

Talk re stormwater problems in areas near
NDMA05 + NDMA10 8/13/2021

History of flooding observed since 1962.

From Valene Dempster 490 Taler Rd.

Flooding - stormwater comes from 4 directions
onto Taler Rd at the low point.

- 1/ Off the hill from Turner St, also 488, 490
and 494 Taler Rd
- 2/ Water runs across Taler Rd. from the area
opposite Ashburn Clinic where the swale
drains and another drain are inadequate.
- 3/ Swale drain above the top entrance to
Ashburn Clinic it runs alongside Three Mile Hill Rd
and the stone wall near the Pony Club
- 3/ The hill behind Turner St has natural under-
ground springs and a creek.
- 4/ Through the steep farm paddock hill at
494 Taler Rd. Water pools at the bottom
fenceline and across the footpath onto Taler
Rd where the existing drain is inadequate.

To summarise - The gutters, drains and pipes
from all 4 directions have never coped with
the volume of water during heavy prolonged
rainfall. Many times Taler Rd is completely
flooded across both lanes in the low point near a
driveway at 490.

Therefore where does the stormwater come from. These are some of the creeks that I know of

1/ The back paddock at the Pony Club the creek overflows and goes under the stone wall into a swale drain which can't contain it and then over Three Mile Hill Rd. Also flows to a pool below what used to be a tennis court at Ashburn Clinic.

2/ Another creek behind Ashburn Clinic flows down behind 494 Taien Rd and under Taien Rd and through the gully at the bottom of proposed NDMA05 and down Frasers Gully to Kaiteraki Valley which also floods.

Note At the back of 494 Taien I have several times seen a bridge on the property totally submerged and another bridge was completely washed away by floodwater.

Note On another occasion the volume of water washed logs at 493 Taien Rd all the way to Green Island near St Peter Chanel School.

3/ Turner St. has natural springs and a creek. It runs from a property, at the top of Spiers (No 25) Rd. People in this area have had to divert water from the back of their houses because their garages would get flooded. One property would often get the Fire Brigade to pump it out.

4/ Dalziel Rd + the Pennic Block has many underground springs. Water flows across the road through properties all downhill to the creek in Frasers Gully. That's through proposed NDMA05.

Note Swale drains ~~at~~ the side of Dalziel Rd don't contain continuous rain successfully. At the bottom left-hand corner of NDMA05 there has been

a landslip. This fact is documented on maps. See ref. Appendix B Council Officers Report Feb 2016. Has currently been disregarded since last reported on, and there have been many serious rain events since then. Put houses and concrete above it and that could cause further instability. My comment Another event such as Abbotsford could occur. Alice will speak further on this area and damage caused to walking tracks and flooding in Kaituma Valley.

- 5/ Property at 5 Three Mile Rd has a creek which runs into the gully at the bottom of NDMAOS. It also passes through 3 Three Mile Hill Rd.

Next NDMAIO Stormwater Problems

(Personally viewed over nearly 60 years)

Fact Heavy continuous rain pours off Flagstaff one of Dunedin's highest hills 668m (2,191ft)

- 1/ During heavy rain water comes from the hill behind my house. It crosses my back lawn, goes round the paths on both sides of my house. It goes across my front lawn over my retaining wall like a waterfall down my driveway & into the paddock. Floods my garages at times. Next door at 488 Taieri Rd water comes also from the paddock and a property in Turner St is diverting.
- 2/ The paddock, part of 484 Taieri Rd next to the road has had truckloads of waste including concrete dumped there about 35-40 years ago and has been covered over. This prevents natural drainage. Stormwater pools and overflows across Taieri Rd footpath then at times across both lanes of Taieri Rd. The drain

Near my driveway cant contain it. Water is also coming from 3 other areas as previously mentioned

3/ There is a meter-wide watercourse from the hill above the creek at 494 Tairā Rd. It is easily seen as it ices up in Winter. That feeds into the creek that goes under Tairā Rd.

4/ Many rain events have caused land movement on my property. Probably are others in the paddock beside me but not seen because of the long grass.

Note This flooding occurs in the vicinity of a new proposed sub-division road which will service new houses on NDMAOS

5/ Flooding on Tairā Rd has occurred in this area for as long as I've lived at 490 Tairā Rd - that will be 60 years come March 2022. Rain events are becoming more frequent and intense because of climate change. They occur at any time of the year.

Flooding interferes with safe access to all properties between 480 and 490 Tairā Rd.

Note The problem needs to be fixed prior to any new road into NDMAOS

The water problems in this area need to be thoroughly addressed prior to any houses being built on this area. It would be unethical to sell land to people who invest to build and later discover they have a water problem or creek running through it.

Quote in ODT this year from Otago Regional Council
"Profit should not come before the environment"

Attached Hazards team MWH Feb 2016 also maps (3) +
5 Three Mile Hill statements re springs & stream

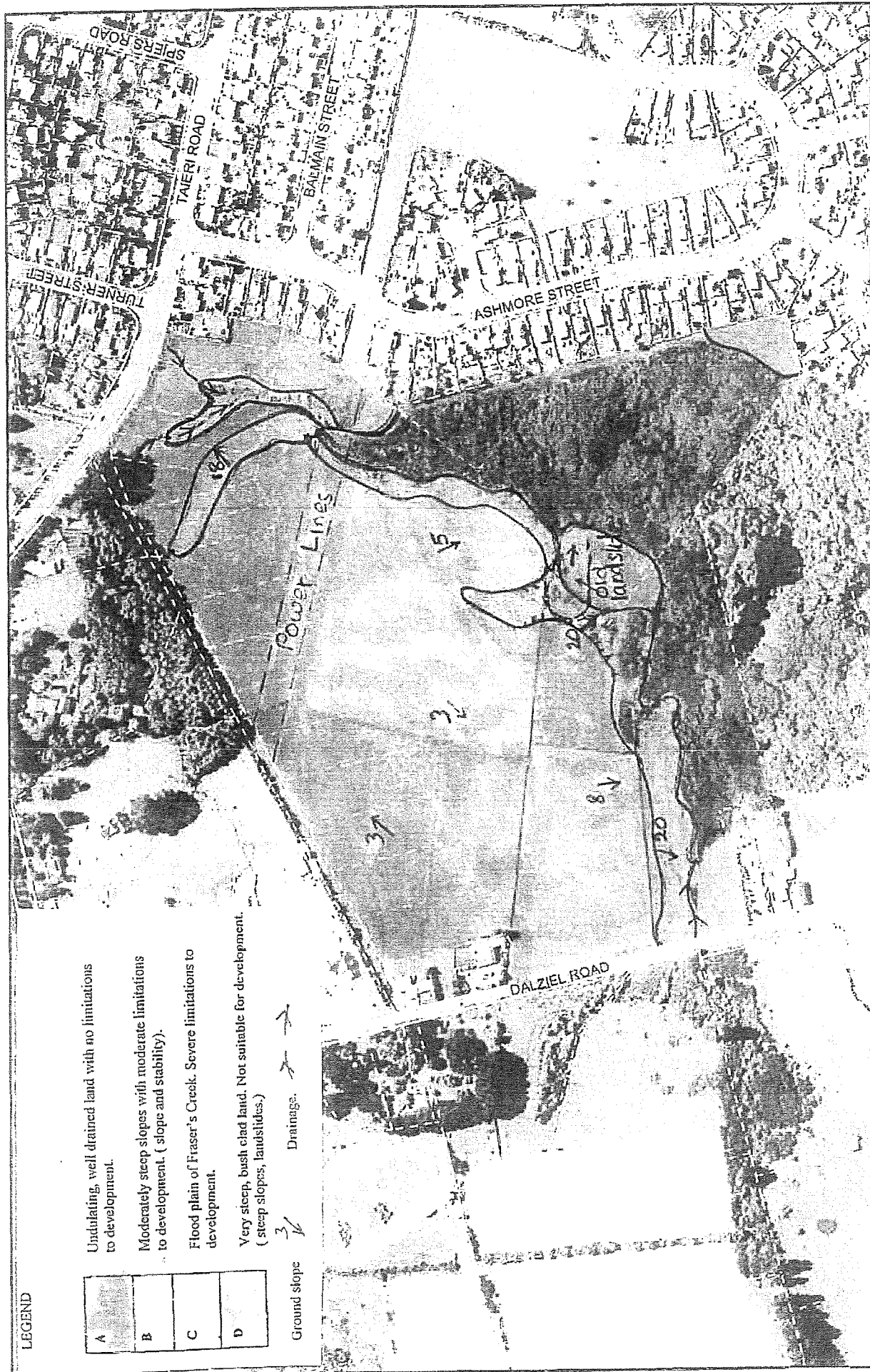
LEGEND

A	Undulating, well drained land with no limitations to development.
B	Moderately steep slopes with moderate limitations to development. (slope and stability).
C	Flood plain of Fraser's Creek. Severe limitations to development.
D	Very steep, bush clad land. Not suitable for development. (steep slopes, landslides.)

Ground slope



Drainage.



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COUNCIL

GEOLINK LAND INVESTIGATIONS.

URBAN CAPABILITY MAP FOR PROPOSED SUBDIVISION- DALZIEL ROAD.

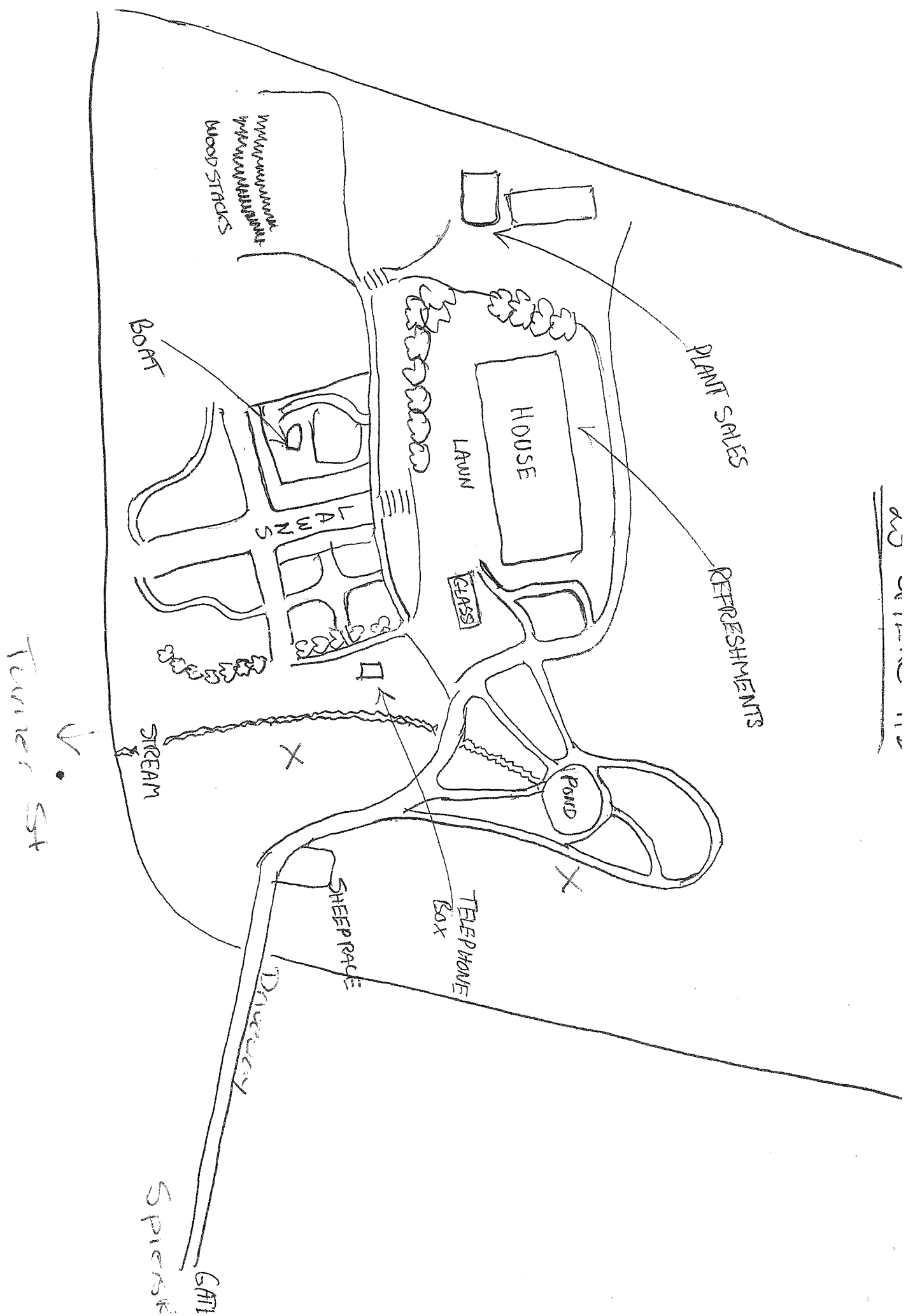


Scale: 1:4,000

PARCEL LINES CAN VARY FROM
100% TO 90% ACCURACY
This map is for information purposes only
and is not accurate to surveying, engineering
or other professional standards. Every effort
has been made to ensure the accuracy and
reliability of the information presented.

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20 miles 115





Please let me know if you are in a position to meet with Mr Ward and/or RPR Properties Ltd to attempt to resolve your appeals. Council would be happy to facilitate informal meetings in an endeavour to avoid Environment Court mediation or hearings.

Kind regards

Paul Freeland
SENIOR PLANNER
CITY DEVELOPMENT

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WELCOME TO THE GARDEN AT 5 THREE MILE HILL ROAD

HISTORY

The original part of the house dates from the 1880's, and from 1895 to 1995 it was owned by Ashburn Clinic, and used as their Medical Director's residence. More bedrooms were added in the 1950's and the garage was built in 1996.

Many of the large trees, especially those that hide the property from the road, date from the 1880's, and there are many stumps of those that have been cut down in the last 50 years. The stone walls were constructed from stones found on the property.

Reg and Nan Medlicott developed the garden in the 1950's and 1960's when Reg was the Medical Superintendent. They were helped by Phillip Barling from Glenfalloch, and a lot of hard work by the patients from across the road.

The original plant of the hybrid rhododendron "Mrs Percy McLaren" is in the garden, and it was named by Reg Medlicott after his mother-in-law.

THE LAST 10 YEARS

After the Medlicotts left, the garden inside the hedges was maintained by Ashburn Clinic, and when Evelyn and Trevor Millar purchased the 2 hectare property in 1995, outside that area was a jungle of blackberry, broom, gorse and other weeds.

Over the last 10 years we have developed a lot more of the garden outside the hedges, down the steep bank and across the stream, planted hundreds of rhododendrons and companion plants, built bridges and tracks wide enough for a ride on mower, drained areas where springs were flooding, and there is still a lot of work-in-progress.

Our most recent project was the removal in February this year of three large macrocarpas near the front gate, and we have tried to convert the mess that was left into a garden with suitable planting, that in time it will blend in with the rest of the garden.

In a garden of 2 hectares there is a constant process of growth, replacement and renewal – we could never consider it "finished", and we are happy to enjoy the task together, especially with the help of our three small grandchildren. They have left their mark with a partly constructed tree hut, and some parts of the garden look a bit scruffy where they have been playing games – all this is part of them having fun on the property with us.

PLEASE BE CAREFUL ON THE DRIVEWAYS, BRICK PATHS AND BRIDGES, BECAUSE THEY CAN BE VERY SLIPPERY WHEN WET.

We know that you will enjoy your visit to our special place.

Evelyn and Trevor Millar

Appendix B
Council Officers Reports
Feb 2014

Lianne Darby

From: Z1649206 MWH Hazards Team <SM-AP-NZ-MWHHazardsTeam@mwhglobal.com>
Sent: Monday, 18 January 2016 02:01 p.m.
To: Lianne Darby
Subject: RE: Subdivision at Dalziel Road - The Sequel - SUB-2015-54 & LUC-2015-291
35, 41, 43, 47 & 49 Dalzeil Rd, Dunedin

Hello Lianne

I am pleased the Paul has acknowledged my comments, and generally agrees, The plan is now complete from my perspective.

I suggest the following conditions:

For any of the properties containing land coloured yellow in the following plan:

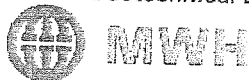
- Paterson Pitts Group Plan D14995, Sheet 2 of 5 - WESTACOTT HEIGHTS DRAFT STRUCTURE PLAN CONCEPT M DETAILED LAYOUT PLAN
- This plan should be included on title for any property containing yellow or red zoning
- Any development on land with existing slopes steeper than 15° shall be subject to approval of a site specific geotechnical assessment report by a suitably qualified person confirming that the land is suitably stable for development, and that the proposed development will not create or exacerbate any instability on this or adjacent property.
- Specifically; there are no slopes on Proposed Lots 33 and 34 with angles shallower than 15°. Development anywhere on these lots will require a site specific assessment prior to development

The following general conditions should apply subdivision-wide.

- Any walls retaining over 1.5m, or a surcharge / slope, including terracing, require design, specification and supervision by appropriately qualified person/s
- Any earth fill more than 0.6m thick supporting foundations must be specified and supervised by a suitably qualified person in accordance with NZS 4431-1989 Code of Practice for Earthfill for Residential Development
- Earth fill constructed steeper than a maximum batter of 2h:1v must be subject to specific engineering design.
- Earth cuts constructed steeper than a maximum batter of 1h:1v must be subject to specific engineering design.
- Earthworks close to boundaries may require consent from neighbouring landowners.

Regards
Lee

Lee Paterson
Senior Geotechnical Engineer



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BUILDING A BETTER WORLD

From: Lianne Darby [mailto:Lianne.Darby@dcc.govt.nz]

Sent: Wednesday, 13 January 2016 3:58 p.m.

To: Lee Paterson

Subject: FW: Subdivision at Dalziel Road - The Sequel - SUB-2015-54 & LUC-2015-291 35, 41, 43, 47 & 49 Dalzeil Rd, Dunedin

FYI

From: Kurt Bowen [mailto:Kurt.Bowen@ppgroup.co.nz]

Sent: Wednesday, 13 January 2016 3:22 p.m.

To: Lianne Darby

Subject: RE: Subdivision at Dalziel Road - The Sequel - SUB-2015-54 & LUC-2015-291 35, 41, 43, 47 & 49 Dalzeil Rd, Dunedin

Hi Lianne

Thanks for sending Lee's comments through regarding the geotech situation at Dalziel Road.

I have prepared, and attached, a plan that might assist with these considerations.

The attached plan shows the following information-

- The 4 geotechnical category areas shown in Mike Robbin's report, traced as accurately as possible.
- The landslide feature from Mike's report, as well as an 8.0m offset line.
- The relationship of the geotechnical areas to the proposed allotments.
- 16m by 16m building platforms (256m²) on several of the proposed sites, to indicate that these houses can indeed be established in the green 'no limitations' areas.

Note that all of the sites can accommodate a new residential activity within the green 'no limitations' regions, except for Lots 27, 32, 33 and 34.

Lots 27, 32, 33 and 34 are all able to accommodate a new residential activity within the yellow 'moderate limitations' regions.

Lots 27, 32, 33 and 34 will therefore need to have site-specific testing undertaken prior to development, which is what the applicant is purposing to do.

A number of the other sites may require further site-specific testing prior to the establishment of new residential activities should the new owners wish to build outside the green 'no limitations' regions.

Also note that the 8.0m offset from the old landslide feature does not materially affect any of the proposed building platforms.

I imagine that the two sites into which this offset line extends to a minor degree (Lots 10 and 11) will have a consent notice illustrating the location of the landslide feature and excluding building from those small areas.

I have made some comments in red text below, beside each of Lee's advisory notes.

These all make sense and we are happy to have Lee's suggestions come through into the consent as conditions.

I suggest that you send this email through to Lee to check that he agrees with my comments, and if we are all then on the same wavelength we can proceed on that basis.

Let me know how you get on.

Regards

Kurt

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From: Lianne Darby [mailto:Lianne.Darby@dcc.govt.nz]

Sent: Wednesday, 23 December 2015 1:19 p.m.

To: Kurt Bowen <Kurt.Bowen@ppgroup.co.nz>

Subject: FW: Subdivision at Dalziel Road - The Sequel - SUB-2015-54 & LUC-2015-291 35, 41, 43, 47 & 49 Dalzeil Rd, Dunedin

Hi Kurt

You might be interested to see this now rather than later.

L.

From: Z1649206 MWH Hazards Team [mailto:SM-AP-NZ-MWHHazardsTeam@mwhglobal.com]

Sent: Wednesday, 23 December 2015 12:59 p.m.

To: Lianne Darby

Subject: RE: Subdivision at Dalziel Road - The Sequel - SUB-2015-54 & LUC-2015-291 35, 41, 43, 47 & 49 Dalzeil Rd, Dunedin

Hello Lianne

The proposed changes include some renumbering of Lots (33 and 34), and an additional change to the lot shape for Lot 32

I will attempt to follow the previous advice and be consistent with the new lot arrangement

We have assessed the application in relation to the hazard register, street files and available aerial photography. We have not visited the site.

We have the following comments to make regarding the application.

Proposal

The proposed activity is to subdivide this property to create 34 residential sites

Site investigation reports have been provided from the late Mike Robbins at Geolink

Plans for the proposal are provided within the application

Hazards

There are no known or recorded hazards within this area.

However, further down the valley there are features associated with land instability mapped on the GNS 2014 report: The hazard significance of landslides in and around Dunedin City.

The Geolink report also shows a landslide feature mapped in the south eastern corner of the proposed subdivision

Global Setting

Underlying geology comprises old flood plain conglomerate and tuff associated with the first eruptive phase.

- This material can be susceptible to global instability and erosional features at moderate to steep slopes, or when saturated or weathered.

Slopes on the property vary. The greater extent of the property slopes at less than 15°.

- there are steeper sections as shown in the 0.5m survey contours plan provided by Paterson Pitts.
- Also, the Paterson Pitts plan includes a magenta line indicating the extent of the area mapped by Geolink as "moderately steep with moderate limitations to development"
- No development is proposed on the area mapped by Geolink as "very steep bush-clad land not suitable for development"

Earthworks / Excavations / Retaining Structures

Significant earthworks need not generally be required to develop sites with gently to moderate slopes less than 15°.

Appendix B Council Officers Reports

Feb 2016

Advice

We recommend that the application not be declined on the basis of natural hazards, but that advice be made to the effect:-

- The plan should be amended to include the mapped landslide feature in the Proposed Private Reserve in the south-eastern corner (as show in the Robbins report). No structures may be constructed within 8m of this feature. **THIS HAS STILL NOT BEEN UNDERTAKEN ON THE PLANS PROVIDED**, and is a significant issue, as it affects minimum building setbacks on proposed Lots 10 and 11 – Clarified above.
- Any development on land with existing slopes steeper than 15° shall be subject to approval of a site specific geotechnical assessment report by a suitably qualified person confirming that the land is suitably stable for development, and that the proposed development will not create or exacerbate any instability on this or adjacent property. – Yes, happy for this to be a condition of consent.
- Specifically, our assessment is that there are no slopes on Proposed Lots 33 and 34 with angles shallower than 15°. Further, we do not believe that Mike Robbins' original geotechnical report undertook any specific assessment of ground stability for these Lots, as they were not included within the original proposed development area. These lots will require a site specific assessment prior to development. – Yes, happy for this to be a condition of consent.
- Any walls retaining over 1.5m, or a surcharge / slope, including terracing, require design, specification and supervision by appropriately qualified person/s. – Yes, this should be both a condition of consent (to cover subdivision development works, and also a consent notice (to cover residential development works).
- Any earth fill more than 0.6m thick supporting foundations must be specified and supervised by a suitably qualified person in accordance with NZS 4431-1989 Code of Practice for Earthfill for Residential Development. – Yes, this should be both a condition of consent (to cover subdivision development works, and also a consent notice (to cover residential development works).
- Earth fill constructed steeper than a maximum batter of 2h:1v must be subject to specific engineering design. – Yes, this should be both a condition of consent (to cover subdivision development works, and also a consent notice (to cover residential development works).
- Earth cuts constructed steeper than a maximum batter of 1h:1v must be subject to specific engineering design. – Yes, this should be both a condition of consent (to cover subdivision development works, and also a consent notice (to cover residential development works).
- Earthworks close to boundaries may require consent from neighbouring landowners. – Yes, this should be both a condition of consent (to cover subdivision development works, and also a consent notice (to cover residential development works).

Kurt Bowen

Director

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Regards

Lee Paterson
Senior Geotechnical Engineer



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standard conditions on earthwork will apply.

Discussion

The proposal will not create or exacerbate instabilities on these or adjacent properties

Whilst most of the property slopes gently at less than 12°, some of the sites contain land sloping steeper than 15°(<3.75h:1v) [marked in yellow in the table below], or in some cases 20°(<2.75h:1v) [marked in **orange** in the table below].

Note, we recognise that this is not necessarily across the entire lot; and we agree that each lot appears to contain sufficient appropriate space for a dwelling platform without having to construct on these slopes.

Notwithstanding this general statement, our assessment is that there are no slopes on Proposed Lots 33 and 34 with angles shallower than 15°. Further, we do not believe that Mike Robbins' original geotechnical report undertook any specific assessment of this area, as it was not included within the original proposed development area. These lots will require a site specific assessment prior to development

Proposed Lot	Grade Horizontal to 1
1 to 4	>3.75
5	2.8
6 to 7	>3.75
8	3.7
9	2.9
10	2.2
11	2.7
12	2.2
13	3
14 to 26	>3.75
27	3.7
28 to 31	>3.75
32	2.7
33	2.4
34	3.7

There are general potential instabilities of concern associated with development on moderate to steep slopes steeper than 15°(<3.75h:1v).

Advice

We recommend that the application not be declined on the basis of natural hazards, but that advice be made to the effect:-

- The plan should be amended to include the mapped landslide feature in the Proposed Private Reserve in the south-eastern corner (as show in the Robbins report). No structures may be constructed within 8m of this feature. **THIS HAS STILL NOT BEEN UNDERTAKEN ON THE PLANS PROVIDED**, and is a significant issue, as it affects minimum building setbacks on proposed Lots 10 and 11
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