

# Appendix 34: Hawthornden Road rezoning from rural to residential suburban zone



## SECTION 32

### REZONING OF LAND AT HAWTHORNDEN ROAD FROM RURAL TO RESIDENTIAL

## 1.0 EVALUATION OF POLICIES/ METHODS

Section 32 (1)(b) requires an evaluation of whether the provisions are the most appropriate way to achieve the objectives by identifying other reasonable practicable options, assessing the efficiency and effectiveness of the provisions in achieving the objectives, and summarising the reasons for deciding on the provisions. The assessment must identify and assess the benefits and costs of environmental, economic, social and cultural effects that are anticipated from the implementation of the provisions, including opportunities for economic growth and employment. The assessment must if practicable quantify the benefits and costs and assess the risk of acting or not acting if there is uncertain or insufficient information available about the subject matter.

### 1.1 RESOURCE MANAGEMENT ISSUE

There is a need to ensure an increased housing supply that will:

- a. enable a wide range of housing types, sizes, and densities;
- b. meet the diverse needs of the community in the immediate recovery period; and longer term, including social and temporary housing options; and
- c. assist in improving housing affordability.

The Land Use Recovery Plan (LURP) identifies greenfield priority areas for new residential subdivisions to meet anticipated demand through to 2028. Action 19 of LURP requires Council to include provisions for these areas through the District Plan Review.

An area identified as a greenfield priority area in the LURP is proposed for rezoning to residential in phase 2 of the District Plan Review, being the area located along Hawthornden Road, comprising approximately 6.3 hectares.

### 1.2 STRATEGIC CONTEXT

In a strategic context, the LURP identifies-

*... greenfield priority areas for new residential subdivisions to meet anticipated demand through to 2028. These areas link to existing communities and support efficient expansion of infrastructure networks and services. The need to avoid natural hazards and environmental constraints has also been considered in selecting the areas. Limits on the location and area of land made available for Greenfield housing development will ensure that recovery resources are managed effectively and efficiently and the vitality of the central city and existing suburban areas and centres is supported. (LURP, s 4.2.1 'Identify Greenfield Priority areas for residential development').*

Action 19 of the LURP specifically requires Council to enable the following in the review of the District Plan-

*... to provide for development of the greenfield priority areas shown on map A, appendix 2 that are not already zoned for development in accordance with Chapter 6 of the Regional Policy Statement*

### 1.3 CONSULTATION

The identification of this area for rezoning to residential was informed through the LURP where it is identified as a residential greenfield priority area shown on Map A. The area was identified as being required to provide sufficient land zoned for urban purposes to enable recovery and rebuilding through to 2028.

The landowners have been consulted in relation to the re-zoning to residential and they are supportive of the proposal. They have also engaged consultants to prepare reports in relation to the feasibility of the site for residential zoning and have investigated options for development. This work supports some of the conclusions drawn within this report.

Feedback will be sought on the Outline Development Plan shortly. Consultation for Stage 2 of the District Plan Review is still to be completed.

## 1.4 PROPOSAL

The proposal is to rezone land at Hawthornden Road to residential, promoting its development for residential purposes as per the direction of Action 19 of the LURP.

Chapter 6 of the Regional Policy Statement requires Council to, in relation to the recovery and rebuilding of Greater Christchurch, give effect to the urban form identified on Map A, which identifies the location and extent of urban development that will support recovery, rebuilding and planning for future growth and infrastructure delivery.

The proposal area is located on Hawthornden Road and is defined by the 50dBA Ldn air noise contour for the Christchurch International Airport, within which new development of noise sensitive activities (residential development) must be avoided (Policy 6.3.5 of the RPS).

The land is zoned rural in the Operative Christchurch City Plan. The area is surrounded by Residential Suburban zoning in the Proposed Replacement District Plan (east of Hawthornden Road and Henridge Place to the south) and the Avonhead Cemetery is found to the south. The land to the north of the area is zoned rural and is identified as a Greenfield Priority Area – Business in the RPS.

Information in relation to the suitability of the land for residential development was sourced in relation to stormwater, wastewater, water supply, roading, parks and facilities and urban design. The outcome of the technical assessments is that given appropriate design the land is suitable for rezoning for residential purposes. A summary of this information is provided below:

### *Stormwater*

Stormwater servicing in the area is limited to two outlets in Hawthornden Road, These outlets contribute to the Avon River catchment which has a critical period of 9 hours for a 2% AEP event. As the current stormwater network within the vicinity of the proposed land for rezoning is limited it is considered that on-site soakage is a preferable means to deal with the disposal of stormwater.

The collection of stormwater within the proposed development will be in accordance with the current Christchurch City Council standards using kerb and channel and a piped network. The land generally falls to the north/ northwest towards areas that are unable to be rezoned residential due to the air noise contour.

It is anticipated that there will be a need to treat the first flush stormwater before being detained in a larger area. The size of this area will be dependent upon the means of disposal. There are three possibilities considered for stormwater disposal:

- i. Soakage to ground;
- ii. Detention with a retarded outlet to match the current discharge from the site in its undeveloped state for disposal within the existing network;
- iii. A combination of the above

The soakage capacity of the underlying ground will need to be determined for the actual proposed soakage site. Reports within the vicinity indicate that base soakage within basins may be limited but soakage galleries accessing deeper gravels may prove satisfactory.

### *Wastewater*

The proposed development is at the head of the current sewer catchment reticulation. The reticulation for this catchment is currently under some capacity stress downstream and it is not considered that relief from this stress will be able to be resolved within the short to medium term.

As a result any additional development will need to be designed to ensure that increased stress on the downstream sewage system is avoided. Methods to reduce increased stress include the following:

- Detention storage to spread sewerage load throughout with a constant out flow to the capacity that is available within the system;
- Storage of effluent with disposal into the sewer main during 'quiet times' to balance out flows within the system.

Either solution will require the storage of sewerage for a period of time on site with a pump station controlling the quantity and timing of outlet flows. The volume of storage is to be confirmed with the Council and is dependent upon the impact of this proposed rezoning on the downstream network.

The storage system and pump station is ideally placed distant from residential homes for a number of reasons and it is considered that the location of a sewer pump station is able to be placed within the land not able to be considered for rezoning due to the air noise overlay. A facility placed in this area is at the lowest point in the network and enables the rezoned land to be serviced by gravity sewers or via a low pressure sewer network.

### *Water supply*

There are two water supply pipes on Hawthornden Road that the development could connect into (a 300 mm diameter PVC pipe and a 150 mm diameter asbestos cement pipe). The best pipe to connect to would need to be confirmed through modelling at the design stage. There are no water supply issues.

### *Roading*

The preliminary roading layout is based on all potential allotments feeding into a main feeder that is proposed to intersect with Hawthornden Road. The proposed connection with Hawthornden Road is distant from other road intersections with Hawthornden Road and is not considered to be adversely affected by any other potential traffic flows. As the proposal is within an already developed area the impact of future residential sections is considered minimal on the existing roading infrastructure.

### *Land conditions*

A review of surrounding borelogs indicates that the site is founded on by layers of fine-grained sand and silts to approximately 2.0m – 3.0m depth. These silts are generally suitable for residential construction.

### *Development density*

The proposed area for rezoning is approximately 6 ha. The surrounding zoning is Residential Suburban. Low and medium residential density development in greenfield neighbourhoods should achieve a net density of 15 households per hectare (Policy 6.3.7 of the RPS). The proposed development area is likely to yield around 85-90 lots with section sizes ranging from 500-700m<sup>2</sup> down to possibly 450m<sup>2</sup>.

### *Urban design*

Residential development is to give effect to the principles of good urban design (as outlined in Chapter 6, Policy 6.3.2 of the RPS) and those of the NZ Urban Design Protocol 2005, to the extent appropriate to the context. The following urban design considerations were noted during preparation of the Outline Development Plan:

Well connected

A legible road hierarchy should be established which includes primary road, secondary roads/lanes, cul-de-sacs. This may include utilising narrower lanes/shared access on appropriate secondary streets to create a clear street hierarchy and improve amenity and pedestrian cyclist safety/priority. In addition, the road layout should be efficient, with typically lots to both sides of road.

The use of cul-de-sacs should be minimised, and in particular their use avoided for back roads as they make lot access too indirect. Where cul-de-sacs are utilised, the hammerhead cul-de-sac design (as opposed to rounded) are a better urban design option as they prevent reduced road frontage issues for lots at road end.

A 10m wide pedestrian access link (pedestrian/cyclist) is recommended to provide a more direct connection through the south-east corner to Hawthornden Road.

Lot diversity and arrangement

There is the opportunity to provide options and variety with the lot sizes provided. Generally, larger lots are recommended to be located to the outer areas of development/ODP, closer to existing residential area to reduce effects as they are more consistent with surrounding density. Smaller lots should be more centrally located.

Where solar orientation is to road boundary wider lot frontage for these areas should be created allowing space for both outdoor living areas and access to the site frontage requirements to prevent garages and driveway space dominating front yards.

Green space

There is an opportunity to provide green space in the road reserve in association with the smaller lots, to afford a "borrowed landscape" creating shared amenity. The proposed stormwater basins will result in a blue/ green corridor extending along the northern boundary.

Open space

The area is located alongside Avonhead Cemetery. As cemeteries are places where families can go to grieve and contemplate, any loss of character, noise pollution and light pollution (if not mitigated adequately) could have a significant effect on cemetery character. It has been noted that the graves along the northern boundary of the cemetery are located very close to the boundary fence and existing driveway and there are concerns that future development of this area will impact on them.

Mitigation of effects can be managed in the form of building setback distances. A 5m landscape buffer strip is proposed along the Avonhead Cemetery boundary. In addition to this, to discourage two storey buildings locating along the cemetery boundary, special building setback rules will apply requiring additional setback distance, or which would be slightly reduced where windows are high-set.

Based on the technical evidence gathered, a statutory review and best practice planning analysis, the following changes are proposed through the District Plan review:

- Insertion of an Appendix to the Subdivision Chapter containing the Hawthornden Road Outline Development Plan;
- Amendments to the relevant planning maps, showing the area zoned as 'Residential Suburban'; and
- Amendments to the provisions of the Residential Suburban Chapter in relation to Building Setbacks.

Outline Development Plan

Development in Greenfield priority areas is to occur in accordance with the provisions set out in an outline development plan or other rules for the area as outlined in Policy 6.3.3 of the RPS. Subdivision must not proceed ahead of the incorporation of an outline development plan in a district plan. The ODPs must be prepared in accordance with Policy 6.3.3 of the RPS.

The use of the Outline Development Plan will assist with the efficient use of resources when planning land uses, provide for sustainable urban development, and ensure adequate housing supply and choice to facilitate earthquake recovery. The above background information provides the necessary evaluation work at the time of rezoning.

## 1.5 EVALUATION

The methods for including provisions in the District Plan are evaluated below while ensuring such options are not inconsistent with the LURP. Maintaining the existing zoning (Rural) would be inconsistent with the LURP.

PROVISIONS (POLICY, RULE, METHOD) <u>MOST APPROPRIATE WAY</u> TO ACHIEVE THE OBJECTIVES	
<p>Relevant objectives:</p> <p>Objective 1</p> <p>a. An increased supply that will:</p> <p>i. enable a wide range of housing types, sizes, and densities;</p> <p>ii. meet the diverse needs of the community in the immediate recovery period; and longer term, including social and temporary housing options; and</p> <p>iii. assist in improving housing affordability.</p> <p>Objective 2</p> <p>a. Short-term residential recovery needs are met by providing opportunities for:</p> <p>i. an increased supply throughout the lower and residential medium density areas;</p> <p>ii. higher density comprehensive redevelopment of sites within suitable lower and residential medium density areas;</p> <p>iii. medium density comprehensive redevelopment of community housing environments; and</p> <p>iv. new neighbourhood areas in greenfields priority areas</p> <p>Objective 3</p> <p>a. A distribution of different density areas with:</p> <p>i. increased density of residential development in and around the Central City and identified commercial centres where there is ready access to a wide range of facilities, services, public transport, parks and open spaces;</p> <p>ii. limited additional infill housing in other existing suburban areas to maintain a low density, open and landscaped environment;</p> <p>iii. a mix of housing densities in New Neighbourhood areas;</p> <p>iv. medium density residential development in suitable brownfield areas and on larger suburban residential sites where external impacts on the surrounding areas can be mitigated; and</p> <p>v. integrated provision of infrastructure.</p> <p>Objective 5</p> <p>a. High quality, sustainable, residential neighbourhoods which are well designed, have a high level of amenity, and enhance local character.</p>	
Provision(s) most appropriate	Effectiveness and Efficiency
Option 1: Rezone the subject land 'Residential Suburban' with an Outline Development Plan to guide future development and inclusion of Special Building Setback provisions	<p>1. EFFECTIVENESS</p> <p>By rezoning the land for residential activities, it will ensure there is an increased supply of land to accommodate future growth and assist in improving housing affordability, consistent with Objectives 1 and 2.</p> <p>The suburban zoning will maintain a low density, open and landscaped environment with integrated provision of infrastructure, consistent with the surrounding land use and</p>

Objective 3. Proposed stormwater, wastewater and roading infrastructure will be integrated with existing networks.

Many of the proposed plan provisions for the residential suburban zone are intended to deal with amenity based issues – building setbacks, landscaping, etc. It is intended that these rules would apply and be reinforced by the Outline Development Plan and proposed amendments to existing Residential Suburban provisions (where these relate to building setbacks along the Avonhead Cemetery). The use of the Outline Development Plan (ODP) will provide for sustainable urban development, and ensure adequate housing supply and choice to facilitate earthquake recovery. The ODP can help direct development so that it is of high quality, well designed, have a high level of amenity and will enhance local character, consistent with Objective 5.

Existing subdivision and residential suburban provisions can effectively guide development consistent with the intent and provisions of the Outline Development Plan.

## 2. EFFICIENCY

### Benefits

- Provides certainty for future use of the land at Hawthornden Road, identified as a greenfield priority area – residential.
- Supports a comprehensive approach to the development of greenfield areas that enables integration with existing networks including roads and other infrastructure.
- Enables alignment between the planning and funding of infrastructure with land use.
- The proposed development is likely to yield around 85-90 lots with section sizes ranging from 450m<sup>2</sup>-550m<sup>2</sup>. This will achieve a net density of approximately 15 households per hectare.
- An ODP enables the more efficient use of resources when planning land uses by integrating infrastructure requirements i.e. stormwater and wastewater facilities to serve the whole or a large part of the greenfield area, rather than each property have individual facilities.
- The rezoning provides for the economic and social well-being of landowners due to increased land values and opportunities for further development of their properties.
- Existing or planned infrastructure will enable development to proceed, with additional on-site capacity provided.
- Avoids landowners having to apply to rezone their land, removing unnecessary costs of a planning process.
- An ODP enables existing values to be identified, which can be protected and integrated as a part of a development and opportunities to incorporate reserves.

### Costs



	<ul style="list-style-type: none"> <li>Residents/ property owners adjoining the greenfield areas lose a loss of rural outlook and level of amenity that currently exists on the rural-urban fringe.</li> <li>There are not considered to be additional costs borne by developers/ landowners from the proposed approach, except where these relate to development contributions (provision of infrastructure services and reserves).</li> </ul>
Options less or not as appropriate to achieve the objectives and policies:	
<p>Option 2: Zone as a 'New Neighbourhood' Area with an Outline Development Plan</p>	<p><b>EFFECTIVENESS AND APPROPRIATENESS</b></p> <p>While this option also rezones the land for residential activities, ensuring there is an increased supply of land to accommodate future growth and assist in improving housing affordability, consistent with Objectives 1 and 2; New Neighbourhood provisions promote higher density housing which is not considered complementary to the scale and character of the wider area, which includes cemetery and rural environments.</p> <p>In addition, the comprehensive provisions associated with subdivision and development of New Neighbourhood areas is not considered appropriate for this area and the Neighbourhood Plan required to accompany subdivision and land use consent must address a minimum area of 8ha. The area of this proposed rezoning is approximately 6ha.</p> <p><b>EFFICIENCY</b></p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>Provides certainty for future use of the land at Hawthornden Road, identified as a greenfield priority area – residential that the area is to be developed for residential activities;</li> <li>An ODP enables an integrated approach to development and the delivery of infrastructure;</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>May cause issues in terms of infrastructure capacity resulting from additional lots/ high density, and associated increase in costs.</li> <li>Requires more comprehensive planning with variety of housing typologies that is not consistent with the surrounding residential context.</li> <li>Residents/ property owners adjoining the greenfield areas lose a loss of rural outlook and level of amenity that currently exists on the rural-urban fringe.</li> <li>Adverse effects on surrounding amenity (cemetery and rural area) through higher density development.</li> </ul>
<p>Option 3 – Zone as 'Residential Suburban Density Transition' with an Outline Development Plan</p>	<p><b>EFFECTIVENESS AND APPROPRIATENESS</b></p> <p>While this option also rezones the land for residential activities, ensuring there is an increased supply of land to accommodate future growth and assist in improving housing affordability, consistent with Objectives 1 and 2; the zoning is not as appropriate as the density can be achieved with a suburban zoning, consistent with the scale and character of the wider area.</p>

	<p>In addition, as the area is surrounded by a cemetery and a rural area, it is important that a low density, open and landscaped environment is maintained consistent with the surrounding land use and Objective 3.</p> <p>EFFICIENCY</p> <p>Benefits</p> <ul style="list-style-type: none"> <li>• Provides certainty for future use of the land at Hawthornden Road, identified as a greenfield priority area – residential that the area is to be developed for residential activities.</li> <li>• An ODP enables an integrated approach to development and the delivery of infrastructure.</li> </ul> <p>Costs</p> <ul style="list-style-type: none"> <li>• May cause issues in terms of infrastructure capacity resulting from additional lots/ high density, and associated increase in costs.</li> <li>• Residents/ property owners adjoining the greenfield areas lose a loss of rural outlook and level of amenity that currently exists on the rural-urban fringe.</li> <li>• Adverse effects on surrounding amenity (cemetery and rural area) through higher density development.</li> </ul>
Risk of Acting or Not Acting	
It is considered that sufficient information exists about the proposed provisions without the need to take account of the risk of acting or not acting (RMA s 32(4)(b)).	

## 1.6 REFERENCES

Site Solutions, 2014, *Hawthornden Road, Avonhead – Rezoning Engineering Report*, Prepared for Christchurch City Council

16 December 2014

Christchurch City Council

**CHRISTCHURCH**

Attention: S Oliver

Dear Sarah,

hawthornden road, avonhead - rezoning engineering report

As part of the Christchurch City Council's planning review the land identified as Lot 1 DP10021 and Lots 3 & 4 DP378499 has been identified as being suitable for residential development pending supporting comments regarding such potential development.

## 1. **Introduction**

The land subject to rezoning consideration is currently owned by

L Franks  
J & M Hutton

Lot 1 DP10021  
Lot 3 & 4 DP378499

The property is located off Hawthornden Road to the north-west.

The Franks property is currently in grassed pasture and the Hutton property is also in grassed pasture but is occupied by a house within Lot 3 DP378499.

The Air Noise Contour (50dBa) overlies both properties are limiting the amount of land available for residential development.

## 2. **Development Layout**

A potential layout for residential development has been prepared in order to ascertain a potential section yield for a residential suburban development scenario. It is considered that there is a potential yield of approximately 95 allotments within the combined properties with the majority of the allotments based in the Franks property. The final section yield may differ in order to meet the market and in response to alternative layouts.

However the use of the Hutton property offers benefits in terms of access options and utility space for both sewer and stormwater. There is also potential for a portion of the Hutton property to contribute to reserve requirements for any residential development.

A linkage reserve strip to the Avonhead cemetery is considered to be a requirement from the Council and this would require a bridge crossing into Avonhead Park.

[site solutions \(2013\) ltd](http://www.site-solutions.co.nz) • p o box 36 420 • christchurch • p (03) 365 4343 • [admin@sitesolutionsltd.co.nz](mailto:admin@sitesolutionsltd.co.nz) • [www.site-solutionsltd.co.nz](http://www.site-solutions.co.nz)

### 3. Development Assessment

An assessment of the servicing requirements is provided as follows

#### 3.1 Rooding

The preliminary rooding layout is based on all potential allotments feeding into a main feeder that is proposed to intersect with Hawthornden Road. The proposed connection with Hawthornden Road is distant from other road intersections with Hawthornden Road and is not considered to be adversely affected by any other potential traffic flows. As the proposal is within an already developed area the impact of future residential sections is considered minimal on the existing rooding infrastructure.

Discussions with the Christchurch City Council indicate that there is no significant concern with the impacts on the wider rooding infrastructure.

#### 3.2 Water Supply

There is a 150mm dia watermain within Hawthornden Road. The water requirements for a development of this scale would be able to be met off such a supply.

It is considered that a water supply that meets with the requirements of both the Christchurch City Council and the requirements of NZS4509:2208 – NZ Fire Service Fire Fighting Water Supplies Code of Practice without additional requirements.

Initial discussions with the Christchurch City Council confirm this assessment.

#### 3.3 Wastewater

The proposed development is at the head of the current sewer catchment reticulation. The reticulation for this catchment is currently under some capacity stress downstream and it is not considered that relief from this stress will be able to be resolved within the short to medium term.

As a result any additional development will need to be designed to ensure that increased stress on the downstream sewage system is avoided.

Methods to reduce increased stress include the following

- Detention storage to spread sewerage load throughout with a constant out flow to the capacity that is available within the system;
- Storage of effluent with disposal into the sewer main during 'quiet times' to balance out flows within the system

Either solution will require the storage of sewerage for a period of time on site with a pump station controlling the quantity and timing of outlet flows. The volume of storage is to be confirmed with the Council and is dependent upon the impact of this proposed rezoning on the downstream network.

The storage system and pump station is ideally placed distant from residential homes for a number of reasons and it is considered that the placement of a sewer pump station is able to be placed within the land not able to be considered for rezoning due to the noise overlay. A facility placed in this area is at the lowest point in the network and enables the rezoned land to be serviced by gravity sewers or via a low pressure sewer network.

It is considered that the land proposed for rezoning is able to be serviced by reticulated sewer albeit with the need in the short to medium term to provide required storage capacity and pump

station. Whilst downstream network upgrades may improve capacity of this wastewater network, it is not considered prudent for any development to rely on this,

### 3.4 Stormwater

Stormwater servicing in the area is limited to two outlets in Hawthornden Road, These outlets contribute to the Avon River catchment which has a critical period of 9 hours for a 2% AEP event. As the current stormwater network within the vicinity of the proposed land for rezoning is limited it is considered that on-site soakage is a better means to deal with the disposal of stormwater.

The collection of stormwater within the proposed development will be in accordance with the current Christchurch City Council standards using kerb and channel and a piped network. As noted in the above section, the land generally falls to the area in Lot 4 that is unable to be rezoned residential due to the air noise contour.

It is anticipated that there will be a need to treat the first flush stormwater before being detained in a larger area. The size of this area is dependent upon the means of disposal. There are three possibilities considered for stormwater disposal

- i. Soakage to ground;
- ii. Detention with a retarded outlet to match the current discharge from the site in its undeveloped state for disposal within the existing network;
- iii. A combination of the above

The soakage capacity of the underlying ground will require more detailed geotechnical investigation of the actual proposed soakage site. Reports within the vicinity indicate that base soakage within basins may be limited but soakage galleries accessing deeper gravels may prove satisfactory.

Notwithstanding the uncertainties around the soakage capacity what is required is an area suitable for the treatment and storage of stormwater. The area within Lot 4 is unable to be developed for residential purposes (due to the air noise contour) and is at the lowest point in this catchment, and therefore is an obvious location. The fact that this area is also able to be made a suitable size offers both the land owner and the Council benefits in terms of being able to form any stormwater system in a more pleasing layout as opposed to layouts constrained by the need to balance development potential and storage requirements. The area available also lends its self to the formation of additional amenity in the possible creation of a wetland area.

It is considered that the land proposed for rezoning has the form and area to treat and dispose of stormwater without adversely affecting the existing stormwater network.

### 3.5 Earthworks

All residential developments require some reshaping of the land to ensure that the requirements for such developments are met. It is anticipated that any earthworks will be minimal as the land has a natural fall suitable for servicing. It is also anticipated that any earthworks will only require to source materials on-site as a result of any development.

It is considered that the land proposed for rezoning will require limited earthworks in order to meet residential requirements

### 3.6 Geotechnical

A detailed geotechnical investigation of the land has not been carried out. It is noted that the land is surrounded on three sides by residential development.

A review of surrounding borelogs indicates that the site is founded on by layers of fine-grained sand and silts to approximately 2.0m – 3.0m depth. These silts offer limited soakage capacity but are generally suitable for residential construction.

Below these layers lie medium gravels and sand layers identified as the Springston Formation – Yaldhurst Member fluvial deposit. The groundwater is considered to be 5.0m – 6.0m below ground.

It is considered that the land proposed for rezoning is suitable for supporting residential development.

### 3.7 Reserves and Landscaping

The presence of the air noise contour means that a significant portion of the total property area is unable to be used for residential development. This offers an opportunity to incorporate reserves and utility requirements within a defined zone adjacent to the residential zone without the usual constraints of residential development or the abandonment of land that is unable to be developed due to its form.

It is considered that the land proposed for rezoning is able to offer suitable area for reserves.

We trust that the above is sufficient for your purpose. If you have any questions relating to this matter please contact the writer.

Yours faithfully

**SITE SOLUTIONS LTD**

  
A J Bannock

NZCE (Civil), BE (Hons) (Civil), MIPENZ, CPEng, IntPE(NZ)