

# CAP 1732 CAST re-cap

2025

# About the workshop

- Held at Aviation House **15<sup>th</sup> January 2025**
- **Main stakeholders** (over 30 attendees):
  1. **Aerodrome Surveyors**
  2. **NATS – AIM:**
    - Data
    - Cartography
    - Publication
    - Compliance
  3. **CAA Teams:**
    - AIMR Policy
    - Aerodrome Policy
    - IFP/Airspace Regulation/AeroData



# Purpose of the workshop:

- To **discuss and gather feedback** on items that should be **updated and/or included** in a future edition of *CAP 1732 Aerodrome Survey Guidance*.
- We asked – You said – We did



# 1. Items requested to be modified and/or clarified in CAP 1732

## 1.1 *Regulatory Approvals Checklist Amendments*

1.2 *Survey file consistency: CSV vs. XLSX, column headings, and coordinate formats*

1.3 *Displaced Threshold vs **Starter Extension***

1.4 ***TLOF Zone** vs. **Helicopter Parking** Stands in AD 2.16*

1.5 *Touch Down Zone Elevation (**TDZE**) method of calculation*

1.6 *Standardise '**Versions**' of Surveys*

1.7 ***Observed** vs **reported** values – concept of retaining reported values when observed values are within a tolerance*

1.8 *Guidance to Surveyors for **Type A shadowing** in order for AIS to use the Type A dataset directly in production of the Type A chart.*

1.9 ***OFZ definition** and dimensions from survey reports*

1.10 *Review of requirements for **PATC** and their maintenance*

1.11 *Clarification regarding the needs and **timeframes** for re-surveys*

# Aerodrome Survey Regulatory Approvals Checklist

## AERODROME SURVEY REGULATORY APPROVALS

### Change History

Issue	Issue Date Month / Year	Review Date Month / Year	Changes in this issue (most recent first)	CP Reference	Process Owner	Process Expert
Issue 2.0	May 2024	May 2026	Was previously AIM-DATA-009-T Version 2.0 in AIM Quality Management System	CP-32062	Radka Ujkravcka	Jack Hampton

### 1.1 OVERVIEW FOR AUTHORISED SOURCES (AERODROME OPERATORS (AO))

This document is intended to provide support for Aerodrome Operators and their nominated sponsors/contracted organisation parties when acting as Authorised Sources (AO) and submitting an AIP survey dataset Change Request (ACR) on to the Aurora Portal.

Chapter 4 of the Aeronautical Data Quality – Guidance for the provision and maintenance of aeronautical data and aeronautical information in UK Aeronautical Information Products (CAP 1054) confirms the requirement for certain regulatory approval processes to be followed prior to submission of an ACR to NATS AIS:

*"It should be noted that aeronautical information may be subject to an approval process before it is submitted to the UK AISP (e.g. as part of an airspace change process - CAP 1616; or in the scope of the changes to a UK Certificated Aerodrome - SRG 2011); and/or may also be subject to an approval by the relevant party approving, verifying, regulating, or overseeing data item after it is submitted to the UK AISP (before it is published in AIS products)."*

Regulatory approval activities which occur post-ACR submission within the Aurora Portal are validation that the pre-approved aeronautical values have been presented correctly to NATS AIS for publication in AIS products, as agreed with the AO.

This document provides a checklist of CAA regulatory approvals for the aerodrome survey features which shall be obtained before submitting an ACR to NATS AIS. The settled output of this provides NATS AIS with a **publication ready** set of instructions on which (regulatory reviewed) survey updates should not be applied to AIS products, enabling the ACR to be processed in an adequate timely manner.

AOs should also review the other non-regulatory survey changes before the change request is submitted to conclude any internal change management processes / aeronautical data quality audits.

AO's must liaise with the CAA regulatory department to complete the checklist and provide it with the ACR submission on to the Aurora Portal (please attach this checklist as an individual document to the Change Request).

- > **CAA IFP regulatory email:** Your assigned IFP Regulator.
- > **CAA AD regulatory email:** Your assigned Aerodrome Inspector.

When an aeronautical feature changes it has potential to impact multiple products (AIP Sections/Charts) and whilst with CAA approval AIS can be requested to not update certain products it causes inconsistencies within the overall product set. These inconsistencies cause confusion with data houses/FMS providers/3rd party application developers and require future monitoring by the AO and the AIM regulator to ensure they are eventually addressed. Careful consideration should be taken regarding introduction of inconsistencies.

Any questions, please contact NATS at [ais-supervisor@nats.co.uk](mailto:ais-supervisor@nats.co.uk) using the subject title: **EGN AD Survey YYYY Regulatory Approvals**

## AERODROME SURVEY REGULATORY APPROVALS

**CHECKLIST**  
Aerodrome Heliport Name / ICAO:  
Survey Date:  
AD Type (IFP / Non-IFP):

The following aerodrome geospatial features shall require **IFP / AD Regulatory Approval** if revised. For **Non-IFP Aerodrome Heliports**, only CAA Dept 'AD' approval decisions are required.

Authorised Source				
Name:				
Contact Email:				
Survey Feature	Change (Y/N)	CAA Dept	CAA Approval Decision (Mark 'N' where AIP Product must not be updated) <i>Note (i) refers to AIP section row</i>	Other Information/Instruction and reason to delay publication or not update product
APP COORDINATES		IFP	AIP AD 2.2 (1) / AD 3.2 (1)	
			AIP CHART (AD)	
			AIP CHART (TYPE A)	
			AIP CHART (IAC)	
AD ELEVATION (AEP)		IFP	AIP AD 2.2 (3) / AD 3.2 (3)	
			AIP CHART (AD)	
			AIP CHART (TYPE A)	
			AIP CHART (IAC)	
RUNWAY / HELIPORT DIMENSIONS		AD	AIP AD 2.12 (3, 8, 9, 10) / AD 3.12 (2, 4, 8, 9)	
			AIP CHART (AD)	
			AIP CHART (TYPE A)	
			AIP CHART (IAC)	
THRESHOLD COORDINATES		IFP	AIP AD 2.12 (5) / AD 3.12 (6)	
			AIP CHART (AD)	
			AIP CHART (TYPE A)	
			AIP CHART (IAC)	
THRESHOLD ELEVATIONS		IFP	AIP AD 2.12 (6) / AD 3.12 (7)	
			AIP CHART (AD)	
			AIP CHART (TYPE A)	
			AIP CHART (IAC)	
		AD	AIP AD 2.13	

DECLARED DISTANCES (RWY)		AIP CHART (AD)	
		AIP CHART (TYPE A)	
		AIP CHART (IAC)	
DECLARED DISTANCES (HELIPORT)	AD	AIP TEXT AD 2.16 / AD 3.13	
		AIP CHART (AD)	
		AIP CHART (TYPE A)	
		AIP CHART (IAC)	
NAVAID COORDINATES	IFP	AIP AD 2.19 (5) / AD 3.18 (5)	
		AIP CHART (AD)	
		AIP CHART (TYPE A)	
		AIP CHART (IAC)	
OBSTACLE GEOMETRY*	IFP	AIP AD 2.10 / Obstacle Dataset(s)	
		AIP CHART (SID)	
		AIP CHART (STAR)	
		AIP CHART (IAC)	
*A review of all obstacles that could penetrate the IFP surfaces must be completed and notified to the IFP regulator for every survey in accordance with CAP 738 (Safeguarding of Aerodromes).			
Survey reviewed and all internal change management / data quality audits satisfied?			Y/N

**Please provide email correspondence of CAA decisions including CAA point of contact.**

- Guidance for the provision and maintenance of aeronautical data is provided in:
- > Aerodrome Information Management CAP 1054 (Annex A)
  - > Survey Guidance CAP 232
  - > Survey Guidance CAP 1732

# Survey file consistency: CSV vs. XLSX, column headings, and coordinate formats

Aerodrome Survey Guidance

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## Appendix 5 – Digital Data Specification

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**Data Delivery format**

The following fields describe the data format layout and should be used as a guideline to report data. Fields not applicable should be left blank.

Master files of all surveyed facilities and obstacles shall be created and supplied. Runway and declared distance files should be created and supplied.

**Files shall be in the form of a comma delimited ASCII text file containing all fields plus CRCV field as listed below.**

Special Notes:

- Enumerated values shall be strictly adhered to.
- Decimal places shall not be rounded and leading zeros for numerical values are not required.
- Characters are currently restricted to ISO 8859-17, no commas or backslashes are to be used within fields.
- All text other than TEXT REMARK shall be upper case.

All fields shall be populated with the exception of Field 3, Field 4 and Field 10, which must be blank if there is no identification, association or description (Duplicate data in a record is not acceptable).

**To be entered in field Description**

Field 1	SITE NAME	XXXX	ICAO Aerodrome Location Indicator.
Field 2	TYPE OF FEATURE	For allowable values refer to Table 1 below.	
Field 3	IDENTIFICATION	For required formatting refer to Table 1 below.	
Field 4	ASSOCIATION	For required formatting refer to Table 1 below.	
Field 5	LATITUDE	DDMMSS.ssssN/S	WGS-84 Latitude in DEG, MIN, SEC, 1/10000's SEC.
Field 6	LONGITUDE	DDMMSS.ssssE/W	WGS-84 Longitude in DEG, MIN, SEC, 1/10000's SEC.
Field 7	ELLIPSOIDAL HEIGHT (M)	000.00	Elevation in metres above WGS-84 ellipsoid to 2 decimal places.
Field 8	ELLIPSOIDAL HEIGHT (FT)	000.00	Elevation in feet above WGS-84 ellipsoid to 2 decimal places.
Field 9	LIT OR UNLIT	Y/N	Y To be entered if facility is lit. N To be entered if facility is unlit.
Field 10	LIGHTING DESCRIPTION	FLASHING WHITE	A textual description of the lighting used.
Field 11	MOBILE	Y/N	Y To be entered if the feature is mobile. N To be entered if the feature is not mobile.
Field 12	FRANGIBLE	Y/N	Y To be entered if the feature is frangible. N To be entered if the feature is not frangible.
Field 13	CONSTRUCTION STATUS	IN_CONSTRUCTION COMPLETED DEMOLITION_PLANNED IN_DEMOLITION	In Construction. Completed. Removal is planned. Work in progress to remove the item.
Field 17	VERTICAL REFERENCE SYSTEM	NEWLYN	Text description of the tide gauge used to determine MSL.

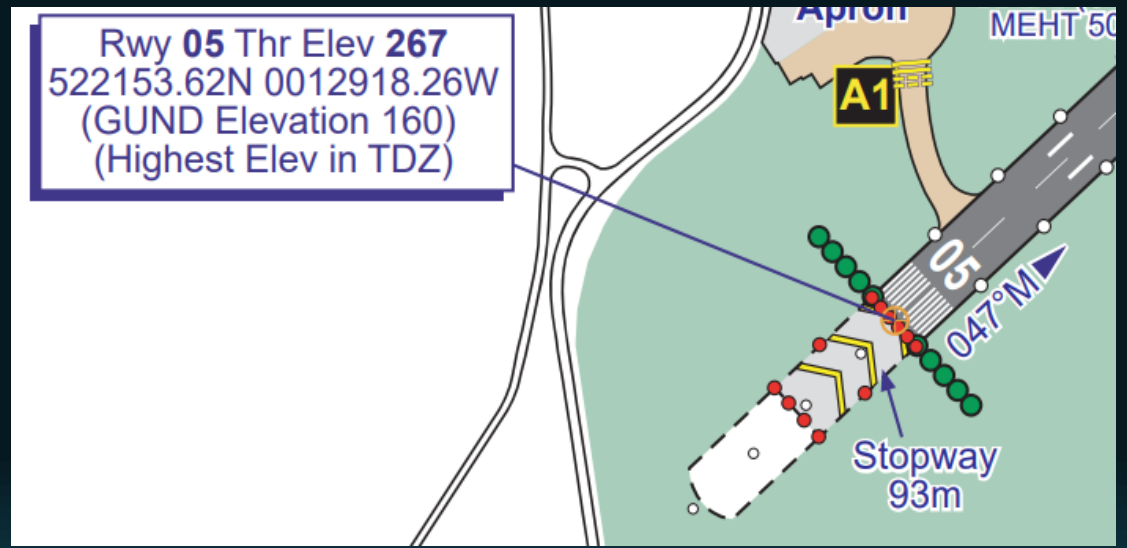
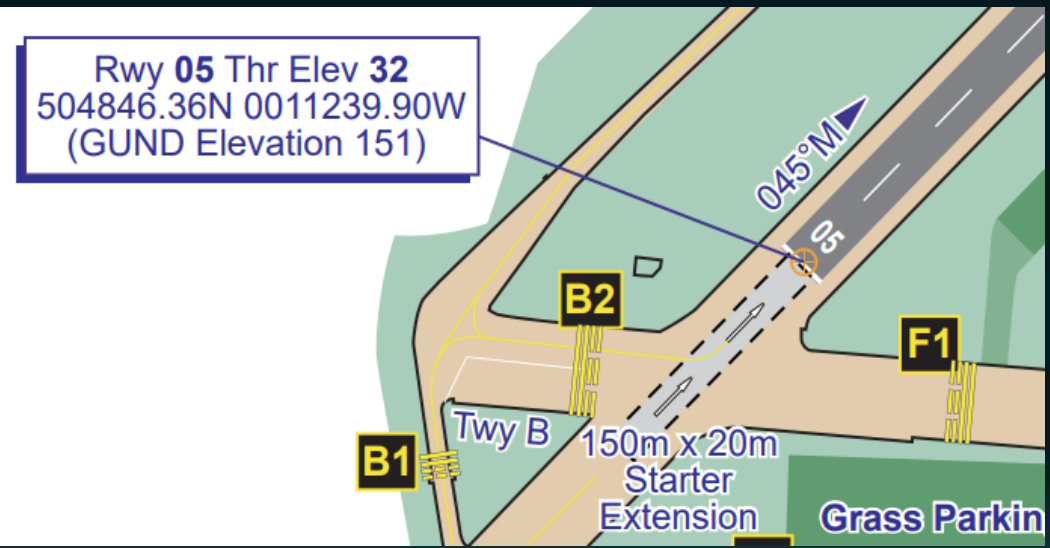
# Areas prior to the runway being included in runway dimension: Starter extension & yellow chevron area.

*Note: This is not a current issue. All prior cases have been resolved; however, it remains still as a potential to re-occur so this is just an awareness it has been a cause of high time consumption and to recommend further definitions where a quick reference can resolve.*

Case Study 1 - Starter Extension: Lee-On-Solent (EGHF) (AIRAC 11/22).

Case Study 2 - Yellow Chevron: Coventry (EGBE) (AIRAC 13/24)

There is a feeling that the airport sponsors sometimes try to influence the outcome for runway dimensions. There may even be grey areas where they have a good case. But when it comes to AIS cartography an illustration must have a very clear set of guidance where no conflict in specification occurs, and the plan aligns to the declared distance data. Generally, from CAA specification guidance, starter extensions are not part of the runway, due to having lesser width, and therefore not part of the dimension, we draw them differently to stand out this way. Yellow chevron areas are also not part of any manoeuvring area and are not part of the runway dimension.



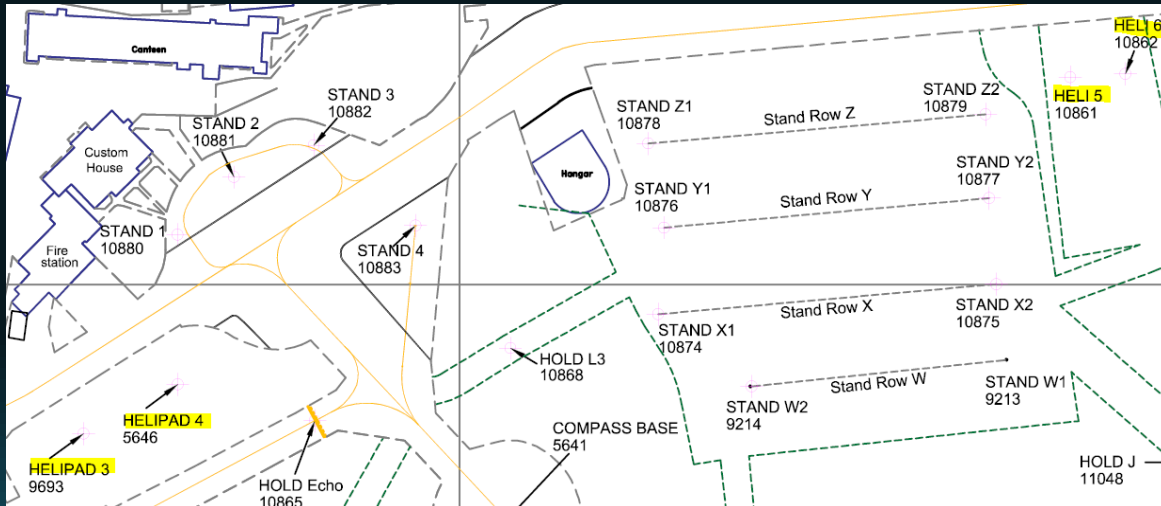
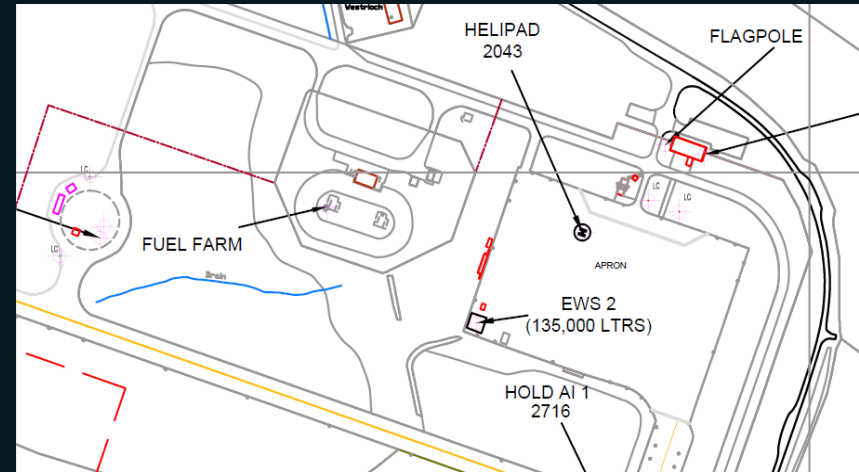
# TLOF Zone vs. Helicopter Parking Stands in AD 2.16

EGSC AD 2.16 HELICOPTER LANDING AREA

1	Coordinates TLOF or THR of FATO, geoid undulation	TLOF H3: 521231.43N 0001025.13E, 151.0 FT TLOF H4: 521231.95N 0001026.91E, 151.0 FT TLOF H5: 521235.13N 0001043.64E, 151.0 FT TLOF H6: 521235.15N 0001044.67E, 151.0 FT
2	TLOF and/or FATO elevation	TLOF H3: 48.9 FT TLOF H4: 48.0 FT TLOF H5: 44.8 FT TLOF H6: 44.8 FT
3	TLOF and FATO area dimensions, surface, strength, marking, lighting	TLOF H3: 19 M x 14 M  TLOF surface: Grass TLOF H4: 24 M x 15 M TLOF surface: Grass TLOF H5: 24 M x 15 M TLOF surface: Grass TLOF H6: 24 M x 15 M TLOF surface: Grass
4	True BRG of FATO	
5	Declared distance available	
6	APP and FATO lighting	
7	RMK	

EGEC AD 2.16 HELICOPTER LANDING AREA

1	Coordinates TLOF or THR of FATO, geoid undulation	TLOF: 552611.77N 0053948.08W, 182.2 FT
2	TLOF and/or FATO elevation	TLOF: 50.9 FT
3	TLOF and FATO area dimensions, surface, strength, marking, lighting	
4	True BRG of FATO	
5	Declared distance available	
6	APP and FATO lighting	
7	RMK	



Is there CAA minimum spec for a heli landing sites so AIS can identify an AD 2.16 facility?

Should heli landing sites be surveyed in higher detail as per runways?

>Markings (colour and line thickness) as per real world.

>Coordinates for TLOF centre, FATO thresholds, bearings, dimensions.

>Minimum lighting requirement?



# Observed vs reported values – concept of retaining reported values when observed values are within a tolerance

e.g. EGTU Dunkeswell 2024 Survey:

EGTU	THR		4	505124.0515N	0031421.5251W
EGTU	TORA_START		4	505124.0515N	0031421.5251W
EGTU	LDA_END		22	505124.0515N	0031421.5251W
EGTU	TORA_END		22	505124.0515N	0031421.5251W

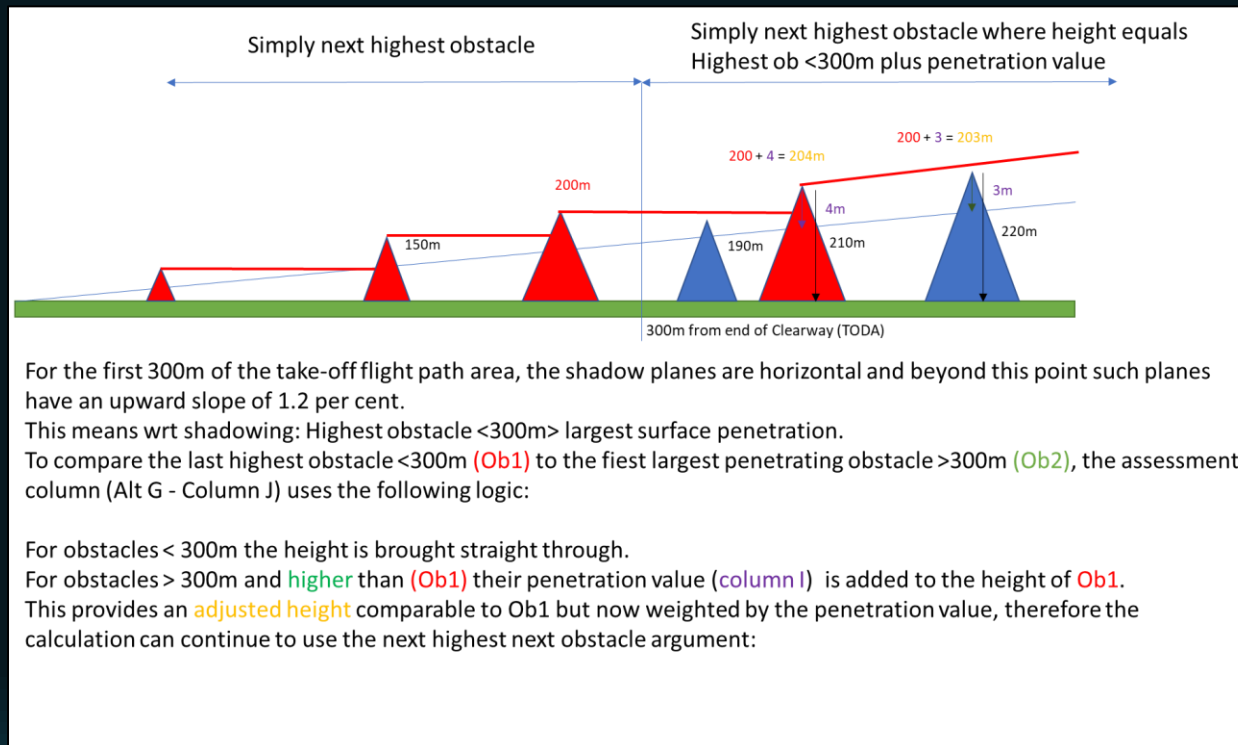
EGTU AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS						
Designations RWY Number	True bearing	Dimensions of RWY	Surface of RWY/ SWY/ Strength (PCN)	THR co-ordinates/ THR Geoid undulation	THR elevation/ Highest elevation of TDZ of precision APP RWY	Slope of RWY/ SWY
1	2	3	4	5	6	7
04	041.12°	967 x 45 M	RWY surface: Asphalt	505124.05N 0031421.53W 168.0 FT	THR 838.7 FT	
22	221.13°	967 x 45 M	RWY surface: Asphalt	505147.63N 0031349.00W 168.0 FT	THR 826.2 FT	

EGTU	ASDA		4	967.35
EGTU	LDA		4	967.35
EGTU	TODA		4	967.35
EGTU	TORA		4	967.35
EGTU	ASDA		22	967.35
EGTU	LDA		22	967.35

EGTU AD 2.13 DECLARED DISTANCES					
Runway designator	TORA	TODA	ASDA	LDA	Remarks
1	2	3	4	5	6
04	967 M	967 M	967 M	967 M	
22	967 M	967 M	967 M	967 M	

# Guidance to Surveyors for Type A obstacle penetrations in order for AIS to use the Type A dataset directly in production of the Type A chart

CAA instruction: I can confirm that the option “Apply Extent Values” should be implemented (without accuracy values).



# Obstacle Free Zone (OFZ) definitions and dimensions from Survey reports (slide 1 of 2)

OFZ Definition in CAP 168 Licensing of Aerodromes:

## The Obstacle Free Zone (OFZ)

4.44 An OFZ is intended to protect aeroplanes from fixed and mobile obstacles during Category I, II or III operations when approaches are continued below decision height and during any subsequent missed approach or balked landing with all engines operating normally. It is not intended to supplant the requirement of other surfaces or areas where these are more demanding.

Only mention of OFZ in CAP 1732:

### 2.7 OBSTACLE LIMITATION SURFACES

Every survey in the scope of this guidance should identify penetrations of the obstacle limitation surfaces listed below:

- Transitional Surface
- Take-Off Climb Surface
- Approach Surface
- Inner Horizontal Surface
- Conical Surface
- Outer Horizontal Surface
- Obstacle Free Zone Surface, comprising the inner approach, inner transitional and landing surfaces (precision approach only).

ICAO PANS-AIM Document 10066 - AD 2.12 requirement:

13) the existence of an obstacle-free zone; and

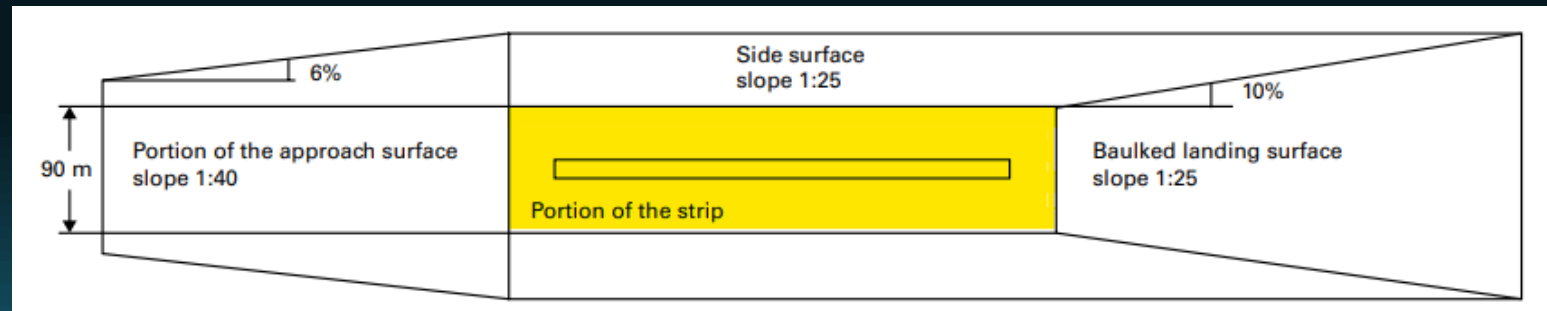
# Obstacle Free Zone (OFZ) definitions and dimensions from survey reports (slide 2 of 2)

SWY Dimensions	Clearway Dimensions	Strip Dimensions	RESA Dimensions, Overshoot / Undershoot	Location/ description of arresting system	OFZ	Remarks
8	9	10	11	12	13	14
180 x - M	250 x 150 M	- x 280 M	90 x - M 183 x - M		1860 x 120 M	RWY 05  Aiming point markings are 306 M from the threshold.
93 x - M	234 x 150 M	- x 280 M	90 x - M 231 x - M		1860 x 120 M	RWY 23  Threshold displaced by 209 M.  Aiming point markings are 306 M from the threshold.

SWY Dimensions	Clearway Dimensions	Strip Dimensions	RESA Dimensions, Overshoot / Undershoot	Location/ description of arresting system	OFZ	Remarks
8	9	10	11	12	13	14
	125 x 150 M	2932 x 280 M	90 x 92 M -			RWY 05  OFZ: Yes.
151 x 45 M	429 x 150 M	2932 x 280 M	240 x 92 M -			RWY 23  Threshold displaced by 304 M.  OFZ: Yes.

OFZ Baulked 09	
InnerEdge	120 (m)
Height	130.843 (m)
Rotation	0 °
Segments	Plane 0.5 DisplacementLeft: 0 ° DisplacementRight: 0 ° Divergence: 1 in 10 ( 10 %) Length: 1334.386 (m) Rotation: 0 ° Slope: 1 in 30 ( 3.33 %)
Distance	1800 (m)
SurfaceDirection	ApproachOpp3D
SurfaceOrigin	FromThresholdP
OFZ Side 09	
Height	130.843 (m)
Slope	1 in 3 ( 33.33 %)

OFZ Strip 09	
Distance	60 (m)
Length	1860 (m)
Width	140 (m)
OFZ Approach 09	
InnerEdge	140 (m)
Height	111.249 (m)
Rotation	0 °
Segments	Plane 0.5 DisplacementLeft: 0 °



# Review of requirements for PATC and maintenance of charts

## Current PATC status – AIS Review

Aerodrome	Chart Title		Date	Download
EGAA	Belfast/Aldergrove	Rwy 17	May 2001	<a href="#">Download</a>
EGAA	Belfast/Aldergrove	Rwy 25	May 2001	<a href="#">Download</a>
EGBB	Birmingham	Rwy 15	November 2016	<a href="#">Download</a>
EGBB	Birmingham	Rwy 33	November 2016	<a href="#">Download</a>
EGHH	Bournemouth	Rwy 26	March 2009	<a href="#">Download</a>
EGGD	Bristol	Rwy 27	March 2001	<a href="#">Download</a>

## CAP 232 (Chapter 10)

1). Purpose, 2). Survey Specification, 3). Survey Chart presentation, 4). Published chart, 5). Maintenance

## CAP 1732 (Chapter 2)

The aerodrome survey should cover all data items required by ICAO Annex 14 and 15 and EU 139/2014 as well as all the data items necessary to be included on the charts required by ICAO Annex 4 and relevant for that aerodrome;

Precision Approach Terrain Chart (for all precision approach runways II and III) or Aerodrome Terrain and Obstacle Chart (electronic).

## Proposal;

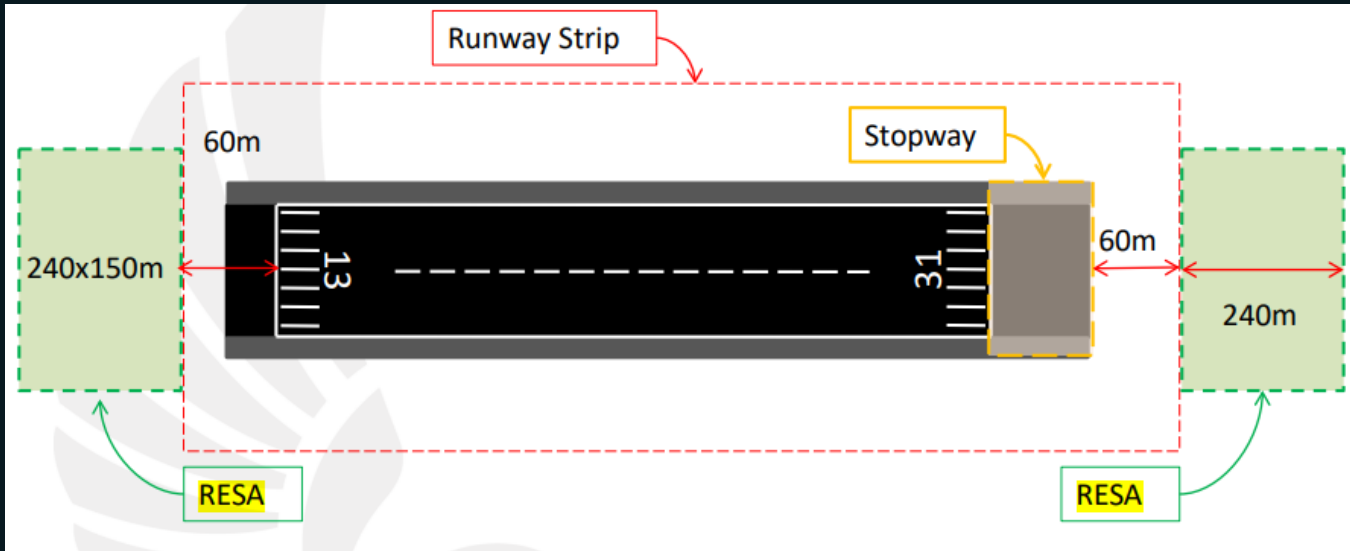
Reinstate requirements of CAP 232 Chapter 10 into CAP 1732

Reestablish maintenance, responsibilities and process for all stakeholders

Confirm existing requirement for PATC with sponsors

Instigate a full review of all existing Precision Approach Terrain Charts

# RESA Values to potentially be added into CAP 1732 Edition 2 as a requirement for surveyors



## Aerodrome Survey Guidance

**Table 3**

Field 2	Description
RWY_LEN	Runway length
RWY_WID	Runway width
STRIP_LEN	Strip length
STRIP_WID	Strip width
FATO_LEN	FATO area length
FATO_WID	FATO area width
SWY_LEN	Stopway length
SWY_WID	Stopway width
CWY_LEN	Clearway length
CWY_WID	Clearway width
LDA	Landing Distance Available
TORA	Take-Off Run Available
TODA	Take-Off Distance Available
ASDA	Accelerate-Stop Distance Available
DPLM	Threshold Displacement
TODAH	Take-Off Distance Available for helicopters
RTODAH	Rejected Take-Off Distance Available for Helicopters
LDAH	Landing Distance Available for Helicopters
OTHER	

SWY Dimensions	Clearway Dimensions	Strip Dimensions	RESA Dimensions, Overshoot / Undershoot	Location/ description of arresting system	OFZ	Remarks
8	9	10	11	12	13	14
		- x 62 M	90 x 40 M -			RWY 08  174 M paved area to the west of threshold 08 is not part of the licensed aerodrome.
		- x 62 M	90 x 40 M -			RWY 26  128 M paved area to the east of threshold 26 is not to be used for take off and landing.

# Reintroduction of the “Aerodrome Plan” requirement to provide AIS with geographical information which is not covered in the survey data types

CAP 232 (Chapters 3 & 5 highlight content associated)

Aerodrome Plan content, specification, documented change process, key and optional features for Inclusion

CAP 1732 (chapter 2.8; CONTENT OF THE SURVEY PACKAGE )

Aerodrome Plan in digital format (in Adobe PDF) and Aerodrome Facilities file with all facilities surveyed for the purposes of the Aerodrome Plan [PDF + Appendix 5 .crc file named egxx\_ad00.crc]

## Proposal:

Reinstate applicable specification, process and requirements outlined by Chapters 3 & 5 CAP 232 into CAP 1732

Adding further clarifications, specifications, requirements and process to help negate common areas of ambiguity, queries or missing information from Aerodrome Plans and Aerodrome Survey

Including: RWY lighting portrayed in true colour, Aerodrome boundary definition, AD plan content and labelling, change indicator

AIS to provide draft specification to stakeholders for review

# Coordinates systems / projections

## GEN 2 TABLES AND CODES

### GEN 2.1 MEASURING SYSTEM, AIRCRAFT MARKINGS, HOLIDAYS

#### 3 Horizontal Reference System

- 3.1 The geographical co-ordinates indicating Latitude and Longitude are expressed in terms of the World Geodetic System of 1984 (WGS84) geodetic reference datum.
- 3.2 Surveyed co-ordinates WGS84 are realised in the UK using the National GPS Network, a 3-D TRF (Terrestrial Reference Frame), using the ETRS89 (European Terrain Reference System 89) datum or by direct connection to the IGS system.

#### 4 Vertical Reference System

- 4.1 The Ordnance Datum Newlyn (ODN) can be considered the source of Mean Sea Level (MSL) in the UK.
- 4.2 OSGM15 is the National Geoid Model used in the UK for determining elevations Above Mean Sea Level (AMSL) datum.

Distances in Metres	
UKTM Projection	Airy Ellipsoid

#### 2.4 HORIZONTAL CONTROL

Co-ordinates will be required in WGS-84 format (required format for published data) and appropriate National Grid (for plotting and design on topographical charts).

Survey control points should conform to the ICAO DOC 9674-AN/946 (WGS-84 Manual).

WGS-84 geodetic control and format requires that the methods deployed must prove that the accuracy for the various surveys has been met. Data originators undertaking these surveys are responsible for the accuracy of the control data and any transformation sets used. An analysis of the accumulated

#### 2.5 VERTICAL CONTROL

Orthometric and ellipsoidal elevations are required.

The variable separation between the geoid and the reference ellipsoid may give rise to inaccuracies greater than the allowable specified. For the computation to transform ellipsoidal to orthometric elevations a geoid model should be used. If a geoid model is not available extra care must be taken to ensure good geometry of the initial control points. In all cases appropriate survey checks should be applied to prove the quality of vertical control. These checks should be included within the survey report.

Standard survey practice should be used to produce the elevation to the required specification accuracy and the integrity of the control points used needs to be proved.



# AD 2.10 Aerodrome Obstacles to Digital Dataset

## Aeronautical Datasets

### AIP Product Examples:

#### AD 2.10

- A general pointer to the Internet Briefing System as surveys are received and managed as datasets.

UNITED KINGDOM AIP		AD 2.EGLL-5 28 Nov 2024
2	Runway and taxiway markings and lighting	Runway marking aid(s): 09L/27R: Full ICAO runway designation, threshold, centre-line, aiming point and touchdown zone. Lead-offs from the runway are marked by a continuous yellow line from the centreline of the runway. 09R/27L: Full ICAO runway designation, threshold, centre-line, aiming point and touchdown zone. Lead-offs from the runway are marked by a continuous yellow line from the centreline of the runway.  Runway light(s): Threshold - HI green lights. Edge - HI white lights. Centreline - HI colour coded white/red lights. Touchdown zone - HI white lights. Stop end - HI red lights. Colour coded amber/green lights indicate the runway turn-offs routes to the CAT III stop bars.  Taxiway marking aid(s): Yellow centre-line.
3	Stop bars and runway guard lights (if any)	Illuminated red stop bars are provided where appropriate.
4	Other runway protection measures	
5	Remarks	Tug Crews, when towing aircraft under the guidance of a marshaller, must not park on stand unless guided to do so by the use of daylight-fluorescent wands, marshalling bats, marshalling gloves. Illuminated wands shall be used at night or in low visibility. LGTD WDI are located at the following positions: 512749.74N 0002838.40W, 512750.27N 0002631.90W, 512843.08N 0002622.52W & 512835.38N 0002848.27W.

**EGLL AD 2.10 AERODROME OBSTACLES**

Obstacle data AVBL at <http://www.nats.aero/ais/datasets>

**EGLL AD 2.11 METEOROLOGICAL INFORMATION PROVIDED**

1	Associated MET Office	MET OFFICE EXETER
2	Hours of service MET Office outside hour	H24
3	Office responsible for TAF preparation Periods of validity	MET OFFICE HEATHROW 30 Hours
4	Trend forecast Interval of issuance	TREND. 30 Minutes.
5	Briefing/consultation provided	Self briefing/telephone.

CIVIL AVIATION AUTHORITY AMDT 12/2024

# DD coordinates in the AD facilities spreadsheet.

CAA template: current edition, to correct the field gap errors to a continuous 1 to 26 as per consultation revisions.

Note to surveyors that the column titles should be included, this standardises the data entry to start on row 19 and helps identify what each column is to an observer opening the file. To be specified in CAP 1732.

Proposal:

Once above template fixed, to add new column Fields 7 & 8 for "DD\_LAT" & "DD\_LONG" and re-sequence all subsequent fields as 9 to 28.

Entry of decimal degrees (DD) to be of the same accuracy as the existing DMS. ADQ of suitable accuracy for direct equivalent SDO import.

Currently DMS (4dp seconds), OSGB (2dp meters), equivalent in DD would be 7dp? To be specified in CAP 1732 by CAA and survey experts.

1	DataOriginator:STEPHEN CARD								
2	DataOriginatorCompany:SLC GEOMATIC SOLUTIONS								
3	DataOriginatorPhone:01296717500								
4	DataOriginatorAddressNumber:BUILDING 407								
5	DataOriginatorAddressStreet:WESTCOTT VENTURE PARK								
6	DataOriginatorAddressCity:AYLESBURY								
7	DataOriginatorAddressCountry:UNITED KINGDOM								
8	DataOriginatorAddressPostalCode:HP180XB								
9	DataOriginatorElectronicMailAddress:survey@etod.aero								
10	AerodromIdent:EGNX								
11	SurveyCAP1732Compliant:YES								
12	SurveyRevision:-								
13	SurveyProcessDate:07/05/2024								
14	FileCreator:JACOB DRURY								
15	EarthReferenceModel:ETRS89								
16	CoordinateSystem:UKTM/OSGB36								
17	ConfidenceLevel:95								
18	<b>SITE NAME</b>	<b>TYPE OF FEATURE</b>	<b>IDENTIFICATION</b>	<b>ASSOCIATION</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>	<b>DD_LAT</b>	<b>DD_LONG</b>	<b>ELLIPSOIDAL HEIGHT (M)</b>
19	EGNX	PAPI			9 524952.8035N	0012030.4523W			142.54
20	EGNX	PAPI			9 524952.5118N	0012030.4375W			142.53
21	EGNX	PAPI			9 524952.2188N	0012030.4227W			142.54

# Guard Lights & Stop Bars in the AD facilities spreadsheet.

Holds listed in the AD facilities spreadsheet should help AIS determine lighting configuration by utilising the "LIT OR UNLIT" column.

If lit then the "LIGHTING DESCRIPTION" column can leave a remark of "GL" or "SB" or "GL & SB", for guard lights (GL) & stop bars (SB).

Example Cardiff AD.CSV and AD 2.9:

EGFF	OTHER	FM		512407	003213	115	378	N	
EGFF	HOLD	B1	BRAVO	512404.62	0032116.7	112.35	368.6	N	
EGFF	HOLD	B2	BRAVO	512402.55	0032101.7	114.5	375.65	N	
EGFF	HOLD	G	GOLF	512348.62	0032054.5	117.68	386.08	N	
EGFF	HOLD	F	FOXTROT	512401.37	0032052.5	116.25	381.4	N	
EGFF	HOLD	E1	ECHO	512356.67	0032048.0	117.29	384.8	N	
EGFF	HOLD	E2	ECHO	512400.33	0032045.1	117.31	384.87	N	
EGFF	HOLD	B3	BRAVO	512356.40	0032042.2	117.31	384.89	N	
EGFF	HOLD	H	HOTEL	512343.50	0032036.9	118.93	390.2	N	
EGFF	HOLD	A3	ALPHA	512352.58	0032030.1	116.39	381.87	N	
EGFF	HOLD	D	DELTA	512346.33	0032019.0	115.75	379.77	N	
EGFF	HOLD	A2	ALFA	512340.09	0031951.0	115.25	378.13	N	
EGFF	HOLD	C	CHARLIE	512336.30	0031950.7	115.4	378.62	N	
EGFF	HOLD	A1	ALPHA	512333.10	0031940.6	114.45	375.51	N	

AIS can only publish lighting updates by periodic, time consuming (and sometimes by chance) comms with airport sponsors, who themselves don't always have facts to hand.

AIS feel, the AD facilities spreadsheet can accommodate this gap in understanding. We accept the piggy backing of the painted marker mid-point coordinate doesn't give a precise lighting position (i.e guard lights to side, stop bar prior) but with the hold lighting not being published to any level of accuracy apart from association with a hold, it provides a suitable way of systematic capture. This can be specified in CAP 1732.

## EGFF AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Stands 1-9 and 11-17 parking with marshaller guidance. Stand 10 parking with Safedock 2-18 system. Stands 7 and 9 fitted with driveable type airbridges.
2	Runway and taxiway markings and lighting	Runway marking aid(s): 12/30: Runway designation, runway threshold. Runway centre-line, fixed distance marking. Touchdown zone markings Runway 30. Runway guard lights are positioned at Holding Points A1, C, D, E1, B1, G and H. These are illuminated when necessary by ATC.  Taxiway light(s): Centre-line (green) on taxiway serving 12/30, blue edge lights/markers at junctions.
3	Stop bars and runway guard lights (if any)	Red stop bars in use H24. Enhanced taxiway markings associated with all red stop bars. Red stop bars and signs showing holding point numbers at all holding points. Holding points A1 and B1 have no red stop bar and should not be used.

## 2 Items requested to be added to CAP 1732

*2.1 **RESA Values** to potentially be added to CAP 1732 Edition 2 as a requirement for surveyors*

*2.2 Reintroduction of the “**Aerodrome Plan**” requirement to provision AIS with geographical information which is not covered in the survey data types.*

*2.3 **Additional columns** in the CAP 1732 data format*



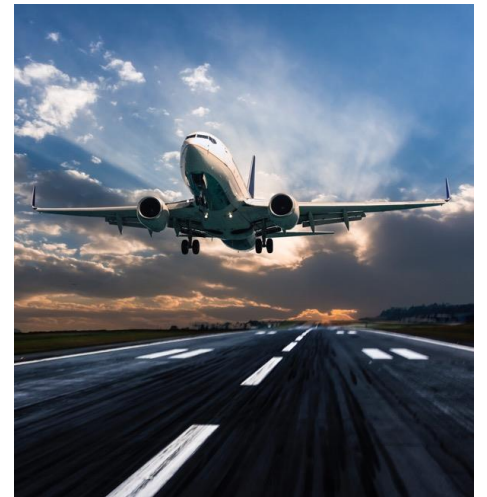
## **3 Items known to require further information from stakeholders before being included and/or amended in CAP 1732**

*3.1 Survey requirements for AMDB*

*3.2 TOD requirements for heliports and vertiports*

*3.3 CAP 1732 vs Annex XIV*

*3.4 Coordinates systems / projections*



## 4 General topics related to aerodrome surveys

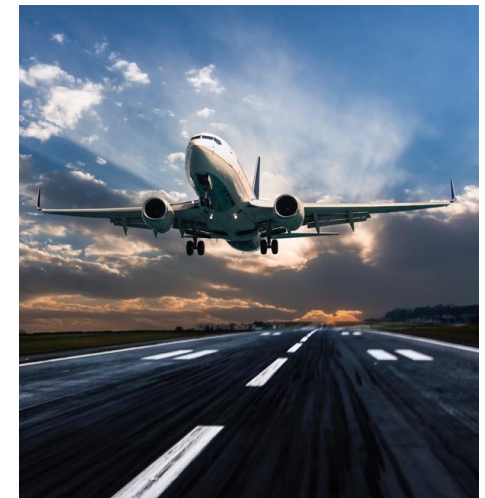
### 4.1 AD 2.10 Aerodrome Obstacles to **Digital Dataset**



## 5 AoB / Items raised during the workshop

- Raised by Surveyors:

- 5.1 Clarification on **VFR obstacles** which that fall within an airfield's **area 2**.  
*ie. can we use the national dataset points if we find it meets the accuracy we need.  
And if so, do we use its UK number in description.*
- 5.2 Explicit **wording** for the formation of the AD 2.10 obstacles list
- 5.3 Terrain 5 & 50 zonal suitability
- 5.4 **OLS minima** for safeguarding
- 5.5 Cartographic specification for **aerodrome plan**
- 5.6 Better outputs for **terrain reporting** to identify issues
- 5.7 **RICS certification** to act as a data originator



## 6 For information:

Items that will be considered for the future version of CAP 1732 but that will not be tabled for discussion at the workshop unless specifically requested

6.1 Update **legal references** to reflect UK regulations

6.2 Amend feature type in Field 2 from **LLZ** to **LOC**

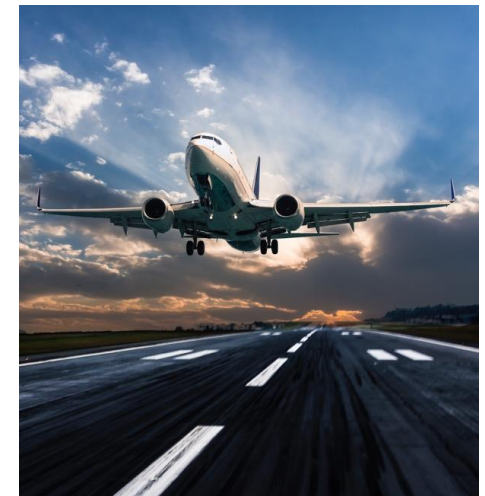
6.3 Review of items in the **Consolidated Response Document** that were not incorporated into edition 1 of CAP 1732

6.4 **AIXM associations** for obstacles other than Areas 1 to 4

6.5 Impact of **AIXM 5.2**

6.6 Availability of **Terrain Files**

6.7 Definition of **Aerodrome boundary** as captured by surveyors, that defines the green shaded extents on Charts 2-1





## NEXT STEPS:

- Feedback consolidation
- Further consultation and engagement along the introduction of amendments draft
- Contact AIMR or **Rachel Carson** (in charge of the CAP updates)

## USEFUL LINKS:

### **CAP 1732**

[CAP1732: Aerodrome Survey Guidance | Civil Aviation Authority](#)

### **AIP**

[NATS UK | AIP](#)

### **AIMR**

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- [rachel.carson@caa.co.uk](mailto:rachel.carson@caa.co.uk)

