

# Context & Urban Design Analysis

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# INTRODUCTION

# INTRODUCTION

## Purpose of Document

This is a background document that forms the evidence base to the Drury Urban Design Framework (UDF), which will shape and guide change and future development over the next 30 year period.

This document provides an audit and analysis of the project area identifying key social, economic and environmental issues to be addressed in the Drury UDF. The analysis also identifies the strengths, weaknesses, opportunities and constraints of the project area. The document concludes with a summary of the main findings and issues to be addressed.



Image 1 - Panoramic View looking west along Slippery Creek  
Source - Duncan Rothwell



Image 2 - Panoramic View looking south from Ponga Road  
Source - Duncan Rothwell



Image 3 - Panoramic View looking south from Slippery Creek Reserve  
Source - Duncan Rothwell

**CONTEXT**

# CONTEXT

## Regional

Drury is a small rural town located some 36 kilometres to the south of Auckland, at the southern limits of the Auckland metropolitan area. It lies immediately south of Papakura and about 12 kilometres to the northeast of Pukekohe.

Drury is defined as a Local Centre in the hierarchy of centres defined in the Auckland Plan, with Papakura designated as a Metropolitan Centre and Pukekohe a Satellite Town (Auckland Council, 2012).

Drury benefits from strategic access to the state highway network that lies immediately west of the settlement. This provides links to rest of Auckland, including freight hubs, ports and the international airport, and to the major interregional hubs of Hamilton and Tauranga.

The main trunk rail line traverses through the settlement from north to south, although it currently lacks a train station and electrification. Electrification of the rail network currently ends at Papakura and a diesel shuttle runs between Pukekohe and Papakura.

The Transport Strategy signals the extension of the Rapid Transport Network to Pukekohe to include new train stations at Drury and Paerata and electrification of the rail network. (Auckland Council, 2012).

As shown in Figure 1, this means travel times to the CBD by train will reduce from the current 1 hour 20 minutes to 1 hour. This time falls within Marchetti's One Hour Constant that asserts most people are prepared to commute one hour per trip (Marchetti, C, 1994).

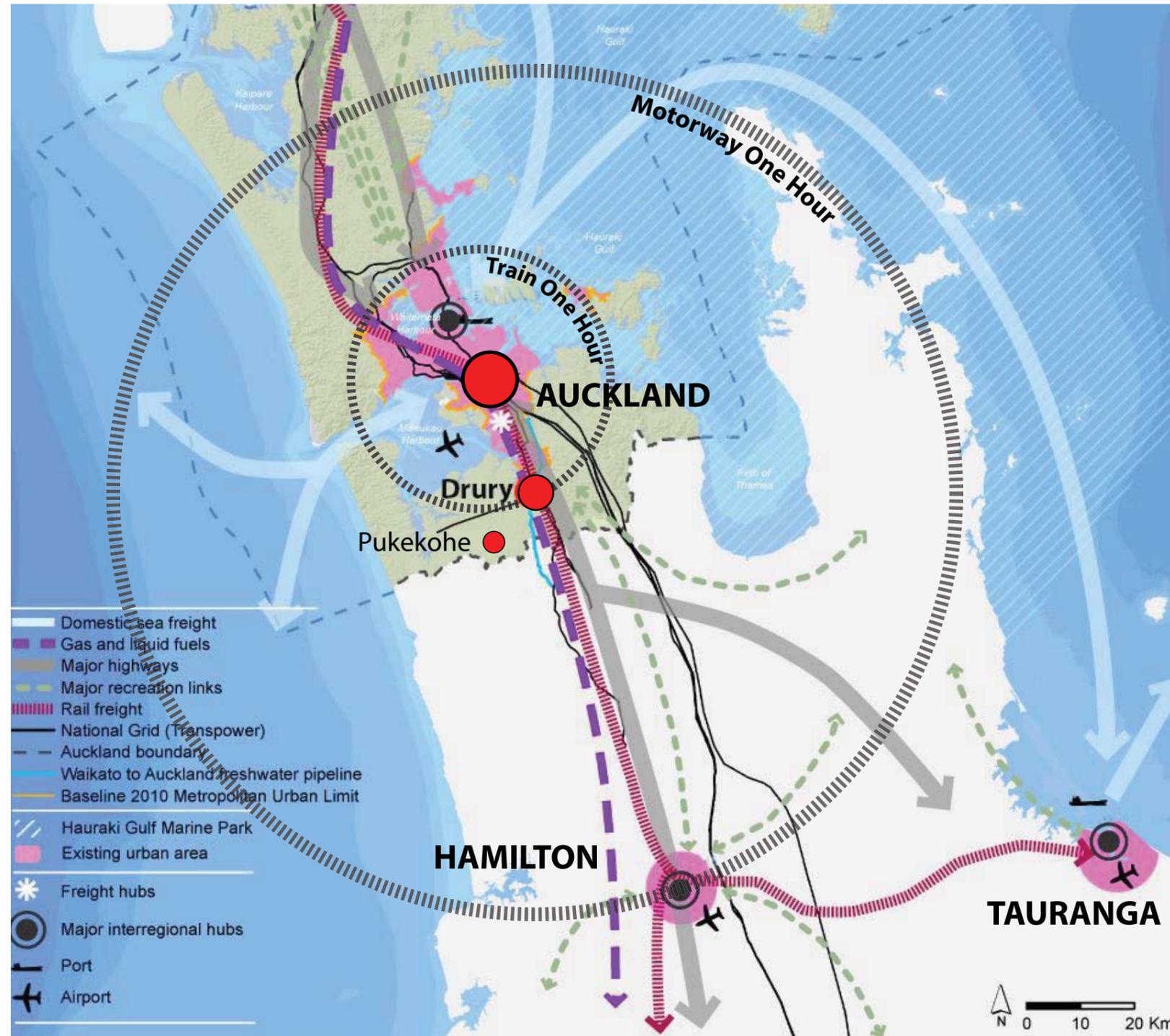


Figure 1- Location Plan  
Source - Auckland Plan, 2102

Drury is also in close proximity to the Waikato to Auckland freshwater pipeline, the national grid and gas and liquid fuel pipelines.

# CONTEXT

## Regional Challenges and Opportunities

### Auckland Growth

The Auckland Plan is a 30 year spatial strategy and creates a clear vision to become the world's most liveable city by promoting a 'quality compact city' model based on facilitating higher density residential development around public transport nodes and supporting the development of existing and future Town Centres and Local Centres.

The Auckland Development Strategy contained in the Auckland Plan signals a projected population growth of one million additional people living in Auckland by 2040, and the need for an additional 400,000 new homes and 327,000 new jobs (Auckland Council, 2012).

Most of the projected growth is expected to be contained in and around the established hierarchy of urban centres within the existing Auckland Metropolitan Urban Limits (MUL).

However, it is anticipated 90,000 new dwellings will need to be provided on greenfield land outside the MUL, as will jobs for 65,000 employees.

The Auckland Plan identifies 10 greenfield sites for investigation around the Auckland Region. These areas are coloured with dashed red lines in Figure 2. Drury is contained in an investigation area known as the Southern Cluster, also highlighted in Figure 2.



Figure 2 - Auckland Development Strategy  
Source - Auckland Council, 2012

### Auckland Transport

Auckland is relatively car dependent with 85% of all trips made by car. 80% commute to work by car, 7% arrive by public transport, 1% by bike and 5% on foot (AECOM, 2012).

To help address this, the Auckland Plan sets a challenge: to double public transport trips from 70 million in 2010 to 140 million trips by 2022; and increase the proportion of people living within walking distance of frequent public transport stops from 14% to 32% by 2040 (Auckland Council, 2012).

### Auckland Affordability

According to the Real Estate Institute New Zealand the median house price for Auckland in April 2015 is \$720,000. This is up 17.8% from \$611,500 for the same time last year.

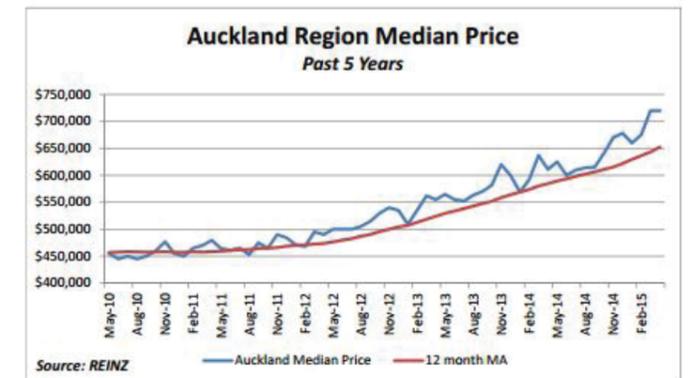


Figure 3 - Auckland House Prices  
Source - Real Estate Institute New Zealand, 2015

As shown in Figure 3, between 2001 and 2007, real house prices in Auckland have almost doubled, an average of 12% per year (Productivity Commission, 2013).

House price inflation rates in New Zealand reflect those seen elsewhere in the developed world, notably in United Kingdom and Australia.

The Global House Prices Report (2014) shows a significant disconnect between the historical house price inflation rates found in the comparable markets of Australian and United Kingdom compared to those in Germany and the Netherlands. This contrast is demonstrated in Figure 4. URBED (2014) suggest this is primarily down to a different house building model.

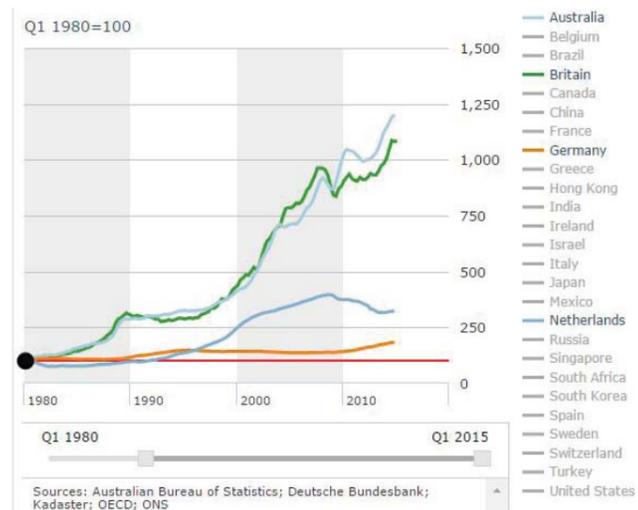


Figure 4 - Contrasting International House Prices  
Source - Global House Price s Report, 2014

According to the 2013 Census, the median personal income for adults in Auckland was \$29,600 per annum and the median household income was \$76,500 per annum (New Zealand Statistics, 2015).

In Auckland 28% of Aucklanders pay more than 30% of their income on housing (Auckland Council, 2012).

In central Auckland, it now takes 65.8% of the median household take home pay to service a mortgage of a median priced home purchased in February 2015 (AMP, 2015).

Housing is considered unaffordable if costs make up more than 30% of income (Auckland Council et al, 2015)

The Auckland Plan indicates 120,000 new homes need to be in the region of \$275,00-\$375,000 and 160,000 need to be for rent.

The Auckland Plan also cites a mismatch between housing stock and people's needs for smaller houses required for couple without children, plus a growing demand for houses with extended families.

Overall the number of people per dwelling in Auckland is forecast to decline to 2.4 by 2031 from 2.6 in 2011 (Auckland Council, 2012).

The 2013 Census also estimates land values account for 60% of the costs of a dwelling in Auckland. (New Zealand Statistics, 2015)

### Auckland House Building Costs

According to the New Zealand Institute of Economic Research the average residential construction costs in the Auckland Region for 2013 was \$1,510 per sqm, making a 150 sqm dwelling some \$226,500. The construction costs for a multi level residential development is estimated to be in the order of \$2,500 for Auckland New Zealand Institute of Economic Research, 2014).

### Infrastructure costs

The cost of physical and social infrastructure relating to housing development is significant. A recent UK study estimates the overall cost of physical and social infrastructure at 55,000 GBP per dwelling, equating to about \$110,000 - 57% for transport, 14% for health, 12% for utilities and 10% for education (URBED, 2015)

Major regional transport infrastructure proposed for the area includes:

- Greenfield Improvements in Strategic Housing Areas \$119.7 million
- Mill Road (Northern) - \$143.6 million 2018/19
- Pukekohe Train Station Upgrade - \$9.9 million
- Pukekohe Rail Electrification - \$174.6 million, 2018/19
- New Roads for Private Plan Change 12 Drury South Transport Implementation - \$76.6 million, 2018/19
- New Roads for Takanini Structure Plan Area 6 Transport Mitigation - \$21 million, 2018/19

Source: Auckland Draft Regional Land Transport Programme 2015-2025

The cost of electrification and a new train station at Drury is not contained in the above document, but the 2012 Scheme Assessment for Major Rail Improvements signal the likely cost to be in the region of \$99.3million (Auckland Transport, 2012).

### Key Points

- The Auckland population is set to grow by an additional 1 million by 2040.
- There is a need to allocate more land for growth, including significant areas of greenfield land.
- Housing affordability is a significant issue for Auckland and there is a lack of supply.
- House price inflation continues at about 10-12% year on year.
- This drives land speculation and an uplift of land values.
- Need for smaller houses to meet change in household sizes.
- Auckland is car dependent with low numbers traveling by bus, foot or bike.
- Infrastructure costs are significant and a number of major regional transport projects are signaled.

# CONTEXT

## Sub Regional

The Auckland Plan Development Strategy identifies the 'Southern Cluster' as an area of focus and priority for the 'greenfield' investigation of approximately 55,000 new dwellings and 35,000 new jobs for the area over the next 30 years. The area is highlighted as dashed green in Figures 5 and 6.

More specifically, about 4000 hectares of land around Drury and Karaka are being investigated for potential future urban land, including approximately 2,600 hectares for residential and 700 hectares for employment. This is known as the Karaka Investigation Area. (Auckland Council, 2012)

A number of Special Housing Areas have also come on stream in the area, designated under the Auckland Council and Government's Housing Accord, designed to fast track the delivery of residential land. These areas are identified as red on Figure 5.

These include:

Bunnythorpe Road, Papakura	10 dwellings
Bellfield Road, Papakura	350 dwellings
Takanini Strategic Area	1,770 dwellings
Wesley College	4,550 dwellings
Addison, Takanini	500 dwellings
Total	7,180 dwellings

Source: Auckland Council 2015

The scale of the future development in the Southern Cluster greenfield investigation area is comparable to the size of Hamilton, as demonstrated in the 'tissue analysis' shown

in Figure 6. It should be noted Hamilton is shaded grey at the same scale as Figure 5.

The Southern Cluster is considered a priority and focus over other investigation areas because it demonstrates a number of attributes and features including:

- attractive rural
- coastal and countryside living
- landscape and environments
- culturally significant areas
- highly versatile soils
- heavily utilised streams and groundwater
- a significant productive sector and significant ecological habitats (Auckland Council, 2012).

The Southern Cluster is also considered to provide some advantages to future development including:

- it is largely flat land
- has good strategic access to rail and the motorway
- and is readily accessible to significant centres in Auckland and to neighbouring Hamilton and Tauranga. (Auckland Council, 2012).

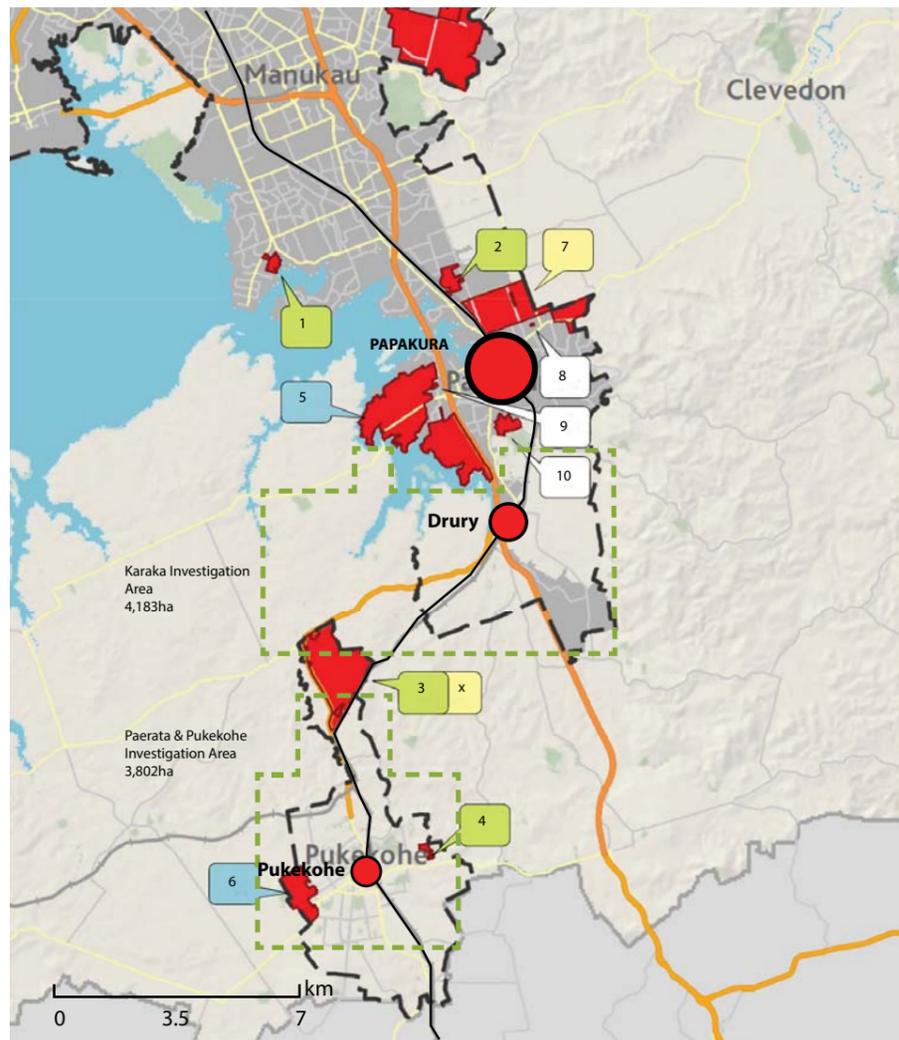


Figure 5 - Sub Regional Context  
Source - Auckland Council, 2015

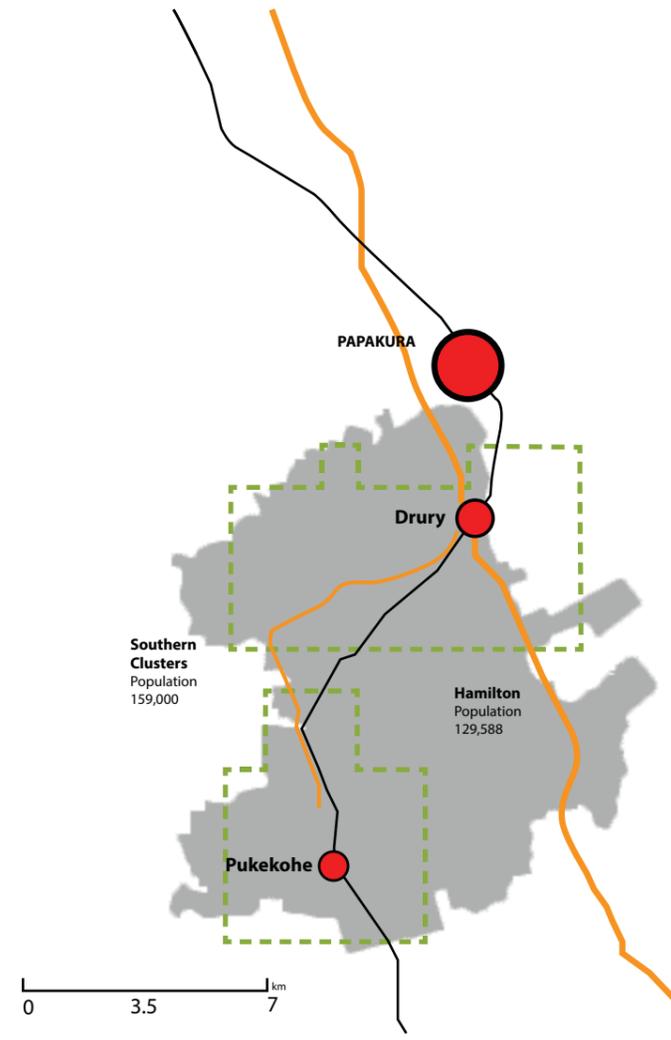


Figure 6 - Tissue Analysis - Hamilton Overlay  
Auckland Sub Regional Context

Special Housing Areas	Legend
1 Weymouth	Motorway
2 Addison	Railway
3 Wesley College	Rural Urban Boundary
4 Anselmi Ridge	Southern Cluster Greenfield Investigation Areas
5 Hingaia	Centres
6 Belmont	Special Housing Areas Centres (SHA's)
7 Takanini Strategic Area	Tranche 1 SHA's
8 Bunnythorpe Road	Tranche 2 SHA's
9 Harbourside Drive	Tranche 3 SHA's
10 Bellfield Road	Tranche 4 SHA's

## Sub Regional Challenges and Opportunities

Substantial areas of class 2 and 3 soils are earmarked for urbanisation (as are other greenfield investigation areas) but class 1 elite soils are largely avoided.

The Karaka Investigation Area also includes significant areas of land prone to flooding and this must be avoided rather than culverted and developed (Auckland Council, 2012).

The Mill Road extension is signaled to extend south of Papakura and east of Drury to link with the private plan change for new employment land in the Runciman area.

Wastewater is considered to be a significant hurdle as it cannot discharge to the Mangere treatment plant as it is already at full capacity with existing commitments. A new and costly plant will be needed and this is likely to be located to the west of the investigation areas (Auckland Council, 2012).

There is also a need to limit impacts of contaminants on the tidal areas into which water catchments drain including the need to limit impacts on tidal invertebrate habitats and feeding grounds for a number of nationally and internationally significant shore and wading birds in these areas (Auckland Council, 2012).

### Key Points

- Significant areas of land signaled for urbanisation, roughly equal scale to Hamilton.
- Mill Road extension is signaled to go south of Papakura and east of Drury.
- There is a need to provide a new Waste Water Treatment Works.
- Significant areas prone to flooding and need to avoid and mitigate environmental effects, particularly on tidal areas and Maori cultural values.

# CONTEXT

## District

### Community

The New Zealand 2013 Census shows the local population within the Drury area is 3531. This is an increase of 141 people since the 2006 census.

The Census also showed us that the median age of the population is 41.3.

In terms of cultural diversity, 85.7% are of European descent, 12.2% are Maori, 3.7% Pacific and 7.3% of Asian origin.

A relatively high level of deprivation exists within Drury being ranked 3 on Deprivation Index, 10 being the highest. (Parliamentary Service, 2012).

The centre of Drury provides a wide range of facilities for the local population including a library, shops, places of employment, recreation facilities and reserves, boat ramp, motels and cafes.

### Business and Employment

Employment levels are relatively good with low unemployment of 5.4%, compared to 8.1% for the rest of Auckland. The most common occupational groups are "Managers" and "Professionals" (New Zealand Statistics, 2015).

The Census shows 697 businesses in Drury, up 1% from 2006, employing 1,690 paid employees, equating to an increase of 7% from 2006 (New Zealand Statistics, 2015).

The top five industries in Drury are:

- Construction (550 employees), Manufacturing (250)
- Agriculture (160)
- Retail trade (110)
- Wholesale trade (95).

The construction and manufacturing industries are particularly strong when compared with the rest of Auckland (New Zealand Statistics, 2015).

The median income for employees is \$35,100, compared to \$29,600 for the rest of Auckland.

### Property

The 2013 Census tells us:

- There were 1,191 occupied dwellings and 78 unoccupied dwellings in Drury.
- At the time, 12 dwellings were under construction in Drury.
- Drury has relatively high home ownership with 76% of households owning the dwelling, compared to 61.5% across Auckland.
- The average rent is \$320 per week, compared with \$350 for Auckland.

The average price of a 3 bedroom property in the Papakura District in February 2014 is \$428,104 an increase in 10.9% from the



Image 3 - St John's Church  
Source - Duncan Rothwell

previous year.

Future Urban Zone land is approximately \$140,000 per hectare (Auckland Council, 2015), a 47% increase from 2011 government valuations.

Serviced residential lots in the area have a current value of about \$330,000, for a 800 sqm section (Auckland Council, 2015). Based on an average of 12.5 dwellings per hectare this equates to about \$4.1 million per hectare.

In comparison the average price for agricultural land in the area is about the same as the national average, being \$28,009 (Real Estate Institute of New Zealand, 2015).

In south Auckland, it now takes 50.4% of the median take home pay (\$1214) to service a mortgage (\$612 repayment) for a median priced house purchased in March \$536,000 (AMP, 2015).

### Households and family

The 2013 Census shows:

- The average household size in Drury is 2.9 people.
- Couples with children make up the vast majority of all households at 47.9%.



Image 4 - Local Neighborhood Reserve  
Source - Duncan Rothwell

- One family households make up the majority of all households in Drury.

### Car ownership

The 2013 Census tells us 37.5% of households in Drury have access to three or more motor vehicles, compared with 18.4 percent of all households in Auckland.

### Key Points

- The population of Drury is growing, slowly at this stage.
- Minimal development is occurring, at present.
- Land values are increasing significantly, particularly those with development potential.
- Drury has relatively high home ownership.
- Housing affordability is still an issue in the area.
- Rents are marginally lower than Auckland.
- Most households are made up of families with children.
- Relatively few one person households.
- Relatively good levels of employment and wages, with a strong construction industry, and manufacturing and agriculture.

# URBAN DESIGN ANALYSIS

# URBAN DESIGN ANALYSIS

The existing qualities and characteristics of the area have been identified through an extensive audit and analysis.

The analysis focused on the following:

- History
- Transport
- Land Use Zoning
- Urban Structure
- Legibility Analysis
- Green Networks
- Blue Networks
- Views and skylines

The analysis forms the basis for the vision, strategic objectives and principles of the UDF.

# URBAN DESIGN ANALYSIS

## History

Drury has a history that goes back to the early 1800s when it was the centre of three Maori Pas in the area, one at Red Hill, one at Maketu near Ramarama, and the other at Pukekohe. The area continues to be significant to Maori with a number of places of cultural importance with numerous archaeological finds (Te Roopu Kaitiaki o Papakura, Russel Foster Associates, 2010), as demonstrated in Figure 7.

The first European settler in the Drury area was Thomas Runciman in about 1852. His original cottage was located to the west of Drury close to the creek near the Bremner Road motorway overpass.

The first allotments in the village of Drury were offered for sale by the Crown in 1855. At about the same time a track was surveyed and created a link to the Waikato. This was to become the Great South Road and by 1861 this was formed by metal to enable military access.

By 1862 Drury had a hotel, store, post office and eight or nine cottages. In 1858 coal and clay was discovered in the area and related industry established. A number of kilns and a 3 ½ mile tramway along Waihoehoe Road were constructed linking the coalfield in the Drury Hills to Slippery Creek. The discoveries became a catalyst for a rail connection to the Auckland CBD.

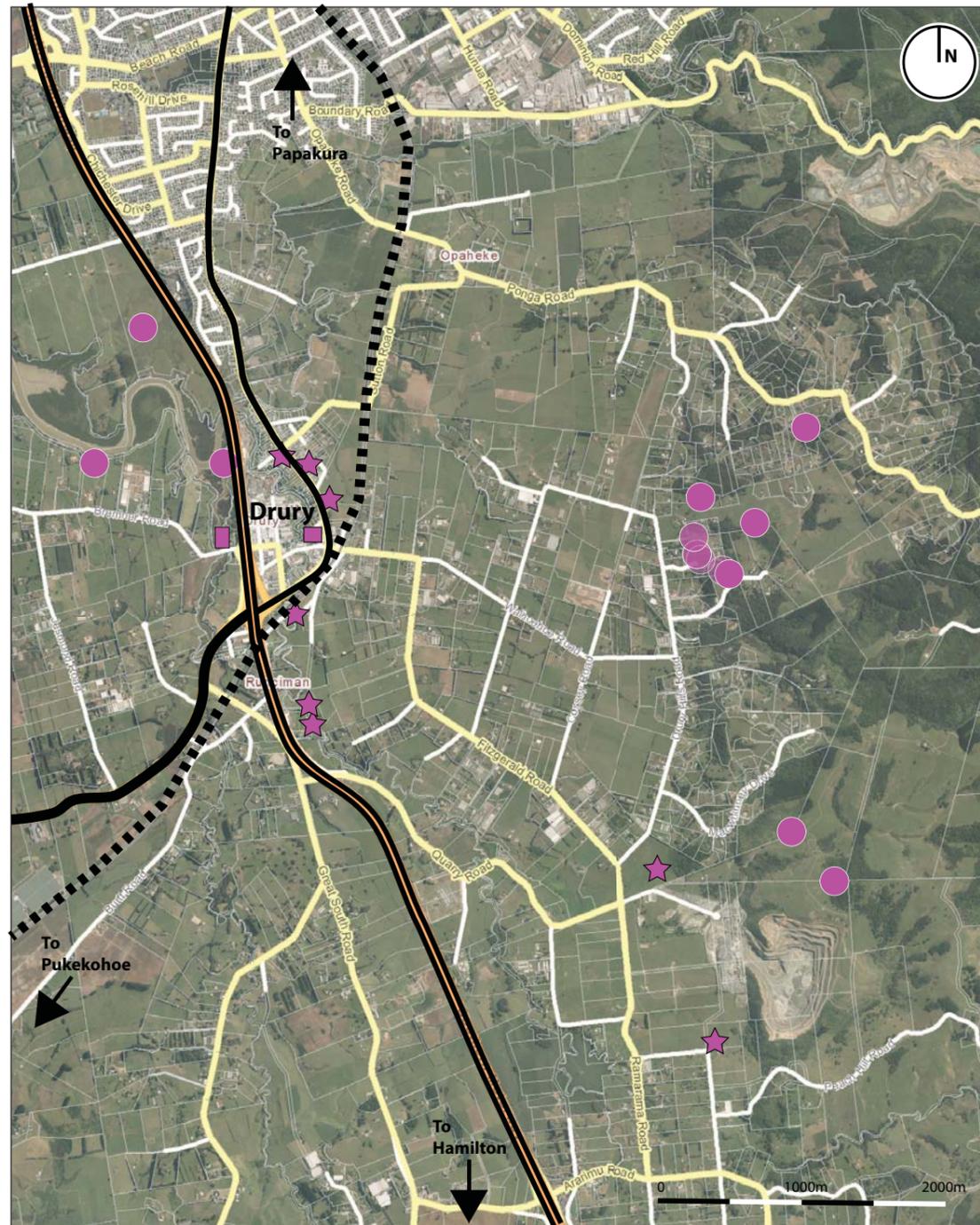


Figure 7 - Heritage Context  
Source - Auckland Council, 2015

During the Maori Land Wars Drury became a highly strategic location given a formed link to the Waikato and established itself as a Garrison town. Drury was considered the last place on the Great South Road where protection from Maori was provided. While Maori also considered the area important and used the elevation of the Drury Hills to watch the Great South Road, and plan attacks from them (Russel Foster Associates, 2010).



Kilns in Drury  
Source - Auckland Libraries, 2015



Sketch of British Troops near Drury  
Source - Winkelmann, Henry 1863

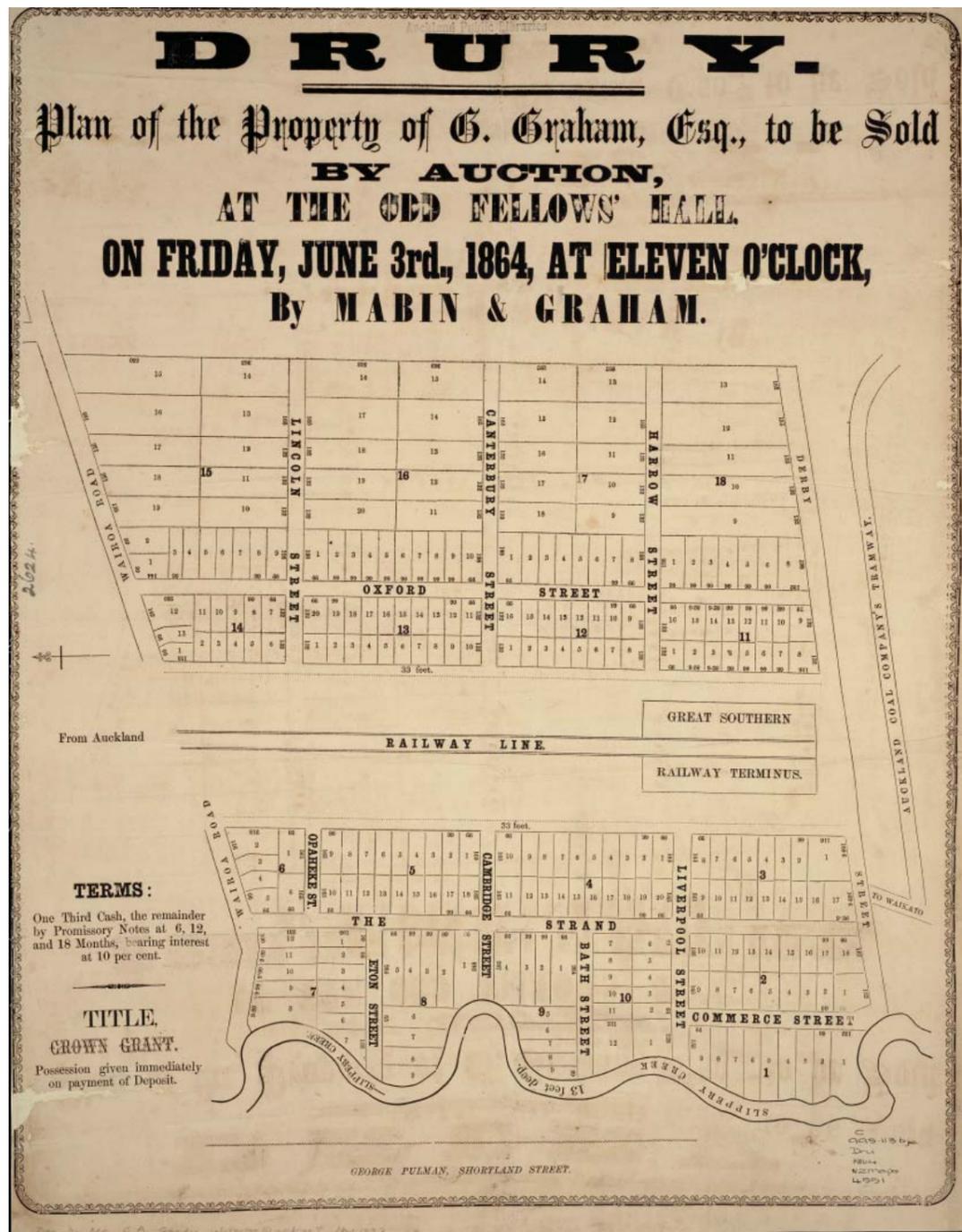
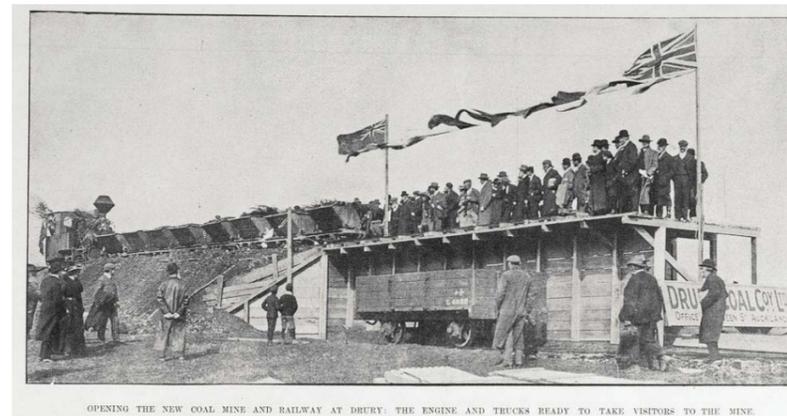
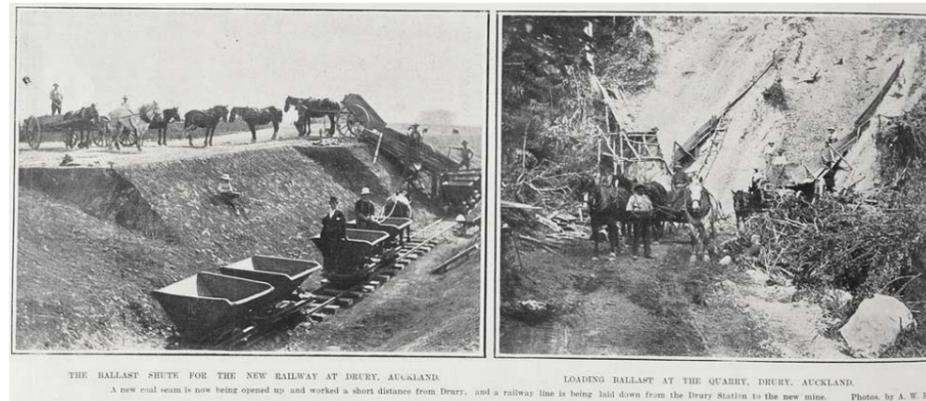


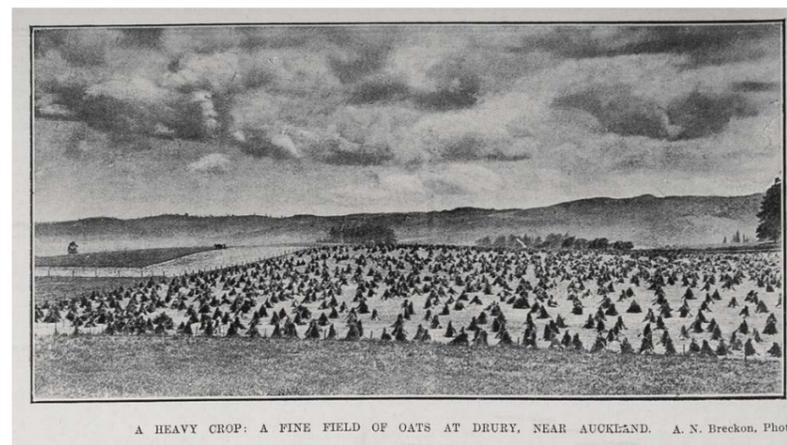
Figure 8 - Historic Map of Drury, 1864  
Source - Auckland Libraries, 2015



Opening of Coal Mine and Railway, Drury  
Source - Auckland Libraries, 2015



Stone Quarry and Coal Mine, Drury  
Source - Auckland Libraries, 2015



Haystacks, Drury  
Source - Auckland Libraries, 2015

Drury got its name in 1855, from Commander Byron Drury, who surveyed the Manukau Harbour and found the arm of the harbour that leads up to Slippery Creek at Drury (Druryvillage.co.nz, 2015)

The historical layout of Drury has changed significantly over the years and this is largely down to the motorway alignment through the middle of the historical street layout.

### Key Points

- Drury named after Captain Drury who navigated and mapped the Manukau Harbour
- Significant number of places and sites with heritage and cultural value
- Evidence of long term and extensive Maori occupation in the area
- Location has strategic importance to Maori being a key overland link between Manukau Harbour and the Waikato
- Great south road formed to Waikato 1861 to enable military access.
- 1858 coal and clay discovered & 3½ mile railway line was laid from foothills to a landing at Slippery Creek
- Discoveries were catalyst for a rail connection to the Auckland CBD
- Location became important to military during New Zealand land wars as provided strategic access to Waikato and became southern garrison town
- Coal was discovered in the foothills of the Drury Hills
- This long history not readily apparent or highly visible

# URBAN DESIGN ANALYSIS

## Transport

### Roads

Drury benefits from good strategic road access to the motorway and beyond, as fore mentioned above. The current street hierarchy indicates Great South Road north of the motorway as a 'primary arterial', and south as a 'strategic arterial', with the remainder of roads 'local'. A heavy vehicle movement route is designated linking the quarry with the motorway network.

A trip movement analysis indicates reasonably high vehicle movements along Great South Road (week day averages 11,828), with also significant numbers along Waihoehoe Road (4316) and Norrie Road (2137). The trip movement analysis indicates 576 (week day averages) along the designated heavy vehicle movement route. However, observations on site revealed a significant number of heavy movements moving through the centre of Drury away from the designated quarry route.

The statistical analysis above suggests Drury is reliant on the private car for most local trips. This is apparent in built form demonstrating 'car orientated characteristics' - with most commercial properties having large car parking areas fronting the streets and large 'Las Vegas' style signage, for example.

The Mill Road extension is planned to extend through the project area but no firm alignments is proposed at this stage.

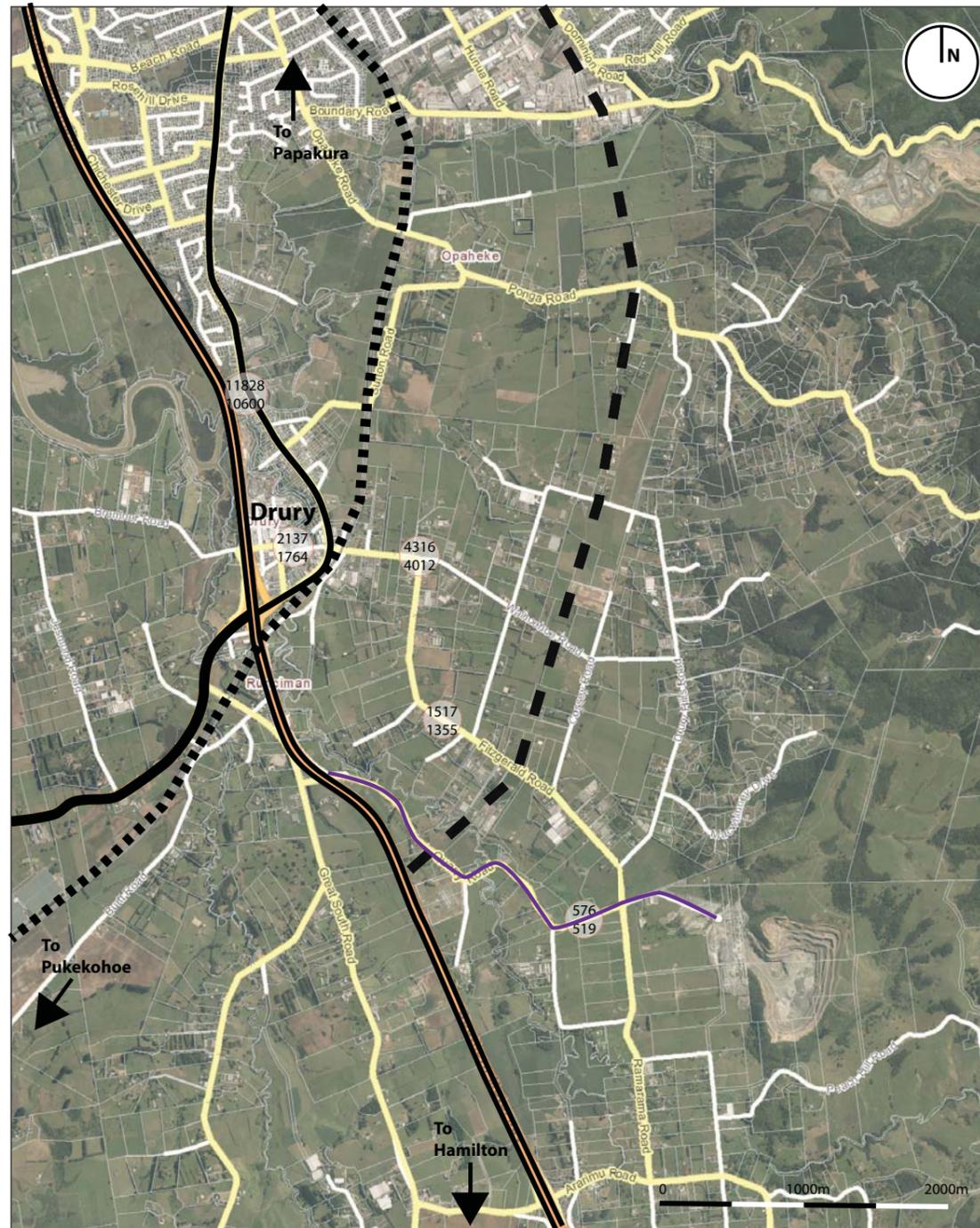


Figure 9 - Road Context  
Source - Auckland Council, 2015



Image 5 - Quarry Truck  
Source - Duncan Rothwell



Image 7 - 'Las Vegas' Signage  
Source - Duncan Rothwell



Image 8 - Prominent Car Parking  
Source - Duncan Rothwell

# URBAN DESIGN ANALYSIS

## Transport

### Public Transport

Drury has the main trunk rail line running north south through the settlement linking Pukekohe to Papakura and beyond to the Auckland CBD. The regional rail network has recently been upgraded to support new electric trains but the network is only electrified to Papakura at this stage. This means diesel trains shuttle passengers between Pukekohe and the Papakura interchange where they transfer onto the electric trains. There is no train station at Drury.

A local bus service links Drury to Papakura and the train interchange, with services every 60 minutes and 30 minutes at peak. Current travel times from Drury to the Auckland CBD are 1 hour and 30 minutes by public transport.

The Transport Strategy signals the Rapid Transport Network will extend from Papakura to Pukekohe to include at least two new train stations, with one being located at Drury. The train station will also have a park and ride facility and interchange with new local bus services. This will result in significantly reduced travel times to the Auckland CBD – about 1 hour.



Figure 10 - Public Transport Context  
Source - Auckland Council, 2015



Image 9 - Main Trunk Rail Line  
Source - Duncan Rothwell



Image 10 - Bus Stop, Great South Road  
Source - Duncan Rothwell



Image 11 - Rail Crossing, Sutton Road  
Source - Duncan Rothwell

# URBAN DESIGN ANALYSIS

## Transport

### Walking and Cycling

Figure 10 shows the potential 400m and 800m walking catchments from the centre of Drury in relation to local schools. The 'ped shed' analysis shows the 800m walking catchments extends a reasonable distance beyond the motorway to the west, up towards Slippery Creek to the north and some way along Waihoehoe Road.

Site observations identified sub standard pedestrian facilities in the centre of Drury with a poor level of service along sections of Great South Road and bridges with no footpaths, and only one zebra crossing facility located some distance from the main commercial area.

Figure 10 also shows the potential 3km cycle catchment from the Drury centre. The Auckland Cycle Network Map identifies Great South Road as a proposed 'Connector'. On road cycle facilities are provided in the form of lane markings along the Great South Road. No cycle counts are known.

Drury lends itself to good walking and cycling conditions as it is mostly flat within reasonable catchment areas.

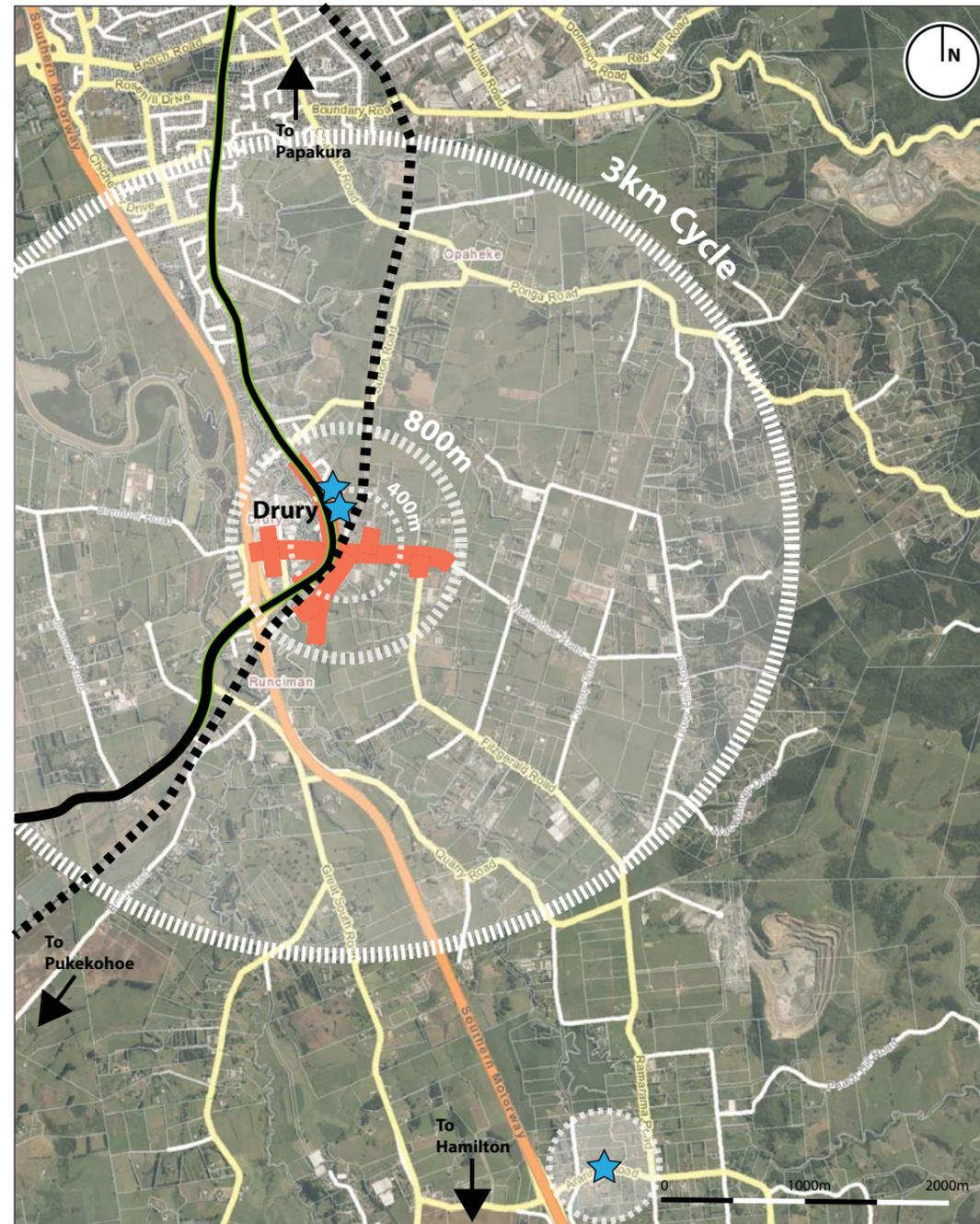


Figure 10 - Walking and Cycling Context  
Source - Auckland Council, 2015



Image 12 - No footpath, Great South Road  
Source - Duncan Rothwell

### Key Points

- Drury benefits from good strategic road access
- A designated heavy vehicle corridor links the quarry with the motor way
- Mill road extension is planned to extend through the project area
- Drury has a local bus service with links to Papakura
- No train station exists meaning travel times to CBD are 1 hour 30 minutes
- A new train station is planned for Drury with significant travel time benefits - 1 hour to CBD
- Walking and cycling infrastructure is substandard
- But the potential for walking and cycling is significant in context

# URBAN DESIGN ANALYSIS

## Land Use Zoning

Figure 11 shows the extent of the existing Metropolitan Urban Limit (MUL) immediately bounding the Drury settlement. The Rural Urban Boundary (RUB) proposes to extend the urban limits significantly east to the Drury Hills, south to the Runciman motorway interchange and to the west towards Karaka and Pukekohe. The land between the MUL and the RUB is designated as Future Urban in the Draft Auckland Unitary Plan. The Future Urban zone is essentially a rural zone that identifies land suitable for urban development in the future (Auckland Council, 2014).

Figure 11 also shows the Hingaia and Bellfield Road Special Housing Areas located to the north.

The plan also shows the existing business and industrial areas to the north in Papakura and within central Drury itself. The Drury South Business Project is also shown. This proposes development of approximately 223 hectares of business activity (within a total area of 361 hectares). This is anticipated to provide employment for approximately 6,880 people when fully developed (around 2025 - 30) land

The land use pattern within the central area of Drury contains a range of uses and the different uses tend to be segregated into different areas.

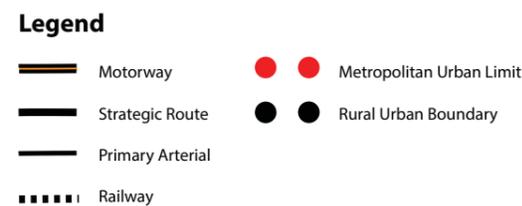
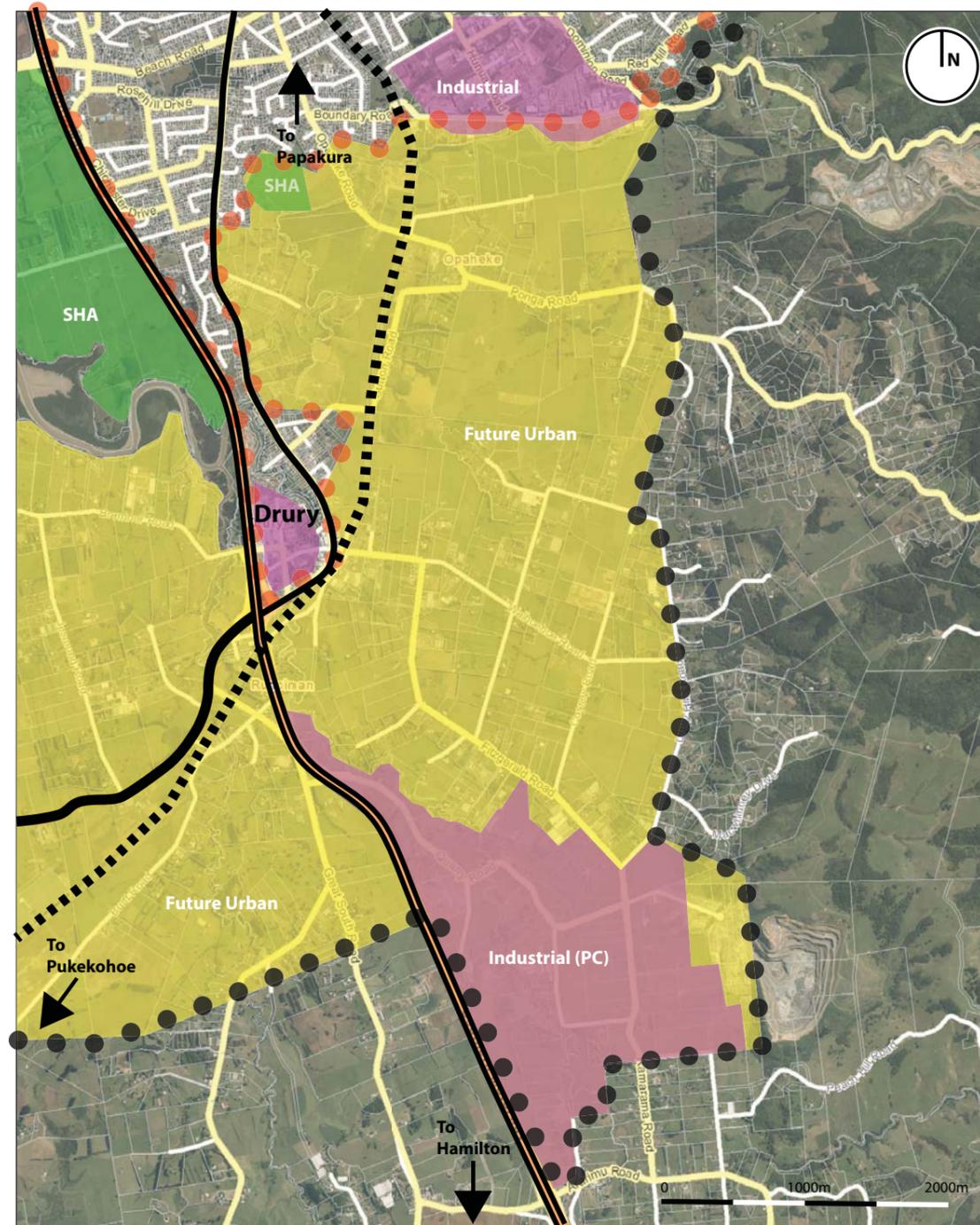


Figure 11 - Zoning Context  
Source - Auckland Council, 2015

The key land use areas include:

- the industrial estate bounded by the motorway and the Great South Road
- main street along Great South Road with a mix of commercial, shops, food and drink and community uses
- sports and recreational reserves with a range of sports facilities
- rural mix of low density residential, lifestyle blocks, pasture, horticultural activities and glasshouses
- urban residential with densities ranging between 330sqm to 1 hectare located along the Great South Road spine.

### Key Points

- PAUP Rural Urban Boundary extends the existing Metropolitan Urban Limit
- Large area zoned Future Urban in the PAUP
- Plan change for Business Park to the south
- Drury in close proximity to SHA's and existing Business Park to the north

# URBAN DESIGN ANALYSIS

## Urban Structure

The figure ground map for central Drury shows the finer grain of development around the central historic core, currently the industrial area. It also shows the 'ribbon' development that has occurred along Great South Road with a clear distinction between the large commercial development buildings in the south compared with the smaller residential units located to the north.

The figure ground also shows low density development located to the east across the 'flats' and picks up the large scale glasshouses and other horticultural buildings.

Most of the roads are relatively wide with no street trees and lack any sense of enclosure. This is exacerbated by the built form being set back from the street edge and in the case of the commercial development located behind expansive car parking areas. This results in minimal active street edges in the central area. In addition, residential development located along Great South Road has turned its back on the street resulting in solid rear fences and poor public/private street interfaces.

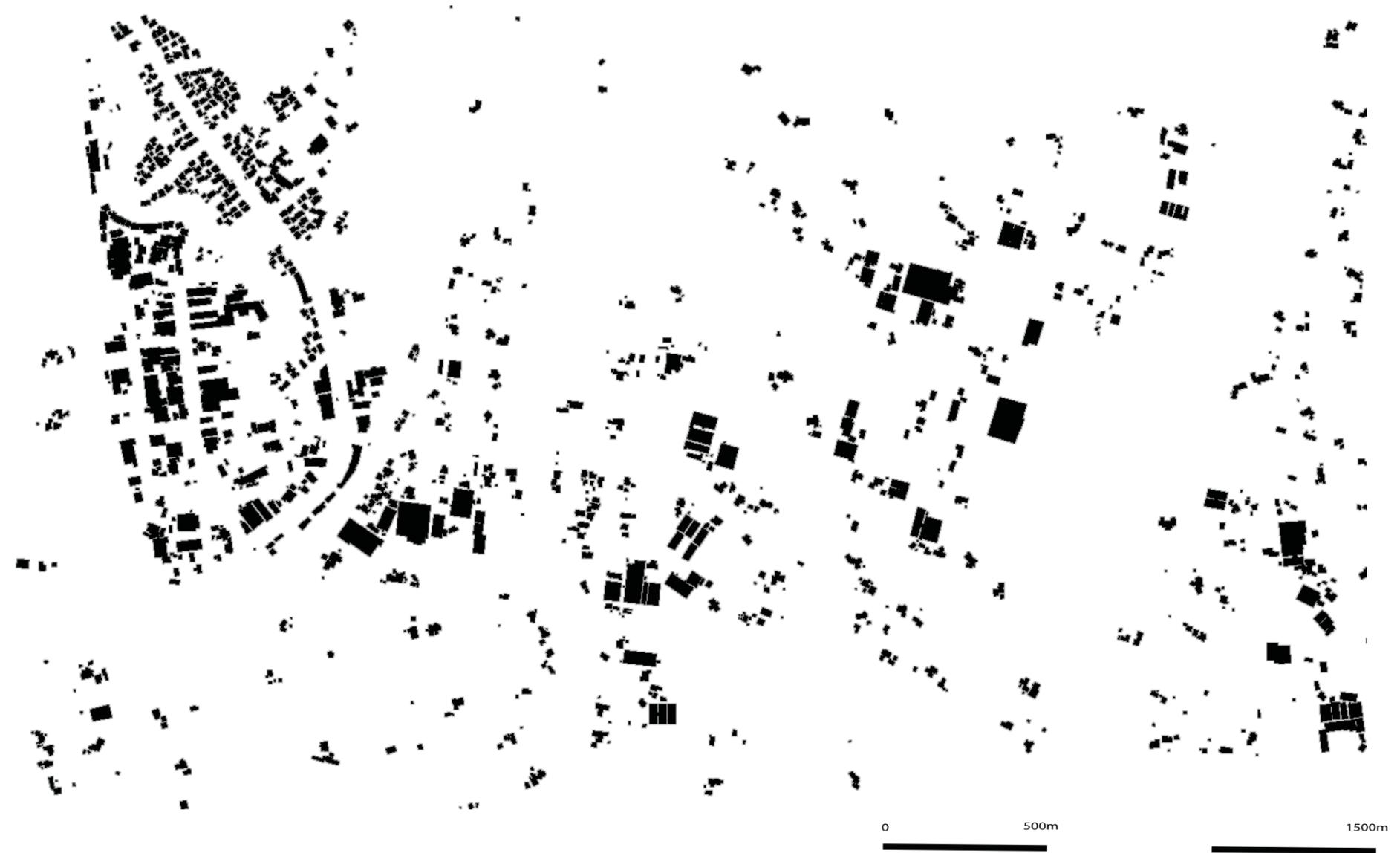


Figure 12 - Figure Ground  
Source - Auckland Council, 2015

### Key Points

- Urban grain varies between different parts of Drury
- Wide streets with buildings set back from the street
- Streets lack trees and sense of enclosure
- Poor public private street interfaces

# URBAN DESIGN ANALYSIS

## Legibility Analysis

The legibility analysis of the central area identified and analysed six key elements – barriers, paths, edges, nodes, landmarks and districts.

### Barriers

The legibility analysis identified the railway line and the motorway as key barriers. The barriers are considered to restrict free movement particularly in an east west direction constrained by existing bridges and motorway underpasses. The motorway and rail line also present significant noise issues along their corridors.

### Paths

The legibility analysis of the central area picked up the stream network flowing through the central industrial area as a key 'path'.

### Edges

The legibility analysis identified the poor public private street interface along the northern section of the Great South Road as a poor edge treatment. In the wider context, the Drury Hills are considered to provide a positive edge treatment with a clear distinction between the flats and the bush clad hills.

### Nodes

There is a clear activity node in Drury located at the cross roads of Great South Road, Waihoehoe Road and Norrie Road with a cluster of shops and services.

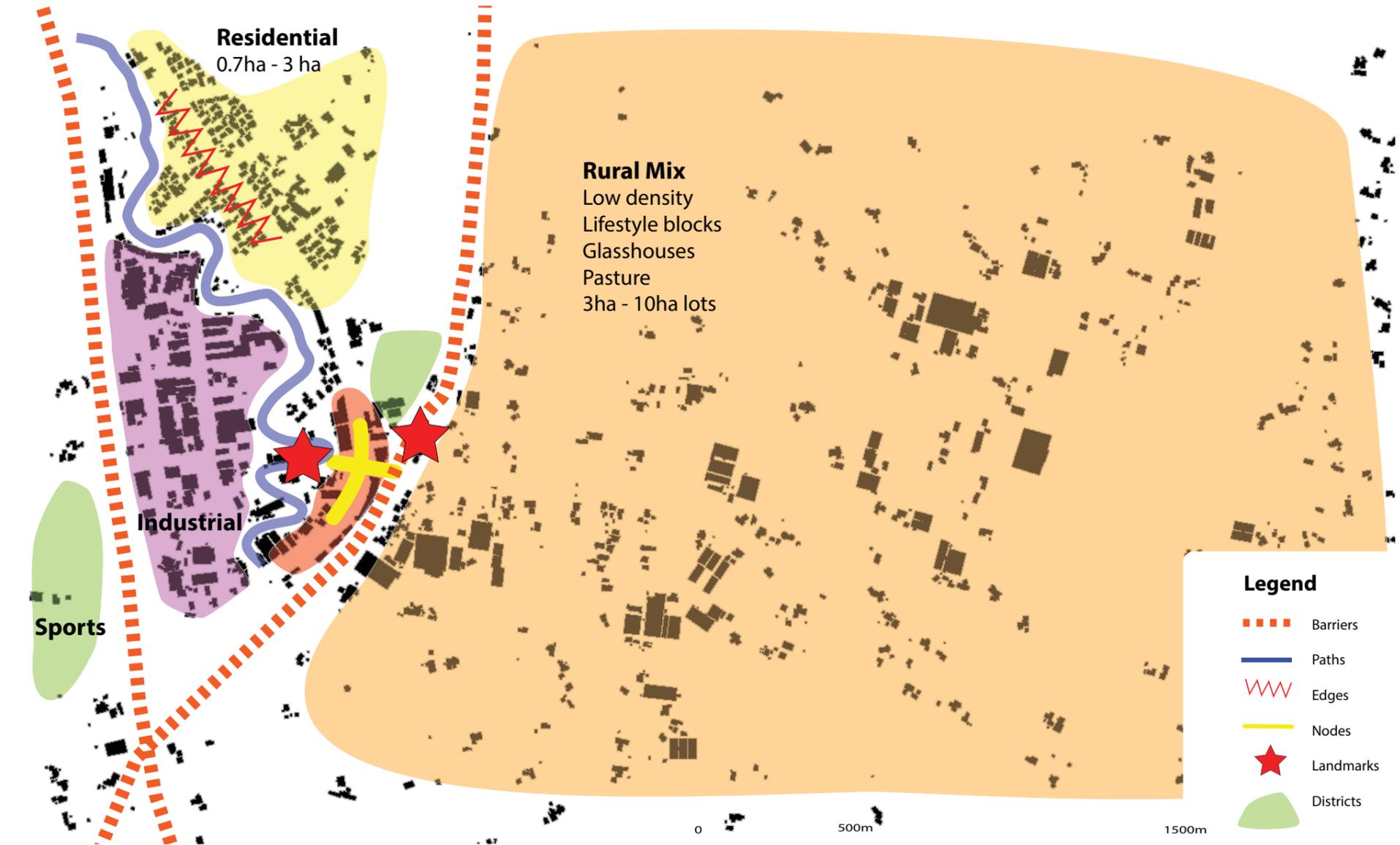


Figure 13 - Legibility Analysis  
Source - Auckland Council, 2015

### Landmarks

The legibility analysis located a landmark monument in Drury although this is not highly visible particularly from the street. St John's Church on Norrie Road is also considered to be a landmark building but again this is not visible from the Great South road.

### Districts

The legibility identifies 5 character areas:

Sports and reserves – central parks providing sport facilities but not visible from the street edge.

Central Industrial area – dominated by unsightly and largely unscreened heavy industry

Central Commercial strip – dominated by poor quality commercial buildings set back behind large areas of car parking

Urban Residential – dominated by a finer grain of residential development mainly fronting Great South Road

Rural Mix – characterised by low density residential, lifestyle blocks, pasture, glasshouses and other horticultural activities.

# URBAN DESIGN ANALYSIS

## Open Space

Figure 14 shows the extent of the designated reserves and esplanade reserves for the area. The key esplanade reserves are located along the main stream corridors of Hingaia Stream and Ngakoroa Stream running north south and Slippery Creek running east west.

There are a number of recreational reserves in the area including three in the Drury foothills. Two sports orientated reserves exist in the centre of Drury – Drury Domain and the Drury Sport Complex offer a range of facilities. These are not highly visible from the main movement corridors.

There are also a number of smaller reserves with children’s play equipment but vary significantly in terms of their overall quality.



### Legend

- |                  |                              |                          |                      |
|------------------|------------------------------|--------------------------|----------------------|
| Motorway         | Drury Domain                 | Harry Dreardon Reserve   | Ngakoroa Reserve     |
| Strategic Route  | Hays Creek Esplanade Reserve | Macwhinney Reserve       | Drury Sports Complex |
| Primary Arterial | Dominion Reserve             | Hingaia Stream Esplanade | Bremner Esplanade    |
| Railway          | Kauri View Reserve           | Burt Road Esplanade      | Drury Esplanade      |

Figure 14 - Open Space Context  
Source - Auckland Council, 2015



Image 13 - Reserve, Great South Road  
Source - Duncan Rothwell



Image 14 - Ngakoro Stream  
Source - Duncan Rothwell



Image 15 - Drury Sport Pavilion  
Source - Duncan Rothwell

# URBAN DESIGN ANALYSIS

## Blue Network

Figure 5 shows the extent of the 100 year flood plain in the area, which is quite extensive with large areas of land:

- between Ponga Road and to the north of Waihoehoe Road;
- between Fitzgerald Road and the motorway; and
- in the central core of Drury, where the existing industrial areas are located.

The plan also shows the main overland flow paths are generally running east west flowing into the Drury Creek, although there a number of constrained areas where the paths are culverted along the railway and motorway network.

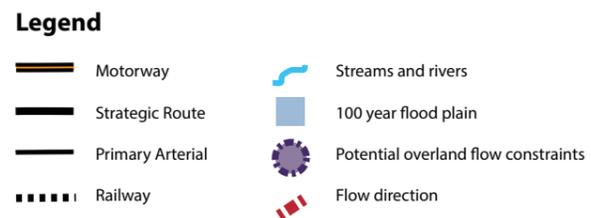
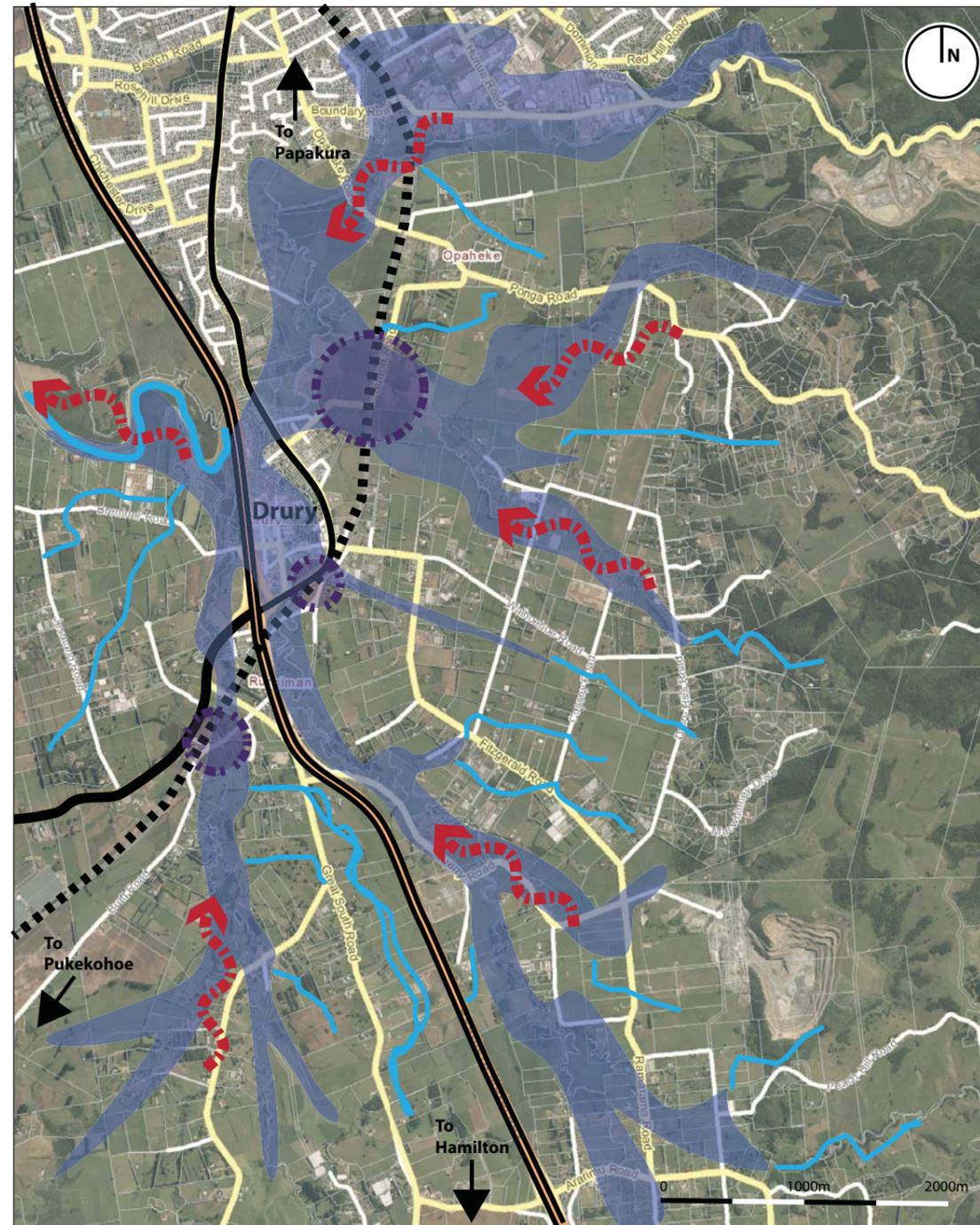


Figure 15 - Blue Network Context  
Source - Auckland Council, 2015



Image 16 - Ponga Stream  
Source - Duncan Rothwell



Image 17 - Slippy Creek  
Source - Duncan Rothwell



Image 18 - Hingaia Stream  
Source - Duncan Rothwell

# URBAN DESIGN ANALYSIS

## Ecology

Figure 16 shows the project area has significant areas with high freshwater biodiversity and medium terrestrial biodiversity values.

The Drury Hills have dense vegetation and provide a green backdrop along the eastern part of the project area.

Two biodiversity corridors are identified, one running in a general north south direction along the Drury Hills and the other a east west direction from the Drury Hills to Drury Creek.

Drury Creek is identified as a tidal area with significant habitats.



### Legend

- |  |  |
|--|--|
|  Motorway         |  High freshwater biodiversity values    |
|  Strategic Route  |  Medium terrestrial biodiversity values |
|  Primary Arterial |  Dense vegetation areas                 |
|  Railway          |  Biodiversity corridors                 |

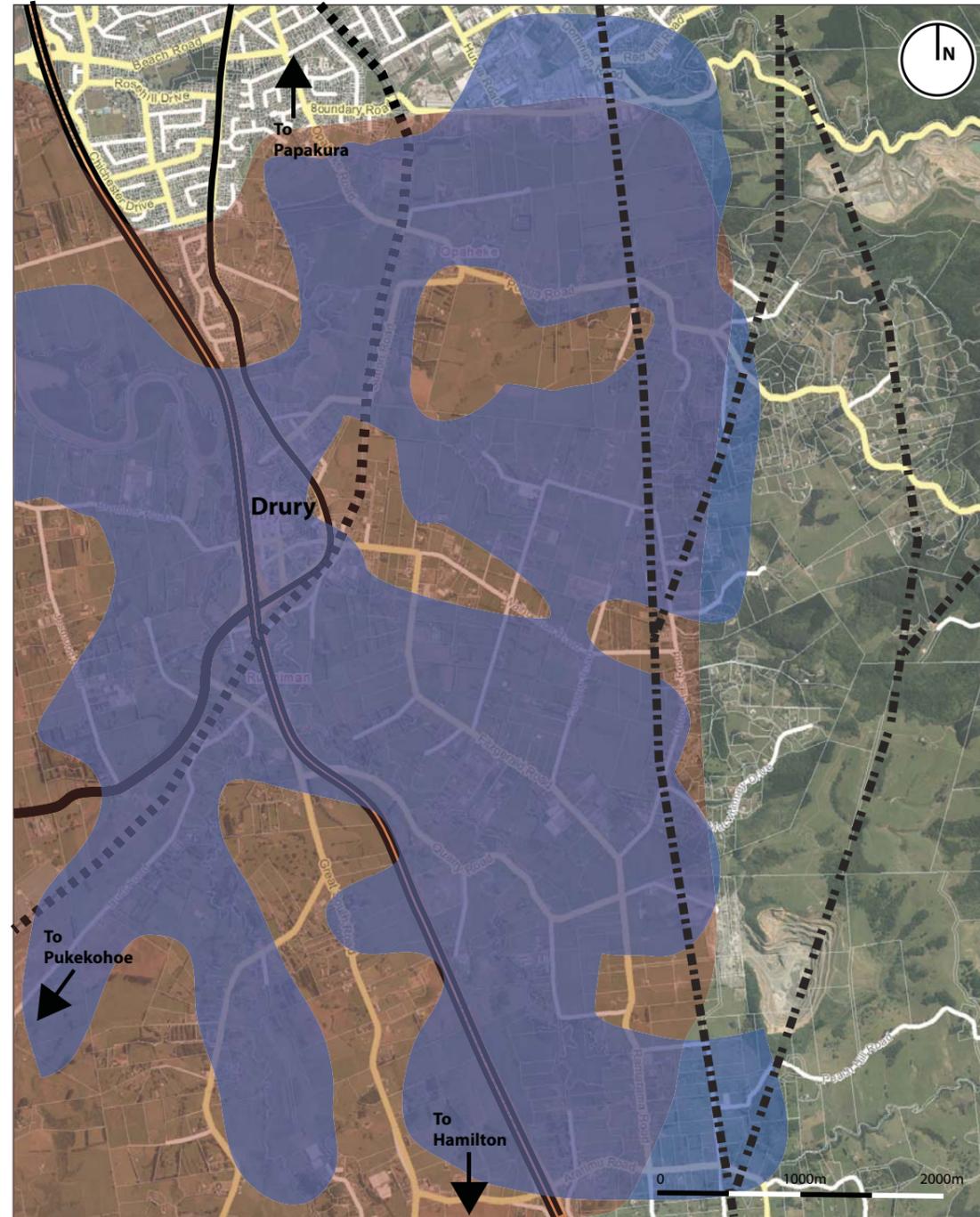
Figure 16 - Ecological Context  
Source - Auckland Council, 2015

# URBAN DESIGN ANALYSIS

## Soils

The soils map (Figure 17) shows significant areas of productive soil but most have poor soil drainage.

A number of fault lines run in a general north south direction aligning with the Drury Hills.



### Legend

- |  |  |
|--|--|
|  Motorway         |  Poor soil drainage |
|  Strategic Route  |  Productive soil    |
|  Primary Arterial |  Fault lines        |
|  Railway          |  |

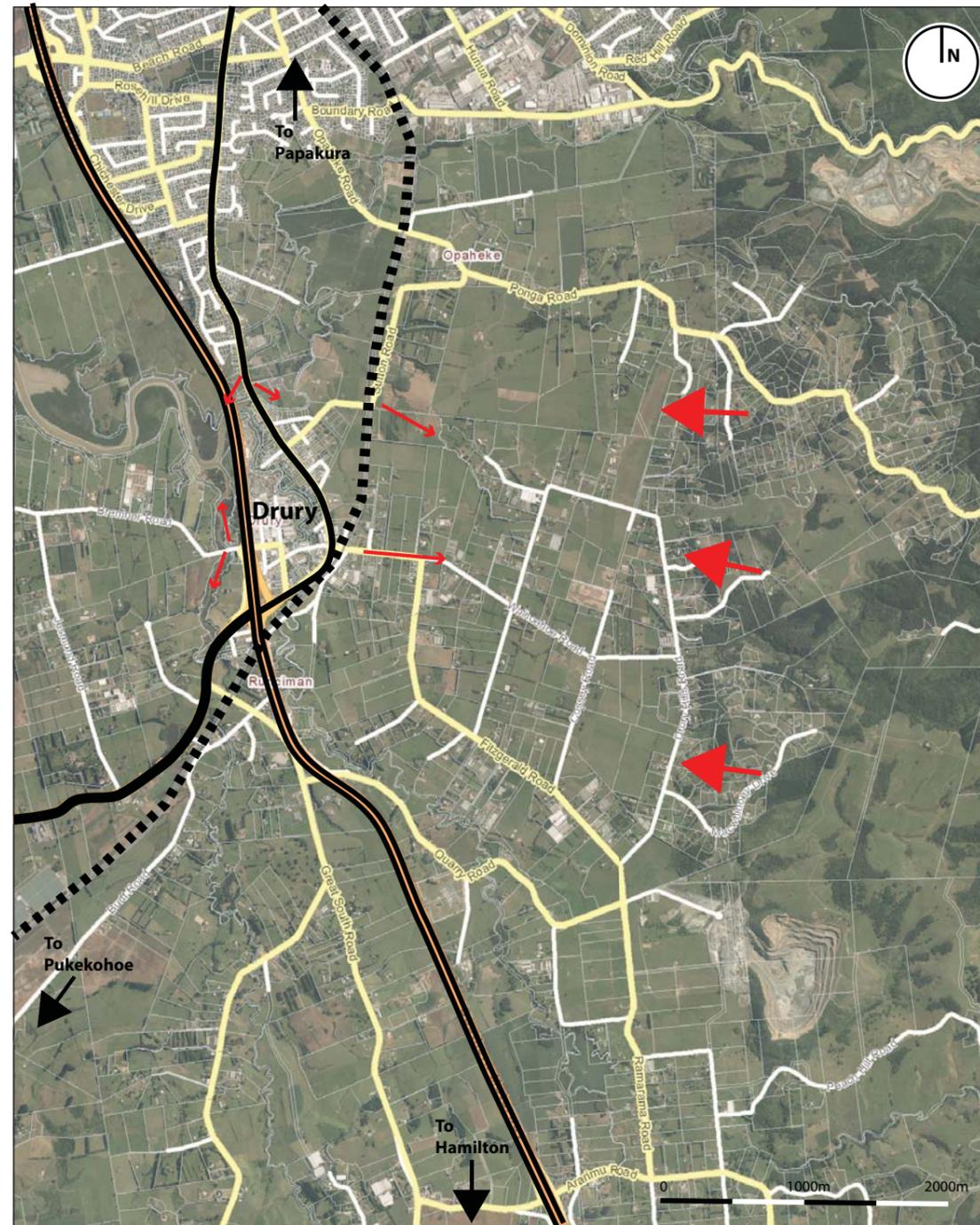
Figure 17 - Soils Context  
Source - Auckland Council, 2015

# URBAN DESIGN ANALYSIS

## Views and Skylines

There are numerous views from within and into the area shown in Figure 18, including:

- long elevated views of the project area from the Drury Hills
- short amenity views of Slippery Creek and Drury Creek
- distant views of the Drury Hills from various locations
- limited linear views along the street network.



### Legend

- |  |   |
|--|---|
|  Motorway         |  Long elevated views                   |
|  Strategic Route  |  Short views and views out of the area |
|  Primary Arterial |   |
|  Railway          |   |

Figure 18 - Viewpoint Plan  
Source - Auckland Council, 2015



Image 19 - View of Drury Hills from Sutton Road  
Source - Duncan Rothwell



Image 20 - View of Drury Hills from Sports Ground  
Source - Duncan Rothwell



Image 21 - View of Drury Creek  
Source - Duncan Rothwell



Image 22 - View of from Drury Hills  
Source - Duncan Rothwell

**SWOC**

# STRENGTHS

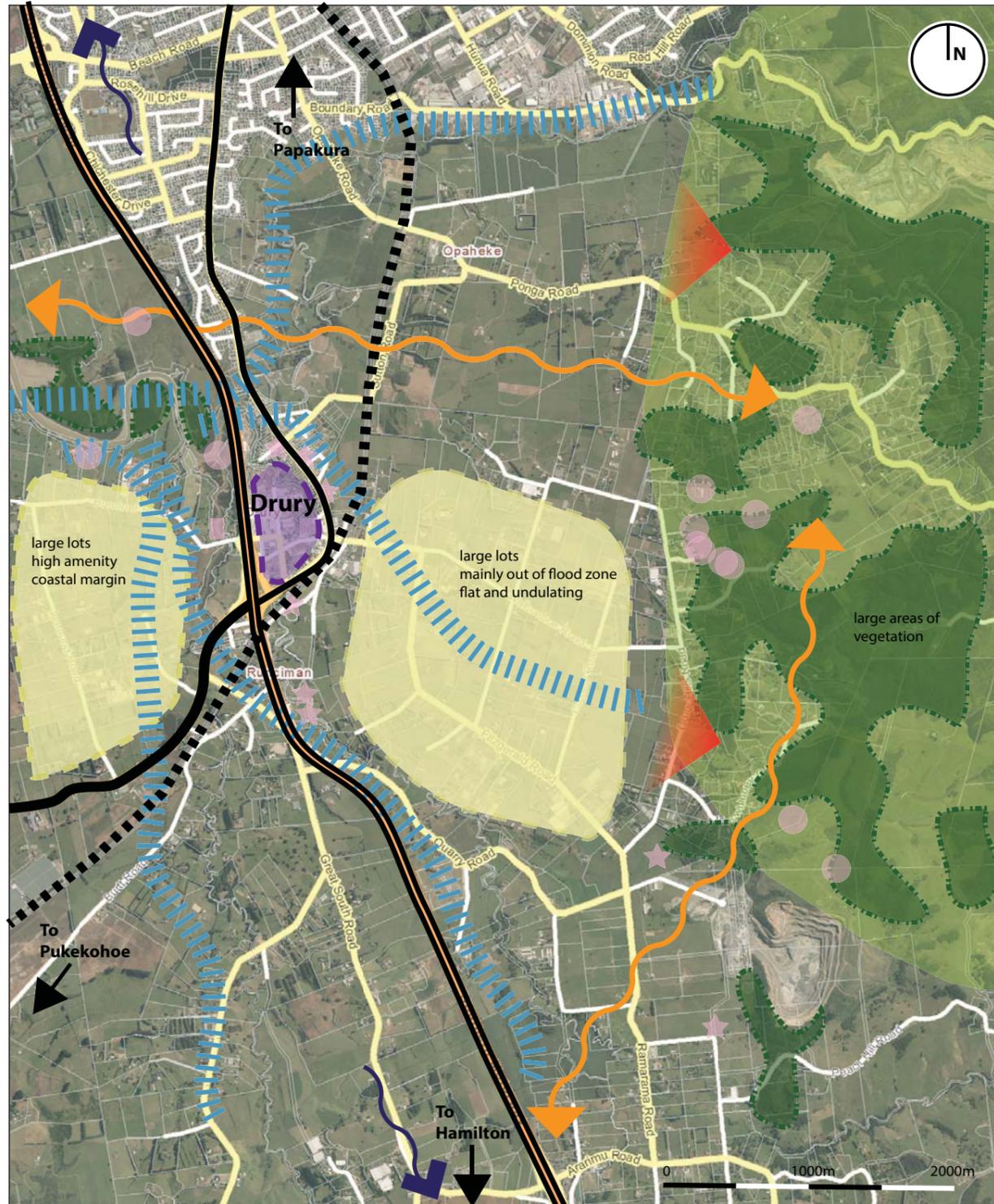


Figure 19 - Strengths  
Source - Auckland Council, 2015

This section of the report provides an analysis of the strengths, weaknesses, opportunities and constraints for the area.

## Community

- An established local community with a growing population.
- A wide range of community facilities in the centre of Drury including a library, shops, cafes and sports facilities.

## Economy

- An established industrial estate and quarry.
- A strong construction and manufacturing industry.
- Relatively low unemployment.
- Income levels relatively good.

## History

- Strong history and culture with many sites and places with heritage values.

## Transport

- Good access to motorway, state highway, rail & ports.
- Strategic access to Hamilton & Tauranga
- 1 hour from Auckland CBD.

## Land Use & Zoning

- The project area is zoned Future Urban Zone in the PAUP.
- A number of Special Housing Areas are in close proximity.

## Legend

- Elevated views
- Biodiversity corridors
- Riparian and stream values
- Strategic access
- Existing industry and commerce
- Places of historic and cultural value

- A range of uses can be found in the centre of Drury including shops, cafes, businesses and industry.
- Future Urban Zone land is relatively cheap.

## Urban Structure

- Historic areas of Drury have a finer urban grain and a grid street layout.
- Drury has an attractive rural character and outlook.

## Legibility

- Drury centre has a defined activity node centred on the Great South Road and Waihoehoe road.
- Drury Hills provide a positive green edge and contrast with open flat land.

## Green Networks

- There are a number of existing reserves and esplanade reserves and most are located along the extensive creek and stream network or in the Drury Hills.
- There are two designated biodiversity corridors.
- The Drury Hills offer dense vegetation some of which is native bush.
- High amenity gateways to the north of Drury around Slippery Creek and Drury Creek.

## Blue Networks

- There is an extensive network of streams and creeks in the area.
- Some have high freshwater biodiversity values.
- There is access to the Manukau Harbour via a boat ramp on Drury Creek.

## Views

- Drury benefits from elevated views from the Drury Hills.
- Drury Hills provide a green backdrop and are visible from many public view points in the Drury Village.
- There is a strong vista of the Drury Hills along the western end of Waihoehoe Road.

# WEAKNESSES

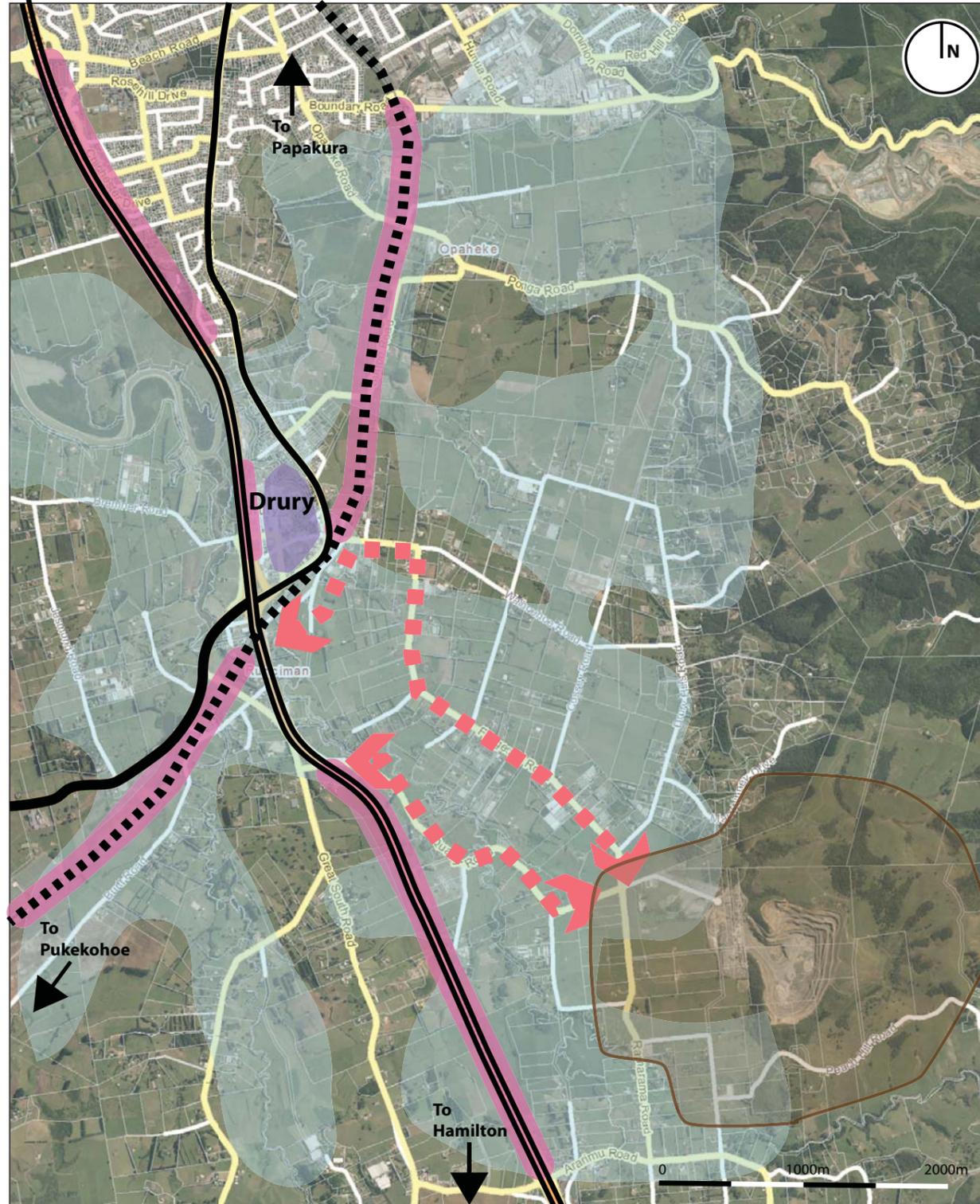


Figure 20 - Weaknesses  
Source - Auckland Council, 2015

## Community

- Drury has a relatively high level of deprivation.

## History

- The strong history and culture of Drury is not readily apparent or highly visible with places of heritage or cultural importance mostly located out of view.

## Transport

- Relatively unsustainable location located on the southern most periphery of Auckland with limited access to jobs and services.
- The public transport network is limited with no train services.
- Trips to the CBD by public transport are 1 hour 30 minutes.
- Heavy vehicle movement through the centre of the Drury Village.
- Poor pedestrian and cycle infrastructure.
- Population is car reliant.

## Urban Structure

- Lack of sense of place and identity.
- There is unsightly industrial and commercial in highly visible locations.
- The roads are wide with no street trees and buildings tend to be set back from the road behind car parking, providing no sense of enclosure.
- There are other poor private/public street interfaces along movement corridors.

## Legibility

- The motorway and railway line are strong physical barriers affecting movement and create environmental effects including noise and disturbance.

## Green Networks

- Some of the recreational reserves are hidden from view or located away from the main movement corridors, creating potential safety issues.
- Some reserves are in poor quality with dated and outworn children's play equipment.

## Blue Networks

- There are large area of land susceptible to flooding.
- Some overland flow paths are constrained.
- Some of the creeks and stream networks are in need of restoration.

## Views

- Residential development on the Drury Hills is in danger of adversely effecting the natural skyline.

# OPPORTUNITIES

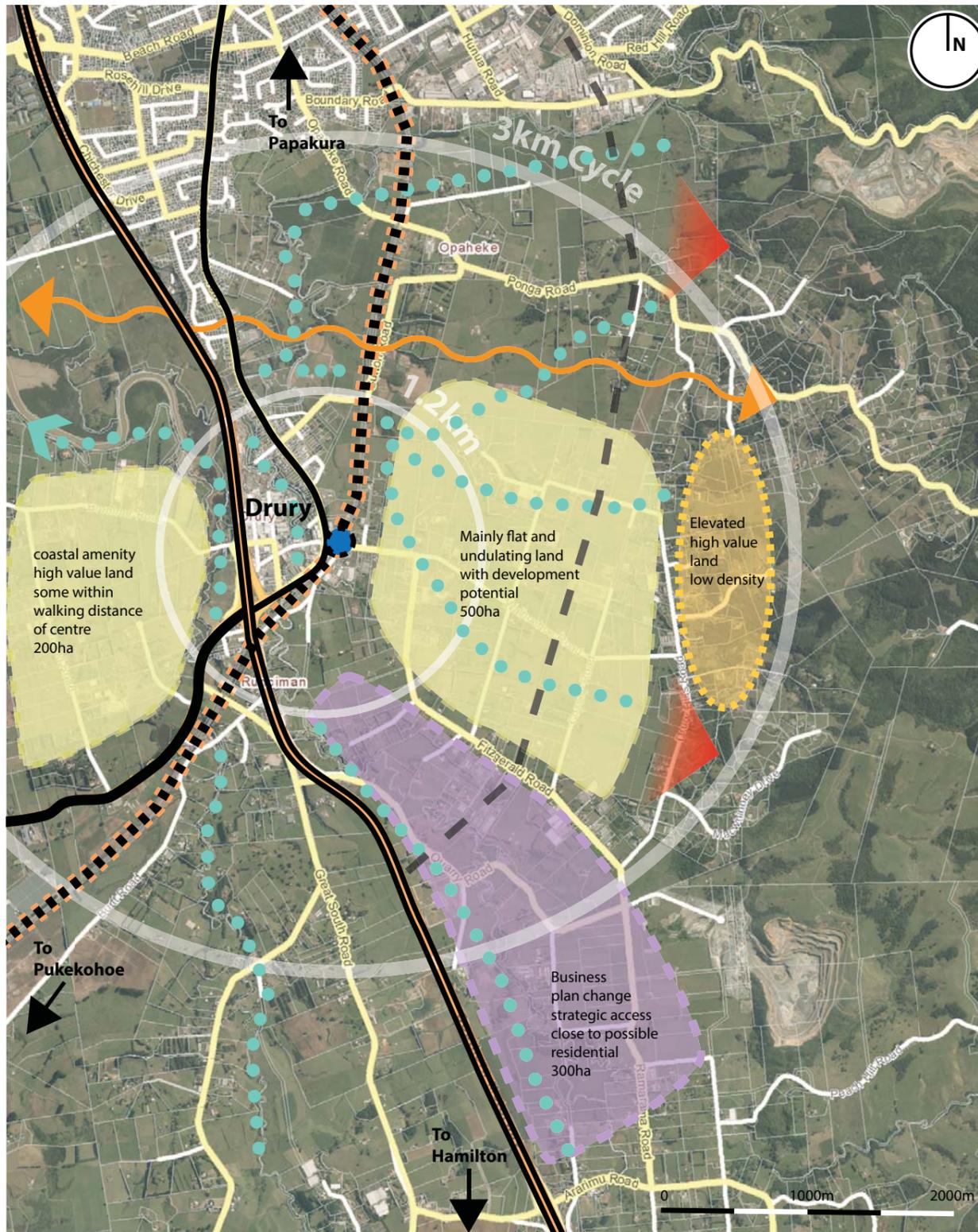


Figure 21 - Opportunities  
Source - Auckland Council, 2015

## History

- There are opportunities to celebrate the strong history and culture of Drury including showcasing important landmarks like the St John's church and the memorial.

## Transport

- Electrification and the proposed new train station will better connect Drury and significantly reduce trip times to the CBD, to about 1 hour.
- The Mill Road extension will provide an important link which will help facilitate growth and provide a more resilient network.
- There is the potential for walking and cycling with mostly flat areas in the related catchments.

## Land Use and Zoning

- The Karaka Greenfield Investigation Area and Future Urban Zoning signals significant future urban growth in the area.

## Urban Structure

- Drury has a heart to the village and this could provide a focus for growth and development.
- Potential to capitalise on the rural character and outlook.
- There are relatively large land blocks in close proximity to the Drury village providing acquisition opportunities.

## Green Networks

- Drury benefits from the Drury Hills backdrop which will help define the urban edge.
- Potential for green wedges to the north.
- Capitalise on the extensive open space networks and amenity gateways.
- Potential for network of open space network based on riparian, streams and wildlife corridor.
- Potential for development to respond ecological & open space network

## Blue Networks

- Drury benefits from an extensive network of creeks and streams that could help define the urban limits and create continual open space networks.
- There are opportunities to capitalise on coastal margins with access to water and the harbour.
- Potential to regenerate riparian esplanades and streams and use them as an address to development.

## Views and Skylines

- There are opportunities to capitalise on elevated and local views.

## Legend

- ▶ Capitalise on views
- ↔ Enhance wildlife corridors
- Regenerate riparians, streams and open space networks
- ||| Electrify rail
- New train station
- ◀ Coastal amenity and access to harbour



# SWOC SUMMARY

## Strengths

- Greenfield site – ‘blank canvas’
- Large lots
- Relatively cheap land
- Good access to motorway, state highway, rail & ports
- Strategic access to Hamilton & Tauranga
- 1 hour from Auckland CBD
- Relatively flat & undulating
- Attractive rural character & outlook
- Elevated views
- Existing industry, commerce & jobs
- Riparian esplanade and stream network
- Heritage & culturally significant sites

## Weaknesses

- Relatively unsustainable location on RUB periphery
- Lack of public transport
- Lack of obvious identity & sense of place
- Low quality public realm & public/private interfaces
- Car reliant
- Poor pedestrian amenity & safety
- Low quality open spaces and riparians
- Unsightly industrial development
- Heavy Goods Vehicle Movements
- Poor subdivision layouts
- Lack of physical & community infrastructure
- Flood plains

## Opportunities

- Electrify rail & new station
- Potential for green wedges to north
- Potential for new road
- Large lots & large developable areas
- Capitalise on views and coastal margins
- Developable areas in walking and cycling distance from centre
- Potential to regenerate riparian esplanades and streams
- Potential for network of open space network based on riparian, streams and wildlife corridor
- Potential for development to respond ecological & open space network

## Constraints

- Flood Hazards & Overland Flow Paths
- Transpower
- Gas pipeline
- Quarry buffer zone

# CONCLUSIONS

The following is a summary of the challenges and issues to be addressed in the UDF:

## Regional Challenges and Issues

- Significant growth is expected in Auckland
- Greenfield land is required for urbanisation
- Shortage of housing and employment land
- Shortage of affordable housing
- Households will be smaller
- Significant house and land price inflation
- Alignment of infrastructure needs and costs, particularly transport

## Sub Regional Challenges and Issues

- Urban development the scale of Hamilton between Drury and Pukekohe
- Alignment of Mill Road extension needs to be determined
- Significant areas are prone to flooding and need to factor in effects on tidal areas and Maori values
- Need for a wastewater treatment works

## Local Challenges and Issues

- Need to provide land for both housing and employment growth
- Need to find developable areas that are not at risk or impact the environs
- Need to avoid flood prone areas
- Need to provide good public transport links
- Need to align the Mill Road extension
- Need to define the urban limits
- Need to celebrate local identity and sense of place including history and culture
- Need to protect and restore the blue and green networks
- Need to capture uplift in land values for community betterment

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