

# **The Sizewell C Project**

## 8.1 Main Development Site Design and Access Statement Addendum

### January 2021

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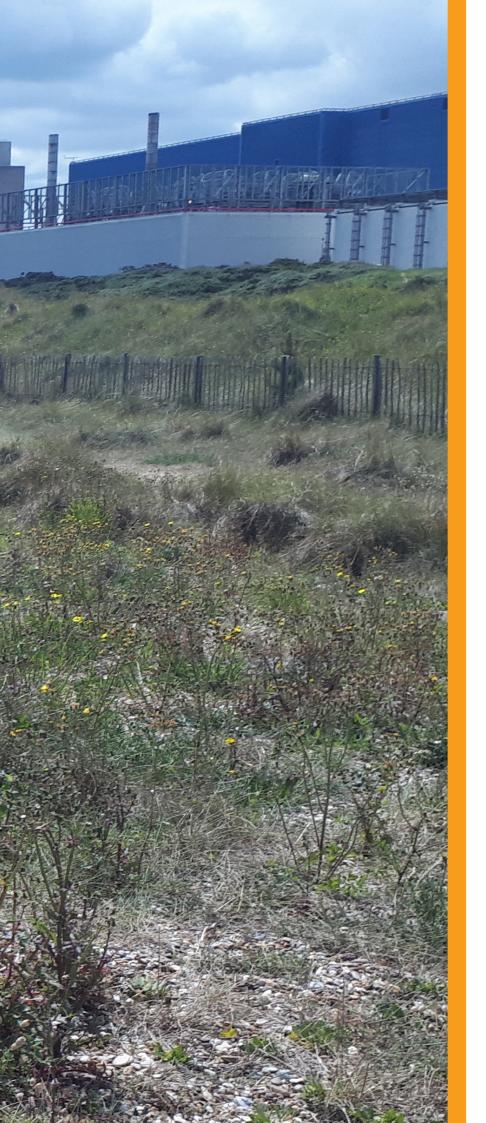
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# **Executive Summary**

NNB Generation Company (SZC) Limited (SZC Co.) submitted an application for a Development Consent Order (DCO) to the Planning Inspectorate under the Planning Act 2008 for the Sizewell C Project (referred to as the 'Application') in May 2020. The Application was accepted for examination in June 2020.

Since the submission of the Application, SZC Co. has continued to engage with the local authorities, environmental organisations, local stakeholder groups and the public with regard to the Application. This process has identified potential opportunities for changing the Application to further minimise impacts on the local area and environment in many cases, whilst reflecting the further design detail that has come forward in preparation for implementation of the Sizewell C Project.

This document describes additional information prepared and the proposed changes to the landscape proposals at the main development site since the submission of the Application for development consent (May 2020).

The main elements of design change comprise :

- additional flood mitigation and wetland habitat areas;
- new bridleway link between Aldhurst Farm and Kenton Hills;
- new bat barn in the vicinity of Lower Abbey Farm;
- change to the SSSI crossing design to a single span bridge with embankments:
- change to the design of the northern mound and sea defence;
- enhancement of permanent beach landing facility; and,
- a change to the design of proposals in Pillbox Field.

The design changes are based on:

All of the landscape changes identified within this report are set within the context of the overarching vision and design principles for the Sizewell C landscape (as described in Section 8.2 of the Design and Access Statement (DAS) [APP-586]) which remains unchanged.



further engagement with stakeholders; and,

ongoing design development including work undertaken by EDF's construction advisors to develop the proposals to the next level of detail in preparation for implementation.

Shingle Beach East of Secondary Sea Defence Bund





# **1.0 Introduction and Purpose of Addendum**

#### 1.1 Introduction

- 1.1.1 NNB Generation Company (SZC) Limited (SZC Co.) submitted an application for a Development Consent Order (DCO) to the Planning Inspectorate under the Planning Act 2008 for the Sizewell C Project (referred to as the 'Application') in May 2020. The Application was accepted for examination in June 2020.
- 1.1.2 Since the submission of the Application, SZC Co. has continued to engage with the local authorities, environmental organisations, local stakeholder groups and the public with regard to the Application. This process has identified potential opportunities for changing the Application to further minimise impacts on the local area and environment in many cases, whilst reflecting the further design detail that has come forward in preparation for implementation of the Sizewell C Project.
- 1.1.3 In addition to the proposed changes, SZC Co. has also prepared 'Additional Information'. This 'Additional Information' does not constitute a change to the Order Limits and parameters assessed within the Application. It adds to the information supporting the Application and should assist Interested Parties in their understanding of matters.
- 1.1.4 The proposed changes and the Additional Information are described and assessed in a number of updates and addenda to the originally submitted Application documents as listed in the Navigation Document (Doc Ref. 1.3(C)).

#### 1.2 **Purpose of the Design and Access Statement Addendum**

- 1.2.1 Application.
- 1.2.2

A DAS (Doc Ref. 8.1) [APP-586] was submitted as part of the

This report is an Addendum to Chapter 8 (Landscape Proposals) of the **DAS**. The purpose of this Addendum is to present the Additional Information prepared and the proposed changes to the proposals that have a bearing on the landscape at the main development site since the submission of the Application for development consent (May 2020). A full description of the proposed changes is set out in the Environmental Statement Addendum (Doc Ref. 6.14) also forming part of this submission.

# 2.0 Landscape Proposals

#### <sup>2.1</sup> Landscape Masterplan

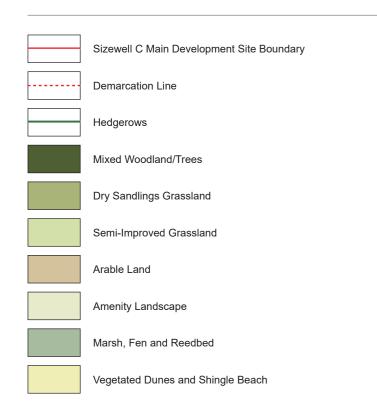
- 2.1.1 The Additional Information and the proposed changes made to the proposed development at the main development site, since the preparation of the DAS (Doc Ref. 8.1) [APP-586], would result in relatively minor changes to components of the Landscape Masterplan. They do not affect the overarching vision for the Sizewell C landscape (as described in Section 8.2 of the DAS [APP-586]) and have been undertaken in the context of the design principles set out in the original DAS. Our vision for the future landscape is encapsulated in the illustrative EDF Energy Estate Operational Masterplan illustrated in Figure 2.1.
- 2.1.2 The Landscape Masterplan shown in **Figure 2.2** illustrates the framework for landscape restoration in areas impacted by construction of the power station, broadly defined by the extent of the Application site boundary. It has been updated to include the Additional Information and the proposed changes made to the proposed development at the main development site. A summary of the updated proposals, where they have a bearing on the landscape, is provided below and described in detail in the subsequent sections.

- 2.1.3 The proposed changes that relate to the landscape proposals are:
  - Enhanced permanent beach landing facility (Change 2).
  - Greater flexibility as to where certain Sizewell B facilities are relocated to potentially avoid the need for outage car parking on Pillbox Field (Change 3).
  - Addition of a bat barn to compensate for potential disturbance for bats as part of the changed parameter heights and activities (Change 4).
  - Change to the location of the water resource storage area and the addition of flood mitigation measures to lower flood risk (Change 5).
  - Change to the Site of Special Scientific Interest (SSSI) crossing design to a single span bridge with embankments (Change 6).
  - Change to the sea defence to make the scheme more efficient and resilient to climate change (Change 9).
  - A new bridleway link between Aldhurst Farm and Kenton Hills (Change 15).
- 2.1.4 Land outside the development site boundary and within EDF Energy's ownership continues to form an important context for the illustrative Landscape Masterplan proposals and forms an integral part of the overall estate strategy. The composite masterplan illustrated in **Figure 2.3** shows the updated Landscape Masterplan and its context for the whole of the EDF Energy estate.



Figure 2.1: EDF Energy Estate Operational Masterplan (Indicative)

### Legend





### Legend







#### 2.2 Inheritance from construction stage

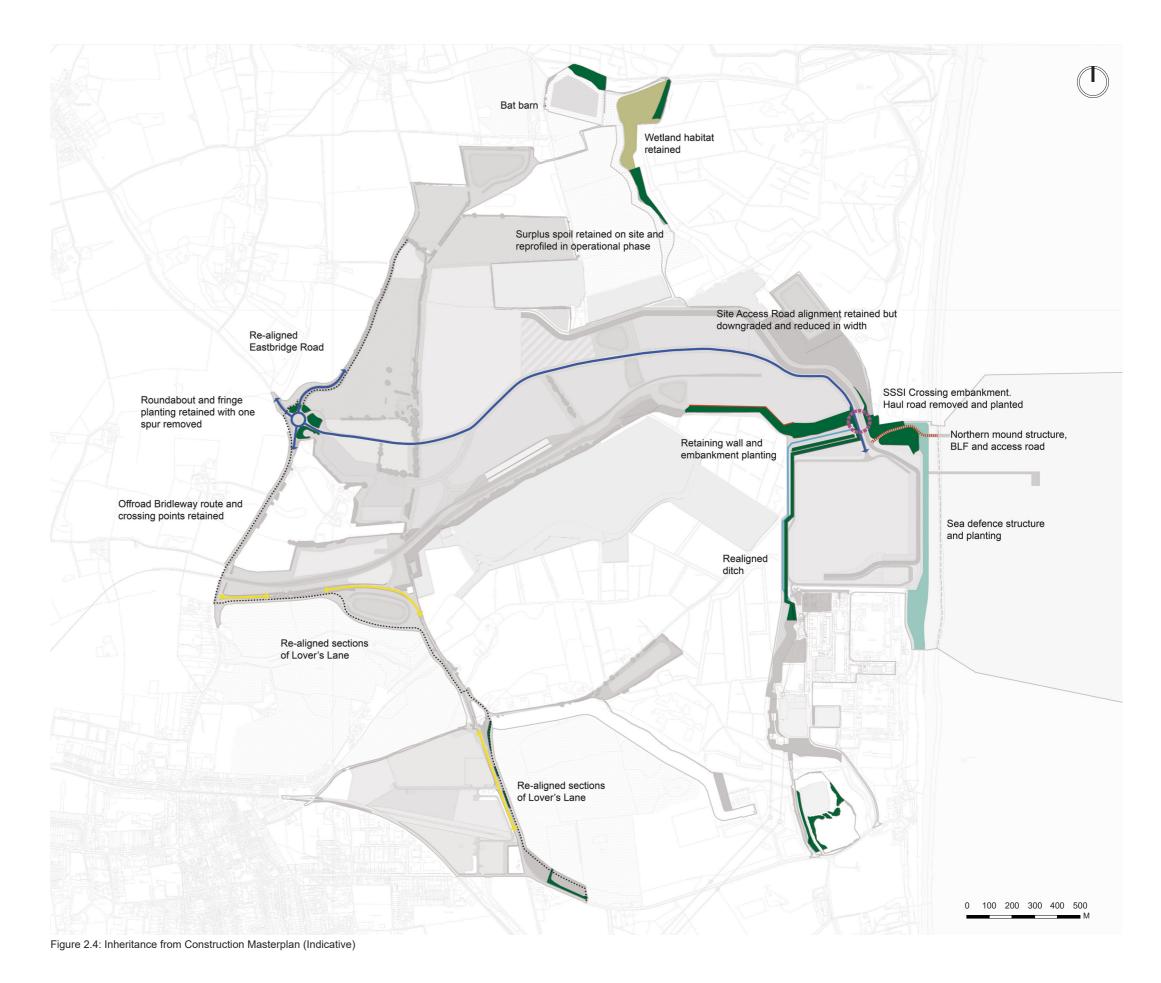
- 2.2.1 All of the landscape proposals identified above would be implemented during the construction phase of the Sizewell C Project and integrated within the operational phase Landscape Masterplan.
- 2.2.2 **Figure 2.4** illustrates the landscape proposals which have been added to or changed within the Landscape Masterplan that are implemented at the construction stage. These are summarised in **Table 1**.

### Table 1: Inheritance from Construction Masterplan

FEATURE	ADAPTATION FROM CONSTRUCTION TO OPERATIO
Bat barn	Bat barn delivered early in construction programme; re
BLF	<ul> <li>Delivered early in construction programme; retained in deck removed unless BLF is in use.</li> </ul>
Wetland habitat	Wet woodland and reedbed habitat creation delivered e operational phase.
SSSI crossing and access road	SSSI crossing embankments planted during constructi
	Haul road removed post construction and site access r
	Area of hardstanding from haul road removed and soft
Northern Mound	Structural form delivered early in construction program construction period.
	Front face / structural form unchanged in operational p
	Back slope raised and planted during operational phas
Sea defences	Delivered in a phased manner with different design sta
	Substrate added and planting implemented during late

DNAL PHASE				
etained in operation phase.				
n operational phase for infrequent use but with				
early in construction programme; retained in				
tion phase.				
road retained.				
t landscape treatment applied.				
nme; early planting established towards end of				
phase.				
se.				
age gates to meet construction requirement.				

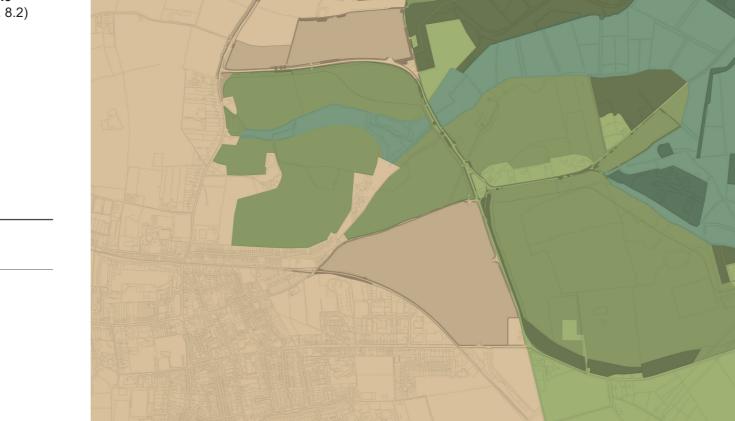
e stages of construction.



#### 2.0 LANDSCAPE PROPOSALS

#### 2.3 **Planting and Habitat Creation**

- 2.3.1 Additional flood mitigation and wetland habitat areas would be created to the north of the Application site boundary. The existing landform would be remodelled to provide approximately 100,000 cubic metres of additional flood mitigation volume and create additional wetland habitats. The creation of wetland habitat would comprise open water channels and wet reedbeds to provide high quality foraging habitats for Marsh Harriers.
- 2.3.2 These features would be created as part of the construction phase activities and retained within the operational phase to form part of the permanent Landscape Masterplan.
- 2.3.3 Once the construction of Sizewell C is complete and compensatory Marsh Harrier foraging habitats are no longer required, the open water and wet reedbed habitats would be transitioned to wet woodland habitats, either through natural successional processes or through planting. In the long term, this would compensate for the loss of wet woodland from the Sizewell Marshes SSSI.
- 2.3.4 The creation of flood mitigation and wetland habitat areas would result in a minor alteration to the spatial extent of the Dry Sandlings Grassland and Coastal Levels character zones, as shown in **Figure 2.5**.
- 2.3.5 Within each of these character zones, the range of typical planting typologies is unchanged as are the establishment, management and future monitoring prescriptions set out within the **Outline** Landscape and Ecological Management Plan (Doc. Ref. 8.2) [APP-588].



Zone 1: Estate Sandlands: Farmland Zone 2: Estate Sandlands: Dry Sandlings Grasslands Zone 3: Coastal Levels Zone 4: Coastal Dunes and Shingle

Figure 2.5: Planting character zones

Legend



#### 2.4 Earthworks Strategy

- 2.4.1 The indicative landform strategy (**Figure 2.6**) has been updated to include the latest landscape proposals, including creation of additional flood mitigation and wetland habitat areas and changes to the height of the northern mound and sea defences.
- 2.4.2 The overarching strategy for re-distributing surplus spoil across the restored landscape remains unchanged. All of the proposals are guided by an understanding of local context to ensure the creation of naturalistic landform.



Existing 1m contour line (outside Development Site Boundary)

Proposed 1m contour line (inside Development Site Boundary)

Proposed contours are indicative and include existing contours within the Development Site Boundary which are retained and new landforms that are designed to accommodate surplus soil.

Contours and spot heights will evolve through detailed design.

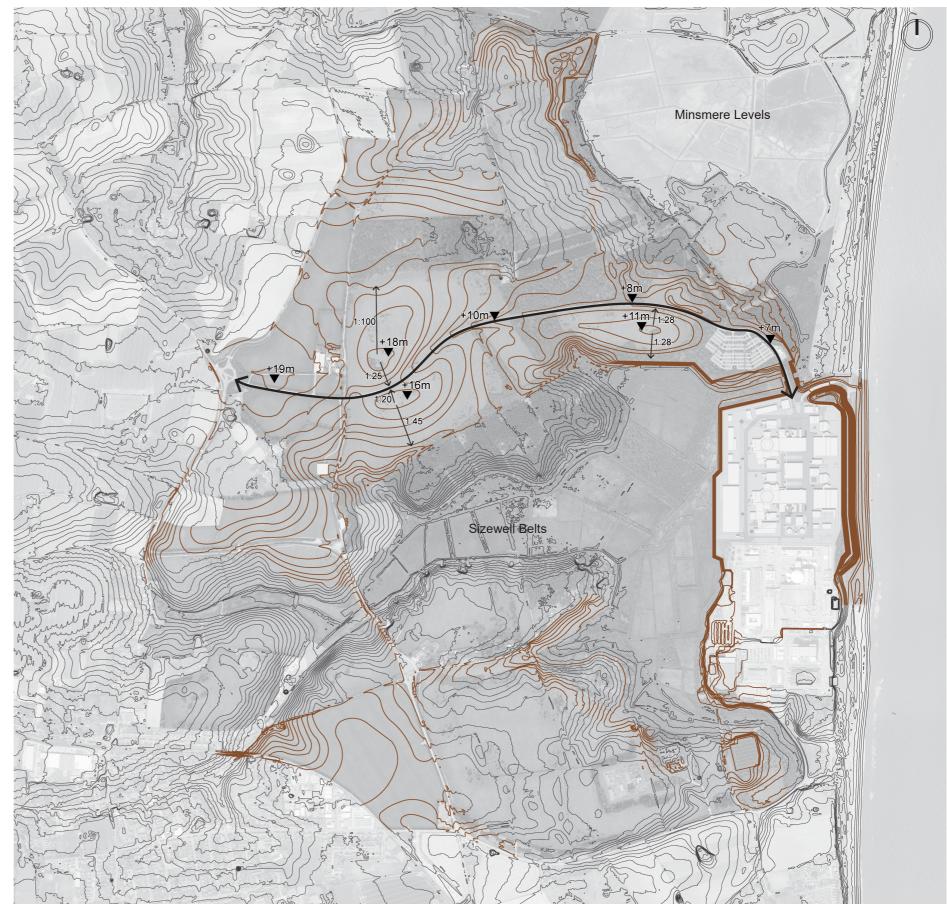
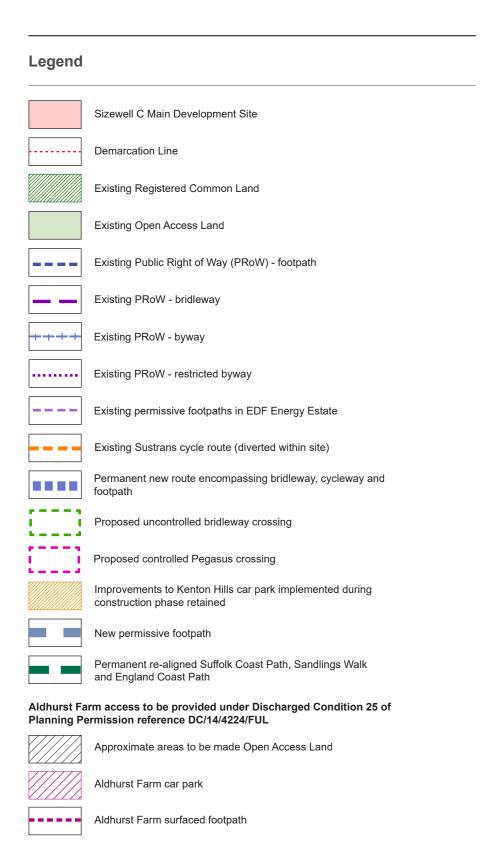


Figure 2.6: Indicative landform strategy

#### 2.0 LANDSCAPE PROPOSALS

#### 2.5 Amenity and Recreation Strategy

- 2.5.1 A new bridleway link would be created between Aldhurst Farm and Kenton Hills. This addition to the network has been requested by stakeholders and would comprise a crossing point over Lover's Lane from the northern field of Aldhurst Farm into the arable field to the north. A new route would then pass through an existing field, parallel to the field boundary, towards Kenton Hills. It would then join the existing Bridleway 19 route, as shown in **Figure 2.7**.
- 2.5.2 This route would provide substantially improved recreational connectivity in the surrounding area and enhance the north-south recreational routes within the Suffolk Coast and Heaths AONB.
- 2.5.3 Existing vegetation will need to be cleared on either side of Lover's Lane to facilitate the new crossing and create sightlines for safe crossing. Replacement planting will be provided along Lover's Lane and set back from the roadside to replicate the existing character of the road.
- 2.5.4 The new permanent route and crossing point would be made available for pedestrians in the construction phase once the entrance to the main development site from the B1122 is in place and the number of HGVs using the early years access is reduced. The link would be designated as a bridleway once construction is complete.



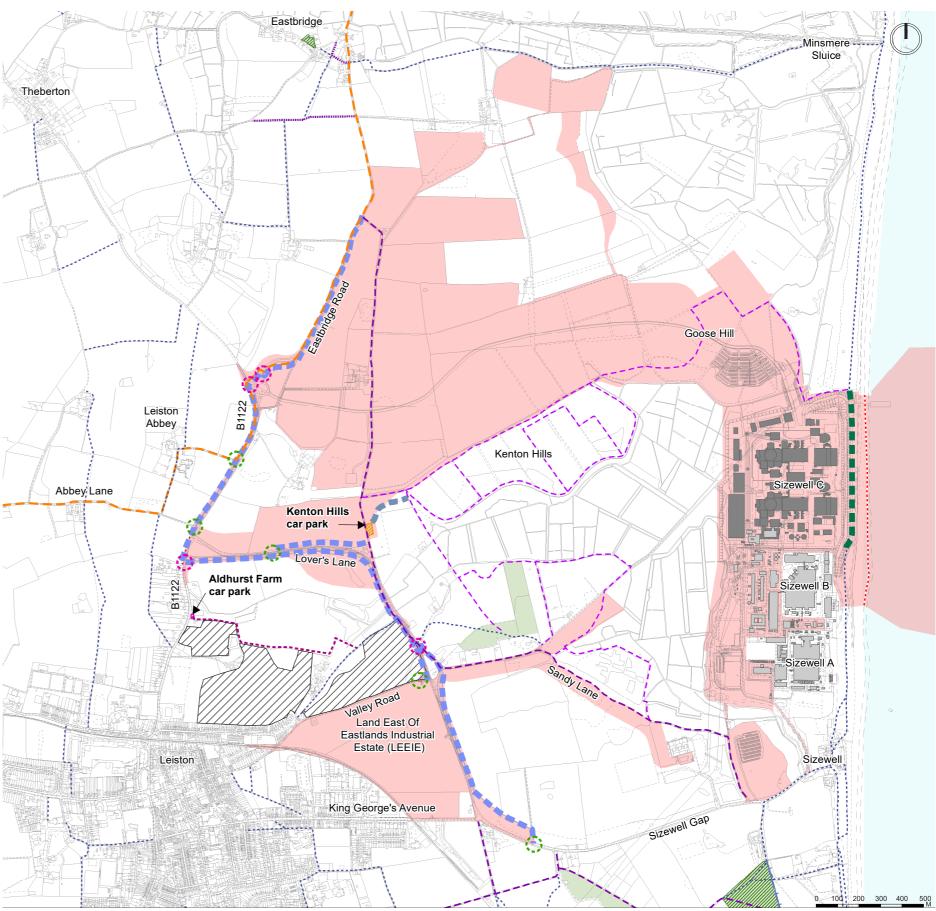


Figure 2.7: Rights of way and access - operational phase (Indicative)

#### 2.0 LANDSCAPE PROPOSALS

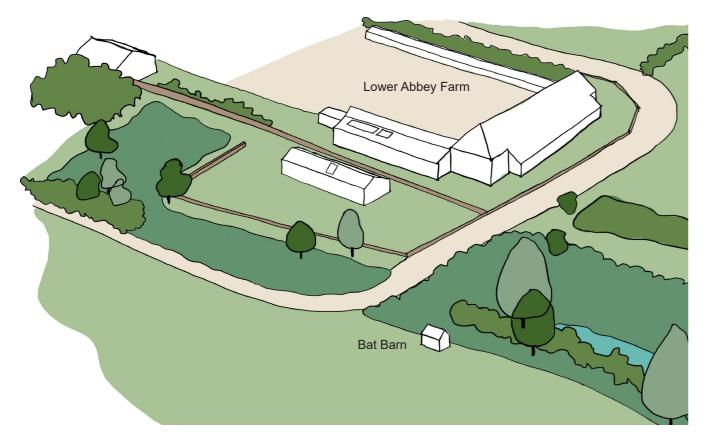


Figure 2.8: Indicative view of the Bat Barn

#### <sup>2.6</sup> Bat Barn

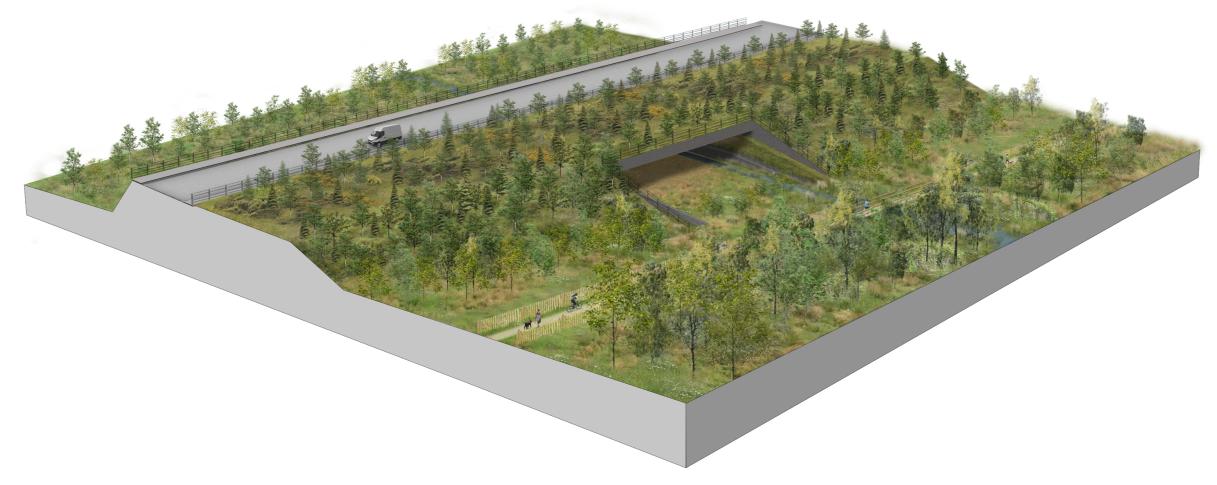
- 2.6.1 A new bat barn would be constructed to the north of Lower Abbey Farm and form part of the existing collection of buildings to the north of the EDF Energy estate, where it is unlikely to be visible from publicly accessible locations. Grouping the bat barn with the existing farm buildings at Lower Abbey Farm provides an established context of built infrastructure within the landscape. The structure would be a maximum height of 8m AOD and the footprint would be up to 25m<sup>2</sup>. It would comprise a lightweight, piled structure designed to have minimal impact on the environment. An illustrative image showing the location of the bat barn in the context of Lower Abbey Farm is shown at **Figure 2.8**.
- 2.6.2 The bat barn would be located close to existing bat flight paths [routes] with a dark corridor from the adjacent habitat in accordance with the **Lighting Management Plan** (Doc Ref. 6.3) [APP-182]. The bat barn would be provided to compensate for the probable abandonment of Brown Long-eared Bat roosts at Upper Abbey Farm and Ash Wood Cottages. The bat barn would need to be operational before the bats are sufficiently disturbed, so very early in the construction phase of works, and remain as a permanent structure.

#### 2.7 **SSSI Crossing**

- The SSSI crossing provides the primary pedestrian and vehicular 2.7.1 route to the power station platform. It is located at the narrowest practicable location of the Sizewell Marshes SSSI corridor to minimise environmental impact.
- 2.7.2 The proposed change to the SSSI crossing would provide additional flood relief, which would reduce water levels during times of increased flood risk compared to the previously submitted design.
- 2.7.3 The proposed design would comprise separate embankments at either end of the SSSI crossing with a 30m long single-span bridge connecting them and the permanent access road positioned on top. The embankment would have an approximate width of 40m at road level and an overall width of 70m at its base. The footprint would remain the same for both the construction and operational phases of the masterplan to minimise disturbance to the SSSI corridor. The embankment is designed to support any future increase in crest height should there be a need to provide increased flood protection to the power station.
- 274 Following further design work, the seaward facing slope of the SSSI crossing would be set at a gradient of 1:3 (compared to 1:2 in the Application) to facilitate the establishment of vegetation and present a more naturalistic landform where it is visible from adjacent footpaths and coastal area. This change in embankment slope would allow for more substantial scrub and tree species to soften the appearance of the crossing and provide visual screening and integration with the existing landscape. The western facing slope would have very limited visibility from public areas and would have a gradient of 1:1 to minimise land take within the SSSI. The western facing slope would be seeded with grass to soften the appearance of the crossing and provide integration with the existing landscape.
- 2.7.5 The construction and operational access road to the power station on the SSSI crossing has a fixed alignment. Therefore, the change in gradient of the embankments would result in the footprint of the SSSI crossing moving eastward slightly, as shown at parameter zone 1E of Volume 2, Figure 2.2.8 of the ES Addendum. The alignment of Sandlings Walk would also need to move slightly further east accordingly and is offset from the base of the embankment to the south of the Leiston Drain to allow for screen planting. North of the Leiston Drain the footpath is aligned to the base of the SSSI crossing to minimise the loss of existing trees in this area.
- 2.7.7

2.7.6

Figure 2.9.



A single span bridge would connect the crossing embankments above the Leiston Drain creating an approximate 24m wide passageway which runs perpendicular to the crossing. The passageway is significantly larger than is required for operational purposes and the bank and channel of the Leiston Drain would remain intact. The passageway is of sufficient size to facilitate the passage of bats and water voles through the structure and retain its function as an ecological corridor. A ledge would still be installed to enable passage by otters and artificial bat roosts would be included within or on the bridge abutments.

The construction haul road would be removed at the end of the main construction phase and then planted with trees as part of the operational phase to provide screening of the site access road. The retained access road would be positioned to the western edge of the embankment, away from the coastal edge and would not be lit to reduce environmental impact. The carriageway would have an approximate width of 12m width and require 3m high safety barriers on either side. A visualisation of the SSSI crossing is shown in

#### <sup>2.8</sup> Northern Mound and Sea Defences

- 2.8.1 The permanent sea defences (including the northern mound) would protect the main platform from flooding during storm surges and high waves.
- 2.8.2 The proposed design includes a change to the minimum crest height of the permanent sea defence (including the Northern Mound) from +10.2m AOD (excluding landscaping) to +12.6m AOD (excluding soil build up to support vegetation /planting). This height provides for a 1 in 10,000 year storm event at 2140, including a precautionary assumption for wave height. The seaward toe of the sea defence would be buried to a depth of no less than approximately +0mOD.
- 2.8.3 The Northern Mound would form part of the structural sea defence to the main platform and would be removed and rebuilt during the construction phase to ensure it has the necessary structural strength. It would tie into the Sizewell C defence to the south and the SSSI crossing to the north, providing a continuous line of defence along the coast.
- 2.8.4 The permanent design of the Northern Mound would include rock armour placed on the seaward side of the sea defence, which would be top dressed with substrate to allow for vegetation establishment and to soften the appearance of the mound. The replacement mound would be built up to a height of 14.6m AOD, 2m higher than the height required to meet flood protection requirements and 2.6m higher than the existing Northern Mound. Raising the height of the mound to 14.6m AOD has significant advantages in screening lower level structures on the main platform from sensitive views along the coast.
- 2.8.5 The Northern Mound would have a natural, vegetated appearance similar in character to the Sizewell B sea defence. The outward, public facing slopes of the Northern Mound would have a typical gradient of 1:3 to aid the establishment of vegetation and match the profile of the existing Sizewell B defences. The engineered structure of the Northern Mound would be 'top dressed' with a soft fill material and planted as a mosaic of coastal grasses, scrub and trees on the front and back slopes, softening the appearance of the mound and providing additional screening and habitat. Land to the rear face of the mound would be raised to a height of approximately 11m AOD post construction and is deliberately set lower than the crest of the sea defence to create a sheltered area to provide an enhanced environment to support the establishment of trees in this important area.

- 2.8.6 The permanent design of the sea defence along the coastline would comprise an embankment with 'rock armour' placed along its length, beneath the surface substrate layers, to provide structural reinforcement and protect against erosion.
- 2.8.7 The crest of the sea defence would vary between 13.2m 14.6m AOD, including a 12.6m AOD hard engineered structure to meet the necessary flood protection requirement, and an additional 0.6m 2m of substrate to allow for vegetation establishment and to naturalise the appearance of the bund. The substrate layer would be constructed to varying depths in order to create undulations in the landform, to naturalise its appearance and create niches for habitat variation.
- 2.8.8 The seaward facing slope of the defence would be set at a typical gradient of 1:3 to encourage the establishment of vegetation and deliver a more naturalistic landform where it is visually prominent from the coastal area. The face of the bund would undulate and be planted with coastal scrub and dune grassland species. It would be managed in line with the existing Sizewell B sea defence to achieve a similar naturalistic appearance. Raising the height of the sea defence by up to +2m above the required flood protection would be achieved through localised steepening of the substrate layer in some sections. This would provide additional screening of lower level structures and activity within and around the power station platform where required.
- 2.8.9 The publicly accessible coastal margin would extend up to the SZC platform security fence and allows for an informal footpath along the crest of the sea defence. The platform facing slope would be set at a gradient of 1:3 to facilitate public access. It would be a flat surface and seeded with grassland species where it is less visible and a more engineered appearance is acceptable.
- 2.8.10 An approximate 12m wide plateau would be created along the seaward face of the defence at a minimum height of 5.2m AOD, to accommodate the England Coast Path and the movement of security patrol vehicles along the coast. The design of the sea defence allows for variation in the width and height of the plateau to create a naturalistic landform. Further east and towards the sea, the soft coastal defence to provide additional coastal protection with the existing vegetated shingle and beach habitats replicated. A visualisation of the sea defence is shown on **Figure 2.10**.

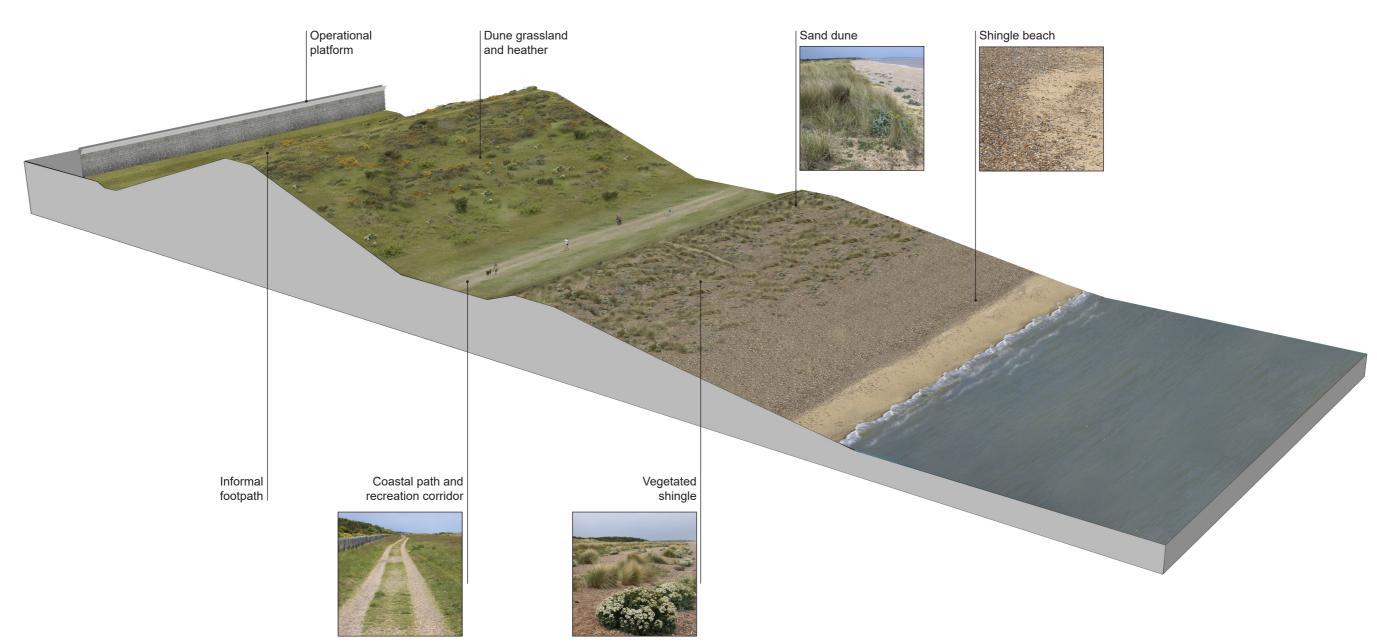


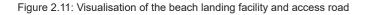
Figure 2.10: Visualisation of the sea defence

#### 2.9 **Beach Landing Facility**

- 2.9.1 A BLF would be located on the coast directly in front of the Northern Mound with an associated private access road connecting to the main platform. It would be used to deliver large deliveries into Sizewell C by barge. The barge would be loaded with large deliveries at a transhipment port, towed to the shore, moored in position and the barge then beached. Large deliveries would then be transported to site along the BLF access road, which is aligned to the northern face of the Northern Mound. It is anticipated that the BLF would be used infrequently during the operational phase, approximately every 5-10 years for a few weeks at a time, during which periods any beach closures would be reduced to a minimum and publicised in advance where possible.
- 2.9.2 The enhanced design of the permanent BLF would substantially increase the ability of the BLF to receive AILs more regularly during construction. The proposed change would add a submerged grounding platform at the seabed (also known as grillage) and extend the length of the BLF by approximately 30m (100m in total) to better align the barge deck with the platform, making deliveries safer and more efficient. Extending the BLF would require an increased number of piles that would form a permanent presence on the coast. The submerged platform would be removed by the end of the Sizewell C construction period and would not be required for operation when the BLF would be used less frequently.

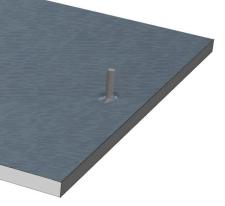
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- 2.9.3
- 2.9.4



During operation, the BLF would consist of a piled and decked structure built across the beach and out into the sea. When not in use during the operational phase of the power station and during the winter months of construction, the permanent BLF deck would be dismantled and taken away for storage. Approximately 24 no. engineering piles, 12 no. cross beam supports and 4 no. fender piles would remain in place and form a permanent presence on the coast. This is the minimum number required to support the BLF loading requirements and ensure long term structural integrity.

The BLF access road provides a permanent ramped connection between the power station platform (+7.3m AOD) and the BLF landing platform (+5.2m AOD). The access road and landing platform would be constructed from reinforced concrete. A visualisation of the BLF and access road is shown in Figure 2.11.



#### 2.10 **Pillbox Field**

- 2.10.1 As part of SZC Co.'s commitment to continue to engage with stakeholders and explore the possibility for re-using previously developed land within the existing Sizewell power station complex, an area of land within the Sizewell A complex has become available for use by the Sizewell B relocated facilities project, subject to the completion of a land agreement.
- 2.10.2 With the provision of the additional area of Sizewell A land, the replacement Sizewell B outage car park would be removed from Pillbox Field. If the Sizewell B outage car park were relocated from Pillbox Field to the existing Sizewell B west car park, there would also be no need for the demolition of Rosery Cottages garage

or the connection for pedestrians between Pillbox Field and the Coronation Wood development area.

- 2.10.3 The revised landscape proposals for Pillbox Field would provide ecological enhancement and mitigation planting for trees lost from Coronation Wood while preserving the setting of the pillbox (a locally important heritage asset) and supporting the broader masterplan vision for the Sizewell Estate.
- 2.10.4 One hectare of new woodland and woodland edge planting is proposed within Pillbox Field and provides replacement planting for the loss of Coronation Wood. Woodland planting also provides enhanced visual screening of the power station infrastructure from Sizewell Gap and Sandy Lane, and increased habitat connectivity.
- 2.10.5 connectivity.
- 2.10.6



Figure 2.12: Visualisation of Pillbox Field proposals

No tree or woodland planting is proposed to the south or directly east of the pillbox in order to preserve the setting of the pillbox and maintain associated sight lines. New hedgerow planting is proposed in several locations along Sandy Lane bridleway and Sizewell Gap to repair gaps within the existing hedgerows and enhance

Remaining land which is not subject to proposed tree and hedgerow planting comprises existing dry grassland (on slopes and higher ground to the north) and wet grassland and scrub (on lower areas to the south). These areas will be retained as existing and be managed to contribute to and extend areas of acidic heathland in accordance with the wider objectives for the Sizewell Estate. The revised Pillbox Field proposals are shown in Figure 2.12.