Technical Memo

To:	Sven Exeter
From:	Stefan Steyn (Senior Landscape Architect)
CC:	Dean Foote
Project title	Waipaoa Stopbank Improvements
Client:	Gisborne District Council
Project number:	2-S5743.00
Subject:	Landscape and Visual Effects Assessment
Date:	01-09-2026

1. Introduction

WSP was engaged by Gisborne District Council (GDC) to prepare a Landscape and Visual Effects Assessment (LVA) for the proposed Waipaoa Stopbank Upgrade Project. The purpose of the LVA was to undertake a high-level desktop assessment of the potential landscape and visual effects of the proposal across the broader receiving environment and the range of residential, rural, and road-user viewing audiences that may be affected by the project.

As a high-level assessment, the LVA considered the potential effects on groups of properties and representative viewing audiences rather than undertaking a detailed assessment of individual dwellings. At the time the LVA was prepared, it was not possible to undertake a site visit. Consequently, the assessment relied on the collection of baseline information through desktop studies, Google Earth imagery, aerial photography, planning information, engineering drawings, and site photographs provided by the project team.

Subsequent to the lodgement of the consent application, Kenneth and Karen McLanachan, owners of 29 Morris Road, Te Karaka (29 Morris Road), submitted concerns regarding the visual effects of the proposed stopbank on their property. A Landscape Peer Review (Peer Review) [1] was also undertaken, which identified a number of landscape and visual matters requiring further assessment and clarification.

[1] ISTHMUS, (19 August, 2026). *Draft Landscape Peer Review of the Waipaoa Stopbank Improvements proposal, Te Karaka*.

This technical memorandum has been prepared to supplement the original LVA by providing a more detailed assessment of the visual effects on 29 Morris Road, responding to the visual amenity matters raised in the submission, and addressing the landscape and visual issues identified in the Peer Review. These matters relate primarily to:

29 Morris Road

- *Potential degradation of the visual outlook from the dwelling;*
- *Additional shading effects during winter months; and*
- *Reduced ability to observe stock from the dwelling.*

Peer Review

- *The consideration of any specific values to tangata whenua, as relevant to landscape matters;*
- *An assessment of any natural character effects;*
- *Confirm any effects of the borrow sites location, scale and proposed rehabilitation on landscape character, natural character and visual amenity;*
- *Confirmation of extents of vegetation removal and effects;*
- *Clarify effects as a result of adjustments to existing electrical infrastructure, particularly with regard to neighbouring properties;*
- *Clarify any effects of shading to properties as a result of the height increase of the existing stop bank or proposed stop bank;*
- *A review of any adverse visual amenity effects for the following properties:*
    - *I. 9 and 11 Rangatira Road;*
    - *II. 29 Morris Road;*
    - *III. 59 Kipling Road.*

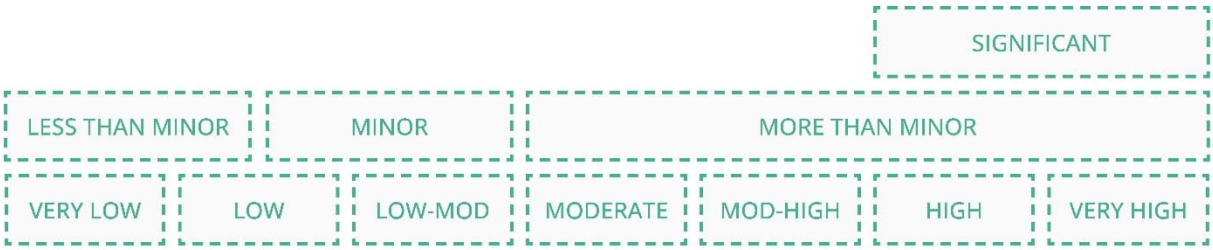
As part of the preparation of this technical memorandum and in response to both the submission and the Peer Review comments, a site visit was undertaken by Stefan Steyn on 28 August 2026. The site visit included inspections of the key residential properties identified through the submission and Peer Review process, together with a review of the wider receiving environment. The observations made during the site visit informed the assessments contained within this memorandum and generally confirmed the baseline landscape conditions, landscape character findings, and visual effects conclusions reached in the original LVA.

2. Methodology

The landscape assessment methodology used for the original LVA and this technical memorandum follows the concepts and principles outlined in the NZILA *Te Tangi a te Manu: Aotearoa New Zealand Landscape Assessment Guidelines* (TTaTM).

The TTaTM seven-point effects scale has been used when assessing potential adverse effects arising from the proposal. The scale ranges from **Very Low** through to **Low**, **Moderate-Low**, **Moderate**, **Moderate-High**, **High**, and **Very High**, with corresponding Resource Management Act (RMA) terminology indicated in **Table 1-1** below.

Tabel 1-1: Effects Rating Table (TTaTM)



3. Existing Visual Amenity

3.1 29 Morris Road

The current visual amenity experienced from the two-storey dwelling and outdoor living areas is derived primarily from ground-floor views to the north and east across flat productive farmland in the foreground and mid-distance, with low rising hills forming a backdrop in the distance. Additional views are available from the first floor, which provide an elevated outlook across the surrounding rural landscape. A shelterbelt located immediately west of the dwelling restricts views in that direction and contributes to a degree of enclosure around the dwelling environment.

Views of the Waipaoa River are screened by the existing stopbank, river-edge willow and poplar planting, and the separation distance between the dwelling and river corridor. Seasonal cropping and pasture management practices within the surrounding farmland also influence the views experienced from the dwelling throughout the year. During periods when crops are established, foreground and mid-distance views become more visually enclosed, with vegetation often obscuring lower-level views beyond. During periods when paddocks are grazed or left fallow, longer views across agricultural land become more available, increasing the perceived depth of the landscape. As a result, the visual experience of the property is dynamic and changes seasonally in response to farming practices.

These changing agricultural conditions are an important component of the property's visual environment and reinforce the productive rural character of the landscape. While the outlook contains attractive rural qualities and is appreciated by the property owners, it is not characterised by highly scenic or natural landscape values. Rather, visual amenity is derived from the openness of the productive farmland, variation associated with seasonal agricultural activities, and views toward the surrounding hill slopes.

Overall, these landscape elements combine to create a pleasant rural outlook at a local scale, with a moderate to low level of visual amenity that is appreciated from the dwelling and outdoor living areas.

3.2 54 and 59 Kipling Road

54 and 59 Kipling Road is located within an established horticultural landscape, resulting in a predominantly short-range and visually contained outlook. Views from the properties are primarily defined by surrounding orchard blocks and associated shelterbelts, which provide a high degree of enclosure and limit viewing depth.

The existing stopbank is located approximately 300 m to the north of the properties but is not visible due to intervening orchard planting and shelterbelts. As a result, the stopbank does not currently form part of the property's visual environment.

59 Kipling Road

The orchard planting and shelterbelts currently screen views of the surrounding hills to the north and east, reinforcing the enclosed character of the property and limiting visual connection with the wider landscape.

The residential dwelling is oriented primarily toward the east, with the main outdoor living area comprising a raised timber deck that also faces east. The principal outlook from the dwelling and deck is therefore directed across the adjacent horticultural landscape, with only limited views available to the northeast through and above the orchard vegetation. The rear of the property faces the proposed stopbank alignment and is more utilitarian in character, containing two ancillary structures and areas used predominantly for storage and service functions.

While views are generally contained, views of the surrounding ranges are available above orchard planting and through gaps between shelterbelts. The visual amenity is predominantly derived from the productive horticultural landscape immediately surrounding the property.

54 Kipling Road

54 Kipling Road is located further from the proposed stopbank and experiences a similar visual environment characterised by orchard planting, shelterbelts, and limited viewing depth. These landscape elements provide a high degree of visual enclosure and largely screen views toward the north. As with 59 Kipling Road, visual amenity is derived primarily from the immediate horticultural setting rather than expansive views of the wider landscape. Consequently, the property has a relatively contained outlook and a visual environment strongly influenced by productive horticultural land use.

4. Matters Raised in the Landscape Peer Review

4.1 Landscape Effects

4.1.1 Consideration of Tangata Whenua Values

No recorded archaeological sites have been identified within the Te Karaka township area on the southern side of the Waipaoa River. The closest known cultural heritage feature is the recorded pā/urupā site (ArchSite Y17/305) located on the ridgeline east of Kanakanaia Road and the Waipaoa River. While archaeological sites and associated 100 m buffer areas are identified within the Tairāwhiti Resource Management Plan, the proposal is sufficiently separated from these known sites such that direct effects on cultural values are not anticipated.

4.1.2 Assessment of Natural Character Effects

Abiotic Effects

The abiotic characteristics of the project area are defined by the flat alluvial valley floor of the Waipaoa River, the river corridor itself, and the associated landforms created through natural river processes. The proposal will involve the raising and widening of existing stopbanks, construction of new stopbank sections, localised earthworks, and modifications to several road corridors. While these works will alter local landform patterns and introduce raised engineered embankments, the changes occur within an already highly modified flood management environment where stopbanks form an established component of the physical landscape. The proposal does not fundamentally alter the broader geomorphological character of the Waipaoa Valley, nor does it affect the legibility of the wider river corridor and surrounding hill country. Consequently, effects on abiotic natural character are assessed as **Low Adverse** overall.

Biotic Effects

The biotic characteristics of the area are primarily associated with productive farmland, shelterbelts, hedgerows, willow and poplar vegetation along the river margins, and scattered rural vegetation patterns. The proposal may require the removal of small sections of shelterbelts, hedgerows and other vegetation where stopbank widening or realignment occurs. However, the assessment identifies these areas as limited in extent and occurring within a highly managed agricultural landscape rather than an environment characterised by indigenous vegetation or high ecological values. River-edge vegetation patterns and the broader vegetated structure of the valley will remain largely intact. As such, effects on biotic natural character are considered to be **Very Low** to **Low Adverse**.

Perceptual Effects

The perceptual qualities of the area are largely derived from its productive rural character, ordered agricultural patterns, contained valley setting, and long-established relationship with flood protection infrastructure. Existing stopbanks are identified in the LVA as an expected and accepted feature of the landscape, reflecting the modified character of the Waipaoa River corridor. While the proposal will introduce localised visual change, particularly where new stopbanks extend into greenfield areas, the resulting landscape will continue to be perceived as a productive rural environment influenced by flood management infrastructure. The proposal will not materially alter the overall sense of place, rural identity, coherence, or legibility of the landscape. Consequently, perceptual effects on natural character are assessed as **Low Adverse**, with effects reducing **to Very Low Adverse** where works are confined to existing stopbank alignments.

Overall, the proposal is located within a highly modified rural floodplain where natural character has already been substantially influenced by agricultural land use, stopbanks, rural infrastructure, and settlement. While localised changes to abiotic, biotic and perceptual attributes will occur, these are not considered sufficient to alter the existing level of natural character within the project area. Overall effects on natural character are therefore assessed as **Low Adverse**.

4.2 Visual Effects of the Borrow Sites

The proposal includes a number of temporary borrow areas that will be used to source fill material for stopbank construction. These areas will involve excavation of productive land to depths of up to approximately 2.5 m and will be visible during the construction period. Individual borrow pits are anticipated to remain active for periods generally ranging from two weeks to 10 to 12 weeks before being progressively reinstated. During construction, the borrow areas will also perform as temporary sediment retention and treatment basins. Upon completion of the works, the sides will be recontoured to a gradient of 1 (V) to 3 (H), topsoiled, and reinstated to pasture or similar low-intensity rural land use.

The principal visual effects associated with the borrow areas will arise from the removal of existing cropping, localised lowering of the existing ground surface to form hollows, and the creation of temporary soil stockpiles. Together, these activities will alter the currently flat landform and interrupt the existing horizontal profile of the surrounding paddocks. Construction activities will also introduce areas of exposed soil, creating temporary colour and texture contrasts between the productive farmland and excavated surfaces. In addition, the movement of machinery, vehicle activity, and occasional dust generation will be visible during active construction periods.

While these changes will be noticeable, they are not uncommon within a productive rural landscape. Agricultural activities such as cultivation, ploughing, harvesting, earthworks associated with farm operations, and the storage of silage or baleage frequently introduce temporary visual changes, including exposed soils, contrasting colours, dust generation, machinery movement, and localised mounding and excavations. Consequently, the visual characteristics associated with the borrow pit operation will remain broadly consistent with the working and productive nature of the surrounding landscape.

However, some permanent landform modifications will occur as a result of the excavation activities, altering the existing flat topography of the area. The borrow pits will create broad depressions within the landscape that, in the short term, will contrast with the surrounding flat paddocks. However, the

proposed recontouring of the borrow pit batters to a maximum gradient of 1(V):3(H) will create gently sloping landforms rather than abrupt excavated edges. This will soften the appearance of the excavated areas and reduce the visual prominence of the resulting landform changes.

As a result, the finished ground profile is expected to exhibit only subtle variations in elevation, appearing as gentle undulations within the landscape rather than obvious excavated hollows. Upon completion of construction, the recontoured landform and reinstatement of pasture cover will enable the borrow areas to return to productive agricultural use. The rehabilitated areas are therefore expected to resemble the surrounding productive rural landscape, where slight variations in topography are not uncommon. While a degree of permanent landform change will remain, the resulting visual effects will be localised and the overall landscape character of the area will be maintained.

Given the progressive nature of the works, the reinstatement of borrow areas as construction progresses, the gently sloping rehabilitated landform, and the commitment to restore the sites to pasture or a similar low-intensity rural land use, the resulting visual effects are assessed as **Low Adverse** during construction. Once rehabilitation is complete and vegetation has re-established, the borrow areas are expected to integrate with the surrounding rural landscape, reducing the long-term visual effects to **Very Low Adverse**.

4.3 Visual Effects of Vegetation Removal

Vegetation removal will generally involve the loss of exotic trees, small groupings of exotic vegetation, shelterbelts within paddocks, and limited areas of residential garden planting at a localised scale. None of the vegetation identified for removal is considered to have high ecological value. While shelterbelts contribute to the visual structure and pattern of the rural landscape, the removal of short sections will generally not result in a marked change to the overall vegetation pattern or landscape character.

The most notable effect associated with vegetation removal will occur at Riverview Treks & Pinehollow Riding School on SH2, where a substantial section of shelterbelt is proposed to be removed. In addition to its contribution to landscape pattern and visual enclosure, the shelterbelt currently provides wind protection for adjacent orchard blocks. Its removal may increase the exposure of orchard trees to prevailing winds and reduce the level of shelter currently experienced within the orchard environment. The shelterbelt and exotic trees also creates a visually distinctive avenue effect along the access track, contributing to the sense of arrival and local landscape character of the property. Removal of this vegetation will result in a noticeable localised adverse effect on both the visual character and amenity of the site.

Within residential areas, the most notable effect will occur at 29 Morris Road, where the removal of fruit trees will result in the loss of a substantial portion of the residential orchard. This will adversely affect the property's immediate landscape setting and alter the established rural-residential character experienced from the dwelling. While these effects will be experienced at a property scale, they remain localised and do not alter the wider landscape patterns of the surrounding area.

Overall, vegetation removal associated with the proposed stopbank is assessed as resulting in a **Low Adverse** effect on landscape character and amenity. Opportunities exist to mitigate these effects through replacement planting on affected private properties, including reinstatement of shelterbelt planting, orchard trees, and other vegetation that contributes to local landscape character, screening, and rural amenity.

4.4 Visual Effects of Adjustments to Electrical Infrastructure

The construction of the proposed stopbank will require minor localised adjustments to the existing electrical network, including the repositioning of power poles and overhead lines over short distances. Replacement infrastructure will be of a similar design, scale, and appearance to the existing network and will not introduce a noticeable change to the visual character of the area. Given the limited extent of modification and the visual continuity with the existing infrastructure, the resulting visual effects are assessed as **Very Low Adverse**.

4.5 59 Kipling Road

The proposed stopbank will be located approximately 20 m to 24 m north of the residential dwelling. Construction of the stopbank is likely to require the removal of sections of the existing orchard, which currently forms an important component of the property's northern and western outlook. While the extent of vegetation removal is yet to be confirmed, it is anticipated that sufficient vegetation may be removed to create a substantial opening through which the stopbank will become visible from the rear of the property, as well as a small but framed view of the stopbank from the timber deck located to the north-east of the dwelling. The wider landscape and views towards the hills to the north and north-east are screened by intervening shelterbelts.

Given that the majority of the stopbank will be experienced from the rear of the property, and only a relatively small portion of the structure will be visible from the primary outdoor living area on the timber deck, viewer sensitivity is assessed as medium to low (Refer Appendix A: Figure 19).

From the timber deck looking north-east, the proposed stopbank will become a visible feature within the foreground view and will alter a small portion of the existing outlook. Parts of the orchard-dominated view will be replaced by a grassed embankment associated with the stopbank. While the stopbank will become a noticeable element within this view, the outlook will remain relatively contained by the surrounding horticultural landscape, existing building envelope, and other vegetation, which collectively limit viewing opportunities to the north and west. Furthermore, views of the wider landscape, including the lower hill slopes and distant ranges, are already largely screened by the existing shelterbelts. As a result, the proposed stopbank will not materially alter or further restrict views of these wider landscape features. Importantly, the principal outlook to the east, which affords approximately 180-degree views across the surrounding orchards and productive rural landscape, will remain unaffected by the proposal.

While the loss of orchard vegetation and introduction of the stopbank will become a dominant element when viewed from the rear of the property, it is important to recognise that this area is primarily utilitarian in nature and does not function as a principal outdoor living space. As such, viewers are likely to spend relatively limited periods in this part of the property compared with the timber deck and eastern outdoor living areas. Consequently, the adverse visual effects experienced from this location are moderated by the lower sensitivity associated with the viewing environment.

Taking into account the magnitude of visual change, the limited visibility of the stopbank from the principal outdoor living area, and the Medium sensitivity of the viewing audience, the visual effects associated with the proposal are assessed as **Moderate to Low Adverse**.

There is, however, an opportunity to mitigate these effects through the establishment of screen planting between the dwelling and the stopbank. This could include replacement orchard planting or alternative vegetation capable of achieving greater height and screening effectiveness. Such planting would assist in softening views of the stopbank, reducing its perceived scale, and restoring a vegetated foreground similar to the existing viewing environment. With mitigation in place, the visual effects could potentially be reduced **to Low Adverse**.

It is estimated that screen planting would require approximately five years to reach a height of 4.5 to 5 m, at which point the majority of the stopbank would be effectively screened from view. The planting can be designed to mimic the shelterbelts and hedgerows characteristic of the surrounding productive landscape, thereby reinforcing existing landscape patterns and helping the mitigation blend naturally into its rural setting.

4.5.1 Effects of Shading (59 Kipling Road)

The sun-shadow analysis indicates that, by approximately 4:30 pm on the winter solstice, the proposed stopbank would begin casting shadow on the rear of the dwelling.

During the summer solstice, the proposed stopbank would not cast any shadow onto the dwelling or outdoor living areas.

Similar to the findings for 29 Morris Road, the assessment demonstrates that the proposed stopbank will not materially affect solar access for the majority of the day and that any additional shading will be limited to a relatively short period during the late afternoon in winter. While the stopbank will introduce some additional shading, the duration and extent of these effects are limited and are not expected to materially affect the use or enjoyment of the dwelling or outdoor living areas.

Accordingly, the shading effects on the dwelling and associated outdoor living areas are assessed as **Low Adverse**.

5. Submitters

5.1 29 Morris Road

5.1.1 Degradation of the Visual Outlook

The proposal will introduce an engineered structure approximately 4 metres high, with a crest width of approximately 4 metres and a base width of approximately 12 metres, into the principal outlook and outdoor living area from the dwelling.

The submitters have raised concerns that the proposed stopbank will fundamentally alter the existing visual character and visual amenity currently experienced from their property. Given the orientation of the dwelling toward the proposed stopbank alignment, the proximity and scale of the stopbank, the

elevated viewing opportunities afforded by the two-storey dwelling, and the importance of these views to the occupants, viewer sensitivity is assessed as **High**.

The proposed stopbank will screen views of productive farmland within the mid-distance and will also obscure views of the tree-lined river corridor and lower portions of the distant hills. Consequently, the proposal will reduce the viewing depth currently experienced from the dwelling and remove several landscape elements in the background that contribute to the existing visual amenity.

However, the stopbank will not entirely remove the rural outlook currently experienced from the property. Areas of lawn and paddocks located immediately adjacent to the dwelling will remain visible, and views toward portions of the wider farm property and upper slopes of the surrounding hills will be retained. The proposal will therefore modify, rather than completely remove, the existing rural outlook.

It is also relevant to acknowledge that earthworks, raised landforms, stockpiles, shelterbelts, farm tracks, and other engineered features are commonly found within productive rural environments. The introduction of a stopbank is therefore not wholly inconsistent with the established character of the surrounding productive landscape. Furthermore, grassing of the stopbank will assist in softening its engineered appearance and integrating it within the wider rural setting over time. While the stopbank is an engineered structure, it will ultimately be perceived as a grassed landform rather than a built element. As such, it is capable of integrating more readily into the surrounding rural landscape than structures such as buildings, industrial infrastructure, or overhead transmission pylons, which typically introduce stronger built forms, greater visual contrast, and a more pronounced alteration to the existing outlook. Additional mitigation opportunities may also be available through landscape planting undertaken in consultation with the property owners to further soften views of the structure and reduce its perceived scale and dominance.

Notwithstanding these mitigation opportunities, the magnitude of visual change experienced from the dwelling is considered to be high. Considering the high sensitivity of the viewing audience, the visual effects associated with the stopbank on the outlook from 29 Morris Road are assessed as **Moderate Adverse**. With appropriate landscape mitigation, these effects could potentially be reduced to **Moderate to Low Adverse**.

It is estimated that screen planting would require approximately four years to reach a height of 3 to 3.5 m, at which point the majority of the stopbank would be effectively screened from view. The planting can be designed to reflect the form and character of the surrounding shelterbelts and hedgerows, helping it to integrate with the wider productive landscape and further reducing the visual prominence of the stopbank.

5.1.2 Additional Shading During Winter Months

A summer and winter solstice sun-shadow analysis was undertaken to assess the potential shading effects associated with the proposed stopbank. The analysis modelled the movement of shadows throughout the day and assessed the potential effects on the dwelling and associated outdoor living area (Refer **Appendix A**). The study assessed the shading effects generated by the proposed stopbank independently, and in combination with the shelter belt to understand their cumulative contributions to the overall shading environment experienced at the property.

The results indicate that, by approximately 3:00 pm on the winter solstice, the existing shelterbelt shadow would cover the entire dwelling and outdoor living area. In comparison, the proposed stopbank

would begin casting shadow on the dwelling and outdoor living area at approximately 4:00 pm, when the sun is already at a very low angle above the horizon (Refer Appendix A: Figure 10). The outdoor living area would be entirely within the stopbank shadow at approximately 5:20 pm. This indicates that, by the time the stopbank shadow reaches the dwelling, the dwelling and outdoor living area would already be fully shaded by the existing shelterbelt. As a result, the additional shading attributable to the stopbank during the winter solstice is considered to be very small.

During the summer solstice, the stopbank would cast shadow onto the southern side of the dwelling from approximately 7:00 pm, with no shading effects on the outdoor living area (Refer Appendix A: Figure 5). The shelterbelt would similarly only affect the western side of the dwelling during the late afternoon. Given the timing, extent, and limited overlap with the principal outdoor living areas, the shading effects associated with both the stopbank and shelterbelt during summer are considered to be Very Low to Negligible.

While it is acknowledged that outdoor living areas may occasionally be utilised during sunny winter afternoons, it is unlikely that these spaces would be used to any significant extent during the late afternoon and early evening during winter months. It is also common for residential properties throughout New Zealand to experience increasing shadow effects during late afternoon periods in winter due to neighbouring buildings, vegetation, landform, and topography. The sun-shadow analysis further demonstrates that the outdoor living area and south-facing areas of the dwelling will remain unaffected by additional shading for the majority of the day, including throughout the summer months.

The assessment demonstrates that the proposed stopbank will not materially affect solar access for the majority of the day and that any additional shading would be limited to a relatively short period during late afternoon in mid-winter.

Accordingly, the shading effects on the dwelling and outdoor living areas are assessed as **Very Low to Low Adverse**, with no material effect anticipated on the day-to-day use or enjoyment of these spaces.

5.1.3 Screening of Stock from the House

The submitters have identified the ability to observe stock from the dwelling as an important aspect of managing their farming operation and monitoring animal welfare.

For the purposes of this assessment, it has been assumed that the ground-floor living areas represent the primary locations from which stock are observed. Cross-sectional analysis confirms that the proposed stopbank would block views from ground-floor locations across portions of the productive farmland located beyond the stopbank (Refer Appendix A: Figure 18). Consequently, stock located within these areas would no longer be visible from ground-floor viewing positions. However, given the proximity of the proposed stopbank to the dwelling, the stopbank crest would be easily accessible and could itself provide an elevated vantage point from which stock located beyond the stopbank could be observed. While this would require occupants to move from the dwelling to the stopbank, it would retain the ability to visually monitor stock within paddocks that would otherwise be screened from ground-floor viewing positions. Furthermore, it is noted that the existing stopbank and shelterbelt already screen portions of the paddocks from view, meaning that uninterrupted visibility across the entire farm is not currently available from the dwelling.

From a visual perspective, the resulting effect on the ability to observe stock from ground-floor living areas is assessed as moderate to low.

However, several factors moderate this effect. Firstly, opportunities exist to supplement visual monitoring through cameras positioned at strategic locations around the property. Modern camera systems provide continuous monitoring capability and can often provide a greater level of stock surveillance than is achievable from a single fixed viewing location within a dwelling.

Secondly, the proximity of the proposed stopbank to the dwelling means that it can readily be used as an elevated vantage point from which stock beyond the stopbank can continue to be observed. This provides an alternative location for monitoring stock and therefore helps to mitigate the effects associated with the loss of direct views from the house.

Consequently, while the proposal will reduce visibility of stock from ground-floor locations, it will not substantially limit the ability to monitor stock from upper-floor viewing positions. When combined with potential technological mitigation measures such as remote cameras, the overall effect can reasonably be reduced from **Moderate to Low Adverse** to **Low Adverse**.

5.2 54 Kipling Road

54 Kipling Road is located approximately 80 metres south of 59 Kipling Road and is therefore further separated from the proposed stopbank. As a result, the stopbank will appear more distant and will be viewed through a greater number of intervening landscape elements. These include orchard blocks, shelterbelts, and the buildings and vegetation associated with 59 Kipling Road, all of which provide additional visual filtering and screening between the dwelling and the proposed stopbank.

Consequently, the stopbank will be less visually prominent than it is from 59 Kipling Road and will occupy a smaller proportion of the available outlook. While some views toward the stopbank may be available through gaps in vegetation, the existing horticultural landscape will continue to dominate the visual environment and remain the primary source of visual amenity.

Furthermore, the proposed mitigation identified for 59 Kipling Road would provide additional screening benefits when viewed from 54 Kipling Road. Taking these factors into account, the visual effects associated with the proposed stopbank on the outlook from 54 Kipling Road are assessed as **Low Adverse,** with opportunities for mitigation planting to further reduce effects to **Very Low Adverse**.

Appendix A

Sun-Shadow Analysis

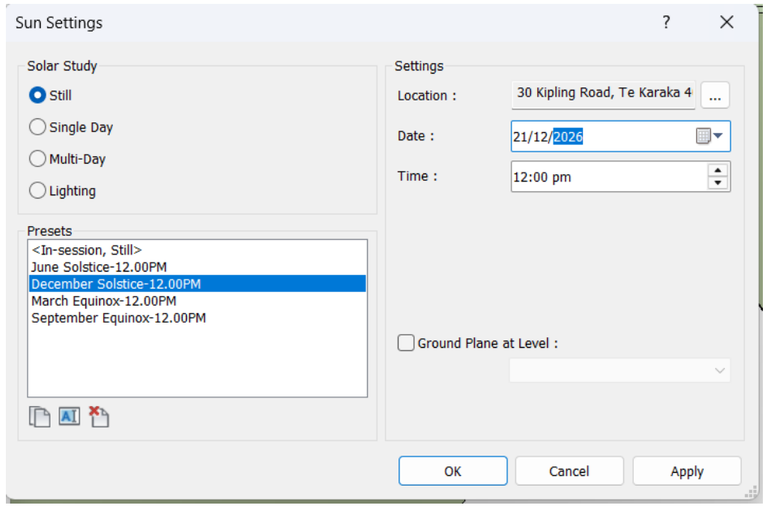


Fig. 1: Revit model Sun Settings. Location: Te Karaka. Date: December 21st (Summer solstice). Time setting on shade diagram

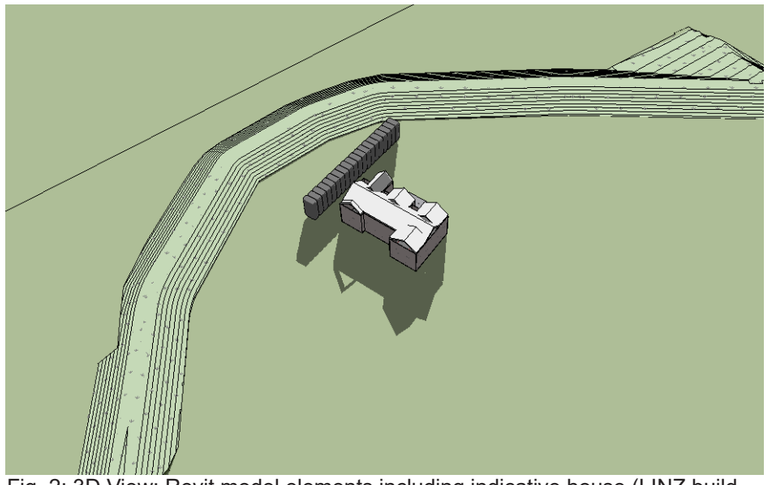


Fig. 2: 3D View: Revit model elements including indicative house (LINZ building outlines data and indicative 8m height). Shelter belt planting from aerial imagery. Stopbank topography from design team.

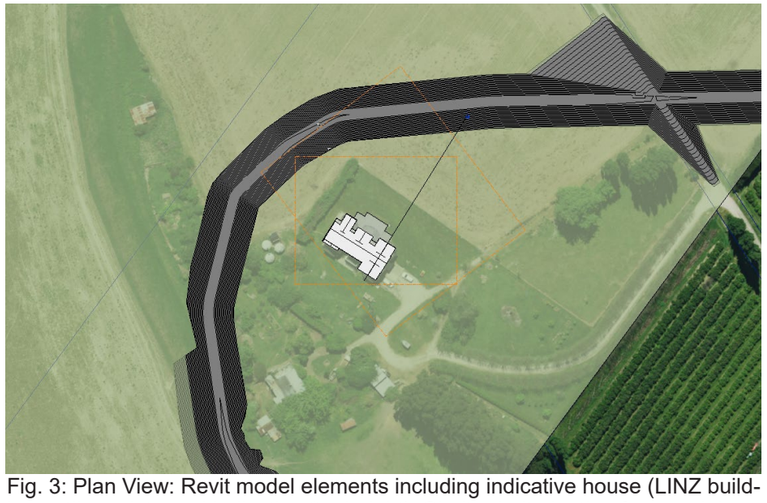


Fig. 3: Plan View: Revit model elements including indicative house (LINZ building outlines data and indicative 8m height). Shelter belt planting from aerial imagery. Stopbank topography from design team.

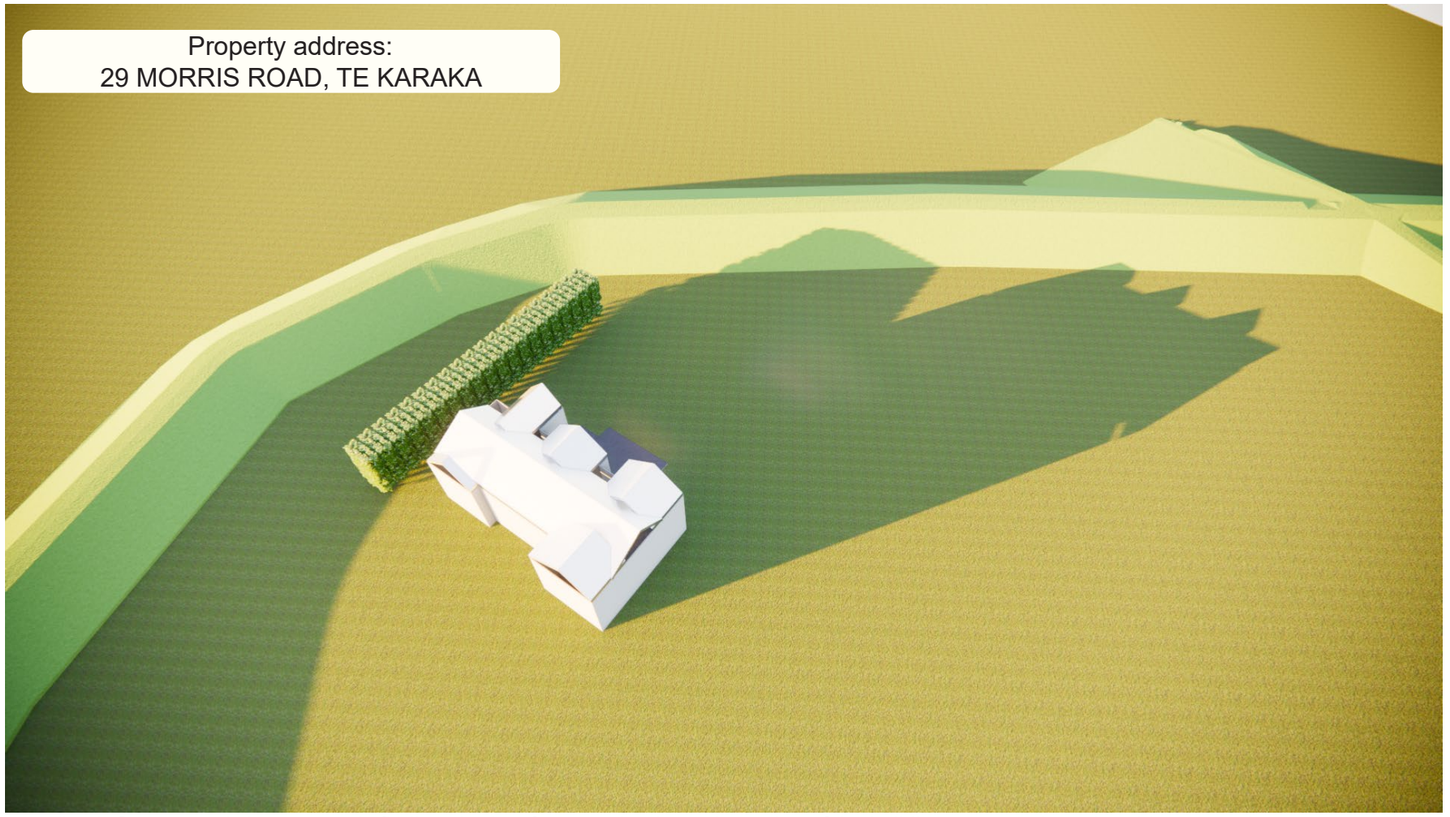


Fig. 4: Summer solstice sun study finding shadow from stopbank reaches edge of the building at approximately 7:00 p.m. on the summer solstice.

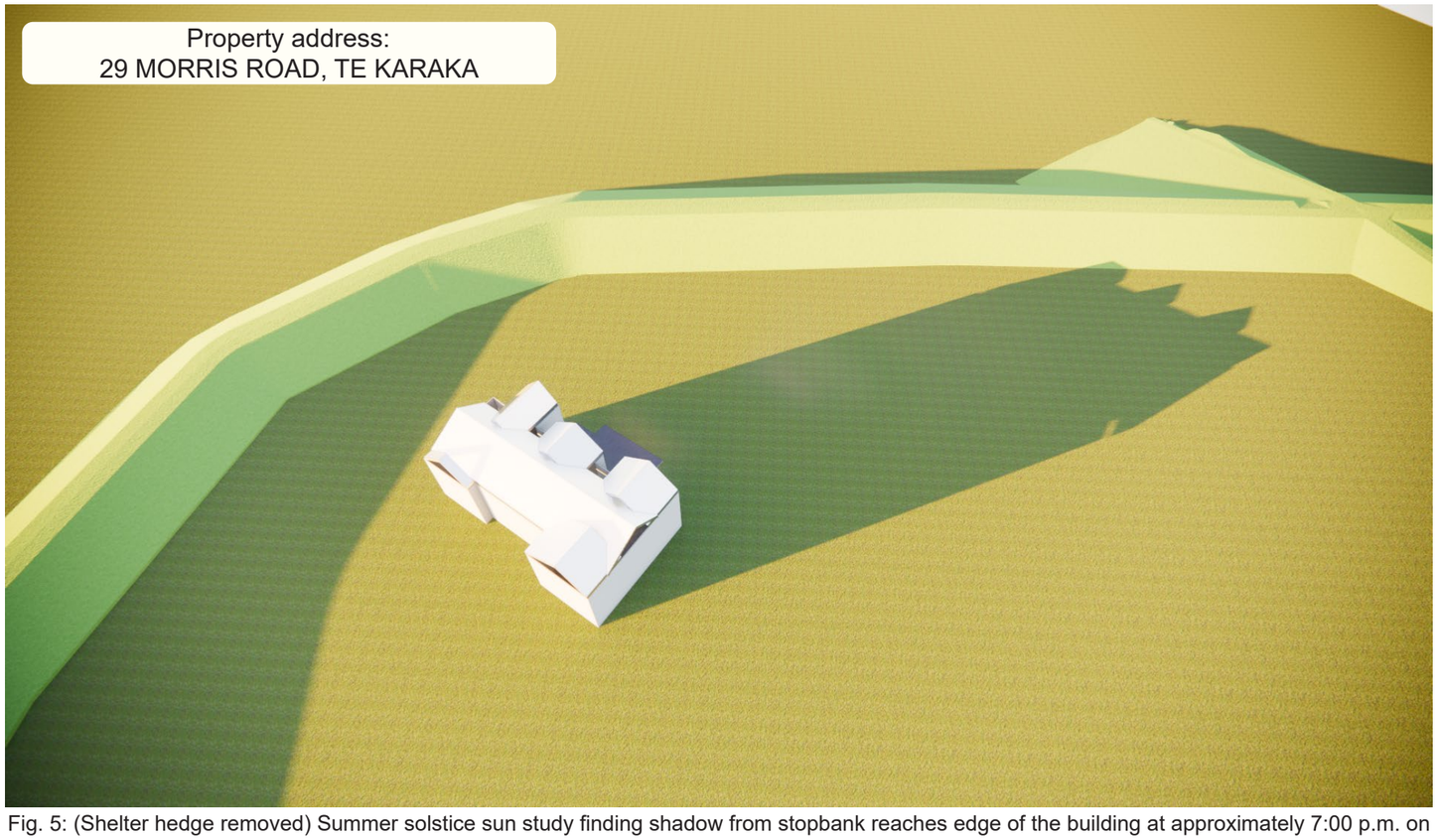


Fig. 5: (Shelter hedge removed) Summer solstice sun study finding shadow from stopbank reaches edge of the building at approximately 7:00 p.m. on the summer solstice.

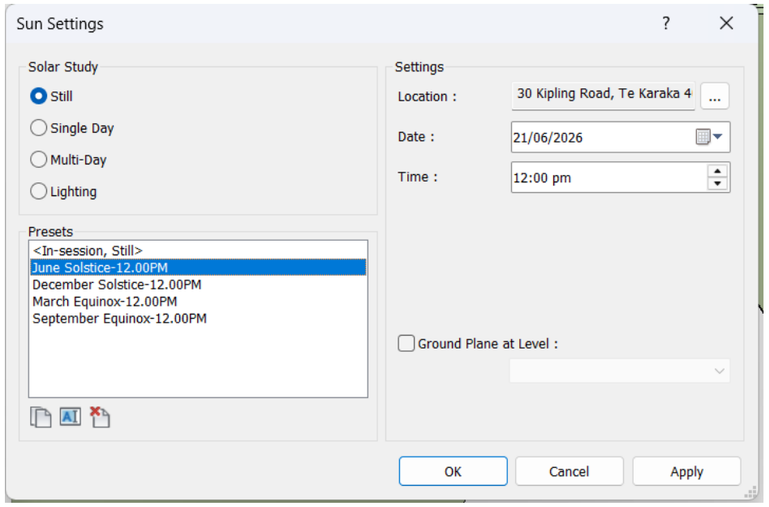


Fig. 6: Revit model Sun Settings. Location: Te Karaka. Date: June 21st (Winter solstice). Time setting on shade diagram

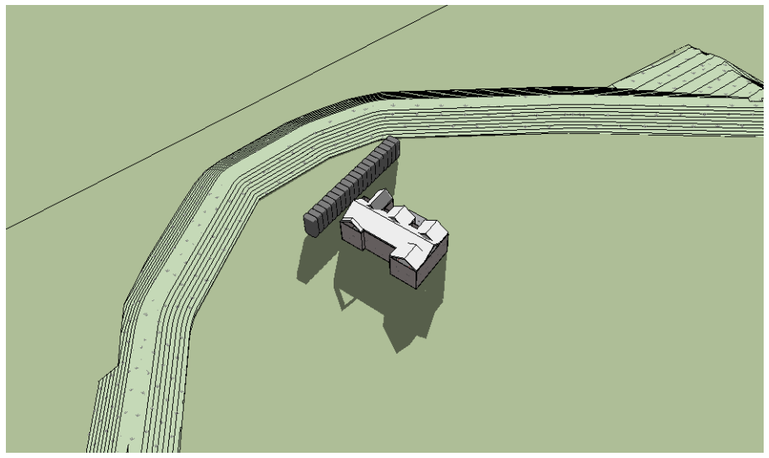


Fig. 7: 3D View: Revit model elements including indicative house (LINZ building outlines data and indicative 8m height). Shelter belt planting from aerial imagery. Stopbank topography from design team.

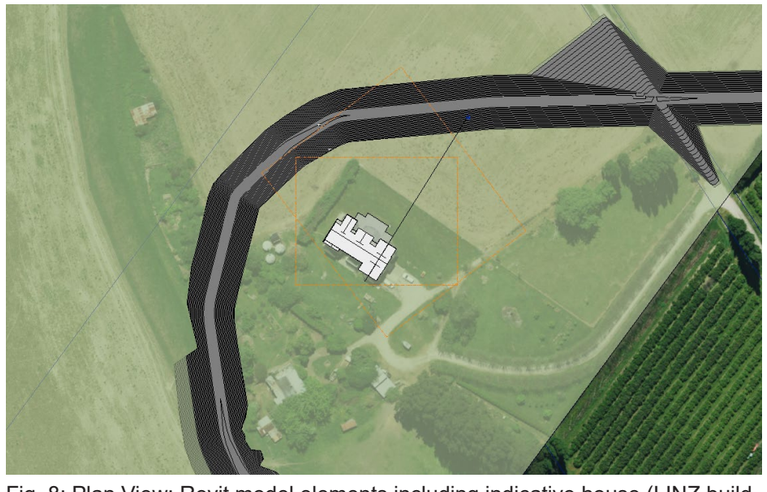


Fig. 8: Plan View: Revit model elements including indicative house (LINZ building outlines data and indicative 8m height). Shelter belt planting from aerial imagery. Stopbank topography from design team.

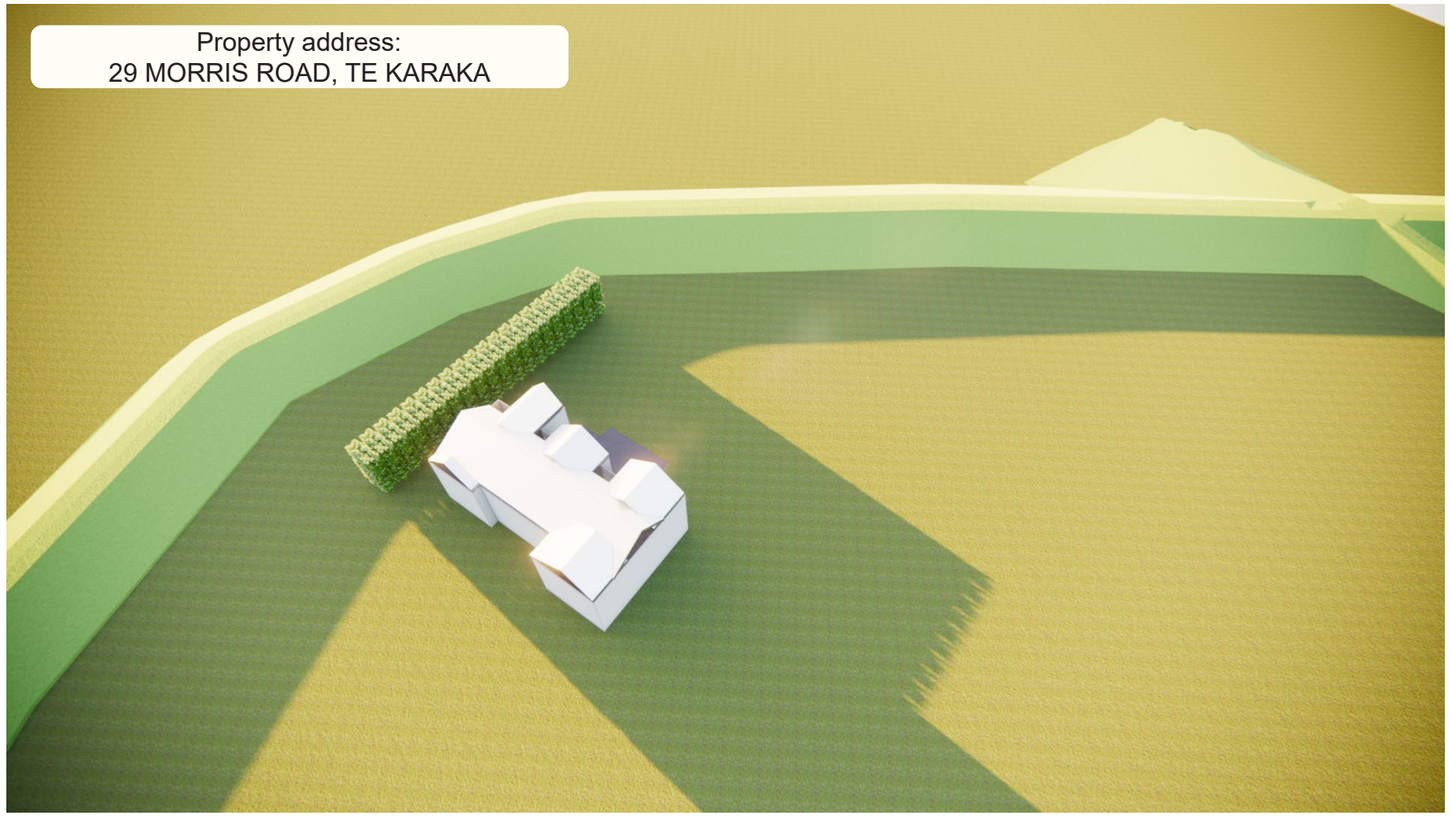


Fig. 9: Winter solstice sun study finding shadow from stopbank reaches edge of the building at approximately 4:00 p.m. on the winter solstice.

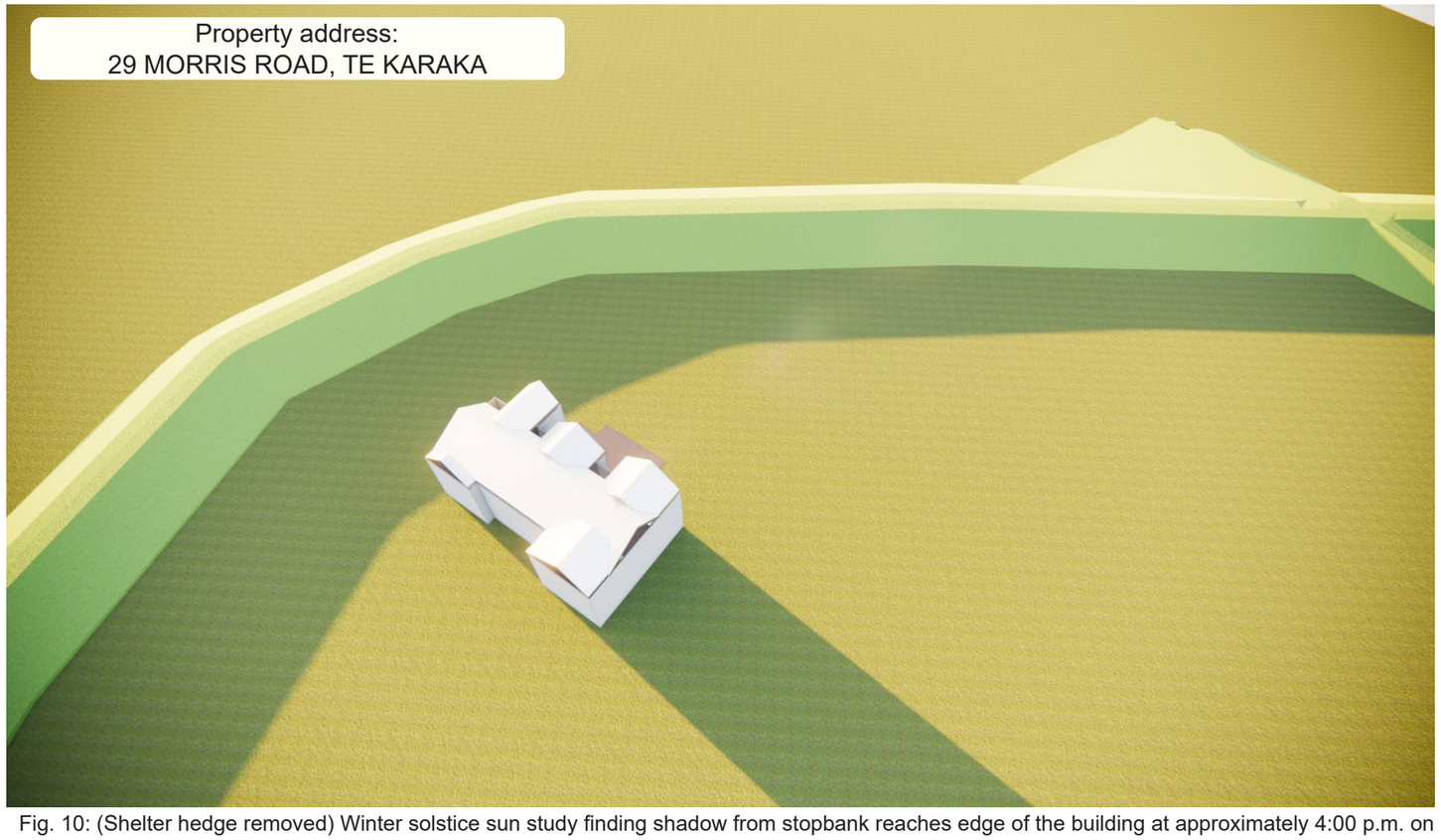


Fig. 10: (Shelter hedge removed) Winter solstice sun study finding shadow from stopbank reaches edge of the building at approximately 4:00 p.m. on the winter solstice.

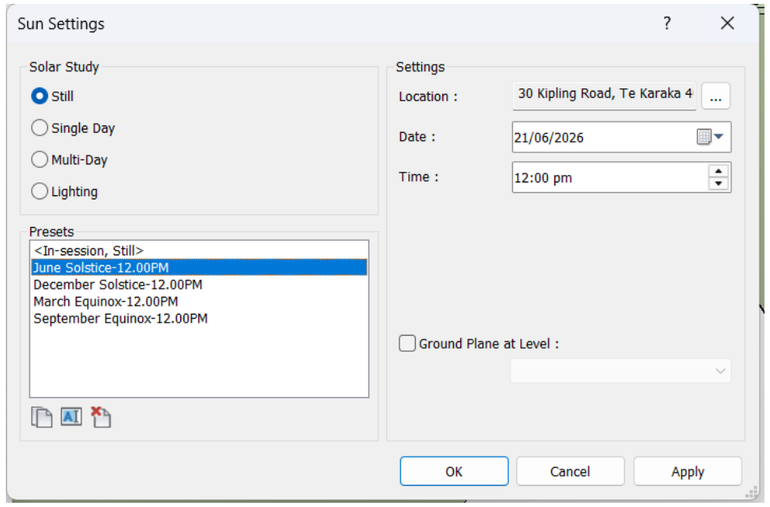


Fig. 11: Revit model Sun Settings. Location: Te Karaka. Date: June 21st (Winter solstice). Time setting on shade diagram

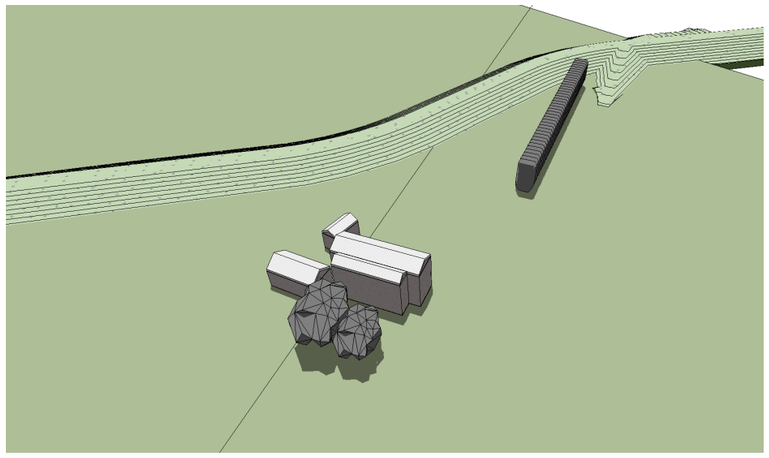


Fig. 12: 3D View: Revit model elements including indicative house (LINZ building outlines data and indicative 8m height). Shelter belt planting from aerial imagery. Stopbank topography from design team.

Fig. 13: Plan View: Revit model elements including indicative house (LINZ building outlines data and indicative 8m height). Shelter belt planting from aerial imagery. Stopbank topography from design team.

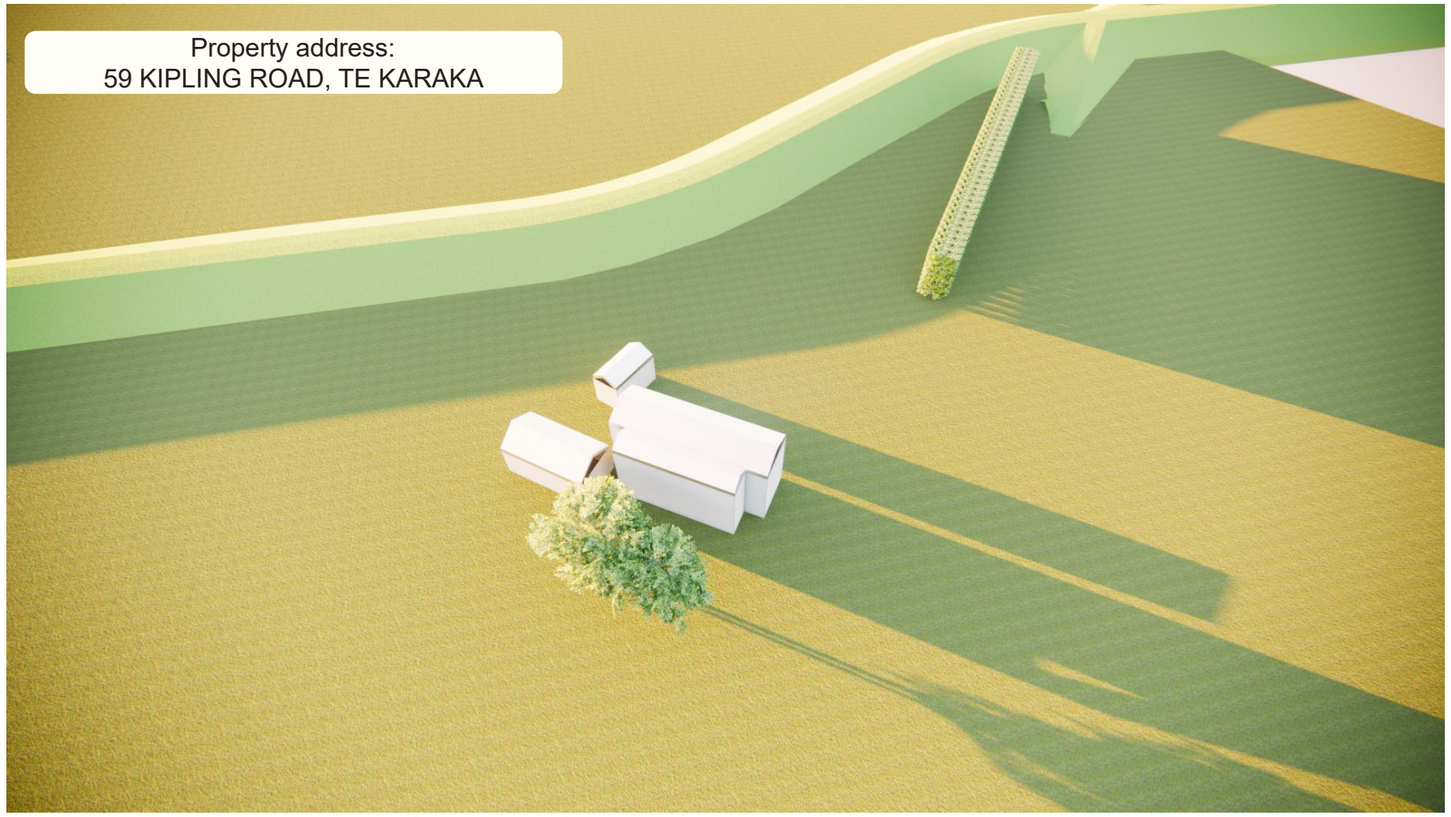


Fig. 14: Winter solstice sun study finding shadow from stopbank reaches edge of the garage at approximately 4:30 p.m. on the winter solstice.

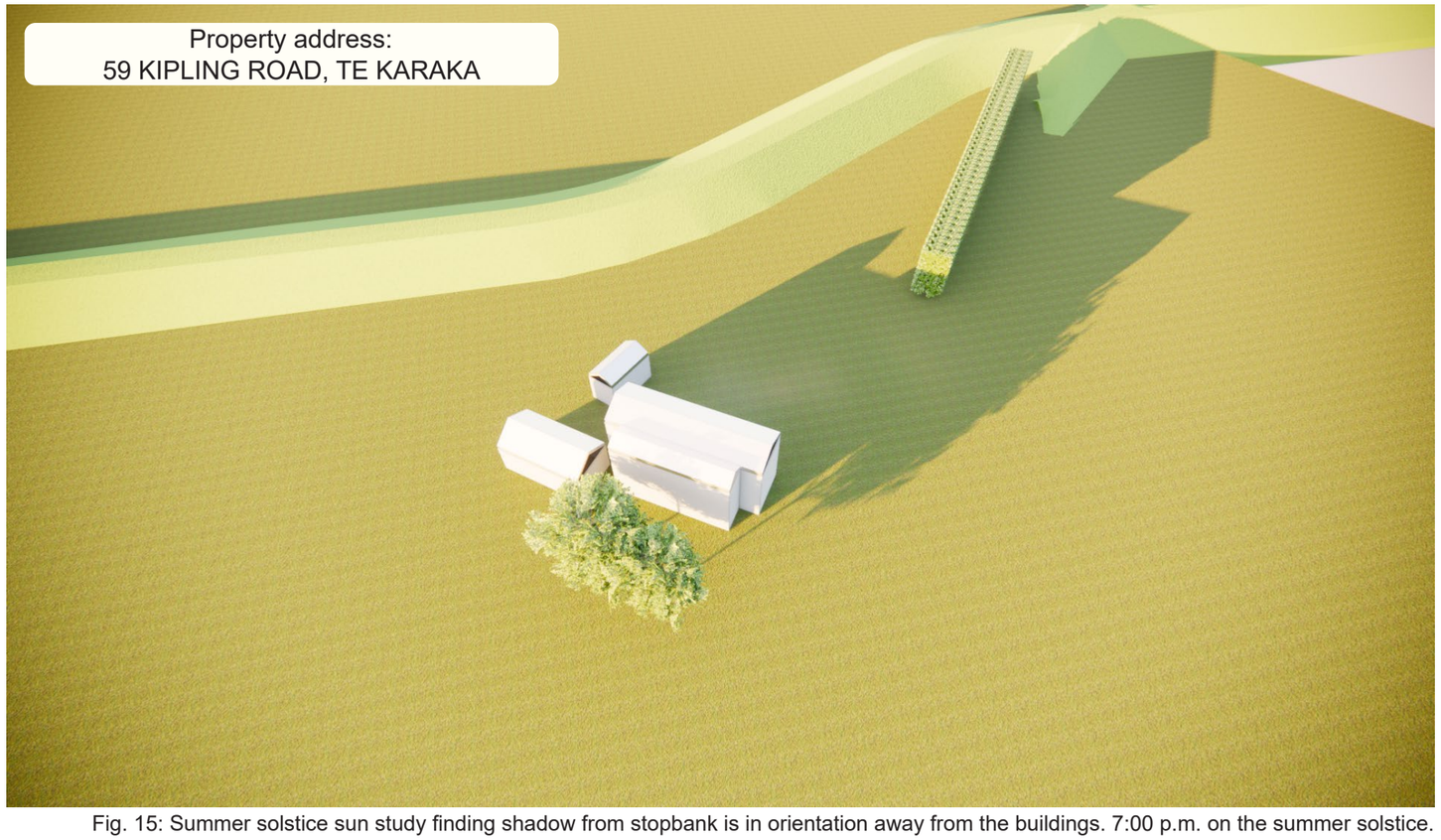


Fig. 15: Summer solstice sun study finding shadow from stopbank is in orientation away from the buildings. 7:00 p.m. on the summer solstice.

Fig. 16: Plan View of stopbank general arrangement in relation to the house and property. Stopbank is shown with low opacity to indicate the existing landscape underneath. Dimensions are indicative only and should be verified against design team documentation.

Fig. 17: Plan View of stopbank general arrangement in relation to the house and property. Stopbank is shown with low opacity to indicate the existing landscape underneath. Dimensions are indicative only and should be verified against design team documentation.

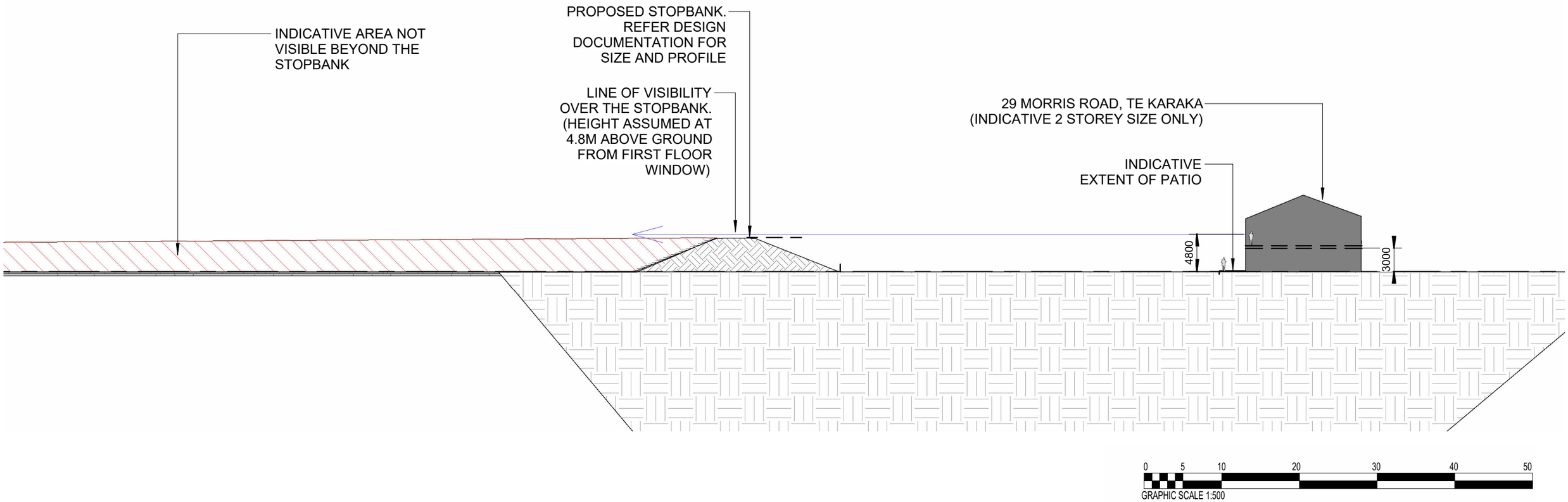


Fig. 18: Section A from building to the edge of the stopbank. House height and roof shape is indicative only to provide guidance on the scale of the stopbank.

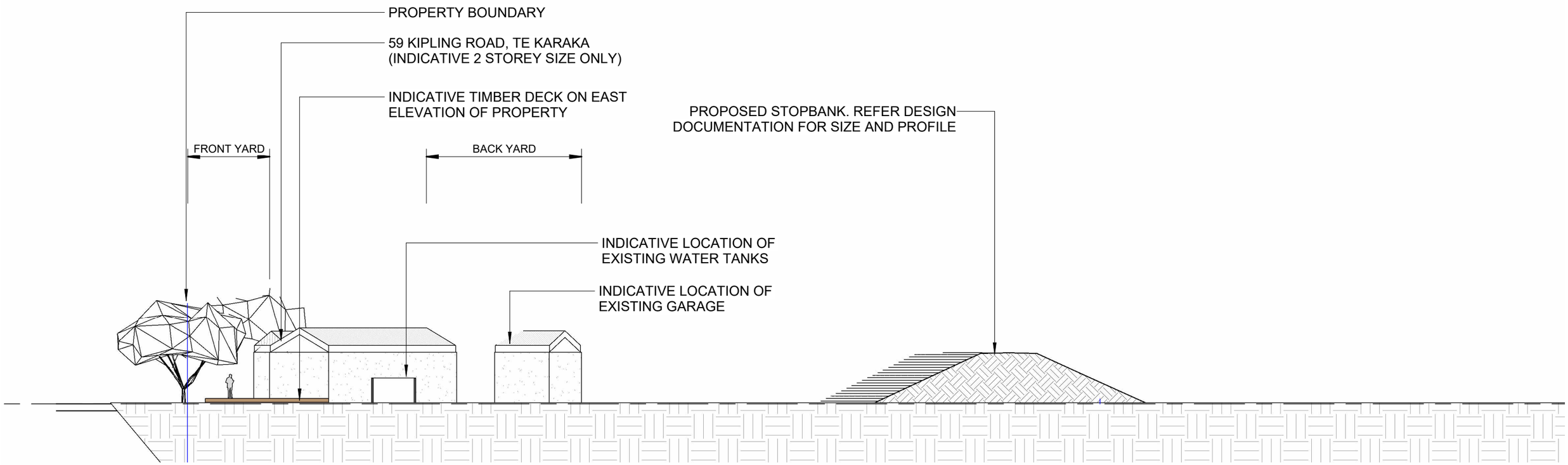


Fig. 19: Section B from building to the edge of the stopbank. Decking extent, house height and roof shape is indicative only to provide guidance on the scale of the stopbank.

METHODOLOGY STATEMENT
SUN STUDY ANALYSIS

1. All geometry and designed elements based on the design team issued work in progress models from August 2026.

2. The materiality and textures in the sun studies only represents the design documentation in a general sense and should not be viewed for any other purposes than to analyse the sun path across the project.

3. Location georeferencing: Te Karaka, New Zealand -38.462844, 177.861289. NZTM used as coordinate system.

4. Software: Civil3D used for stopbank modelling (issued to WSP by project team). Autodesk Revit used for landscape model. Enscape used for rendered indicative viewpoints (Fig 4, 5, 9 and 10)

5. Methodology:
-LINZ data service used for lot boundaries, aerial imagery, building outlines data to build Revit model
-Revit used to compile stopbank model and indicative 3D building model.
-Revit used for location georeferencing and sun study analysis.
-Time, date, and location set in Revit - refer to figures 1 and 6 for full information.
-Existing shelterbelt hedging is removed in figures 5 and 10 to isolate the indicative shading cast by the stopbank only. No removal of the shelterbelt hedging is proposed this image is only to add clarity to the additional shadowing from the stopbank
-High viewpoint is selected to show a wider context of the stopbank within the environment. Refer to Viewpoint A from the upstairs window for an in-person indicative perspective

6. Refer to figures and other appendices for additional information regarding placement and arrangement of the stopbank in relation to the house.