

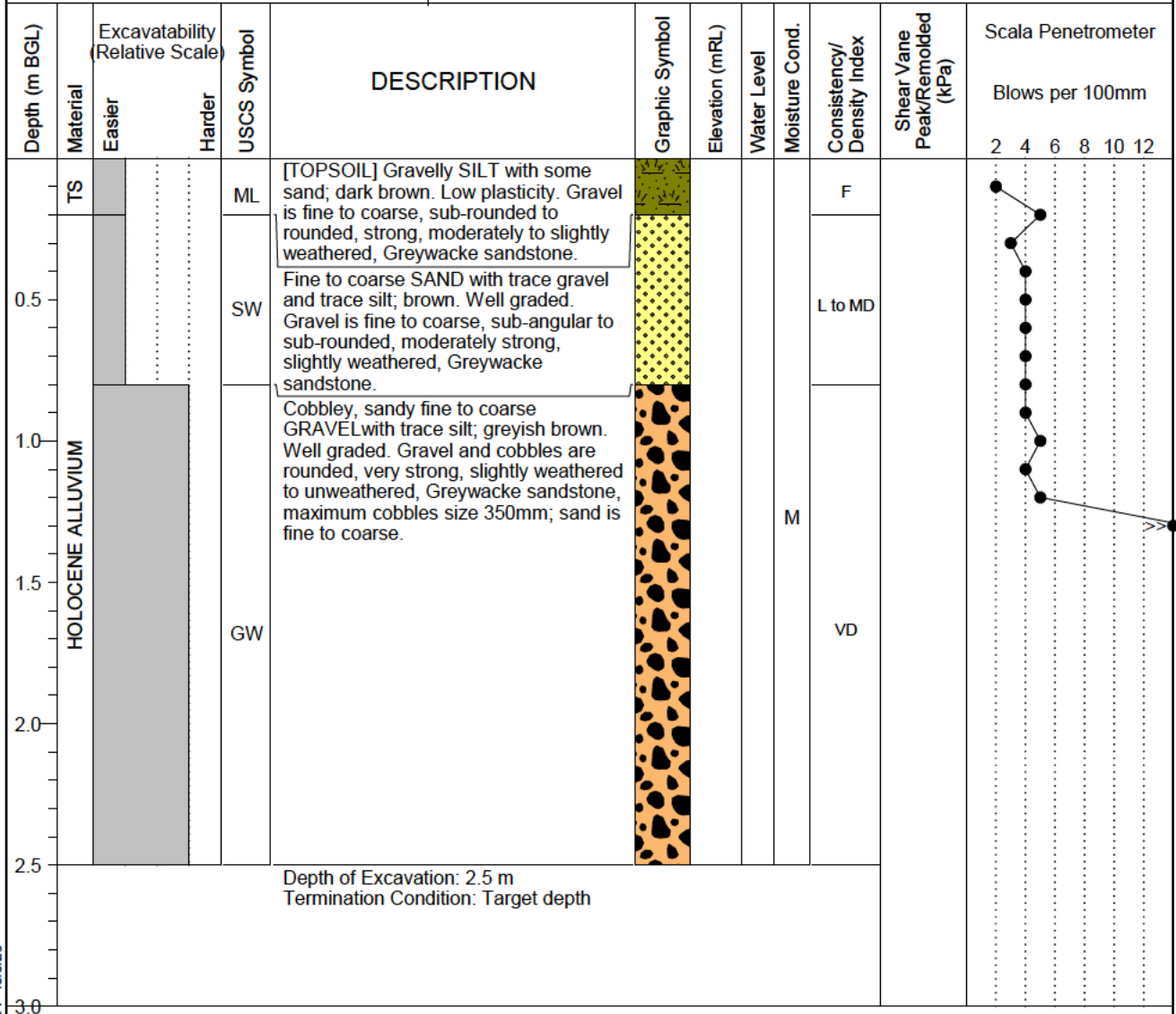


LOG OF TEST PIT STG4-TP07

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.001

Client : Simon Zhang
Date : 04.02.2026
Max Test Pit Depth : 2.5 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : MC
Reviewed By : HB
Latitude : -41.1011886
Longitude : 175.0900051



GEOTECH TEST PIT LOG TP LOGS.GPJ NZ MASTER DATA TEMPLATE GDT 13/3/26

Ground water not encountered.

TS = TOPSOIL, M = Moist

F = Firm, L = Loose, MD = Medium Dense, VD = Very Dense

Coordinates (WGS84) are spatially estimated using aerial imagery

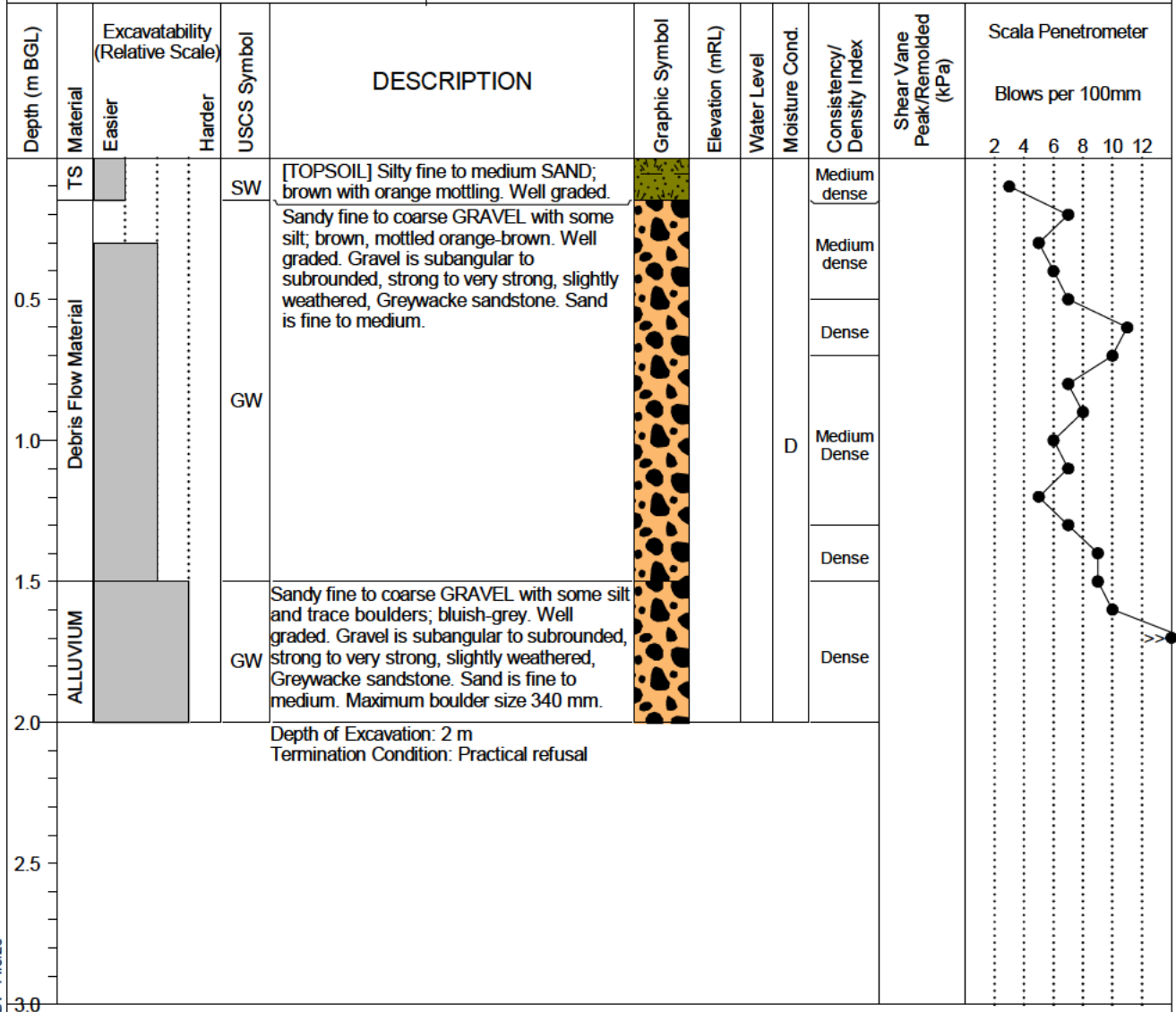


LOG OF TEST PIT STG4-TP08

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.002

Client : Simon Zhang
Date : 23.03.2026
Max Test Pit Depth : 2 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : KAJJ
Reviewed By : HB
Latitude : -41.1038565
Longitude : 175.0841077



Test pit met practical refusal at 2 m depth.
TS = TOPSOIL, D = Dry, M = Moist
Groundwater not encountered.
Coordinates (WGS84) are spatially estimated using aerial imagery



LOG OF TEST PIT STG4-TP09

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.002

Client : Simon Zhang
Date : 23.03.2026
Max Test Pit Depth : 1.4 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : KAJJ
Reviewed By : HB
Latitude : -41.1044675
Longitude : 175.0828539

Depth (m BGL)	Material	Excavatability (Relative Scale)		USCS Symbol	DESCRIPTION	Graphic Symbol	Elevation (mRL)	Water Level	Moisture Cond.	Consistency/ Density Index	Shear Vane Peak/Remolded (kPa)	Scala Penetrometer					
		Easier	Harder									Blows per 100mm					
	TS			SW	[TOPSOIL] Silty fine to medium SAND; brown with orange mottling. Well graded.				D	Medium Dense							
0.5	ALLUVIUM			GM	Silty fine to coarse GRAVEL with some sand, minor cobbles and minor boulders; dark brown. Well graded. Gravel is subangular to rounded, slightly weathered, strong to very strong, Greywacke sandstone. Sand is fine to medium. Maximum boulder measured 500 mm.				M	Medium dense							
1.0																	
1.5					Depth of Excavation: 1.4 m Termination Condition: Practical refusal					Dense							
2.0																	
2.5																	
3.0																	

Test pit met practical refusal at 1.4 m depth.
TS = TOPSOIL, D = Dry, M = Moist
Groundwater not encountered.
Coordinates (WGS84) are spatially estimated using aerial imagery

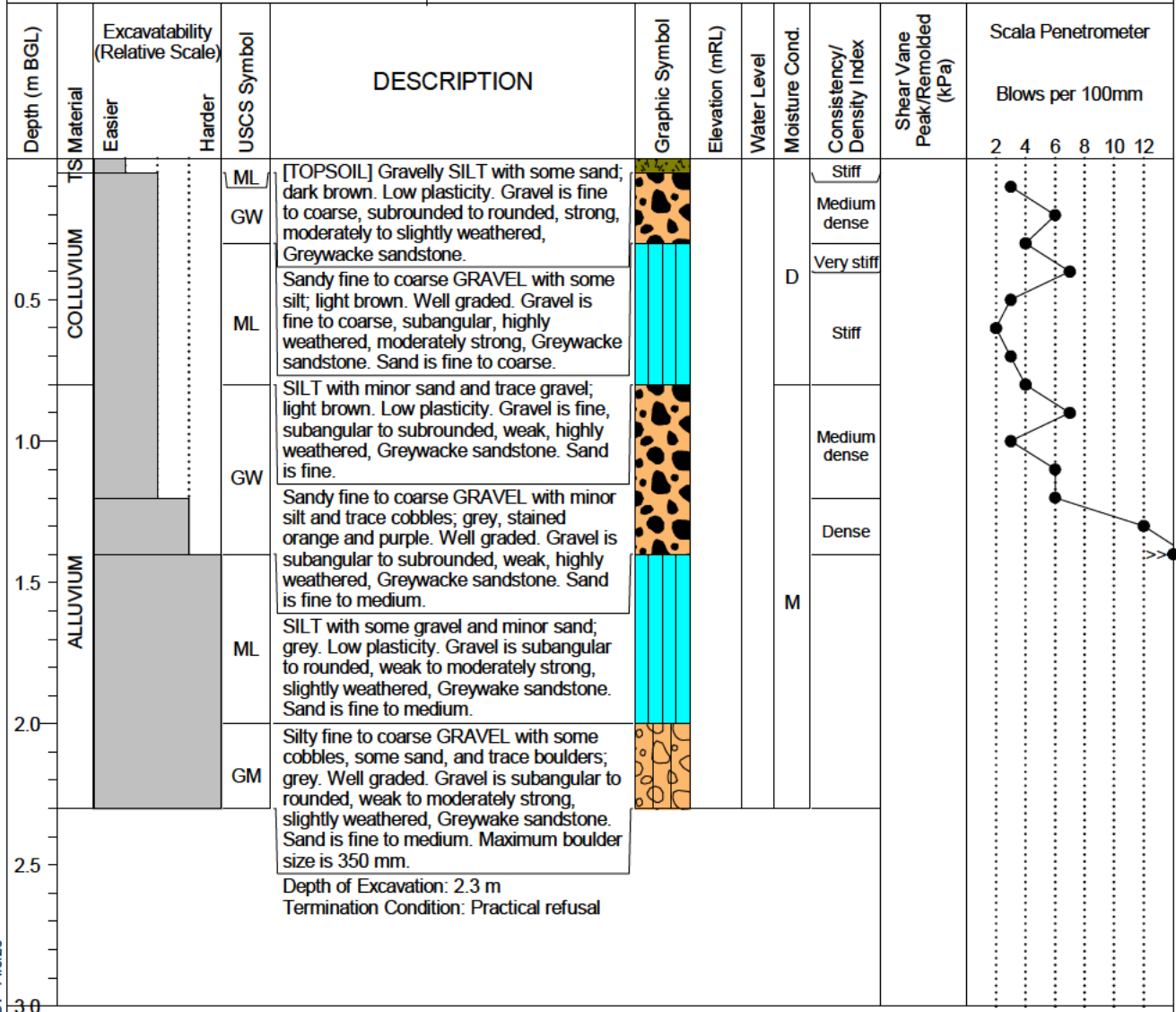


LOG OF TEST PIT STG4-TP10

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.002

Client : Simon Zhang
Date : 23.03.2026
Max Test Pit Depth : 2.3 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : KAJJ
Reviewed By : HB
Latitude : -41.1038739
Longitude : 175.0821751



Test pit met practical refusal at 2.3 m depth.
TS = TOPSOIL, D = Dry, M = Moist
Groundwater not encountered.
Coordinates (WGS84) are spatially estimated using aerial imagery

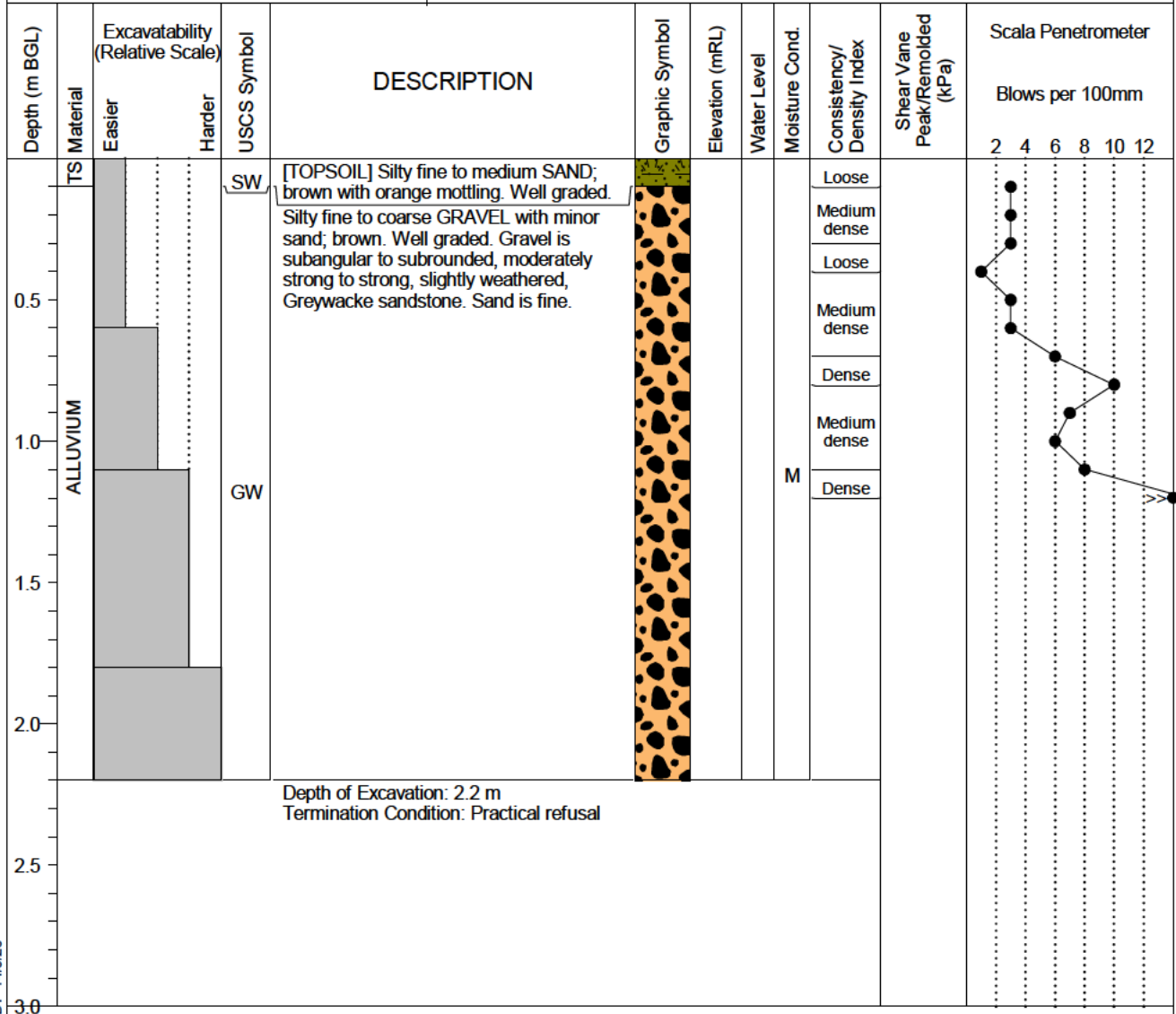


LOG OF TEST PIT STG4-TP11

Geotechnical Investigation
10 Cannon Point Road
Totara Park, Upper Hutt
16998.000.002

Client : Simon Zhang
Date : 23.03.2026
Max Test Pit Depth : 2.2 m
Digger Type/Size : Bucket Auger
Bucket Type/Size : 600

Shear Vane No : 3556
Logged By : KAJJ
Reviewed By : HB
Latitude : -41.1035017
Longitude : 175.0829488



Test pit met practical refusal at 2.2 m depth.
TS = TOPSOIL, M = Moist
Groundwater not encountered.
Coordinates (WGS84) are spatially estimated using aerial imagery

Appendix 6: Slope Stability Outputs

LEGEND

 Property Boundaries

Surfaces

 Contours 5.0 m

 Cross-Section Locations



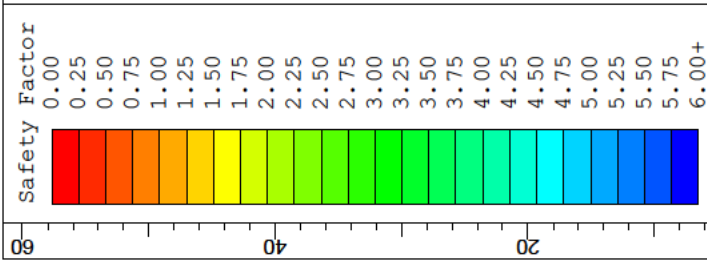
ENGEO

Projection: NZTM 2000NZGD2000 / New Zealand Transverse Mercator 2000

Client: Simon Zhang C/o Vecta Limited

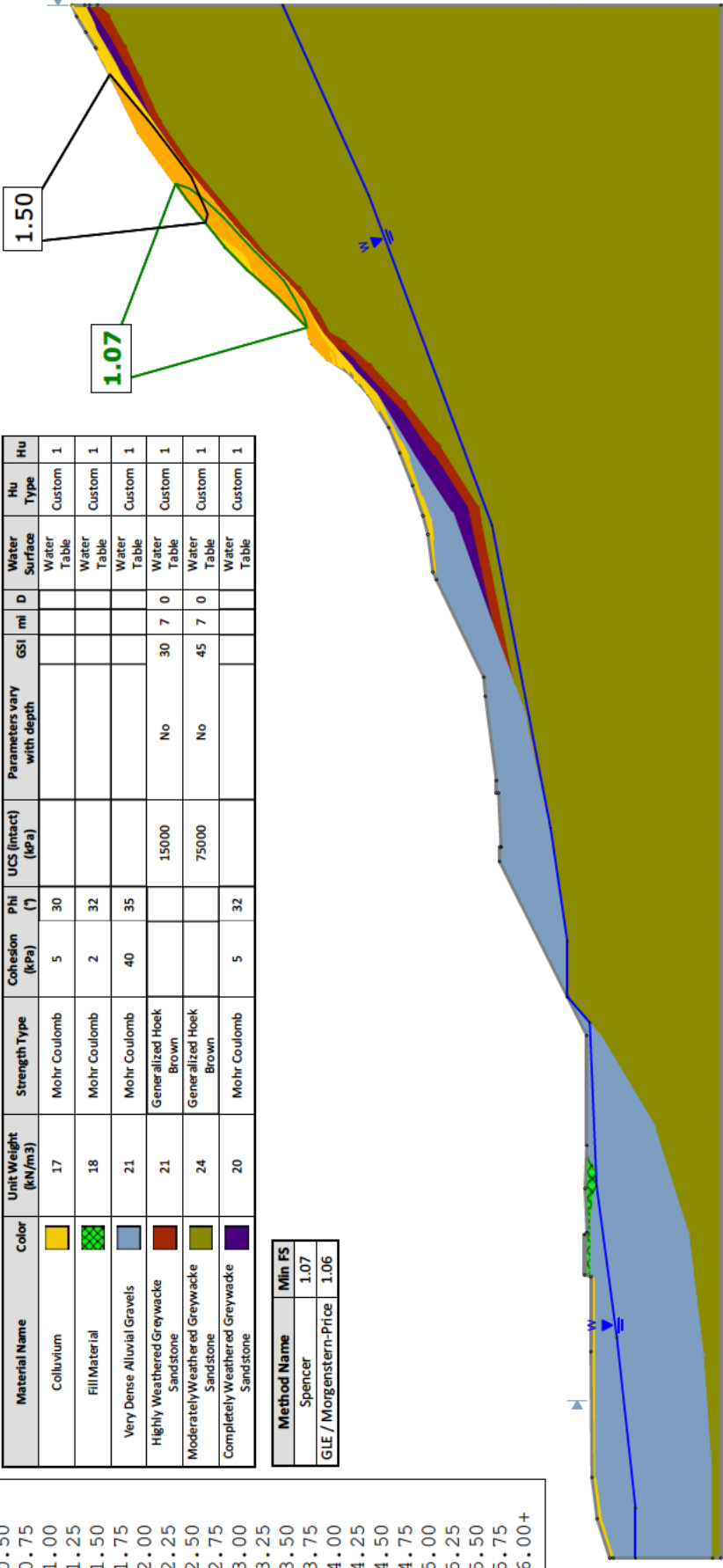
Title: Preliminary Slope Stability Cross Sections	Appendix	
	Project: Stage 4 Cannon Point	Size: A4
	Date: 15/05/2026	Checked: RJ Sheet
Proj No: 16998.000.002	Scale: 3500 @ A4	Version: 1.0



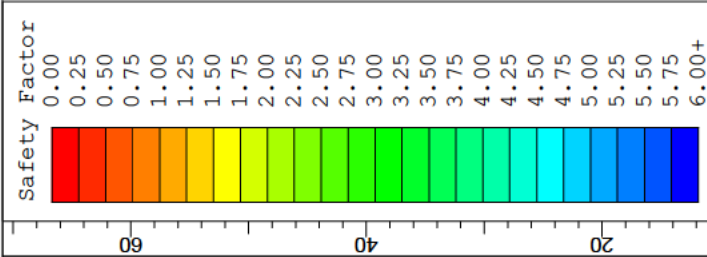


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr Coulomb	5	30						Water Table	Custom	1
Fill Material		18	Mohr Coulomb	2	32						Water Table	Custom	1
Very Dense Alluvial Gravels		21	Mohr Coulomb	40	35						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek Brown			75000	No	45	7	0	Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr Coulomb	5	32						Water Table	Custom	1

Method Name	Min FS
Spencer	1.07
GLE / Morgenstern-Price	1.06



Section A			
Project		Static Conditions	
Group	Slopes Above the Site		Scenario
Drawn By			Company
Date	4/8/2026, 9:02:02 AM		File Name
		Stage-4_Section-A.slm	



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type
Fill Material		18	Mohr-Coulomb	2	32						Water Table	Custom 1
Very Dense Alluvial Gravels		21	Mohr-Coulomb	40	35						Water Table	Custom 1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom 1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek-Brown			75000	No	45	7	0	Water Table	Custom 1
Saturated Colluvium		18	Mohr-Coulomb	1	30						Water Table	Custom 1
Saturated Alluvium		23	Mohr-Coulomb	10	35						Water Table	Custom 1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32						Water Table	Custom 1

Method Name	Min FS
Spencer	0.73
GLE / Morgenstern-Price	0.72

0.73



100

80

60

40

20

0

-20

-40

Project

Section A



Group

Slopes Above the Site

Scenario

Raised Ground Water / Wet Front

Drawn By

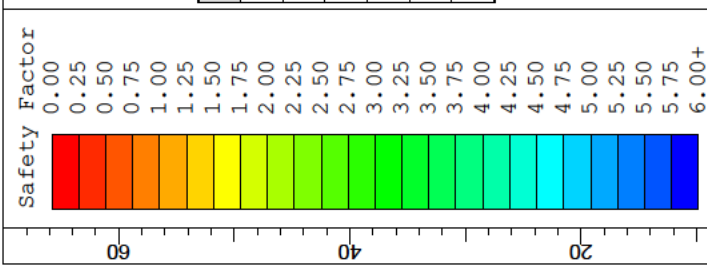
Company

SLIDEINTERPRET 9.040

4/8/2026, 9:02:02 AM

File Name

Stage-4_Section-A.sldm

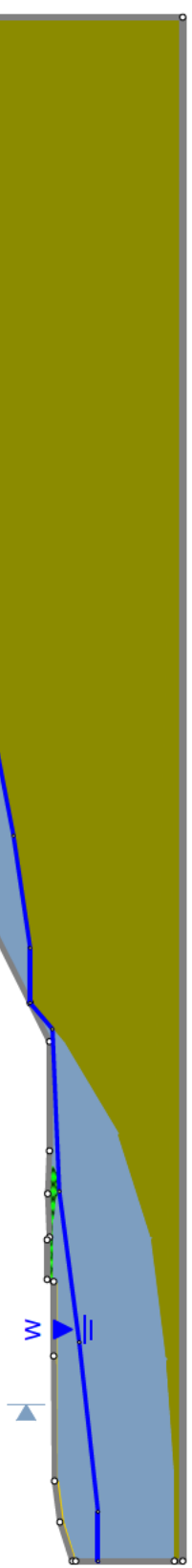


1.19

0.88

Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type
Colluvium		17	Mohr Coulomb	5	30						Water Table	Custom 1
Fill Material		18	Mohr Coulomb	2	32						Water Table	Custom 1
Very Dense Alluvial Gravels		21	Mohr Coulomb	40	35						Water Table	Custom 1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek Brown			15000	No	30	7	0	Water Table	Custom 1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek Brown			75000	No	45	7	0	Water Table	Custom 1
Completely Weathered Greywacke Sandstone		20	Mohr Coulomb	5	32						Water Table	Custom 1

Method Name	Min FS
Spencer	0.879
GLE / Morgenstern Price	0.868

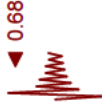
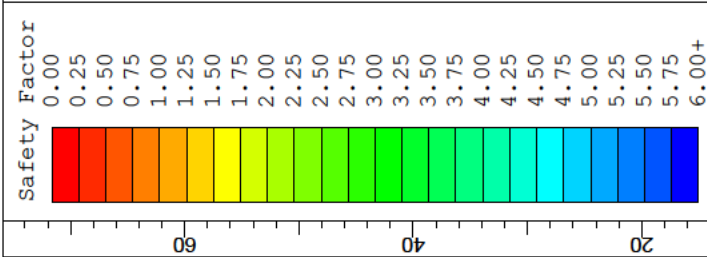


SLIDEINTERPRET 9.040

Project

Section A

Group	Slopes Above the Site	Scenario	Serviceability Limit State
Drawn By		Company	
Date	4/8/2026, 9:02:02 AM	File Name	Stage-4_Section-A.sldm



1.00

0.38

Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr- Coulomb	5	30						Water Table	Custom	1
Fill Material		18	Mohr- Coulomb	2	32						Water Table	Custom	1
Very Dense Alluvial Gravels		21	Mohr- Coulomb	40	35						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek-Brown			75000	No	45	7	0	Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr- Coulomb	5	32						Water Table	Custom	1

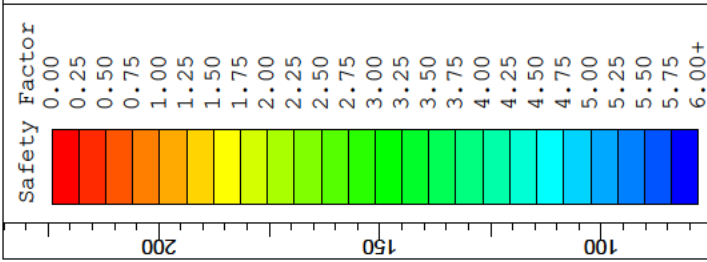
Method Name	Min FS
Spencer	0.38
GLE / Morgenstern Price	0.37

W

N



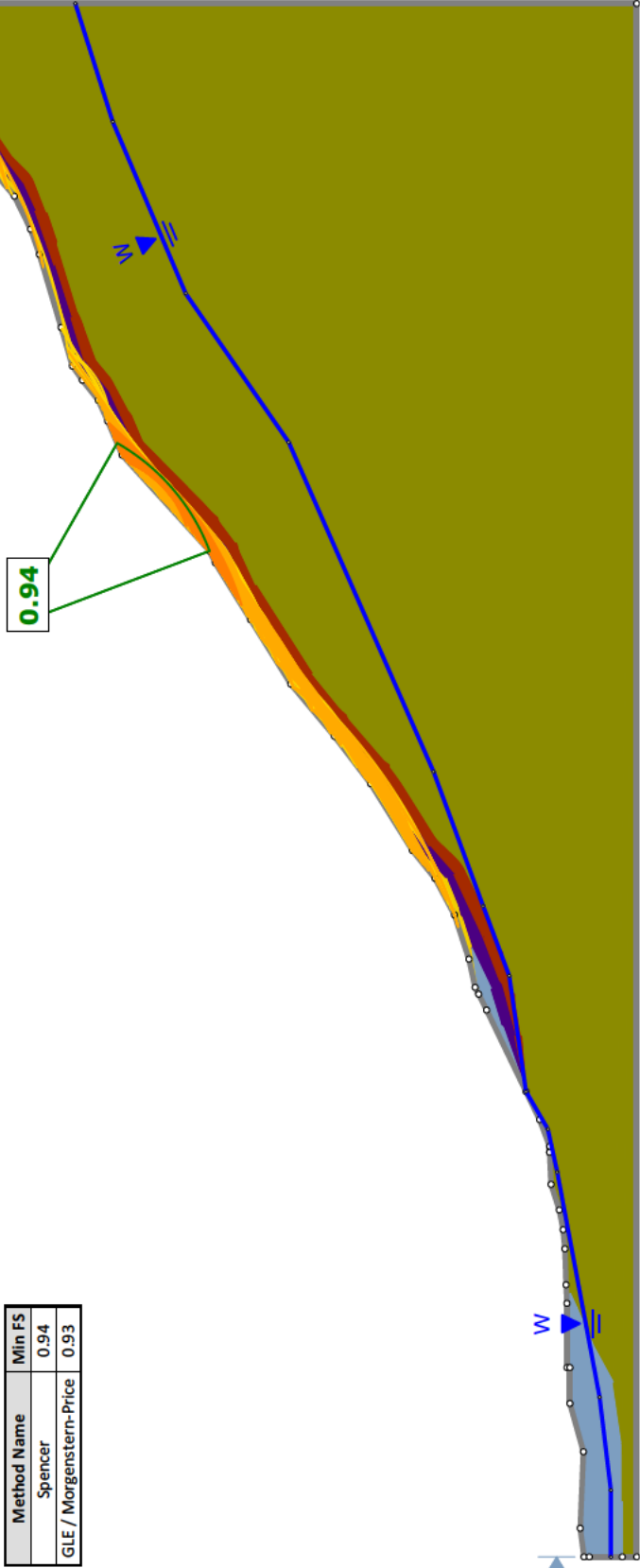
Section A			
Project		Ultimate Limit State	
Group	Slopes Above the Site		Scenario
Drawn By			Company
Date	4/8/2026, 9:02:02 AM		File Name
		Stage-4_Section-A.slm	



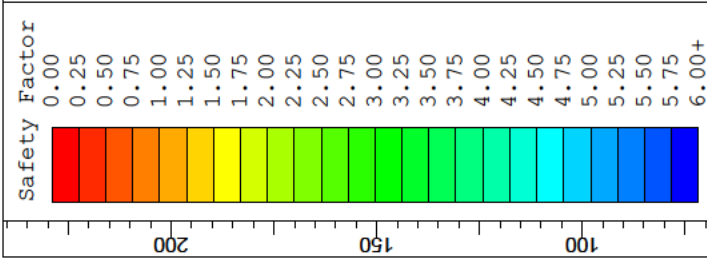
Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr-Coulomb	5	30						Water Table	Custom	1
Dense Alluvium		21	Mohr-Coulomb	40	35						Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek-Brown			75000	No	45	7	0	Water Table	Custom	1

Method Name	Min FS
Spencer	0.94
GLE / Morgenstern-Price	0.93

0.94



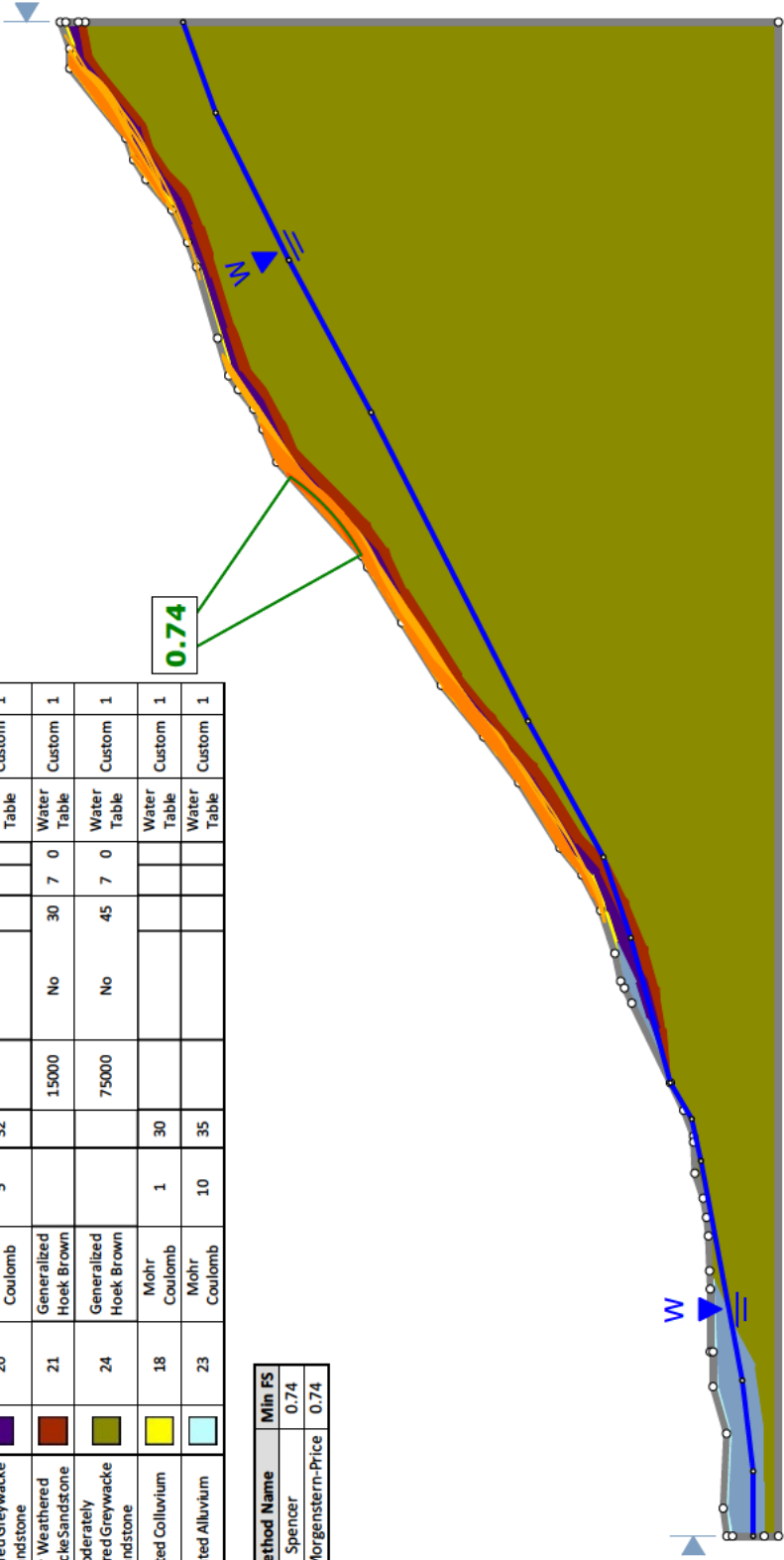
Project			Section B		
Group			Group 1		
Drawn By			Scenario		
Date			Company		
5/15/2026, 11:28:52 AM			File Name		
Stage-4 Section-B.slm			Static Conditions		



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type
Dense Alluvium		21	Mohr Coulomb	40	35						Water Table	Custom 1
Completely Weathered Greywacke Sandstone		20	Mohr Coulomb	5	32						Water Table	Custom 1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek Brown			15000	No	30	7	0	Water Table	Custom 1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek Brown			75000	No	45	7	0	Water Table	Custom 1
Saturated Colluvium		18	Mohr Coulomb	1	30						Water Table	Custom 1
Saturated Alluvium		23	Mohr Coulomb	10	35						Water Table	Custom 1

Method Name	Min FS
Spencer	0.74
GLE / Morgenstern-Price	0.74

0.74



Project

Section B



Group

Group 1

Raised Groundwater / Wet Front

Drawn By

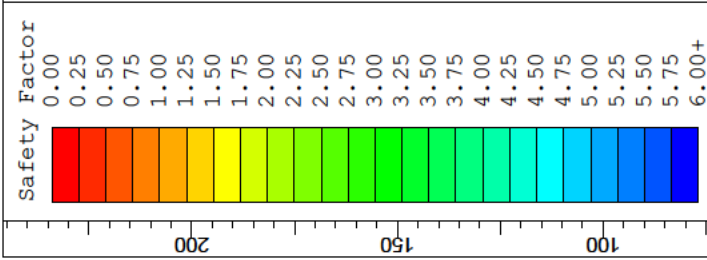
Company

Date

5/15/2026, 11:28:52 AM

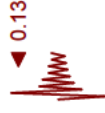
Stage-4-Section-B.slm

SLIDEINTERPRET 9.040



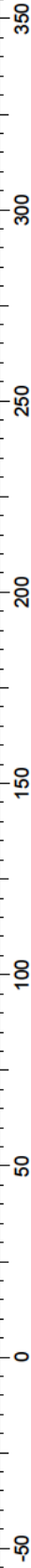
Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr Coulomb	5	30						Water Table	Custom	1
Dense Alluvium		21	Mohr Coulomb	40	35						Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr Coulomb	5	32						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek Brown			75000	No	45	7	0	Water Table	Custom	1

Method Name	MinFS
Spencer	0.75
GLE / Morgenstern Price	0.75



0.75

W



Project

Section B



Serviceability Limit State

Group 1

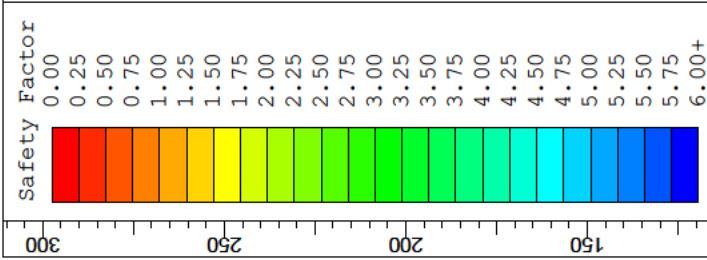
Drawn By

Company

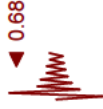
SLIDEINTERPRET 9.040

5/15/2026, 11:28:52 AM

Stage-4 Section-B.sldm

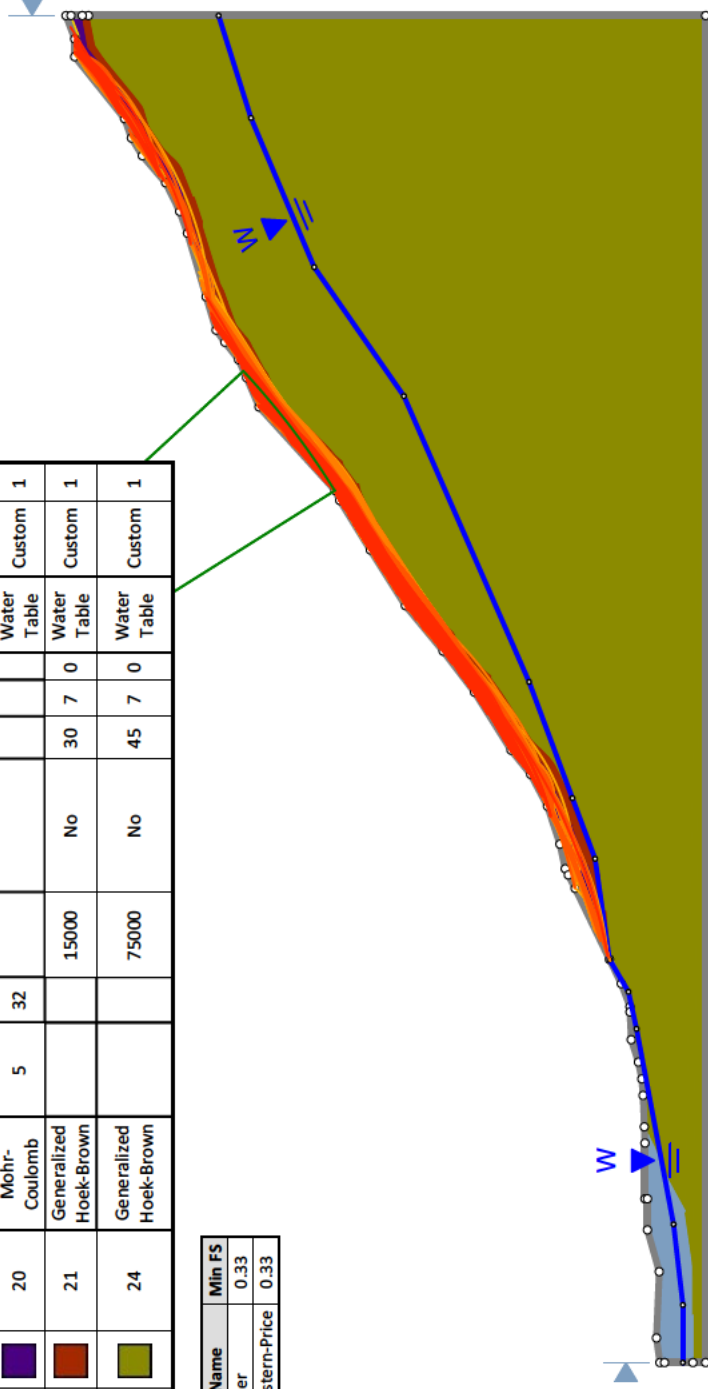


0.33



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr-Coulomb	5	30						Water Table	Custom	1
Dense Alluvium		21	Mohr-Coulomb	40	35						Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek-Brown			75000	No	45	7	0	Water Table	Custom	1

Method Name	Min FS
Spencer	0.33
GLE / Morgenstern-Price	0.33



Project

Section B



Ultimate Limit State

Group 1

Scenario

Company

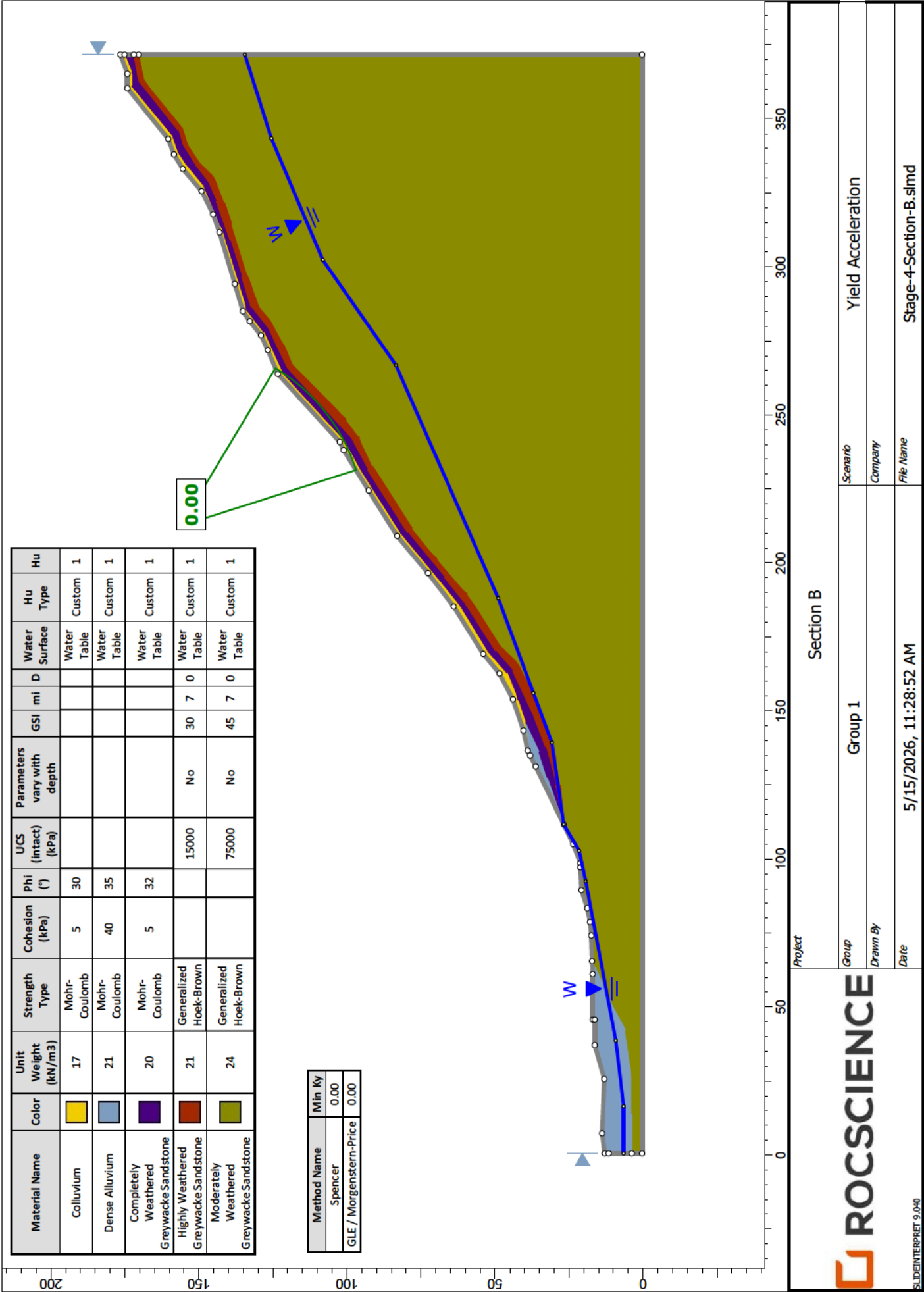
Stage-4 Section-B.slm

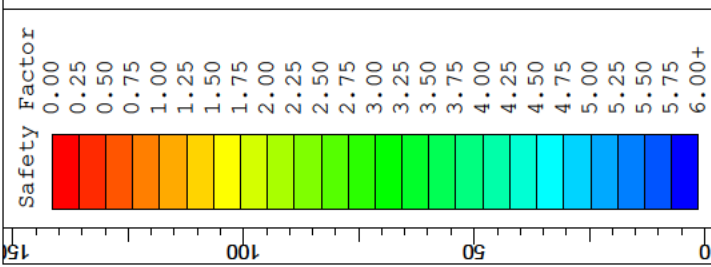
Drawn By

5/15/2026, 11:28:52 AM

Date

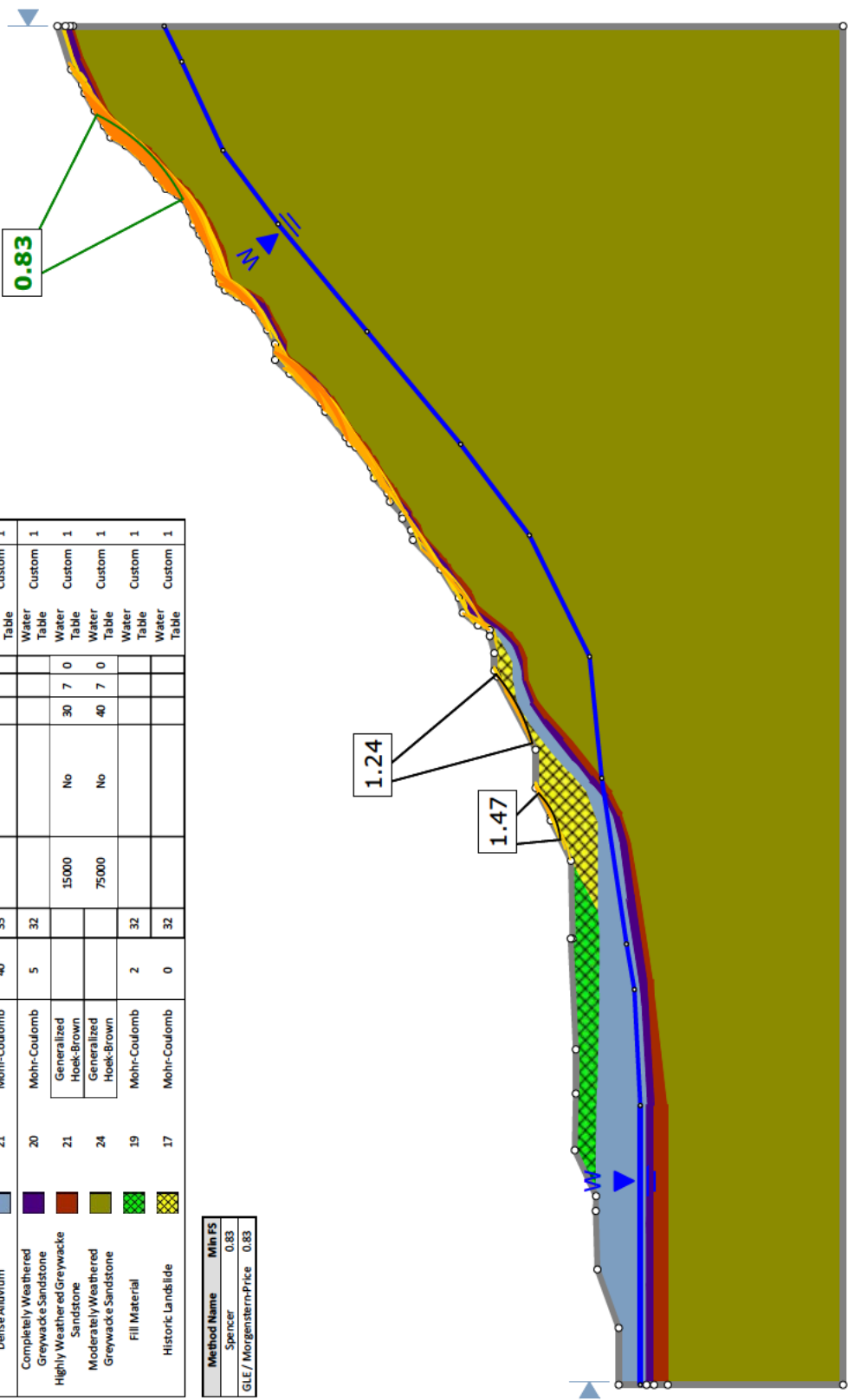
File Name





Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	D	Water Surface Table	Hu Type
Colluvium		17	Mohr-Coulomb	5	30					Water Table	Custom 1
Dense Alluvium		21	Mohr-Coulomb	40	35					Water Table	Custom 1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32					Water Table	Custom 1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Custom 1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek-Brown			75000	No	40	7	0	Custom 1
Fill Material		19	Mohr-Coulomb	2	32					Water Table	Custom 1
Historic Landslide		17	Mohr-Coulomb	0	32					Water Table	Custom 1

Method Name	Min FS
Spencer	0.83
GLE / Morgenstern-Price	0.83



Project

Section C



Group

Drawn By

Slopes Above the site

Static Co nditions

SLIDEINTERPRET 9.040

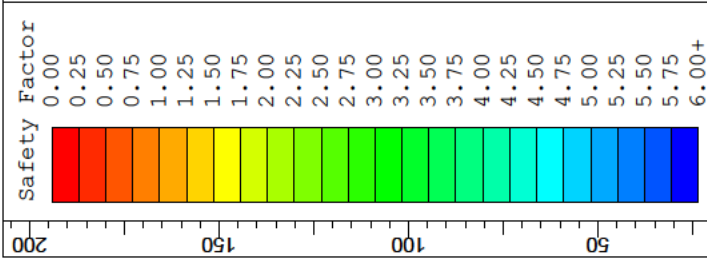
5/15/2026, 6:25:20 PM

Date

Company

Stage-4-Section-C.slm

File Name



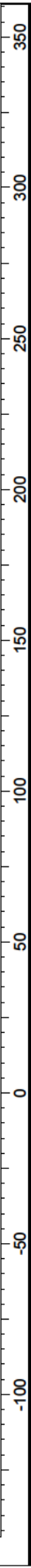
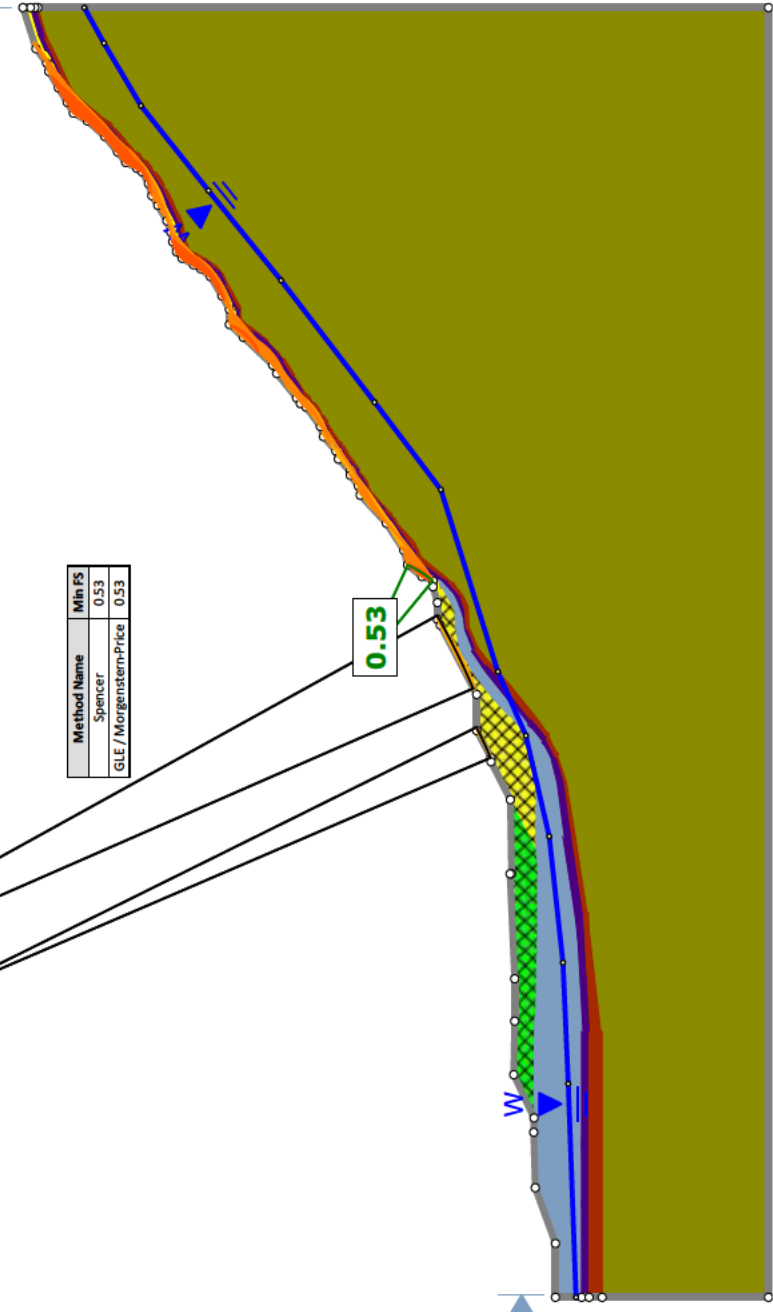
1.12

1.18

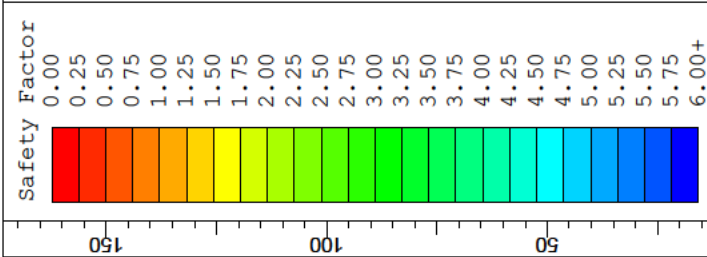
0.53

Method Name	Min FS
Spencer	0.53
GLE / Morgenstern-Price	0.53

Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type
Dense Alluvium		21	Mohr-Coulomb	40	35						Water Table	Custom 1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32						Water Table	Custom 1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom 1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek-Brown			75000	No	40	7	0	Water Table	Custom 1
Fill Material		19	Mohr-Coulomb	2	32						Water Table	Custom 1
Historic Landslide		17	Mohr-Coulomb	0	32						Water Table	Custom 1
Saturated Colluvium		18	Mohr-Coulomb	1	30						Water Table	Custom 1
Saturated Historic Landslide		20	Mohr-Coulomb	0	29						Water Table	Custom 1
Saturated Fill		20	Mohr-Coulomb	0	31						Water Table	Custom 1



Project		Section C	
Group	Slopes Above the site	Scenario	Raised Groundwater / Wet Front
Drawn By		Company	
Date	5/15/2026, 6:25:20 PM	File Name	Stage-4-Section-C.slm



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type
Colluvium		17	Mohr-Coulomb	5	30						Water Table	Custom 1
Dense Alluvium		21	Mohr-Coulomb	40	35						Water Table	Custom 1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32						Water Table	Custom 1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom 1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek-Brown			75000	No	40	7	0	Water Table	Custom 1
Fill Material		19	Mohr-Coulomb	2	32						Water Table	Custom 1
Historic Landslide		17	Mohr-Coulomb	0	32						Water Table	Custom 1

Method Name	Min FS
Spencer	0.67
GLE / Morgenstern-Price	0.68

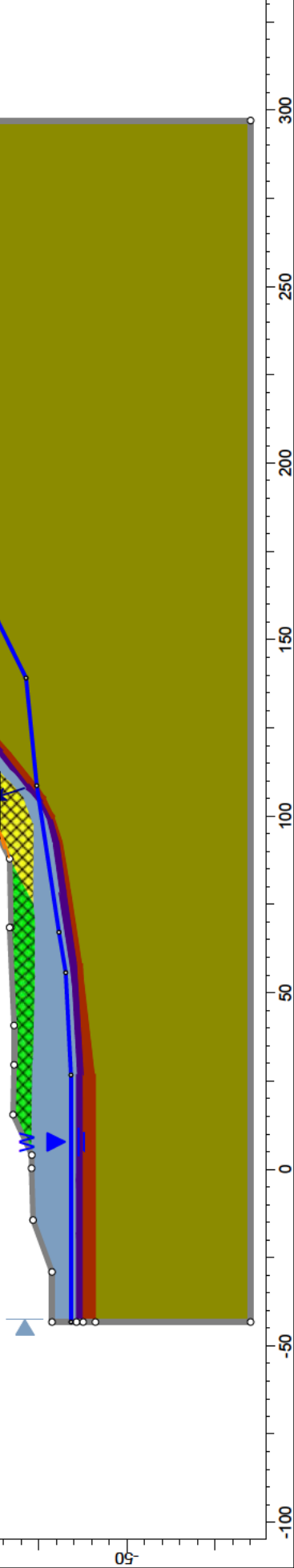


0.67

1.16

0.93

1.086



Project

Section C

ROCSCIENCE

Slopes Above the site

Serviceability Limit State

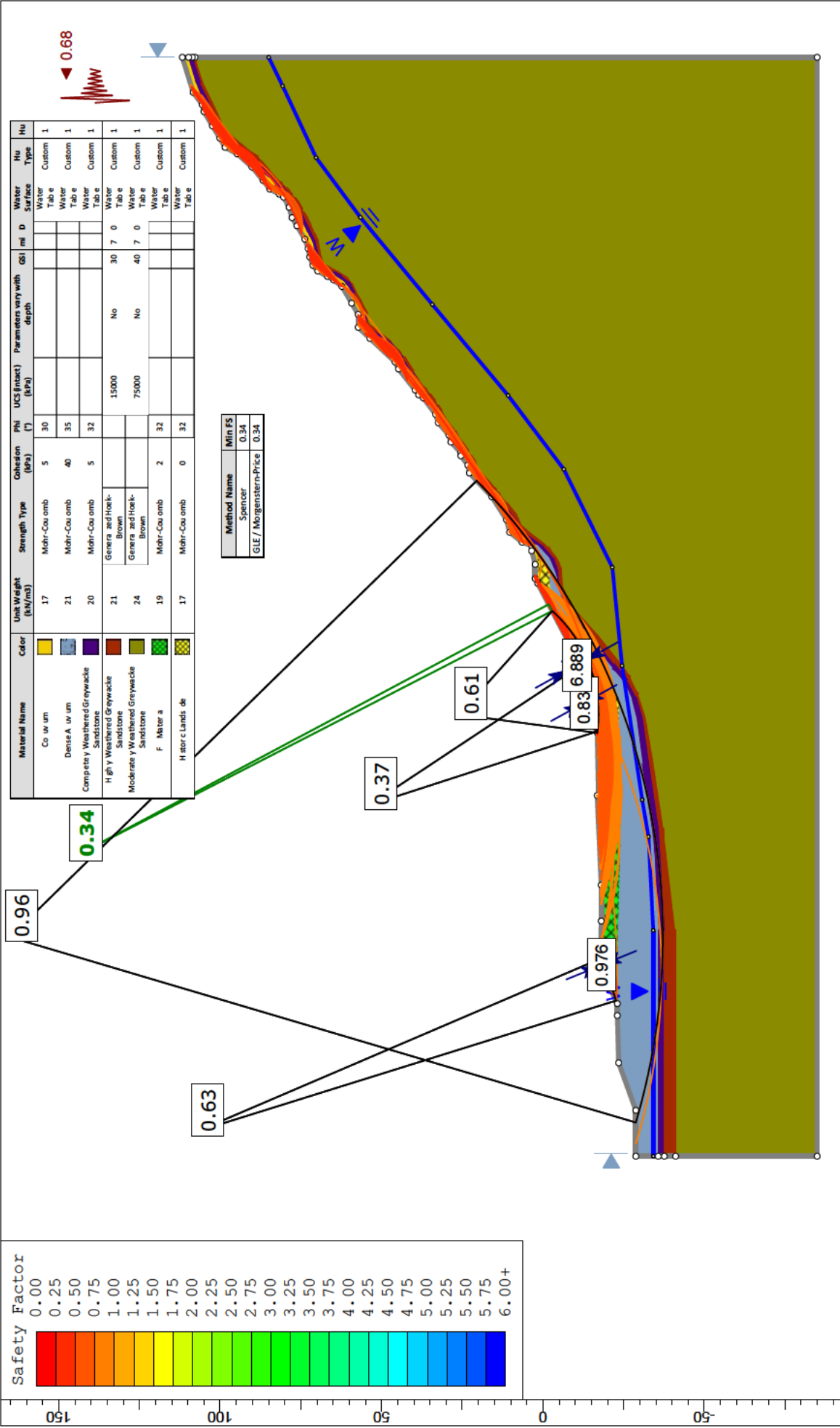
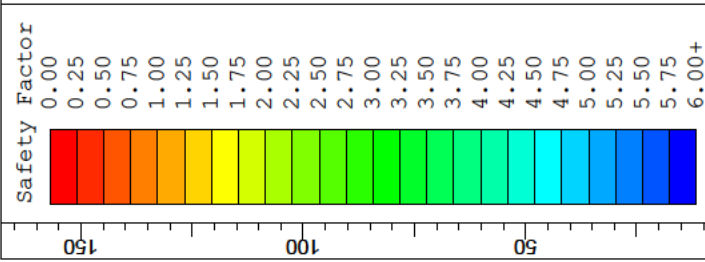
Group

Company

Date 5/15/2026, 6:25:20 PM

Stage-4 Section-C.slm

SLIDINTERPRET 9.040



Project

Section C



Slopes Above the site

Ultimate Limit State

Group

Scenario

Drawn By

Company

Date

5/15/2026, 6:25:20 PM

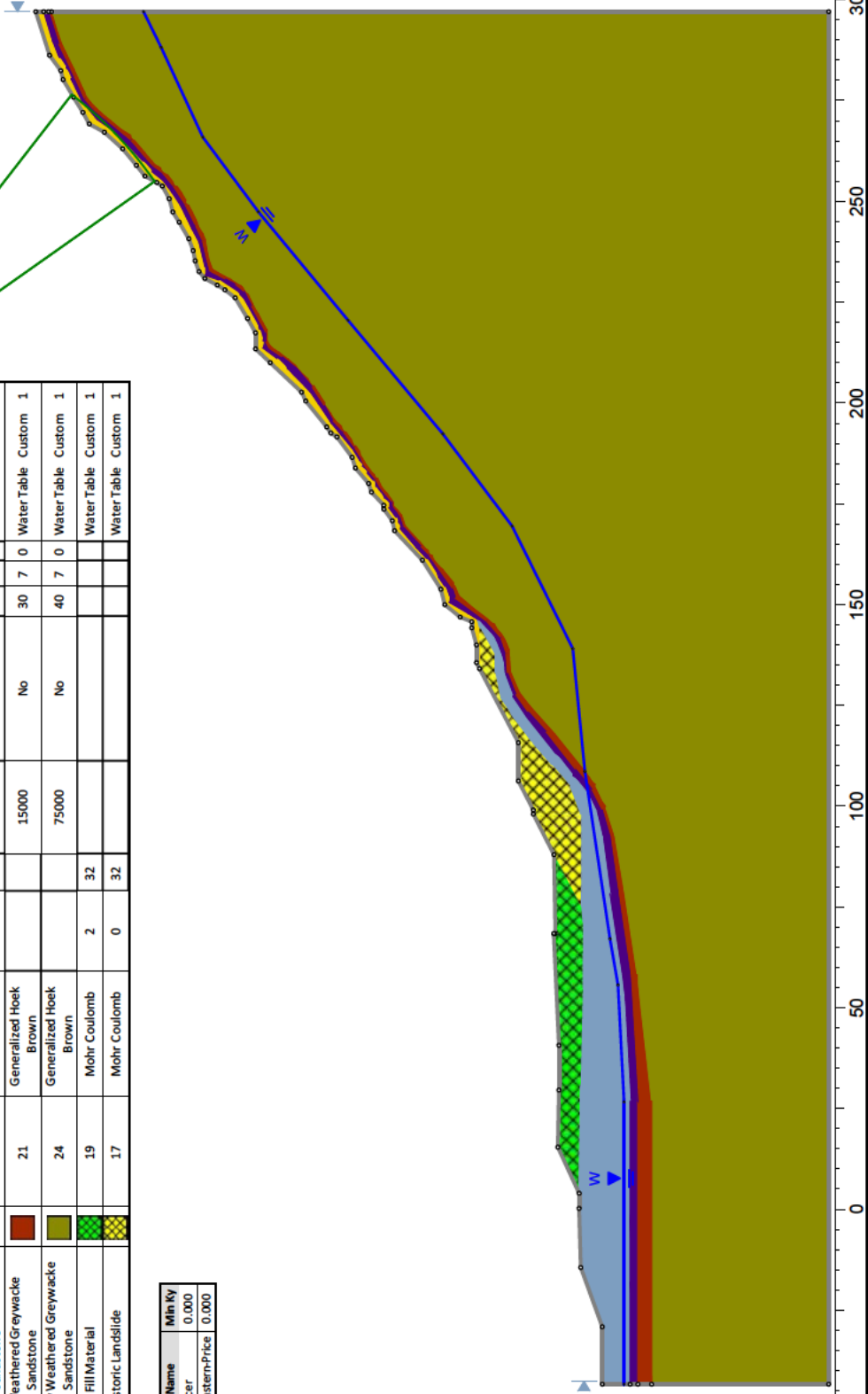
Stage-4 Section-C.slm

SLIDEINTERPRET 9.040

0.000

Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	D	Water Surface	Hu Type
Colluvium		17	Mohr Coulomb	5	30					Water Table	Custom
Dense Alluvium		21	Mohr Coulomb	40	35					Water Table	Custom
Completely Weathered Greywacke Sandstone		20	Mohr Coulomb	5	32					Water Table	Custom
Highly Weathered Greywacke Sandstone		21	Generalized Hoek Brown			15000	No	30	7	Water Table	Custom
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek Brown			75000	No	40	7	Water Table	Custom
Fill Material		19	Mohr Coulomb	2	32					Water Table	Custom
Historic Landslide		17	Mohr Coulomb	0	32					Water Table	Custom

Method Name	Min Ky
Spencer	0.000
GLE / Morgenstern-Price	0.000



Project

Section C



Group Slopes Above the site

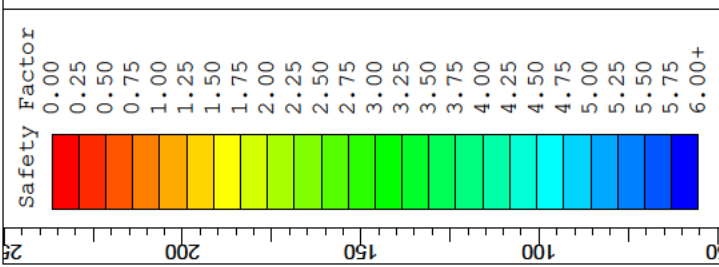
Scenario Yield Acceleration

Drawn By

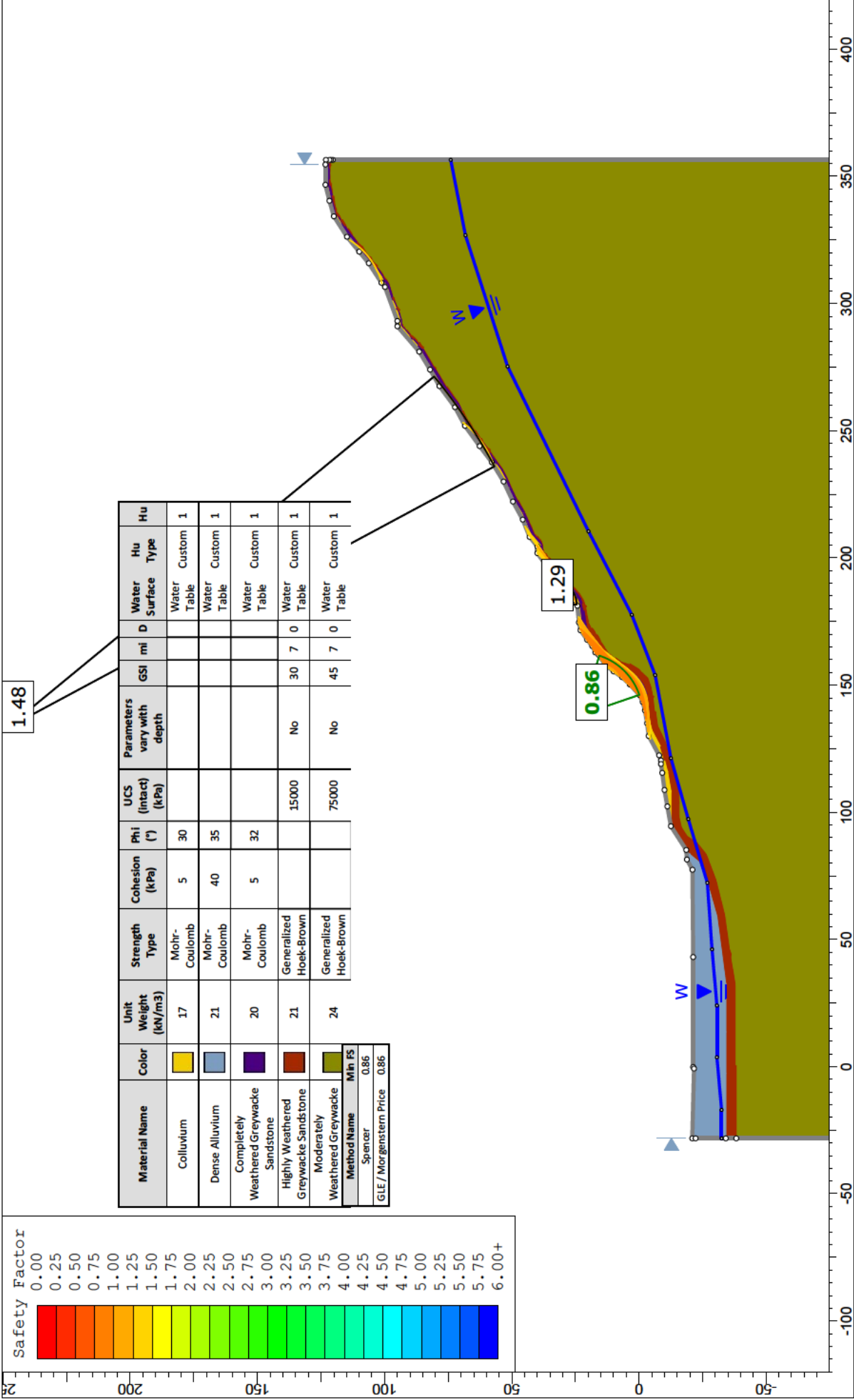
Company

Date 5/15/2026, 6:25:20 PM

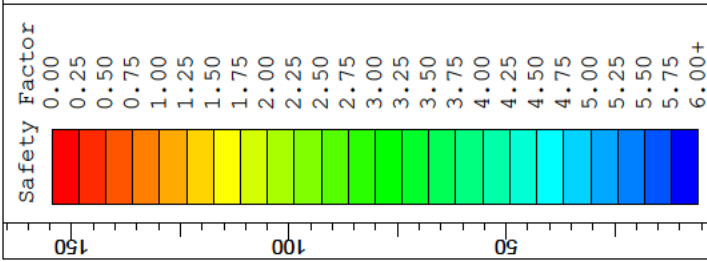
File Name Stage-4 Section-C.slm



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr-Coulomb	5	30						Water Table	Custom	1
Dense Alluvium		21	Mohr-Coulomb	40	35						Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke		24	Generalized Hoek-Brown			75000	No	45	7	0	Water Table	Custom	1
Method Name	Min FS												
Spencer	0.86												
GLE / Morgenstern Price	0.86												



Section D		
Project	Group 1	Static Conditions
Group	Company	
Drawn By	File Name	Stage-4 Section-D.slm
Date	5/15/2026, 11:33:19 PM	



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Saturated Colluvium	Yellow	18	Mohr-Coulomb	1	30						Water Table	Custom	1
Dense Alluvium	Blue	21	Mohr-Coulomb	40	35						Water Table	Custom	1
Saturated Dense Alluvium	Light Blue	23	Mohr-Coulomb	10	35						Water Table	Custom	1
Completely Weathered Greywacke Sandstone	Purple	20	Mohr-Coulomb	5	32						Water Table	Custom	1
Highly Weathered Greywacke Sandstone	Brown	21	Generalized Hoek-Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone	Dark Green	24	Generalized Hoek-Brown			75000	No	45	7	0	Water Table	Custom	1

Method Name	Min FS
Spencer	0.59
GLE / Morgenstern-Price	0.59

1.18

0.59

W

W



Project

Section D



Raised Groundwater / Wet Front

Group 1

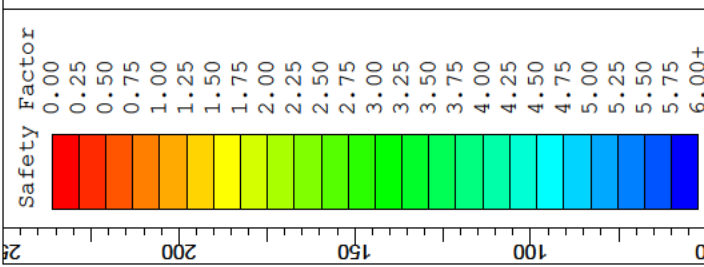
Drawn By

Company

SLIDEINTERPRET 9.040

5/15/2026, 11:33:19 PM

Stage-4 Section-D.slm



1.17

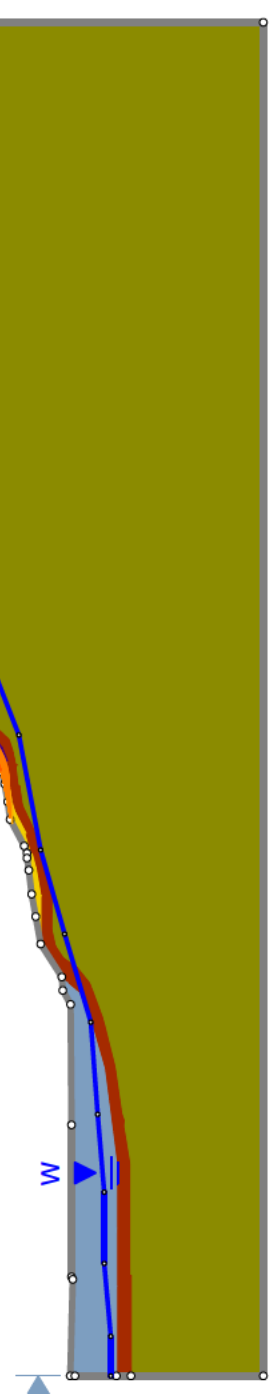


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (intact) (kPa)	Parameters vary with depth	GSI	mi	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr Coulomb	5	30						Water Table	Custom	1
Dense Alluvium		21	Mohr Coulomb	40	35						Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr Coulomb	5	32						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hoek Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone		24	Generalized Hoek Brown			75000	No	45	7	0	Water Table	Custom	1

Method Name	Min FS
Spencer	0.71
GLE / Morgenstern Price	0.71

1.07

0.71



Project

Section D



Group

Group 1

Drawn By

Date

5/15/2026, 11:33:19 PM

Min FS

0.71

GLE / Morgenstern Price

0.71

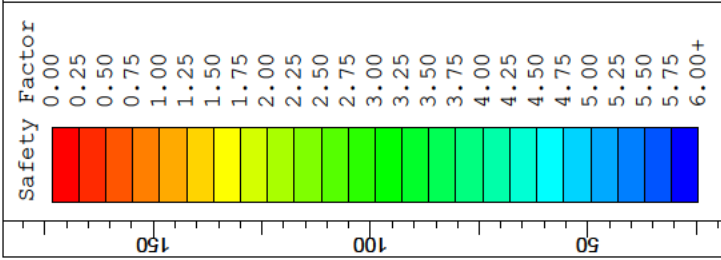
Scenario

Company

File Name

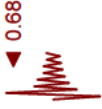
Stage-4 Section-D.slm

Serviceability Limit State



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	UCS (Intact) (kPa)	Parameters vary with depth	GSI	m	D	Water Surface	Hu Type	Hu
Colluvium		17	Mohr-Coulomb	5	30						Water Table	Custom	1
Dense Alluvium		21	Mohr-Coulomb	40	35						Water Table	Custom	1
Completely Weathered Greywacke Sandstone		20	Mohr-Coulomb	5	32						Water Table	Custom	1
Highly Weathered Greywacke Sandstone		21	Generalized Hook-Brown			15000	No	30	7	0	Water Table	Custom	1
Moderately Weathered Greywacke Sandstone		24	Generalized Hook-Brown			75000	No	45	7	0	Water Table	Custom	1

Method Name	Min FS
Spencer	0.31
GLE / Morgenstern-Price	0.32



0.71

0.31

0.64

2.853



Project

Section D



Group 1

Ultimate Limit State

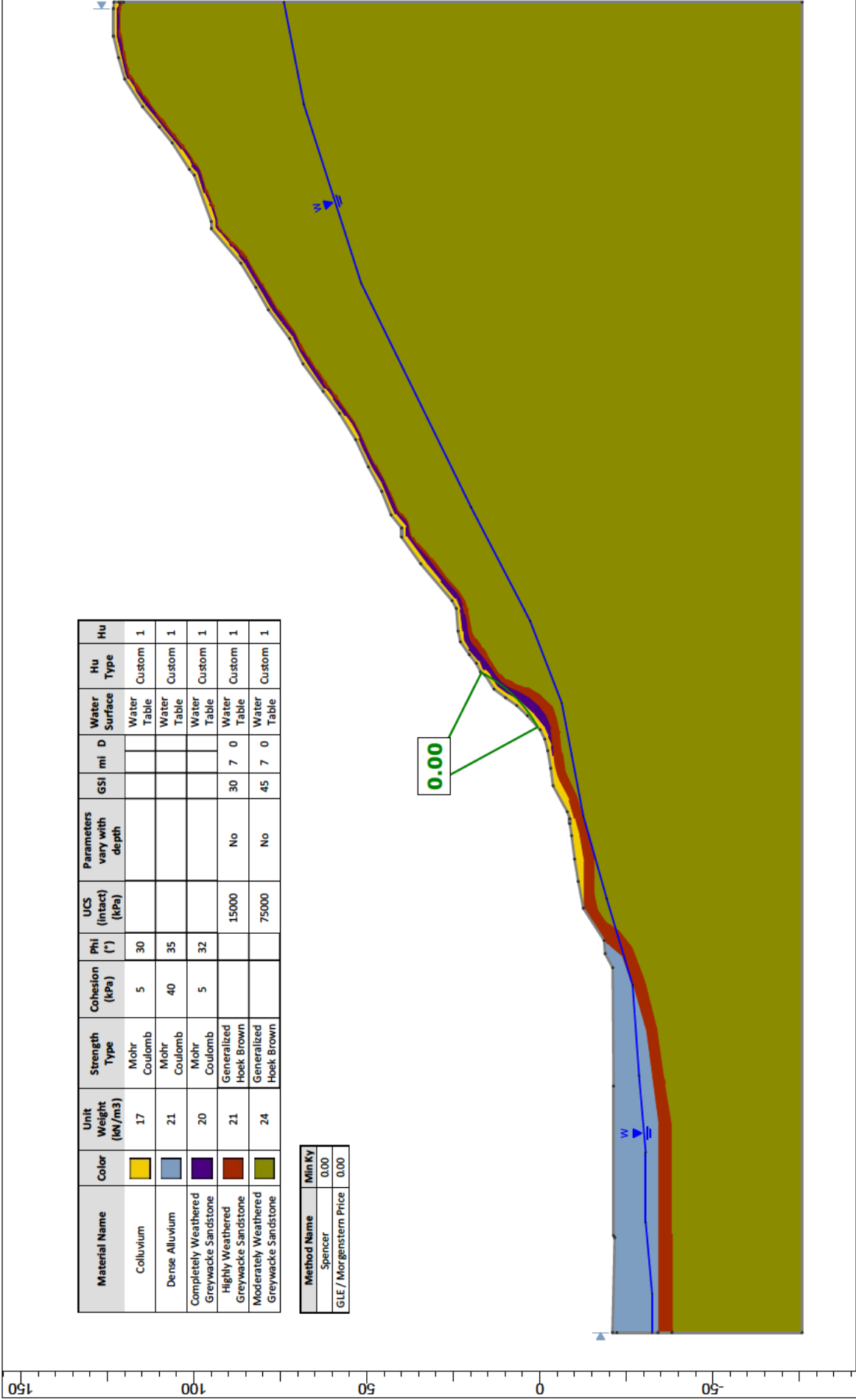
Drawn By

Company

5/15/2026, 11:33:19 PM

Stage-4 Section-D.slm

SLIDEINTERPRET 9.040



Project

Section D



Group

Group 1

Scenario

Yield Acceleration

Drawn By

Company

Date

5/15/2026, 11:33:19 PM

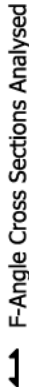
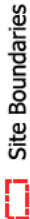
File Name

Stage-4 Section-D.sld

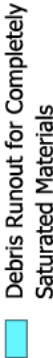
Appendix 7: Shadow Angle Exceedances

LEGEND

Features



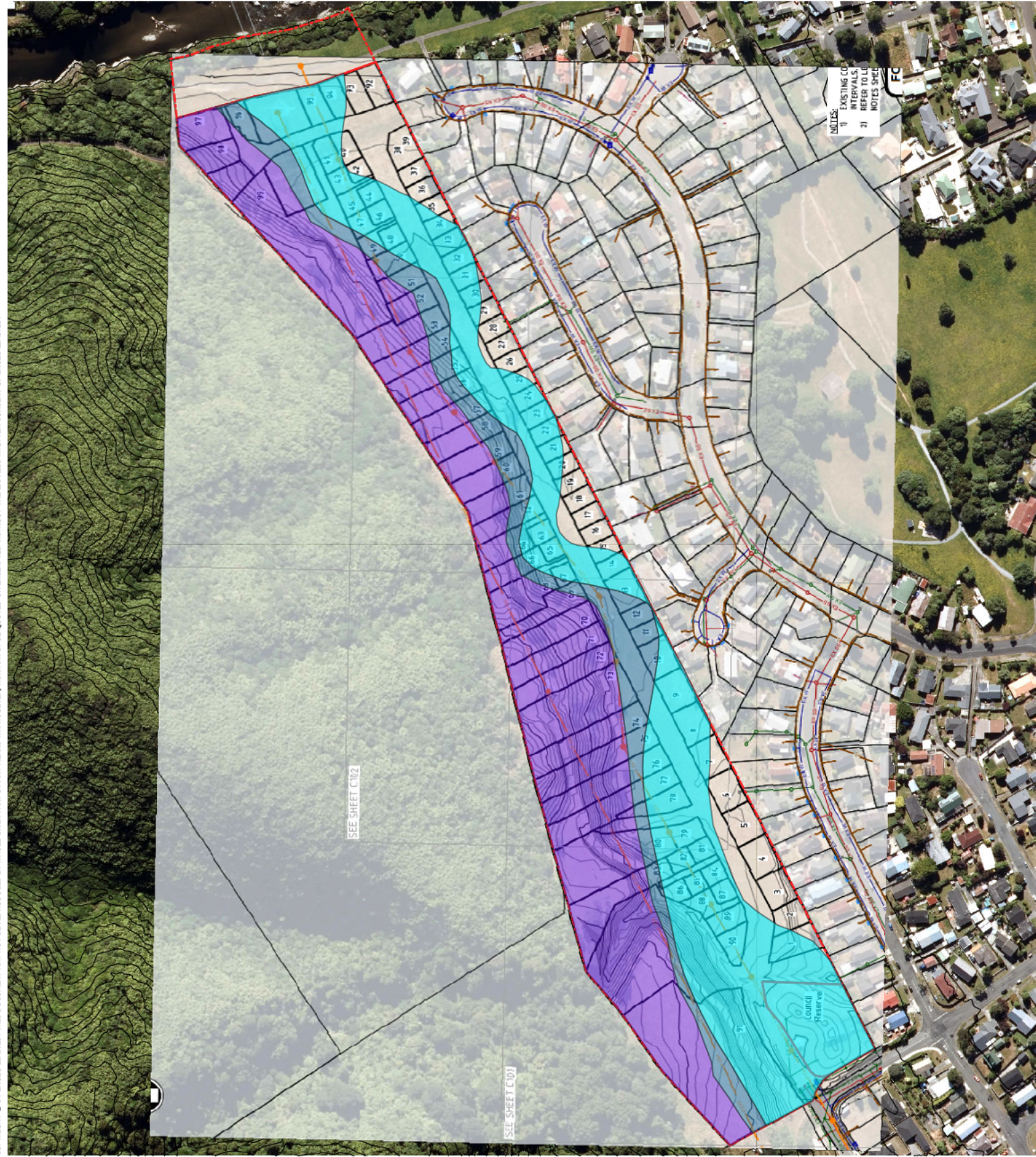
Stage 4 Effect Debris Runout Areas



Projection: NZTM 2000NZGD2000 / New Zealand Transverse Mercator 2000

Client: Simon Zhang C/o Vecta Limited

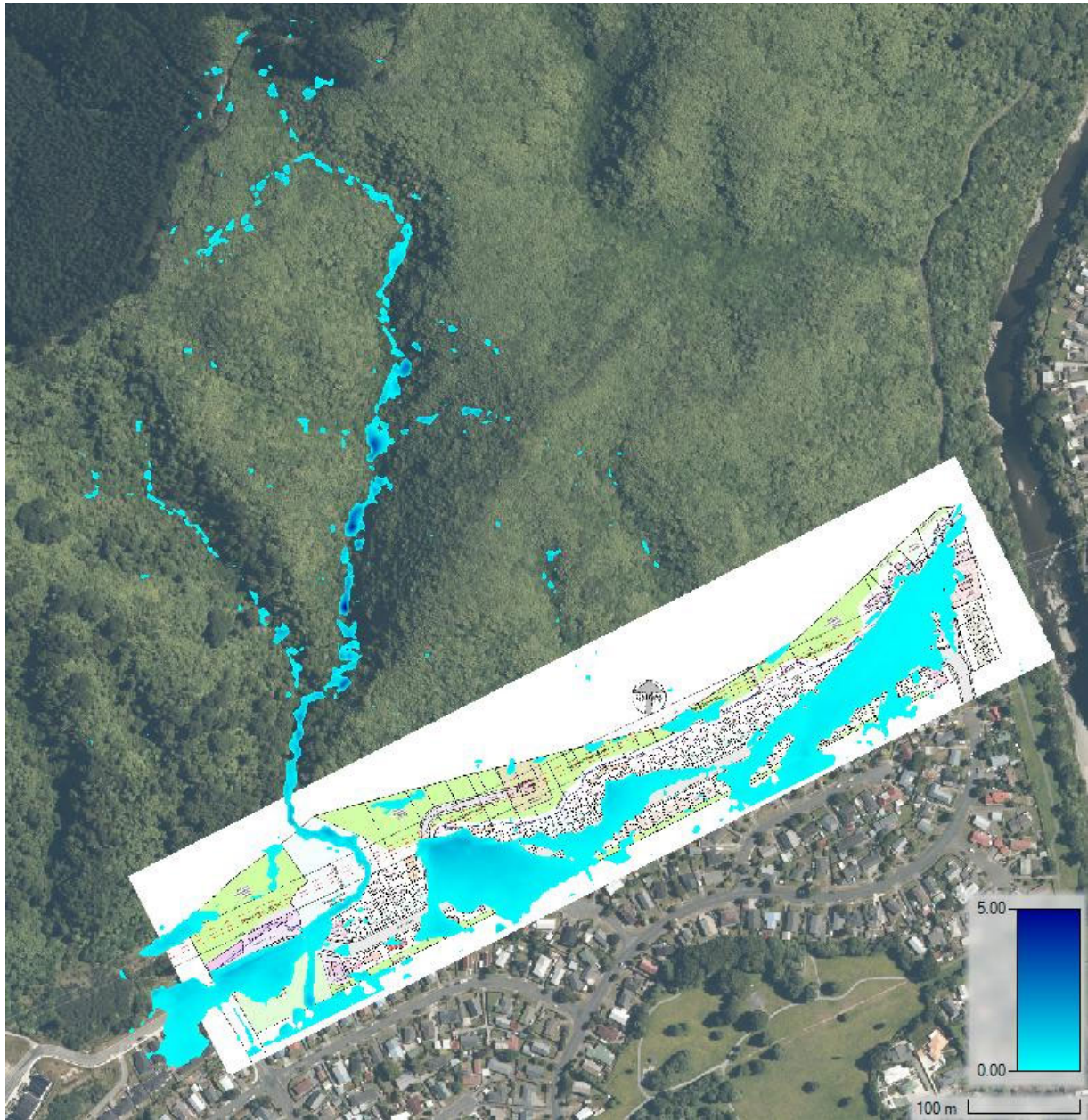
Title: Shadow Angle Landslide Debris Exceedence Areas		Appendix	
Project: Stage 4 Cannon Point, Totara Park	Drawn: KAJJ	No.	Size: A3 Sheet
Date: 25/06/2026	Checked: RJ		
Proj No: 16998.00.002		Scale: 2500 @ A3	
		Version: 1.0	



Appendix 8: Debris Flow Analysis Outputs

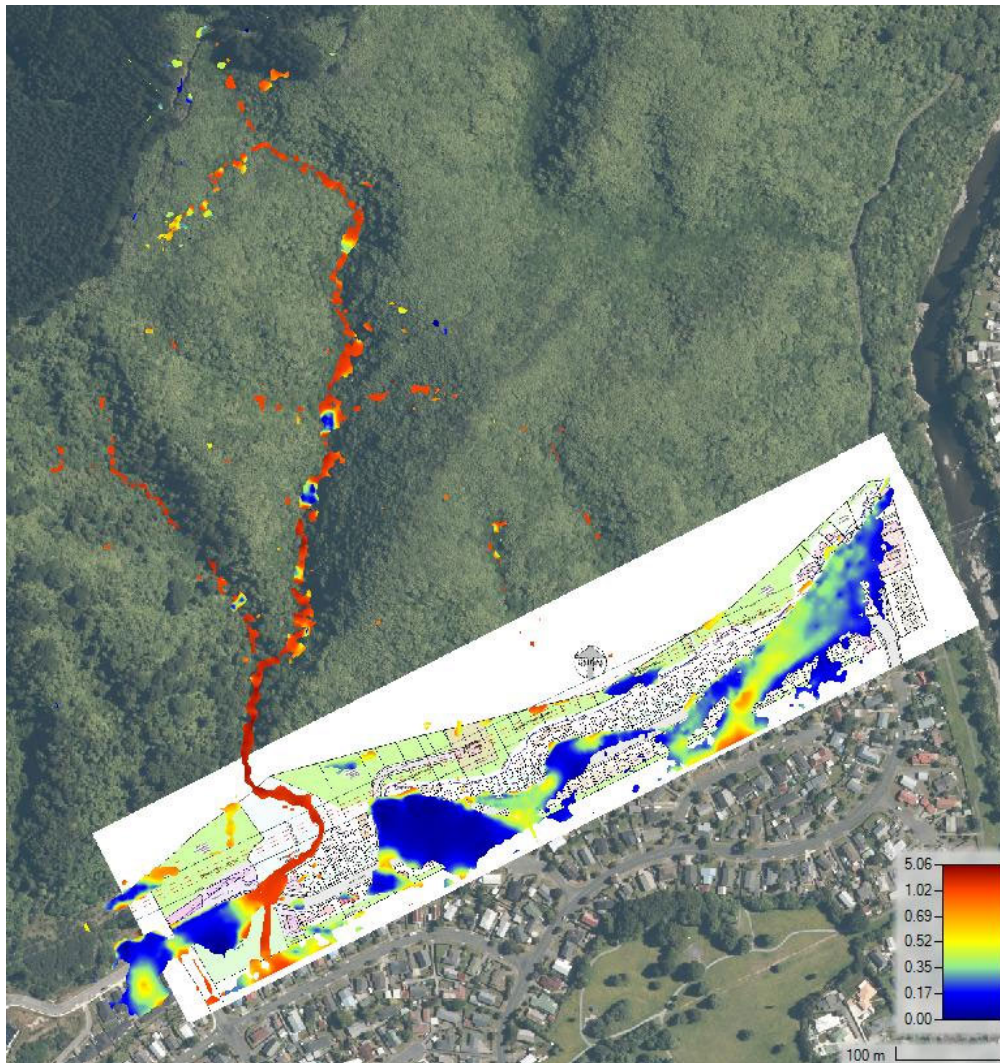
Appendix 10 – Debris Flow Model Results

Figure 1 – 30% Solids Volumetric Concentration Scenario – Maximum Depth



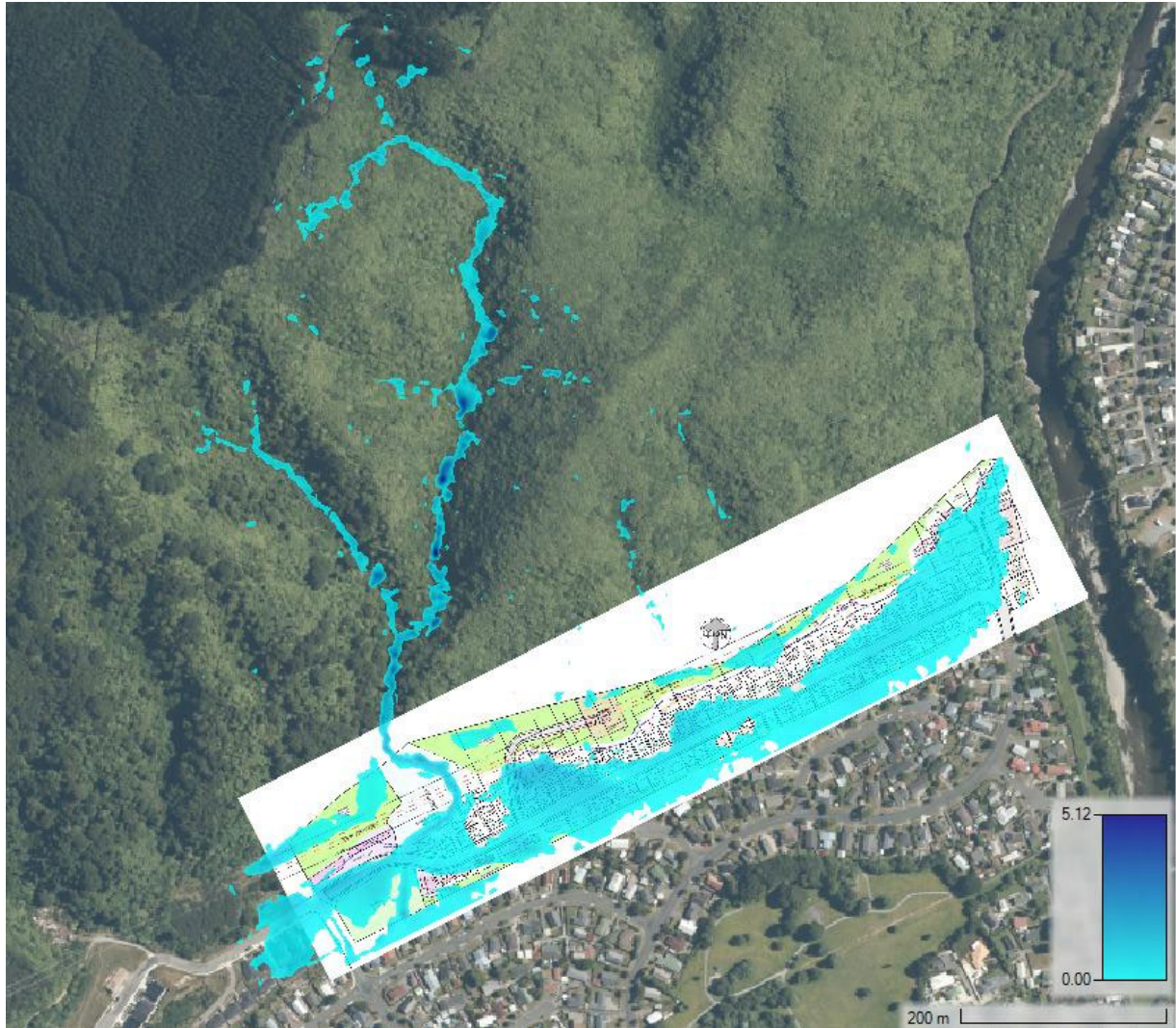
Appendix 10 – Debris Flow Model Results

Figure 2 – 30% Solids Volumetric Concentration Scenario – Maximum Velocity



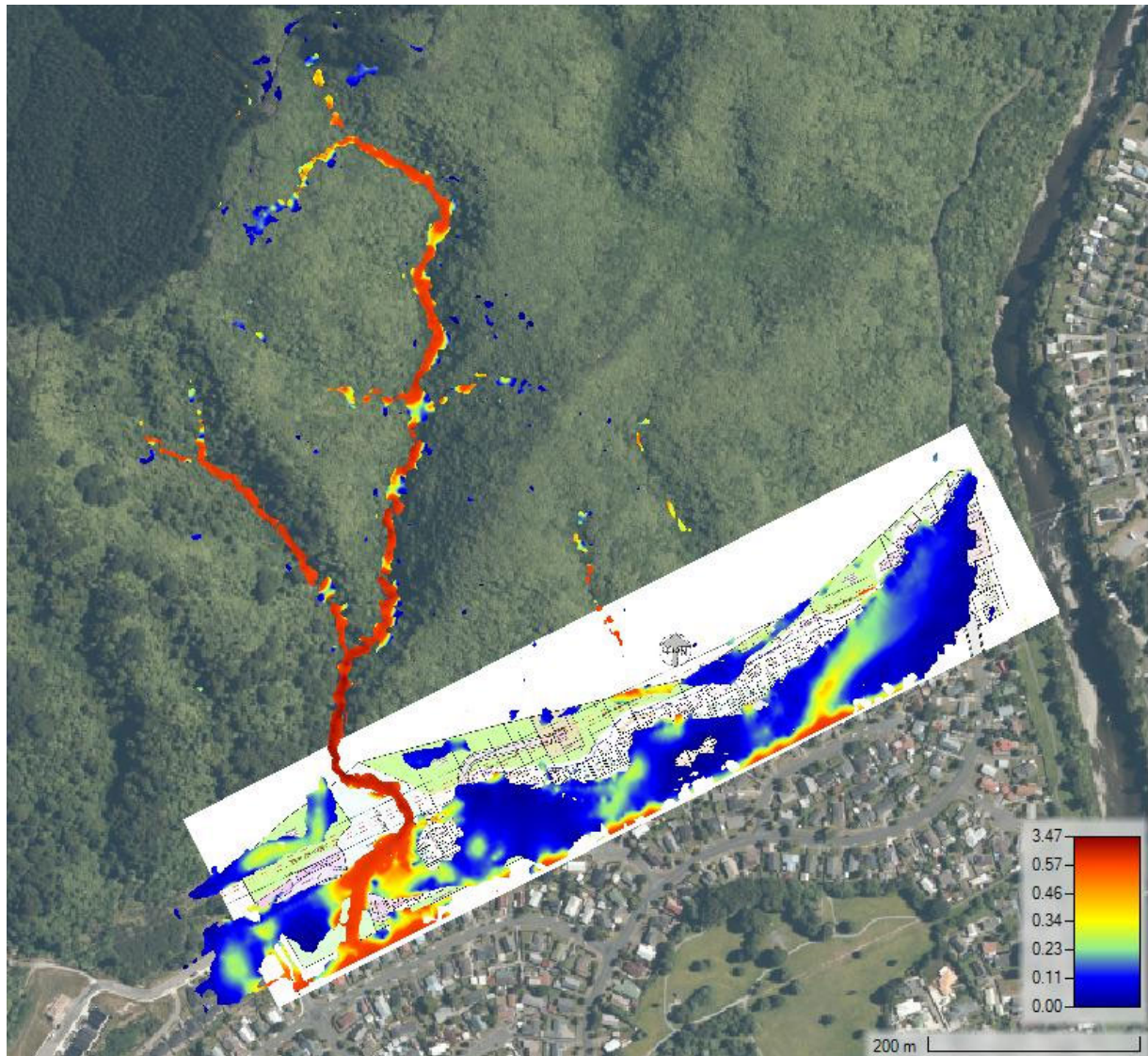
Appendix 10 – Debris Flow Model Results

Figure 3 – 60% Solids Volumetric Concentration Scenario – Maximum Depth



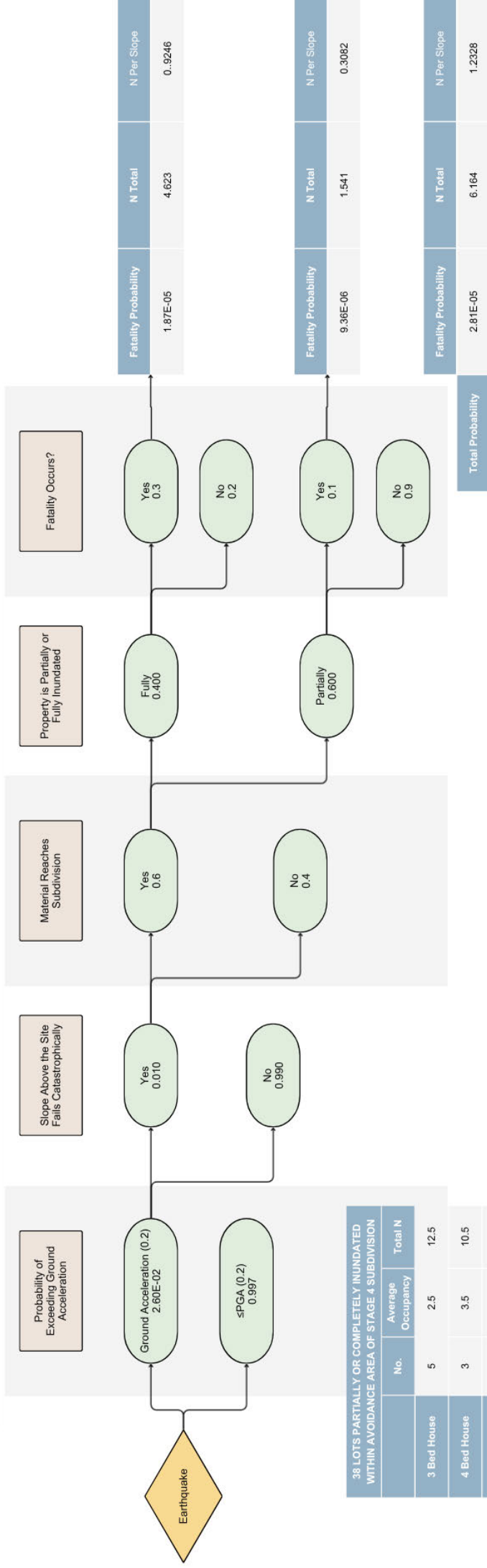
Appendix 10 – Debris Flow Model Results

Figure 4 – 60% Solids Volumetric Concentration Scenario – Maximum Velocity



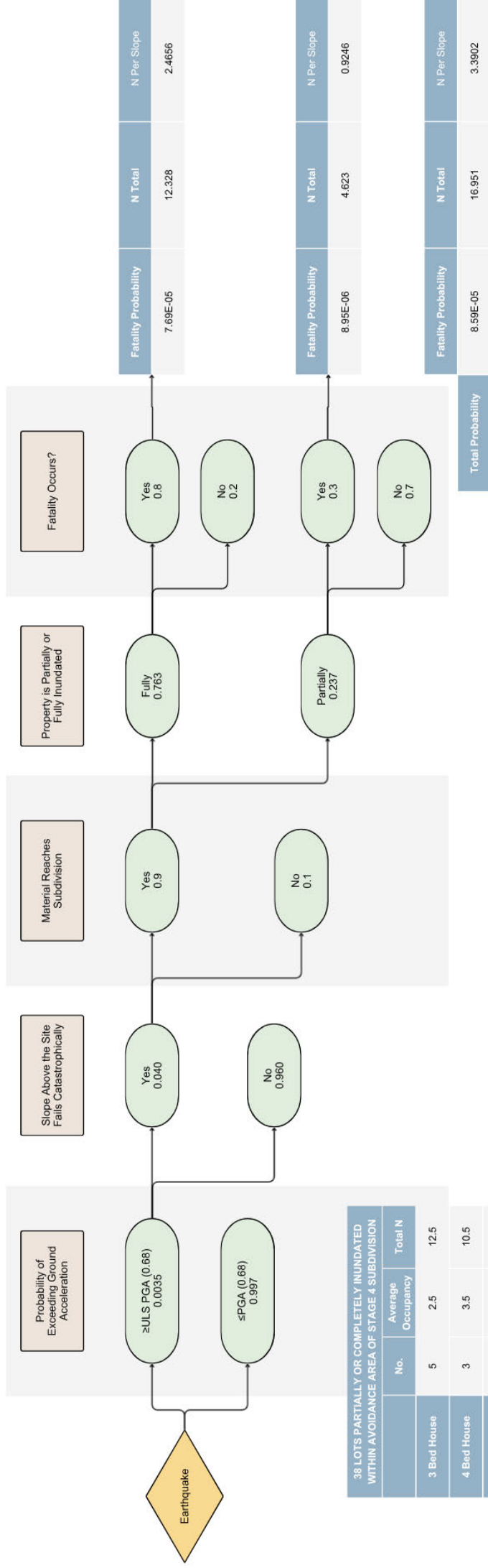
Appendix 9: f/N Probability Event Trees

0.2g seismic PGA



38 LOTS PARTIALLY OR COMPLETELY INUNDATED WITHIN AVOIDANCE AREA OF STAGE 4 SUBDIVISION			
	No.	Average Occupancy	Total N
3 Bed House	5	2.5	12.5
4 Bed House	3	3.5	10.5
Average per Lot			2.9
Total N			23
Occupancy			0.67
Total N			15.41

0.68g Seismic PGA



38 LOTS PARTIALLY OR COMPLETELY INUNDATED WITHIN AVOIDANCE AREA OF STAGE 4 SUBDIVISION			
	No.	Average Occupancy	Total N
3 Bed House	5	2.5	12.5
4 Bed House	3	3.5	10.5
Average per Lot			2.9
Total N			23
Occupancy			0.67
Total N			15.41

1.6g Seismic PGA

