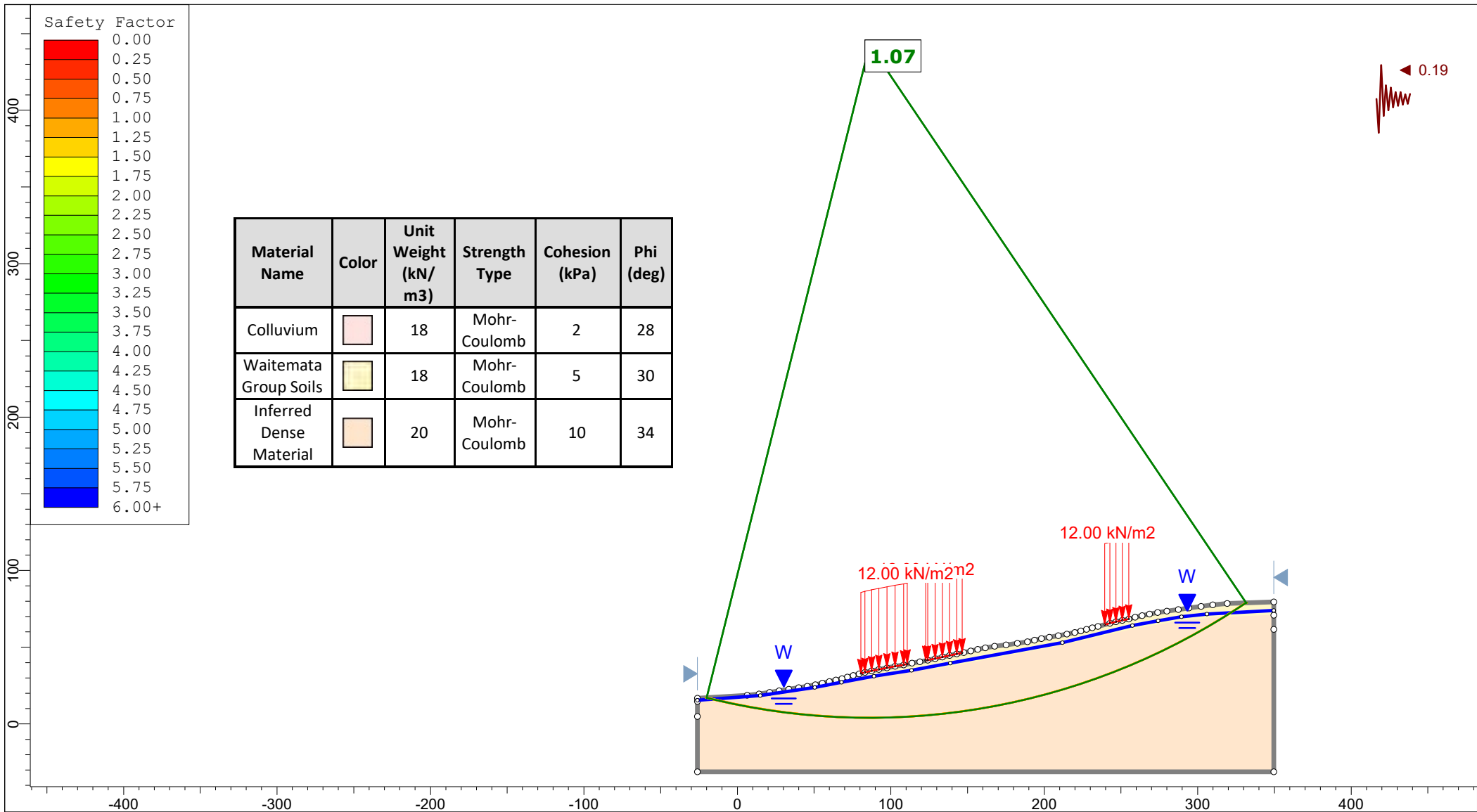


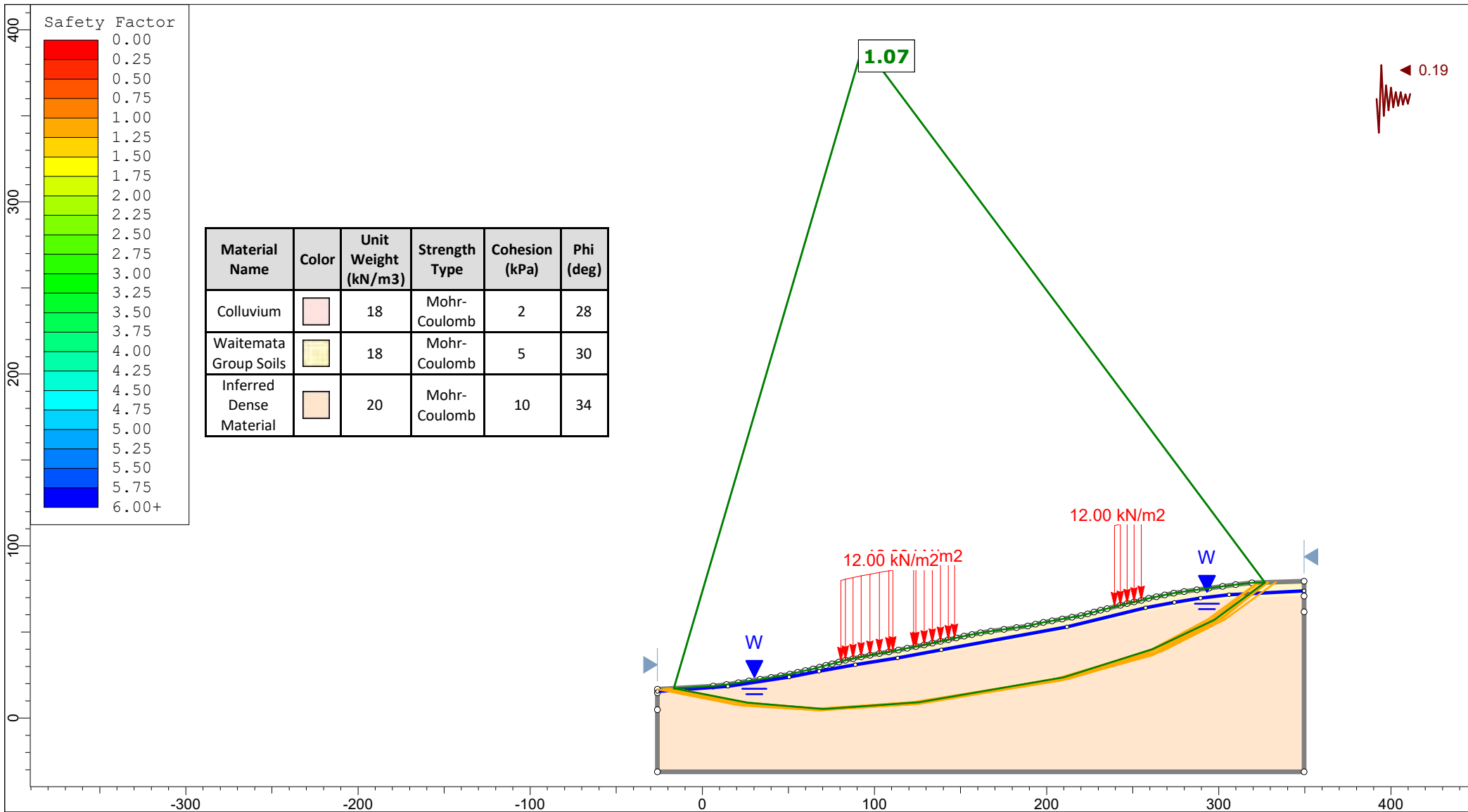
Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Colluvium		18	Mohr-Coulomb	2	28
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section D-D' Proposed Ground		
	Scenario		Run 3 - Raised Groundwater - Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
				2024 Master.sldm	

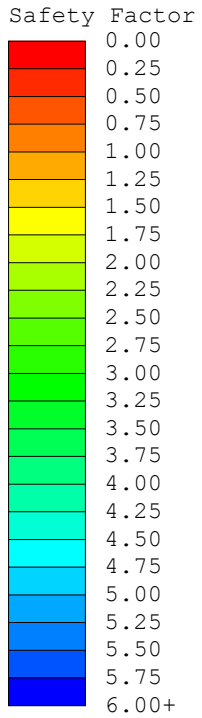
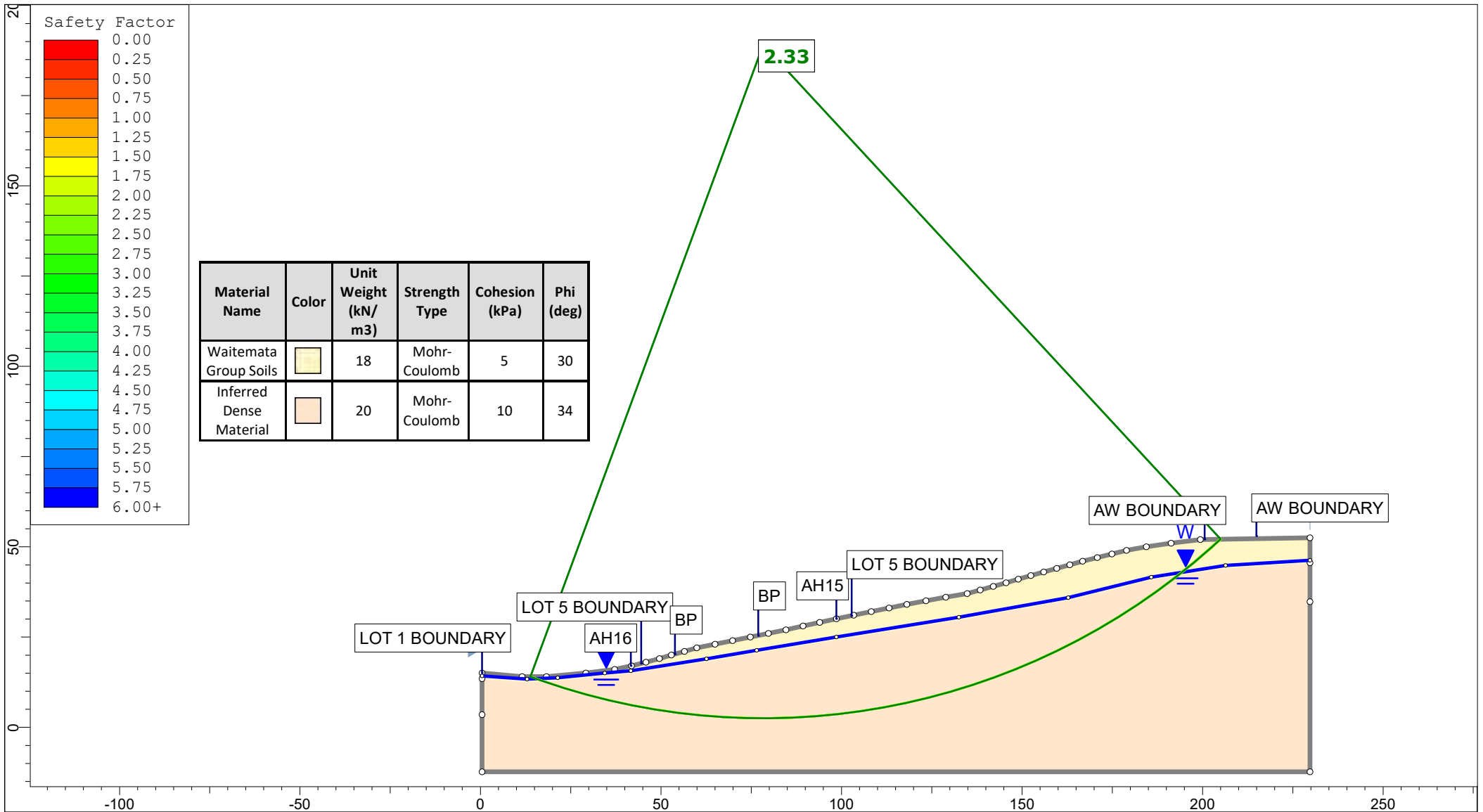


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Colluvium		18	Mohr-Coulomb	2	28
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section D-D' Proposed Ground	
	Drawn By		TR	
	Date		26 February 2024	
		Scenario		Run 5 - Seismic Loading - Circular
		Company		KGA Geotechnical Group Limited
		File Name		2024 Master.slmd

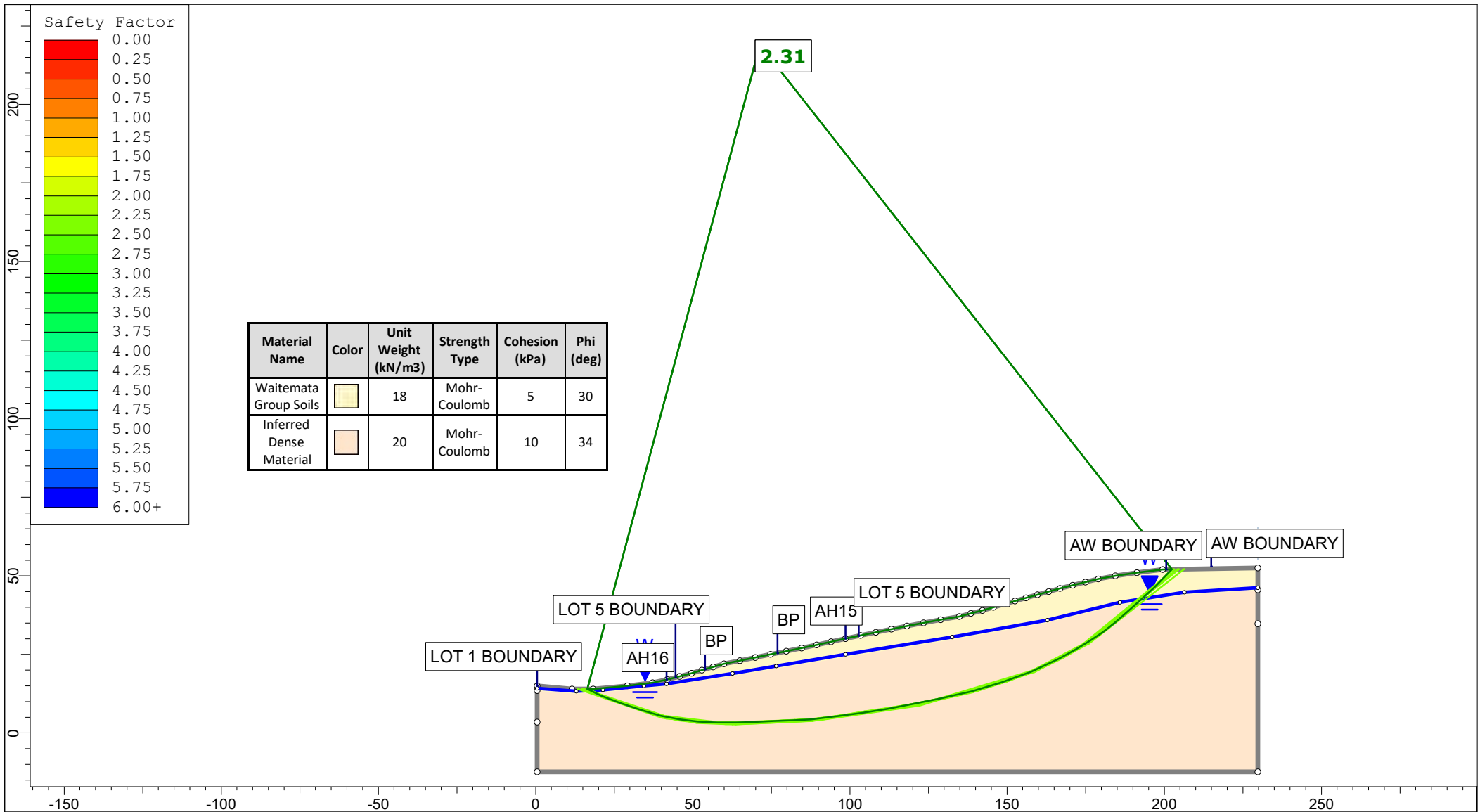


<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section D-D' Proposed Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm

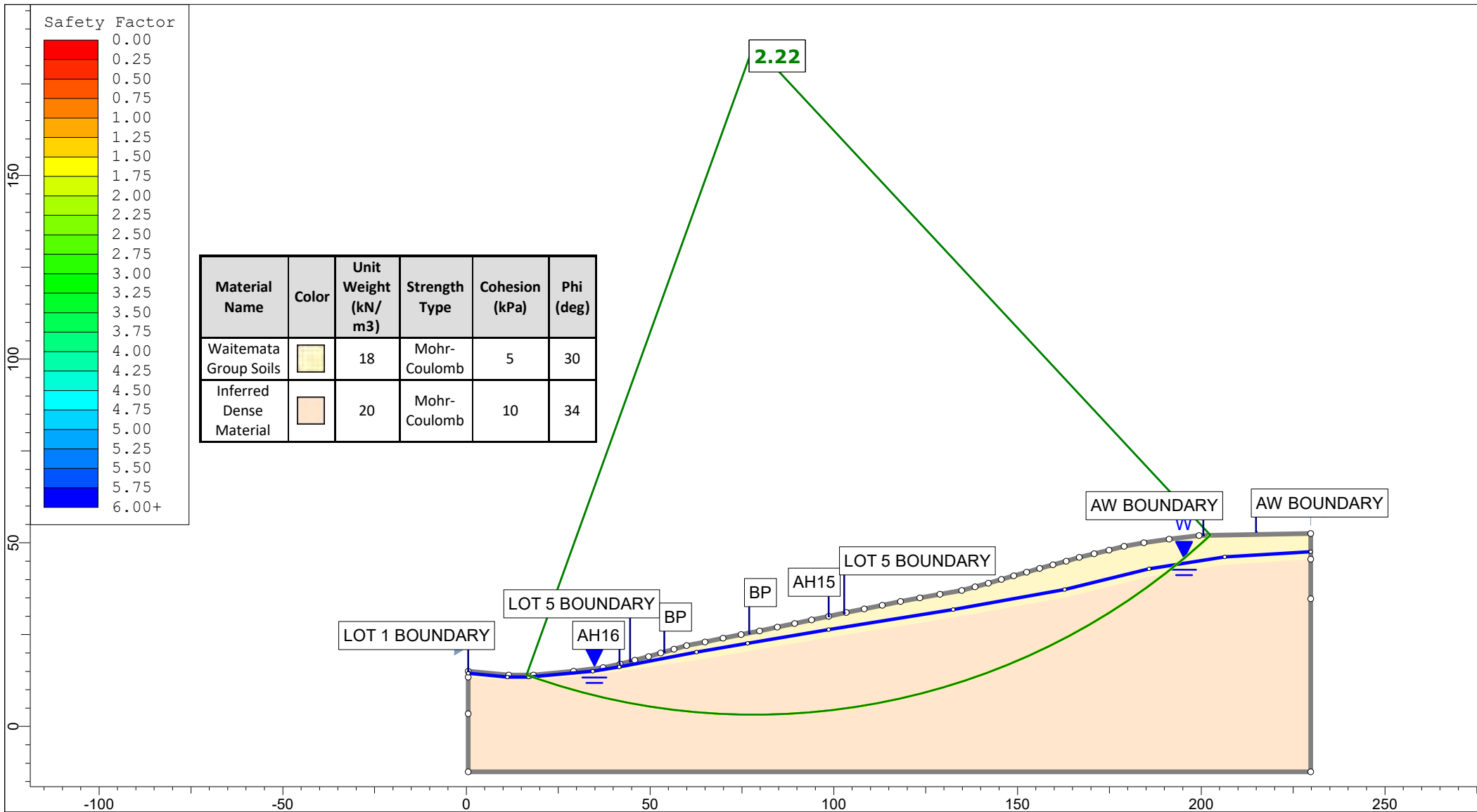


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section E-E' Measured Ground	Scenario	Run 1 - Measured Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd

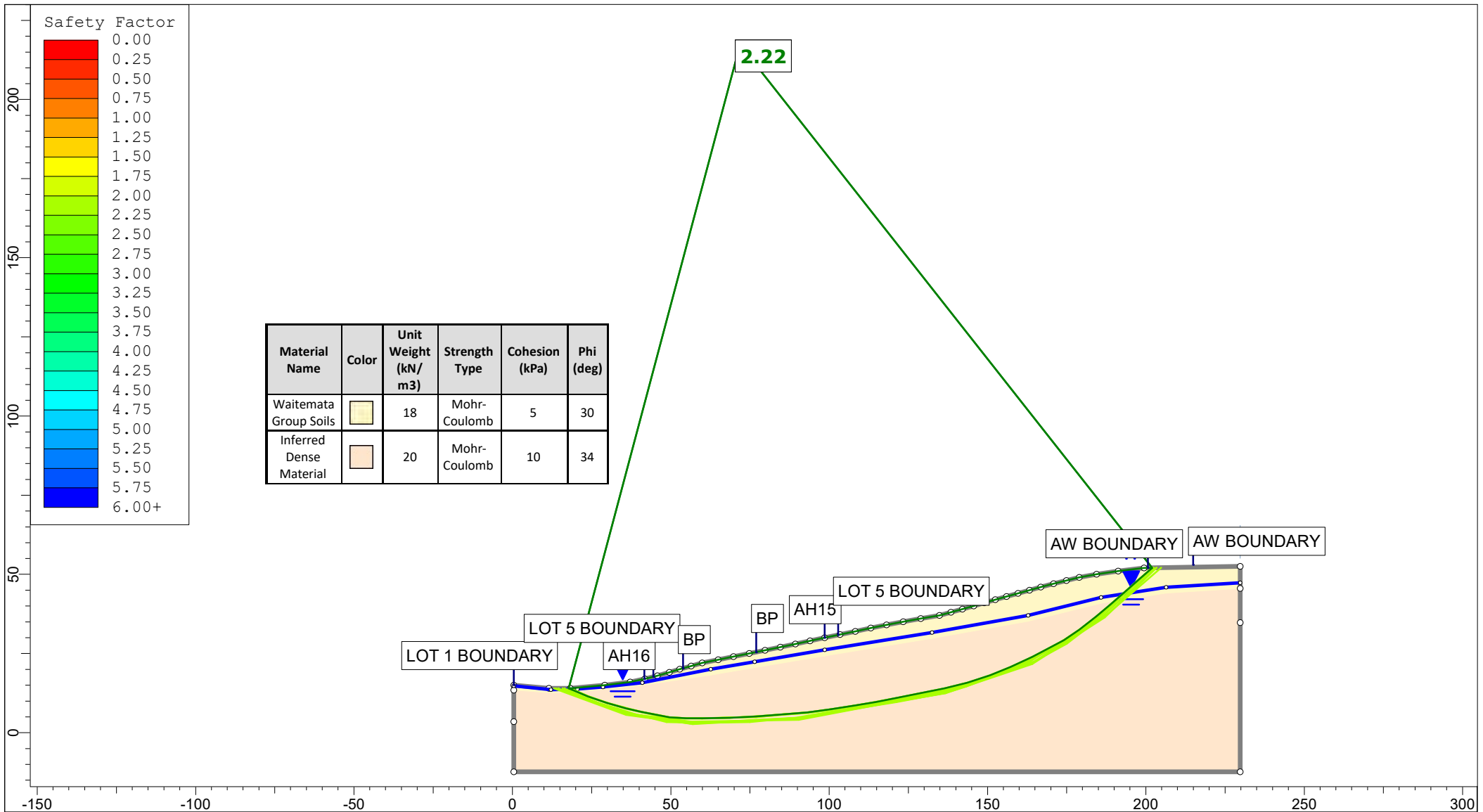


<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section E-E' Measured Ground	Scenario	Run 2 - Measured Groundwater - Non-Cicular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd

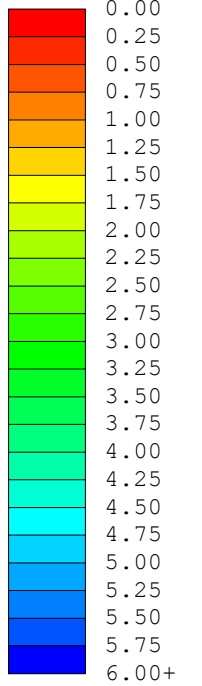


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project	K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group	Cross Section E-E' Measured Ground	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By	TR	Company	KGA Geotechnical Group Limited
	Date	26 February 2024	File Name	2024 Master.slmd



Safety Factor



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

2.22

AW BOUNDARY

AW BOUNDARY

LOT 5 BOUNDARY

LOT 5 BOUNDARY

LOT 1 BOUNDARY

AH16

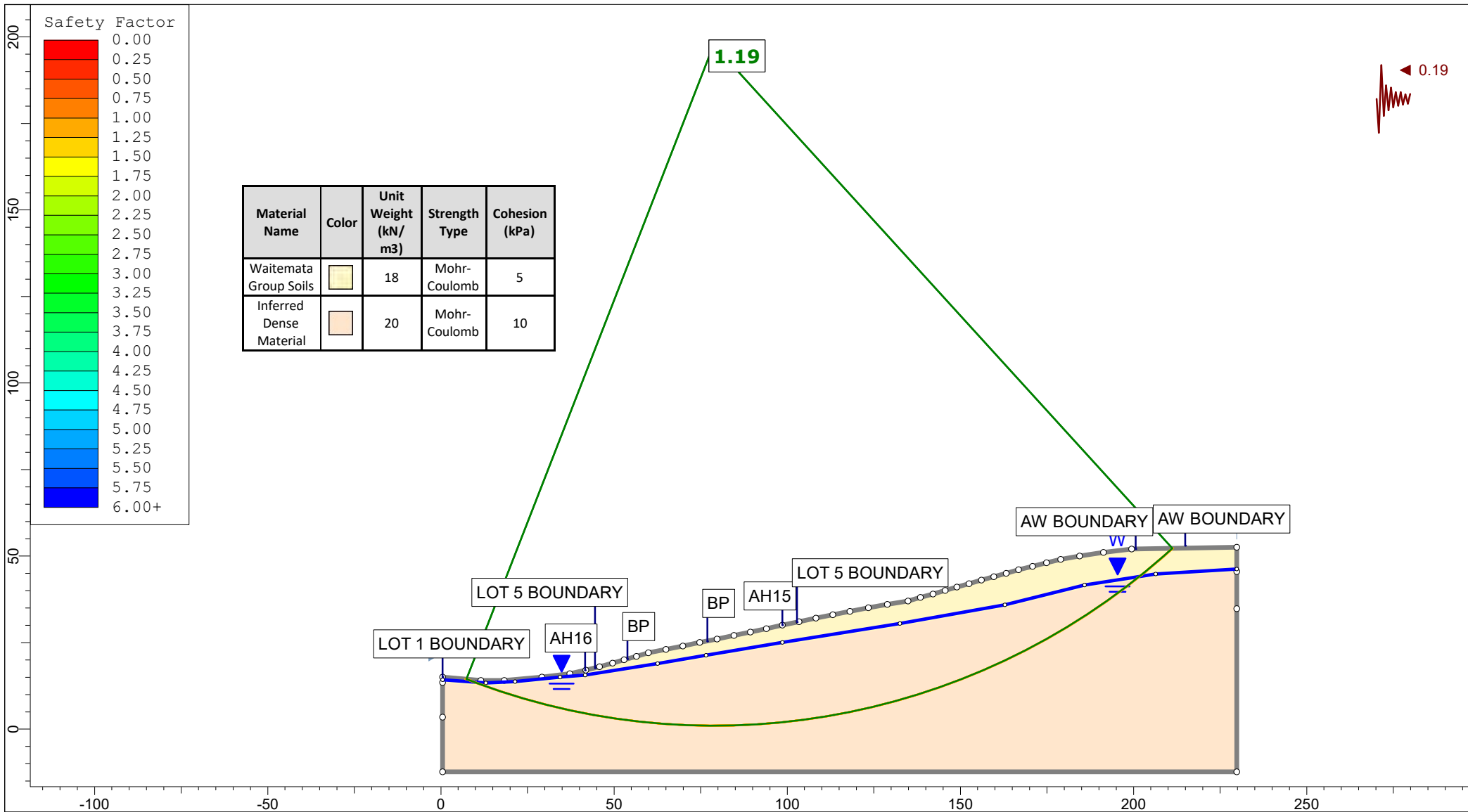
BP

BP

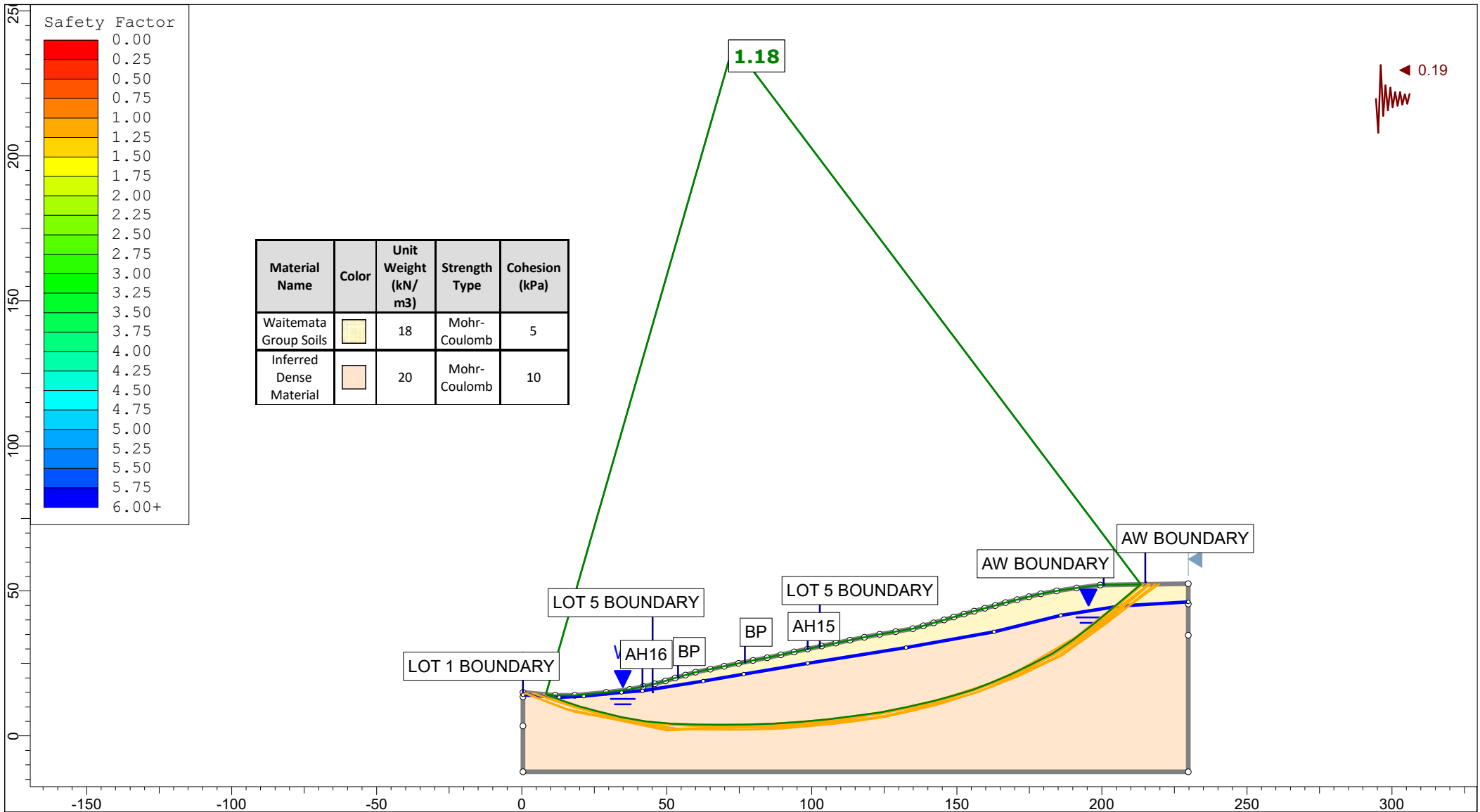
AH15

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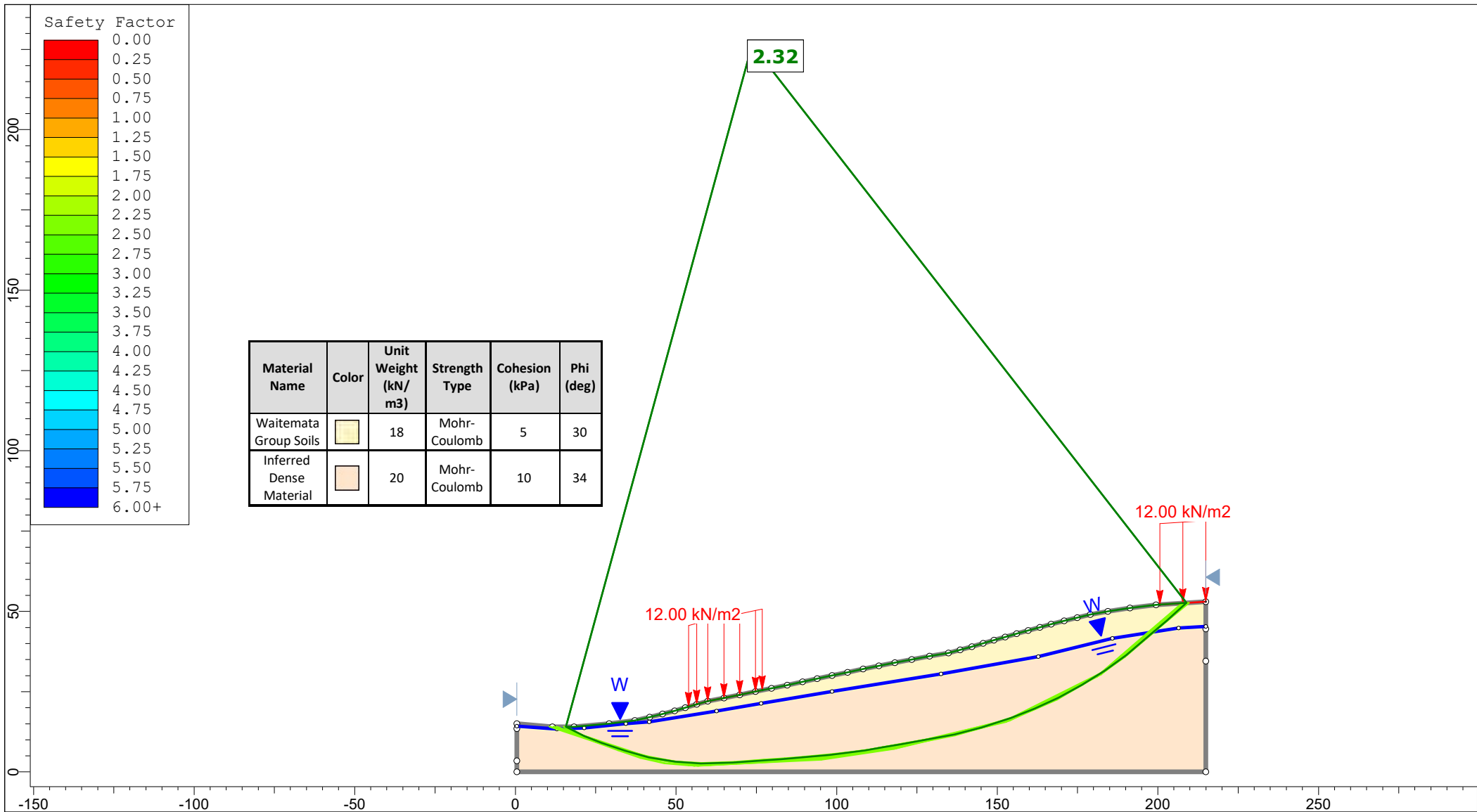
Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
Group	Cross Section E-E' Measured Ground	Scenario	Run 4 - Raised Groundwater - Non-Cicular
Drawn By	TR	Company	KGA Geotechnical Group Limited
Date	26 February 2024	File Name	2024 Master.slmd




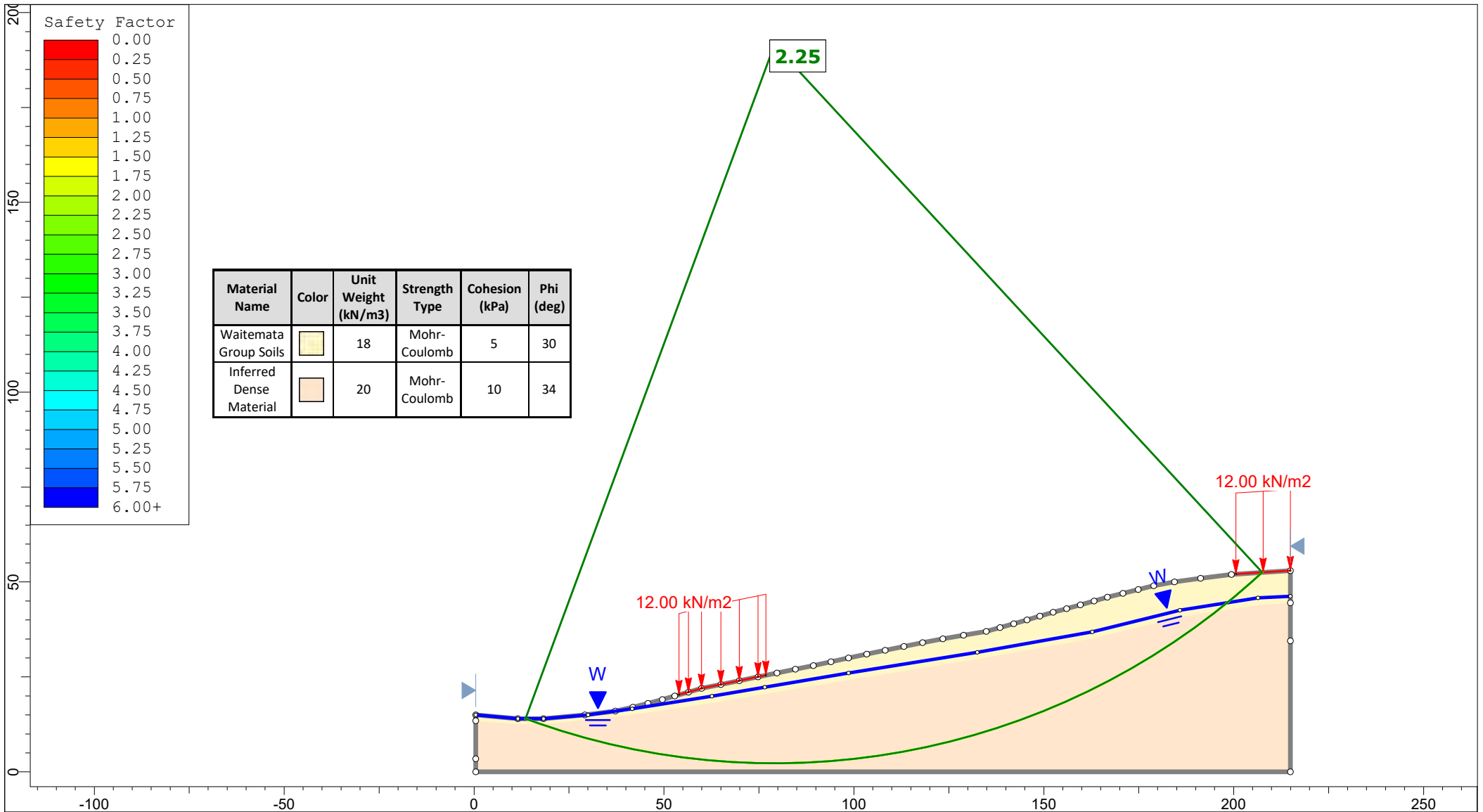
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section E-E' Measured Ground	
	Drawn By		TR	
	Date		26 February 2024	
		Scenario		Run 5 - Seismic Loading - Circular
		Company		KGA Geotechnical Group Limited
		File Name		2024 Master.sldm



 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section E-E' Measured Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd

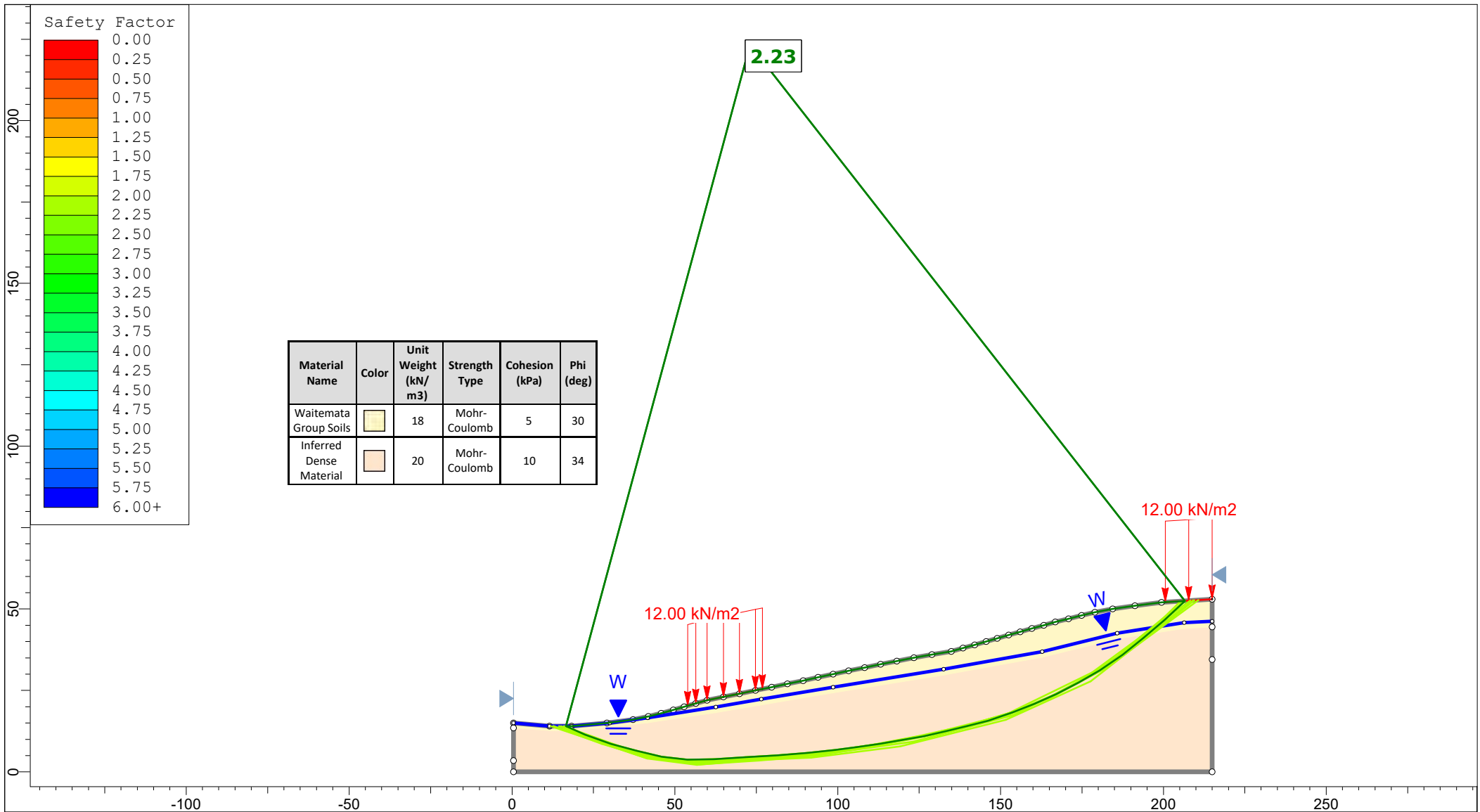


 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section E-E' Proposed Ground	Scenario	Run 2 - Measured Groundwater - Non-Cicular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm

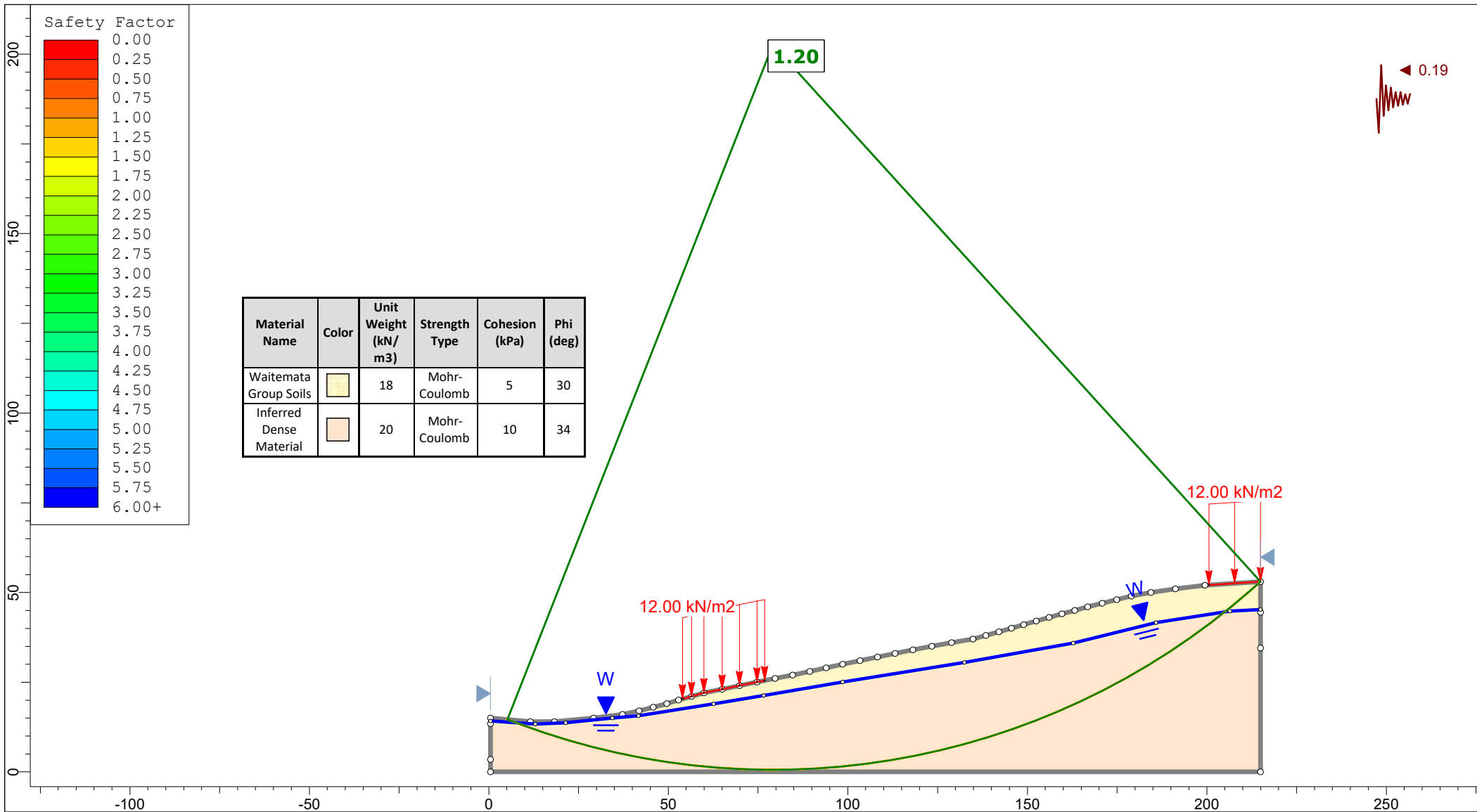



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

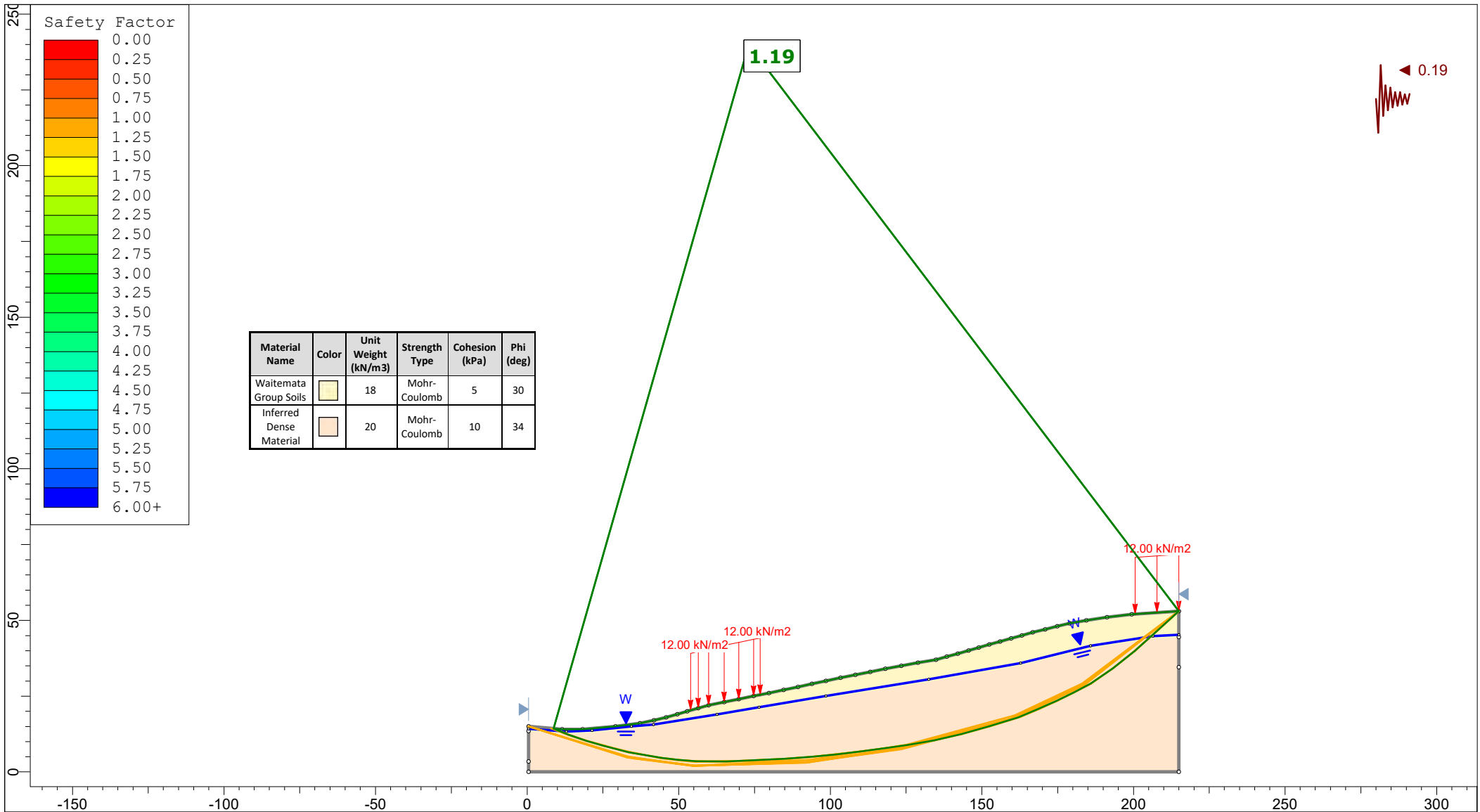
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section E-E' Proposed Ground		
	Scenario		Run 3 - Raised Groundwater - Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
				2024 Master.slm	




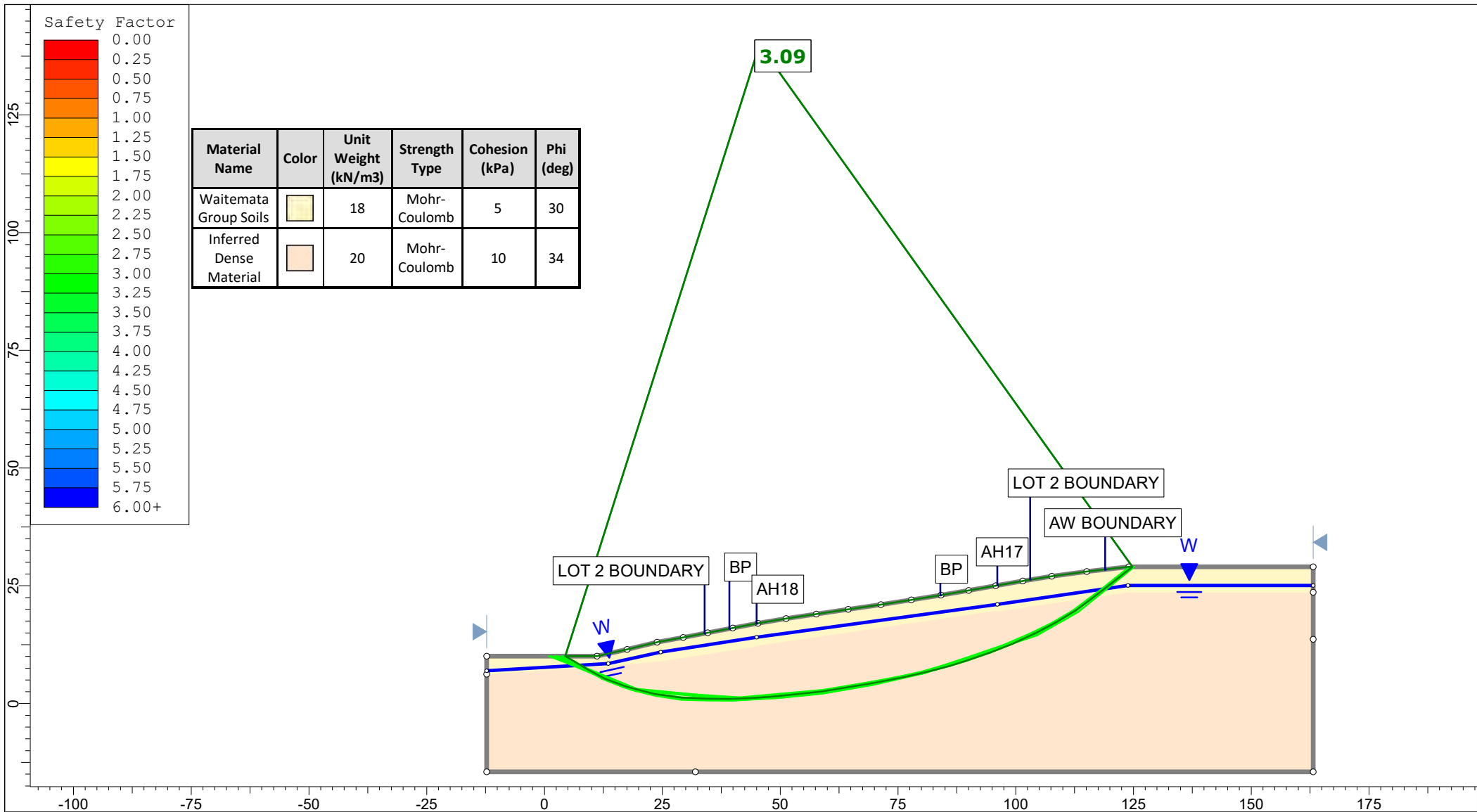
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui				
	Group		Cross Section E-E' Proposed Ground				
	Scenario		Run 4 - Raised Groundwater - Non-Cicular				
	Company		KGA Geotechnical Group Limited				
Drawn By		TR		File Name		2024 Master.slmd	
Date		26 February 2024					



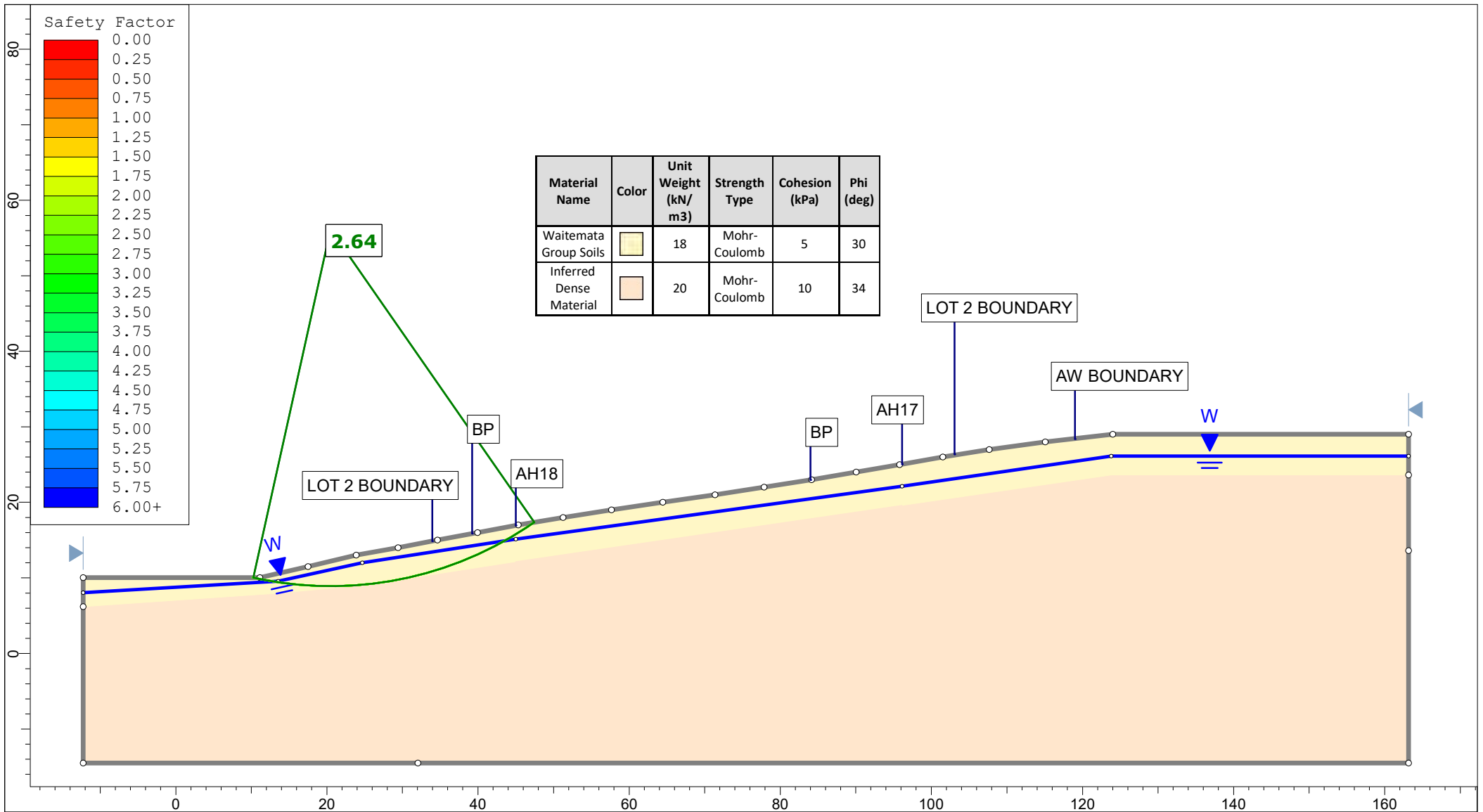
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section E-E' Proposed Ground	Scenario	Run 5 - Seismic Loading - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd



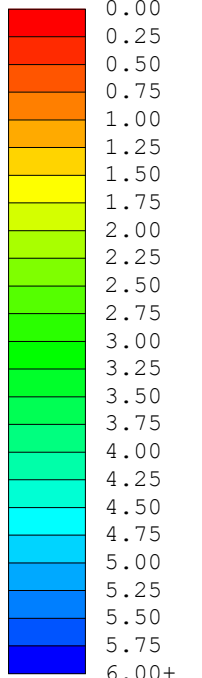
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section E-E' Proposed Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm



<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section F-F' Measured Ground	Scenario	Run 2 - Measured Groundwater - Non-Cicular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm



Safety Factor



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

2.64

LOT 2 BOUNDARY

BP

AH18

LOT 2 BOUNDARY

AW BOUNDARY

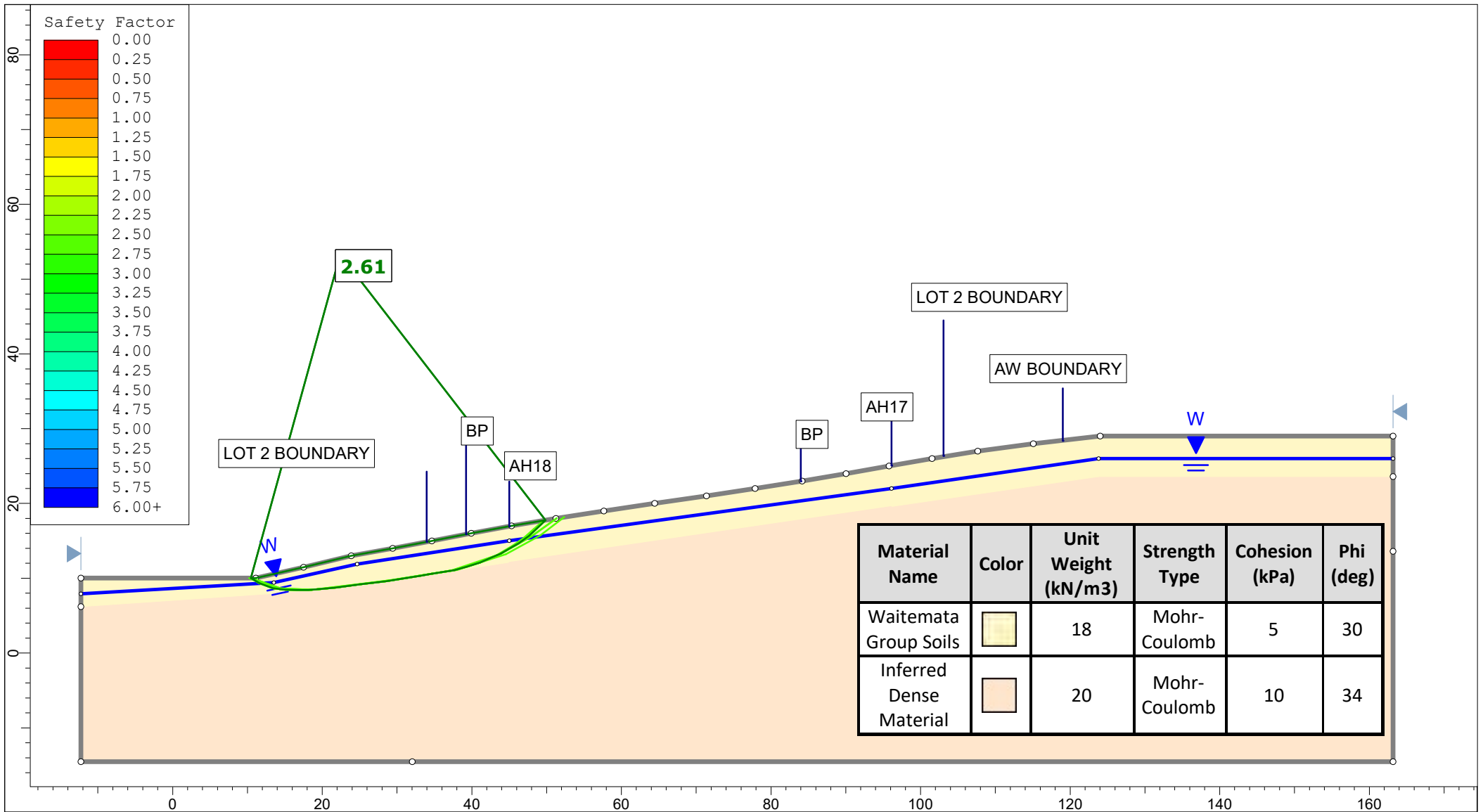
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AH17

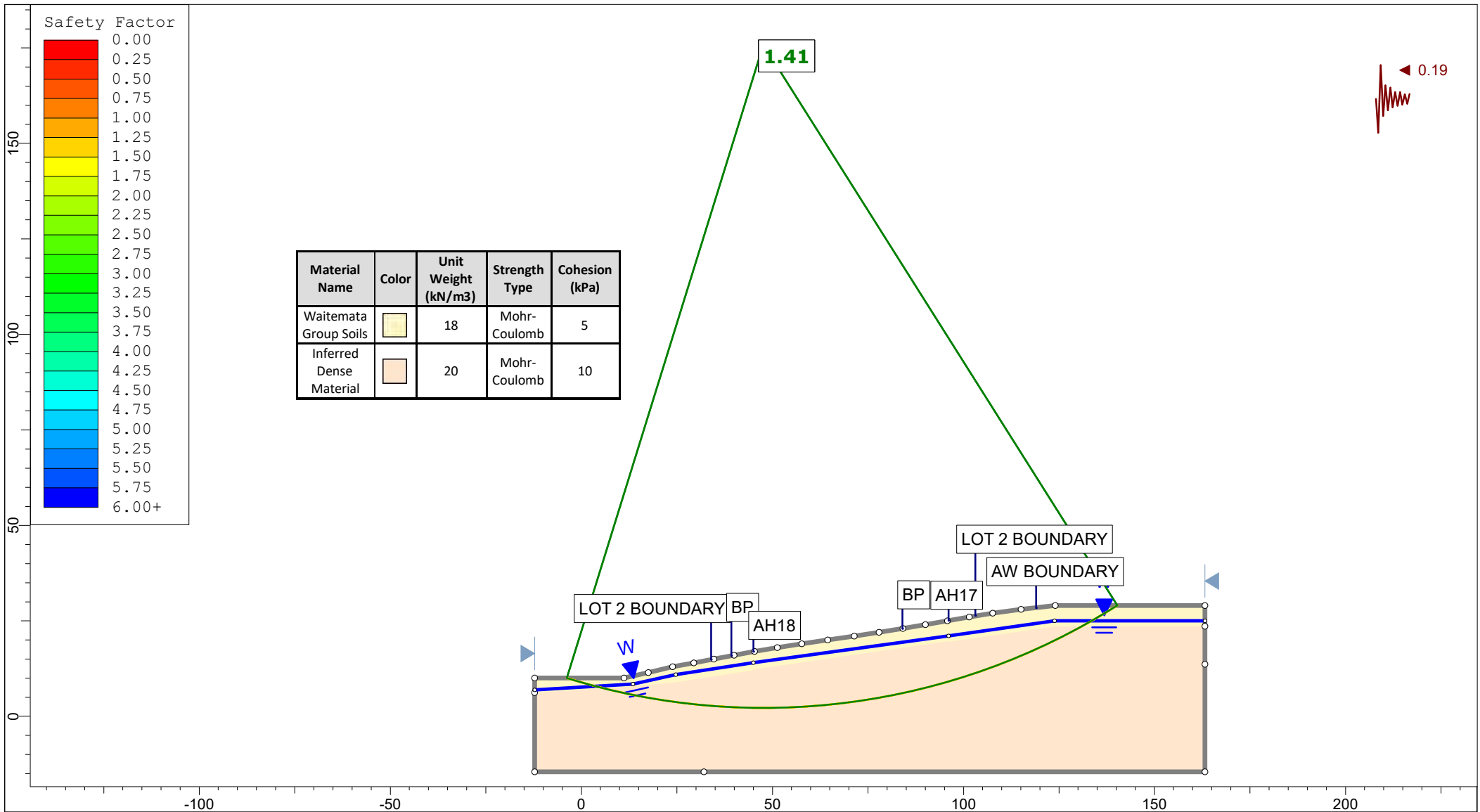
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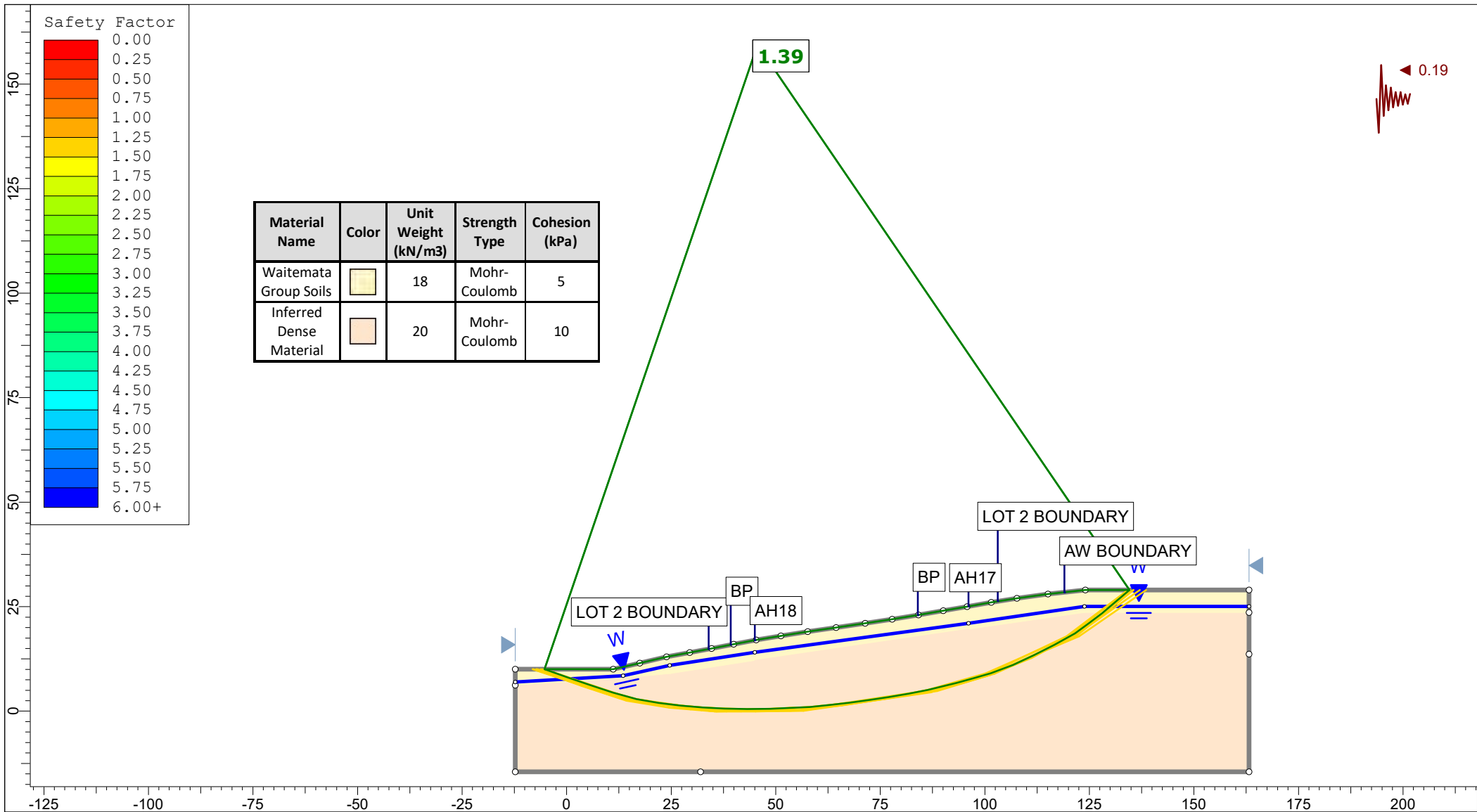
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project	K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group	Cross Section F-F' Measured Ground	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By	TR	Company	KGA Geotechnical Group Limited
	Date	26 February 2024	File Name	2024 Master.sldm



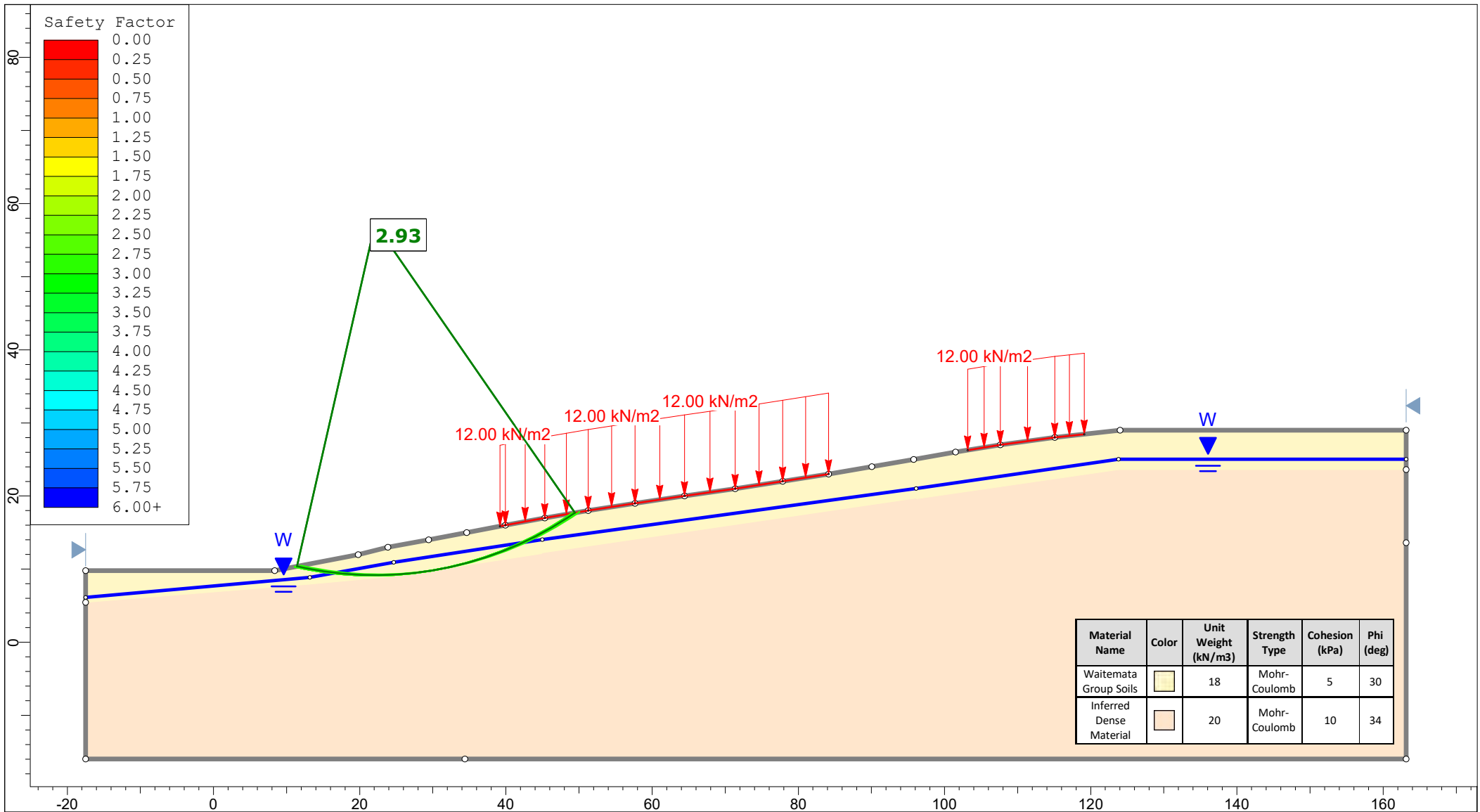
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section F-F' Measured Ground	
	Scenario		Run 4 - Raised Groundwater - Non-Cicular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.slmd		



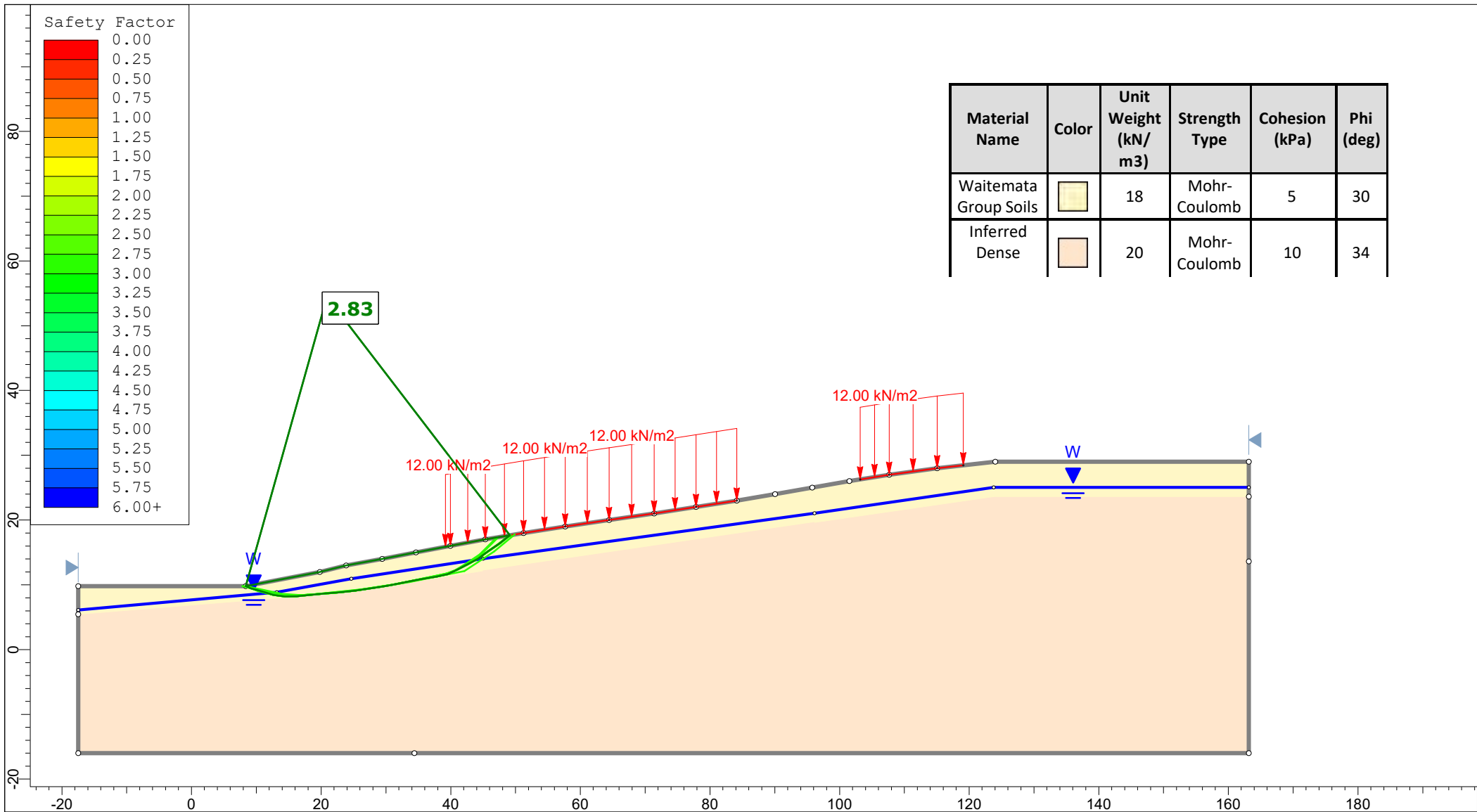
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	<p>Project K200826 - 2127 Kaipara Coast Highway, Kakanui</p>	
	<p>Group Cross Section F-F' Measured Ground</p>	<p>Scenario Run 5 - Seismic Loading - Circular</p>
	<p>Drawn By TR</p>	<p>Company KGA Geotechnical Group Limited</p>
	<p>Date 26 February 2024</p>	<p>File Name 2024 Master.sldm</p>




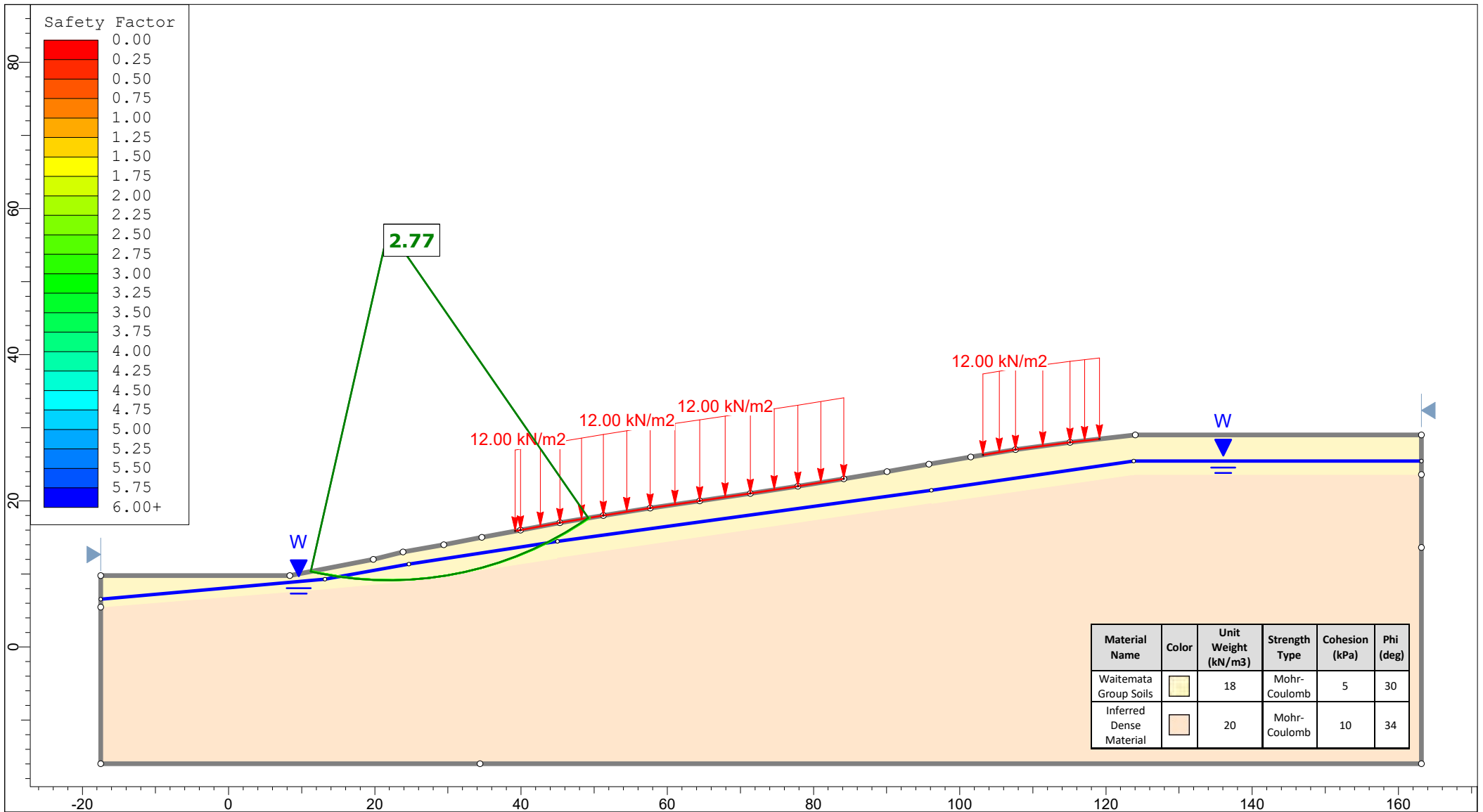
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section F-F' Measured Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd



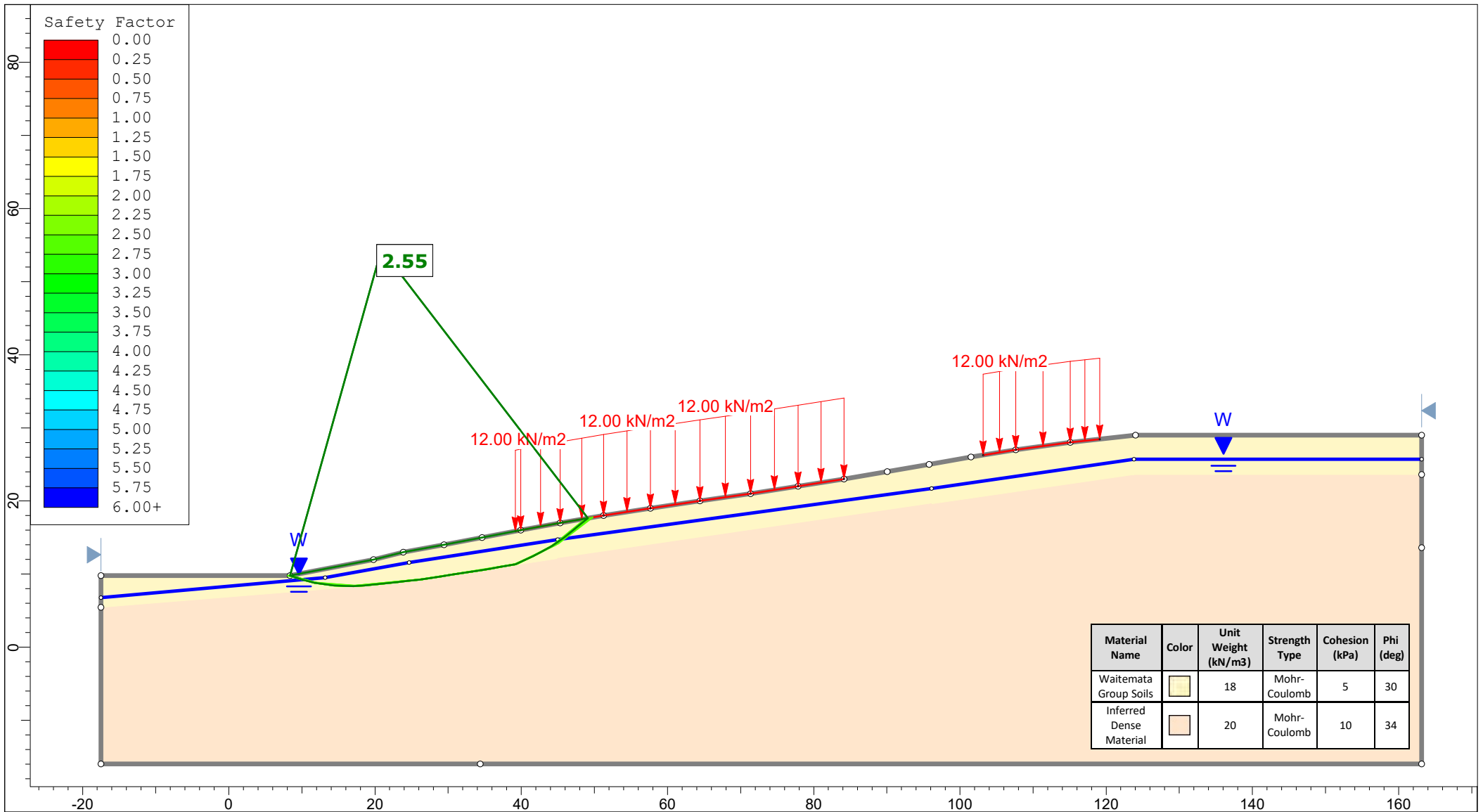
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	<p><i>Project</i> K200826 - 2127 Kaipara Coast Highway, Kakanui</p>	
	<p><i>Group</i> Cross Section F-F' Proposed Ground</p>	<p><i>Scenario</i> Run 1 - Measured Groundwater - Circular</p>
	<p><i>Drawn By</i> TR</p>	<p><i>Company</i> KGA Geotechnical Group Limited</p>
	<p><i>Date</i> 26 February 2024</p>	<p><i>File Name</i> 2024 Master.slm</p>



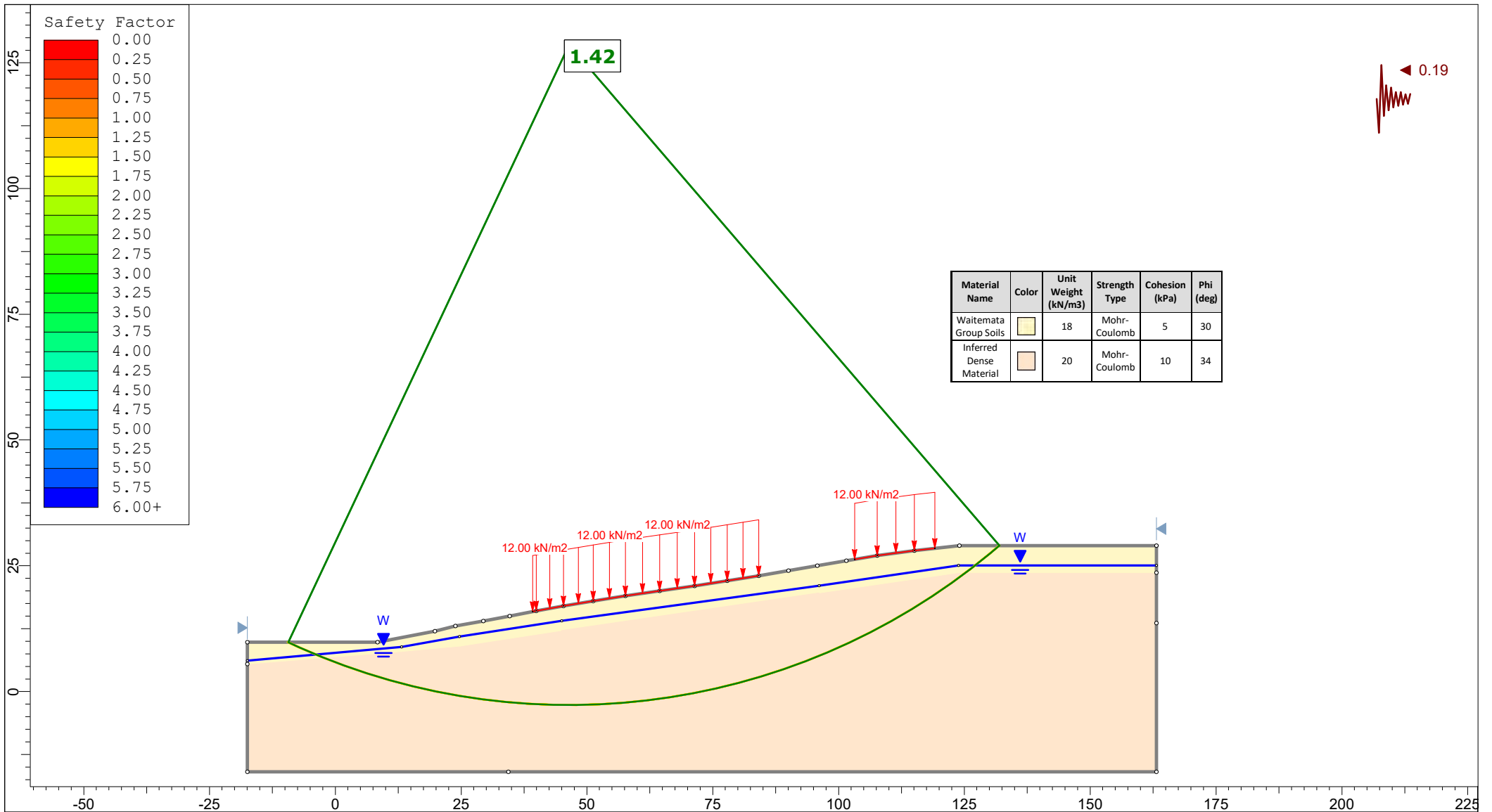
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section F-F' Proposed Ground	
	Scenario		Run 2 - Measured Groundwater - Non-Cicular	
	Drawn By		TR	
Date		26 February 2024		
Company		KGA Geotechnical Group Limited		
File Name		2024 Master.slmd		




<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section F-F' Proposed Ground	
	Scenario		Run 3 - Raised Groundwater - Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.slmd		

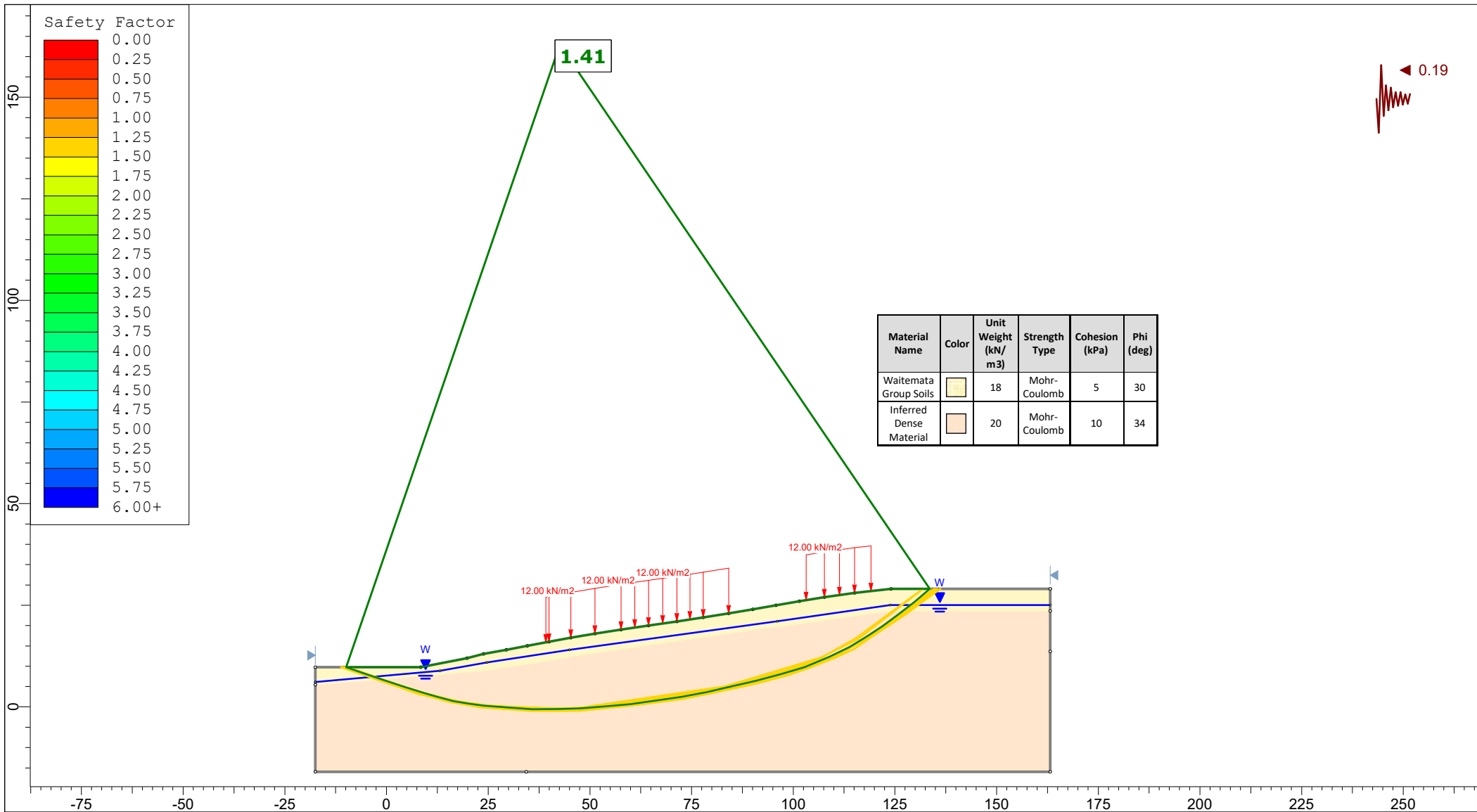


<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section F-F' Proposed Ground		
	Drawn By		TR		
	Date		26 February 2024		
		Scenario		Run 4 - Raised Groundwater - Non-Cicular	
		Company		KGA Geotechnical Group Limited	
		File Name		2024 Master.slm	



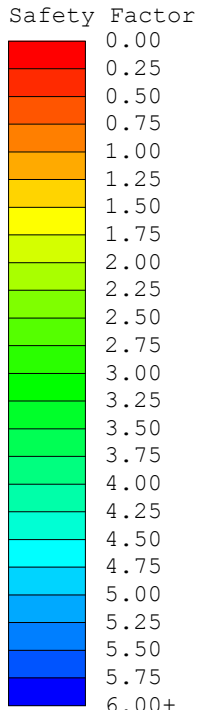
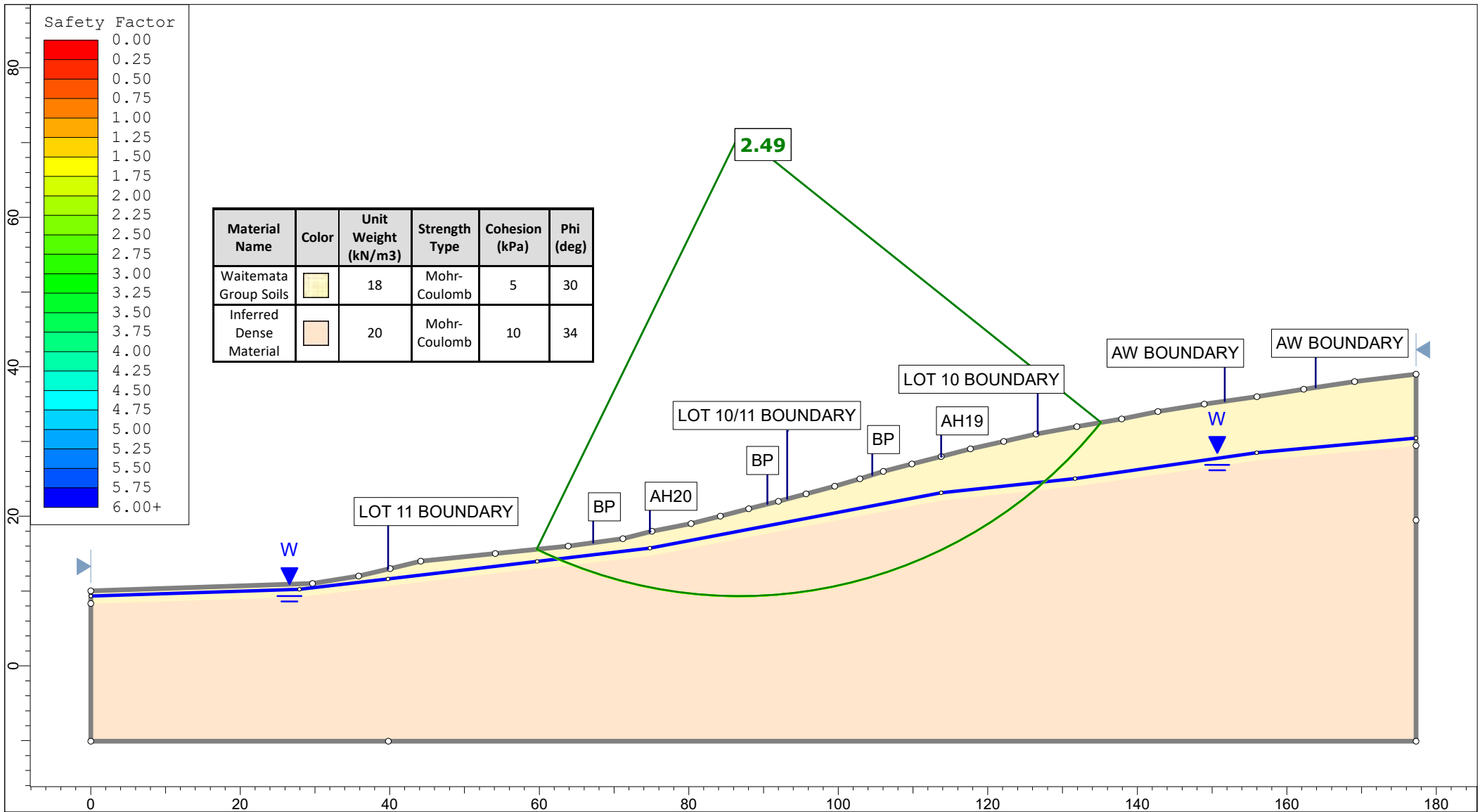
Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils	Yellow	18	Mohr-Coulomb	5	30
Inferred Dense Material	Orange	20	Mohr-Coulomb	10	34

<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p> 	Project	K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group	Cross Section F-F' Proposed Ground	Scenario	Run 5 - Seismic Loading - Circular
	Drawn By	TR	Company	KGA Geotechnical Group Limited
	Date	26 February 2024	File Name	2024 Master.sldm



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

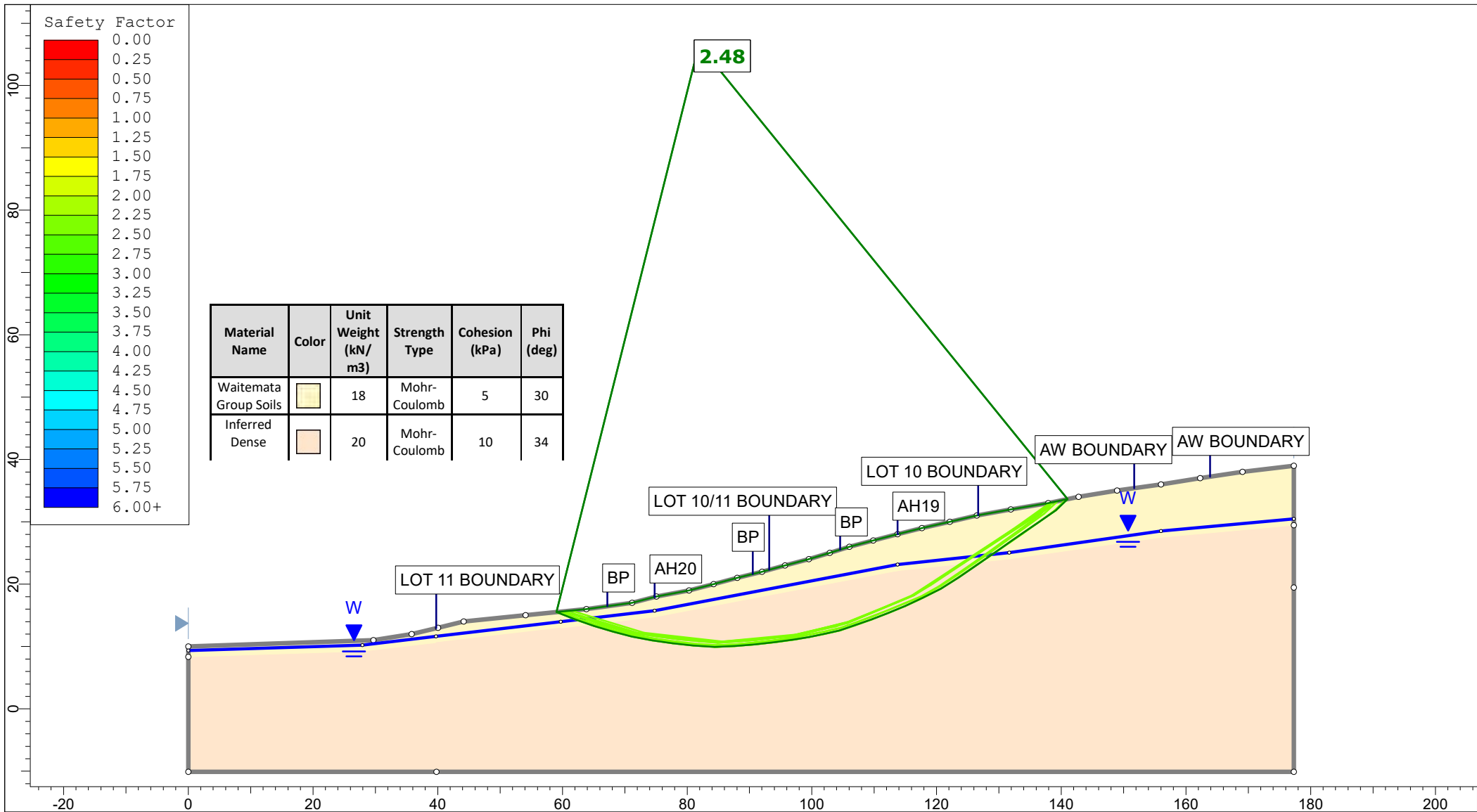
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section F-F' Proposed Ground	
	Scenario		Run 6 - Seismic Loading - Non-Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.slmd		



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

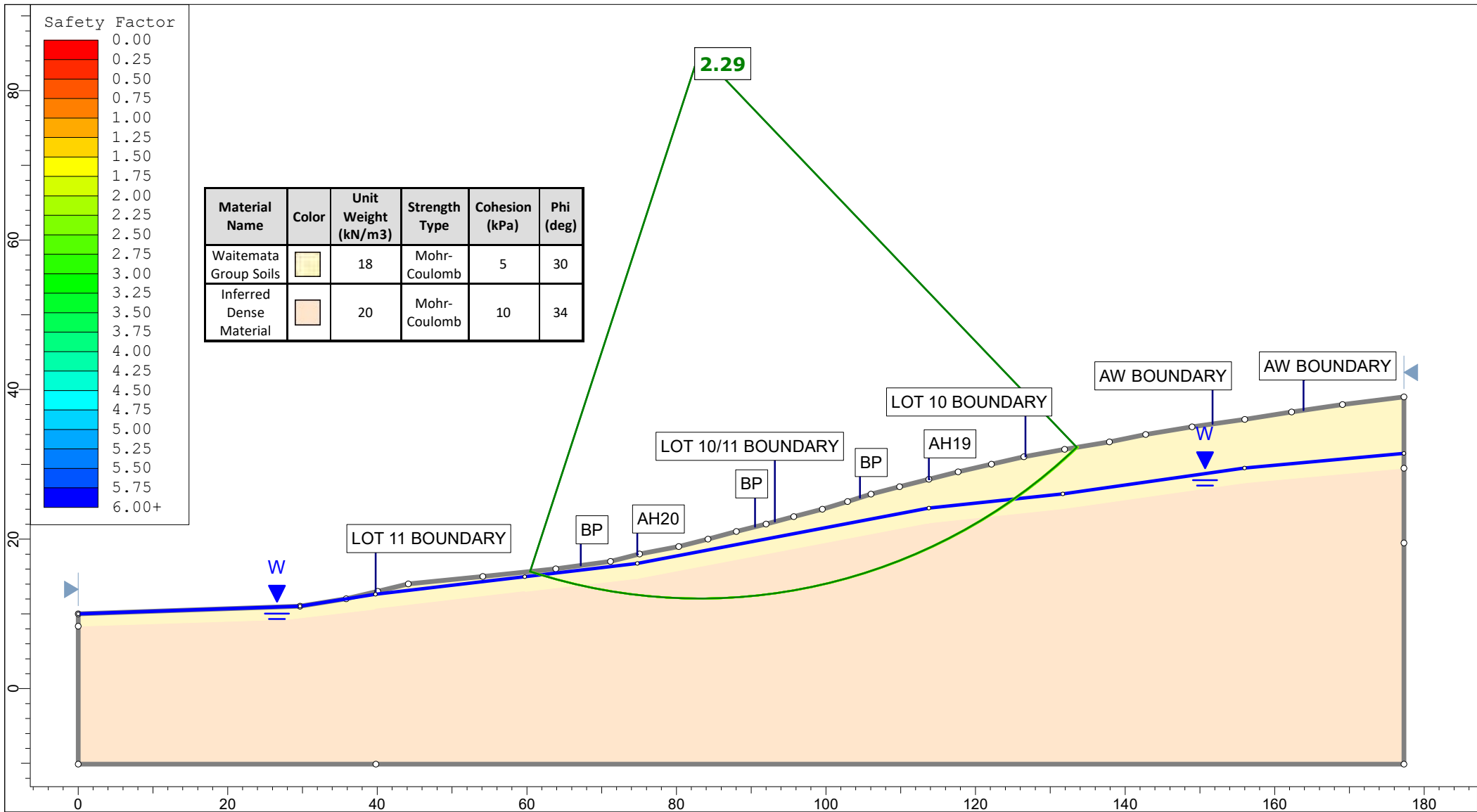
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www.kga.co.nz

Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
Group	Cross Section G-G' Measured Ground	Scenario	Run 1 - Measured Groundwater - Circular
Drawn By	TR	Company	KGA Geotechnical Group Limited
Date	26 February 2024	File Name	2024 Master.slmd

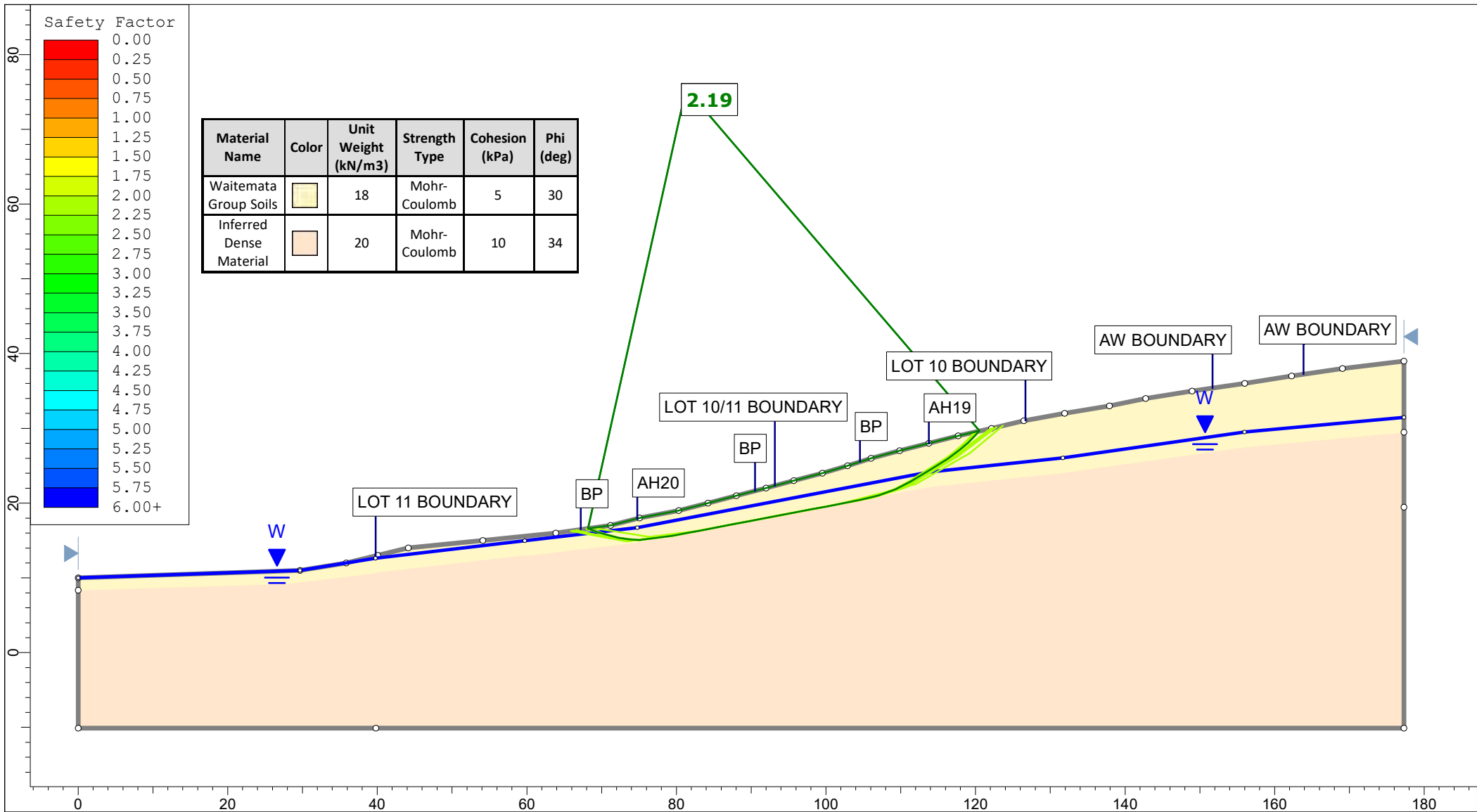


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense		20	Mohr-Coulomb	10	34

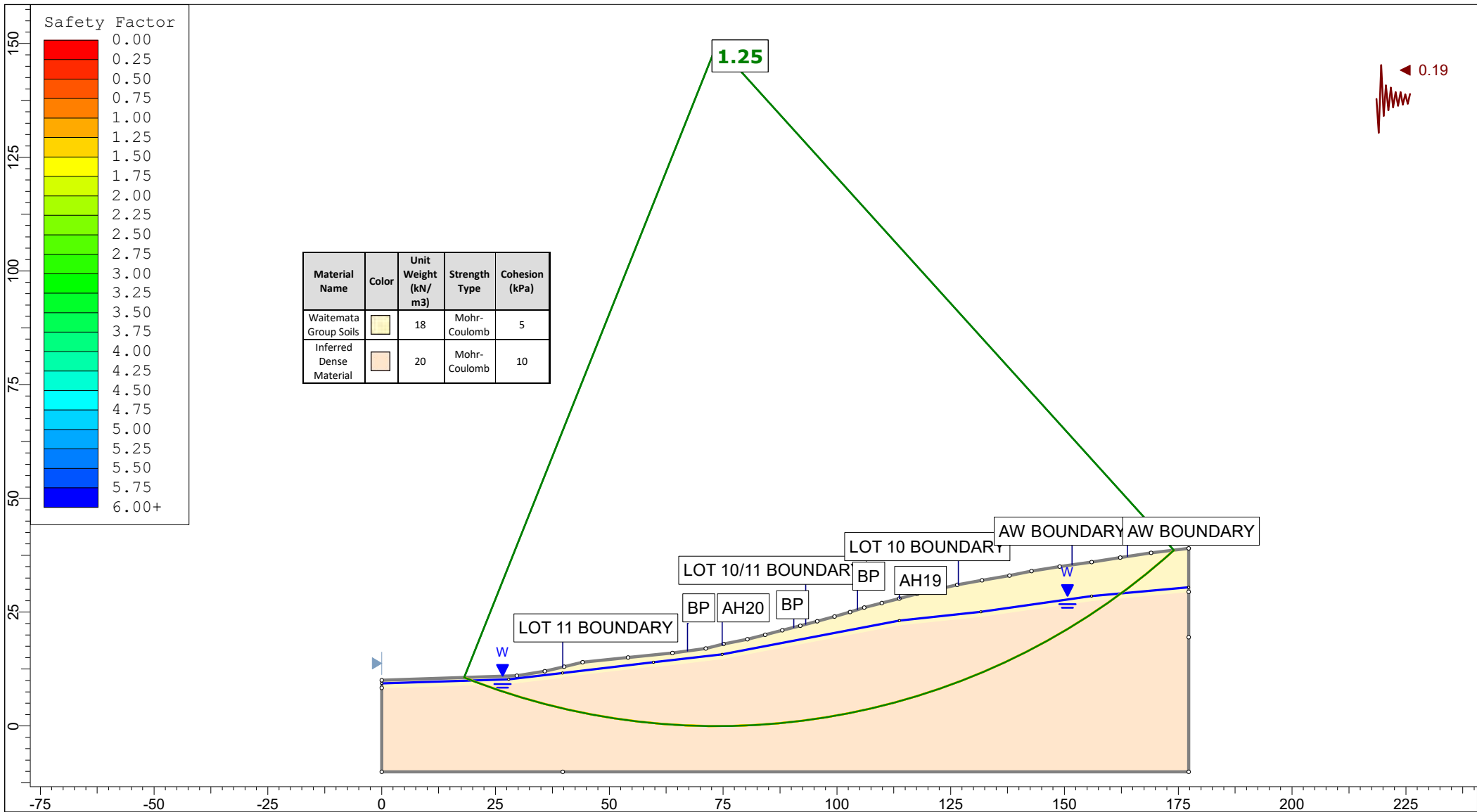
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project	K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group	Cross Section G-G' Measured Ground	Scenario	Run 2 - Measured Groundwater - Non-Cicular
	Drawn By	TR	Company	KGA Geotechnical Group Limited
	Date	26 February 2024	File Name	2024 Master.slmd



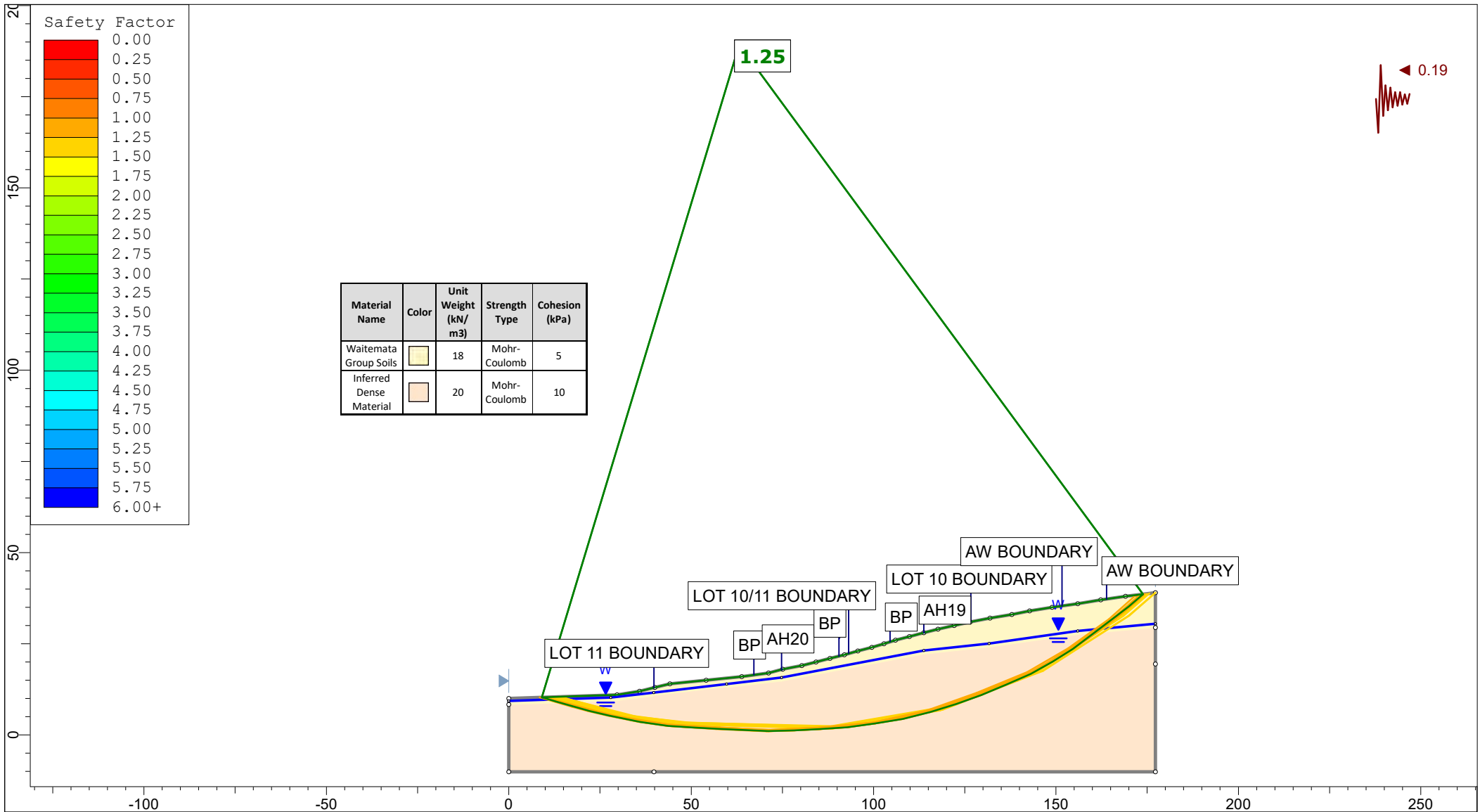
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section G-G' Measured Ground	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm



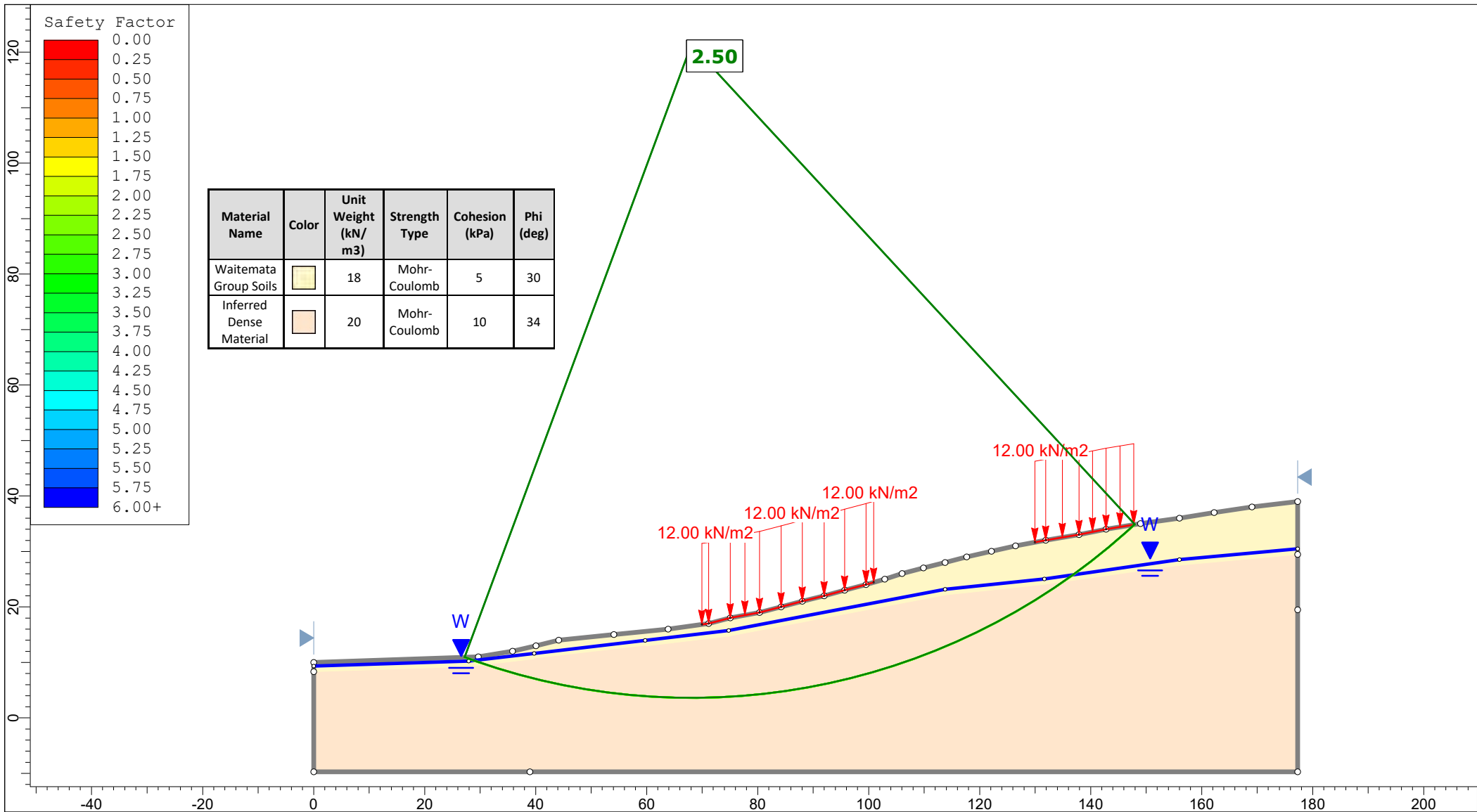
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section G-G' Measured Ground		
	Scenario		Run 4 - Raised Groundwater - Non-Cicular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
				2024 Master.slm	




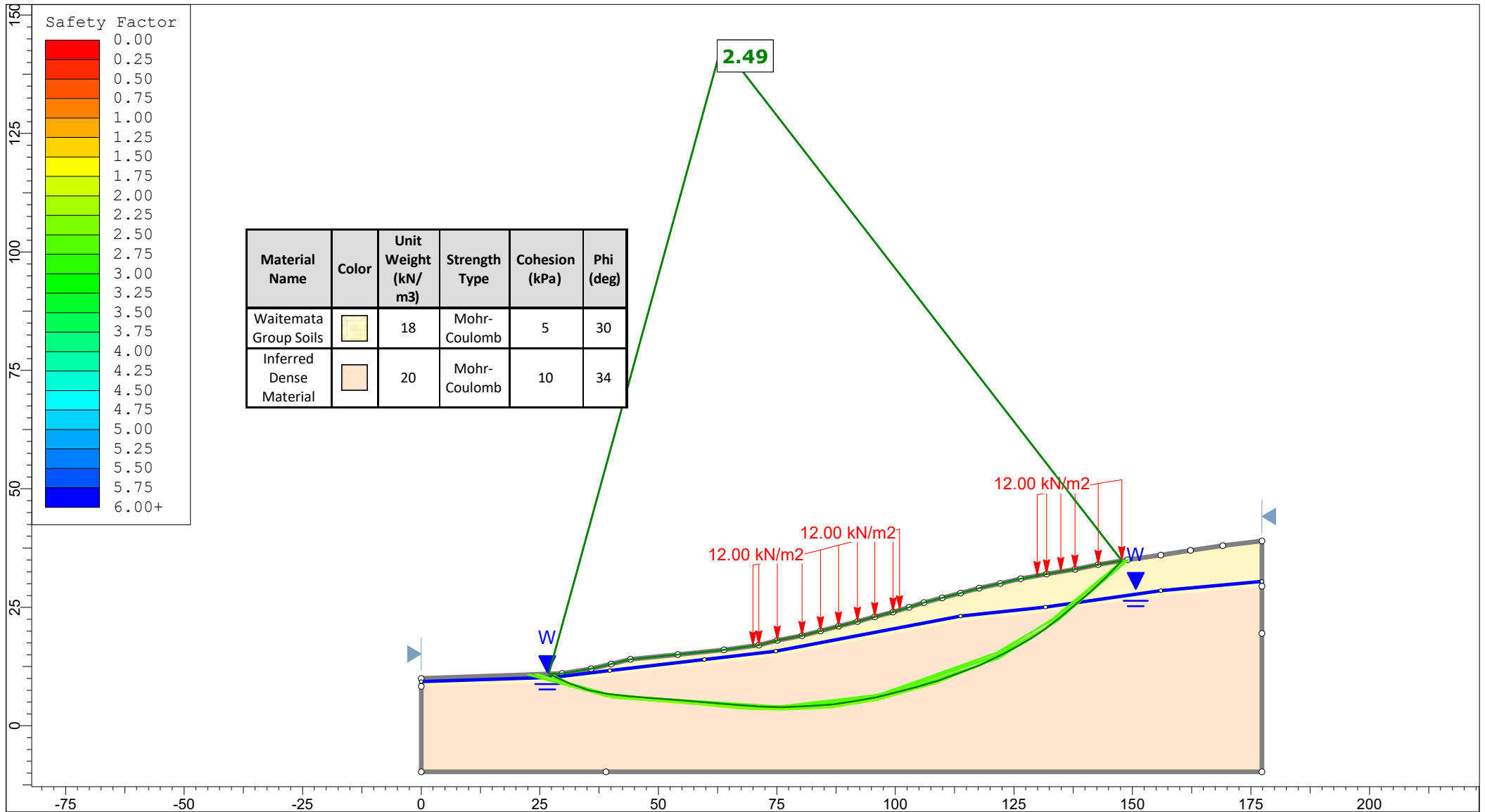
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section G-G' Measured Ground	Scenario	Run 5 - Seismic Loading - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm




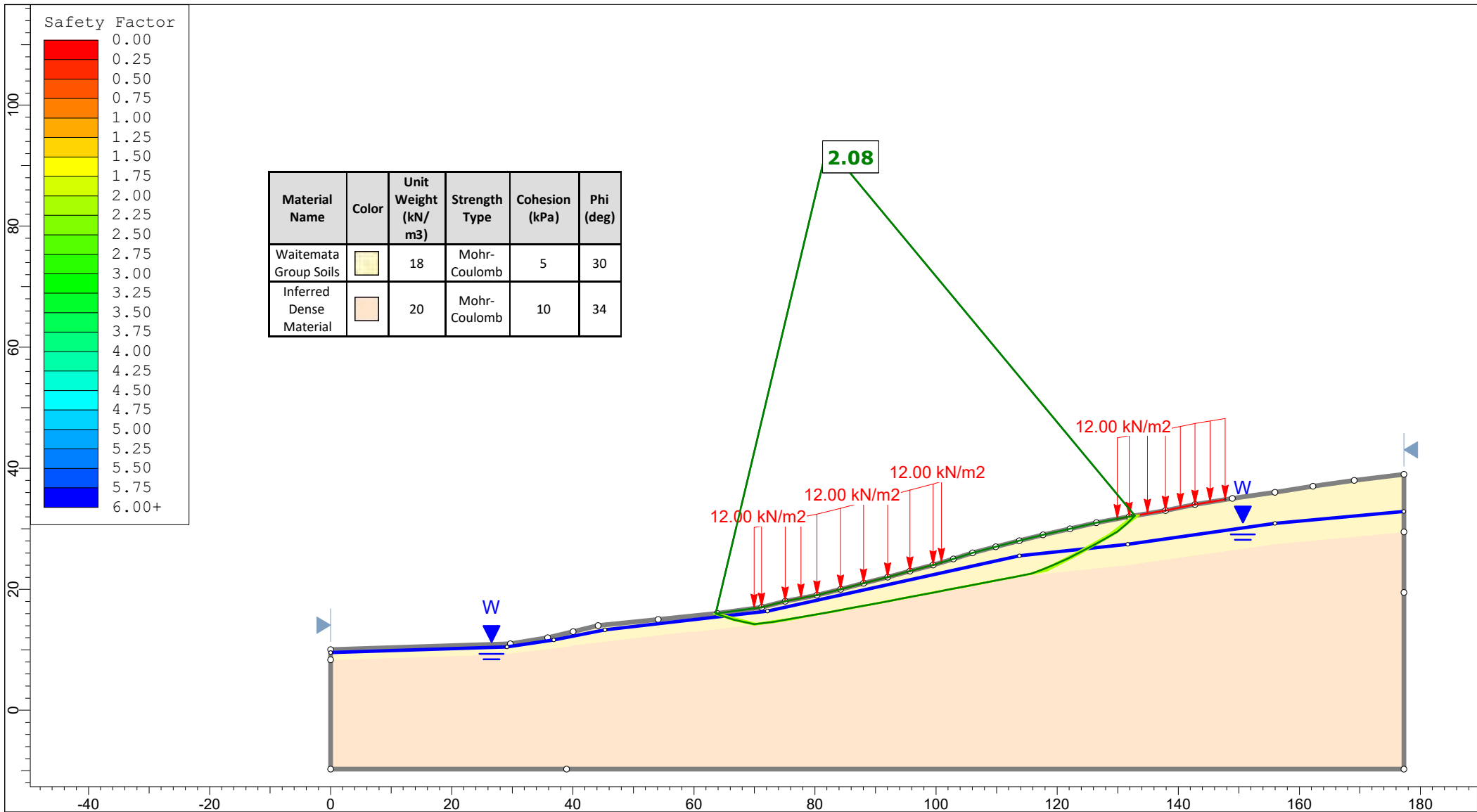
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section G-G' Measured Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd




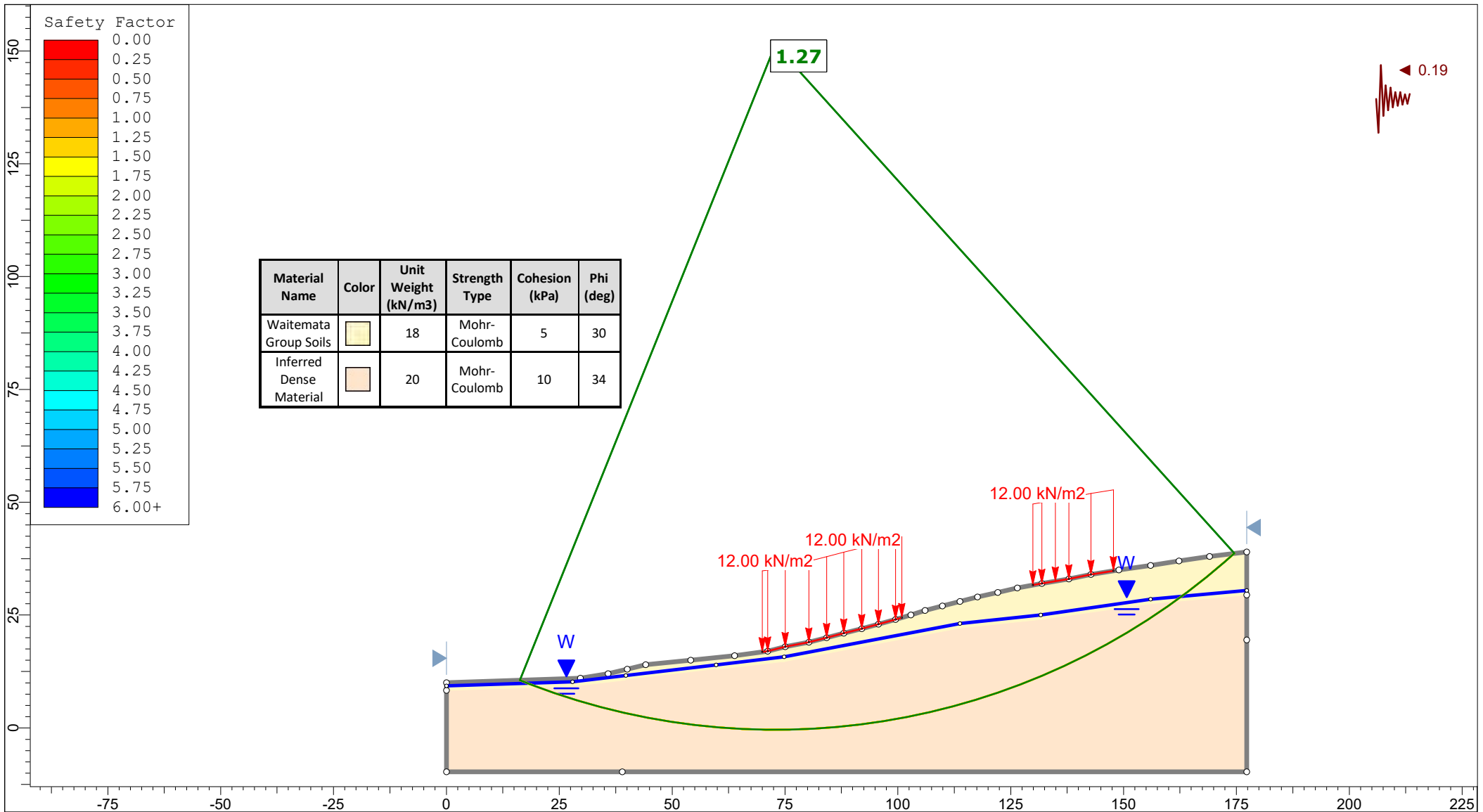
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section G-G' Proposed Ground		
	Scenario		Run 1 - Measured Groundwater - Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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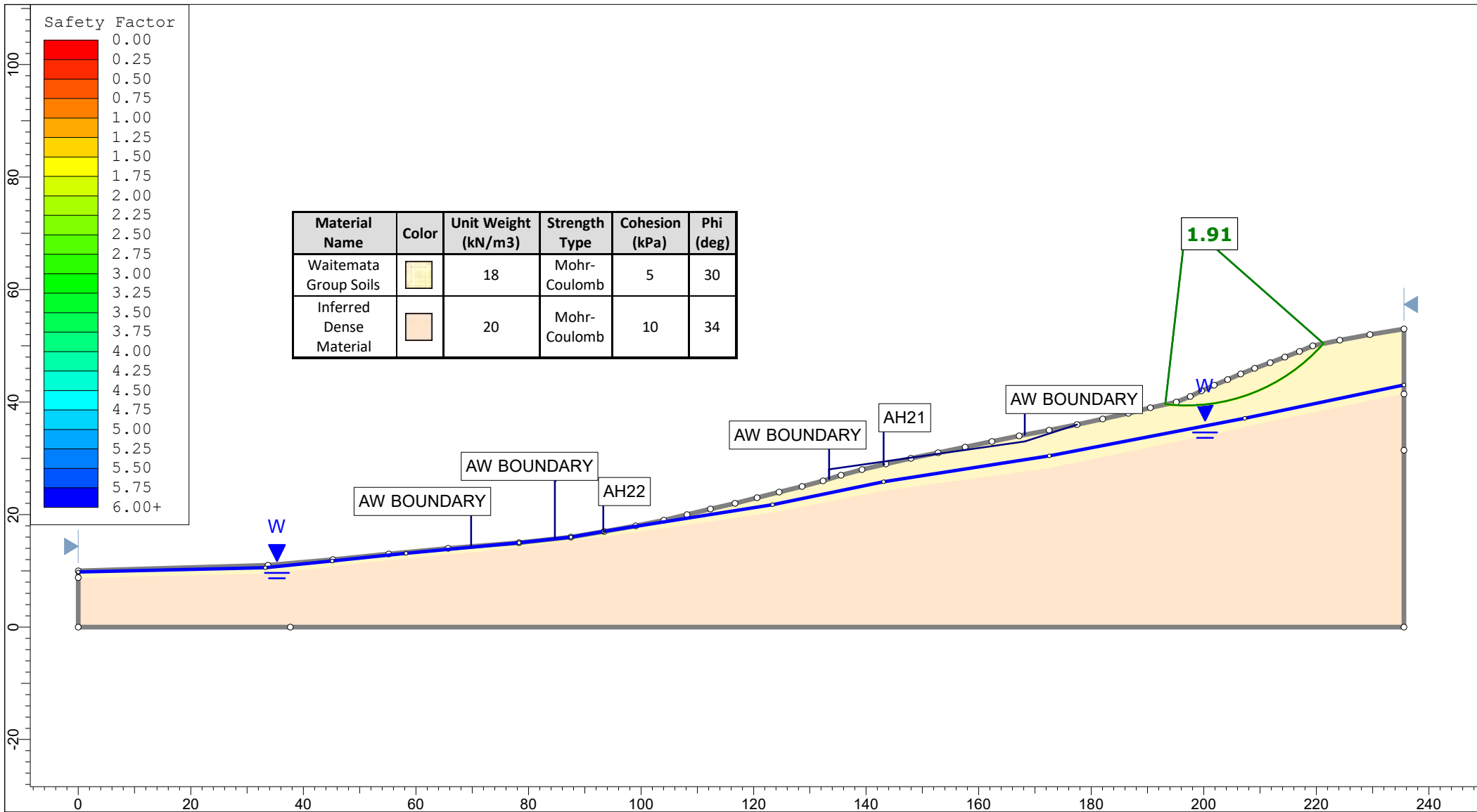
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	Group	Cross Section G-G' Proposed Ground	Scenario	Run 2 - Measured Groundwater - Non-Cicular
	Drawn By	TR	Company	KGA Geotechnical Group Limited
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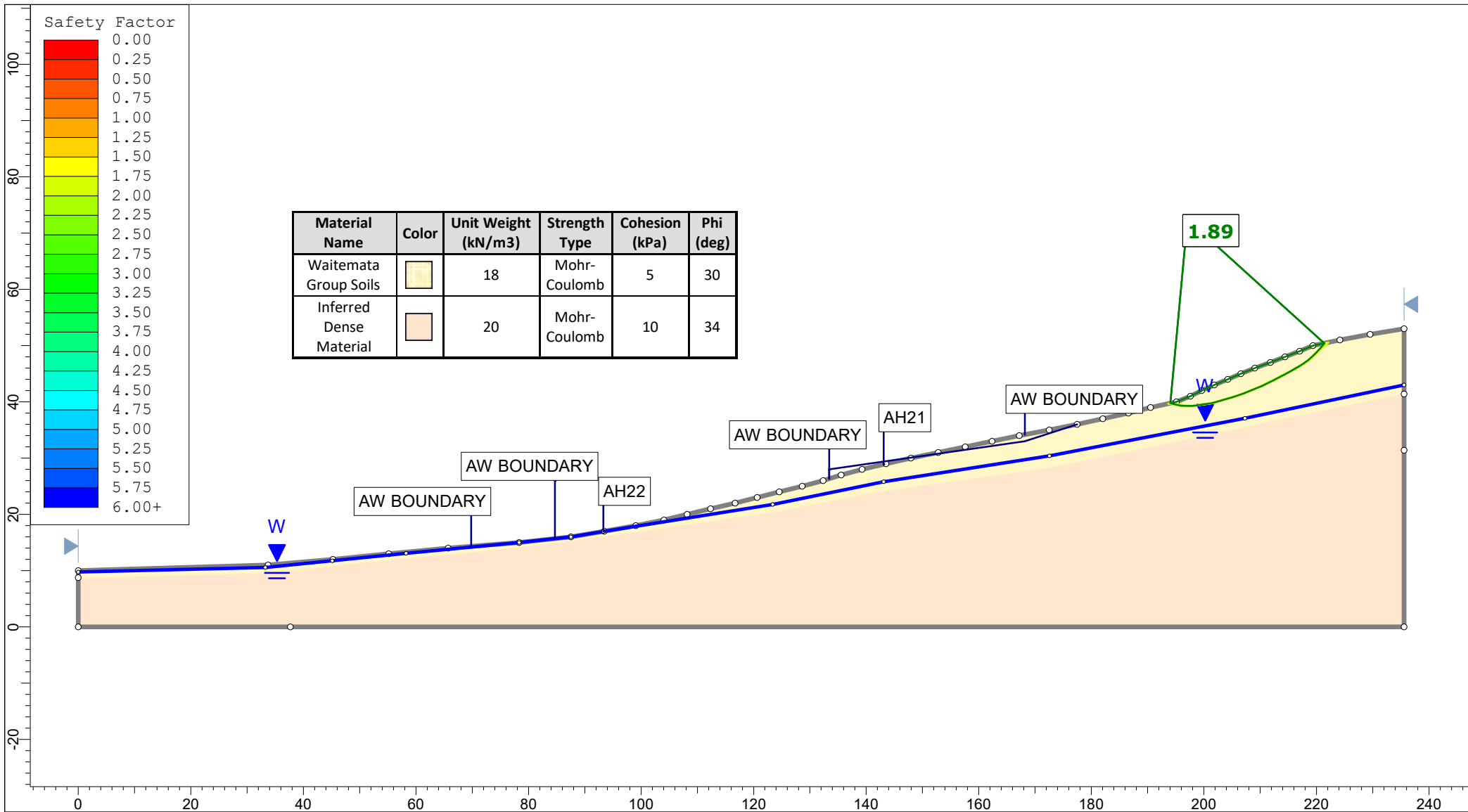
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group Cross Section G-G' Proposed Ground	Scenario Run 4 - Raised Groundwater - Non-Circular
	Drawn By TR	Company KGA Geotechnical Group Limited
	Date 26 February 2024	File Name 2024 Master.sldm




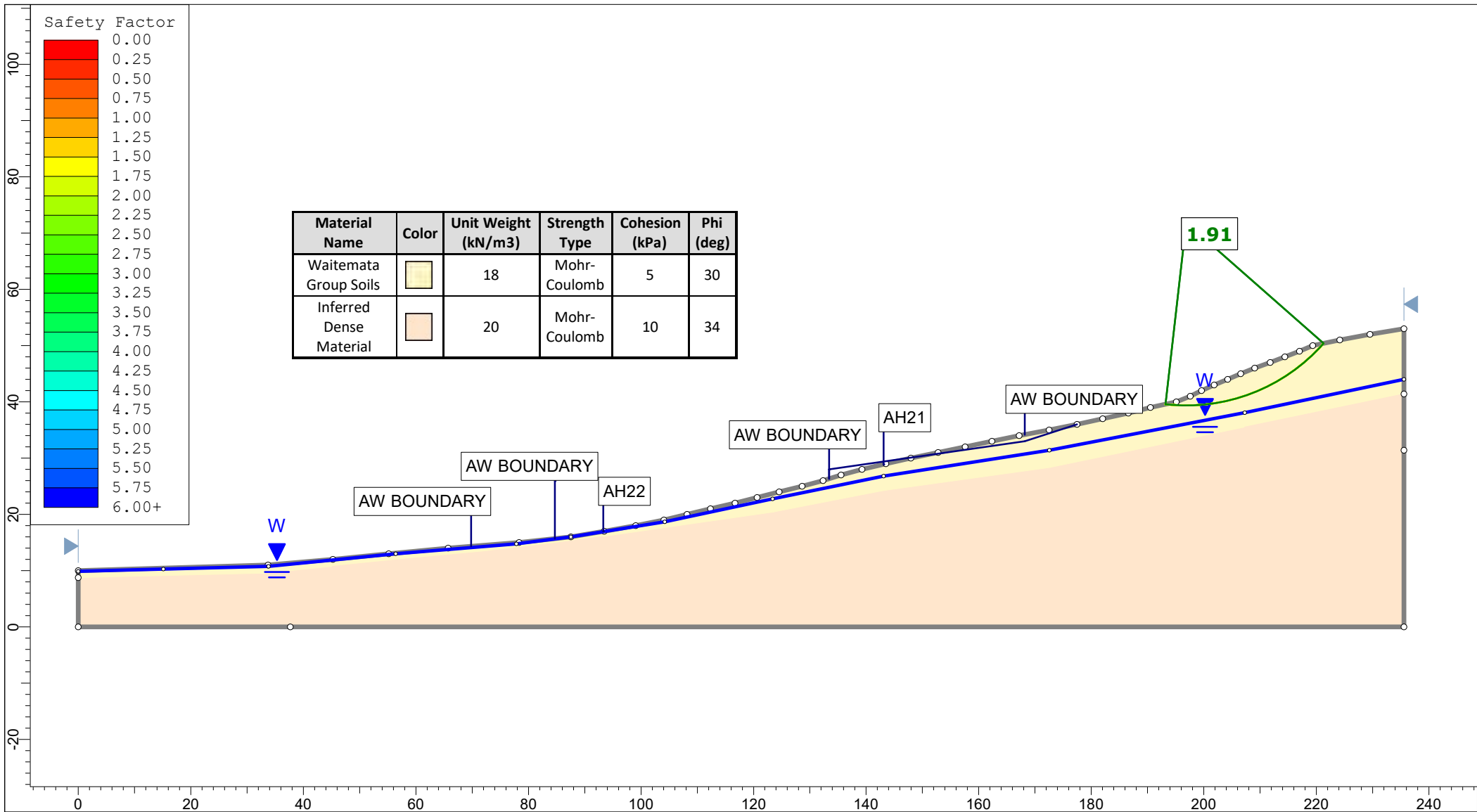
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
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	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd




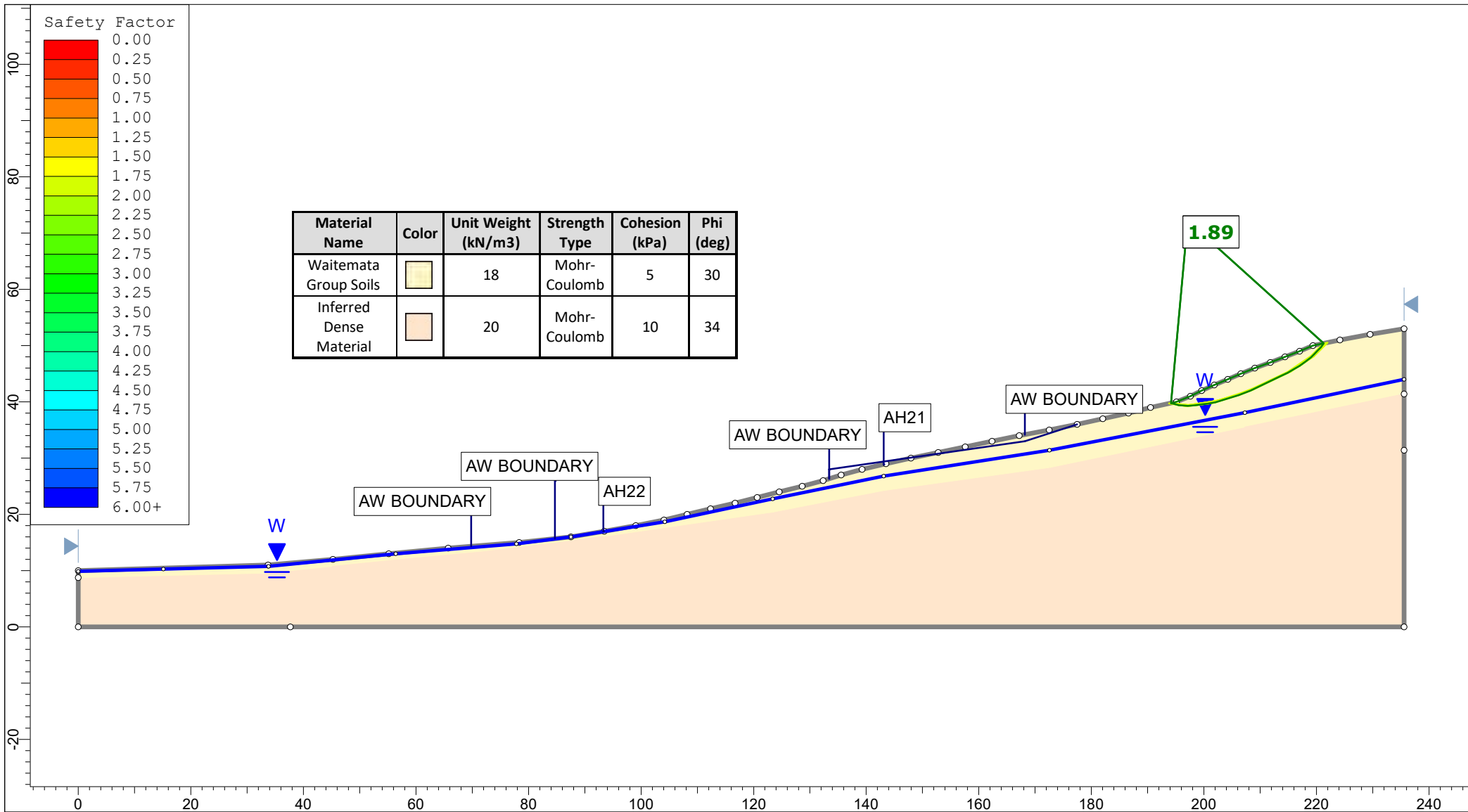
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	Group		Cross Section H-H' Measured Ground		
	Scenario		Run 1 - Measured Groundwater - Circular		
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Drawn By		TR		Date	
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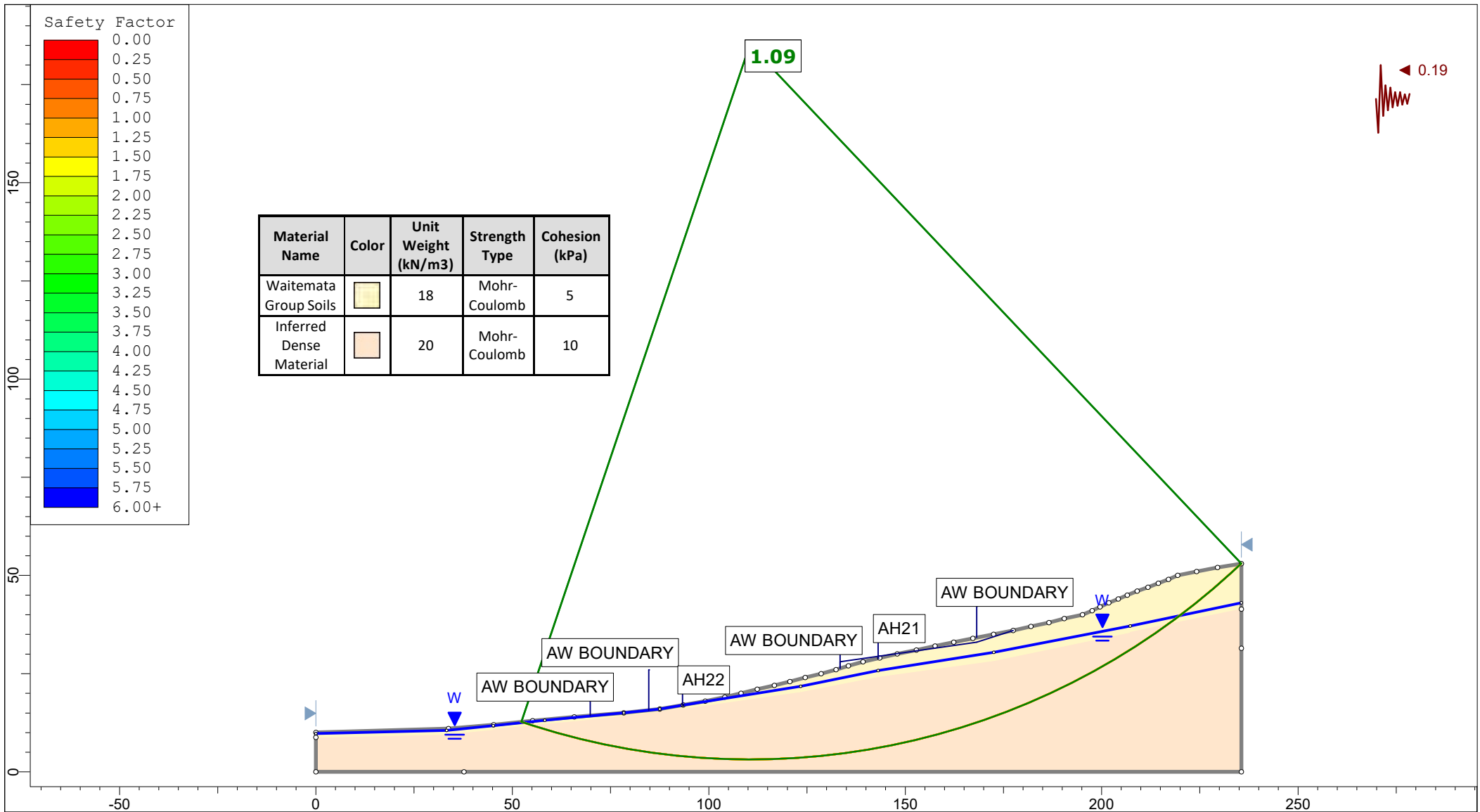
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	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd



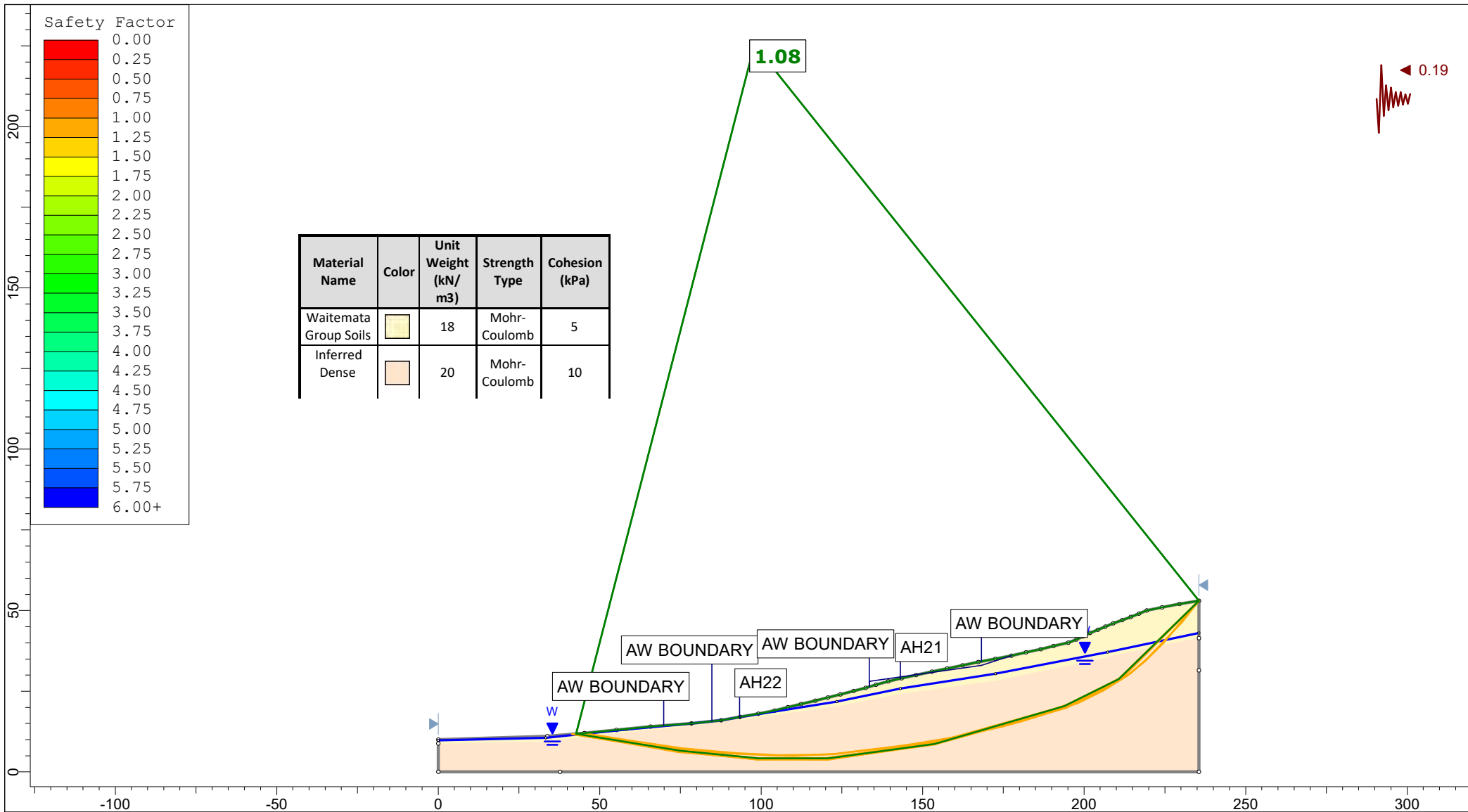
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section H-H' Measured Ground	Scenario	Run 3 - Raised Groundwater - Cicular
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	Date		26 February 2024	File Name	2024 Master.slmd



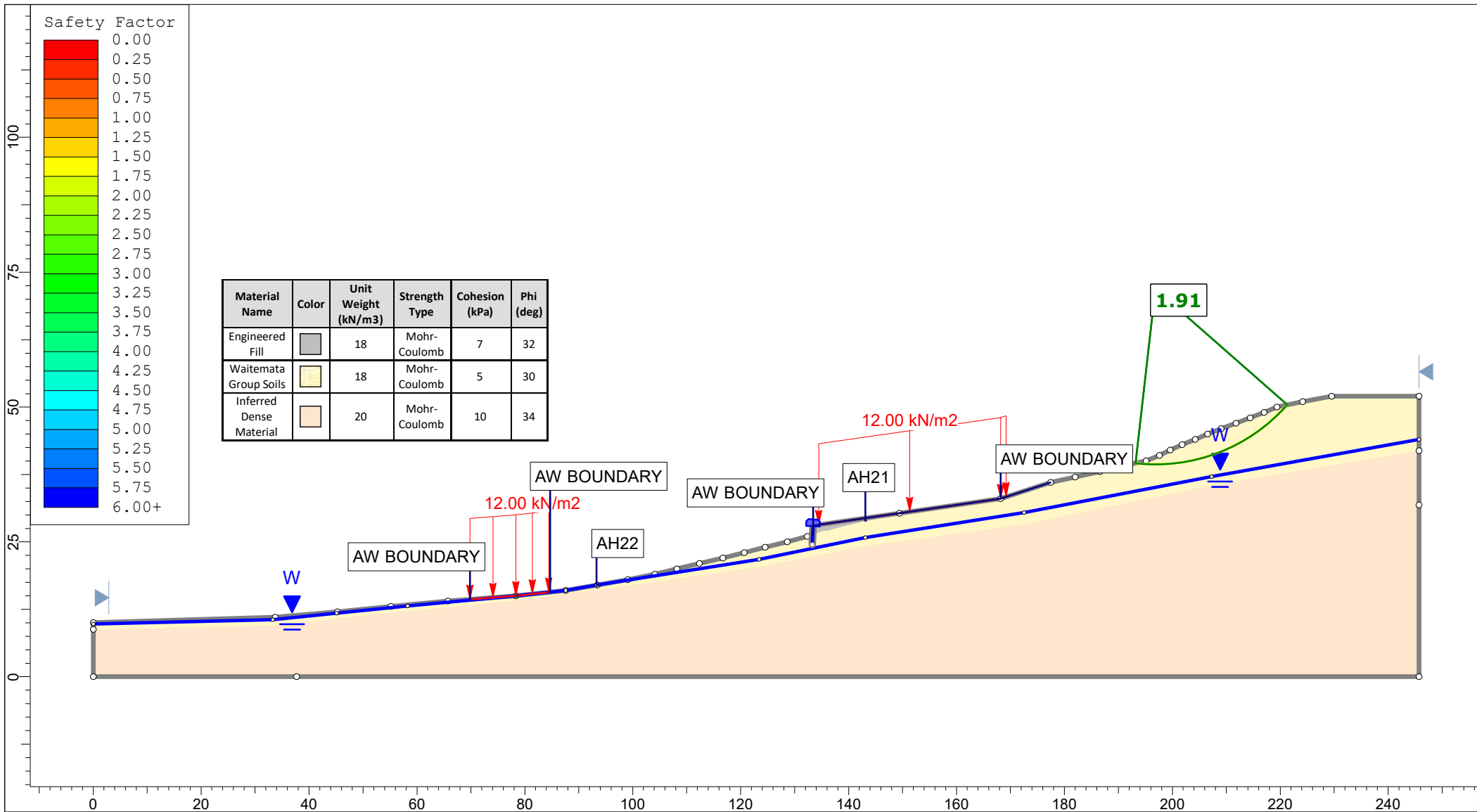
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	Group		Cross Section H-H' Measured Ground		Scenario	Run 4 - Raised Groundwater - Non-Cicular
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	Date		26 February 2024		File Name	2024 Master.slmd



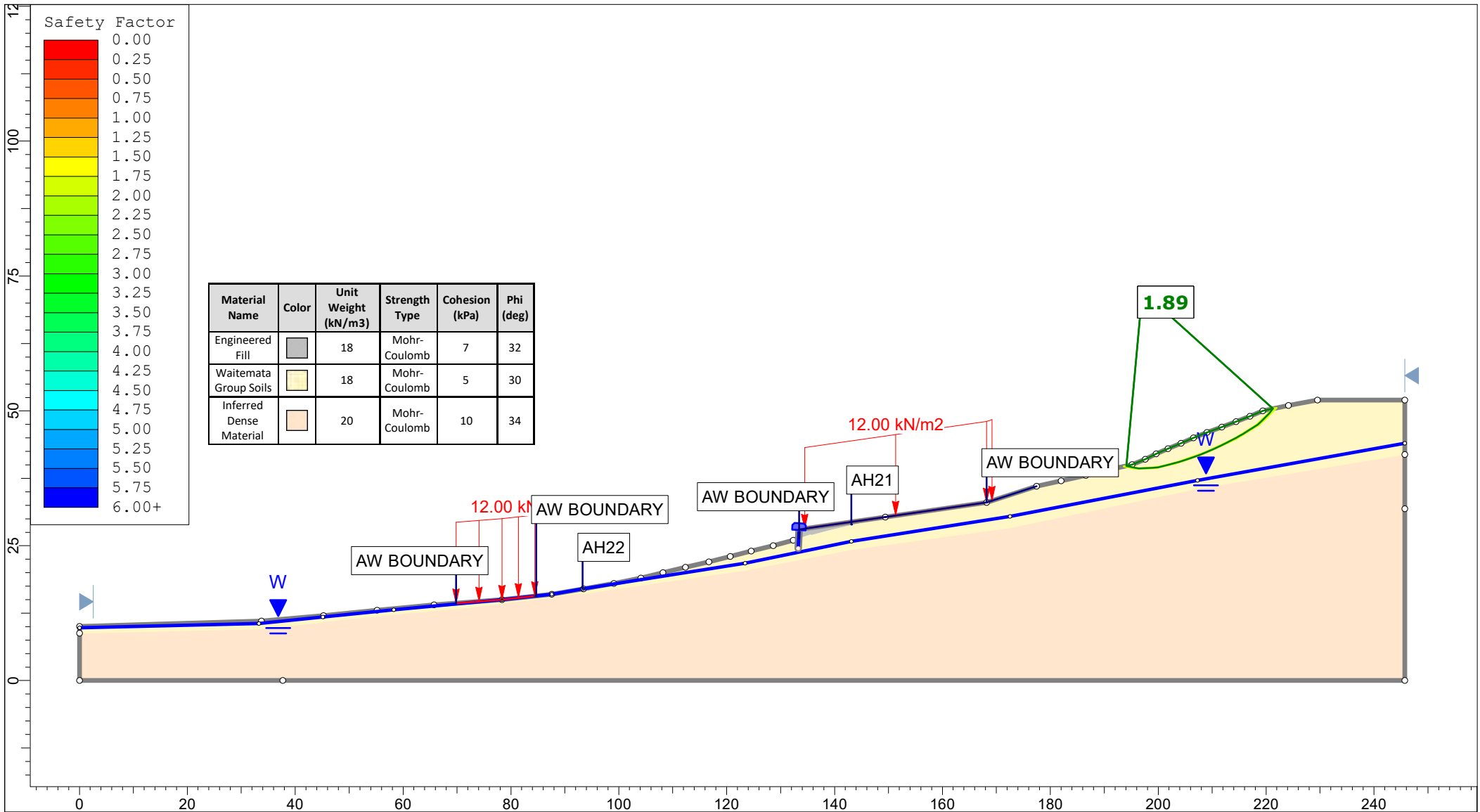
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	Scenario		Run 5 - Seismic Loading - Circular	
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Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.sldm		



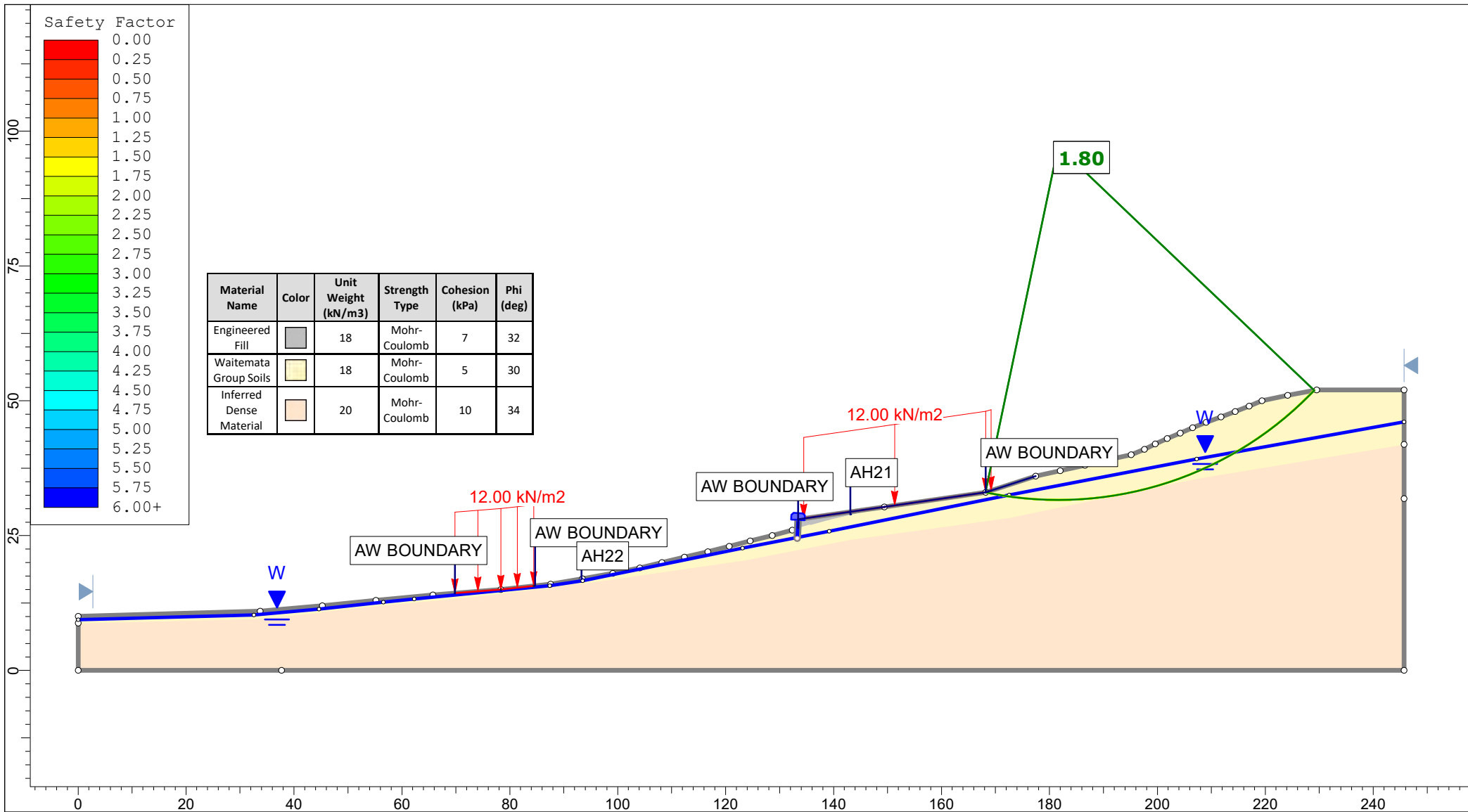
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	Scenario		Run 6 - Seismic Loading - Non-Circular		
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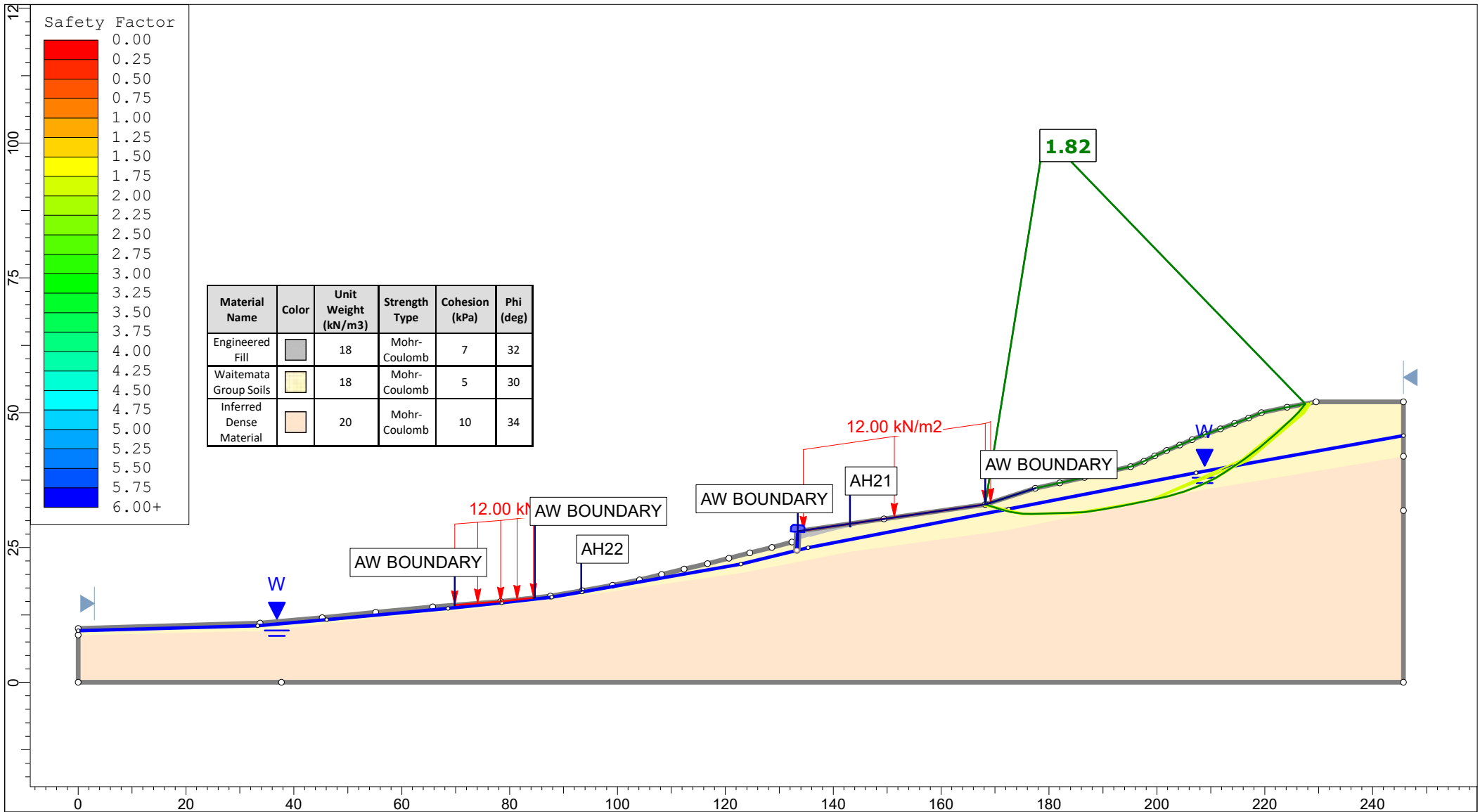
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section H-H' Proposed Ground	
	Scenario		Run 1 - Measured Groundwater - Circular	
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Drawn By		TR		
Date		26 February 2024		
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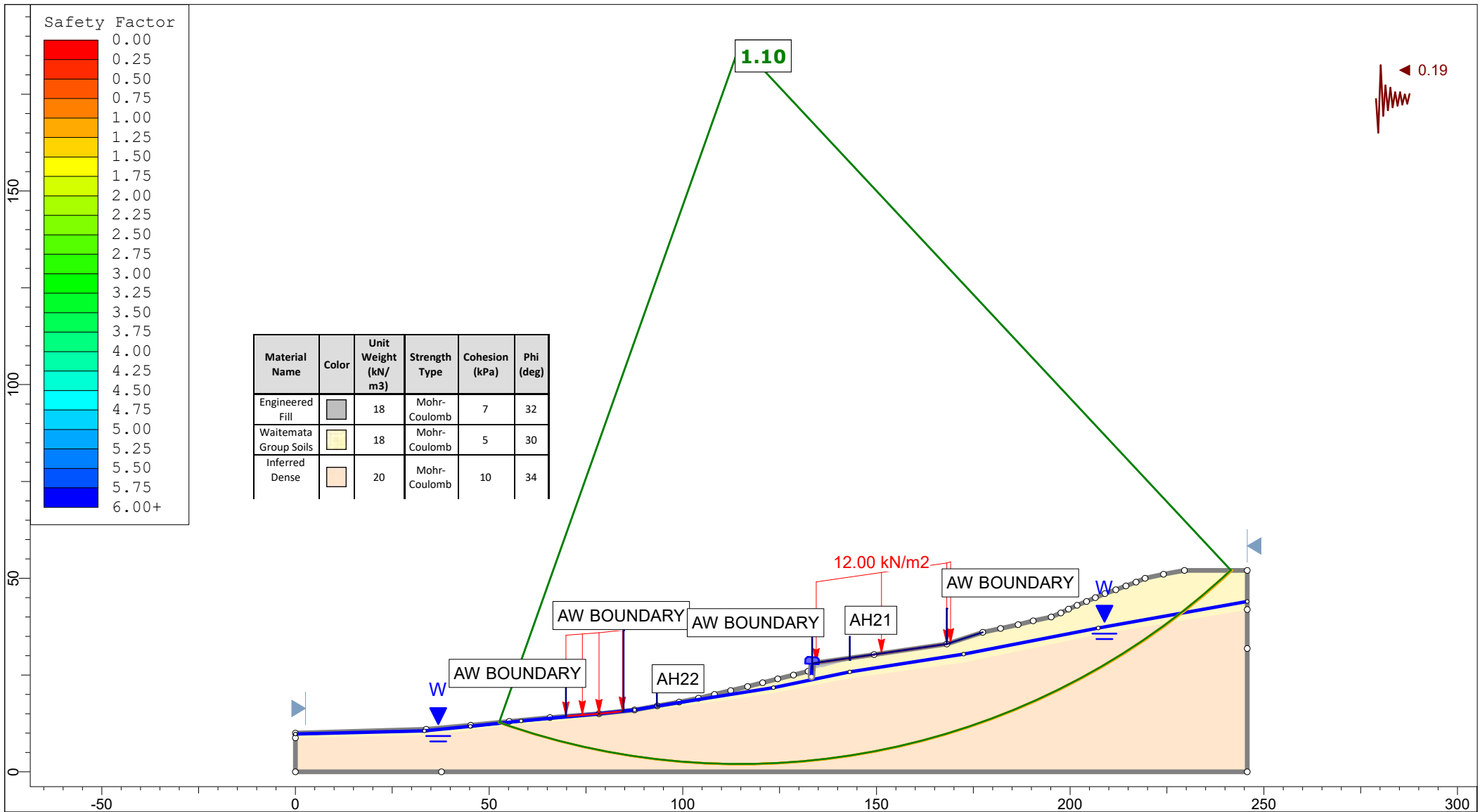
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	Group		Cross Section H-H' Proposed Ground	
	Scenario		Run 2 - Measured Groundwater - Non-Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
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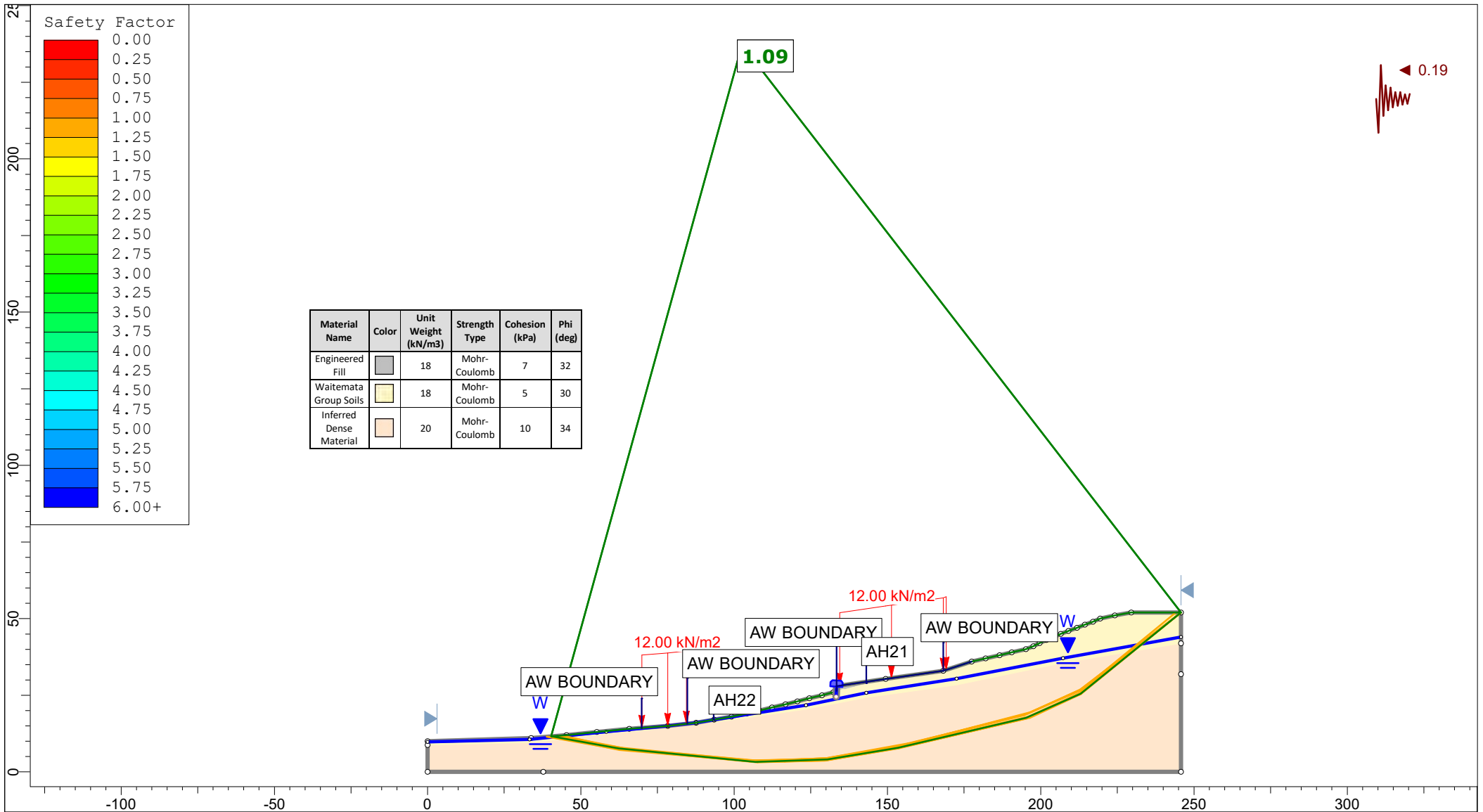
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section H-H' Proposed Ground	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm




<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section H-H' Proposed Ground		
	Scenario		Run 4 - Raised Groundwater - Non-Circular		
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Drawn By		TR		Date	
Date		26 February 2024		File Name	
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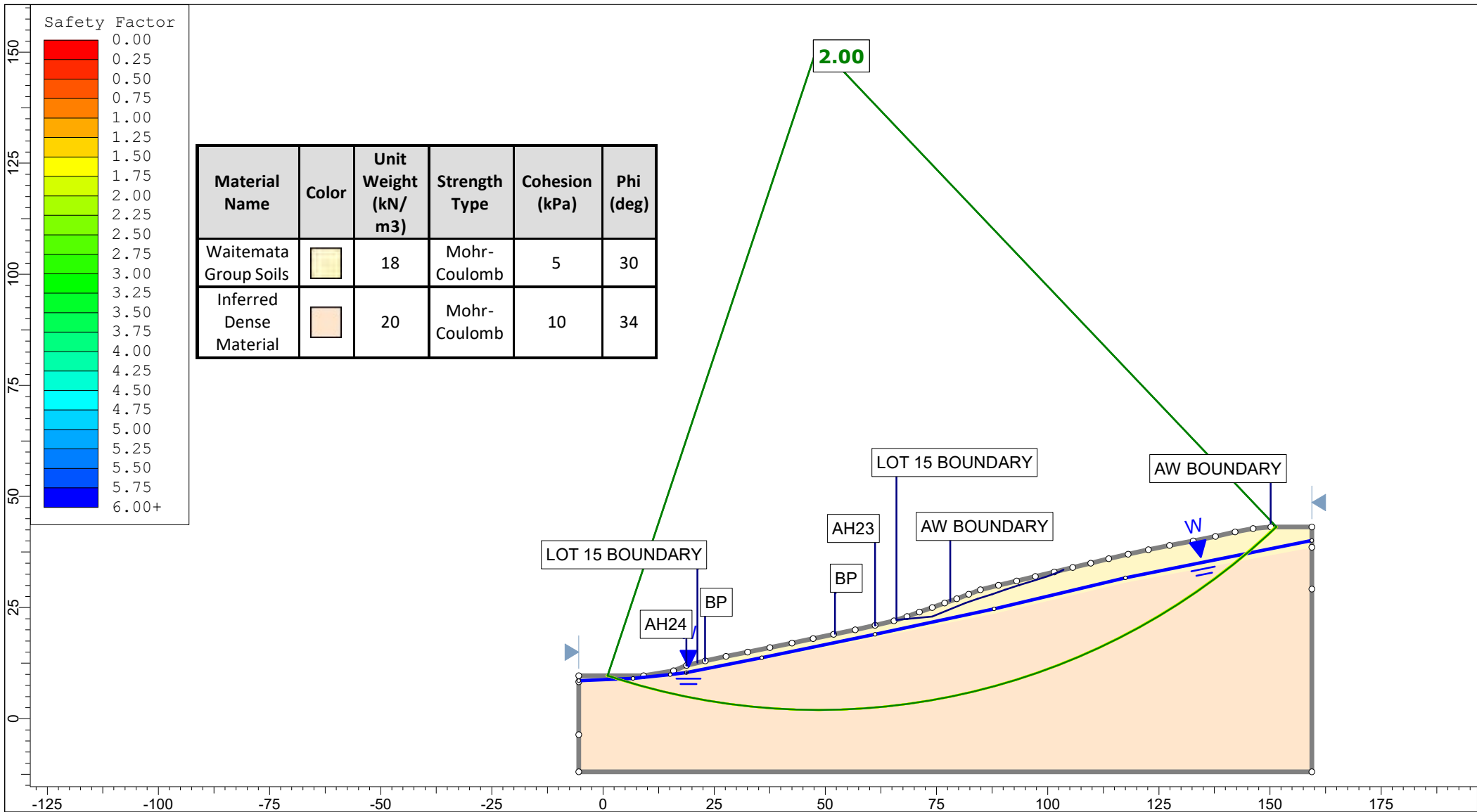


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	<p>Group: Cross Section H-H' Proposed Ground</p>	<p>Scenario: Run 5 - Seismic Loading - Circular</p>
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	<p>Date: 26 February 2024</p>	<p>File Name: 2024 Master.slmd</p>

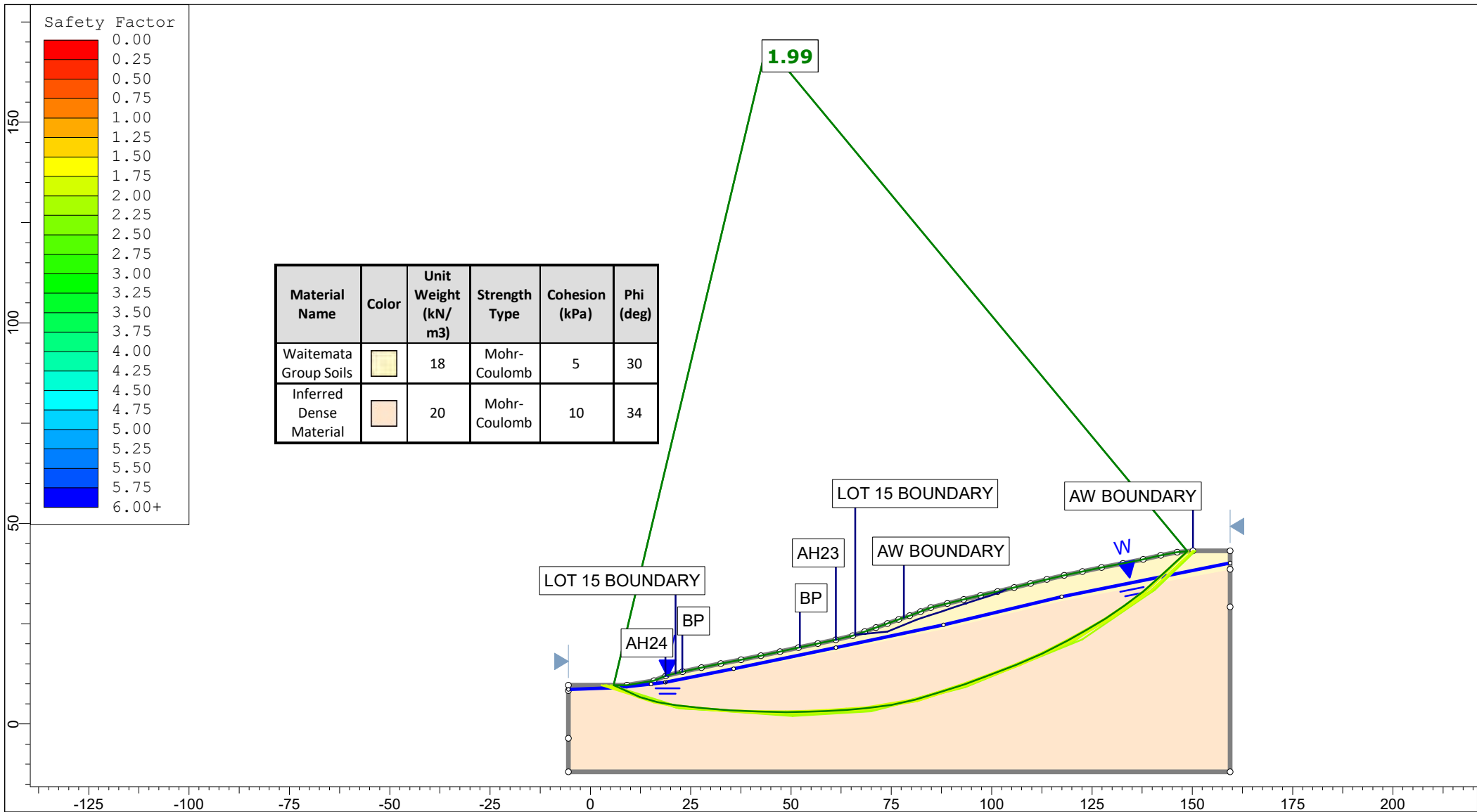


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Engineered Fill	Grey	18	Mohr-Coulomb	7	32
Waitemata Group Soils	Yellow	18	Mohr-Coulomb	5	30
Inferred Dense Material	Orange	20	Mohr-Coulomb	10	34

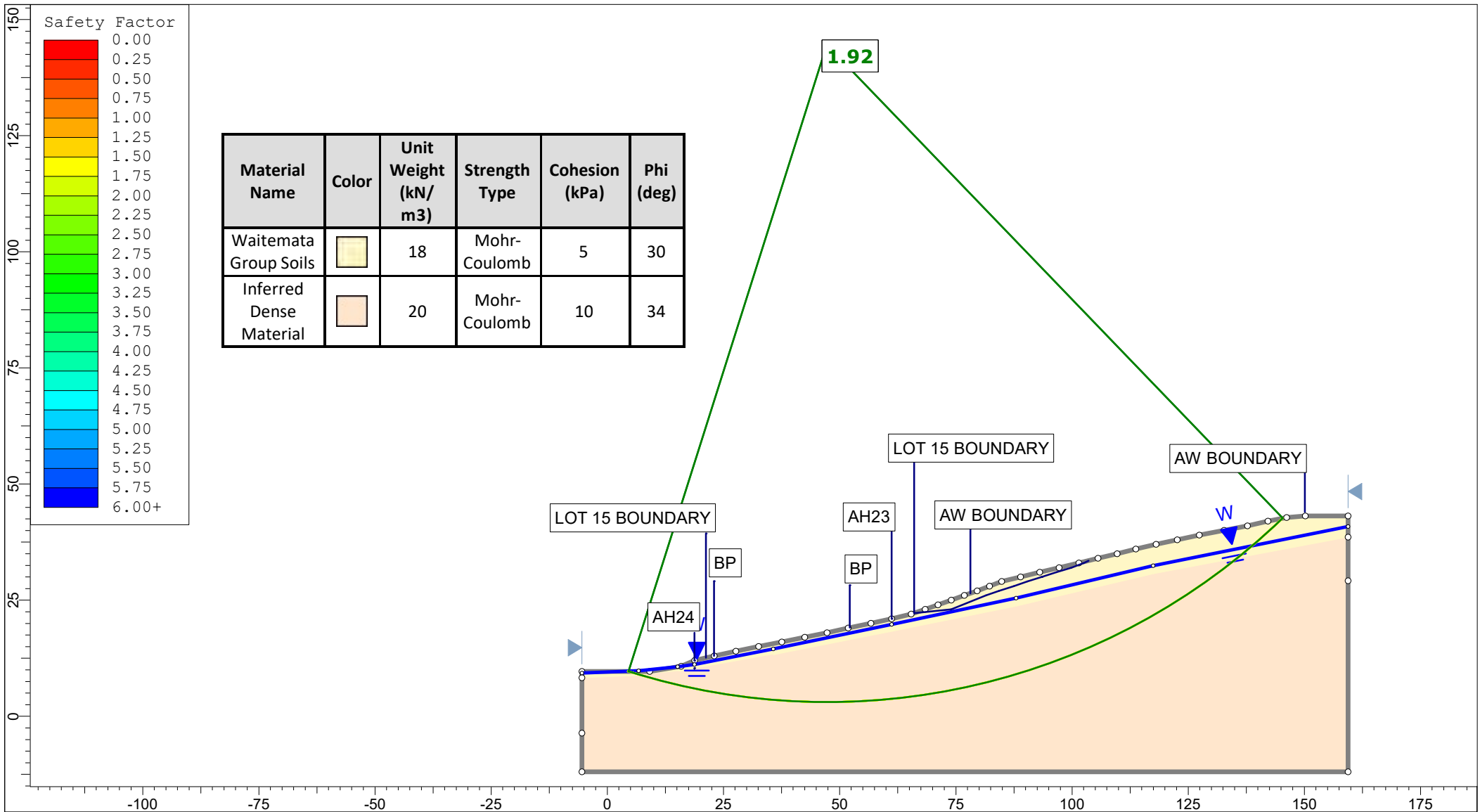
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p> 	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section H-H' Proposed Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd



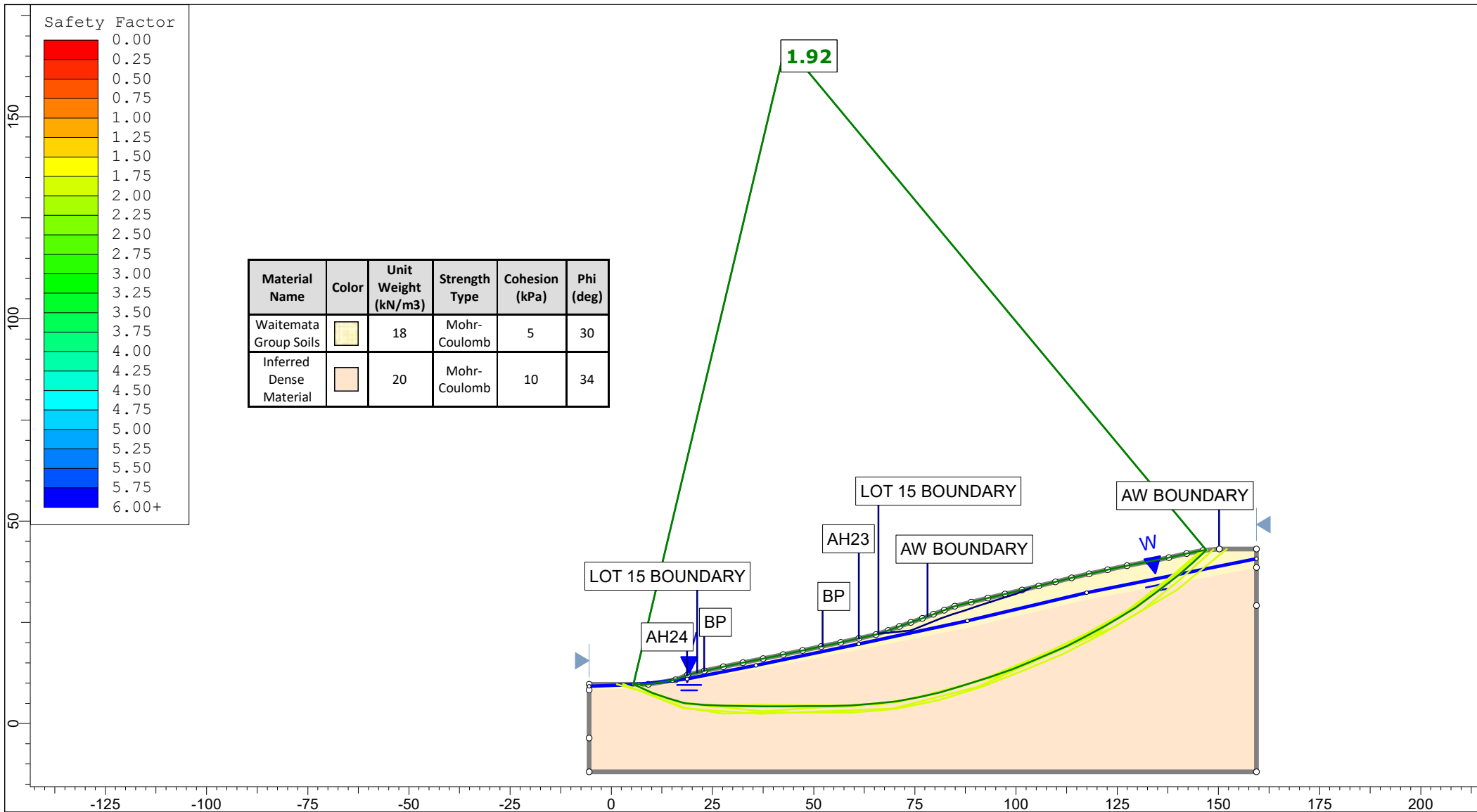
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	<p>Group Cross Section I-I' Measured Ground</p>	<p>Scenario Run 1 - Measured Groundwater - Circular</p>
	<p>Drawn By TR</p>	<p>Company KGA Geotechnical Group Limited</p>
	<p>Date 26 February 2024</p>	<p>File Name 2024 Master.sldm</p>



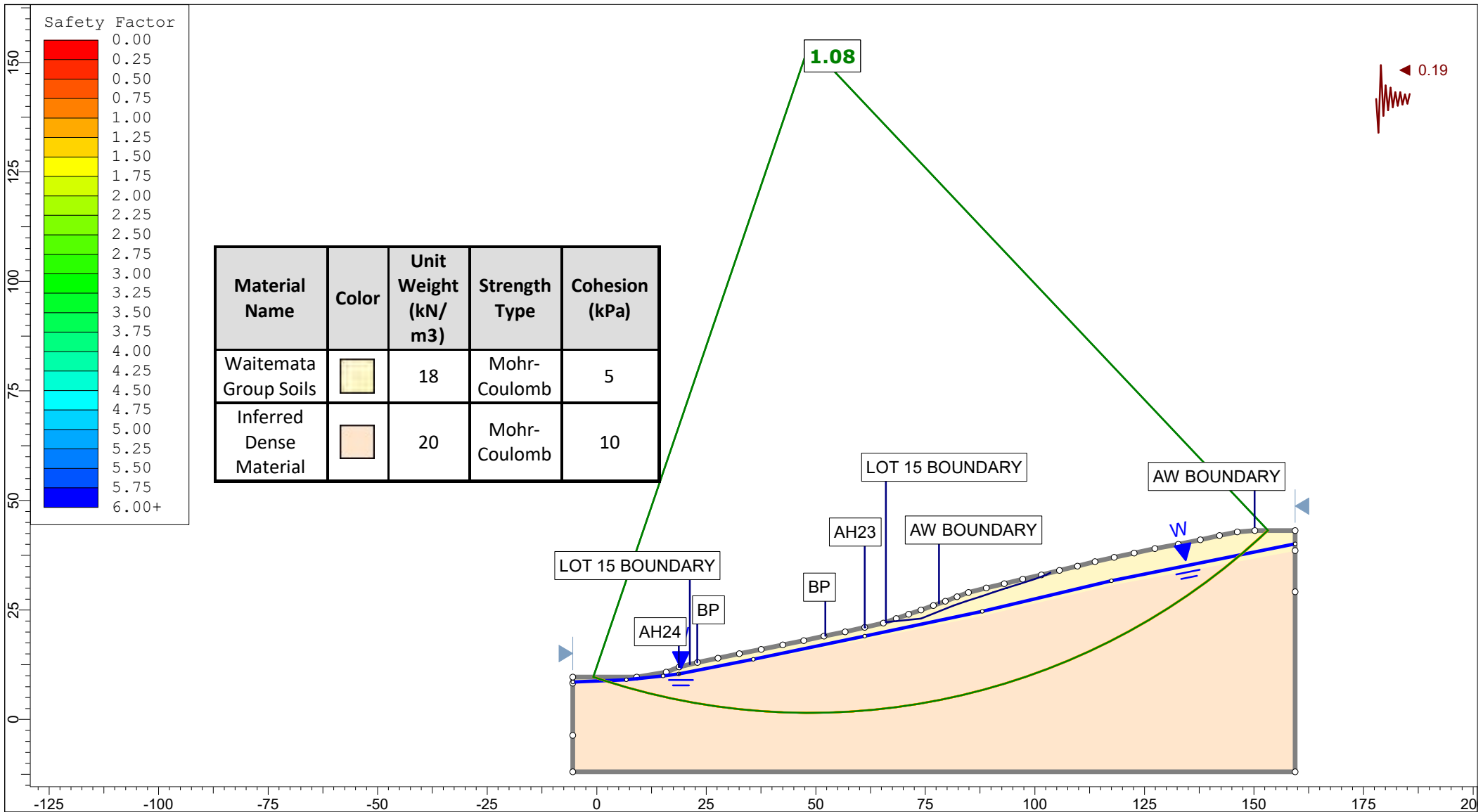
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	Group		Cross Section I-I' Measured Ground		
	Scenario		Run 2 - Measured Groundwater - Non-Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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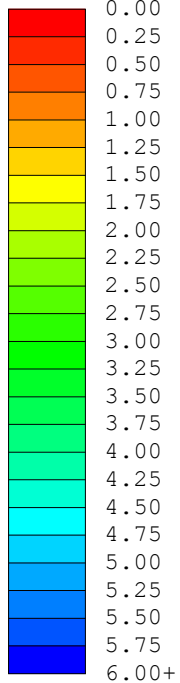
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	Group		Cross Section I-I' Measured Ground	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm



<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui
	Group		Cross Section I-I' Measured Ground
	Drawn By		TR
	Date		26 February 2024
		Scenario	Run 4 - Raised Groundwater - Non-Circular
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		File Name	2024 Master.sldm

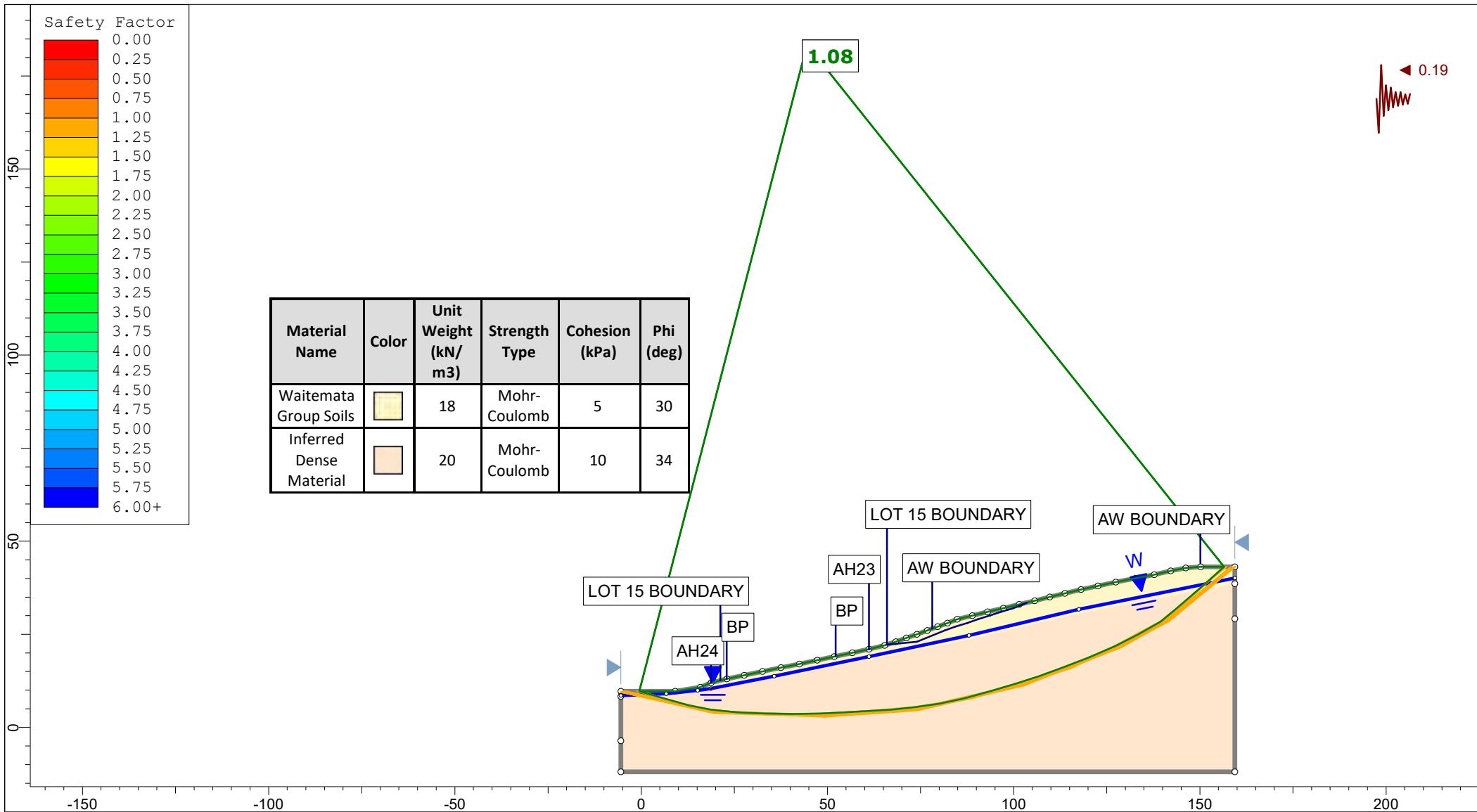


Safety Factor

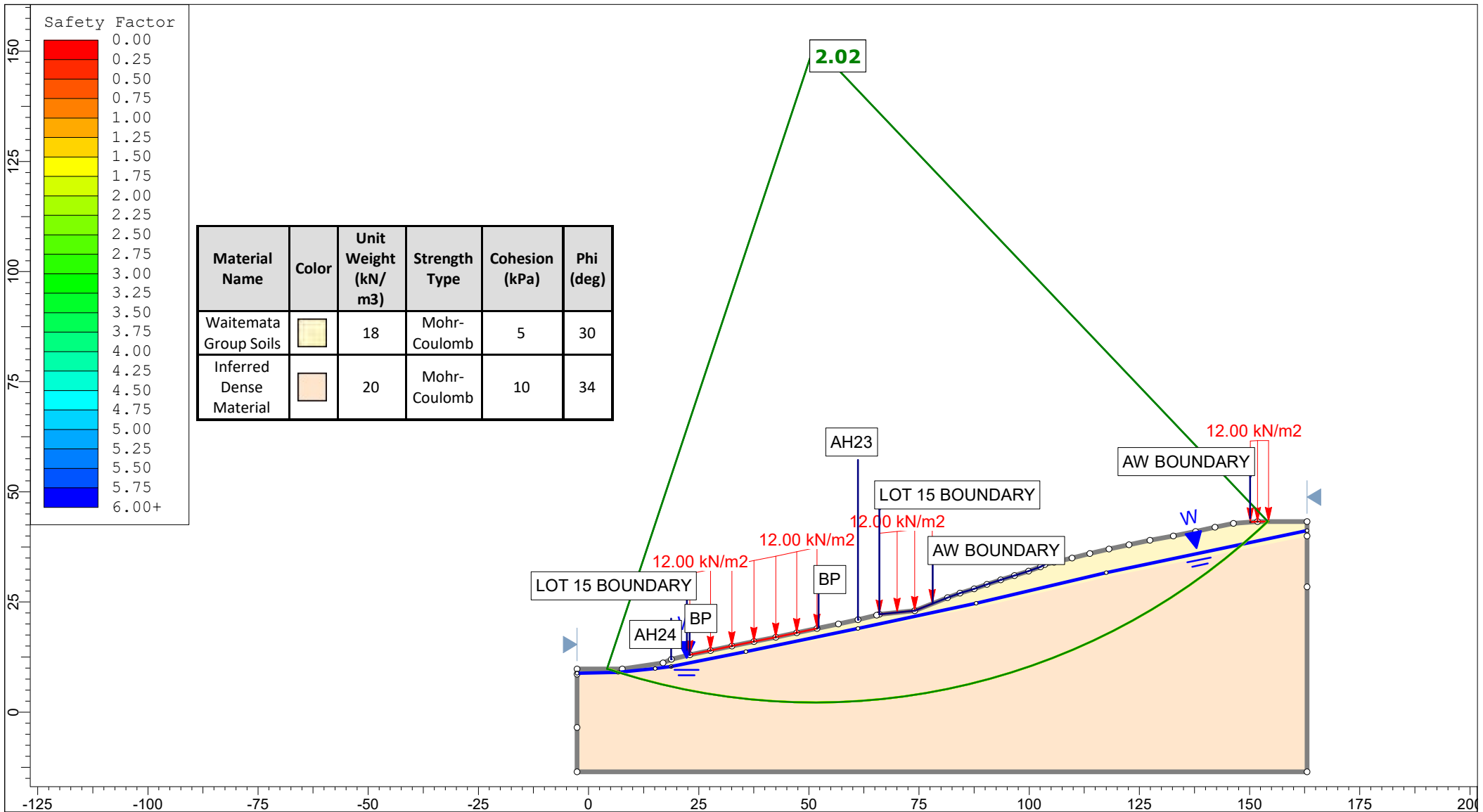


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)
Waitemata Group Soils		18	Mohr-Coulomb	5
Inferred Dense Material		20	Mohr-Coulomb	10

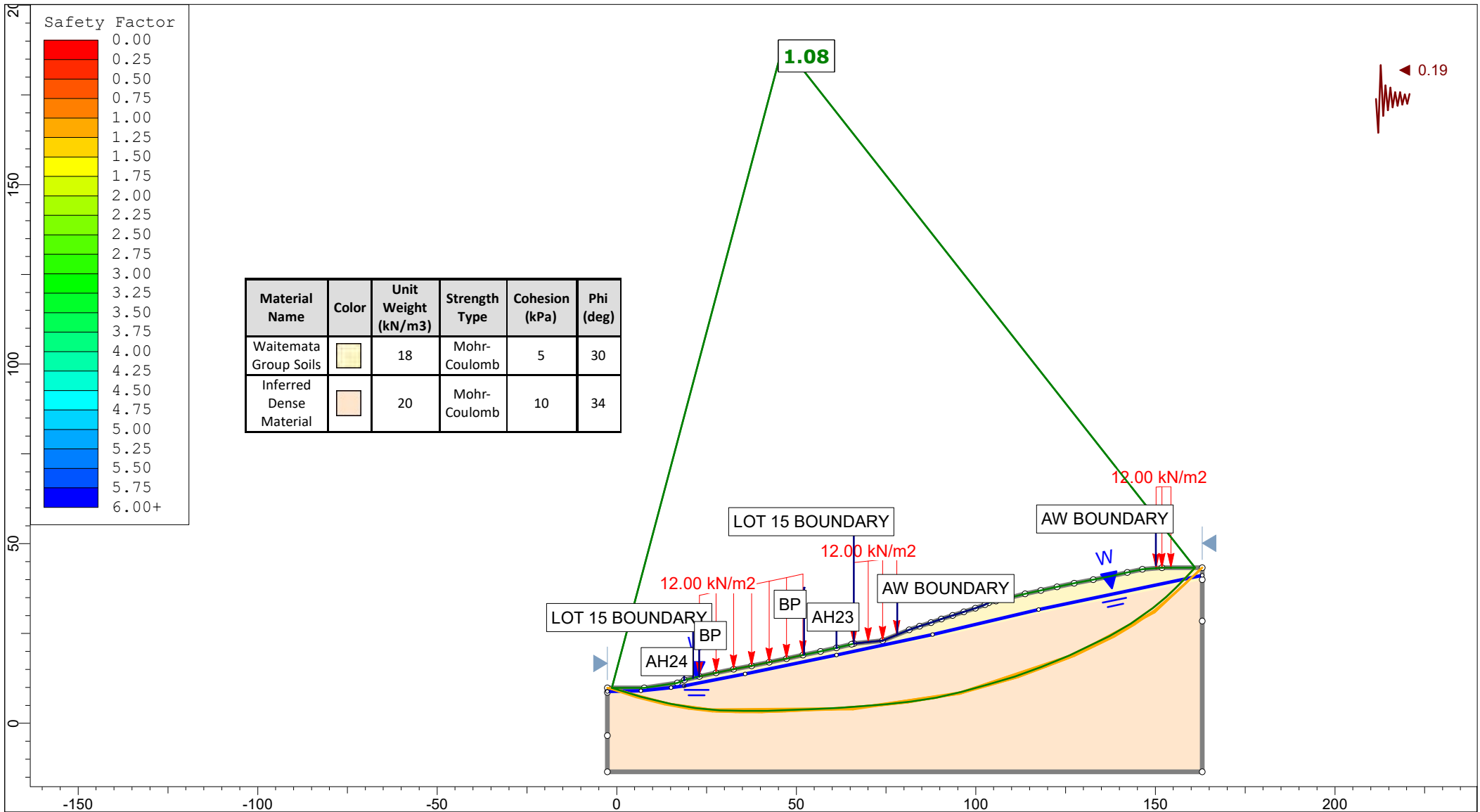
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section I-I' Measured Ground	
	Drawn By		TR	
	Date		26 February 2024	
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		File Name		2024 Master.sldm



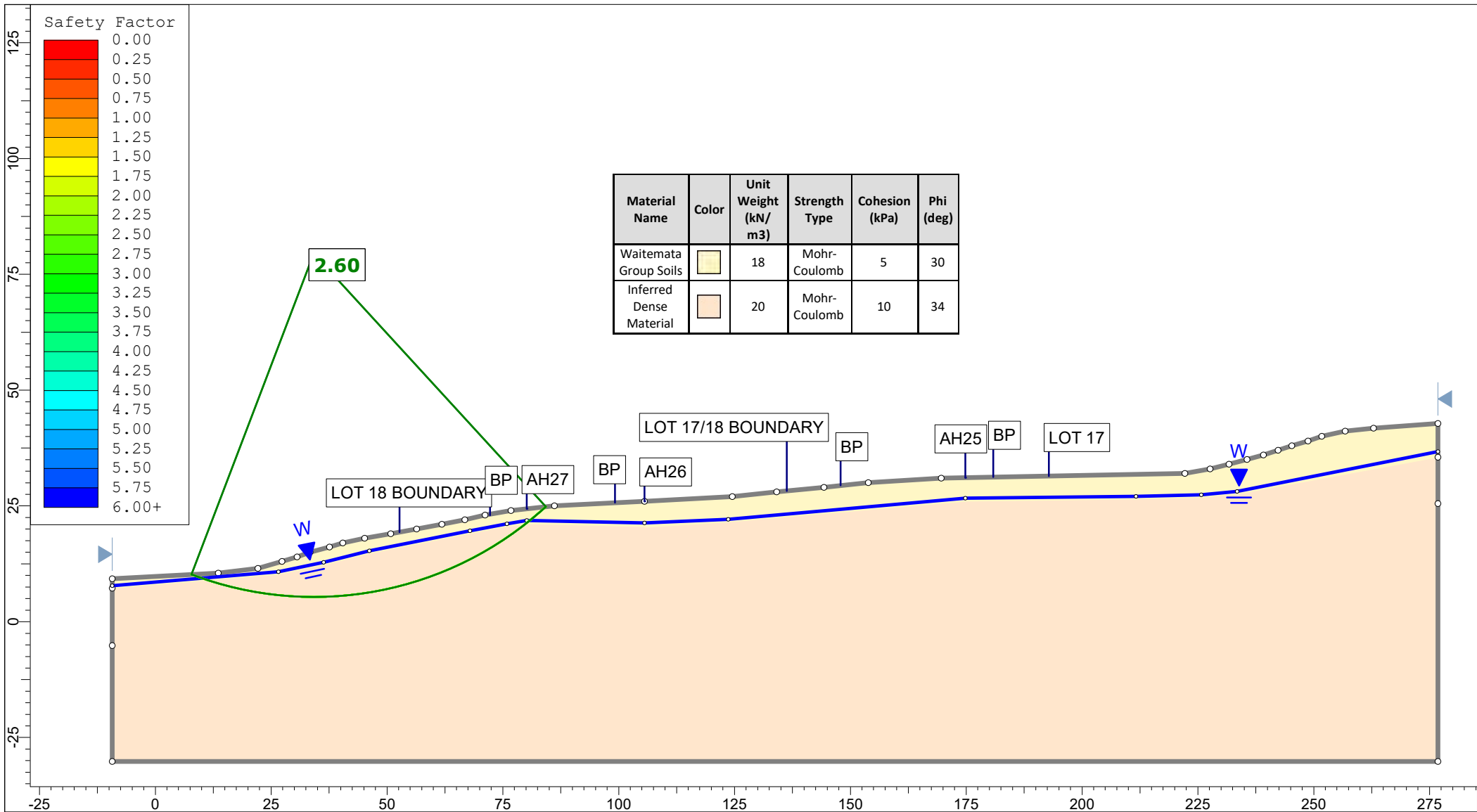
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui			
	Group		Cross Section I-I' Measured Ground	Scenario	Run 6 - Seismic Loading - Non-Circular	
	Drawn By		TR	Company		KGA Geotechnical Group Limited
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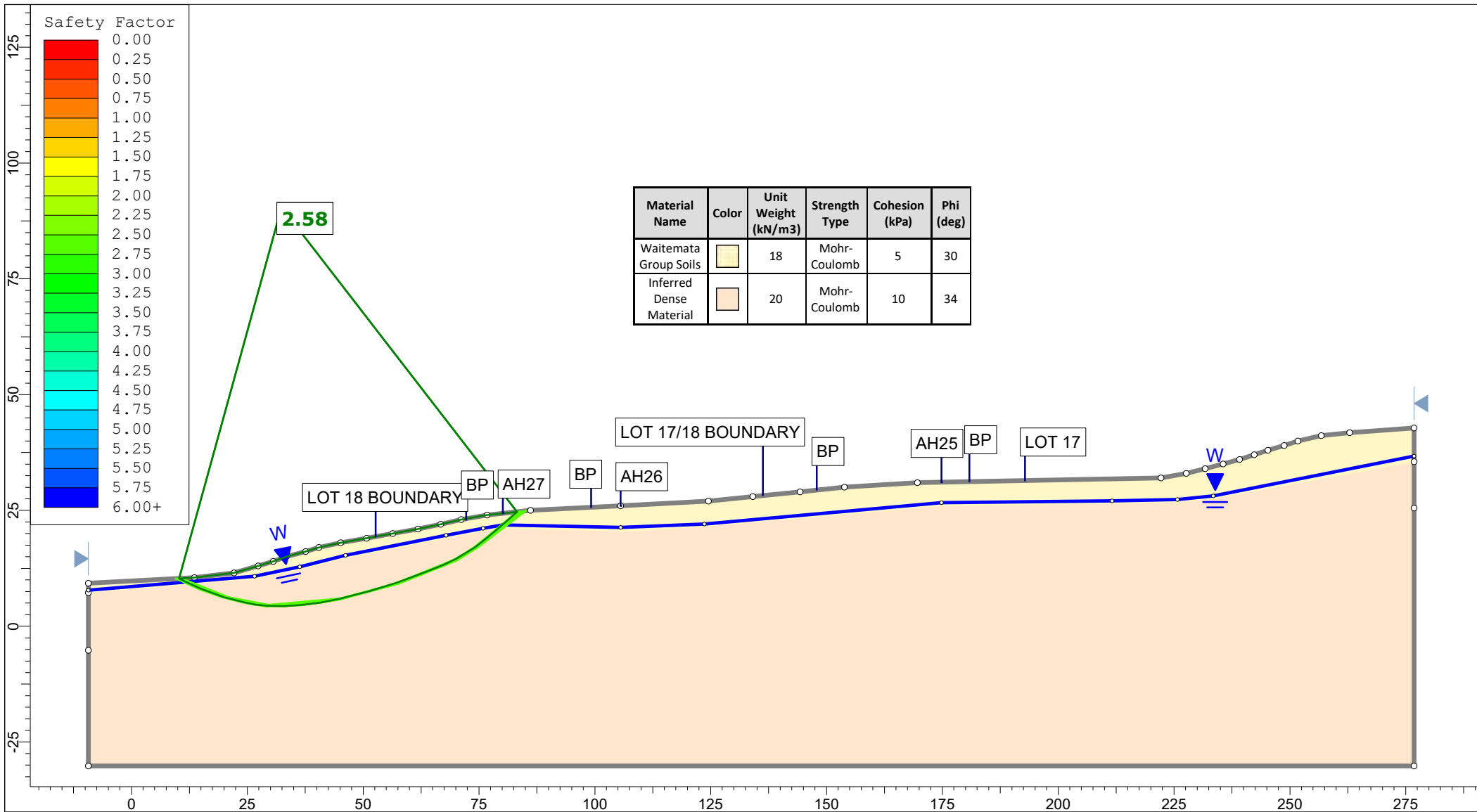
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
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	Scenario		Run 1 - Measured Groundwater - Circular	
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Date		26 February 2024		
Company		KGA Geotechnical Group Limited		
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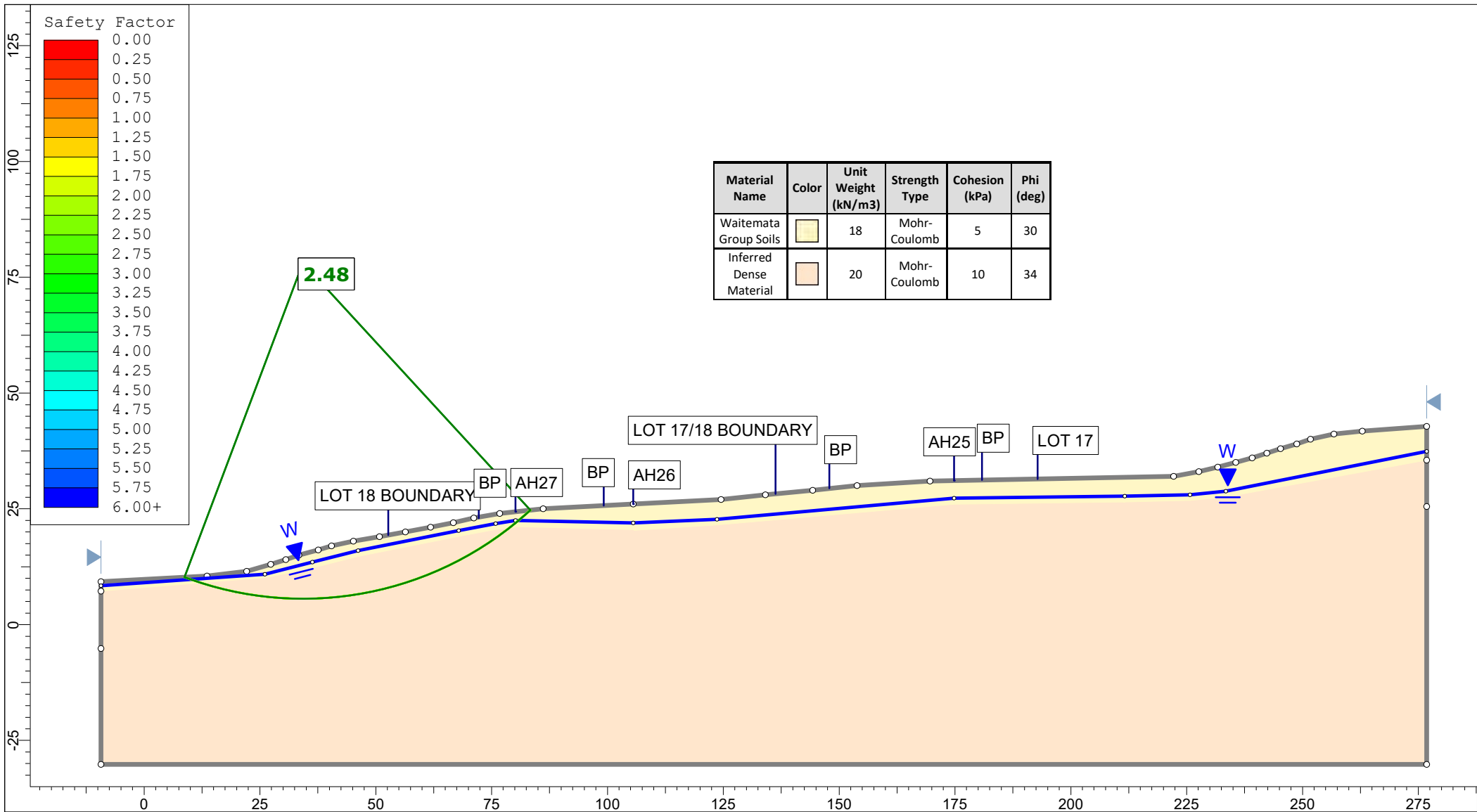
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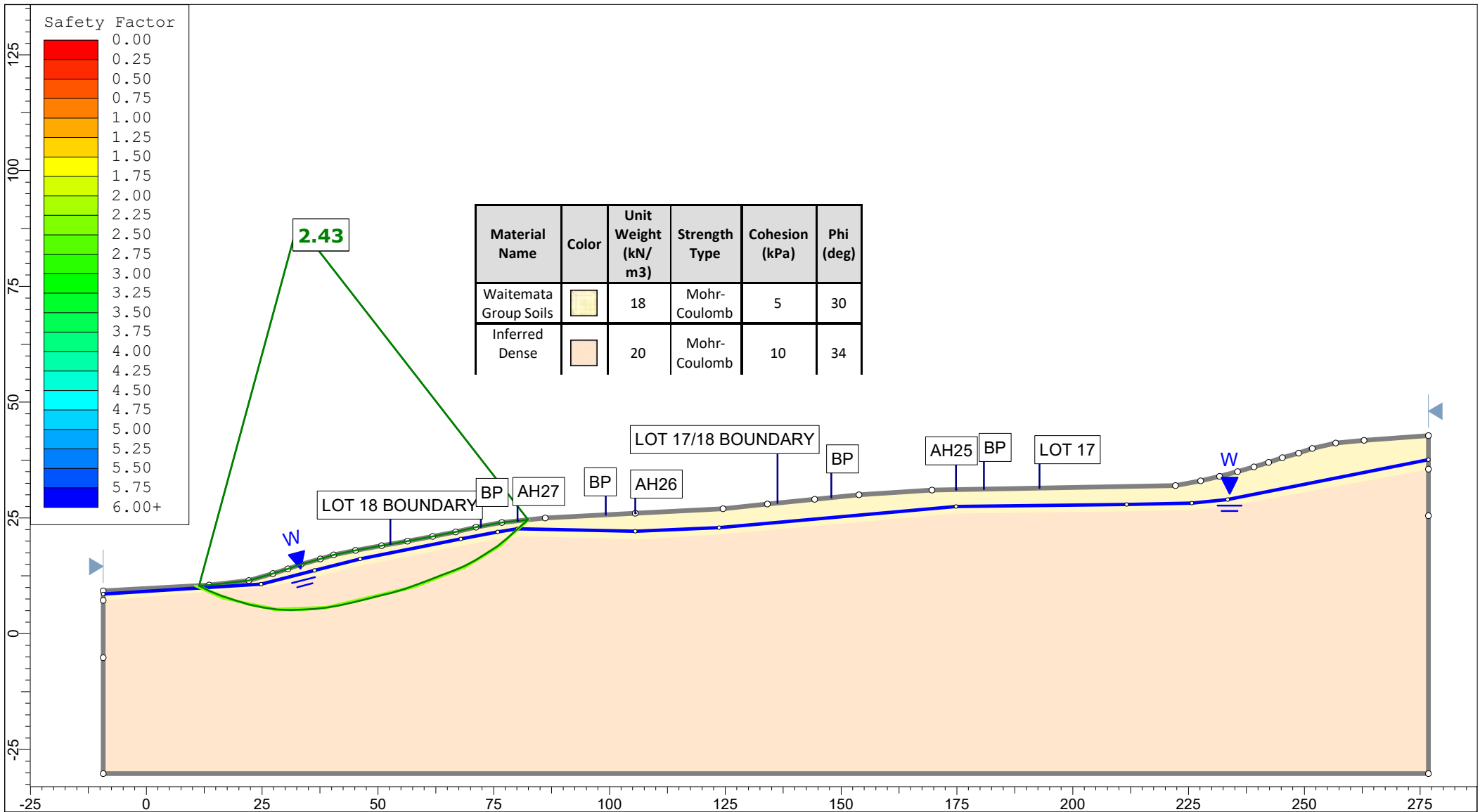
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	Group		Cross Section J-J' Measured Ground	
	Scenario		Run 1 - Measured Groundwater - Circular	
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Date		26 February 2024		
Company		KGA Geotechnical Group Limited		
File Name		2024 Master.slm		



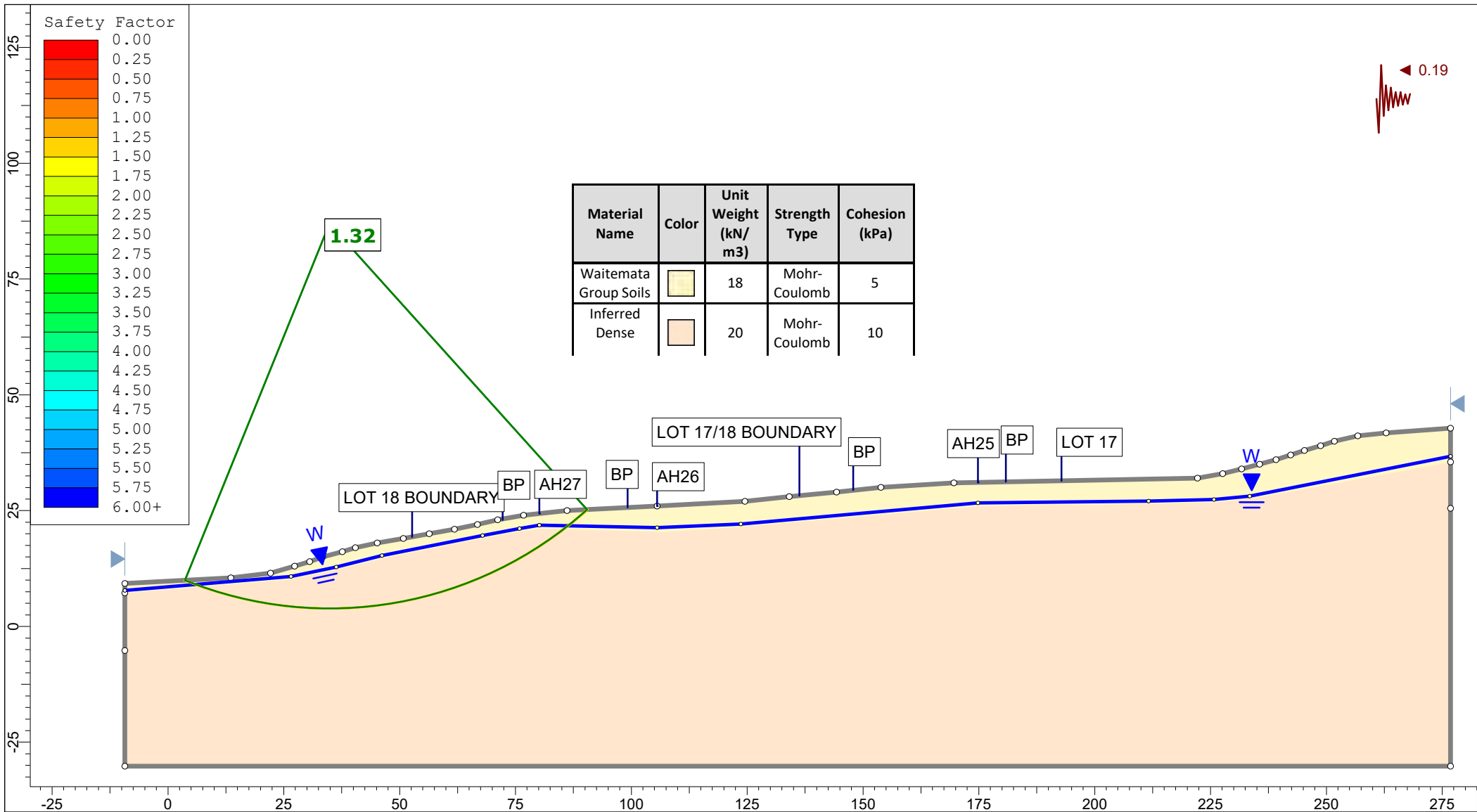
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	Date		26 February 2024	File Name		2024 Master.sldm



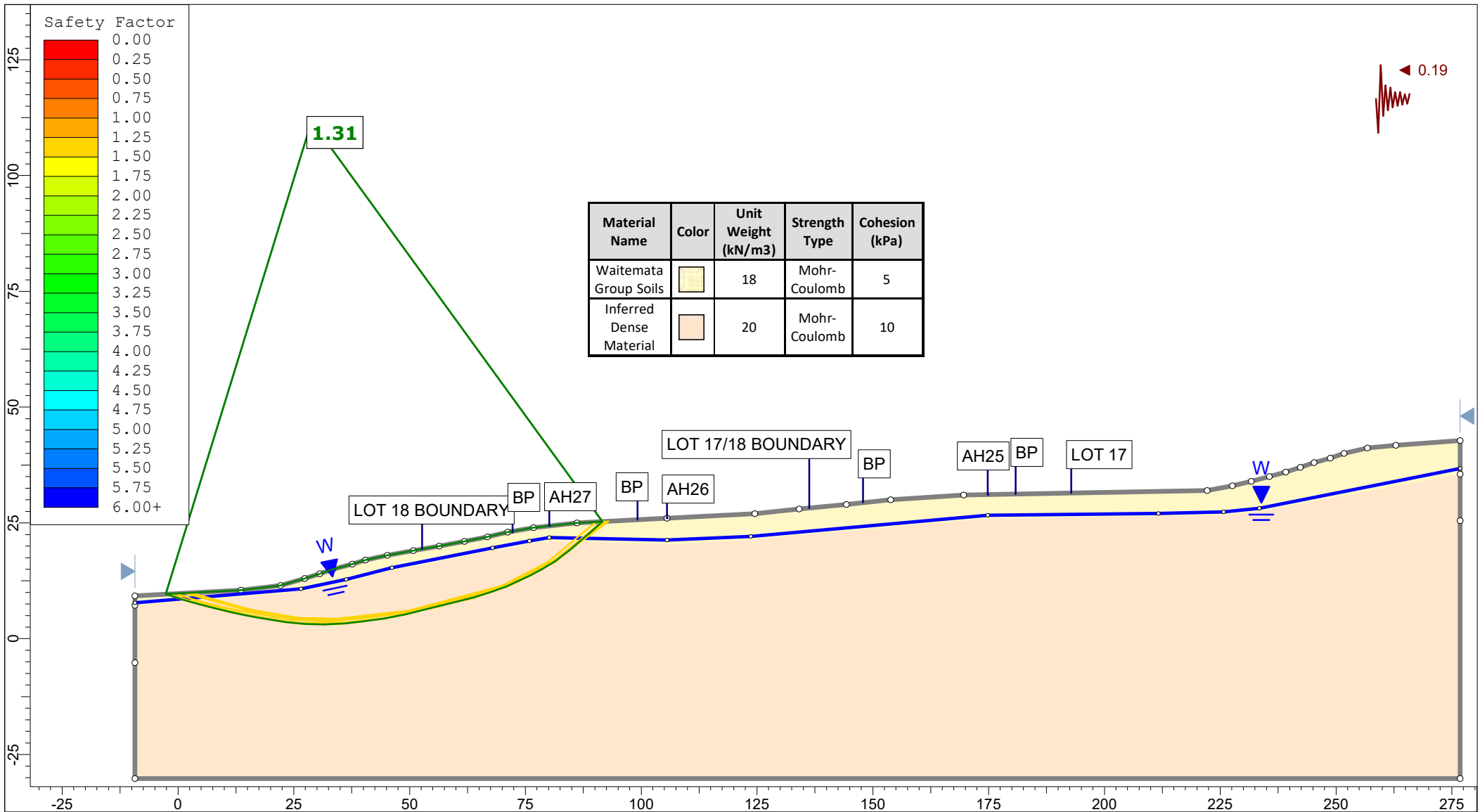
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	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd



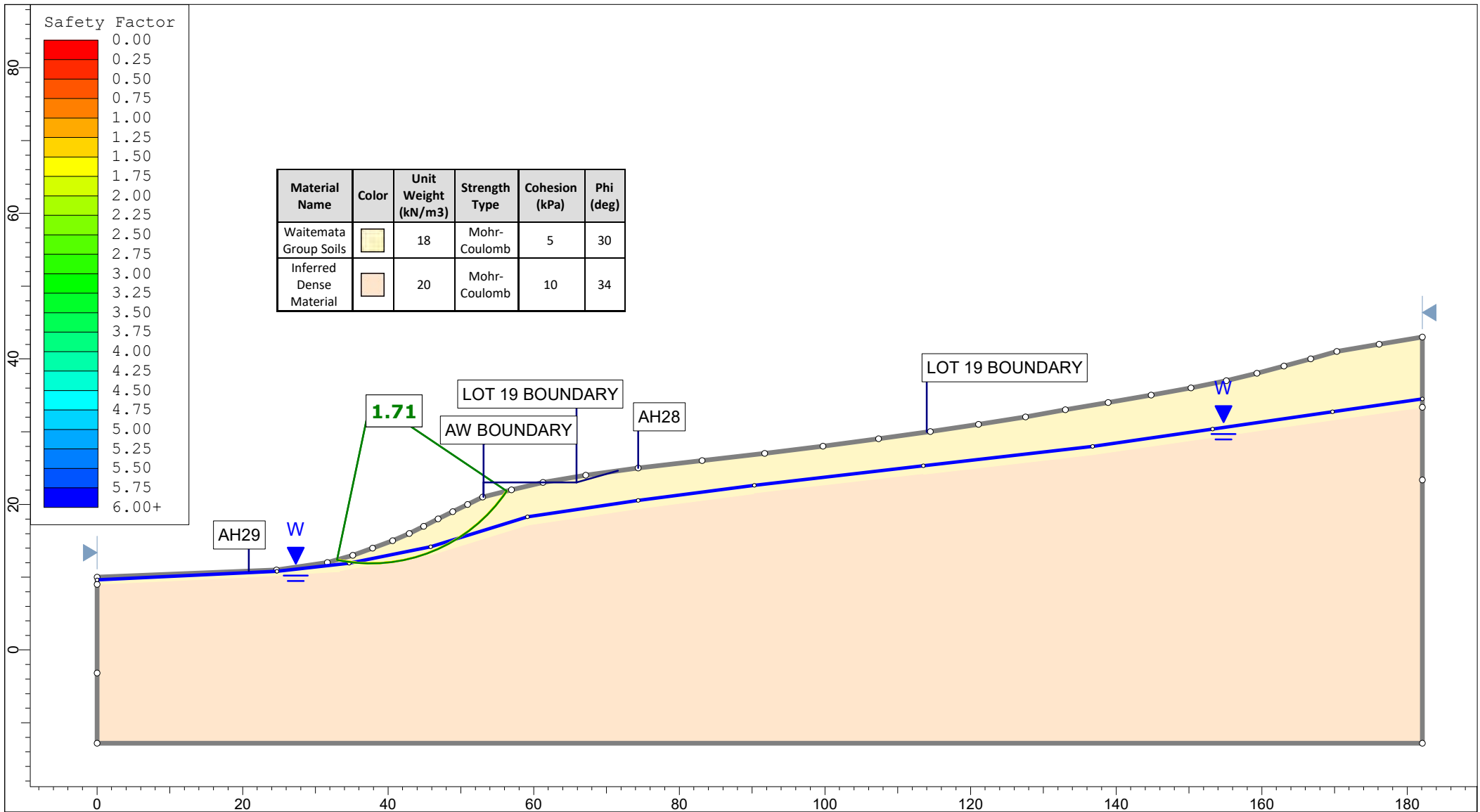
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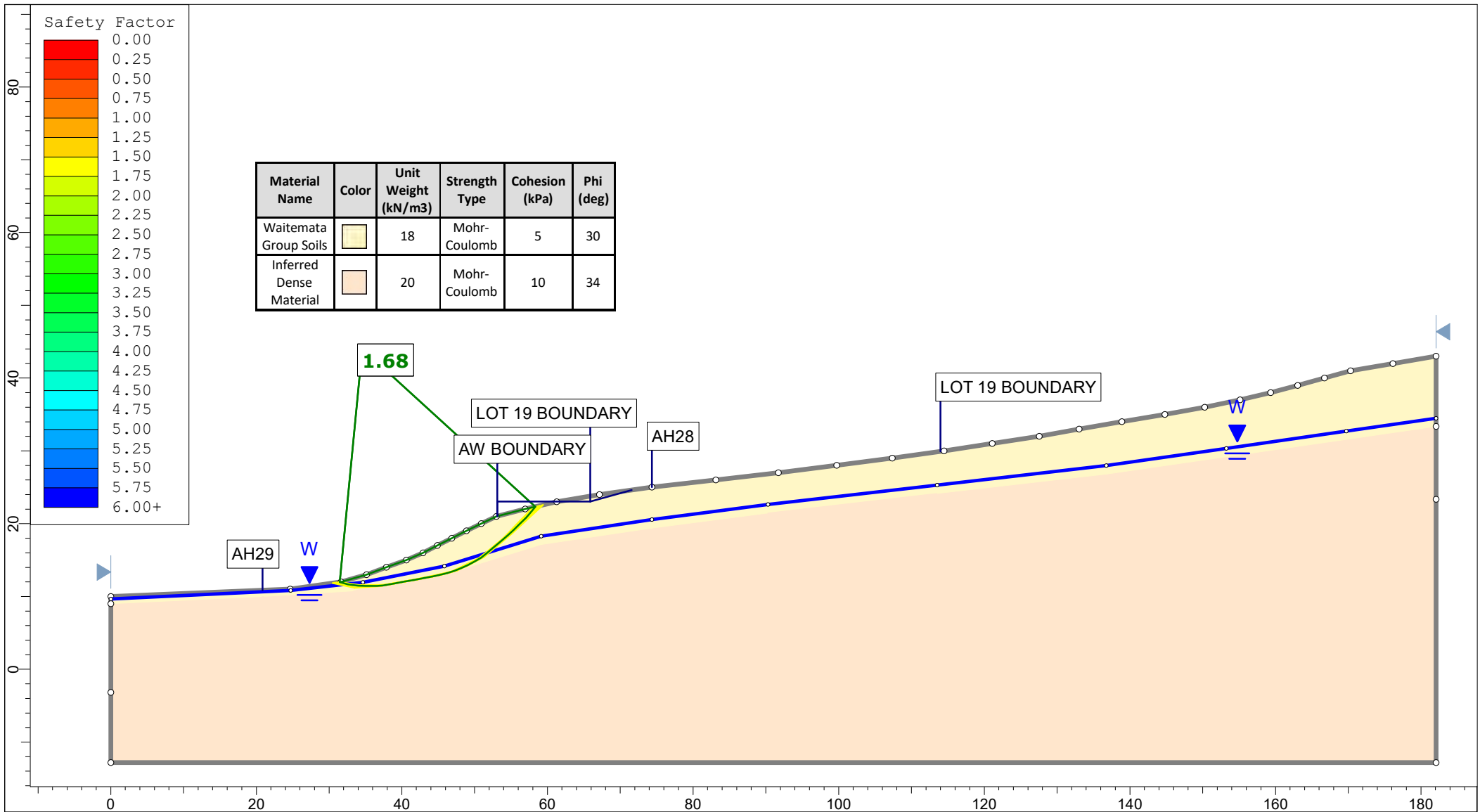
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	Drawn By		TR	
	Date		26 February 2024	
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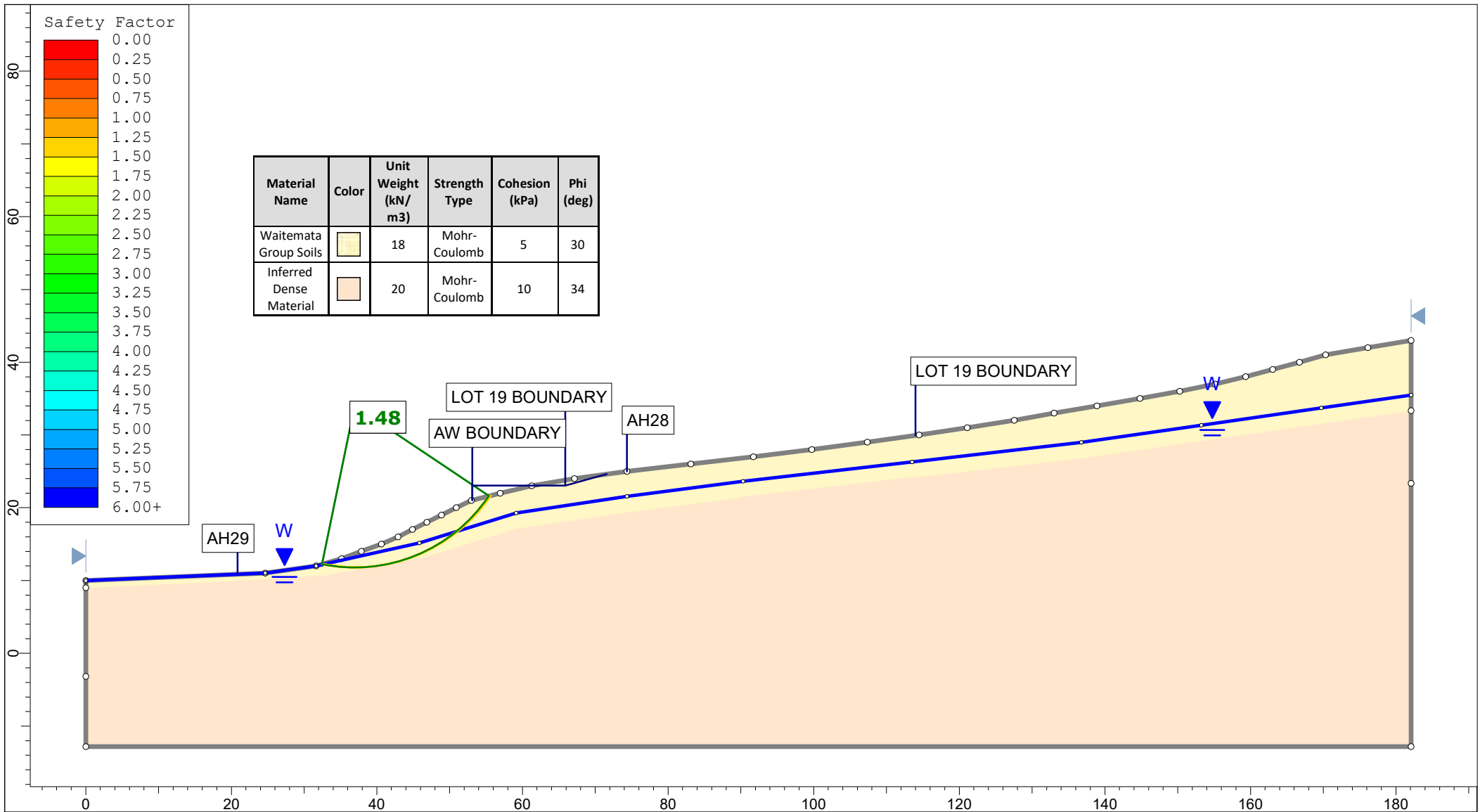
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	Drawn By	TR	Company	KGA Geotechnical Group Limited
	Date	26 February 2024	File Name	2024 Master.sldm



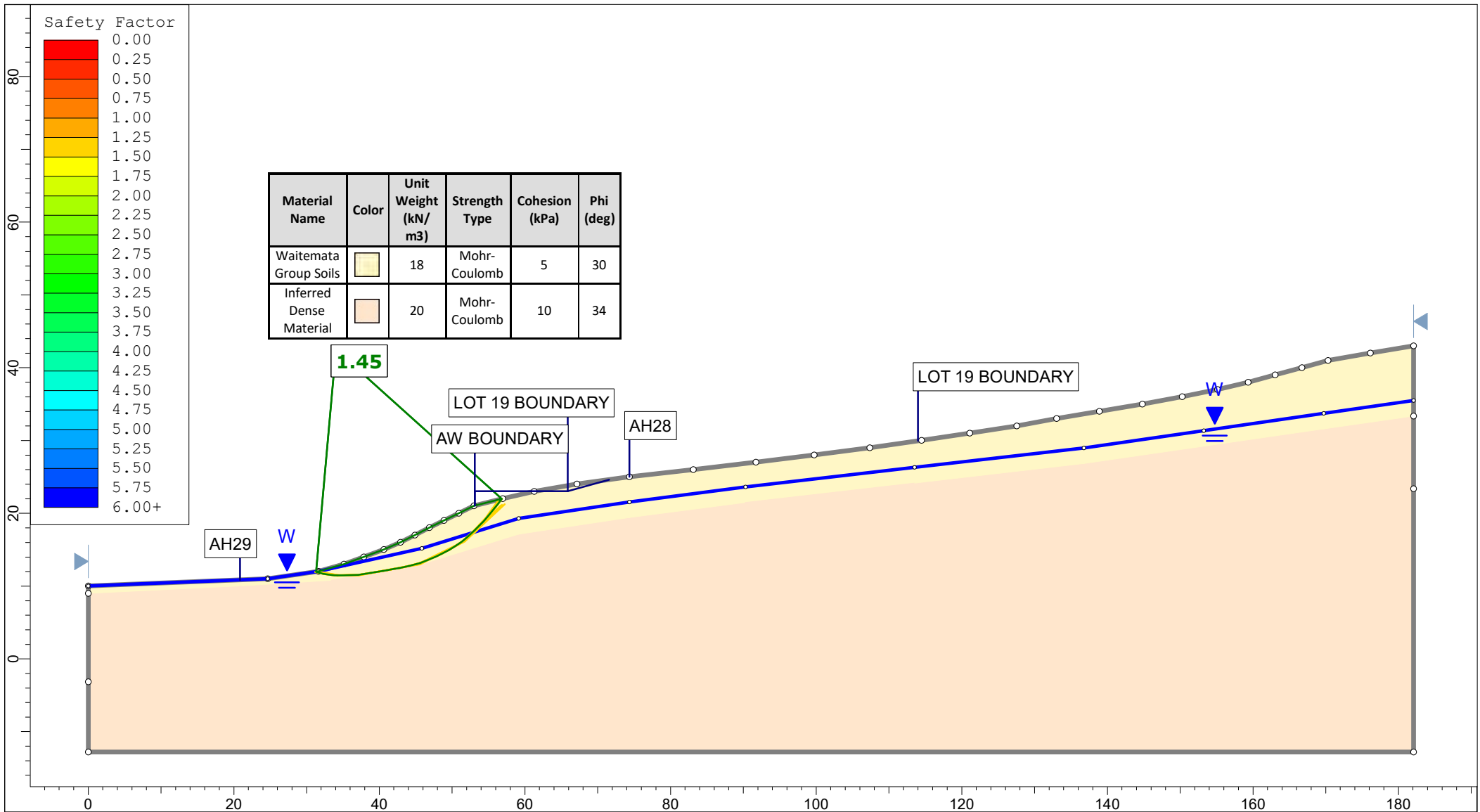
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	<p>Group: Cross Section K-K' Measured Ground</p>	<p>Scenario: Run 1 - Measured Groundwater - Circular</p>
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	<p>Date: 26 February 2024</p>	<p>File Name: 2024 Master.slmd</p>



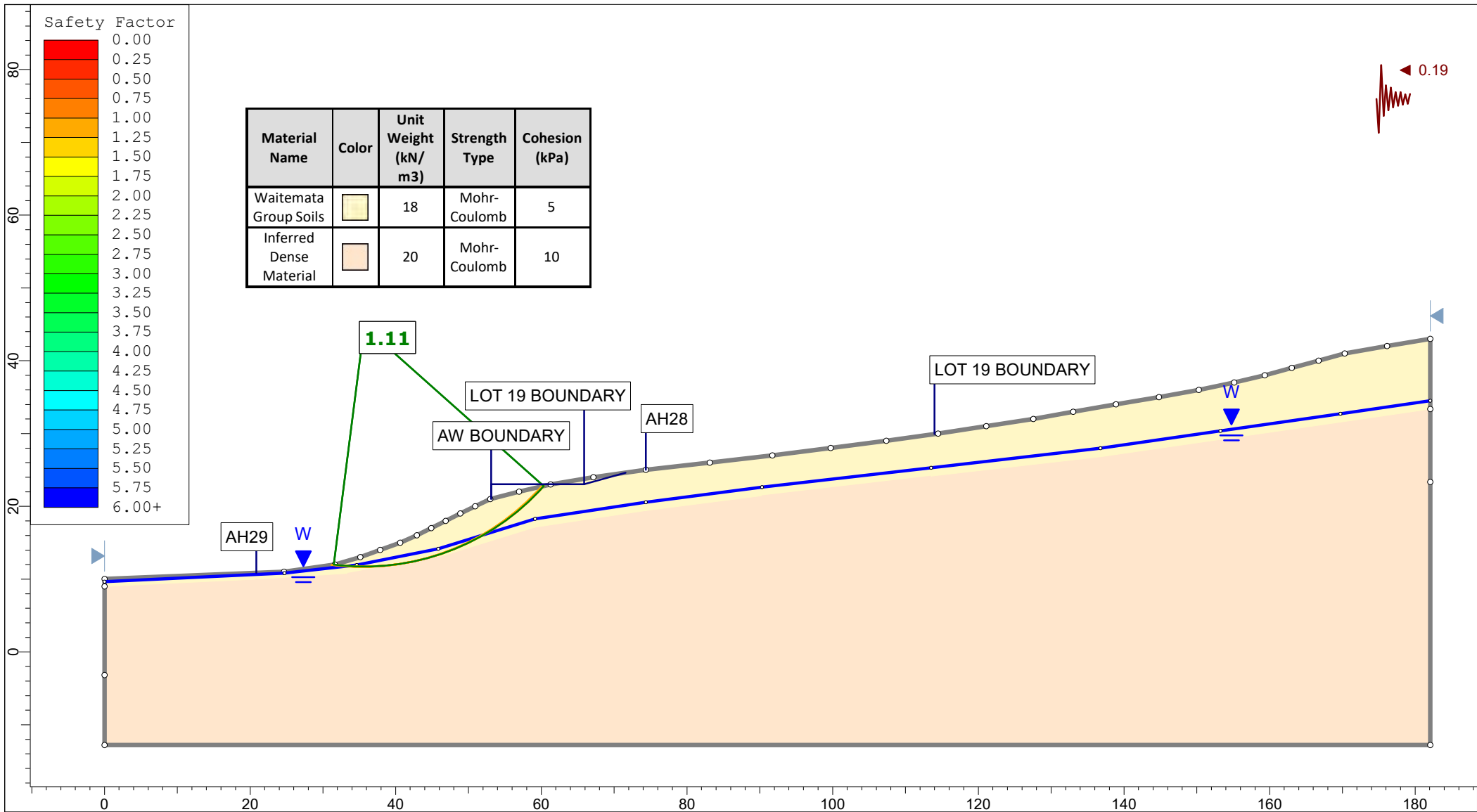
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	Drawn By		TR	Company	KGA Geotechnical Group Limited
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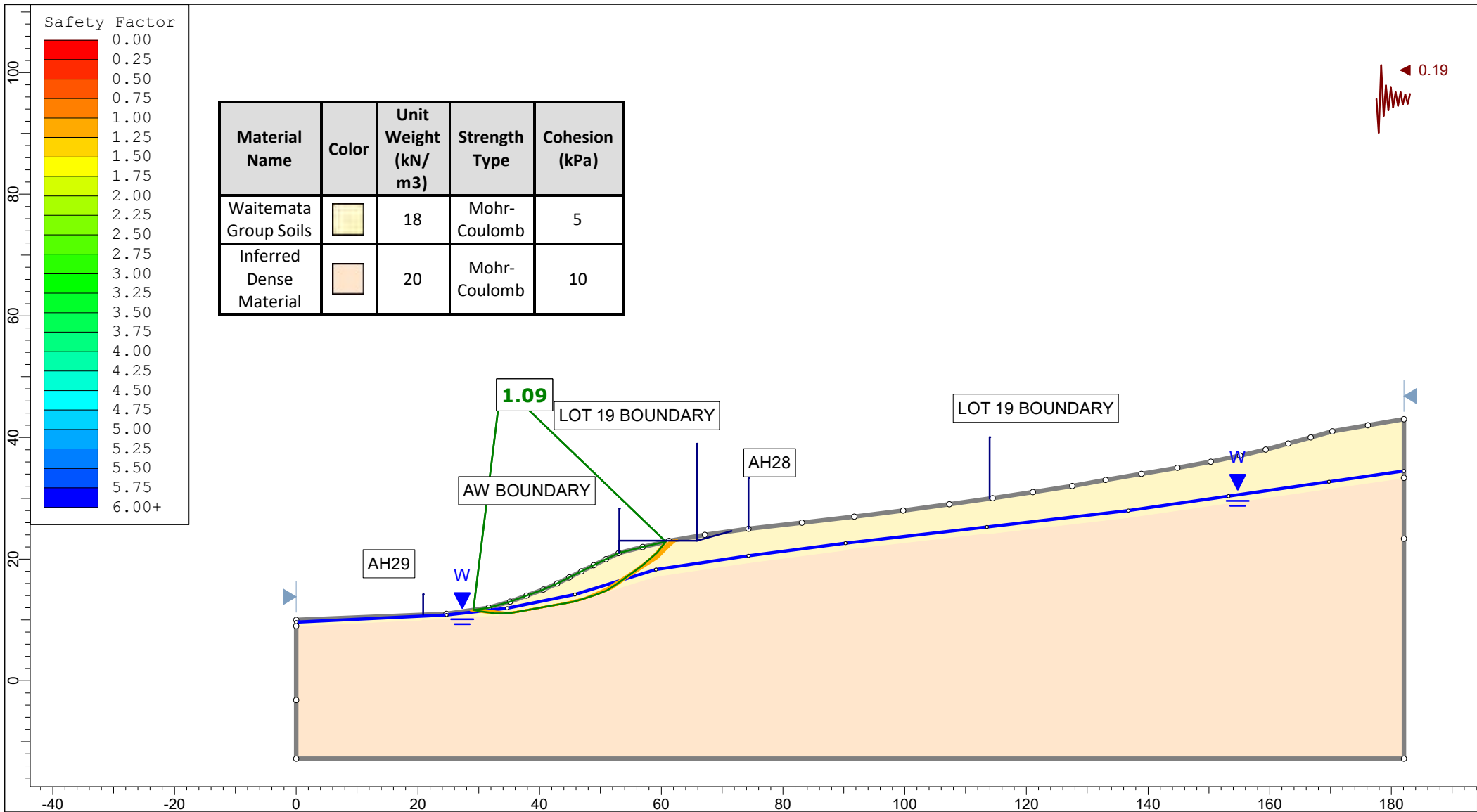
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	Drawn By		TR	Company	KGA Geotechnical Group Limited
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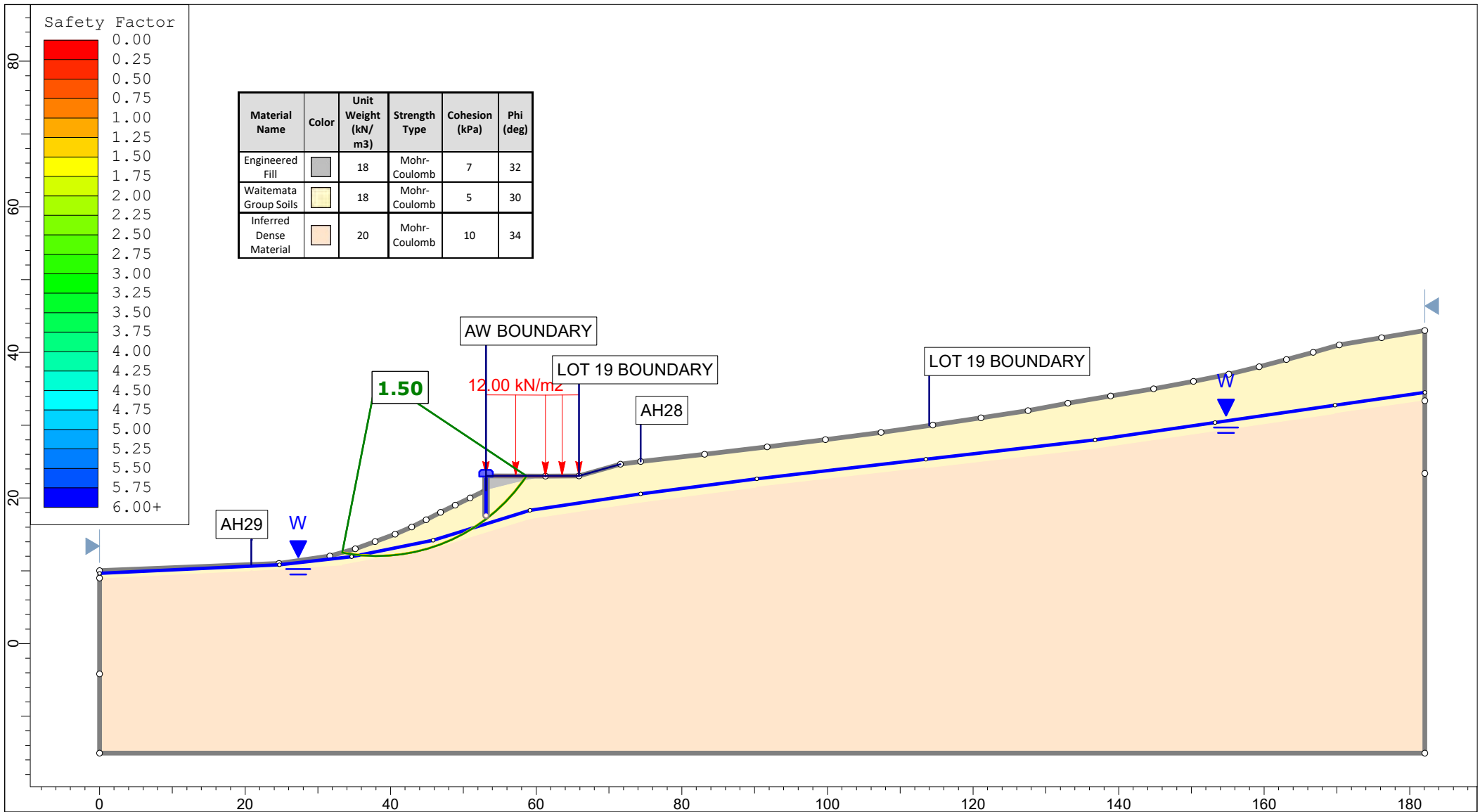
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	Group		Cross Section K-K' Measured Ground	
	Scenario		Run 4 - Raised Groundwater - Non-Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
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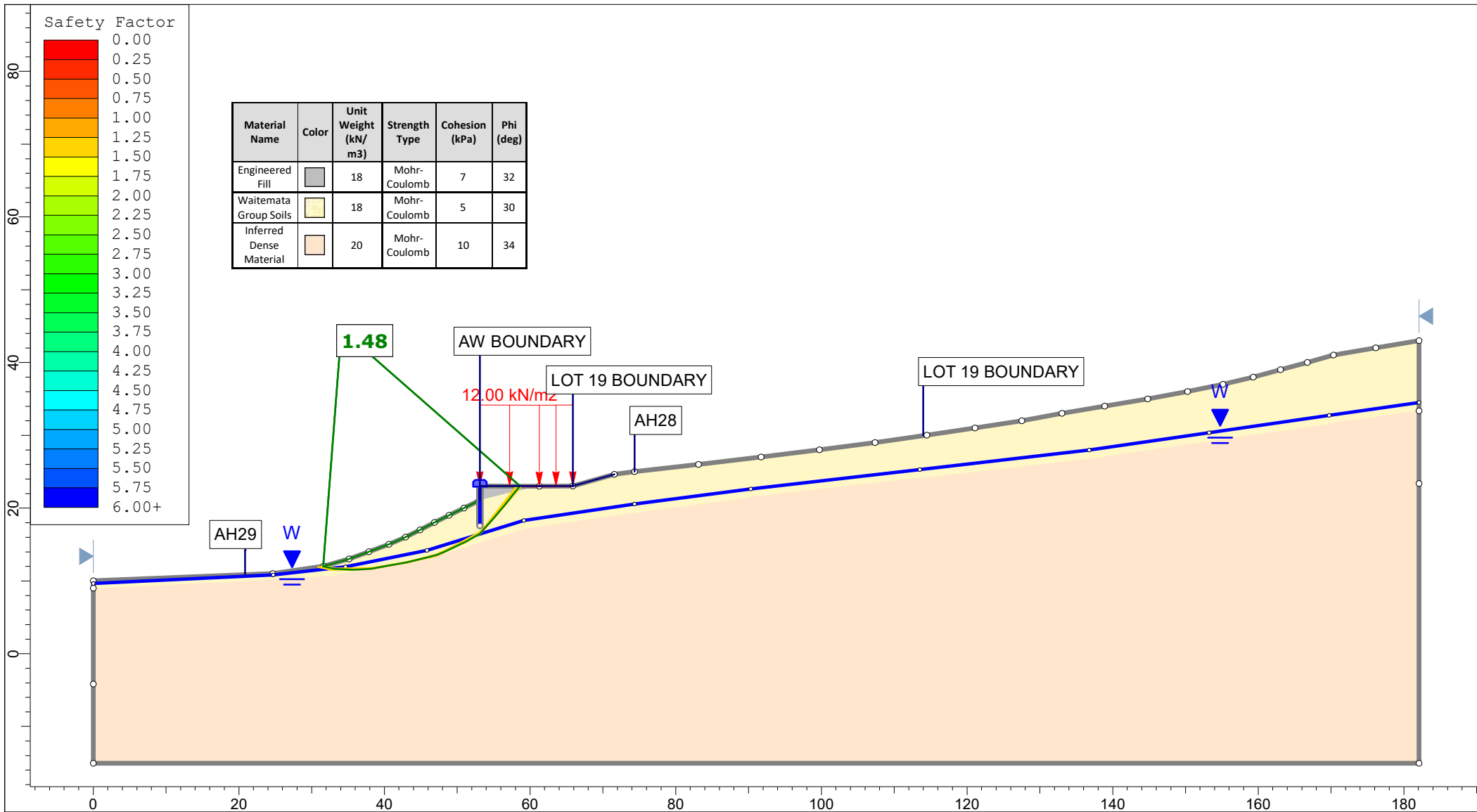
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	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd




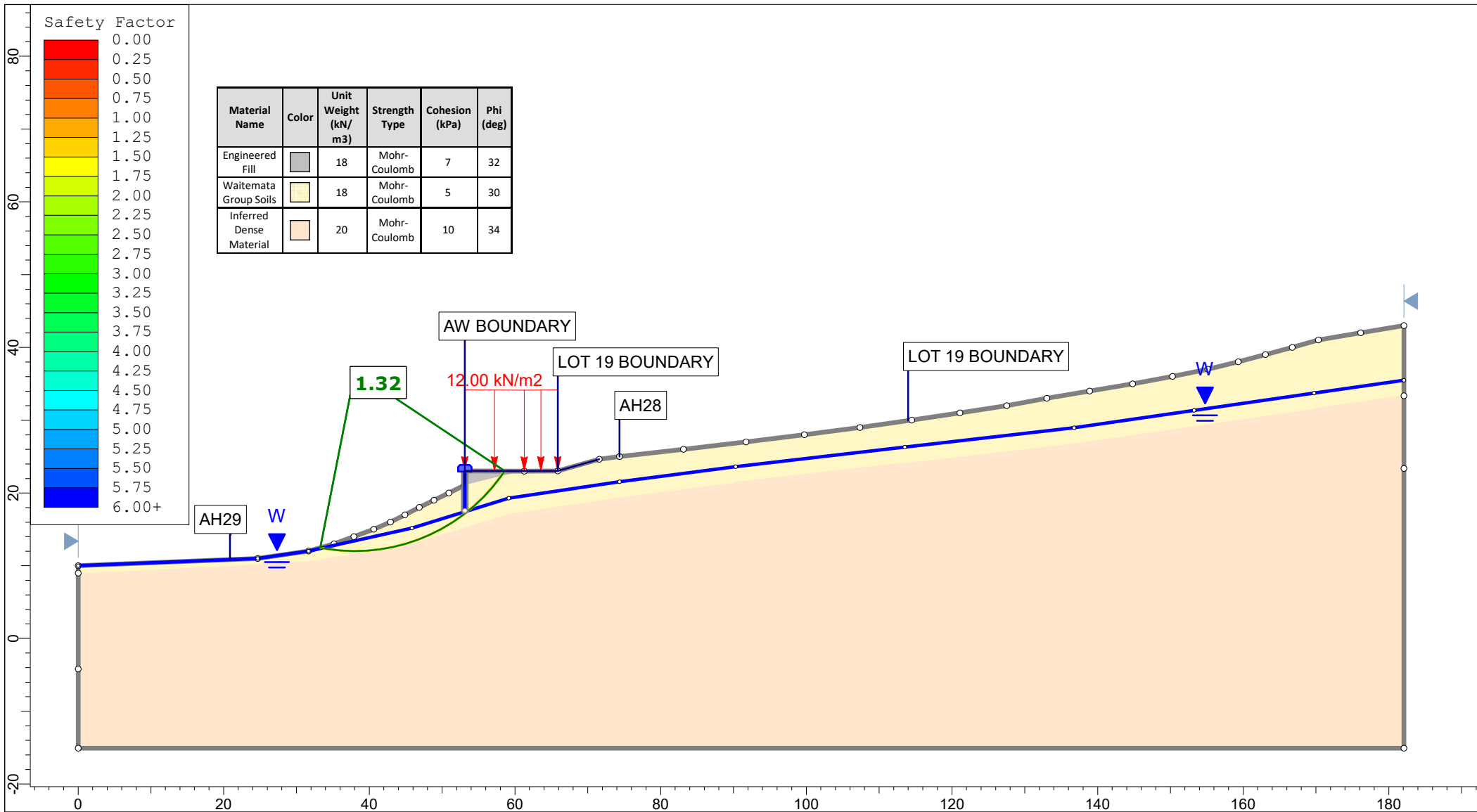
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	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm



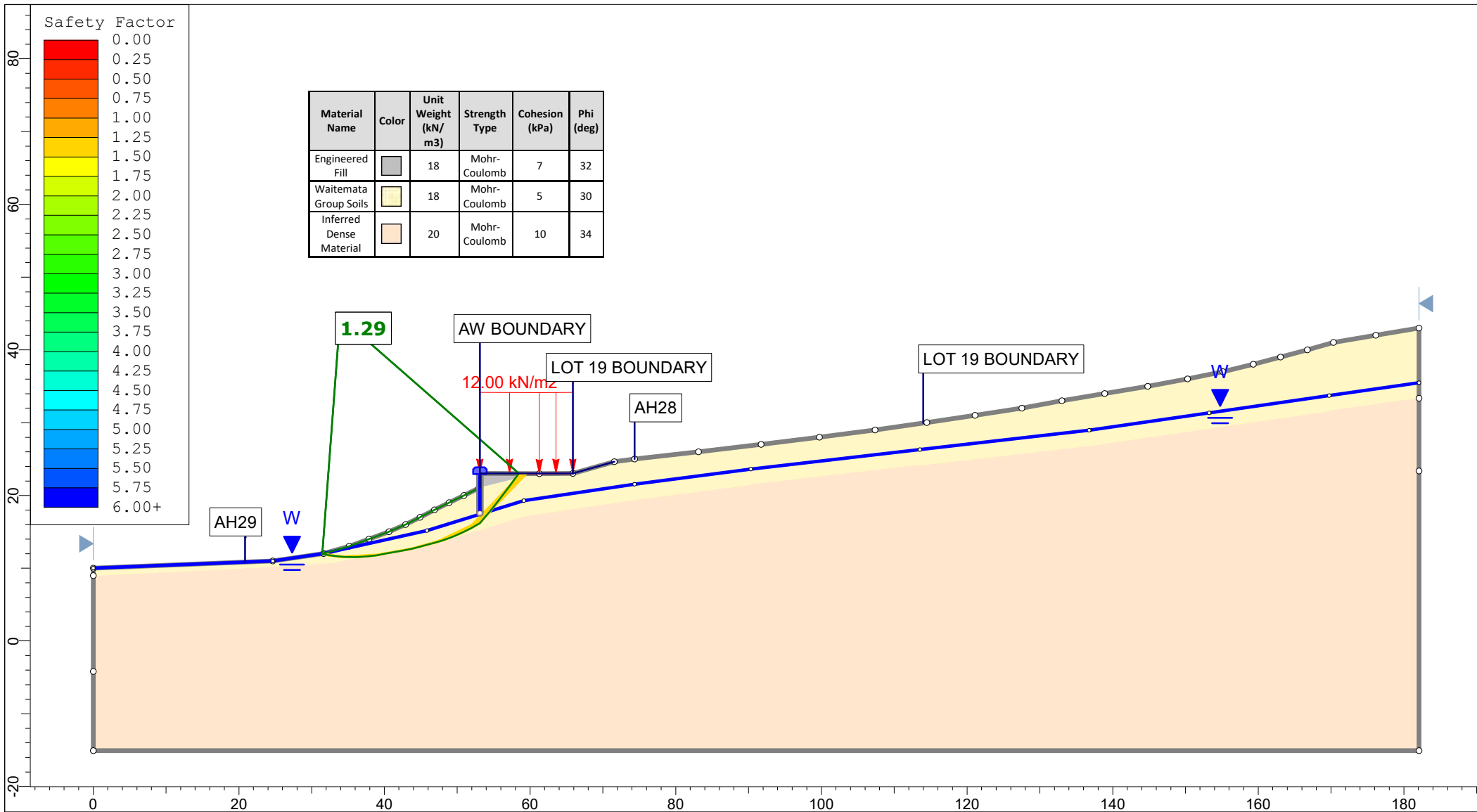
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	Drawn By		TR	
Date		26 February 2024		
Company		KGA Geotechnical Group Limited		
File Name		2024 Master.sldm		




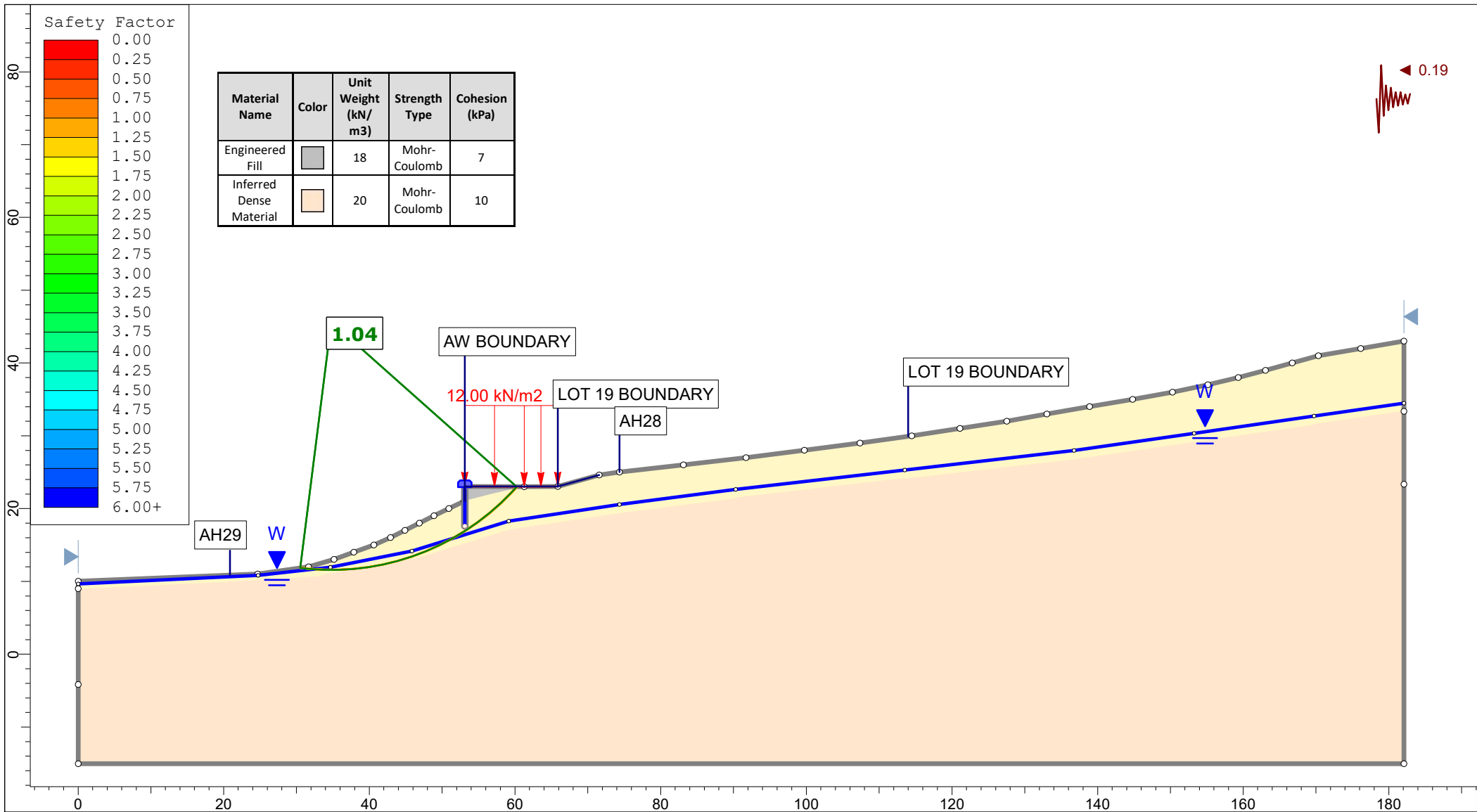
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section K-K' Proposed Ground	Scenario	Run 2 - Measured Groundwater - Non-Cicular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm




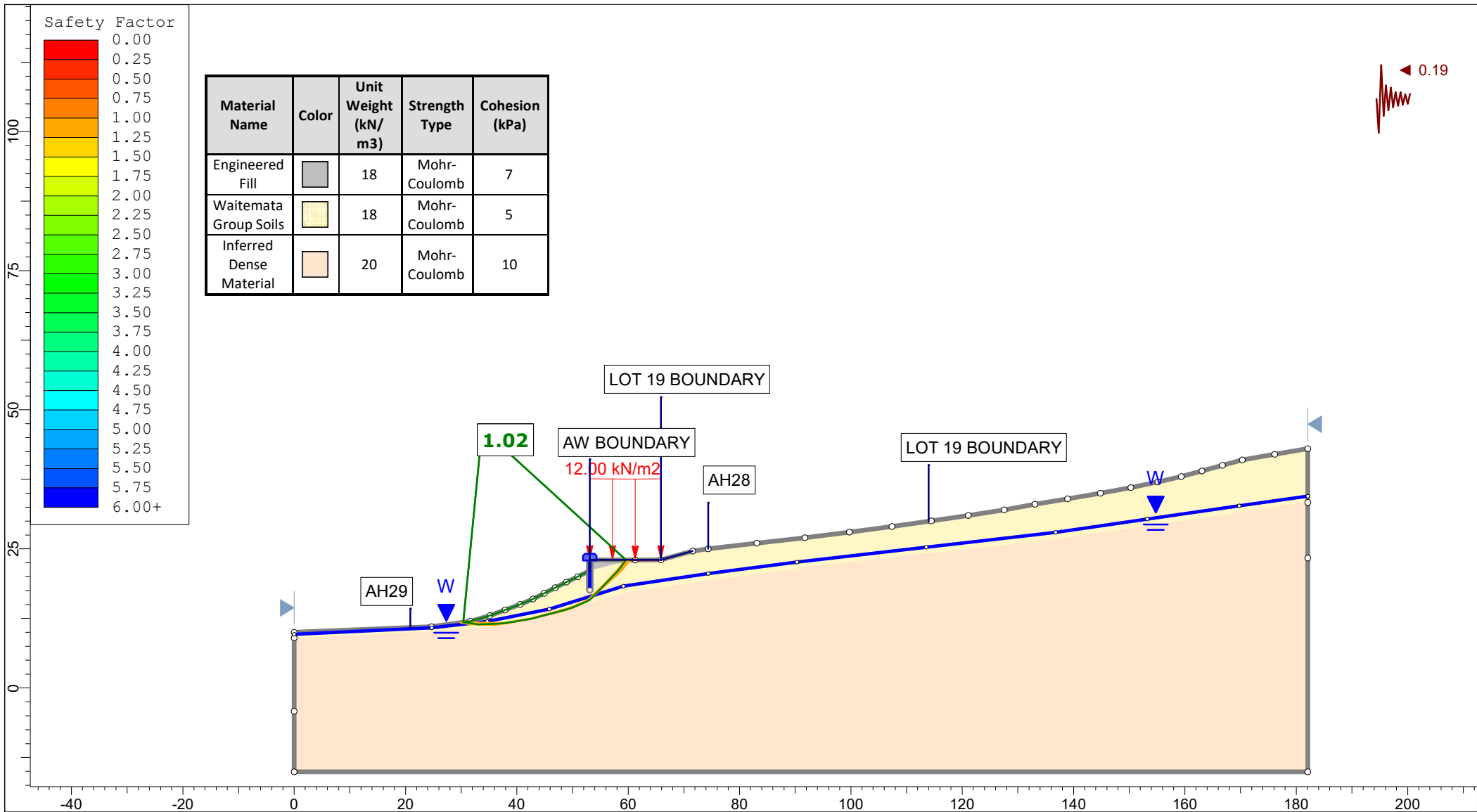
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section K-K' Proposed Ground		
	Scenario		Run 3 - Raised Groundwater - Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section K-K' Proposed Ground		
	Scenario		Run 4 - Raised Groundwater - Non-Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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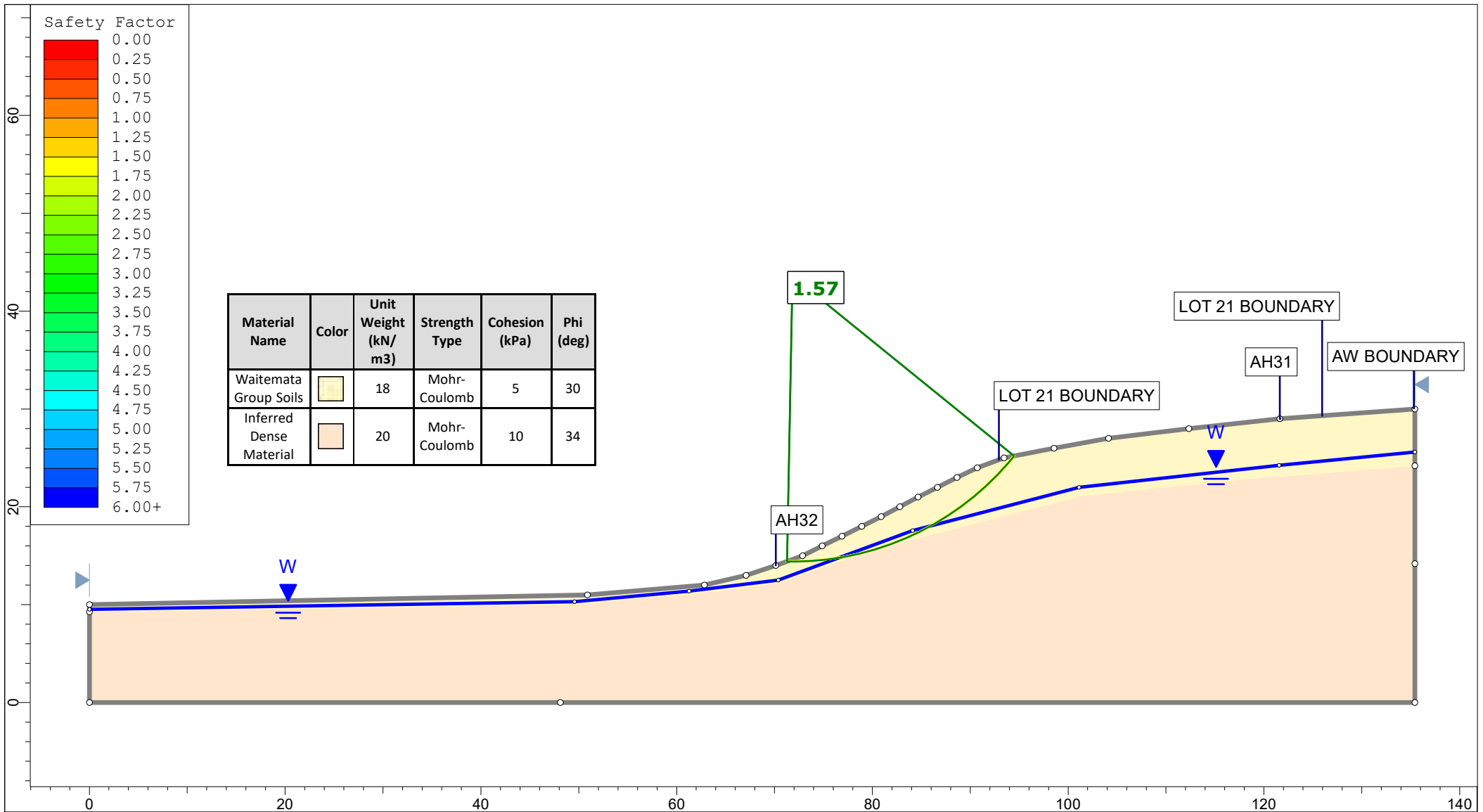


 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section K-K' Proposed Ground	Scenario	Run 5 - Seismic Loading - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm

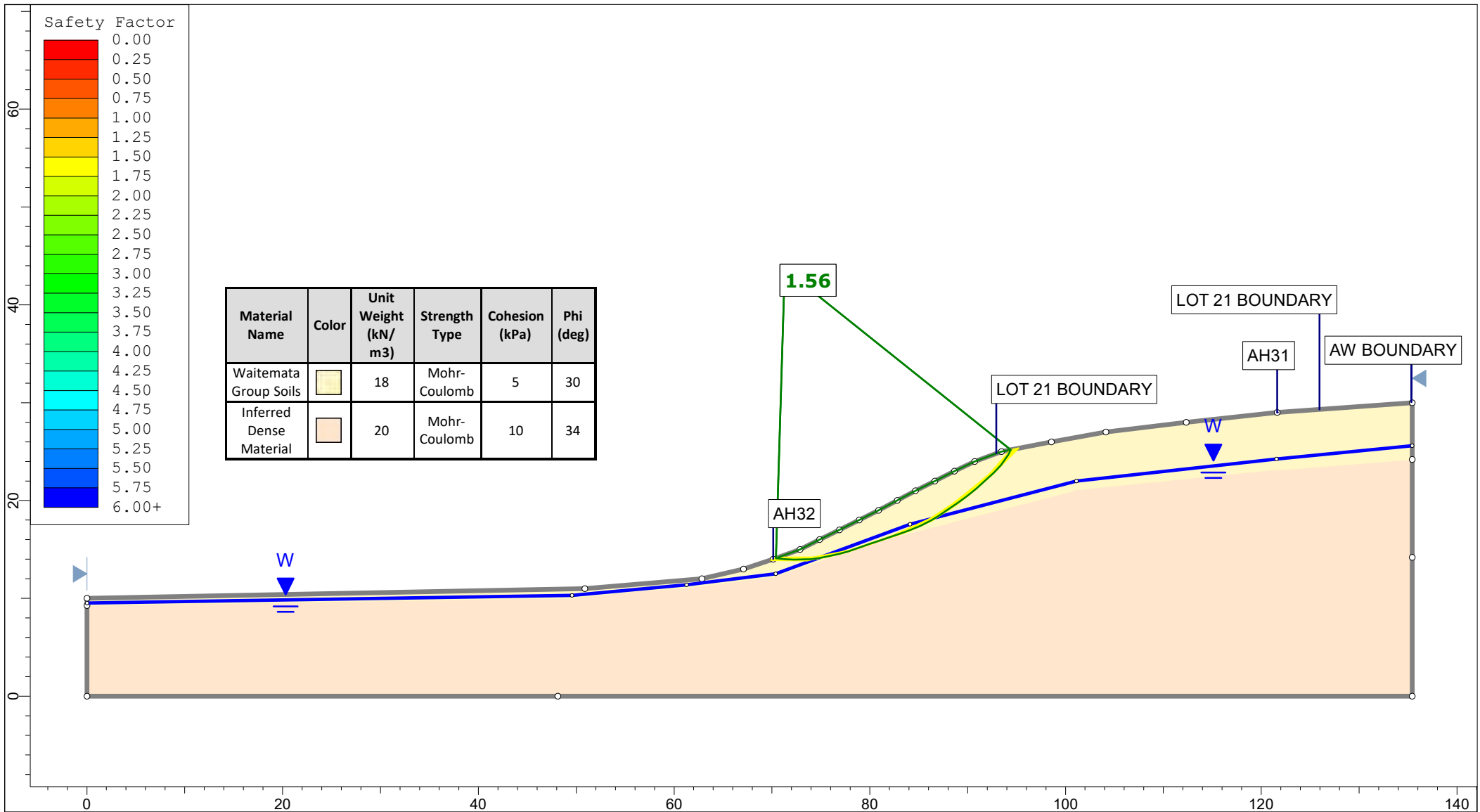


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)
Engineered Fill	Grey	18	Mohr-Coulomb	7
Waitemata Group Soils	Yellow	18	Mohr-Coulomb	5
Inferred Dense Material	Orange	20	Mohr-Coulomb	10

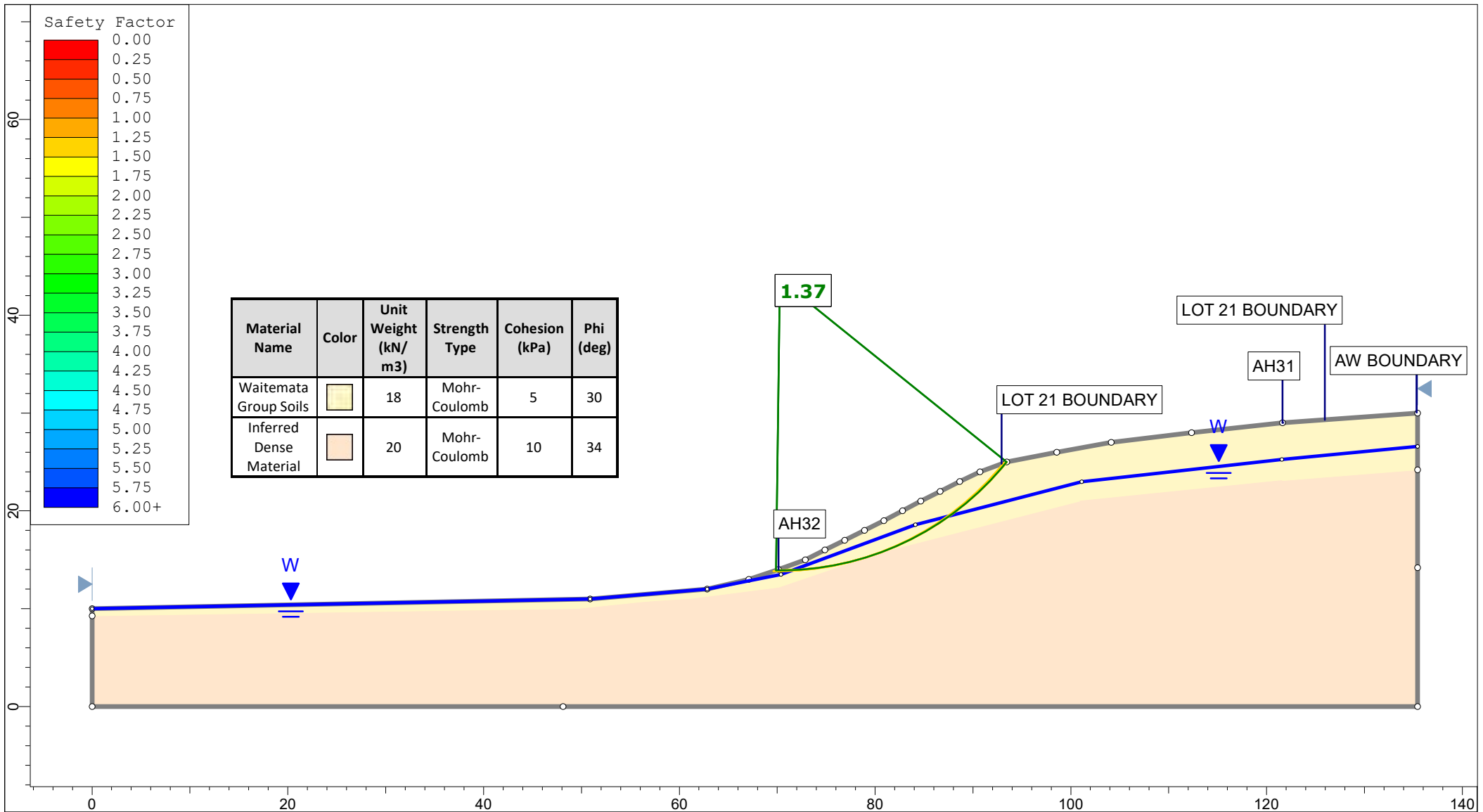
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section K-K' Proposed Ground	
	Scenario		Run 6 - Seismic Loading - Non-Circular	
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Date		26 February 2024		
Company		KGA Geotechnical Group Limited		
File Name		2024 Master.sldm		



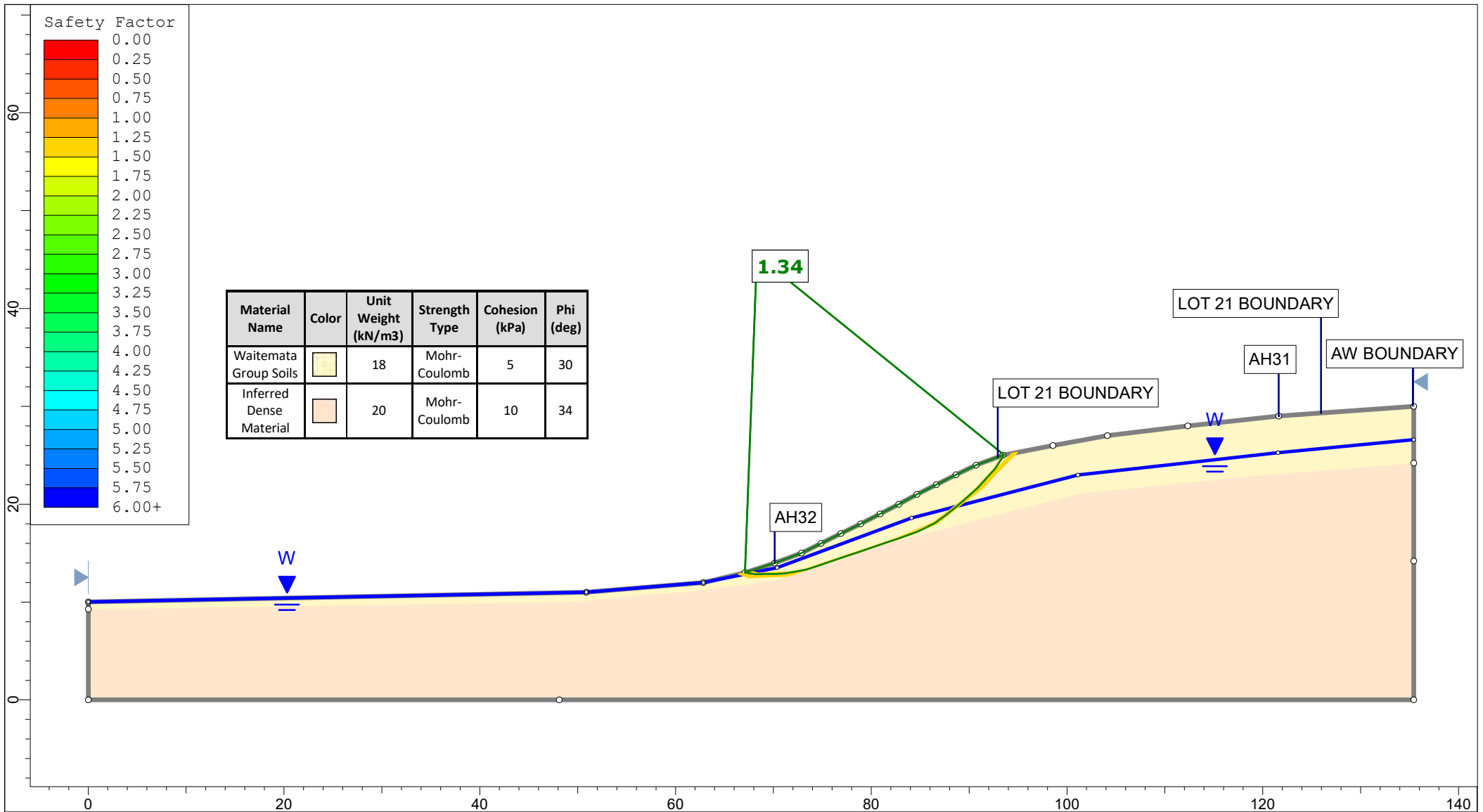
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section L-L' Measured Ground	
	Scenario		Run 1 - Measured Groundwater - Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.sldm		



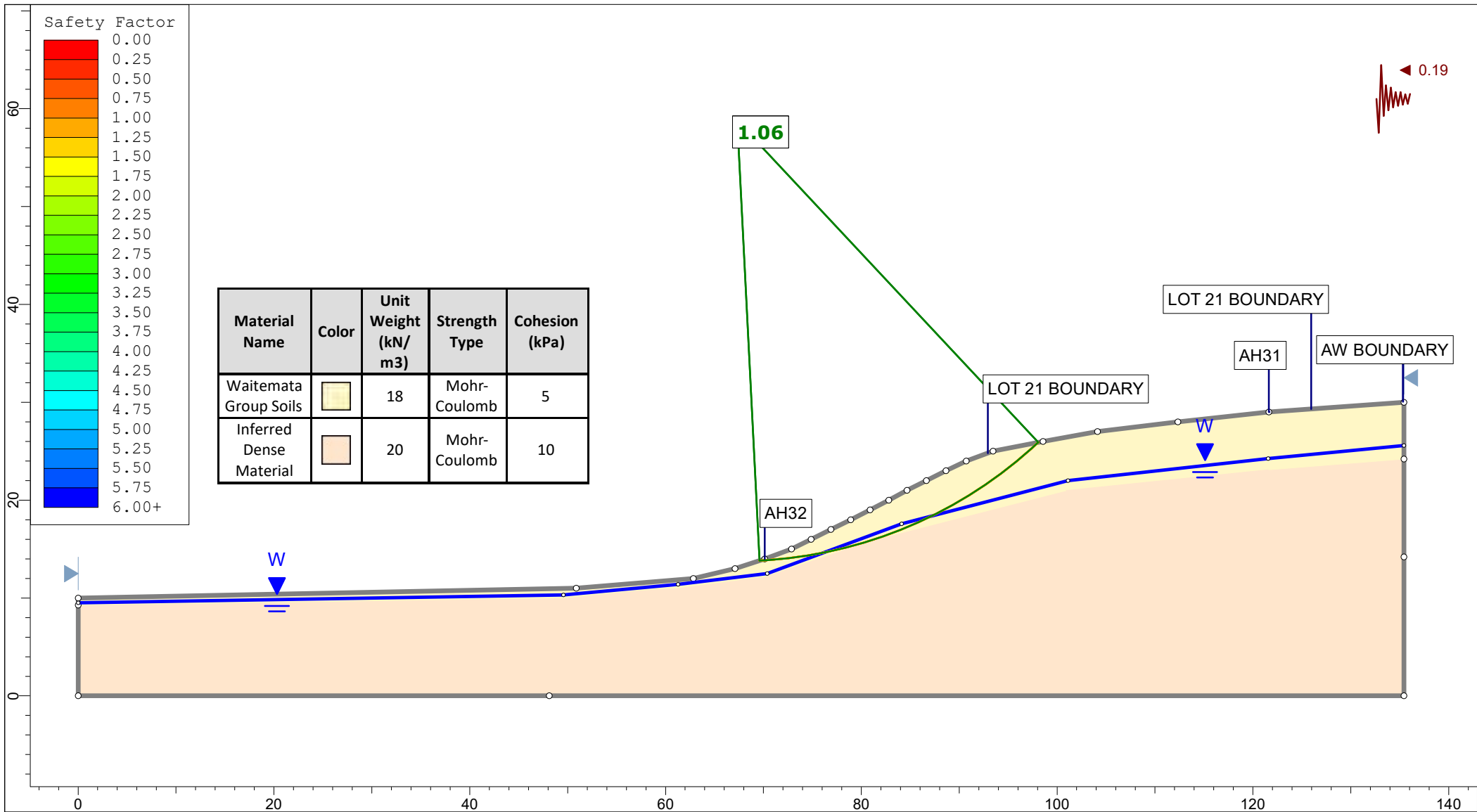
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section L-L' Measured Ground		
	Scenario		Run 2 - Measured Groundwater - Non-Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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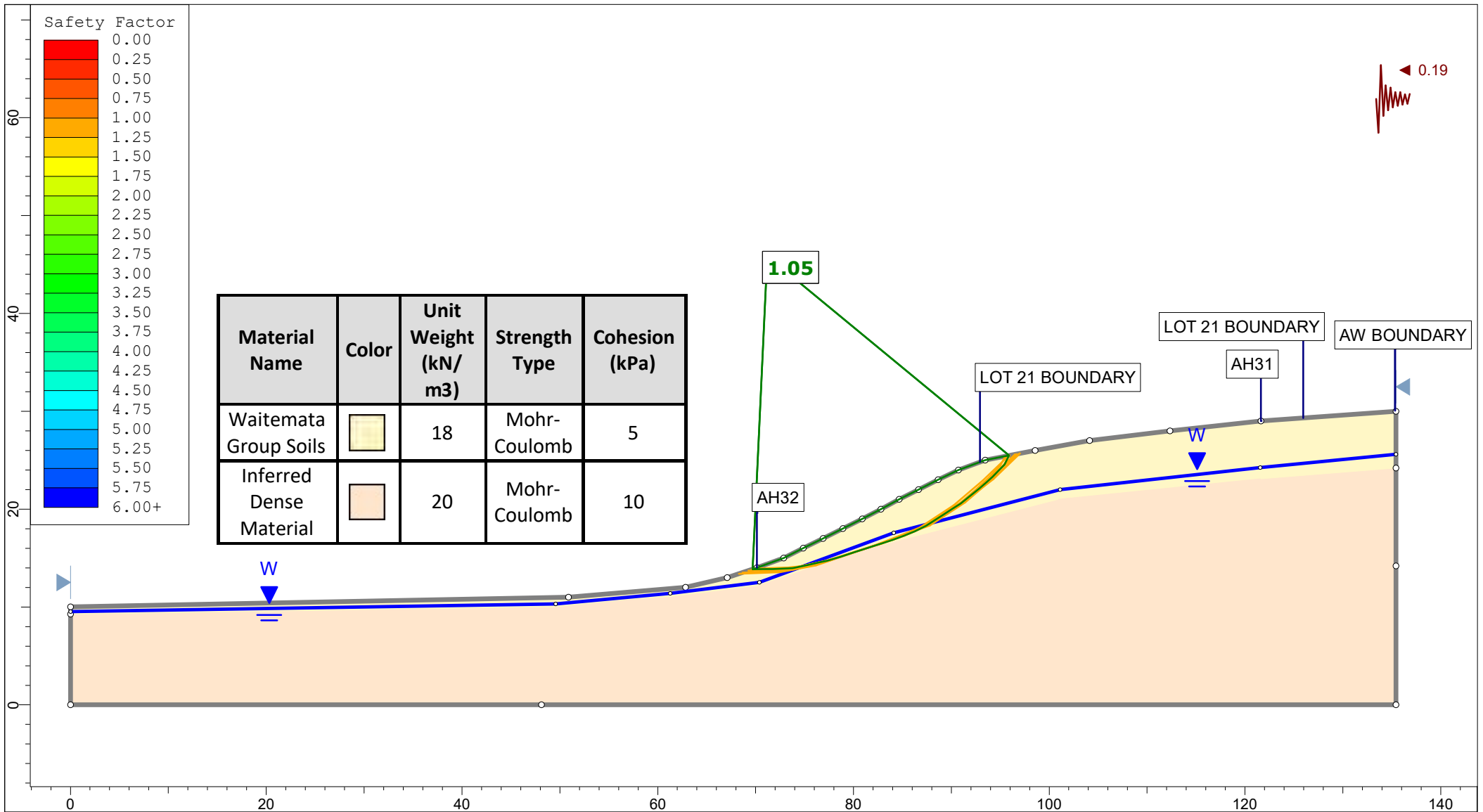
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section L-L' Measured Ground	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd



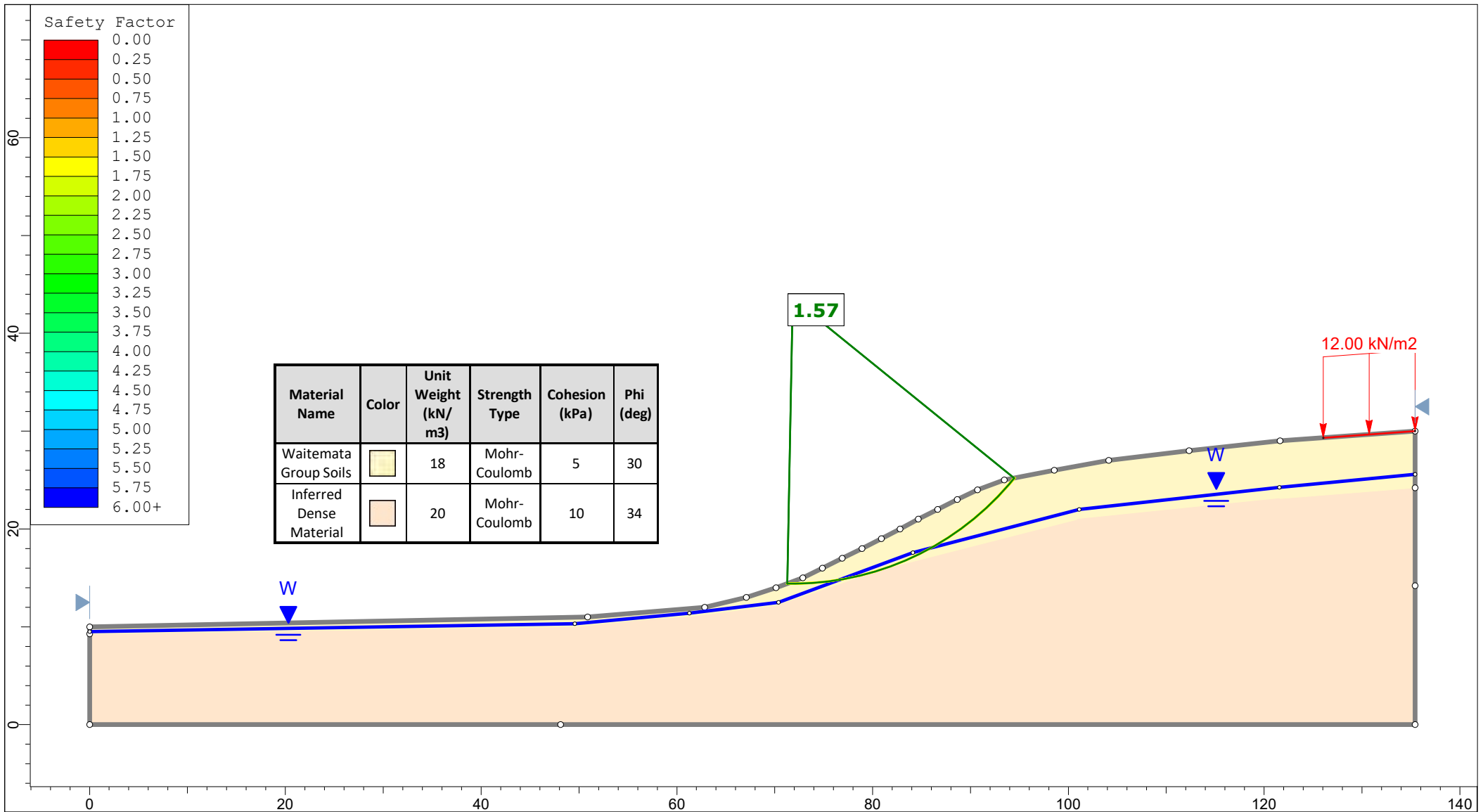
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section L-L' Measured Ground	
	Scenario		Run 4 - Raised Groundwater - Non-Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.slmd		



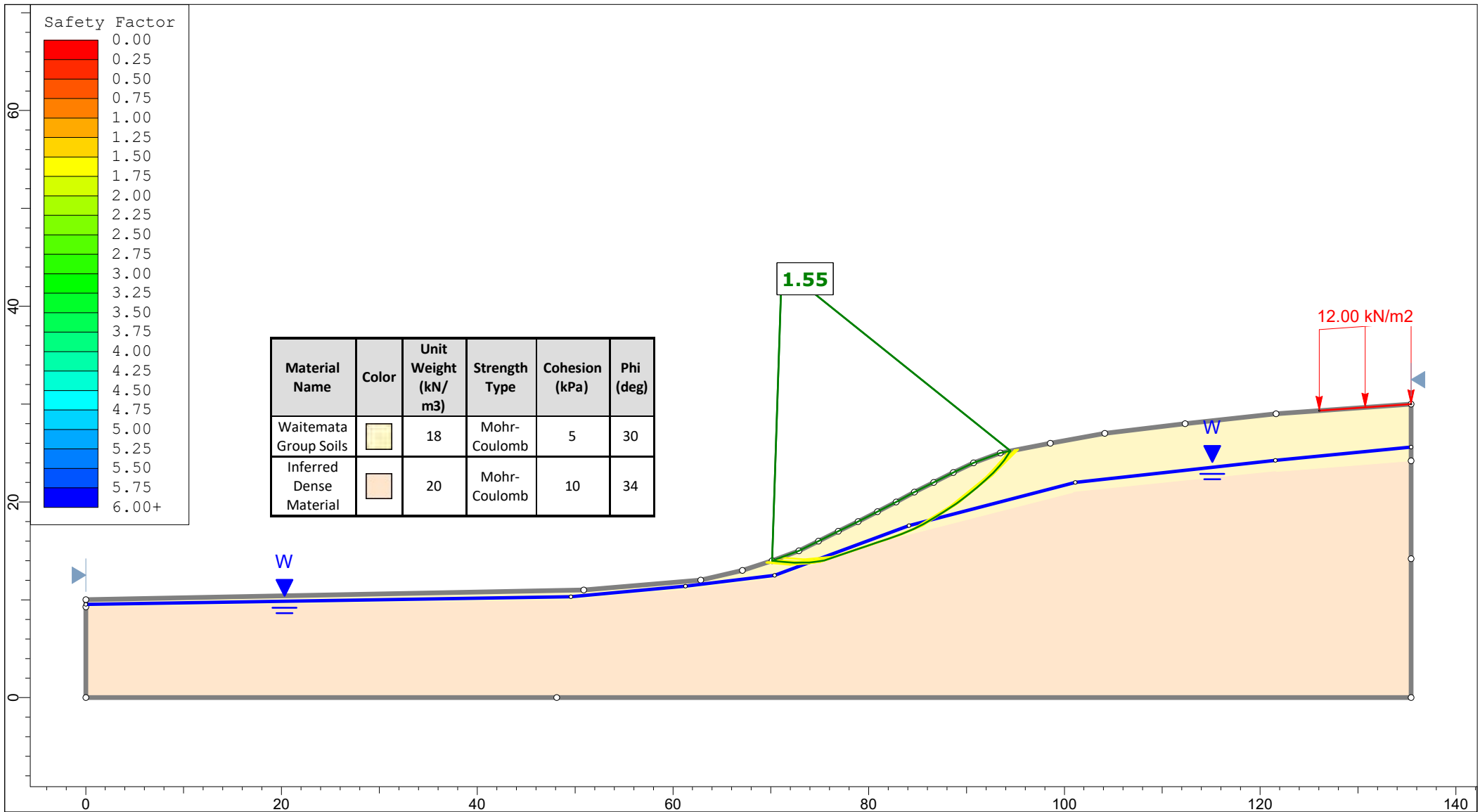
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section L-L' Measured Ground	
	Scenario		Run 5 - Seismic Loading - Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.slmd		



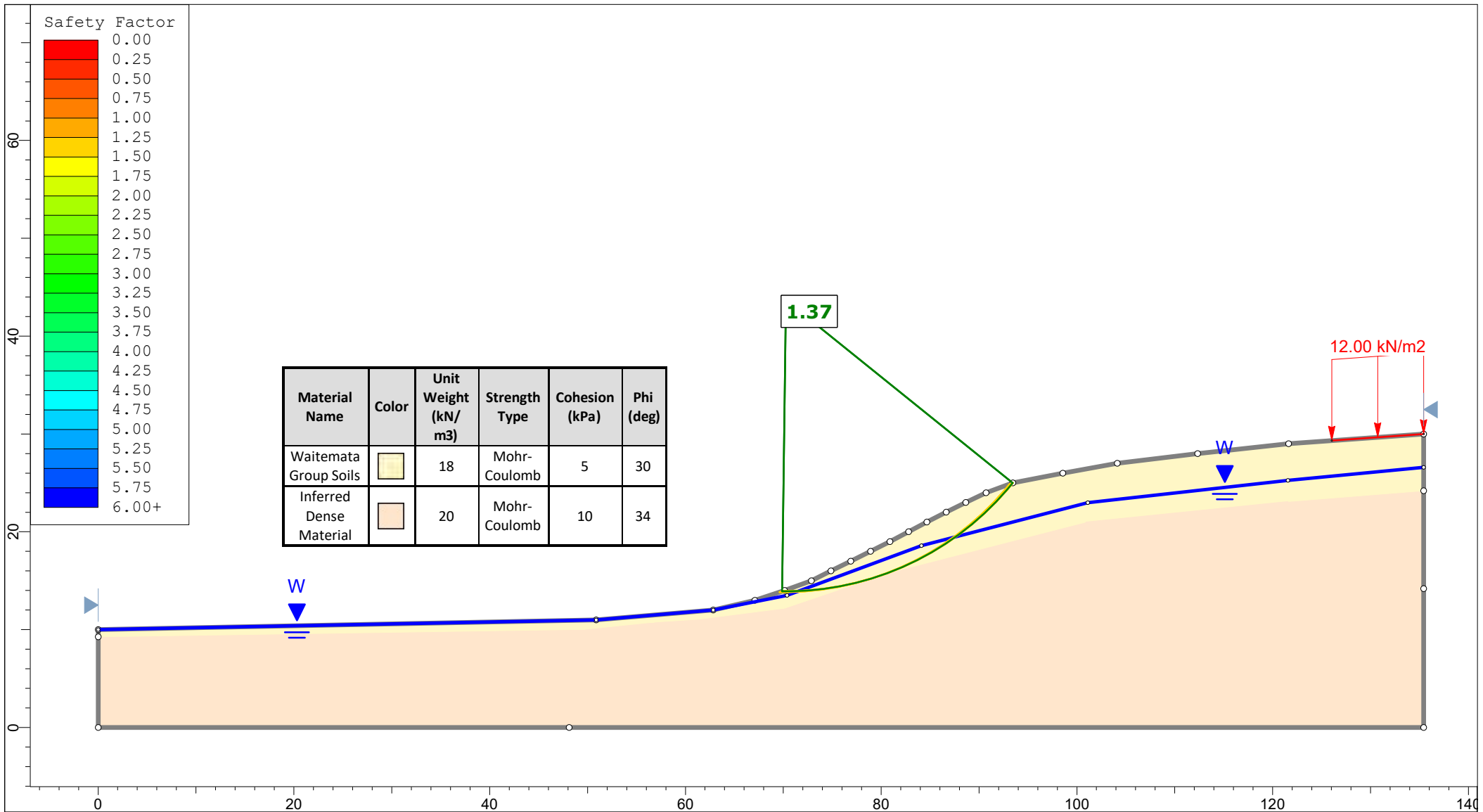
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section L-L' Measured Ground	
	Scenario		Run 6 - Seismic Loading - Non-Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.slmd		



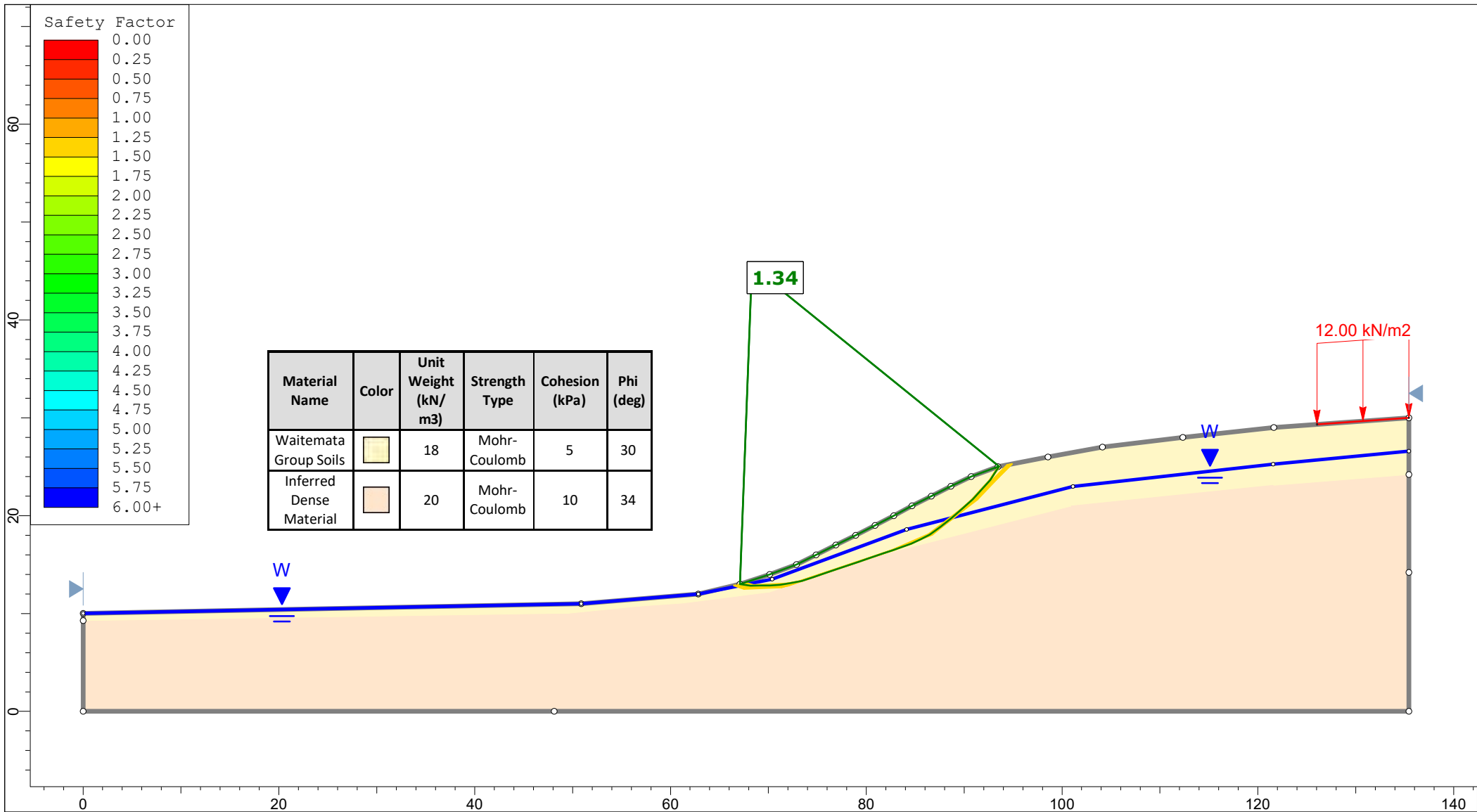
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	<i>Project</i> K200826 - 2127 Kaipara Coast Highway, Kakanui	
	<i>Group</i> Cross Section L-L' Proposed Ground	<i>Scenario</i> Run 1 - Measured Groundwater - Circular
	<i>Drawn By</i> TR	<i>Company</i> KGA Geotechnical Group Limited
	<i>Date</i> 26 February 2024	<i>File Name</i> 2024 Master.sldm



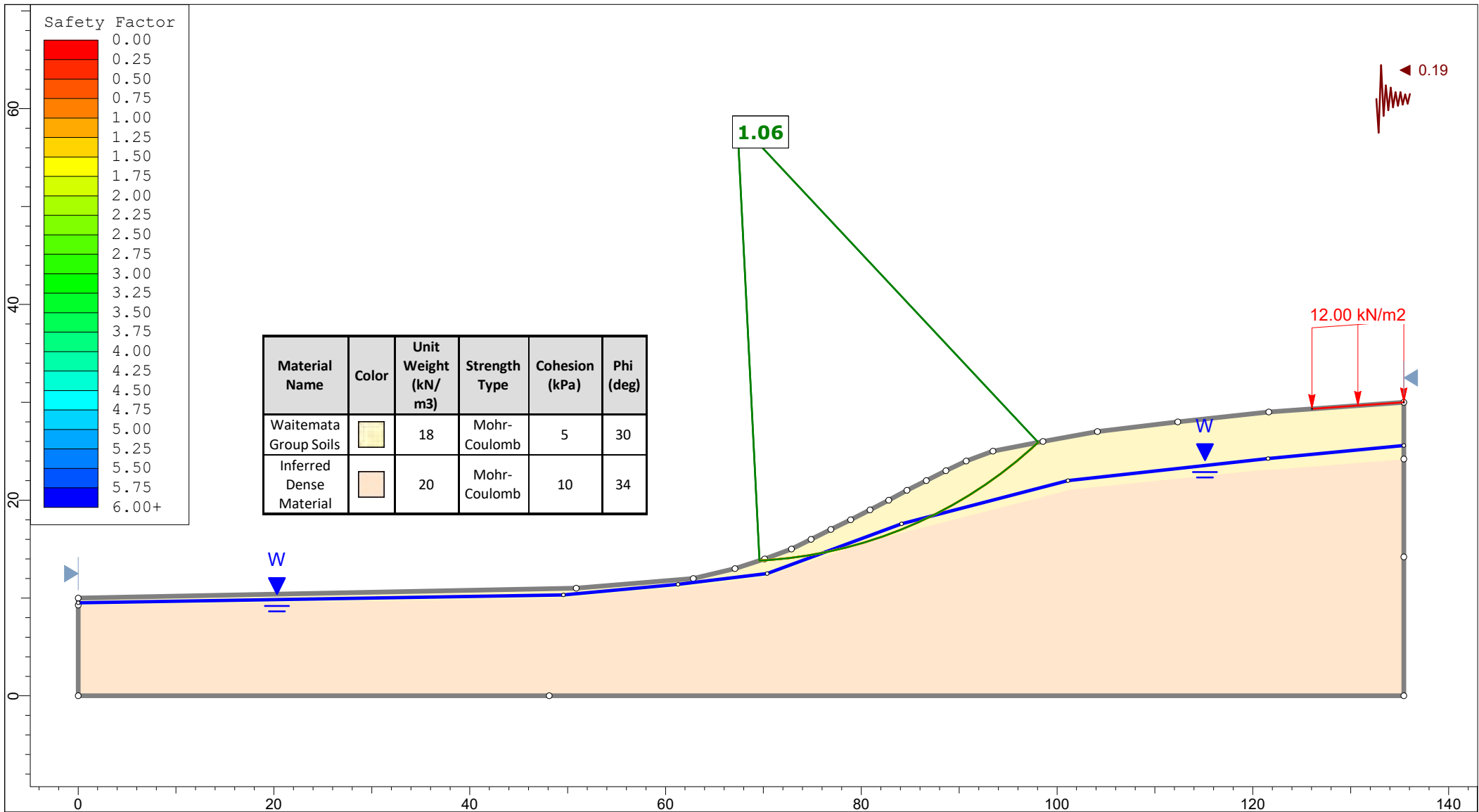
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section L-L' Proposed Ground	
	Scenario		Run 2 - Measured Groundwater - Non-Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.sldm		



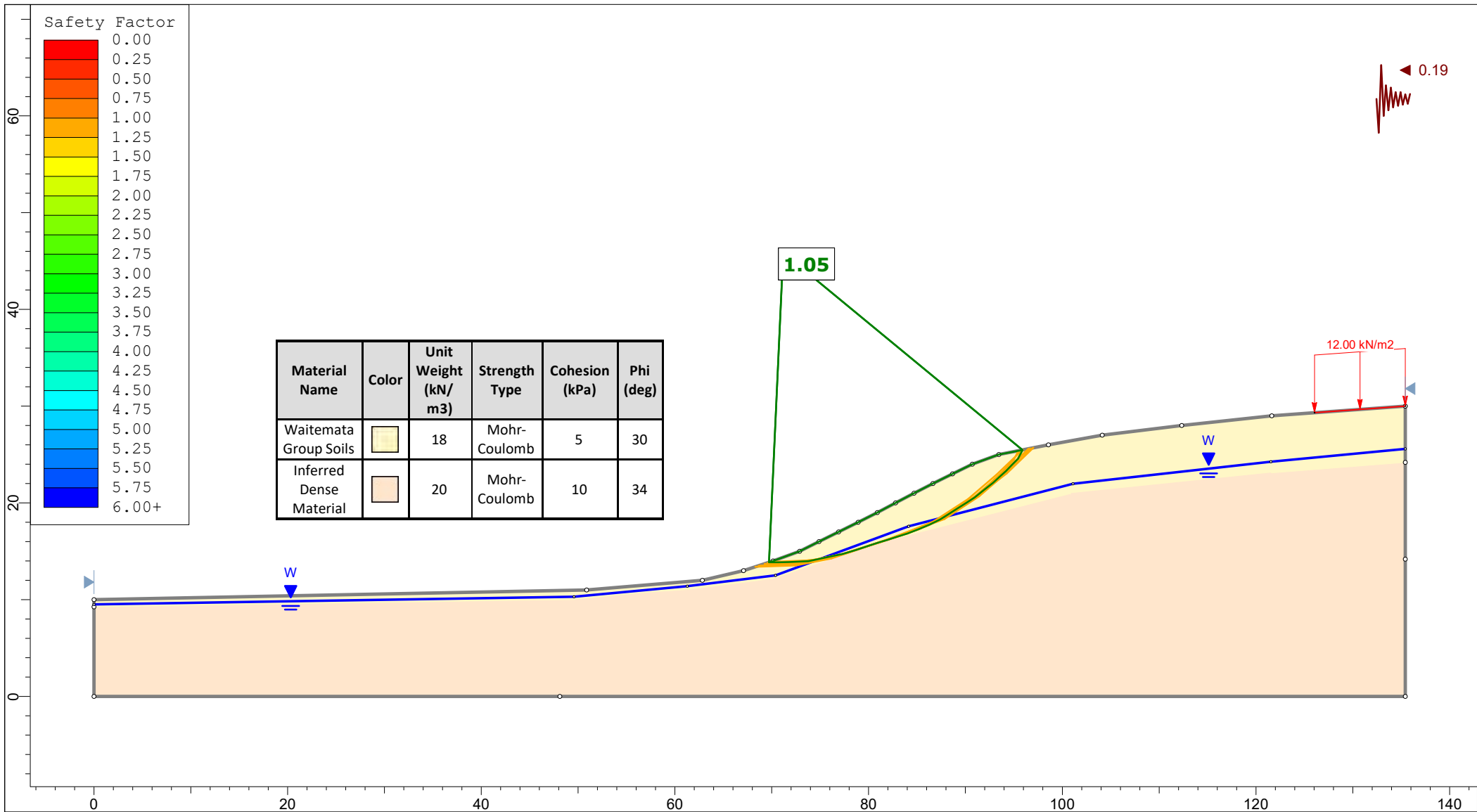
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section L-L' Proposed Ground	
	Scenario		Run 3 - Raised Groundwater - Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
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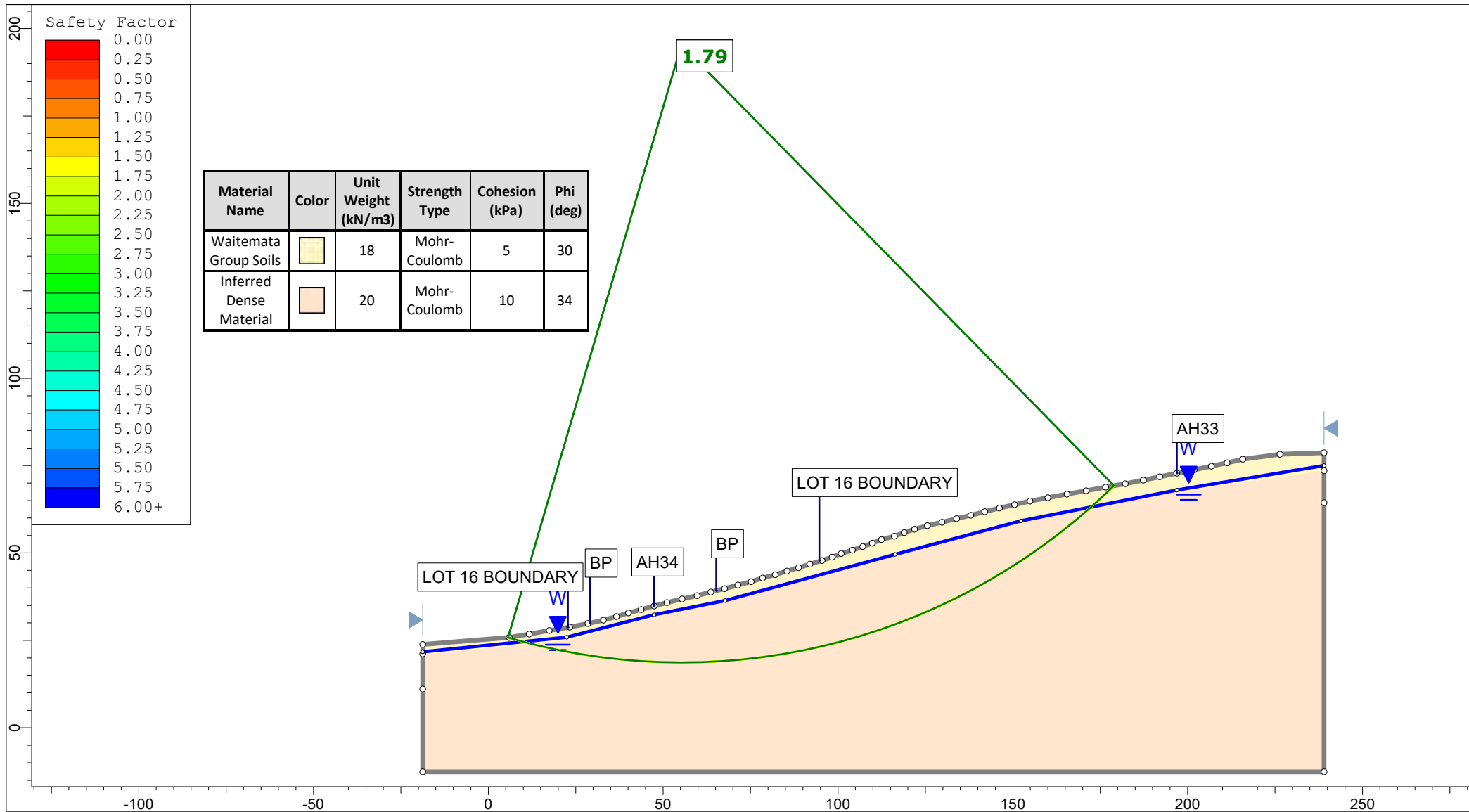
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section L-L' Proposed Ground		
	Scenario		Run 4 - Raised Groundwater - Non-Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
26 February 2024		File Name		2024 Master.sldm	






<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section L-L' Proposed Ground	
	Scenario		Run 5 - Seismic Loading - Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.sldm		

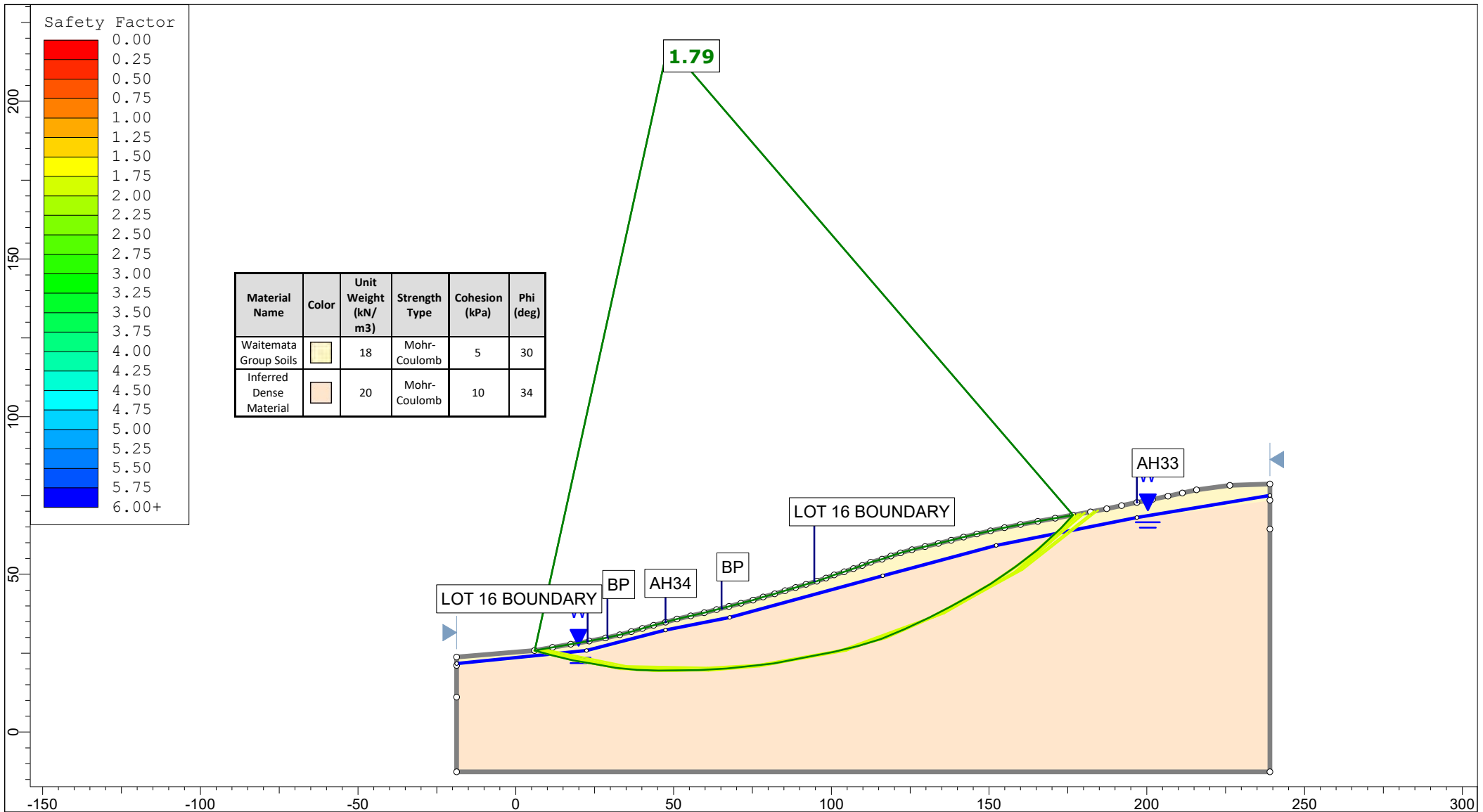


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	Group		Cross Section L-L' Proposed Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm

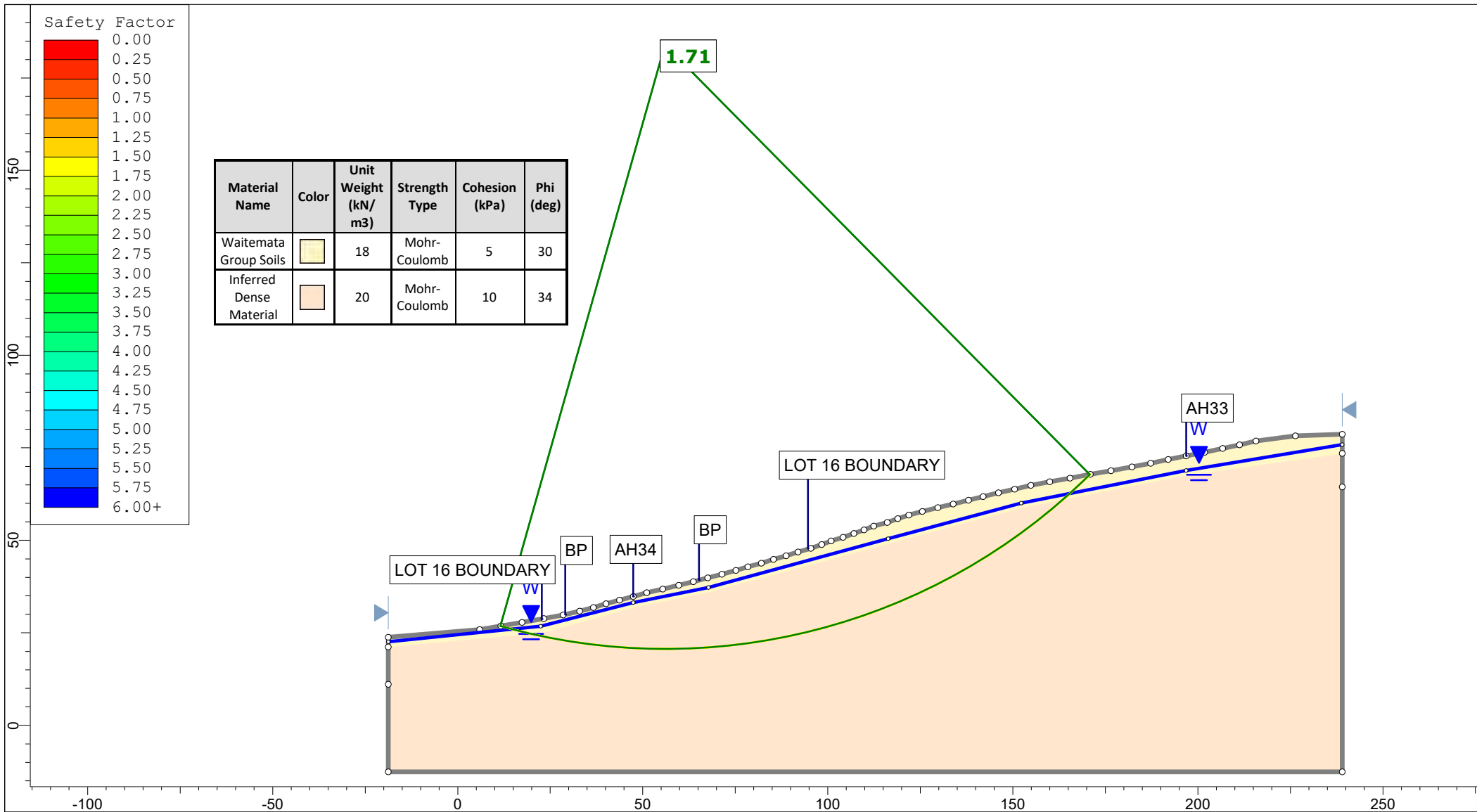


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

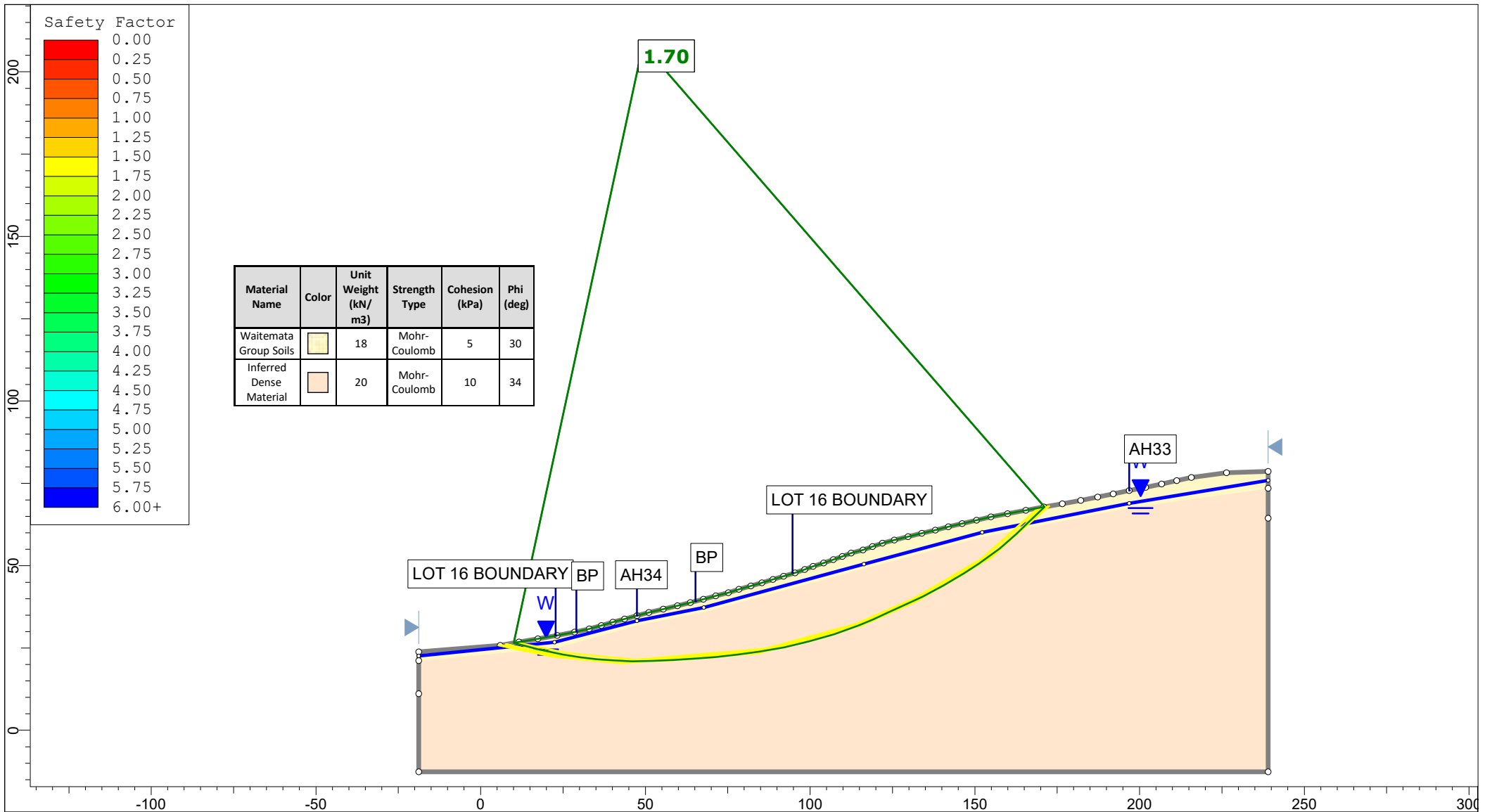
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section M-M' Measured Ground	
	Scenario		Run 1 - Measured Groundwater - Circular	
	Drawn By		TR	
Date		26 February 2024		
Company		KGA Geotechnical Group Limited		
File Name		2024 Master.sldm		




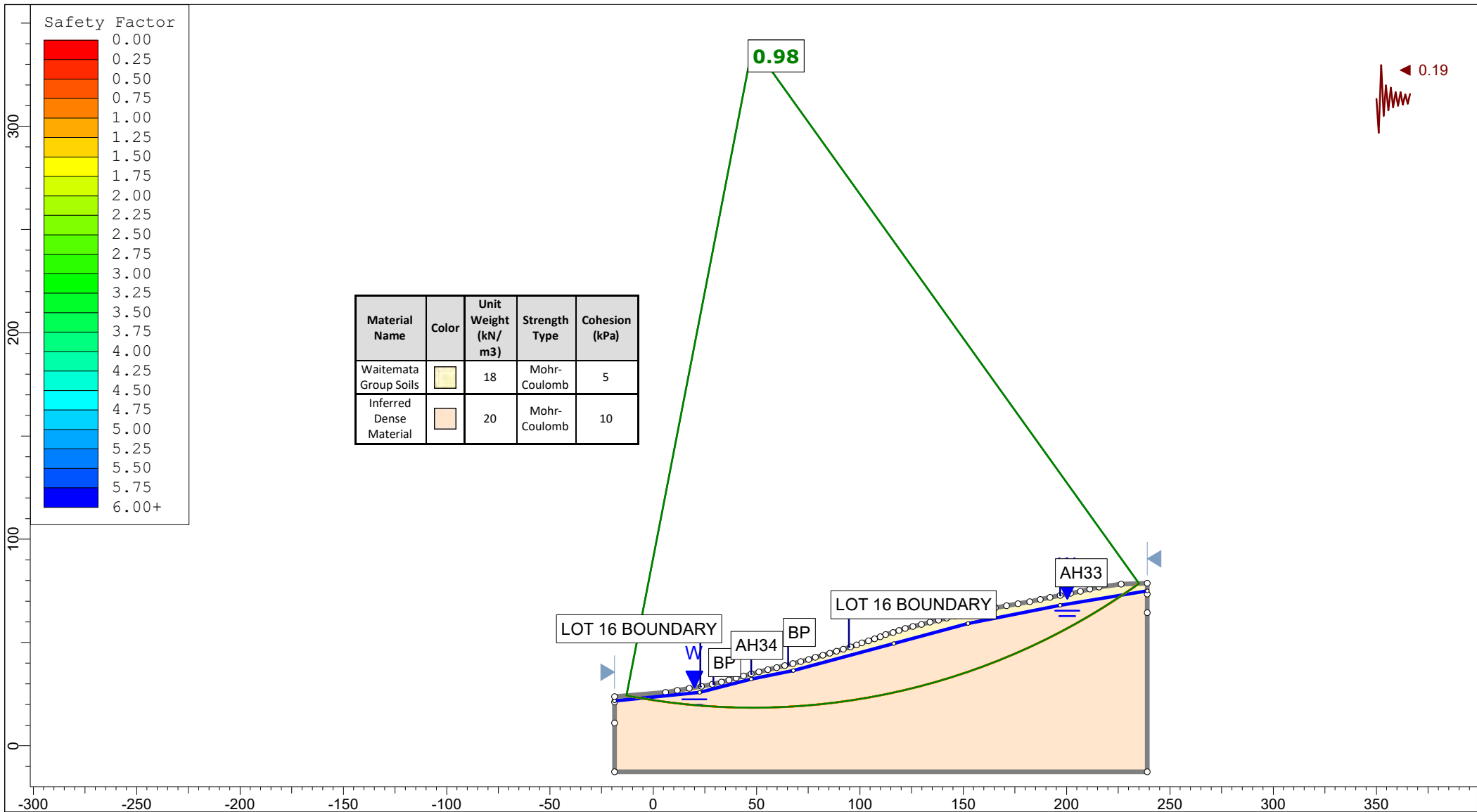
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui			
	Group		Cross Section M-M' Measured Ground	Scenario	Run 2 - Measured Groundwater - Non-Circular	
	Drawn By		TR	Company		KGA Geotechnical Group Limited
	Date		26 February 2024	File Name		2024 Master.slmd




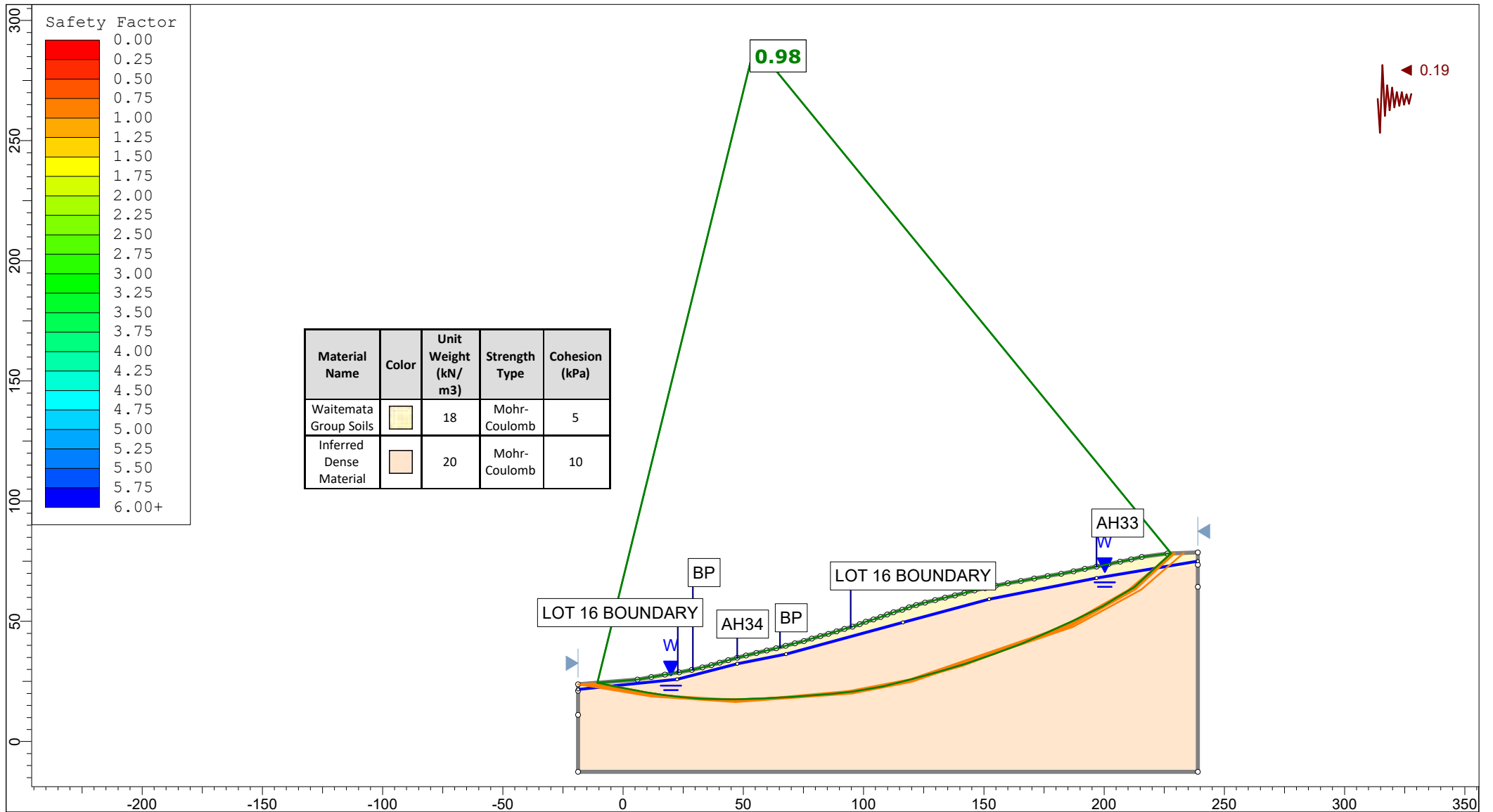
<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui	
	Group		Cross Section M-M' Measured Ground	
	Scenario		Run 3 - Raised Groundwater - Circular	
	Company		KGA Geotechnical Group Limited	
Drawn By		TR		
Date		26 February 2024		
File Name		2024 Master.sldm		




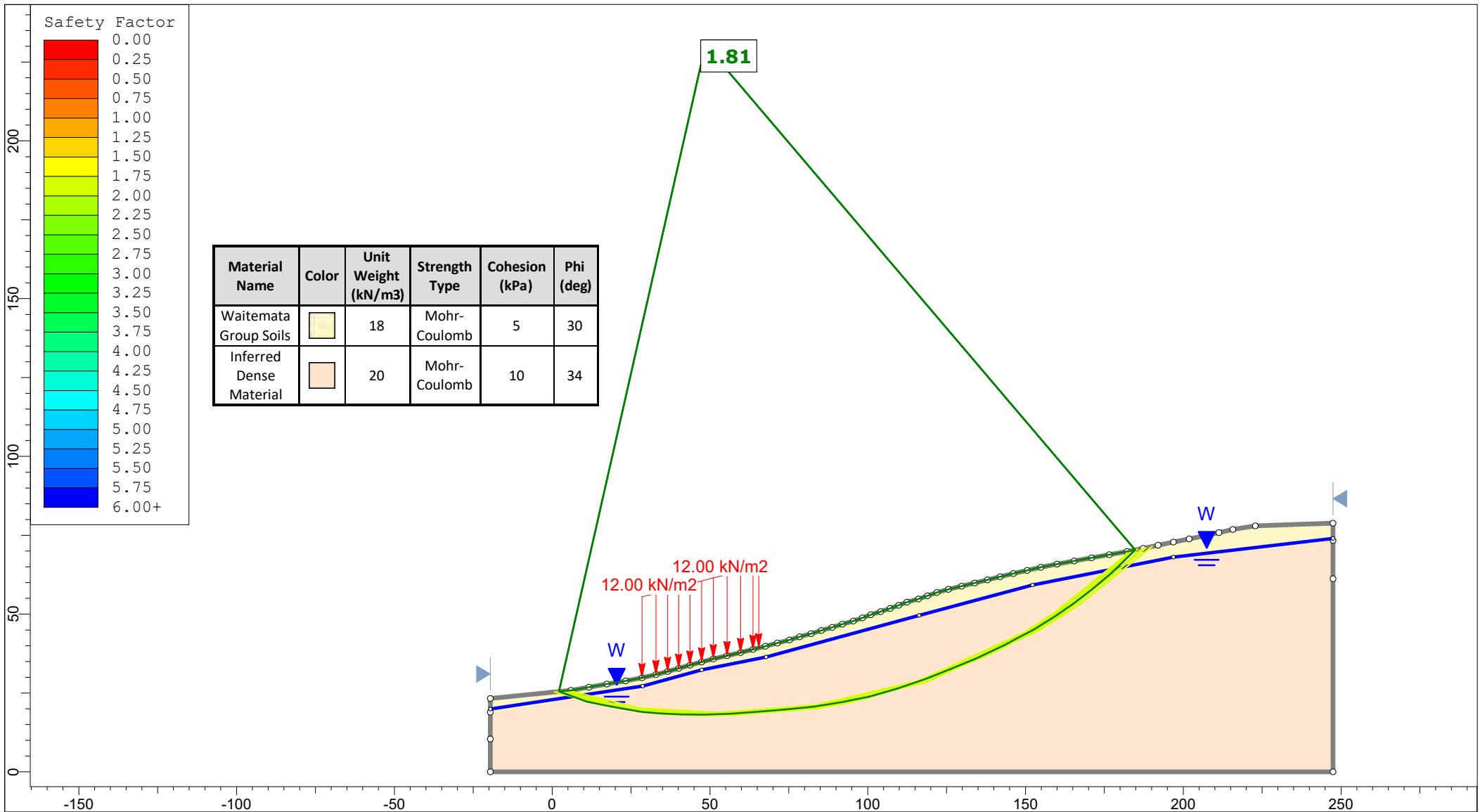
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section M-M' Measured Ground		
	Scenario		Run 4 - Raised Groundwater - Non-Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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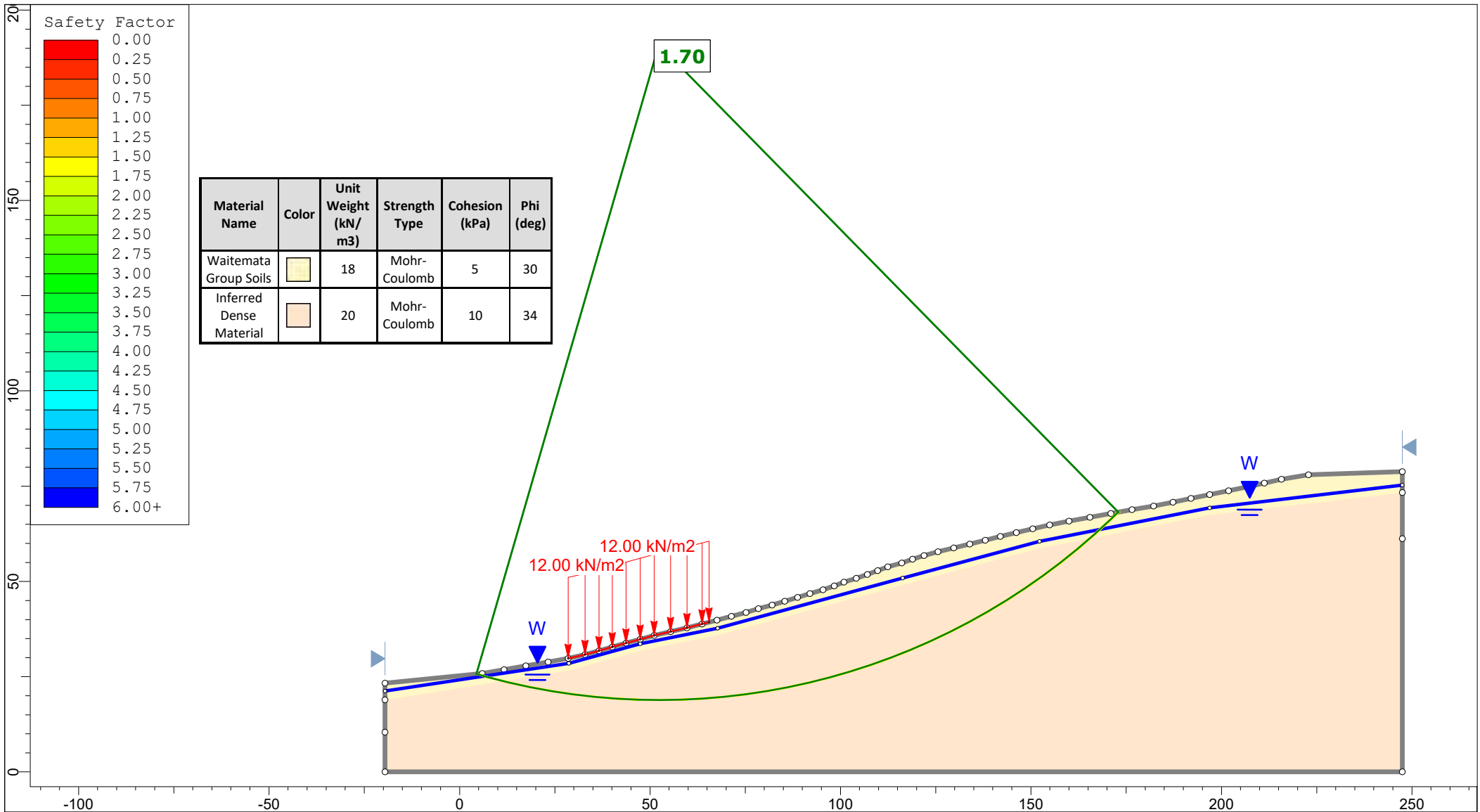
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section M-M' Measured Ground		
	Scenario		Run 5 - Seismic Loading - Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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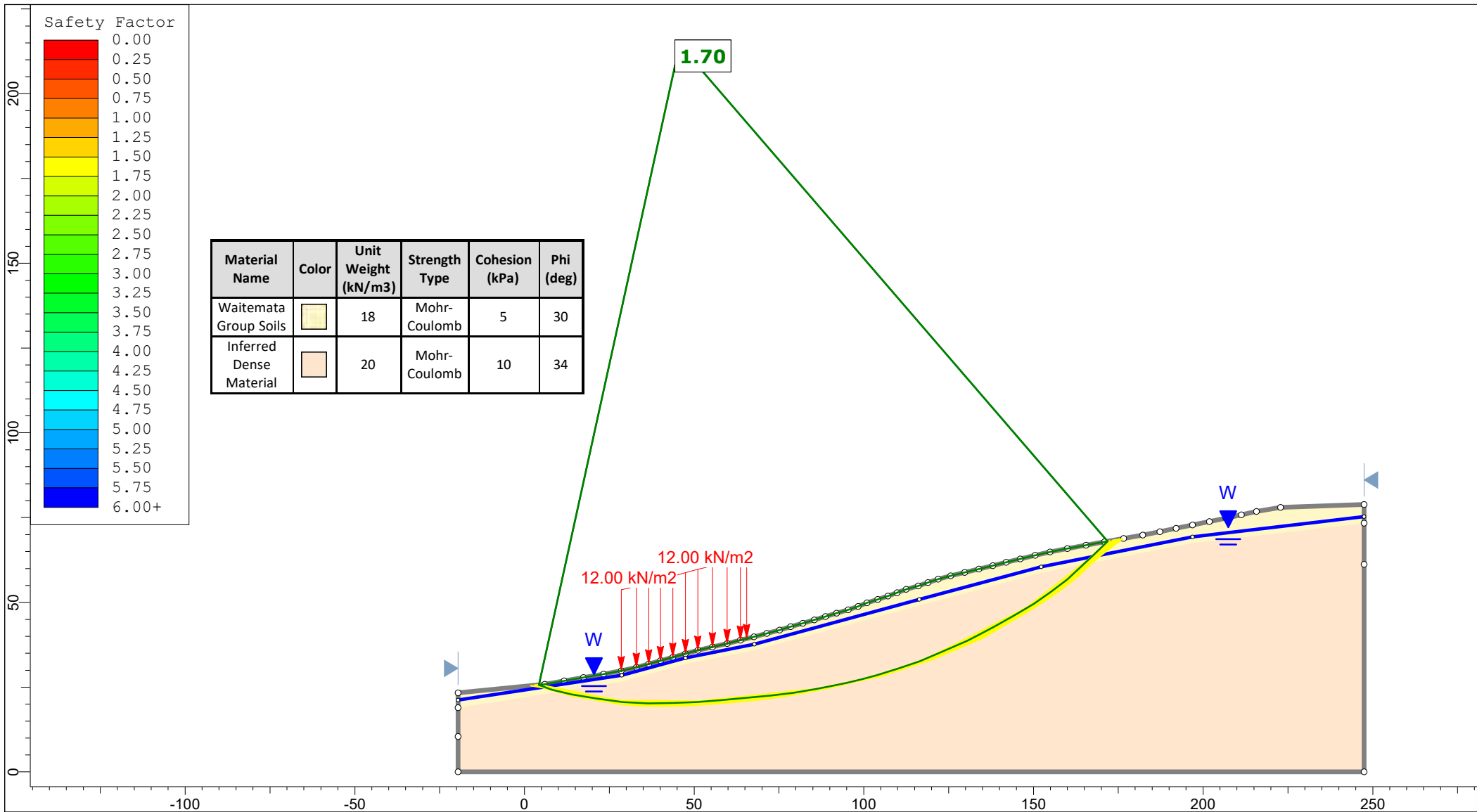
 <p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section M-M' Measured Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.sldm



<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section M-M' Proposed Ground		
	Scenario		Run 2 - Measured Groundwater - Non-Circular		
	Company		KGA Geotechnical Group Limited		
Drawn By		TR		Date	
Date		26 February 2024		File Name	
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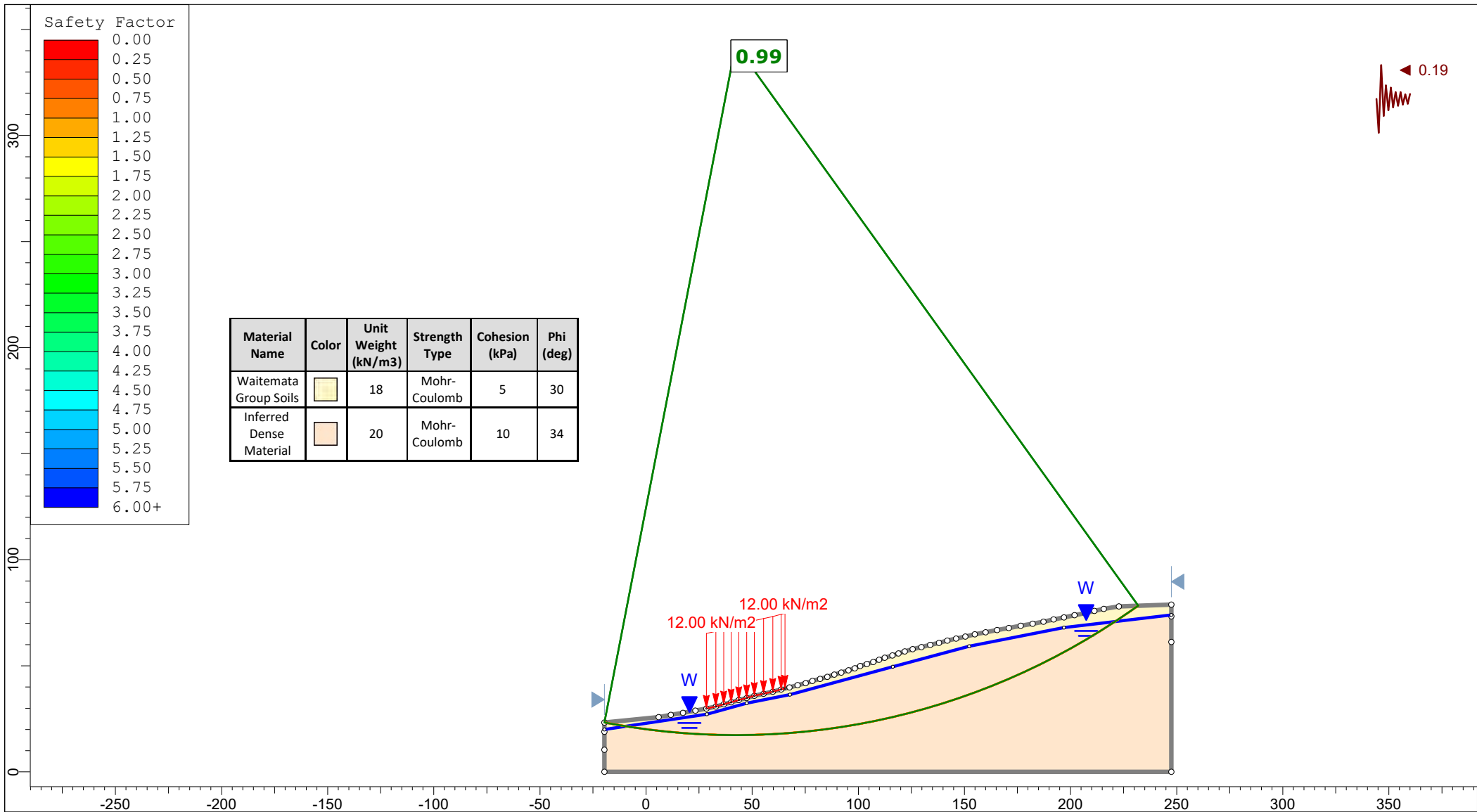


<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p> <p>SLIDEINTERPRET 9.023</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section M-M' Proposed Ground	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd

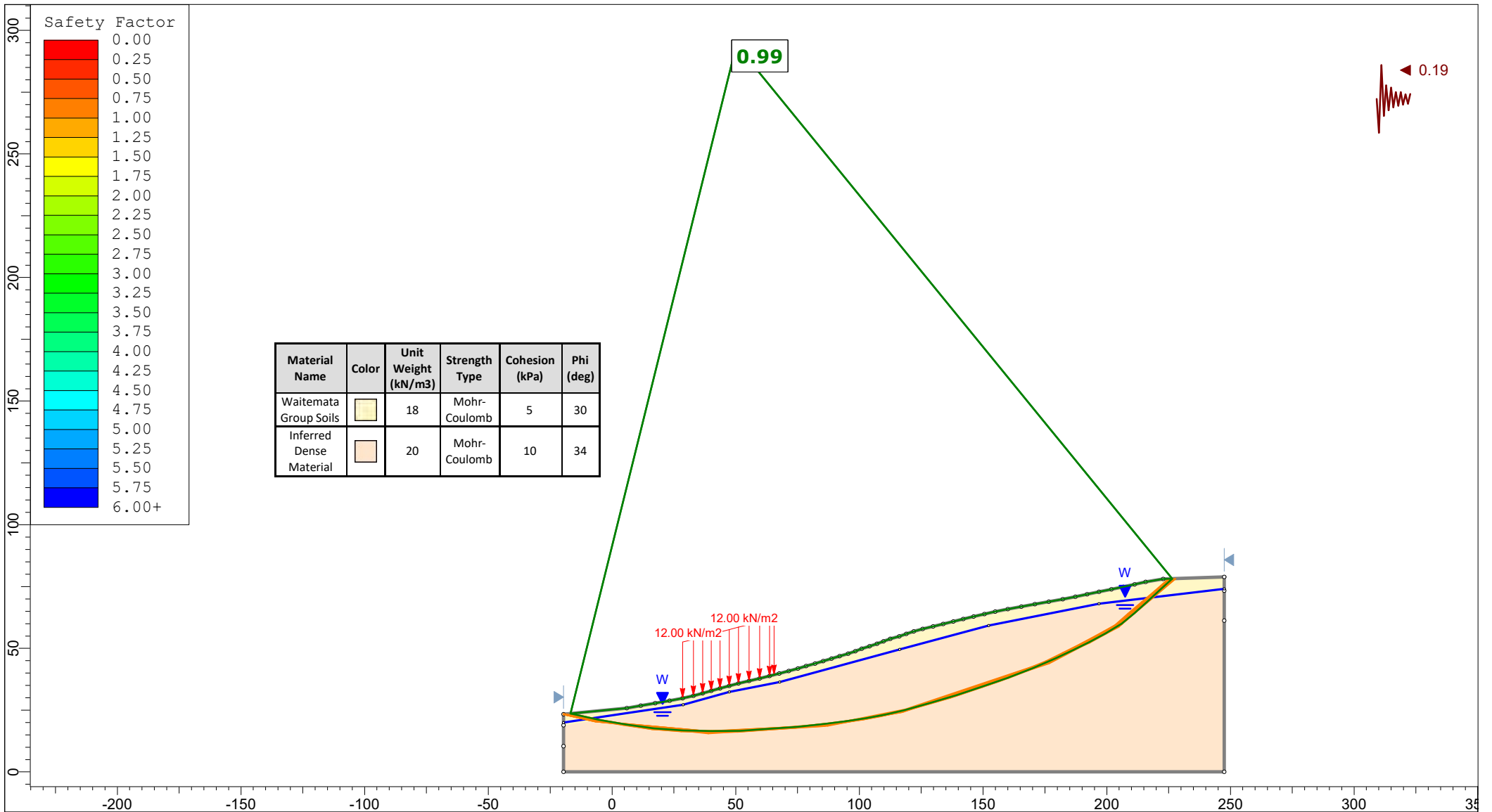


Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)
Waitemata Group Soils		18	Mohr-Coulomb	5	30
Inferred Dense Material		20	Mohr-Coulomb	10	34

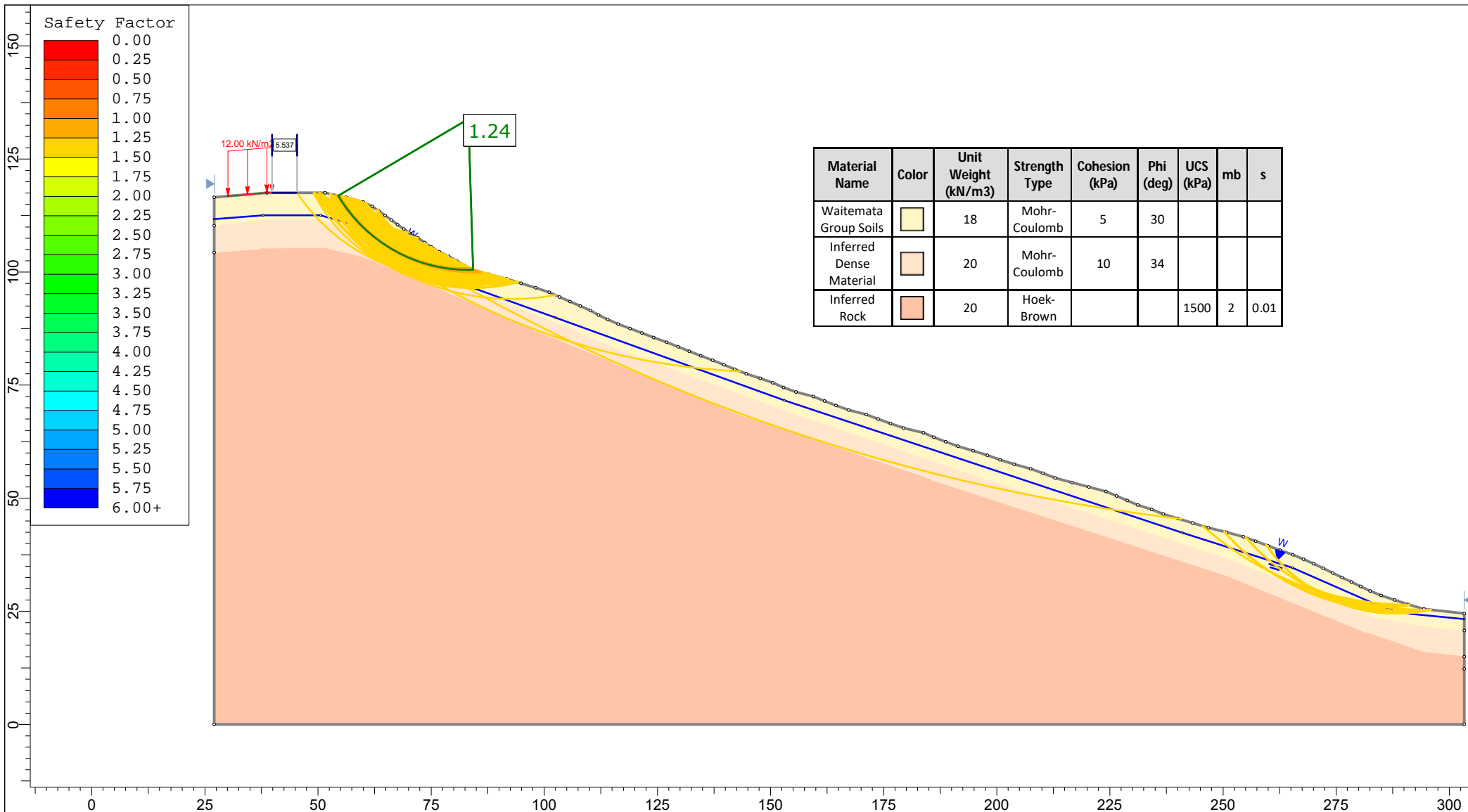
 Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui			
	Group		Cross Section M-M' Proposed Ground		Scenario	Run 4 - Raised Groundwater - Non-Circular
	Drawn By		TR		Company	KGA Geotechnical Group Limited
	Date		26 February 2024		File Name	2024 Master.sldm



<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section M-M' Proposed Ground	Scenario	Run 5 - Seismic Loading - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd

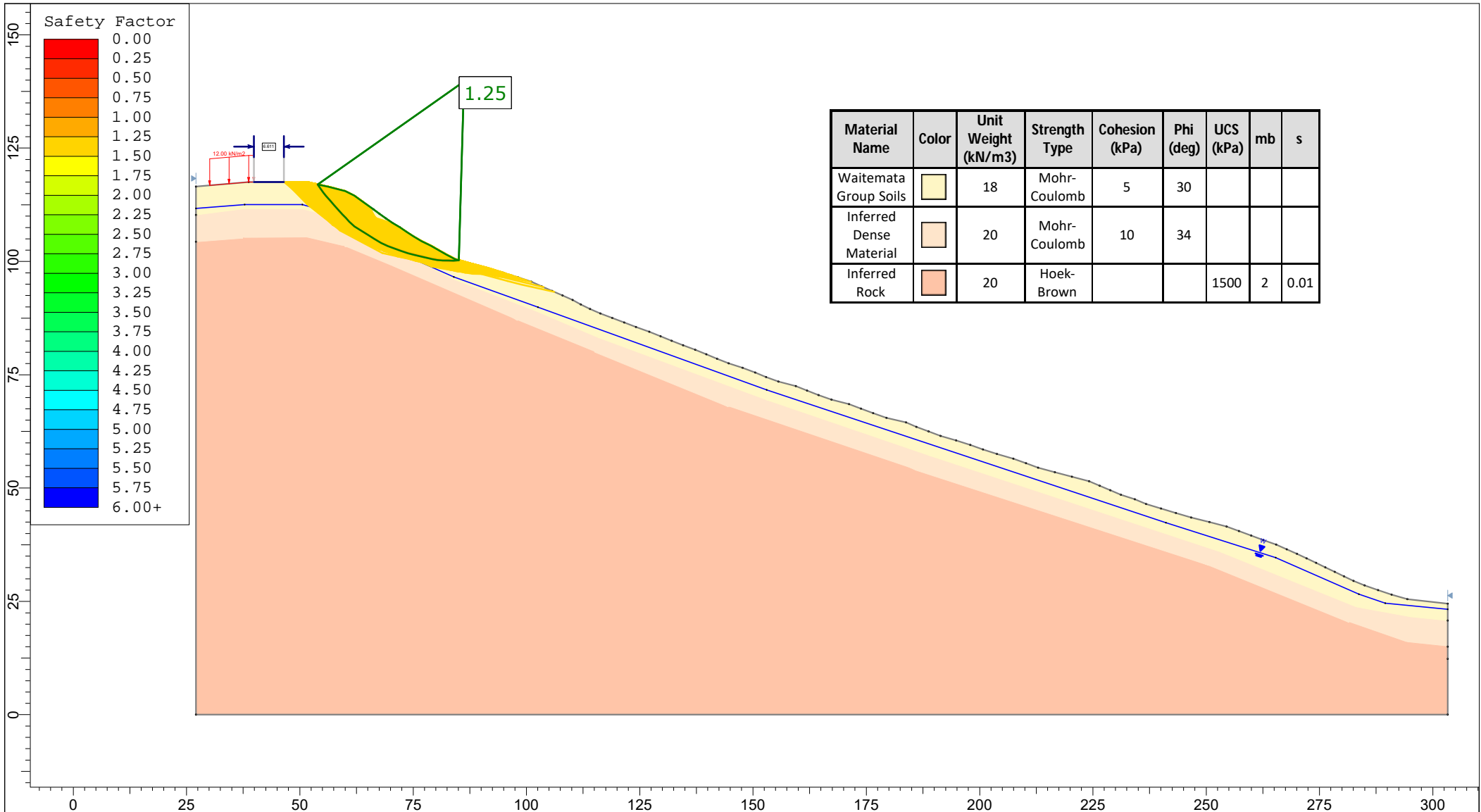



<p>Auckland Christchurch 09 478 6655 03 343 5302 www.kga.co.nz</p>	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross Section M-M' Proposed Ground	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		26 February 2024	File Name	2024 Master.slmd

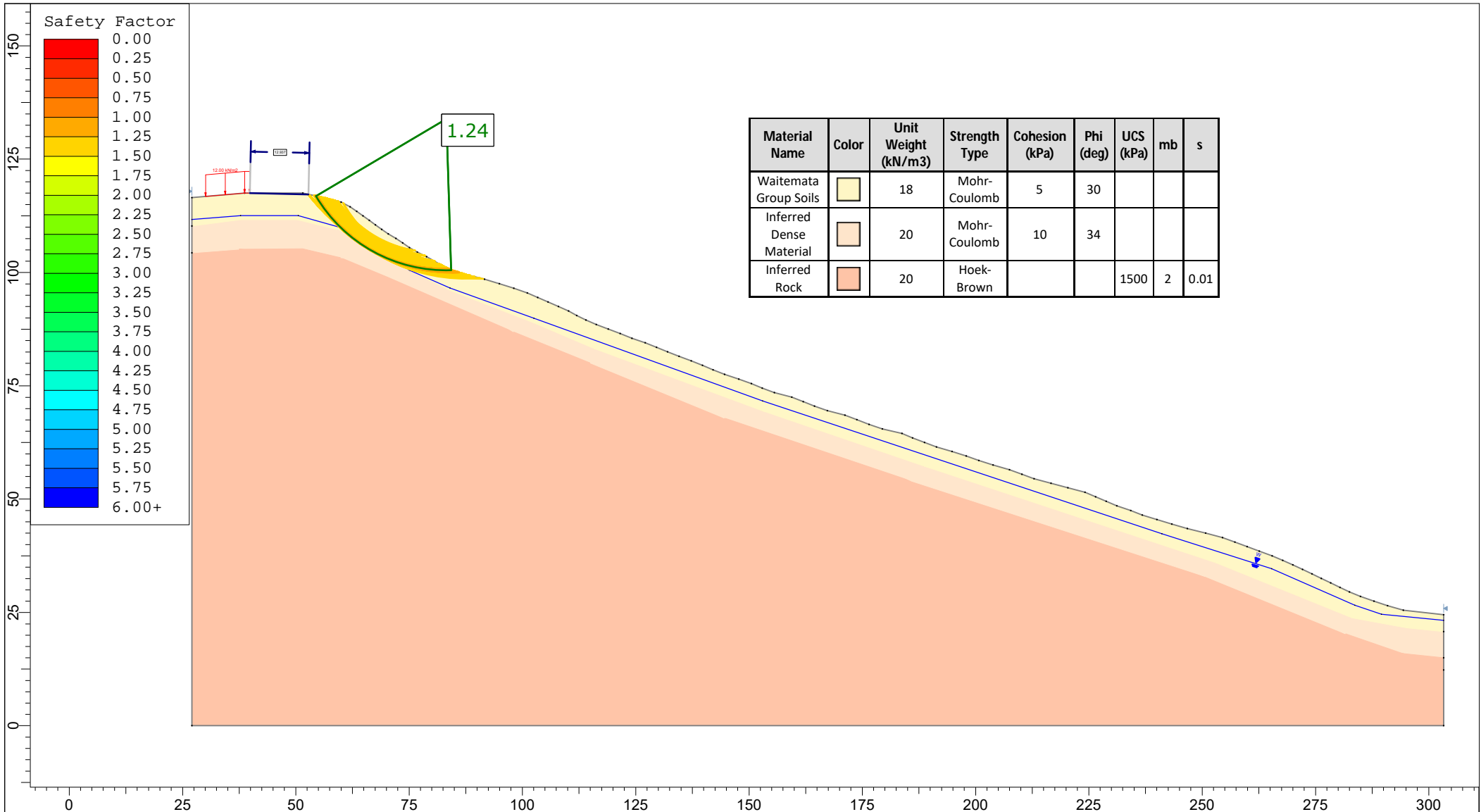



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	Phi (deg)	UCS (kPa)	mb	s
Waitemata Group Soils		18	Mohr-Coulomb	5	30			
Inferred Dense Material		20	Mohr-Coulomb	10	34			
Inferred Rock		20	Hoek-Brown			1500	2	0.01

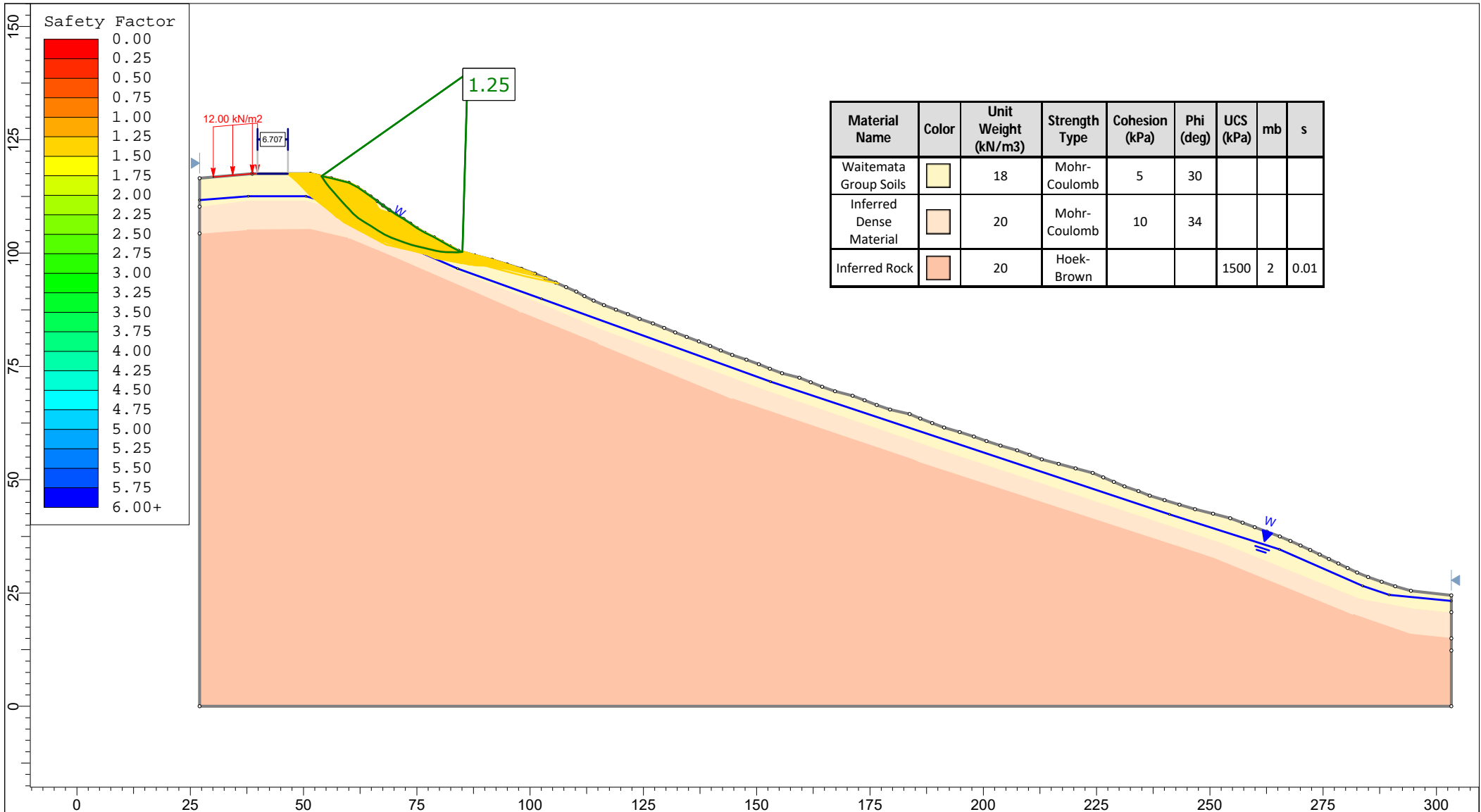
	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross-Section N-N' - In-Ground Wall	Scenario	Run 1 - Measured Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		8 December 2021	File Name	N and O 12-2021.slmd



	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross-Section N-N' - In-Ground Wall	Scenario	Run 2 - Measured Groundwater - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		8 December 2021	File Name	N and O 12-2021.slmd

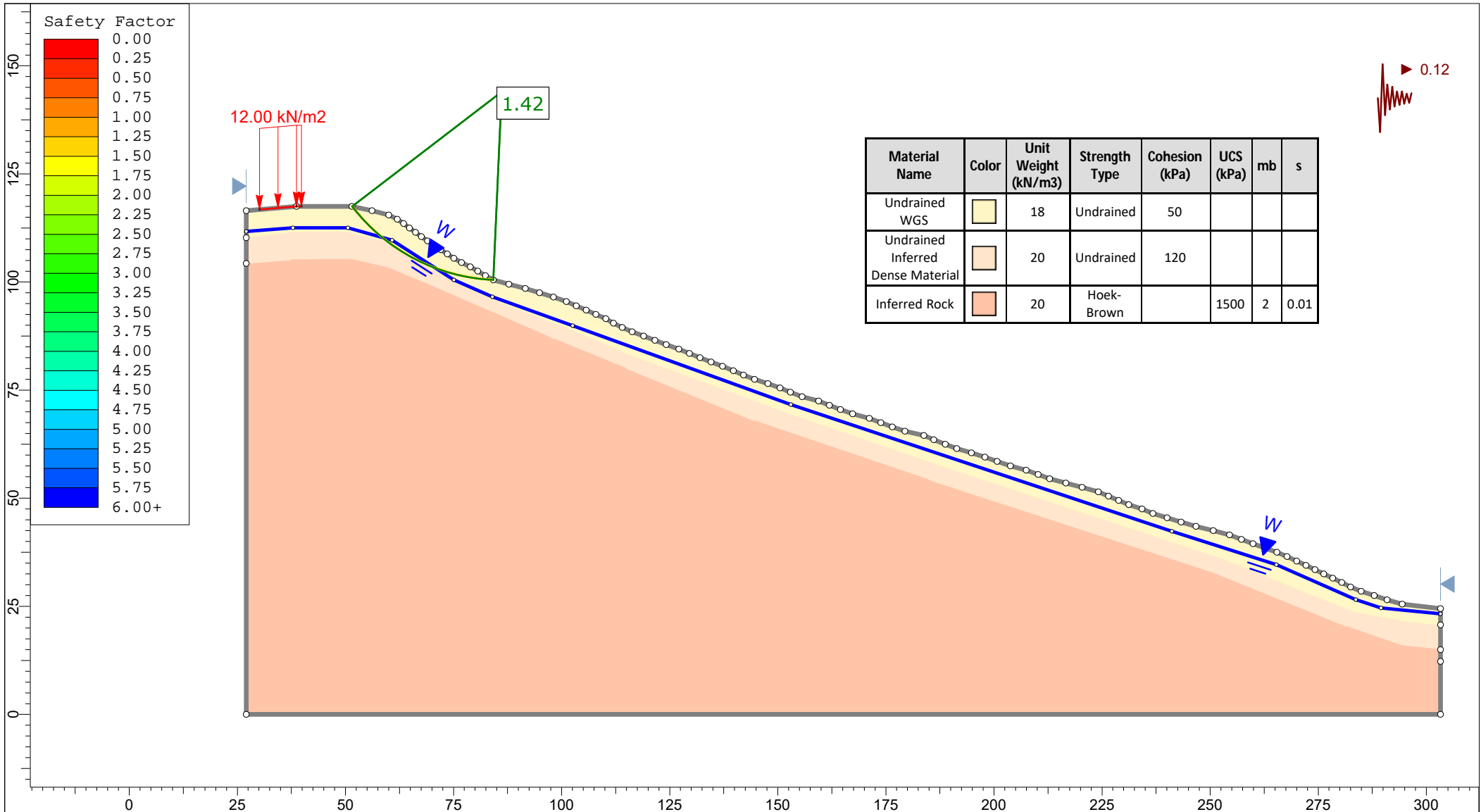



	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross-Section N-N' - In-Ground Wall	Scenario	Run 3 - Raised Groundwater - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		8 December 2021	File Name	N and O 12-2021.slmd

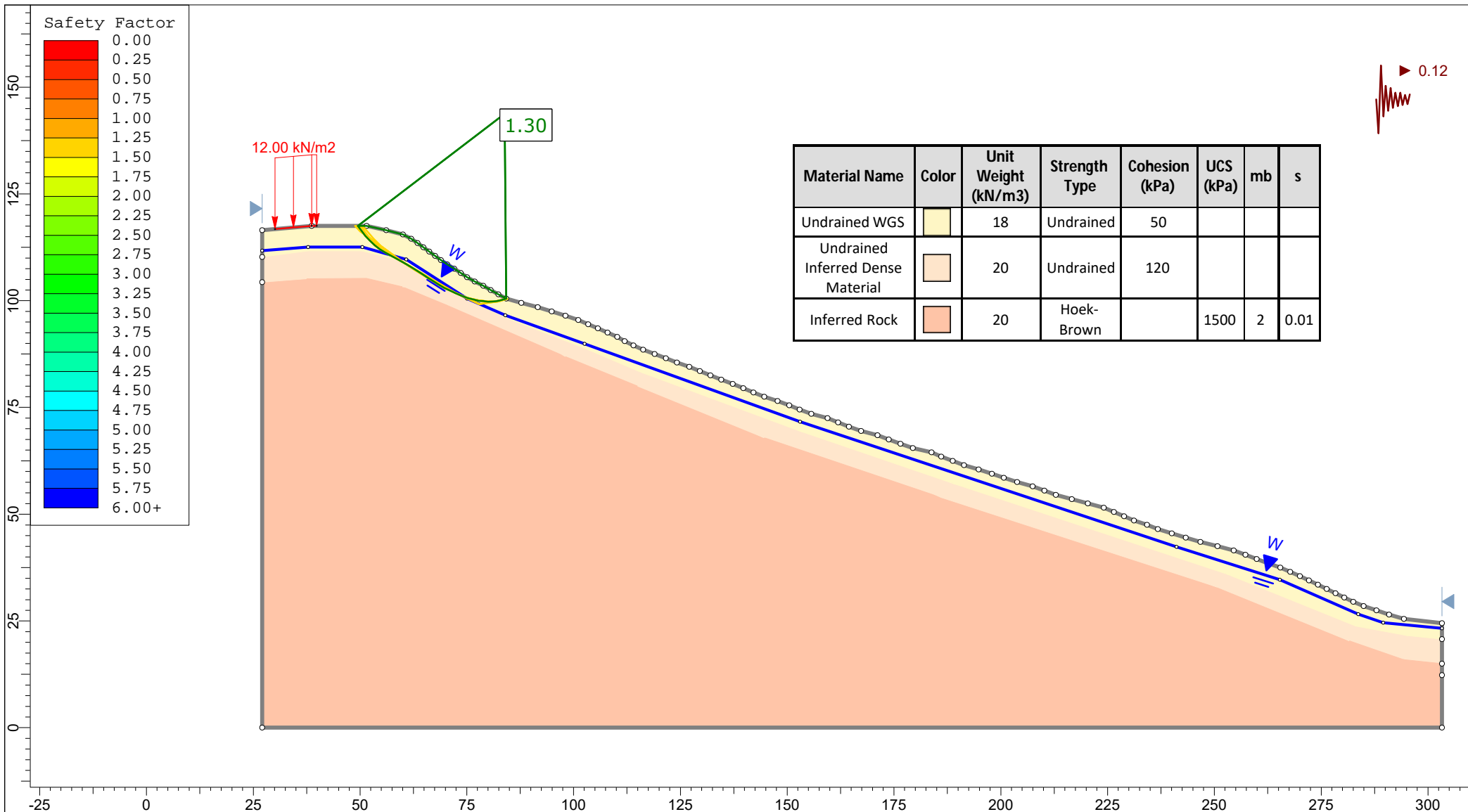


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (deg)	UCS (kPa)	mb	s
Waitemata Group Soils		18	Mohr-Coulomb	5	30			
Inferred Dense Material		20	Mohr-Coulomb	10	34			
Inferred Rock		20	Hoek-Brown			1500	2	0.01


	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross-Section N-N' - In-Ground Wall	Scenario	Run 4 - Raised Groundwater - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		8 December 2021	File Name	N and O 12-2021.slmd



	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross-Section N-N' - In-Ground Wall	Scenario	Run 5 - Seismic Loading - Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		8 December 2021	File Name	N and O 12-2021.slmd



Material Name	Color	Unit Weight (kN/m ³)	Strength Type	Cohesion (kPa)	UCS (kPa)	mb	s
Undrained WGS	Yellow	18	Undrained	50			
Undrained Inferred Dense Material	Orange	20	Undrained	120			
Inferred Rock	Red	20	Hoek-Brown		1500	2	0.01

	Project		K200826 - 2127 Kaipara Coast Highway, Kakanui		
	Group		Cross-Section N-N' - In-Ground Wall	Scenario	Run 6 - Seismic Loading - Non-Circular
	Drawn By		TR	Company	KGA Geotechnical Group Limited
	Date		8 December 2021	File Name	N and O 12-2021.slmd