Chapter 6: Infrastructure and Energy

Proposed Waikato District Plan Stage I

(Recommended amended Council version on Panel direction of 4 November 2020)

Recommended amendments from s42A report shown as red <u>additions underlined</u> and deletions strikethrough

Recommended amendments from Council rebuttal evidence shown as blue <u>additions underlined</u> and <u>deletions strikethrough</u>

Amendments proposed as Panel direction of 4 November shown as green <u>additions underlined</u> and <u>deletions strikethrough</u>



Contents

4
4
4
4
4
4
5
5
5
5
5
5
6
6
6
6
6
7
7
7
7
7
7
7
7
rid8
8
8
8
9
9
9
9
9
9

6	5.4.1 Objective – Integration of infrastructure with subdivision, land use and development	9
6	5.4.2 Policy – Provide adequate infrastructure	9
6	5.4.3 Policy – Infrastructure Location and Services	10
6	5.4.4 Policy – Road and rail Land transport network	10
6	5.4.5 Policy – Roading infrastructure (Re-locate Policy 6.4.5 to be 6.5.8 and amend)	10
6	5.4.6 Objective – Stormwater and drainage	10
6	5.4.7 Policies – Stormwater	11
6.5	Transport	12
6	5.5.1 Objective – Land transport network	12
6	5.5.2 Policy – Construction, maintenance, upgrading and operation of the land transport	
n	network	12
6	5.5.3 Policy – Road hierarchy and function	13
6	5.5.4 Policy – Road standards	13
6	5.5.5 Policy - Road -Land transport safety	13
6	5.5.6 Policy – Network utility location	13
6	5.5.7 Policy – Vehicle access	13
6.5.8 I	Policy - land transport network infrastructure	12

Chapter 6: Infrastructure and Energy

6.1 General Infrastructure

In addition to Sections 6.2, 6.3, 6.4 and 6.5, the following objectives and policies apply, unless otherwise stated. ¹

6.1.1 Objective - Development, operation and maintenance of infrastructure

(a) Infrastructure is developed, operated and maintained <u>and upgraded</u> to <u>benefit the enhance</u> social, economic, cultural and environmental well-being of the district. ²

6.1.2 Policy - Development, operation and maintenance

- (a) Provide for the development, operation, maintenance, repair, replacement, upgrading and removal of infrastructure throughout the district by recognising:
 - (i) Functional and operational needs;
 - (ii) Location, route and design needs and constraints;
 - (iii) Locational constraints related to the need to access suitable resources or sites; 3
 - (iv) The benefits of infrastructure to people and communities;
 - (v) The need to quickly restore disrupted services; and
 - (vi) Its role in servicing existing consented and planned development;
 - (vii) The need for physical access to access infrastructure. 4

6.1.3 Policy - Technological advances

- (a) Provide flexibility for infrastructure operators to use new technological advances adopt new technologies that:
 - (i) Improve access to, and enable the efficient use of, infrastructure, networks and services or development of infrastructure;
 - (ii) Allow for the reuse of redundant <u>services</u> <u>and infrastructure</u> and structures where appropriate; and
 - (iii) Result in positive environmental and community outcomes Increase resilience, safety or reliability of infrastructure, 5 networks and services;
 - (iv) Result in environmental benefits and enhancements; or
 - (v) Promote environmentally sustainable outcomes including green infrastructure and the increased utilisation of renewable resources. ⁶

6.1.4 Policy - Infrastructure benefits

- (a) Have regard to the benefits that infrastructure provides, including:
 - (i) Enabling enhancement of the quality of life and residential standard for people and communities;

¹ 576.14 Transpower

² 742.45 NZTA; 986.30 KiwiRail; 576.73 Transpower

³ 945.35 First Gas

⁴ 580.24 Meridian Energy

⁵ FS1345.45/.52/.53/.54 Genesis Energy

⁶ 644.30 Spark; 646.30 Vodafone; 648.30 Chorus

- (ii) Providing for public health and safety;
- (iii) Enabling the functioning of business and growth and development;
- (iv) Managing adverse effects on the environment;
- (v) Enabling the transportation of freight, goods and people;
- (vi) Enabling interaction and communication; and
- (vii) Providing for lifeline utility services.
- (b) <u>Have particular regard to the benefits that the use and development of renewable energy provide.</u>⁷

6.1.5 Policy - Natural hazards and climate change

(a) Encourage the design and location of infrastructure to take account of natural hazards and the effects of climate change.

6.1.6 Objective - Reverse sensitivity Adverse Effects on Infrastructure 8

(a) Infrastructure is protected from reverse sensitivity effects, and infrastructure (including the National Grid) its construction, operation, maintenance, repair, replacement and upgrading is not compromised. 9

6.1.7 Policy - Reverse sensitivity Adverse Effects on and infrastructure 10

(a) Avoid reverse sensitivity effects on infrastructure from subdivision, use and development as far as reasonably practicable, and ensure so 11 that the its the construction, operation, maintenance, repair, replacement and upgrading the ongoing and efficient operation of infrastructure is are 12 not compromised. 13

6.1.8 Objective - Infrastructure in the community and identified areas

(a) Provision of Infrastructure takes into account the qualities and characteristics of surrounding environments and community well-being.

6.1.9 Policy - Environmental effects, community health, safety and amenity

(a) Require the development, operation, maintenance, repair, replacement, upgrading and removal of infrastructure and its associated structures to avoid, remedy or mitigate adverse effects on the environment, community health, safety and amenity.

6.1.10 Policy - Infrastructure in identified areas

(a) Ensure consideration of the values, qualities and characteristics of Significant Natural Areas, Landscape and Natural Character Areas and Heritage Items, Heritage Precincts, and Maaori Sites and Areas of Significance, including Waahi Tapu and Waahi Tapu Areas

⁷ 580.25 Meridian Energy

^{8 576.77} Transpower

⁹ 742.49 NZTA

¹⁰ 576.78 Transpower

^{11 576.78} Transpower

^{12 580.15} Meridian Energy

^{13 742.50} NZTA

¹⁴ 423.14; 423.15 Watercare

- ¹⁵ when proposing new infrastructure or undertaking significant upgrades to existing infrastructure.
- (b) Provide for lifeline utility infrastructure within Identified Areas where:
 - (i) There is a demonstrated functional or operational need for the infrastructure to be located within the Identified Area; and
 - (ii) It is demonstrated through an options assessment that locating within the Identified Area is the best practicable option, having particular regard to the financial implications, social, cultural and environmental effects of the preferred option, compared to other alternative options. 16

6.1.11 Policy - Undergrounding new infrastructure

- (a) Encourage new infrastructure to be placed underground unless:
 - (i) The adverse effects on the environment are greater than placing the infrastructure above ground;
 - (ii) A natural or physical feature or structure renders underground placement impractical or undesirable; or
 - (iii) There are significant operational, functional, technical, cultural, historic heritage or economic reasons that require the infrastructure to be above ground.

6.1.12 Policy - Co-location of compatible facilities

(a) Encourage compatible infrastructure to share sharing of location or facilities where operational advantages can be achieved or and adverse effects are reduced avoided, remedied or mitigated. ¹⁸

6.1.13 Policy - Future growth areas

(a) Require infrastructure services to be <u>planned</u>, developed <u>and co-ordinated with</u> <u>development</u> to <u>ensure it a standard that enables the service</u> <u>can</u> to be extended to future growth areas where <u>and when</u> appropriate. ¹⁹

6.1.14 Policy - Electromagnetic and radio frequency fields

(a) Require infrastructure that generates electromagnetic or radio frequency fields to comply with the International Commission on Non-ionising Radiation Protection Guidelines, relevant WHO guidelines and the relevant New Zealand Standard.

6.1.15 Policy - Raglan navigation beacons

(a) Avoid obscuring navigational beacons and associated view shafts at Raglan Harbour (Whaingaroa).

^{15 559.59} Heritage NZPT

¹⁶ 423.14; 423.15 Watercare

¹⁷ 559.60 Heritage NZPT

¹⁸ 559.61 Heritage NZPT

¹⁹ 742.51 NZTA

6.1.16 Policy - Water conservation

(a) Encourage water conservation measures and, where appropriate, low impact stormwater design and facilities.

6.1.17 Policy- Regionally Significant Infrastructure

a. Have particular regard to the benefits that can be gained from the development and use of regionally significant infrastructure (as defined in the Waikato Regional Policy Statement 2016); and

b. Protect the effectiveness and efficiency of existing and planned regionally significant infrastructure. ²⁰

6.2 National Grid

[National Grid objective and policies may be amended further]

6.2.1 Objective - National Ggrid 21

(a) The national significance of the National Grid is recognised, and protected and provided for. ²²

6.2.2 Policy - Recognise the needs and constraints of the nNational gGrid

(a) Recognise the operational, functional and technical <u>needs and</u> constraints of the National Grid, and the interconnectedness of networks. ²³

6.2.3 Policy - Operation and development of the National Grid

(a) Provide for the operation, upgrading and development of the National Grid.

6.2.4 Policy - Maintenance and minor upgrade the National Grid

(a) Enable the repair, maintenance, replacement and minor upgrade of the National Grid.

6.2.5 Policy – Environmental effects

- (a) Manage the environmental effects of the development or upgrades (other than minor upgrades) of the National Grid, by:
 - (i) Recognising and providing for ²⁴ the national, regional and local benefits of sustainable, secure and efficient electricity transmission;
 - (ii) Considering the extent to which any Avoiding, remedying or mitigating adverse effects-through consideration of have been avoided, remedied or mitigated by the route, site and method selection; ²⁵
 - (iii) Seeking to rReduce ²⁶ the existing adverse effects as part of any substantial upgrade;

²⁰ 924.16 Genesis Energy

²¹ 576.16 Transpower

²² 419.74 Hort NZ

²³ 576.17 Transpower

²⁴ 576.20 Transpower

²⁵ 576.20 Transpower

²⁶ 576.20 Transpower

- (iv) Considering the effects on urban amenity (including town centres), areas of high recreational or amenity value and existing sensitive land uses; and
- (v) Within urban environments, aAddressing the adverse effects on any heritage values, cultural values, ²⁷ outstanding natural landscapes, areas of high natural character, town centres, areas of high recreation value and existing sensitive activities including the avoidance of adverse effects where practicable.
- (vi) Within rural environments, seeking to avoid adverse effects on identified heritage values, cultural values, outstanding natural landscapes, outstanding natural features, significant natural areas, significant amenity landscapes, areas of outstanding or high natural character, areas of high recreation value and existing sensitive activities. ²⁸

6.2.6 Policy – Reverse sensitivity, Adverse effects on Infrastructure, ²⁹ and the National Grid

- (a) Manage subdivision, use and development to the extent reasonably possible 30 so that the operation, maintenance, upgrading and development of the National Grid is not compromised by ensuring that:
 - (i) The National Grid is identified on the planning maps and the National Grid Yard and National Grid Subdivision ³¹ Corridor establish buffer distances for managing land use development and subdivision near the National Grid;
 - (ii) <u>Land uses (including s</u>Sensitive land uses) ³² and structures that may compromise the National Grid, including intensive farming activities, are excluded from establishing within the National Grid Yard;
 - (iii) Subdivision is managed within the National Grid <u>Subdivision</u>³³ Corridor to avoid subsequent land use from compromising the operation, maintenance, upgrading and development of the National Grid; and
 - (iv) Changes to existing activities within a National Grid Yard do not further restrict the operation, maintenance, upgrading and development of the National Grid.

6.3 Energy

6.3.1 Objective - Renewable energy

(a) Energy efficient design and an increase in renewable electricity generation activities are promoted. 34

6.3.2 Policy - Utilising energy efficiency

(a) Design subdivision, land use and development so that buildings can utilise energy efficiency and conservation measures, including by orientation to the sun and through other natural elements.

²⁷ 559.63 Heritage NZPT

²⁸ 559.63 Heritage NZPT; 576.20 Transpower

²⁹ 576.20 Transpower

³⁰ 419.75 Hort NZ

^{31 576.39; 576.40} Transpower; 419.128 Hort NZ

^{32 576.20} Transpower

³³ 576.39; 576.40 Transpower; 419.128 Hort NZ

³⁴ 580.16 Meridian Energy; 553.2 Malibu Hamilton

6.3.3 Policy - Enabling renewable electricity generation

(a) Enable the investigation, development, operation, maintenance and upgrading of renewable electricity generation activities, including domestic and community scale distributed renewable electricity generation, provided that adverse effects are avoided, remedied or mitigated.

6.3.4 Policy - Future renewable electricity

(a) Provide for the investigation, identification and assessment of potential sites and energy sources for renewable electricity generation activities.

6.3.5 Policy - Existing renewable electricity facilities

- (a) Ensure subdivision, use and development are designed and located so that they do not adversely affect the operation and maintenance of existing, lawfully established renewable energy generation facilities.
- (b) Enable non-sensitive rural land use activities, where they can co-exist with existing renewable electricity generation facilities. 35

6.3.6 Objective - Non-renewable energy

(a) Non-renewable energy resources and electricity generation³⁶ are recognised within the district.

6.3.7 Policy - Recognise non-renewable energy resources

- (a) Recognise the actual and potential contribution to national energy production from non-renewable electricity resources.
- 6.4 Infrastructure, Subdivision and Development

6.4.1 Objective - Integration of infrastructure with subdivision, land use and development

(a) Infrastructure is provided for, and integrated with, subdivision, use and development.

6.4.2 Policy - Provide adequate infrastructure

(a) Ensure adequate provision of infrastructure, including land transport networks, where land is subdivided <u>creating one or more additional lots</u>, <u>excluding reserve or non-housing conservation lots</u>, <u>access and utility allotments</u>, ³⁷ or its use <u>significantly changed or</u> ³⁸ intensified, <u>needing additional or upgraded infrastructure</u>.

^{35 680.102} FFNZ

^{36 924} Genesis Energy

^{37 680.302} FFNZ

³⁸ 742.52 NZTA

³⁹ 680.302 FFNZ

6.4.3 Policy – Infrastructure Location and Services

- (a) Ensure subdivision, use and development are provided with infrastructure and services to a level that is appropriate to its location and intended use including:
 - (i) Three waters (water, wastewater and stormwater supply management); 40
 - (ii) Telecommunication services;
 - (iii) Electricity services; and
 - (iv) Adequate water supply within urban areas for firefighting purposes.

6.4.4 Policy - Road and rail Land transport network 41

- (a) Discourage Avoid effects of 42 subdivision, use and development that would compromise:
 - (i) The road function, as specified in the road hierarchy, or the safety and efficiency of the roading network; 43
 - (ii) The access by emergency services and their vehicles; and 44
 - (iii) The safety and efficiency, including the maintenance, upgrading, development and operation of the railway land transport network 45
- (b) [Following may be superseded] Avoid reverse sensitivity effects on the land transport network through setbacks and design controls for new residential and other noise sensitive activities established in proximity to existing or planned transport corridors

6.4.5 Policy - Roading infrastructure (Re-locate Policy 6.4.5 to be 6.5.8 and amend)

- (a) Ensure that roading infrastructure is developed so that:
 - (i) The design, location, alignment and dimensions of new roads provide safe vehicle, pedestrian and cycling access and manoeuvring to every site;
 - (ii) The roading pattern provides good connectivity to the site and integrates with adjacent land identified as future growth areas including public transport such as bus stops;
 - (iii) There is adequate provision of on-site parking and manoeuvring for land use activities;
 - (iv) Contaminants generated are appropriately mitigated.

6.4.6 Objective - Stormwater, and drainage and flood management

- (a) The hydrological characteristics of the natural drainage processes are retained where new subdivision, development or land use is proposed. 47
- (b) Recognise the importance to the economic and social well-being of the district and the essential nature of regional flood management infrastructure so as to provide for its development, operation and maintenance.
- (c) Regional flood management infrastructure is provided in a manner that:
 - (i) Does not adversely affect the health and safety of the people of the district
 - (ii) Avoids, remedies or mitigates any adverse effects on the natural and physical resources

^{40 697.562} Waikato District Council

^{41 986.38} KiwiRail; 742.53 NZTA

^{42 986.38} KiwiRail; 742.53 NZTA

⁴³ 742.53 NZTA

^{44 297.40} Counties Manukau Police

^{45 986.38} KiwiRail; 742.53 NZTA

^{46 986.38} KiwiRail; 742.53 NZTA

⁴⁷ 680.306 FFNZ

- (iii) <u>Is sensitive to the amenity values of the district, and relevant cultural or spiritual values</u>
- (iv) Is efficient.48

6.4.7 Policies - Stormwater, drainage and flood management

- (a) Ensure that stormwater and drainage infrastructure for subdivision, land use and development:
 - (i) Adopts, where appropriate, a best-practice low impact design approach to the management of stormwater;
 - (ii) Manages stormwater in accordance with a drainage hierarchy, with a preference for on-site treatment at-source management; 49
 - (iii) Minimises impervious surfaces to reduce stormwater run-off;
 - (iv) Retains pre-development hydrological conditions as far as practicable;
 - (v) Does not increase the flow of stormwater runoff onto adjoining properties adjacent land ⁵⁰ or flood plains, or reduce storage capacity on-site;
 - (vi) Provides a stormwater catchment management plan for future urban development; and
 - (vii) Promotes clean water reuse and groundwater recharge where practicable:
 - (viii) Avoids, remedies or mitigates the generation of contaminants from urban development, particularly from high contaminant generating car parks and high use roads; and 51
 - (ix) Is supported by a stormwater management plan. 52
- (b) <u>Protect the continuing operation of existing regional flood management infrastructure</u> from the adverse effects of other activities. In particular consideration shall be given to:
 - (i) Maintaining and enhancing the operational efficiency, effectiveness, viability and safety of regional flood management infrastructure
 - (ii) Protecting investment in existing regional flood management infrastructure
 - (iii) Retaining the ability to maintain and upgrade regional flood management infrastructure.
- (c) Ensure that new regional flood management infrastructure is considered having regard to:
 - (i) The environment as it exists
 - (ii) The duration, timing and frequency of the adverse effect
 - (iii) The impact on other existing regional flood management infrastructure if the new work is not undertaken
 - (iv) The need for the work in the context of the wider network or in the context of the provision of alternative infrastructure
 - (v) The avoidance, remediation or mitigation of anticipated adverse environmental effects to the extent practicable
 - (vi) The demand for and benefits of new regional flood management infrastructure
 - (vii) The route, site, and method selection process
 - (viii) The technical and locational constraints
 - (ix) The benefits of the regional flood management infrastructure in terms of managing climate change effects.

⁴⁸ 81.190; 81.191 Waikato Regional Council

^{49 81.224} Waikato Regional Council

⁵⁰ 742.54 NZTA

^{51 419.76} Hort NZ

^{52 697.565} Waikato District Council

(d) Provision of new regional flood management infrastructure occurs in a planned and coordinated manner which recognises and addresses potential cumulative effects and is based on sufficient information to allow assessment of the potential long-term effects on the environment.⁵³

6.5 Transport

6.5.1 Objective - Land transport network

- (a) An integrated land transport network where:
 - (i) All transport modes are accessible, safe and efficient; and
 - (ii) Adverse effects from the construction, maintenance, <u>upgrading</u> ⁵⁴ and operation of the transport network are <u>managed avoided</u>, <u>remedied or mitigated</u>. ⁵⁵
 - (iii) Strategic road and rail corridors play an important role in the district for facilitating the movement of inter and intra-regional freight;
 - (iv) There is an effective and efficient land transport system that enhances economic wellbeing, and supports growth and productivity within the Waikato region and upper North Island. 56

6.5.2 Policy - Construction, maintenance, upgrading 57 and operation of the land transport network

- (a) Promote Provide for the construction, maintenance, upgrading 58 and operation of an efficient, effective, integrated, safe, resilient, accessible 59 and sustainable transport network through:
 - (i) Corridor, carriageway and intersection design which is appropriate to the road function as specified in the road hierarchy and in accordance with relevant guidelines;
 - (ii) The appropriate design and location of sites' accesses;
 - (iii) Traffic signage, road marking, lighting, rest areas and parking as appropriate;
 - (iv) <u>Safe and accessible</u> provision for pedestrians and cyclists <u>to maximise accessibility</u> that addresses accessibility, including off-road facilities and connections. ⁶⁰
 - (v) Corridor and carriageway design which is sufficient to enable enables 61 provision of public transport
 - (vi) Provision for other infrastructure, including where suitable low impact design stormwater facilities;
 - (vii) Provision for stock underpasses where suitable access is not readily available;
 - (viii) Discouraging the installation of new at grade road and pedestrian rail level crossings:
 - A. Controlling the location of buildings and other visual obstructions within the sightline areas of rail level crossings; and
 - B. Railway crossing design in accordance with the requirements of the rail operator.

⁵³ 81.190; 81.191 Waikato Regional Council

⁵⁴ 742.56 NZTA; 986.39 KiwiRail

^{55 559.64} Heritage NZPT

⁵⁶ 81.223 Waikato Regional Council

⁵⁷ 742.57 NZTA

^{58 742.57} NZTA

^{59 923.127} Waikato DHB

^{60 923.127} Waikato DHB

^{61 742.57} NZTA

(ix) A.62 Protection and promoteion of the development of the regional rail network for the transportation of freight;

(x) B. 63 Development of efficient processes and freight routes for the movement of high productivity motor vehicles through the region. 64

6.5.3 Policy - Road hierarchy and function

- (a) Provide a hierarchy of roads for different functions and modes of land transport while recognising the nature of the surrounding land use within the district. Establish a road hierarchy and categorise roads in the district in accordance with their function. 65
- (b) Adopt the one network approach to ensure 'whole of journey' people and goods movements within the region. 66
- (c) Protect the function of roads as identified in the road hierarchy from the adverse effects of subdivision, use and development. ⁶⁷

6.5.4 Policy - Road standards

(a) Ensure that the construction and operation of roads is consistent with their function in the road hierarchy.

6.5.5 Policy - Road Land transport safety 68

(a) Ensure that structures, <u>vehicle access</u>. ⁶⁹ lighting, signage and vegetation are located and designed so as to not compromise the safe and efficient operation of the land transport network, or obscure RAPID numbers.

6.5.6 Policy - Network utility location

(a) Encourage the location of network utility infrastructure within transport corridors where the function, safety and efficiency of the transport network will not be compromised.

6.5.7 Policy - Vehicle access

(a) Control the location of new vehicle accesses to sites adjacent relative to other accesses, intersections and rail level crossings to maintain and improve the safety and efficiency of the land transport network. 70

6.4.5 6.5.8 Policy - Roading Land transport network infrastructure 71

^{62 986.40} KiwiRail; 697.566 Waikato District Council

^{63 986.40} KiwiRail; 697.566 Waikato District Council

^{64 81.223} Waikato Regional Council

^{65 742.58} NZTA

^{66 81.223} Waikato Regional Council

⁶⁷ 742.58 NZTA

^{68 986.41} KiwiRail

^{69 986.41} KiwiRail

⁷⁰ 742.60 NZTA

^{71 742.55} NZTA; 697.563 Waikato District Council

- (a) Ensure that roading land transport network 72 infrastructure is developed so that:
 - (i) The design, location, alignment and dimensions of new roads land transport networks provide safe vehicle, pedestrian and cycling access and manoeuvring to every site;
 - (ii) The roading pattern land transport network provides good connectivity to the site and integrates with adjacent land developments and identified as future growth areas including walking and cycling networks and facilities and public transport such as bus stops; 74
 - (iii) There is adequate provision of on-site parking and manoeuvring for land use activities; and
 - (iv) Contaminants generated during construction are appropriately mitigated; and 75
 - (v) Design, alignment and dimension of new roads towill accommodate installation of network infrastructure in accordance with technical and safety specification. ⁷⁶

⁷² 742.55 NZTA

⁷³ 742.55 NZTA

⁷⁴ 742.55 NZTA

^{75 697.564} Waikato District Council

⁷⁶ 405.4 Counties Power