

**From:** [Phil Gartrell](#)  
**To:** [TPC Enquiry](#)  
**Subject:** Further Information - Representation 135  
**Date:** Friday, 5 May 2023 8:34:16 AM  
**Attachments:** [image001.png](#)  
[HVC Approval.pdf](#)  
[53483-12 Short St Engineering Assessment of filling Feb11 100.pdf](#)

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Good morning,

I'm writing to provide further background information in relation to representation 135 – 12 Short Street, Huonville.

I have attached the permit and associated engineering report prepared at the time for the previous landfilling on the site, outlining that the risks from coastal inundation can be appropriately managed.

These aspects were raised in our original representation and during the hearing.

Kind regards,

Phil Gartrell  
Senior Planner

**ireneinc** PLANNING & URBAN DESIGN

49 Tasma Street  
North Hobart TAS 7001

Tel 044-888-5997

Office 6234-9281

Email [phil@ireneinc.com.au](mailto:phil@ireneinc.com.au)

Web [www.ireneinc.com.au](http://www.ireneinc.com.au)





# Huon Valley Council

ABN 77 602 207 026

Replies addressed  
to General Manager

Public Office,  
40 Main Street,  
PO Box 210,  
Huonville 7109

Phone: (03) 6264 0300

Fax: (03) 6264 0399

email: [hvc@huonvalley.tas.gov.au](mailto:hvc@huonvalley.tas.gov.au)

Web: [www.huonvalley.tas.gov.au](http://www.huonvalley.tas.gov.au)

PLEASE QUOTE FILE REFERENCE ON ALL CORRESPONDENCE

Our Ref: DA-23/2011

Your Ref: 3215816

Enquiries To: Customer Service Officer

10 March 2011

Hein Poortenaar  
GHD  
2 Salamanca Square  
HOBART TAS 7000



Dear Sir or Madam

## PROPOSED LAND FILL – 12 SHORT STREET, HUONVILLE

I refer to your application and advise that it has been approved. Please find enclosed a set of endorsed plans and the permit.

You may appeal the decision and permit conditions by lodging an appeal within the statutory time period for appeals ending 14 days after the date on which this notice was served. Any appeal must be lodged with the Resource Management and Planning Appeal Tribunal who can be contacted on (03) 6233 6464, [www.rmpat.tas.gov.au](http://www.rmpat.tas.gov.au) or at GPO Box 2036, Hobart 7001.

If you have any queries regarding the planning permit please contact Andy D'Crus on (03) 6264 0347 who will be happy to assist.

Yours sincerely

**SHANE WELLS**  
**SENIOR PLANNING OFFICER**

# PLANNING PERMIT

Applicant:	Hein Poortenaar
Permit number:	DA-23/2011
Application date:	11 February 2011
Approval date:	10 March 2011
Permit for:	Land fill
Site:	12 Short Street, Huonville
Property ID:	5691963
Planning Scheme:	Huon Planning Scheme 1979

Approval is granted in accordance with Section 57 of the *Land Use Planning and Approvals Act 1993* subject to the following conditions:

## General Conditions

1. The development must be substantially in accordance with DA-23/2011 and the endorsed plans. Whoever acts upon this permit (hereafter referred to as 'the developer') must comply with all conditions placed upon it. Any amendment, variation, or extension of this permit requires further approval.
2. A covenant is to be placed on Certificate of Title for Sealed Plan 124025, Lot 1 which states that the subject land is a fill site - within two months of the date of this approval.
3. No fill is to enter the Council Storm water drain that is located to the north of the subject land and all fill is to be contained within the property boundaries of the subject land.
4. Fill on the site is not to exceed 2.5m Australian Height Datum.
5. Earthwork and associated shaping and forming of the fill are to be completed within six months of the date of this approval.
6. A Survey Plan of the finished site showing the height of the fill in relation to the Australian Height Datum and the extent of the fill on the site is to be submitted to Council's Planning Unit within 6 months of the completion of work.

## Natural Resource Management Unit Conditions

7. No topsoil is to be removed from the site.
8. All machinery is to be washed down prior to leaving the site in accordance with the procedures described in the Tasmanian Washdown Guidelines for Weed and Disease Control: machinery, vehicles and equipment edition 1 available at [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au) (weeds, pests and diseases page).



Prior to the commencement of works the development must submit a list of procedures that will be implemented during construction works including the location of any washdown sites and subsequent monitoring to the satisfaction of Council's Manager Planning and Legal Services.

9. Fill site and disturbed land be vegetated using a combination of Eucalyptus Ovata and local native under storey species with biodegradable jute matting and pin system within one month of completion of earthwork.
10. Within one month of the date of this approval, a Soil and Water Management Plan (SWMP) that provides controls of temporary run-off, erosion and soil retention must be submitted to and approved by Council's Manager Planning and Legal Services.

The SWMP must be prepared generally in accordance with Soil & Water Management on Building & Construction Sites Guidelines, provided in the form of various fact sheets, which is available at <http://www.derwentestuary.org.au/index.php?id=30>.

The SWMP should be prepared in accordance with the follow fact sheets

2. Soil & Water Management on Standard Building and Construction Sites
3. Soil & Water Management Plans
4. Dispersive Soils – High Risk of Tunnel Erosion
6. Preserve Vegetation
7. Divert Up-slope Water
9. Protect Service Trenches & Stockpiles
12. Stabilised Site Access
13. Wheel Wash
14. Sediment Fences & Fibre Rolls
18. Dust Control, and
19. Site Revegetation

The SWMP must be implemented prior to any works occurring on the land and must be maintained until such time that the land is effectively rehabilitated and stabilised.

#### **Infrastructure Services Department Conditions**

11. Sediment control measures are to be installed on the site to ensure that sediment from vehicles leaving the site is not tracked onto Wilmot Road.

#### **General Advice**

This approval is in respect of development/use under the Planning Scheme and does not imply any other approval by the Council or any other body. It is the developer's responsibility to ensure that all necessary approvals, including building permits, are obtained.

In accordance with the *Land Use Planning and Approvals Act 1993*, this permit shall lapse at the expiration of two (2) years from the date of approval if the purpose for which it was granted has not substantially commenced.

Any excavated material to be removed from the site must only be deposited at an approved site. Please contact Council's Planning Unit on (03) 6264 0345 to determine if the site where fill is to be deposited is an approved site.

## Environmental Health Unit Advice

The *Environmental Management and Pollution Control (Miscellaneous Noise) Regulations 2004* provides that construction works should not occur outside of the following hours. Non compliance could result in financial penalties.

Monday to Friday:	7am – 6pm
Saturday:	9am – 6pm
Sunday and Public Holidays:	10am – 6pm

The *Environmental Management and Pollution Control (Distributed Atmospheric Emissions) Regulations 2007* provides the following stipulations for burning off of waste (financial penalties could apply to any non compliance):

- On a lot smaller than 2000m<sup>2</sup> burning off is not permitted unless it is solely for the purpose of reducing a fire hazard.
- On a lot greater than 2000m<sup>2</sup> burning off **may** be permitted.
- For both scenarios above, whether you are able to burn off or not is subject to the Tasmanian Fire Service who may issue total fire bans, or require you to obtain a permit before burning. You should always contact the TFS before burning.
- Only organic and dry material may be burnt.

## Infrastructure Services Department Advice

The developer should obtain and submit with any building application or prior to the commencement of works, a comprehensive photographic record of the condition of the footpaths, driveways and nature strips at, and adjacent to, the road frontage to the site. The photographic record shall be relied upon to establish the extent of any damage that may be caused to Council's assets throughout construction. In the event that the developer fails to provide a pre-construction photographic record of the site then any damage to Council assets found on completion of the works shall be deemed to be caused by the developer who shall assume all responsibilities and costs to repair such damage.



**MATTHEW GRIMSEY**  
**MANAGER PLANNING AND LEGAL SERVICES**



CLIENTS PEOPLE PERFORMANCE

**Mr Roger Lowe**

Report for 12 Short Street,  
Huonville  
Engineering assessment of fill  
placed

February 2011



*This Engineering analysis for filling at 12 Short Street:*

- 1. has been prepared GHD Pty Ltd for Mr Roger Lowe;*
- 2. may only be used and relied on by Mr Roger Lowe;*
- 3. must not be copied to, used by, or relied on by any person other than Mr Roger Lowe without the prior written consent of GHD;*
- 4. may only be used for the purpose of Mr Roger Lowe for the satisfying the requirement of Huon Council requiring an engineering assessment and DA for the fill and must not be used for any other purpose.*

*GHD and its servants, employees and officers otherwise expressly disclaim responsibility to any person other than Mr Roger Lowe arising from or in connection with this Report.*

*To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by GHD and the Report are excluded unless they are expressly stated to apply in this Report.*

*The services undertaken by GHD in connection with preparing this Report:*

- were limited to assessing the existing fill;*
- did not include further filling.*

*The opinions, conclusions and any recommendations in this Report are based on assumptions made by GHD when undertaking services and preparing the Report ("Assumptions"), including (but not limited to):*

- Information supplied by others is correct*

*GHD expressly disclaims responsibility for any error in, or omission from, this Report arising from or in connection with any of the Assumptions being incorrect.*

*Subject to the paragraphs in this section of the Report, the opinions, conclusions and any recommendations in this Report are based on conditions encountered and information reviewed at the time of preparation and may be relied on for one year, after which time, GHD expressly disclaims responsibility for any error in, or omission from, this Report arising from or in connection with those opinions, conclusions and any recommendations.*



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# 1. Introduction

## 1.1 Background

The property at 12 Short Street is situated adjacent to the Huon River at the end of Short Street (Refer attached location Plan Appendix A). The 7152m<sup>2</sup> property has a dwelling on it but is otherwise undeveloped. The property is low lying and is subject to occasional floods and generally wet conditions.

It has been the practice in past to make low lying properties available for disposal of clean fill with the intention to reduce flood risk and increase the development potential of these properties.

This practice is no longer permitted or tolerated due to environmental issues and the potential to adversely affect flood hydraulics.

The property at 12 Short Street experienced waterlogged conditions, apparently relating to drainage works from the nearby Council carpark. Nine years ago the owner commissioned an Engineers report and was advised to fill the property to raise ground level. Council advised that they had no objection to filling provided the fill did not encroach on the creek or exceed 1m in depth.

The adjacent property at 10 Short Street has also been filled and the property to the north is also being filled.

In May 2010 Council wrote to the owners of the properties advising that filling constitutes a development and that under the scheme a planning application was required.

The owner of 12 Short Street commissioned a survey in order to quantify and assess the impact of the altered ground levels.

Recently additional fill has been dumped on the property and Council again wrote to the owner requiring a development application be submitted within 28 days. The development application required supporting documentation from a suitably qualified person addressing :

1. The potential changes to flood flows as a result of the fill and changed topography
2. The stability of the proposed fill and its placement on site.

The application must include a full site plan of the works indicating where fill has been placed, the drainage of the site and the intended use of the site.

The owner has engaged GHD to undertake the engineering assessment. The author is a civil engineer with 20 years experience in hydrology and flood studies.



## 2. Information Review

### 2.1 The Site

The property at 12 Short Street is situated adjacent to the Huon River at the end of Short Street. The 7152m<sup>2</sup> property has a dwelling on it adjacent to the river but is otherwise undeveloped. The property is low lying with the highest point at the dwelling being at 3.0m AHD and is subject to occasional floods and generally wet conditions.

There is a creek along the northern edge of the property. This is the main drainage path that serves the rural area above Shield Street. It is piped under the commercial area and Main Street to discharge into the creek on 12 Short Street. This drain causes flooding through the centre of town and it is essential that the creek capacity is not restricted so it does not cause a backwater effect. The creek has quite a large section and has not been filled but is somewhat overgrown.

### 2.2 Site Survey

The owner commissioned Brooks, Lark and Carrick Surveyors to undertake a survey of the site. The survey was undertaken in October 2011 and is attached in Appendix A. The survey is to Australian Height datum (AHD).

Two drawings were produced, one showing the topography prior to the filling undertaken in early 2010 and one showing the heaps of fill located on the northern side  $\frac{1}{4}$  of the distance along from the western boundary. The fill is 25m x 17m x an average of 1m high. It raises the ground level from RL 1.8m to an average of 2.8m. The fill has not been flattened or compacted so the peaks of the heaps are up to RL 3.75m. The compacted volume is estimated at 340m<sup>3</sup> (42 truck loads).

The survey indicates that the ground is relatively level along the southern side then drops away to the creek on the northern side. There is a remnant low area running from the south side across to the creek which apparently acts as a drain.

### 2.3 Lidar Contours

Aerial survey of all coastal areas was flown in 2008. The information is relative to mean water level and approximates AHD. The accuracy limit is +/- 0.25m for both vertical and horizontal. Huonville is covered by the data and an extract has been attached in Appendix A.

Lidar information was considered necessary as the property cannot be considered in isolation. Contours for the wider area enable the potential flow paths through Huonville to be identified and the impacts of filling this property to be assessed.

The Lidar contours are also useful to identify filling that may have occurred prior to 2010 and may no longer be obvious because it has been spread and regressed.

There appears to be a significant difference in the datum between the survey and the Lidar. Using the reference point of the house the Lidar contours appear to be 0.75m lower. The Lidar contours seemed unreasonable as the rear low lying area of the property would have been below high tide level! It is most unusual for Lidar to be so far out. The likely reason is that the mean water level at Huonville has



assumed to be the same as the open estuary while in fact it has been 0.75m higher on the date of survey.

Never the less the Lidar contours are useful as the datum can be adjusted 0.75m higher.

A comparison between the survey and Lidar indicate the low lying area east of centre has been filled by approximately 1m from RL1.0AHD to 2.0mAHD. This area measures approximately 45m x 37m and would have taken 1665m<sup>3</sup> or 200 truck loads. This low lying area was previously (in 2003) waterlogged but is now a similar level to the surrounding areas. The area has been reinstated and is not particularly noticeable except that the topsoil is poor.

The site is slightly lower than the property at 10 Short Street which has also been filled and levelled. The council carpark to the south is now approximately 0.5m lower than these two properties. The low point on Main Street is at approximately RL 2.5m and acts as a dam. When the river is high flood waters will back up the creek and pond in the low lying areas on 10 and 12 Short Street and in the Council carpark until the road is over topped.

## **2.4 Flood information**

Our enquiries indicated a detailed assessment of Huon River hydraulics has not been undertaken. The hydraulics at this location is complex. Huonville is located at a slight constriction in the river with a broader flood plain upstream providing storage and a wider channel downstream dominated by tidal influences. The flood level in Huonville is very dependant on the tide level. The worst case is likely to result from a flood coinciding with storm surge or spring tide and the frequency of such an event is difficult to quantify.

There is information on the DPIWE website of some flood prone towns including Huonville. A flood map was produced based on historical flood data and the extent of flooding and flood height for various frequency events listed. The map is attached in Appendix A.

The data is based on river gauging and major floods. The largest recorded flood was in 1960 and it was greater than a 100 year ARI. Other floods included 1996 which was a flash flood and 2007 which was exacerbated by very high tides.

The flood map shows the whole of Short Street is inundated and Main Street is over topped north of the bridge. The map gives flood heights for 20, 50 and 100 year Average Recurrence Intervals (ARI).



## 3. Analysis

### 3.1 Previous and Future Proposed Filling

A number of fill episodes have occurred:

- ▶ Between 2008 and 2010 – fill of low lying area east on centre of the site to 2.0m AHD and compaction and grassing
- ▶ Early 2010 – fill of a small area to the west-northern side – not yet spread or rehabilitated
- ▶ Late 2010 – More fill placed along the eastern edge of the site.

The fill all appears to comprise local clay that is the product of weathering of Permian mudstone and is good structural fill.

The owner does not intend to place any more fill but will arrange for the fill to be spread, graded to shed water and grassed.

### 3.2 Fill height relative to surrounds

The fill, once spread and rolled, will form a relatively level platform between RL 2.0 and 2.25m AHD. The property at 10 Short Street is slightly higher at approximately 2.25 to 2.5m AHD. This fill on 10 Short Street has been grassed and it is apparent no more filling is intended on this property either. The surrounding roads are all higher including Wilmot Road, Short Street and Main Street.

The fill does not block any local drainage paths.

### 3.3 Assessment of effect on flood capacity of Huon River

The DPIWE map indicates the entire property is within the inundation zone. The flood heights 200m upstream of this location are nominated:

- ▶ 20 year ARI - 3.26m
- ▶ 50 year ARI - 3.52m
- ▶ 100 year ARI - 3.86m

The flood height 200m downstream at the bridge are

- ▶ 20 year ARI - 2.91m
- ▶ 50 year ARI - 3.14m
- ▶ 100 year ARI - 3.43m

These levels enable the hydraulic grade and hence velocity to be calculated:





**Table 1      Hydraulic Summary**

<i>ARI</i>	<i>Hf</i>	<i>V Channel</i>	<i>Q channel</i>	<i>V Flood plain</i>	<i>Q Flood plain</i>
20 year	0.09%	2.7m/s	1900m <sup>3</sup> /s	0	0
50 year	0.1%	2.9m/s	2100m <sup>3</sup> /s	0.17m/s	3.3m <sup>3</sup> /s
100 year	0.11%	3.2m/s	2500m <sup>3</sup> /s	0.38m/s	24m <sup>3</sup> /s

For full calculation refer to Appendix B.

The calculated flows correspond well with the Flow/frequency curve on the DPIWE flood plain map.

It can be seen that the flow over the flood plain and over Main Street is negligible compared to the flow in the river channel and blocking this flow would have a negligible effect on flood levels upstream.

### **3.4      Assessment of filling on flood capacity of Huonville Main Drain.**

The Huonville Main Drain presents a particular flood risk to the commercial centre of Huonville. The drain serves a sizable rural catchment and the pipe is apparently undersized. Huon Valley Council as part of its Stormwater Strategy has commissioned a consultant to develop options for the drain which may include detention or diversion.

The likelihood of a flash flood in the local catchment coinciding with flooding of Huon River is low. It is also somewhat unlikely that the creek would have a backwater effect on the pipe as the creek's capacity is several orders of magnitude above the pipe capacity. The pipe's capacity is controlled by entry losses and hydraulic grade rather than outlet control.

Never the less it is important that no fill encroach on the creek and none appears to have done so. It is important that Huon Valley Council monitor the pipe outlet to control vegetation and remove any debris that may block the outlet.



## 4. Stability assessment

### 4.1 Risk assessment

Any fill placed in a flood plain poses an erosion risk. As described in section 3.3 the area serves more as a backwater than a secondary channel and velocities are very low and unlikely to erode the stockpiles. Never the less it is good practice to stabilise any exposed soil to prevent erosion and deposition of sediment in watercourses.

### 4.2 Stabilisation Recommendations

It is recommended that as soon as practical that the fill be spread, graded at a grade of 2% towards the drains, topsoiled fertilised and grassed. The grassing should be undertaken in autumn with follow up seeding in spring of bare patches. Weeds should be controlled by the application of a broad leaf herbicide and/or slashing. Spreading of hay as mulch could be considered as an alternative to topsoil.

If these works cannot be undertake within 3 months prior to the onset of winter then it is recommended that silt fence be placed around the low side of the stockpiles to prevent erosion reaching the watercourses.



## 5. Conclusion

The property at 12 Short Street formerly had an isolated low-lying swampy area adjacent a creek. This area has been largely filled leaving only linear drainage paths.

The low lying area provided no hydraulic benefit to either the Huon River or the main drain. Water would have backed up into it and ponded. Only when Main Road was over topped (>20 year ARI flood) would there have been flow through the site but the flow would be a small proportion of the flow in the river channel.

As the filling undertaken has not exceeded the height of Main Street the filling has had no effect on the hydraulics of the river.

The filling has not encroached on the main drain and has not reduced the capacity of the main drain.

The fill has improved the site which previously was waterlogged and may have posed a risk of mosquitoes and odours. It has also provided a benefit to the community by providing a location for disposal of clean fill.

This report finds that:

- ▶ The filling undertaken has not affected the flood capacity of the river;
- ▶ The filling has not blocked any local drainage paths or adversely effected any adjacent properties;
- ▶ It is recommended the recent fill placed be spread and trackrolled so that it is lower than 2.5m RL;
- ▶ Although the owner does not intend to place any more fill there is no reason why the property could not be filled further to 2.5m AHD and still have no impact.
- ▶ The fill surface shall be graded at 2% to ensure adequate surface drainage;
- ▶ The surface shall be stabilised by topsoiling or mulching fertilised and grassed;
- ▶ If in the future it is intended to further fill the property so that it achieves a high level of flood protection (>3m) it is recommended that a more in depth study be undertaken; and
- ▶ To prevent further unauthorised tipping it is recommended that uncontrolled accesses be blocked with fences or boulders and that signs be erected saying that no tipping is permitted.



Appendix A

## Maps

Location

Topographical survey

Survey with fill

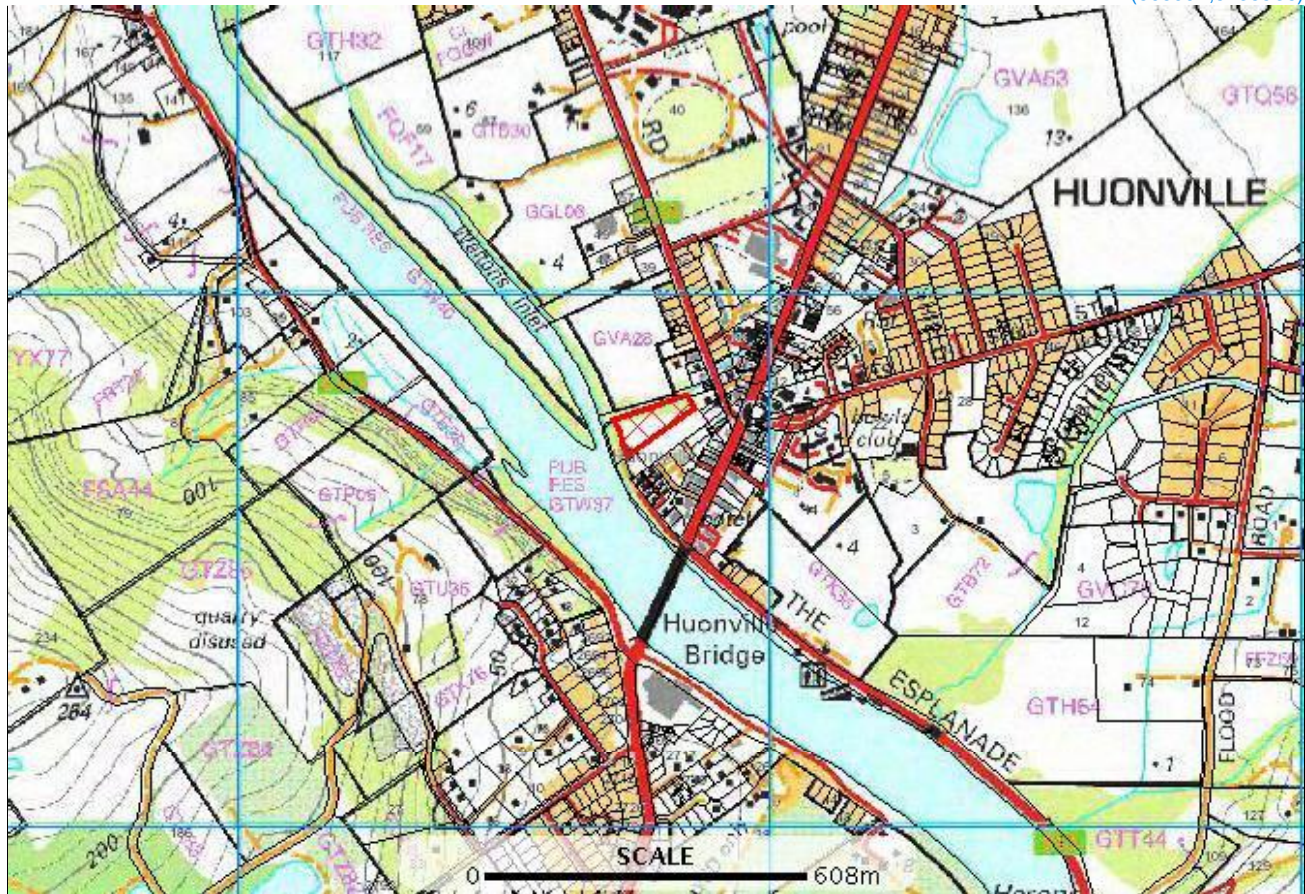
Lidar map

Lidar map showing extent of inundation and fill prior to 2010



Generated at: 17:13 on 09-February-2011 EST User: Public Charge Details:



(505001,5236536)



(502569,5234866)

## Identify Results - Cadastral Parcels

Property ID	5691963
Title Reference	124025/1
Address	12 SHORT STREET, HUONVILLE TAS 7109
LPI	FDN85

 Localities and Postcodes  
 Cadastral Parcels



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# Brooks, Lark and Carrick SURVEYORS

175 COLLINS STREET  
HOBART TAS 7001  
PHONE: (03)6231 1333  
FAX: (03)6231 2493  
MOBILE: 0400 114 824  
EMAIL: blcarrick@bigpond.com

## IMPORTANT NOTE

This plan is prepared for Roger Lowe from a combination of field survey and existing records for the purpose of designing new constructions on the land and should not be used for any other purpose. The title boundaries as shown herein were not marked at the time of survey and have been determined by plan dimensions only and not by field survey. Services shown herein have been located where possible by field survey. Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of further underground services and detailed locations of all services  
This note is an integral part of this plan

## Contour & Detail Plan

FOR ROGER LOWE

LOCATION 12 SHORT STREET, HUONVILLE 7109

SCALE: 1:750

DATE: 1/11/2010

REFERENCE: LOWER02  
690601

DRAWN: EMB

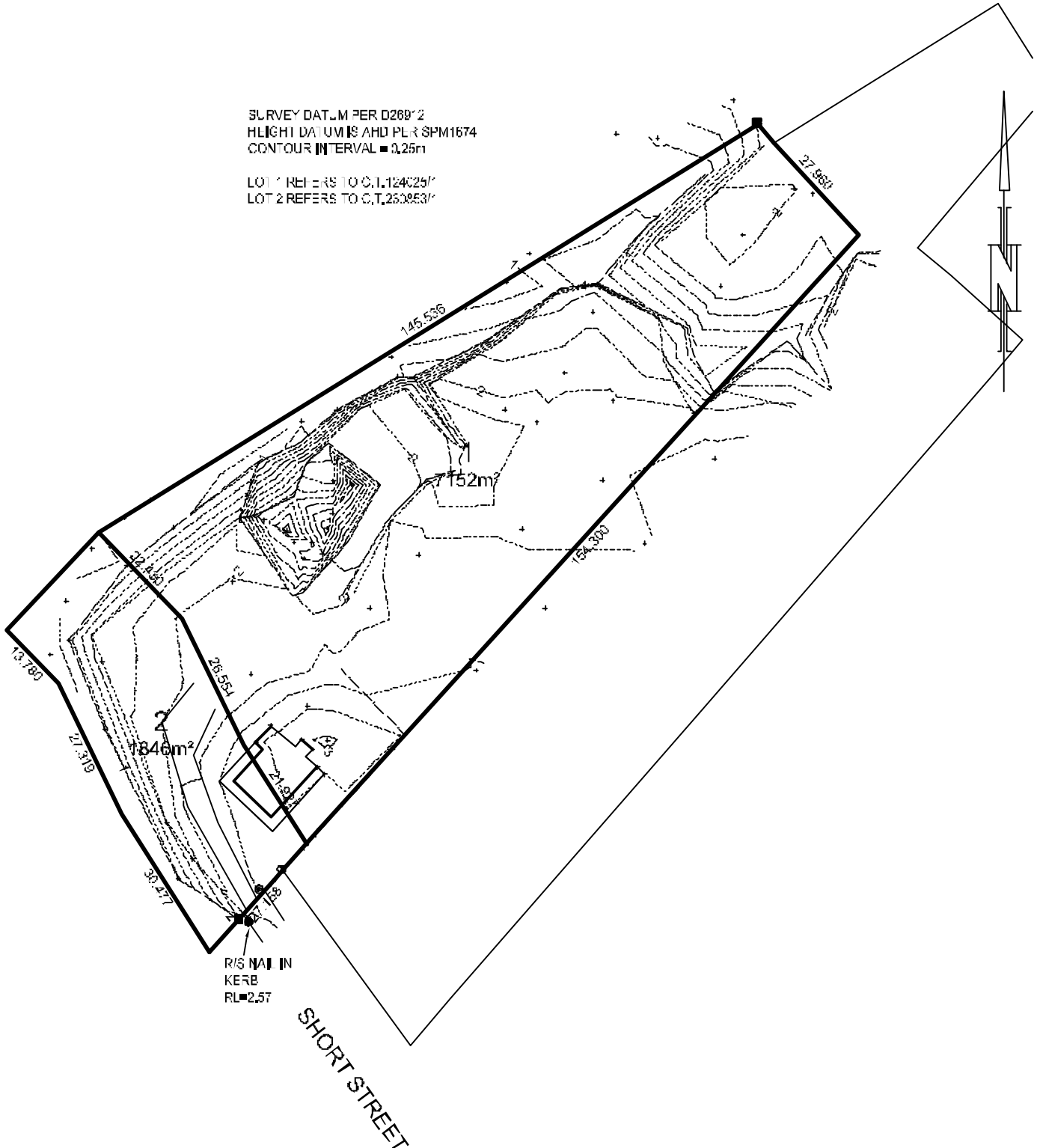
LENGTHS IN METRES

-----  
Signature

Date 1/11/2010

SURVEY DATUM PER D289'2  
HEIGHT DATUM IS AHD PLR SPM1674  
CONTOUR INTERVAL = 0.25m

LOT 1 REFERS TO C.T.124025/  
LOT 2 REFERS TO C.T.250053/





# Brooks, Lark and Carrick SURVEYORS

175 COLLINS STREET  
HOBART TAS 7001  
PHONE: (03)6231 1333  
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## Contour & Detail Plan

SCALE: 1:750

DATE: 1/11/2010

REFERENCE: LOWER02  
690801

DRAWN: EMB

LENGTHS IN METRES

FOR ROGER LOWE

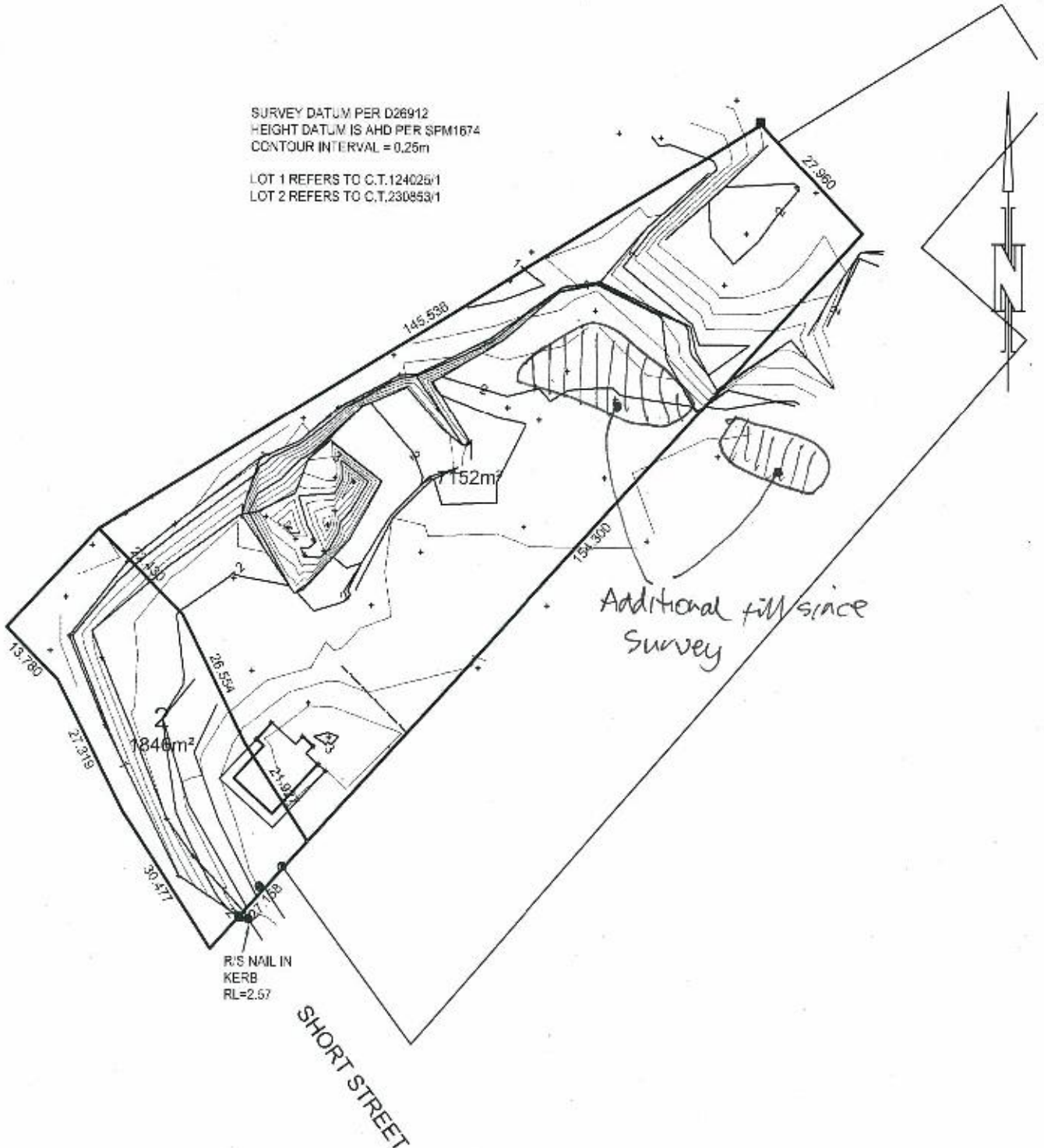
LOCATION 12 SHORT STREET, HUONVILLE 7109

.....  
Signature

Date 1/11/2010

SURVEY DATUM PER D26912  
HEIGHT DATUM IS AHD PER SPM1674  
CONTOUR INTERVAL = 0.25m

LOT 1 REFERS TO C.T.124025/1  
LOT 2 REFERS TO C.T.230853/1











DEPARTMENT OF PRIMARY INDUSTRY,  
FISHERIES & ENERGY

WATER RESOURCES DIVISION

MUNICIPALITY OF HUON VALLEY

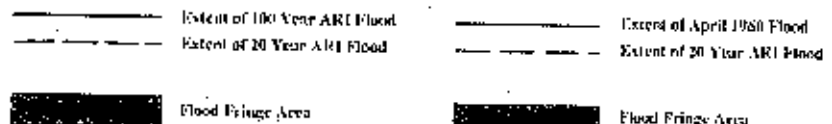
**HUON RIVER AND MOUNTAIN RIVER  
FLOOD PLAIN MAP**

NOTES

1. Floods are defined by the Average Recurrence Interval or ARI (expressed in years). A 100 year ARI flood has a 1 in 100 chance of being equaled or exceeded in any one year.
2. The 1960 flood extent exceeded the levels of a 100 year ARI flood for the Mountain River catchment.
3. Isolated local flooding due to rainfall may occur in any area.
4. Flood levels are based on best estimates of the flood magnitudes derived from frequency analysis of data up to 1991 and runoff routing studies.
5. Extent of flooding is approximate only and is based on field surveyed cross sections carried out in August 1992 and published topographic maps. Actual extent of flooding at any particular location should be verified on site by survey.
6. Extent of flooding is for existing catchment characteristics. The extent of past floods may differ due to changed catchment and local conditions.
7. It may be necessary to review the inundation limits defined on this map following the occurrence of future floods.
8. This map details inundation from Huon River & Mountain River flooding only. Flooding in tributaries is not shown.
9. All levels are in metres to Australian Height Datum (AHD).
10. For further information, refer to Mountain River Flood Study report by Gunzledge Haskins & Davey Pty Ltd, for the Department of Primary Industry, Fisheries and Energy, Water Resources Division, 1993.

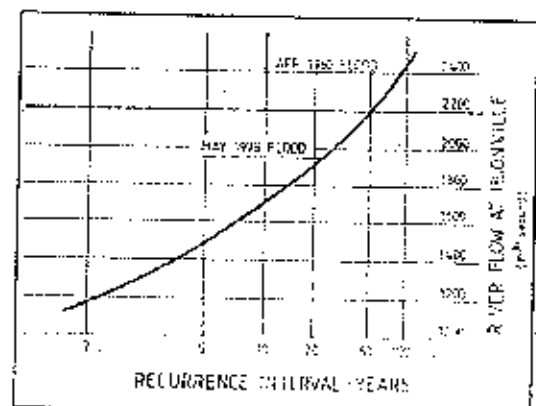
HUON RIVER

MOUNTAIN RIVER



1.60	20 year ARI
1.80	50 year ARI
2.06	100 year ARI

23.60	20 year ARI
23.90	50 year ARI
24.30	100 year ARI
24.80	April 1960 Flood







IDT60252

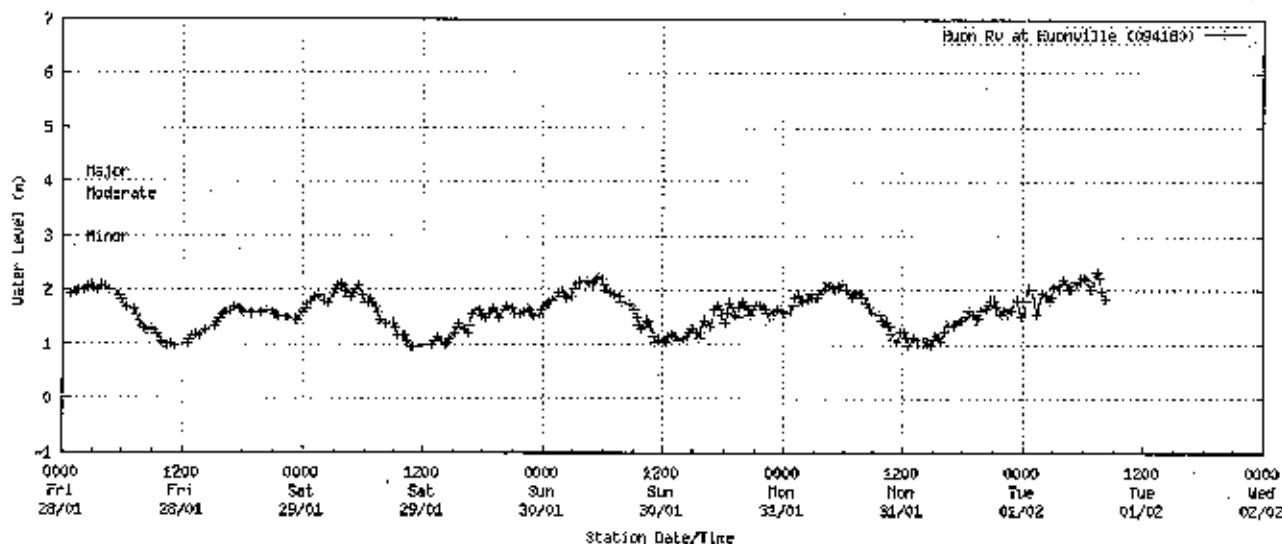
## Latest River Heights for Huon Rv at Huonville

Issued at 9:05 am EDT Tuesday 1 February 2011

[About river height plots](#) | [About this Plot](#)

Station details: Station Number: 094180 Name: Huon Rv at Huonville  
Flood levels: Minor: 3.00 Moderate: 3.80 Major: 4.20

Data from the previous 4 days.



Australian Government Bureau of Meteorology

(Generated: 01/02/2011 09:05:33)

[Data as Table](#) | [Previous Station](#) | [Next Station](#) | [Back to Bulletin](#)

### About this plot

1. This data is from automated sites maintained by various groups and has not been subject to full quality checking.
2. All heights are in metres.
3. Stations marked with \* indicate heights above Australian Height Datum (AHD).
4. This product includes data made available to the Bureau by other agencies. Separate approval may be required to use the data for other purposes.

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d i m a p



## Metadata Report

Lidar

PI200803 – Tasmania

Acquisition Start Date	04 March 2008
Acquisition End Date	09 March 2008
Device Name	LM5600
Flying Height (AGL)	800m
INS/IMU used	AeroControl IID
Number of Runs	
Swath width	700m
Flight direction	Variable
Side Overlap	30%
Scan angle	60°
Horizontal datum	GDA 94
Vertical datum	AHD
Map projection	MGA zone 55
Description of aerotriangulation process used and residual results	None
Description of rectification process used	RiAnalyze / Riworld (see Calibration Report)
Spatial accuracy	0.10m
Surface type	Bare earth, water corrected
Average point separation	1.5pt/sqm
Laser return types	Full waveform
Data thinning	1mXY 0.25mZ
Laser footprint size	0.25m
Limitations of Data	none

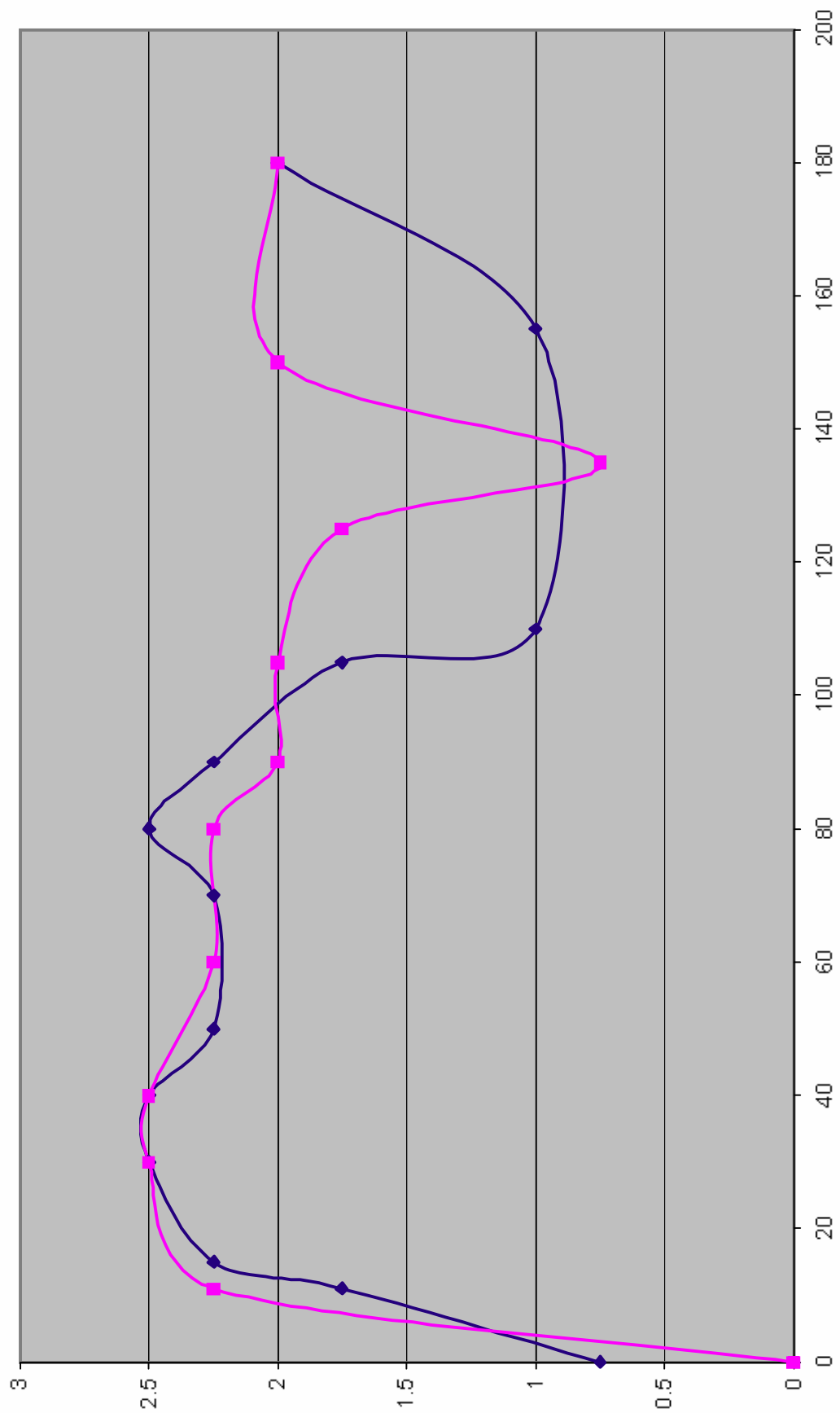


Appendix B  
**Analysis**

Hydraulic calculations  
Section showing fill



# Filling prior to 2010



Lidar  
survey

MR. ROGER LOUWE  
 12 SHORT STREET HUDONVILLE  
 HUDON RIVER HYDRAULICS  
 based on DRIVE flood map levels

AK'	Upstream		Downstream		fall'	Hf	n	River				Main Street						Q from report m <sup>3</sup> /s
	flood level m AHD	flood level m AHD	depth m	width m				section area m <sup>2</sup>	P	V m/s	Q m <sup>3</sup> /s	height m	depth m	width m	section area m <sup>2</sup>	n	V m/s	
20	3.25	2.91	4.76	144	685.44	4.76	0.084	0.08	3	0	0	0	0.05	0	0	1893	1893	
50	3.52	3.14	5.02	144	722.88	5.02	0.104	0.08	3	0.14	1.40	19.6	0.05	0.168	3.3	2157	2100	
100	3.86	3.45	5.36	144	771.84	5.36	0.104	0.08	3	0.45	1.40	63	0.05	0.378	28.8	2519	2450	

' assumed  
 '' measured





Appendix C  
Photos



View east towards Wilmot St showing new fill



View south east towards carpark and main street



View of the creek (note fill dumped on opposite bank)



**GHD**

2 Salamanca Square Hobart 7000  
GPO Box 667 Hobart 7001  
T: 03 6210 0600 F: 03 6210 0601 E: hbamail@ghd.com

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**Document Status**

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	H.Poortenaar	B.Boon	On File	B.Boon	On File	8-2-11