

# Visual Impact Assessment

## 51 Brownell Drive Byron Bay

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# VIA

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## 1.0 Introduction & Report Objectives

Zone Landscape Architecture (Zone, ZLA) has been engaged by Mr. R Mateer (the Proponent), being the owner of land described as Lot 12 DP 248861, No. 51 Brownell Drive Byron Bay 2481 (the Subject Site) to prepare a Visual Impact Assessment (VIA) to assess the potential visual impact of proposed development works hereon referred to as ‘The Proposal’ constituting ‘the proposed works’.

The proposed works can be summarised as alterations and additions to an existing dwelling house located at the above referenced address. The proposed works consists of the construction of a two-car garage, swimming pool, ancillary store and lift including associated retaining structures. These works are described further in **Section 4.0 The Proposal**.

This Visual impact Assessment has been prepared in response to, and with reference to;

### The Development Application (Refusal) reference 10.2021.197.1:

*Item 3) i. The proposal is inconsistent with **Chapter C3 Visually Prominent Development** the site is located within a visually prominent site and the application has not provided a visual impact assessment in accordance with this chapter. It is considered that the development will create adverse visual impacts that cannot be adequately considered given the lack of information provided.*

### The Statement of Facts and Contentions filed by the respondent on 3 August 2021:

*Item 8. Character & Visual Impact.  
The site is located within the coastal zone and is a ‘visually prominent site’ as defined within the **Byron Development Control Plan 2014 Chapter A**.*

*The development application should be refused because approval of the proposal will have an adverse impact on the streetscape and character of the area. The application has not demonstrated compliance with State Environmental Planning Policy (Coastal Management) 2018 (Coastal Management SEPP), Chapter C3 Visually Prominent sites, Visually Prominent Development and View Sharing and Section D1.2.4 Character & Visual Impact, of the BDCP 2014.*

The objective of this Visual Impact Assessment (VIA) is to assess the **potential impact** of the proposed changes to the Subject Site in context with the **scenic amenity** of the local region and identify appropriate mitigation measures (if required).

These VIA objectives are summarised as:

- To establish the location of **key vantage** points within the Area of Investigation with a line of sight to The Project;
- To assess the existing **scenic quality** and **landscape character** of the local region;
- To assess the potential impact of The Project in context with the **established scenic amenity** of the local region;
- To identify appropriate **mitigation measures** (if required).

The impact of the proposed development has been assessed through detailed topographic studies including the generation of view shed analysis presented in both 2D and 3D mapping to clearly illustrate findings. A series of **verified photomontages** of The Project have also been prepared to accurately illustrate the proposed outcome.

The potential visual impact of the proposal on the identified catchments has assessed and evaluated against recognized visual assessment principals as determined by the Institute of Environmental Management & Assessment 2019 and described by the Landscape Institute for Environmental Management and Assessment (LIEMA).

Through the assessment, reference to the specific relevant policy objectives stated in BSC DCP Chapter C3 and Section D1.2.4, of the BDCP 2014 will be made.

For ease of reference, a summary table has been provided to address compliance to BSC DCP Chapter C3 and Section D1.2.4, of the BDCP 2014. Refer **7.0 Visual Impact Assessment and Analysis**.

### Verified Photomontages & Project Visualisations

A Landscape Concept Plan has also been included within this Assessment Report. This has been prepared by Zone Landscape Architecture and reference to Byron-Shire-DCP-2014-Chapter-B9-Landscaping is made.

A series of photomontages have been prepared to accurately illustrate the proposed changes and final outcome for the Project Site.

The methodology used to prepare these images is outlined below:

Photomontages consist of a range of panoramic images. Panoramic imagery has been stitched together using PTGui software. Panoramic imagery was stitched together using rectilinear mapping process. Rectilinear processing ensures the least amount of curved distortion within the panoramic imagery.

3D components of the photomontages have been prepared using 3D Studio Max 2021 to model and render the proposed final landform for the development. Within 3d Studio Max, camera matching tools were utilised to align the 3D model to the site photography using 14 site survey points provided by HM Surveying.

Vray 5 rendering software was utilised to render the 3D components of the composite. All rendered components and panoramic backplates were bought into Photoshop v22, for editing. 3D components were edited with filters to match the colour tone etc of the backplate imagery for further accuracy.





## 2.0 Project Locality

The Land is located within the 'Wategos Beach' area and is Zoned R2 Low Density Residential pursuant to the Byron Local Environmental Plan 2014.

The Cape Byron Lighthouse located 220m to the east of the site. The Byron Bay town centre is located approximately 2km to the west of the subject site.

- Subject Site**  
51 Brownell Drive BYRON BAY | LOT: 12 DP: 248861  
Average Ground Level AHD: 37.0m
- Cape Byron Lighthouse**  
Distance from Subject Site: 220m  
Average Ground Level AHD: 40.0m
- Wategos Beach**  
Distance from Subject Site: 220m  
Average Ground Level AHD: 0-2.0m
- Marine Parade**  
Distance from Subject Site: 205m  
Average Ground Level AHD: 5.20m
- Cape Byron Conservation Area**  
Distance from Subject Site: (Immediate South)  
Average Ground Level AHD: 50-70m
- Byron Bay CBD**  
Distance from Subject Site (Lawson Street): 2.10km  
Average Ground Level AHD: 3.5m
- Byron Bay Residential**  
Distance from Subject Site (Cowper Street): 1.80km  
Average Ground Level AHD: 9.0m

Visual Impact Assessment

## 2.1 Project Locality Plan





Visual Impact Assessment

### 3.1 Subject Site Plan Existing

### 3.0 The Subject Site

The property is a 663.9m<sup>2</sup> residential allotment, legally described as Lot 12 in DP248861 and known as 51 Brownell Drive, Byron Bay (the Subject Site). The site is bounded by residential allotments to the northeast and southwest, a National Parks & Wildlife Service reserve to the southeast, and Brownell Drive to the northwest.

The Subject Site is generally oriented east - west with the western property boundary addressing Brownell Drive. The property slopes down towards Brownell Drive from a high point of the site being approximately 43.0m AHD sloping down to approximately 30.5m AHD at the property boundary and 29.7m AHD at the kerb of Brownell Drive.

The site currently contains a two-storey dwelling house, with nil constructed vehicular access to Brownell Drive. The site is located within the coastal zone and is a 'visually prominent site' as defined within the Byron Development Control Plan 2014 Chapter A.

-  **Subject Site**  
51 Brownell Drive BYRON BAY  
LOT: 12 DP: 248861
-  **Existing Dwelling RETAINED**  
Existing two storey dwelling and deck area to be retained.  
AHD height: 42.74m (top of roofline)
-  **Existing Retaining Wall REMOVED**  
Existing stone block retaining wall to be removed as part of the Proposal.  
AHD height: 32.56m
-  **Existing Vegetation RETAINED**  
Existing vegetation identified on site.  
Nil tree identified will be removed as part of the Proposal.
-  **Ground Level (Lot)** **AHD 43.0m**
-  **Ground Level (Lot)** **AHD 30.5m**
-  **Ground Level (Kerb)** **AHD 29.7m**
-  **Ground Level (EOW Area)** **AHD 33.5m**
-  **Lot 11 DP112111**  
Balustrade AHD Height to Outdoor Private Open Space: 36.06m
-  **Lot 13 DP248861**  
Balustrade AHD Height to Outdoor Private Open Space: 35.72m







### 3.2 The Subject Site Survey Points

Survey Points as recorded by Heath & McPhail Surveying on the 22.07.2021.

Note:  
The shown levels are Australian Height Datum (AHD)  
The origin for the shown levels are from CORS RTK Network.

- P01 RL 29.725
- P02 RL 30.785
- P03 RL 31.055
- P04 RL 32.60
- P05 RL 32.56
- P06 RL 32.06
- P07 RL 32.005
- P08 RL 30.895
- P09 RL 35.716
- P10 RL 41.425
- P11 RL 41.31
- P12 RL 39.14
- P13 RL 36.56
- P14 RL 36.065

**Lot 11 DP112111**  
Balustrade AHD Height to Outdoor Private Open Space: 36.06m





### 3.3 The Subject Site Survey Points

Survey Points as recorded by Heath & McPhail Surveying on the 22.07.2021.

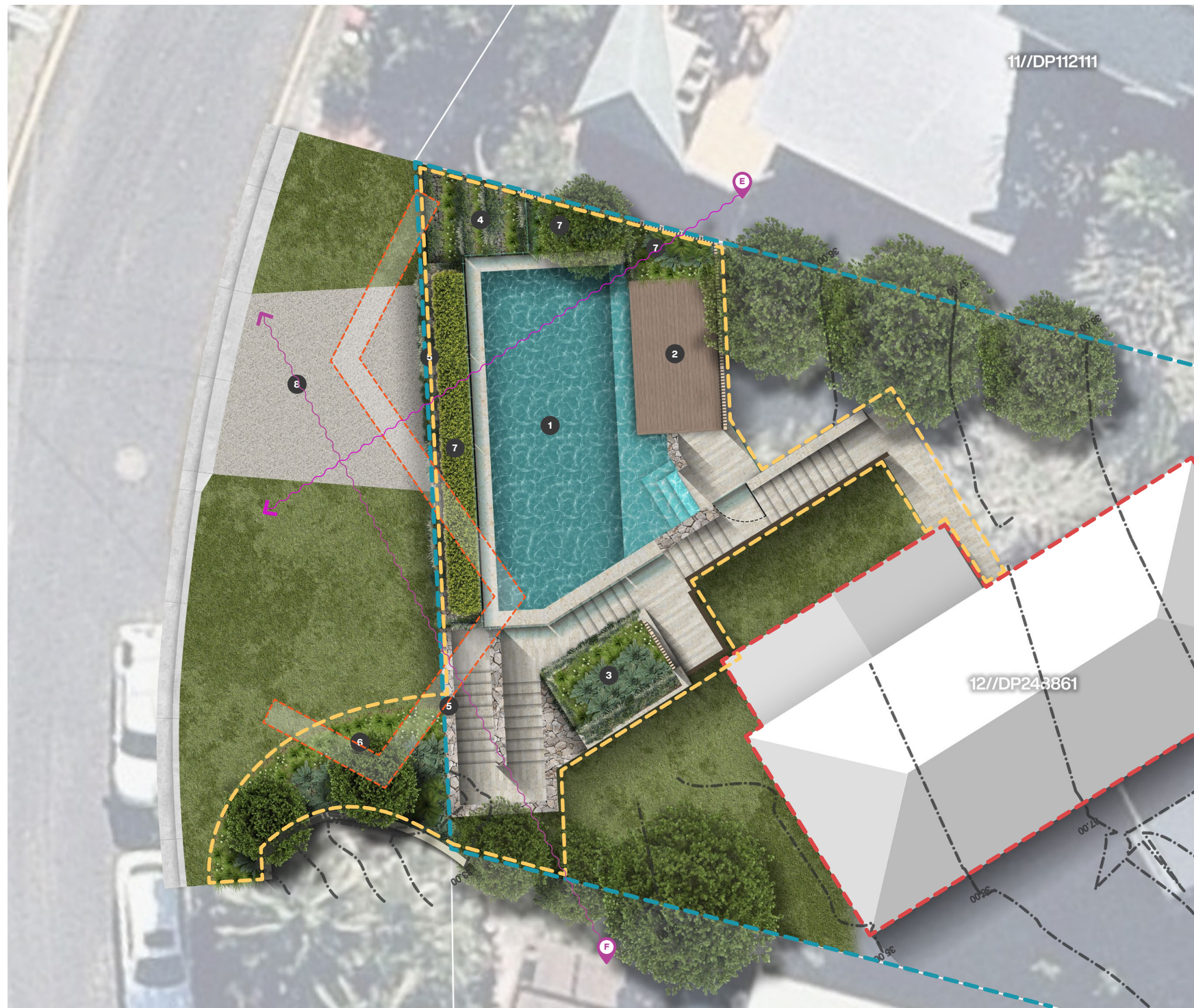
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- P01 RL 29.725
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- P13 RL 36.56
- P14 RL 36.065

- Lot 11 DP112111**  
Balustrade AHD Height to Outdoor Private Open Space: 36.06m
- Lot 13 DP248861**  
Balustrade AHD Height to Outdoor Private Open Space: 35.72m







Visual Impact Assessment

## 4.1 The Proposal Extent of Works

### 4.0 The Proposal

The proposed development works subject to the assessment includes alterations and additions to the existing dwelling house, comprising of removal of an existing retaining wall and the construction of a two-car garage, swimming pool and ancillary store and lift. These elements are illustrated this sheet and summarised below.

- **Existing Dwelling RETAINED**  
Existing two storey dwelling and deck area to be retained.  
AHD height: 42.74m (top of roofline).
- **Existing Retaining Wall REMOVED**  
Existing stone block retaining wall to be removed as part of the Proposal.  
AHD height: 32.56m
- **Extent of Works**  
Extent of proposed works that comprise 'The Project'.
- 1 **Swimming Pool**  
Pool edge AHD height: 34.5m
- 2 **Pool Deck**  
Pool edge AHD height: 35.0m
- 3 **Lift with Planting Over**  
Top of Structure AHD height: 36.54m
- 4 **Rock Gabion Retaining Walls & Terraced Planting Beds**  
Terraced Gabions AHD height: 32.5 - 34.3m
- 5 **Natural Stone Clad Wall**  
Top of Wall AHD height: 33.3m
- 6 **Landscaped Embankment**  
Ground Level AHD height: ~33.0m
- 7 **Landscaped Garden Beds**  
Refer to Landscape Concept Plan Attachment 01
- 8 **Verge & VXO**  
Proposed driveway and reinstated verge. Area illustrated as turf provides an opportunity for additional planting to soften development facade. Refer to Landscape Concept Plan Attachment 01.
- **Lot 11 DP112111**  
Balustrade AHD Height to Outdoor Private Open Space: 36.06m
- **Lot 13 DP248861**  
Balustrade AHD Height to Outdoor Private Open Space: 35.72m



## 4.2 The Proposal Structure Heights

AHD heights of all structures proposed within the extents of works area that comprise the Proposal. These heights have been used within all Viewshed Mapping and Cross Sectional Analysis within this document.

**Subject Site Lot Extents**  
51 Brownell Drive BYRON BAY  
LOT: 12 DP: 248861

**Subject Site Property Boundary**

**Existing Dwelling RETAINED**  
Existing two storey dwelling and deck area to be retained.  
AHD height: 42.74m (top of roofline)

**1 Natural Stone Clad Wall (Garage Frontage)**  
Top of Wall AHD height: 33.3m

**2 Natural Stone Clad Wall (Second Tier)**  
Top of Wall AHD height: 34.3m

**3 Lift with Planting Over (Concealed)**  
Top of Structure AHD height: 36.54m

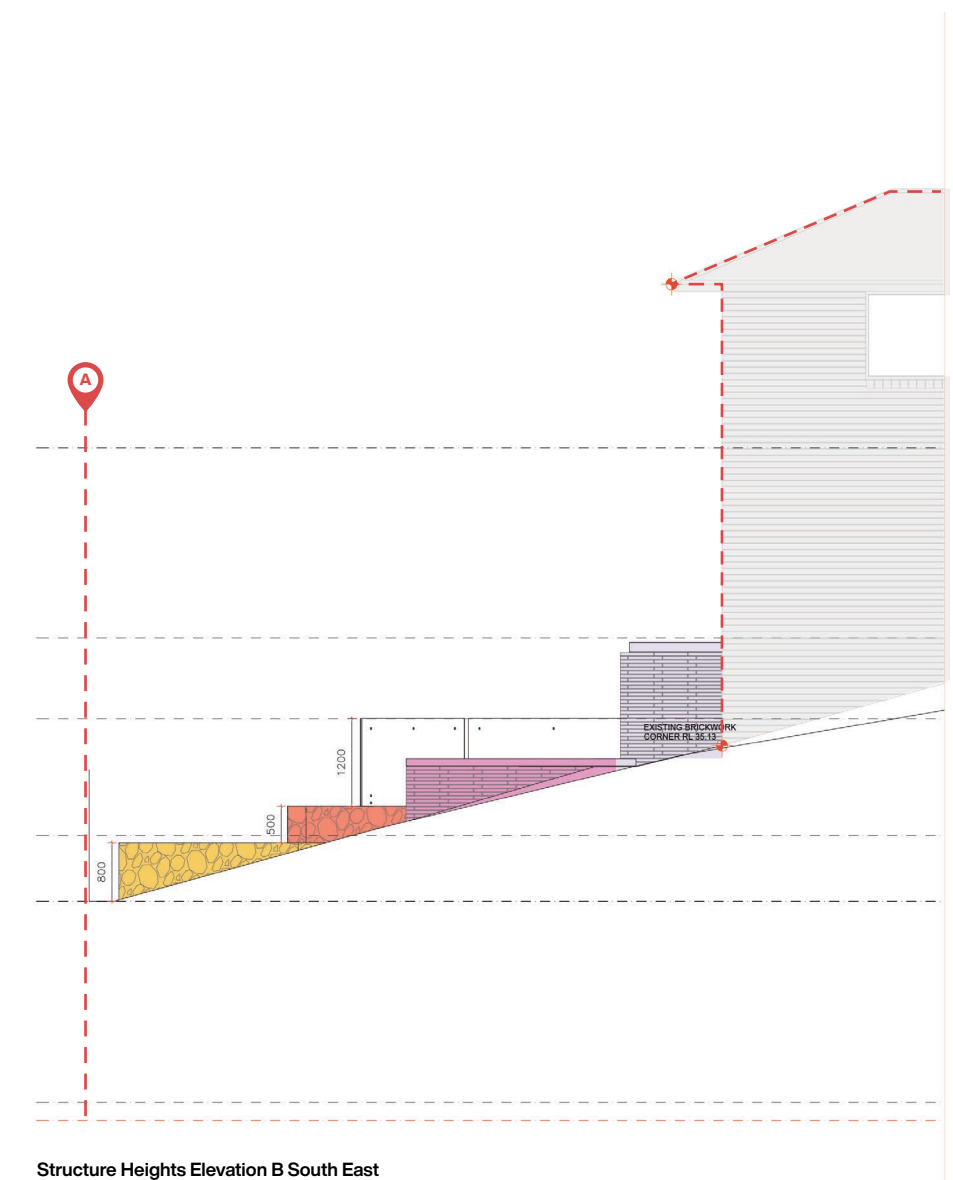
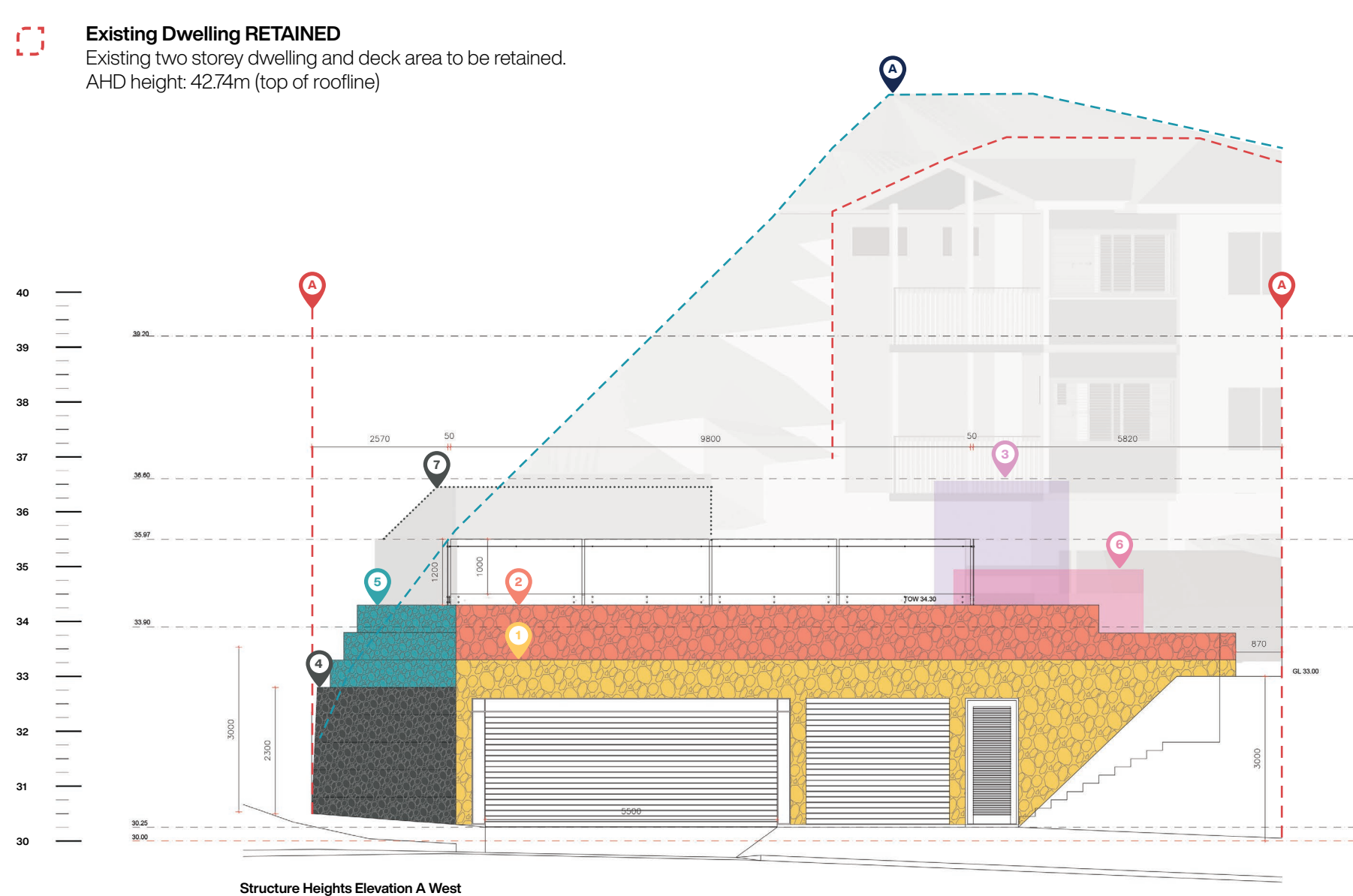
**4 Rock Gabion Retaining Wall (Front)**  
Terraced Gabions AHD height: 32.5 - 34.3m

**5 Rock Gabion Retaining Walls & Terraced Planting Beds**  
Terraced Gabions AHD height: 32.5 - 34.3m

**6 Planting Bed B**  
Top of Planter AHD height: 34.95m


**7 Batten Fenceline**  
Top of fence AHD height: 36.4m


**A Subject Site Lot Extents**  
North-East Corner AHD height: 43.2m











- 


**Existing Dwelling RETAINED**  
Existing two storey dwelling and deck area to be retained.  
AHD height: 42.74m (top of roofline)
- 


**Natural Stone Clad Wall (Garage Frontage)**  
Top of Wall AHD height: 33.3m
- 


**Natural Stone Clad Wall (Second Tier)**  
Top of Wall AHD height: 34.3m
- 


**Lift with Planting Over (Concealed)**  
Top of Structure AHD height: 36.54m
- 

**Rock Gabion Retaining Wall (Front)**  
Terraced Gabions AHD height: 32.5 - 34.3m
- 

**Rock Gabion Retaining Walls & Terraced Planting Beds**  
Terraced Gabions AHD height: 32.5 - 34.3m
- 

**Batten Fenceline**  
Top of fence AHD height: 36.4m
- 

**Landscape Plantings**  
Landscape plantings to soften facade and provide privacy screening for pool area.  
Refer to landscape Concept for further information.
- 

**Lot 11 DP112111**  
Balustrade AHD Height to Outdoor Private Open Space: 36.06m
- 

**Lot 13 DP248861**  
Balustrade AHD Height to Outdoor Private Open Space: 35.72m

Materials Palette

1	Freeform   Canyonfell (Option: Not Illustrated)	Eco Outdoor
2	Freeform   Finch	Eco Outdoor
3	Gabion Rock Wall   Basalt	Permathene
4	Exposed Aggregate   County Gold	Boral
5	Black Butt Timber (or approved similar)	N/A
6	Glass Balustrade	N/A
7	Grey Ironbark or similar 'beached-grey' / muted timber look	N/A







Visual Impact Assessment  
4.4 Verified Visual Montage B

- A

**Existing Dwelling RETAINED**  
Existing two storey dwelling and deck area to be retained.  
AHD height: 42.74m (top of roofline)
- 1

**Natural Stone Clad Wall (Garage Frontage)**  
Top of Wall AHD height: 33.3m
- 2

**Natural Stone Clad Wall (Second Tier)**  
Top of Wall AHD height: 34.3m
- 3

**Lift with Planting Over (Concealed)**  
Top of Structure AHD height: 36.54m
- 4

**Rock Gabion Retaining Wall (Front)**  
Terraced Gabions AHD height: 32.5 - 34.3m
- 5

**Rock Gabion Retaining Walls & Terraced Planting Beds**  
Terraced Gabions AHD height: 32.5 - 34.3m
- 6

**Batten Fenceline**  
Top of fence AHD height: 36.4m
- 7

**Landscape Plantings**  
Landscape plantings to soften facade and provide privacy screening for pool area.  
Refer to landscape Concept for further information.
- E

**Lot 11 DP112111**  
Balustrade AHD Height to Outdoor Private Open Space: 36.06m
- 9

**Lot 13 DP248861**  
Balustrade AHD Height to Outdoor Private Open Space: 35.72m

Materials Palette

1	Freeform   Canyonfell (Option: Not Illustrated)	Eco Outdoor
2	Freeform   Finch	Eco Outdoor
3	Gabion Rock Wall   Basalt	Permathene
4	Exposed Aggregate   County Gold	Boral
5	Black Butt Timber (or approved similar)	N/A
6	Glass Balustrade	N/A
7	Grey Ironbark or similar 'beached-grey' / muted timber look	N/A





5.0 VIA Methodology

Key visual catchment zones have been identified through both topographic and photographic studies. The potential visual impact of The Project on the identified visual catchments will be assessed and evaluated against recognized visual assessment principals as determined by the Institute of Environmental Management & Assessment and described by the Landscape Institute for Environmental Management and Assessment (LlIEMA).

Reference: Guidelines for Landscape and Visual Impact assessment, Second Edition, published by the Landscape Institute for Environmental Management and Assessment.

A four-stage process has been undertaken summarised as:

- Stage 1 Define the Area of Investigation (Visual Catchment)
- Stage 2 Evaluation of Site Scenic Amenity
- Stage 3 Visual Impact Assessment & Analysis
- Stage 4 Proposed Mitigation (Includes Design Outcome)

5.1 Stage 1: Define the Area of investigation

This Section of the Report will include the below phases:

- A. Determine Visual Catchment of The Project
- B. Determine Key Vantage Points for Analysis

A. Determine Area of Investigation

The Area of Investigation represents the area over which the visual impacts of The Project will be investigated. The Area of Investigation (AOI) has been determined through desktop analysis . Site Analysis Plans prepared to determine the AOI and provide base data to inform the selection of Key Vantage Points and subsequent impact analysis are summarised below and are included within the following section of this report.

- 5.2 Visual Catchment Boundaries 01
- 5.3 Visual Catchment Boundaries 01 Isometric
- 5.4 Viewshed Analysis A & B

B. Determine Key Vantage Points for Analysis

Viewing Situations are defined as locations from which people experience and enjoy views. The identification of viewing situations as ‘Key Vantage Points’ (KVP) for assessment in the VIA has been determined via a two step process

Step 01: Desktop analysis to determine potential sensitive receptors such as areas of existing residential development within a proximity to the subject site and areas determined to be located within the visual catchment of The Project.

Potential Viewing Situations were determined based on

- a) Proximity to subject site,
- b) Location along primary vehicular or pedestrian networks and;
- c) Areas of elevated topography.

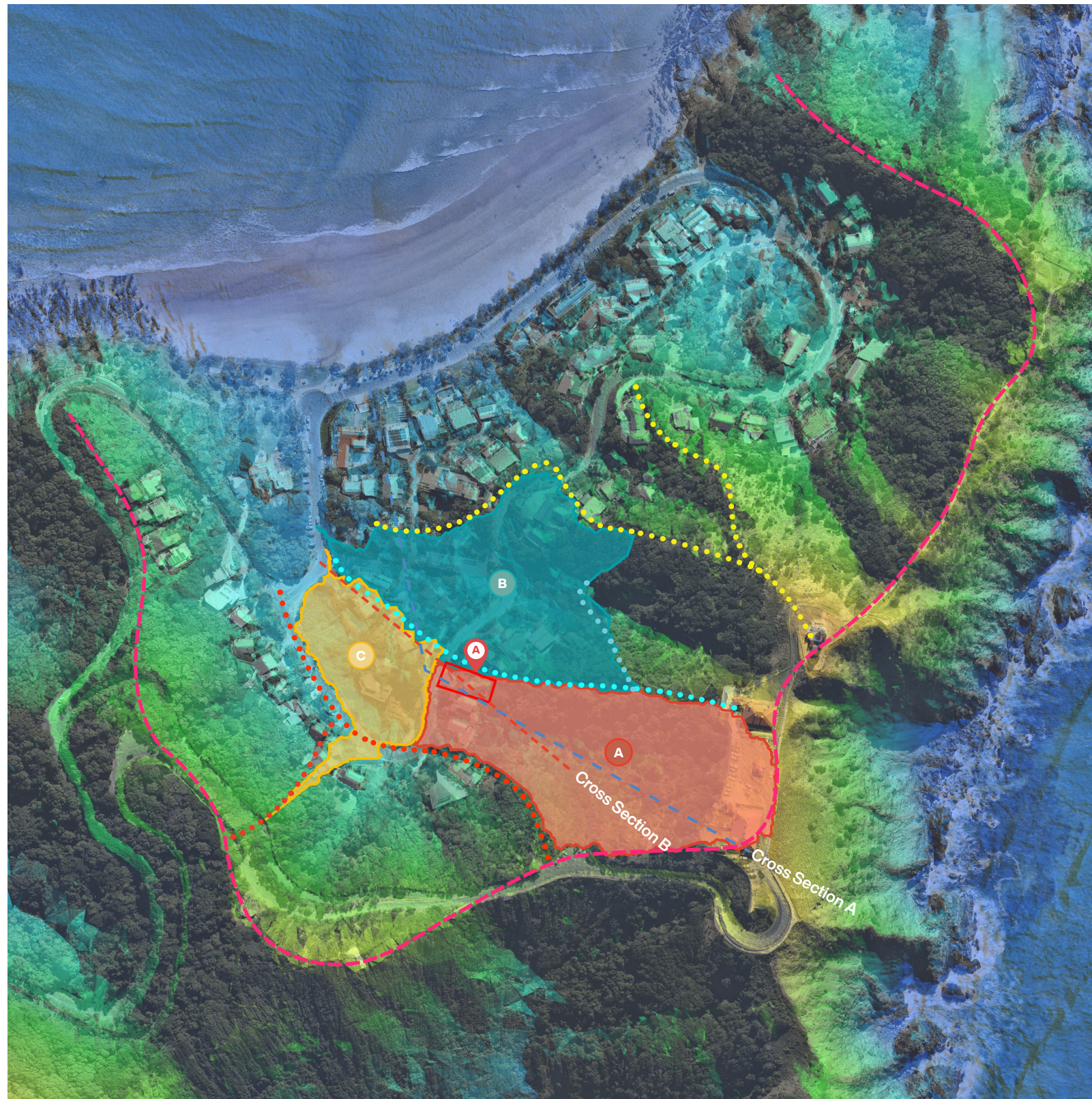
Step 02: Site investigation and photographic studies to ‘vet’ the potential viewing situations identified in Step 01 to identify which of the viewing situations are Key Vantage Points for assessment, and those which are not considered Key Vantage Points and which will not be considered by the VIA.

The identification of Key Vantage Point locations was also used to determine the field of view locations for the verified Visual Montages included within this assessment.

Plans prepared to determine Key Vantage Point and inform the above referenced process are summarised below and are included within the following section of this report.

- 5.2 Visual Catchment Boundaries 01
- 5.3 Visual Catchment Boundaries 01 Isometric
- 5.4 Viewshed Analysis A & B

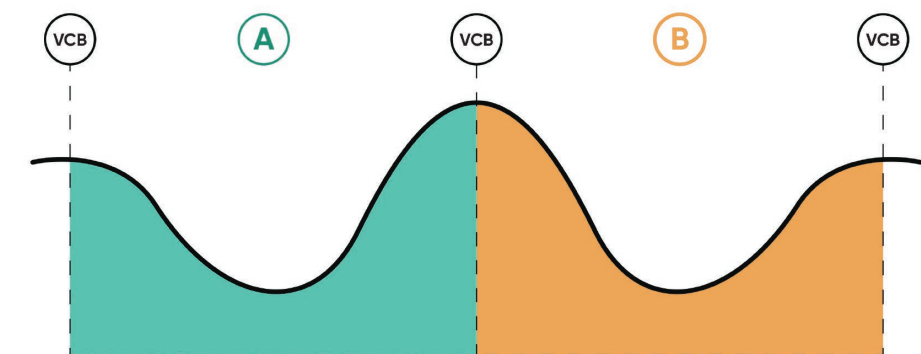




## 5.2 Visual Catchment Boundaries

The Area of Investigation (AOI) represents the area over which the visual impacts of The Project will be investigated. The identification of Visual Catchment Boundaries to determine the area over which The Project Site may be visible has been undertaken to assist in defining the AOI and identifying and / or confirming potential Key Vantage Points for assessment.

Visual catchments are areas bound by a shared viewing exposure from a particular vantage point or location on the ground plane. Visual catchment areas are defined by topography, the height of a particular point on the ground plane, relative to the surrounding area.





The cross-sectional diagram above illustrates two distinct Visual Catchments 'A' and 'B'. A particular land-use or structure that exist within Visual Catchment Area A is likely to be contained within the confines of Visual Catchment Zone A. Further, its impact may be visually obscured (or its impact lessened) from Visual Catchment B by the central rise in topography.

These Visual Catchment Boundaries (VCB) are associated with prominent ridgelines or rises in topography that act to contain or restrict views.

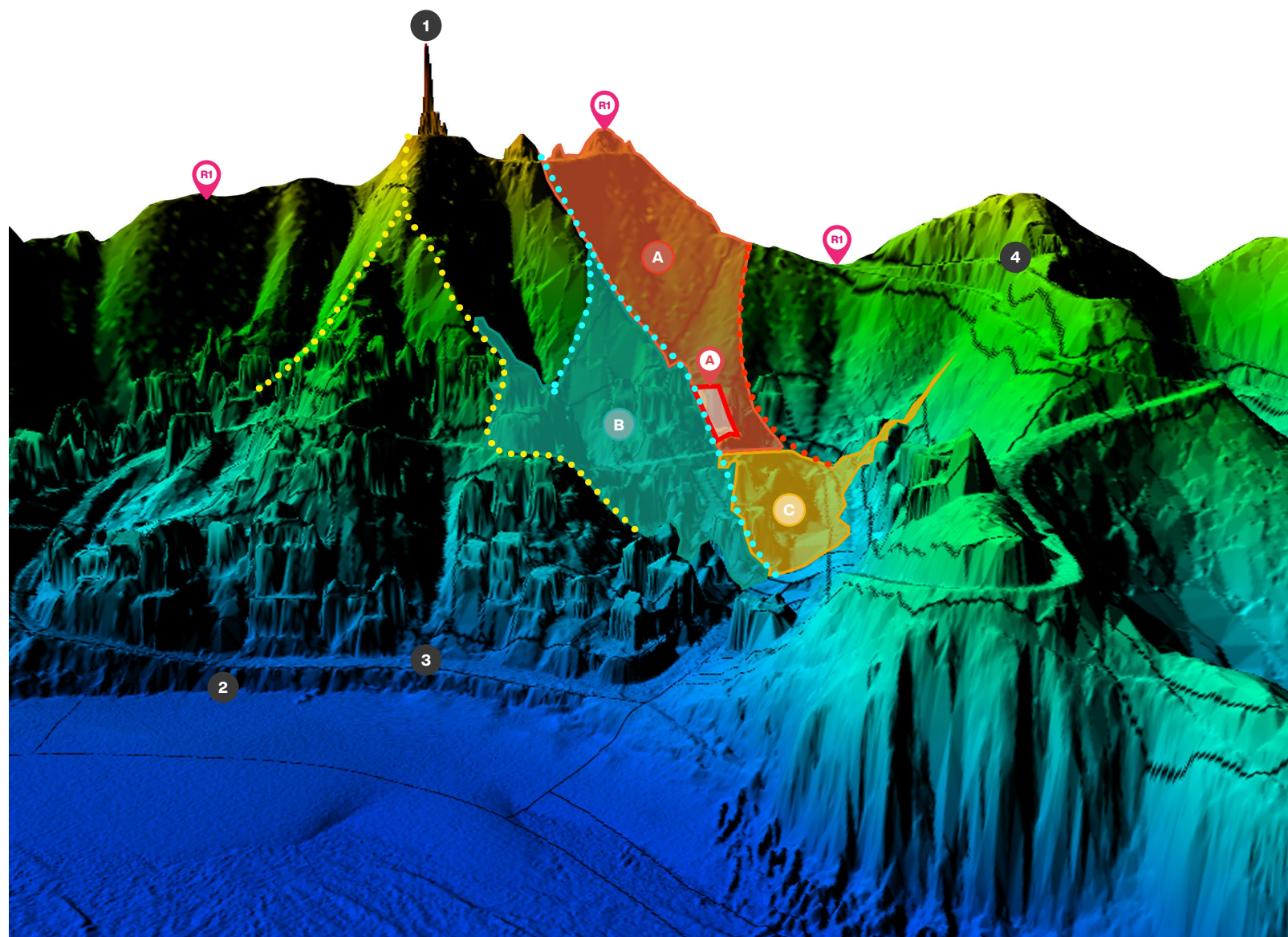
This methodology for establishing visual catchment boundaries has been applied over The project Site and surrounding area and is included this page. The various visual catchments determined through topographic analysis are illustrated by the contrasting coloured catchment zones over and surrounding the The Project Site.

The Primary Ridgelines responsible for defining the Visual Catchments are referenced throughout this are defined below:

-  **Prominent Ridgeline 1**  
Ridgeline associated generally aligned with Lighthouse Road. Ridgeline has an elevation that varies from ~60 to ~100m AHD and forms the south-east extents of VCB 1.
-  **Secondary Ridgelines**  
Secondary ridgelines, generally orientated south-east to north-west, act to contain views, forming the extents of the VCB identified. These ridgelines correlate with the curvilinear sections of Brownell Road.

-  **Visual Catchment Area A**
-  **Visual Catchment Area B**
-  **Visual Catchment Area C**



**Subject Site**

51 Brownell Drive BYRON BAY | LOT: 12 DP: 248861  
Average Ground Level AHD: 98.0m

**Cape Byron Lighthouse**

Distance from Subject Site: 220m  
Average Ground Level AHD: 40.0m

**Wategos Beach**

Distance from Subject Site: 220m  
Average Ground Level AHD: 0-2.0m

**Marine Parade**

Distance from Subject Site: 205m  
Average Ground Level AHD: 5.20m

**Cape Byron Conservation Area**

Distance from Subject Site: (Immediate South)  
Average Ground Level AHD: 50-70m

**Prominent Ridgeline 1**

Ridgeline associated generally aligned with Lighthouse Road. Ridgeline has an elevation that varies from ~60 to ~100m AHD and forms the south-east extents of VCB 1.

**Secondary Ridgelines**

Secondary ridgelines, generally orientated south-east to north-west, act to contain views, forming the extents of the VCB identified. These ridgelines correlate with the curvilinear sections of Brownell Road.



North-east boundary of VCB A



South-west boundary of VCB A



North-east boundary of VCB B



Visual Catchment Area A



Visual Catchment Area B

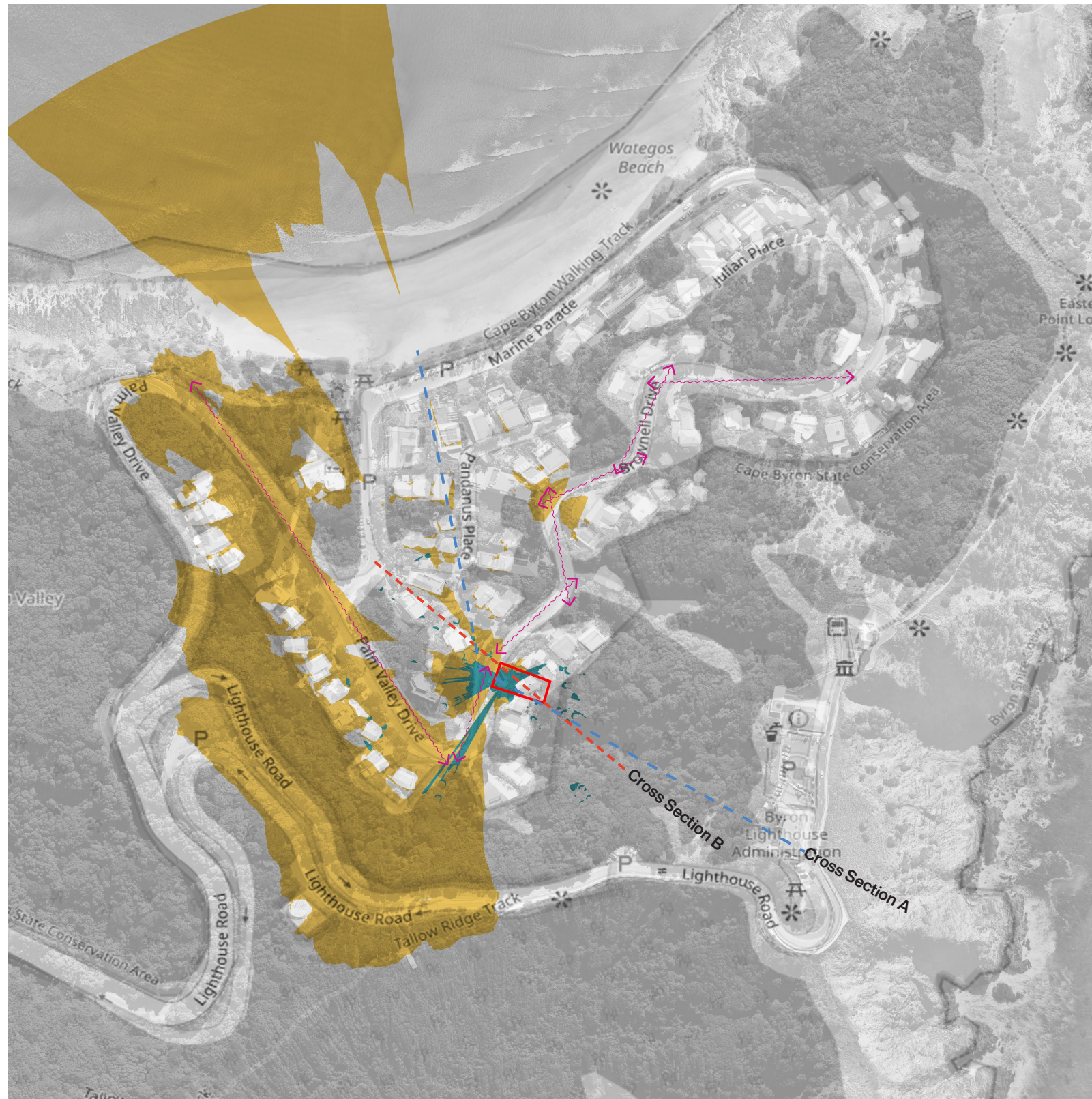


Visual Catchment Area C

**Visual Catchment Boundary Analysis Summary**

The Subject Site is contained within in a single Visual Catchment Area (VC A). The visual catchment is constrained to the south-east by prominent Ridgeline 1 generally associated with Lighthouse Road and the west by the ridgeline formed by Brownell Drive. Secondary ridgelines, generally orientated south-east to north-west, act to form the south-west and north-eastern boundaries of VC A.





## 5.5 Viewshed Mapping

A viewshed is the area that is visible from a particular viewing location or 'vantage point' within the landscape. It is the combination of all available lines of sight along which an observer has an unobstructed view.

The viewshed analysis uses loaded elevation grid data with a user-specified transmitter location, height, and radius. All areas within the selected radius that have a clear line of sight to the transmitter are colored with a user-specified color.

### Viewshed Analysis A

Viewshed cast from 34.3m AHD

Viewshed A is directly related to terrain only. The role of existing and or proposed vegetation within the AOI is not considered by Viewshed Analysis A.

### Viewshed Analysis B

Viewshed cast from 34.3m AHD

Viewshed B takes into consideration the significant role vegetation plays in filtering and screening views.

### Sightlines

The varying elevation and curvilinear profile of Brownell Drive restricts the field of view for travelers to short-views only.

## Viewshed Analysis Summary

Viewshed A is cast from a transmitter at the height representing the proposed development works. This resulting Viewshed is primarily limited to the elevated area of land to the west of the Subject Site associated with the eastern face of Prominent Ridgeline 1. This area contains a number of residential dwellings located along the western side of Palm Valley Drive.

Viewshed A does not extend to the east of the Subject Site with landform variation to the east of the subject site acting to prevent any clear-line-of-site to the Proposal.

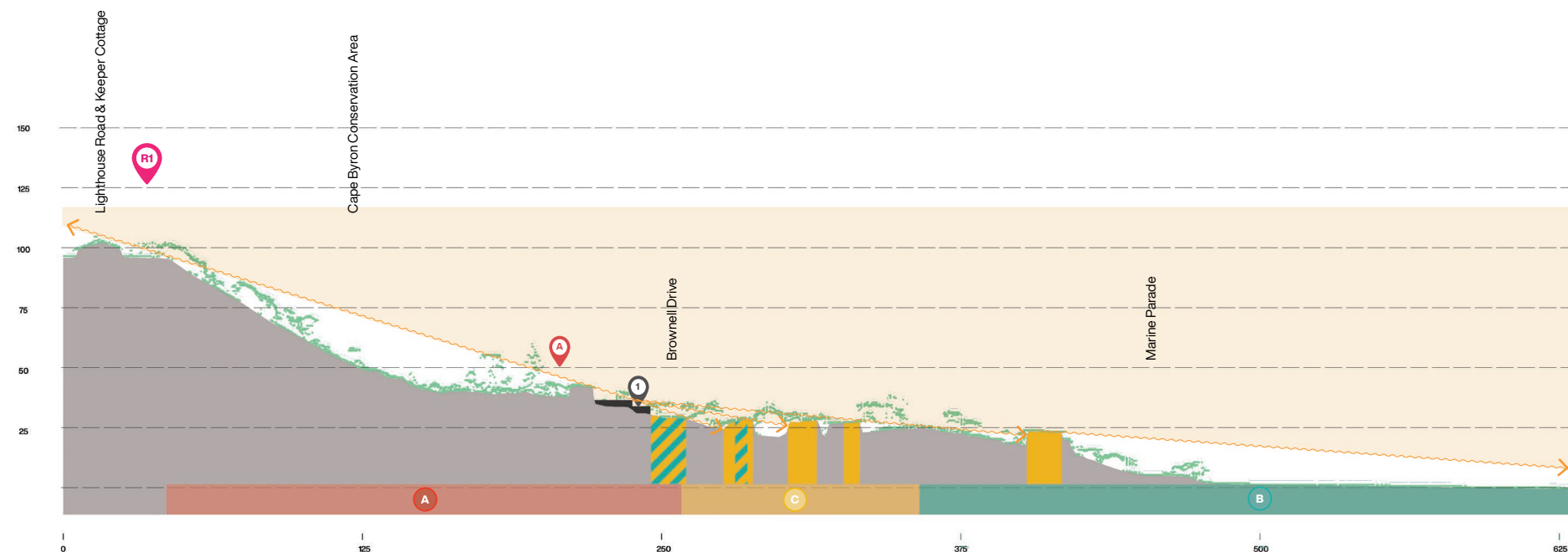
Viewshed A is directly related to landform only, the role of existing and or proposed vegetation within the AOI is not considered by Viewshed Analysis A.

Viewshed B is cast from a transmitter at the height representing the proposed development works (at the same height and location as Viewshed A transmitter). Viewshed B takes into consideration all existing vegetation, to determine the role that this plays on views of the proposal within the Visual Catchment Area.

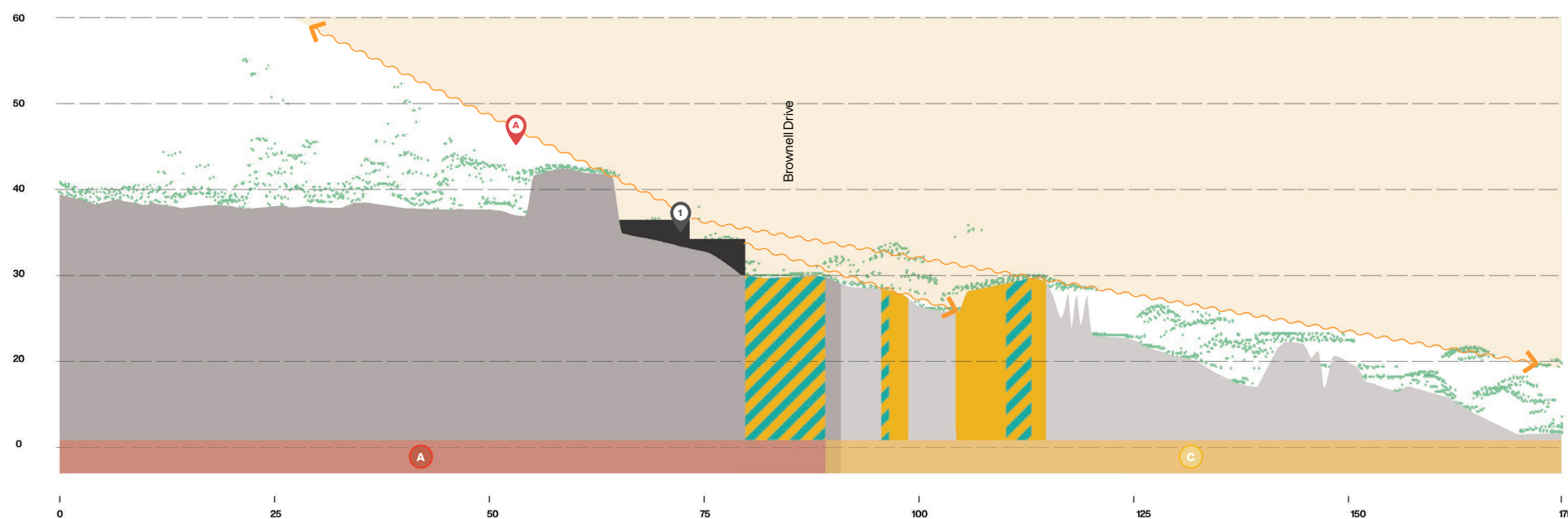
Existing vegetation restricts the Viewshed to a distance of approximately 15m to the north with minor (narrow) field of views to the south-west along Brownell Drive to vegetation associated with Cape Byron Conservation area.

Key Vantage Points from which the Project will be visible are limited to locations along Brownell Drive in proximity to the Subject Site.





Cross Section A Visual Catchment Boundaries &amp; Viewshed Analysis A &amp; B.



Cross Section B Visual Catchment Boundaries &amp; Viewshed Analysis A &amp; B.

**Subject Site**  
51 Brownell Drive BYRON BAY | LOT: 12 DP: 248861  
Average Ground Level AHD: 98.0m

**Proposed Works (The Project)**  
Refer 4.0 Proposed Structure Heights

**Prominent Ridgeline 1**  
Ridgeline associated generally aligned with Lighthouse Road. Ridgeline has an elevation that varies from ~60 to ~100m AHD and forms the south-east extents of VCB 1.

**A** Visual Catchment Area A

**B** Visual Catchment Area B

**C** Visual Catchment Area C

**Viewshed Analysis A**  
Viewshed cast from 34.3m AHD  
Viewshed A is directly related to terrain only. The role of existing and or proposed vegetation within the AOI is not considered by Viewshed Analysis A.

**Viewshed Analysis B**  
Viewshed cast from 34.3m AHD  
Viewshed B takes into consideration the significant role vegetation plays in filtering and screening views.

**LiDAR Vegetation**  
Existing Vegetation: LiDAR Classification: Vegetation Canopy  
Cross Sections illustrate the LiDAR points classified as vegetation. The impact of existing vegetation in limiting the viewshed cast from the Project Structure Heights is illustrated in Viewshed Analysis B.

Visual Impact Analysis

## 5.7 Cross Sections



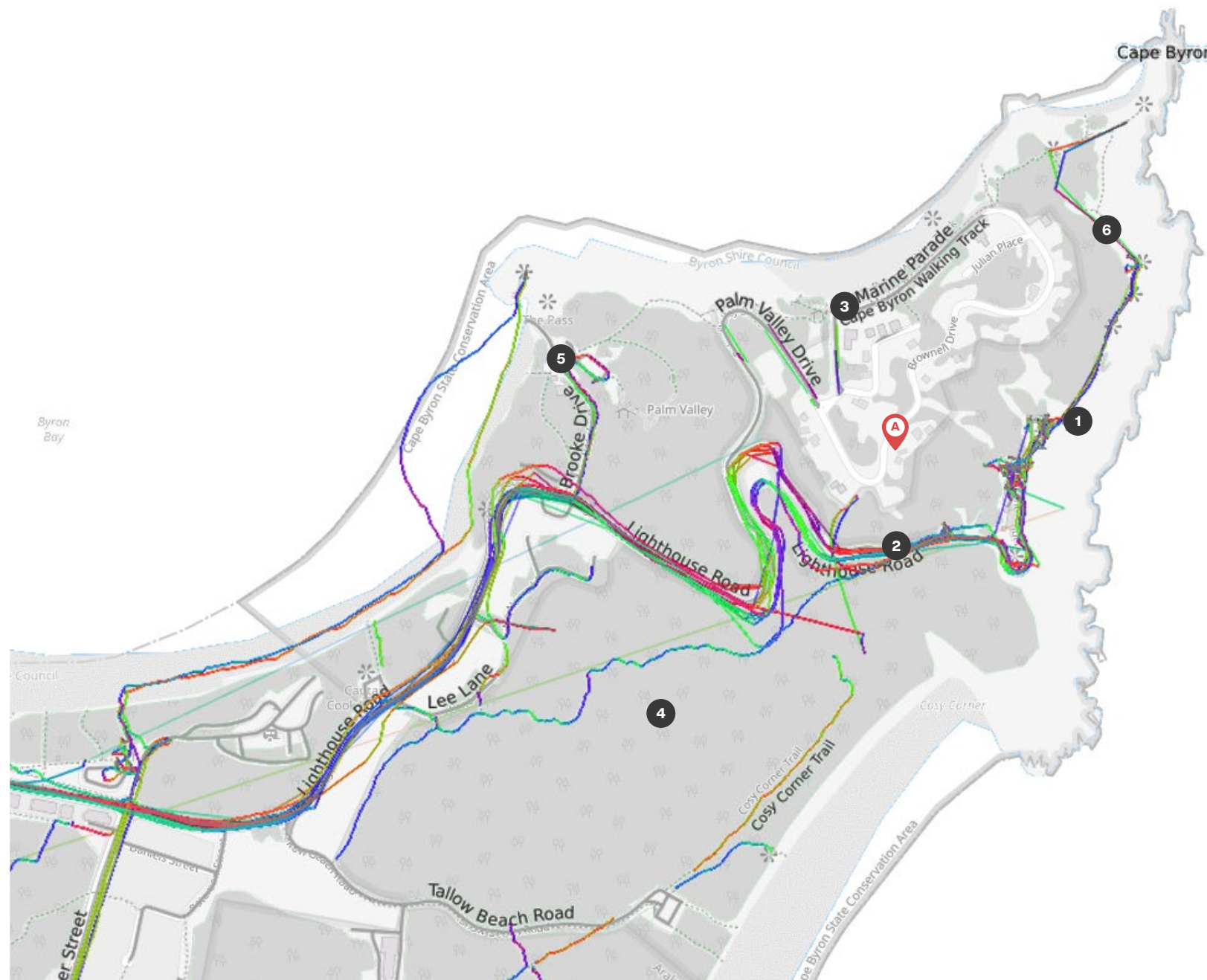
## 5.8 Circulation

This plan illustrates the primary circulation network as traveled by the public. This plan uses open-source GPS tracking to collate a heat map of the most traveled circulation routes through the locality.

As illustrated, the primary circulation routes utilised by the public is Lighthouse Road and the Cape Byron walking track. This data has been used to inform the selection of potential vantage points from which the Subject Site may be visible to the public.

Brownell Drive is not identified through the OSM Public GPS traces as a pedestrian circulation route. This is likely due to nil dedicated pedestrian pathway to Brownell Drive combined with portions of road having considerable gradient. Brownell Drive primarily serves as an access road for local residents.

Source: Open Street Map GPS database: Public GPS traces.

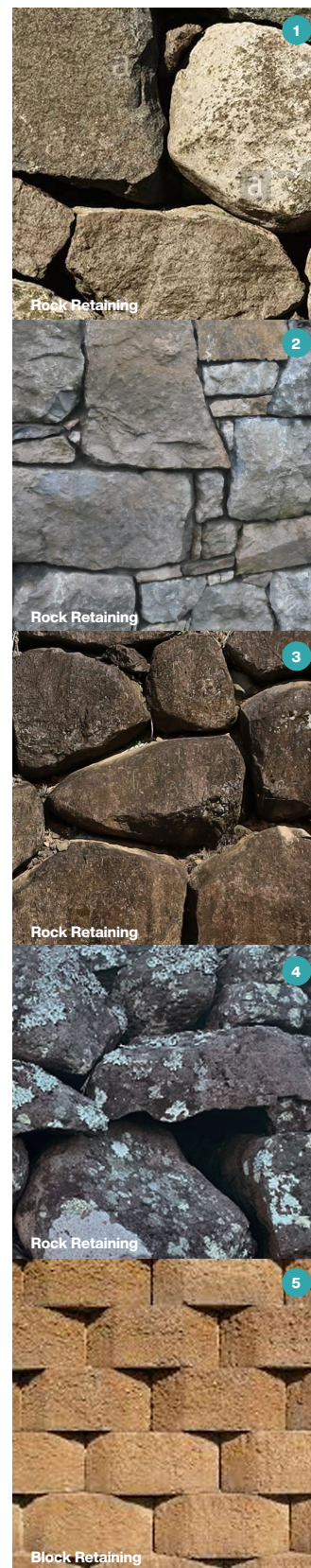


- Eastbound Travel
- Westbound Travel
- Northbound Travel
- Southbound Travel
- 📍 **Subject Site**  
51 Brownell Drive BYRON BAY | LOT: 12 DP: 248861  
Average Ground Level AHD: 98.0m
- 1 **Cape Byron Lighthouse**  
Distance from Subject Site: 220m  
Average Ground Level AHD: 40.0m
- 2 **Lighthouse Road**  
Distance from Subject Site: 130m  
Average Ground Level AHD: 68m (at proximity to Subject Site)
- 3 **Marine Parade**  
Distance from Subject Site: 205m  
Average Ground Level AHD: 5.20m
- 4 **Cape Byron Conservation Area**  
Distance from Subject Site: (Immediate South)  
Average Ground Level AHD: 50-70m
- 5 **The Pass / Cape Byron Walking Track Parking / Entry**  
Distance from Subject Site: 495m  
Average Ground Level AHD: 9.0m
- 6 **Cape Byron Walking Track**

Visual Impact Assessment

## 5.9 Locality Circulation





## 6.0 Evaluation of Site Scenic Amenity

An evaluation of the Project Area and its regional context has been undertaken to determine its scenic quality and assist in determining the potential impact of the Proposal.

The objective of this Scenic Amenity Evaluation is to define and assess the visual elements within the area of investigation that contribute to the landscape character of the area and to assess the capacity of the landscape to accommodate changes to the physical landscape that would occur as a direct result of the project.

### Scenic Quality

Scenic quality is the result of complex spatial relationships between multiple factors within the landscape, as well as the position of the observer within the landscape and the observer feels about what they are seeing. Scenic quality is defined as the combination of multiple elements within the landscape and their potential to create different levels of satisfaction or appreciation.

These elements may include:

- the natural and cultural features that provide the basic pattern of landscape, noting these are fluid and reflect social and land use changes over time;
- the observer's position within the landscape;
- the degree of personal enjoyment someone feels from what they are seeing.

### Landscape Character

An identifiable landscape character is defined as the distinctive, recognisable and consistent pattern of physical elements within a landscape, which when combined, give a setting its sense of place and make one landscape different from another.

These physical elements may include:

- Landform including natural topography and artificial landforms such as cut and fill, subdivision land forming, leveling
- Vegetation characteristics such as cover, height, density and colouration;
- Bodies of water;
- Cultural modifications and built structures including buildings, water tanks, and recreation facilities;
- Materiality in both built form and landscape, and the repetition or frequency of same within a landscape; and
- Temporal and atmospheric components for example seasons, time of day, weather phenomena, seasonal humpback whale migration.

### X Image Reference

Image Reference Letter : referenced throughout this report.

### X Material Image Reference

Image Reference Number : referenced throughout this report.

Visual Impact Assessment

## 6.1 Photographic Study







## 6.2 Evaluation of Site Scenic Amenity

The coastal zone of Byron Bay with its beaches, headlands and national parks forms one of the most significant and recognisable landscape character types of the region. This landscape character is dominated by stretches of sandy coastal foreshore punctuated by creek mouths and prominent rocky headlands of various elevations and morphological shapes and sizes.

The interface between land and ocean, which forms the most distinctive visual feature of the landscape character, is one of the most dynamic and recognisable landscape scenes in Byron Bay.

The significant contrasts in elevation and landform and the interface of land and ocean is most striking at the eastern-most point of Byron Bay (and Australia), where the influence of the elevated and steep terrain of Cape Byron, combined with the dense rainforest of Cape Byron Conservation Area, has produced the small (and heavily constrained) residential enclave of Wategos Beach.

Wategos beach residential area consists of varying residential dwelling styles ranging from small single storey brick homes that occupy a relatively small percentage of lot area (originally constructed when the lots were auctioned by council between 1961 and 1986), refurbished and renovated dwellings, through to large established modern homes. In most instances, new homes have embraced a coastal, natural aesthetic with façade treatments of natural stone, timber with an emphasis on bold horizontal linear architectural form. A coastal aesthetic of white weather board, expansive perimeter balconies, pitched rooflines and sculptural coastal landscape plantings is also present.

Residential dwellings are primarily orientated to take advantage of the north and nor-westerly views with primary outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools located to the front of dwellings, often overlooking, and visible from, the public road.

As a result of the heavily constrained residential lots, retaining walls are a dominant feature within the streetscape and frontages of dwellings located along Brownell Drive and Palm Valley Drive.

Retaining walls vary significantly in type and finish, ranging from natural stone boulders, stone cladding, timber sleeper, rendered blockwork, crib wall, through to shotcrete in instances of significant cut. The overlapping retaining walls and residential driveways are a significant feature in the landscape and serve to visually enclose the streetscape as a significant proportion of these extend beyond front property boundaries into the road reserve (public realm) in order to achieve vehicular and pedestrian access.

There is an eclectic aesthetic to the cumulative architectural palette, with the presence of coloured murals, primary coloured dwelling facades as well as a broad range of building materiality and form. These elements, when combined with the discordant material palette of the visually overlapping retaining walls, creates in a unique and eclectic landscape character shaped by site constraints and cultural modifications.

**Image Reference**  
Image Reference Letter : referenced throughout this report.

**Material Image Reference**  
Image Reference Number : referenced throughout this report.

## 6.3 Photographic Study





### 6.3.1 Key Characteristics

#### A Retaining Walls & Driveways

Retaining walls vary significantly in type and finish, ranging from **natural stone boulders, stone cladding, timber sleeper, rendered blockwork, crib wall, through to shotcrete** in instances of significant cut. The overlapping retaining walls and residential driveways **visually enclose the streetscape and often extend beyond front property boundaries into the road reserve** (public realm) in order to achieve vehicular and pedestrian access. The overlapping retaining walls and residential driveways **visually enclose the streetscape and often extend beyond front property boundaries into the road reserve** (public realm) in order to achieve vehicular and pedestrian access.

#### B Private Open Space

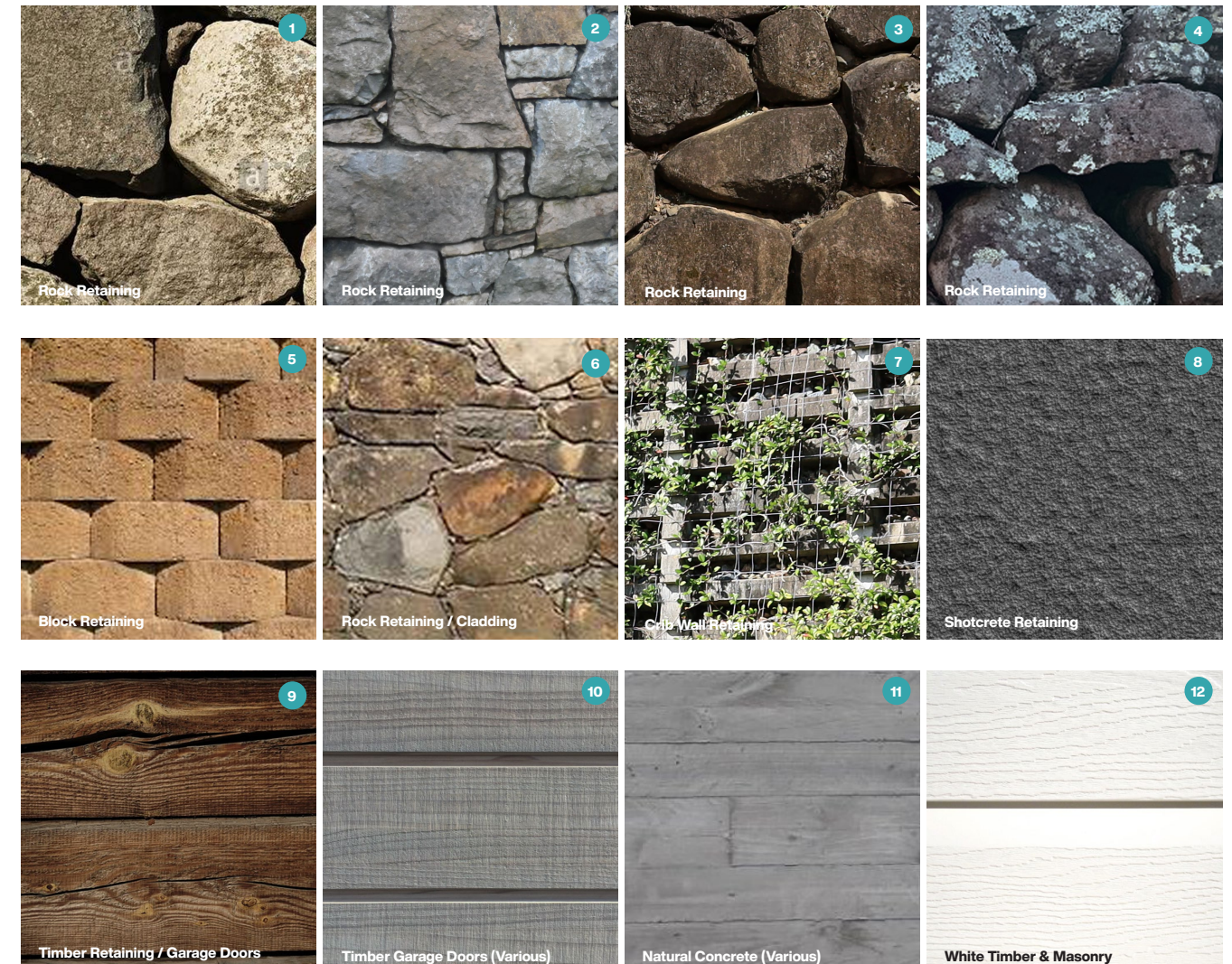
Residential dwellings are primarily orientated to take advantage of the north and nor-westerly views and are setback to locate **primary outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools located to the front of dwellings**, often overlooking, and visible from, the public road.

#### C Streetscape

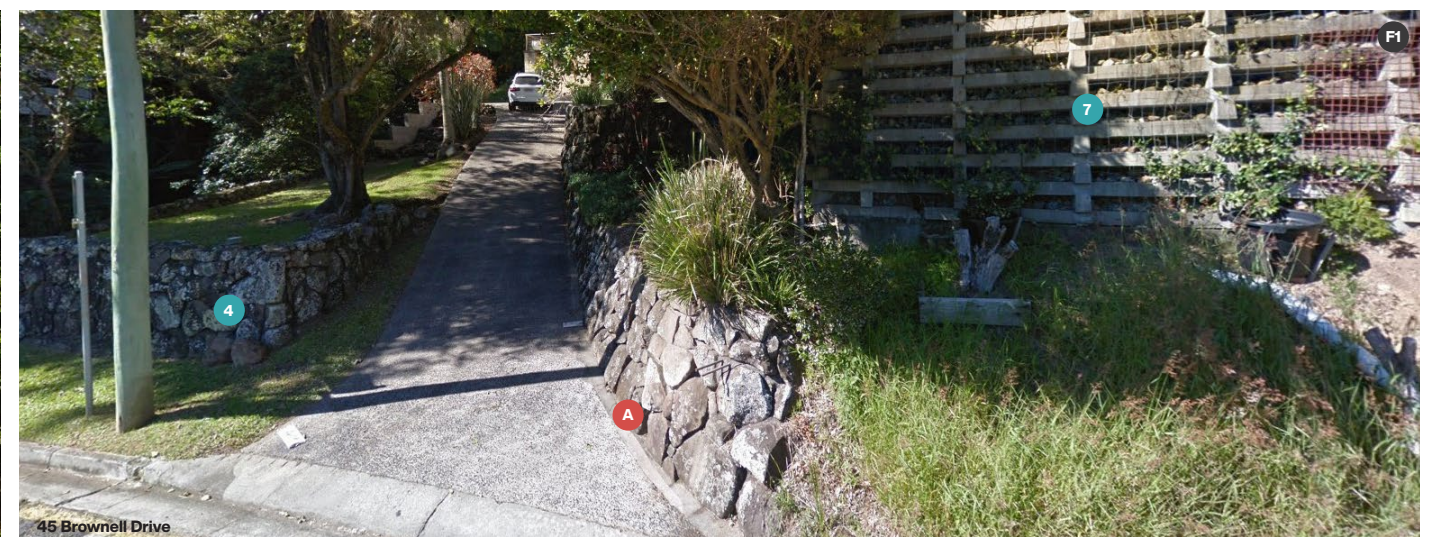
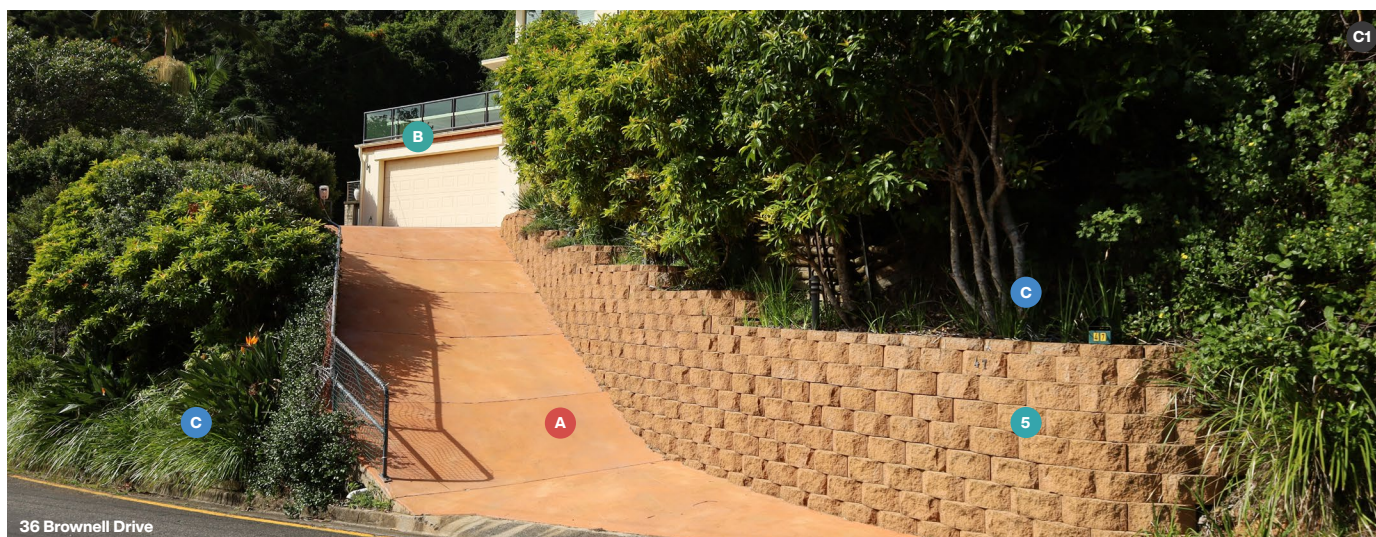
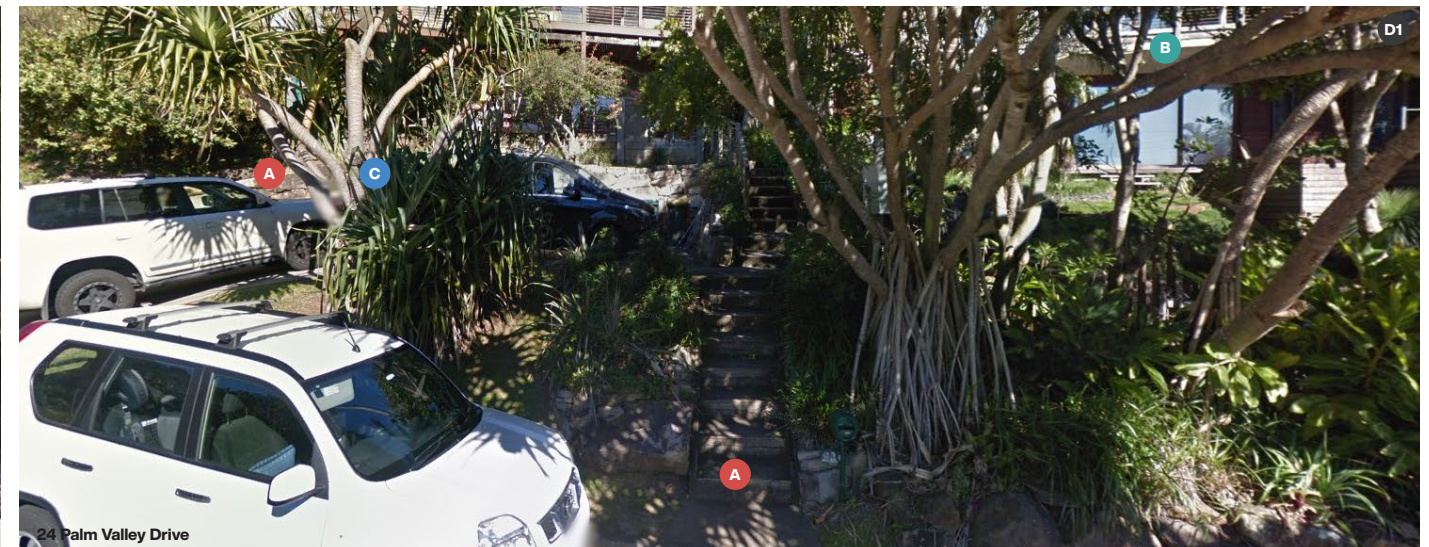
Verges are visually (and physically) non-existent due to **retaining structures and associated planting** extending into this space. The landscape treatment within the streetscape is created by private landscaped gardens associated with retaining and batters extending from private dwelling frontage gardens. The landscape plantings consist of a broad range of coastal species with the repetition of key character species including Pandanus, Cupaniopsis, Plumeria, Cordyline and tall native palm species with mas planted prostrate understorey plantings cascading over retaining walls.

### 6.3.2 Key Characteristics Materiality

There is an eclectic aesthetic to the cumulative architectural palette, with the presence of coloured murals, primary coloured dwelling facades as well as a broad range of building materiality and form. These elements, when combined with the discordant material palette of the visually overlapping retaining walls, creates in a unique and eclectic landscape character shaped by site constraints and cultural modifications.



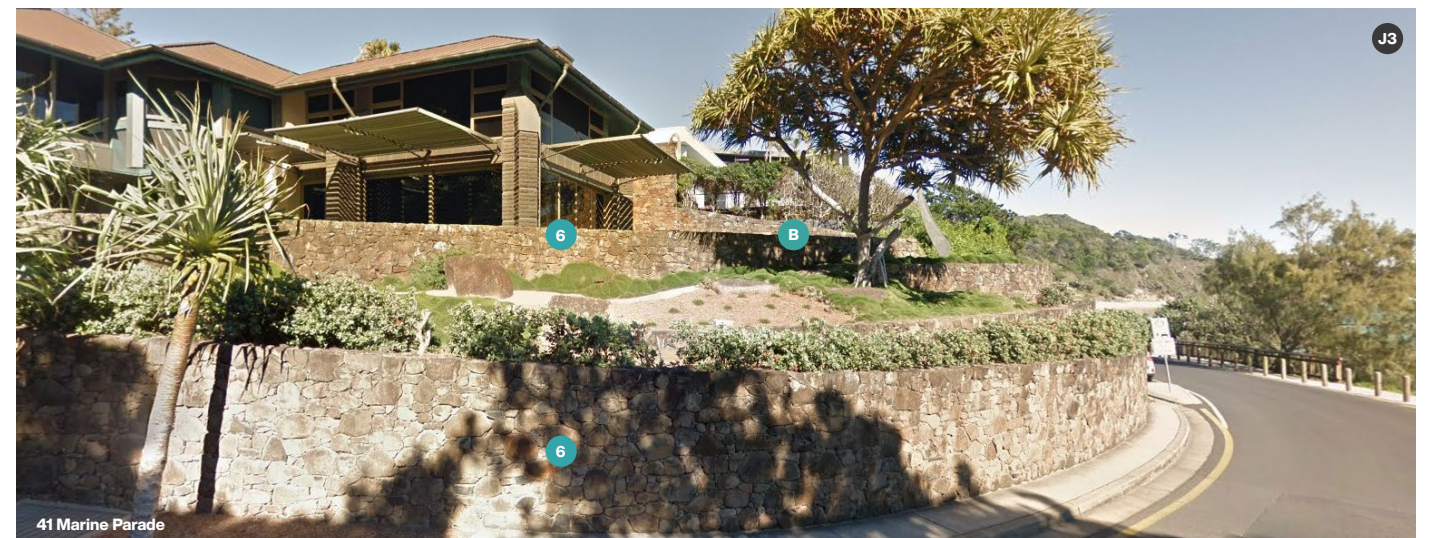
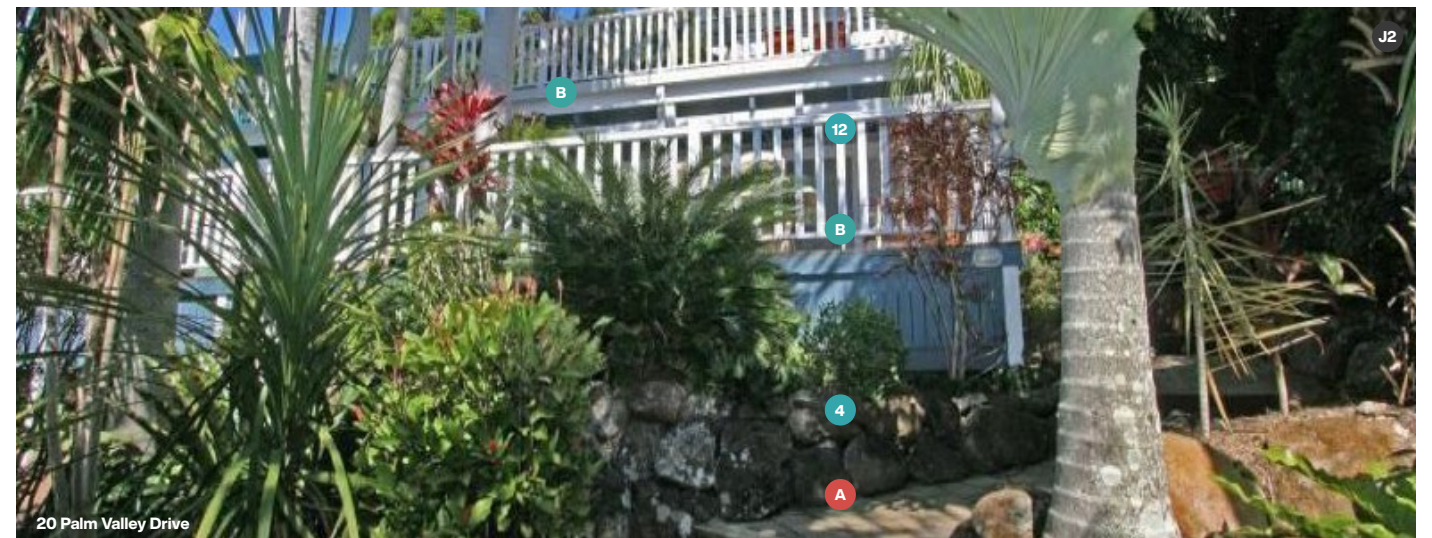




Visual Impact Assessment

## 6.5 Photographic Study

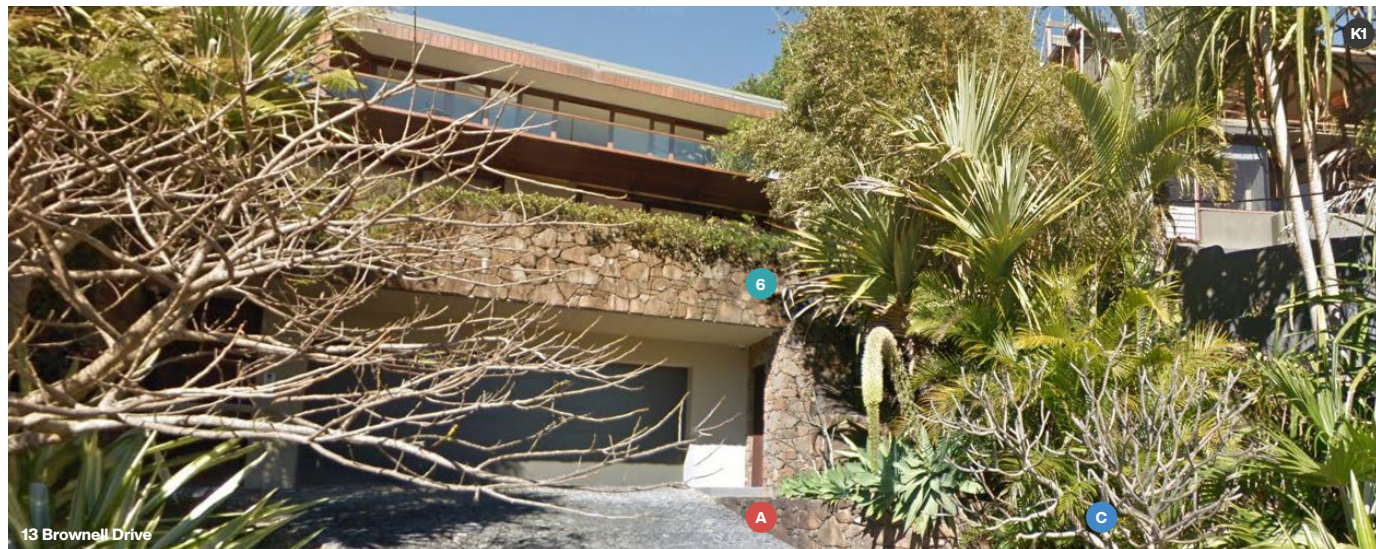




Visual Impact Assessment

## 6.6 Photographic Study





Visual Impact Assessment

## 6.7 Photographic Study



## 7.0 Visual Impact Assessment and Analysis

A qualitative assessment of visual impacts on all identified Vantage Points has been undertaken. The significance of impacts have been evaluated through the analysis of landscape impacts and visual impacts, as defined below.

### 7.1 Landscape Impact

Landscape impacts refer to the relative capacity of the landscape to accommodate changes to the physical landscape of the type and scale proposed that would occur as a direct result of the proposed development, through the introduction of new features or loss/modification of existing features.

Impacts have been assessed within the 500m Investigation Area and consider (through professional judgment) the scale of change to determine the potential Landscape Impact (between Negligible to Large as defined below).

Landscape impact	Definition
Large	A substantial / obvious change to the landscape due to total loss of, or change to, elements, features or characteristics of the landscape. Would cause a landscape to be permanently changed and its quality diminished.
Moderate	Discernible changes in the landscape due to partial loss of, or change to the elements, features or characteristics of the landscape. May be partly mitigated. The change would be out of scale with the landscape, and at odds with the local pattern and landform and will leave an adverse impact on a landscape of recognised quality.
Small	Minor loss or alteration to one or more key landscape elements, features, or characteristics, or the introduction of elements that may be visible but may not be uncharacteristic within the existing landscape.
Negligible	Almost imperceptible or no change in the view as there is little or no loss of / or change to the elements, features or characteristics of the landscape. The existing landscape quality is maintained but be slightly at odds to the scale, landform and pattern of the landscape.

Table 1.0 Assessment of Landscape Impact  
Reference: *Guidelines for Landscape and Visual Impact assessment, Second Edition*, published by the Landscape Institute for Environmental Management and Assessment (2002).

### 7.2 Visual Impact

Visual impacts arise from changes in available views of the landscape that occur as a result of the development. Visual impact is determined through the subjective assessment of sensitivity of the visual receptors (i.e. residents, outdoor recreational users) and the magnitude (scale) of the change in view. Sensitivity is dependent upon receptors' location; the importance of their view; their activity (i.e. working, recreational, or traveling through); expectations; available view; and the extent of screening of this view.

Factors that have been considered in assessing the response of receptors to changes in the visual amenity include:

- Interest in the visual environment and their distance/angle of view to the source of the impact;
- The extent of screening/filtering of the view;
- Magnitude of change in the view (i.e. loss/addition of features that change the view's composition);
- Integration of changes within the existing view (form, mass, height, colour and texture);
- Duration of the effect (temporary/permanent, intermittent/continuous)

Sensitivity	Definition
High	Occupiers of residential properties with long viewing periods, within close proximity to The Proposal
	Users of outdoor recreational area including nature reserves, and nature based recreation (walking, horse riding trails, water based activities such as swimming and fishing) where their attention is focused, in part, on the landscape and its amenity
	Communities that place value upon the landscape and enjoyment of views of their landscape setting
Medium	Outdoor workers who have a key focus on their work who may also have intermittent views of The Proposal
	Outdoor recreation users (i.e. sporting activities) where their attention is focused predominately on the activity being undertaken
Low	Occupiers of residential properties with long viewing periods, at a distance from or screened from The Proposal
	Road users in motor vehicles, trains or on transport routes that are passing through or adjacent to the study area and therefore have short term views
	Viewers indoor at their place of work
Negligible	Viewers from locations where there is screening by vegetation or structures where only occasional screened views are available and viewing times are short
	Road users in motor vehicles, trains or on transport routes that are passing through/adjacent to the study area and have partially screened views and short viewing times

Table 2.0 Assessment of Receptor Sensitivity  
Reference: *Guidelines for Landscape and Visual Impact assessment, Second Edition*, published by the Landscape Institute for Environmental Management and Assessment (2002).



7.3 Significance of Impact

For the purposes of this assessment, predicted impacts as a direct result of the project will be described according to their significance which is a function of the magnitude of the impact and the sensitivity of the receptor (Table 3.0). In the example below, with a Visual Sensitivity rating of ‘Low’ and a Landscape Impact of ‘Small’, the Significance of Impact would be considered to be ‘Not Significant’

		Landscape Impact			
		Large	Moderate	Small	Negligible
Visual Sensitivity	High	Major Significance	High Significance	Moderate Significance	Minor Significance
	Medium	High Significance	Moderate Significance	Minor Significance	Not Significant
	Low	Moderate Significance	Minor Significance	Not Significant	Not Significant
	Negligible	Minor Significance	Not Significant	Not Significant	Not Significant

Table 3.0 Significance of Impact  
Reference: *Guidelines for Landscape and Visual Impact assessment, Second Edition*, published by the Landscape Institute for Environmental Management and Assessment (2002).





# Visual Impact Assessment Summary of Findings

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For ease of reference, VIA Analysis of impact has been provided in the following summary table.  
Reference his made to BSC DCP Chapter C3 and Section D1.2.4, of the BDCP 2014.

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Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
BDCP 2014	Chapter C3 Visually Prominent Sites, Visually Prominent Development and View Sharing			
C3.2.1	Visual Impact Assessment			
Objectives				
	To retain and enhance the unique character of Byron Shire and its towns, villages, rural, coastal and natural areas.			
	To ensure that development does not adversely impact on the Shire's scenic character and visual quality.			
	To ensure that where possible new development contributes to enhancement of the Shire's scenic character and visual quality.			
	To ensure adequate information is available to properly assess visual impact.			
Prescriptive Measures				
1	detailed description and photographs of the site and surrounds, including existing vegetation, topography, slope, surrounding development and other features that may affect visual impact;	8	<p>Provided.</p> <p><b>2.0 Project Locality</b></p> <p><b>3.0 The Subject Site</b></p> <p><b>5.2 Visual Catchment Boundaries</b></p> <p><b>5.6 Viewshed Mapping</b></p> <p><b>5.7 Cross Sections</b></p> <p><b>6.0 Evaluation of Site Scenic Amenity</b></p>	<p>An evaluation of the Project Area and its regional context has been undertaken to determine its scenic quality and assist in determining the potential impact of the Proposal. A photographic study has been undertaken to determine the scenic quality and landscape character of the region.</p> <p>Detailed site analysis has been undertaken including detailed LiDAR modelling to assess all features within the landscape including terrain, vegetation and builtform.</p> <p>The impact of the proposed development has been assessed through detailed topographic studies including the generation of view shed analysis presented in both 2D and 3D mapping to clearly illustrate findings.</p>
2	description of the proposed development, including proposed earthworks, vegetation removal, built form, design, height, bulk, scale, roofline, materials, colour schemes, external surface finishes, fencing and landscape treatment;	8	<p>Provided.</p> <p><b>4.0 The Proposal</b></p> <p><b>4.1 The Proposal</b> Extent of Works</p> <p><b>4.2 The Proposal</b> Structure Heights</p> <p><b>4.3 Verified Visual Montage A</b></p> <p><b>4.4 Verified Visual Montage B</b></p>	<p>A detailed description of the proposal has been provided including plans, elevations, verified visual montages, materials palettes and landscape plans.</p>





Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
3	a description of the measures proposed to ameliorate visual impacts;	8	Provided. <b>4.3 Verified Visual Montage A</b> <b>4.4 Verified Visual Montage B</b> <b>Attachment 1 Landscape Concept</b>	<p>The proposed development works have been designed to minimise any potential visual impact. The predicted visual impacts associated with the proposal have been found to be of <b>No Significance</b> with views of the Project limited to the immediate north of the Subject Site along Brownell Drive.</p> <p>Mitigation measures are generally summarised as;</p> <p><b>Material Selection</b> the selection of a sympathetic material and finishes palette that reflects the existing character of the region (and of Brownell and Palm Valley Drive specifically). Materials include natural stone cladding and gabion rock as well as natural timber finishes. The proposed materials palette reflects the established landscape character of the region as determined in Section 6.0 Evaluation of Scenic Amenity and the associated photographic study.</p> <p><b>Landscape Treatment</b> The provision of landscape plantings that soften the façade of the proposed retaining structures. This includes plantings of cascading species and screening hedge species to provide privacy to the residence and soften the visual impact of the built form. The proposed species palette (and extents of plantings) reflects the established landscape character of the region as determined in Section 6.0 Evaluation of Scenic Amenity and the associated photographic study. Signature species including Plumeria, Syzygium, prostrate coastal groundcovers and native palm trees.</p> <p><b>Bulk &amp; Scale</b> The proposed development works includes alterations and additions to the existing dwelling house, comprising of removal of an existing retaining wall and the construction of a two-car garage, swimming pool and ancillary store and lift. The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights). This height is generally in-keeping with the existing ground level to the Extent of Works area (refer 3.0 The Subject Site) of between 33.5 to 35.0m. In this way, the Proposal will present as a minor increase in finished surface level only.</p>
4	provision of graphic evidence to illustrate the proposal, including models and/or photomontages where relevant	8	Provided.  <b>4.0 The Proposal</b> <b>4.1 The Proposal</b> Extent of Works <b>4.2 The Proposal</b> Structure Heights <b>4.3 Verified Visual Montage A</b> <b>4.4 Verified Visual Montage B</b>	



Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
5	description of the visual prominence of the site and visual impact of the development, including responses to the following questions:	8	<p>Provided.</p> <p><b>2.0 Project Locality</b></p> <p><b>3.0 The Subject Site</b></p> <p><b>5.2 Visual Catchment Boundaries</b></p> <p><b>5.6 Viewshed Mapping</b></p> <p><b>5.7 Cross Sections</b></p>	<p>Desktop analysis to determine potential sensitive receptors such as areas of existing residential development within a proximity to the subject site and areas determined to be located within the visual catchment of The Project.</p> <p>Site investigation and photographic studies to 'vet' the potential viewing situations identified in Step 01 to identify which of the viewing situations are Key Vantage Points for assessment.</p> <p><b>Summary of Findings</b> The Subject Site is contained within in a single Visual Catchment Area (VC A). The visual catchment is constrained to the south-east by prominent Ridgeline 1 generally associated with Lighthouse Road and the west by the ridgeline formed by Brownell Drive. Secondary ridgelines, generally orientated south-east to north-west, act to form the south-west and north-eastern boundaries of VC A.</p> <p>Locations from which the Project would be visible within the landscape was determined through Viewshed mapping. A viewshed is the area that is visible from a particular viewing location or 'vantage point' within the landscape. It is the combination of all available lines of sight along which an observer has an unobstructed view.</p> <p>The viewshed analysis uses loaded elevation grid data with a user-specified transmitter location, height, and radius. All areas within the selected radius that have a clear line of sight to the transmitter are coloured with a user-specified colour. Refer 5.6 Viewshed Mapping.</p> <p>Viewshed A – Terrain Only Viewshed B – Existing Vegetation</p> <p>Viewshed A is cast from a transmitter at the height representing the proposed development works. resulting Viewshed is primarily limited to the elevated area of land to the west of the Subject Site associated with the eastern face of Prominent Ridgeline 1. This area contains a number of residential dwellings located along the western side of Palm Valley Drive.</p> <p>Viewshed A does not extend to the east of the Subject Site with landform variation to the east of the subject site acting to prevent any clear-line-of-site to the Proposal.</p> <p>Viewshed A is directly related to landform only, the role of existing and or proposed vegetation within the AOI is not considered by Viewshed Analysis A.</p> <p>Viewshed B is cast from a transmitter at the height representing the proposed development works (at the same height and location as Viewshed A transmitter). Viewshed B takes into consideration all existing vegetation, to determine the role that this plays on views of the proposal within the Visual Catchment Area.</p> <p>Existing vegetation restricts the Viewshed to a distance of approximately 15m to the north with minor (narrow) field of views to the south-west along Brownell Drive to vegetation associated with Cape Byron Conservation area.</p> <p><b>Viewshed Mapping indicates that Key Vantage Points</b> from which the Project will be visible are limited to locations along Brownell Drive in proximity to the Subject Site.</p>
a	can the site be viewed from public locations, including public reserves, waterways, beaches and roads?	8	<p><b>2.0 Project Locality</b></p> <p><b>3.0 The Subject Site</b></p> <p><b>5.2 Visual Catchment Boundaries</b></p> <p><b>5.6 Viewshed Mapping</b></p> <p><b>5.7 Cross Sections</b></p> <p><b>6.0 Evaluation of Site Scenic Amenity</b></p>	<p>No. Nil long views to Public Sensitive Receptors eg Cape Byron Light House / Lookout. <b>Viewshed Mapping indicates that Key Vantage Points</b> from which the Project will be visible are limited to locations along Brownell Drive in proximity to the Subject Site.</p>





Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
b	is the site located on a high topographical location such as a hillside, ridgeline, knoll or crest?	8	As above.	Yes. The role of terrain has been evaluated as part of the VIA. Refer above <b>Summary of Findings</b> .
c	can the site be viewed from the beach front?	8	As above.	No. Nil long views to Public Sensitive Receptors eg Cape Byron Light House / Lookout / Beach Front. <b>Viewshed Mapping</b> indicates that <b>Key Vantage Points</b> from which the Project will be visible are limited to locations along Brownell Drive in proximity to the Subject Site.
d	is the site located on land that slopes at a grade of more than 20%?	8	<b>3.0 The Subject Site</b>	Yes. Average grade of Lot is 35% (1:2.8). The property slopes down towards Brownell Drive from a high point of the site being approximately 43.0m AHD sloping down to approximately 30.5m AHD at the property boundary. The role of terrain has been evaluated as part of the VIA. Refer above <b>Summary of Findings</b> .
e	would proposed development on the site visually disrupt the skyline when viewed from a public location by protruding above any ridgeline, or above adjacent buildings?	8	<b>5.6 Viewshed Mapping</b> <b>5.7 Cross Sections</b>	No. Prominent Ridgeline 1 generally aligned with Lighthouse Road is located to the east, south and west of the Subject Site at an elevation of ~60 to ~100m AHD. The Subject Site has a high point of approximately 43.0m AHD. The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights).  These maximum heights are significantly lower than this Ridgeline and present as a dense vegetation backdrop to the Project (and the residential area of Wategos Beach generally).
f	would proposed development on the site have the potential to obstruct views to and/ or from another visually prominent location?	8	<b>5.2 Visual Catchment Boundaries</b> <b>5.6 Viewshed Mapping</b>	No. Nil long views to Public Sensitive Receptors eg Cape Byron Light House / Lookout. <b>Viewshed Mapping</b> indicates that <b>Key Vantage Points</b> from which the Project will be visible are limited to locations along Brownell Drive in proximity to the Subject Site.
g	would the development on the site have the potential to result in a loss of significant views from another property?	8	<b>3.0 The Subject Site</b> <b>3.2 The Subject Site Survey Points</b> <b>3.3 The Subject Site Survey Points</b> <b>4.0 The Proposal</b> <b>4.2 The Proposal Structure Heights</b>	No. The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights). This height is generally in-keeping with the existing ground level to the Extent of Works area (refer 3.0 The Subject Site) of between 33.5 to 35.0m. In this way, the Proposal will present as a minor increase in finished surface level only.  <b>Neighboring Lot 11 DP112111</b> located to the north-east of the Subject Site is oriented to take advantage of views to the east. The south facing façade of the dwelling (facing the Subject Site) presents as a rendered blockwork wall with minimal windows. Windows are primarily located on the eastern façade (front) of the dwelling. This is evident in 3.2 The Subject Site and 4.3 Verified Visual Montage A.  As with many dwellings located along Brownell and Palmview Drive, dwellings are primarily orientated to take advantage of the north and nor-westerly views and are setback to locate primary outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools located to the front of dwellings, often overlooking, and visible from, the public road.  <b>Neighboring Lot 11 DP112111</b> has an outdoor living area located above the garage with a solid (nil transparency) balustrade at a height of AHD 36.06m. Assuming an average compliant balustrade of ~1.0m, a person of average height (eyeline of 1.65m above ground level) would have a viewing perspective of 36.71m or 2.41m above that of the primary structures within the Proposal (at AHD of 34.3m).  <b>Neighboring Lot 13 DP248861</b> located to the south-west of the Subject Site is oriented to take advantage of views to the east. The north facing façade of the dwelling (facing the Subject Site) is generally aligned with the existing dwelling on the Subject Site, with any views from windows along this façade screened by the existing dwelling. This is evident in 3.2 The Subject Site and 4.3 Verified Visual Montage B and 3.1 Subject Site Plan Existing.  As with many dwellings located along Brownell and Palmview Drive, dwellings are primarily orientated to take advantage of the north and nor-westerly views and are setback to locate primary outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools located to the front of dwellings, often overlooking, and visible from, the public road.  <b>Neighboring Lot 13 DP248861</b> has an outdoor living area located above the garage with a timber balustrade at a height of AHD 35.716. Assuming an average compliant balustrade of ~1.0m, a person of average height (eyeline of 1.65m above ground level) would have a viewing perspective of 36.36m or 2.07m above that of the primary structures within the Proposal (at AHD of 34.3m).



Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
h	would development on the site become visually prominent due to the removal of vegetation that would otherwise screen the development?	8	<b>5.6 Viewshed Mapping</b>	No. A viewshed Analysis based on terrain only has been undertaken. Refer to Viewshed B 5.6 Viewshed Mapping: Viewshed B. Terrain, combined with the low AHD of the proposed works (relative to the surrounding grade) are the primary factors in reducing opportunities for a clear line-of-site to the Proposal. Nil significant trees located within the Subject Site are proposed to be removed as part of The Proposal.
i	how will the development be visually integrated with the surrounding natural landscape and built environment?	8	<b>4.1 The Proposal</b> Extent of Works <b>4.2 The Proposal</b> Structure Heights <b>4.3 Verified Visual Montage A</b> <b>4.4 Verified Visual Montage B</b>	<p>The proposed development works have been designed to minimise any potential visual impact and are physically integrated into the landscape as a result of the existing site terrain. Landscape treatment and the natural material palette further act to integrate the Proposal with the surrounding landscape and built environment.</p> <p>Mitigation measures are generally summarised as;</p> <p><b>Material Selection</b>  the selection of a sympathetic material and finishes palette that reflects the existing character of the region (and of Brownell and Palm Valley Drive specifically). Materials include natural stone cladding and gabion rock as well as natural timber finishes. The proposed materials palette reflects the established landscape character of the region as determined in Section 6.0 Evaluation of Scenic Amenity and the associated photographic study.</p> <p><b>Landscape Treatment</b>  The provision of landscape plantings that soften the façade of the proposed retaining structures. This includes plantings of cascading species and screening hedge species to provide privacy to the residence and soften the visual impact of the built form. The proposed species palette (and extents of plantings) reflects the established landscape character of the region as determined in Section 6.0 Evaluation of Scenic Amenity and the associated photographic study. Signature species including Plumeria, Syzygium, prostrate coastal groundcovers and native palm trees.</p> <p><b>Bulk &amp; Scale</b>  The proposed development works includes alterations and additions to the existing dwelling house, comprising of removal of an existing retaining wall and the construction of a two-car garage, swimming pool and ancillary store and lift. The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights). This height is generally in-keeping with the existing ground level to the Extent of Works area (refer 3.0 The Subject Site) of between 33.5 to 35.0m. In this way, the Proposal will present as a minor increase in finished surface level only.</p>
j	how will the development incorporate measures to avoid reflection of sunlight from glazed surfaces?	8	<b>4.0 The Proposal Attachment 01 Landscape Concept</b>	As with many dwellings located along Brownell and Palm Valley Drive, glass balustrading to the Pool Edge to act as compliant pool fencing. Dense Syzygium hedge species are proposed to provide additional softening and increased privacy. The inclusion of this landscape treatment will reduce / prevent sunlight reflection.





Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
C3.2.2 Assessment of Impacts on Views and View Sharing				
Objectives	To ensure that (where possible) new development does not impact unreasonably on the views of another property.			
	To encourage view sharing where possible.			
Prescriptive Measures				
1	<p><b>An assessment of the value of the view that may be affected.</b></p> <p>Regard should be given to past NSW Land and Environment Court Planning Principles including: Water views are valued more highly than land views Iconic views (e.g. of the Cape Byron Lighthouse) are valued more highly than views without icons Whole views are valued more highly than partial views, e.g. a water view in which the interface between land and water is visible is more valuable than one in which it is obscured</p>	6 & 8	<p><b>4.1 The Proposal</b> Extent of Works</p> <p><b>4.2 The Proposal</b> Structure Heights</p> <p><b>4.3 Verified Visual Montage A</b></p> <p><b>4.4 Verified Visual Montage B</b></p>	<p>The VIA has determined that there will be no significant impacts of views. Nil long views to Public Sensitive Receptors eg Cape Byron Light House / Lookout / Beach Front. <b>Viewshed Mapping indicates that Key Vantage Points</b> from which the Project will be visible are limited to locations along Brownell Drive in proximity to the Subject Site.</p> <p>The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights).</p> <p>This height is generally in-keeping with the existing ground level to the Extent of Works area (refer 3.0 The Subject Site) of between 33.5 to 35.0m. <b>In this way, the Proposal will present as a minor increase in finished surface level only.</b></p>
2	<p><b>Consider from what part of the property the views are obtained.</b></p> <p>For example the protection of views across side boundaries is more difficult than the protection of views from front and rear boundaries. In addition, whether the view is enjoyed from a standing or sitting position may also be relevant. Sitting views are more difficult to protect than standing views. The expectation to retain side views and sitting views is often unrealistic</p>	6 & 8	<p><b>3.0 The Subject Site</b></p> <p><b>3.2 The Subject Site Survey Points</b></p> <p><b>3.3 The Subject Site Survey Points</b></p> <p><b>4.0 The Proposal</b></p> <p><b>4.2 The Proposal Structure Heights</b></p> <p><b>4.1 The Proposal Extent of Works</b></p> <p><b>4.2 The Proposal Structure Heights</b></p> <p><b>4.3 Verified Visual Montage A</b></p> <p><b>4.4 Verified Visual Montage B</b></p>	<p>The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights). This height is generally in-keeping with the existing ground level to the Extent of Works area (refer 3.0 The Subject Site) of between 33.5 to 35.0m. <b>In this way, the Proposal will present as a minor increase in finished surface level only.</b></p> <p><b>Neighboring Lot 11 DP112111</b> located to the north-east of the Subject Site is oriented to take advantage of views to the east. The south facing façade of the dwelling (facing the Subject Site) presents as a rendered blockwork wall with minimal windows. Windows are primarily located on the eastern façade (front) of the dwelling. This is evident in 3.2 The Subject Site and 4.3 Verified Visual Montage A.</p> <p>As with many dwellings located along Brownell and Palmview Drive, dwellings are primarily orientated to take advantage of the north and nor-westerly views and are setback to locate primary outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools located to the front of dwellings, often overlooking, and visible from, the public road.</p> <p>Neighboring Lot 11 DP112111 has an outdoor living area located above the garage with a solid (nil transparency) balustrade at a height of AHD 36.06m. Assuming an average compliant balustrade of ~1.0m, a person of average height (eyeline of 1.65m above ground level) would have a viewing perspective of 36.71m or 2.41m above that of the primary structures within the Proposal (at AHD of 34.3m).</p> <p><b>Neighboring Lot 13 DP248861</b> located to the south-west of the Subject Site is oriented to take advantage of views to the east. The north facing façade of the dwelling (facing the Subject Site) is generally aligned with the existing dwelling on the Subject Site, with any views from windows along this façade screened by the existing dwelling. This is evident in 3.2 The Subject Site and 4.3 Verified Visual Montage B and 3.1 Subject Site Plan Existing.</p> <p>As with many dwellings located along Brownell and Palmview Drive, dwellings are primarily orientated to take advantage of the north and nor-westerly views and are setback to locate primary outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools located to the front of dwellings, often overlooking, and visible from, the public road.</p> <p>Neighboring Lot 13 DP248861 has an outdoor living area located above the garage with a timber balustrade at a height of AHD 35.716. Assuming an average compliant balustrade of ~1.0m, a person of average height (eyeline of 1.65m above ground level) would have a viewing perspective of 36.36m or 2.07m above that of the primary structures within the Proposal (at AHD of 34.3m).</p>



Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
3	<p><b>Assessment of the extent of the impact.</b></p> <p>This should be done for the whole of the property, not just for the view that is affected. The impact on views from living areas is more significant than from bedrooms or service areas (though views from kitchens are highly valued because people spend so much time in them). The impact may be assessed quantitatively, but in many cases this can be meaningless. For example, it is unhelpful to say that the view loss is 20% if it includes one of the sails of the Opera House. It is usually more useful to assess the view loss qualitatively as negligible, minor, moderate, severe or devastating.</p>	8		<p>A qualitative assessment of visual impacts has been undertaken as part of the VIA. The significance of impacts have been evaluated through the analysis of landscape impacts and visual impacts, as by the Institute of Environmental Management &amp; Assessment 2019 and described by the Landscape Institute for Environmental Management and Assessment (LlEMA).</p> <p><b>Significance of Impact Local / Public</b></p> <p>The Landscape Impact has been determined as <b>Negligible</b> with little loss or change to elements, features and characteristics of the landscape. The existing landscape quality is maintained (or improved) as a result of the Proposal.</p> <p>The Sensitivity of the identified visual catchment is categorised as Low being road users with short viewing periods. This is increased to Medium due to the recognised visual sensitivity of the locality generally.</p> <p>With a Landscape Impact as Negligible, and a Sensitivity of Medium, the Significance of Impact is determined as Not Significant. Refer to 7.3 Significance of impact.</p> <p><b>Significance of Impact Private Dwellings (Neighbouring Lots)</b></p> <p>The Landscape Impact has been determined as <b>Negligible</b> with little loss or change to elements, features and characteristics of the landscape. The existing landscape quality is maintained (or improved) as a result of the Proposal.</p> <p>The Sensitivity of the receptors is considered <b>High - Medium</b> being occupiers of residential properties with long viewing periods of the proposal that are partially screened (i.e. do not form the primary view).</p> <p>With a Landscape Impact as <b>Negligible</b>, and a Sensitivity of <b>High - Medium</b>, the Significance of Impact is determined as being of <b>Minor Significance</b> to <b>Not Significant</b>. Refer to 7.3 Significance of impact.</p>
4	<p><b>Assessment of the reasonableness of the proposal that is causing the impact.</b></p> <p>A development that complies with all planning controls would be considered more reasonable than one that breaches them. Where an impact on views arises as a result of non-compliance with one or more planning controls, even a moderate impact may be considered unreasonable. With a complying proposal, the question should be asked whether a more skilful design could provide the applicant with the same development potential and amenity and reduce the impact on the views of neighbours. If the answer to that question is no, then the view impact of a complying development would probably be considered acceptable and the view sharing reasonable.</p>	8		<p>The Proposal provides a practical solution to provide car parking and vehicular access to what is a heavily constrained site.</p> <p>The proposed development works have been designed to minimise any potential visual impact and are physically integrated into the landscape as a result of the existing site terrain. Landscape treatment and the natural material palette further act to integrate the Proposal with the surrounding landscape and built environment.</p> <p>This design solution is not unique and has been applied in various forms along Brownell and Palm Valley Drive as identified in the Scenic Amenity and Landscape Character section of the VIA as summarized below:</p> <p>As a result of the heavily constrained residential lots, retaining walls are a dominant feature within the streetscape and frontages of dwellings located along Burnwell Drive and Palm Valley Drive.</p> <p>Due to the constraints of terrain and limited opportunity for garages and dedicated carparking, the presence of onstreet parking is significant and adds to further enclose the streetscape.</p> <p>Residential dwellings are primarily orientated to take advantage of the north and nor-westerly views and are setback into the lots / terrain. Lot frontages (streetside) are comprised primarily of carparking areas (garages and or dedicated hardstand spaces) and outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools.</p>





				<p>Retaining walls vary significantly in type and finish, ranging from natural stone boulders, stone cladding, timber sleeper, rendered blockwork, crib wall, through to shotcrete in instances of significant cut. The overlapping retaining walls and residential driveways are a significant feature in the landscape and serve to visually enclose the streetscape as a significant proportion of these extend beyond front property boundaries into the road reserve (public realm) in order to achieve vehicular and pedestrian access.</p> <p><b>Retaining Walls &amp; Driveways</b> Retaining walls vary significantly in type and finish, ranging from natural stone boulders, stone cladding, timber sleeper, rendered blockwork, crib wall, through to shotcrete in instances of significant cut. The overlapping retaining walls and residential driveways visually enclose the streetscape and often extend beyond front property boundaries into the road reserve (public realm) in order to achieve vehicular and pedestrian access. The overlapping retaining walls and residential driveways visually enclose the streetscape and often extend beyond front property boundaries into the road reserve (public realm) in order to achieve vehicular and pedestrian access.</p> <p><b>Private Open Space</b> Residential dwellings are primarily orientated to take advantage of the north and nor-westerly views and are setback to locate primary outdoor living spaces including expansive areas of decking, balconies, open space and swimming pools located to the front of dwellings, often overlooking, and visible from, the public road.</p> <p><b>Streetscape</b> Verges are visually (and physically) non-existent due to retaining structures and associated planting extending into this space. The landscape treatment within the streetscape is created by private landscaped gardens associated with retaining and batters extending from private dwelling frontage gardens. The landscape plantings consist of a broad range of coastal species with the repetition of key character species including Pandanus, Cupaniopsis, Plumeria, Cordyline and tall native palm species with mas planted prostrate understorey plantings cascading over retaining walls.</p> <p>Further, The proposed development works have been designed to minimise any potential visual impact and are physically integrated into the landscape as a result of the existing site terrain. Landscape treatment and the natural material palette further act to integrate the Proposal with the surrounding landscape and built environment.</p> <p>Mitigation measures are generally summarised as;</p> <p><b>Material Selection</b> the selection of a sympathetic material and finishes palette that reflects the existing character of the region (and of Brownell and Palm Valley Drive specifically). Materials include natural stone cladding and gabion rock as well as natural timber finishes. The proposed materials palette reflects the established landscape character of the region as determined in Section 6.0 Evaluation of Scenic Amenity and the associated photographic study.</p> <p><b>Landscape Treatment</b> The provision of landscape plantings that soften the façade of the proposed retaining structures. This includes plantings of cascading species and screening hedge species to provide privacy to the residence and soften the visual impact of the built form. The proposed species palette (and extents of plantings) reflects the established landscape character of the region as determined in Section 6.0 Evaluation of Scenic Amenity and the associated photographic study. Signature species including Plumeria, Syzygium, prostrate coastal groundcovers and native palm trees.</p> <p><b>Bulk &amp; Scale</b> The prosed development works includes alterations and additions to the existing dwelling house, comprising of removal of an existing retaining wall and the construction of a two-car garage, swimming pool and ancillary store and lift. The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights). This height is generally in-keeping with the existing ground level to the Extent of Works area (refer 3.0 The Subject Site) of between 33.5 to 35.0m. In this way, the Proposal will present as a minor increase in finished surface level only.</p>
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Policy Document Reference, Objectives & Prescriptive Measures		LEC Reference	Compliance & VIA Reference	VIA Summary of Findings
BDCP 2014	D1.2.4 Character & Visual Impact			
Objectives				
1	To retain and enhance the unique character of Byron Shire and its distinctive landscapes, ecology, towns, villages, rural and natural areas.			
2	To ensure that new development respects and complements those aspects of an area's natural and built environment that are important to its existing character			
Prescriptive Measures				Nil
Relevant Performance Criteria				
	The street face of a building, together with any open space between it and the street, must contribute to the general attractiveness of the streetscape by means of good design, appropriate materials, and effective landscaping.	8	<b>4.0 The Proposal</b> <b>4.2 The Proposal Structure Heights</b> <b>4.1 The Proposal Extent of Works</b> <b>4.2 The Proposal Structure Heights</b> <b>4.3 Verified Visual Montage A</b> <b>4.4 Verified Visual Montage B</b> <b>6.0 Evaluation of Site Scenic Amenity</b>	Refer C3.2.2 Summary of Findings / response (4)
	There must be a reasonable degree of integration with the existing built and natural environment, balanced with the desirability of providing for variety in streetscapes;	8		
	Long, straight wall areas will be discouraged and must be broken up visually by a combination of building materials and/or changes in the wall plane;	8		
SEPP	Coastal Management SEPP			
Clause 14	Development on land within the coastal use area			
1	Development consent must not be granted to development on land that is within the coastal use area unless the consent authority			
A	has considered whether the proposed development is likely to cause an adverse impact on the following—			
i)	existing, safe access to and along the foreshore, beach, headland or rock platform for members of the public, including persons with a disability,	8	<b>4.0 The Proposal</b> <b>5.8 Circulation</b>	Not Applicable. Brownell Drive is not identified through the OSM Public GPS traces as a pedestrian circulation route. This is likely due to nil dedicated pedestrian pathway to Brownell Drive combined with portions of road having considerable gradient. Brownell Drive primarily serves as an access road for local residents.  Nil aspects of the proposal will have any impact on existing access. Works are located solely within private land.
ii)	overshadowing, wind funnelling and the loss of views from public places to foreshores,	8		Nil long views to Public Sensitive Receptors eg Cape Byron Light House / Lookout / Beach Front. <b>Viewshed Mapping</b> indicates that <b>Key Vantage Points</b> from which the Project will be visible are limited to locations along Brownell Drive in proximity to the Subject Site.  The proposed heights (finished AHD level) of the primary structures (frontage walls that provide the retaining for the pool area) have a maximum AHD of 34.3m (refer 4.2 proposed Structure Heights). This height is generally in-keeping with the existing ground level to the Extent of Works area (refer 3.0 The Subject Site) of between 33.5 to 35.0m. In this way, the Proposal will present as a minor increase in finished surface level only.





iii)	the visual amenity and scenic qualities of the coast, including coastal headlands,	8		Refer C3.2.2 Summary of Findings / response (4)
iv)	Aboriginal cultural heritage, practices and places,			NA – The VIA has not assessed any aspects of potential Aboriginal significance.
v)	cultural and built environment heritage, and	8		Refer C3.2.2 Summary of Findings / response (4)
B	is satisfied that—			
	the development is designed, sited and will be managed to avoid an adverse impact referred to in paragraph (a), or	8		Refer C3.2.2 Summary of Findings / response (4)
	if that impact cannot be reasonably avoided—the development is designed, sited and will be managed to minimise that impact, or			
	if that impact cannot be minimised—the development will be managed to mitigate that impact, and			
C	as taken into account the surrounding coastal and built environment, and the bulk, scale and size of the proposed development.	8		







# Attachment 1 Landscape Concept

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This report has been prepared for:  
Rianon Mateer C/o Murray Cox

ISSUE A | 10.08.2021



Landscape Intent

# 51 Brownell Drive

## Byron Bay

**Project Reference:** L21088

**Author:** Zac Petersen

**Revision:** A | 10/08/2021

**Gold Coast**

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# 1.0 Site Analysis.





## Site Analysis

# 1.1 Project Description

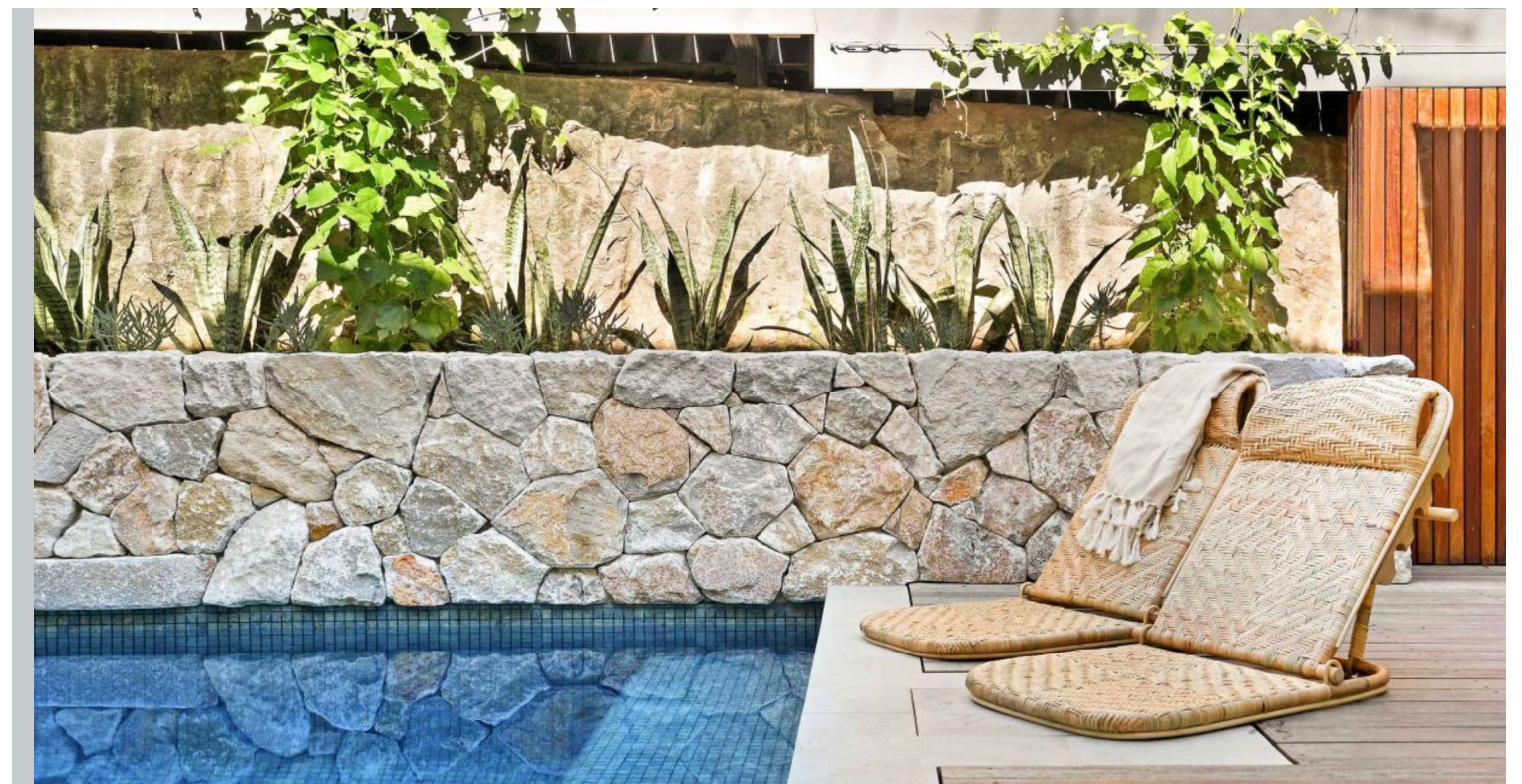
## 51 Brownell Drive, Byron Bay

### Statement of Landscape Intent

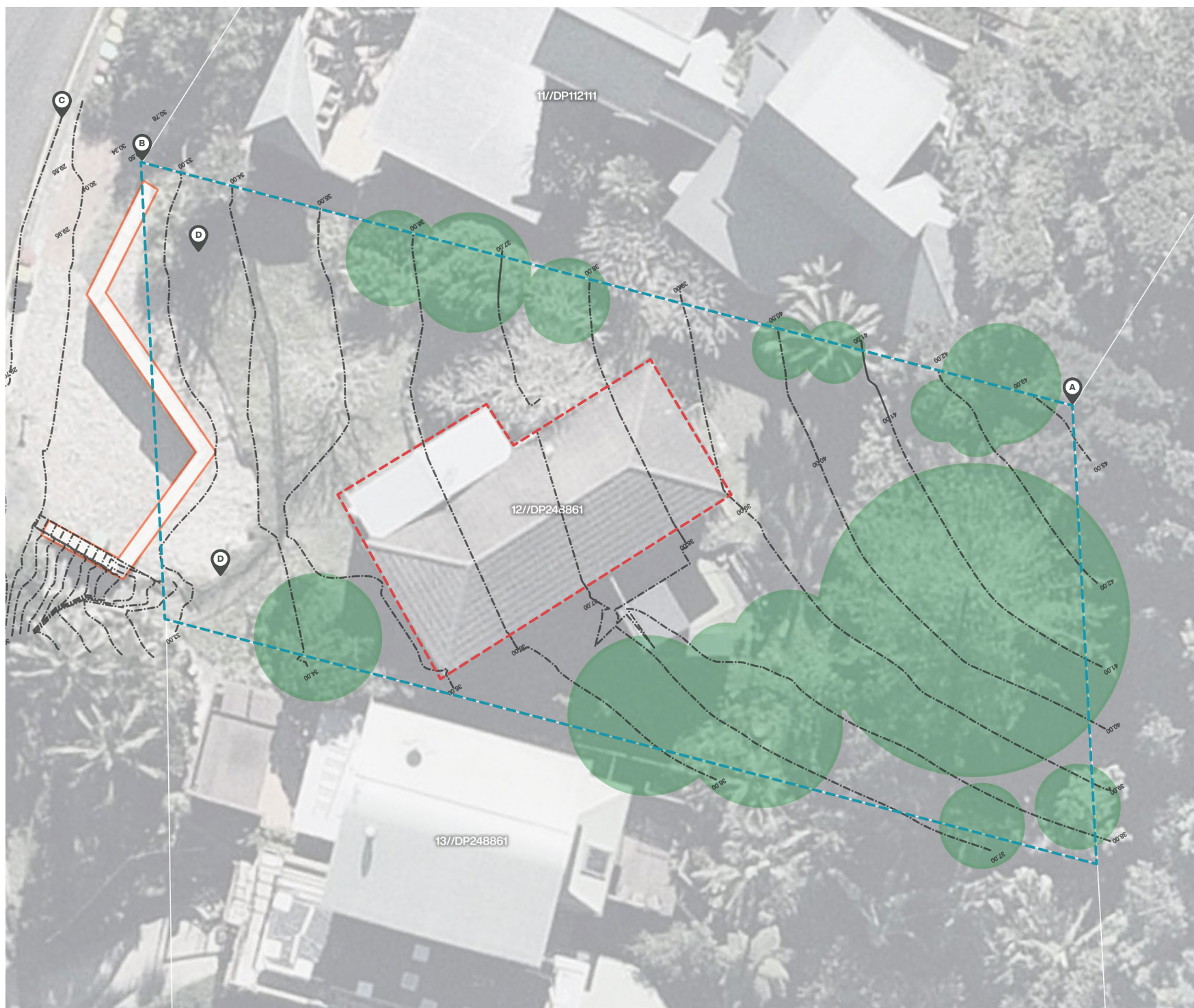
The proposed development is located in the suburb of Byron Bay within the Byron Shire Council local government area in Northern New South Wales. The project is a proposed garage and pool deck addition to an existing dwelling.

The property is a 663.9m<sup>2</sup> residential allotment, legally described as Lot 12 in DP248861 and known as 51 Brownell Drive, Byron Bay (the Subject Site). The site is bounded by residential allotments to the northeast and southwest, a National Parks & Wildlife Service reserve to the southeast, and Brownell Drive to the northwest.

The proposed landscaping includes cascading species and screening hedge species to provide privacy to the residence and soften the visual impact of the built form. The proposed species palette (and extents of plantings) reflects the established landscape character of the region as determined in the Visual Impact Assessment Section 6.0 Evaluation of Scenic Amenity and the associated photographic study. Signature character species including Plumeria, Syzygium, prostrate coastal groundcovers and native palm trees have been incorporated into the design.







Landscape Design









## 1.2 Subject Site Plan Existing

### 1.1 The Subject Site

The property is a 663.9m<sup>2</sup> residential allotment, legally described as Lot 12 in DP248861 and known as 51 Brownell Drive, Byron Bay (the Subject Site). The site is bounded by residential allotments to the northeast and southwest, a National Parks & Wildlife Service reserve to the southeast, and Brownell Drive to the northwest.

The Subject Site is generally oriented east - west with the western property boundary addressing Brownell Drive. The property slopes down towards Brownell Drive from a high point of the site being approximately 43.0m AHD sloping down to approximately 30.5m AHD at the property boundary and 29.7m AHD at the kerb of Brownell Drive.

The site currently contains a two-storey dwelling house, with nil constructed vehicular access to Brownell Drive. The site is located within the coastal zone and is a 'visually prominent site' as defined within the Byron Development Control Plan 2014 Chapter A.

- 
**Subject Site**  
 51 Brownell Drive BYRON BAY  
 LOT: 12 DP: 248861
  - 
**Existing Dwelling RETAINED**  
 Existing two storey dwelling and deck area to be retained.  
 AHD height: 42.74m (top of roofline)
  - 
**Existing Retaining Wall REMOVED**  
 Existing stone block retaining wall to be removed as part of the Proposal.  
 AHD height: 32.56m
  - 
**Existing Vegetation RETAINED**  
 Existing vegetation identified on site.  
 Nil tree identified will be removed as part of the Proposal.
- |   |                                |                  |
|---|--------------------------------|------------------|
|  | <b>Ground Level (Lot)</b>      | <b>AHD 43.0m</b> |
|  | <b>Ground Level (Lot)</b>      | <b>AHD 30.5m</b> |
|  | <b>Ground Level (Kerb)</b>     | <b>AHD 29.7m</b> |
|  | <b>Ground Level (EOW Area)</b> | <b>AHD 33.5m</b> |

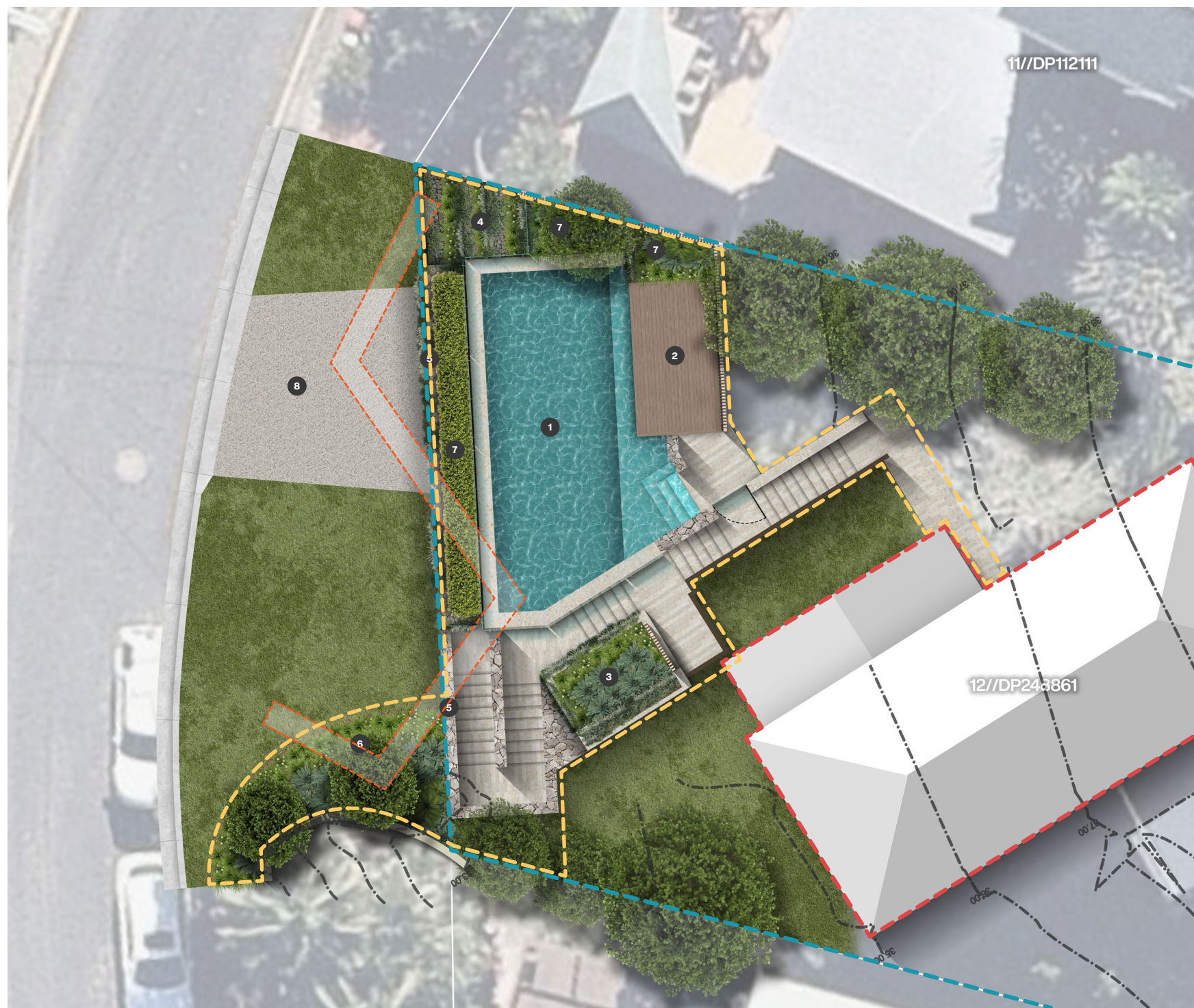


2.0

# Landscape Design.







The proposed development works subject to the assessment includes alterations and additions to the existing dwelling house, comprising of removal of an existing retaining wall and the construction of a two-car garage, swimming pool and ancillary store and lift. These elements are illustrated this sheet and summarised below.

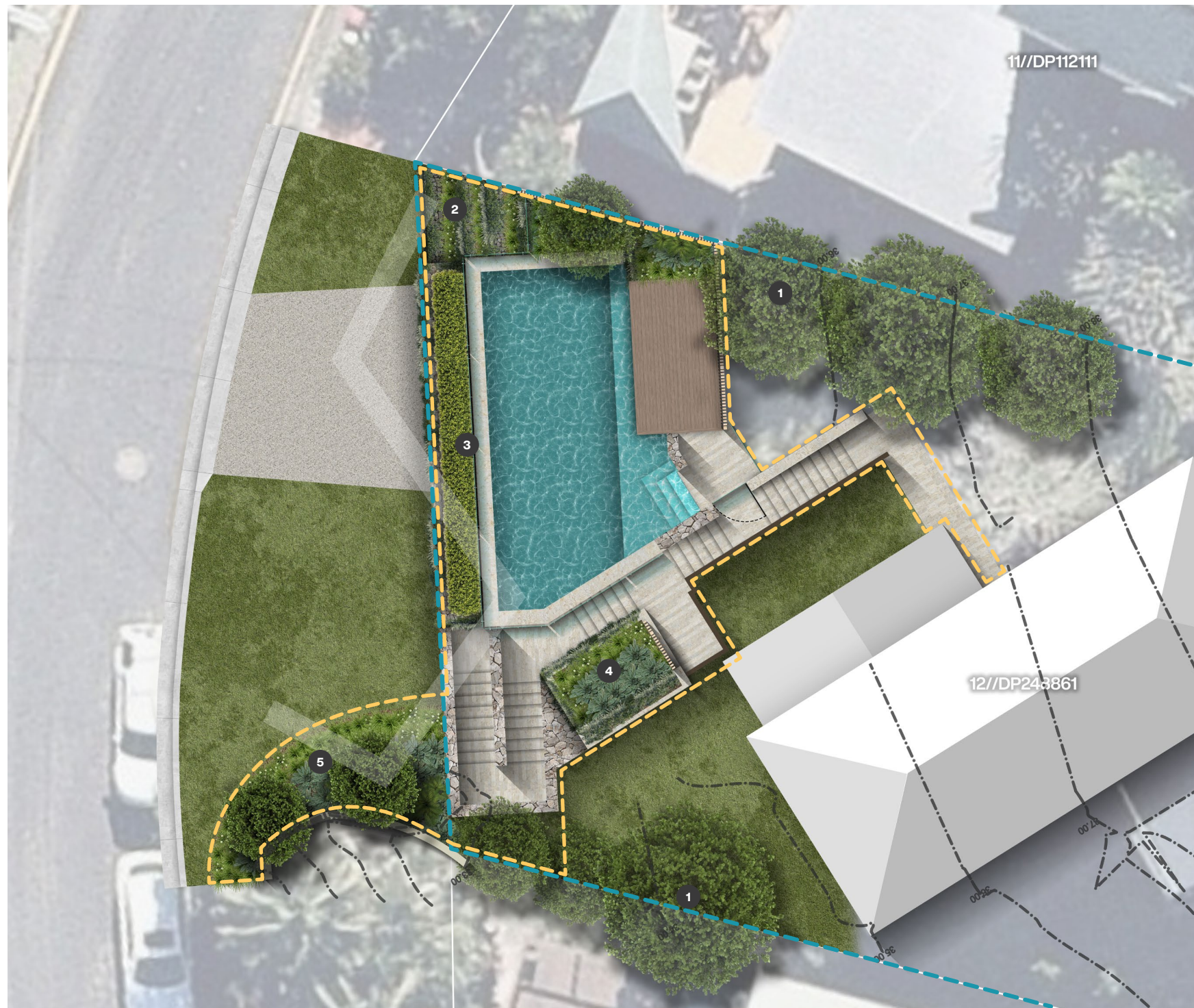
- ⬡ **Existing Dwelling RETAINED**  
Existing two storey dwelling and deck area to be retained.  
AHD height: 42.74m (top of roofline).
- ⬡ **Existing Retaining Wall REMOVED**  
Existing stone block retaining wall to be removed as part of the Proposal.  
AHD height: 32.56m
- ⬡ **Extent of Works**  
Extent of proposed works that comprise 'The Project'.
- 1 **Swimming Pool**  
Pool edge AHD height: 34.5m
- 2 **Pool Deck**  
Pool edge AHD height: 35.0m
- 3 **Lift with Planting Over**  
Top of Structure AHD height: 36.54m
- 4 **Rock Gabion Retaining Walls & Terraced Planting Beds**  
Terraced Gabions AHD height: 32.5 - 34.3m
- 5 **Natural Stone Clad Wall**  
Top of Wall AHD height: 33.3m
- 6 **Landscaped Embankment**  
Ground Level AHD height: ~33.0m
- 7 **Landscaped Garden Beds**  
Refer to Landscape Concept Plan 2.2
- 8 **Verge & VXO**  
Proposed driveway and reinstated verge. Area illustrated as turf provides an opportunity for additional planting to soften development facade.

Visual Impact Assessment

## 2.1 The Proposal Landscape Works







The proposed landscaping includes cascading species and screening hedge species to provide privacy to the residence and soften the visual impact of the built form. The proposed species palette (and extents of plantings) reflects the established landscape character of the region as determined in the Visual Impact Assessment Section 6.0 Evaluation of Scenic Amenity and the associated photographic study. Signature character species including Plumeria, Syzygium, prostrate coastal groundcovers and native palm trees have been incorporated into the design.



#### Extent of Works

Extent of proposed works that comprise 'The Project'.

1

#### Existing Trees

Existing tree on site to be retained.

2

#### Terraced Planting Beds

Planting to terraced garden beds to include prostrate ground covers species including Dichondra Silver Falls, Trachyspermum, Hibbertia scandens and native Ipomoea species. Hardy coastal species eg Lomandra, Doryanthes and Zamia furfuracea incorporated to add height and frame garden beds.

3

#### Podium Planter A

Podium planting bed above garage (located to northern side / in front of glass balustrade) to include Syzygium hedge species to ~1.0m in height. Planting to base to include cascading species eg, Dichondra Silver Falls, prostrate Casuarina and native Ipomoea species.

4

#### Podium Planter B

Podium planting over lift and ancillary storage to include layered plantings of ground cover species eg Liriope and Dietes with accent plantings of Doryanthes and Zamia furfuracea incorporated to add height and frame garden beds.

5

#### Landscaped Embankment

Landscape embankment to include dense plantings of hardy coastal groundcover species. taller species to rear including Rhipis excelsa and Zamia furfuracea to provide additional softening to the development facade. Potential to include tree and palm species eg Pandanus, Archontopoenix and Plumeria species to reflect local landscape character.

Visual Impact Assessment

## 2.2 The Proposal Landscape Works





3.0

# Design Details.



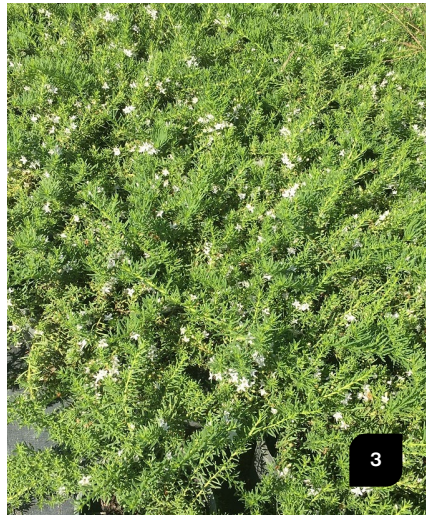




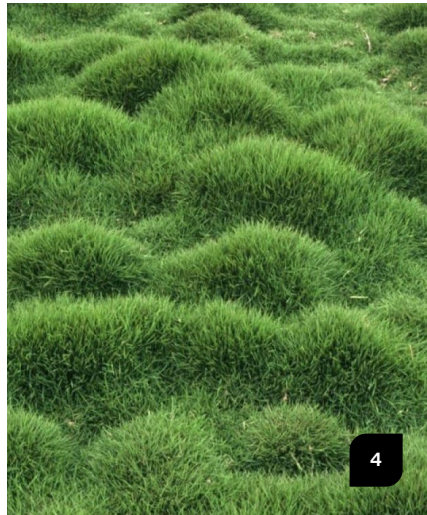
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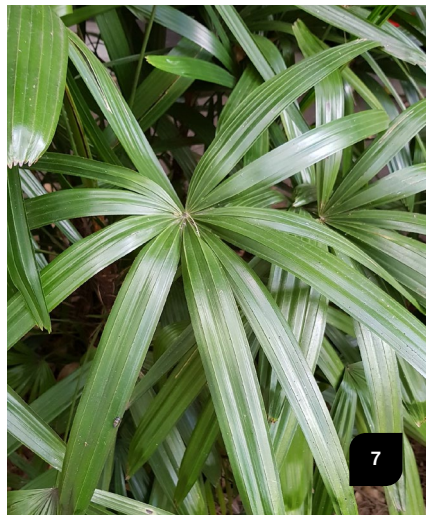
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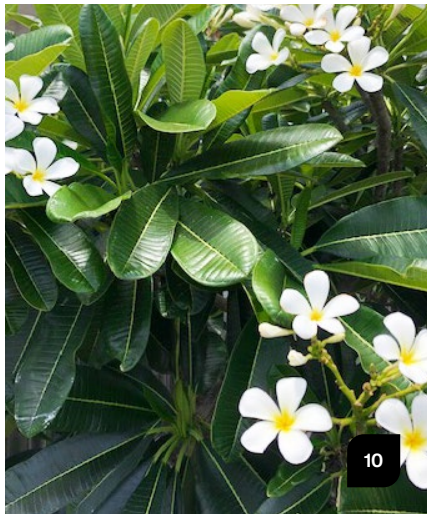
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8



9



10



11



12

Groundcover

1	Aspidistra elatior	Cast Iron Plant
2	Liriope Evergreen Giant	Evergreen Giant
3	Myoporum ellipticum	Coastal Myoporum
4	Zoysia japonica	Zoysia

Shrubs

5	Calathea ornata	Pinstripe
6	Philodendron 'Rojo Congo'	Congo Rojo
7	Rhaps excelsa	Lady Palm
	Syzygium Aussie Boomer	Aussie Boomer
8	Strelitzia nicolai	White Bird of Paradise
	Westringea fruticosa	Coastal Rosemary
9	Zamia furfuracea	Cardboard palm

Trees

10	Plumeria obtusa	Frangipani
11	Wodyetia bifurcata	Foxtail Palm
	Randia fitzalanii	Native gardenia
	Tristaniopsis laurina 'luscious'	Watergum

Cascading and Trellis

12	Casuarina glauca	Cousin It
	Dichondra Silver Falls	Silver Falls
	Trachelospermum jasminoides	Star Jasmine

Character Species

Design Details  
3.1 Planting Palette







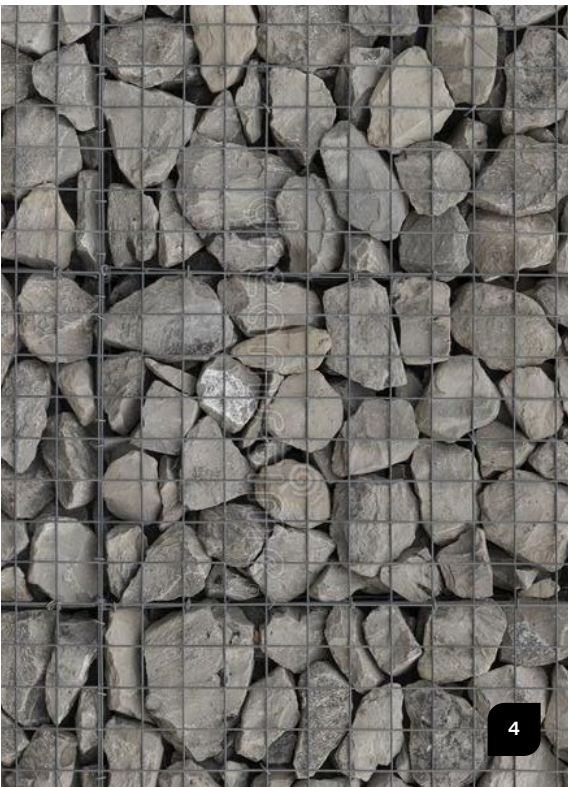
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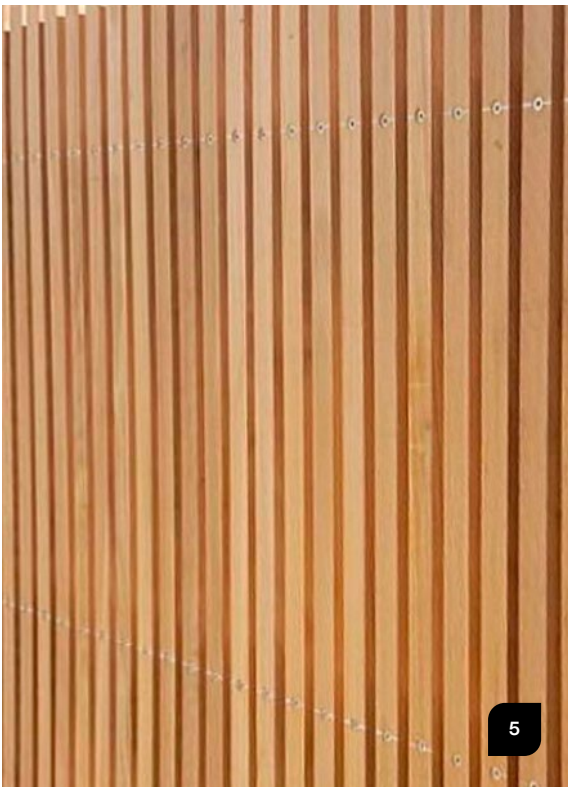
2



3



4



5



6

Materials

1	Freeform   Canyonfell (Option)	Eco Outdoor
2	Freeform   Finch (Option)	Eco Outdoor
3	Gabion Rock Wall   Basalt	Permathene
4	Exposed Aggregate   County Gold	Boral
5	Black Butt Timber	N/A
6	Glass Baulstrade	N/A

Design Details

# 3.2 Material Palette



