UHCC - PC42 Hearing

Flood Maps Must Be Accurate

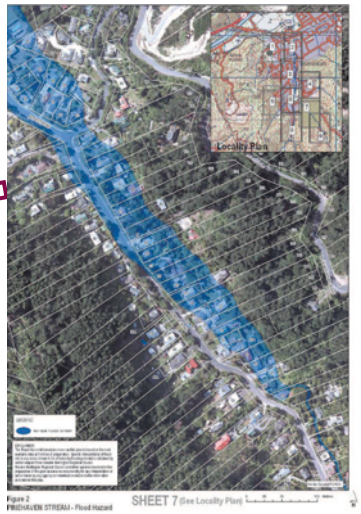
Save Our Hills (Upper Hutt) Inc.

GWRC & UHCC 1-in-100 year flood for 27 Elmslie Rd:

- Topography is wrong
- Flood depth and extent is wrong
- Flood map is inaccurate and misleading
- Not just on Pattinson's property but across the Pinehaven catchment

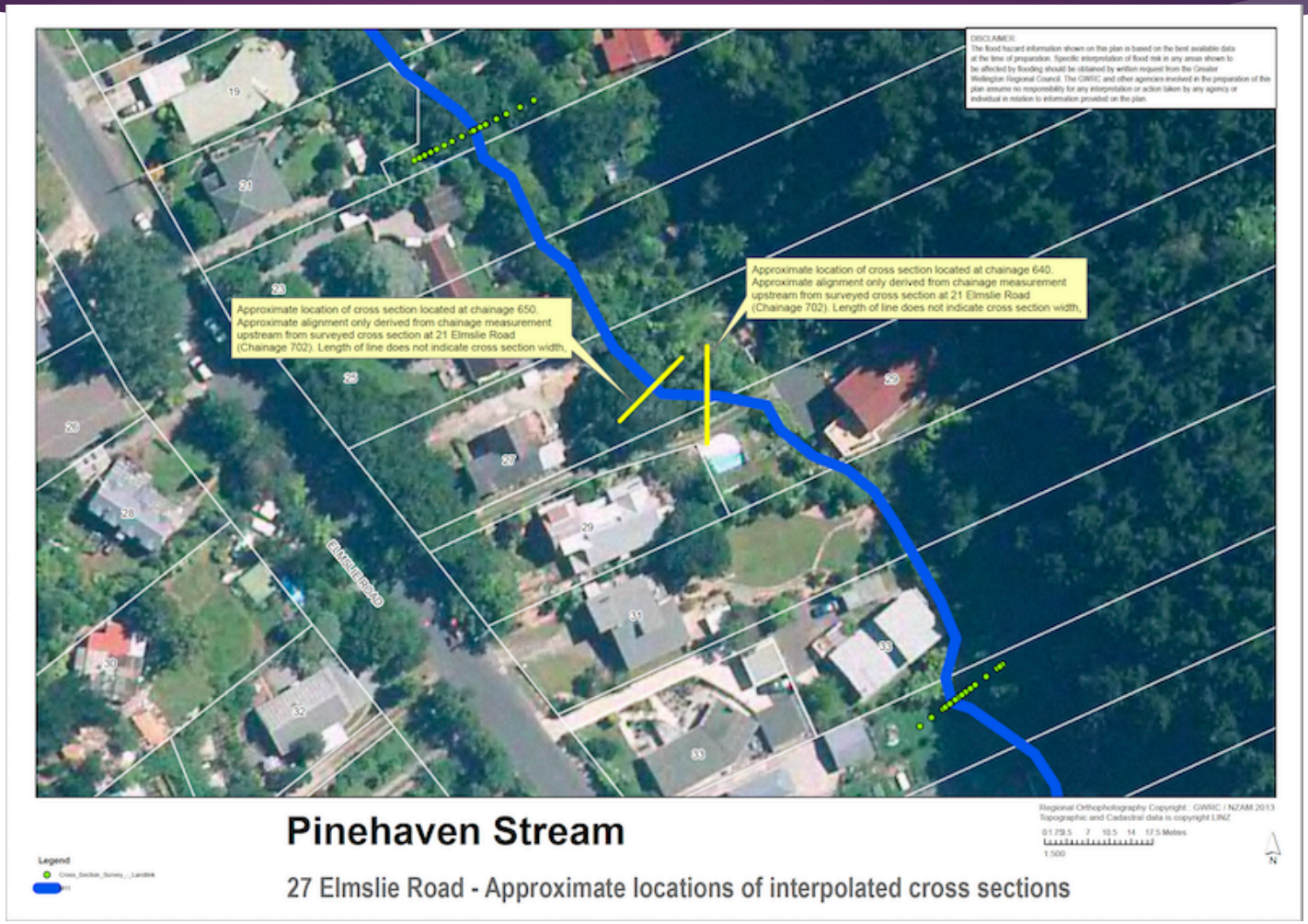
Flood Map intended to be permanent

Lie from SKM consultant at an open day:
"Once the structural works are done, your flood problems will go away."

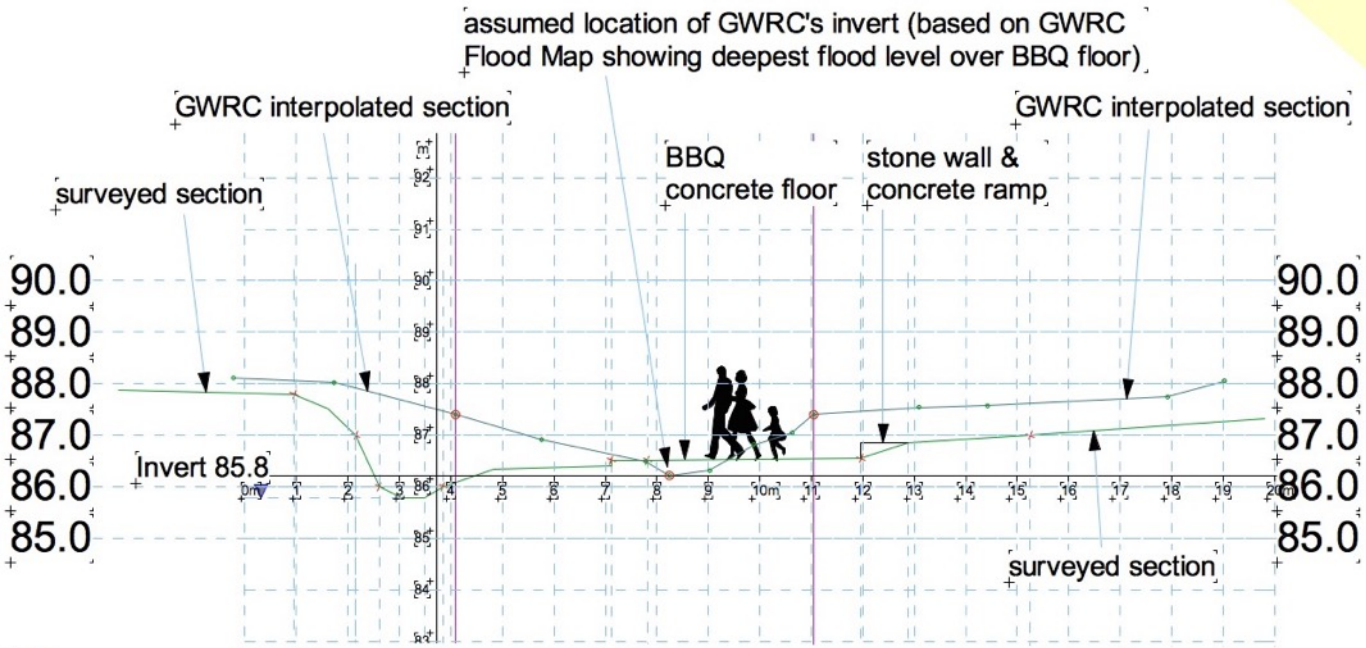


GWRC Sheet 7 (2010) Even after proposed structural works are finished this flood map will remain the same!

GWRC Topography Wrong for 27 Elmslie Road, Pinehaven – Cross- Section Locations



GWRC Topography Wrong for 27 Elmslie Road, Pinehaven – Cross- Section at Chainage 640

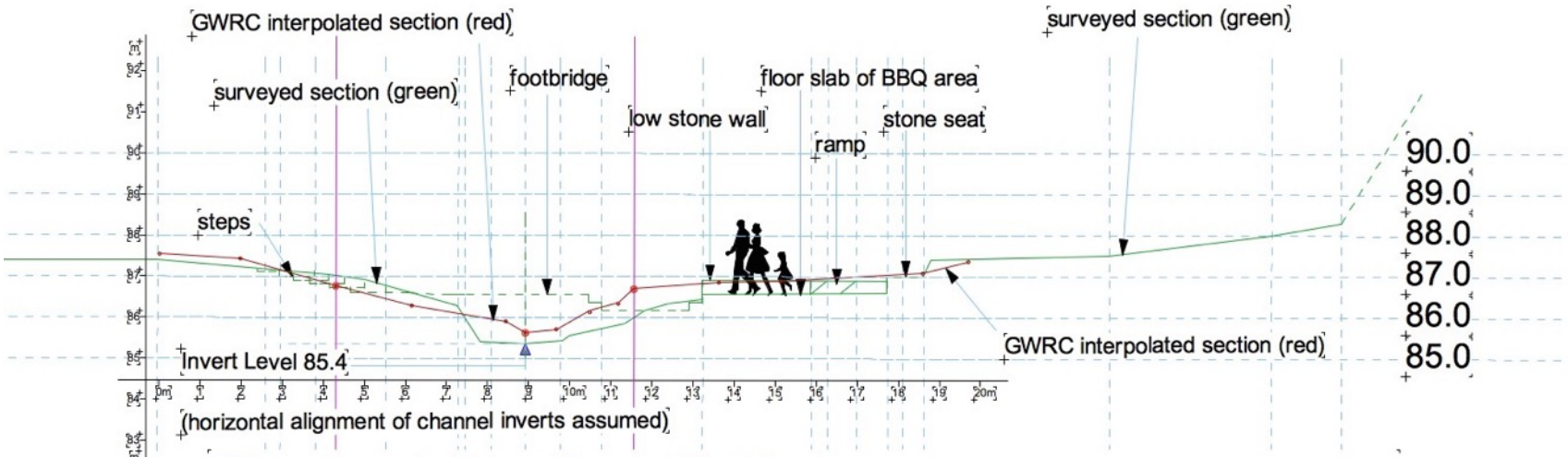


Channel Section Y-Y (based on Topo. Survey) compared with **GWRC Interpolated Section at Chainage 640**

Scale 1:200 @ A4 size

0 1 2 3 4 5

GWRC Topography Wrong for 27 Elmslie Road, Pinehaven – Cross- Section at Chainage 650

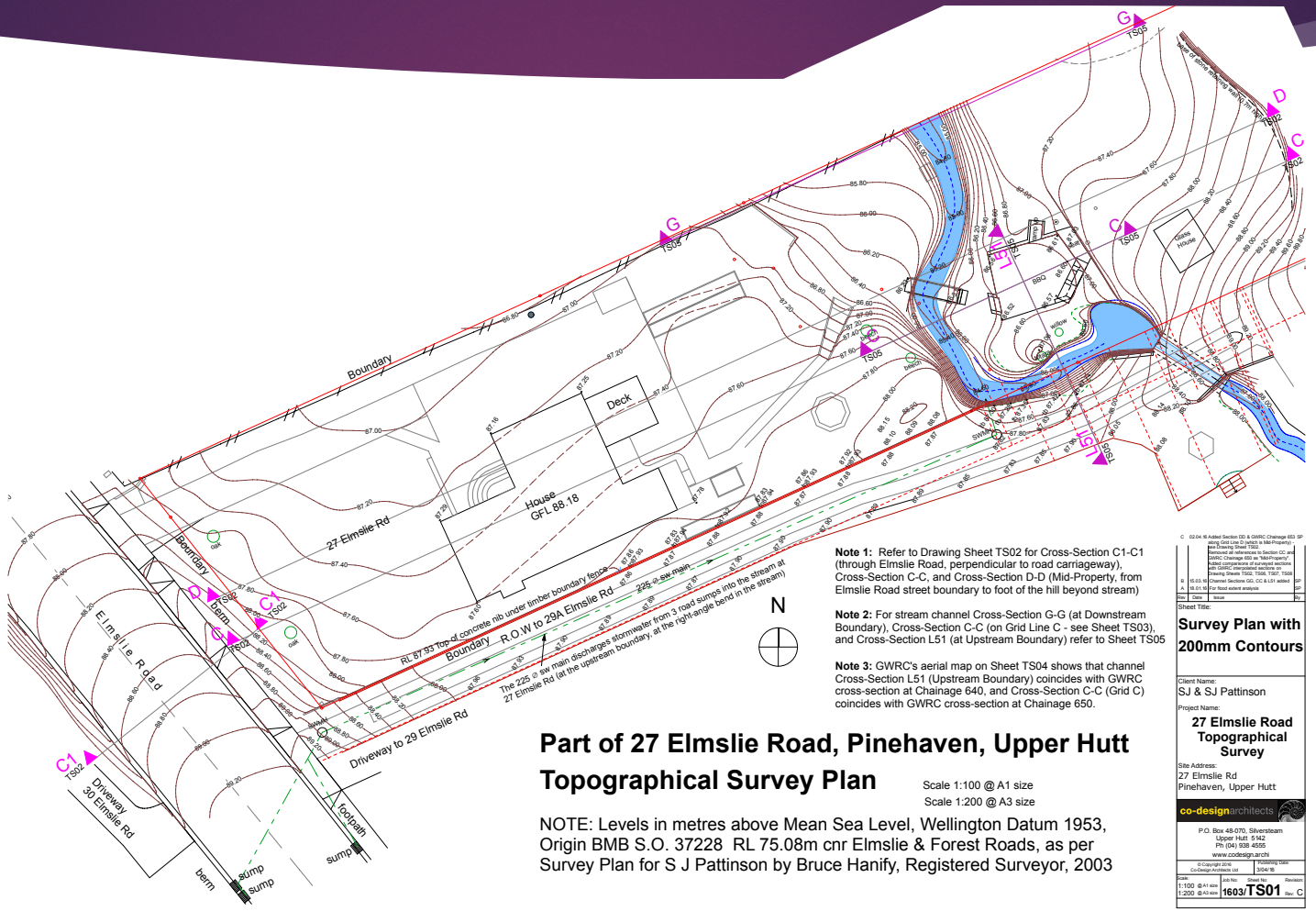


Channel Section M-M (based on Topo. Survey) compared with **GWRC Interpolated Section at Chainage 650**

Scale 1:200 @ A4 size

0 1 2 3 4 5

Topo Survey – 27 Elmslie Road



Note 1: Refer to Drawing Sheet TS02 for Cross-Section C1-C1 (through Elmslie Road, perpendicular to road carriageway), Cross-Section C-C, and Cross-Section D-D (Mid-Property, from Elmslie Road street boundary to foot of the hill beyond stream)

Note 2: For stream channel Cross-Section G-G (at Downstream Boundary), Cross-Section C-C (on Grid Line C - see Sheet TS03), and Cross-Section L51 (at Upstream Boundary) refer to Sheet TS05

Note 3: GWRC's aerial map on Sheet TS04 shows that channel Cross-Section L51 (Upstream Boundary) coincides with GWRC cross-section at Chainage 640, and Cross-Section C-C (Grid C) coincides with GWRC cross-section at Chainage 650.

Part of 27 Elmslie Road, Pinehaven, Upper Hutt

Topographical Survey Plan

Scale 1:100 @ A1 size
Scale 1:200 @ A3 size

NOTE: Levels in metres above Mean Sea Level, Wellington Datum 1953, Origin BMB S.O. 37228 RL 75.08m cnr Elmslie & Forest Roads, as per Survey Plan for S J Pattinson by Bruce Hanify, Registered Surveyor, 2003

C 02.04.16 Added Section DD & GWRC Chainage 653 SP along Grid Line D (which is Mid-Property) on Drawing Sheet TS02
B 03.03.16 Added Section CC on GWRC Chainage 650 as "Mid-Property". Added comparisons of surveyed sections with GWRC interpolated sections on Drawing Sheets TS02, TS06, TS07, TS08 SP
A 18.01.16 Channel Sections GG, CC & L51 added SP
A 18.01.16 For flood extent analysis SP
Rev | Date | Issue | By

Sheet Title:
Survey Plan with 200mm Contours

Client Name:
SJ & SJ Pattinson

Project Name:
27 Elmslie Road Topographical Survey

Site Address:
27 Elmslie Rd
Pinehaven, Upper Hutt

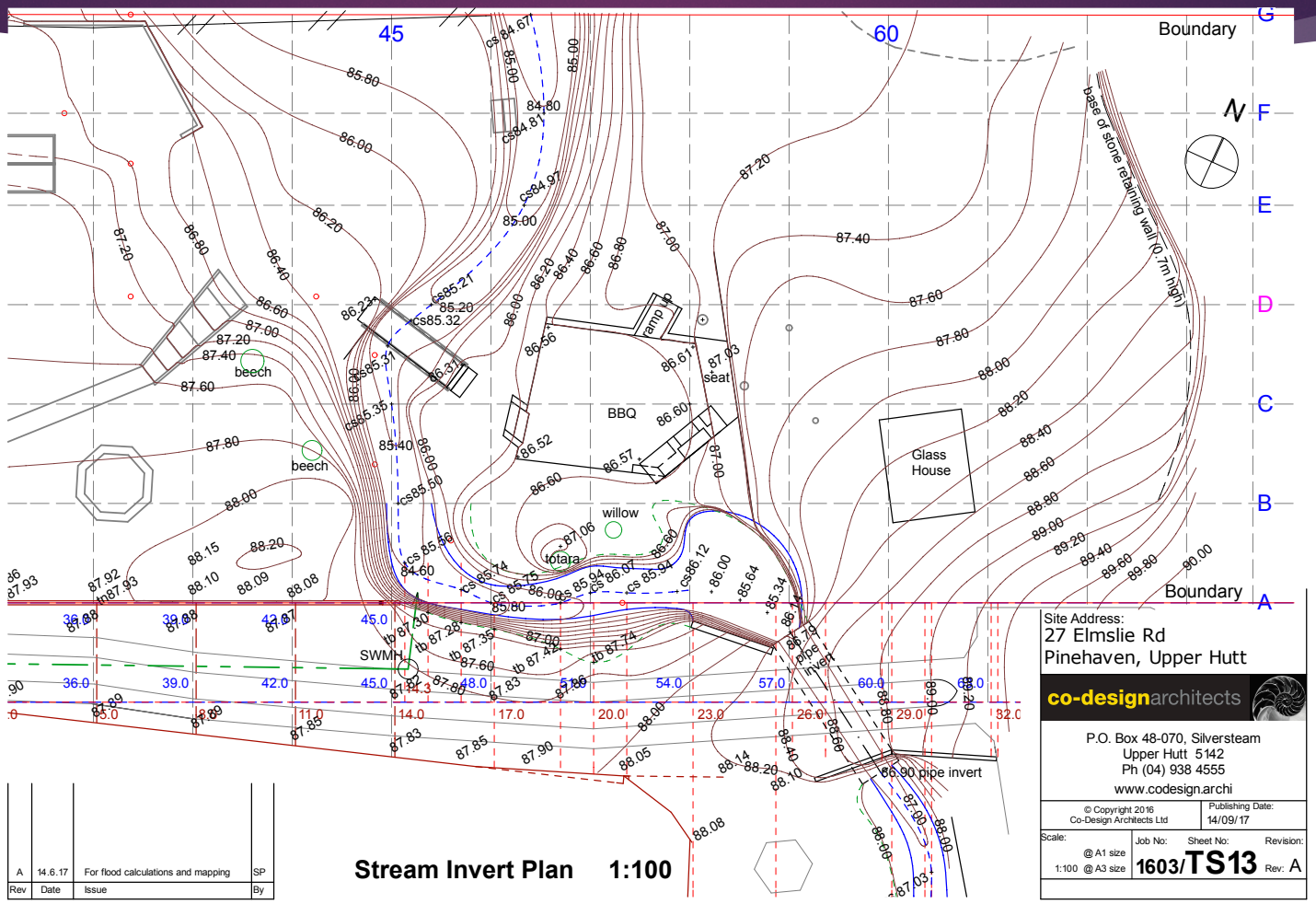
co-designarchitects

P.O. Box 48-070, Silversteam
Upper Hutt 5142
Ph (04) 938 4555
www.codesign.archi

Plotting Date: 3/04/16

Scale: 1:100 @ A1 size, 1:200 @ A3 size
Job No. 1603/
Sheet No. TS01
Revision Rev. C

Topo Survey – 27 Elmslie Road Stream Channel – Plan View



R J Hall – 27 Elmslie Road
4.45 cumecs – Plan View

Floodwater extent (Mannings n = 0.1 i.e. assumes very rough channel)

300mm Freeboard (contains test Mannings n = 0.3 i.e. assumes channel blocked with debris)

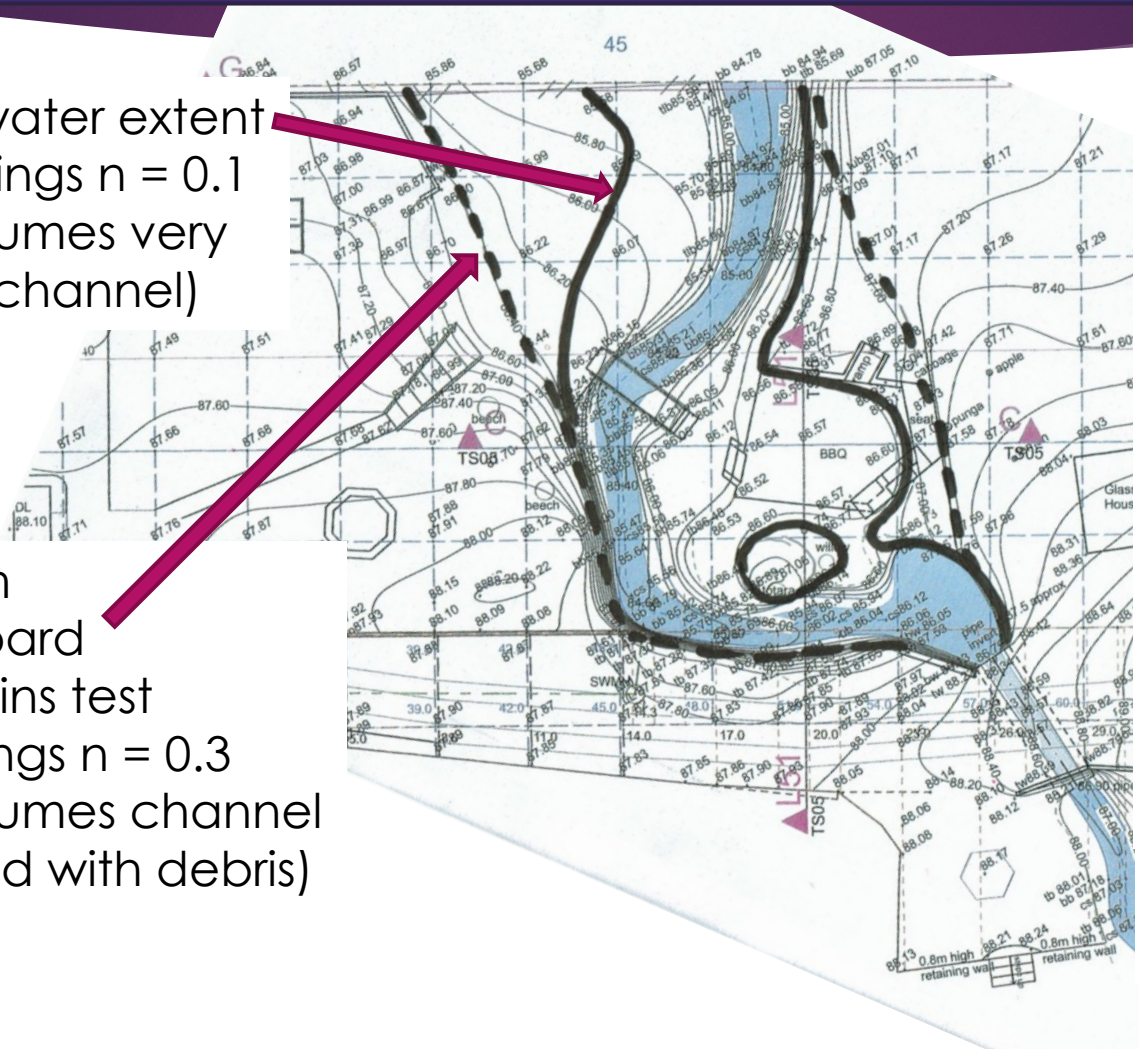
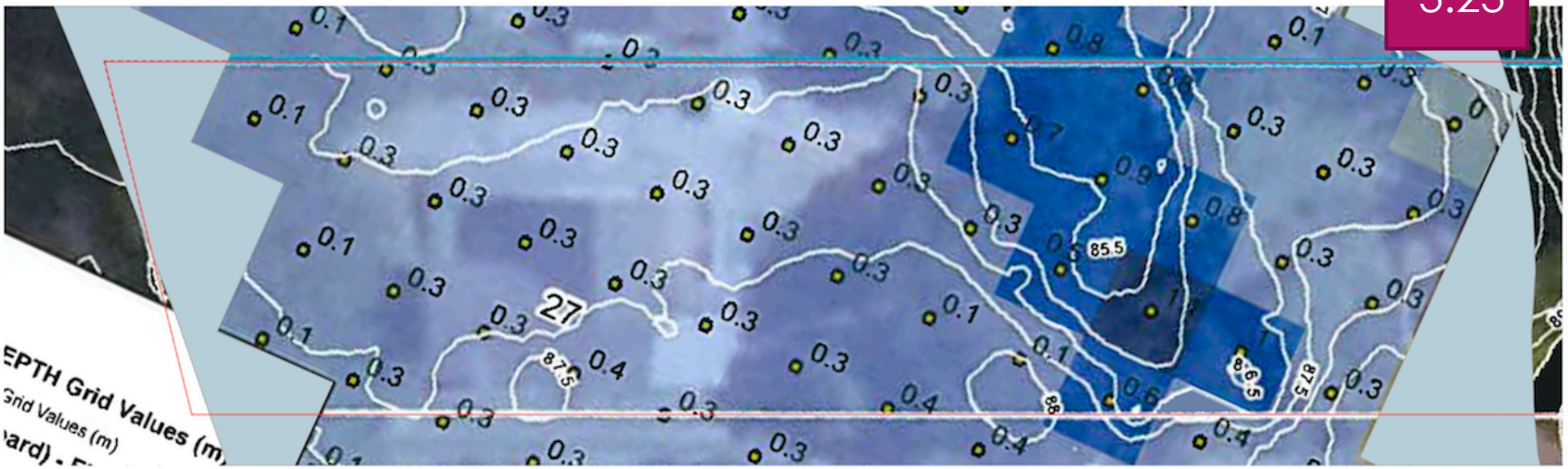


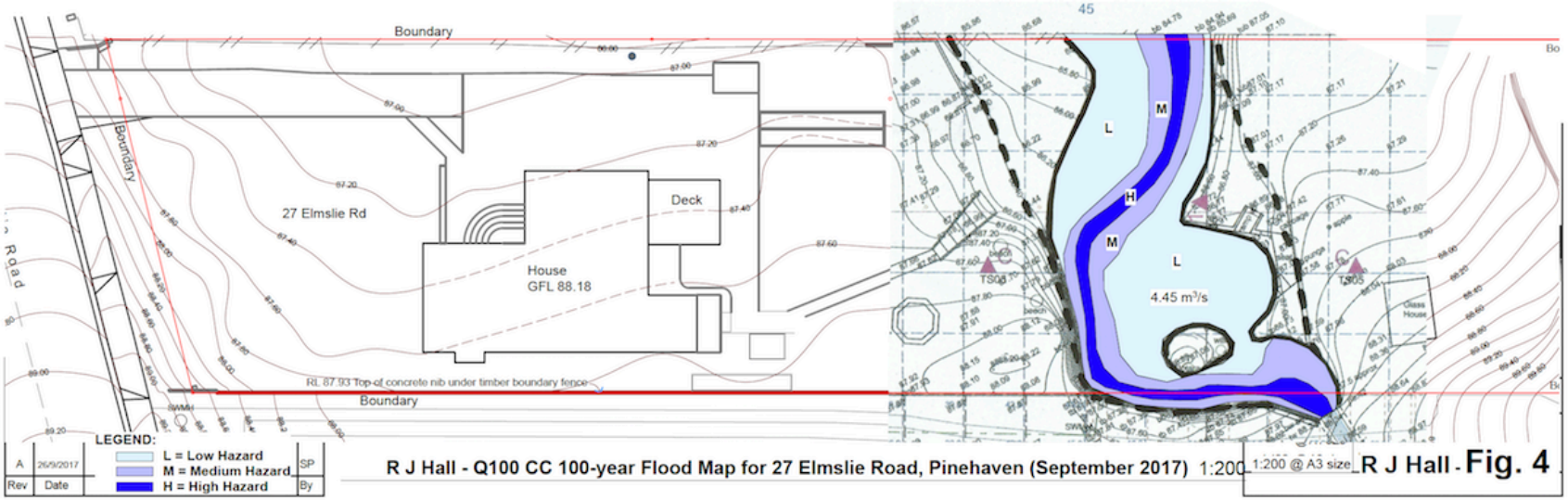
Table 3: **Mannings 'n'**
Paragraphs 2.3.4, 3.2.1, 4.1.6, 4.1.8, 4.1.11 and 4.2.1

Description	Value of 'n'
Circular pipes	
HDPE and uPVC	0.011
Ceramic and concrete	0.013
Culverts	
Cast-in-situ concrete	0.015
Corrugated metal	0.025
Open stream	
Straight uniform channel in earth and gravel in good condition	0.0225
Unlined channel in earth and gravel with some bends and in fair condition	0.025
Channel with rough stoney bed or with weeds on earth bank and natural streams with clean straight banks	0.03
Winding natural streams with generally clean bed but with some poolsand shoals	0.035
Winding natural stream with irregular cross-section and some obstruction with vegetation and debris	0.045
Irregular natural stream with obstruction from vegetation and debris	0.06
Very weedy irregular winding stream obstructed with significant overgrown vegetation and debris	0.1

NZBC E1/VM1 Surface Water Table 3: Mannings 'n' (roughness coefficient)



#27 GWRC - Q100 CC 100-year Flood Map for 27 Elmslie Road, Pinehaven (September 2017) 1:200 @ A3 size



R J Hall - Q100 CC 100-year Flood Map for 27 Elmslie Road, Pinehaven (September 2017) 1:200 @ A3 size

R J Hall - **Fig. 4**