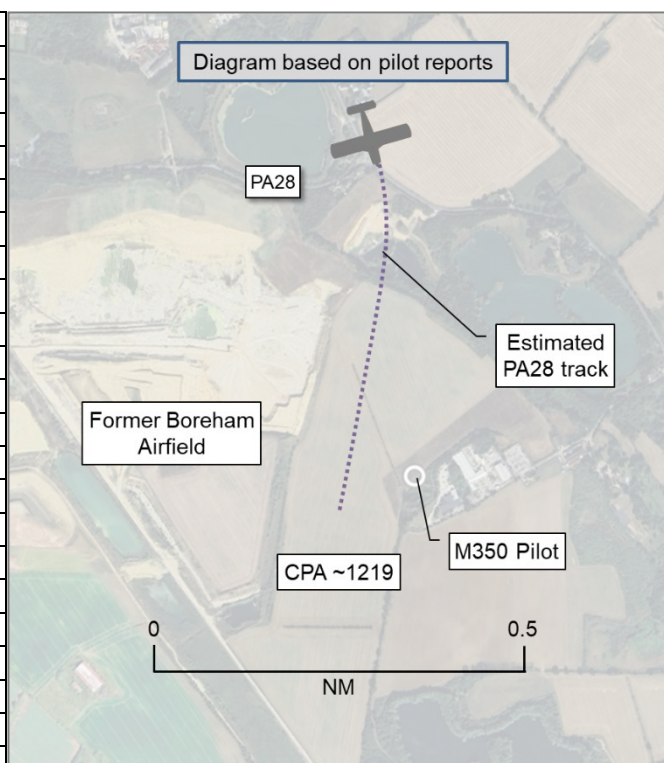


AIRPROX REPORT No 2025065

Date: 30 Apr 2025 Time: ~1219Z Position: 5147N 00032E Location: former Boreham airfield

PART A: SUMMARY OF INFORMATION REPORTED TO UKAB

Recorded	Aircraft 1	Aircraft 2
Aircraft	DJI M350 RTK	PA28
Operator	Civ UAS	Civ FW
Airspace	London FIR	London FIR
Class	G	G
Rules	VLOS	VFR
Service	None	Listening Out
Provider	N/A	Southend
Altitude/FL	NK	NK
Transponder	Not fitted	A, C, S
Reported		
Colours	Black	Blue/white
Lighting	Beacon, LED	Strobes
Conditions	VMC	VMC
Visibility	>10km	>10km
Altitude/FL	318ft	500ft
Altimeter	NK (NK hPa)	QNH (NK hPa)
Heading	Hovering	'southerly'
Speed	Hovering	80kt
ACAS/TAS	Other	Not fitted
Alert	Information	N/A
Separation at CPA		
Reported	240ft V/200m H	Not seen
Recorded	NK	



THE M350 PILOT reports conducting a training and test flight of a new drone platform. The flight began at 1157 within the confines of an Essex Police operational base at Boreham. Prior to the flight, as per their operations manual, NPAS had been called and a risk assessment had been completed. Approximately 20min into the flight, the drone was at 318ft height and 48m out from the pilot's position when the drone indicated manned aviation was in proximity and 'fly with caution'. They observed the warning on screen when a second warning repeated this message. The drone pilot's observer stated "down" and, on doing so, the manned aircraft came into view over the treeline at low altitude. They descended the UAS and rolled right to clear the flightpath of the other aircraft until it had cleared the area of operation. Both drone pilot and observer were concerned about the proximity and altitude of the manned aircraft, enough to take the avoiding action. The drone is a large 6.5kg drone and they were unfamiliar with the other aircraft, so the perspective appeared to be very close proximity. The other aircraft's registration could be seen by the drone pilot and identified on [internet-based flight tracking applications]. The flight track showed the aircraft's altitude immediately prior to coming into view as 275ft AGL and, as such, they were obscured behind a treeline at the location of the drone operation.

The pilot assessed the risk of collision as 'Medium'.

THE PA28 INSTRUCTOR reports conducting a CPL instructional flight. The sortie was 'Emergencies including Engine Failures and Practiced Forced Landings'. The student had selected Boreham disused as their landing site, in a southerly direction. The drill was to be carried out with a go-around at a suitable height. Boreham is now a sparse area¹ which resembles a quarry with the police helicopter and hanger now gone. This allowed them to go down to a suitable height without contravening any low flying rules. The instructor (pilot in command) was unaware of any drone flying and training operations being conducted by the police [at Boreham]. They did not see the drone and were totally unaware of the incident until contacted by [the CAA] regarding the incident. The instructor noted that they would have

¹ Formerly the site of an NPAS helicopter base until August 2018.

liked to have been aware of any drone operations in the area as a lot of flight training takes place in that region. They have now made the instructors [at their flying school] aware of the drone operations taking place at Boreham and for them to exercise caution.

Factual Background

The weather at Stansted and Southend was recorded as follows:

METAR EGSS 301220Z AUTO 14007KT 090V220 9999 NCD 23/09 Q1023=
METAR EGMC 301220Z 08007KT 050V110 CAVOK 21/14 Q1023=

Analysis and Investigation

UKAB Secretariat

During the flight, the remote pilot shall keep the unmanned aircraft in VLOS and maintain a thorough visual scan of the airspace surrounding the unmanned aircraft in order to avoid any risk of collision with any manned aircraft. The remote pilot shall discontinue the flight if the operation poses a risk to other aircraft, people, animals, environment or property.²

There were no UAS airspace restrictions listed in the UK AIP or NOTAM notified on the date of the Airprox for the area of Boreham. The current CAA VFR chart displays an 'H' at the Boreham site:

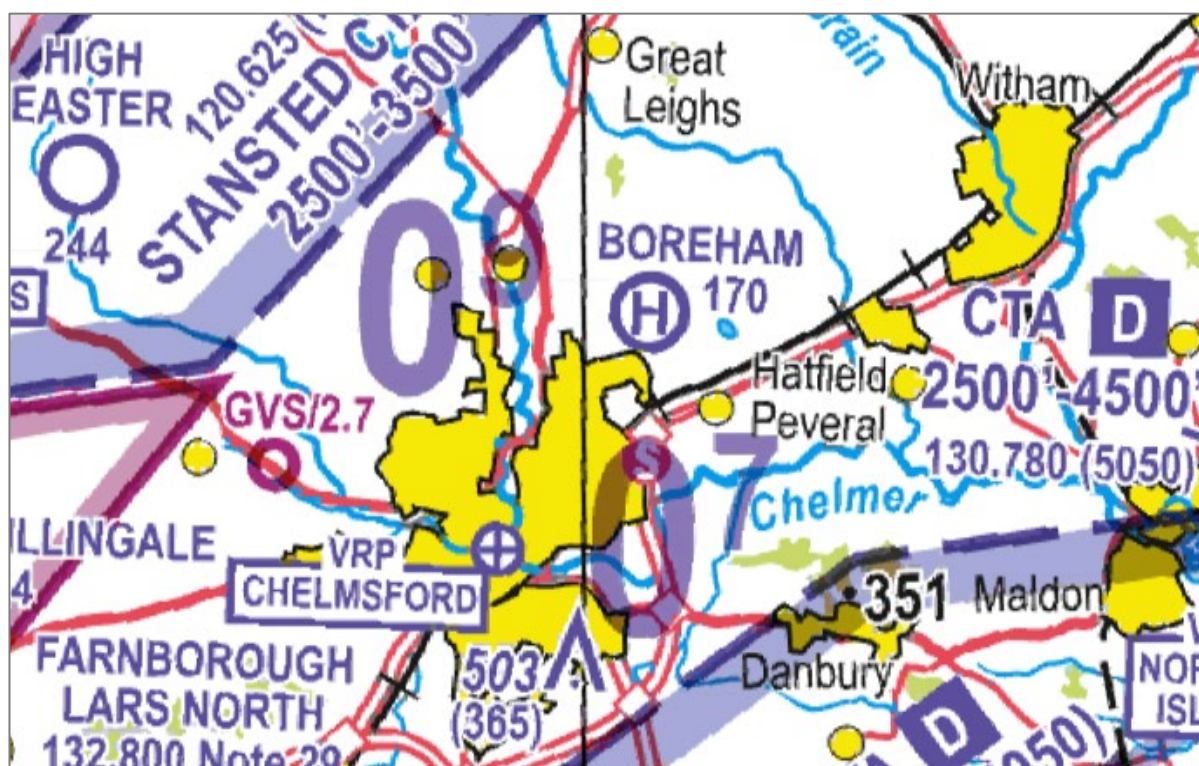


Figure 1 – Extract from the CAA 1:500,000 VFR chart

NPAS helicopter bases are listed on the National Police Air Service website³ and Boreham is not listed as one of those bases.

(UK) SERA.5005 (Visual Flight Rules) states at paragraph (c)(5) as follows:

'except when necessary for take-off or landing, or except when specifically authorised by the competent authority, a VFR flight at night shall be flown at a level which is not below the minimum flight altitude

² Assimilated Regulation (EU) 2019/947- UAS.SPEC.060 Responsibilities of the remote pilot (3)(b).

³ <https://www.npas.police.uk/bases>

established by the State whose territory is overflown, or, where no such minimum flight altitude has been established:

(i) over high terrain or in mountainous areas, at a level which is at least 600 m (2000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft;

(ii) elsewhere than as specified in i), at a level which is at least 300 m (1000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft.'

and at paragraph (f) as follows:

'Except when necessary for take-off or landing, or except by permission from the competent authority, a VFR flight shall not be flown:

(1) over the congested areas of cities, towns or settlements or over an open-air assembly of persons at a height less than 300 m (1000 ft) above the highest obstacle within a radius of 600 m from the aircraft;

(2) elsewhere than as specified in (1), at a height less than 150 m (500 ft) above the ground or water, or 150 m (500 ft) above the highest obstacle within a radius of 150 m (500 ft) from the aircraft.'

(UK) SERA.5015 (Instrument Flight Rules) states at paragraph (b) as follows:

'Minimum levels

Except when necessary for take-off or landing, or except when specifically authorised by the competent authority, an IFR flight shall be flown at a level which is not below the minimum flight altitude established by the State whose territory is overflown, or, where no such minimum flight altitude has been established:

(1) over high terrain or in mountainous areas, at a level which is at least 600 m (2000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft;

(2) elsewhere than as specified in (1), at a level which is at least 300 m (1000 ft) above the highest obstacle located within 8 km of the estimated position of the aircraft.'

ORS4 No. 1496 ((UK) Standardised European Rules of the Air – Exceptions to the Minimum Height Requirements) dated 28th June 2021 states at section 8 as follows:

'Practising Approaches to Landing or Forced Landings and Notified Procedures (SERA.5005(c)(5), SERA.5005(f) & SERA.5015(b))

The CAA authorises and permits, under SERA.5005(c), SERA.5005(f) and SERA.5015(b), an aircraft to be flown below the minimum height requirements specified in SERA.5005 and SERA.5015 if it is flown in accordance with normal aviation practice and is:

a) practising approaches to land at or checking navigational aids or procedures at an aerodrome;

b) practising approaches to forced landings, other than at an aerodrome and elsewhere than over the congested areas of cities, towns or settlements or over an open-air assembly of persons, and it is not flown closer than 500 ft to any person, vessel, vehicle or structure; or

c) flying in accordance with a notified procedure.'

Summary

An Airprox was reported when a DJI M350 RTK and a PA28 flew into proximity at the former Boreham airfield at approximately 1219Z on Wednesday 30th April 2025. Both pilots were operating in VMC, the M350 pilot under VLOS and the PA28 pilot under VFR, listening out with Southend.

PART B: SUMMARY OF THE BOARD'S DISCUSSIONS

Information available consisted of reports from both pilots and radar photographs/video recordings. Relevant contributory factors mentioned during the Board's discussions are highlighted within the text in bold, with the numbers referring to the Contributory Factors table displayed in Part C.

The Board first discussed the degree of flight planning material available to the PA28 pilot. Although the NPAS helicopter base at Boreham was no longer in existence, a helicopter member advised that the site was used by HEMS aircraft on occasion and the Board noted that the site was also marked by an 'H' on the CAA VFR charts. However, the presence of the Essex Police drone training unit was not marked on aeronautical charts nor advised in aeronautical publications (**CF1**) and so the PA28 pilot had had no situational awareness of its potential activity (**CF2**). The Board was also advised that Boreham would not appear on drone planning tools such as Drone Assist because the Boreham site was not listed within the UK AIP. It was noted that, even if it had been, this would not have provided the PA28 pilot with additional situational awareness, other than to check the UK AIP. A GA member briefed the Board that, to their knowledge, 3 ATOs in the area had been aware of the drone training activity at Boreham and that 3 others had been made aware in the 3 weeks after the Airprox had occurred, but that no other ATOs were aware. In the event, the M350 pilot had been made aware of the approaching PA28 by their TAS (**CF4**) and had been concerned by its proximity (**CF3**) to the extent that they had discontinued their flight, as required by regulation. The PA28 pilot had not been aware of the drone operation and had not seen it (**CF5**) or any of the operators, but the M350 pilot had been concerned by the proximity of the PA28 (**CF6**) as it flew past. Members noted that the PA28 pilot had been entitled to make an approach to the surface at Boreham provided they had remained 500ft clear of any person, vessel, vehicle or structure. Without radar or GPS information, it had not been possible definitively to establish separation at CPA so risk assessment was a matter of opinion. Some members felt that the PA28 pilot and police drone pilot had both been operating normally and that normal parameters applied, Risk E, whilst the majority felt that the Airprox was better characterised as Risk C in that any risk of collision had been averted.

The Board discussed the lack of flight planning information for the PA28 pilot with regard to the drone training operation at Boreham and, more widely, to all pilots with regard to permanent or established drone training sites. After further deliberation, the Board resolved to recommend that, *'The CAA considers publishing a list of established drone training locations in the UK AIP.'*

PART C: ASSESSMENT OF CONTRIBUTORY FACTORS AND RISK

Contributory Factors:

	2025065			
CF	Factor	Description	ECCAIRS Amplification	UKAB Amplification
	Flight Elements			
	• Tactical Planning and Execution			
1	Organisational	• Flight Planning Information Sources	An event involving incorrect flight planning sources during the preparation for a flight.	Incomplete
	• Situational Awareness of the Conflicting Aircraft and Action			
2	Contextual	• Situational Awareness and Sensory Events	Events involving a flight crew's awareness and perception of situations	Pilot had no, late, inaccurate or only generic, Situational Awareness
3	Human Factors	• Unnecessary Action	Events involving flight crew performing an action that was not required	Pilot was concerned by the proximity of the other aircraft
	• Electronic Warning System Operation and Compliance			
4	Contextual	• Other warning system operation	An event involving a genuine warning from an airborne system other than TCAS.	
	• See and Avoid			
5	Human Factors	• Monitoring of Other Aircraft	Events involving flight crew not fully monitoring another aircraft	Non-sighting or effectively a non-sighting by one or both pilots

6	Human Factors	• Perception of Visual Information	Events involving flight crew incorrectly perceiving a situation visually and then taking the wrong course of action or path of movement	Pilot was concerned by the proximity of the other aircraft
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Degree of Risk: C.

Recommendation: The CAA considers publishing a list of established drone training locations in the UK AIP.

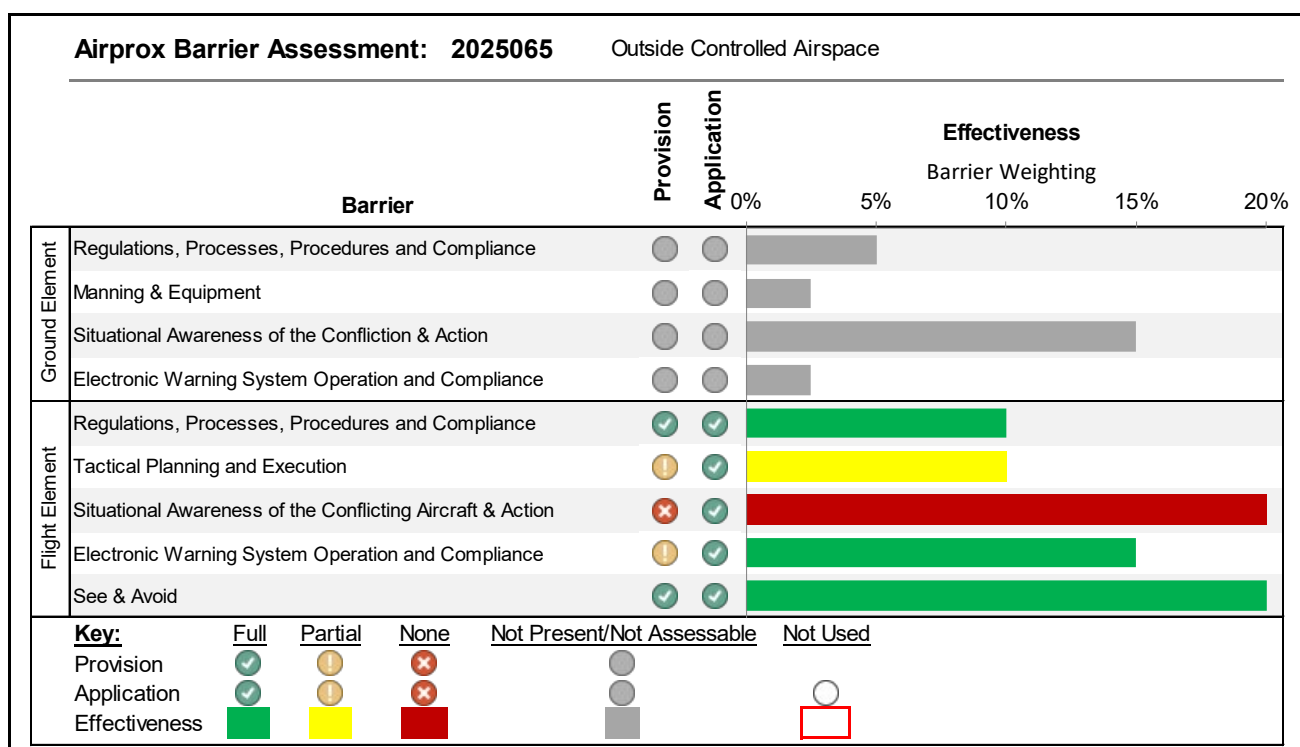
Safety Barrier Assessment⁴

In assessing the effectiveness of the safety barriers associated with this incident, the Board concluded that the key factors had been that:

Flight Elements:

Tactical Planning and Execution was assessed as **partially effective** because the PA28 pilot did not have access to information regarding the operation of the police M350 drone at Boreham.

Situational Awareness of the Conflicting Aircraft and Action were assessed as **ineffective** because the PA28 pilot had no situational awareness on the police M350 drone.



⁴ The UK Airprox Board scheme for assessing the Availability, Functionality and Effectiveness of safety barriers can be found on the [UKAB Website](#).