

**ANNEXURE 12      Environment Canterbury Flood Report**



8 August 2004

Fiona Aston Consultancy Ltd  
P O Box 1435  
Christchurch

58 Kilmore Street, PO Box 345, Christchurch

General enquiries: (03) 365-3828

Fax: (03) 365-3194

Email: [ecinfo@ecan.govt.nz](mailto:ecinfo@ecan.govt.nz)

Customer services: (03) 353-9007

or: 0800 EC INFO (0800 324-636)

Website: [www.ecan.govt.nz](http://www.ecan.govt.nz)

**Attention:** Fiona Cooper

Dear Fiona

**FLOOD RISK – CUNNINGHAM HOLLAND ENTERPRISES, LOT 1 DP 37450,  
HAUSCHILDS RD, TAI TAPU**

Reference your inquiry seeking any information that Environment Canterbury holds on flood risk in relation to the proposed subdivision of Lot 1 DP 37450 located at Hauschilts Road, Tai Tapu as shown on the attached plan.

Environment Canterbury has photographs of the property taken following rainfall events in 1975, 1977, 1986, 1992 and 1994. Attached for your information are Photograph No.15833(16 June 1975), No.16482(6 July 1977), No.603(24 August 1986), No.617(30 August 1992) and No.216(28 July 1994). Rainfall over 72 hours recorded at Lincoln for the 1986 and 1992 events and approximate return periods were 1986, 81mm, 2yr; 1992, 94mm, 4yr. With regard to the 1986 event, because of rainfall earlier in the month, it is considered that the return period of the flooding associated with this rainfall was slightly higher than the return period of the rainfall. Rainfall figures for the general area indicate that the 1994 event had a return period of approximately 1 year.

The 1975 & 1977 events were considerably larger than those in 1986 and 1992 with 150mm of rainfall being recorded at Tai Tapu for the 72 hours to 9am on 16 June 1975. The return period of this rainfall is considered to be in the order of 20 years. River levels in the Halswell River for the 1977 event, which are the highest on record, are estimated to have a 20 year return period following a rainfall event of similar magnitude to that in 1975. However wetter antecedent conditions contributed to higher flood levels than in 1975.

It should also be noted that the photographs may not necessarily show flooding at its peak as there is usually a delay between the cessation of rainfall and taking the photographs. Rainfall and river level information for the above storm events is attached.

As previously mentioned, the highest recorded flood levels that Environment Canterbury has for the Halswell River were recorded in the storm event of July 1977. The 1977 North Canterbury Catchment Board flood report(R Dineen) comments that it is believed that the flood level recorded at the Tai Tapu Depot for this event was the

Our Ref: AD5C-0018  
Your Ref:  
Contact: R Holmes

8 Aug 2001

Fiona Aston Consultancy Ltd  
P.O. Box 1435  
Christchurch

website: [www.ecan.govt.nz](http://www.ecan.govt.nz)

John and Fiona Cooper

Dear Fiona

**FLOOD RISK – CUNNINGHAM HOLLAND ENTERPRISES, LOT 1 DP 37450,  
HAUSCHILDS RD, TAI TAPU**

Reference your inquiry seeking any information that Environment Canterbury holds on flood risk in relation to the proposed subdivision of Lot 1 DP 37450 located at Hauschields Road, Tai Tapu as shown on the attached plan.

Environment Canterbury has photographs of the property taken following rainfall events in 1975, 1977, 1986, 1992 and 1994. Attached for your information are Photograph No.15833(16 June 1975), No.16482(6 July 1977), No.603(24 August 1986), No.617(30 August 1992) and No.216(28 July 1994). Rainfall over 72 hours recorded at Lincoln for the 1986 and 1992 events and approximate return periods were 1986, 81mm, 2yr; 1992, 94mm, 4yr. With regard to the 1986 event, because of rainfall earlier in the month, it is considered that the return period of the flooding associated with this rainfall was slightly higher than the return period of the rainfall. Rainfall figures for the general area indicate that the 1994 event had a return period of approximately 1 year.

The 1975 & 1977 events were considerably larger than those in 1986 and 1992 with 150mm of rainfall being recorded at Tai Tapu for the 72 hours to 9am on 16 June 1975. The return period of this rainfall is considered to be in the order of 20 years. River levels in the Halswell River for the 1977 event, which are the highest on record, are estimated to have a 20 year return period following a rainfall event of similar magnitude to that in 1975. However wetter antecedent conditions contributed to higher flood levels than in 1975.

It should also be noted that the photographs may not necessarily show flooding at its peak as there is usually a delay between the cessation of rainfall and taking the photographs. Rainfall and river level information for the above storm events is attached.

As previously mentioned, the highest recorded flood levels that Environment Canterbury has for the Halswell River were recorded in the storm event of July 1977. The 1977 North Canterbury Catchment Board flood report(R Dineen) comments that it is believed that the flood level recorded at the Tai Tapu Depot for this event was the

Our Ref: AD5C-0018  
Your Ref:  
Contact: R Holmes

highest recorded flood in the Halswell River in the history of the Board(since 1947). Environment Canterbury does not have a 1977 Halswell River flood level recorded at the township. Interpolating from levels recorded at the Environment Canterbury Depot and Branthwaites Bridge(Golf Links Road) gives an estimated water level at the SH75 Bridge of 6.69metres above mean sea level(m.a.m.s.l.).

During the 1977 event a flood level of 6.426m.a.m.s.l. was recorded at Mr Schouten's property at 11 Main Road, Tai Tapu and is considered to be representative of levels in the School Road / Forbes Road ponding area. This is the highest he had known in the 39years he had lived at the property prior to 1996. Flood modelling for the School Road/Forbes Road area has recently been completed and the flood level for a 200 year and 500 year return period 48 hour duration rainfall event without the pumps working are 6.88 and 6.93m.a.m.s.l. respectively.

The area that you have inquired about is to the west of SH75 and historical information shows that it is not at risk from ponded floodwaters to the same degree as the School Road/Forbes Road area. As you are aware, levels have been taken across the property. Further levels to the southeast of the property are required to fully assess the extent of any flood risk to the property as any ponding on the property will be largely determined by the topography of the land to the southeast.

The disposal of stormwater from the proposed development needs to be carefully assessed. Stormwater outlets to the Halswell River have the potential to be severely restricted at times of high river levels and stormwater retention systems may be required to mitigate adverse effects associated with stormwater disposal. The need for discharge consents should be discussed with staff of Environment Canterbury's Customer Services Section.

Tai Tapu has also been mapped as being on the Waimakariri River floodplain because of the possibility of Waimakariri River overflows reaching the Halswell River catchment. The risk is such that Environment Canterbury has not previously recommended the need for minimum floor levels to mitigate against flooding from that source.

Yours sincerely



Richard Holmes  
**SENIOR RESOURCE MANAGEMENT PLANNER**  
Encl



# Cunningham Holland Enterprises




Grid Reference: M36:7334-2701

The information in this plot has been taken from Environment Canterbury's records. It is supplied in good faith but its accuracy or completeness is not guaranteed. If the information is relied on in support of a resource consent application it should be verified independently.

Digital Terrain Information obtained from the NZ Topo Database.  
(CROWN COPYRIGHT RESERVED).

Created by the Environment Canterbury's GIS PLOTS system (2001).

Created by: Richard H  
Date: June 13, 2004  
Scale: 1:11488

-  Land Parcels
-  District Boundaries
-  Roads

0 100 200 300 400 Meters



Lot 1 DP 36649

PERYMANS ROAD

LINCOLN TAITAPU ROAD

Lot 1 DP 37450

SCHOOL ROAD

HAUSCHILD'S ROAD

CHRISTCHURCH AKAROA ROAD

# Cunningham Holland Enterprises



Grid Reference: M36:7334-2701

The information in this plot has been taken from Environment Canterbury's records. It is supplied in good faith but its accuracy or completeness is not guaranteed. If the information is relied on in support of a resource consent application it should be verified independently.

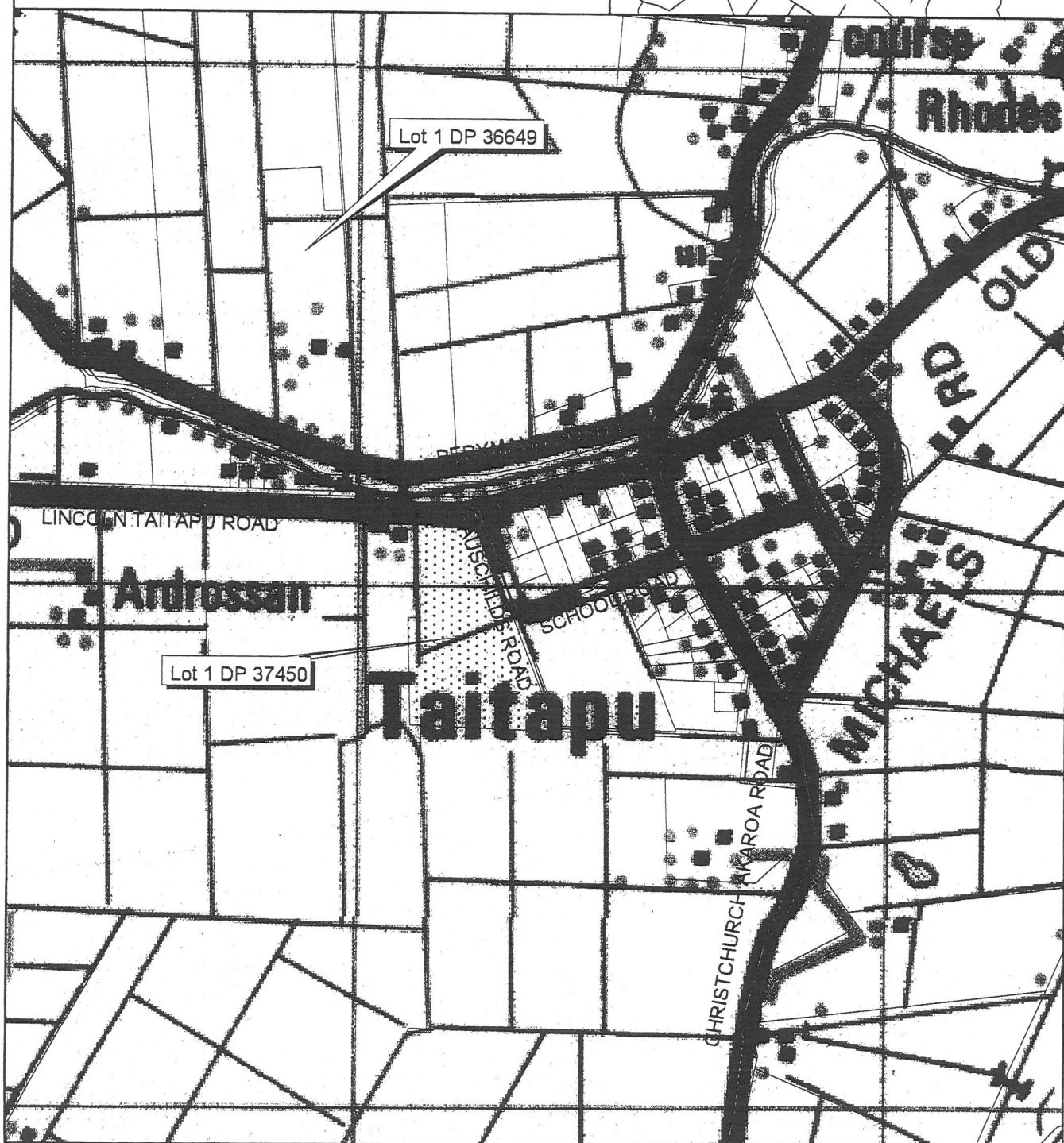
Digital Terrain Information obtained from the NZ Topo Database.  
(CROWN COPYRIGHT RESERVED).

Created by the Environment Canterbury's GIS PLOTS system (2001).

Created by: Richard H  
Date: June 13, 2004  
Scale: 1:11486

- Land Parcels
- District Boundaries
- Roads

0 100 200 300 400 Meters



# Cunningham Holland Enterprises




Grid Reference: M35:7334-2701

The information in this plot has been taken from Environment Canterbury's records. It is supplied in good faith but its accuracy or completeness is not guaranteed. If the information is relied on in support of a resource consent application it should be verified independently.

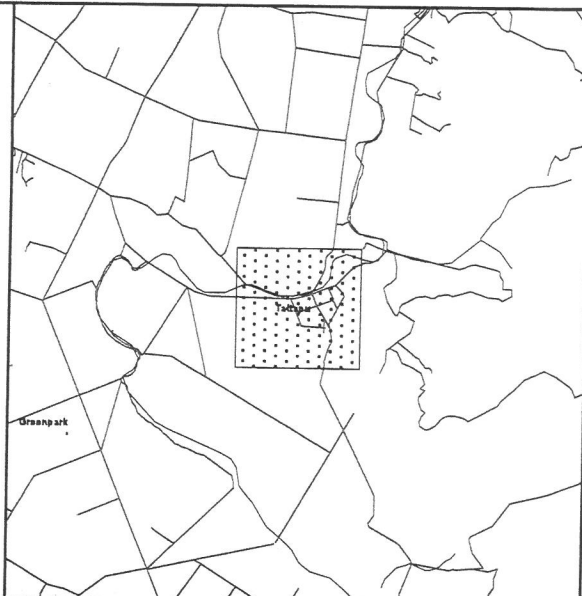
Digital Terrain Information obtained from the NZ Topo Database.  
(CROWN COPYRIGHT RESERVED).

Created by the Environment Canterbury's GIS PLOTS system (2001).

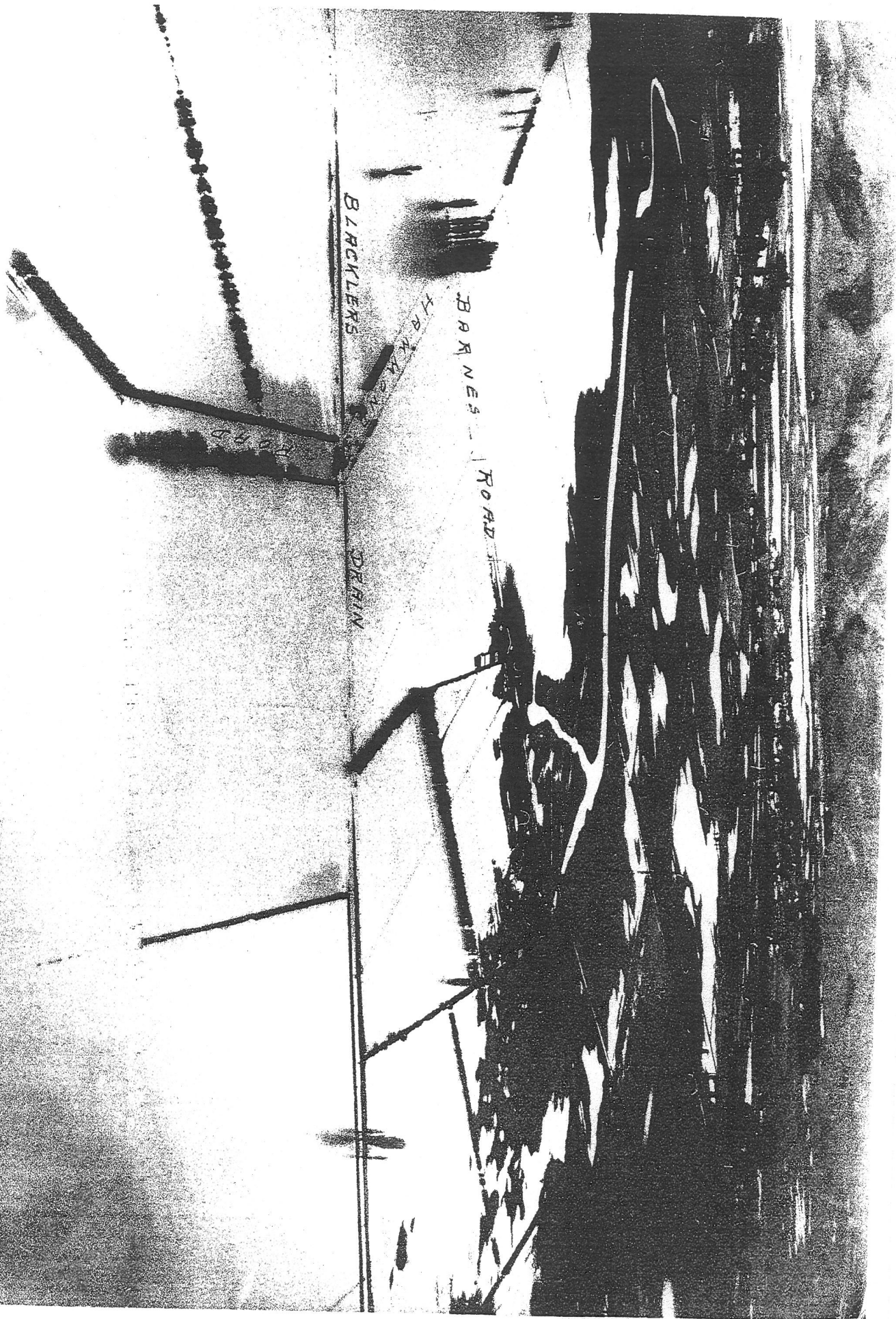
Created by: Richard H  
Date: June 13, 2004  
Scale: 1:1486

-  Land Parcels
-  District Boundaries
-  Roads

0 100 200 300 400 Meters

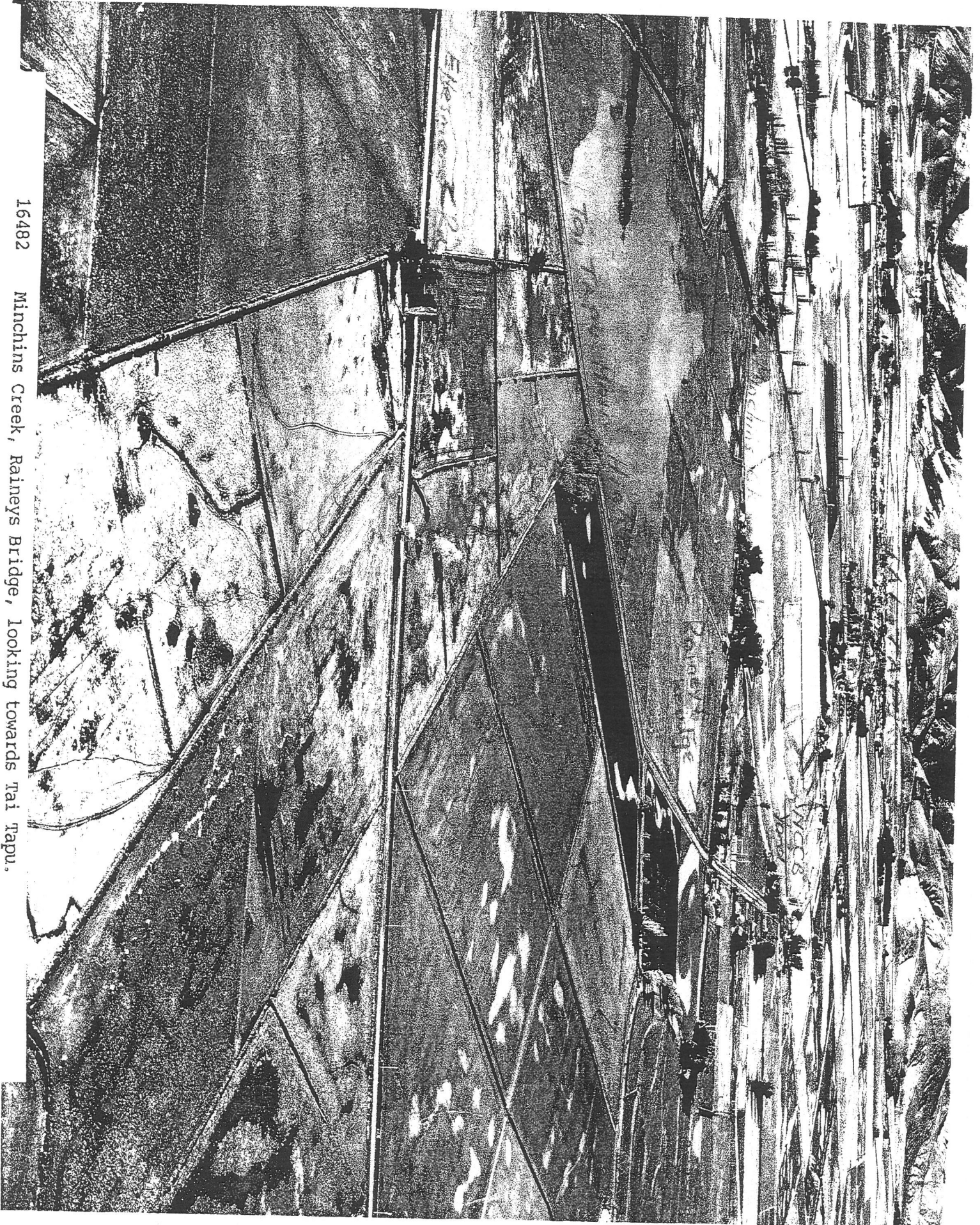






15833

Looking southeast towards Tai Tapu.



16482 Minchins Creek, Rainey's Bridge, looking towards Tai Tapu.





603. Leatham Swamp centre left. Tai Tapu centre right. (North)  
(24/8/1986)

30 AUG 1992



617

Looking along Lincoln Tai Tapu Road and Halswell River. Davis/Wards Roads

lower right (East) (30/8/1992)

# Cunningham Holland Enterprises

Grid Reference: M367334-2701

The information in this plot has been taken from Environment Canterbury's records. It is supplied in good faith but its accuracy or completeness is not guaranteed. If the information is relied on in support of a resource consent application it should be verified independently.

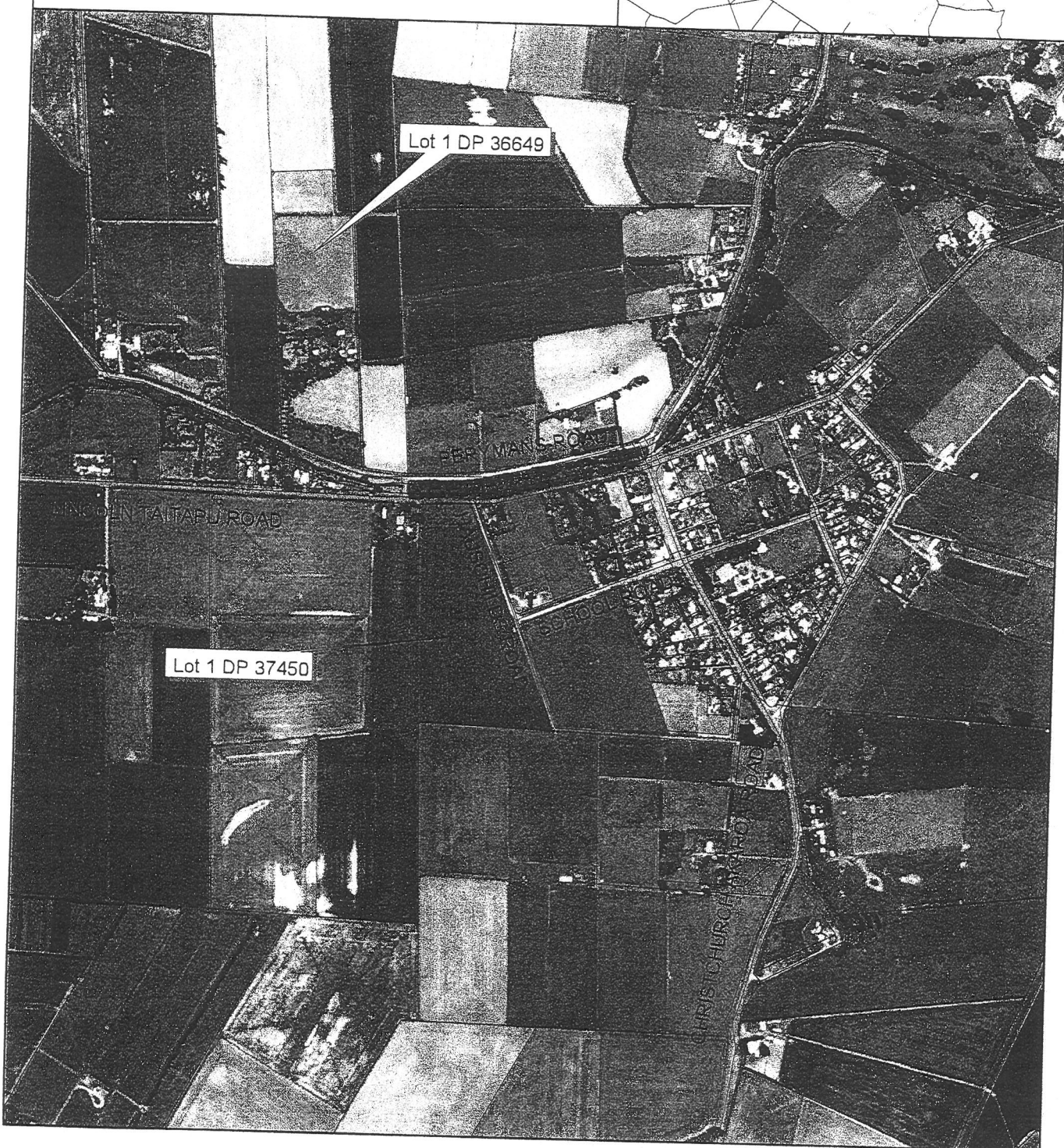
Digital Terrain Information obtained from the NZTopo Database.  
(CROWN COPYRIGHT RESERVED).

Created by the Environment Canterbury's GIS PLOTS system (2001).

Created by: Richard H  
Date: June 13, 2004  
Scale: 1:11485

Land Parcels  
District Boundaries  
Roads

0 100 200 300 400 Meters

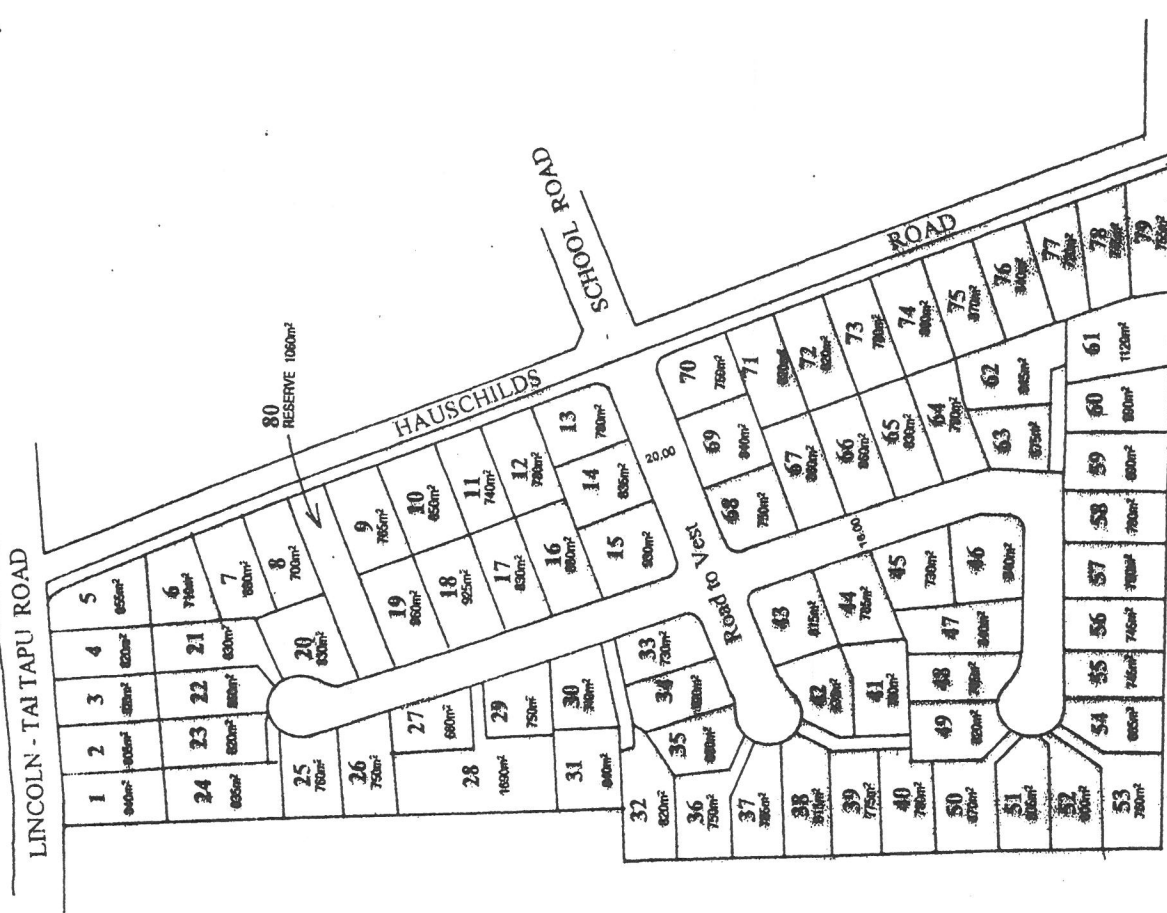




Contour Levels for

Lot 1  
DP 37450





2  
D. P. 37450

# SHERWOOD GRANGE

Residential Development, Tai Tapu

Proposed Subdivision of Lot 1 D.P. 37450 - C.T. 16F/1243

411 Argent Road, Paparua, Christchurch, New Zealand  
P.O. Box 111, 8011  
Tel: 03 333 5137, 03 333 5111

FRIZZELL  
ASSOCIATES  
SURVEYORS

Note: Areas & dimensions are approx only & subject to final survey & approval.

Sheet 02



28 JULY 1994



216 Tai Tapu (Northwest) (28/7/1994)



30 AUG 1992



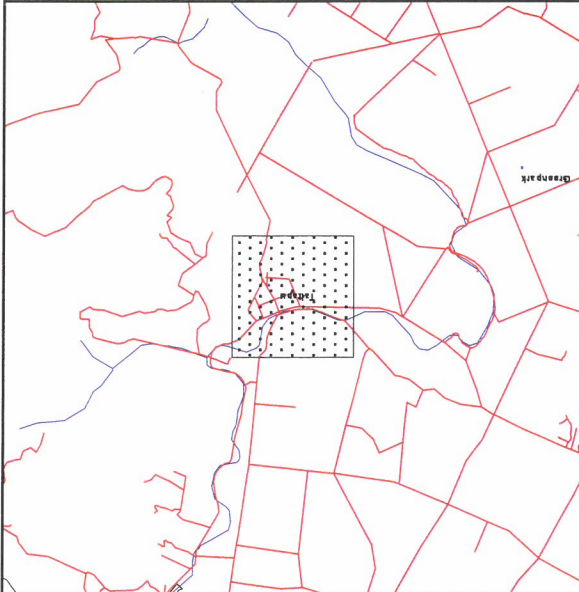
617 Looking along Lincoln Tai Tapu Road and Halswell River. Davis/Wards Roads  
lower right (East) (30/8/1992)





603. Leatham Swamp centre left. Tai Tapu centre right. (North)  
(24/8/1986)





# Cunningham Holland Enterprises



Grid Reference: M36.7334-270.1  
 The information in this plot has been taken from Environment Canterbury records. It is supplied in good faith but its accuracy or completeness is not guaranteed. If the information is relied on in support of a resource consent application it should be verified independently.  
 Digital Terrain Information obtained from the NZ Topo Database.  
 (CROWN COPYRIGHT RESERVED).  
 Created by the Environment Canterbury GIS PLDT system (2001).  
 Created by: Richard  
 Date: June 13, 2004  
 Scale: 1:1486





28 JULY 1994



st) (28/7/1994)

28 JULY 1994



st) (28/7/1994)



28 JULY 1994

