54.11 WHANGARATA BUSINESS PARK STRUCTURE PLAN

Part 54.11 consists of the following sections:

54.11.1 Description of the area proposed for rezoning

54.11.2 Key resource management issues and how the structure plan manages those issues

- a) Gateway Status
- b) Interface between Activities
- c) Mix of Land Uses
- d) Connectivity
  - i. Compact Development
  - ii. Pedestrian and Cycle Networks
  - iii. Road Network
  - iv. Public transport
  - v. Roading and Tuakau Town Centre
- e) Stormwater Management
- f) Wastewater Management
- g) Water Supply
- h) Provision of Open Space
- i) Provision of Gas
- j) Provision of Electricity
- k) Geology and Topography

54.11.3 Staging of Development

54.11.4 Standard of Development

54.11.5 Funding of Development

54.11.1 DESCRIPTION OF THE WHANGARATA BUSINESS PARK STRUCTURE PLAN AREA

The Whangarata Business Park structure plan area lies south-east of Tuakau township, adjacent to an existing Business Zone and between the railway line and Whangarata Road (map 54.11.1). Bollard Road traverses the area.

Two transmission gas pipelines, and network gas pipelines, are located in the area. An electricity substation is located on Bollard Road. A new substation is proposed for Whangarata Road and this site has been designated. The proposed relocation of this substation will require changes to the incoming electricity lines connecting the substation with the national grid and also the outgoing distribution lines from the substation to electricity customers.

The area is presently used for agricultural purposes and rural living.

The area is suitable for business activity for the following reasons:

- It is adjacent to an existing business area; the expansion of the business area will facilitate the development of a strong business cluster characterised by economies of scale and multiplier effects.
- It is relatively distant from any existing residential area and hence the potential for adverse effects on residential areas is minimised.
- The land is characterised by a slope that is suitable for the provision of water, wastewater, storm-water and roading infrastructure.
- The land is characterised by a slope that is suitable for industrial subdivision.

- Its location on Whangarata Road provides good access to SH1 and SH2, and from that point on, easy access to the port of Tauranga and other southern destinations as well as to Auckland and other northern destinations.

- The area straddles Bollard Road, which is a main road into Tuakau, providing excellent access to Tuakau's town centre, residential areas and community facilities enabling the development of physical and non-physical linkages. Examples of physical linkages are roads and water pipes. Examples of non-physical linkages are business processes and interpersonal relationships.

- The businesses that operate in the proposed business area in future will have the opportunity to provide products and services to future developments at Pokeno.

- There is opportunity for rail freighting.

- Gas can readily be provided to businesses.

- Telecommunications can readily be provided to businesses.

- Electricity can readily be provided to businesses and the land is at the centre of the substation service area (thereby promoting energy-efficient connection to the service area).

54.11.2 KEY RESOURCE MANAGEMENT ISSUES AND HOW THE PLAN MANAGES THOSE ISSUES

Part 54.11.2 addresses the following issues:

a) Gateway Status
b) Interface between Activities
c) Mix of Land Uses
d) Connectivity
e) Stormwater Management
f) Wastewater Management
g) Water Supply
h) Provision of Open Space
i) Provision of Gas
j) Provision of Electricity
k) Geology and Topography

a) Gateway Status

The structure plan area is located at one of the gateways into Tuakau. As such, its function and form is a contributor to the character of the town as a whole. The District Plan provisions, including the structure plan, are aimed at managing the effects of development on the broader environment. For example, some of District Plan provisions pertain to architectural design, others pertain to traffic and roading. All the provisions aim to facilitate the development of a high-quality, well-functioning environment.

b) Interface between Activities

Where the TIZ and TISZ activities interface with other activities, there is the potential for adverse effects to be experienced by one or more parties. The District Plan provisions, including the structure plan, enable the management of those potential adverse effects.

Buffer areas are one mechanism used to manage interface effects. For example:

- the open space system will serve as a buffer between the TIZ and the TISZ in the vicinity of Tuakau Saleyards Road

- the open space system will serve as a buffer between the Business Zone and the TISZ in the vicinity of Tuakau Saleyards Road

- the open space system will serve as a buffer between the TIZ and the future living area to the west

- the open space system will serve as a buffer between business activities and some roads, thereby enhancing the amenity for road users, including pedestrians and cyclists

- landscaping requirements set out in the District Plan provisions serve a buffering function; they mitigate potential adverse visual effects of business land uses on roads, reserves and other zones.

Where the Tuakau Industrial Zone interfaces with the railway line, and along the eastern boundary of the Tuakau Industrial Zone, as indicated with arrows on Map 54.11.1, a YARD with the following characteristics shall be observed, except that the YARD requirement does not apply to network utilities:

- The YARD shall follow a natural contour/s.
- The YARD shall average 7.5 metres wide and be no less than 5 metres wide.
- The YARD shall be planted with vegetation to a minimum depth of 5 metres.
- The YARD shall be planted and maintained to the satisfaction of Council and will not cause undue shading of neighbouring properties.

Residential activities close to business activities can create reverse-sensitivity effects, making it difficult or impossible for businesses to operate. The structure plan area was chosen as a business area partly because it does not interface with the Residential Zone.

c) Mix of Land Uses

The structure plan provides for an appropriate mix of land uses.

The primary purpose of the structure plan area is to provide for manufacturing, processing, assembly, storage and distribution activities; these are provided for in the TIZ. Small-scale manufacturing, processing, assembly, storage and distribution activities are provided for in the TISZ. Business services that are required to support the TIZ activities are also provided for in the TISZ. The TISZ extends to the boundary of covenanted bush to maximise the environmental amenity of the TISZ; the activities typical of the TISZ are more compatible with the covenanted bush than are activities typical of the TIZ.

Residential activities close to business activities can create reverse-sensitivity effects, making it difficult or impossible for businesses to operate. The structure plan area was chosen as a business area partly because it does not interface with the Residential Zone.

To the west of the proposed business area is an area that is “wedged” between the proposed business area and the existing Rural-residential Zone. It is separated from the proposed business area by part of the open space system. This “wedge” of land is well-suited to some form of residential development; more detailed investigation is required in this regard.

The open space system provides recreation opportunities for people working in the TISZ and TIZ.

It is proposed that an area outside the structure plan area, north of the railway line, becomes “Proposed Esplanade Reserve” (in accordance with the Reserves Act) once further investigation has taken place so that the open space network can form a loop (map 54.11.1).

The structure plan sets out requirements for cycle lanes, walkways and landscaping that will enable the roads and the open space areas to form a network that can be used for walking, cycling and jogging.

The open space system also contributes to stormwater management.

The specifically designed transport network enables the safe and free movement of motor vehicles, pedestrians and cyclists. Its specific design also makes a positive contribution to the character of the area.

The location of the TISZ in relation to the TIZ facilitates pedestrian and cycle access between the TIZ and the TISZ. The TISZ is situated alongside or near to the open space system is support of the “lighter” character of the TISZ (than that of the TIZ) as set out in Part 37A.

d) Connectivity

Connectivity is discussed in terms of the following elements:

i. Compact Development
ii. Pedestrian and Cycle Networks
iii. Road Network
iv. Public Transport
v. Roading and Tuakau Town Centre

i. Compact Development

The structure plan area comprises a compact, walkable footprint; the area has a radius of about 700 metres. Two TISZ areas are provided for; one at the southern entrance and one at the northern entrance to the business area. The location of the TISZ in relation to the TIZ facilitates pedestrian and cycle access between the TIZ and the TISZ.

The compact nature of the structure plan area, and the design of the circulation system, provides employment opportunities within walking and cycling distance of Tuakau's resident population.

ii. Pedestrian and Cycle Networks

Walkways and cycle-ways form an integral part of the structure plan and are part of the roading design.

Cycle-ways and walkways are located along roads and in the open space network. Cyclists are provided with dedicated cycle-lanes. Footpaths enable safe pedestrian movement. Raised medians provide pedestrian refuges.

The landscaping on both sides of roads contributes to the small-town character of the area, which enhances amenity for pedestrians and cyclists.

At the time of more detailed planning and development, the location of landscaped pedestrian refuges, pedestrian crossings, cycle ways and walkways should be co-ordinated to create an integrated and free-flowing cycle way and walkway system.

Some of the cycle ways and walkways are located within the open space system. Where feasible, roads are located alongside the open space system. This helps to:

- enhance surveillance and safety for pedestrians and cyclists using the open-space system and
- provide high visual amenity for road users, including cyclists and pedestrians

Cycle ways and walkways located in the open-space system provide opportunities for shading of cycle ways and walkways. This reduces risks related to exposure to the sun.

The District Plan provisions serve to integrate buildings with roads and the open space network. For example, buildings facing roads are required to have glass frontages to enhance passive surveillance. Another example is the requirement for sites adjacent to reserves to have landscaped setbacks. The District Plan provisions help to ensure stewardship, usability and safety of roads and the open space network for cyclists and pedestrians.

Where roads runs along open space, the landscaped road reserve acts as a buffer between business activity and open space, thereby enhancing the amenity of the open space and making it more user-friendly for pedestrians and cyclists.

iii. Road Network

This plan acknowledges that the road system has various functions, including:

- It enables people to get to places
- It contributes to the character of the area

- It provides for network utility infrastructure. The preferred land-use over the gas pipeline is open space. The second preference is road, to enable the gas pipeline to be located in the network utility corridor associated with the road. This open space and/or road corridor may also present an opportunity for an alternative route for the 110kV electricity line designated in 2008 to be developed along Bollard Road.

With that in mind, the following principles guided the design of the internal road system:

- Enable traffic to flow freely.
- Promote safety.
- Promote small-town character.
- Provide shade.
- Integrate walkways and cycle-ways into the design of the roading system at the outset.
- Facilitate natural surveillance.
- Facilitate continued operation of existing network utilities.
- Promote efficient development of new infrastructure.

The road system within the existing Business Zone to the north is linked to the road system in the proposed business area, thus providing:

- a number of travel routes to choose from, which helps to distribute traffic rather than concentrate it and hence reduces the potential for congestion
- good linkages within the overall business area (existing and proposed), which reduces the length of trips and hence reduces fuel usage and emissions.

The road system within the proposed business area is linked to the network within the existing residential and rural-residential areas to the west. This has the same benefits as those listed under the 2 bullet points above.

The following description of the internal road system should be considered in conjunction with map 54.11.2 and diagrams 1 - 11.

The proposed internal road system consists of:

- a road (A) off Bollard Road
- a road (B) off Bollard Road
- road system C, linking the existing Business Zone, the proposed business area and the existing urban area to the west
- a road (D) that links the proposed business area to the future living area in the west
- a road (E) that provides access to the east of the area
- a road (F) that links the proposed business area to any future development to the east
- a road (G) that serves the future business area and provides an alternative access to and exit from Whangarata Road
- a road (H) that serves a central portion of the proposed business area and links Bollard Road to road A
- a road (I) that serves the north-western portion of the proposed business area and provides an alternative access to and exit from the area
- a road (J) into the centre of the development
- Bollard Road

The components of the internal road system are described in more detail below. The relevant roading components external to the proposed business area are also addressed.

It is re-iterated that in accordance with Council's Development Contributions policy, roading infrastructure will be funded by developers. Local financial contributions may be required.

Road A

Road A serves the existing and proposed business areas. This road enables traffic to enter and exit the new business area via the town centre and Bollard Road.

Cyclists are provided with a dedicated 2.5 metre cycle-lane on one side of the road.

A 2 metre wide footpath on both sides of the road enables safe and comfortable pedestrian movement.

The flush median helps motor vehicles to undertake right turns. There should be clear and obvious signage communicating the fact that the flush median is not a refuge for pedestrians. The use of the flush median as a pedestrian refuge will result in conflicts between heavy vehicles and pedestrians. Raised medians shall be provided at intervals to facilitate safe crossing for pedestrians.

Parallel parking (2.25 metres wide) is provided on both sides of the road. The cycle-ways are not located between the carriage-way and the parking areas; this is to ensure that cyclists do not have to negotiate vehicles that are entering and exiting parking spaces. The parallel parking bays are relatively narrow to discourage heavy vehicles from parking on the road side.

The landscaping on both sides of the road is essential if the small-town character and human scale of the area is to be retained (see Parts 37A and 40A for further details on the character of the area).

The 3.5 metre carriage-way on both sides of the flush median is designed to accommodate buses and other heavy vehicles.

Eastern Road B

Road B serves the eastern portion of the new business area.

The design of Road B is the same as Road A, described above.

Road C Road C intersects Road A. Road C links the proposed and existing business areas to each other and to the urban area to the west.

Road C links up with Road B, providing an alternative route to access the east of the area and taking pressure off Bollard Road.

Road C enables traffic to enter and exit the business area in the vicinity of the Tuakau Salesyards and the Council-owned Dr. John Lightbody Reserve. This route will be located near to sensitive uses, e.g. residential and open space. It should therefore incorporate traffic calming mechanisms and the design should discourage heavy vehicles through sensitive areas.

Road D

Road D links the business area to the proposed future residential area and the existing Rural Residential Zone to the west. This route will be located near to sensitive uses. It should therefore incorporate traffic calming mechanisms and the design should discourage heavy vehicles through sensitive areas.

Road E

Road E provides access to the east of the area and provides a link to the centre of the area.

Road F

Road F provides access to the east of the area. It is located adjacent to open space, thereby enhancing the amenity for road users and users of the open space and promoting passive surveillance. Road F links the business area to any future development to the east. Its design is the same as Road A, described above.

Road G

Road G serves the west of the area and provides access to and from Whangarata Road, which in turn provides access eastwards to Pokeno and westwards to Port Waikato and the Waikaretu. Its design is the same as Road A, described above.

Road H

Road H connects Bollard Road to Road A. It serves a central portion of the proposed business area. Its design is the same as Road A, described above.

Road I

Road I serves the north-western portion of the business area and provides an alternative access to and exit from the area. Its design is the same as Road A, described above.

Road J

Road J is the gateway into the centre of the development and as such its treatment is vitally important. Its green, open space character conveys the rural Franklin country atmosphere. The 7.5 m setback and the planted-median will contribute to the rural character and country feel. It is focused on the central area of open space and provides a view shaft to this open space area, thereby contributing to the character of the TISZ, as set out in Part 37A.

Bollard Road

The majority of traffic from the internal road network will access the external road network using Bollard Road.

Bollard Road traffic can enter and exit the proposed business area to the south at the Bollard/Whangarata intersection or to the north through the town.

The proposed road system will intersect Bollard Road at 2 points within the proposed business area.

It is envisaged that Bollard Road will develop into a collector road, as it develops into a locally preferred route:

- between the proposed business area and the rest of Tuakau
- within the proposed business area.

It is also the main entrance into Tuakau from the south. Therefore it plays a significant role in establishing the character of Tuakau as a whole. The form and function of Bollard Road and the area flanking it is thus of critical importance to the town. The development of Bollard Road is managed by the District Plan provisions.

Cyclists are provided with a 2.5 metre cycle-lane on one side of the road.

A 2 metre wide footpath on both sides of the road enables safe and comfortable pedestrian movement.

The landscaping on both sides of the road contributes to the small-town character of the area.

Parallel parking spaces, 2.25 metres wide, are provided. Wider parallel parking is not provided as wider parking spaces could encourage heavy vehicles to park along the road and this would compromise the character and functionality envisaged for the area. The cycle-ways are not located between the carriage-way and the parking areas; this is to ensure that cyclists do not have to negotiate vehicles that are entering and exiting parking spaces. The parallel parking is not intended to accommodate heavy vehicles.

The landscaping on both sides of the road is essential if the small-town character and human scale of the area is to be retained.

The 3.5 metre carriage-way on both sides of the median is designed to accommodate buses and other heavy traffic.

Electricity infrastructure is located in Bollard Road. In addition, there is an approved designation that provides for above ground electricity infrastructure along Bollard Road (see Map 54.11.4).

Map 54.11.5 shows proposed widening along Bollard Road.

Whangarata Road

It is envisaged that Whangarata Road will develop into an arterial route, playing an increasingly strategic role as a link between Tuakau and Pokeno, as both these towns grow in the future. Arterial routes have strategic importance, linking urban centres and playing a significant role in the movement of goods and produce.

A service lane parallel to Whangarata Road is proposed where the business area interfaces with Whangarata Road. Access to Whangarata Road will be via a limited number of access points along the parallel service lane. This will reduce the number of accesses onto Whangarata Road and will provide access to Whangarata Road where visibility is good. This will facilitate safe access to and from Whangarata Road. The visual effects of the business development as viewed from the road are enhanced. Businesses are also provided with good exposure from Whangarata Road; thus the service lane is a valuable asset for businesses.

It is recommended that traffic calming mechanisms be instituted along Whangarata Road in the areas beyond the proposed business zone.

Electricity infrastructure is located in Whangarata Road. In addition, there is an approved designation that provides for above ground electricity infrastructure along Whangarata Road (see Map 54.11.4).

Map 54.11.6 shows proposed widening along Whangarata Road.

Roundabouts

Landscaped roundabouts with deep set-backs are proposed. Roundabouts provide the benefit of enabling vehicles to return in the direction from which they came. This minimises trip length and hence reduces fuel usage and emissions. It also helps vehicles to proceed more directly to their destinations (as opposed to having to continue in a direction which leads them away from their destination). This helps traffic to flow efficiently.

Deep set-backs at the roundabouts achieve the following:

- maximising the number of businesses that can locate around the traffic circle and thereby acquire high profile
- providing the opportunity to develop the spaces around different traffic circles in different ways, thereby individualising each traffic circle and thus creating landmarks and unique vistas.

The internal roading network and open space

Much of the roading system runs along open space. This achieves the following:

- a balance between providing for development and retaining a small - town character in keeping with Council's vision and mission statement
- passive surveillance over recreation and stormwater reserves, thereby minimising the potential for anti-social behaviour and maximising the usability of the open space areas by the community.

Where roads run along recreation/stormwater reserves, people travelling along the roads experience a varied and softened environment. The roads, because of the activity that occurs on them, provide passive surveillance of the open space areas.

Where roads runs along open space, the road, with its landscaping, acts as a buffer between business activity and open space, thereby enhancing the amenity of the open space and making it more user-friendly.

Cul-de-sacs

Cul-de-sacs are not generally provided for in the new business area because:

- large vehicles find them difficult to negotiate
- they hinder direct access which works against the objective of shorter trips and lowered fuel usage and emissions.

In the short term, roads that are only partly developed could operate as no-exit roads, but such roads should be provided with sufficiently large turning areas.

It is acknowledged that cul-de-sacs have the potential to achieve the following:

- a sense of community
- reduction in the number of vehicles passing any particular site; this in turn contributes to a small-scale town character
- traffic calming
- passive surveillance

These benefits of cul-de-sacs are significant and they can only be realised by relatively short cul-de-sacs; the benefits of cul-de-sacs are significantly reduced where a certain length is exceeded. The principle of shorter, rather than longer, cul-de-sacs is promoted.

Parking

On-site handling of freight is essential for the TIZ, hence larger site sizes are provided for in the TIZ than in the TISZ.

Private parking is provided on-site.

In the TIZ and TISZ, parallel parking is provided for.

For more details on parking see Road A and Bollard Road above.

iv. Public transport

With the proximity of the North Island Main Trunk railway to the north, an opportunity exists for businesses within the proposed business area to utilise rail transport. Road C provides access to the railway line and any rail sidings that might be constructed in future. Development in the vicinity of the rail corridor must be compatible with the railway activity and the District Plan provisions facilitate this.

The 3.5 metre carriage-way is designed to accommodate buses. The roading design facilitates the operation of bus passenger services from the residential centres where employees are likely to be drawn, including Tuakau, Pokeno, Mercer, Pukekohe and Waiuku.

All required engineering infrastructure (water, wastewater, stormwater, roading, gas, electricity and telecommunications) shall be developed and provided to the satisfaction of Council prior to all other development, including subdivision. Recognition of the likely need for additional capacity and connection points shall be incorporated during development (or at the time of subdivision), e.g. through provision of additional ducts and frequent connection points.

Where infrastructural limitations exist, such that the required roading infrastructure cannot be provided by Council within a particular time-frame, or within a particular budget, the provision of the required roading infrastructure will be the responsibility of the developer.

Unless specifically stated in the structure plan, all development will be in accordance with Council's current Engineering Code of Practice.

Roading infrastructure will be funded in accordance with Council's development contributions policy.

v. Roading and Tuakau town centre

Traffic calming mechanisms on the route to the town centre will be required to retain Tuakau's small-town character and to maintain safety and amenity.

e) Stormwater Management

Consent shall not be granted for urban subdivision and/or development until the required comprehensive stormwater discharge consent has been obtained from the regional council. Subdivision and development shall comply with the conditions of the comprehensive discharge consent.

- Off-stream ponds shall be established in accordance with the Tuakau catchment management plan, except that stormwater in the east of the Whangarata Business Park will be managed as per the maps in Part 54.11. Run-off shall be captured in stormwater ponds before being released into streams.

- Open waterways shall be retained within the open space system as set out in map 54.11.1.

- Where a waterway has a width of 3 metres or more, an esplanade reserve with a width of no less than 40 metres shall be provided along the waterway and shall be vested in Council.

- Where a waterway has a width of less than 3 metres, a riparian margin with a width of no less than 20 metres shall be provided along the waterway.

- In all other instances where the open space system is identified in the structure plan, the width of the open space system shall be no less than 20 metres.

The extent of esplanade reserves and riparian margins on each side of the relevant waterway shall be determined by Council. In other words, esplanade reserves and riparian margins might extend equally on both sides of the relevant waterway or they might extend further on one side of the waterway than on the other side.

Flow channels may be modified and channel landscaping provided to achieve required flow rates.

Where a roofing system is designed and constructed in a manner that significantly reduces or makes use of the stormwater run-off, for example a roofing system that includes stormwater retention tanks, annual stormwater drainage fees may be discounted at the discretion of Council.

All required engineering infrastructure (water, wastewater, stormwater, roading, gas, electricity and telecommunications) shall be developed and provided to the satisfaction of Council prior to all other development, including subdivision. Recognition of the likely need for additional capacity and connection points shall be incorporated during development (or at the time of subdivision), e.g. through provision of additional ducts and frequent connection points.

Where infrastructural limitations exist, such that the required stormwater infrastructure cannot be provided by Council within a particular time-frame, or within a particular budget, the provision of the required stormwater infrastructure will be the responsibility of the developer.

Unless specifically stated differently in the structure plan, all development will be in accordance with Council's current Engineering Code of Practice.

Stormwater infrastructure will be funded in accordance with Council's development contributions policy.

f) Wastewater management

It is anticipated that the structure plan area will be able to accommodate businesses that need to discharge higher than average amounts of water.

Consent shall not be granted for urban subdivision and/or development until the required wastewater discharge consents have been obtained from the regional council. Subdivision and development shall comply with the conditions of the wastewater discharge consents.

In instances where wastewater discharge consents cannot be obtained by Council from the regional council within a particular timeframe, or within a particular budget, the developer shall be responsible for obtaining the required wastewater discharge consents.

All lots within the structure plan area shall be connected to the Tuakau sewerage system.

All required engineering infrastructure (water, wastewater, stormwater, roading, gas, electricity and telecommunications) shall be developed and provided to the satisfaction of Council prior to all other development, including subdivision. Recognition of the likely need for additional capacity and connection points shall be incorporated during development (or at the time of subdivision), e.g. through provision of additional ducts and frequent connection points.

Where infrastructural limitations exist, such that the required wastewater infrastructure cannot be provided by Council within a particular time-frame, or within a particular budget, the provision of the required wastwater infrastructure will be the responsibility of the developer.

Unless specifically stated differently in the structure plan, all development will be in accordance with Council's current Engineering Code of Practice.

Wastewater infrastructure will be funded in accordance with Council's development contributions policy.

In the east, a large portion of stage 1 slopes away from the rest of the Tuakau Industrial Zone. Consequently, servicing this area is likely to require pumping, and the related infrastructure is more expensive to build and operate. It is re-iterated that in accordance with Council's Development Contributions policy, wastewater infrastructure will be funded by developers. All costs associated with the management of wastewater, e.g. public wastewater pump stations, rising mains and gravity connections, shall be borne by the developer.

g) Water Supply

It is anticipated that the structure plan area will be able to accommodate businesses that require higher than average amounts of water.

Consent shall not be granted for urban subdivision and/or development until the required water supply consents have been obtained from the regional council. Subdivision and development shall comply with the conditions of the water supply consents.

In instances where water supply consents cannot be obtained by Council from the regional council within a particular time-frame, or within a particular budget, the developer shall be responsible for obtaining the required water supply consents.

All lots within the structure plan area shall be connected to the Tuakau water supply system.

All required engineering infrastructure (water, wastewater, stormwater, roading, gas, electricity and telecommunications) shall be developed and provided to the satisfaction of Council prior to all other development, including subdivision. Recognition of the likely need for additional capacity and connection points shall be incorporated during development (or at the time of subdivision), e.g. through provision of additional ducts and frequent connection points.

Where infrastructural limitations exist, such that the required water supply infrastructure cannot be provided by Council within a particular time-frame, or within a particular budget, the provision of the required water supply infrastructure will be the responsibility of developer.

Unless specifically stated differently in the structure plan, all development will be in accordance with Council's current Engineering Code of Practice.

Water supply infrastructure will be funded in accordance with Council's development contributions policy.

In the east, a large portion of stage 1 slopes away from the rest of the Tuakau Industrial Zone. A consequence of this could be that water supply infrastructure in this area is more expensive to build and

operate than in the rest of the Tuakau Industrial Zone. It is re-iterated that in accordance with Council's Development Contributions policy, water supply infrastructure will be funded by developers. All costs associated with water supply shall be borne by the developer.

h) Provision of Open Space

The open space system will form an integrated open space system in accordance with the general intent of the structure plan. The open space system will:

- contribute to stormwater management
- accommodate cycleways
- accommodate walkways
- provide linkages
- act as a buffer to aid in the management of potential adverse effects
- enable relaxation and informal recreation

The structure plan sets out the approximate location and extent of the open space system. The open space system consists predominantly of stormwater reserves and a network of cycle ways and walkways. It also incorporates covenanted bush and an open space area around the covenanted bush. The open space area around the covenanted bush serves the following functions:

- Central area of public open space, around which the business area is focussed
- Interesting element in the business area
- Landmark
- Connects various sub-areas within the business zone
- Contributes to the country feel of the area
- Used for recreation and relaxation by people in the TISZ and TIZ

The multi-functionality of the open space resource promotes an efficient use of resources and contributes to amenity for pedestrians and cyclists in the area. It also enhances the amenity for people in the business area generally, because open space areas utilised by pedestrians and cyclists are less likely to be compromised by anti-social behaviour due to the component of passive surveillance.

i) Provision of Gas

Two transmission gas pipelines, and network gas pipelines, are located in the area. These provide opportunities to utilise gas as a form of energy. Activities within 20 m of a TRANSMISSION GAS PIPELINE must occur in consultation with the relevant service provider.

j) Provision of Electricity

An electricity substation is located on Bollard Road. A new substation is proposed and has been designated on Whangarata Road. The proposed location of this substation will impact on the routes of the incoming electricity lines connecting the substation with the national grid and outgoing lines from the substation to electricity customers.

k) Geology and Topography

Prospective sites in the area might have limitations resulting from instability and possible flooding adjacent to existing streams. Specific foundation design may be required for heavy structures or structures founded in deep cuts. Fill placement might cause settlement. Unsuitable recent alluvium is likely to be encountered within the drainage gullies.

Development on steep slopes is not provided for in the structure plan; steep slopes are incorporated into the open space system. All sites will require detailed geotechnical investigations prior to subdivision or development, in accordance with Council requirements.

54.11.3 STAGING OF DEVELOPMENT

Timing of development and the establishment of services (including water, wastewater, transportation and recreation) will require the completion of a structure plan that sets out how the site can be serviced; this will include setting out the alignment and sizing of the infrastructure. Any infrastructure funding to be undertaken by Council will be dependent on commitment of the Council capital works programme. As with other infrastructure, the availability of electricity and telecommunications may necessitate the need for staging of development. In respect of these two infrastructure elements, the Council will require that developers meet the cost of undergrounding these services.

Currently, Council services are unsuitable to support wet industries.

Council is adhering to a staging programme (map 54.11.3) to ensure that the required infrastructure is in place to support new business activities.

The staging reflected in map 54.11.3 is intended to accomplish the following:

- a mix of land uses at the initial stages
- options for small and larger sites at the initial stages because some of the area that is included is flat, which enables larger footprint buildings, and some of the area included in the first stage consists of slightly sloping topography, requiring smaller footprint buildings
- development that occurs in sequence (the first stage is contiguous with the current business area, thus areas closer to existing urban development will be developed before more outlying areas)
- good footpaths and cycle ways from the start
- the progressive provision of infrastructure to meet the requirements of each stage
- infrastructure costs spread over time

No development of buildings for business purposes shall take place until the required infrastructure has been provided to the satisfaction of Council.

Stage 1 shall not be developed until Council is satisfied that the infrastructure required to support stage 1 has been constructed and is in place. This includes infrastructure within stage 1 as well as infrastructure that might be required beyond the boundaries of stage 1.

Stage 2 shall not be developed until Council is satisfied that:

- stage 1 is sufficiently developed to warrant development of, and infrastructure provision for, stage 2, and
- the infrastructure required to support stage 2 has been constructed and is in place; this includes infrastructure within stage 2 as well as infrastructure that might be required beyond the boundaries of stage 2.

All required services shall be provided to the satisfaction of Council prior to all other development, including subdivision.

Where infrastructural limitations exist, such that the required infrastructure cannot be provided by Council within a particular time-frame, or within a particular budget, the provision of the required infrastructure shall be the responsibility of the developer.

However, there is flexibility in Council's approach because Council will continue to work with landowners and developers, formally, in accordance with the RMA and the LGA, and informally, consistent with good practice. For example, stage 1 could become available prior to the anticipated 2014 date if market demand for business land requires it and if the necessary infrastructure is in place. Similarly, parts of stage 2 could be developed prior to parts of stage 1 if the required infrastructure is provided by the land owner and/or committee developer to the satisfaction of Council. It is thus recognised that the staging shown in map 54.11.3 is subject to change as a result of more detailed investigations required for the preparation of subdivision and land-use plans. This process allows for landowner and developer participation in making decisions about staging.

As it will be the landowners and developers who will be preparing the subdivision and land-use plans for their land, they will be setting out a staging pattern they consider to best suit the contour of the land and provide efficient use of the land. It will be the role of Council to ensure that the staging is consistent with the outcomes sought by the structure plan. Therefore, a collaborative approach will arise during the resource consent process.

If the distribution network is provided in an area before the particular land-uses are known, it is difficult to install underground plant because this might result in sub-optimal capacity (i.e. under or over the eventual capacity required by the land-use). This does not impact on the ability for lots to provide private connections underground.

54.11.4 STANDARD OF DEVELOPMENT

Unless specifically stated differently in the structure plan, all development will be in accordance with Council's current Engineering Code of Practice.

54.11.5 FUNDING OF DEVELOPMENT

Infrastructure will be funded in accordance with Council's development contributions policy, except that the works required for Whangarata Road will be funded through infrastructure charging plans.

.

54.11.6 INFRASTRUCTURAL LIMITATIONS

Where infrastructural limitations exist, such that the required infrastructure cannot be provided by Council within a particular time-frame, or within a particular budget, the provision of the required infrastructure shall be the responsibility of the developer.