



East Pye Solar
Potential Impact on Seething Aerodrome Forced
Landing Options

Revision 1

March 2026

Planning Inspectorate Reference: EN0110014

Document Reference: APP/7.28

APFP Regulation 5(2)(q)



**EAST PYE SOLAR FARM, NORFOLK:
POTENTIAL IMPACT ON SEETHING
AERODROME FORCED LANDING OPTIONS**

March 2026

Report No.25/1309/IGP/3

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1. Introduction and background

1.1 This report sets out the conclusions of an assessment of the potential impacts of the proposed East Pye Solar project (the Scheme) on the forced landing options for light aircraft taking off from runway 24 at Seething Aerodrome, Norfolk. This work was commissioned by the developers of the Scheme, East Pye Solar Limited (the Applicant), on 5 November 2025.

1.2 Wingtask 1995 Ltd, the CAA Declared Training Organisation (DTO) providing flight training from Seething aerodrome, submitted a consultation response to the proposed Scheme in August 2025. This expressed concerns about the effects on forced landing options for aircraft suffering an engine failure after take-off (EFATO) from runway 24 and during the landing approach for runway 06, and effects of glint and glare from the solar panels during the landing approach to both runway directions.

1.3 This report addresses the issue of runway 24 EFATO options and runway 06 approach engine failure considerations. The effects of glint and glare from the solar panels are set out in Appendix 18.1 of the Environmental Statement: Glint and Glare Assessment [EN0110014/APP/6.3.18.1].

1.4 This report was compiled by [REDACTED] founder and director of Gladhouse Planning Ltd (trading as Aviatica). The author's qualifications and experience are set out in Appendix 1.

2. Seething aerodrome configuration and operations

2.1 Seething is an unlicensed aerodrome located some 15km south east of Norwich in Norfolk. It has a single tarmac runway, length 800 metres, oriented north east/south west (designated 06/24) and is the base for a number of privately-owned light aircraft as well as the flight training organisation Wingtask. All circuits are flown to the south of the airfield (right hand circuit on runway 06; left hand circuit on runway 24).

3. Runway 24 EFATO considerations

3.1 Site 10 of the Scheme lies under the climb-out from runway 24 at Seething Aerodrome. The eastern section of Site 10 occupies an area extending along the extended centreline of runway 24 from approximately 500m from the end of the runway to approximately 2100m from the end of the runway. Figure 1 shows a Google Earth view along the extended runway 24 centreline from approximately 500ft overhead the midpoint of the runway. It shows the solar farm site boundary in red.¹ Figure 2 shows a plan view of the airfield and local features.

¹ NB the areas in which it is proposed to place solar panels will be smaller than the indicated site boundary.

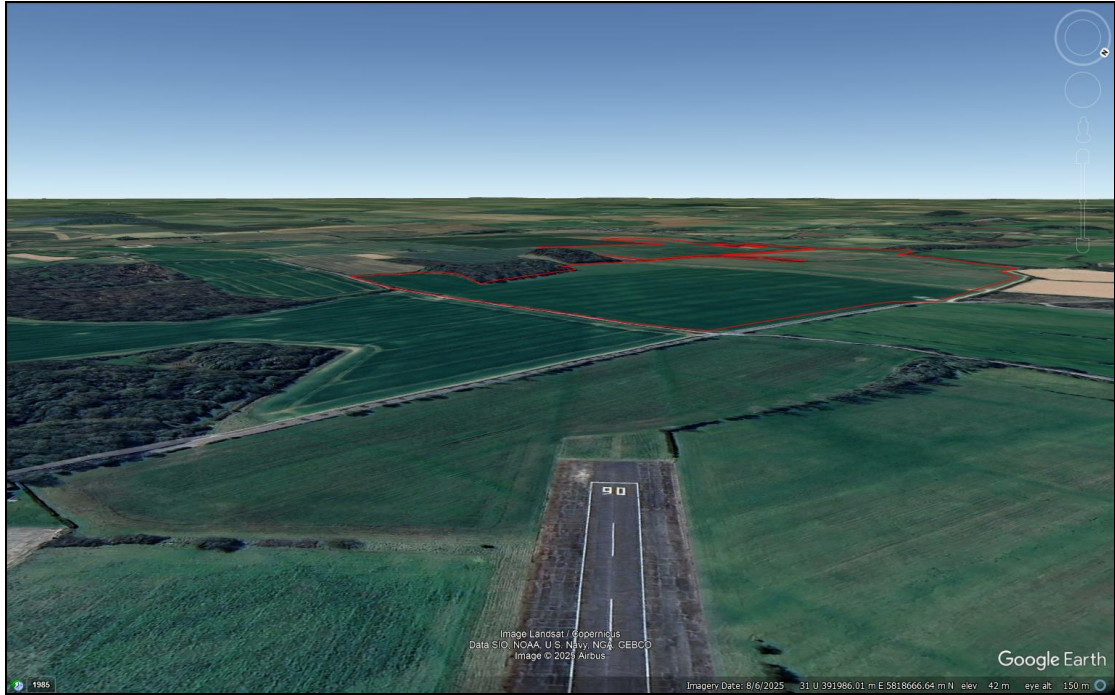


Figure 1: View of climbout from runway 24 at Seething Aerodrome



Figure 2: Seething Aerodrome and local features

3.2 To calculate the potential risk of the solar panels constituting a denial of forced landing options for aircraft suffering an EFATO from runway 24, the profile for an aircraft taking off from runway 24 has been calculated using the criteria set out in Table 1.² These are regarded as conservative criteria in that it is expected that most aircraft will become airborne earlier than assumed and

² These criteria are based on professional judgement from the author's 30 years of experience of operating light aircraft and from Combined Aerodrome Safeguarding Team Aerodrome Safeguarding Guidance Note: Renewable energy developments: solar photovoltaic developments, July 2023.

will achieve climb gradients greater than those assumed, thus in most circumstances aircraft will be higher than the assumed flight profile and will therefore have greater glide distances in the event of an EFATO.

Table 1: Runway 24 EFATO forced landing options criteria	
Airborne point	600m from the start of runway 24
Aircraft climb rate	500 feet per minute at a ground speed of 60 knots, i.e. a climb gradient of 500ft per nautical mile or 8.2%
Aircraft best glide performance	Glide ratio of 8:1 from the point of engine failure i.e. a descent gradient of 12.5% or 760ft per nautical mile
Potential forced landing fields	Those within +/-45° of the climbout heading i.e. between 195° and 285° for aircraft departing from runway 24

3.3 Using the above criteria, assessments have been made of whether the Scheme would prevent aircraft suffering an EFATO on departure from runway 24 carrying out a forced landing in fields that are currently available. The assessments have been made at heights of 100 feet, 200 feet, 300 feet and 400 feet above the elevation of the runway at Seething Aerodrome.

100 feet

3.4 Using the criteria in Table 1, an aircraft suffering an EFATO at 100 feet will glide for 240m before reaching ground level.³ As Figure 3 shows, a glide from 100ft would not reach to the west of Seething Road/Upgate Road. This means that there are no current forced landing options for aircraft suffering an EFATO at 100ft that are in areas that are proposed for solar panels; consequently the Scheme would have no impact on aircraft in this scenario. On this analysis the only option for an aircraft suffering an engine failure at this point would be to turn left and make a forced landing in the area immediately to the east of Seething Road and south of Toad Lane.

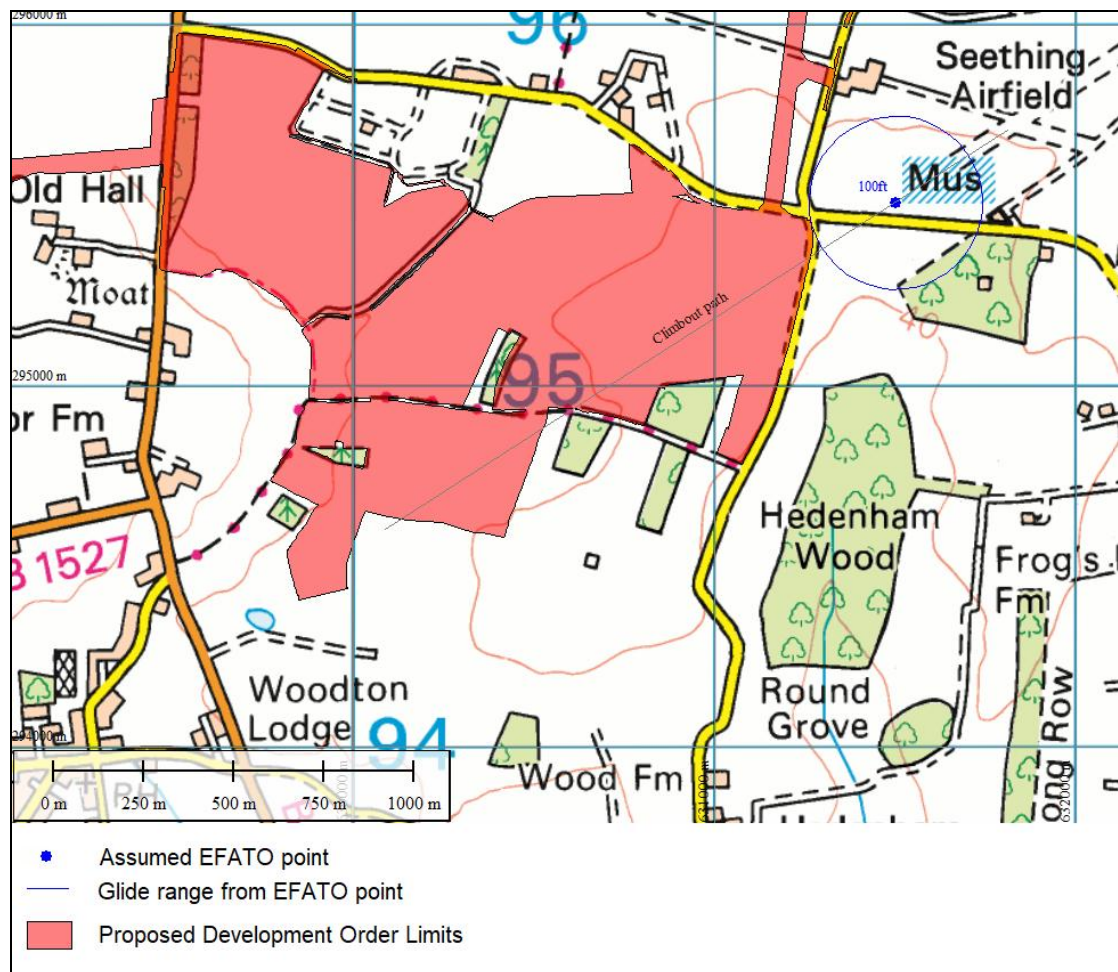


Figure 3: EFATO options from 100ft

³ Ground level is assumed in these analyses to be the same as the elevation of the runway, since there are no significant changes in terrain elevation in the area within 2km of Seething Aerodrome. The illustrated glide distance should be taken as a maximum, since any headwind component and use of flap or manoeuvring will reduce the glide range.

200 feet

3.5 Using the criteria in Table 1, an aircraft suffering an EFATO at 200 feet will glide for 485m before reaching ground level. As Figure 4 shows, a glide from 200ft on the runway heading or any heading within $\pm 45^\circ$ of the runway 24 climbout would take the aircraft to area proposed for solar arrays under the Order Limits of the Scheme. These fields will not be available for landing in the event that the Scheme is built.

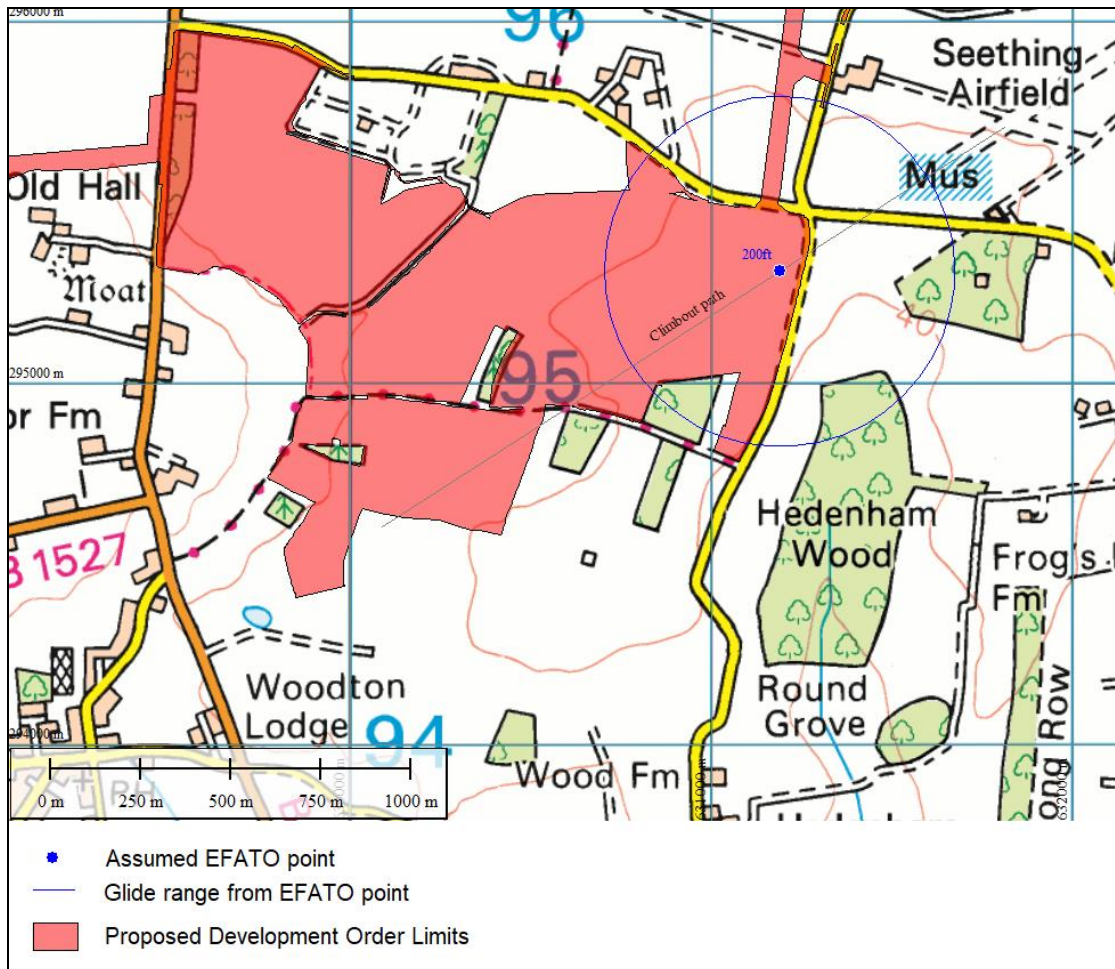


Figure 4: EFATO options from 200ft

300 feet

3.6 Using the criteria in Table 1, an aircraft suffering an EFATO at 300 feet will glide for 730m before reaching ground level. As Figure 5 shows, a glide from 300ft, with a left turn through between 15 and 45°, would open up a wide area of potential forced landing fields to the south of the Scheme and clear of the proposed solar panels.

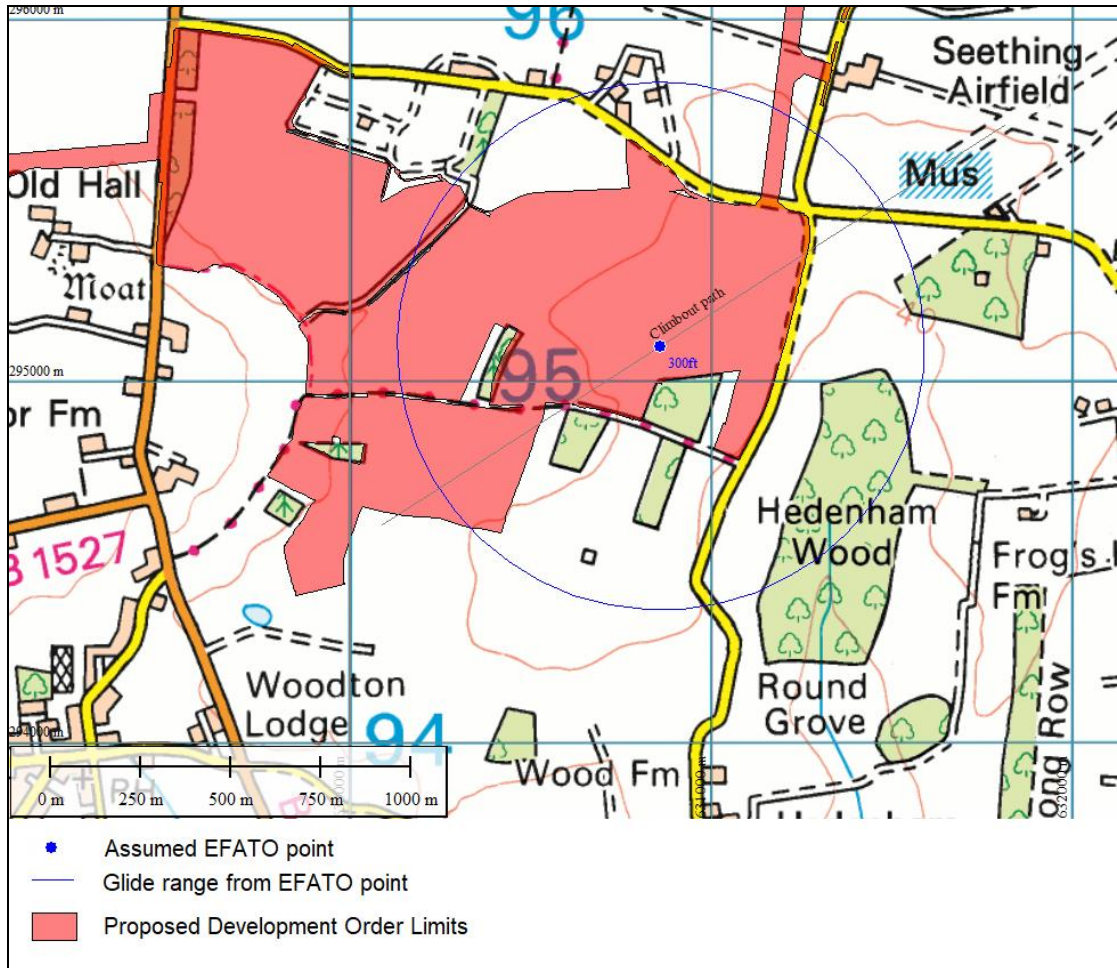


Figure 5: EFATO options from 300ft

400 feet

3.7 Using the criteria in Table 1, an aircraft suffering an EFATO at 400 feet will glide for 975m before reaching ground level. As Figure 6 shows, a glide from 400ft on any heading within $\pm 45^\circ$ of the runway heading would take the aircraft beyond all proposed solar panel deployment areas. Consequently, the Scheme will have no impact on forced landing field options for an aircraft suffering an engine failure at 400ft or higher.

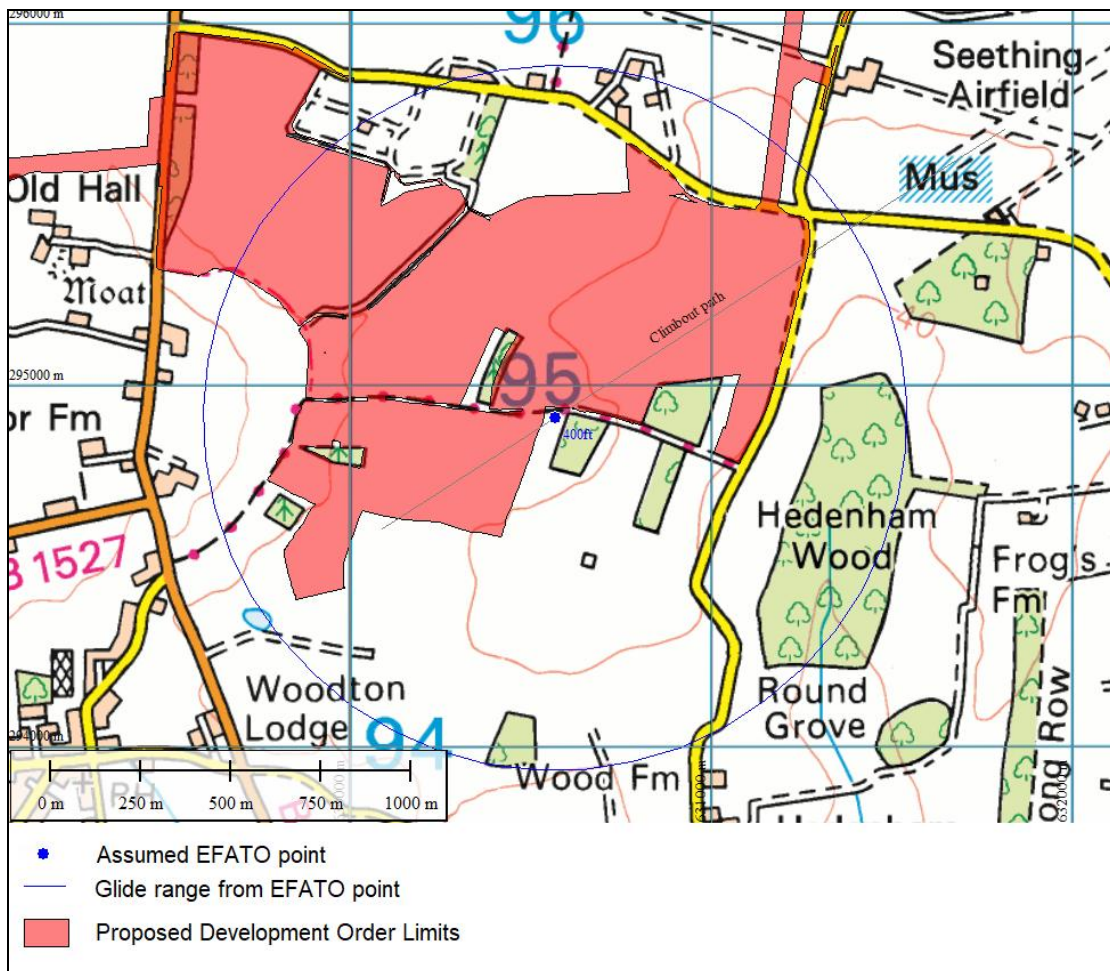


Figure 6: EFATO options from 400ft

3.8 It is concluded from the above analysis that:

- aircraft suffering an EFATO on departure from runway 24 at heights of up to 100ft would not be constrained by the solar farm and would continue to have forced landing options available in the area immediately to the east of Seething Road and south of Toad Lane;
- aircraft suffering an EFATO on departure from runway 24 at heights of 300ft or more would not be constrained by the solar farm; and
- aircraft suffering an EFATO on departure from runway 24 at heights between 100 and 300 feet would be likely to have their forced landing options constrained by the solar farm.

3.9 In view of the likely constraints on forced landing options for aircraft suffering an EFATO at heights between 100 and 300 feet, it was

recommended to the Applicant that amendments be made to the solar farm site boundary in the area immediately underneath and to the left of the runway 24 climb-out path, in order to provide additional forced landing space as close as possible to the runway heading.

3.10 The Applicant has accepted the recommendations for alterations to the boundary of the solar panel deployment area. Figure 7 shows the revised boundary of the solar PV array area in the south eastern parts of Site 10B.

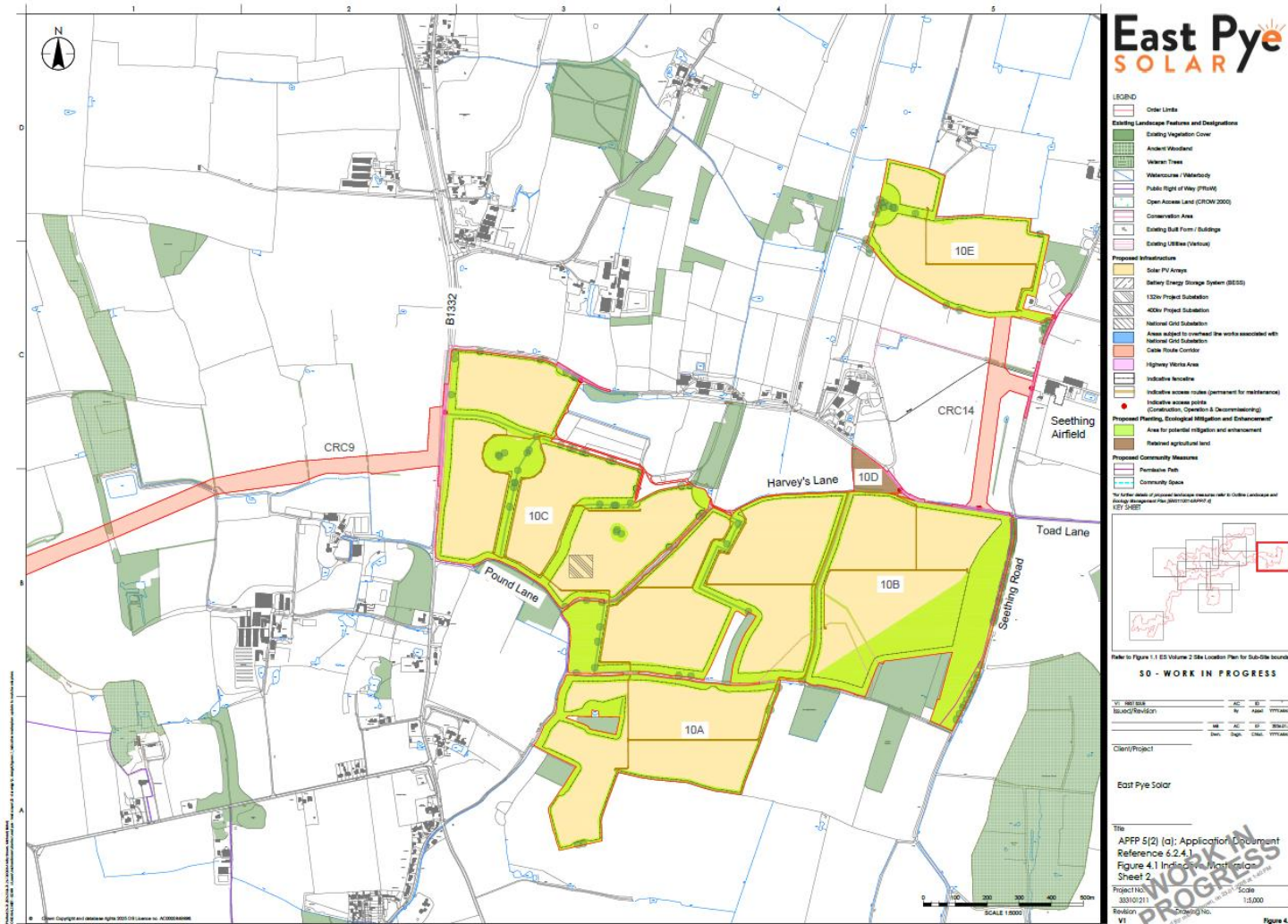


Figure 7: Amended solar PV array boundary in Site 10B

4. Runway 06 approach considerations

4.1 The Wingtask consultation response also refers to the potential for the Scheme to restrict forced landing options for aircraft suffering an engine failure on approach to runway 06 at Seething.

4.2 The assessment of the risk of the solar farm constraining the availability of forced landing fields for aircraft suffering an engine failure on final approach to runway 06 at Seething has been conducted using the criteria set out in Table 2.⁴ Assessments have been made for four heights above the runway 06 threshold elevation – 542ft (corresponding to a point one nautical mile out on the final approach); 400ft; 300ft; and 200ft.

Assumed final approach descent angle	5° - 532ft per nautical mile
Threshold crossing height	10 feet
Aircraft best glide performance	Glide ratio of 8:1 from point of engine failure i.e. descent gradient of 12.5% or 760ft/nm
Potential forced landing fields	Within +/-45° of the approach heading i.e. 015° to 105°

⁴ These criteria are based on professional judgement from the author's 30 years of experience of operating light aircraft and from Combined Aerodrome Safeguarding Team Aerodrome Safeguarding Guidance Note: Renewable energy developments: solar photovoltaic developments, July 2023. Illustrative glide distances should be taken as maxima since aircraft at this stage of the approach are likely to have flaps deployed; additionally, any headwind component will decrease glide range.

542ft

4.3 Figure 8 shows that the 8:1 glide range from the 542ft point would take the aircraft to just short of the Seething Road/Harvey Lane junction. However the Scheme is likely to constrain forced landing options for aircraft in typical approach configuration gliding from the 542ft point. The area to the right of the approach path, between Seething Road and Hedenham Wood, is also likely to be usable, and this would not be constrained by the Scheme.

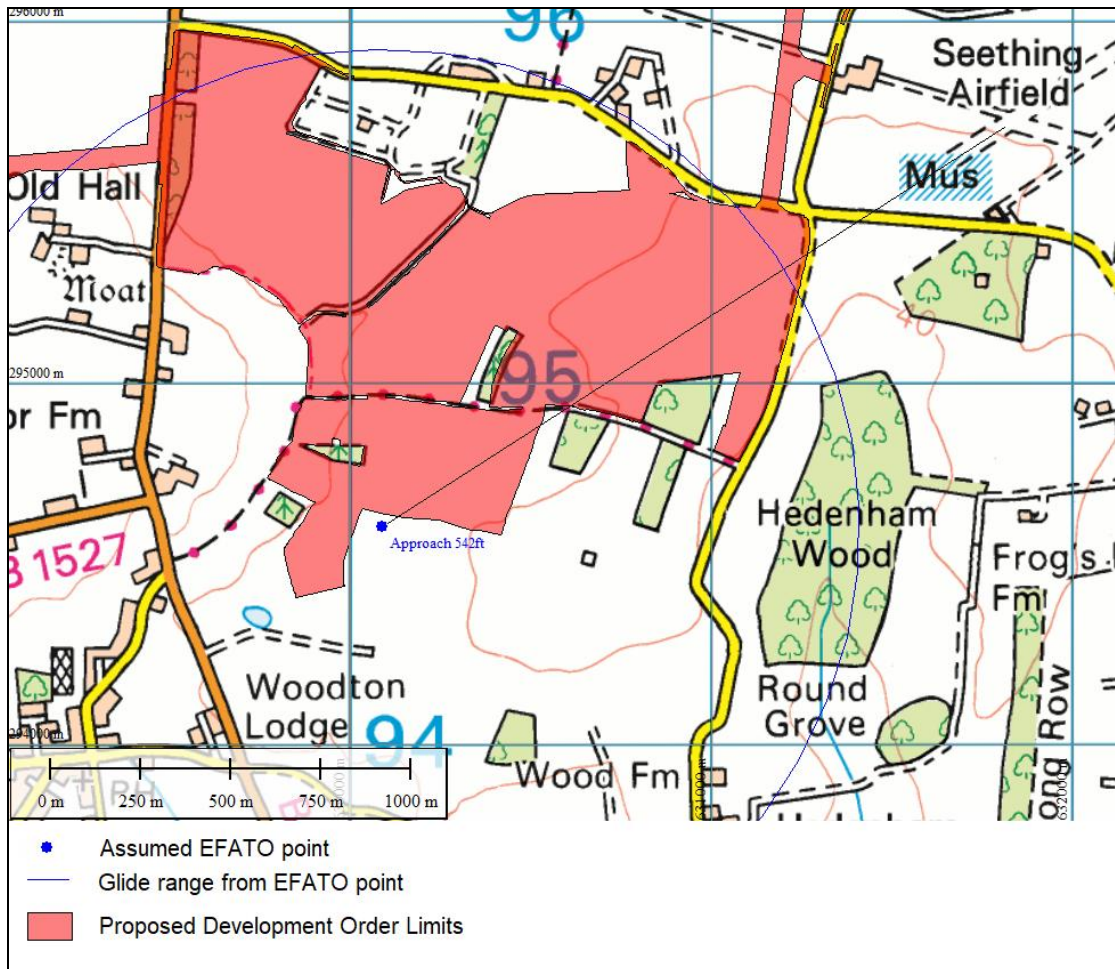


Figure 8: Assumed engine failure on approach at 542ft

300ft

4.5 Figure 10 shows that the 8:1 glide range from the 300ft point would take the aircraft just beyond the Seething Road/Harvey Lane junction. However, as with the 400ft scenario, it is considered unlikely that an aircraft gliding from the 300ft point would be able to achieve a descent rate steep enough to land in the fields proposed for the solar farm and stop before meeting the road(s). Therefore, the field south of Toad Lane and east of Seething Road is likely to be the best forced landing option for an aircraft suffering an engine failure on approach at 300ft. The Scheme would not constrain that forced landing option.

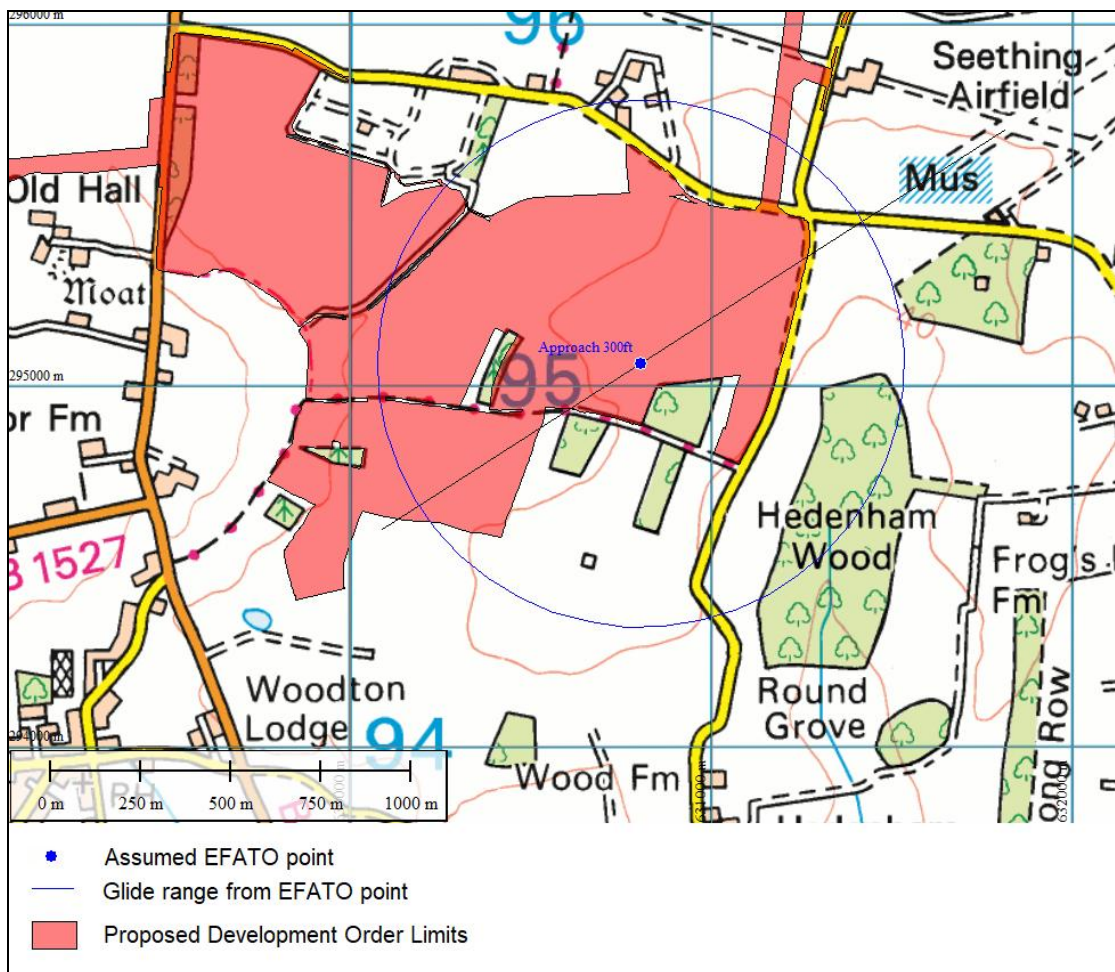


Figure 10: Assumed engine failure on approach at 300ft

200ft

4.6 Figure 11 shows that the 8:1 glide range from the 200ft point would take the aircraft beyond the Seething Road/Harvey Lane junction, thus making the field just short of the runway – or the field south of Toad Lanre and east of Seething Road - reachable. The Scheme would not constrain forced landing options in this scenario.

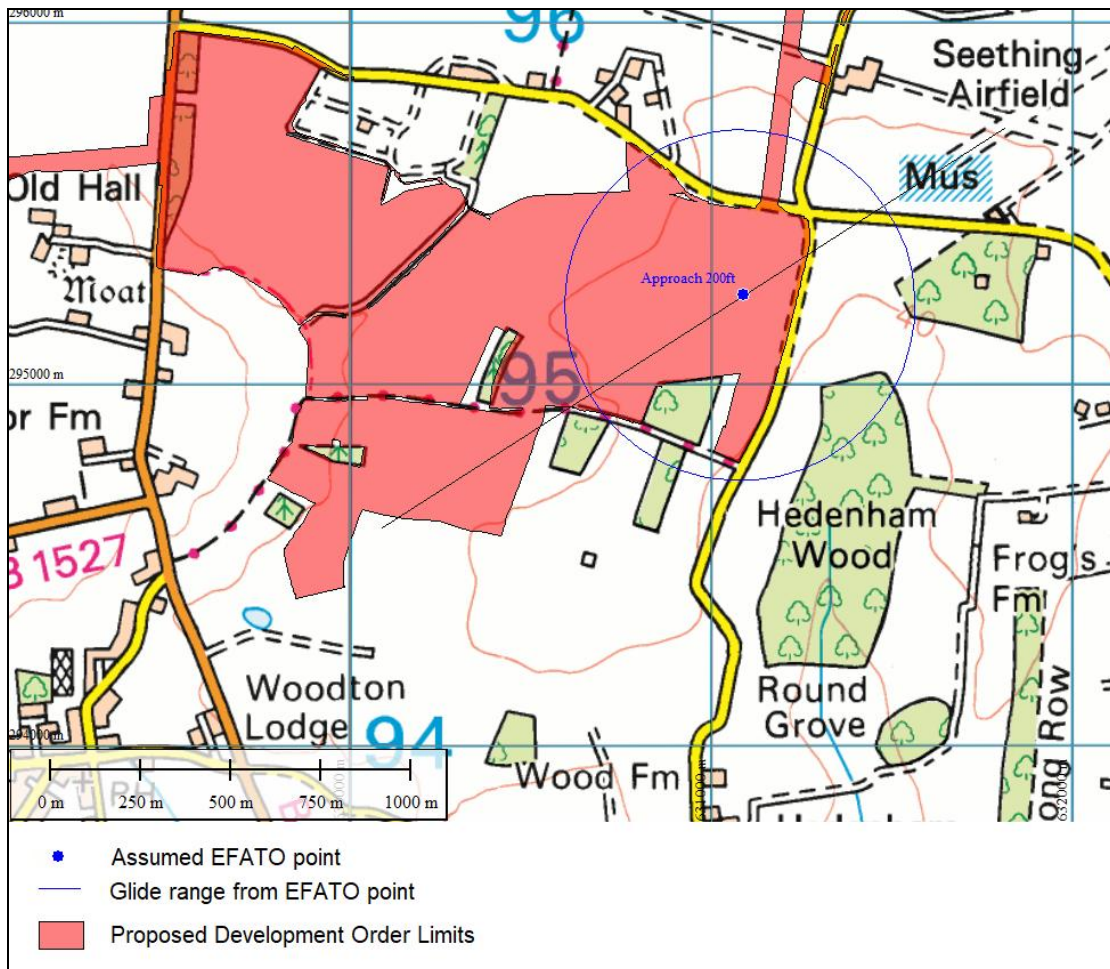


Figure 11: Assumed engine failure on approach at 200ft

4.7 It is concluded from the above analysis that:

- aircraft suffering an engine failure on approach to runway 06 at heights between 542 and 200 feet may have their forced landing options constrained by the solar farm;
- aircraft suffering an engine failure on approach to runway 06 at heights of 200ft and below would not be constrained by the solar farm.

4.8 In view of the possible constraints on forced landing options for aircraft suffering an engine failure on approach to runway 06 at heights between 542 and 200 feet, it was recommended to the Applicant that amendments be made to the solar farm site boundary in the area immediately underneath and to the right of the runway 06 approach path, in order to provide additional forced landing space as close as possible to the runway heading.

4.9 The Applicant has accepted the recommendations for alterations to the boundary of the solar panel deployment area. Figure 7 shows the revised boundary of the solar PV array area in the south eastern parts of Site 10B.

5. Conclusions

5.1 The Scheme would not constrain forced landing options for aircraft suffering an EFATO from runway 24 at Seething aerodrome.

5.2 Whilst earlier design of the Scheme meant that aircraft suffering an EFATO on departure from runway 24 at heights between 100 and 300 feet would be likely to have their forced landing options constrained by the solar farm, the Scheme design has been updated as recommended to refine the redline boundary to mitigate that constraint.

5.3 The amendments to the southern boundary of the solar farm in the area closest to Seething aerodrome ensure that aircraft suffering an EFATO on departure from runway 24 at Seething would continue to have forced landing options available, irrespective of the height at which the engine failure occurred.

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AVIATICA – COMPANY QUALIFICATIONS AND EXPERIENCE

Aviatica is a trading name of the specialist planning consultancy Gladhouse Planning Ltd. This report was compiled by [REDACTED] founder and director of Gladhouse Planning Ltd.

[REDACTED] holds a Master's degree in Rural and Regional Resources Planning from the University of Aberdeen and an MA (Hons) from the University of Edinburgh. [REDACTED] has served as a Specialist Adviser to the House of Commons Defence Committee and on the Aviation Study Group of the British Wind Energy Association.

[REDACTED] is an active light aircraft pilot and flying instructor with 2500 hours flying experience, including 2000 hours instructing on single-engine piston aeroplanes, mainly from Fife Airport (Glenrothes) which has three solar installations in its vicinity.

Aviatica has been carrying out assessments of the effects of buildings, wind turbines and solar energy developments on aviation for 30 years, including proposed developments in the vicinity of a wide range of UK civil and military airfields including Aberdeen, Bedford, Belfast City, Belfast International, Bourn, Burn, Campbeltown, City of Derry, Clacton, Coventry, Cranfield, Doncaster-Sheffield, Durham Tees Valley, Edinburgh, Enniskillen, Fair Oaks, Fife, Fishburn, Gamston, Glasgow, Humberside, Inverness, Kinloss, Kirknewton, Leeds-Bradford, Lee-on-Solent, London Gatwick, London Heathrow, Longside, Lossiemouth, Lydd, Manston, Newcastle, Newquay, Northolt, Norwich, Oban, Peterlee, Prestwick, Sandy, Scatsta, Sherburn-in-Elmet, Shipmeadow, Southend, Stornoway, Tatenhill, Thruxton, Tingwall, Wick and Woodvale.