

# SKYLENS

## Client Operational Information Pack

Job reference:

SL24-0001

Accountable manager: Stephen Preston

Created: 07/04/2024 11:53

For: Imbert May

By: SKYLENS Ltd



# 1 Service delivery information

## 1.1 Job details

Reference:	Planned dates:
Whitestone Barn, EX4 2HD, (SP)	14/03/2024 09:00 to 14/03/2024 15:00
Job class:	Job type:
Simple	Building/roof inspection
Description:	Notes:
Produce a 2D orthoimage mosaic and 3D model for building and roof inspection of barns north of main farm at EX4 2HD.	N/A
Parent Project:	Project dates:
Whitestone Barn, Exeter, EX4 2HD	14/03/2024 to 14/03/2024

## 1.2 Client details

Client name:	Address:	
Imbert May	Exeter EX4 2HD	
Client contact name:	Email:	Phone:
N/A	N/A	N/A

## 1.3 Job location

Reference:	Address:
EX4 2HD	Whitestone EX4 2JH
Coordinates:	what3words address:
Lat, Lng (dec.):	///comic.sang.punks
Lat, Lng:	N50°43'30.302"
BNG:	W3°34'37.992" 288770,
Grid ref.:	92904 SX886929
	Elevation (ft. AMSL): 236

## 1.4 Personnel details

Remote pilot name:	Email:	Phone:
Steve Preston	sp991@exeter.ac.uk	N/A
Additional team members:		
Jenny Eyre (Pilot)		

## 1.5 Drone details

Primary drone:	Make and model:	Identifier:
MavicAir_1	DJI Mavic Air	GBR-OP-TLGCBFZGVHNN
Specification:		
Weight: 430 g		
Diagonal size:	249 mm	
Max wind resistance:	10 m/s	
Max flight radius:	24 km	
Max kinetic energy:	0.510 kJ	
Secondary drone:	Make and model:	Identifier:
mAVICaIR_2	DJI Mavic Air	GBR-OP-TLGCBFZGVHNN
Specification:		
Weight: 430 g		
Diagonal size:	249 mm	
Max wind resistance:	10 m/s	
Max flight radius:	24 km	
Max kinetic energy:	0.510 kJ	

## 1.6 Method statement

### 1 Task Description

Involved Personnel			On Site contact					
Name	Role	Name	Imbert May					
Stephen Preston	Pilot	Contact	TBD					
Jenny Eyre	Pilot							
Imbert May	Client							
Description of Task			On site sequence of Operation					
2D Orthomosaic and 3D-model unused barn.			Initial client contact Pre-flight survey and safety brief Operational flight Additional image capture Data download Exit client contact					
Specific Staff Training or Qualifications for task								
A2CofC and GVC UAS licences. First Aider Qualification								
Is SKYLENS allowed to use the gather imagery and footage for public communications?					Yes			
Is SKYLENS allowed to disclose the client's name for public communications?					No			
Elements that cause hazards to UAS								
Moisture or presence of water	Explosives	High Wind (above 10m/s)	Confined spaces	Elements that may enter the radius of the propellers (twigs, rods, debris)	Other			
Yes	No	No	NO	Surrounding Trees	N/A			
UAS Recovery after Incident								
In case of incident, can the UAS be recovered?					Yes			
If left in place, can it damage the asset?					N/o			
Hazardous Substances								
Toxic	Harmful or irritant	Corrosive	Biohazard	Oxidising	Highly Flammable			
No	No	No	No	No	No			
Required Personal Protection Equipment								
Safety Boots	Safety Gloves	High Visibility	Hard Hat	Eye Protection	Ear Protection			
Yes	No	Yes	No	Yes	No			
Identified Residual Risks			First Aid Facilities					
All operational areas will be designated as no go zone for all personnel not involved in the operations.			Designated minor first aid officer		Jenny Eyre			
			First Aid box location		Onsite vehicle			
			Nearest hospital location		Heavitree, Exeter Details in client pack-up			
Key Tools and Equipment			Other Essential Equipment					
2 x Mavic Air UAS Launch Pad First Aid Box Spare flight batteries Portable hard-drive			N/A.					
Comments								
N/A.								

## 2 Scope of Work

### **Initial site survey (remote)**

- Google Earth Pro assessment
  - o Local topography assessment
  - o Land-use and operational restrictions assessment
  - o Local hazard and NOTAMs identification
  - o Launch site assessment
  - o Operational parameters, area and KLM generation

### **Mission Planning – DroneLink**

- o 2D ortho-mosaic flight plan – Lawnmower
  - Ground sampling distance
  - Image overlap
- o 3D model flight plan – Façade
  - Gimble pitch
  - Orbit parameters
- o Planned additional photography.
- o Control point assessment

### **On-site survey and operation**

- Confirmation of initial planning
- Adjustments to flight plan
- Ground Control Points (GCP)
- Pre-flight checks
- Image acquisition
  - o Execute 2D flight plan
  - o Execute 3D orbits
  - o Collect additional ground imagery
- Post flight checks
- Download imagery to portable hard-drive

### **Photogrammetry processing**

- Imagery upload
- GCP and associated elevation data upload
- Processing settings confirmation
- Export 2D and 3D imagery

### 3 Operational Detail

0900

- Arrive on site and Client Engagement
- Discuss outline and expected outcomes with client. Ensure client is content with expected outcome and discuss any questions, issues or local hazards.

0915

- Site plan confirmation and flight plan adjustments
- Walk operational area and ensure flightpath clear of obstructions

0945

- Pre-flight checks
- Final site clearance and Go/NoGo declaration

1000

- Initiate flightpath execution and imagery acquisition
- Safely land UAS and power down

1015

- Visual check imagery is sufficient and suitable for processing
- Capture additional imagery or manual images if required

1030

- Post-flight checks
- Site pack-up

1045

- Download imagery to portable hard-drive / Cloud

1100

- Client engagement and product discussion. Explain any expected issues relevant to the final product outcomes to the client prior to leaving site

1130

- Egress site

## 4 Operational Risk Assessment

Tasks	Hazard		Initial Risk Score			Mitigation	Residual Risk Score		
	Description	Effect	Likelihood	Severity	Score		Likelihood	Severity	Score
<b>1 – Personnel Safety</b>									
	Uneven surfaces leading to slips, trips and falls.	Personal injury.	2	2	4	Initial site survey, site brief and appropriate footwear required.	2	2	4
	RTA	Road traffic accident on ingress or egress to client site	1	4	4	No personnel without a valid driver's license will be able to operate company vehicles.	1	3	3
	Hazardous substances on site leading to contact with attending personnel	Personal injury.	1	3	3	Initial survey to assess impact to operations, site brief and if required request client removal.	1	3	3
<b>2 – Flight Operations - Poor Piloting &amp; Professional Operations</b>									
	Lack of correct licences and pilot experience leading to loss of control or collision of UAS.	Danger to involved persons and equipment.	2	1	2	Minimum licence and experience criteria set for operational pilots.	1	1	1
<b>3 – Flight Operations - Wind Speeds</b>									
	High windspeeds in operational area causing loss of control of UAS.	Danger to involved persons and equipment.	3	3	6	Limitations on flight operations in high winds in line with UAS specifications.	1	3	3
<b>4 – Flight Operations - VLOS Operations (Visual Line of Sight)</b>									
	UAS operations beyond VLOS result in loss of drone or loss of orientation leading to UAS loss or damage.	Danger in personnel within UAS flight proximity, potential loss or damage to UAS.	1	3	3	Operations restricted to VLOS, or where beyond VLOS required multiple pilots and spotters are directed.	1	3	3
<b>5 – Flight Operations - Low or Excessively High Ambient Temperature</b>									
	Operating UAS in temperatures exceeding operational specifications leading to UAS damage	Loss of control or operation leading to damage to UAS	1	2	2	Operations will not take place when conditions are outside the operating specifications of UAS.	1	1	1
<b>6 – Flight Operations - Outdoor Moisture</b>									
	Operating non-IP67 UAS in damp and moist conditions	Loss of control or operation leading to damage to UAS	2	2	4	Operations will not take place when conditions are outside the operating specifications of UAS.	1	2	2
<b>7 – Flight Operations - Lost Link Between UAS and GCS</b>									
	Loss of link between pilot controls and UAS leads to drone runaway.	Runaway UAS injuries personnel or impacts with building or other air system	1	4	4	Correct pilot training and actions on planning, coupled with scheduled maintenance and use of only manufacturer parts will help avoid this scenario.	1	2	2
<b>8 – Flight Operations - Use of a Depleted or Flat Battery in the UAS</b>									
	UAS operating on depleted batteries significantly reduce operational flight time.	Reduced battery life leads to premature return to home and unsuccessful mission outcomes	1	2	2	Part of operational pre-flight checks is to check battery life prior to arrival at operational site.	1	1	1
<b>9 – Handling and Charging Lithium Polymer batteries</b>									
	Issues with overheating or faulty batteries during charging and handling.	Faulty lithium batteries have been known to overheat and catch fire or explode in extreme circumstances causing bodily harm to personnel and potential fire hazards to infrastructure.	1	4	4	All batteries in operation are to be manufacturer authorised only. Charging should never be carried out without supervision and the correct storage and charging pouches should be used at all times.	1	2	2
<b>10 – Flight Operations - Flying in Confined Space</b>									
	Potential collision issues with flying in confined spaces.	Collisions could lead to damage to UAS.	1	3	3	All confined space flying should only be carried out by qualified, experienced and practiced pilots and only when necessary.	1	3	3
<b>II – Localise Gathered Images</b>									
	Personal imagery infringement	Imagery capturing uninvolved personnel that have given explicit permission for imagery use rendering imagery ethically unusable	2	1	2	All personnel at client site will be asked to sign an image release form. For any images not captured by			

Severity	Likelihood of Occurrence				
	Unlikely	Seldom	Occasional	Likely	Definite
Slight Damage	1	2	3	4	5
Minor Damage	2	4	6	8	10
Moderate Damage	3	6	9	12	15
Major Damage	4	8	12	16	20
Massive Damage	5	10	15	20	25

### Guide to Matrix

Job steps	Separate the job into individual tasks and record in sequence
Hazard -Description	Describe all hazards identified (please note: additional hazards may be caused by interaction with other work)
Hazard - Effect	Describe hazard effect for each task based on observation and experience
Initial Risk - Severity	From matrix, identify severity with no controls in place for each hazard
Initial Risk - Likelihood	From matrix, identify likelihood of occurrence with no controls in place for each hazard
Initial Risk - Score	Classify risk rating from matrix for each hazard
Mitigation	List of all controls required
Residual Risk - Severity	Use initial hazard severity to determine residual risk
Residual Risk - Likelihood	From matrix, identify likelihood of occurrence with controls in place for each hazard
Residual Risk - Score	Classify risk rating with control from matrix for each hazard

## 1.7 Operational notes

### Site

The operational site consists of a plot approximately 50m by 35m in size on an isolated section of the farm. The site itself sits on the rise of a shallow hill with the operational area is based on a level plain.

Central to the site is a medium size dual barn containing various items of farming equipment which is the photogrammetric target for the mission. The barn is approximately 35m x 25m in size and approximately 7m in height at its highest point. These heights have been detailed on the image below.

The barn is surrounded by trees and foliage on two sides, making photographing the North and East sides of the building problematic. There is a short path that runs the length of the north side of the barn approximately 4-6m wide which could be utilised for manual photographs should they be required and also enables access to the field to the East should further images need to be captured from the East.

### Hazards

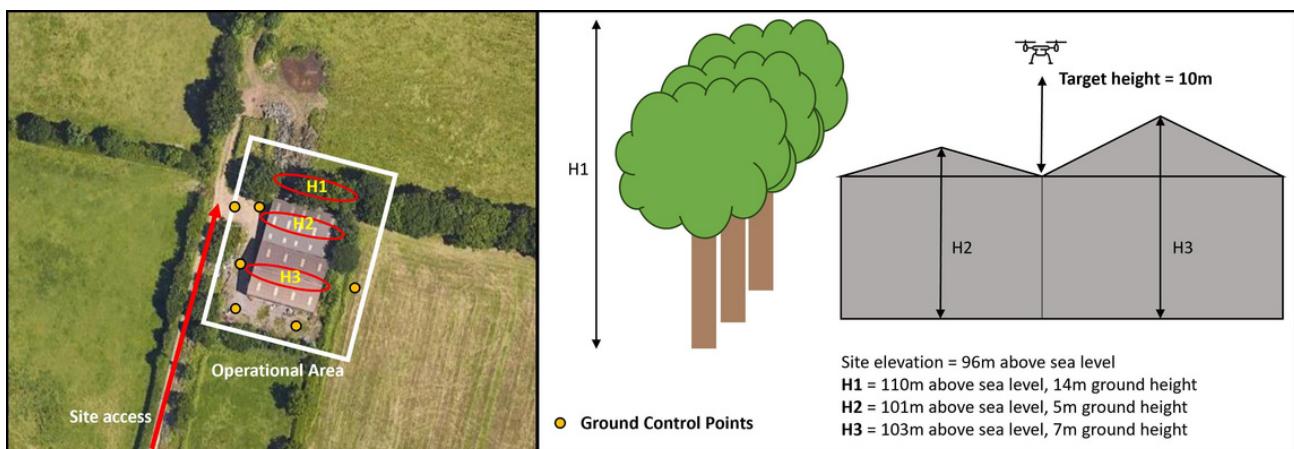
The site is remote and unlikely to encounter any uninvolved persons, however there are a number of livestock holdings surrounding the site. Agreement with the client that should any animals come in to close proximity, flying should be paused as not to disturb them. Due to the size of the livestock holdings, this is unlikely to cause an issue.

There are various retired farm equipment items across the site, but are restricted to the outer limits of the plots and should not cause any access or injury concerns. There is also an number of in use farm assets inside the barn, but should pose no issue.

The site itself is based on hard standing and the area is firm and safe to walk and drive on. Access to the site is via a dirt track, however this is well maintained and will not provide any ingress or egress issues.

### Accommodation

The client has unlocked the barn to provide cover in inclement weather conditions however there are no ablutions in the immediate facility. The client has provided ablutions a short walk back down the access road which can be utilised throughout the visit. The client has requested to be contact prior to us leaving the site in order to secure the barn.



## 1.8 Signoff

### Signoff notes:

SKYLENS planning and development have inspected this mission packed and have concluded that all elements of mission planning that have been detailed are deemed to be within operational tolerances and constraints of SKYLENS Ltd.

Client Name	Mr Imbert May	Start Date	14/03/24
Project Reference	SL24-0001	End Date	14/03/24
Project description	EX42HD-Barn Image	Site location	EX4 2HD

Skylens Lead	Stephen Preston	Client	Mr Imbert May
Position	CEO	Position	Owner
Signature		Signature	

## 2 Pre-deployment

### 2.1 Initial survey

<b>Ground hazards:</b>	<b>Terrain:</b>
The operation site is relatively remote and provides only minimal local hazards: <ul style="list-style-type: none"><li>- Main A Road located 0.56 Km South of site.</li><li>- Powerlines located 150m East of site.</li><li>- Working Livery located 350m South of site.</li><li>- Scrap metal and loose agricultural debris at various locations across site.</li></ul>	The operational area is generally remote and rural in nature with the majority of the area being agricultural in nature.  Site sits at 96m above sea level on a slightly raised ridge in the immediate area. Minimal undulation East and West, but elevation drops to 65m at 250m to the North and drops to 69m at 250m to the South
<b>Site access:</b>	<b>Restrictions:</b>
Site access is achieved using a light track situated at the rear (North) quarter of the farmstead. The track appears to be solid in nature and should not provide any issues for ingress or egress for both vehicles or on foot in all weathers.	There are no restrictions in the area that will affect the mission in the vicinity of the operational site.
<b>Sensitivities:</b>	<b>Permissions:</b>
The site is located within 350m of a working livery which contains farm based livestock. Care should be taken to reframe from flying whilst livestock are within close proximity.  A camping retreat is located 400m to the North-West, Any digital imagery that captures this area should be scrutinised prior to public release individuals that have not been approached for photo release or any images that show any activities of a sensitive nature.	Permission has been granted by the land-owner for ingress and egress to the site via the farmstead to the South. Contact details for the owner are available in the client information as part of this document. No further permissions are required from local authorities for this mission.
<b>People:</b>	<b>Vehicles:</b>
All personnel within the confides of the operational site will classified as involved people. Operators will be situated on the access track North and South of the site during flight operations to prevent overflying any non-involved personnel.	Parking has been permitted on site by the land-owner, with vehicles to be parked at the main farmstead. Ingress to the site will be on foot.
<b>Buildings:</b>	<b>Livestock:</b>
There are no buildings or built up areas within the vicinity of the operational site other than the barns being captured.	The site is located in the middle of a working farm, with an active livery situated 350m to the South. The surrounding field are likely to be populated by livestock. At request of the land-owner, operations should cease in the immediate vicinity of horses in order not to startle them. No further restrictions were placed on other types of livestock, however caution should be taken to follow a similar guidance for all mammalian species in close proximity.

**Environmental considerations:****Other notes:**

Due to the remote location, it is unlikely that noise will be factor. However should any complaints be received during the mission. Operations will be ceased and the land-owner will be contracted to provide oversight.

Nil.

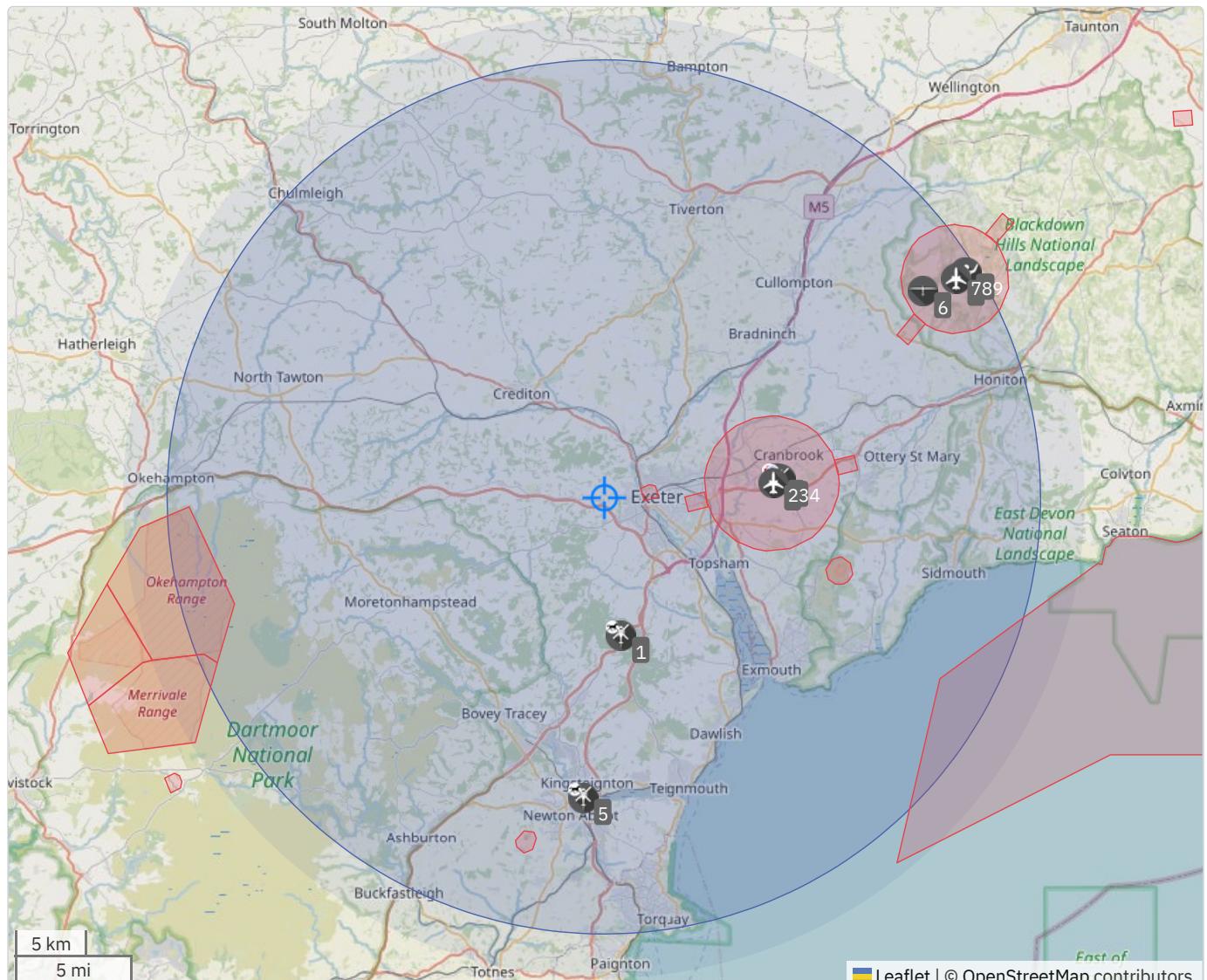
**Airspace classification:**

G

## 2.2 Notifications

Establishment	Name	Email	Phone	Ref.	Notified
Land-owner	Imbert May	D.T.Mansell@exeter.ac.uk	07968554230	001	13/03/2024

## 2.3 Airspace users



Key 1

Name Exeter Racecourse  
Addnl. N/A.  
Heading S  
Dist. 9.5km  
Phone 01392 832599

Key 2

Name Exeter Airport  
Addnl. ICAO:EGTU, [ext.dispatch@exeter-airport.co.uk](mailto:ext.dispatch@exeter-airport.co.uk), [jetcentre@xlrexeter.com](mailto:jetcentre@xlrexeter.com)  
Heading E  
Dist. 11.5km  
Phone 01392 367433 (AirOps), 01392 354915 (FltBrief), 01392 354995 (XLR Exec),  
01392 354957 (GndHdl), 01392 354917 (TrgSlots)

Key  3  
Name Devon Air Ambulance Exeter  
Addnl. N/A.  
Heading E  
Dist. 11.8km  
Phone 0845 055 2828

Key  4  
Name National Police Air Service  
Addnl. N/A.  
Heading E  
Dist. 12.1km  
Phone 01924 292252, 101

Key  5  
Name Newton Abbot Racecourse  
Addnl. N/A.  
Heading S  
Dist. 20.6km  
Phone 01626 353235

Key  6  
Name Devon & Somerset Gliding Club  
Addnl. [cashier@dsgc.co.uk](mailto:cashier@dsgc.co.uk)  
Heading ENE  
Dist. 26.0km  
Phone 01404 841386

Key  7  
Name Dunkeswell Airport  
Addnl. ICAO: EGTU  
Heading ENE  
Dist. 24.8km  
Phone 01404 891643 (AD), 01404 891271 (LI)

Key  8  
Name Somerset Microlights  
Addnl. [jimgreen shields@gmail.com](mailto:jimgreen shields@gmail.com)  
Heading ENE  
Dist. 29.1km  
Phone 01404 891880

Key  9  
Name Skydive Buzz  
Addnl. [office@skydive.buzz](mailto:office@skydive.buzz)  
Heading ENE  
Dist. 29.1km  
Phone 01404 890222

## 2.4 Emergency contacts

### Nearest A&E Hospital:

Royal Devon and Exeter Hospital (Wonford)

Barrack Road, Exeter EX2 5DW

- 📞 01392 411 611
- ✉️ rde-tr.pals@nhs.net
- 🌐 <http://www.rdehospital.nhs.uk/>

Opening times

Sunday:	00:00-23:59
Monday:	00:00-23:59
Tuesday:	00:00-23:59
Wednesday:	00:00-23:59
Thursday:	00:00-23:59
Friday:	00:00-23:59
Saturday:	00:00-23:59



### ❤️ Defibrillator locations

#### Local police service:

Devon and Cornwall Police

- ✉️ 101@dc.police.uk
- 🌐 <https://www.devon-cornwall.police.uk> 999
- 📞 101
- FACEBOOK DevonAndCornwallPolice
- TWITTER DC\_Police

#### Other useful numbers:

National Police Air Service: Military low flying info:	01924 292252 0800 515544
NOTAM information line:	01293 983880
National Grid powerline emergencies:	0800 40 40 90
Gas supply emergencies:	0800 111 999
Civil Nuclear Constabulary:	03303 135695
British Transport Police:	0800 405040

### Emergency contact notes:

Egress for emergency services to site are through the main farmstead. Due to powerlines to the East, any helicopter ingress should be advised to arrive from the West of the site.

## 2.5 Weather forecast

Weather for Thu 14-Mar-2024 - Europe/London Standard Time

06:31 ↔ 18:16

Time	Summary	Cloud Cover	Visibility	Pressure	Humidity	Precip prob.	Temp	Wind Gusting m/s	Wind Direction	Wind Index	Okay to fly?
07:00		95%	21.9km	1007.43 ⬇️	90%	0%	9.1°C	10 (24mph)	185	n/a	
08:00		95%	19.5km	1007.27 ⬇️	88%	0%	10°C	11 (24mph)	183	n/a	
09:00		93%	20.7km	1007.18	86%	0%	11.1°C	13 (25mph)	186	n/a	
10:00		91%	16.5km	1006.89	81%	0%	12.5°C	16 (28mph)	195	n/a	
11:00		86%	18.1km	1006.48 ⬇️	81%	0%	12.8°C	15 (28mph)	192	n/a	
12:00		76%	25.1km	1005.97 ⬇️	78%	0%	13.8°C	16 (28mph)	192	n/a	
13:00		80%	26.8km	1005.29 ⬇️	78%	0%	14.2°C	16 (28mph)	185	n/a	
14:00		95%	18.9km	1004.74 ⬇️	78%	32%	14°C	17 (31mph)	185	n/a	
15:00		98%	7.5 km	1004.26 ⬇️	83%	34%	13°C	15 (28mph)	186	n/a	
16:00		97%	9.8 km	1003.82 ⬇️	84%	29%	12.7°C	15 (28mph)	194	n/a	
17:00		95%	10.4km	1003.56 ⬇️	86%	0%	12.7°C	14 (26mph)	198	n/a	
18:00		92%	10.3km	1003.52	87%	0%	11.9°C	13 (24mph)	201	n/a	

This weather forecast is Powered by Apple WeatherKit. The Kp index forecasts are from NOAA.

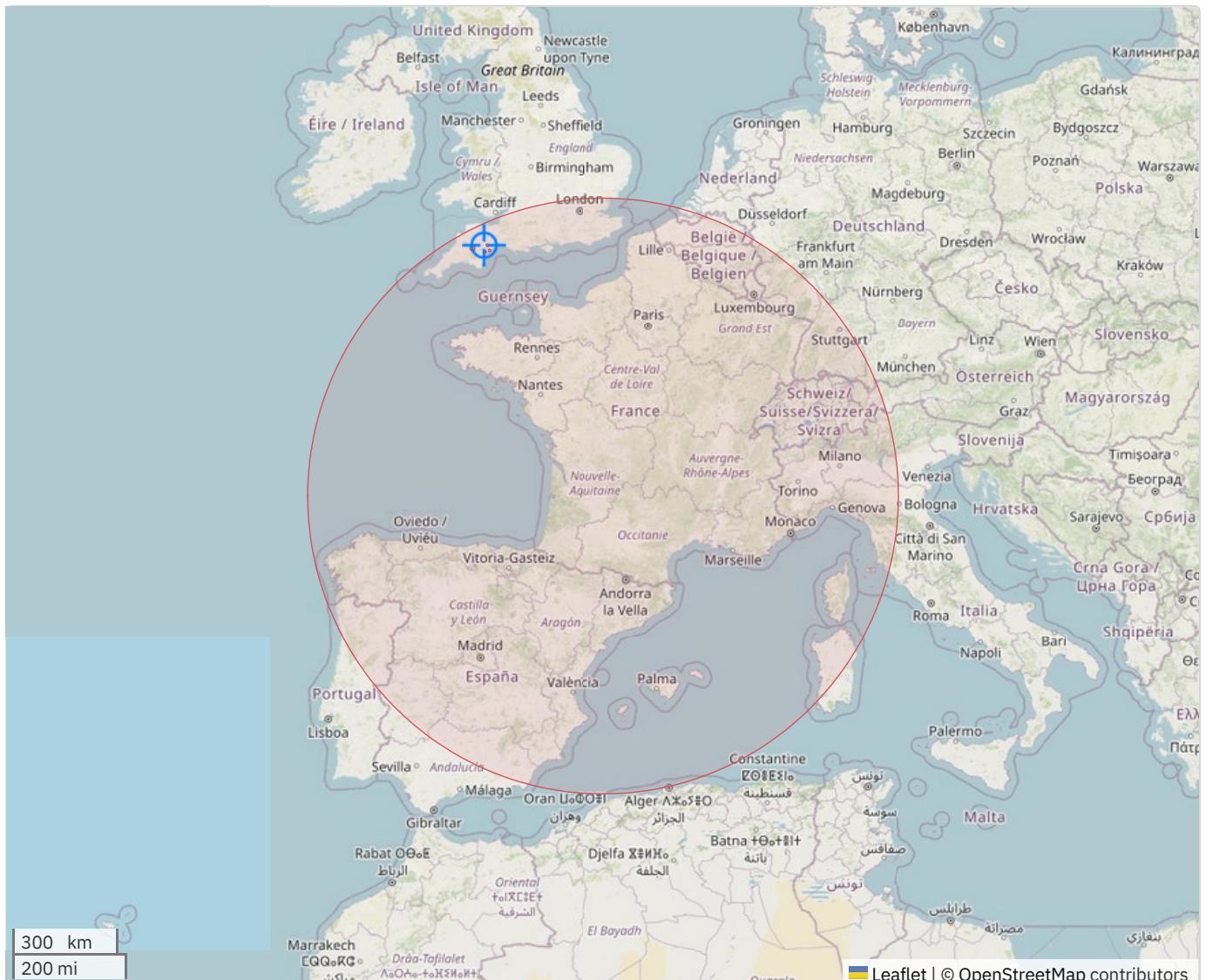
### METAR

EGTE 071020Z 21015KT 9999 SCT010 BKN025 12/10 Q1007

### TAF

N/A

## 2.6 NOTAMS



ID: D0276/24

Type:  RESTRICTIONS (ACTIVATED)

Period: 2024-03-12 08:30 to 2024-03-14 23:59 Sched: 0830-2359

Limits: SFC to FL100

DANGER AREA EGD011A OKEHAMPTON ACTIVATED. SFC - 10000FT AMSL, 0830-2359, 12 MAR  
08:30 2024 UNTIL 14 MAR 23:59 2024. CREATED: 07 MAR 12:35 2024

Q: EGTT/QRDCA/IV/BO /W /000/100/5040N00359W004

ID: H8516/23

Type:  WARNINGS (WILL TAKE PLACE)

Period: 2024-01-08 07:00 to 2024-03-30 20:00 Sched: 0700-2000

Limits: SFC to FL024

FLYING OF MODEL ACFT WI 1NM RADIUS 503439N 0033202W (TEIGNMOUTH) . FOR INFO CTC 07474  
424630. AR-2023-39087/AU2. SFC - 2325FT AMSL, 0700-2000, 08 JAN 07:00 2024 UNTIL 30  
MAR 20:00 2024. CREATED: 21 DEC 12:25 2023

Q: EGTT/QWULW/IV/BO /W /000/024/5035N00332W002

ID: H6709/23

Type:  WARNINGS (WILL TAKE PLACE)

Period: 2024-01-28 12:00 to 2024-03-30 19:14 Sched: 1200-SS PLUS30

Limits: SFC to FL013

KITE FLYING 0.5NM RADIUS 503708N 0032151W (SANDY BAY, E OF EXMOUTH, DEVON) . FOR INFO

07843 098727 OR 01395 279443. 2023-06-0611/AS7. SFC - 1300FT AMSL, 1200-SS PLUS30,  
28 JAN 12:00 2024 UNTIL 30 MAR 19:14 2024. CREATED: 25 SEP 14:26 2023  
Q: EGTT/QWCLW/IV/M /W /000/013/5037N00322W001

---

ID: **C1416/24**

Type:  OTHER (TRIGGER NOTAM)

Period: 2024-03-07 00:00 to 2024-03-20 23:59 Sched:

Limits: SFC to FL003

TRIGGER NOTAM - AIP SUP 029/24 WEF 09 FEB UNTIL 19 JUL 24. EXTER AIRPORT (EGTE) -  
CRANE OPERATING IN THE VCY OF THE AIRPORT. 07 MAR 00:00 2024 UNTIL 20 MAR 23:59  
2024. CREATED: 06 MAR 22:31 2024

Q: EGTT/QOBTT/IV/BO /AE/000/003/5044N00327W001

---

ID: **F1991/23**

Type:  OTHER (CHANGED)

Period: 2023-12-12 17:18 to 2024-03-31 23:59 Sched:

Limits: SFC to FL999

RUSSIA AND BELARUS RESTRICTIONS : 1- ALL AIRCRAFT REGISTERED IN RUSSIA OR OPERATED  
BY RUSSIAN AIR CARRIERS, INCLUDING AS A MARKETING CARRIER IN CODE-SHARING OR  
BLOCKED-SPACE ARRANGEMENTS OR OWNED, CHARTERED OR OPERATED BY A RUSSIAN NATURAL OR  
LEGAL PERSON, ENTITY OR BODY ARE PROHIBITED TO LAND IN, TAKE OFF FROM OR OVERFLY THE  
FRENCH SOVEREIGN AIRSPACE EXCEPT IN CASE OF EMERGENCY LANDING OR EMERGENCY  
OVERFLIGHT AND EXCEPT FOR FLIGHTS HOLDING A PERMISSION DELIVERED IN ACCORDANCE WITH  
THE APPROPRIATE EU REGULATION BY THE FRENCH AUTHORITIES 2- ALL AIRCRAFT OPERATED BY  
BELARUSIAN AIR CARRIERS, INCLUDING AS A MARKETING CARRIER IN CODE-SHARING OR  
BLOCKED-SPACE ARRANGEMENTS, ARE PROHIBITED TO LAND IN, TAKE OFF FROM OR OVERFLY THE  
FRENCH SOVEREIGN AIRSPACE EXCEPT IN CASE OF EMERGENCY LANDING OR EMERGENCY  
OVERFLIGHT AND EXCEPT FOR FLIGHTS HOLDING A PERMISSION DELIVERED IN ACCORDANCE WITH  
THE APPROPRIATE EU REGULATION BY THE FRENCH AUTHORITIES 3- IT SHALL BE PROHIBITED TO  
PARTICIPATE, KNOWINGLY AND INTENTIONALLY, IN ACTIVITIES THE OBJECT OR EFFECT OF  
WHICH IS TO CIRCUMVENT THESE PROHIBITIONS. 12 DEC 17:18 2023 UNTIL 31 MAR 23:59  
2024. CREATED: 12 DEC 17:19 2023

Q: LFXX/QOECH/I /NBO/E /000/999/4412N00042E455

---

## 2.7 Site plan



### Key:

- Planned flight volume
- Contingency buffer
- Emergency buffer
- Pilot
- Observer/Safety marshall
- ToLP + 30m/50m safety zone
- Contingency ToLP + 30m safety zone
- Hazard area
- No-fly area
- Notified property/person
- Low-risk hazard
- High-risk hazard
- Ground Control Point
- Signage
- Route

### Notes:

More detail on site elevations and pictographical reference is available in the Operational Notes.

## 2.8 Loading checklist

Operations manual - confirm current	
Operating safety case (OSC) - if applicable, confirm current	
Waiver/permissions forms - as required for task	
UAS - review maintenance and log book	
UAS - check/update firmware	
UAS - check operation and charge batteries	
Controller/tablet/phone - check operation and charge batteries	
Controller/tablet/phone - charging lead	
Site/in-car charger - check operation and leads	
Task information - review pre-deployment survey	
Task information - review flight plan	
Task information - review site location and contact details	
Map/charts - relevant to task area and route	
Weather meter - check operation and battery	
2-way radio/mobile phones - as required for task	
Fire extinguisher/blanket - check serviceable	
First Aid Kit - check contents	
PPE - hi-viz vest/jacket	
PPE - safety glasses	
PPE - hard hat & safety boots if required	
Guarding - signs	
Guarding - cordon tape	
Guarding - cones if required	
LiPo bags - battery storage for transit	
Laptop/iPad - check operation and charge batteries	
Laptop/iPad - charging lead	
Parts - Spare parts & tools as required	
Cables - flight controller cable	
Storage medium - memory cards as required	

## 3 On-site

### 3.1 Risk assessment

Hazard	Initial risk	Mitigation	Final risk
Other aircraft operating in or around location.	4	Check NOTAMS prior to flight. Visual confirmation that the area of flight is clear of other aircraft and overhead obstructions. Keep below authorised altitude with UAS and maintain visual contact at all times.	2
Drone malfunction or loss of data-link.	5	Set appropriate geo-fencing prior to mission. In event of fly-away notify potential air users in last known direction of travel as detailed in section 2.3 and deploy safety procedures as per Ops Manual.	2
The pilot suffers a medical emergency.	5	Ensure colleagues or, where appropriate, client have been briefed in procedures as per Ops Manual for both attending to the pilot and bringing the aircraft safely to home.	3
Incursion of people, animals or vehicles into operational area.	5	Maintain awareness of points of ingress to operational area for people, animals or vehicles. Brief bystanders and safety marshals as per Ops Manual. Do not fly over people not under control.	3
Take-off and Landing operations.	5	Ensure take-off and landing areas are clearly identified, marked out and guarded appropriately. Illuminate if night operations. Maintain statutory exclusion radius.	3
Electrical/telephone poles/pylons overhead cables or other street furniture.	5	Awareness of locations and height and maintain safe distance from such hazards at all times.	4
Buildings and surrounding terrain.	5	Full inspection of location terrain and buildings in vicinity of operational area. Maintain safe operational distance from buildings and account for terrain variances.	4
Loss of visual contact with UAS (poor light or low cloud).	4	Maintain VLOS at all times. In event of loss of VLOS, initiate safety procedure as per Ops Manual.	2
Adverse weather conditions.	4	Check weather pre-flight and do not fly in conditions which exceed specifications of UAS. If conditions deteriorate during flight, land aircraft.	2

Accidental bird strikes or attacks.	3	Make enquiries and take advice from local landowners/residents etc. of bird population, habits and home locations. Check surroundings and maintain safe distances. Do not fly when large flocks in the area.	2
-------------------------------------	---	--	---

Overall initial risk:

5

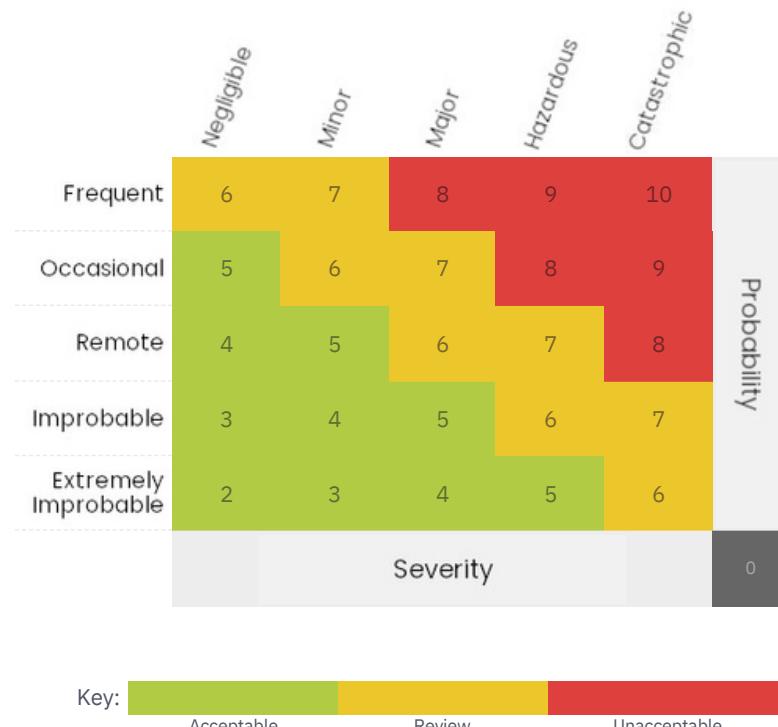
Overall final risk:

3

## Population density

The population density of Kenn Valley is assessed as **Low** based on the estimated density of 88 persons per sq. km

### 3.2 Risk matrix



### 3.3 On-site survey

#### 3.3.1 Meteorological observations

Temperature:	Windspeed:	Wind direction:
14°C	8m/s	SSW
Visibility:	Precipitation:	Cloud cover:
Moderate	Drizzle	Stratus
<b>Weather summary:</b>		

The weather was overcast with intermittent rain spells, lasting approximately 15-20 mins length. Visibility was at worst around 7.5km, more than enough to maintain VLOS with the UAS. There were some significant gusts, however not during the periods of operations and light levels were suitable for the flight paths required for the mission.

#### 3.3.2 Site safety

<b>Permissions:</b>	Air traffic:
Permission was granted by the client. No other permissions required.	No issues with ATC in the local vicinity.
<b>Communications:</b>	<b>Primary ToLP:</b>
Two way communications were available and open between all involved persons. This also includes two way communications with the client.	ToLP was clear of debris and in a clear and open space adjacent to the barn. Consideration was taken in the flight planning to ensure a vertical take off was achievable in this area prior to site survey.
<b>Secondary TOLP:</b>	<b>VLOS:</b>
No secondary TOLP was planned or used during the mission.	VLOs was maintained throughout the mission. Maximum height of 30m ensured that the UAS was visible at all times.
<b>Obstructions:</b>	<b>People:</b>
The only obstructions the immediate vicinity of the operational area where surrounding trees. These were identified in the flight planning and a minimum height set to ensure a clearance of 10m above the highest tree to avoid collision. Tree height was then checked prior to take-off to ensure they were not significantly different to the pre-flight planning assumptions.	All personnel on site were part of the mission team and deemed involved persons. No uninvolved persons were present throughout the mission.
<b>Vehicles:</b>	<b>Buildings:</b>
Only two vehicles were on site, both of which were a suitable distance from the operational zone and posed no threat of collision or obstruction.	The only building within the immediate vicinity was the target building. As the flight was planned specifically to capture this building, it was of no hazard to the UAS or attending personnel.

<b>Livestock:</b>	<b>Containment:</b>
Despite the site being a farm and holding a small livery, there were no livestock in the immediate vicinity of the operational area. Communications with the client were carried out to ensure that operational 'actions on' were agreed and in place should any livestock have wondered into the area. These were not enacted during the course of the mission.	UAS was flown at low height and within the immediate confines of the clients property.
<b>Other notes:</b>	

N/A.

### 3.4 Initial onsite checklist

- Review pre-planning docs - action any recommendations █
- Carry out on-site risk assessment - record findings █
- Carry out on-site survey - record findings incl. weather data █
- Observer/assistant brief - brief observer/assistant on roles and responsibilities incl. emergency procedures and failsafe █
- Client/site personnel brief - brief client and site personnel as required █
- Waiver/permissions signed - obtain all sign-offs as required █
- Take-off and landing point(s) - primary and alternate landing areas identified, guarded and clear of FOD █
- Observer/assistant in position - confirm team deployed as required █
- Communications - test and confirm comms operational █

### 3.5 Pre-flight checklist

Remote pilot health - confirm Remote Pilot is competent, trained, fit and well enough to undertake the flight safely



UAS condition - check UAS body for cracks, damage and cleanliness of external unit



UAS battery mount - check electrical contacts, clear from moisture, corrosion and debris



UAS batteries - check electrical contacts and for swelling, cracks, leaks and charge level



Camera and gimbal - remove retainer, lens cover and clean lens/filter



Memory card - check SD card present and inserted correctly



Motors - check all motors rotate freely with no resistance



Propellers - securely fitted, no chips or cracks (replace if necessary)



Place UAS in primary TOLP - ensure minimum 3m cordon



Check transmitter(s) - check all switches set to correct position and free movement of joysticks



Transmitter(s) setup - attach screen/iPad to TX and set TX antennas



Power-on transmitter(s) - power ON transmitter (expect audible alert)



Power on iPad/controller screen - power ON screen/iPad



Transmitter LED - check transmitter LEDS (GREEN + WHITE)



Launch DJI application - or other controller app as appropriate



Power on UAS - power ON UAS (beeps with increasing tone) and allow to warm-up



Compass calibration - if first flight of the day or flight location changed



Status indications - check compass indications within operating limits, the UAS status is indicating appropriately and the controller app is indicating Safe to Fly



GPS satellites - minimum number of GPS Satellites received (>5)



UAS battery indication - UAS Battery % indication (record as required)



DJI/controller application - configured, set for flight, telemetry and video received with no warnings indicated



Camera - camera configured as required



Video - video feed working and configured as required



Failsafe type, geofence - geofence set (max dist. 500m, max height 120m)



RTH height set appropriately - RTH height set to avoid FOD	
Check flight mode - confirm P, S or ATTI as required	
Check take-off area clear - all persons >3m from the take-off location (>30m if not under control)	
Check airspace for other users - ensure area of operation clear	
Check ground area clear - ensure area of operation clear	
Request take-off clearance - if under instruction from Air Traffic Control	

### 3.6 Takeoff checklist

Commence take-off - call CLEAR - UAS propellers start at idle speed	
Establish stable hover (3m) - check UAS stability	
UAS control check - check UAS control in all axis	
Check camera - check camera feed and record functionality(red flashing on app)	
Record take-off time - record as required	
Start mission - if deemed safe carry out flight	

### 3.7 Landing checklist

Check landing area clear - check primary TOLP is clear of FOD, safe on ground, all persons >3m (>30m if not under control)	
Brief observer - advise observers/marshals landing procedure started	
Weather check - check wind speed and direction	
Select type of landing (manual or auto) - call CLEAR and carry out landing procedure	
Record landing time - record as required	

## 4 Post-flight

### 4.1 Post-flight checklist

Camera - confirm recording stopped	
Power down UAS - power OFF the UAS	
Power down transmitter(s) - power OFF the transmitter	
Power down iPad/controller screen - power OFF iPad/controller screen	
Remove UAS battery - remove and check battery for breaks, bulges and leaks etc.	
Store battery - place battery in LiPo bag	
Check UAS for visible signs of damage - check UAS body for cracks and cleanliness	
Remove and check propellers - check for chips, cracks (replace if necessary)	
Check UAS landing gear/legs - check for damage, replace if necessary	
Pack away all equipment - pack all items as per loading list	

### 4.2 Emergencies checklist

Stop and assess the situation - watch out for danger, avoid anyone else being put at risk	
Make sure it is safe to approach the scene - never put yourself, or others at further risk	
Make the area safe - do what you can to protect the victim(s), bystander(s) and others from further danger	
Assess any casualties - check their response and condition	
Call for help - if appropriate call for help using the numbers listed in the "Emergency contacts" section	
Tend any casualties - administer treatment if appropriately trained or, as guided by the emergency services	
Record incident - once the incident is over, record it in the Incident log and externally if appropriate	

## 4.3 Flight log - manual

Pilot	Drone	Battery	Start	End	Tot. min.	Notes
Steve Preston	MavicAir_1	Full	14/03/2024 11:55:00	14/03/2024 12:05:00	10	N/A

Total flight time: 10 minutes

## 4.4 Closure report

### Closure summary:

The mission was successfully flown according to the pre-flight plan. All planned elements of the mission were captured and will be processed in due time. It should be noted that due to the overgrown foliage and trees the overhang the barn it is likely there will be some distortion in the 3D image and so it is unlikely that it will be possible to produce a full, flawless digital twin of the barn. This will become more apparent in the image processing phase and the team will remain in contact to manage expectations. We foresee no issues with the 2D ortho-mosaic top down image and should be able to get this to you in short order.

### Additional notes:

It has been a pleasure to have worked with your estate team and we look forward to supplying you with the imagery within the next 2-3 weeks. In the mean time if you have any questions, or require any further information, please do not hesitate to reach out to the team and we will be happy to assist in any way that we can.

---

END OF DOCUMENT

© 2024 SKYLENS Ltd. All rights reserved.

Job ID: bdb718cc-e27f-49de-b692-a2a3140b6553

Document created in [dronedesk.io](#)

