

PART TEN
SITE ANALYSIS
Three Dimensional Site Model



Site Analysis

3D Model
Site Aerial Views and 3D model

CALDYNE PARK

Land at Caldyne Park,
Turners Hill Rd,
West Sussex
RH10 4NB



Aerial View of the Site



Model View of the Site



Model View - Site Outline



Aerial View - Site Outline



Model View of the Site with tanks



Model View of the Site with tank locations



Model Plan View of the Site with tank locations

Creation of The 3-Dimensional Site model

Using survey details, Aerial Photos and on site examination a Three Dimensional Model was created of the Site using like for like examples of trees.

As previously described the tank slabs were NOT removed from the site in 1999 by the MOD. They are still about 450mm below the surface and inhibit the growth of trees.

The site has also been invaded by Rhododendrons

In the next section the model was used to create a number of Sun Studies.



PART ELEVEN
SITE ANALYSIS
Sun Studies



The Site

Site Analysis
Sun Study 01 - 0m from Ground Level

CALDYNE PARK

Land at Caldyne Park,
Turners Hill Rd,
West Sussex
RH10 4NB

EQUINOX
20th March

SOLSTICE
21st June

EQUINOX
23rd September

SOLSTICE
21st December

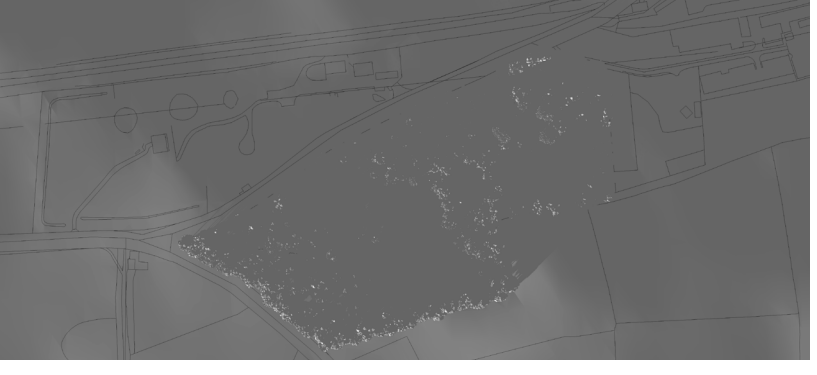
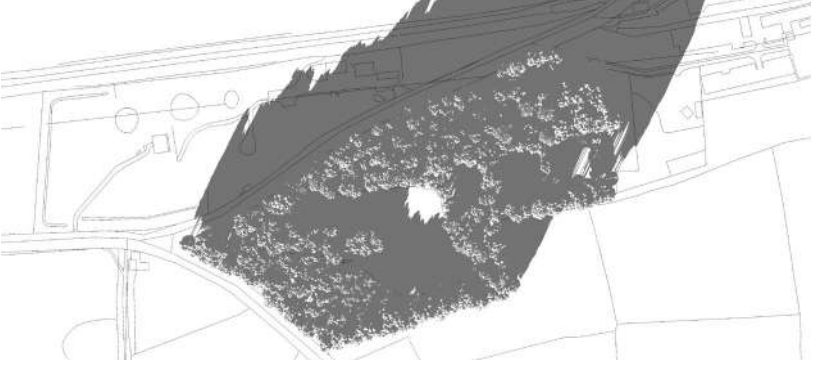
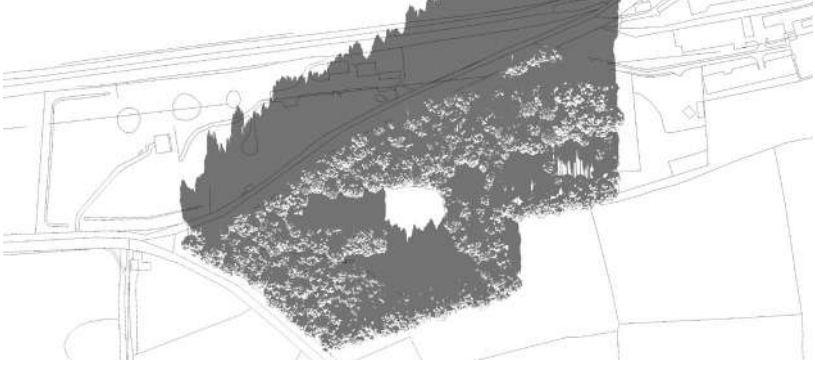
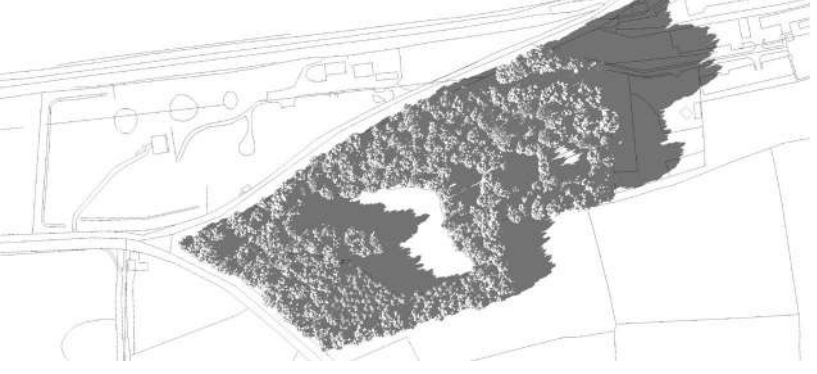
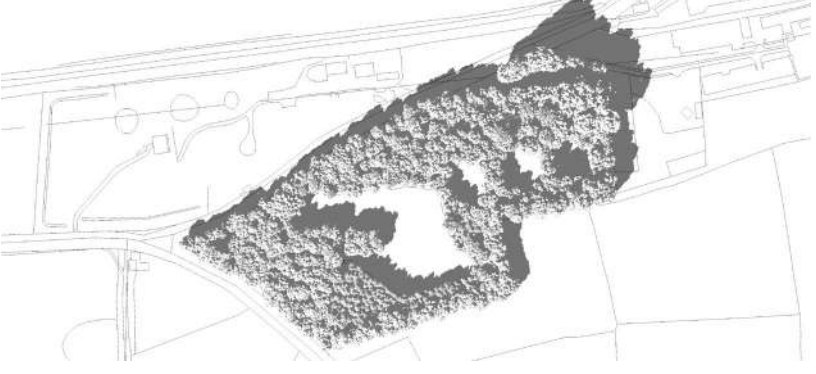
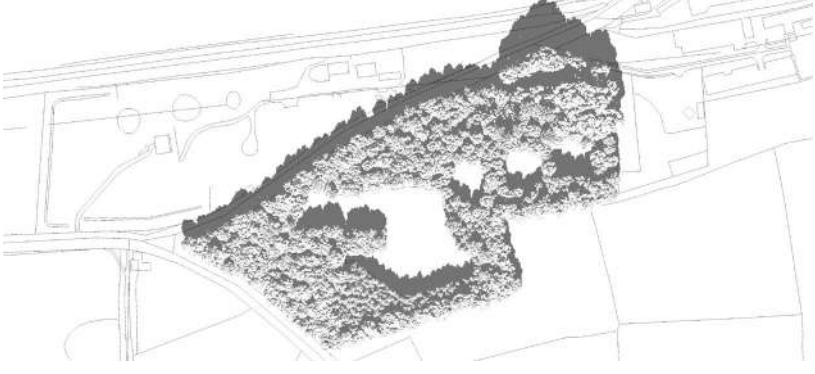
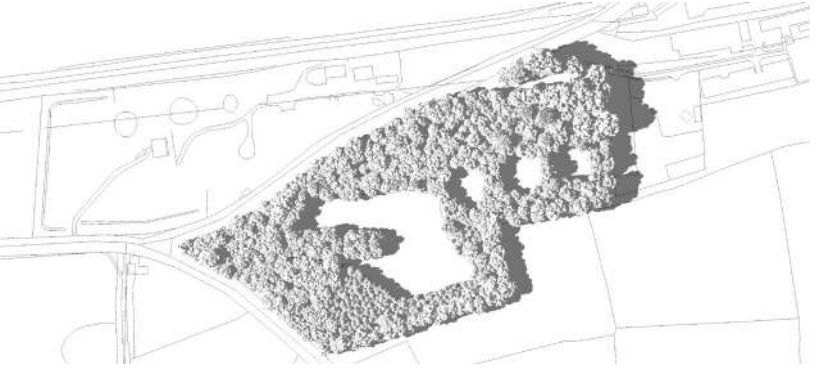
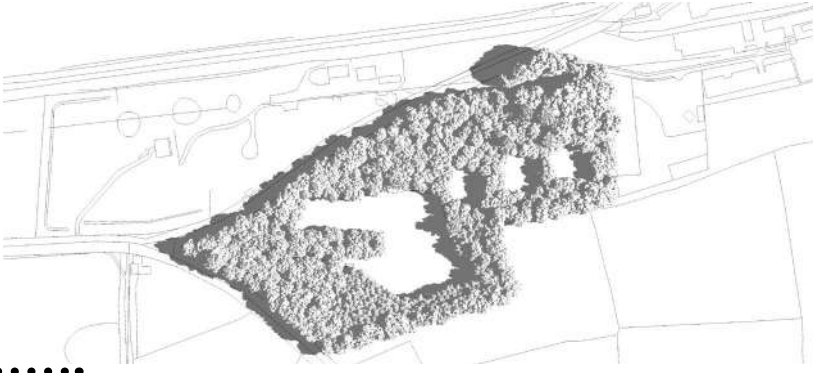
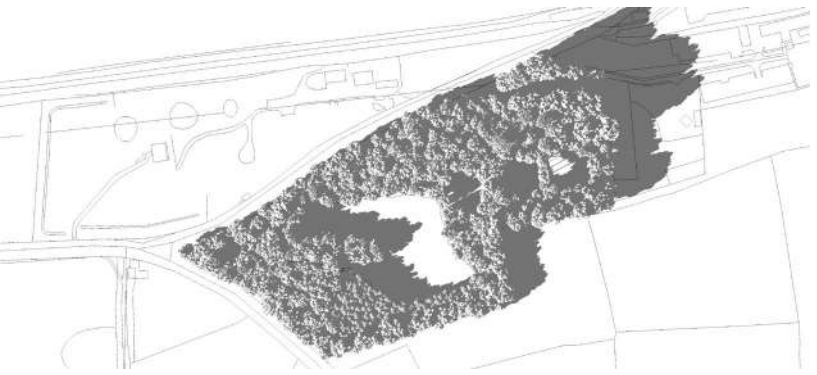
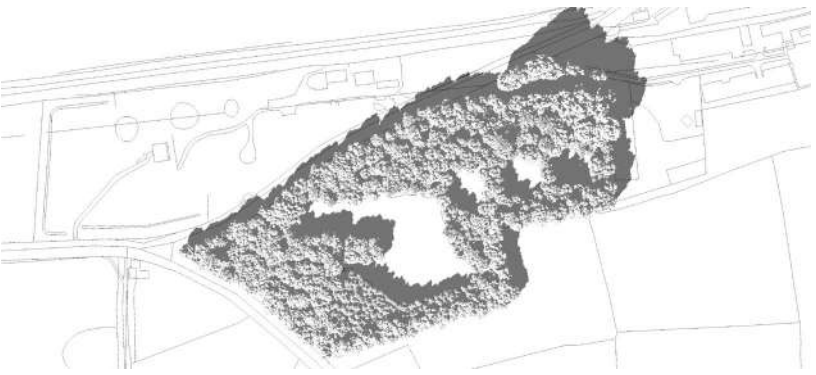
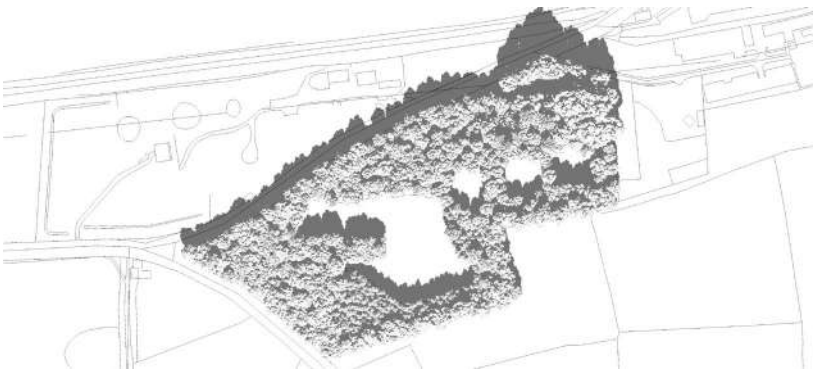
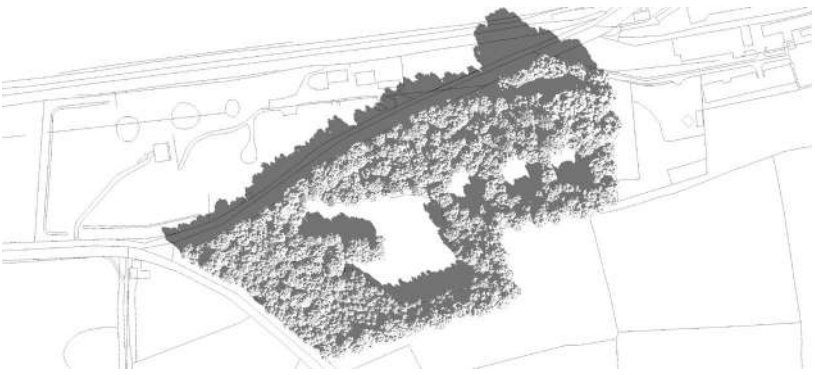
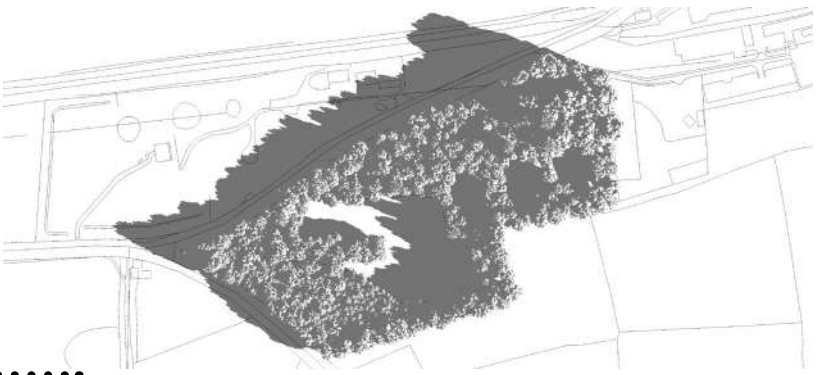
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12pm

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4pm



The Site

Site Analysis
Sun Study 02 - 3m from Ground Level

CALDYNE PARK

Land at Caldyne Park,
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EQUINOX
20th March

SOLSTICE
21st June

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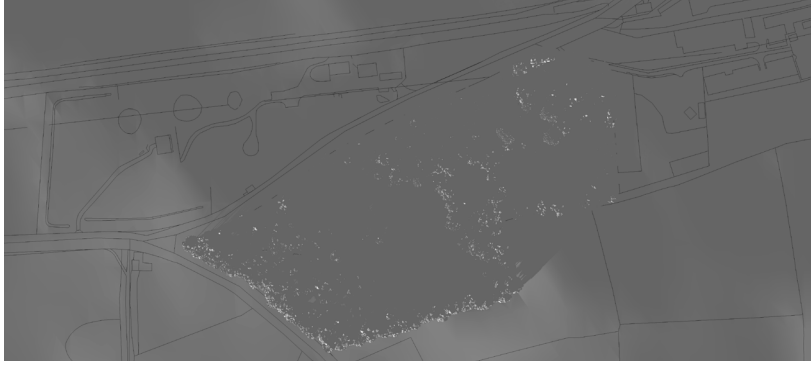
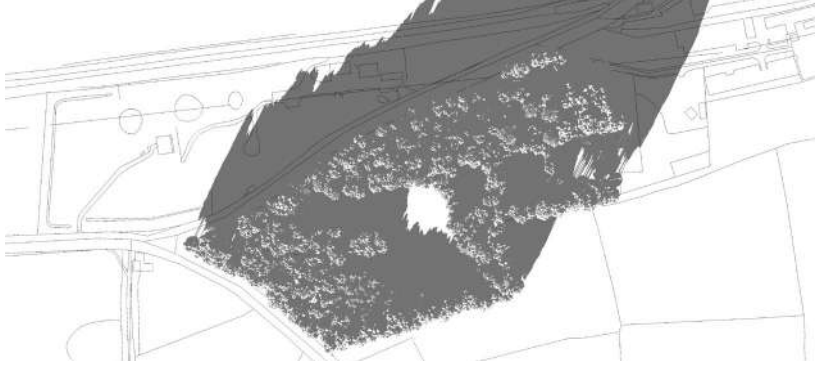
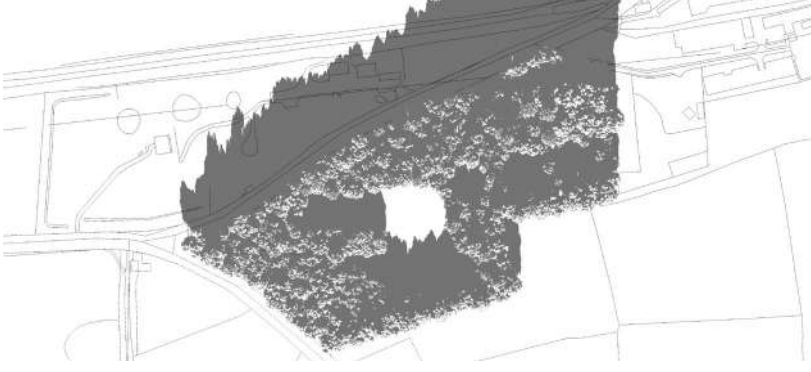
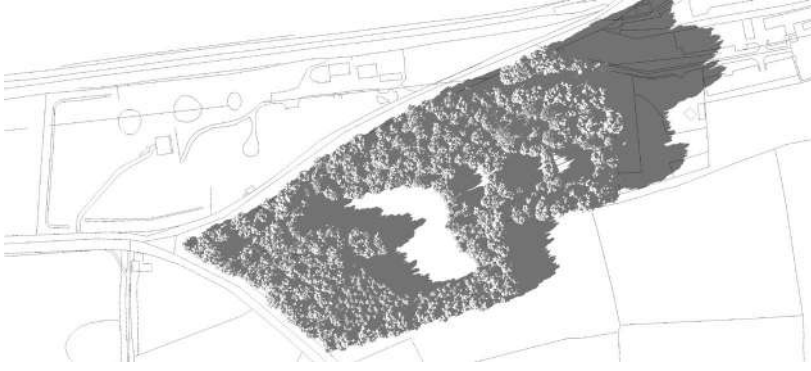
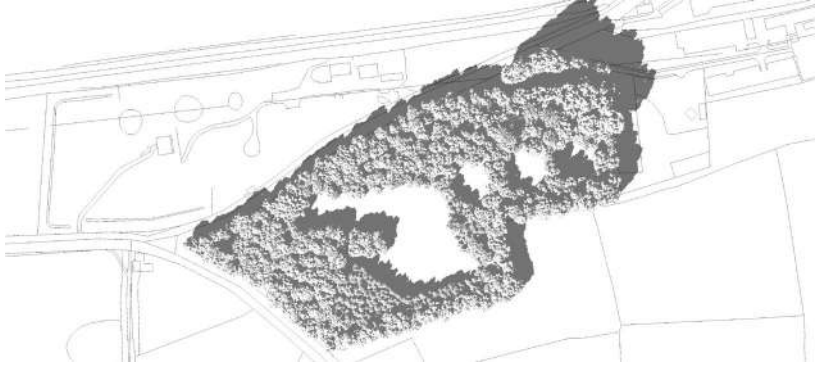
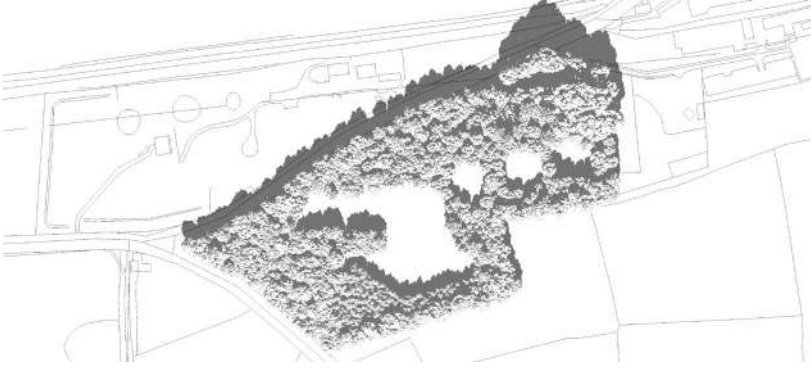
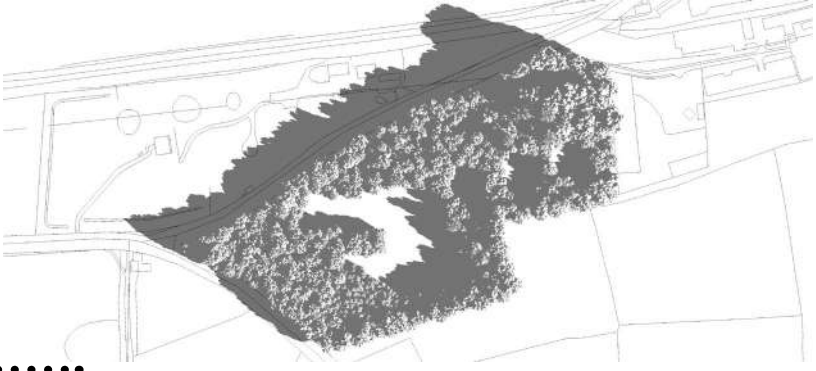
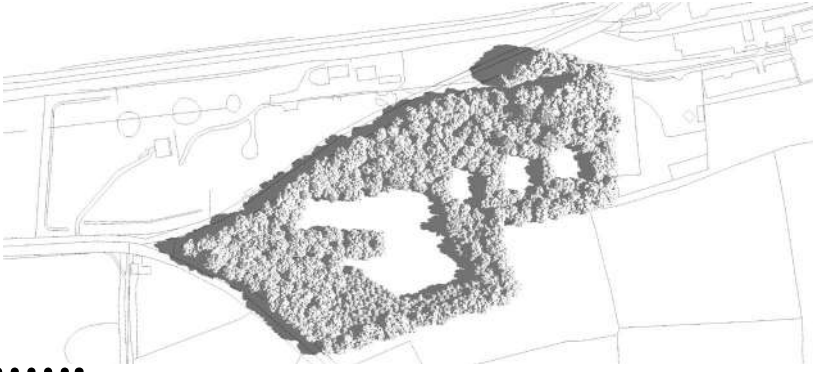
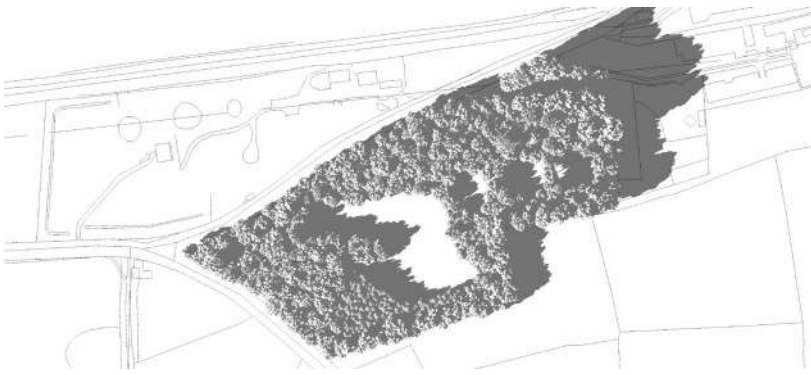
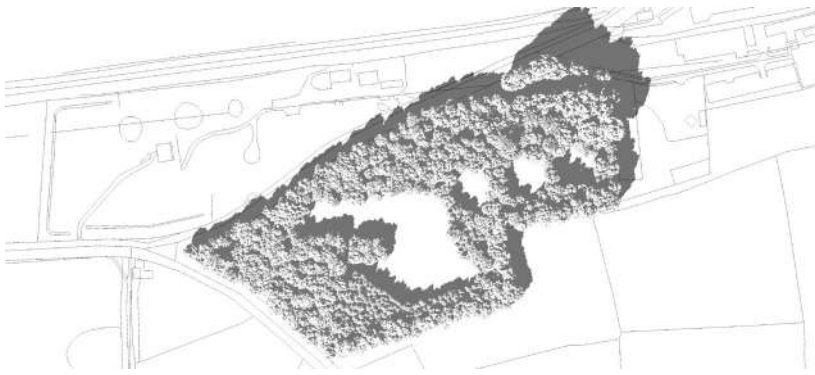
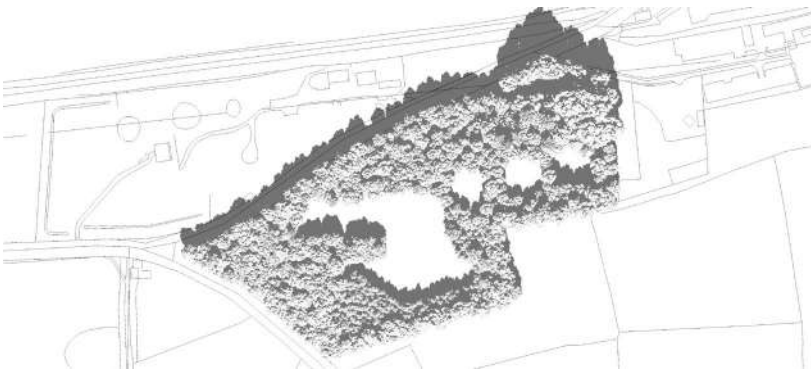
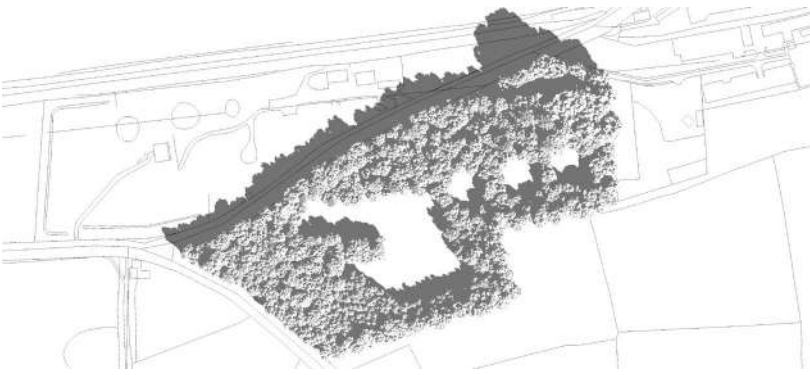
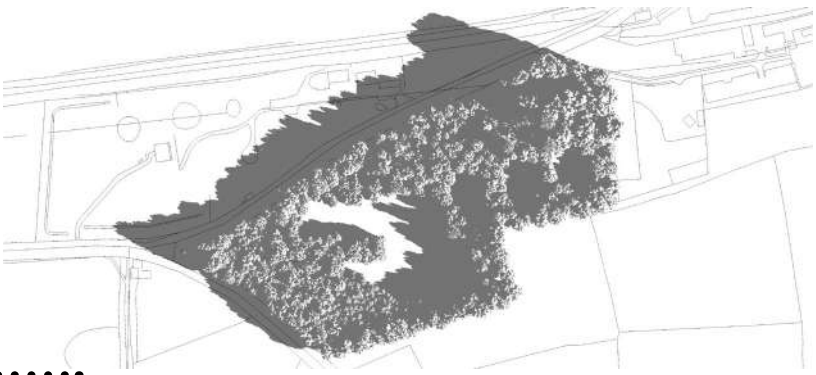
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The Site

Site Analysis
Sun Study 03 - 6m from Ground Level

CALDYNE PARK

Land at Caldyne Park,
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20th March

SOLSTICE
21st June

EQUINOX
23rd September

SOLSTICE
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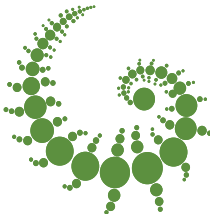
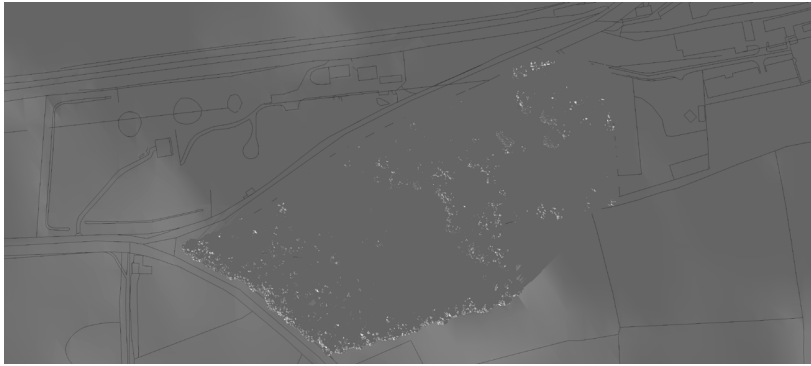
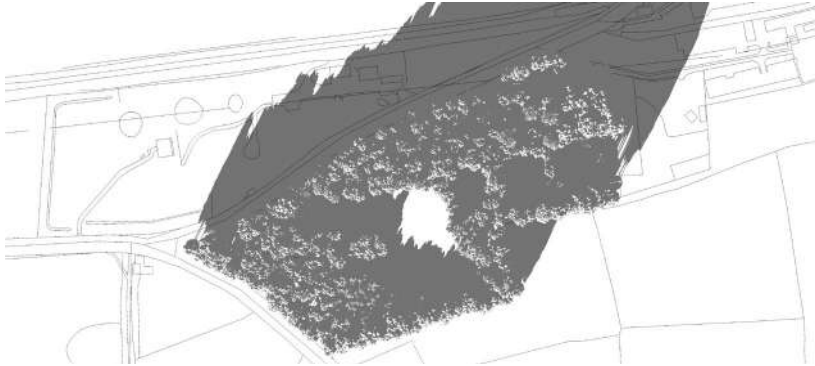
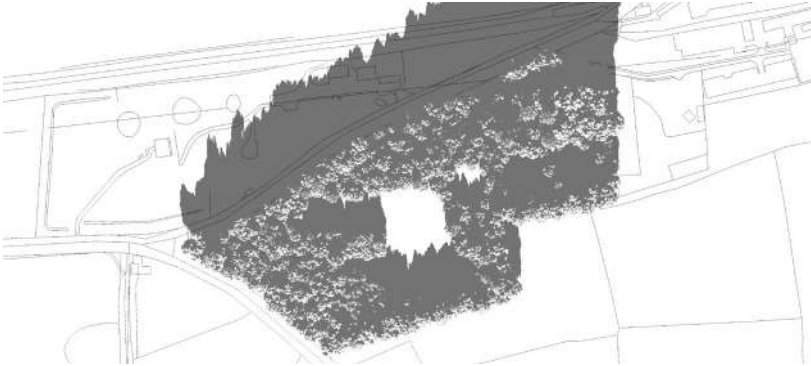
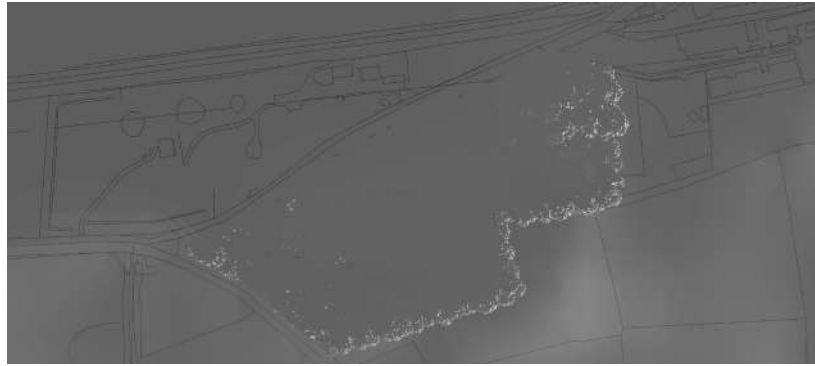
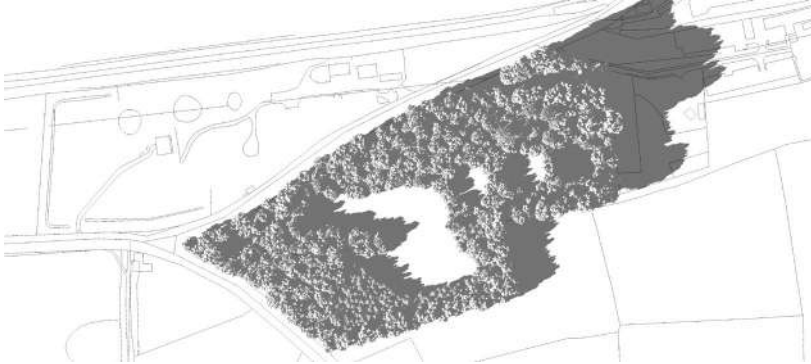
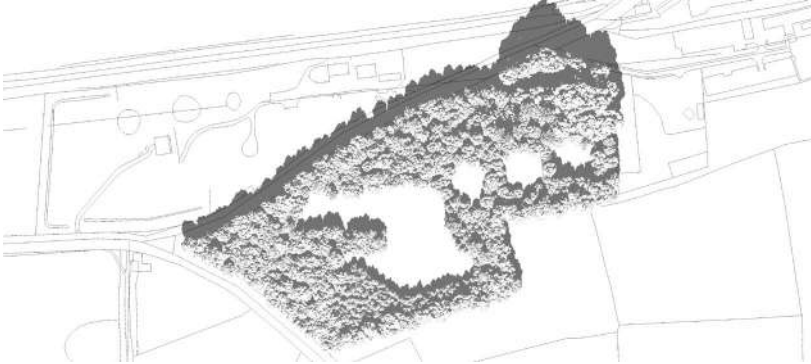
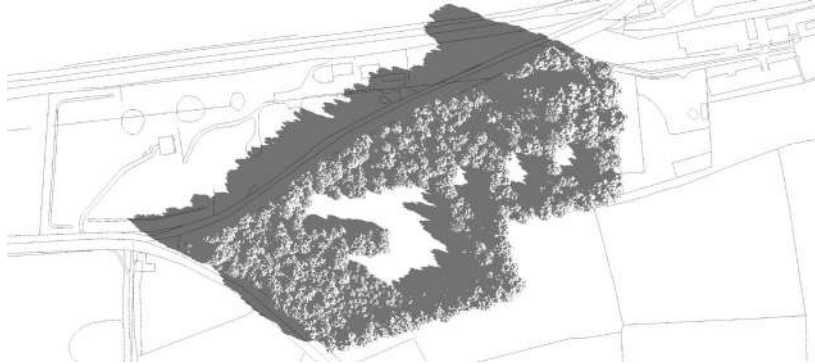
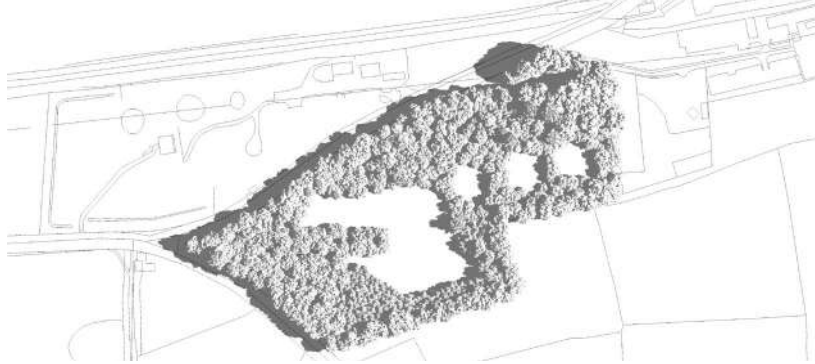
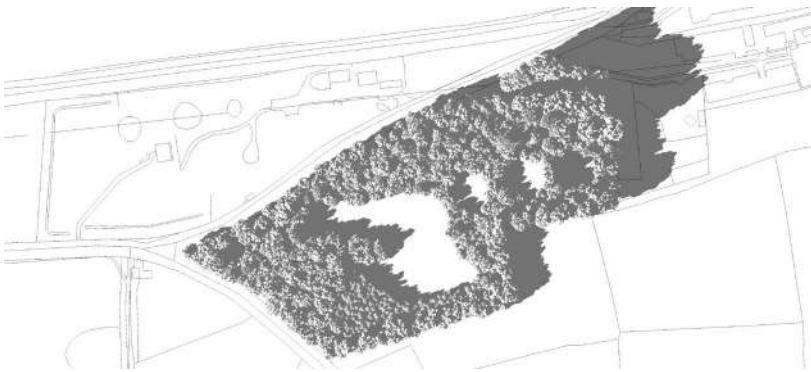
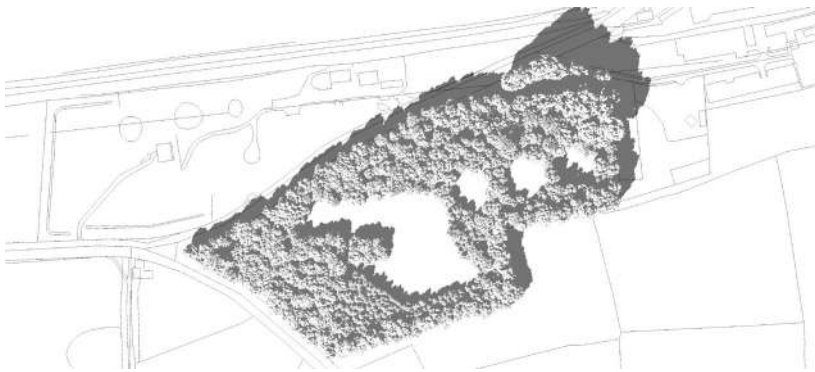
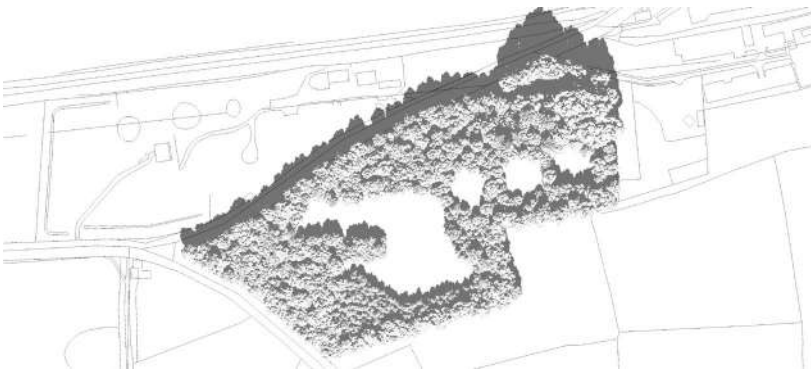
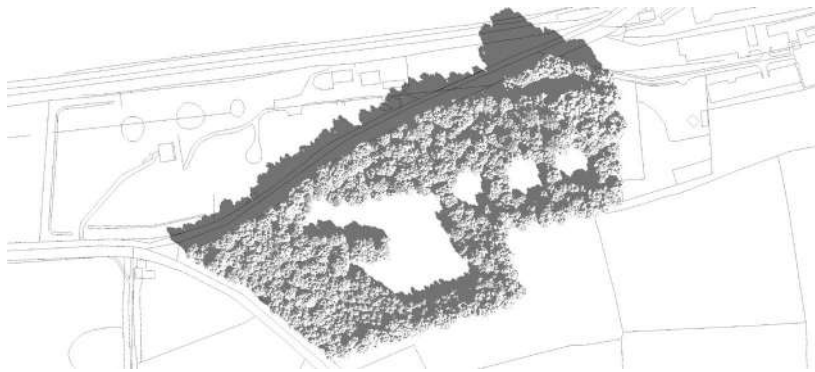
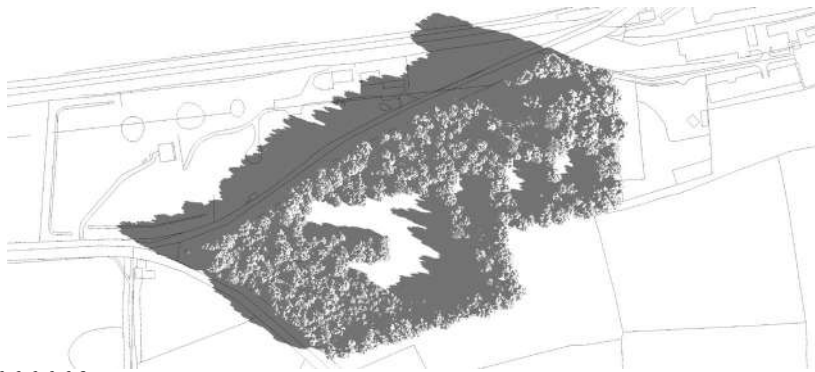
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The Site

Site Analysis
Sun Study 04 - 9m from Ground Level

CALDYNE PARK

Land at Caldyne Park,
Turners Hill Rd,
West Sussex
RH10 4NB

EQUINOX
20th March

SOLSTICE
21st June

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23rd September

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21st December

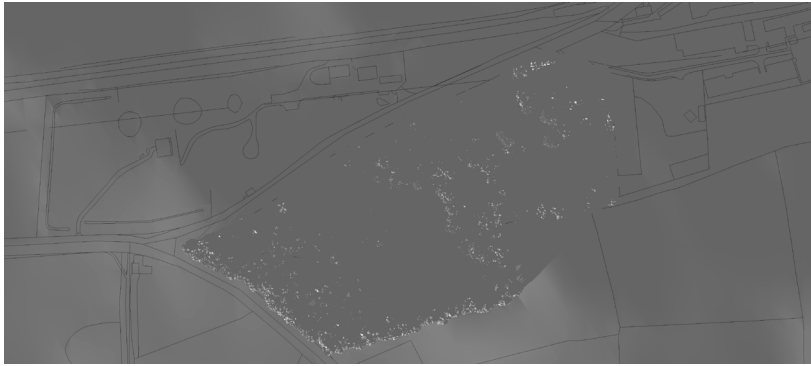
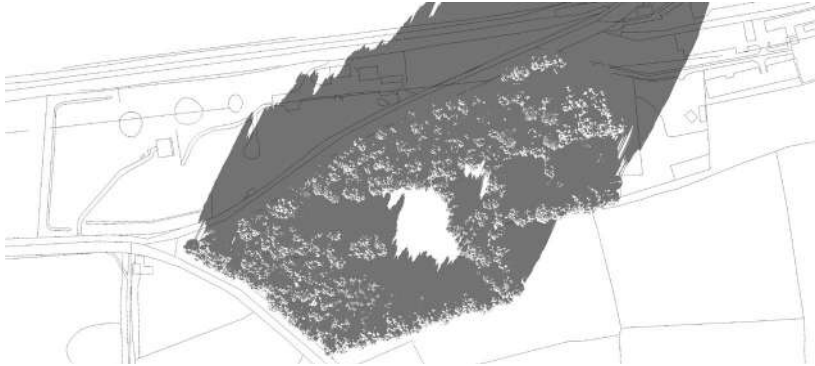
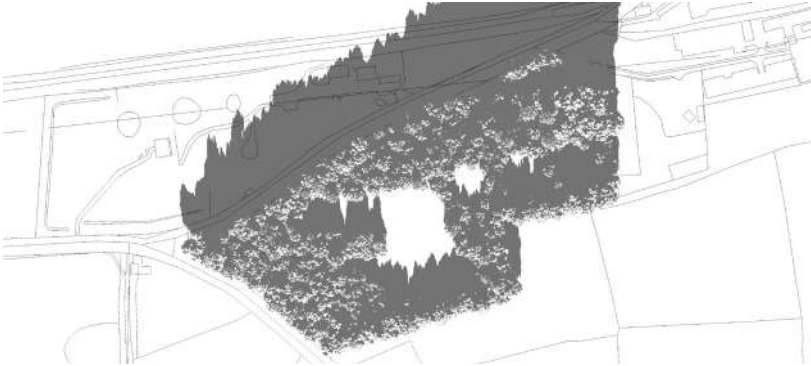
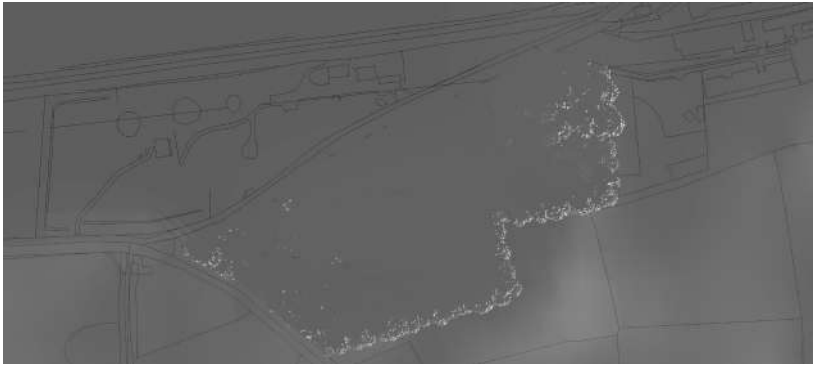
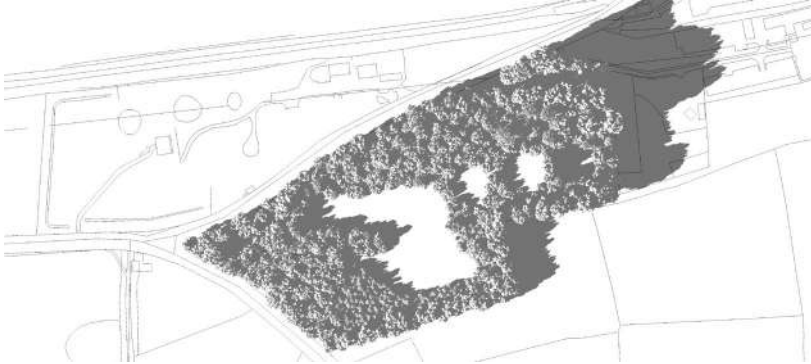
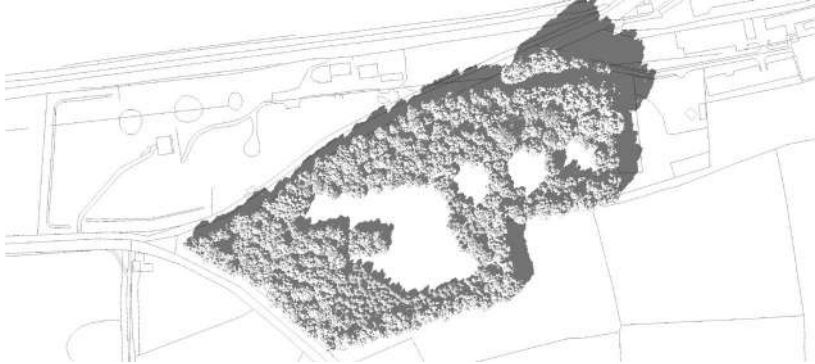
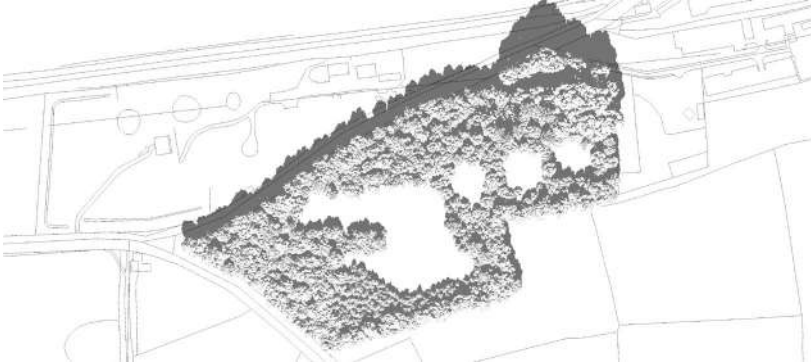
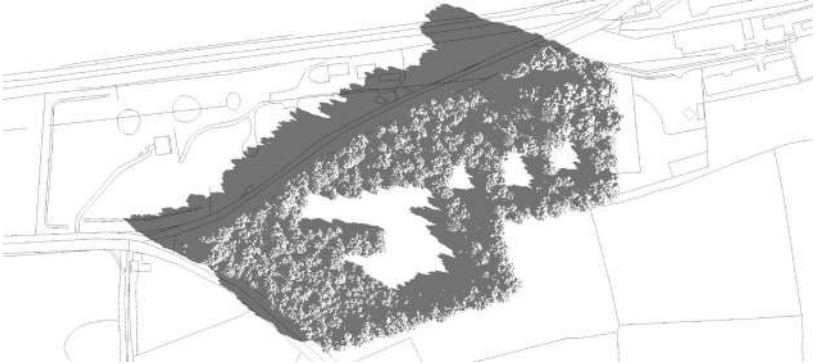
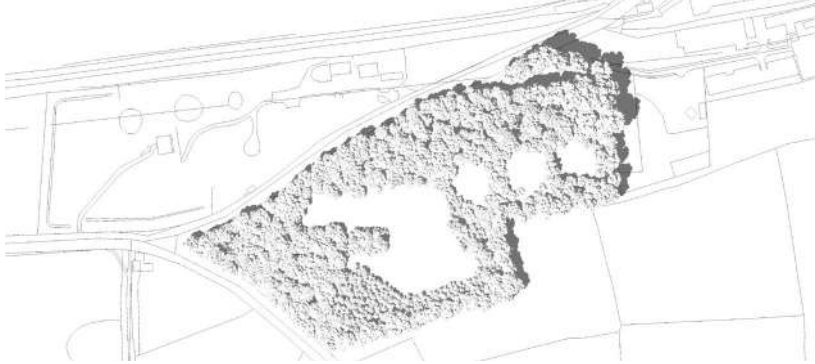
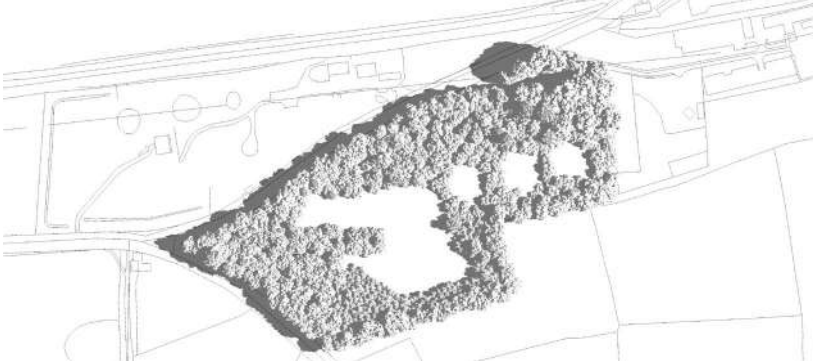
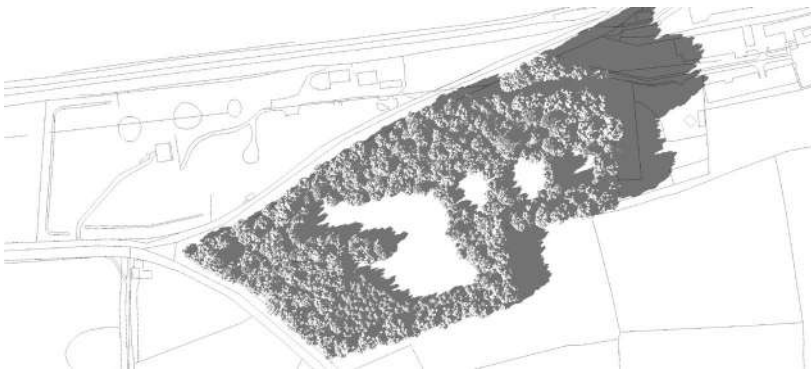
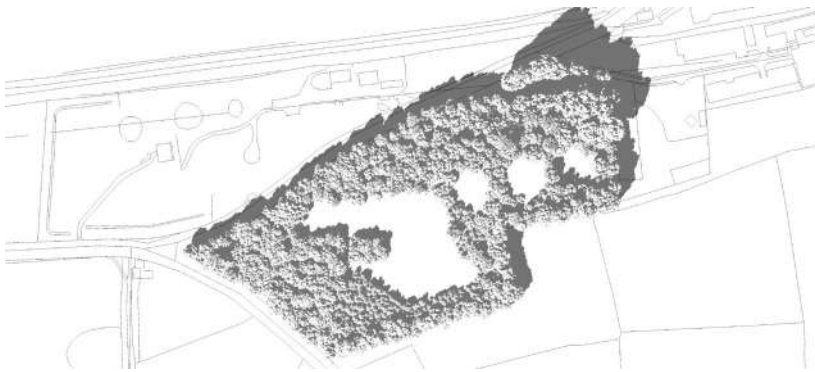
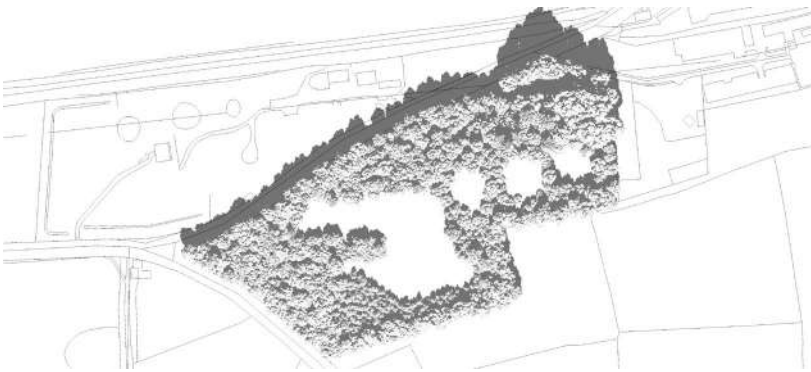
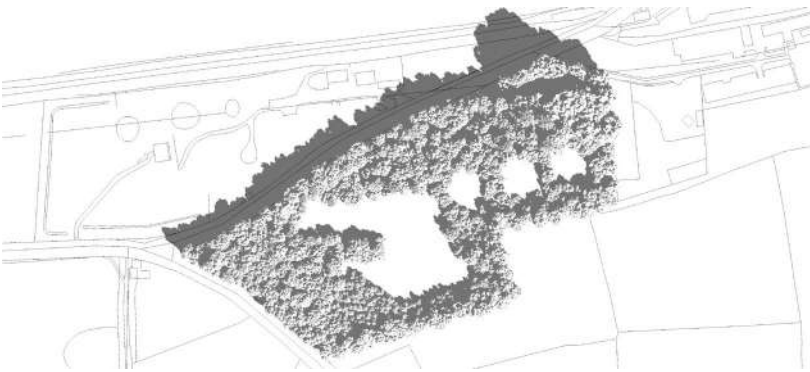
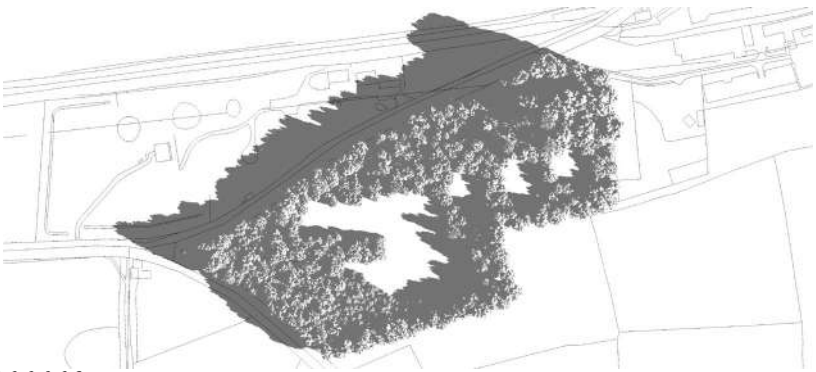
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12pm

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The Site

Site Analysis
Sun Study OS - 12m from Ground Level

CALDYNE PARK

Land at Caldyne Park,
Turners Hill Rd,
West Sussex
RH10 4NB

EQUINOX
20th March

SOLSTICE
21st June

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23rd September

SOLSTICE
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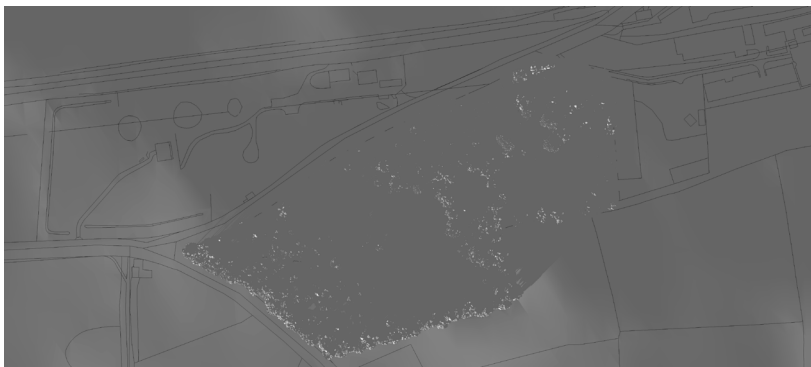
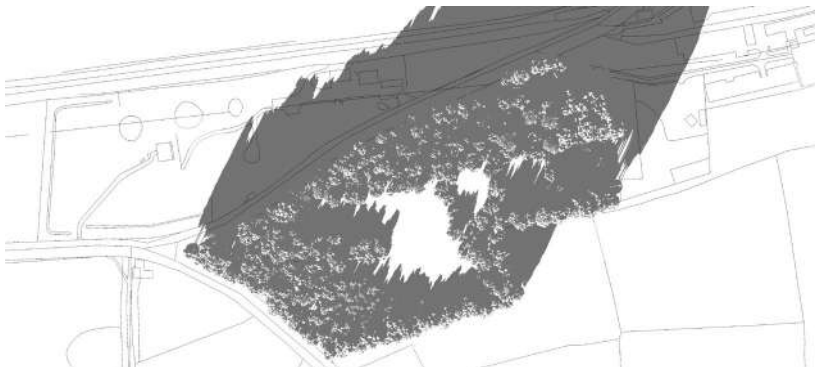
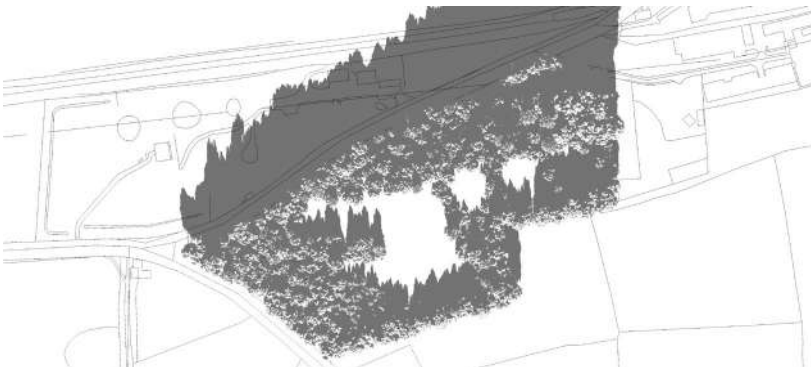
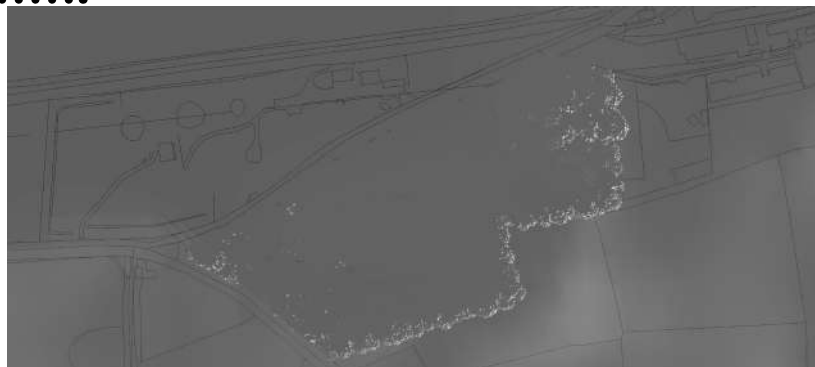
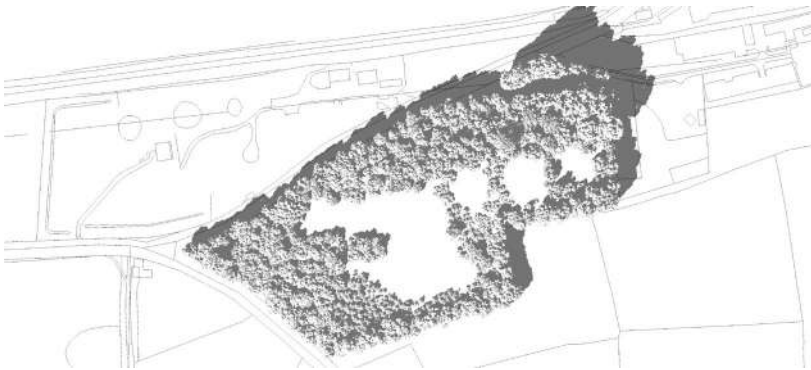
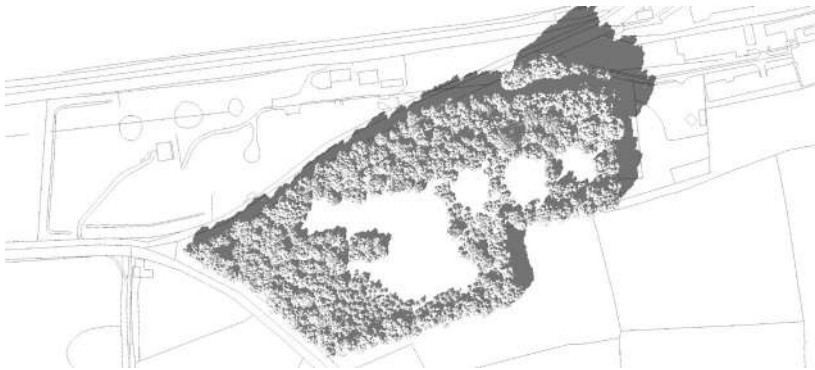
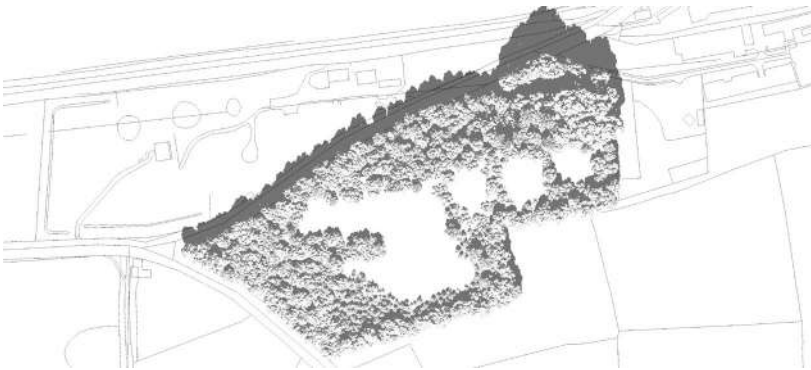
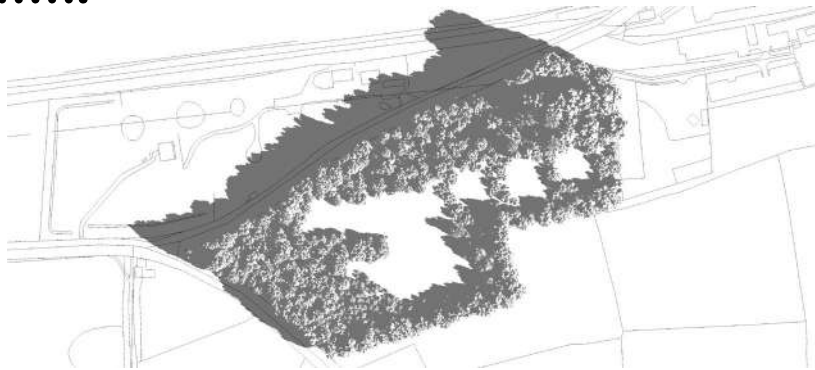
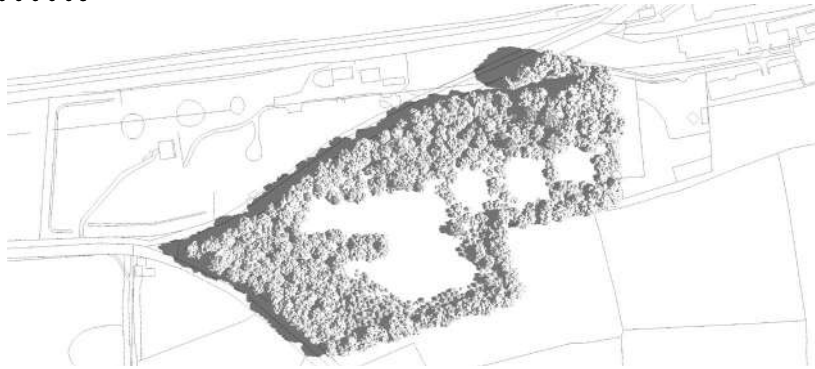
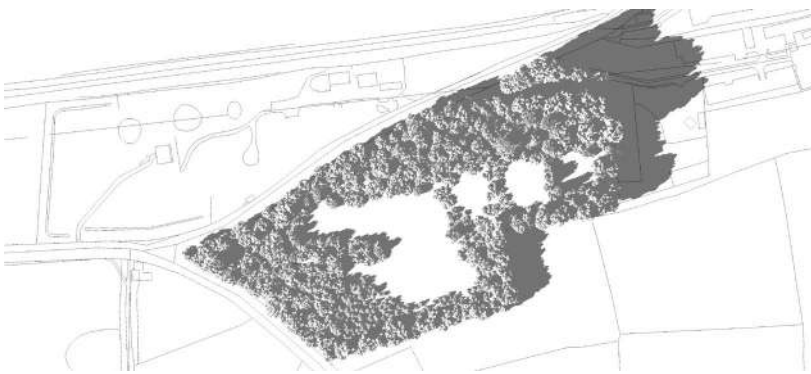
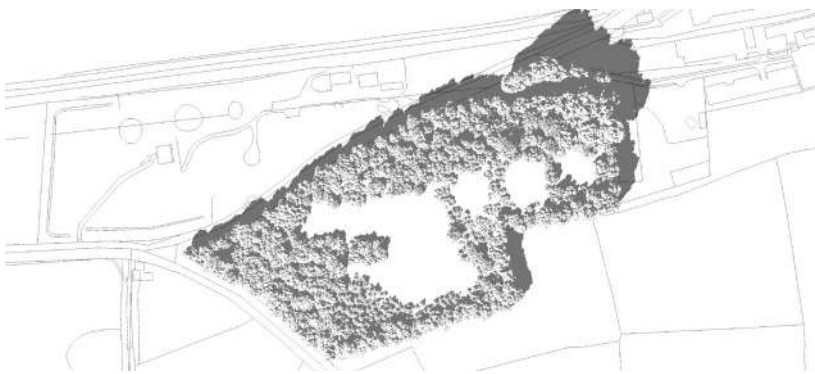
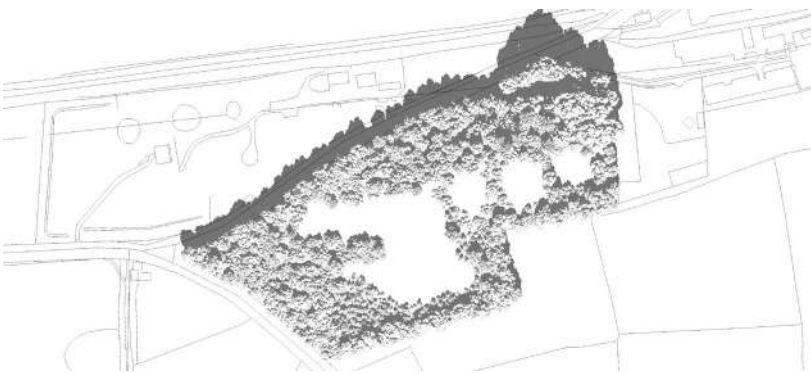
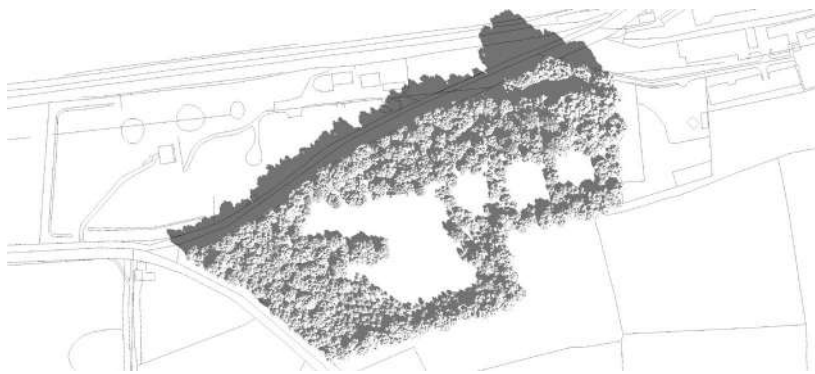
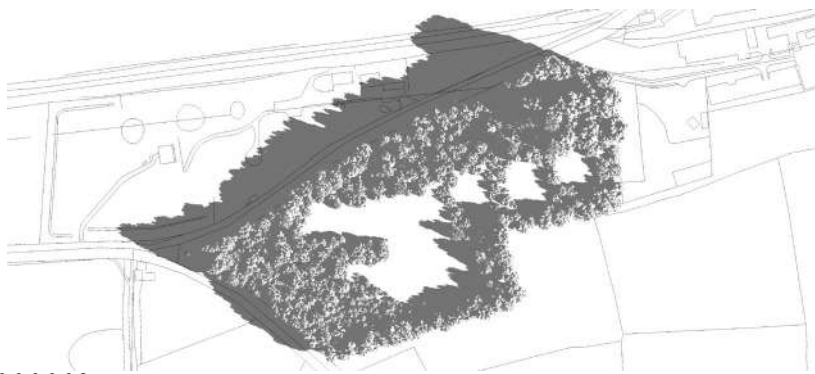
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PART TWELVE
DESIGN DEVELOPMENT
Positioning & Orientation

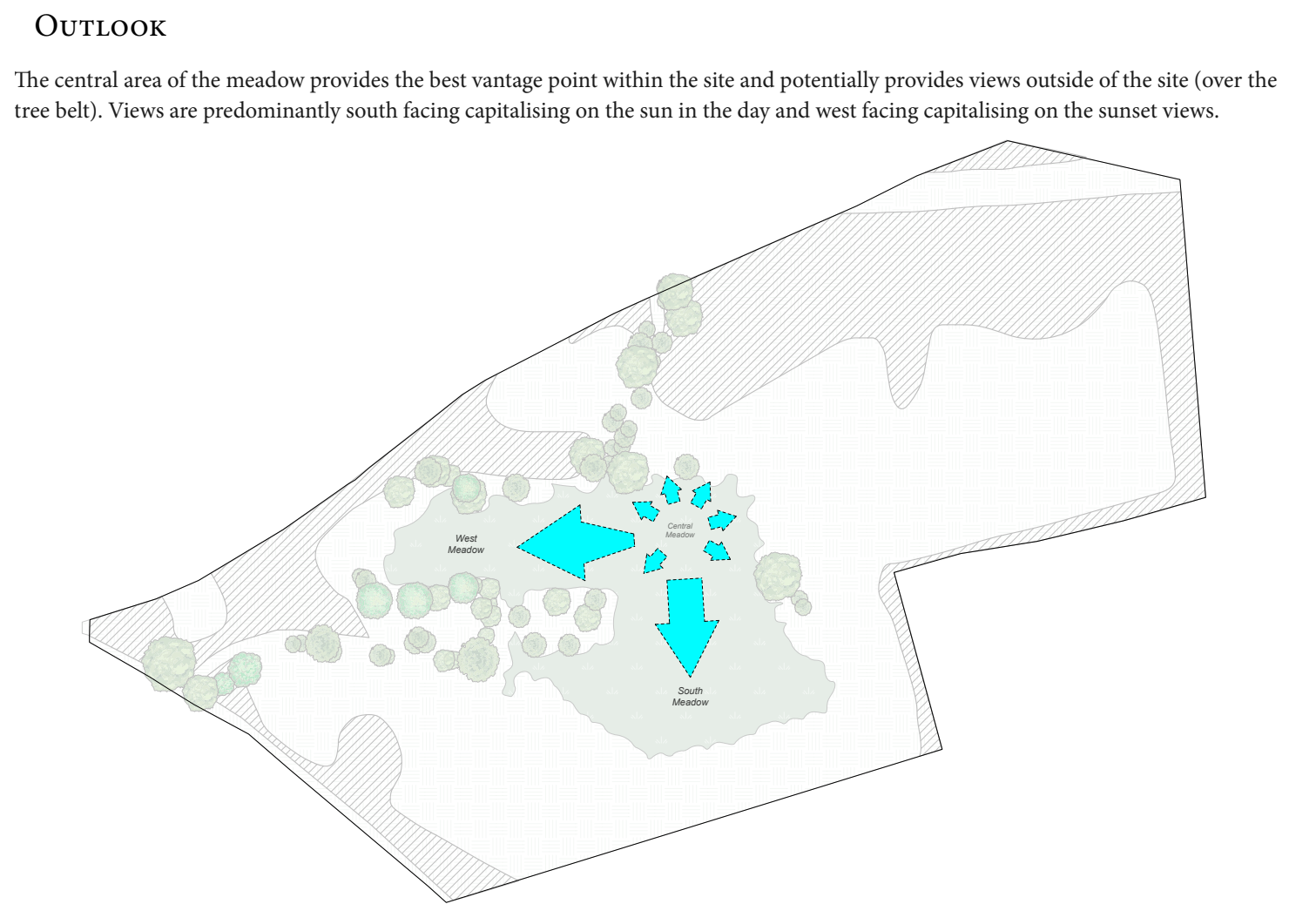
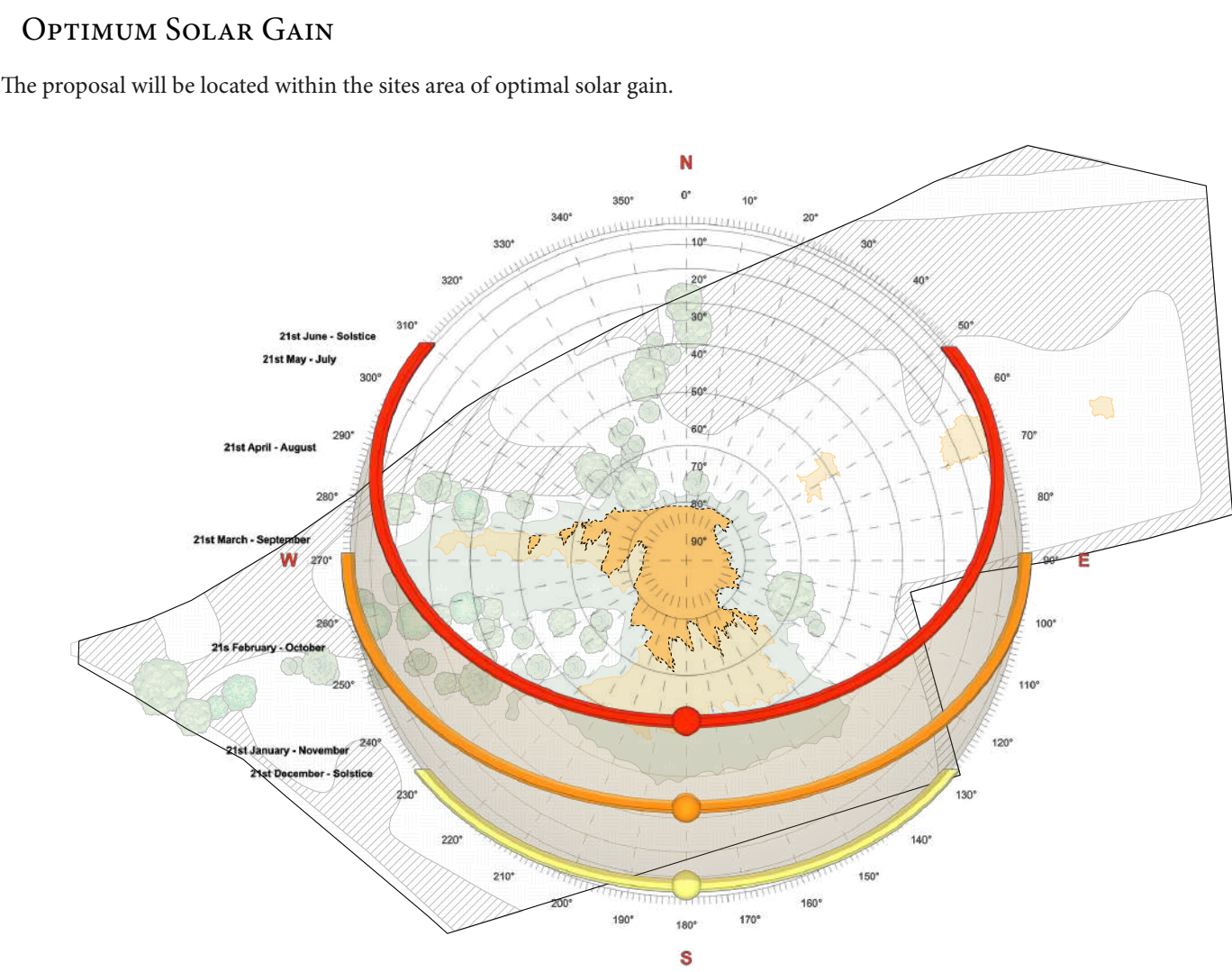
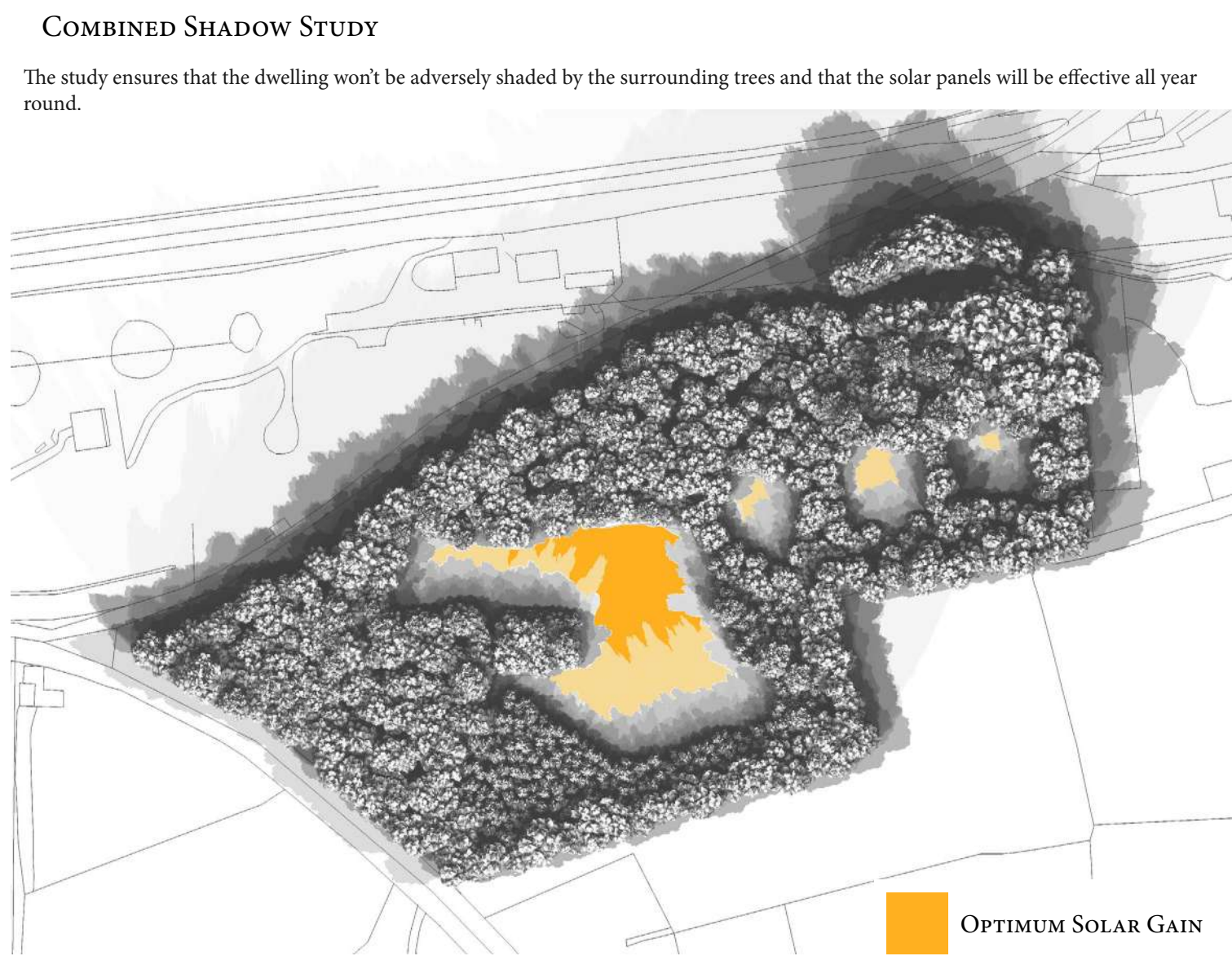


Design Development

Positioning and Orientation

Key Site Design Considerations

SITE ANALYSIS:
The detailed site analysis (and its history) strongly directed the positioning of the building and the form it took. We interrogated the environmental qualities and various options for locating the dwelling on the site. In each instance, we assessed the impact on context, outlook, shadow, topography, terrain, passive solar gain, site history, entrance & access.

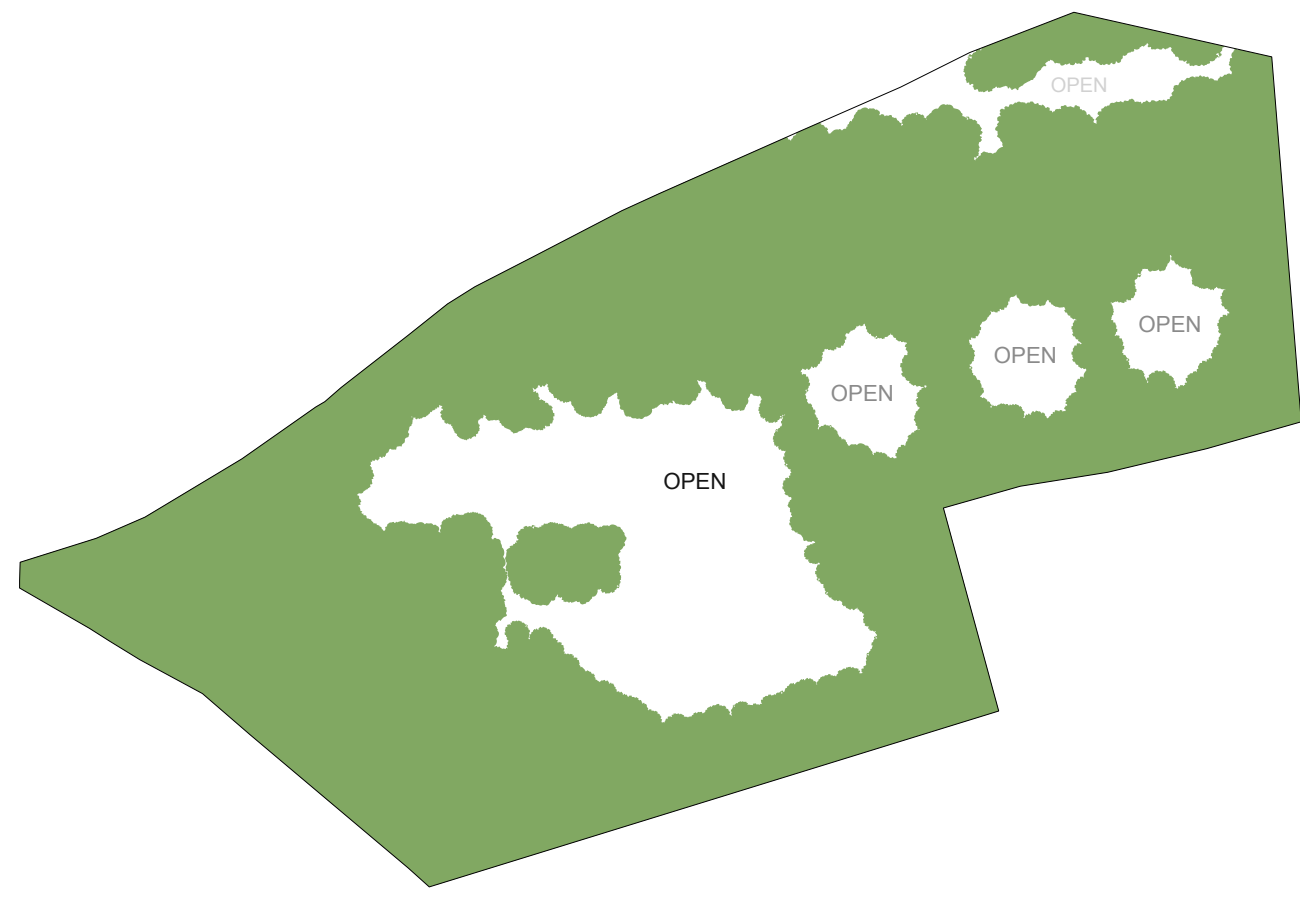


Design Development

Positioning and Orientation
Key Site Design Considerations

ENCLOSURE & CLEARINGS

Dense woodland surrounding the site with a screen of mature trees forming private open spaces. There is one distinct clearing within the dense woodland and four peripheral clearings.



FUEL TANK LOCATIONS

The location of the previous fuel tanks that were removed from the site between 1999 - 2001 and the adverse remnants that have been left on the landscape.

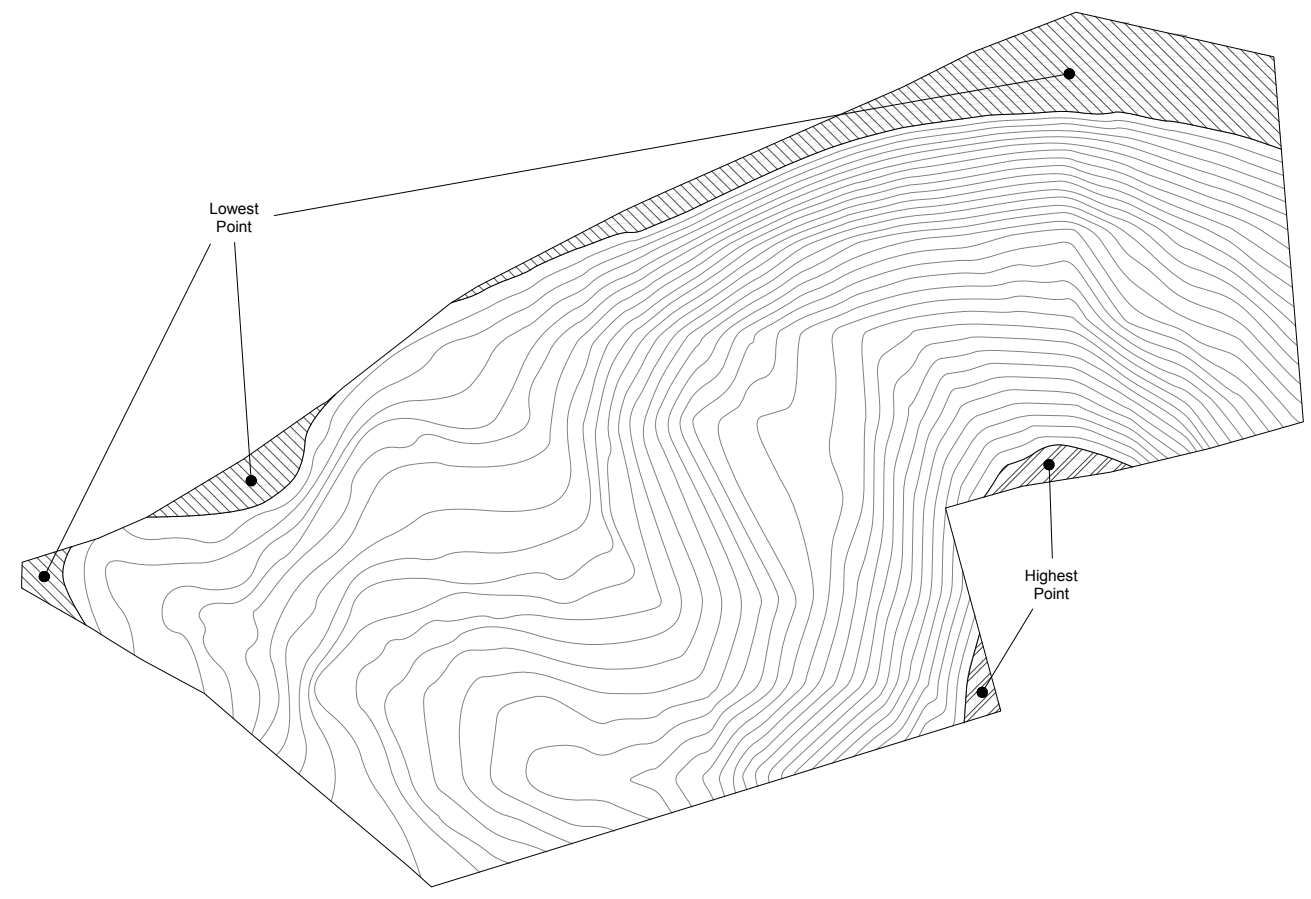


CALDYNE PARK

Land at Caldyne Park,
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TOPOGRAPHY

The site naturally slopes from the Southeast corner to the North (northwest to northeast).

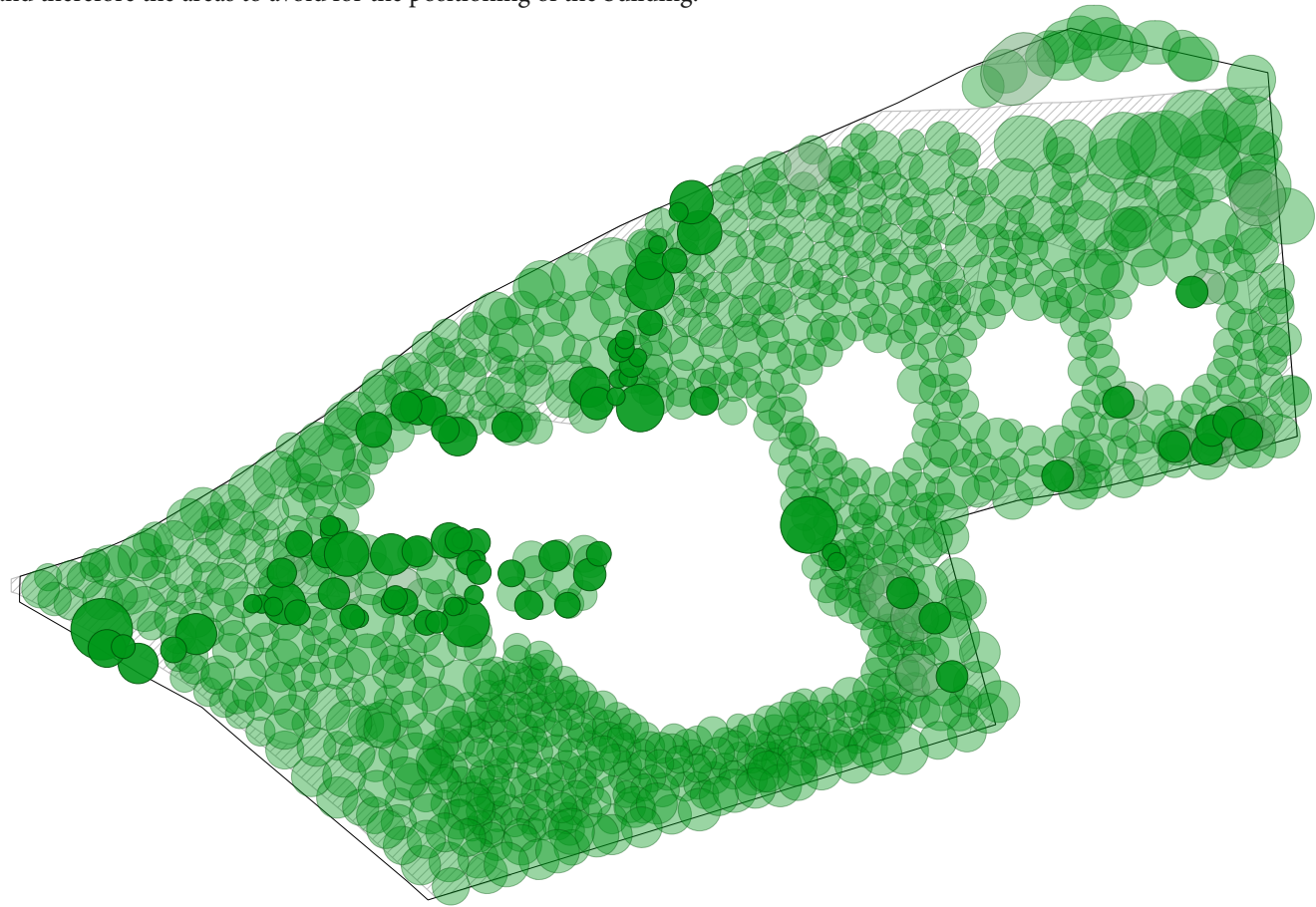


Design Development

Positioning and Orientation
Key Site Design Considerations

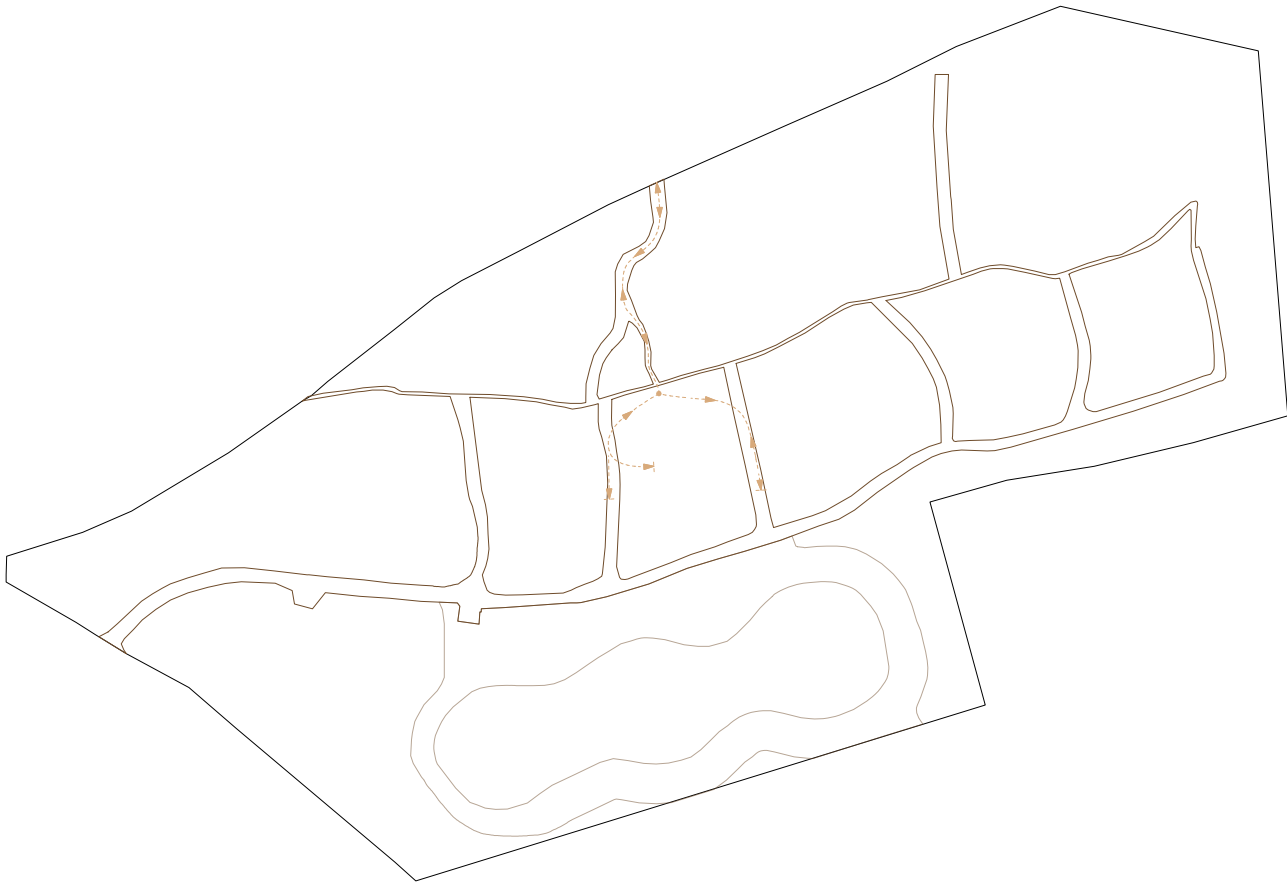
ROOT PROTECTION AREAS

Dense woodland surrounding the site with a screen of mature trees forming private open spaces. Highlighting the key root protection areas and therefore the areas to avoid for the positioning of the building.



EXISTING TRACKS

Utilisation of existing access track and converting it into an Ecological SuDS Driveway using the TTE System. With the existing secure gated access converted into a domestic dwelling gated access.



TERRAIN

The existing landscape is predominantly a mixture of woodland and ancient woodland with a large open meadow in the site. Overrun by invasive rhododendrons.



Land at Caldyne Park,
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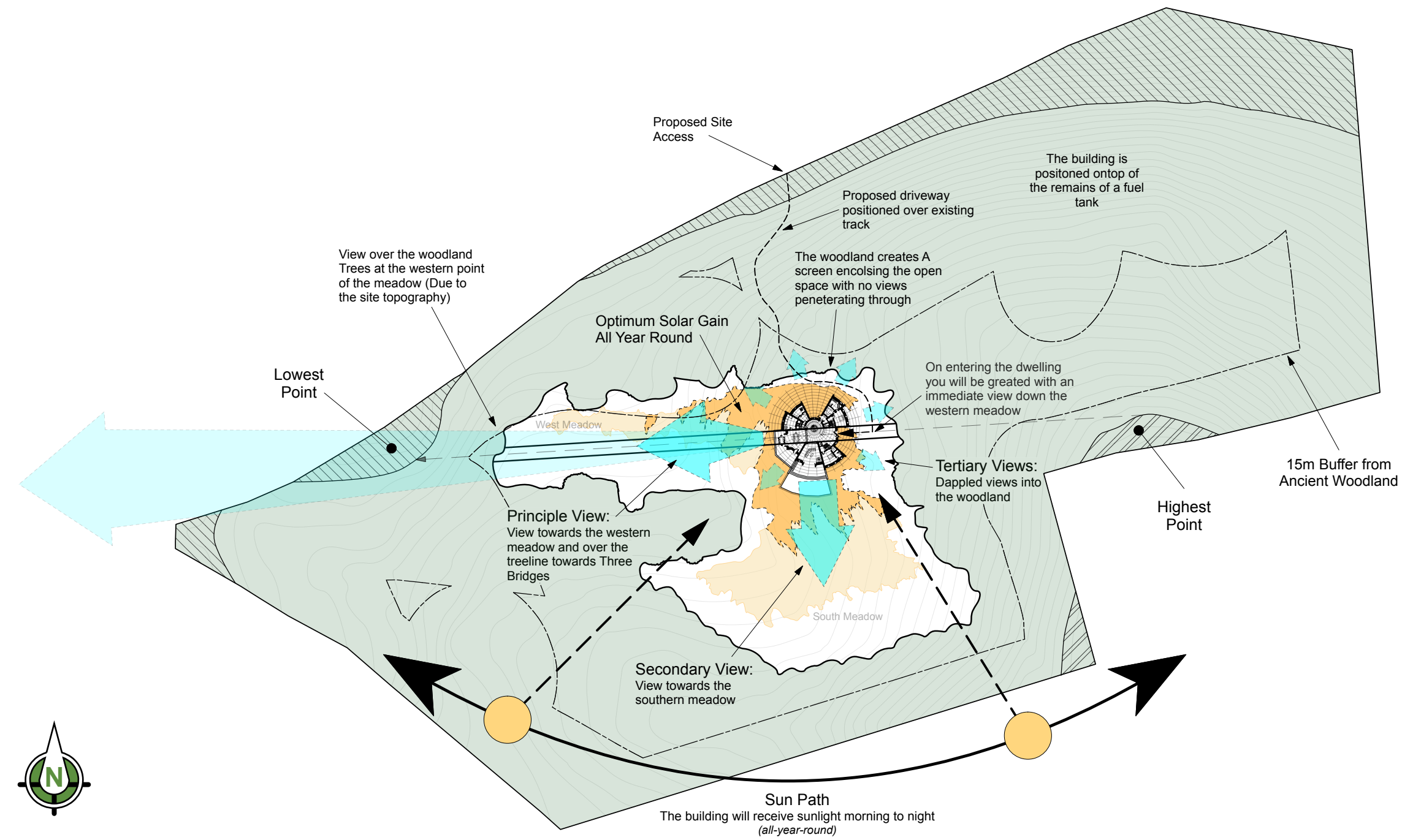


Design Development

Positioning and Orientation
Site & Proposal Rationalisation

PROPOSED ORIENTATION & SITTING - PLAN

The proposed scheme has evolved from the extensive site analysis to create a scheme that harmoniously sits within the landscape, combined with biodiversity and landscape enhancements such as, the removal of invasive species, which will prevent further deterioration. This is confirmed by the Pricipal Ecological Consultant (Mike Bird) who advises that ‘The overall impact is likely to be positive’. The proposal will offer a unique and innovative dwelling that will enhance the local context and character.

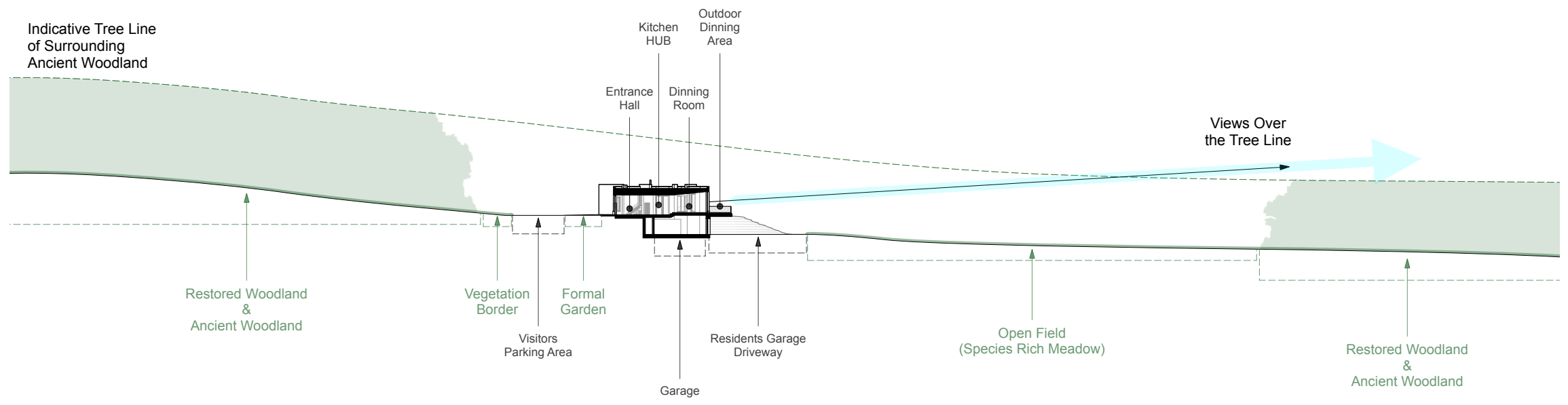


CALDYNE PARK

Land at Caldine Park,
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PROPOSED ORIENTATION & SITTING - SECTION

The proposal has been carefully developed three dimensionally ensuring that the scheme makes full use of the natural topography of the site. As a result the dwelling has also been developed around the ‘Raumplan Theory’ and provides the residents with different spaces for different needs in combination with breathtaking views within and outside the site (over the tree line) to therefore include the distant sunsets.



DWELLING POSITIONING & ORIENTATION:
Through our extensive and critical site analysis we have been able to establish the optimal position and orientation of the proposed dwelling. The resulting location has thoughtfully responded to the sites history, outlook, shadow, sun (passive solar gain), access, topography, root protection areas, terrain and biodiversity to ensure that it sits harmoniously within the local enviroment and enhances the character of the surrounding area.

DD Architects

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Plumpton Pit Stop,
Ditchling Road,
Plumpton
BN7 3AF

CALDYNE PARK

Land at Caldyne Park,
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PART THIRTEEN

DESIGN DEVELOPMENT

Concept Evolution



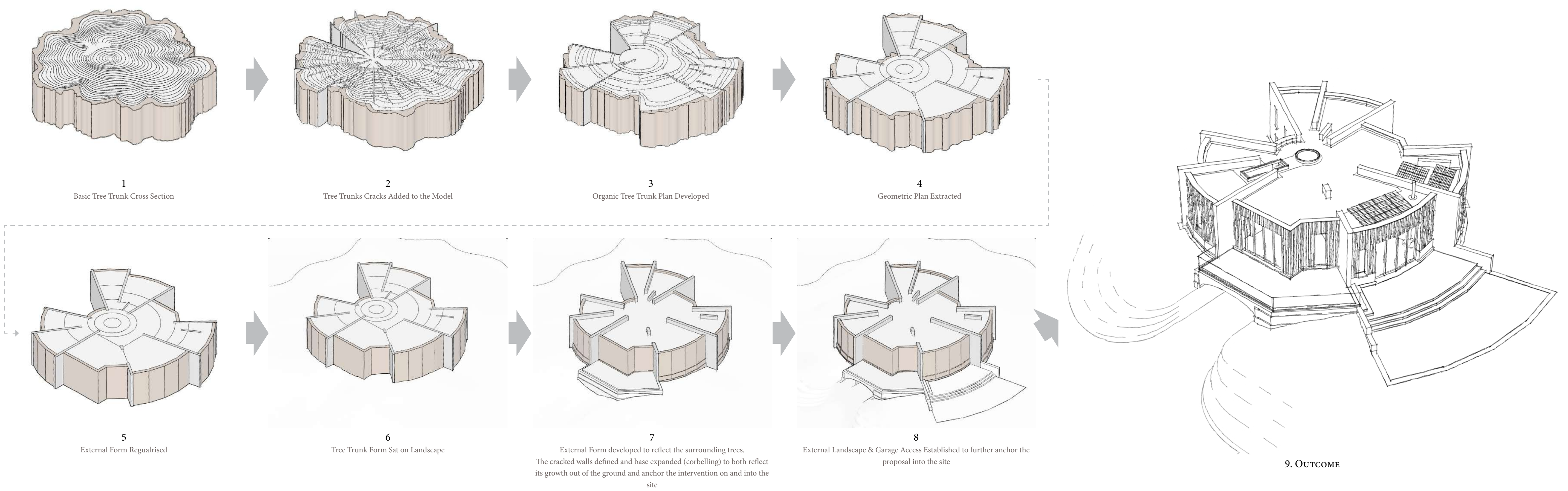
Plumpton Pit Stop,
Ditchling Road,
Plumpton
BN7 3AF

Design Development

Concept Evolution
3D Realisation - External Form

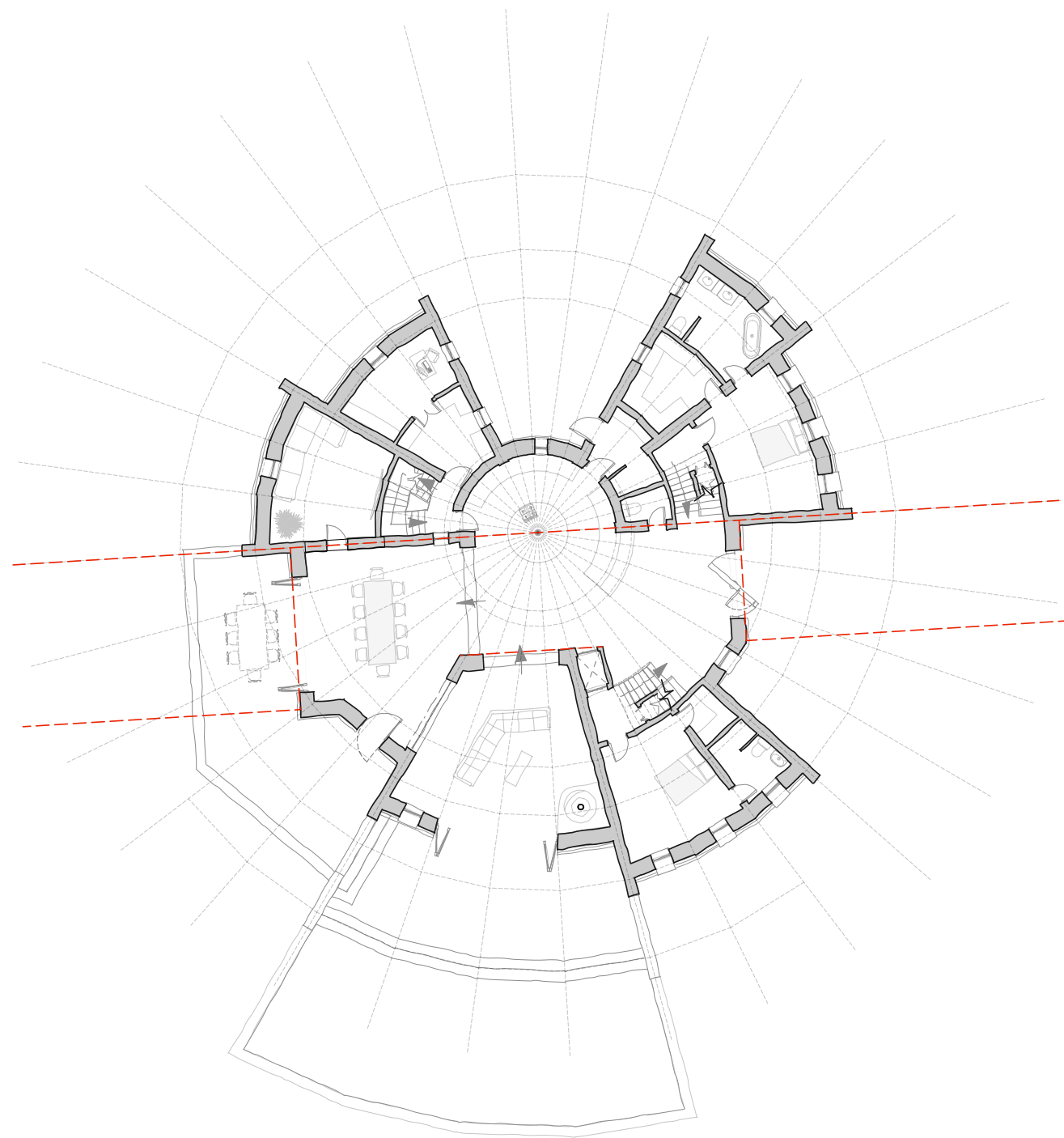
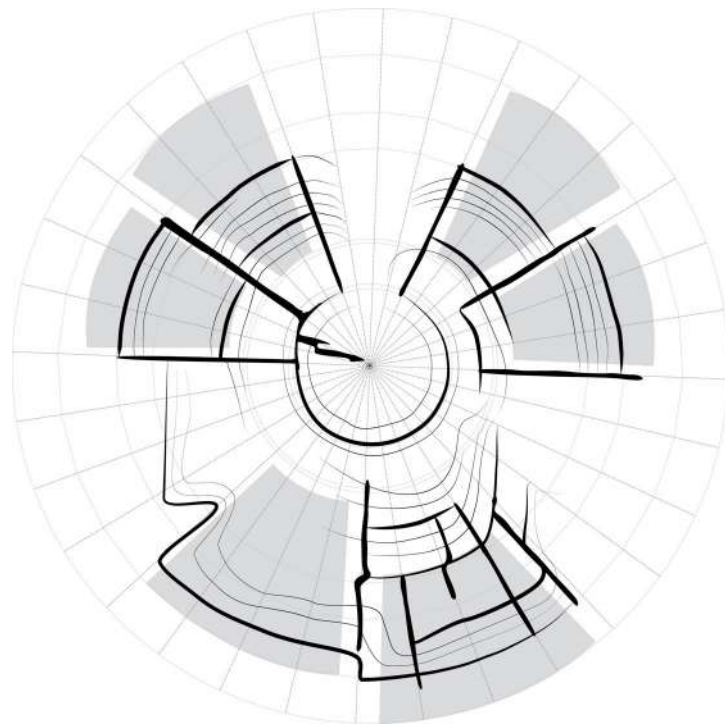
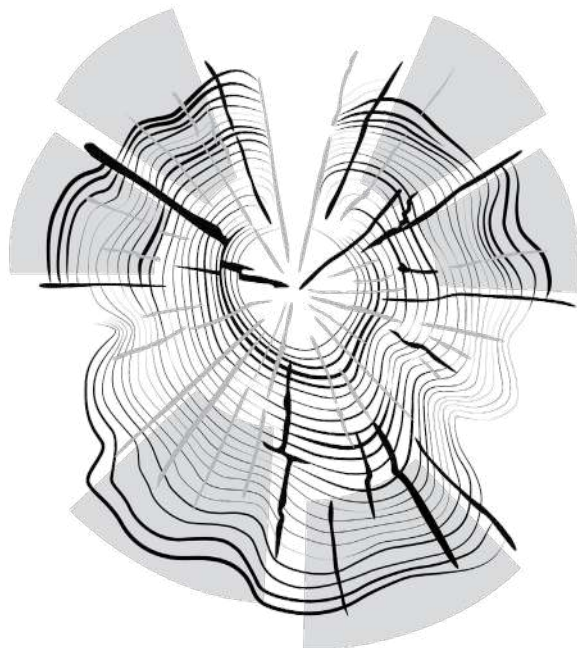
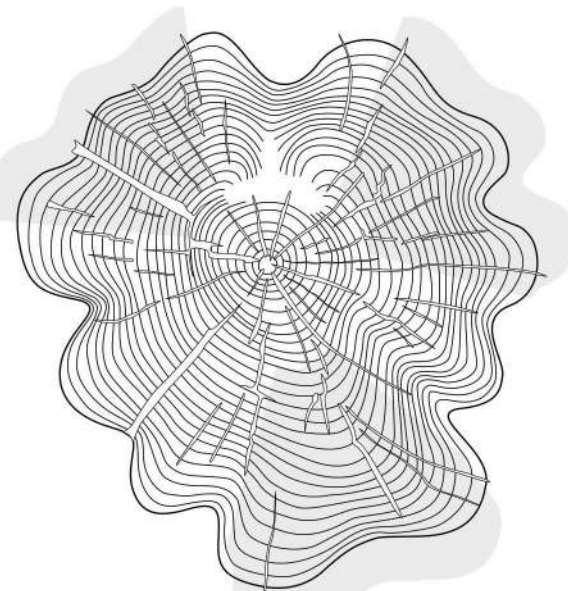
CALDYNE PARK

Land at Caldine Park,
Turners Hill Rd,
West Sussex
RH10 4NB



Design Development

Concept Evolution
2D Realisation - Plan



The central concept behind the design and appearance of the house was inspired by the cross section of a tree trunk. From this inspiration, in combination with the detailed site analysis, a floor plan developed that incorporated a series of varying segments (in length and width) structured around the central hub; hearth; heart of the house. Each segment has been determined by key site features, topography, views and internal room requirements, which transformed the building into a series of sectional spaces of purposeful lengths, widths and heights.

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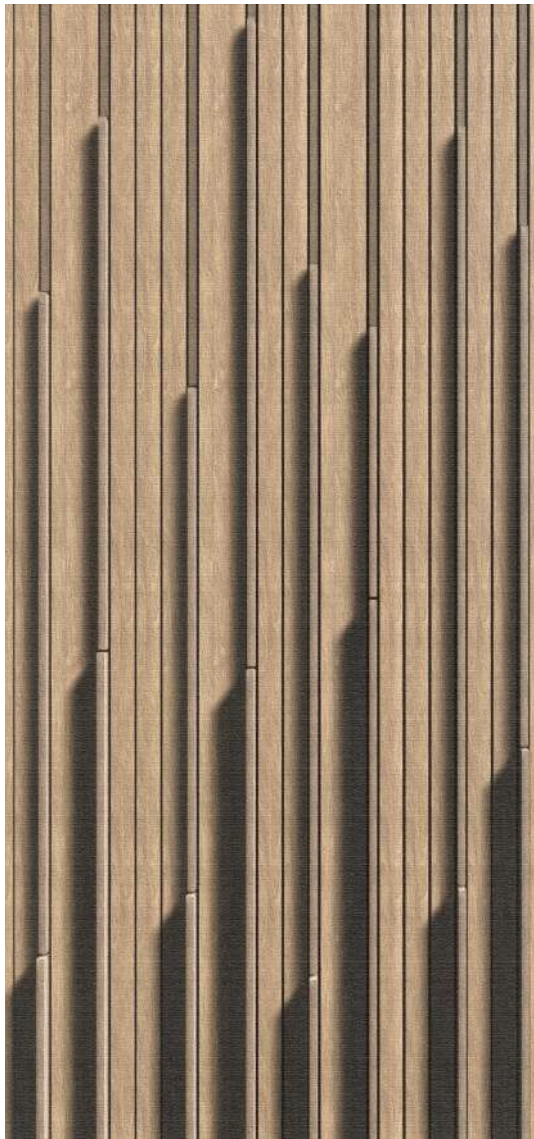
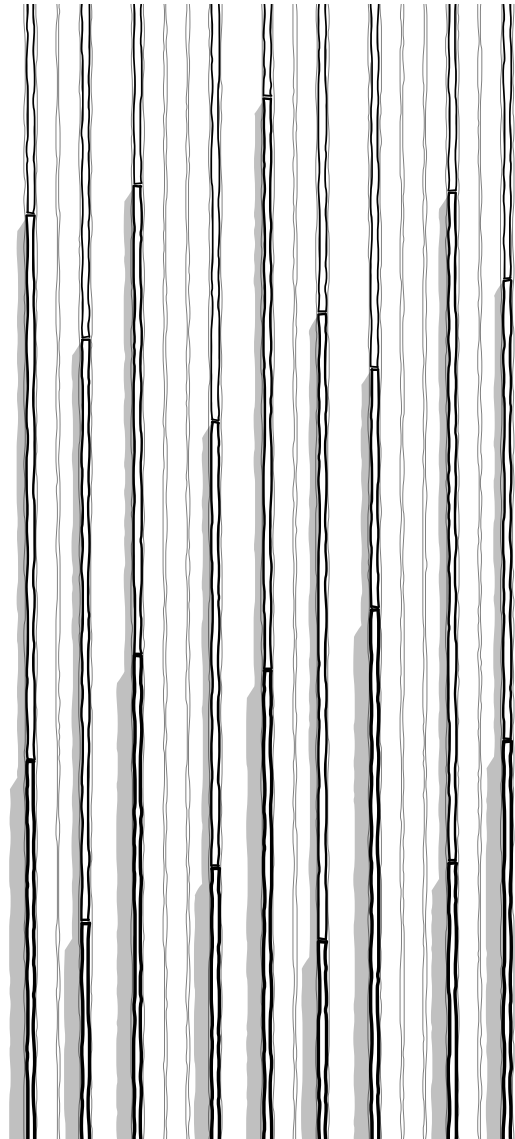
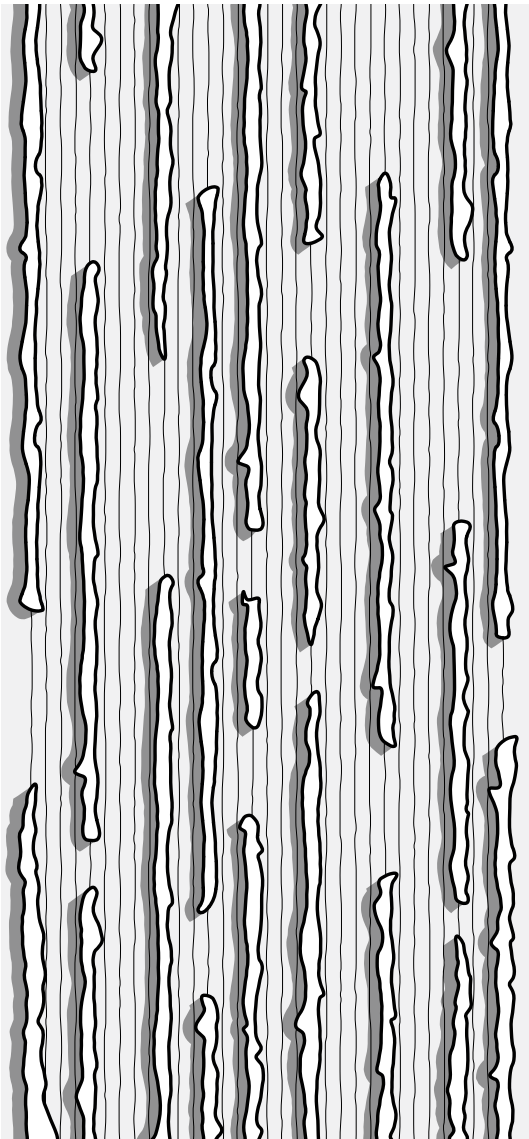
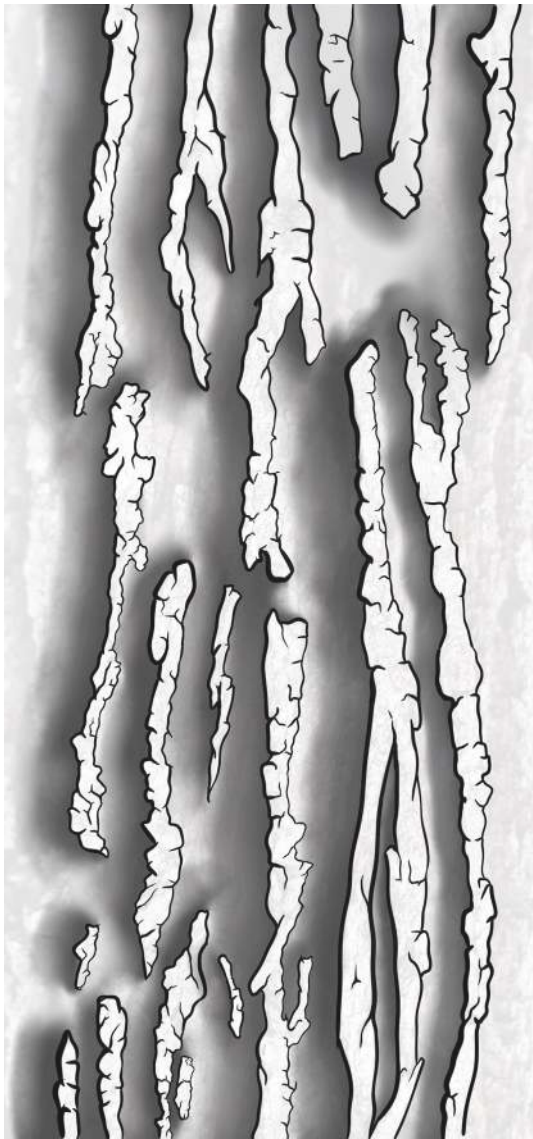


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Design Development

Concept Evolution
Cladding Development

The cladding was developed from an extensive iterative process analysing the surrounding woodland bark to establish an architectural language that can be implemented on the building's facade. The resulting cladding mimics the shadow and texture seen on bark in the surrounding woodland. This conceptual evolution has simultaneously developed alongside the floor plans and external form. Rather than continuing the bark shadow effect up the facade of the building, it recesses into the cladding to visually lighten the top of the building, which also mimicks the surrounding woodland trees.



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