

Ford

Mace

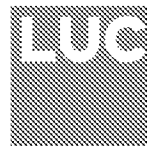
HMP Ford Solar Farm Landscape opinion

Final report

Prepared by LUC

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Mace

HMP Ford Solar Farm Landscape opinion

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Chapter 1

Introduction

1.1 LUC was commissioned by Mace in December 2020 to provide advice on landscape and visual issues in relation to a proposed ground mounted solar farm on a site located within HMP Ford, near Yapton.

1.2 This report provides a high-level appraisal of the likely changes to landscape and visual amenity associated with the proposed development on the site and its surroundings. The output consists of a short report summarising the process and findings of the assessment and draws broad conclusions on the potential effect from the development proposal.

Methodology

Task 1: Data gathering

1.3 This included collating readily available information on the landscape and visual receptors around each proposed site, including Landscape Character Assessments available from local council online information sources, landscape designations from Natural England's Magic mapping, Ordnance Survey mapping, aerial and street view mapping.

Task 2: Baseline reporting

1.4 This includes setting out the landscape and visual baseline of the study area, against which the proposals will be assessed.

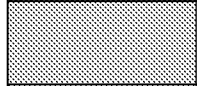
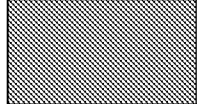
Task 3: Summary of potential effects

1.5 This includes an appraisal of the impact of the solar PV panels and associated infrastructure on:

- landscape character; and
- views and visual amenity experienced by people, particularly local communities and recreational areas and routes.

1.6 The report highlights the main landscape and visual issues likely to be encountered and each site is given a rating using a 'traffic light' approach to categorise the likely level of potential unmitigated effects on landscape and visual amenity in relation to the proposed development as follows:

Table 1.1: Potential level of effects on landscape and visual amenity

	Major likely to have major effects on landscape and/or visual amenity
	Moderate may have moderate effects on landscape and/or visual amenity
	Minor likely to have minor effects on landscape and/or visual amenity

1.7 If moderate or major effects are anticipated, then a description of proposed mitigation measures will be included in order to avoid, reduce or offset any potential effects and any residual effects on landscape and visual amenity assessed.

Task 4: Reporting

The remainder of the report is set out below:

- ❖ **Chapter 2** sets out a description of the development;
- ❖ **Chapter 3** sets out the landscape and visual baseline;
- ❖ **Chapter 4** sets out the assessment of the potential landscape and visual effects;
- ❖ **Chapter 5** summaries the issues and potential effects.

Limitations of this report

1.8 The assessment is based on an indicative location and design of the solar PV panels and associated infrastructure only. Therefore, only 'in principle' potential issues can be highlighted.

1.9 The work in this report is based entirely on desk review of information. No site visits have been undertaken at this stage.

1.10 The scope of the brief at this stage is only to identify high-level issues in relation to the landscape and visual amenity of the study area. If a more detailed assessment is required, this will be carried out at a later stage.

Chapter 2

Description of the development

HMP Ford Proposed Ground Mounted PV Generation System

Typical Ground Mounted PV Panel Installation

2.1 A ground mounted PV generation system is proposed for HMP Ford. Generation capacity has been sized for no export of power, with HMP Ford consuming all energy generated.

2.2 The panels will be mounted in a portrait configuration, 2 modules on top of each other in groups of 20 panels, facing south. Work angle to be between 20 and 35 degrees. Minimum row separation to be 4 meters. The top of the PV panels in this configuration will be less than 3 meters above ground level.

2.3 The inverters and AC and DC isolators will be located on a concrete base within the location of the solar panels. A feeder pillar shall be located next to the inverters, housing a distribution board and other electrical switchgear to allow for a single SWA cable connection to the site's main switchboard. The AC SWA cable shall run from the PV generation distribution board to the site's main switchboard underground directly laid on the ground in the soft and in a duct where crossing roads or passing under footpaths, fences, etc.

2.4 On the ground, DC string cables from the solar panels to the inverters shall be contained in dedicated cable trays mounted to the panels mounting system and running on the ground between rows. Load bearing covers shall be used on ground mounted containment. All DC string cables will have polarised weatherproof connectors.

Access Road & Fencing

2.5 The fencing will be high welded mesh fencing to perimeter of the PV panel installation. Fence to be painted green. The access road will be an earthen road to allow for infrequent light vehicles access running north off the existing prison road, west of Ford Road.

Trenching

2.6 A cable will be laid along the main prison road, across Ford Road and connect to the main switchboard.

Chapter 2

Description of the development

Solar Farm at HMP Ford

March 2021

Landscaping

2.7 Land around the panels will be seeded to provide wildlife habitat. The planting will be selected from native and naturalised small shrubs to avoid shadowing to the PV panels.

Chapter 3

Landscape and visual baseline

3.1 This section describes the proposed development site (the site) and surrounding landscape and visual context, in terms of landscape character, designated landscapes, and the theoretical visibility of the proposed site.

3.2 The assessment has focused on landscape and visual receptors within a 500m radius of the site (the study area), within which significant effects are considered most likely to occur.

The landscape character of the site

3.3 HMP Ford is situated within the Rudford Industrial Estate, between Littlehampton (1.6km to the east) and Yapton (0.9km to the west), with the village of Climping 440m to the south. The site is within the Arun District, situated approximately 3km to the south of the South Downs National Park, and 2km north of the coast. The meandering course of the River Arun flows 820m to the east.

3.4 As shown in **Figure 3.1**, the site lies to the west of HMP Ford, surrounded by an area in horticultural use. Landform here is notably flat and low-lying at an elevation of around 5m AOD.

3.5 The site itself is currently disused and may have formerly been a part of the surrounding horticultural land related to the prison. The western boundary is defined by a minor access road. The northern boundary is defined by a plot boundary, and the eastern and southern boundaries do not correspond with any physical features. The local area, including HMP Ford and horticultural land are enclosed by a dense mixed woodland boundary.

3.6 There are no public rights of way within the site.

Chapter 3
Landscape and visual baseline

Solar Farm at HMP Ford
March 2021

Figure 3.1: Site Location Plan

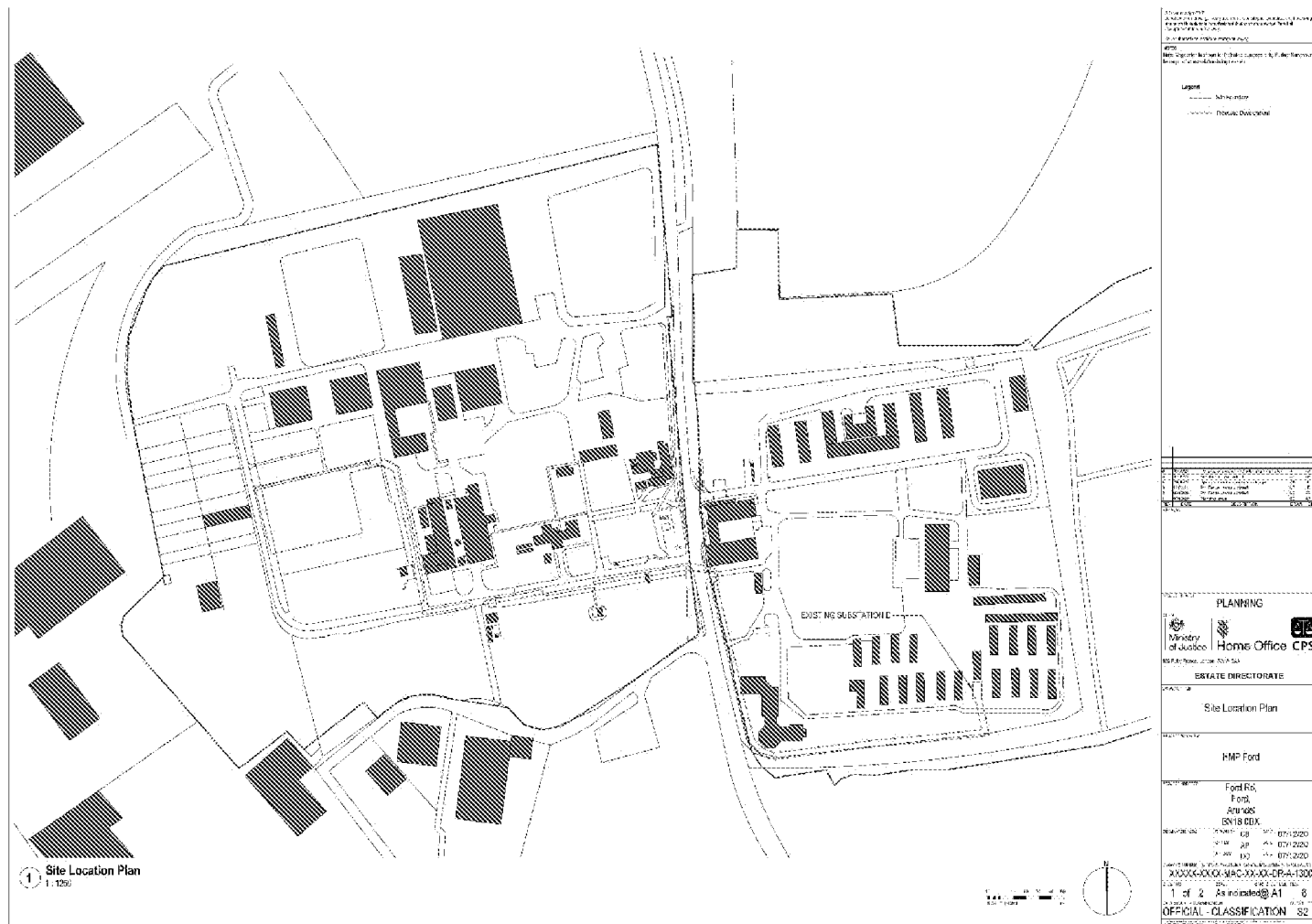


Figure 3.2: Theoretical visibility of the site - areas highlighted in green are identified as having potential visibility from the site (imagery from Google Earth Pro - February 2020).



Landscape character surrounding the site

Landscape Character Assessments covering the study area

3.7 The site and study area lie within National Character Area 126 South Coast Plain.

3.8 The site and study area were assessed as part of the 2003 West Sussex Landscape Character Assessment¹. The site, and the larger part of the study area (west of Ford Road) lies within LCA SC9: Chichester to Yapton Coastal Plain. The key characteristics of this LCA are:

- ❖ Low lying flat open landscape.
- ❖ Meandering rifes and straight drainage ditch systems, with associated unimproved grassland and edged by reed beds.
- ❖ A low density of hedgerows and hedgerow trees with occasional shelterbelts.
- ❖ Large-scale arable farming and market gardening. Extensive farms with both traditional and modern farm buildings and silos.
- ❖ Clusters of glasshouses.
- ❖ Scattered, historically nucleated villages with mixed building materials of flint, brick, half timber and stone.
- ❖ Large farmsteads along roads, and on dead-end tracks.
- ❖ Long views to Arundel, the Downs and to the distinctive spire of Chichester Cathedral.
- ❖ The relatively open character of much of the area allows long views so that village church towers are important landmarks in views.
- ❖ Frequent urban fringe influences of horse paddocks, light industry and disused airfields, with busy minor and major roads.
- ❖ The urban fringes associated with Bognor are particularly obvious, with sporadic urban development in suburban settlements of Tangmere, Barnham, Yapton, and Westergate.
- ❖ Large gravel pit lakes around the edge of Chichester.
- ❖ Few trees or hedgerows, partly as a result of Dutch Elm Disease, from the 1970s and the Great Storm of 1987 and overall high quality agricultural land, although, where they do exist, they form prominent features.

- ❖ Light industry in the countryside at Ford and Tangmere.

3.9 A smaller part of the study area to the east of Ford Road lies within LCA SC10: Lower Arun Valley. The key characteristics for this LCA are:

- ❖ Extensive areas of drained pasture and floodplain.
- ❖ Wide wandering river course throughout, with meanders increasing in size to the south.
- ❖ Tidal character up to Pallington Lock.
- ❖ Meandering river, fed by rifes and dykes with adjacent reed beds.
- ❖ Stretches of engineered concrete river banks.
- ❖ Very shallow valley sides, consisting of slightly undulating farmland or the urban edge of the coastal development, in particular Littlehampton.
- ❖ Little riverside vegetation.
- ❖ Intrusive surrounding suburban activities.
- ❖ Prominent railway on embankment.
- ❖ Extensive high level views onto the area.
- ❖ Key close dramatic views of Arundel (castle, Roman Catholic cathedral, parish church, clustered hillside housing) from the south.
- ❖ Seaward views from elevated positions.
- ❖ Long views of river valley towards the Chalk Downs and Arundel from the south.

3.10 The 2006 Arun Landscape Study² considered the landscape capacity of the Arun District. As part of this study, the district was categorised into Landscape Character Types (LCTs) and local Landscape Character Areas (LCAs). The site itself is within an area of urban land, so was not assessed in this study.

3.11 The study area to the north and west is located within LCA 29: North of Yapton Coastal Plain, to the south within LCA 31: Climping Lower Coastal Plain and LCA 34: Middle Arun Valley Floor to the north-east.

3.12 The relevant key characteristics for LCA 29: North of Yapton Coastal Plain are:

- ❖ Predominately arable fields of varying size and enclosure, with parkland and recreation adjacent to Yapton.
- ❖ Bounded by woodland and railway line to the north.

¹ West Sussex County Council (2003), West Sussex Landscape Character Assessment

² Arun Landscape Study (2006)

- ❖ Abuts Ford to the east.
- ❖ Urban influence along Ford Lane which runs through the middle of the character area.

3.13 The key characteristics identified for LCA 31: Climping Lower Coastal Plain are:

- ❖ Abuts Arun River valley to the east and Ford to the north.
- ❖ Almost entirely intensively farmed arable land.
- ❖ Predominately large field sizes.
- ❖ Blocks of arable fields separated by roads with scattered and ribbon development.
- ❖ Fields with hedgerows and tree belts providing enclosure.

3.14 The key characteristics identified for LCA 34: Middle Arun Valley Floor are:

- ❖ Open valley floor, predominately pasture with occasional arable fields.
- ❖ Exposed with wide-open views, including north to Arundel.
- ❖ Centred on the River Arun and contains a network of railway lines.
- ❖ Minor recreational uses adjacent to Ford.

Landscape character of the study area

3.15 The **study area** around the shares some of the characteristics of these surrounding landscape character area assessments:

- ❖ The landform around the site is largely flat around 5m AOD and forms part of the Arun valley floor.
- ❖ Large scale urban development characterises the study area and detracts from any rural character, including the buildings associated with the prison complex, a sewage works and Rudfield industrial estate.
- ❖ These developments are enclosed by strong coniferous shelterbelts, which screen the buildings but are incongruous within the wider landscape.
- ❖ Scattered ribbon development along Ford Road and the modern settlement at Horsemere Green add to the built-up character of the study area.
- ❖ The small historic village of Climping is located on the edge of the study area and contains two Grade II listed buildings and the Grade I listed Church of St Mary.

- ❖ Open land within the prison complex, is in horticultural use, including vegetable patches, polytunnels and greenhouses.
- ❖ Large intensively farmed arable fields with shelterbelts characterise the north-east of the study area.
- ❖ One public right of way runs through the study area, through the industrial estate to the south of the site, then runs to the west of the HMP Ford towards Yapton.

Landscape Designations

3.16 The site does not lie within any national or local landscape designations.

Visual baseline

3.17 The relatively open character of the wider area, as identified in the Chichester to Yapton Coastal Plain LCA, is not typical of the site or study area.

3.18 The large-scale buildings that characterise the study area shorten views and enclose the site itself, to the east and north-east. Coniferous shelter belts around the prison and other developments provide further enclosure.

3.19 Shelterbelts have replaced traditional field boundaries around the large-scale arable fields to the north east of the study area, providing further enclosure in this flat landscape.

3.20 As a result, views towards the site from surrounding areas will be heavily screened by vegetation and intervening buildings.

Theoretical Visibility

3.21 Google Earth has been used to identify the theoretical visibility of the proposed site and indicative areas from where the proposed development may be visible. This is illustrated in **Figure 3.2** (below) which highlights in green, areas identified as having potential visibility from the site. Where possible (when 3D data is available on Google Earth) the study takes into consideration potential screening from existing vegetation or buildings. However, this is indicative only and has not been verified by site visits.

3.22 Taking into consideration the nature and scale of the proposed development, it is anticipated the proposed solar farm would be relatively imperceptible from views beyond the immediate surroundings, as the surrounding large scale prison buildings and mature shelterbelts to the north, south and west of the site enclose the site.

- ❖ Residential receptors at Climping and Horsemere Green (approx. 500m south of the site): views will be screened by vegetation along Horsemere Green Lane, and the

large buildings and surrounding shelterbelts of the Rudfield industrial estate.

- ⊗ Residential receptors on Nelson Row (approx. 100m north east of the site): views will be screened by a mature shelterbelt along Ford Road, vegetation within the prison complex and intervening prison buildings.
- ⊗ Workers at, and visitors to, the Rudfield Industrial Estate (approx. 100m south of the site): views will be screened by the buildings within the industrial estate and by the mature shelter belt along the edge of the estate
- ⊗ Views from the public right of way that runs from the industrial estate to Yapton to the west of the site are screened by the prison buildings and shelter belts surrounding the complex.

3.23 The only receptors with potential impacts are therefore identified as:

- ⊗ motorists on Ford Road, 220m east of the site.

Residential Visual Amenity

3.24 With regards to developments other than wind energy proposals, the Landscape Institute's Residential Visual Amenity Assessment (RVAA) Technical Guidance Note 2/19 states that "*...other development types including potentially very large but lower profile structures and developments such as road schemes and housing are unlikely to require RVAA, except potentially of properties in very close proximity (50-250m) to the development*".

3.25 The closest properties to the site boundary are on Nelson Row, approximately 300m north-east of the site and therefore not within 'close proximity'.

Chapter 4

Landscape and visual assessment

Potential effects

4.1 The following table sets out key landscape and visual receptors within the study area; provides commentary in relation to potential landscape and visual effects in relation to the proposed solar farm development; and provides a broad level of likely effect in accordance with the traffic light scoring system identified in the methodology.

Table 4.1: Ratings of potential unmitigated effects on landscape and visual amenity

Receptor	Commentary	Rating of potential unmitigated effects
Likely Landscape effects		
LCA SC9: Chichester to Yapton Coastal Plain	The proposed development will result in unavoidable direct landscape effects through the change in use from an unused former horticultural field to a solar farm development, and the removal of grassland to accommodate the solar panels and access track. These direct effects will be localised due to the small extent and height (3m) of the proposed solar development and surrounding high weld mesh fencing.	Minor
LCA SC10: Lower Arun Valley	There will be no direct landscape effects on LCA SC10 and no visibility of the site from areas within the LCA, so no indirect effects are anticipated.	Minor
Likely Visual effects		
Motorists on Ford Road, 220m east of the site – medium sensitivity.	The low hedges along Ford Road, allow clear views into the prison complex to the west for motorists travelling along the road. These include views of landscaping, entrance ways and the prison buildings. Any views to the site will be fleeting and seen in the context of the surrounding prison complex. Therefore, it is unlikely to be more than a minor change to the character of views from these properties.	Minor

Chapter 5

Conclusions

5.1 The mature shelterbelt which surrounds the prison complex to the north, west and south, and the prison buildings to the east of the site, provide significant screening from the surrounding area. Any views of the proposed development will be heavily filtered by this vegetation and be seen in context with the prison buildings.

5.2 There will be an inevitable change to the external appearance of the field in which the solar farm is proposed, however there will be no material change to the premises of HMP Ford when viewed from outside the site.