28 August 2024

K200826-4

Goodland Group Limited
PO Box 302247
North Harbour
Auckland

GEOTECHNICAL RESPONSE TO COUNCIL SECTION 92 REQUEST FOR FURTHER INFORMATION - ADDITIONAL COMMENTS - BUN60406128 (LUC60406129, SUB60406160), WAT60412104 & DIS60412103
PROPOSED SUBDIVISION - 2127 KAIPARA COAST HIGHWAY, MAKARAU

Introduction

We confirm that we have received request for additional comments from Auckland Council (AC), dated 27 June 2024, with respect to the response to the previously provided Section 92 Request for Further Information (RFI) letter, reference No. K200826-3, dated 1 March 2024. KGA has been engaged to provide additional comments on Items 38 to 40, 43 and Item 5 of the Geotechnical Information Request, dated 16 January 2024.

This letter response should be read in conjunction with our previous RFI letter, reference No. K200826-3, dated 1 March 2024 and latest amended Geotechnical Investigation Report (GIR), reference No. K200826-1C, dated 28 August 2024.

The aforementioned documents have been included as part of our Geotechnical response package (previously provided).

We reiterate that this assessment is for Resource Consent purposes only and at detailed design stage, further Lots specific assessment will be required.

Response to Item 38 – Set-back Distances

The council's specialist has reviewed the response and revised site layout. Most wastewater land dispersal arras are now considered satisfactory placed with respect to the permitted activity standards of E5 of the AUP(OP) (note concerns raised relating proximity of development form Council's Ecologist and Council's arborist has also raised similar concerns).

Further clarification is required regarding stormwater channels as detailed below.

a. *Mr Rishworth states '……setbacks from kerb and channels of the proposed accessways have been implemented where preliminary wastewater fields are located upslope'. It is assumed that 'implemented' in this context means wastewater land dispersal area compiles with the minimum setback distances to surface water in accordance with Table 5.2 of TP58. Please clarify if this is not the case.*

The statement above is correct, 'implemented' refers to complying with minimum setbacks of 15m for advanced secondary treatment as per TP58.

b. *In terms of separation distances from surface water, note 3 of Table 5.2 of TP58 states '……decreased distances are only allowable when the disposal field is downslope of a water course and/or on flat/gently sloping sites.*

   Please demonstrate that each wastewater land dispersal area complies with the minimum setback to surface water as per table 5.2 of TP58 noting the following:

   i. *Most sites are >10° so not considered gently sloping*
   ii. *Some wastewater land disposal areas are not downslope (at a lower elevation). They are either on the same or elevation as the stormwater drainage channels e.g. Lot 22 and others.*
   iii. *Reduced setbacks may be allowable where subsurface irrigation is proposed but further setback is required where a surface-based irrigation is proposed.*

Table 5.2 of TP58 provides a minimum 15m setbacks to surface water. Note 3 of the same table states that lesser distance may be allowable where downslope of watercourse. We have shown 15m setbacks from water features, irrespective of orientation above or below watercourses which meets TP58 requirements.

Refer to response to item 38(a) above. As per Lot 22 comment, setbacks of 15m have been applied from the kerbs/channel to the available wastewater dispersal areas where they are not located directly downslope. The setbacks are indicated on our Drawings KGA 2A to 2C, presented in Appendix A of our amended GIR. We recommend any dispersal areas 15m to 20m from water features (and upslope of) be covered with topsoil to essential be 'subsurface laid'.

c. *Please confirm how the 'areas included within set-back distances' in Table 7 of the GIR report allows for setback distances to stormwater channels where the wastewater dispersal area is not entirely downslope of the drainage channel.*

Section 14.3 of our amended GIR has been updated to clarify that kerbs and channels of the roadway have been considered in the separation distances. Where wastewater dispersal areas are not located entirely of the downslope of these features, we recommend PCDL is buried below topsoil.

d. *Please confirm compliance with the minimum setback distances to surface in accordance with Table 5.2 of TP58 given the proposed hydrology for the site. For example, the wastewater land dispersal area marked for Lot 24 overlies an ephemeral flow path. (see plan C906). Please review.*

As discussed in Section 14.3 of our report, the surface water, flow paths and wetlands adopted in our assessment have been taken from Wildlands Limited Ecological report, following their site-specific assessment of water features. KGA returned to site to confirm the presence and extent of the flow path within Lot 24, as indicated in Figure 1 below. The wastewater dispersal area calculation for Lot 24 have been updated to include appropriate setback from the flow path and is presented in Table 7 our amended GIR.

Figure 1: Ephemeral flow path through southern portion of proposed Lot 24.

e. *Please could the land contours be included on the wastewater site layout plans to assist with assessing the future direction of flow?*

Drawings KGA 2A to 2F have been updated to include contours and are presented in Appendix A of our amended GIR.

Response to Item 39 – Stream Channel Widths

Mr Rishworth stated that the proposed Lots have a minimum 20m offset form the identified overland flow paths (which are planned to be completely revegetated) which effectively results in the current wastewater dispersal areas offset from overland flow paths by a minimum of 21.5m. Subject to a satisfactory response to question 38 above, this may be acceptable. However, Council's specialist has read the response from Wildlands as there is no overland flow path with a channel width greater than 3m, rather than 60cm as noted in Mr Rishworth's response. Does a channel width of 3m change the assessment in relation to this question?

As per the Wildlands Ecology Report (Reference 5807), Section 4.5.2 states, "On the western half of the property, the permanent and intermittent reaches of the streams are typically 30cm to 60cm wide and are heavily pugged." There is no mention of streams with greater channel widths within the development areas.

Regardless of the above, a 3m stream would only result in a 1.5m reduction of setbacks to minimum of 20m (from 21.5m). This set-back remains 25% greater than the required 15m set-back as per Table 5.2 of TP58 of Advance Secondary/Soil Category 5.

Response to Item 40 – Communal Building Wastewater Dispersal Area

The area upstream of the wetland areas northeast of the communal building appears to be low-lying swampy ground with elevated groundwater. This means the wastewater disposal area for Lot 13 and the communal building do not comply with the minimum setback distance to surface water. Boreholes should be provided in this area to ensure the minimum setback to seasonal high groundwater table is achievable. Please apply for relevant consents for the communal building if permitted activity results and standards cannot be achieved and this building. Use remains part of the application.

KGA undertook further borehole investigations to understand the groundwater conditions across the site. Mr Rishworth stated that groundwater was not encountered to an investigation depth of 1.0m across all boreholes on the site. However, the subsoil (borehole) investigations were undertaken in February so it's not surprising that groundwater was not encountered. This is the driest month of the year when groundwater is expected to be most receded.

In response to the RFI request letter issued in November 2023, the additional investigation was completed within the timeframes of the requested S92 response and were therefore required to be drilled in the summer/drier months. The boreholes drilled during this investigation should be considered in conjunction with our initial subsurface investigation results, which were obtained during the winter/wetter months and did not encounter near-surface groundwater.

To further verify groundwater conditions around Lot 13 and the communal building dispersal, KGA has performed a series of additional wastewater boreholes drilled in August 2024 (WW13 to WW18). The results indicate that no groundwater was encountered to the termination depths of 1.5m, despite winter drilling. The location of the additional investigation is shown on Drawings KGA1 and KGA2, and detailed information on the Boreholes Logs, both presented in Appendix A, of our amended GIR.

As a precautionary measure, we have relocated the proposed communal dispersal area to a minor ridgeline to the west of the communal building and we have confirmed that a suitable area can be established to meet the calculated requirements presented in Table 7 of our amended GIR. Based on this, we consider the on-site dispersal to be compliant with the TP58 setback requirements.

Response to Item 43 – Wastewater dispersal Within Proposed Fill Earthworks Areas

The applicant has not relocated the wastewater land disposal areas off the areas of the subject to earthworks as suggested.

Council's Specialist notes the following:

i. The affected lots are Lot 13, 15 and 9 to 11.

ii. *Mr Rishworth mentions restrictions/requirements can be placed on the Lots as part of the specific design at Building Consent stage. Further in the response, Mr Rishworth describes some matters that the wastewater design engineer will need to consider when designing the individual onsite wastewater systems for these lots (i.e. short-circuiting of wastewater). Further MR Rishworth states the restrictions/requirements will be reflected in the council conditions. This appears to imply that the wastewater systems on the affected lots will require a wastewater discharge consent under s15 of the RMA. Please confirm.*

iii. *If the onsite wastewater systems on each affected lot will require an application for a wastewater discharge consent,*

iv. *In Table 7 of the GIR report (and relevant plans), the area of land comprising cut and/or fill should be excluded from the available area for wastewater servicing (i.e. 480m2 for Lot 13). This will effectively lead to a reduction in the maximum allowable size of the dwelling to be accommodated (in terms of bedroom numbers). This doesn't mean a future property owner cannot build a larger dwelling however, any larger dwelling will be informed by the site-specific investigation and restrictions subject to the building consent process.*

v. *Alternative land dispersal methods as mentioned in the response are not a permitted activity under E5.6.2.1.*

Please provide a response to the above.

The proposed earthworks within Lots 9 to 11 consist of cuts up to 3.0m deep. These excavations are expected to expose natural soils with similar characteristics to the near surface materials and can be considered Soil Category 5 as per Table 5.1 of TP58. This is consistent with the design parameters used in our dispersal calculations and as such, the cut areas considered suitable for wastewater dispersal. In addition, groundwater within boreholes within this area did not encounter groundwater (up to 5.0m below existing ground-level) and is unlikely groundwater will be encountered during excavation works or withing the TP58 groundwater setback (600mm).

Conversely, the earthworks within Lots 13 and 15 involve fill. These areas have now been excluded from the calculated available dispersal areas, with Table 7 of our amended GIR updated accordingly.

As reiterated in our report, the areas and number of bedrooms presented are for preliminary planning purposes only and will require site-specific investigation and design on a lot-by-lot basis and consequently other areas may be available for wastewater disposal on theses Lots.

Response to Item 5 of the Geotechnical Information Request – Wastewater Stability

Council's Specialist notes the wastewater disposal area is in the close vicinity of the proposed building platforms by the provided analysis are neither lot specific not considering surcharge load for a platform. Please clarify or revise analysis accordingly.

To reiterate the previous response, due to the scale of our global assessment, applying the potential dispersal areas to the entirety of the slope is not feasible due to the limited depth of affected soils comparative to the size/length of each model. Instead, a 'worse case' saturated upper slope scenario was assessed with a maximum gradient (1 vertical of 3 horizontal) to be encountered on the site.

The model has been updated to include a 12kPa surcharge upslope of the dispersal field to represent a potential building platform. A summary of the Factor of Safety results from the analyses is presented in Table 2 below. For detailed results, the slope stability calculation has been attached to the rear of this letter.

Table 2: Factor of Safety Results

Cross-Section		Factor of Safety (FoS)		
		Measured Groundwater	Raised Groundwater	Seismic Loading
WW-WW' Critical Case Dispersal Field - with BP surcharge	Circular	1.7✓	1.5✓	1.0✓
	Non-Circular	1.7✓	1.5✓	1.0✓
Council Accepted Minimum Factor of Safety		**1.5**	**1.3**	**1.0**

✗ = unsatisfactory result, ✓ = satisfactory result

The results of the stability analyses indicate that the sloping ground with saturated upper 1.0m have acceptable Factor of Safety results for all conditions in accordance with "Auckland Code of Practice for Land Development and Subdivision, Chapter 2: Earthworks and Geotechnical", July 2022. As such, as a preliminary assessment we considered the proposed wastewater dispersal areas feasible. This model is a proof-of-concept and is carried out to show dispersal is feasible on the sloping ground.

Conclusion

We trust that the above is sufficient to satisfy the addition comments required Items 38 to 40, 43 and Geotechnical Information Request Item 5 provided to us. However, if you have any queries, please do not hesitate to contact the undersigned.

Yours faithfully,
p.p. KGA Geotechnical Group Limited

Tom Rishworth
BSc (Hons), MSc, MEngNZ
Engineering Geologist

Aaron Fell
BSc, PGDip (Eng. Geo.), CMEngNZ (PEngGeol)
Senior Engineering Geologist

Abilio Nogueira
BE (Eng. Geol.), CMEngNZ, CPEng
Director

Yan Chan
BE, ME, CMEngNZ
Director

Attachments:
Attachment A: S92 Letter
Attachment B: WW-WW' Slope Stability Calculations

27 June 2024

Attention:
The Urbanist Limited
Zoe Avery
Email address: zoe@theurbanist.nz

Dear Zoe,

Resource consent application – s92 Response- Summary

Application number(s):	BUN60406128 (LUC60406129, SUB60406160), WAT60412104 & DIS60412103
Applicant:	Abib (Oamaru) Limited
Address:	2127 Kaipara Coast Highway, Kakanui
Proposed activity(s):	This application by ABIB Oamaru Limited (Applicant) relates to a proposal for this site of around 138ha to undertake a cooperative farming development to be held by up to 25 owners (Proposal) within Rural - Rural Coastal Zone, Kaipara South Head and Harbour Coastal Area and Rural, Rural Production Zone. The Proposal includes a subdivision to create 25 lots at an average size of approximately 3,675m2, each with a shared balance lot of approximately 128.9 hectares (ha) of farmland. Applications to discharge stormwater (E8) within 100m of wetlands and undertake earthworks and vegetation removal within 10m of wetlands (NES(FW).

Thank you for the s92 RMA responses received 12/4/2024, 19/4/2024, 30/4/2024 and 16/5/2024. I've received specialist feedback on the information and assessment submitted and comment on this as follows.

Section 92 Request dated 6/11/2023

Planning

1. I understand your response to be that none of the land protected by Part IV of the Conservation Act, as noted on the Record of Title, is within the natural areas now proposed to be legally protected by this application (i.e. none of the natural features now proposed for protection are already legally protected). Please advise if this is incorrect. Assuming this is correct, question 1 is addressed.

2. Thank you for the letter from NZTA dated 30/4/2024. The letter refers to the retaining wall associated with the new vehicle crossing not being provided to date to NZTA and not included in the Geotechnical Investigation Report. Can you please clarify what is proposed, what plans show what is proposed and what investigations have been undertaken in relation to the retaining wall highlighted by NZTA.
   The letter from NZTA dated 30/4/2024 also does not appear to refer to the vegetation removal proposed within the legal road (as set out in your response to question 8). Do you have landowner approval in relation to these works?

3. If the community building/ facilities and related uses do not form part of this application, please remove reference to them from the plans (in particular) and assessments.

4. We note the response but also highlight a CVA is considered necessary to fully assess the application. It is recommended that the applicant continue to further liaise with iwi in this regard. This will not prevent notification of the application as requested, but the lack of a CVA is likely to be problematic with future assessments.

5. Addressed thank you.

6. Addressed thank you.

7. Thank you for the response. Council's specialist has advised that a consent condition will be recommended in this regard, similar to the wording below.
   Historic Heritage Management Plan
   a) *That a Heritage Management Plan is prepared for the development prior to the commencement of earthworks to provide conservation and management strategies for all the archaeological sites to be managed and preserved following the proposed development of the property into residential development and farm that includes substantial vegetation restoration. This document must provide practical (straightforward) guidelines for the ongoing management, protection, and monitoring of all the archaeological sites from activities that could adversely affect the condition of the sites, their amenity and long-term survivability. This includes but is not necessarily limited to the following:*
      - *Conservation recommendations for managing the pa site (Q10/1122) (fencing/ stock erosion, vegetation management and access);*
      - *Protocols for the ongoing management of sites Q10/1124, Q10/1125; Q10/1123; Q10/1127, Q10/1128; Q11/1130 and Q10/1131 as part of revegetation areas; including protection mechanisms around access and ongoing vegetation management.*
      - *Set timeframes for implementation, review and monitoring of the state and condition of all sites Q10/1122, Q10/1124, Q10/1125; Q10/1123; Q10/1127, Q10/1128; Q10/1129, Q11/1130 and Q10/1131 as well as agreed roles and responsibilities.*
   b) *This Management Plan should be submitted to the Heritage Unit for certification prior to the commencement of earthworks.*

8. I note that the applicant now seeks consent to remove 97 trees, under rule E17.4.1 (I assume (A10)). Please provide more detailed information identifying and describing the trees for removal and provide the related assessments. This should include arboricultural assessment addressing all matters set out in E17, and also planning assessment of relevant objectives and policies.

   Please ensure that the arboricultural assessment also includes:
   - Confirmation (and demonstration) that permitted activity rules and thresholds are met in relation to other vegetation removal or alteration proposed as part of this development.
   - Quantification (the vegetation affected) and assessment the infringements proposed under E15.4.1(A16) and (A18).
   - Mitigation measures such as arboricultural supervision, tree protection zone (construction exclusion zone) and erosion and sediment management protocol for the tree works proposed over the site to avoid or mitigate the tree impacts during period of construction, in particular for these trees located within sensitive habitats (riparian margin of stream, wetlands and SEA overlay).
   - Any additional planting to mitigate the adverse effects created by removal now proposed. The council's Senior Arborist has suggested that a replanting plan is appropriate, to mitigate potential adverse effects, such as those related to amenity, ecological function, soil stability and visual screening.

9. Are the parameters noted in the response offered as condition/s?

10. Thank you for confirming no lighting is proposed. This question is addressed.

11. Can you please confirm that all parts of the Standards have been considered and demonstrate compliance in this regard. For example, it appears likely that E12.6.2(1) is infringed and it is unclear if standards related to floodplains and overland flow paths are met.

12. As detailed in my e-mail of 10/5/2024 and discussed 24/6/2024, a site-specific assessment/report for the purposes of determination under clause 3.5(7) regarding whether land is highly productive land for the purposes of the NPS-HPL is no longer accepted. I have reviewed your subsequent response of 16/5/2024, including the attached assessment on the

NPS- HPL provisions from Geraldine Bayley, Landscape Architect.

The assessment will be undertaken on the basis of the Land Use Capability class (LUC 1 – 8) as shown on the existing NZLRI data in the Council's Geomaps. I understand that some of the proposed lots and accessways extend into the area shown as HPL. This type of subdivision and development does not appear to meet the exemptions of the NPS-HPL. Feedback from the Council's Senior Policy Planner continues to raise the same concern also

Therefore, this remains a live issue. The response from Wildlands (March 2024) on this question touches on differing outcomes sought by different national planning documents.

You may wish to provide further planning assessment in relation to these issues and this question.

13. The response is noted. Please note however that concerns in relation to rural productivity, reverse sensitivity effects and consistency with related objectives and policies remain.

    Feedback from the Council's Senior Policy Planner continues to raise the same concern also.

14. The response is noted. This remains a fundamental concern with the proposal, both in terms of the nature and scale of adverse effects created, and consistency with objectives and policies of the relevant documents. The application conflicts with what the relevant planning documents seek to achieve in this location and on this site.

15. Outstanding. Please refer to ecology feedback on extent and type of natural features.

16. It is acknowledged that the application is a non- complying activity however identification of the vegetation on- site that meets SEA criteria is required to enable assessment of the application. Is your response that none of the vegetation on site meets the SEA thresholds? Please see also ecology feedback on related questions (including questions 47, 48, 49, 50)

17. While the response is noted, confirmation from a surveyor using appropriate surveying techniques is required as detailed in the original request.

18. Please confirm what conditions are offered in this regard.

19. The response is noted.
    Please also note comments in relation to questions 13 and 14, particularly in relation to rural character and reverse sensitivity (including related to the number and size of the proposed lots, and that some of the proposed yard infringements are adjacent to the balance site, where we understand production will occur).

20. Please clearly identify on a plan what sections of the walls/ fencing meet the definition of building, the total height and appearance, and provide the relevant assessment under H19.

21. Addressed thank you.

22. Is this proposed as a consent notice condition also?

23. Thank you for noting this crossing exists. Has this been legally established?

24. Thank you for confirming all private roads will be finished in recessive colours.

25. Thank you for confirming that all works will occur within the site boundaries.
    (Noting that vegetation removal in the road is required as discussed in your response under Question 8,and works in the road related to the new access and as you have discussed with NZTA. We understand no other works are requires outside the site boundaries))

26. Outstanding- please refer to comments under Q48- 50.

27. Addressed thank you.

28. While we agree that the application has been made as a non- complying activity, rather than on the basis of specific AUP(OP) rural- subdivision pathways, this and related questions seek to better understand the proposal in the context of what the AUP(OP) expects, and the significance of the ecological outcomes achieved. From the information supplied we understand that the revegetation planting proposed does not provide the ecological outcomes anticipated by E39.6.4.5 and proposes well in excess of the maximum lot yields provided for. Issues in relation to the overall scale of the application and the significance of the ecological outcomes (which appear to be significantly less than that expected by the AUP(OP)) remain of fundamental concern.

29. tracks through protected areas remains of concern and are generally not accepted by Council. This is primarily due to the adverse ecological effects they create, when the premise of natural feature protection is protection (rather than public access for example). This is also more important when the overall ecological outcomes proposed are considerably less than the AUP(OP) anticipates already.

    Please provide further assessment on what specific measures would be proposed to minimize edge effects, weed and pest incursion (typical maintenance is not considered sufficient in this regard). Please show these areas on the plans.

30. The waste plan from Rubbish Direct (19/4/2024) does not appear to include the information requested in relation to how residents and trucks will access this area safely, maneuvering, appearance (or will the area be only bins with no cover, screening etc?) or provide the plans sought. Please confirm where this information is or provide this information if not already available.

31. Addressed thank you. We note that this will also relate to the larger balance lot.
32. Addressed thank you.

33. Thank you for the response. Noring that Lot 26 will contain the existing farmhouse, and that Lot 26 is proposed to be owned by Lots 1-25, can you please explain the reasoning for this being a separate site rather than the land and farm house (which we understand will be used by a farm manager) being part of the balance site.

34. Addressed thank you.

35. Can you please clarify the reasoning for this.

36. Can you please clarify the reasoning for this.

37. As you have confirmed the communal structures, services etc do not form part of this application, please remove this notation from the plans.

<u>Wastewater</u>

38. The council's specialist has reviewed the response and revised site layout. Most wastewater land dispersal areas are now considered satisfactorily placed with respect to the permitted activity standards of E5 of the AUP(OP) (note concerns raised relating proximity of development from Council's Ecologist and Council's arborist has also raised similar concerns).
    Further clarification is required regarding stormwater channels as detailed below.
    a. Mr Rishworth states ……. 'setbacks from kerb and channels of the proposed accessways have been implemented where preliminary wastewater fields are located upslope.' It is assumed that 'implemented' in this context means wastewater land dispersal area complies with the minimum setback distance to surface water in accordance with Table 5.2 of TP58. Please clarify if this is not the case.
    b. In terms of separation distances from surface water, note 3 of Table 5.2 of TP58 states '….. decreased distances are only allowable when the disposal field is downslope of a watercourse and/or on flat/gently sloping sites'

Please demonstrate that each wastewater land dispersal area complies with the minimum setback to surface water as per Table 5.2 of TP58 noting the following:

i. Most sites are > 10° so not considered gently sloping.
ii. Some wastewater land disposal areas are not downslope (at a lower elevation). They are either on the same or elevation as the stormwater drainage channels e.g. Lot 22 and others.
iii. Reduced setbacks may be allowable where subsurface irrigation is proposed but further setback is required where a surface-based irrigation is proposed.

c. Please confirm how the 'areas included within set-back distances' in Table 7 of the GIR report allows for setback distances to stormwater channels where the wastewater land dispersal area is not entirely downslope of the drainage channel.

d. Please confirm compliance with the minimum setback distances to surface in accordance with Table 5.2 of TP58 given the proposed hydrology for the site. For example, the wastewater land dispersal area marked for Lot 24 overlies an ephemeral flow path (see plan C906). Please review.

e. Please could the land contours be included on the wastewater site layout plans to assist with assessing the future direction of flow?

39. Mr Rishworth stated that the proposed Lots have a minimum 20m offset from the identified overland flow paths (which are planned to be completely revegetated) which effectively results in the current wastewater dispersal areas offset from overland flow paths by a minimum 21.5m. Subject to a satisfactory response to question 38 as above, this may be acceptable. However, Council's specialist has read the response from Wildlands as there is no overland flow path with a channel width greater than 3m, rather than 60cm as noted in Mr Rishworths response. Does a channel width of 3m change the assessment in relation to this question?
40. The area upstream of the wetland areas northeast of the communal building appears to be low-lying swampy ground with elevated groundwater. This means the wastewater land disposal area for Lot 13 and the communal building do not comply with the minimum setback distance to surface water. Borelogs should be provided in this area to ensure the minimum setback to seasonal high groundwater table is achievable. Please apply for relevant consents for the communal building if permitted activity rules and standards cannot be achieved and this building/ use remains part of the application.

    KGA undertook further borehole investigations to understand the groundwater conditions across the site. Mr Rishworth stated that groundwater was not encountered to an investigation depth of 1.0m across all boreholes on the site. However, the subsoil (borehole) investigations were undertaken in February so it's not surprising that groundwater was not encountered. This is the driest month of year when groundwater is expected to be most receded.

41. Addressed thank you.
42. Please confirm, having regard to comments under question 40.
43. The applicant has not relocated the wastewater land disposal areas off the areas of the site subject to earthworks as suggested.

    Council's Specialist notes the following:

    i. The affected lots are Lot 13, 15 and 9 to 11.
    ii. Mr Rishworth mentions restrictions/requirements can be placed on the Lots as part of the specific design at Building Consent stage. Further in the response, Mr Rishworth describes some matters that the wastewater design engineer will need to consider when designing the individual onsite wastewater systems for these lots (i.e. short-circuiting of wastewater). Further Mr Rishworth states the restrictions/requirements will be reflected in the council conditions. This appears to imply that the wastewater systems on the affect lots will require a wastewater discharge consent under s15 of the RMA. Please confirm.
    iii. If the onsite wastewater systems on each affected lot will require an application for a wastewater discharge consent,

iv. In Table 7 of the GIR report (and relevant plans), the area of land comprising cut and/or fill should be excluded from the available area for wastewater servicing (i.e. 480m2 for Lot 13). This will effectively lead to a reduction in the maximum allowable size of the dwelling to be accommodated (in terms of bedroom numbers). This doesn't mean a future property owner cannot build a larger dwelling however, any larger dwelling will be informed by the site-specific investigations and restrictions subject to the building consent process.
v. Alternative land dispersal methods as mentioned in the response are not a permitted activity under E5.6.2.1.

Please provide a response to the above.

44. Addressed thank you.

Note: The presence of shallow soil failures and creeps across the site is noted. The continuous discharge of wastewater to land can exacerbate slip failure and erosion. In this respect, the GIR report states:

'Due to the position of the proposed lots and wastewater fields and the soil loading rate recommended above, we do not deem that wastewater dispersal will raise groundwater levels or adversely affect global and local slope instability across the site' (Section 14.3 of GIR report).

'…. stability assessments will need to be undertaken to ensure that the proposed formation works and wastewater dispersal fields will not negatively impact site stability' (page 30 of the GIR report).Slope and site stability risks are likely increased where onsite wastewater systems are proposed for the cut/filled areas of the site (i.e. Lots 13 & 15). This is being discussed further.

Ecology

45. The response is noted, but Council concerns ion relation to the location of the orchard remains.
46. The response is noted.
47. An ecological features map has been provided. However, Council's Ecologist does not agree with the number of areas that have been mapped as SEA quality. Most of those not already mapped as SEA are small and tree or shrubland of common pioneer species with many heavily grazed beneath and would not meet the criteria for threatened species nor stepping stones. No fauna survey has been undertaken confirming the presence of rare and threatened species with these just having the potential to be present at the site. Vegetation cannot be identified to meet the threat or rarity factor without evidence to confirm their presence. There are many patches of vegetation in the wider landscape such that those on site not currently mapped as SA cannot be considered even "when aggregated make an important contribution to the provision of a particular ecosystem in the landscape" noting that most of the ecosystems on the site are not rare or threatened.

    Please provide an updated plan.

48. The areas of SEA quality vegetation have been cumulatively assessed in the EcIA rather than each area of vegetation individually. It is likely that should each of the areas be assessed individually it would be found that the SEA criteria for most of those not already mapped as SEA would not be met. Assessment is required of protection areas on a finer scale. See comments above related to response to Q47.

49. Response to question not provided. Confirmation of the total SEA area (existing and SEA quality) has not been provided which fundamentally impacts on assessments. Please provide the information requested.

50. The information provided on wetland extent is not sufficient to be able to concur with findings. No formal wetland delineation including vegetation plots, hydrology and soils assessment was undertaken with extent based on a rapid assessment. It is likely that following a full wetland delineation that many of the less rushy areas that have been excluded would be found to also meet the criteria for natural wetland such that the extent would be larger than has been shown. Note that the pasture exclusion methodology also cannot be used as part of excluding an area as natural wetland when completing a wetland delineation in the case of residential development.

Please provide updated information and plans.

51. The response has been reviewed by Council's specialist. While the applicant has considered the percentage of encroachment may be small overall, the encroachment areas being 1810m^2 in the riparian yard and 6907m^2 in the 20m wetland buffer is not considered small. For some areas works are proposed almost flush with the wetland or within a few metres of it. No assessment has been provided of the suitability of building infrastructure (roads and retaining walls) so close to these features. There are a large number of wetlands and watercourses on the site such that they cannot be avoided for the proposal and the site is likely not the best placed to service the type of development proposed.

    Please provide assessment in this regard.

52. No reduction in encroachment is provided. As a general comment, reduced setbacks where planted was an outcome that historically was consented in some cases however this is no longer an outcome that is commonly supported by the Council (see for example AC Rural Practise Guidance Note on this matter) and is assessed on a case by case basis and then is often related to specific site constraints such as existing farm tracks and property boundaries rather than to allow for development up close to these features.

    In this case the planting of a reduced buffer does not negate the need to provide the setback anticipated for development particularly given the number of wetlands on the property. While the response indicates a full assessment of works within 20m wetland buffer has been provided Council's ecologist does not agree as it is provided at a high level rather than taking into account how close some of the work's areas will get to some wetlands. Also see comment on Q51 above.

    Please provide more detailed assessment.

53. No justification is provided for the proposed culvert length nor confirmation that earthworks within the wetland can be avoided during construction. The question remains outstanding.

    Comment: Ideally a reduced culvert length should be provided and/or Lot 17 removed from the proposal which would remove the need for a longer culvert in this location.
54. Pest control plan updated to include deer as requested; addressed.
55. Response provided confirming the physical driveway and culvert will be retained and fenced off even though redundant for the proposal. Given this access is no longer required and the objectives and policies of the Unitary Plan seek to improve freshwater outcomes it is recommended that consideration be given to removal of the culvert and naturalisation of the stream in this location particularly given the impact of the new driveway and vehicle crossing that require earthworks in very close proximity (almost flush with) the wetland adjacent this location.

<u>Archaeology</u>

56. See question 7 (addressed, subject to conditions).

<u>Landscape & Visual</u>

57. The Crang Civil Response dated 31/1/2024 provides a response to this question, as does the Kaipara Coast Landscape Architecture response dated 15/2/2024. The Kaiapra Coast response is relied on in this regard (the Crang Civil response does not provide the detail required to address this question).

    Please refer to question 2 relating to the works noted by NZTA and provide any updated information as required to address this question.

58. Question answered thank you. Please note comments below as Council's specialist has a different opinion on the scale of adverse effects, and consistency with related objectives and policies.
59. a) Please confirm
    i. The Design Guidelines outline the information required for development approval of the Residents Association, but not the composition of the

Committee. The s92 response from Kaipara Coast Landscape Architecture (15/2/2024) states that a review panel will be formed, comprising professionals such as architects, urban designers and landscape architects. Will the Design Guidelines be updated to include this requirement?

b) Please confirm:
   i. Will other domestic elements such as swimming pools, tennis courts etc be restricted to the specific building area on each lot?
   ii. Please clarify why it is proposed that Lots 1, 2, 3, 10, 11 and 12 have a 50m^2 area that is permitted to 8m in height. The rationale for this is unclear.

60. Question answered thank you. Please note comments below as Council's specialist has a different opinion on the scale of adverse effects, and consistency with related objectives and policies.
61. Question answered thank you. Please note comments below as Council's specialist has a different opinion on the scale of adverse effects, and consistency with related objectives and policies.

    Comment on Landscape & Visual matters: Councl's Landscape Architect retains fundamental concerns with the application. These can be summarized as:

    - Council's specialist disagrees with conclusions made by Kaipara Coast Landscape Architecture regarding the scale of adverse character and landscape effects.

    - Council's specialist disagrees with the conclusion that the lifestyle sites and associated infrastructure will be integrated such that built development and infrastructure will be subservient to the rural landscape.

    - Council's specialist does not agree that the proposal will "..manage the effects of rural activities to achieve a character, scale, intensity and location that is in keeping with the existing landscape character and attributes, including a sense of spaciousness"

    - …. *I believe that the outcome will result in a rural residential landscape within which there is an appreciable presence of settlement that exceeds the expectations of the zone provisions. Whilst the mitigation measures may be effective for individual lots, these will be less effective given the 'cumulative' density and number of lots.* As such, Council's landscape specialists not supportive of the proposal from a landscape and visual perspective.

    I also retain fundamental concerns in relation to these issues.

Streamworks

62. The information provided by the applicant is considered to have address bullet points 1, 2 and 4.
    Regarding bullet point 3, whilst the applicant's engineers have provided previously a table summarising that all culverts meet the permitted activity condition of Regulation 70(2) of the NES:FW, what is required is sufficient information to independently confirm that this is the case. I.e. no information has been provided on the stream's width.

    It is also questioned, if the culverts meet with the NES:FW permitted activity conditions, whilst there is the need for spoiler baffles in these locations – and what has been used to inform the design of these standards which are different to those used in the *New Zealand Fish Passage Guidelines* (NIWA, 2018).

    Regarding bullet point 6, collectively culverts have a length in excess of 30m and therefore they do not meet the permitted activity standards associated with rule E3.4.1(A32). The collective length of the 'culvert' structures exceeds 30m, this cumulative length, exceeds the permitted activity standard (E3.6.12(2)(a)) that relates to rule E3.4.1(A32) from the AUP:OP. If these

structures were to be considered as ‘culverts’ consent would therefore required under rule E3.4.1(A44). As a discretionary activity (for culverts) or non-complying (for new reclamation) under the AUP:OP it would be envisioned that a measure to address adverse effects is proposed as part of the application, i.e an offset provided to account for the habitat modification as determined through the SEV/ECR calculation.

It is also noted that the riprap outfall for culverts 2 and 3 is greater than 5 m. Another infringement of the standards. See sheet C470.

Response is required to these points and the various requests therein remain.

63. Addressed thank you.
64. The ecology Report states that no reclamation is proposed; however, as the culvert matter remains unresolved this item is also considered unfulfilled (if the structures are not culverts, then they would be considered as a pipe which is akin to reclamation).

    In light of question 62 above, this request remains.

65. Request remains as the applicant’s response has not considered the effects on the wetland up-stream.

Regional earthworks

66. Addressed thank you.
67. Addressed thank you.

Traffic

68. And 69:

    The Section 92 Response revisits the TIA’s assessment of vehicle visibility at the proposed site exit point onto Kaipara Coast Highway. While the updated response claims that there is no ‘blind spot’ to the north of the site intersection, it does nonetheless acknowledge the presence of a ‘dip’ in the road, which partially obscures the vertical visibility of an approaching vehicle.

    The Section 92 Response proposes improvements to the sight distance through widening in front of the site, *which will remove vegetation on the eastern side of Kaipara Coast Highway (that can partially impede visibility to an oncoming southbound vehicle).* While Council’s transport planner supports this measure as a means of improving horizontal visibility to the north of the intersection, they remain concerned in relation to the constraint on vertical visibility to the north of the site intersection and would still favour consideration of potential mitigation measures for this constraint. Please provide further assessment in this regard.

    Comment: One such option could be the provision of a warning sign for a side road intersection on the southbound approach to the site access. While we understand that the site access is to remain as private road rather than public road, we would still consider this to be a viable mitigatory measure and would recommend engagement with Waka Kotahi / NZ Transport Agency in relation to the use of such a sign.

69. Outstanding. See above in relation to Q68/ 69.

70. The Section 92 Response includes attachments to the original (draft) TIA which were missing from the original draft provided. These include Roading Layout Plans for the proposed subdivision.

    The TIA confirms technical parameters for the new subdivision roads, including maximum gradients, general widths and the proposed provision of passing bays at ‘intermittent’ locations along the accessways. However, the roading layout plans provided do not include indicative locations for passing bays.

New Zealand Standard NZS 4404: 2010 – Land Development and Subdivision Infrastructure Table 3.2 recommends the provision of passing bays up to every 50 metres on a single lane accessway serving up to 6 residential units. E27 of the AUP(OP) also provides specific standards for passing bay locations and design. Both would infer the provision of multiple passing bays along the lengths of each of proposed subdivision accessways.

Please provide:

a) Assessment of the proposed subdivision roads according to the requirements of NZS 4404: 2010 for subdivision roading design standards, including the provision of passing bays.
b) Updated roading layout plans showing indicative locations for passing bays along each of the accessways.

71. Addressed thank you.

S92 Request dated 5/12/2023

Engineering

Question 1: TBC

Question 2: TBC

Question 3: The response is not consistent with roading typical cross sections. Please identify the areas where road is not built on ridge line and explain the influence on road drainage system due to runoff from additional catchment.

Question 4: TBC

Question 5: Private stormwater disposal outfalls should be located within the boundaries of the individual lots. The outfalls should be dispersal trench/level spreader in accordance with Countryside Living Toolbox to avoid concentrated flow. Please update the information accordingly.

Question 6: Please provide OLPF plans as requested.

Question 7: TBC

Transportation

Question 8: Outstanding. Please see comments in relation to question 70 above.

Question 9:Outstanding. Please see comments in relation to questions 68/ 69 above.

Question 10: The response is noted but please note responses regarding related matters, such as questions 68/69/. Some concerns remain with the proposed access location.

Question 11: Outstanding. Please see comments in relation to questions 68/ 69 above.

Question 12: TBC.

Question 13: The Section 92 Response provides an updated assessment of gradients along the site access roads, to confirm compliance of maximum gradients along individual subdivision roads with the requirements of Unitary Plan Rule E27.6.4.4.1, which stipulates a maximum gradient of 1 in 5 (20%) for residential activities. While the Section 92 Response confirms that this is not achieved over a section of Accessway 1, it does not confirm the length or location of the section over which this non-compliance applies. Please clarify.

Please provide vertical profiling plans for the subdivision roads.

Stormwater

Question 14:

- Drawing C450 and Appendix D (bioretention calculations in Engineering report) indicates that a storage layer has not been provided within the bioretention swale. Please explain how road/accessway retention volumes are achieved.
- The applicant claims that a bioretention swale is provided per 150m section of road, hence it is unclear why bioretention swales length vary significantly.
- Detention Calcs in App D are only for 35m swale length on roads and 23m swale lengths for accessways. Please explain how detention volumes can be achieved with swales with less of these lengths (i.e., swale 6, 12, 31, 32, 41,42, etc.).

Question 15: Please provide swale sizing with check dam calculation.

Question 16:

- Please note that the TR-018 states that if the Froude number is greater than 3, hydraulic jump basins are required. SW Outlet 3.1, 4.1, 6.1, 14.1, 16.1, 18.1, 22.1 and 24.1 will likely require a hydraulic jump basin. Please assess and provide calculations.
- Please align median riprap diameter size to recommended minimum as per TR-018 where this threshold is not met.
- Please align riprap thickness to recommended minimum as per TR-018 where this threshold is not met.
- It is unclear why culvert 4 downstream velocity has decreased significantly for the 1% AEP peak flow rate. Consequently, riprap – culvert 4 outlet protection design appears to be under designed.

Q			Veloc		Depth	
Total	Pipe	Over	Dn	Up	Dn	Up
(cms)	(cms)	(cms)	(m/s)	(m/s)	(mm)	(mm)
1.2800	1.2800	0.0000	4.3854	2.1905	365.9091	615.7066
1.3600	1.3600	0.0000	4.4257	2.2353	379.7919	635.7856
1.4400	1.4400	0.0000	4.5021	2.2810	390.9971	654.9286
1.5200	1.5200	0.0000	4.5263	2.3251	405.1218	673.7170
1.6000	1.6000	0.0000	4.5874	2.3682	416.5095	692.1368
1.6800	1.6800	0.0000	2.4117	2.4117	709.8776	709.8776

- TR-018 Baffle block design is not suitable where exit velocities are greater than 5m/s. Please refer to HEC 14 or provide alternative energy dissipater design for Culverts 1 & 5.

Geotechnical Information Requested 16/1/2024

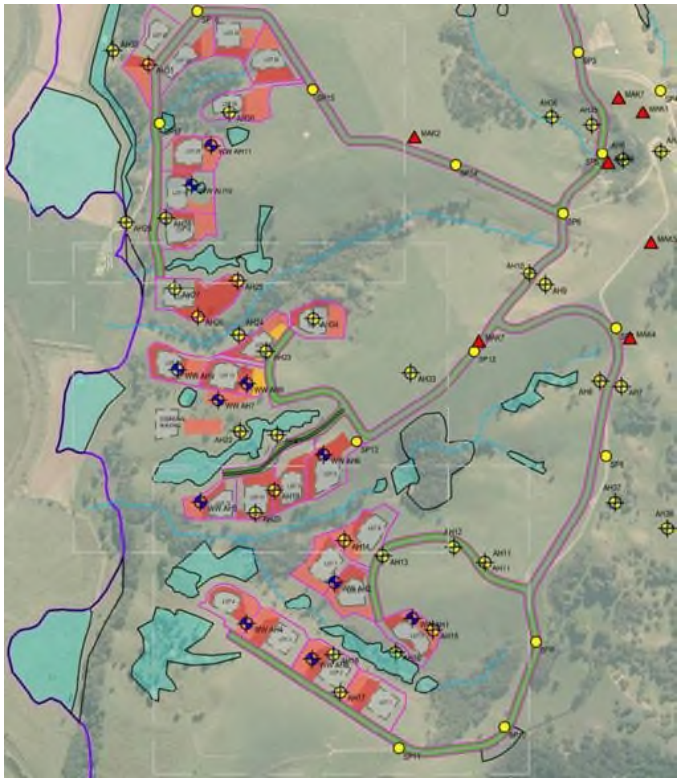
Question 1: Addressed thank you.

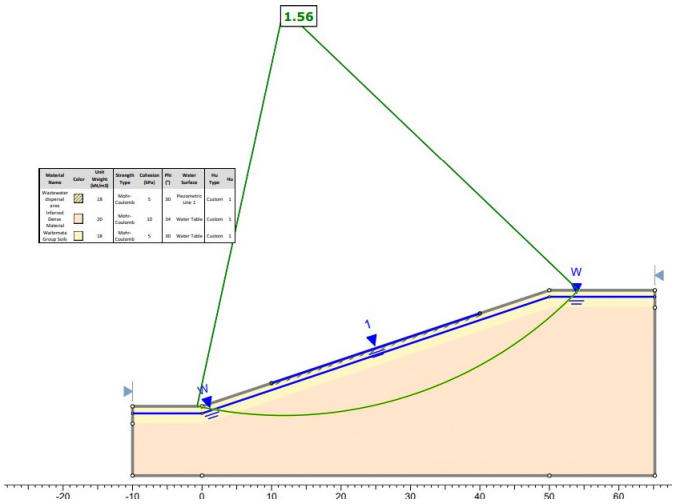
Question 2: Addressed thank you.

Question 3: Addressed thank you.

Question 4: Addressed thank you.

Question 5: Thank you for providing further clarifications and additionally slope stability analysis. Council's Specialist notes the wastewater disposal area is in the close vicinity of the proposed building platforms but the provided analysis are neither lot specific nor considering surcharge load from a platform. Please clarify or revise analysis accordingly.



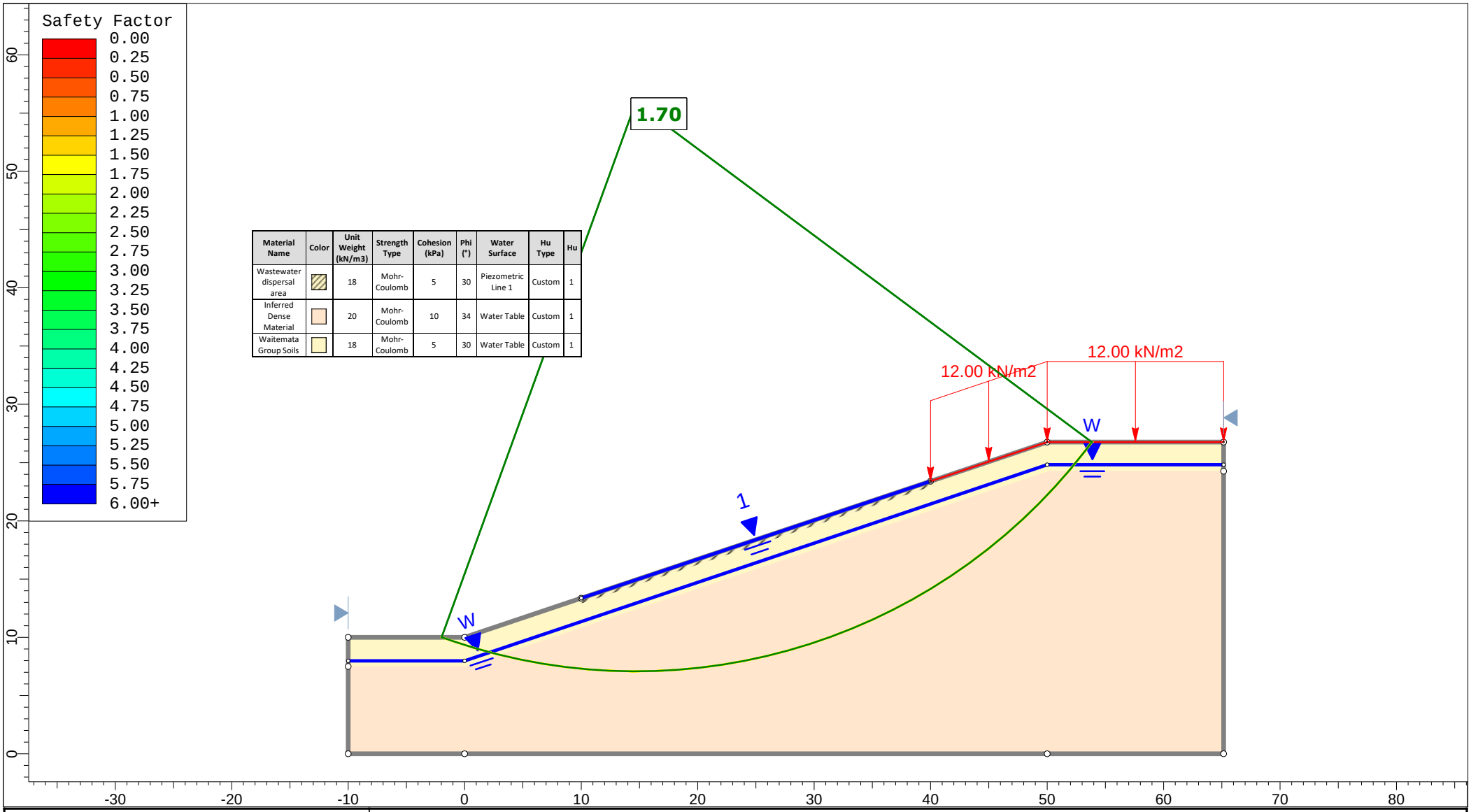


Question 6: Addressed thank you.
Question 7; Addressed thank you.

Contact
If you have any queries, please contact me on hannah@planningplus.co.nz or 021 261 9966 and quote the application number above.

Yours sincerely,

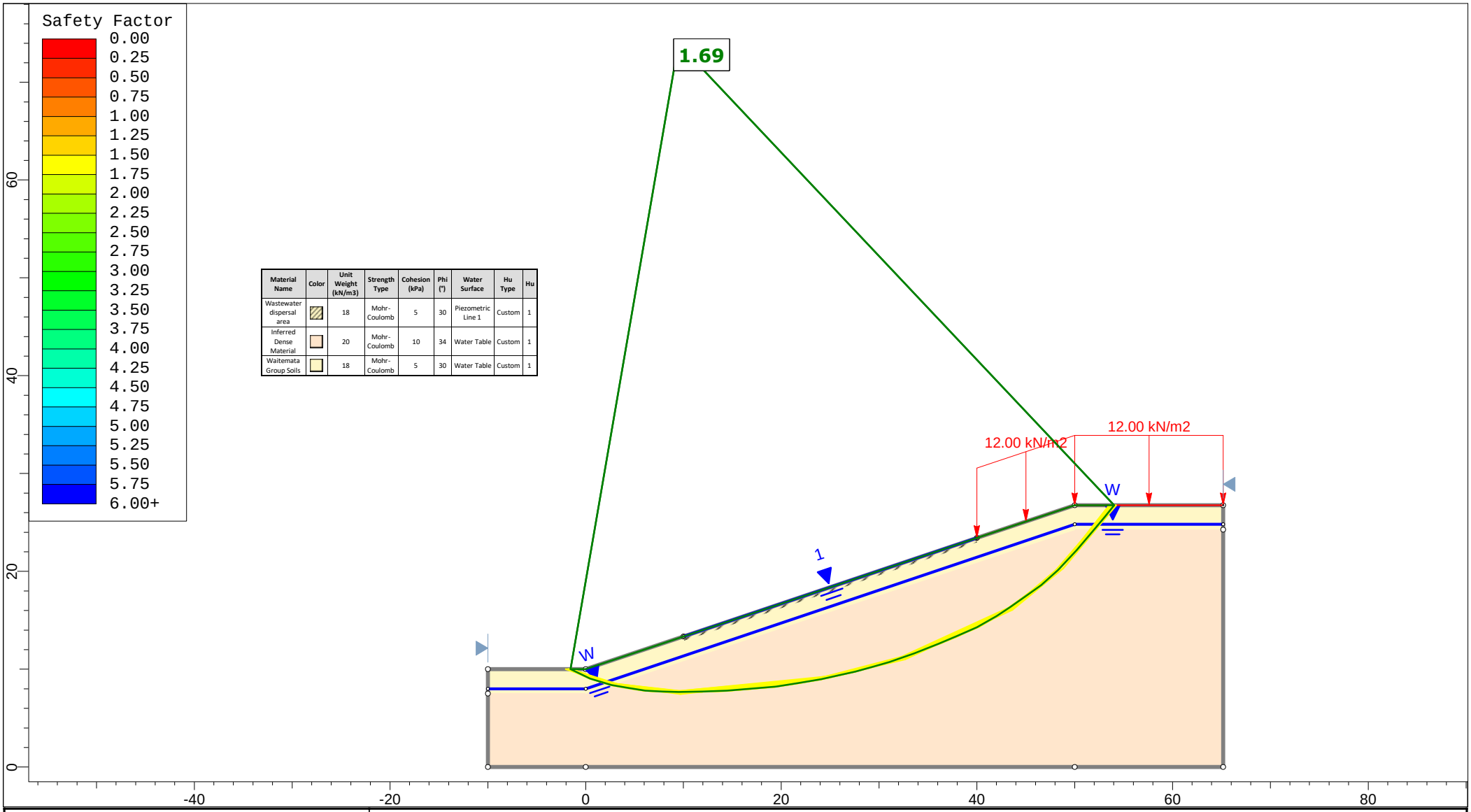
Hannah Thomson
Consultant Planner



rocscience

SLIDEINTERPRET 9.031

Project	K200826-3 - Kaipara Coast Highway		
Group	Critical Case Wastewater Dispersal Area	*Scenario*	Run 1 - Measured Groundwater - Circular
Drawn By	TR	*Company*	KGA Geotechnical Group Limited
Date	27/02/2024, 12:11:36 pm	*File Name*	WW Slide.slmd

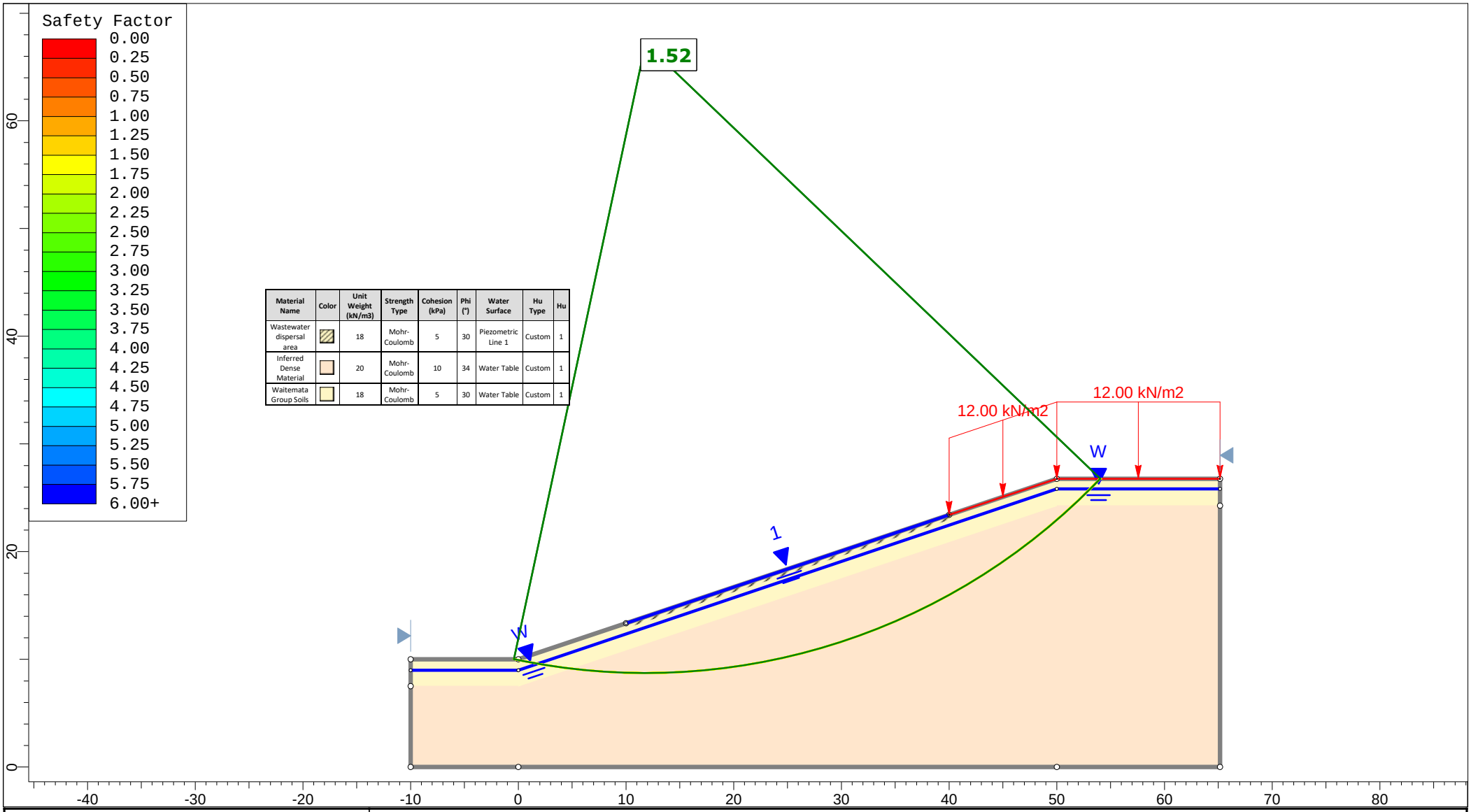


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu
Wastewater dispersal area		18	Mohr-Coulomb	5	30	Piezometric Line 1	Custom	1
Inferred Dense Material		20	Mohr-Coulomb	10	34	Water Table	Custom	1
Waitemata Group Soils		18	Mohr-Coulomb	5	30	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.031

Project	K200826-3 - Kaipara Coast Highway		
Group	Critical Case Wastewater Dispersal Area	*Scenario*	Run 2 - Measured Groundwater - Non-Circular
Drawn By	TR	*Company*	KGA Geotechnical Group Limited
Date	27/02/2024, 12:11:36 pm	*File Name*	WW Slide.slmd

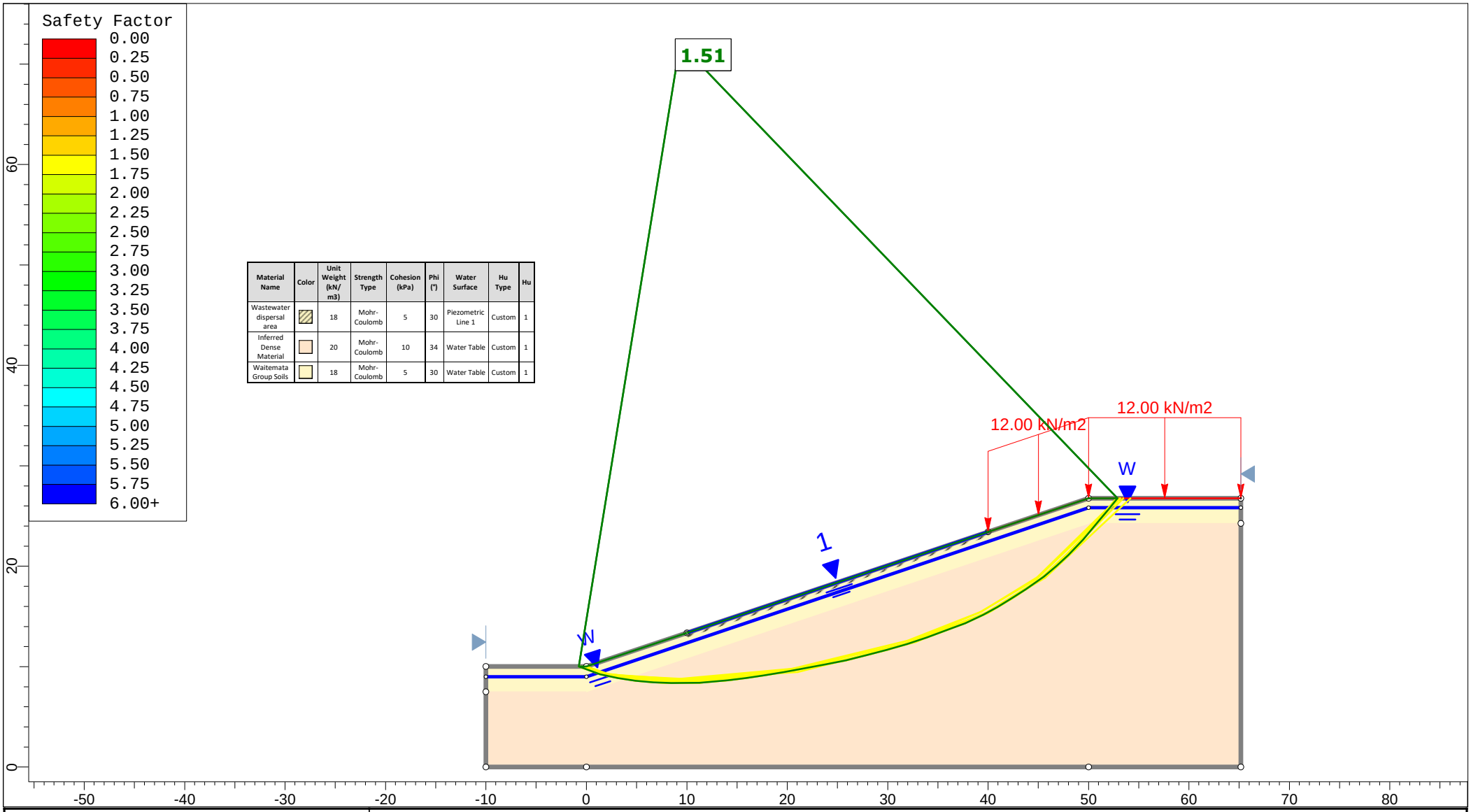


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu
Wastewater dispersal area		18	Mohr-Coulomb	5	30	Piezometric Line 1	Custom	1
Inferred Dense Material		20	Mohr-Coulomb	10	34	Water Table	Custom	1
Waitemata Group Soils		18	Mohr-Coulomb	5	30	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.031

Project	K200826-3 - Kaipara Coast Highway		
Group	Critical Case Wastewater Dispersal Area	*Scenario*	Run 3 - Raised Groundwater - Circular
Drawn By	TR	*Company*	KGA Geotechnical Group Limited
Date	27/02/2024, 12:11:36 pm	*File Name*	WW Slide.slmd

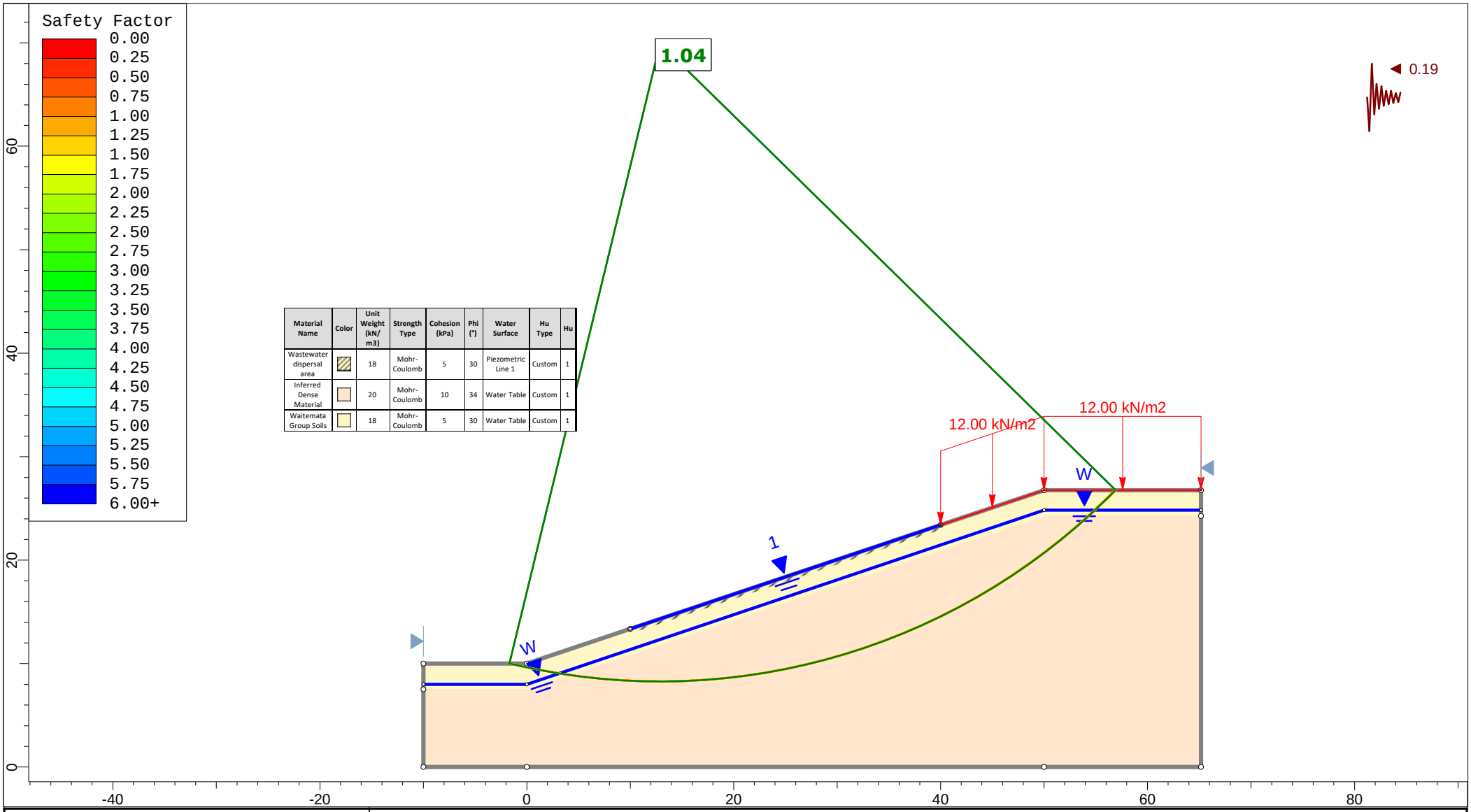


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu
Wastewater dispersal area		18	Mohr-Coulomb	5	30	Piezometric Line 1	Custom	1
Inferred Dense Material		20	Mohr-Coulomb	10	34	Water Table	Custom	1
Waitemata Group Soils		18	Mohr-Coulomb	5	30	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.031

Project	K200826-3 - Kaipara Coast Highway		
Group	Critical Case Wastewater Dispersal Area	*Scenario*	Run 4 - Raised Groundwater - Non-Circular
Drawn By	TR	*Company*	KGA Geotechnical Group Limited
Date	27/02/2024, 12:11:36 pm	*File Name*	WW Slide.slmd

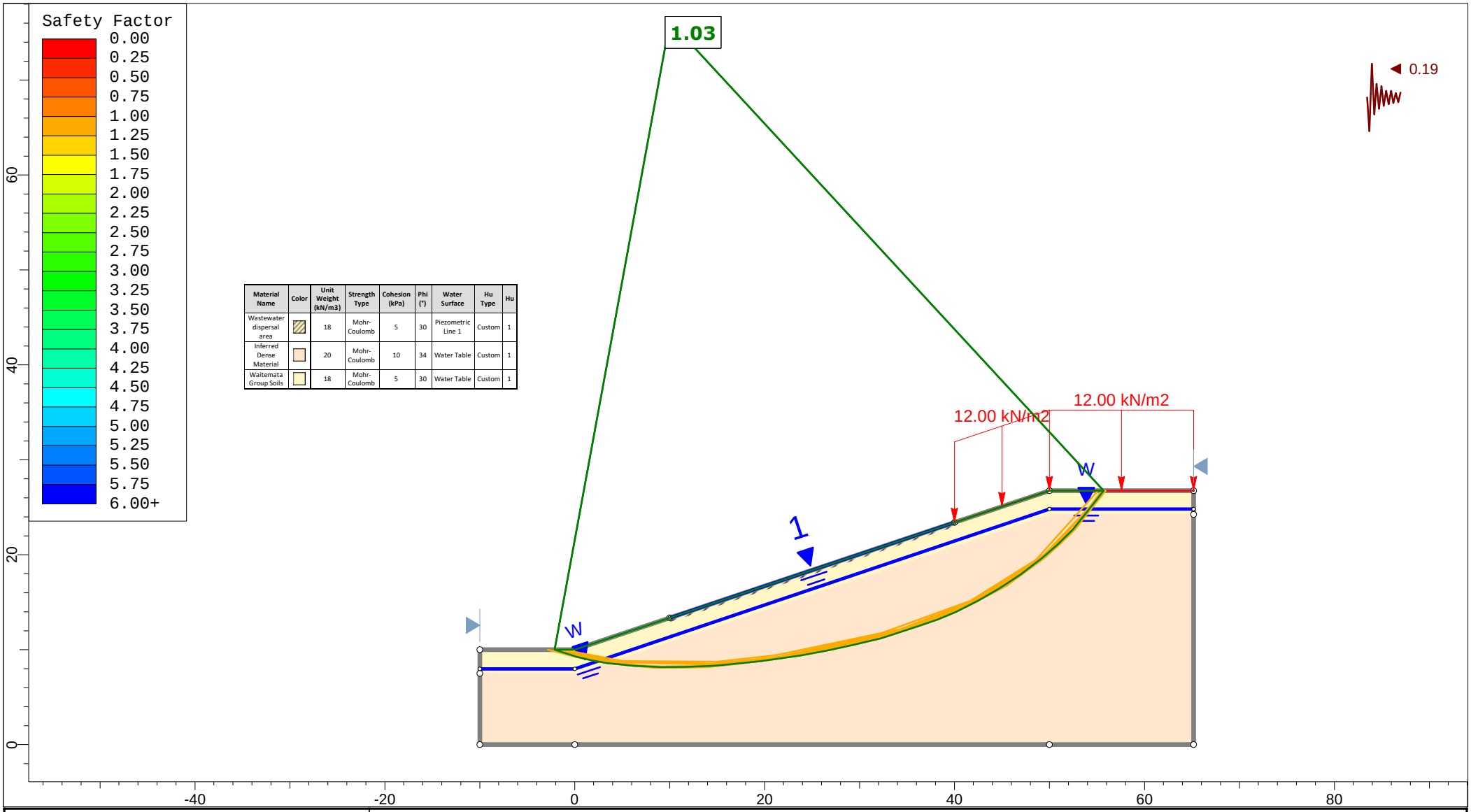


Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu
Wastewater dispersal area		18	Mohr-Coulomb	5	30	Piezometric Line 1	Custom	1
Inferred Dense Material		20	Mohr-Coulomb	10	34	Water Table	Custom	1
Waitemata Group Soils		18	Mohr-Coulomb	5	30	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.031

Project	K200826-3 - Kaipara Coast Highway		
Group	Critical Case Wastewater Dispersal Area	*Scenario*	Run 5 - Seismic - Circular
Drawn By	TR	*Company*	KGA Geotechnical Group Limited
Date	27/02/2024, 12:11:36 pm	*File Name*	WW Slide.slmd



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Phi (°)	Water Surface	Hu Type	Hu
Wastewater dispersal area		18	Mohr-Coulomb	5	30	Piezometric Line 1	Custom	1
Inferred Dense Material		20	Mohr-Coulomb	10	34	Water Table	Custom	1
Waitemata Group Soils		18	Mohr-Coulomb	5	30	Water Table	Custom	1

rocscience

SLIDEINTERPRET 9.031

Project	K200826-3 - Kaipara Coast Highway		
Group	Critical Case Wastewater Dispersal Area	*Scenario*	Run 6 - Seismic - Non-Circular
Drawn By	TR	*Company*	KGA Geotechnical Group Limited
Date	27/02/2024, 12:11:36 pm	*File Name*	WW Slide.slmd