

Landscape Design Statement

Clymping Mill



Jonathan Bell studio
February 2021

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1. Introduction

Jonathan Bell studio has been appointed by Gary Love to develop a Landscape Design and Landscape Strategy for the site at Clymping Mill.

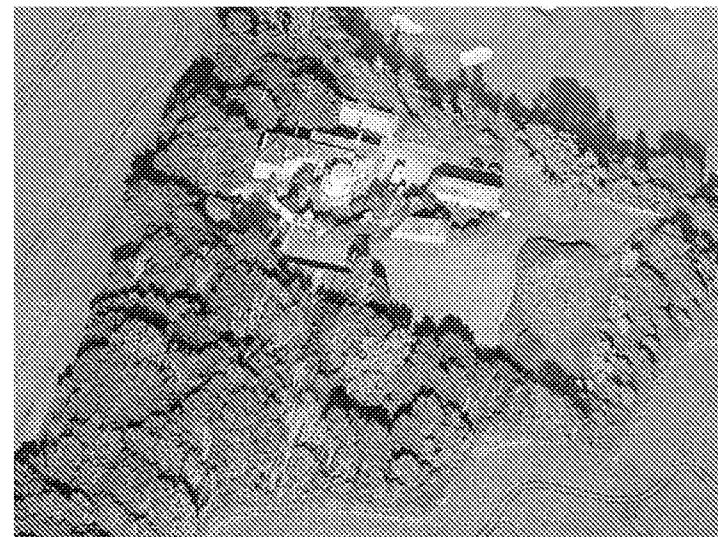
This Landscape Design Statement accompanies the part-retrospective Planning Application for the excavation of a new pond, the construction of protective vegetated earth bunds surrounding the property and the construction of a flood defence wall and gate at the south of the property to protect the listed buildings from current and future coastal flooding.

The Landscape Design Statement and associated drawings will illustrate the approach taken by the landscape design team, in collaboration with all the other consultants on the Design Team and the clients.

The landscape team have studied the local context in terms of topography, land use, habitat, vegetation and biodiversity and propose a project which, it is hoped, will add considerable ecological enhancement to the site should the Planning Application prove successful.



aerial view from south



aerial view from west



aerial view from north



aerial view from east

2. Context Appraisal

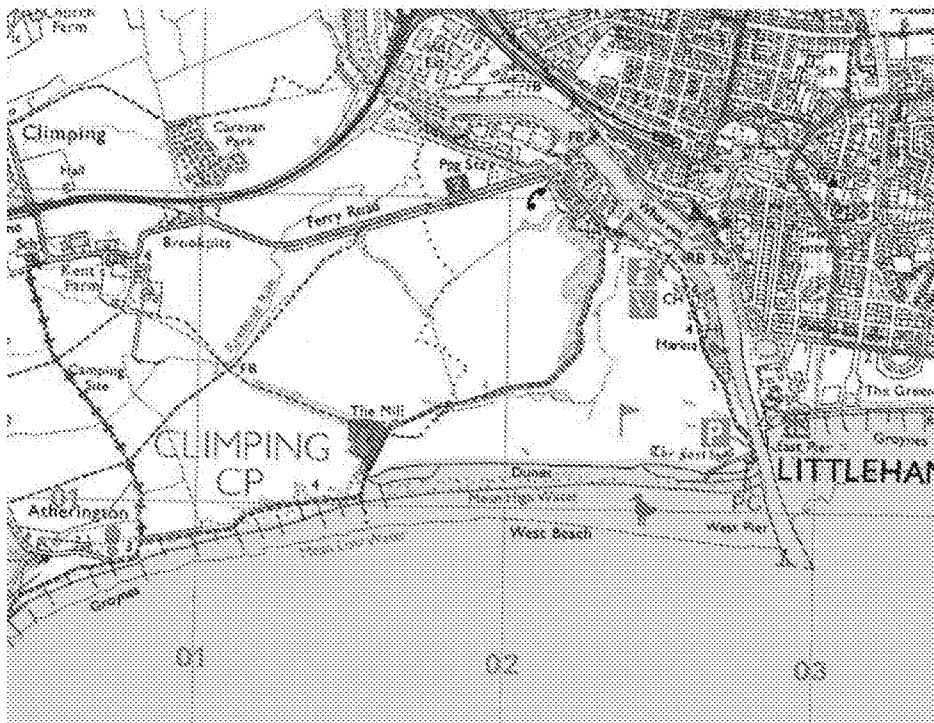
2.1 Location

The proposed Application Site covers an area of approximately 1.6 Hectares and is situated at Clymping Mill, Clymping Street, Clymping, Littlehampton, West Sussex, BN17 5RN

Grid Reference TQ 015 012.

The property is accessed at the end of a long track running parallel to Clymping Beach which ends at the Mill.

The site is indicated in red on the Ordnance Survey extract.



2. Context Appraisal

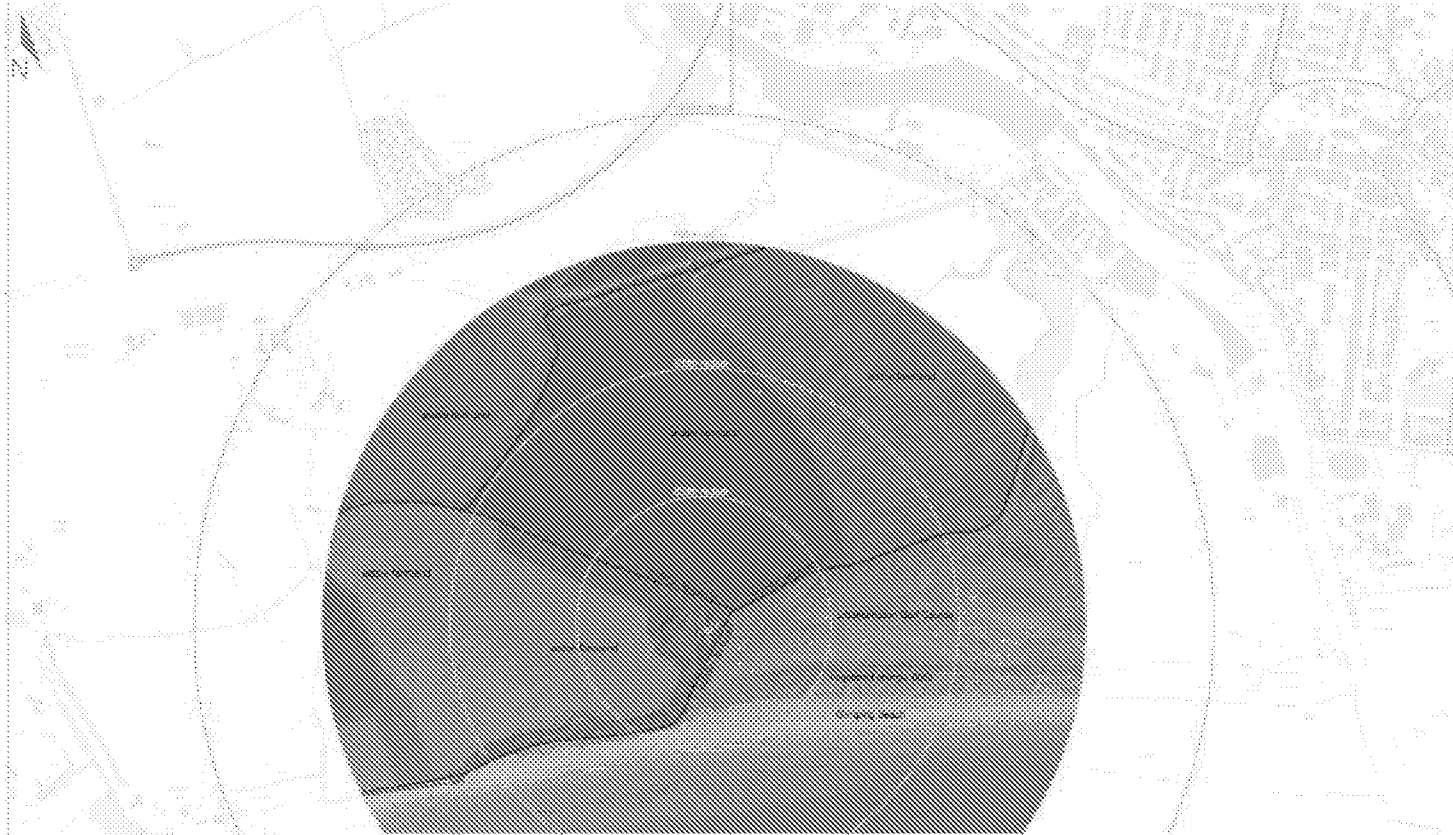
2.2 Adjacent Land Use

The project site lies to the west of Littlehampton.

To the south lies Climping Beach, with Littlehampton Golf Course to the east and arable farmland to the north and west. It sits at approximately 4.0-4.5 metres above ordnance datum.

The perimeter of the land is thickly wooded, giving a sense of privacy and enclosure and mitigating the wind to a certain extent.

A Public Footpath skirts the site on the north and east boundaries, running between the woodland on the north boundary and the adjacent arable field, and between the eastern boundary and the open expanse of the Golf Course.



2. Context Appraisal

2.3 National Biodiversity Action Plan

UK Biodiversity Action Plan: Priority Habitat Descriptions
updated December 2011

The project site offers the opportunity to contribute a significant increase to the National Priority Habitats listed below:

Ponds [contribute to Million Ponds Project]

Hedgerows

Lowland Mixed Deciduous Woodland

It is recognized that *Biodiversity 2020* published by DEFRA in 2011 has replaced the previous Biodiversity Action Plan led approach in favour of a more generic, less specific set of objectives, but Biodiversity Action Plans remain a useful source of guidance and information.



pond



deciduous woodland



hedgerow

2. Context Appraisal

2.4 County and District Biodiversity Action Plans

The Biodiversity Action Plan for East and West Sussex, and Brighton and Hove, produced by the Sussex Biodiversity Partnership in 2001, lists the following priority habitats and their associated species which are relevant to the land at Clymping Mill:

Hedgerows

Neutral and acid grassland

- barn owl
- brown hare
- brown-banded carder bee
- duke of burgundy
- field cricket
- glow worm
- pheasant's eye
- skylark
- spiked rampion

Woodland

- stag beetle

Standing fresh water

- black poplar
- fen raft spider
- great crested newt
- marsh mallow moth
- scarce chaser
- swollen spire snail
- water vole



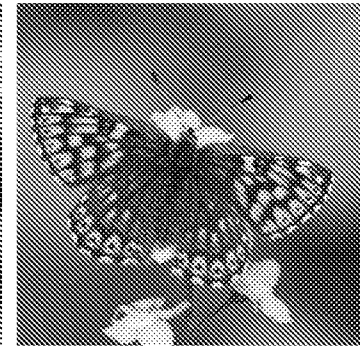
barn owl



brown hare



carder bee



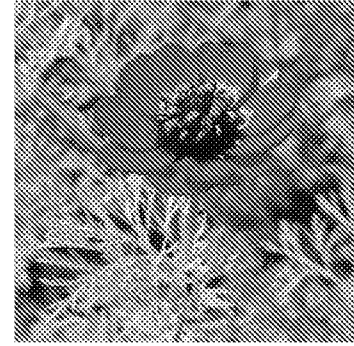
duke of burgundy



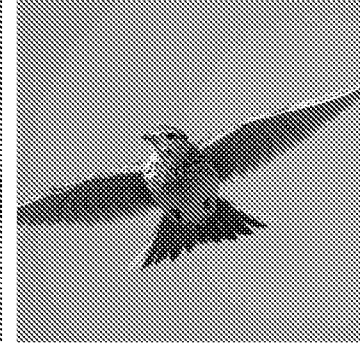
field cricket



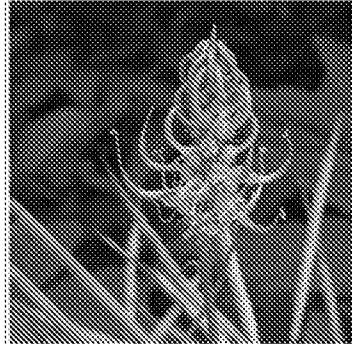
glow worm



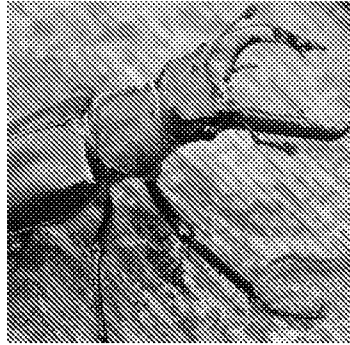
pheasant's eye



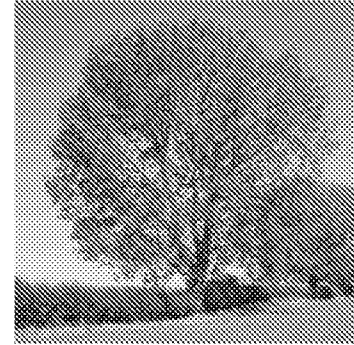
skylark



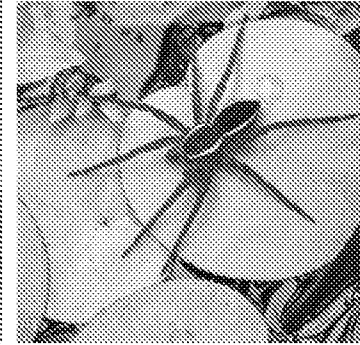
spiked rampion



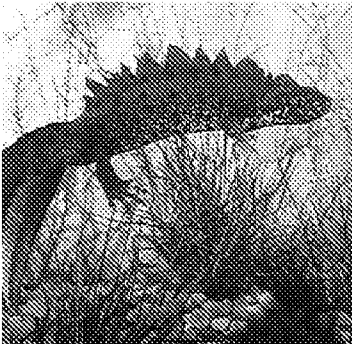
stag beetle



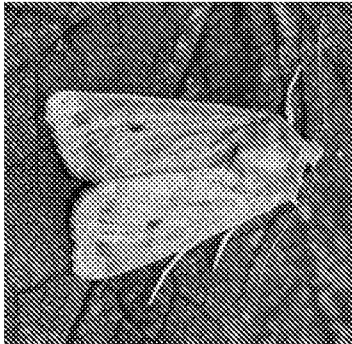
black poplar



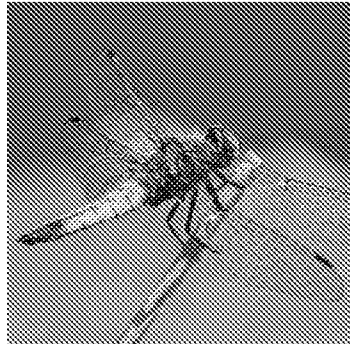
fen raft spider



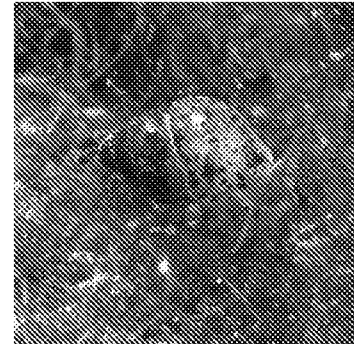
great crested newt



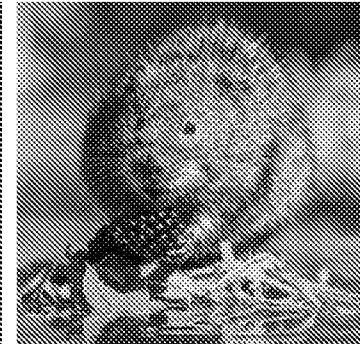
marsh mallow moth



scarce chaser



swollen spire snail



water vole

2. Context Appraisal

2.4 County and District Biodiversity Action Plans

A Strategy for the West Sussex Landscape produced by West Sussex County Council in 2005 describes the following strategy objectives which are relevant to the proposal.

Objective 4: ...*conserve and enhance semi-natural habitats including securing the future of woodlands, hedgerows and trees as distinctive landscape features.*

Response: the existing woodland will be retained and carefully thinned with the removal of deadwood. In addition, over 3000 locally-sourced mixed indigenous trees have been planted along the earth bunds to establish a biodiverse hedge around the property.

Chapter 4; *County-wide landscape Guidelines* the report continues:

Encourage the planting of mainly native trees and shrub species in association with new development. Use native plant species of local provenance specific to the national Character Area.

Response: all new shrub and tree planting will use native species. In discussion with the LA Landscape Officer, it is hoped to replace the dead and dying Elms with the recently hybridized disease resistant Lutece Elm which will restore the characteristic Sussex skyline in time. In addition it is proposed to plant Native Black Poplars to contribute to the Sussex Black Poplar Partnership, run by the Sussex Wildlife Trust.

Ensure where possible that both landscape and planting schemes are carried out in advance of development.

Response: a planting strategy has been put in place to ensure early planting of trees and hedges during construction.

4.19 *Encourage woodland management planning encourage the appropriate management of shelterbelts by expanding the range of tree and shrub species and removing overmature conifer species where necessary*

Response: mixed indigenous hedgerow plants will run around the perimeter of the site to significantly enhance biodiversity and create wildlife corridors. The row of over mature conifers which stood on the north west edge of the site have already been removed.

2. Context Appraisal

2.5 Landscape Character Assessment

From a national perspective, the project site lies within National Character Area 126: South Coast Plain as defined by Natural England. Although the objectives set out in the NCA 126 publication are necessarily rather generic, as it covers such a large area, there are specific objectives that are relevant to the land at Clymping Mill, in particular the objective:

Restoring hedgerow boundaries, where they will help to impede cross-land flows within the catchments of the Arun and Meon. This will aid improvements in water quality and provide food sources for pollinating insects, as well as restoring the character of native hedgerows and traditional field patterns - especially when lost in peri-urban areas. page 17.

Response: There is an opportunity to plant an indigeneous mixed hedgerow around the perimeter of the site, which would amount to approximately 800 meters of new hedgerow. The plants have been locally sourced and planted as whips to acclimatise to the maritime conditions, and in time will be laid as a traditional hedgerow.

At a local level, the land lies within West Sussex County Council's Landscape character Area SC1: South Coast Shoreline, which is described as *a distinctive low, open and exposed landscape which has an overriding visual and physical association with the sea.*

Response: The landscape design incorporates plant species that are in keeping with the seaside conditions and avoids the introduction of exotic species to enhance the sense of place and to increase natural biodiversity.

The Land Management Guidelines include:

- *All new planting to be of coastal tolerant plants which are adapted to the maritime winds and seaside conditions. Particular care needs to be taken in species selection in sensitive coastal habitats.* **Response:** All new planting have been locally sourced salt tolerant indigenous coastal species.

- *Establish new areas of dense scrub and tree groups through the creation of sheltered areas using sympathetic measures such as low stone walls and earth mounds and nurse species for wind protection.* **Response:** Existing woodland and scrub areas will be carefully cleared of dead trees and managed to increase tree and understorey diversity. Existing flint walls have been retained and earth bunds are in keeping with the Land Management Guidelines.

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Landscape Character Area SC1: South Coast Shoreline

2. Context Appraisal

2.6 Local Landscape Designations & Notifications

Climping Beach SSSI

West Beach LNR

Littlehampton Golf Club & Sand Dunes SNCI

COUNTY: WEST SUSSEX

SITE NAME: CLIMPING BEACH

DISTRICT: ARUN

Status: Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act 1981.

Local Planning Authority: ARUN DISTRICT COUNCIL

National Grid Ref: TQ 020910

Area: 65.8 (ha.) 162.6 (ac.)

Ordnance Survey Sheet 1:50,000: 197

1:10,000: TQ 00 SW

Date Notified (under 1949 Act): 1980

Date of Last Revision: -

Date Notified (under 1981 Act): 1985

Date of Last Revision: -

Other Information:

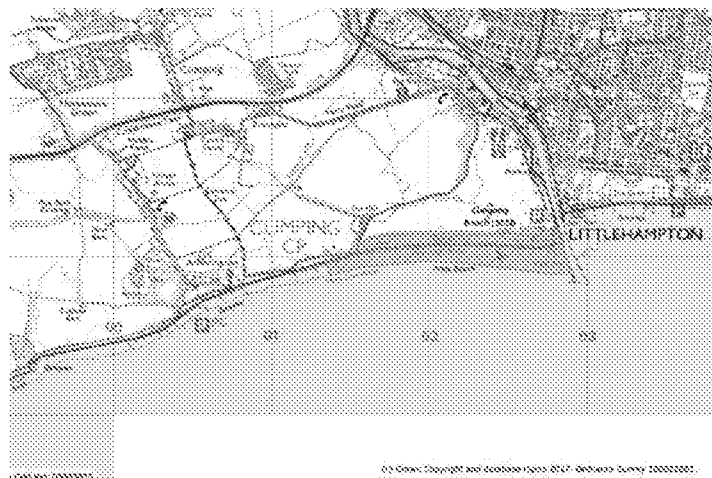
Description and Reasons for Notification:

The site is a stretch of coast with a vegetated shingle beach, behind which is a sand dune system. The intertidal zone supports important populations of wintering birds and the numbers of wintering sanderling, in particular, are of European significance.

Vegetated shingle beaches are a nationally uncommon habitat. The beach at Climping is broad in the west but narrows to the east. Plant communities are mainly restricted to sheltered areas behind the main shingle bank and include yellow horned poppy *Gaucium flavum*, sea dale *Crambe maritima*, sea beet *Beta vulgaris*, curled dock *Rumex crispus* and sea holly *Eryngium maritimum*. Scrub of tamarisk *Tamarix gallica* and hawthorn *Crataegus monogyna* has developed in a few places behind the shingle.

Sand dunes are fragile systems, susceptible to erosion and often unstable. Stabilised parts of these dunes are dominated by marram-grass *Ammophila arenaria*. Other plants which are present include dune fescue grass *Vulpia maritima*, red fescue grass *Festuca rubra*, sand catchfly *Silene acaulis*, sand sedge *Carex arenaria*, viper's bugloss *Echium vulgare* and a locally uncommon plant, Nottingham catchfly *Silene nutans*.

The intertidal zone consists of soft muds and sands which support large populations of marine invertebrates. The invertebrates are an important food source for wintering birds. In particular up to 300 sanderling have been recorded from this site in winter; a figure which represents 1% of the West European population of this bird which breeds in the high Arctic but flies south to winter on sandy coasts and estuaries. Other wintering birds include grey plover and oystercatcher.

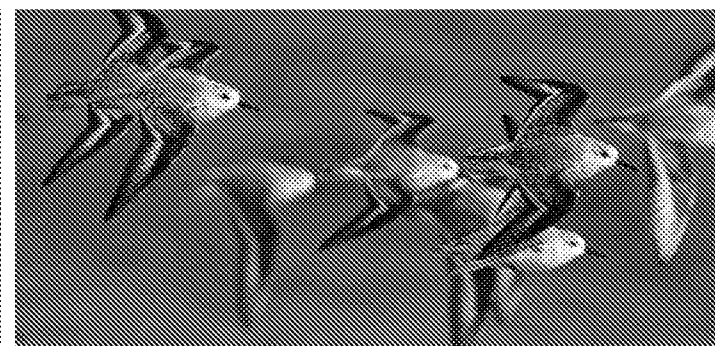


Climping Beach SSSI

vegetated shingle



Sanderlings



2. Context Appraisal

2.7 Public Footpaths & Rights of Way

A Public Footpath runs along the edge of the property on the east boundary, along the edge of Littlehampton Golf Course and on the north boundary through the woodland.



3. Site Appraisal

3.1 Existing Site Description

The site is approximately 1.6 hectares of land set back from Climping Beach.

The existing vegetation consists of an overgrown woodland along the north the boundary of the site which connects to the block of deciduous woodland leading from the north-west corner of the property, with scattered trees along the west and east boundaries.

The area to the middle of the land consists of improved grassland and ruderal species that have colonized the disturbed ground as well as the recently excavated pond.

There is a line of overgrown hedgerow plants along some of the east boundary, but apart from that there are no hedges.

The land and the Grade II listed buildings, have been sadly neglected for many years.



3. Site Appraisal

3.2 Site Photographs



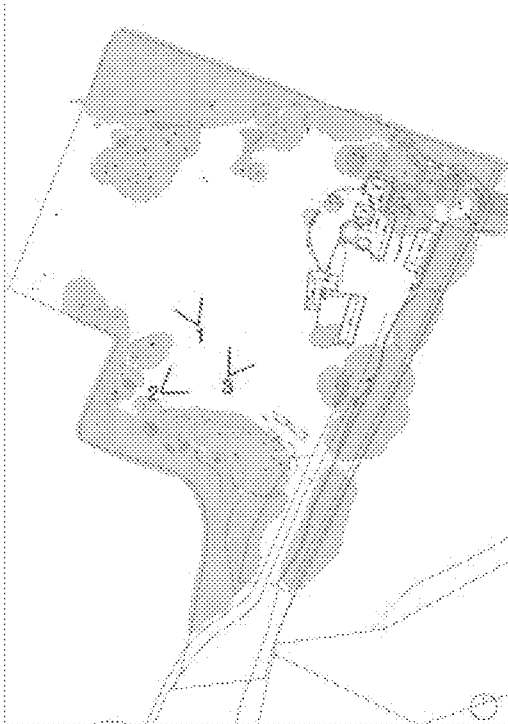
viewpoint 1



viewpoint 2



viewpoint 3



3. Site Appraisal

3.3. Site Access and Public Footpaths



single lane tarmac access track parallel to Climping Beach



Public Footpath along north boundary

3. Site Appraisal

3.4. Existing Trees and Management Strategy

The existing tree cover on site consists of an interesting mixture of predominantly indigenous broadleaved trees. Oak dominates the eastern boundary, with a group of fine Evergreen Oaks thriving in the coastal conditions.

The southern boundary contains mixed woodland of Hawthorn, Elm and Bullace, with a stand of Evergreen Oaks that have been pruned by the wind. To the west stands a thin belt of Willow, Hawthorn, Elm and Birch, and a deeper woodland of Elm, Elder, Hawthorn, Sycamore and Hornbeam runs along the northern boundary, with remnant Hazel coppice. Large Oaks dominate the north-east corner of the site.

An existing shelter belt of over-mature conifers has been removed.

All the elms are either dead or dying, and a group of Oaks in the north-west corner have started to fall, and will need to be felled in due course. The rest of the trees are mainly in good condition, and would benefit from careful thinning and removal of dead wood.

It is proposed to conserve the existing trees on site that are in good condition. All the dead elms are to be removed and new disease-resistant European hybrids, such as Lutece Elm planted, in consultation with the Local Authority Landscape Officer.

In addition it is proposed to plant Native Black Poplar trees, to contribute to the Sussex Black Poplar Partnership initiative, run by the Sussex Wildlife Trust in partnership with Wakehurst Place and the Sussex Black Poplar Working Group.



3.4 Impact of construction of the bunds on existing trees and mitigation.

The property does not lie within a Conservation Area and there are no Tree Preservation Orders in place. However the design team were keen to retain as many trees as possible during the construction of the earth bunds, and to minimize damage to the existing trees, which have been avoided where possible, bearing in mind that the primary purpose of the bunds is to protect the listed heritage assets from coastal flooding in the future.

The thickly wooded northern boundary was the most difficult area to avoid existing trees, but the existing land in this zone is at a higher elevation above ordnance datum in this zone, so the bunds do not need to be as high in order to protect the property from flooding.

In addition, the majority of the trees in the north-west woodland are elms, all of which are either dead or dying and will need to be felled for safety in any case.

It is proposed to replant the woodland with disease-resistant elm species.

The bunds were planted with over 3000 indigenous hedgerow trees in spring 2020, most of which have established well and, in time will benefit the ecological biodiversity of the property greatly.



north bund



south bund



west bund

3. Site Appraisal

3.5. Ecological Survey and Landscape Response.

Lizard Landscape Design and Ecology carried out a Preliminary Ecological Appraisal Survey on 14 August 2017; the results relevant to the landscape design are summarized below, along with the responses of the landscape design team.

4.2.8 [woodland] clearance has resulted in a thin line of 'leggy' vegetation which would benefit from re-enforcement.

Response: the landscape design proposes new planting of locally sourced, coastal tolerant, indigenous mixed hedgerow species around the perimeter of the site. Care has been taken when specifying hedge plants so that shade-tolerant species are planted in the areas of overgrown woodland. Generally it is proposed to put in place a long-term woodland management strategy to improve the biodiversity and arboricultural health of the existing woodland area, and to extend the hedgerow line to provide wildlife corridors around and across the site.

4.4.1 the majority of trees on site...offer no discernible bat roost features.

Response: It is intended to fix Schwegler bat and bird boxes to appropriate trees across the site in consultation with the ecologist to enhance wildlife habitat on site.

5.1 the site is dominated by improved grassland, hard/bare ground, tall ruderal and as such is considered to be 'of low ecological value'

Response: the landscape design intends to re-create areas of unimproved grassland using the low-fertility sub-soil dug during the excavation of the pond. This would facilitate the establishment of areas of locally-sourced wildflower meadow, bringing considerable benefit to insects, in particular to the 71 species of moth that have been

recorded on Climping Beach.

5.2 The loss of areas of improved grassland could easily be mitigated through the implementation of a sensitive landscape scheme which incorporates areas of wildflower lawn as well as nectar rich plants.

Response: as noted above, the landscape design will incorporate large areas of species-rich wildflower meadow, cut once a year.

5.6 A single tree -T01 - has been assessed as providing some bat roost suitability...This tree is recommended for retention.

Response: it is intended to retain this tree.

4. Benefits of the pond

Conservation Importance of the Site

Clymping Mill is situated adjacent to Climping Beach Site of Special Scientific Interest (SSSI) and within close proximity of West Beach Local Nature Reserve (LNR). These two sites have statutory designations with regard to their biological interest and conservation importance and Climping Beach SSSI is of National importance. Two sites of local importance but with non-statutory site designations are Littlehampton Golf Course and Atherington Beach Local Wildlife Site and Climping Sand Dune System Local Geological Site. Habitats Data from the Sussex Biodiversity Records Centre (SxBRC) show the Habitats of principal importance for the conservation of biodiversity in England’ under Section 41 of the 2006 Natural Environment and Rural Communities Act found within 1km of the Site are:

- Lowland fen
- Reedbed
- Intertidal mudflat
- Coastal vegetated shingle
- Coastal sand dune
- Coastal & flood plain grazing marsh
- Deciduous woodland

The proposed development intends to add a pond to enhance the biodiversity value of the Site.

Ponds can be exceptional wildlife habitats, providing a link between the terrestrial and aquatic habitats. They act as refugia for wildlife and support a vast array of species, including amphibians and reptiles, aquatic invertebrates including dragon and damselflies, diving beetles and moths, as well as aquatic plants, mammals, bats and birds.

Ponds typically support 70% of all freshwater species in lowland landscapes and support many rare species. Recent studies have also shown that ponds play a major role in global carbon sequestration.

There are thought to be around 18,000 ponds in the county of Sussex, but despite this high number, many parishes are listed by the Sussex Wildlife Trust as lacking in ponds. Research by the Freshwater Habitats Trust concluded that 50% of the UK’s ponds were lost during the 20th century and that 80% of those remaining are in a poor state. As such there is a push from the SWT and the Freshwater Habitats Trust to create a Sussex wide and National pond network with incentives including the Million Pond Project.

The proposed pond at Clymping Mill will create new wildlife habitats, which will help link corridors of habitat within the agricultural surroundings. The pond will give species the ability to colonize new areas and make them more resilient to threats including climate change.

The proposed pond at Clymping Mill will help protect, enhance and increase in size and number the best water habitats to safeguard and improve the wildlife populations of the parish and district.

Priority Ponds were acknowledged in UK conservation policy in 2007, when priority ponds were added to the list of UK Biodiversity Action Plan Priority Habitats.

Priority ponds contain one or more of the following attributes:

- Habitats of international importance
- Species of high conservation importance
- Exceptional assemblages of key biotic groups
- Ponds of high ecological quality
- Other important ponds

So far approximately 60 priority ponds have been identified in Sussex. These ponds are notable mainly for populations of BAP species including the great crested newts and common toad, the grass snake, fairy shrimp, water vole, small red damselfly, and black darter, and the critically endangered European eel.

Given the time to allow nature to take its course and using appropriate landscaping techniques, the pond at Clymping Mill, has the potential to be listed as a priority pond.

To increase the chances of this, landscape works will ensure that:

- Run off from the nearby agricultural land is minimized.
- The pond will be filled naturally by rainwater
- Shallow areas and deeper terraces will be created.
- Shallow sloping sides will allow easy access for wildlife.
- Boggy areas will be created near the pond edges and linked to other features in the garden including log piles, hedgerows, trees and shrubs.

Four species of amphibian have been recorded within a 1km search radius, these include the nationally designated smooth and palmate newts, and the common frog and the internationally designated great crested newt.

The great crested newt is the UK's most strictly protected amphibian due to the considerable decline that the species has undergone in the past century. It is a priority species and a feature of the Sussex County and District Biodiversity Action Plan.

The main factors for the species decline are:

- The deliberate filling in of ponds
- Pond loss through natural succession
- The introduction of fish
- Chemical pollution and eutrophication of breeding sites
- Loss of terrestrial habitat
- Habitat fragmentation

The County BAP states "Favourable habitat management, restoration and creation need to be encouraged".

It is hoped that, if granted Planning Permission, the pond at Clymping Mill will contribute a potential breeding habitat for these creatures in the future.



5. Need for flood defences

In February 2020 the combination of a storm and a high Spring Tide resulted in the coastal defences of Climping Beach being breached and a significant flooding of the listed buildings at Clymping Mill - see photographs taken the morning after the flood event.

The inundation of the buildings, and the level of damage caused to the already fragile fabric of the buildings means that a robust and effective method of flood defence is required around the property in order to protect the buidlins, and their future inhabitants, from catastrophic flooding.

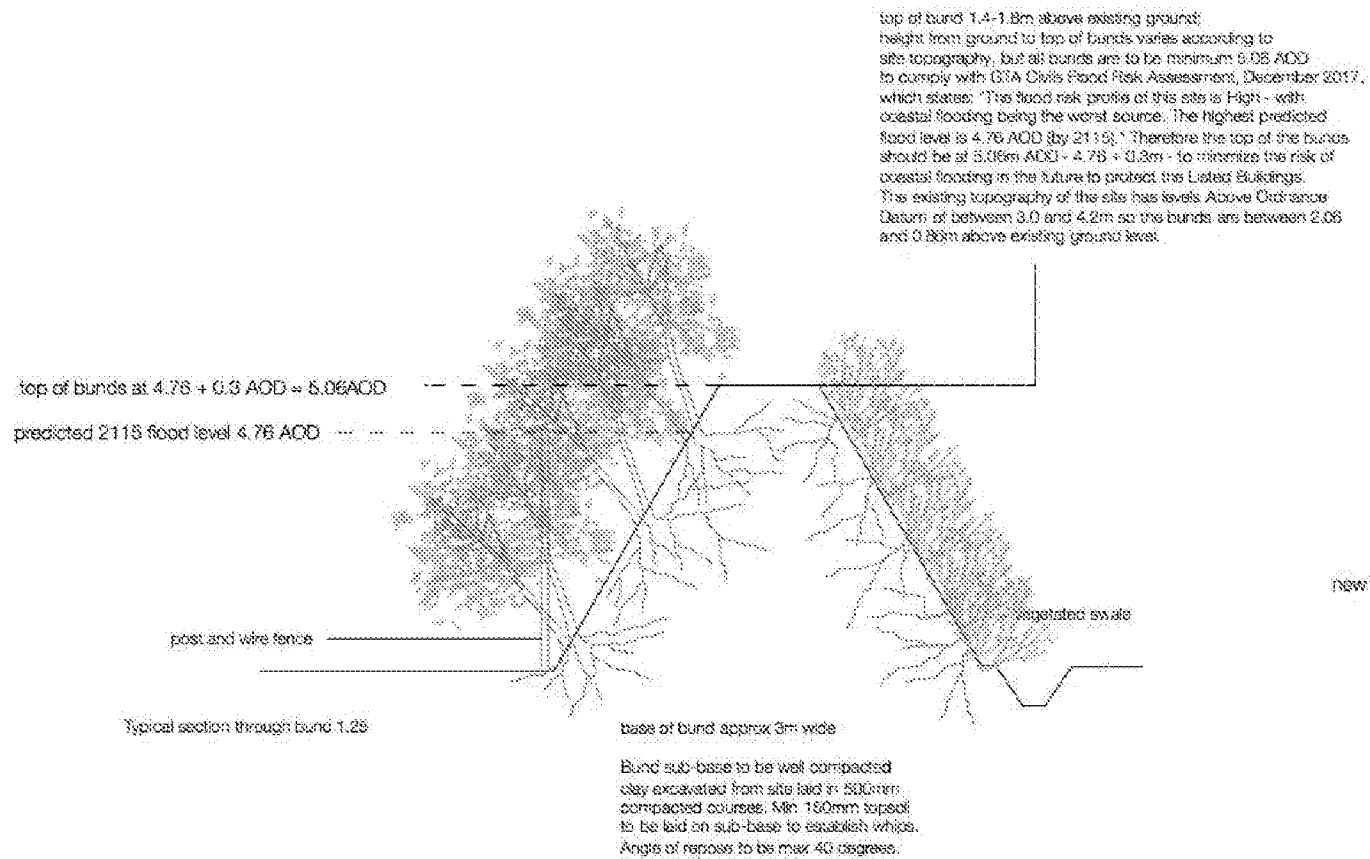
Vegetated bunds have already been constructed around most of the property using the soil excavated during the creation of the pond. The bunds along the particularly vulnerable southern boundary have been planted with White Poplar whips, a species chosen for its unique growth habit of suckering roots, which will, in time establish a stong matrix of roots to reinforce the earth bunds. The bunds along the east, west and north boundaries have been planted with mixed indigenous hedge-row species, locally sourced and chosen for their ability to withstand coastal conditions, as well as their ecological benefit for wildlife.

The height of the top of the bunds has been set at 5.06m AOD to comply with the recommendations of GTA Civils that protection from predicted flood events by 2115 need to be at 4.76m AOD plus 0.3m. See cross-section through typical bund on following page.



5. Need for flood defences

Typical cross-section through vegetated bunds.



5. Need for flood defences

Materials

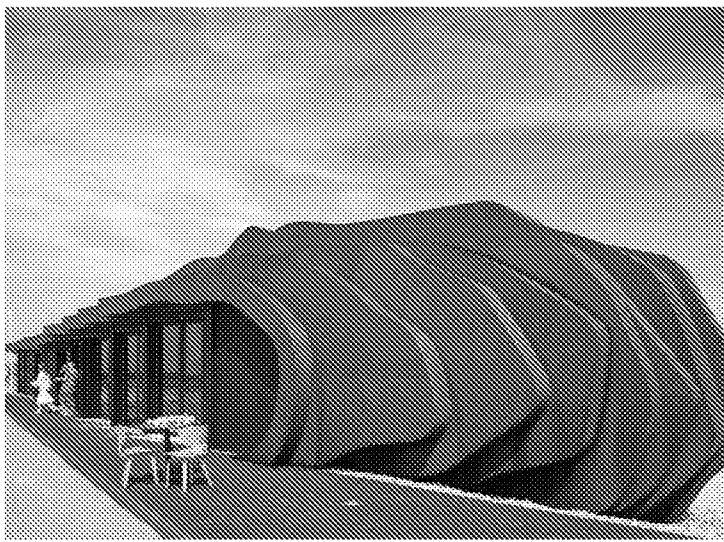
The majority of the bunds have already been constructed and planted with locally-sourced indigenous mixed hedgerow whips, to provide stability to the earthworks over time by the growth of extensive root systems.

It is proposed to construct a flood wall and gate along the most vulnerable southern boundary of Corten steel. This material has been chosen for its robust qualities in a coastal environment and has been used in Littlehampton recently in the construction of flood defences as well as Thomas Heatherwick's East Beach Cafe.

On the advice of the Conservation Officer for Arun District Council, it is prosed to plant Common Ivy to climb and cover the flood wall, to soften its impact.



flood defences, Littlehampton



East Beach cafe, Littlehampton

5. Need for flood defences

Visual impact of bunds from public rights of way

The main visual impact on public view is from the access track that runs parallel to Climping Beach. Here the bund has been positioned to the south of a line of Evergreen Oaks in order to minimize its visual intrusiveness and to merge with the year-round greenery of the trees.

As the whips grow the bund will read as a hedge from a distance. The bund can only be seen from a few hundred metres away as there is no public right of way across the neighbouring field.

Along the Public Footpath on the east and north boundaries the bunds will read as a native hedge once the plants have established.



view across field from access track



view of bund by proposed gate to property

6. Conclusion

1. Visual impact of the vegetated bunds and the flood wall on the settlement gap between Middleton and Littlehampton. There is no impact with regard to policy SD SP3: the earthworks and planting are acceptable because it meets the policy and the proposed flood wall and gate are acceptable because:

- a.It would not undermine the physical and/or visual separation of settlements;
- b.It would not compromise the integrity of the gap, either individually or cumulatively with other existing or proposed development;
- c.It cannot be located elsewhere; and
- d.It maintains the character of the undeveloped coast with its use of vegetation and a small visible panel of Corten steel which has been used for flood defense walls in Littlehampton.

2. Protection of Landscape Character - Policy LAN DM1. The development of the bunds, pond and gate respect the characteristics and natural features of the relevant landscape character areas in which it is located. Proposals are usual features found in a coastal environment. The bunds are located on the boundary of the site and respect the historic character of the settlements and the boundaries of the Mill site and take into account distinct identity and setting. The proposed bunding is located in a similar location to the historic boundaries of the site which have in the past been marked out with trees, and once the hedgerow plants have established will read as a boundary hedge, a disappearing feature in much of the landscape of the UK, the planting of which are encouraged on a national and a local level for their biodiversity benefits and their potential to store carbon to help reduce the effects of climate change.

3. Neighbourhood Plan - Policy CPN7 Protection of Open Views. The policy states:

All development will be considered with regard to the need to protect the open landscape character of the countryside and beach. The height of the flood defenses is at the minimum height recommended in the Flood Risk Assessment for predicted flooding by 2115 in order to protect the listed heritage buildings and their occupants, and the natural qualities of the vegetated bunds and the ivy-covered flood wall are considered appropriate to the area and do not impede any open views.

4. Protection of existing trees in accordance with ENV DM4. The position of the bunds avoids damage to the great majority of existing trees on site, and most of the trees that have been affected by the earthworks are elms, that are either dead or dying. The applicant has planted more than 3,000 new indigenous trees along the bunds to mitigate any loss of tree cover, and intends to continue a tree planting strategy, planting disease-resistant elms and Black Poplars to generate a significant improvement in the biodiversity value of the property.

5. Ecology - As noted above, extensive tree planting will add great value to the biodiversity of the property, providing nesting and foraging opportunities for birds, mammals and insects as well as wildlife corridors around and across the site, connecting to the existing woodland to the north, and is therefore in accordance with policy ENV DM5 and achieves a net gain in biodiversity. The excavated the pond, once planted, also provides a great benefit to the general biodiversity in the area.

Jonathan Bell studio
11 Sinclair Gardens
London W14 0AU

