waikato District. Special consideration needs to be given to the effects of such development, including any effects that might compromise future urban use of both the land being developed and the surrounding land. In particular, future routes for utilities to or from the city need to be kept clear to enable efficient land use and urban development. This applies irrespective of whether the developments install their own utilities.

6.5.8 Positive Effects

It is recognised that utilities play a major role in community wellbeing for a variety of reasons. It is essential that the utilities provided are of a modern standard and quality that is appropriate to meet the needs of the community.

6.6 Issue – Provision of Utilities Avoids Adverse Effects

Land uses and land use intensification, including subdivision, can have adverse effects on the environment if wastewater and stormwater disposal, water supply, energy supply and telecommunications are not adequately provided for or managed.

OBJECTIVE	POLICIES
<p>6.6.1 Adverse effects of use and development are avoided by provision of wastewater and stormwater disposal, supply of water, energy and telecommunications.</p>	<p>6.6.2 Where land is subdivided or its use intensified, then adequate water supply, wastewater treatment, and land and stormwater drainage must be provided to each allotment, by connection to available reticulated services, or by on-site facilities where reticulated services are not available.</p> <p>6.6.3 Every allotment in a subdivision should be connected to reticulated services for telecommunications and electricity supply where these are reasonably available.</p> <p>6.6.4 The density and type of development should not exceed the capacity of the area to absorb the adverse effects of the development on amenity, water quality, stormwater runoff, ecological values, health or safety.</p>

6.7 Reasons and Explanations

6.7.1 On-site Management

Most land use and development generate issues in relation to wastewater, stormwater, water supply, energy and telecommunications. The on-site management of these issues will often be necessary in rural areas, as well as in unserviced or partly serviced villages. Reticulated or on-site utilities are a means to avoid, remedy or mitigate the adverse

effects of development. On-site management may also be achieved by provision of alternative systems or collectively operated services. The provision of adequate services or on-site systems such as those for wastewater collection, treatment and disposal, and for stormwater collection and disposal, is a necessary prerequisite to subdivision, use or development of land if adverse effects are to be avoided. Water supply, wastewater treatment, drainage, and electricity and telephone connections make important contributions to amenity, as well as to health and safety and the environment generally.

6.7.2 Density of Development

Subdivision in the rural area that creates a higher than normal number of allotments or allows for development at a scale greater than expected, can impact on water quality and community health. This is especially the case if the Council cannot provide a water supply or wastewater and stormwater disposal systems or services to scattered areas. In order to maintain water quality and community health, the policy provides that these types of development must connect to reticulated services where available, and if not available, then on-site management is required. This could include a privately owned and operated community service. Sufficient land area and any necessary easements for services must be part of the design of subdivision. Localised flooding problems may arise if impervious surfaces are excessive, so space must also be provided for general soakage.

6.8 Issue – Strategically Important Utilities, Industrial and Research Sites

Benefits to the community generated by strategic nationally and regionally important utilities, and industrial and research sites, can be lost due to constraints imposed by incompatible neighbours.

OBJECTIVE	POLICIES
<p>6.8.1 Investments in strategic nationally and regionally important utilities, and industrial and research sites are protected.</p>	<p>6.8.2 Strategic nationally and regionally important utilities, and industrial and research sites must be recognised for the important benefits they contribute to the community, including any potential sites as shown on planning maps.</p> <p>6.8.3 Subdivision, use and development must not compromise the ongoing and efficient operation of strategic nationally and regionally important infrastructure including power stations, energy corridors electricity transmission lines, gas lines, landfills, air and land transport networks, and facilities integral to the agriculture sector (Te Rapa Dairy Factory, Horotiu meat processing plant, and agricultural research centres).</p> <p>6.8.4 Energy producing resources and infrastructure (including the Waikato coalfields and Huntly Power Station), and facilities integral to the agricultural sector (Te Rapa dairy factory, Horotiu meat processing plant and agricultural research centres and Waikato Innovation Park) must retain their opportunities for continued use, intensification and expansion.</p> <p>6.8.4A Residential development should be located and controlled to limit the adverse noise effects from the operation of Hamilton International Airport.</p>

6.9 Reasons and Explanations

6.9.1 Use and Development

The Huntly Power Station, Waikato coalfields, Te Rapa dairy factory, Horotiu meat processing plant, Hamilton International Airport, Waikato Innovation Park and the Waikato's agricultural research centres confer large benefits in terms of economic and

community wellbeing at a district and, in many respects, at a national level. These facilities require sustainable management and are individually of sufficient scale and importance to warrant special consideration in the district plan, and recognition of the opportunities for their continued use, intensification and expansion.

A particular threat to their ongoing viability arises because the adverse effects of their operations cannot always be fully contained within each site. This is not a serious issue so long as these sites are surrounded by tolerant land uses and the local community has generally accepted their associated existing effects as part of the characteristics of the District. The establishment of incompatible uses (particularly residential or other sensitive uses) nearby poses a high risk of conflict that might threaten the ongoing viability of operations. Conflict arises from effects that can only be reduced by a reduction of activity. When complaints reach a certain level, social and regulatory processes are invoked to constrain the activity. Community benefits in these circumstances usually take second place to the needs of neighbours suffering adverse effects. It is better to keep such sensitive activities away from these sites, than to attempt to avoid the effects or manage the complaints. The level of protection given to a site, for example the dwelling setbacks applied to adjoining properties, depends on its level of significance, its vulnerability to reverse sensitivity issues, and the nature of surrounding land uses.

The ongoing and efficient operation of infrastructure and sites relates to a facility's ability to continue providing the service for which it was established. Council expects that a facility will adopt best practice to minimise any off-site environmental effects. However, facilities must retain reasonable opportunities to continue functioning in a manner, and at an intensity and scale, that is fundamentally consistent with their existing operations.

Further development of the Huntly Power Station, Te Rapa dairy factory, Horotiu meat processing plant and the agricultural research centres is not necessarily allowed as of right, and in such cases a resource consent that is subject to an assessment of effects will be required. The community has accepted the effects of these sites as part of the characteristics of those areas. There is some land that is affected by noise from the operation of Hamilton International Airport. In order to manage the effects of aircraft noise on residential activities, it is necessary to limit the density of subdivision and residential development on this land.

The Huntly Power Station site provides a nationally important electricity generation and energy distribution centre. The ongoing use or consolidation of energy infrastructure at Huntly to enable sustainable management of the existing physical resources of the site and to enable uptake of technological advances may require resource consent. Indicating on the planning maps the area where a future power station (Meremere B) may be proposed provides information to the community. This information has been indicated in past district plans, and has been carried forward. A future power station would be considered through the resource consent or designation process,

6.10 Methods of Implementation

6.10.1 Regulatory Methods

- (a) Rules to manage the location, density, scale and intensity of subdivision and development.
- (b) Rules controlling subdivision and development within the vicinity of utilities, the electricity transmission corridor, Raglan Harbour (Whaingaroa) navigational beacon view shafts, Hamilton International Airport, Te Kowhai Airfield and agricultural research centres.
- (c) Rules controlling the environmental and community health effects of activities associated with utilities and Huntly Power Station, Te Rapa dairy factory, Horotiu meat processing plant, Hamilton International Airport and Te Kowhai Airfield.

- (d) Indicate on Planning Maps:
 - towns and villages
 - land used or proposed to be used for major community facilities and other network utilities
 - corridors and open space associated with high-tension power transmission lines
 - view shafts associated with Raglan Harbour (Whaingaroa) navigational beacons
 - large industrial and research sites including, Te Rapa dairy factory, Horotiu meat processing plant, agricultural research centres, and the Airport Noise Outer Control Boundary and Obstacle Limitation Surface associated with Hamilton International Airport
 - The Huntly Power Station site and associated infrastructure (including the coal conveyor and gas corridors, ash disposal area and ash pipelines), the Meremere A industrial site and the proposed Meremere B power station area and associated existing and future energy corridors.
 - Coal Mine Policy Areas.
- (e) Indicative corridors for roads and other services.
- (f) Designations.

6.10.2 Deleted

6.10.3 Council Works and Services

- (a) Develop and review the Council asset management programmes to accord with objectives and policies.
- (b) Carry out works to improve townscapes and services.
- (c) Locate community facilities in areas where adverse effects are minimised.
- (d) Adopt engineering techniques that are sensitive to the environment.
- (e) Adopt updated technology in community facilities.

6.10.4 Information, Education and Advocacy

- (a) Voluntary design guidelines published for some villages and localities.
- (b) Encourage network utility providers to share facilities.
- (c) Promote safe practices around electricity transmission lines and telecommunication structures.
- (d) Liaise with large-scale site owners and general public to minimise adverse effects.
- (e) Liaise with Hamilton City Council about development around the city boundary.

6.11 Reasons for Methods

6.11.1 Regulatory Methods

Rules and maps are necessary to provide some certainty about the extent of towns and villages, and to provide the basic framework for preserving local character throughout the district.

Utilities are generally critical to the effective operation of the economy and the wellbeing of the community and in some cases the environment. Standards and rules are necessary to ensure that these activities do not detract from public and private values and the existing character of the neighbourhood, while still allowing the utility to operate effectively for the benefit of the community.

6.11.2 Deleted

6.11.3 Council Works and Services

The Council has a responsibility to provide community services such as wastewater and water supply systems, waste management facilities and drainage systems. While

providing for these services every endeavour should be made to use innovative designs and new technology along with advanced engineering techniques, which should ensure that any adverse environmental and community health effects are minimised.

6.11.5 Information, Education and Advocacy

Voluntary guidelines are expected to be effective in towns and villages because many people perceive commercial advantage in coordinated streetscapes, especially in shopping and service areas.

Inappropriately placed utilities or industries can degrade sensitive environments or the qualities and characteristics that make up an area. Liaison with network providers or potential industry users can help ensure that an appropriate route or site is chosen for an activity or efficient use is made of a structure. Promotion of safety for activities around or near utilities or industry sites is a way of raising awareness of any dangers or incompatible use of those sites, structures or areas.

6.12 Anticipated Environmental Results

ISSUES	ANTICIPATED ENVIRONMENTAL RESULTS
6.12.1 Scattered development	<ul style="list-style-type: none"> (a) Organised and structured development around infrastructure and utilities (b) Avoidance or reduction in disconnected and scattered developments. (ba) Residential and business development growth in towns, villages and defined growth areas. (c) Intensification of development where appropriate. (d) Availability of land for a full range of possible uses. (e) No further ribbon development. (f) Rural residential growth occurs predominantly in the Country Living zone and to a limited degree in the Rural Zone. (g) Efficient provision and use of infrastructure. (h) Rural resources safeguarded for productive rural activities.
6.12.2 Location and scale of utilities	<ul style="list-style-type: none"> (a) Minimal effects on local environment and community health and safety. (b) Use of utilities not compromised by adjoining land uses. (c) Location of new utilities in proximity to existing utilities or utility corridors. (d) Coordinated response with Hamilton City Council to manage development near the city boundary.
6.12.3 Provision of utilities avoids adverse effects	<ul style="list-style-type: none"> (a) Provision of water supply, wastewater and stormwater disposal systems where necessary to protect the environment. (b) Development that is appropriately designed for the site, with adequate wastewater and stormwater disposal systems, especially in areas with a high water table.
6.12.4 Utilities, industrial and research sites	<ul style="list-style-type: none"> (a) Continued and effective use of important industrial sites, utilities and research centres. (b) Use of important industrial sites not compromised by adjoining or nearby land uses.

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