

Further information

30 August 2017

A W and S J Montgomerie
C/O Cubitt Consulting Limited
11 Bedford Street
Dunedin 9012

Dear Sir,

SUB-2017 -74 and LUC-2017-407- 34 GORMAN STREET, DUNEDIN - Request for further information

Thank you for your application for a land use/subdivision consent to for a 3 lot rural subdivision at 34 Gorman Street, Dunedin. After initial assessment of your application, the Dunedin City Council has determined that further information is required pursuant to section 92 of the Resource Management Act 1991.

Requested information:

The further information required is detailed below. It will help the Council to better understand your proposed activity, its effect on the environment and the ways any adverse effects on the environment might be mitigated.

1. Geotechnical report

The site is subject to the following hazards: Land stability, land slide, land movement, seismic liquefaction. Peninsula Landslide, Dickinson Street Landslide, Wharfdale Landslide.

The application refers to a report undertaken by GEOSOLVE. This report has not been included with the application. Can you provide a geotechnical report that identifies any land stability hazards and mitigation measures required for the establishment of two residential units and associated effluent disposal and drainage. The plans provided with the application indicate the removal of some large trees. Will the tree removal have any impact on the stability of the site and building platform locations?

2. HAIL/ National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

The application states that the applicant is not aware of the site having being used for any activities on the Hazardous Activities and Industries List. Can you undertake a HAIL search of Dunedin City Councils records and also check with the Otago Regional Council to determine if the site has had or likely to have had HAIL activities undertaken on it.

If the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health is relevant to this application please provide details and include with the application for assessment.

3. Earthworks

The application refers to maximum retaining heights of 3m for both proposed building platforms and that these should be considered as conditions of consent to help mitigate the proposal. There is no supporting information that relates to these

retaining walls. A breach in the earthworks rules requires the following information in order to adequately assess:

- Details of change in ground level
- Details of proposed retaining structures and or cut and fill batters
- Details of volumes of cut and fill
- Details of areas of cut and fill
- Details of location of earthworks in relation to property boundary, top or toe of any cliff or building foundation.
- Details on how earthworks/retaining structures do not exacerbate any known or potential hazard, including land stability and surface water.

4. Planting: Stage 3 planting requirement RMA-2004-0260

Land use consent RMA-2004-0260 allowed the establishment of the existing dwelling subject to conditions. A landscape planting plan was provided to the council as mitigation for the now existing dwelling. There is still planting to be carried out as required by this consent. The last stage of planting (Stage 3) will be contained within proposed Lots 2 and 3 and will no longer be on a site associated with the dwelling on which they are proposed to mitigate. Please provide further information on how you wish to proceed with this planting and existing consent. I have enclosed a copy of the decision and plan with this letter.

5. Objectives and Policies Assessment

Need to include assessment that relates to existing land stability hazards on the site.

6. Access

Provide details of vehicle access e.g. width, hard surfacing, gradient, drainage.

Items that I would like you to clarify from your application prior to notification:

- *What does a stepped design for a two level structure mean?*
- *What do you mean by low reflective glass?*
- *An example of colours would be permitted for 40% RV and 50% RV for roof, house and walls.*
- *What do you mean about bare concrete block and tiled roof excluded, would you be able to use these materials or not?*
- *Clarify the appearance of an open character boundary fence?*
- *What do they mean about visual barriers? For who the people in the house or views to the house?*
- *Is additional planting proposed to the north, east, and south? This is not shown on the planting plan.*
- *What is the intent of planting native shrub cover? Is it to mitigate the effects of the proposed dwellings? Is it for stability reasons? What would be the ongoing requirements for maintenance?*
- *Are there likely to be any effects from the removal of the pine trees on land stability.*
- *Also what are the likely visual effects of the proposal with the trees removed? Has this been taken into account.*
- *Where are the effluent and stormwater disposal fields proposed. Can they comply with proximity to watercourses.*
- *Do the yellow dots on the viewpoints provided by the Site environmental consultants and Design and Garden Landscape refer to the location of the lots*

or the building platforms? It would be useful to show on the viewpoints the effects of removing the large pine trees and effects of the proposed planting. Also show the vehicle access, earthworks and bulk of proposed buildings.

Responding to this request:

Within 15 working days from the date of this letter you must either:

- provide the requested information; or
- provide written confirmation that you cannot provide the requested information within the timeframe, but do intend to provide it; or
- provide written confirmation that you do not agree to provide the requested information.

The processing of your application has been put on hold from **30 August 2017**.

If you cannot provide the requested information within this timeframe, but do intend to provide it, then please provide:

- written confirmation that you can provide it; and
- the likely date that you will be able to provide it by; and
- any constraints that you may have on not being able to provide it within the set timeframe.

The Council will then set a revised timeframe for the information to be provided.

If you do not agree to provide the requested information, then please provide written confirmation of this to the Council.

Restarting the processing of your application:

The processing of your application will restart:

- when all of the above requested information is received (if received within 15 working days from the date of this letter being **20 September 2017**); or
- from the revised date for the requested information to be provided, if you have provided written confirmation that you are unable to meet the above timeframe and the Council has set a revised timeframe for the information to be provided; or
- from the date that you have provided written confirmation that you do not agree to providing the requested information; or
- 15 working days from the date of this letter (if you have not provided the requested information or written confirmation being **20 September 2017**).

Once the processing of the application restarts:

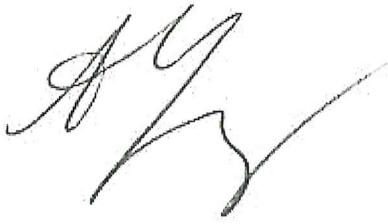
If you have not provided the requested information, then your application will continue to be processed and determined on the basis of the information that you have provided with the application:

- if the Council decides to give public or limited notification of the application, then the Council must publicly notify the application under section 95C(1) of the Resource Management Act 1991. You will be invoiced for any outstanding payment needed to make up the \$6,500 deposit required for public notification.

Please note that requests for further information, interim correspondence and assessment of the further information can introduce additional work and therefore costs. Deposits are based on the average cost of processing similar consents in the previous year. There is normally a sizable range between the lowest and highest cost for similar consents. These additional costs incurred as a result of the further information request will be passed onto you and, as such, the final cost of processing this application may be higher than previous 12-month average for similar applications.

Please do not hesitate to contact the writer on 03 474 3731 if you have any questions or concerns regarding the above request or the further processing of the application.

Yours faithfully

A handwritten signature in black ink, appearing to be 'AY' followed by a stylized flourish.

Amy Young
Planner

Amy Young

From: Allan Cubitt <allan@cubittconsulting.co.nz>
Sent: Monday, 16 October 2017 09:20 a.m.
To: Campbell Thomson
Subject: FW: s92 34 Gorman 1 of 3
Attachments: s92 34 Gorman Street letter.pdf; lt_170329_34 Gorman St_RFI response Sept 2017.pdf

From: Allan Cubitt [<mailto:allan@cubittconsulting.co.nz>]
Sent: Wednesday, October 4, 2017 11:47 AM
To: Amy Young <Amy.Young@dcc.govt.nz>
Subject: s92 34 Gorman 1 of 3

Hi Amy,
Response to your s92 attached.
Two more emails will follow.
Thanks.

Allan Cubitt

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27 September 2017

Cubbit Consulting Ltd
11 Bedford Street
St Leonards

Attention:
Allan Cubitt

Dear Allan

Re: 34 Gorman Street – s92 responses - Landscape

I have read through the list of queries submitted by Dunedin City Council Planning and respond by item number in the Council query sheet. The queries led me to consult with Alistair Gilmore, the applicant, and to undertake a further site visit to confirm earlier responses or answer the new queries.

As a consequence, a limited number of sections of the original landscape report and figure numbers have been amended. Three new figures have been added also. I have reissued the landscape report with the date 27 September 2017 and as revision a.

To avoid confusion all text changes are highlighted in yellow. These relate to s92 responses, the removal of a survey drawing, and addition of three figures that illustrate the response to the potential visual change associated with tree removal and the meaning of low reflectivity colours that were requested by Council's consenting planner (Fig.11, 12 + 13).

The most significant text additions are within report sections 6.26 – 6.29 and which respond to the queries that are also addressed in the formal s92 responses attached to this letter.

Regards

Hugh Forsyth
Site Environmental Consultants Ltd

32 Gorman Street, Macandrew Bay - S92 Queries - Landscape

4. Planting: Stage 3 requirement – RMA-2004-0260

- *Please provide further information on how you wish to proceed with this planting and existing consent?*

I have viewed the area proposed for extended planting in the upper mid gully under the 2014 consent that has not been undertaken. This area is above the tip of the present hawthorn gully planting and to the south of the pine shelterbelt that occupies the lower mid slope of the northern half of the site. The gully area is exposed and appears to collect little runoff from surrounding slopes, although a seasonal stream begins below this point and flows through the hawthorn area.

Pumped water would be required to supply weekly watering of all planting throughout the first, and possibly second, summer season and was beyond resources for the applicant as they established their house. Mitigation planting has been established around the residence and is still being added to and maintained (Fig.4).

The planting proposed for lot 2 and lot 3 includes approximately 650m² and 400m² respectively and will extend the native shrub planting from lot 1 across the lower boundary (Fig.2). I consider that this planting will add to the value of the existing planting and have habitat value for insect and bird life that will take many years to establish in the upper gully area, where there is already a significant habitat value in the hawthorn shrubs.

6. Access

- *Provide details of vehicle access, width, hard surfacing, gradient, and drainage*

Two access vehicle access ways are proposed, which will connect proposed lot 2 and lot 3 to Porterfield Street. Both will begin at a ROW head area on the street boundary and then follow the route of an informal grass track to lot 2, and an existing benched track to lot 3 (Fig.2).

The access way to lot 2 will be 3m wide and formed from concrete to Dunedin City Code of Subdivision 2010 standards and specification (Table 3.1.R). Recommended consent conditions require a reflectivity value of 50% or lower – to be achieved by tinting the concrete mix.

A crushed metal surface on an excavated and compacted sub base, to Code of Subdivision conditions, is proposed for access way to lot 3. Drainage will follow the inside of the track and through a new culvert and sump trap to the stream that discharges to Wharfedale Street at lower west mid site boundary.

Final details will be submitted as part of the building consent.

7. (Landscape)

- *What does a stepped design for a two-level structure mean?*

A stepped design seeks to locate the proposed structure within the slope of the underlying grade, and to minimise the potential impact of vertical elements on adjacent houses or landscape areas. This condition applies to proposed lot 3, which

is likely to be part located on the existing terrace, approximately 8m wide to rear of existing farm sheds. Lot 3 building platform runs north/east to south/west across the slope. The house is expected to have a north/western aspect.

Section 6.17 of the landscape report has been amended to require a minimum 3m set back from the outer face of the lower north/west boundary wall if a two-level house is developed on this site. This condition does not apply to lot 2.

- *What do you mean by low reflective glass?*

Low reflective glass has a laminated surface that allows a higher level of light to enter into the building than normal and, by doing so, decreases the potential reflection values of the glass towards the external environment.

Following a further site visit on Friday 1st September 17 I concluded this requirement isn't necessary for either proposed lot, and have withdrawn it from the conditions.

- *An example of colours (that) would be permitted for 40% RV and 50% RV for roof, house and walls?*

BS5252 provides a public reference for colour based on hue, greyness, and weight. Reflectivity is included within this chart. Values below 50% reflectivity lower the potential for external surfaces and roofs to reflect light and create a visual highlight. Existing houses on the southern side of Porterfield Street exhibit this characteristic when viewed from the western side of the Harbour (Fig. 8, 9 and 10). The colours that fall within the range 40 – 50% are drawn from the Resene BS5252 chart (Fig. 13).

- *Are bare concrete block and tiled roofs excluded?*

Following consultation with the applicant condition for lot 2 has been amended as follows (Report section 6.8):

"Approved wall finishes for lot 2 and 3 include wood, smooth faced concrete, stone, or a combination of these materials. Bare concrete block, plastered walls and tiled roofs are excluded. Approved roof materials include long-run colour steel sheets".

- *What are the characteristics of an open character boundary fence?*

This condition has been amended to the following:

"Legal boundary fences are to be treated wooden post and wire, or warratah and wire, or electric fencing, or combination as appropriate for any stock present. Solid or domestic fences are to be located around the building platform or within its boundaries and may be constructed on any material, so long as the external colour is no higher than 40 -50% reflectivity values".

- *What does the term 'visual barriers' refer to? Does it refer to views from the house or to the house?*

The phrase 'visual barriers' refers to views between adjacent neighbours and considers the proximity between the existing residence and the new dwelling.

- *Is additional planting proposed to the north, east and south?*

No additional planting is proposed to the north, east and south. Pine trees and other vegetation will remain to the south of lot 2 and lot 3. Other controls on height, material, external colour and the location and siting of both lots are also considered to mitigate potential impact.

- *What is the intent of the native planting shrub cover – mitigation of dwelling effects or stability? What will be the maintenance requirements?*

The native planting below lot 2 is intended to:

- a. To provide an extension of the existing planting pattern on the southern side of Porterfield Street,
- b. To provide a separation between the access-way to lot 3 and the site of lot 2 above.
- c. An increase in bird habitat
- d. Softening of views across the lower spur area from the upper south slopes of Macandrew Bay.

All planting will require maintenance during summer and winter with regular watering over the first summer at a weekly interval. The liquid crystals will help in this respect. Removal of weeds and replanting of dead plants will be required two times a year for the first two years, and preceded by a pest control programme, 6 weeks prior to planting.

Detailed conditions will apply to building resource consents and the anticipated requirement to provide a planting schedule and maintenance plan at this point.

- *Are effects on land stability likely to result from the removal of the pine trees?*

This is the subject of geotechnical assessment.

- *Do the yellow dots on the viewpoints provided refer to the locations of the lots or the building platforms?*

The yellow dots represent building platforms that are located within the lots.

- *Show the effects of removing the large pine trees and effects of the proposed planting? Have the visual effects been taken into account?*

The effect of removing the pine trees was assessed during concept development. The objective of removing them is to increase sun and wind flow within the gully area at the top of Wharfdale Street and also to avoid the trees reaching the size of the tree adjacent to 40 Porterfield Street.

The visual effect of removal will be to open new views from parts of the upper southern slope residential areas of Macandrew Bay towards the existing residence. The pine trees are seen at a distance of 1 – 1.3km and the present house is viewed across a lower spur. At this distance, the present residence will only be partially visible.

The removal of the lower western boundary trees will result in visual change for those driving up Wharfdale Street. This change will be experienced over approximately 40m street distance and approximately 5 seconds, travelling at 40kph.

My assessment is that there will be no overall adverse effects on the surrounding viewing population and considerable benefit to adjacent neighbours through increased sunlight, higher winter temperatures and reduction in frost.

My summary of potential effects that may result from the removal of all trees is 'minor' in terms of visual change and 'less than minor' in terms of landscape effects (land use pattern, vegetation cover, topography, and aspect) and 'minor' in terms of visual effects on the five-point landscape scale (landscape report, section 1.3).

- *Show the vehicle access, earthworks and bulk of proposed buildings*

The access ways are set out on figure 13. The bulk of the proposed buildings cannot be assumed apart from a maximum height limit of 7m, including roof until building consent. This height is 3m lower than standard rural residential rules and, due to the generally screened location of the proposed lots and the distance of most potential viewers, is considered to adequate provision for assessment of potential effects at outline subdivision consent stage.

Lot 2 will require earth works to excavation to base for the concrete drive to lot 2 and similar excavation to establish a concrete house base within the defined platform. This has been excavated in a previous ownership period and is essentially flat. No significant excavation is expected on this site to establish a house but a two-metre high retaining wall may be required to the base of the slope of this site, to ensure no slippage as a consequence of previous excavation.

Lot 3 is likely to require the excavation of lower building platform to extend the existing excavated platform area. The present platform is approximately 9m wide and 20m long and may be sufficient if the structure is single level at the lower floor and then rises to a second level that is set back from the lower platform, as set out in the conditions that apply to this lot. If the future owners decide to excavate a further 2m south from the present platform this will require removal of approximately 100m³ of soil and will reach a retained height of approximately 3m overall.

Bulk and location models have not been provided as the future houses will be of a similar, or lower, bulk and height as the present residence at 34 Gorman Street. The visual impact of this structure is considered to be less than minor on a planning scale in the context of the distant views that are included in report figures.

Hugh Forsyth

27 September 2017



34 GORMAN STREET
PROPOSED 3 LOT SUBDIVISION
MACANDREW BAY
LANDSCAPE REPORT

September 2017 rev a

1.0 Introduction

- 1.1 This landscape report has been completed by Site Environmental Consultants on behalf of Alistair and Samantha Montgomerie in support of a proposed 3-lot subdivision of their property at 34 Gorman Street, Macandrew Bay. It outlines the proposal and then considers the existing environment, the basis of the proposed lots, and provides an assessment of effects.
- 1.2 Plans and photographs are included that describe the proposal and its context (Attachment 1). Those photographs that are marked 'full frame' will provide an approximate human eye view from the location of the photograph, if printed at A3 and held at arms-length.
- 1.3 The landscape scale of effect used is 'low, low-medium, medium, medium-high' and 'high'. This scale is not the same as a planners technical assessment of effects, i.e. 'less-than-minor, minor, more-than-minor'. An overall assessment of effects using this second scale is also provided in the assessment of proposed lot 2 and lot 3 – report sections 6.12 and 6.18.

2.0 Proposal

- 2.1 It is proposed to create 2 additional residential lots at 34 Gorman Street. This will bring the total of residential lots to 3. Lot 1 and 2 will each be 2ha in area and located in the lower north/west corner of the site (Fig.1 + 2). Lot 2 is proposed for an existing benched area close to the top of Porterfield Street. Lot 3 is proposed for the lower south/west boundary (Fig.3). This lot will include the balance of land, approx. 14.3ha or 72% of the full site (18.49ha). Lot 1 will include the existing residence.
- 2.2 Site access to the new lots will be from the top of Porterfield Street. A new access way will rise directly to Lot 2 while Lot 3 will be accessed via an existing farm track that runs due south from Porterfield Street (Fig.2).

3.0 Site Description

- 3.1 The site is located on the lower slopes of the farmland that rises to the rear of Macandrew Bay. Its lower boundary begins at approximately ('approx') 94m above sea level ('asl') and 330m back from the shoreline. The site then rises eastward to an elevation of approx. 154m asl and 880m eastwards from the shoreline. The legal boundaries are rectangular in form, until the upper north/east corner area where a short diagonal forms the corner (Fig.4).
- 3.2 A broad ridge underlies the southern boundary and rises steeply from the lower south/west shelterbelt. These slopes contain rough grass and scattered stones but flatten out near the western boundary before descending to the shore, south of Porterfield Street. The coastal slopes contain housing and shrubs and trees.
- 3.3 A smaller ridge system runs south/east to north/west through the upper northern part of the site and includes a sub ridge that extends downward to Porterfield Street. The slopes are less steep than the southern side of the site and are separated by a small gully. This divides the site until near the top boundary and contains extensive areas of hawthorn shrubs and a seasonal stream in its lower reach.

- 3.4 The most developed pasture area is located in the upper slopes and above the gully. This area is currently leased for horse grazing on a casual basis.
- 3.5 Gorman Street and Porterfield Street meet the site boundaries and legal access is available over 37 Wharfdale Street, via ROW. Access to the upper farm area is mostly via an unformed track that runs directly up the spur above Porterfield Street and through the first pine belt.
- 3.6 The existing residence and two sheds are located in the lower north/west corner of the site and a group of disused farm sheds are located adjacent to the lower south/west boundary, the site of proposed lot 3 (Fig.3 + 5). Unformed farm tracks provide access to the upper site areas from Porterfield Street and an unsealed benched track runs south from Porterfield Street to the sheds.
- 3.7 Site vegetation includes several pine shelterbelts and an area of native shrub planting. The shelterbelts run north/south across the lower western boundary and the northern slopes. These trees are very visible from off-site and also serve to filter views to and from Macandrew Bay.
- 3.8 Native planting has been undertaken by the owners since 2002 and now includes approx. 7000m² of shrubs and juvenile trees around their house. The canopy reaches 3 -4m+ in many parts and birdlife was evident during site visit (Fig.5).

4.0 Visual Catchments and Visibility

The visual catchment includes local views from within the shoreline of Macandrew Bay and from the slopes to the south. Local views to the site are from viewpoints on the southern approach of Macandrew Bay Rd, the boatshed reserve and jetty area, and from the residential streets and houses that rise to the south of the Bay. Due to the narrow shoreline within Macandrew Bay and the curves of the coastline and headlands all distant views are from the western side of the Harbour Channel. Most of these are from the Dunedin-Port Chalmers Road.

- 4.1 Viewpoint 1 – Macandrew Road walkway – 730m distance to site boundary (Fig.6)
- 4.2 This viewpoint is taken from the footpath adjacent to the coastal road as it passes from the headland to the Bay. It provides the most strategic shore based view of the coastal slopes to the rear of Macandrew Bay, the lower south/west site boundary and the slopes of the southern ridge that rise behind.
- 4.3 Several large individual pine trees are growing on the lower boundary that meets adjacent housing and other large trees are growing within the houses lots. The lower pine shelterbelt sits inland from the boundary with the pasture slopes of the southern ridge rising behind. A glimpse of the present residence roofline can be seen to the north/east but most of the inner site area is screened from the shoreline below.

4.4 Viewpoint 2 – 5 Featherston Street – 790m distance to site boundary (Fig.7)

This viewpoint was taken from an upstairs window of No.5 Featherston Street and an elevation of approx. 72m asl, or 10m above the lower south/west site corner.

Site visit indicated that there are limited views to the site from public roads on these slopes due to narrowness, tight corners and adjacent walls, roadside shrubs and trees, and orientation.

- 4.5 This view looks directly toward the existing residence, which is hidden behind the pine trees mid view (behind Lot 2). The southern ridge rises to the right of the image and the central gully and northern slopes can be seen beyond. The dividing effect of the northern pine shelterbelts is evident. Views to the lower site areas are either prevented or extensively filtered by the lower south/west boundary shelterbelt and other wilding pines. Large trees follow the southern side of the Porterfield Street ridge and are a further focus point in this view, in addition to the housing and shoreline below.

4.6 Summary of local views

Strategic views into the site are only available from southern slopes above Macandrew Bay. Several houses abut the lower western site boundary but are all orientated westward and towards the harbour. Views are available from the shoreline road when approaching from the south but these mostly end at the lower western boundary due to existing vegetation. Neither of the proposed site areas is visible from these shoreline viewpoints. There are no views from northern road approach.

- 4.7 Views from the north/west side of the Harbour are gained from the Dunedin-Port Chalmers Road, from several small settlements on headlands above St Leonards, and from the coastal cycle path and walkway. Views from the coastal road are intermittent and often obscured by shrubs and utility poles. The most strategic views are those that are stationary.

4.8 Viewpoint 3 – Ravensbourne shoreline - 2.7km to site boundary (Fig.8)

This view was taken on the harbour side of the coastal road at the northern end of Ravensbourne and looks directly onto the site. The break between the northern and southern sides is very clear with the southern ridge slopes rising away from the gully area and the pasture continuing upwards and beyond the site boundary. This is in contrast to the more gradual and less distinct forms of the northern side of the site and the prominent pine blocks in the mid slope area.

- 4.9 The lower south/west pine belt is visible in association with the belt of trees that descends on the south side of Porterfield Street. The existing house is tucked into the top of shrub planting that appears to extend from the top of Gorman Street.

4.10 Viewpoint 4 - St. Leonards Point walkway - 2.4km to site boundary (Fig.9)

This viewpoint is taken from the coastal cycle way below Kiwi Street, St. Leonards. The south/east angle provides a strategic view of the open side of the site and across the spur above Porterfield Street and directly onto the southern ridge. The

pine shelterbelts are highly visible from this viewpoint and appear out of scale with the surrounding landforms and smooth pasture cover. The upper pasture area is visible.

- 4.11 The lower boundary shelter belt and wilding pines top the boundary and add a dark band across the middle of the site while the existing residence sits at the top of band of vegetation that connects it to upper Gorman Street. Housing and an extensive tree and shrub cover highlight the form of the small headlands below the site and spread across the slopes to the north of the main Macandrew Bay shoreline.

- 4.12 Viewpoint 5 – 21 Eagles Street, St. Leonards - 2.56km to site boundary (Fig.10)

This viewpoint looks directly at the site from a domestic street and approx. 35m asl. The view is slightly elevated but also looks upward at a slight angle to the site. This aspect emphasizes the steepness of the pasture slopes to the south, the distinction between the southern and northern parts of the site, the legibility of the pine on the northern part of the site.

- 4.13 The linear uphill direction of Gorman and Porterfield Streets is visible and the pattern of gully planting that follows them. The native shrub planting on 34 Gorman Street appears as a continuation. The existing residence would be difficult to detect if the roof colour were darker.

- 4.14 Summary of Distant Views

The northern and mid to upper slopes are widely visible from different viewpoints from the north/west side of the Harbour Channel indicate. All of these views indicate the overall form of the site and the surrounding coastal landscape and the pattern of vegetation cover and settlement. None of the views provide detail and which is expected at a distance of more than 2km and unassisted eyesight.

- 4.15 Most views are from the road, intermittent, and unlikely to pick up change in the views unless different from the surrounding backdrop and significant in size. The existing residence is visible in all of these views but mainly due to the relatively light colour of its roof. Otherwise the pattern of shrub planting provides a successful context for this house and links it to upper Gorman Street. None of the views provides access to the lower south/west boundary area but this would change with tree removal.

- 4.16 Summary of Visual Catchment

On the basis of site review and off-site visits the site has two main visual catchments. Views from the north/west side of the Harbour Channel include the majority of the site. These views provide a perspective of patterns of vegetation, landform and development, and no detail of individual elements, due to distance. Views from within Macandrew Bay and the surrounding slopes provide detail of upper parts of the site and the lower boundary but little of the inner site area (Fig 11).

5.0 Policy Context - Landscape

- 5.1 The site is zoned Rural under the Operative Dunedin City District Plan ('OP'). Further development of the site is non-complying, as 15ha is the minimum size for a residence under the rules in Section 6.5.
- 5.2 The site is within the coastal environment but is not identified as being part of an area of Outstanding Natural Landscape. The pattern of land use and vegetation between the site and the coastal marine area is broken and modified by residential and street development and the main coastal influence is climatic and visual.
- 5.3 Section 6 Rural, 'Introduction' (OP) describes the rural environment as being dominated by pastoral farming, having a low level of development that includes small structures, and maintains a sense of 'openness'. Rural residential development is identified as a potential pressure, particularly in close proximity to urban areas. Rural residential development is considered appropriate where the receiving environment is able to absorb off-site effects.
- 5.4 Issue 6.1.2 considers the potential fragmentation of rural land and loss of natural and physical resources. Issue 6.1.4 identifies the potential for rural residential development to reduce the amenity of those already living in the rural environment.
- 5.5 Objective 6.2.2 sets out the elements that are associated with rural character. These include:
 - Predominance of natural over human features
 - High ratio of open space compared to 'built' development
 - Significant areas of vegetation, including pasture, crops, forestry and indigenous vegetation
 - Presence of large numbers of farmed animals
 - Noises, smells and effects of pastoral animal production
 - Low population densities relative to urban land
 - Generally narrow unsealed roads
 - Absence of urban infrastructure
- 5.6 The OP provides a landscape management structure based on a hierarchy of 'Outstanding Landscape Areas', Coastal Landscape Preservation Areas' and 'Landscape Conservation Areas' that are described in Section 14. These categories are the basis of development guidelines that follow. A further layer of 'visually prominent' and 'visually recessive' land is added that is independent of the assessed value of the land itself.
- 5.7 The site is within the 'North-West Peninsula Landscape Conservation Area' (Section 14.5.3 (b). OP Map 40 indicates that the lower part of the site and the southern ridge fall within an area of visually recessive landscape with the line between 'recessive' and 'prominent' crossing the mid-point of the present residence (Fig.6).

5.8 The landscape values to be maintained include the following:

- Protection and predominance of natural landform and features
- The extent and quality of viewpoints from public roads
- Maintain contrast between rural land and harbour edge settlements
- Maintain balance of settlement to avoid dominance of rural landscape
- Maintain extent and quality of regenerating native bush

6.0 Assessment of Landscape and Visual Effects

6.1 The following assessment of landscape effects considers the change that can be anticipated as a result from the development proposal proceeding against the present site character and associated values. These values are drawn from the OP and from site observation.

6.2 The assessment of visual effects is based on changes to the present pattern of land cover, structures and open space that presently characterize the visual appearance and amenity of the site. The lots are assessed in sequence and followed by a summary assessment against the provisions of the OP. Draft consent conditions and mitigation measures are included for each lot.

6.3 The following elements and actions are considered to be potential effects:

- Earth works and retaining walls
- Forming an access way
- The number and size of future structures
- External colour and materials used for roofs and walls
- Plant removal and mitigation planting
- Night light-throw
- Traffic movement

6.4 Lot 2

Lot 2 is located on an existing benched area and on relatively level ground at an elevation of approx. 78m asl (Fig.2 & 3). The proposed curtilage area is 20m x 35m in dimension. Wilding pine trees are growing on the bank below this lot to the south/west and provide shelter from south/west winds and also screen views from housing on the southern slopes above Macandrew Bay. The site is open to the north/east, north and north/west.

6.5 A formed access road will extend between Lot 2 and Porterfield Street and a house and, potentially, garage will be established on the lot. Due to lack of potable water and fire supply several large storage tanks will be required to be located to the south of the building. It is not expected that significant earth works will be required to establish this site, although retaining walls will be required uphill from the lot.

6.6 It is proposed to remove several pine trees to the immediately west of this lot and undertake canopy thinning of up to 15% of the remainder between the lot and the lower access track. Planting of native shrub species and trees is recommended for

the area where the pine trees have been removed. The intention of the removal is remove a potential health and safety issue, as the trees grow, open view to the harbour to the west, and to significantly increase the amount of morning sunlight in the lower gully area on the south/west boundary (Fig.2, 11 + 12).

- 6.7 Off-site views indicate that the site will be seen in association with the existing pine trees and just above the residential housing either side of Porterfield Street. The site is not visible from the southern Macandrew Bay slopes or from the Bay shoreline. Removal of the pine trees identified will not significantly increase visibility from Macandrew Bay but will open the future house to views from the opposite side of the harbour channel.
- 6.8 Recommended consent conditions proposed for Lot 2 include:
- Maximum elevation of 7m above existing non-excavated ground level, including roof structure
 - A stepped design for two-level structure that extends eastward
 - Maximum retaining wall height of 3m across the eastern side of the curtilage and to extend no further than 2m to the north of the residential structure
 - Maximum reflectivity value (RV) of 40% for roofs and 50% for external house/retaining walls
 - Approved wall finishes include wood products, smooth faced concrete, stone, or a combination of these materials. Bare concrete block, plastered walls and tiled roofs are excluded. Roof materials are to include long-run colour steel sheet or similar.
 - Concrete access ways to be tinted to 50% reflectivity value (Fig.13)
 - External lights are to be limited to ground based garden lights, wall lights and back door security lights. Driveway 'street lights' are not acceptable
 - Legal boundary fences are to be treated wooden post and wire, or warratah and wire, or electric fencing, or combination as appropriate for any stock present. Solid or domestic fences are to be located around the building platform or within its boundaries and may be constructed on any material, so long as the external colour is no higher than 40 -50% reflectivity value.
 - Planting of native shrub cover to undertaken in the areas shown within the first planting season following construction
 - Planting to be at one plant per 1.5m at PB3 size with liquid rain and a fertilizer pellet per plant. Success rate of 80% at 5 years from consent.
- 6.9 The assessment of potential landscape effects associated with lot 2 in the short term is considered to be 'low-medium' in the immediate term and 'low' in the 5year+ term. The difference in overall landscape structure and character will be minimal in as the site is not part of the wider pastoral area and is located on an existing benched area. The addition of a further structure and access way is not considered significant in the context of land use and the wider rural character of the site.

- 6.10 The assessment of potential visual effects is considered to be 'low'. The future house will also be built adjacent a large group of pine trees. Some of these will be removed but the remainder will provide scale and context and a visual focus for views from the far side of the harbour. Recommended conditions will also lower the potential visibility of the structure. The lack of streetlights will lower the potential for night effects.
- 6.11 The maximum roof height of 7m takes the roofline of the present residence into account and will be lower or similar and will be visible to filtered views to a limited number of houses on the southern slopes above Macandrew Bay. The harbour forms the main focus for these houses and the proposed structure is not anticipated to have a noticeable impact.
- 6.12 The combined assessment of potential effects is 'low' on a 5year+ time frame. In respect to a planning scale this equates an assessment of 'less-than-minor' effects.
- 6.13 Lot 3
- 6.14 Lot 3 is located on a slope with a north/west aspect at approx. 58m asl. Several disused farm sheds are located on excavated platform that runs north/east to south/west across this slope and is accessed by an existing benched farm track. The platform area is expected to provide the majority of the building platform for a new house. A low-to-medium level of earthworks is anticipated to establish a house on this site.
- 6.15 The proposed lot is directly above and to the east of No.37 Wharfdale Street. The proposed curtilage area is 700m² and 20m deep by 35m long (Fig.2 & 12). The underlying grade is approx. 33% or 1 in 3. From the north/west boundary of the proposed lot the slopes fall a further 10m over the approx. 39m between the lot and the outfall of the stream gully outlet to Wharfdale Street below. A formed track crosses the gully and periodic stream and will be developed to provide all weather access.
- 6.16 Three pine trees are identified for removal adjacent to the lot and a further tree is to be removed adjacent to the boundary on the northern side of the gully. Three smaller pine trees are to be removed adjacent to Lot 2.
- 6.17 The conditions proposed for Lot 3 are:
- A maximum elevation of 7m and including roof structure
 - A maximum height for a retaining wall across the rear of the curtilage of 3m
 - A maximum height of 1m for retaining associated with the access way
 - Maximum RV of 40% for roofs and 50% for external house/retaining walls
 - Approved wall finishes include wood products, smooth faced concrete, stone, or a combination of these materials. Bare concrete block, plastered walls and tiled roofs are excluded. Roof materials are to include long-run colour steel sheet or similar.
 - Concrete access ways to be tinted to 50% RV

- All retaining walls are to be stained or tinted to maximum of 50% reflectivity value or to be planted with climbers to a specification agreed by Council (Fig.13)
- Planting of native shrub cover to undertaken in the areas shown within the first planting season following construction (Fig.2)
- Planting to be at one plant per 1.5m at PB3 size with liquid rain and a fertilizer pellet per plant. Success rate of 80% at 5 years from consent.

- 6.18 The assessment of potential landscape effects associated with lot 3 in the short term is considered to be 'medium' in the first 1 – 5year time period and 'low' in the 5year + time period. In respect to a planning scale this equates to 'less-than-minor'. The most immediate change will be construction effects in a presently disused rural land area and the removal of pine trees.
- 6.19 Construction effects may extend to 9months. After this initial time period the environmental effects of the development are considered to be positive for adjacent neighbours. The level of sunlight and air circulation will increase significantly and the level of dampness and frost is expected to drop. Traffic and background noise are not considered likely to exceed potential noise from existing neighbours.
- 6.20 The assessment of potential visual effect is considered to be 'low-medium' in the short term and 'low' in the 5-10year timeframe. Those most affected will be the neighbours at No's 37 and 39 Wharfdale Street and during the construction period but there are not considered to be any significant effects following the end of construction and the planting of the slope areas below the house curtilage.
- 6.21 At present the site is hidden from both the north/west harbour views and views from within Macandrew Bay and surrounding slopes. The removal of the pine trees adjacent to the building platform will expose the site to the north/west but it will remain hidden to the south due to a Eucalyptus tree at 43 Wharfdale Street.
- 6.22 Increased visibility will occur for viewers from the north/west side of the harbour but the pine belt will remain behind the proposed house site and provide a dark context for the new structure. A low reflectivity value for roof and walls will diminish potential effects, as will the absence of a dark mono form tile roof.
- 6.23 **Summary of Landscape and Visual Effects**
The longer-term landscape and visual effects of the proposed 2 additional lots are assessed as being low in the 5year + time frame and not significant in the context of the rural character and visual values that are exhibited in the wider area.
- 6.24 The proposed development is will be in the lower part of the site and which is already modified and not used for active pastoral grazing. All structures will be at a lower level than the existing residence and in the context of existing vegetation and close to adjacent residential development. Access will be retained to the wider pasture and will not diminish the visual amenity of this land or its rural function.

- 6.25 Combined with design conditions and planting mitigation and a low settlement density the development of lots 2 and 3 are expected to have little or no effect on present character values and a low to minimal level of off-site visibility.
- 6.26 Several pine trees are proposed for removal on the lower western boundary and above the farm track to proposed lot 3 and adjacent to lot 2. A further site visit was undertaken on Friday 1st September 17 and confirmed that the primary visual catchment for the potential visual change is confined to the block of housing to the east of Jane Street and above Marion Street and below Featherston Street (Fig.11).
- 6.27 These houses face due north/east and towards the site. However the viewing distance to proposed Lot 2 is approx. 820m at the lower boundary with Marion Street and approx. 1km from Featherston Street. Due to the trees along the western boundary there are limited views available from the lower houses (Fig.11). Views from the upper part of this block are constrained by the pine shelter belt that is offset from the lower site boundary, to the south of proposed Lot 2, and the wilding pines that are located south and west of this lot (Fig.12).
- 6.28 Views to the houses on the upper south slopes or Macandrew Bay from proposed Lot 2 were checked. The trees that are proposed for removal will not expose this lot to wider views and the house will sit behind juvenile to medium growth pine trees that are established on the bank below.
- 6.29 Removal of the pine trees below proposed Lot 2 will open views to the existing residence but these will be at 1.3km approximately and the house will be seen in context of the mitigation planting that surrounds it and over the lower pasture area of the ridge that extends to Porterfield Street. Any of these trees could be removed as of right on a rural property. The assessment of effect in terms of landscape change or visual effect is considered to be 'less than minor' on a planning scale.

7.0 Policy Assessment

- 7.1 OP Section 6, Rural, Introduction provides an overview of the rural characteristics of the landscape, land use practices and present amenity values that are to be maintained by the Plan. Residential development is discussed both as a threat and appropriate, in some places. An appropriate outcome is considered achieved when the development and receiving environment has the 'characteristics and capacity to absorb the effects on rural character and amenity values' (OP, Section 6 Rural, Rural Residential Zone, pg.6.3).
- 7.2 Objective 6.2.2 and Section 14.5.3 (b) provide criteria by which assess potential positive and adverse effects on the rural environment and the 'North-West Peninsula Landscape Conservation Area'. These objectives and factors are restated in Table One and the elements of the proposal assessed against the provisions.

Table One

Objective 6.2.2	Proposal
▪ Predominance of natural over human features ▪ High ratio of open space compared to built-development ▪ Significant pasture, crops, forestry and indigenous vegetation ▪ Presence of large numbers of farmed animals ▪ Noises, smells and effects of pastoral animal production ▪ Low population densities relative to urban land ▪ Generally narrow unsealed roads ▪ Absence of urban infrastructure	Majority of site will remain in rural use The proposed lots have a low density and low visibility. Mitigation planting will provide maintain context with surrounding vegetation and lower the potential for an urban character The existing site includes pasture, pine trees, and native shrubs. This will continue, with an increase in indigenous plant numbers The upper pasture is leased for horses. This activity will not be affected Animals are present in the mid and top field area on an occasional basis and will continue to be so. They are not present in lower areas. There will be an extension of the residential use of the site but at low density comparative to urban areas. Development is structured to minimise adverse effects for neighbours and amplify positive effects, e.g. planting, sunlight and air circulation Lot 2 and 3 driveways may require concrete seal. Low reflectivity values have been included in draft consent conditions The existing residence is connected to water and waste. Street lighting is excluded as design condition
Section 14.5.3 (b)	
▪ Protection and predominance of natural landform and features ▪ The extent and quality of viewpoints from public roads ▪ Maintain contrast between rural land and harbour edge settlements ▪ Maintain balance of settlement to avoid dominance of rural landscape	A low level of land modification will be required and will retain the existing contours An assessment of visual effects from distant and adjacent areas confirmed that there will be a low level of adverse effect The boundary of the urban fringe will be maintained as only one house will be partly visible from off site at a distance of 2km+. The rural land above lot 1 and proposed lot 2 will contain no development and will maintain the characteristics of open space and rural land use. The proposed development is not considered to lead to a dominance of built development over rural character as it is located at the bottom of the site and which has a low level

of off-site visibility

- Maintain extent and quality of regenerating native bush
- There is no indigenous vegetation on site other than what the applicants have established. This will be increased with mitigation planting.
-

- 7.3 Apart from not meeting the 15ha lot requirement for residential development in rural land under the OP this assessment has found that there are no discernable adverse effects on the landscape and visual values of the present site that are likely to result from the proposed additional two house lots.
- 7.4 Gains in landscape and visual amenity are anticipated from the removal of pine trees proposed and the planting of additional native shrubs and trees. The removal of pine trees is expected to significantly increase light and air circulation to existing residences on the lower western boundary. The planting undertaken around the present residence reflects the benefits anticipated from additional native planting.
- 7.5 Off-site views indicate that the residential areas below the site extend up and down small coastal headlands and ridges and contain extensive vegetation. The proposed two lots are not assessed as likely to alter this pattern or detract from the wider and more open character of the slopes above.
- 8.0 Conclusion**
- 8.1 It is the conclusion of this review that the proposed development will not detract from existing rural or landscape values and will add to the environmental quality of neighbouring properties.
- 8.2 Potential landscape and visual effects is assessed as being 'low' on a scale of 'low, low-medium, medium, medium-high' and 'less than minor' on a planning scale of 'less-than-minor, minor, more-than-minor'.
- 8.3 It is recommended that consent be granted for the proposed 3-lot subdivision on the basis of the consent conditions set out in section 6 of this review.

Hugh Forsyth
Registered Landscape Architect

27 September 2017

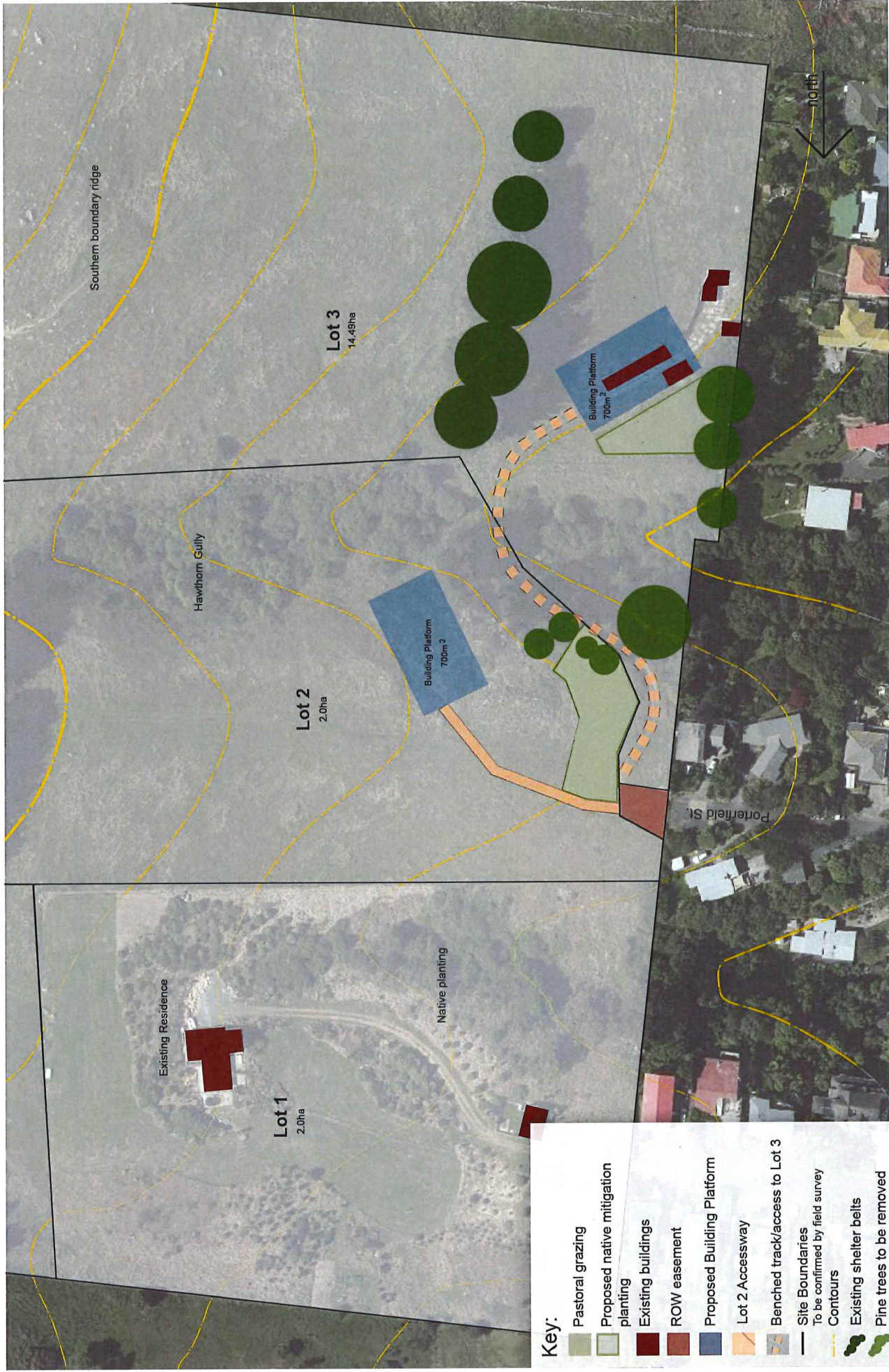
(Report issue rev a)

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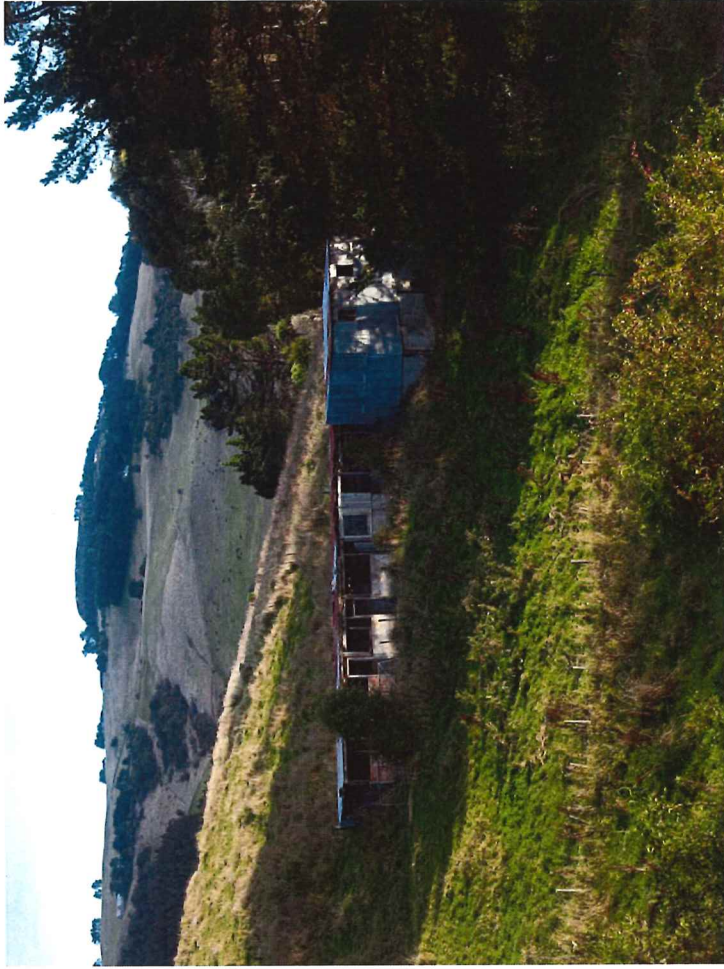
Data from Dunedin City Council GIS site

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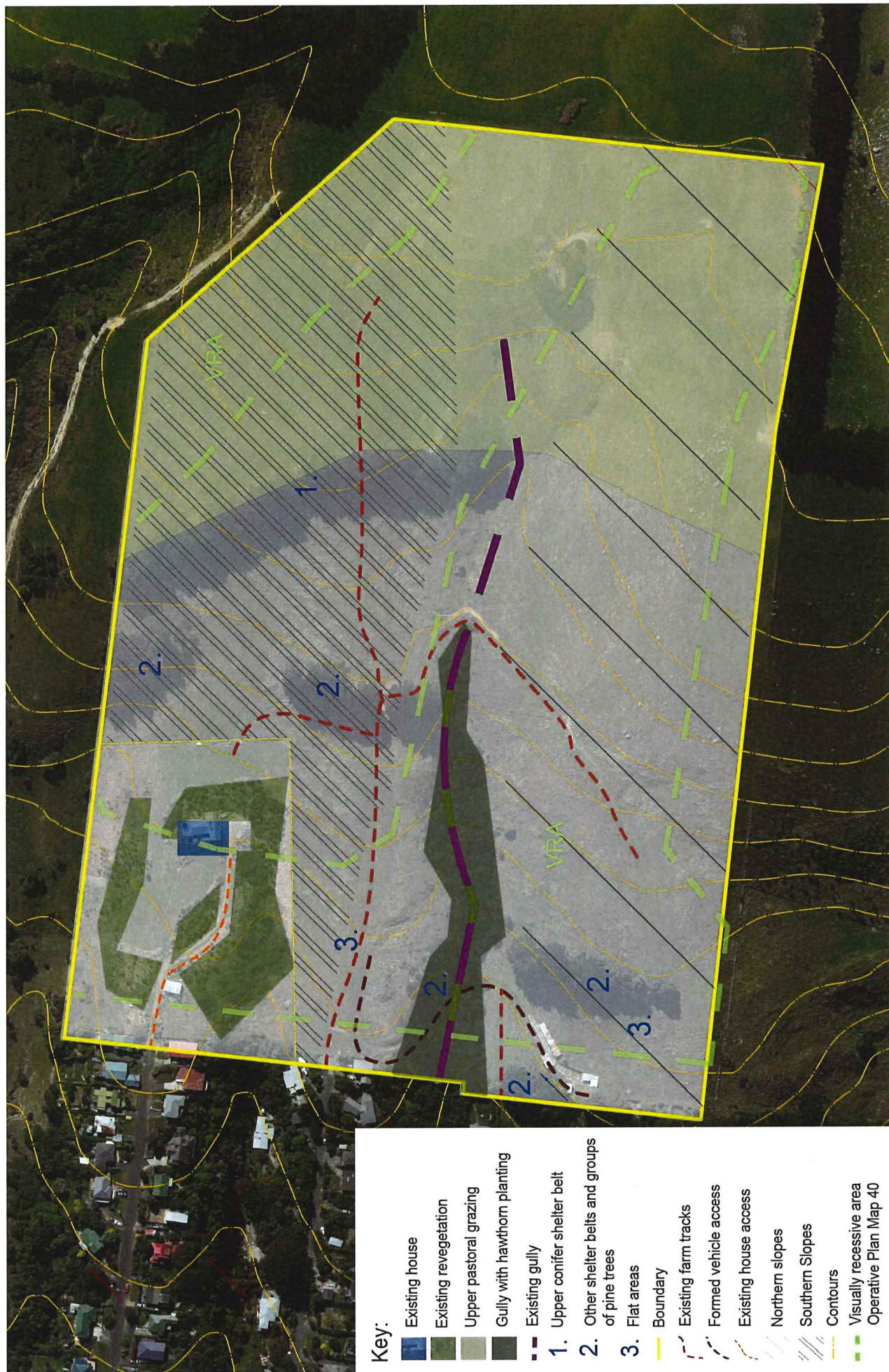


Proposed Lot 2 - Existing benched area



Proposed Lot 3 - South/west boundary

Images reduced



Key:

- Existing house
- Existing revegetation
- Upper pastoral grazing
- Gully with hawthorn planting
- Existing gully
- 1. Upper conifer shelter belt
- 2. Other shelter belts and groups of pine trees
- 3. Flat areas
- Boundary
- Existing farm tracks
- Formed vehicle access
- Existing house access
- Northern slopes
- Southern Slopes
- Contours
- Visually recessive area
- Operative Plan Map 40

0 200m



Residence @ 34 Gorman Street - 2002

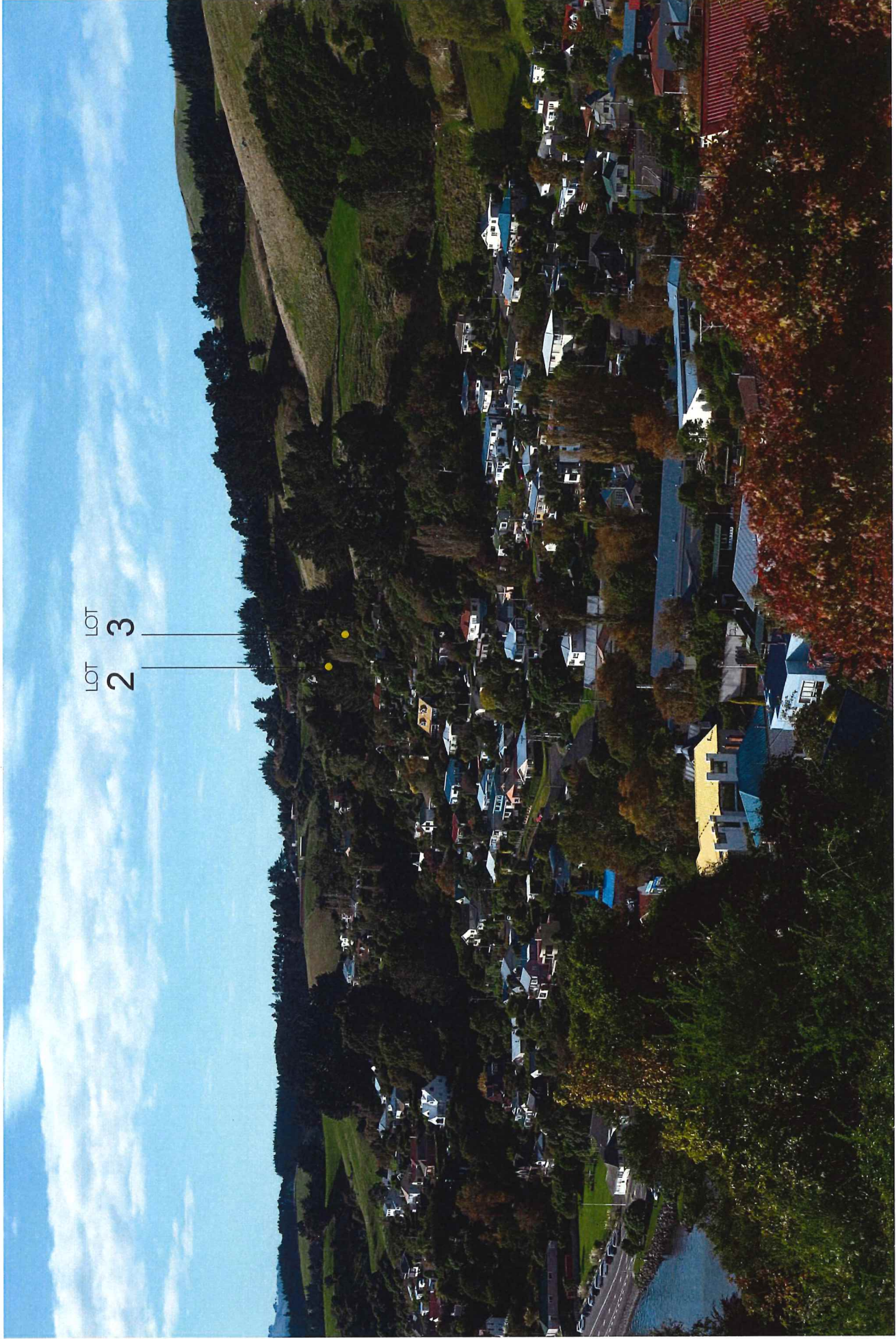


Residence @ 34 Gorman Street - 2017

128



50mm lens on full frame digital camera

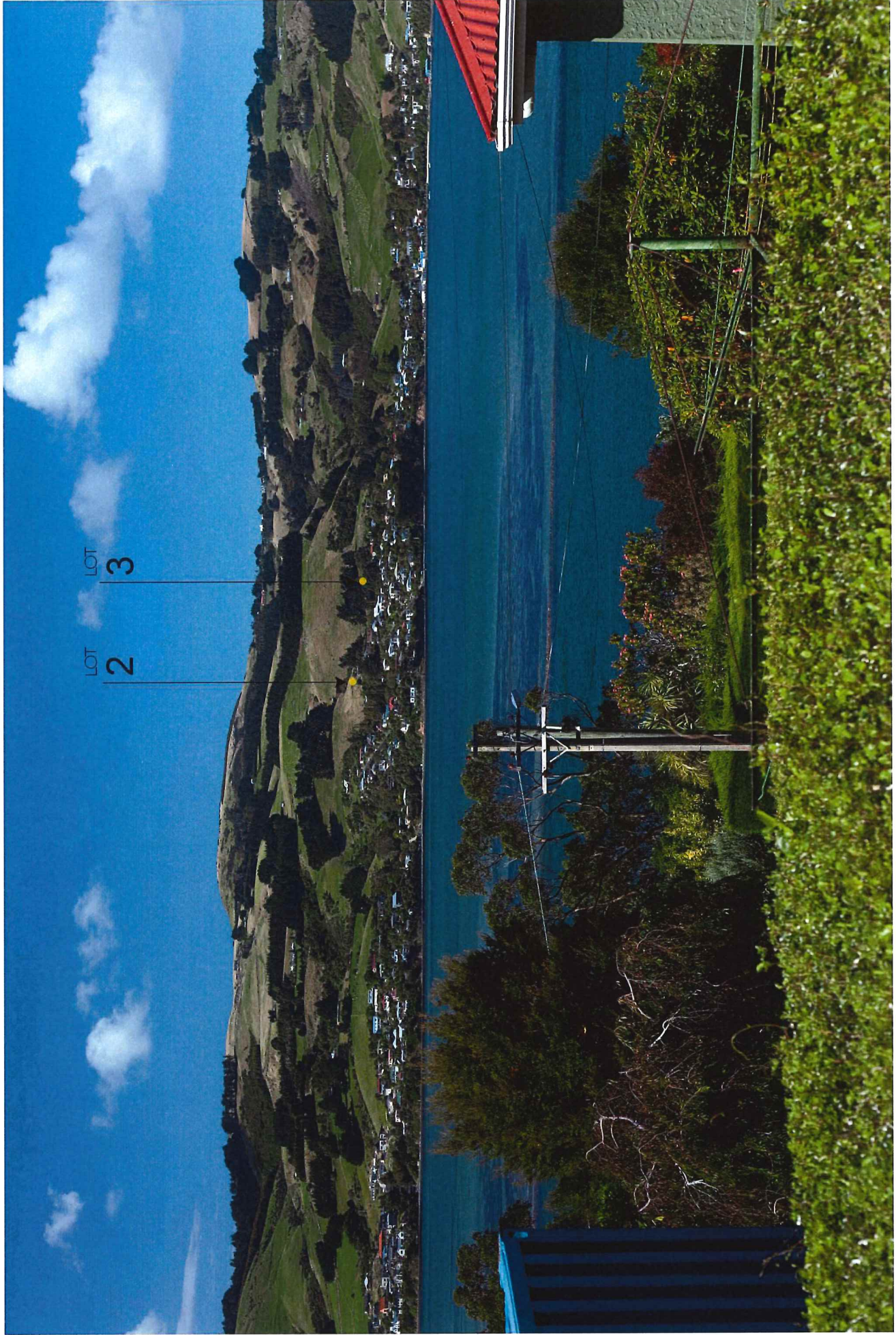




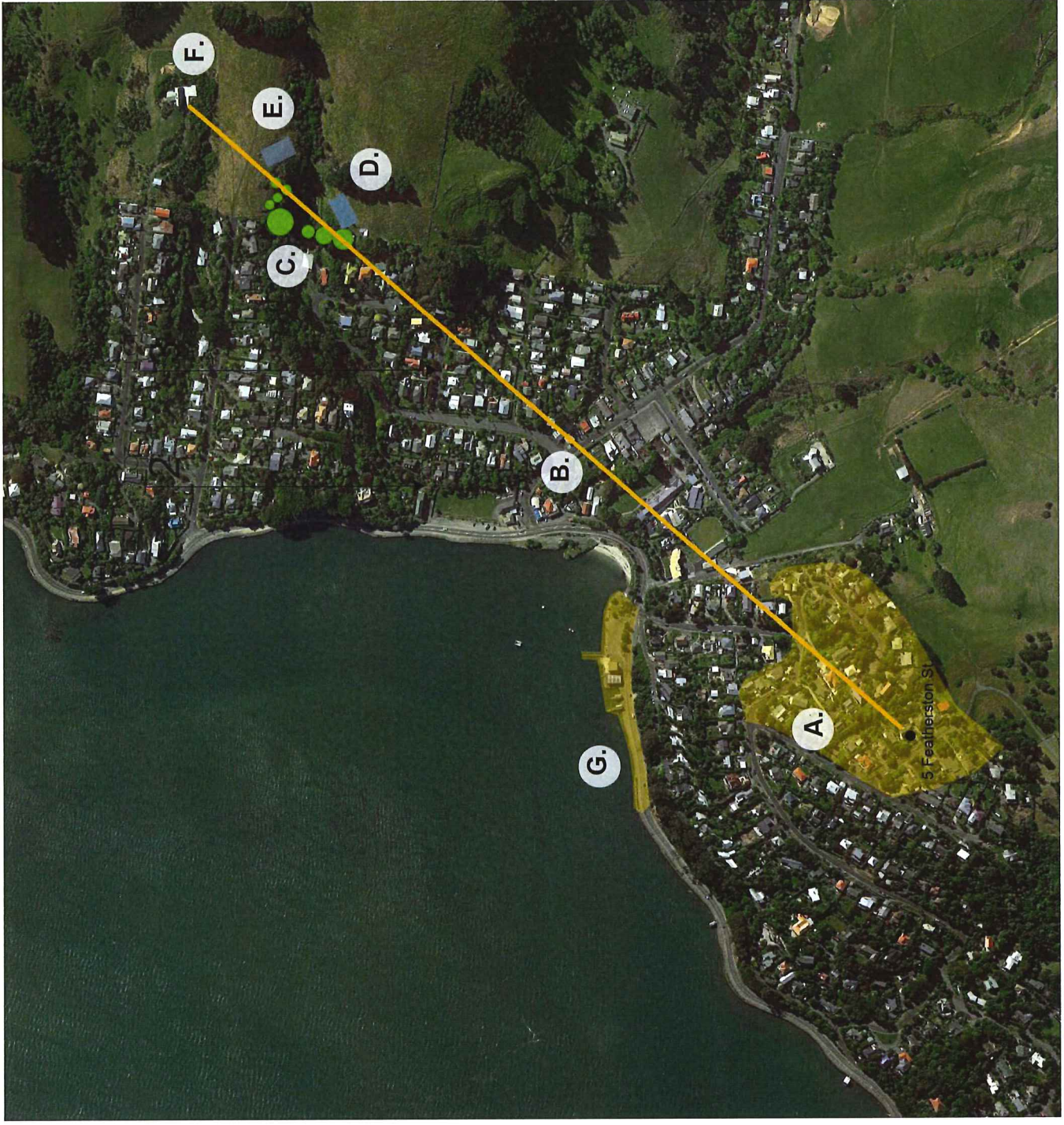
50mm lens + full frame digital camera



50mm lens on full frame digital camera



50mm lens on full frame digital camera



Legend

- A. Approximate catchment for viewing audience on Southern slopes of Macandrew Bay
- B. Viewing axis - 5 Featherston Street to existing house (1.135km approx.)
- C. Trees to be removed - ref Fig.12
- D. Lot 3 building platform
- E. Lot 2 building platform
- F. Existing house - 34 Gorman Street
- G. Southern road approach catchment

Legend

- A. Proposed tree removal 1 -8
- B. Lot 3 building platform
- C. Existing benched farm track
- D. New access to Lot 2
- E. Lot 2 building platform
- F. Native shrub planting
- G. ROW common access area
- H. Centre viewing axis - existing residence to 5 Featherston St, South Macandrew Bay
- K. Existing residence



Cubitt Consulting Limited

RESOURCE MANAGEMENT CONSULTANTS

28 September 2017

Planning Department
Dunedin City Council
PO Box 5045
Dunedin

Attention: Amy Young

Dear Amy

SUB 2017-74 and LUC 2017- 407: Further Information Request

I refer to your letter dated 30 August requesting further information in relation to the above applications for resource consent. I respond to each of your requests below.

1. Geotechnical Report.

You state that the GEOSOLVE report was not included in the application. However, it was emailed to Council with the application on the 15th of August. It is attached again for your ease of reference. We have also attach a supplementary report from GEOSOLVE that addresses some of the other geotechnical questions your raise. Please note that the area is no longer identified as being unstable under the 2GP.

2. HAIL

A HAIL search request has been made by the applicant.

3. Earthworks

The supplementary report from GEOSOLVE provides some general comment on the earthworks, while the supplementary report from Hugh Forsyth also addresses earthworks in relation to the building platform.

However, our normal approach is not to apply for earthworks consents at this stage as we do not know what type of house a purchaser may want to build on the platforms and what that may entail earthworks wise. We do not encourage the formation of the platforms prior to sale of the site because of the short to medium term visual effect of that, given we don't know how long it will be before a house is constructed. GEOSOLVE confirm that development of the platforms will not affect stability. All retaining walls and earthworks will be appropriately engineered.

4. Planting RMA 2004-0260

This is addressed in the supplementary report from Hugh Forsyth. It is not proposed to carry on with this planting. Given this application relates to the site affected by that consent, a variation to RMA 2004-0260 is not considered necessary.

GeoSolve Ref: 170329
18 September 2017

Alistair Montgomerie
34 Gorman Street
MacAndrew Bay
Dunedin 9014

c.c.: Allan Cubitt

**Response to DCC request for further information,
34 Gorman St, Macandrew Bay, Dunedin**

Dear Alistair,

In accordance our proposal dated 10/05/2017, we have reviewed the geotechnical aspects of the DCC request for further information (RFI) (ref. SUB-2017-74 and LUC-2017-407) and respond as follows.

The proposed development is for subdivision to form two new building platforms as reported earlier (GeoSolve letter report dated 3 August 2017).

Proposed 2GP hazard mapping:

We note that the revised 2GP plan will consider recommended amendments to the land stability hazard map for the site (see Fig 1 below). Note that the amended plan on the right indicates no hazard overlay for the proposed lots.

We understand that this mapping is based on advice from GNS Science and hence there may be no further requirement to address the slope stability hazards listed in the RFI.



Fig 1 – Current hazard mapping (left) compared to recommendations for 2GP (right)

Previous slope stability mapping:

If older mapping is to be applied then some ancient landslide features may coincide with the sites (known as the “East Macandrew Bay mass movement area”). This area was mapped by GNS Science in 1994. Given that these landslide areas are not part of the 2GP recommendations, we assume that they are considered inactive or unlikely to present a hazard. Furthermore the regular survey monitoring of the Dickson St slide by DCC appears to indicate that landslide hazard is unlikely to apply at the sites.

Most of the hazards listed in the RFI are not applicable, i.e.:

- Seismic liquefaction is not a relevant issue at this site (i.e. it is not a hazard that is mapped here and the essential conditions for liquefaction to occur are not present at the site).
- The Dickson Street slide and the Wharfdale slope do not coincide with the proposed building platforms.
- We assume that the reference to the “Peninsula Landslide” is a reference to the 1974 Leslie map. This indicates very severe risk for the area of the building lots, however it should be noted that this older map is based on very broad regional inferences on soils/slope angles and is not based on engineering geological mapping. Site specific investigations often enable revision of the mapped risk indicated on the Leslie map. For example weathered volcanic rock has been proven at shallow depth at Lot 2 and hence severe risk is not applicable there. Severe risk tends to imply active landsliding such as Dickson St slide which is clearly remote from the building platforms. In addition, there are no indications of active landslide activity at the building platforms, despite several very high intensity rainfall events in recent years (including July this year).

We suggest that the consultants who advised on the proposed amendments to the 2GP hazard overlay have considered the above landslides/hazards zones and have concluded that they are not applicable for the purposes of the 2GP.

Building platforms:

Weathered volcanic rock was proven at shallow depth at Lot 2 and hence global slope instability is very unlikely at this location.

If further quantification of risk is required at Lot 3 then drilling may be required as rock was not proven at this location. This does not mean that the site is unstable but it is not possible to quantify the risk with the currently available subsurface data. Some mitigation measures may be warranted for Lot 3. Such work could be made a condition of consent for Lot 3, i.e. that specific geotechnical investigations are required for building consent to adequately address slope stability considerations.

Other geotechnical issues:

The following provides comment on other geotechnical matters raised in the RFI:

We consider it feasible to carry out earthworks to establish access to the building platforms, provided that appropriate geotechnical supervision and design of retention is carried out. It may be necessary to remove any unsuitable alluvium from the gully crossing. Cuts for eventual buildings can be addressed with appropriate slope retention or battering. All cuts should be subject to geotechnical consideration prior to works. We understand that no formal plans of the accessway alignments are currently available and hence suggest that application for earthworks consent be deferred until the subdivision construction phase.

Removal of isolated groups of trees such as shelter belts is unlikely to have any destabilising effect on property.

Applicability

This report has been prepared for the benefit of Alistair Montgomerie with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Yours faithfully,



Mark Walrond
Senior Engineering Geologist

GEOSOLVE

GeoSolve Ref: 170329
3 August 2017

Alistair Montgomerie
34 Gorman Street
MacAndrew Bay
Dunedin 9014

c.c.: Allan Cubitt

Geotechnical Assessment for Subdivision of 34 Gorman St, Macandrew Bay, Dunedin

Dear Alistair,

In accordance with our proposal dated 10/05/2017 we have completed test pitting at the potential building platforms. This letter provides an initial geotechnical assessment of the sites.

Proposed Development

The proposed development is for subdivision to form two new building platforms at the locations shown on the appended site plan.

Desk Review

The area is located on hillslopes above the Dickson St Landslide feature that has been mapped by others. We have reviewed the various hazard maps available and note that there are new landslide hazard recommendations for the Dunedin City Council's second generation district plan currently under consideration. It appears that the extent of the former landslide hazard area may be much reduced if this is adopted. However older mapping suggests that ancient landslide debris is likely over part of the site, i.e. scarps of the Dickson St Landslide have been previously mapped on 34 Gorman St.

It is notable that DCC carry out regular monitoring of the Dickson St landslide and two of the survey deformation marks are located on 34 Gorman St. We have not reviewed the latest results, however older results available to us suggest that 25 mm of movement has been detected since installation in 1997. This is unlikely to represent significant displacement of the marks and may be beyond the practical limits of accuracy anyway.

Subsurface Investigations and Discussion of Results

Test pitting was carried out to better define the extent of landslide soils and to enable further comment on risk.

A total of eight sites were investigated over a wider range of locations using an excavator. The soils were logged by an engineering geologist. The field data are on file and can be converted to formal logs for future reporting purposes as required.

Lot 1 (containing the existing building) is likely to be well founded on competent soils and has not been investigated further.

Proposed Lot 2 Building Platform:

Investigations at the proposed Lot 2 building platform encountered weathered volcanic rock at around 1 m depth which illustrates that thick debris is not present at this site. Development of a dwelling here is likely to be straightforward, however normal solutions such as slope retention and drainage may be required depending on the eventual design.

Proposed Lot 3 Building Platform:

Lot 3 is mapped within the greater Dickson St landslide area and test pitting here encountered ancient landslide debris (noted at Lot 3 as up to 2.8 m thick). No rock was encountered. The soils are likely to be ancient landslide debris and unlikely to be currently active. However the fact that bedrock was not encountered means that specific engineering requirements may apply at this site. It will be important to assess risk that movement could occur in extremely adverse storm events. For example the development or reactivation of landslip lobes is relatively common in ancient slide debris during very major storms. If this site is to be considered then the site should be subject to specific engineering assessment which may include drilling investigations to define the thickness of debris and the depth to groundwater. Specific foundation design and drainage requirements may be necessary.

Sufficiency of Investigations

The purpose of this report is to confirm the feasibility of the sites for residential use and to advise on requirements to mitigate natural hazard and any adverse site conditions. No plans are currently available. We recommend that the detailed design phase for any dwelling should be carried out in consultation with both the structural and geotechnical engineer. Geotechnical supervision is recommended during construction to confirm that conditions assumed above are consistent and in order to prescribe any further requirements.

The current investigation data confirm that the Lot 2 site is likely to be suitable for conventional shallow foundations once excavations have been carried out to expose good ground. This should be confirmed by a geotechnical specialist. Provided that the foundations rest on good ground, then design in accordance with NZS 3604 is likely to be appropriate. The Lot 3 site requires further specific investigation.

Conclusions and Recommendations

- Lot 2 is likely to be straightforward to develop as there are no known land instability issues and weathered rock is locally available in the upper metre.
- Lot 3 is likely to be feasible to develop, however drilling is recommended in order to define the thickness of debris and check groundwater conditions. This will enable detailed advice on specific engineering solutions to be provided.
- The accessways are likely to be relatively straightforward to develop but some potential difficulties in traversing debris could result and hence construction should be overseen by a geotechnical specialist.
- We recommend that all foundation excavations should be inspected by a geotechnical specialist to confirm design assumptions and adequate socketing into weathered rock or competent soils.

Applicability

This report has been prepared for the benefit of Alistair Montgomerie with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Yours faithfully,



Mark Walrond
Senior Engineering Geologist

**GEO**SOLVE

