

LANDWISE
 Land Intelligence Services
 3D SketchUp Model

- ARCHITECTURAL
- STRUCTURAL
- SANITARY
- MECHANICAL
- ELECTRICAL
- INTERIOR

FOR SUBMISSION

FOR TENDER

FOR CONSTRUCTION

FOR CLIENT

PACKAGE 2 - LAND VISIBILITY STUDY
 8 Jun 2026

LICENCED
 SURVEYER:

DOCUMENT PHASE:

Package 2 - Land Visibility
 Report



BUILDING REGULATIONS — YELLOW ZONE (LOW-DENSITY RESIDENTIAL)

Zone Classification

- Yellow Zone — Low-Density Residential Area (Koh Pha-ngan Community Town Plan R.F. 2558/2015)

- Elevation: to be confirmed by drone survey (estimated below 80 m)

Maximum Building Height

- 12 meters maximum

Maximum Building Footprint

- Up to 1,000 sqm per building

Maximum Development Area

- Up to 70% of plot area (Residential)

Slope Restrictions

- Detailed slope analysis recommended on receipt of the drone survey to confirm any sub-tier restrictions on the steeper portions of the site

Planning Notes

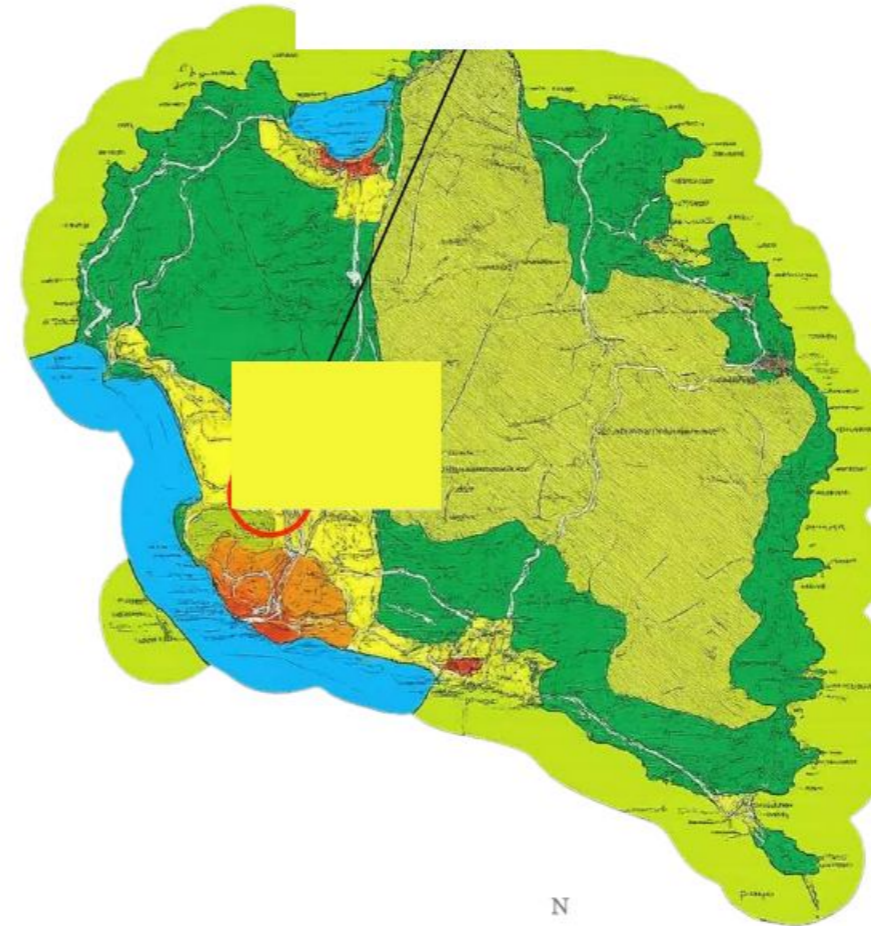
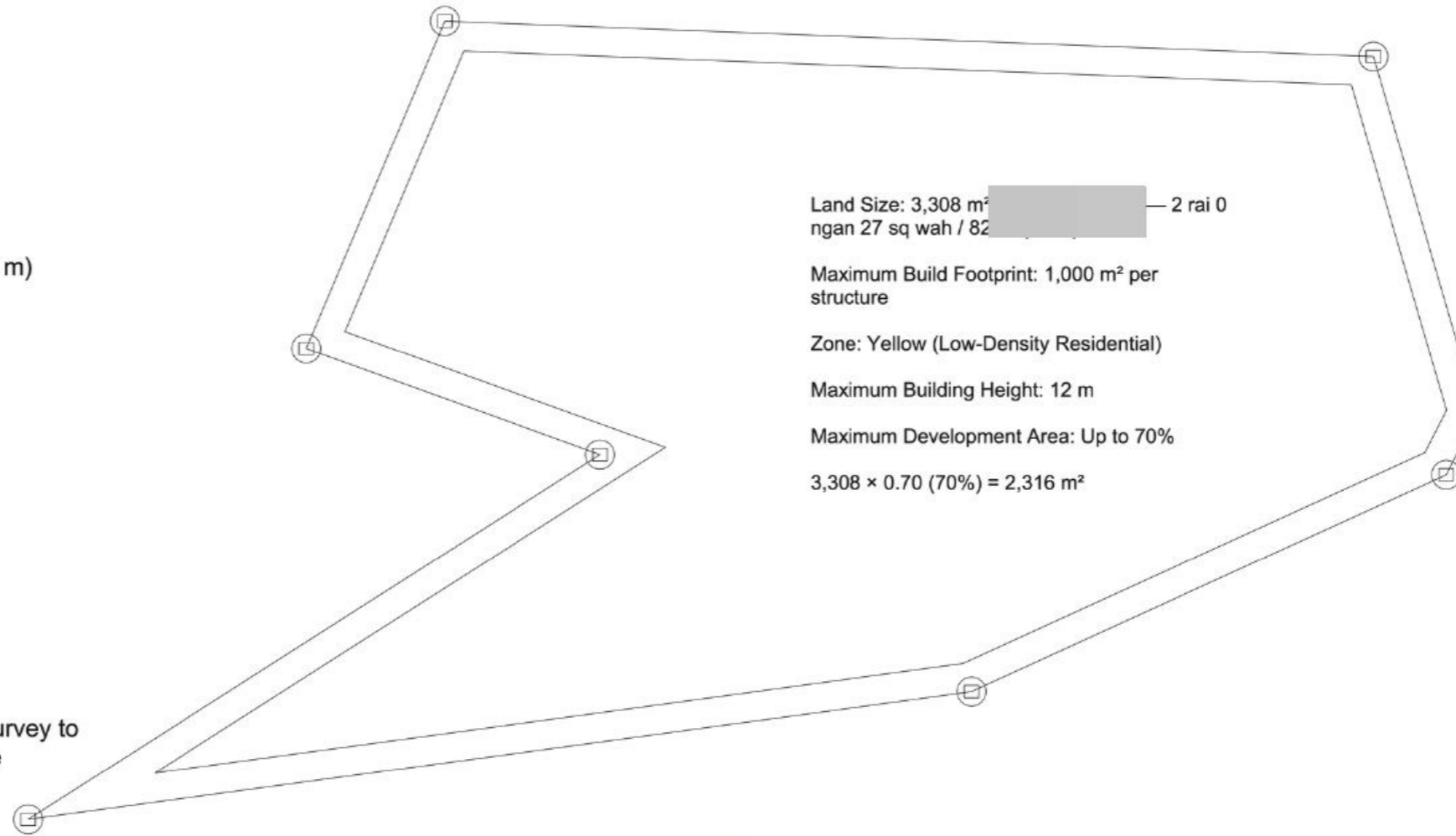
- Low-density residential development encouraged
- Buildings should follow the natural terrain
- Multiple smaller structures, or one larger structure, are both permitted within the 1,000 sqm per-unit cap
- Adequate boundary setbacks, access, drainage and landscaping to be set at site-plan stage

LandWise Summary

This land falls within the Yellow Zone (Low-Density Residential Area) under the Koh Pha-ngan Community Town Plan, which allows the most flexible residential envelope of the conservation-tier zones. Buildings of up to 12 m height and 1,000 sqm footprint per structure are permitted, with residential development utilising up to 70% of the site area.

Practical design constraints — terrain slope, access, drainage, setbacks and infrastructure — typically reduce the final buildable footprint, but the headroom under Yellow Zone is generous and supports either a single larger villa or a multi-unit low-density cluster.

Development should follow the natural hillside terrain and maintain low-density tropical architecture consistent with Koh Phangan planning guidelines.



1 Building Regulations
A. 1mm = 160 (1:160)

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Building Regulations

A.

MASTERPLAN CONCEPT

Concept feasibility layout for a private villa residence on the 1,256 m² parcel, aligned with the natural terrain and compliant with Koh Phangan Yellow Zone regulations.

VILLA CONFIGURATION

A modern tropical residence comprising:

- Ground floor: 380 m²
- Second floor: 380 m²
- Swimming pool: 67 m²
- Terrace / outdoor deck: 86 m²

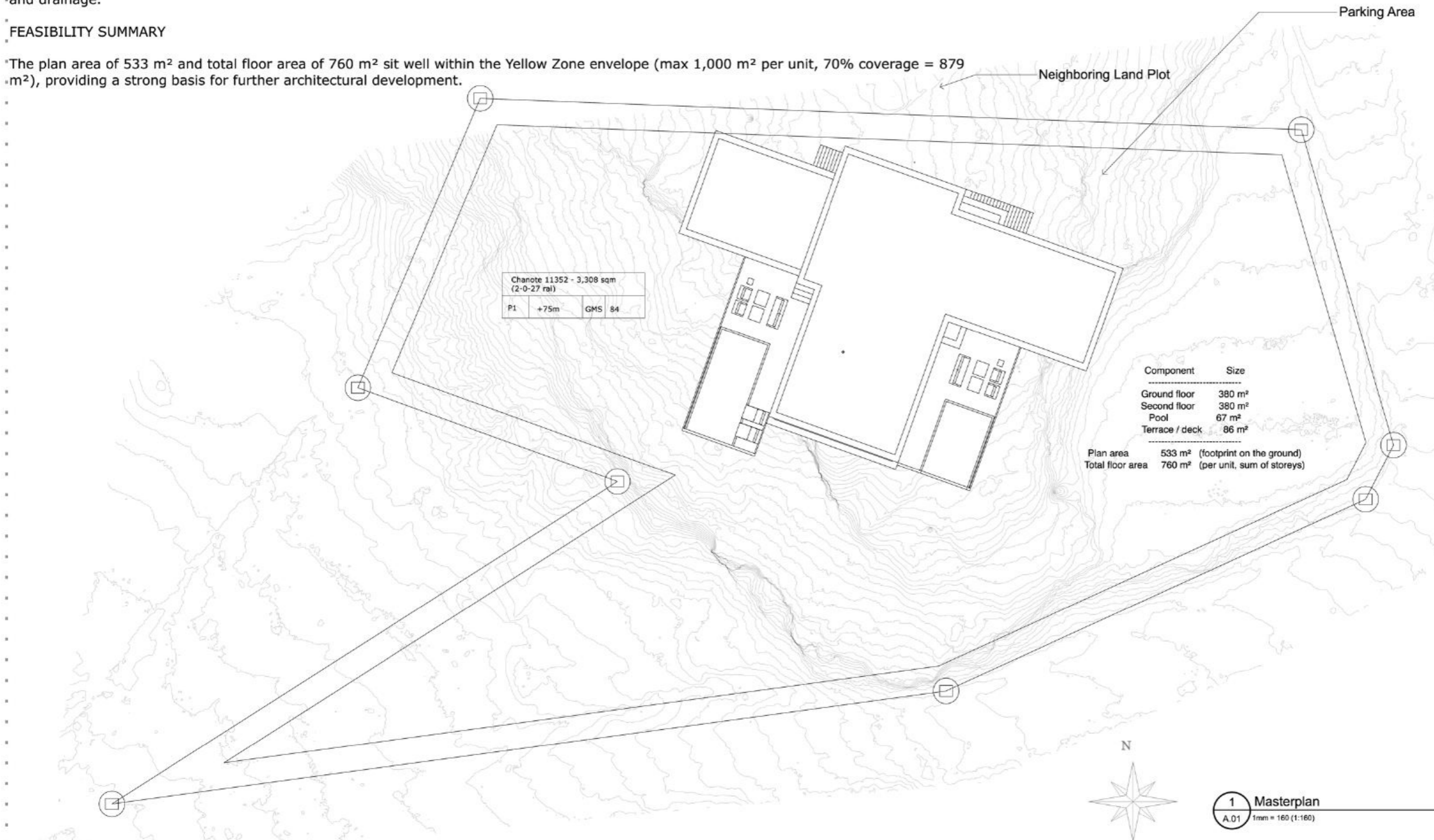
Plan area (footprint): 533 m²
 Total floor area (per unit): 760 m²

SITE PLANNING STRATEGY

The villa follows the natural ridge to minimize earthworks, respects boundary setbacks, and preserves surrounding space for landscaping, access and drainage.

FEASIBILITY SUMMARY

The plan area of 533 m² and total floor area of 760 m² sit well within the Yellow Zone envelope (max 1,000 m² per unit, 70% coverage = 879 m²), providing a strong basis for further architectural development.



UTM zone 47N

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Masterplan

1 Masterplan
 A.01 1mm = 160 (1:160)

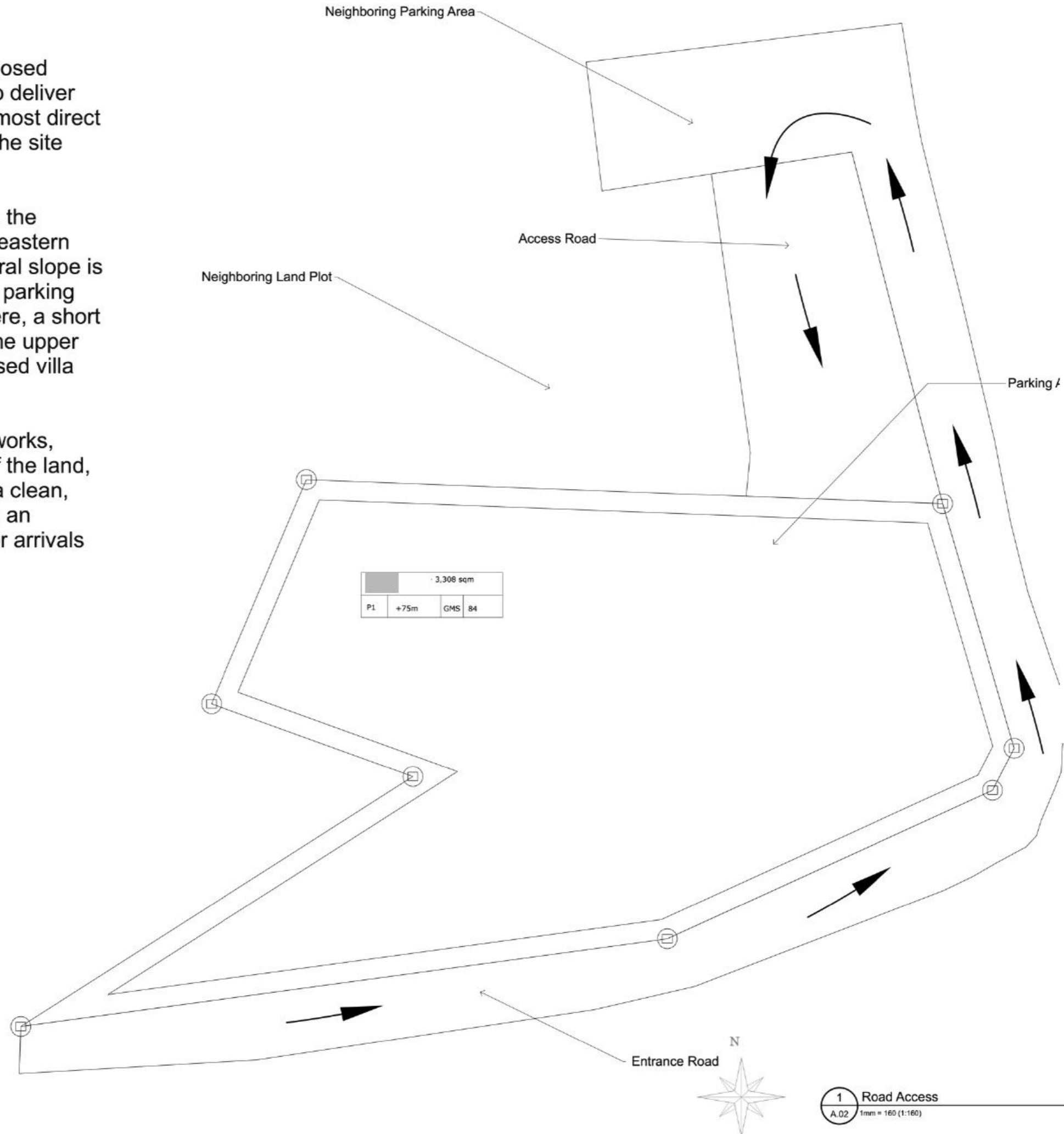
A.01

SITE ACCESS STRATEGY

This masterplan illustrates the proposed access route to the plot, selected to deliver the most gradual gradient and the most direct connection to the upper portion of the site where the villa will be positioned.

The route enters from the south via the existing entrance road, follows the eastern side of the property where the natural slope is gentlest, and links to the dedicated parking area at the top of the site. From there, a short final approach leads directly onto the upper +75 m platform, which is the proposed villa zone.

This arrangement minimises earthworks, avoids the steeper western edge of the land, and protects the upper plateau as a clean, level building area while preserving an efficient one-way circulation loop for arrivals and departures.



LICENCED
SURVEYER:

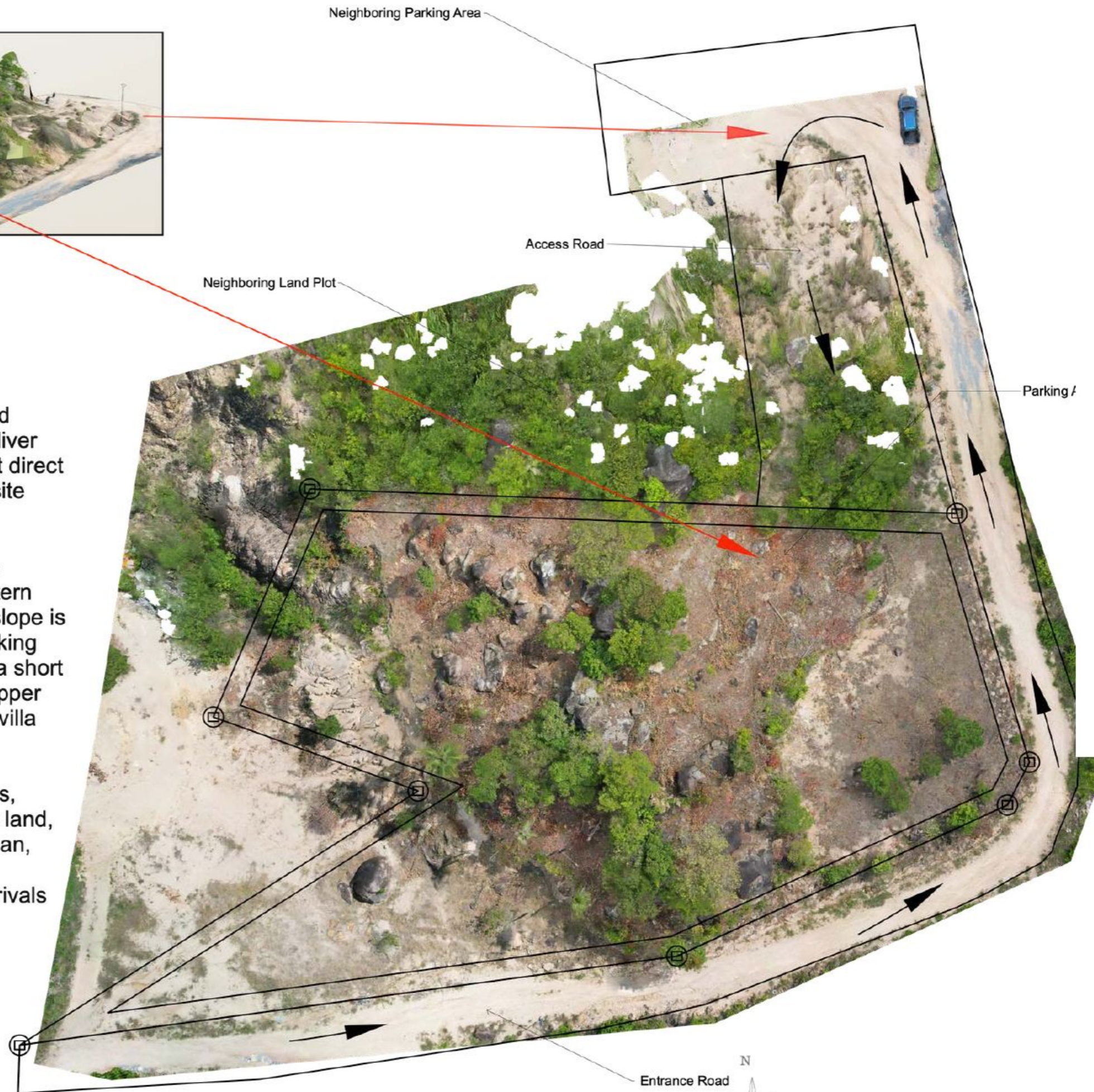
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Road Access

A.02

UTM zone 47N



SITE ACCESS STRATEGY

This masterplan illustrates the proposed access route to the plot, selected to deliver the most gradual gradient and the most direct connection to the upper portion of the site where the villa will be positioned.

The route enters from the south via the existing entrance road, follows the eastern side of the property where the natural slope is gentlest, and links to the dedicated parking area at the top of the site. From there, a short final approach leads directly onto the upper +75 m platform, which is the proposed villa zone.

This arrangement minimises earthworks, avoids the steeper western edge of the land, and protects the upper plateau as a clean, level building area while preserving an efficient one-way circulation loop for arrivals and departures.

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Road Access

1 Road Access
A.03 1mm = 160 (1:160)

A.03

UIM zone 4/N

SECTION ANALYSIS

This front section illustrates how the villa is positioned on the natural slope, with the principal level extended out over the hillside on columns to follow the terrain.

ELEVATION STRATEGY

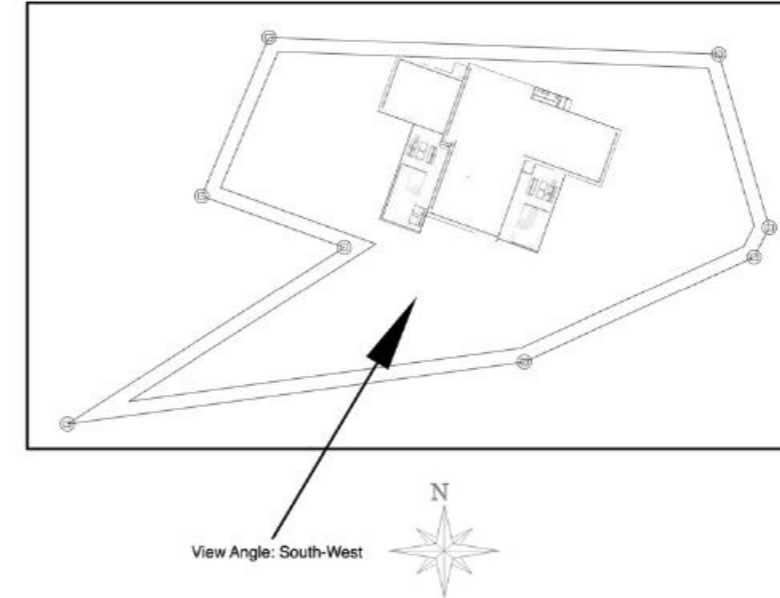
A post-supported approach minimises cut and fill while sitting lightly on the steep gradient.

VIEW CORRIDORS

The elevated upper level maintains clear south-west outlooks across the downslope side toward the sea.

SITE FEASIBILITY

The section confirms that the site can support a single elevated hillside villa within the 12 m Yellow Zone height envelope.



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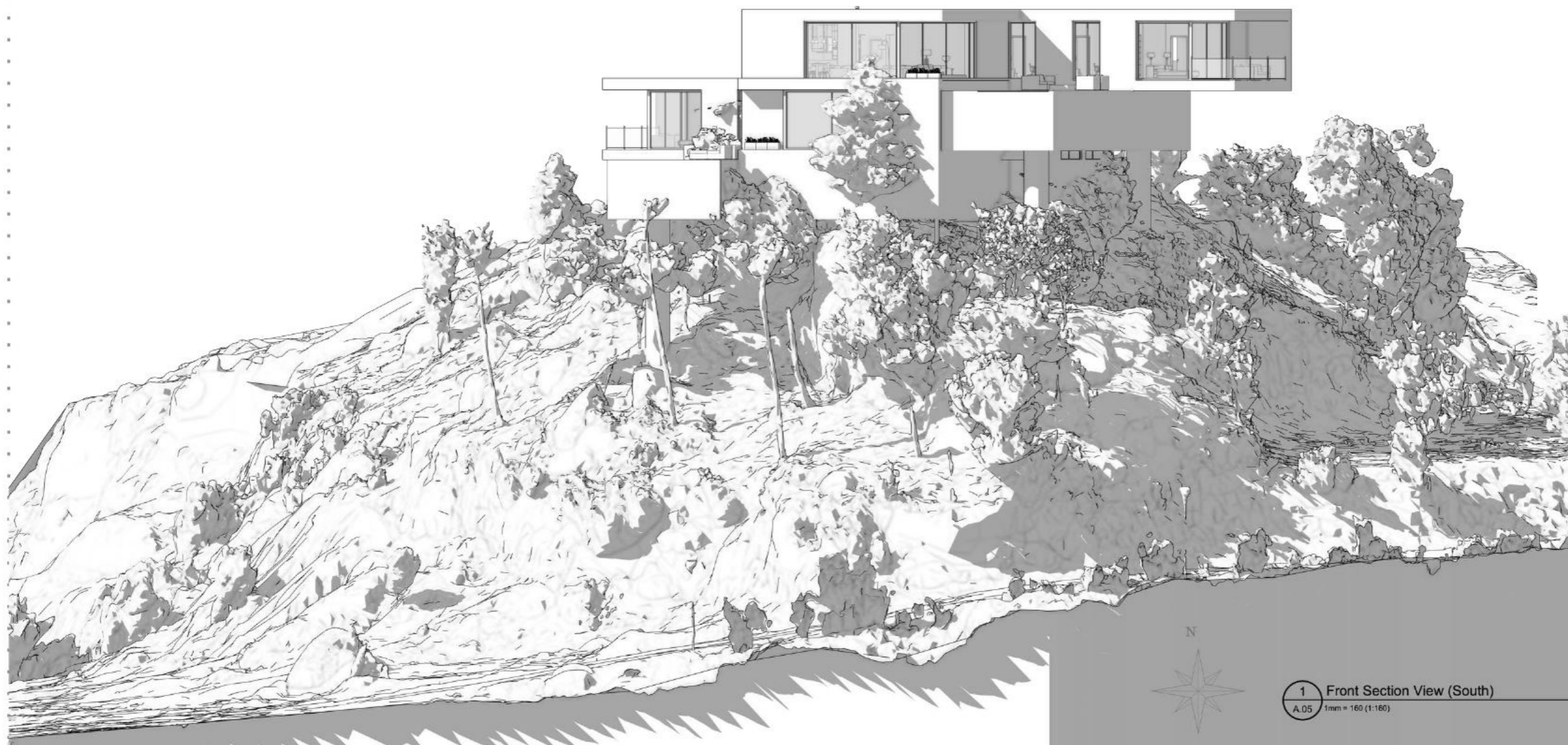
Front Section View
(South-West)

1 Front Section View (South-West)
A.04 1mm = 160 (1:160)

A.04

ROCK FORMATION ANALYSIS

This view highlights the natural rock formations across the site and their relationship to the proposed development. The design responds to the terrain, integrating with existing features while minimizing disruption to the natural landscape.



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Front Section
View (South)

A.05

1 Front Section View (South)
A.05 1mm = 160 (1:160)

SECTION ANALYSIS

This side section illustrates how the villa is positioned across the natural ridge of the site, with the principal level set on a level platform above the descending terrain.

ELEVATION STRATEGY

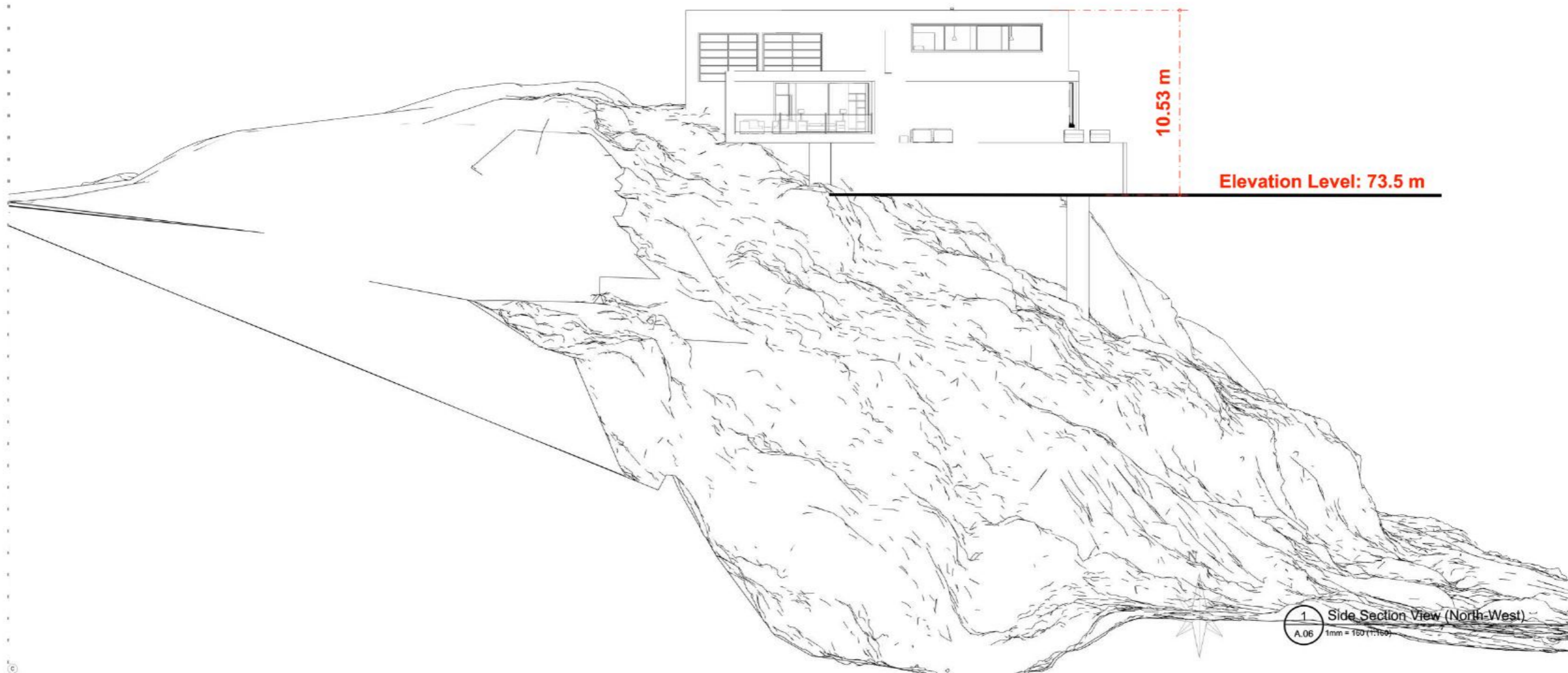
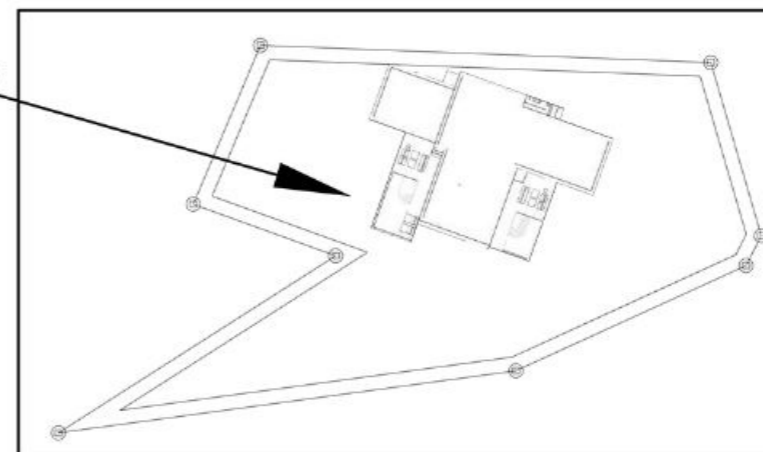
A post-supported approach minimises cut and fill across the steep cross-slope while sitting lightly on the hillside.

VIEW CORRIDORS

The elevated level keeps clear north-west outlooks open across the downslope side of the site.

SITE FEASIBILITY

The section confirms that the site can support a single elevated hillside villa within the 12 m Yellow Zone height envelope.



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Report

Side Section
View (North-West)

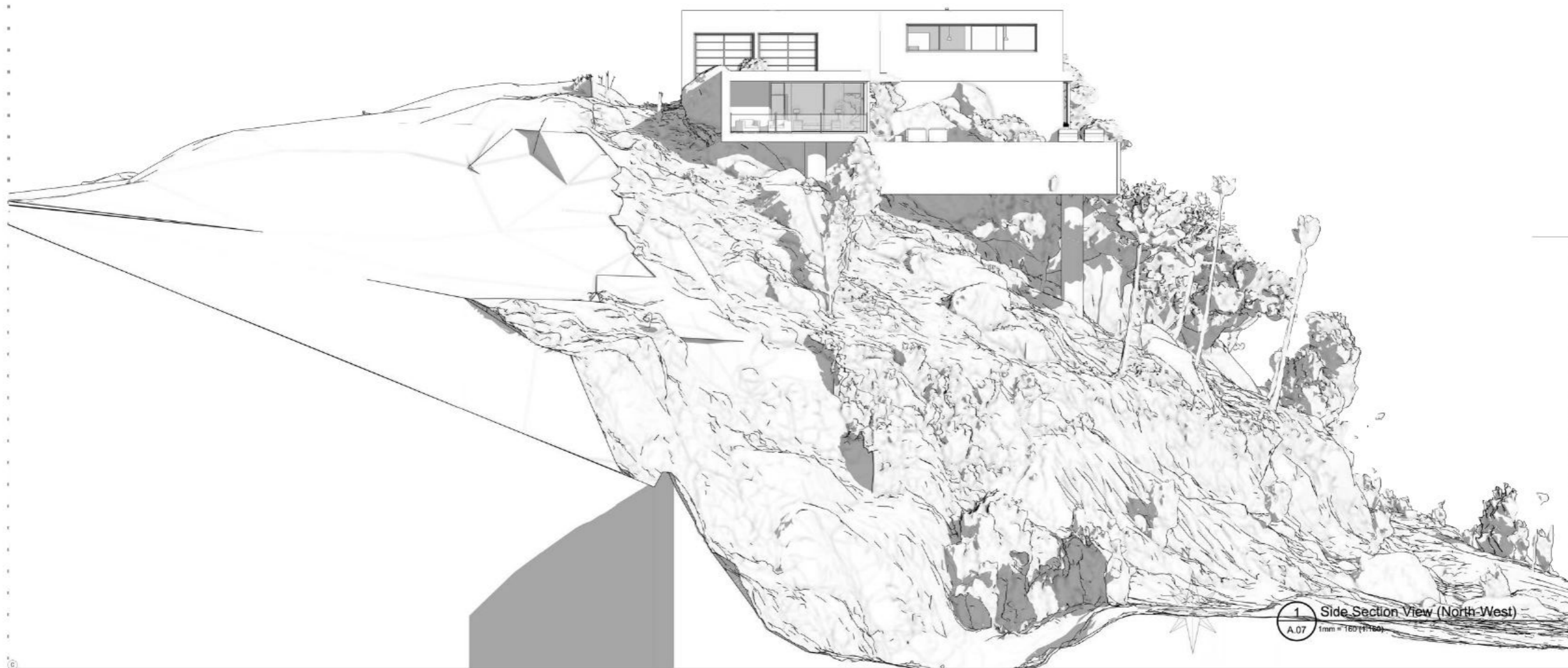
A.06

1 Side Section View (North-West)
A.06 1mm = 150(1:150)

UTM zone 47N

ROCK FORMATION ANALYSIS

This view highlights the natural rock formations across the site and their relationship to the proposed development. The design responds to the terrain, integrating with existing features while minimizing disruption to the natural landscape.



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Report

**Side Section
View (North-West)**

A.07

1 Side Section View (North-West)
A.07 (mm = 1:60 (1:160))

SECTION ANALYSIS

This side section illustrates how the villa is positioned across the natural ridge of the site, with the principal level set on a level platform above the descending terrain.

ELEVATION STRATEGY

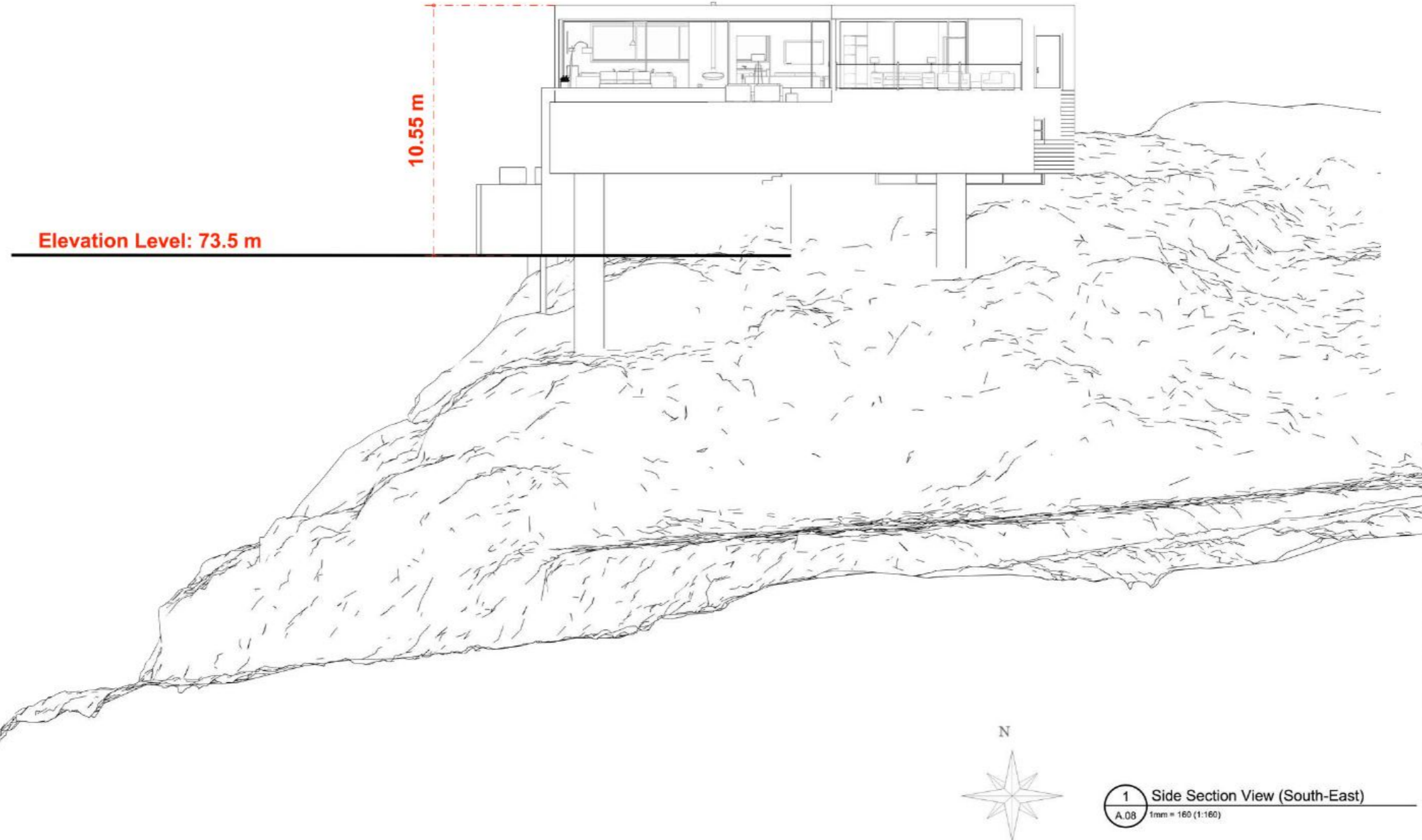
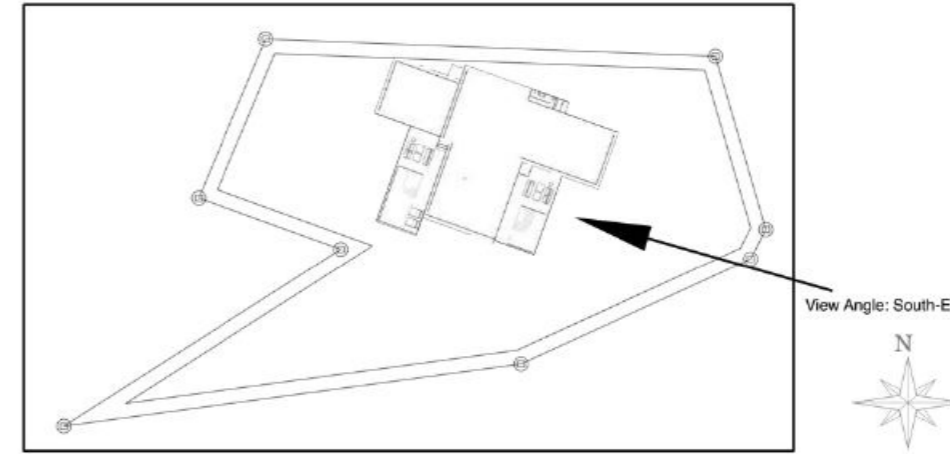
A post-supported approach minimises cut and fill across the steep cross-slope while sitting lightly on the hillside.

VIEW CORRIDORS

The elevated level keeps clear north-west outlooks open across the downslope side of the site.

SITE FEASIBILITY

The section confirms that the site can support a single elevated hillside villa within the 12 m Yellow Zone height envelope.



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Report

Side Section View
(South-East)

A.08

1 Side Section View (South-East)
A.08 1mm = 160 (1:160)

UTM zone 47N

ROCK FORMATION ANALYSIS

This view highlights the natural rock formations across the site and their relationship to the proposed development. The design responds to the terrain, integrating with existing features while minimizing disruption to the natural landscape.



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Report

Side Section View
(South-East)

A.09

1 Side Section View (South-east)
A.09 1mm = 160 (1:160)

UTM zone 47N

TERRAIN
 Highest 80.6 m
 Lowest 46.5 m
 Relief 34.2 m



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TOPOGRAPHIC CONTOUR MAP

Koh Phangan, Thailand

PROJECT DETAILS

Date: 14 June 2026
 Survey: Drone Photogrammetry
 CRS: EPSG:32647
 Contour Interval: 0.5m
 Index Interval: 5.0m
 Elevation: 46.5m – 80.6m
 Relief: 34.2m
 Total Contours: 67
 Index: 7 | Intermediate: 60

LEGEND

- Contours
- Index Contours
- Intermediate Contours
- Land Boundary



Coordinate System: EPSG:32647
 Grid Interval: 20 units

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SLOPE ANALYSIS

Koh Phangan, Thailand

PROJECT DETAILS

Date: 14 June 2026
Survey: Drone Photogrammetry
CRS: EPSG:32647
Elevation: 46.5m – 80.6m
Relief: 34.2m
Median Slope: 29.3° (~56%)
Mean Slope: 28.8° (~55%)
Gentle ground (0-15°): 26%

LEGEND

- Flat (0-5°)
- Gentle Slope (5-15°)
- Moderate Slope (15-25°)
- Steep (25-35°)
- Very Steep (35°+)

0 10 20 30 m



Coordinate System: EPSG:32647
Grid Interval: 20 units



SLOPE RECOMMENDATIONS

- Site villas on the 26% gentle ground below 15° to minimise cut-and-fill costs.
- Terrace the 61% of slopes above 25° into stepped platforms with engineered cut-and-fill benches.
- Retain all cut faces exceeding roughly 30° with reinforced concrete or gravity retaining walls.
- Protect exposed terraced surfaces against tropical erosion using turf cover and lined perimeter drains.
- Route access roads diagonally across the 34 m relief to keep gradients below 15° for safe vehicle passage.

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SLOPE PROFILE ANALYSIS

Koh Phangan, Thailand

SITE CLASSIFICATION

Classification: STEEP
Elevation: 46.5-80.6m
Total Relief: 34.1m
Fall-line Grade: 32.1°
Fall-line Run: 45.3m

CORRIDOR ANALYSIS

Best Building Zone:
Section C (34.2°)

Best Access Route:
Section D (18.0°)

Steepest Zone:
Section B (37.1°)

SECTION SUMMARY

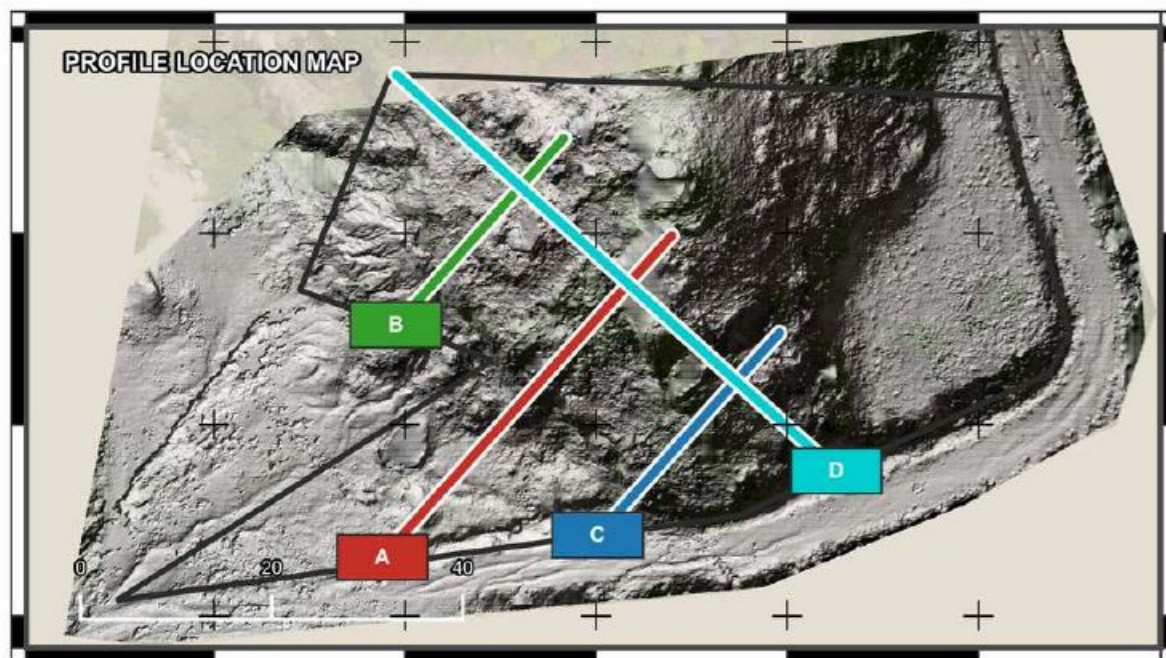
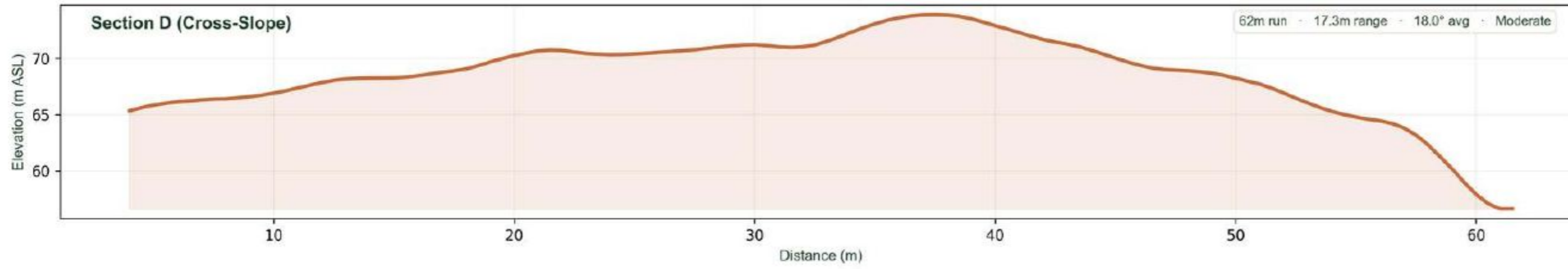
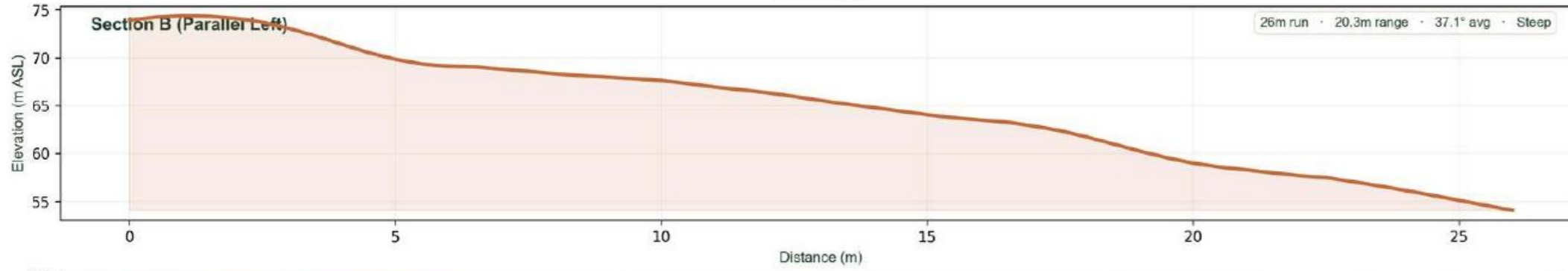
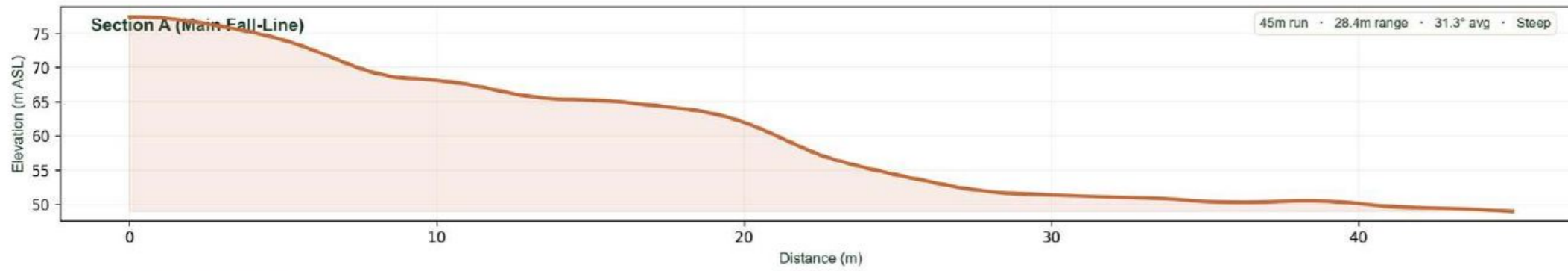
A: 31.3° (Steep)
B: 37.1° (Steep)
C: 34.2° (Steep)
D: 18.0° (Moderate)

DATA SOURCE

DTM: Drone photogrammetry
(Bare earth elevation)

Elevations for planning
analysis only.

Professional survey required
for final design.



CROSS-SECTIONS

- A Main Fall-Line
- B Parallel Left
- C Parallel Right
- D Cross-Slope

Coloured lines mark where each cross-section was cut across the parcel. The charts above plot the ground profile along each line.



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DRAINAGE ANALYSIS

Koh Phangan, Thailand

PROJECT DETAILS

Date: 14 June 2026
Survey: Drone Photogrammetry
CRS: EPSG-32647
Elevation: 46.5m – 80.6m
Relief: 34.2m
Mean Slope: 65.9% (median 56.7%)
Major Channels: 4
Tributaries: 13
Total Segments: 54

LEGEND

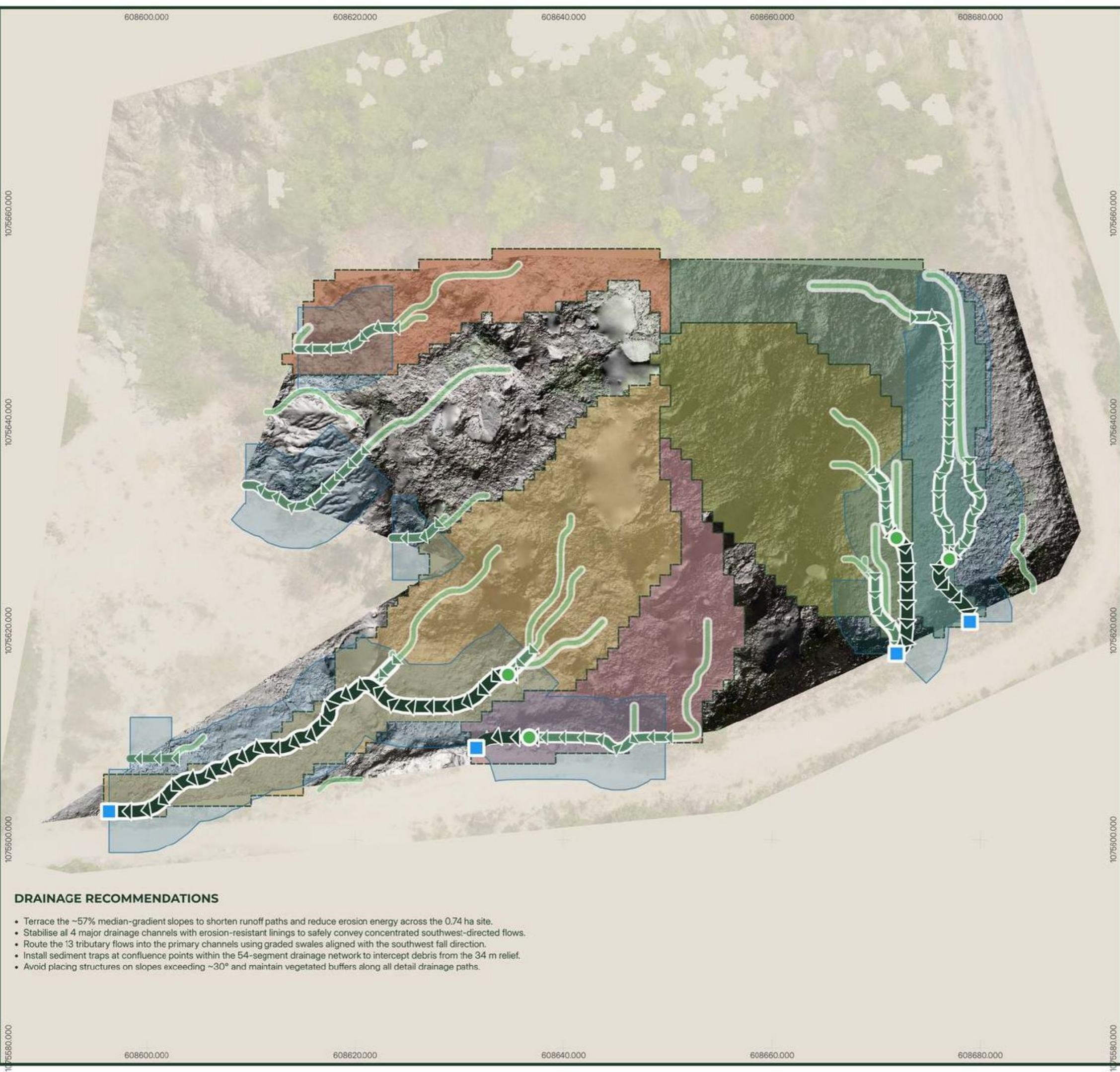
- Major Channels
- Tributaries
- Detail Drainage
- Concentration Zone (keep clear)
- Sub-Basins (drainage areas)
 - Basin 1
 - Basin 2
 - Basin 3
 - Basin 4
 - Basin 5

Each coloured sub-basin drains to one outlet — plan drainage per area.

0 10 20 30 m



Coordinate System: EPSG-32647
Grid Interval: 20 units



DRAINAGE RECOMMENDATIONS

- Terrace the ~57% median-gradient slopes to shorten runoff paths and reduce erosion energy across the 0.74 ha site.
- Stabilise all 4 major drainage channels with erosion-resistant linings to safely convey concentrated southwest-directed flows.
- Route the 13 tributary flows into the primary channels using graded swales aligned with the southwest fall direction.
- Install sediment traps at confluence points within the 54-segment drainage network to intercept debris from the 34 m relief.
- Avoid placing structures on slopes exceeding ~30° and maintain vegetated buffers along all detail drainage paths.

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SOLAR ORIENTATION & EXPOSURE

Koh Phangan, Thailand

PROJECT DETAILS

Date: 14 June 2026
Survey: Drone Photogrammetry
CRS: EPSG:32647 · ~1 m grid
Elevation: 46.5m – 80.6m
Relief: 34.2m

SUN PATH

Sunrise: 06:05 UTC+7
66° (ENE)
Sunset: 18:45 UTC+7
294° (WNW)
Daylight: 12.7 hours

(Summer Solstice data)

SOLAR INTERPRETATION

Colours show which way the land faces relative to the sun's path — morning, afternoon or full-sun exposure.
Open-terrain basis (excludes tree-canopy shading).

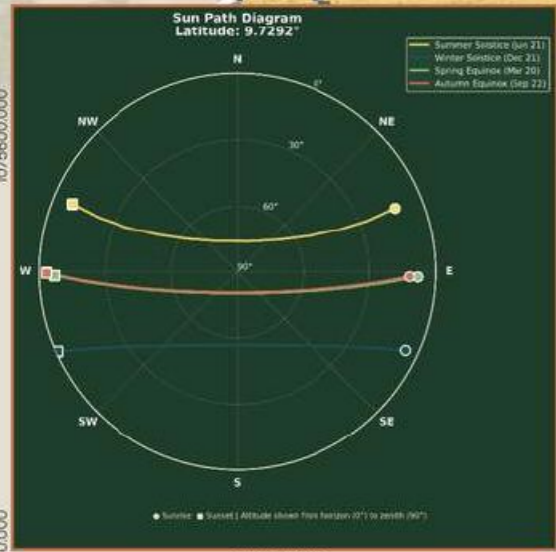
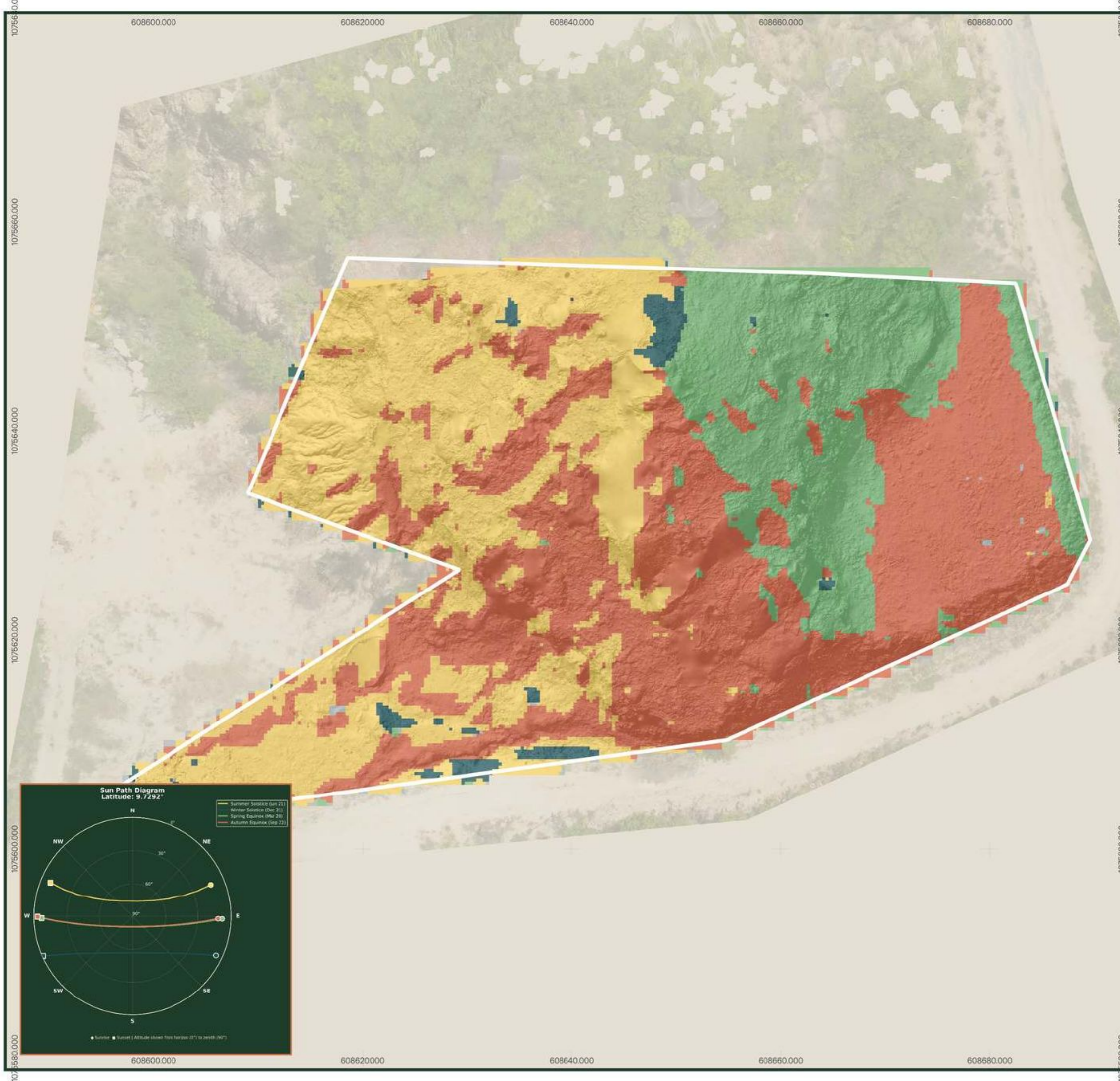
LEGEND

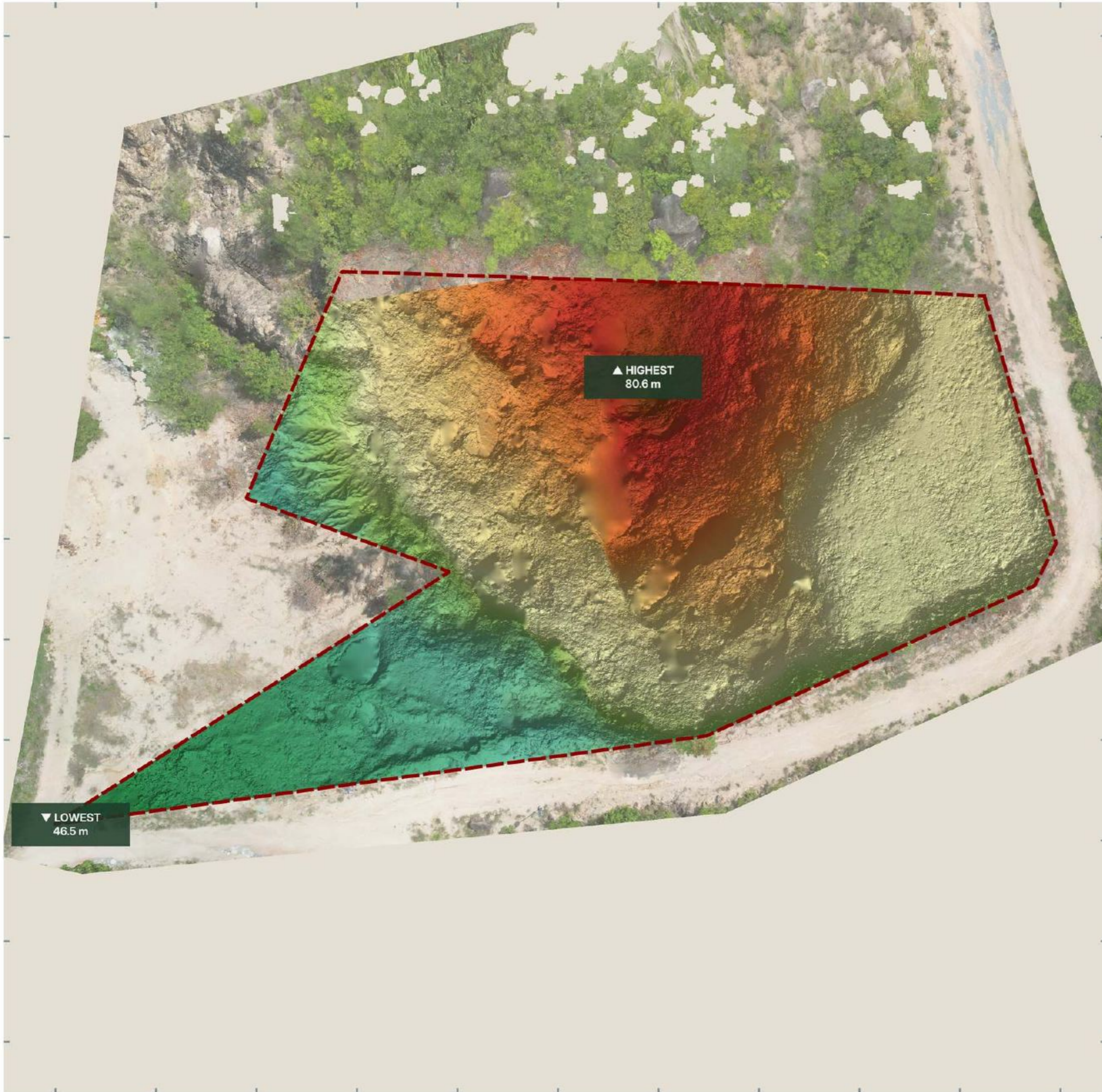
- Neutral Terrain
- Cooler Slopes
- Morning Sun
- Full Sun
- Afternoon Heat

0 10 20 30 m



Coordinate System: EPSG-32647
Grid Interval: 20 units





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DEM ELEVATION ANALYSIS

Koh Phangan, Thailand

PROJECT DETAILS

Date: 14 June 2026
 Survey: Drone Photogrammetry
 CRS: EPSG:32647
 Resolution: 0.02m

Min Elevation: 46.5m
 Max Elevation: 80.6m
 Mean Elevation: 63.6m
 Relief: 34.2m
 Std Deviation: 8.5m

Analysis: Elevation + Terrain
 Slope/Aspect: ~1 m terrain scale

LEGEND

Elevation



Site Boundary



0 10 20 30 m



BUILDABILITY ANALYSIS

Koh Phangan, Thailand

PROJECT DETAILS

Date: 14 June 2026
Survey: Drone Photogrammetry
CRS: EPSG:32647
Elevation: 46.5m – 80.6m
Relief: 34.2m
Median Slope: 29.3° (~56%)
Mean Slope: 28.8° (~55%)
Simple ground (0-15°): 26%
Needs engineering (25°+): 61%

LEGEND

- Simple platforms (0-15°)
- Standard terracing (15-25°)
- Engineered terracing (25-35°)
- Heavy retaining (35°+)

0 10 20 30 m



Coordinate System: EPSG:32647
Grid Interval: 20 units

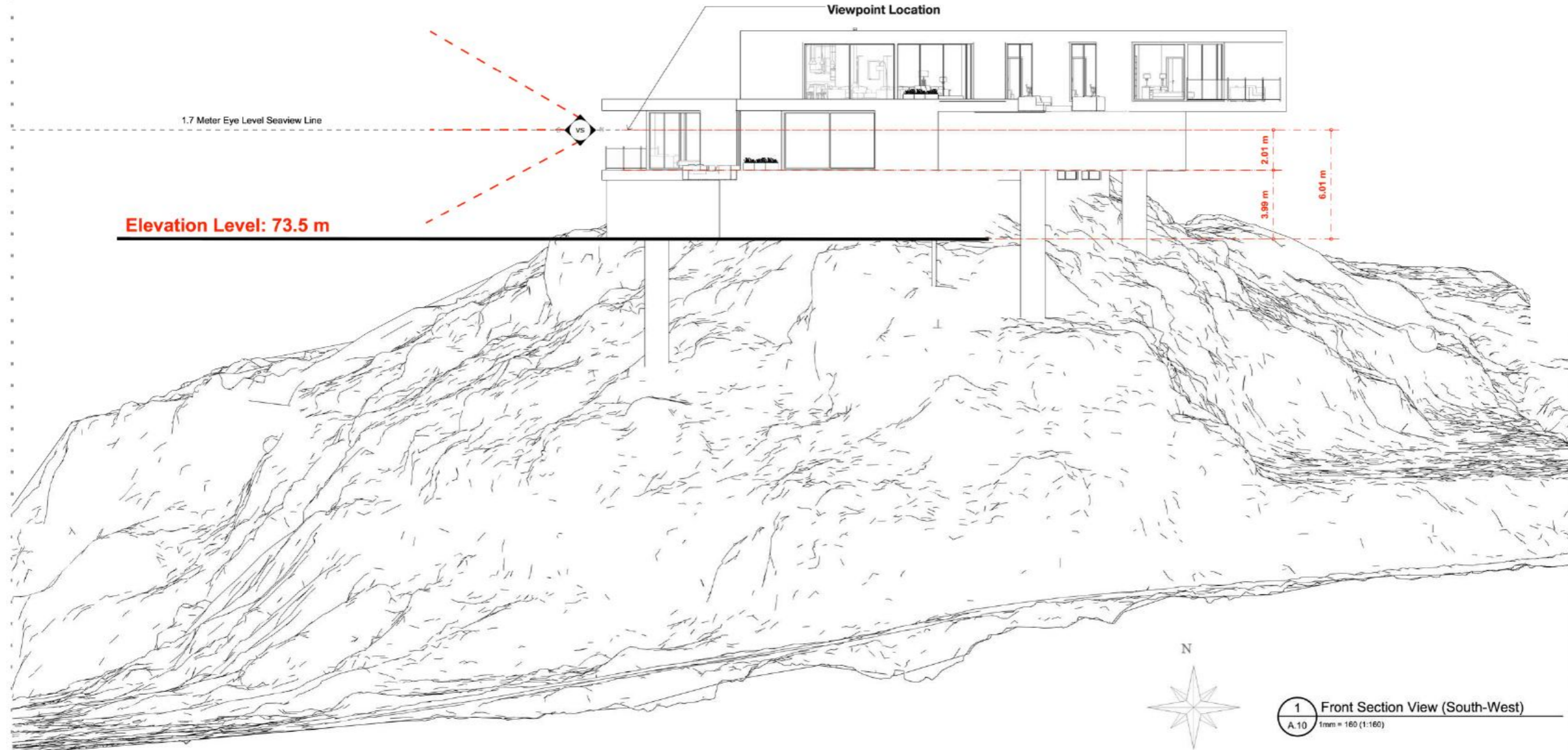
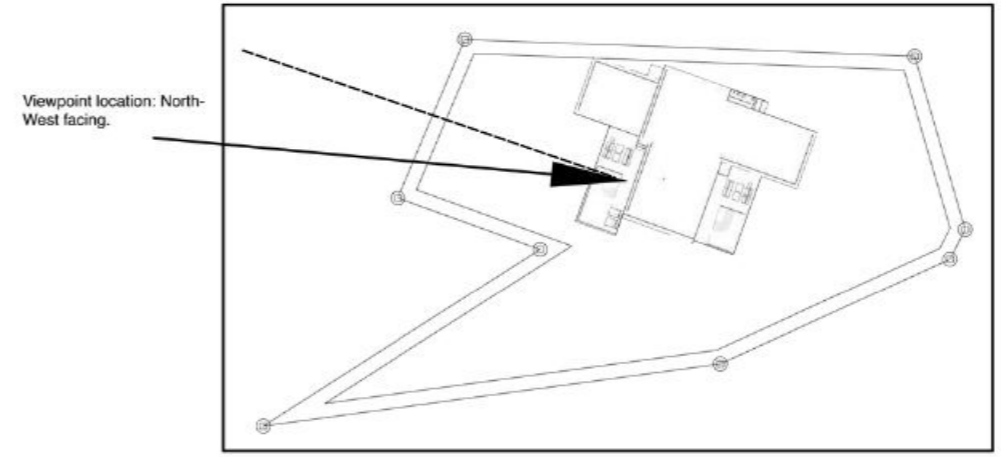


BUILDABILITY NOTES

- Site primary villa platforms on the 26% of gentle ground below 15° to minimise earthwork costs.
- Terrace the 61% of slopes exceeding 25° into engineered cut-and-fill platforms with designed bench widths.
- Retain heavy-gradient zones above 35° using reinforced concrete or mechanically stabilised earth retaining walls.
- Protect all exposed cuts and fill batters with erosion-control measures given the site's 34 m elevation relief.
- Route access roads diagonally across slopes to maintain manageable gradients and reduce concentrated runoff erosion.

SEAVIEW VIEWSHED ANALYSIS

This analysis illustrates the primary viewpoint location and corresponding sightlines, demonstrating how the proposed design aligns with and preserves key seaview orientations.



LICENCED SURVEYER:

DOCUMENT PHASE:
Package 2 - Land Visibility Report

Front Section View (South-West)

1 Front Section View (South-West)
A.10 1mm = 160 (1:160)

A.10

UTM zone 47N

Real Site View + Real Terrain 3d Model

On-site photographic reference (1.70 m eye level) integrated with the terrain-based massing model to verify real-world view alignment, elevation relationship, and design positioning.



Raw Terrain + Massing Model

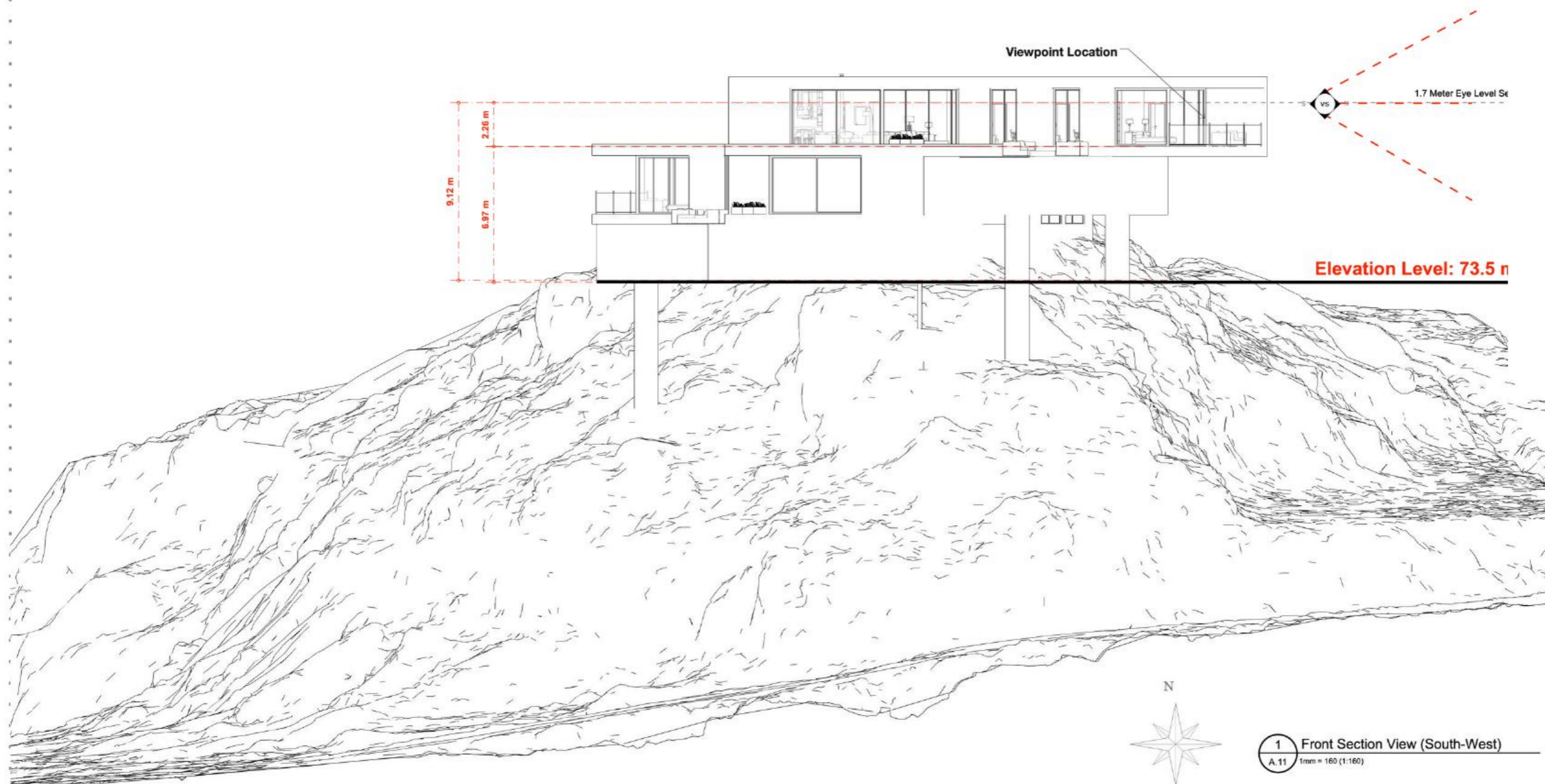
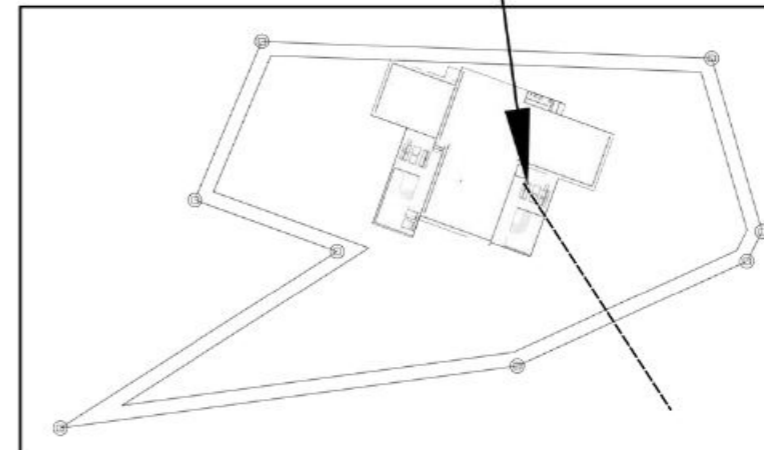
Preliminary visualization used for analysis and positioning.



SEAVIEW VIEWSHED ANALYSIS

This analysis illustrates the primary viewpoint location and corresponding sightlines, demonstrating how the proposed design aligns with and preserves key seaview orientations.

Viewpoint location: North-West facing.



LICENCED SURVEYER:

DOCUMENT PHASE:

Package 2 - Land Visibility Report

Front Section View (South-West)

1 Front Section View (South-West)
A.11 1mm = 160 (1:160)

A.11

UTM zone 47N

Real Site View + Real Terrain 3d Model

On-site photographic reference (1.70 m eye level) integrated with the terrain-based massing model to verify real-world view alignment, elevation relationship, and design positioning.



Raw Terrain + Massing Model

Preliminary visualization used for analysis and positioning.











LANDWISE — REPORT SUMMARY

Project: — Land Visibility & Terrain Analysis

Location: Koh Phangan, Thailand
Package: Land Visibility Report (Package 2)

Scope of Analysis

This report was prepared to evaluate the development potential of the site, with a primary focus on view quality, terrain integration and buildability across a dramatic rocky outcrop position.

The analysis included:

- Drone-based terrain modelling and orthophoto mapping
- Terrain slope, longitudinal profile and DEM elevation analysis
 - Solar orientation and surface drainage assessment
- Feasibility testing for an elevated, post-supported hillside villa
 - Sea view viewshed assessment from the primary viewpoint
- Real-site photographic alignment with terrain-based 3D modelling

Key Findings

- The site follows a steep rocky outcrop profile (elevation 45.8–80.6 m, relief 34.9 m) well suited to elevated post-supported development.
- Terrain and section analysis confirm the land can accommodate a single elevated hillside villa on columns, aligned with the natural ridge and minimising cut and fill.
- Viewshed analysis indicates strong, clear south-west sea views from the primary living level, preserved over the surrounding lowland canopy.
 - Surface water concentrates across the steep gradient, so drainage and erosion control require attention at design stage.

Recommendations

- Position main living areas at the identified primary viewpoint level to capture the south-west sea view.
- Maintain elevation advantage and the post-supported strategy to protect long-term views and limit earthworks.
 - Align design with the natural terrain and incorporate stormwater management on the steep slope.

LANDWISE — REPORT SUMMARY

Thank you for choosing LANDWISE — Land Intelligence Services.

This report provides clear analysis of terrain, slope, drainage and visibility, confirming that the site can support a well-positioned hillside villa with strong and protected sea-view corridors.

Terms, Limitations & Disclaimer (Important)

This report is provided for conceptual planning, visualization, and decision-support purposes only.
All analysis is based on available survey data, drone models, terrain processing, and interpreted regulations at the time of reporting.
LANDWISE does not provide legal, architectural, engineering, or certified surveying services.
This report must not be used as a legal document, construction approval document, or regulatory submission.
Final design, legal verification, structural design, and compliance approvals must be completed by licensed professionals and relevant authorities.
LANDWISE accepts no liability for legal, regulatory, or construction decisions made solely on the basis of this report.