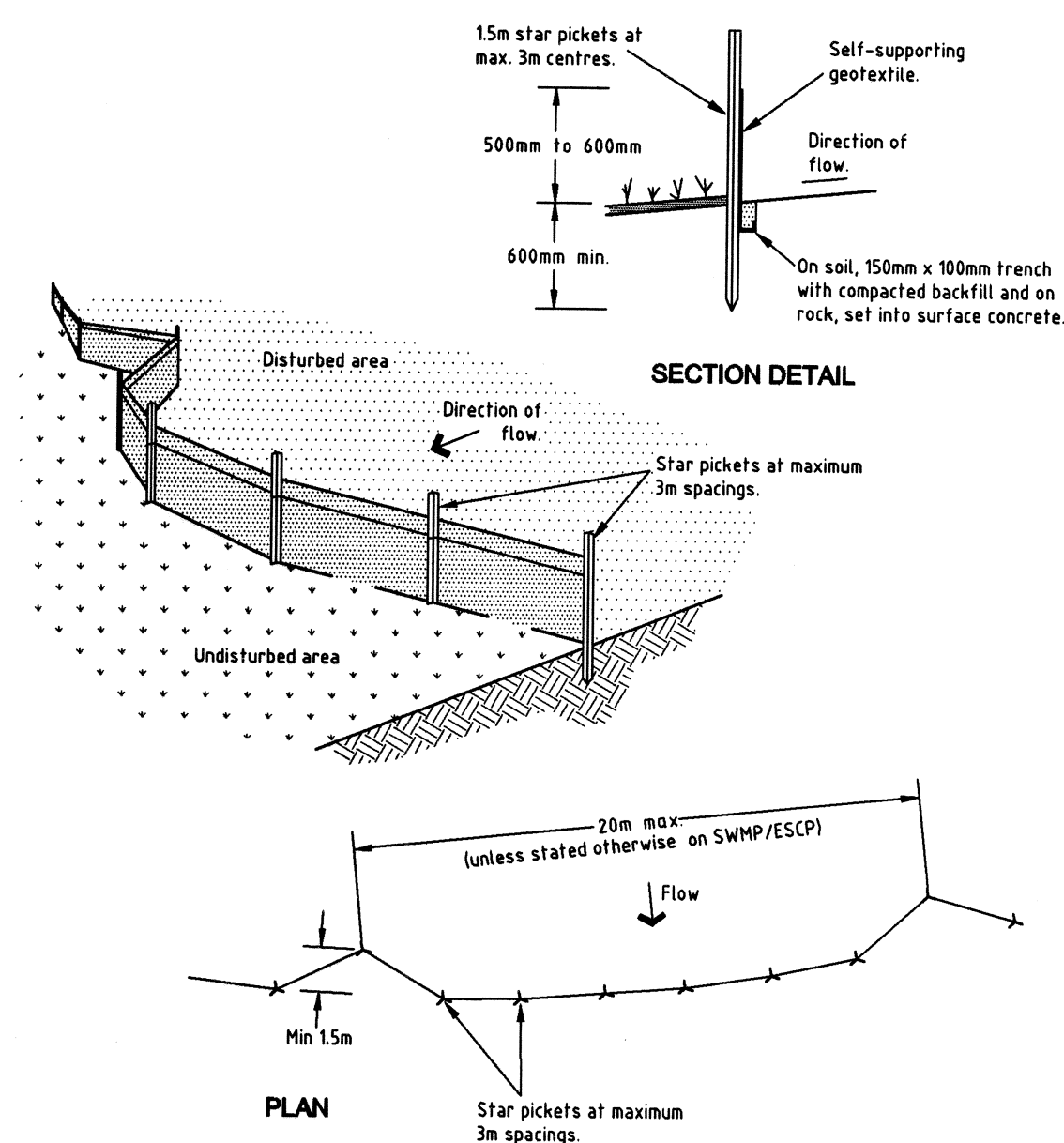


Construction Notes

- Construct with gradient of 1 per cent to 5 per cent - check dams to be provided at maximum 50m intervals for steeper slopes
- Avoid removing trees and shrubs if possible.
- Drains to be of circular, parabolic or trapezoidal cross section, not V-shaped.
- Earth banks to be adequately compacted in order to prevent failure.
- Permanent or temporary stabilisation of the earth bank to be completed within 10 days of construction.
- All outlets from disturbed lands are to feed into a sediment basin or similar.
- Discharge runoff collected from undisturbed lands onto either a stabilised or an undisturbed disposal site within the same subcatchment area from which the water originated.
- Compact bank with a suitable implement in situations where they are required to function for more than five days.
- Earth banks to be free of projections or other irregularities that will impede normal flow.

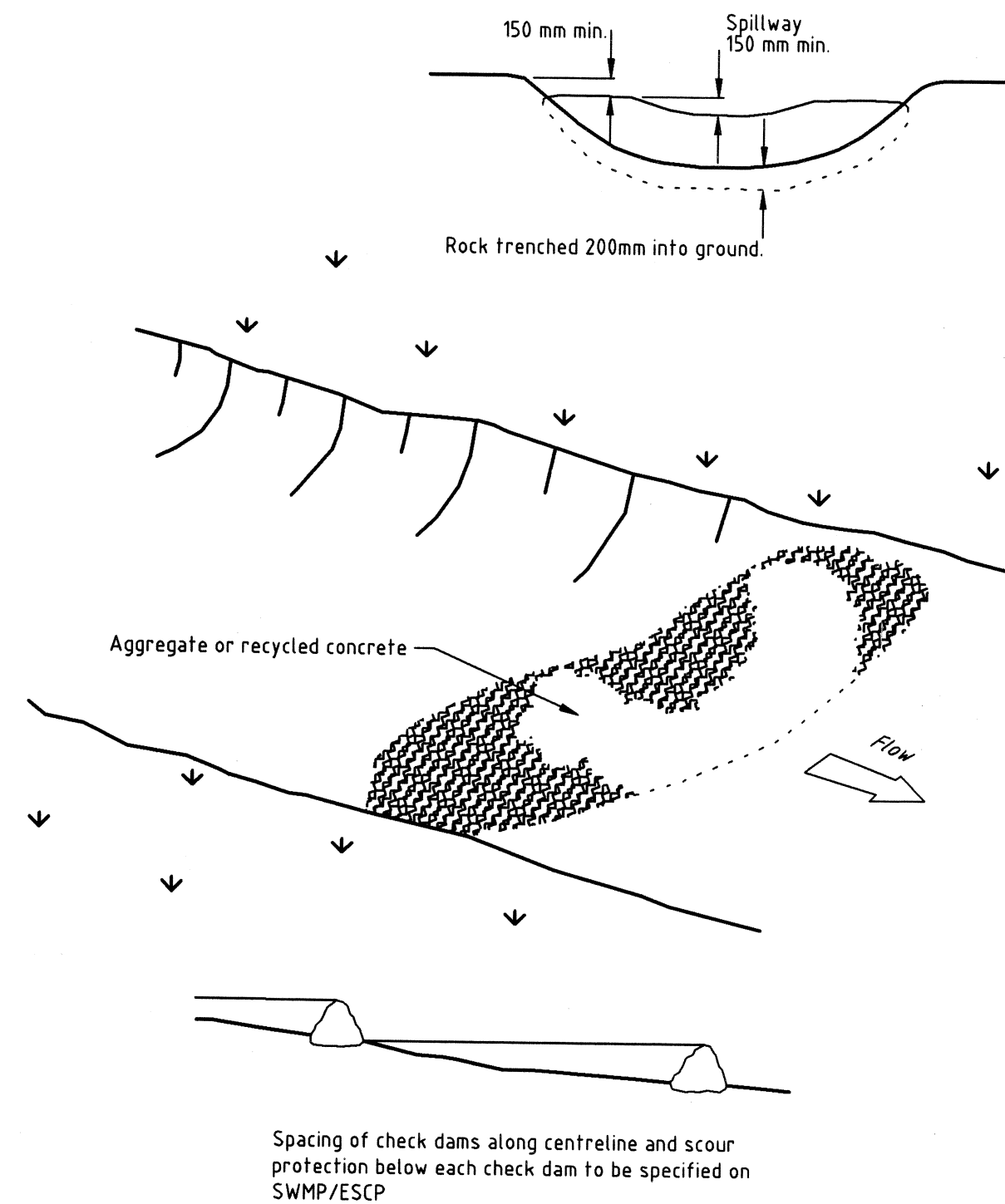
EARTH BANK (LOW FLOW)



Construction Notes

- Construct sediment fence as close as possible to parallel to the contours of the site.
- Drive 15 metre long star pickets into ground, 3 metres apart.
- Dig a 150mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
- Backfill trench over base of fabric.
- Fix self-supporting geotextile to upslope side of of posts with wire ties or as recommended by geotextile manufacturer.
- Join sections of fabric at support post with a 150mm overlap.

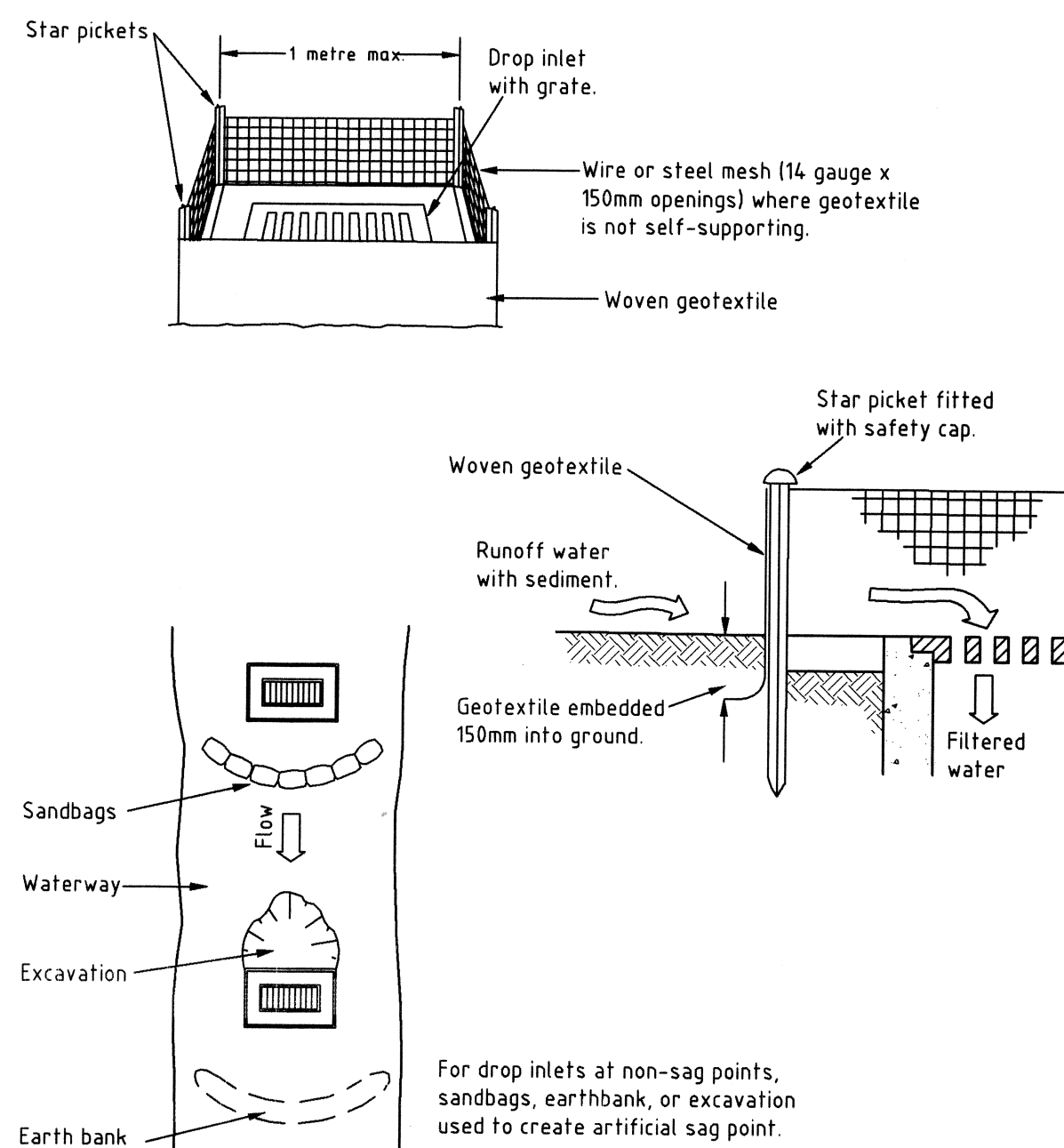
SEDIMENT FENCE



Construction Notes

- Trench structure 200mm into ground surface wherever the structure contacts the gully base. Fill trenches to 100mm above ground surface to reduce risk of undercutting.
- Ensure height of spillway is less than 1m above the gully floor.
- Space checks so the toe of the upstream dam is level with the spillway of the next downstream dam.

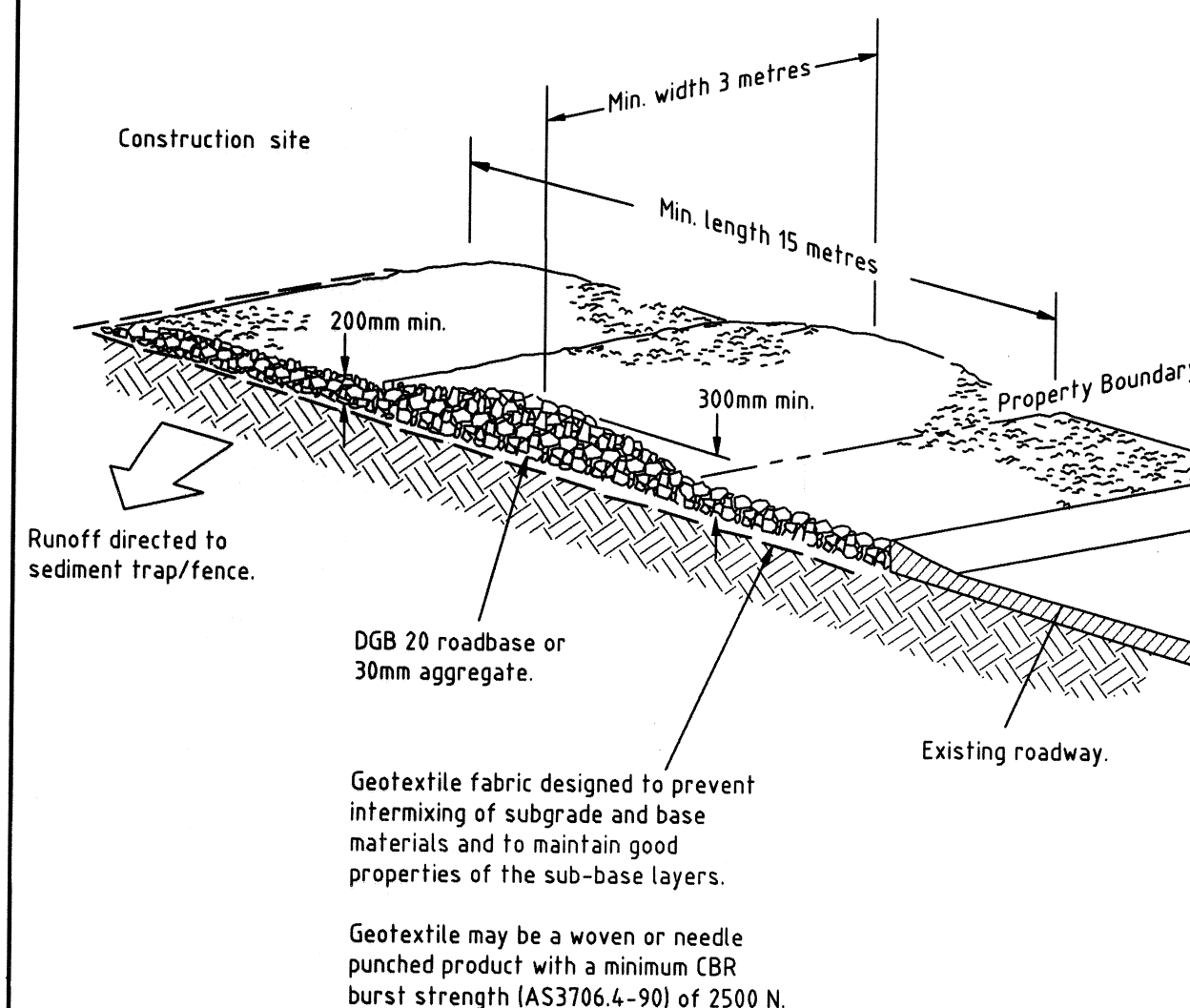
ROCK CHECK DAM



Construction Notes

- Fabricate a sediment barrier made from geotextile or straw bales.
- Support geotextile with mesh tied to posts at 1 metre centres.
- Do not cover inlet with geotextile.

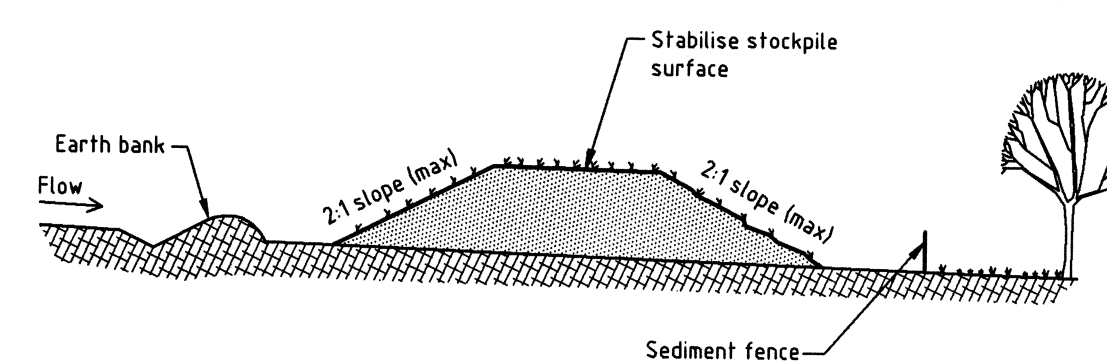
GEOTEXTILE INLET FILTER



Construction Notes

- Strip topsoil and level site.
- Compact subgrade.
- Cover area with needle punched geotextile.
- Construct 200mm thick pad over geotextile using roadbase or 30mm aggregate. Minimum length 15 metres or to building alignment. Minimum width 3 metres.
- Construct hump immediately within boundary to divert water to a sediment fence or other sediment trap.

STABILISED SITE ACCESS

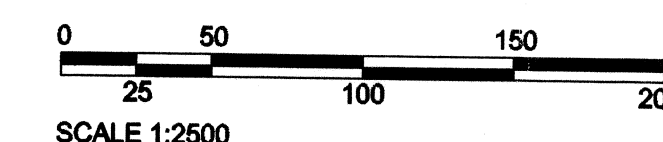


Construction Notes

- Locate stockpile at least 5 metres from existing vegetation, concentrated water flows, roads and hazard areas.
- Construct on the contour as a low, fat, elongated mound.
- Where there is sufficient area topsoil stockpiles shall be less than 2metres in height.
- Rehabilitate in accordance with the SWMP/ESCP.
- Construct earth bank (Standard Drawing 5-2) on the upslope side to divert run off around the stockpile and a sediment fence (Standard Drawing 6-7) 1 to 2 metres downslope of stockpile.

STOCKPILES

SD 4-1



Do not scale drawing. Use written dimensions only

Notes - Erosion and Sedimentation Control

- All erosion and sedimentation controls shall be in accordance with the guidelines and specifications as detailed in the Department of Housing's 'Managing Urban Stormwater: Soils and Construction' and the EPA's 'Managing Urban Stormwater' series.
- Construction shall be phased so that land disturbance is confined to areas of workable size. This will limit the duration disturbed areas are exposed to erosion. Stabilisation shall be applied to the first disturbed area before the next section is opened up. Any disturbed areas that will not be stabilised within 30 days shall be revegetated and any that fail to establish shall be resown.
- Topsoil stockpiles are to be located away from any natural drainage watercourse and are to have silt stop sediment control fences placed around them to act as sedimentation controls.
- Temporary earthen diversion drains are to be constructed to divert waters away from all disturbed areas and towards rock check dams located in natural drainage depressions. Temporary sediment deflection barriers are to be placed around outlet headwalls and drainage discharge points as detailed and permanent energy dissipators are to be installed at all outlets as shown to limit velocities and thus the potential for scouring. With all drainage outlets, all waters are to be released in a non-erodible manner. Temporary sediment traps are to be constructed at all drainage inlet points as detailed.
- Sediment and debris are to be removed from deflection barriers when they are 60% full. All the sediment removed shall be disposed of as directed by the Supervising Engineer.
- Upon completion of shaping and drainage works, batters and drainage lines shall be topsoiled to a minimum depth of 100mm with stockpiled material and any areas with insufficient grass/topsoil mix are to be seeded and mulched with any failed areas resown or revegetated as directed by the Supervising Engineer.
- Temporary erosion and sedimentation controls are to be installed during the construction phase and shall be retained and maintained while disturbed areas remain or are contributing sediment to the stormwater system. No device shall be removed until directed by the Supervising Engineer.

Notes - Potential Acid Sulfate Soils Management

ALL WORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE SOIL & WATER MANAGEMENT PLAN PREPARED BY GILBERT AND SUTHERLAND.

- All work shall be carried out in accordance with the requirements of the relevant Australian Standards, Building Codes and Council consent conditions.
- Temporary sedimentation dams shall be constructed to operate in conjunction with appropriate erosion control and sediment traps and barriers, located within the catchment area and upstream of the dams.
- Material excavated from drains, etc, may require liming. The rate of liming required will depend on the amount of identified potential acid sulphate soils (PASS).
- Seepage into drains may require regular monitoring. Fine agricultural lime shall be spread in any identified acid seepage zones.
- Surface runoff and water in drains and dams is to be tested daily or during each rainfall event, whichever is the most frequent.
- Surface water identified as having a ph of < 6.5 shall be limed prior to discharge from site. A hydrated lime slurry shall be added to the contaminated water to bring the ph to between 6.5 and 8.5 prior to discharge.
- Earth banks and diversion drains shall direct all surface water from disturbed areas to the sedimentation dams. These surface waters shall be monitored and treated as required before release.
- Accumulated sediment is to be removed from dams before it reaches the "full" level on the marker post. Material to be disposed of in an approved sediment dump.
- Sedimentation dams shall not be removed until all works on site are more than 90% completed or stabilised, and when testing indicates a suitable water quality has been achieved.

BALLINA SHIRE COUNCIL

This is the plan/document to which Development Consent No. 1199/12-15 relates, as submitted & approved for issue of the Construction Certificate.

GENERAL MANAGER per: [Signature] 30/6/14

Issue	Date	Amendment	App'd

Client:

R. and J. Pidcock

Project:

Pacific Pines Estate Stage 4d

Bulk Earthworks
off North Creek Road,
Lennox Head

Title:

Bulk Earthworks
Standard Erosion Control
details & Notes

ARDILL PAYNE & PARTNERS

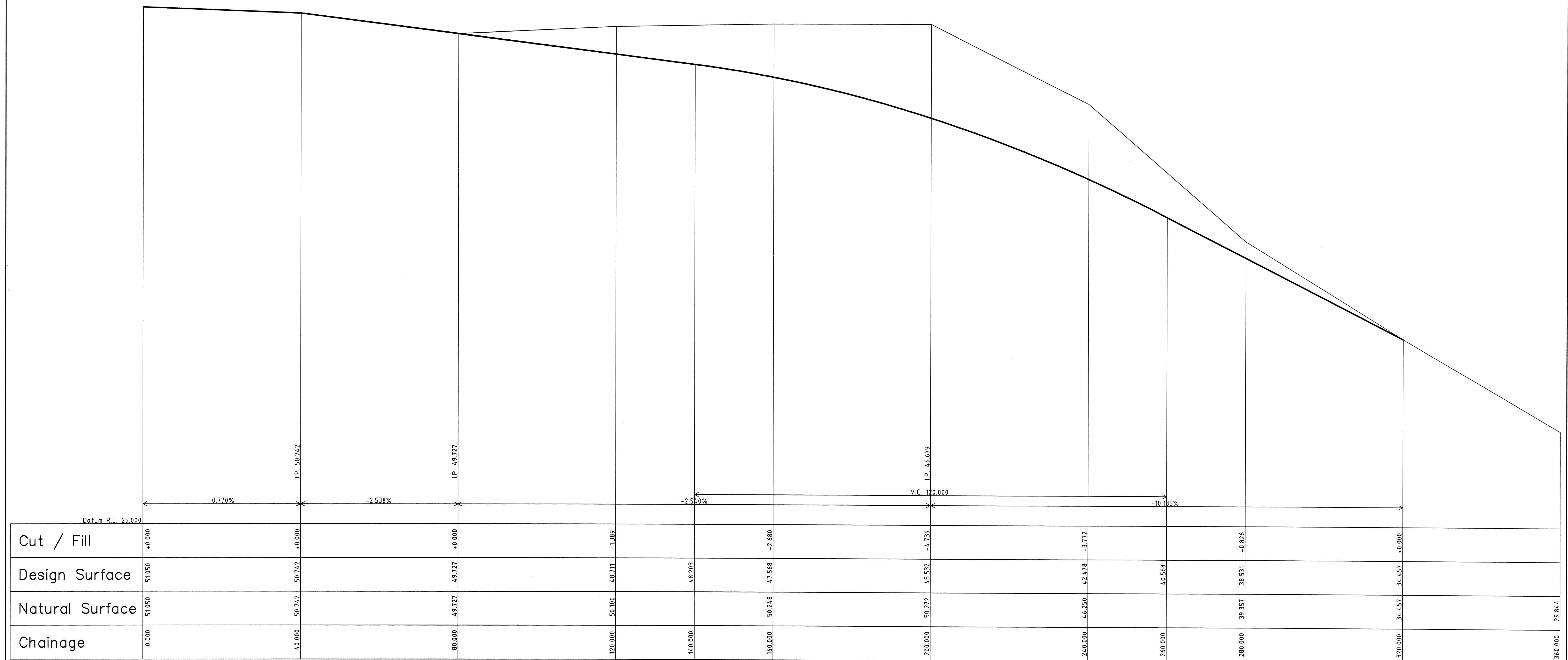
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
PROJECT MANAGERS AND TOWN PLANNERS

79 Tamar Street
P.O. Box 20
BALLINA NSW 2478
A.B.N. 113 881 522 12

Telephone: 02 6686 3280
Facsimile: 02 6686 7920
e-mail: info@ardillpayne.com.au



Design	B0	Scale at A1	-
Drawn	B0	Datum	AHD
Date	30/04	Filename	5028-4d_C3
Checked	[Signature]	Approved	[Signature]
Job No.	5028-4d	Dwg. No.	C3
Issue			

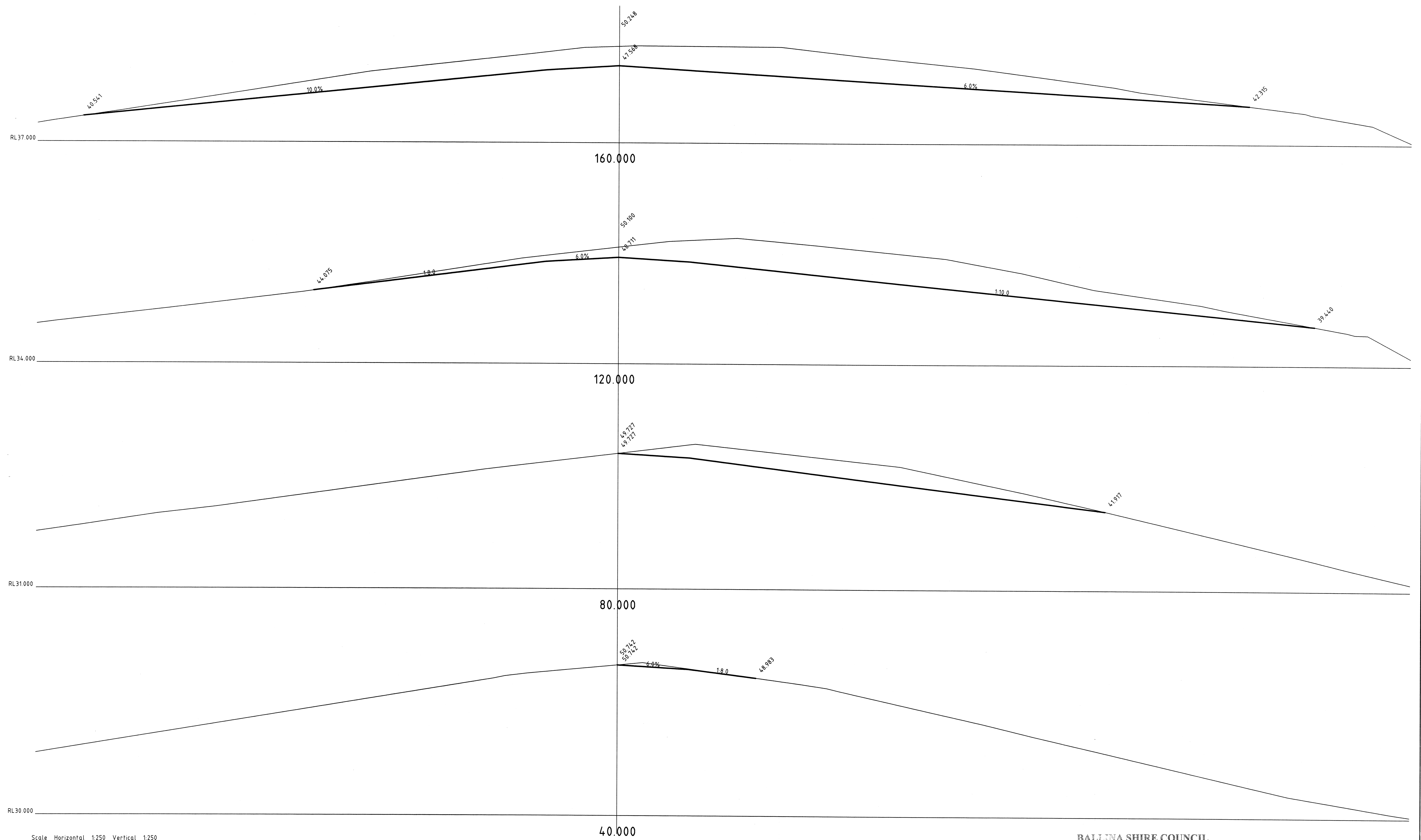


Scale Horizontal 1:500 Vertical 1:100

PALLINA SHIRES COUNCIL
This is the plan/document to which Development
Consent No. 1499/2004 relates, as submitted
& approved for issue of the Construction Certificate.
GENERAL MANAGER per: Revill
30/6/04

Do not scale drawing. Use written dimensions only

				Client: R. and J. Pidcock	Project: Pacific Pines Estate Stage 4d Bulk Earthworks off North Creek Road, Lennox Head	Title: Bulk Earthworks Longitudinal Section Excavation Zone	ARDILL PAYNE & PARTNERS CONSULTING CIVIL AND STRUCTURAL ENGINEERS PROJECT MANAGERS AND TOWN PLANNERS 79 Tamar Street P.O. Box 20 BALLINA NSW 2478 A.B.N. 113 861 522 12 Telephone: 02 6686 3280 Facsimile: 02 6686 7920 e-mail: info@ardillpayne.com.au		Design TJC	Scale at A1 As shown
Issue	Date	Amendment	App'd						Drawn TJC	Datum AHD
									Date MAY 2004	Filename 5028-4d-C4
									Checked <u>Payne</u>	Approved <u>Revill</u>
									Job No. 5028-4d	Dwg. No. C4



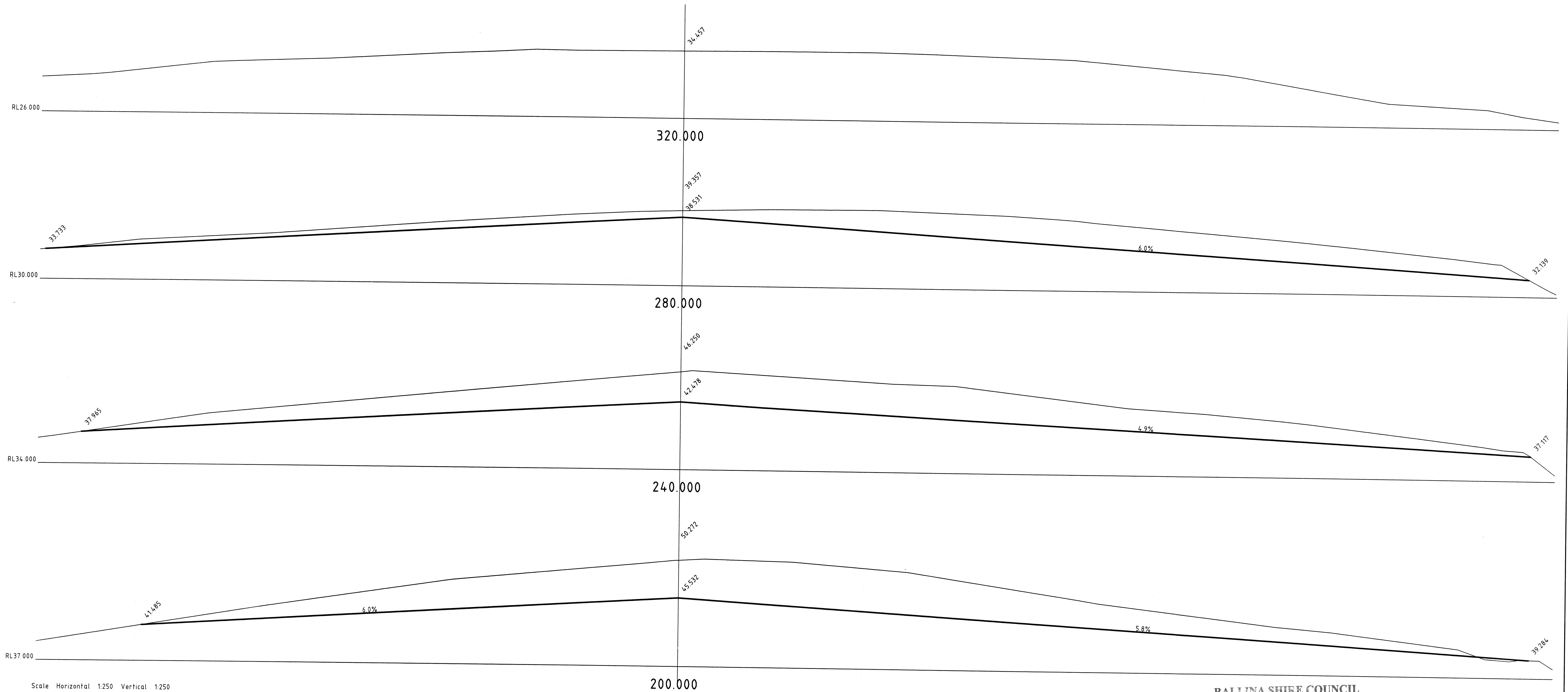
BALLINA SHIRE COUNCIL

This is the plan/document to which Development Consent No: 1999/248..... relates, as submitted & approved for issue of the Construction Certificate.

GENERAL MANAGER per: pkw

Do not scale drawing. Use written dimensions only

				Client:		Project:		Title:		ARDILL PAYNE & PARTNERS			Design	TJC	Scale at A1	1: 250
					R. and J. Pidcock		Pacific Pines Estate Stage 4d		Bulk Earthworks		CONSULTING CIVIL AND STRUCTURAL ENGINEERS		Drawn	TJC	Datum	AHD
							Bulk Earthworks		Cross Sections 1		PROJECT MANAGERS AND TOWN PLANNERS		Date	May 2004	Filename	5028-4d-C5-6
							off North Creek Road,		Excavation Zone		79 Tamar Street		Checked	[Signature]	Approved	[Signature]
							Lennox Head				P.O. Box 20		Job No.	5028-4d	Dwg. No.	C5
Issue	Date		Amendment	App'd							BALLINA NSW 2478					Issue
											A.B.N. 113 861 522 12					
											Telephone: 02 6698 3280					
											Facsimile: 02 6698 7920					
											e-mail: info@ardillpayne.com.au					



BALLINA SHIRE COUNCIL
 This is the plan/document to which Development
 Consent No: 1999/245 relates, as submitted
 & approved for issue of the Construction Certificate

GENERAL MANAGER per: *[Signature]*
 3/6/04

Do not scale drawing. Use written dimensions only

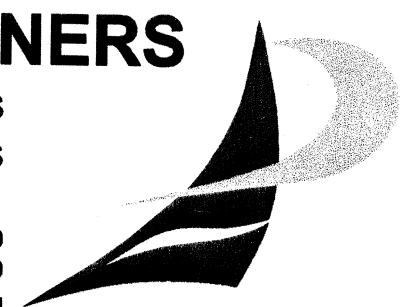
Issue	Date	Amendment	App'd

Client:
R. and J. Pidcock

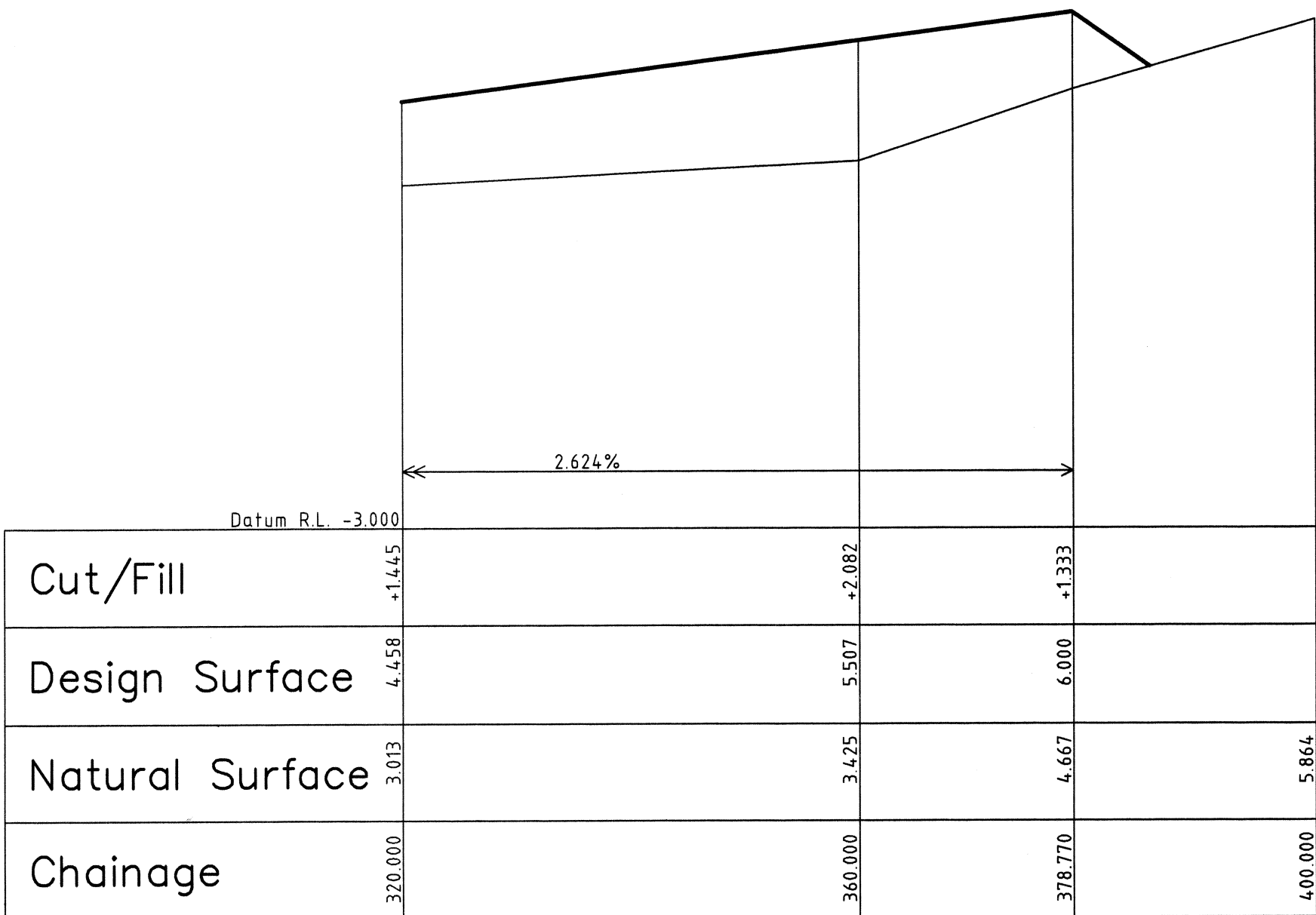
Project:
Pacific Pines Estate Stage 4d
 Bulk Earthworks
 off North Creek Road,
 Lennox Head

Title:
**Bulk Earthworks
 Cross Sections 2
 Excavation Zone**

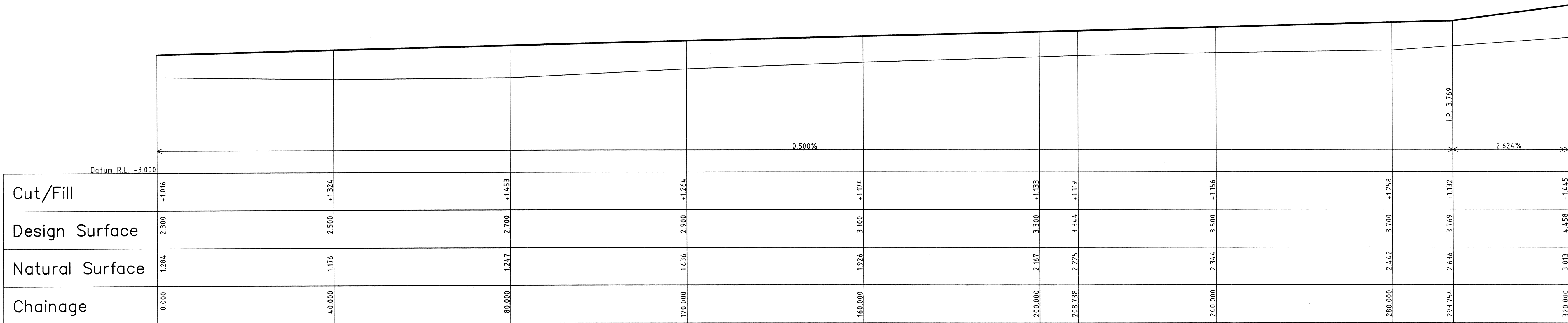
ARDILL PAYNE & PARTNERS
 CONSULTING CIVIL AND STRUCTURAL ENGINEERS
 PROJECT MANAGERS AND TOWN PLANNERS
 79 Tamar Street
 P.O. Box 20
 BALLINA NSW 2478
 A.B.N. 113 861 522 12
 Telephone: 02 6686 3280
 Facsimile: 02 6686 7920
 e-mail: info@ardillpayne.com.au



Design	TJC	Scale at A1	1: 250
Drawn	TJC	Datum	AHD
Date	MAY 2004	Filename	5028-4d-C5-6
Checked	<i>[Signature]</i>	Approved	<i>[Signature]</i>
Job No.	5028-4d	Dwg. No.	C6



Scale Horizontal 1:500 Vertical 1:100



Scale Horizontal 1:500 Vertical 1:100

BALLINA SHIRE COUNCIL
This is the plan/document to which Development
Consent No: 1999/P-4-B relates, as submitted
& approved for issue of the Construction Certificate.
GENERAL MANAGER per: *[Signature]*
2/6/04

Do not scale drawing. Use written dimensions only

Issue	Date	Amendment	App'd

Client:
R. and J. Pidcock

Project:
Pacific Pines Estate Stage 4d
Bulk Earthworks
off North Creek Road,
Lennox Head

Title:
**Bulk Earthworks
Longitudinal Section
Filling Zone**

ARDILL PAYNE & PARTNERS
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
PROJECT MANAGERS AND TOWN PLANNERS
79 Tamar Street
P.O. Box 20
BALLINA NSW 2478
A.B.N. 113 861 522 12
Telephone: 02 6686 3280
Facsimile: 02 6686 7820
e-mail: info@ardillpayne.com.au

Design	TJC	Scale at A1	As shown
Drawn	TJC	Datum	AHD
Date	MAY 2004	Filename	5028-4d-C7
Checked	<i>[Signature]</i>	Approved	<i>[Signature]</i>
Job No.	5028-4d	Dwg. No.	C7



Scale Horizontal 1:400 Vertical 1:400

BALLINA SHIRE COUNCIL

This is the plan/document to which Development Consent No. 1999/1245 relates, as submitted & approved for issue of the Construction Certificate

GENERAL MANAGER per: *[Signature]*
3/6/04

Do not scale drawing. Use written dimensions only

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