vatsim uk
Operations

FARNBOROUGH VMATS PART 2

EGLF

REVISION 2026/01 - EFFECTIVE 9 FEBRUARY 2026

DISTRIBUTION AND SCOPE

This manual is for controllers of Farnborough Aerodrome and Approach positions, containing specific and local procedures relevant to these positions. Controllers must be familiar with controlling procedures in the UK; this manual should be read in conjunction with CAP 493 (MATS Part 1) and guidance on standard UK Radiotelephony phraseology, detailed in CAP 413.

EXCLUSION OF LIABILITY

This manual is for use on the VATSIM Network only and should never be adopted for real world use.

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ACKNOWLEDGEMENTS

This document has been written and proofread by a huge wealth of people, without which the development of this document would not have been possible. On behalf of all VATSIM UK's members, this acts as an acknowledgement and thanks for their work.

DEFINITIONS

The key words "SHALL", "IS TO", "ARE TO", "MUST", "SHOULD", "MAY" are to be interpreted as described in MATS Part 1 (CAP 493).

MARKED CHANGES

Changes made since the last release are marked with a black bar, as indicated, in the left-hand margin. They are also described briefly in the table below.

AMENDMENT HISTORY

Revision	Effective Date	Notes
2026/01	9 Feb 2026	Updated 25 MHz frequencies to 8.33 (Throughout); Renamed 'Southwood Golf Course' to 'Southwood Country Park' (LOW 4.2). Removal of reference 'Heli Bravo' (ADC 2.15.1); Removed Blackbushe IFR cloud break procedure (APC 7.2); Corrected a typographic area in a danger area designation (LOW 4.2)
2023/07	13 Jul 2023	Correction of MSL table and addition of explanatory note (GEN 1.5); Updated Noise Abatement Procedures (GEN 2); Amended to VATSIM UK standard speed table (ADC 2.8.3); Updated responsibility for separation and spacing on final approach (ADC 2.9.3, APC 4.3.1, APC 4.3.6, APC 4.3.7); Farnborough/Southampton APCs may now climb outbounds above 6000 ft once within CTA-6 (previously CTA-8) (APC 5.4); Updated references to VRPs; References to 'airways' amended to 'ATS route network' throughout; Minor amendments and formatting corrections throughout.
2022/01	27 Jan 2022	VEXUB and PEPIS holds inbound courses updated (APC 3.3.1); Withdrawal of SSR code 0467 as the "Zone Conspicuity" code, code 0467 is now part of the RAD VFR code range (LOW 1.3)
2021/05	12 Jun 2021	Full re-write incorporating Farnborough controlled airspace procedures
1.3	26 Nov 2012	VFR departure clearance amended; Shoreham conspicuity codes introduced
1.2	20 Mar 2012	Transition altitude amended; Standard departure instructions introduced
1.1	12 Jan 2012	Aerodrome and terrain charts updated; CPT VOR recalibrated
1.0	14 Nov 2011	Original publication

INTRODUCTION AND STRUCTURE

The Farnborough virtual Manual of Air Traffic Services (vMATS) Part 2 is complementary to the MATS Part 1 (CAP493). Together, these two documents provide comprehensive instructions and information for Farnborough ATS staff within VATSIM UK.

This vMATS has been divided into separate sections for ease of reference, each with its own three letter identification code.

This document is divided into sections as follows:

Page Abbreviation	Section
PRE	Preface
GEN	General Operating Instructions
ADC	Aerodrome Control
APC	Approach Control
LOW	Low Level Operations (VFR & SVFR Procedures) including LARS

TIME REFERENCES

All time references within this document are Coordinated Universal Time (UTC), or Zulu time, unless otherwise specified.

The UK observes daylight saving time in the summer months (British Summer Time, or BST), so the clocks shift forwards by one (1) hour. In summer therefore, UK local time is one hour ahead of UTC/Zulu time.

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GEN | GENERAL OPERATING INSTRUCTIONS

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1.1 Departing/Arriving/Transit Traffic

Aircraft arriving or departing from Farnborough shall be passed the Farnborough QNH except that aircraft joining the visual circuit should be passed the QFE. Aircraft transiting the Farnborough CTR or Odiham MATZ should be passed the Farnborough QNH.

1.2 LARS Traffic

All aircraft in receipt of a Lower Airspace Radar Service (LARS) should be passed the London (Heathrow) QNH or Farnborough QNH, whichever is more appropriate for the area that the aircraft is operating in.

1.3 QFE Threshold

The threshold QFE is passed to all aircraft operating in the visual circuit and to other aircraft on request and is calculated by subtracting 8 hectopascals from the aerodrome QNH.

1.4 Transition Altitude

The Transition Altitude (in the London TMA) is 6000 feet AMSL.

> ***Note:*** *From here on, unless otherwise specified, vertical references measured in feet (ft) are to be assumed as altitudes AMSL.*

1.5 Transition Level and Minimum Stack Level

The Transition Level (TL) and Minimum Stack Level (MSL) for the London TMA are determined by reference to the following table:

Heathrow QNH (hPa)	Transition Level (TL)	Minimum Stack Level (MSL)
1050 - 1060	FL60	FL70
1032 – 1049	FL65	FL70
1013 – 1031	FL70	FL70
995 – 1012	FL75	FL80
977 – 994	FL80	FL80
959 – 976	FL85	FL90
940 – 958	FL90	FL90

> ***Note 1:*** *The classification of 1013 hPa as 'high pressure' differs from MATS Part 1.*

> ***Note 2:*** *To protect against inadvertent descent to an altitude, the* ***MSL shall never be lower than FL70*** *even during periods of 'very high pressure' where FL60 would be separated against 6000 ft.*

1.6 Altimeter Setting Region (ASR)

Farnborough is situated within the Chatham ASR however, the London TMA overlies the majority of the Chatham ASR and aircraft operating under the London TMA shall be passed the London (Heathrow) or Farnborough QNH. The Cotswold ASR borders the London TMA to the northwest and the Portland ASR to the southwest. Aircraft operating in these ASRs which are not beneath controlled airspace may be passed the appropriate Regional Pressure Setting (RPS).

Chapter 2 Noise Abatement Procedures

2.1 Noise Preferential Routings

All Farnborough SIDs incorporate the following noise preferential routings:

Runway 06

Climb straight ahead to 2.4 DME, then turn on track or as instructed by ATC.

Runway 24

North - Climb straight ahead to 3.4 DME, then turn on track or as instructed by ATC.

South - Climb straight ahead; after passing 1200 ft QNH fly ATC issued radar heading. In the event an aircraft is departing without an ATC issued radar heading this is amended to climb straight ahead; at 2.4 DME or 1200 ft QNH (whichever is sooner) turn left onto track 220°M or as directed by ATC. This is referred to by ATC as *"Noise Preferential Route South"*. Crews should note that a prompt turn at 1200 ft QNH is essential in order to remain outside the Odiham ATZ and areas of gliding activity .

2.2 Air Traffic Control Procedures

2.2.1 Departures

Noise preferential routings apply in both VMC and IMC to all departing jet and turboprop aircraft, and all other aircraft with a maximum authorised take-off weight of greater than 2730 kg, unless otherwise instructed by ATC or unless deviations are required in the interests of safety.

Noise preferential routings may be cancelled by ATC using the phrase *"cancel noise abatement"*.

2.2.2 Arrivals

ILS approaches are mandatory except when a non-precision or visual approach is provided or authorised by ATC.

All aircraft approaching to land or go-around from a visual or non-precision approach shall establish on final approach not below 1250 ft QNH (1000 ft AAL) and at not less than 3 NM from touchdown. Thereafter aircraft shall follow a descent path which will not result in the aircraft being at any time lower than a 3.5° glidepath as indicated by the PAPIs or ILS.

Chapter 3 All Weather Operations

3.1 Aerodrome Equipment

Farnborough is not equipped for Cat II/III operations however Low Visibility Procedures (LVP) are used to protect Cat I operations. Runways 24 and 06 are not suitable for Lower Than Standard (LTS) Category I operations.

3.2 Low Visibility Procedures (LVP)

3.2.1 Enforcement

LVP will commence when the meteorological visibility or IRVR is less than 1500 m and/or cloud ceiling is 200 ft or below.

3.2.2 Runway Safeguarding Procedures

When LVP are enforced:

1. The following runway access routes will be closed:
    - Taxiway C
    - Holding Point W – Taxiway W may be used to access Taxiway Y
2. Aircraft will not be permitted to line up if an arriving aircraft is at 7 NM or less from touch down until such time as the landing traffic has vacated the runway.

3.2.3 Instrumented Runway Visual Range (IRVR)

The IRVR is measured at two points along each runway: at the touchdown zone and the stop-end. The minimum IRVR that can be measured is 50 m and the maximum is 1500 m.

Only the touchdown zone IRVR value is published in METARs, thus the remaining IRVR value is unknown to VATSIM network controllers. When LVP are in force, pilots should be informed of the reported IRVR and any subsequent updates.

3.2.4 Arrival Spacing

During LVPs the minimum spacing between sequential arriving aircraft shall be 10 NM except that 15 NM shall be used when there are pending departures.

3.3 Windshear Warnings

Once turbulence or windshear has been reported to Farnborough ATC, AIR (or APC where appropriate) should inform all subsequent landing aircraft that windshear conditions have been reported until confirmation has been received that the conditions no longer exist.

3.4 Meteorological Information

An ATIS will be available on frequency 128.400 MHz. The ATIS shall be maintained by the AIR controller, though this can be delegated to another controller. Aircraft are expected to confirm the current ATIS information on first contact with a Farnborough ATC station. If an incorrect ATIS code is passed then ATC must pass any significant changes to the ATIS.

When LVP are in force then this should be included in the ATIS broadcast.

Chapter 4 Description of Airfield

4.1 Airfield Geographical Data

ICAO Code	EGLF
Aerodrome Reference Point (ARP)	511631N 0004639W
Elevation	238 feet
Transition Altitude	6000 feet
Safety Altitude	2300 feet (W)

4.2 ATC Communication Facilities

Aerodrome Control (ADC)

Callsign	Abbreviation	Logon	Frequency
Farnborough Information	ATIS	EGLF_ATIS	128.405
Farnborough Ground	GMC	EGLF_GND	121.815
Farnborough Tower	AIR	EGLF_TWR	122.780

Approach Control (APC)

Callsign	Abbreviation	Logon	Frequency
Farnborough Radar	RAD	EGLF_APP	134.355
Farnborough Director	FIN	EGLF_F_APP	130.055
Farnborough Radar	LF LARS	EGLF_L_APP	125.250

Note: *The combined RAD, FIN and LF LARS functions are referred to as APC.*

4.2.1 8.33 kHz Frequencies

Due to the limitations of simulators used on VATSIM, the 8.33 kHz frequencies for Farnborough as found in the eAIP are unable to be used.

4.3 Radio Navigation and Landing Aids

Type	Identifier	Frequency	Remarks
ILS 06	I-FRG	111.550 MHz	3.5° ILS
ILS 24	I-FNB	111.550 MHz	3.5° ILS

Chapter 5 Use of Runways

5.1 Preferential Runway

When the conditions are dry with a tailwind component of less than 5 knots, Runway 24 is to be used in preference to Runway 06.

In calm wind, changing and crosswind situations then, in addition to the current VATSIM METAR, the TAF and the 2000 ft wind should be used to identify the more appropriate runway to use.

5.2 Runway Change Procedures

When a change in runway is required, it is the responsibility of AIR to coordinate with RAD.

RAD will inform AIR of the last aircraft to land on the old runway and the first to land on the new runway. AIR will inform RAD of the last departure from the old runway and the first departure on the new runway.

Chapter 6 Coordination Procedures

6.1 Coordination between ADC and APC

ADC shall coordinate with APC for:

- Releases for standard IFR departures
- Clearances and releases for non-standard IFR departures
- Clearances and releases for VFR flights leaving the Farnborough ATZ
- Clearance and releases for SVFR flights departing Farnborough including circuits
- Missed approaches.

AIR shall inform APC when the visual circuit is active and when it ceases to be active. Additionally, AIR must inform APC when the downwind leg will extend beyond 4 miles.

6.2 Coordination between APC and ADC

APC will coordinate with ADC the following:

- IFR arrivals conducting a non-ILS approach including a 10 NM range check
- IFR arrivals that are not code-callsign converted including a 10 NM range check
- Missed approach instructions for IFR arrivals conducting a planned missed approach
- VFR and SVFR arrivals
- VFR and SVFR overflights routing via the ATZ.

ADC | AERODROME CONTROL

Chapter 1 Ground Movement Control (GMC)

1.1 Area of Responsibility

Ground Movement Control (GMC) *("Farnborough Ground")* provides full departure clearance to aircraft departing Farnborough and is responsible for passing the QNH and verifying the aircraft type of departing aircraft. The electronic flight strip will be amended to ensure the correct flight rules, temporary altitude, squawk, and voice tag are shown. GMC is also responsible for the control of aircraft movements on the manoeuvring area.

1.2 Issuing Clearances

It is the responsibility of GMC to issue clearances. Pilots should report the following information when requesting clearance:

1. their parking location,
2. their aircraft type,
3. the ATIS letter they are in receipt of, and
4. the current Farnborough QNH.

GMC should ensure that both the parking location and aircraft type are confirmed by the pilot before issuing a clearance.

An IFR clearance should follow the format:

1. Callsign
2. Destination (or Zone Boundary if leaving Farnborough controlled airspace)
3. Standard Instrument Departure (or alternative after departure instructions)
4. Squawk Code

> ***Example:*** *"NJE52, cleared to Manchester, HAZEL 2 Foxtrot departure, squawk 0356."*
>
> ***Example:*** *"GBOLV cleared to the Farnborough Zone Boundary, IFR, after noise abatement Runway 24 turn left heading 090 degrees, climb to altitude 2400 ft, squawk 0421."*

GMC must obtain a full read back of the given clearance. If the QNH and/or ATIS letter were not correctly reported by the pilot, the GMC controller will pass this to the pilot.

> ***Example:*** *"NJE52, correct. Information A, Farnborough QNH 1020."*

On transfer to AIR, it is assumed that the aircraft has been informed of any changes to their clearance and has been issued the latest QNH.

1.3 SSR Code Allocation

For IFR flights joining the ATS route network, GMC shall generate a valid 'airways' SSR code via either UKCP or the eAIP SSR Code Allocation Plan. For all other flights departing Farnborough, GMC shall obtain an SSR code from RAD who will allocate an SSR code in accordance with LOW 1.3.

1.4 Standard Instrument Departures

Farnborough uses RNAV1 SIDs as detailed below.

To deconflict against Farnborough STARs and other LTMA traffic all Farnborough SIDs route southwest via HAZEL. This includes traffic with an onward routing to the northwest, north or northeast which must fill a HAZEL SID to then route L620 SAM to join Q41 northbound.

Pilots unable to accept an RNAV1 SID will be subject to individual coordination with RAD.

All Farnborough SIDs have stop altitudes of 3000 ft due to close interaction with LTMA traffic.

Route	24 SID	06 SID	Remarks
HAZEL	2F	2L	Mandatory routing via L620 SAM for northbound traffic to join Q41 northbound
GWC	2F	2L	-

1.5 Non-Standard IFR Departures

All non-SID IFR departures shall be coordinated with RAD who will coordinate with TC if needed.

1.5.1 Departures via BIG Joining the ATS Route Network

Fights routing to the southeast via BIG L9/Q70 may file DCT BIG. The standard route for this traffic is GWC 2F/L N16 BIG and pilots should be encouraged to route via this standard route to minimise coordination.

If a pilot is unable to accept the amended route or specifically requests to route DCT BIG then this should be coordinated with RAD as a non-standard IFR departure. Traffic routing DCT BIG will conflict with the departure flow from both Heathrow and Gatwick and may be routed initially outside of controlled airspace before transfer to TC Thames for climb into controlled airspace to the east of BIG. If, following coordination with RAD this is the planned course of action then the pilot should be informed prior to departure.

1.6 Flights to London TMA Airfields

1.6.1 Delay Absorption

With the exception of Wessex Group (Blackbushe - EGLK, Dunsfold - EGTD, Fairoaks - EGTF, Lasham - EGHL and RAF Odiham - EGVO) and Solent Group (Southampton - EGHI and Bournemouth - EGHH) flights a pre-note should be sent to TC South West when a clearance to any airport in the London TMA is issued and the TC South West should respond with any delay (a response without specifying a delay may be interpreted as no delay).

Additional prenotes to other controllers may be required (see the relevant sections below).

GMC shall take the following actions depending upon the delay:

1. Less than 10 minutes: inform the pilot of the delay. No further coordination required.

2. 10 to 20 minutes: inform the pilot of the delay. Send a courtesy message to the receiving TC sector when the delay is absorbed and the pilot is starting (*"GABCD starting for EGLL"*), no response is required from TC.
3. Greater than 20 minutes: TC to specify *"greater than 20 minutes"* or *"delay not determined*." GMC to inform pilot of *"delay not determined, at least 20 minutes"* and ask whether they wish to proceed. GMC to re-coordinate at 20 minutes with TC.

In the event the relevant London TC sector is offline, coordination shall be with RAD, or if RAD is offline the receiving APC unit.

In most situations, this coordination should ideally take place via text communication.

1.6.2 Flights within the Wessex Group

Departures positioning to an airport within the Wessex Group shall be individually coordinated with RAD who will provide an initial clearance.

The requested flight level (RFL) shall be a maximum of 3400 ft as these flights are not permitted to enter the LTMA.

1.6.3 Flights to Heathrow/RAF Northolt

Flight Plan Routing: HAZEL DCT SAM DCT PEPIS DCT OCK

Departures positioning to Heathrow (EGLL) and RAF Northolt (EGWU) shall be pre-noted to TC South West. TC South West shall inform Heathrow INT South. In the absence of TC South West all coordination shall be with RAD.

The requested flight level (RFL) shall be MSL or MSL+1.

1.6.4 Flights to Gatwick

Flight Plan Routing: GWC DCT HOLLY DCT WILLO

Departures positioning to Gatwick (EGKK) shall be prenoted to TC South West who shall inform Gatwick INT. In the absence of TC South West coordination shall be with RAD.

The requested flight level (RFL) shall be FL80 or FL90.

1.6.5 Flights to the Essex Group

Flight Plan Routing: HAZEL DCT SAM Q41 SILVA SILVA 1L/1N

Departures positioning to an airport within the Essex Group (Stansted - EGSS, Luton - EGGW, Cambridge - EGSC) shall be pre-noted to TC South West who shall inform TC North West. In the absence of TC South West coordination shall be with RAD.

The requested flight level (RFL) shall be FL90.

1.6.6 Flights to the Solent Group

Flight Plan Routing: HAZEL DCT SAM

Departures positioning to airport within the Solent Group (Southampton - EGHI and Bournemouth - EGHH) shall be pre-noted to Southampton APC (Solent Radar - 120.230 MHz) who shall inform Bournemouth APC for a Bournemouth inbound. In the absence of Southampton APC coordination shall be with Bournemouth APC for a Bournemouth inbounds, otherwise with RAD.

The requested flight level (RFL) for the Solent Group shall be FL70 however, as this is unknown traffic to TC South West, unless coordinated with TC South West, traffic shall not be climbed above 5000 ft nor enter LTMA airspace (i.e. climb must occur within Farnborough controlled airspace).

1.7 Flow Restrictions

1.7.1 Calculated Take-off Times (CTOT)

A Calculated Take-Off Time (CTOT), sometimes referred to as a 'slot', is issued to a sequence of departures as a long-term flow management system when there is a significant excess of aircraft wishing to depart the aerodrome. CTOTs will usually only be employed as a method of flow control on VATSIM during particularly busy events.

On VATSIM, the adherence to slot times is clearly not as important as the real world, and a deviance of 5 minutes before or, 10 minutes after is typically required during events. Since CTOTs are generally locally assigned, instead of being based on restrictions in Europe, adherence rules as strict as this do not tend to be employed, although it may be deemed acceptable to delay aircraft who have not met a reasonable CTOT.

GMC should retain aircraft on stand until a reasonable time to facilitate the meeting of a slot time in order to prevent both RTF congestion on ground frequencies and the blocking of taxiways. The time for pushback and taxi distance should therefore be considered when determining a suitable time to transfer the aircraft to GMC.

1.7.2 Minimum Departure Intervals (MDI)

During periods of congestion in the London TMA, TC may impose a Minimum Departure Interval (MDI) between specified departures. The maximum validity of this MDI may be 30 minutes, at which point if further restrictions are required, TC will inform Farnborough ADC of a new MDI. The MDI may be removed at any point by TC.

1.8 VFR and SVFR Clearances

When a VFR or SVFR aircraft requests clearance to leave the Farnborough ATZ, GMC shall request clearance from RAD. If RAD is unable to immediately issue a clearance the aircraft may start and taxi, clearance shall be issued prior to line-up.

Once RAD has issued a full clearance, it is the responsibility of GMC or AIR to pass this clearance (in full) to the pilot.

> ***Example:*** *"GPTDA cleared to leave the Farnborough Control Zone to the south, not above altitude 2000 ft, VFR, squawk 0460."*

1.9 Runway Crossings

When aircraft are required to hold short of a runway prior to crossing, GMC shall append *"hold short runway [runway]",* even though an instruction to hold at a holding point may have already been issued.

Example: *"GPTDA taxi to holding point W, hold short Runway 24."*

GMC may not cross traffic across an active runway. Crossing clearances must be issued by AIR on the AIR frequency.

1.10 Taxiway Restrictions

Location	Restriction
Taxiway D and "D Ramp"	Available to helicopters only
Taxiway Y between South Apron 1 and South Apron 2	Closed - not available to aircraft

1.11 Parking Allocation

Corporate aviation flights should park on North Apron and West Apron 1 – the apron divisions, referred to as *"Ramps"*, should be referenced by the position (hangar-side vs tower-side) and number, for example, *"Hanger 3 Ramp".* The ramps immediately adjacent to the terminal building are referred to as *"Terminal Ramp"* and *"Terminal Grass Ramp"* (that potion of apron adjacent to but **not** on the grass to the east of the terminal area/north of Taxiway B).

Maintenance flights should park at TAG Farnborough Engineering on West Apron 2 or 3.

Private flights should park on East Apron or South Apron 1 or 2.

Helicopters shall park on *"Delta Ramp A"* or *"Delta Ramp B"* immediately adjacent to Taxiway D.

Chapter 2 Air Control (AIR)

2.1 Area of Responsibility

Air Control (AIR) (*"Farnborough Tower"*) has responsibility for providing information to aircraft making an instrument approach and VFR traffic both in the visual circuit and within the vicinity of the ATZ. AIR is responsible for obtaining departure releases from RAD where required.

2.1.1 Delegated Responsibilities

AIR is responsible for traffic operating under VFR within and in the vicinity of the ATZ. Traffic in the vicinity of the ATZ should be coordinated with RAD and RAD shall also be informed of the presence of aircraft within the visual circuit.

2.2 Line Up Procedures

2.2.1 Phraseology

All instructions to enter a runway shall include:

1. The relevant runway designator
2. The holding point designator at which the aircraft is to enter the runway, including from full length
3. For backtracking traffic, the holding point designator at which the aircraft is to vacate the runway (except when cleared to line up by 180 degree turn after backtrack).

2.2.2 Multiple Aircraft on the Runway

The AIR controller needs to be aware of the potential effects of jet blast when lining up multiple aircraft on the runway.

2.3 Conditional Clearances

2.3.1 RTF Phraseology

To assist flight crew with situational awareness, when issuing conditional clearances, the distance from touchdown of any relevant landing traffic should be included.

> ***Example:*** *"GPTDA behind the landing Phenom 300 at 2 miles, via B1, line-up runway 24 behind."*

2.3.2 Runway Safeguarding Phraseology

The word *"follow"* must not be used in conditionals in the runway holding area. Aircraft should not be instructed to *"follow"* another one to prevent two aircraft lining up with only one of them having clearance to do so.

Aircraft should not be told their number in the intended departure sequence. Instead, AIR may issue approximate airborne times as either a time past the hour, or an approximate wait in minutes.

2.3.3 Intersection Conditionals

Aircraft at an intersection may only be issued a conditional line up or crossing instruction behind the next departing or arriving aircraft (i.e.. the aircraft should be able to perform the intended action behind the next aircraft that passes them).

2.3.4 Maximum Runway Conditionals

It is recommended that a maximum of 2 conditionals shall be active at any one time (i.e.. an aircraft may be lining up behind a departure on the runway, and another aircraft may be lining up behind them).

2.4 Runway Clearances

It is accepted that a degree of anticipation is permissible in the issuance of take-off and landing clearances. In all cases take-off/landing clearances shall not be passed until the preceding aircraft:

- Has passed the runway edge markings and
- Is in motion, continuing in the required direction.

Vacating aircraft must not be instructed to stop until they have passed entirely beyond the runway holding point and at a minimum shall be passed an instruction to turn left or right on the taxiway as they vacate.

When a clearance is issued in anticipation of meeting the vacated requirement, controllers shall continuously monitor the situation and take positive action if the requirement may not be met.

2.5 Flights to London TMA Airfields

GMC will have coordinated initially with the relevant controllers – see ADC 1.5.

A release shall be obtained from RAD as per ADC 2.8.

No further action is required by AIR except that, in the absence of RAD (or the appropriate top-down position), a release should be obtained from the receiving APC unit.

2.6 Wake Separation

2.6.1 Wake Turbulence Separation

Wake turbulence separation should be provided in accordance with MATS Part 1.

2.6.2 Holding Points

There are no defined “same point” holding points for wake turbulence separation at Farnborough and any intersection departure must have the appropriate increase to separation applied for the subsequent departure.

2.7 Speed Limitation on Departure

A speed limit of 250kt IAS applies to all departures from Farnborough whilst flying below FL100. This limitation will not normally be removed by the London TC sector controller.

If departing aircraft are unable to comply with the standard speed limit, this may impact on the separations applied by ATC. In all such cases, pilots will:

If before take-off:

- Inform GMC when requesting start-up clearance stating the minimum or maximum speed acceptable. GMC is to inform the appropriate London TC sector controller who may specify a high-speed limitation and/or additional take-off separation as necessary, which shall be communicated to AIR. AIR is to advise the pilot, before take-off, of any higher speed limitation imposed.

If after take-off:

- Inform ATC the minimum speed acceptable.

The onus for removing the speed limitation rests with the appropriate TC sector controller who will advise the aircraft as soon as the traffic situation permits. AIR controllers are not to remove any speed limitation without first obtaining the approval of the appropriate TC sector controller.

2.8 Departure Releases and Separation

2.8.1 Departure Releases

All departures (IFR, VFR and SVFR) are subject to release from RAD.

RAD must obtain a release from TC South West/Southampton APC for ATS route network departures prior to issuing a release to AIR (see APC 5.2).

In the absence of RAD/TC South West (or the appropriate top-down position), AIR shall obtain a release from Southampton APC (Solent Radar - 120.230 MHz) for HAZEL SID departures.

Aircraft must depart within 5 minutes of the release.

2.8.2 Minimum SID Interval

A mandatory 5-minute interval applies between departures routing on the same SID (i.e. HAZEL following HAZEL or GWC following GWC).

This interval must be applied regardless of the timing of any releases received from RAD unless RAD explicitly states the 5-minute interval has been waived by TC South West. If AIR feels a departure will suffer undue delay, they may specifically request an early release via RAD.

AIR may depart released non-standard IFR or different-route SID traffic between 5-minute interval same-route SID traffic by use of the aircraft type departure intervals outlined in ADC 2.8.3 below.

2.8.3 IFR Departure Separation

All departure separations must be considered as **minima** and should not be reduced by AIR through the use of RSIVA, or by any other means.

To permit the calculation of the correct time interval between departures, aircraft are categorised into groups. Farnborough uses the VATSIM UK harmonised speed table to categorise aircraft for departure separation. The table at time of writing is shown below – any subsequent updates to the harmonised table published via Procedure Change will apply to Farnborough.

4	3	2	1
All jet aircraft **except:** - *Those in Group 3* - *Concorde* - *Military fast jets*	BAE146/Avro RJ CL35/CL60 CRJ1/2/7/9/X D328/J328 DH8D E135/145 E50P/55P P180 SB20 All Citations **except:** - *C56X/680/68A/700/750*	ATR variants DH8A/B/C F50 JS31/32/41 King Air variants PC12 SF34 SW3/4 TBM7/8/9	BN2P/T C208 DA62 DHC6 E110

Aircraft not included in Groups 1 to 4 are to be the subject of a separation to be agreed between AIR and RAD.

Using the aircraft group table controllers shall apply the following departure separation intervals:

Following aircraft is:		
Same group or slower	**1 group faster**	**2 groups faster**
2-minutes	3-minutes	4-minutes

Where the aircraft depart on routes that immediately diverge by 45° or greater, then a 1-minute departure interval may be applied as per MATS Part 1.

When time-based separation is being used as the sole means of applying departure separation, 1 minute shall be not less than 60 seconds and 2 minutes shall be not less than 120 seconds, etc.

Separation between departing aircraft shall be applied so that after one aircraft takes off the next succeeding aircraft does not take-off within less than the number of minutes specified in the table. Such separation criteria are minima and must not be allowed to be eroded.

Where wake vortex separation is greater than the route separation controllers must not provide less than the wake vortex separation.

Separation between aircraft not on the speed table or when the following aircraft is 3 groups faster than the leading aircraft shall be determined by RAD.

2.9 Transfer of Control and Communication

2.9.1 Departures

Departures may only be transferred to RAD once all aerodrome conflictions have been resolved. Ideally transfer shall occur no later than 1500 ft or 2.5 NM from the departure end of the runway, though if required to retain traffic to resolve a confliction, the AIR controller shall look out for pilots climbing to above their initial (cleared) level and take action by reiterating the cleared level.

If the departure time separation applied does not achieve the expected airborne separation, then the AIR controller should intervene to establish positive track separation by the use of an early turn onto a heading. This action is to be retrospectively co-ordinated with RAD.

2.9.2 Departure Handoff Priority in the Absence of RAD

1. TC SW - TC South West - 133.180 MHz
2. TC S - TC South - 134.125 MHz
3. TC - TC Bandbox - 135.805 MHz
4. LS - AC South/Worthing - 129.430 MHz
5. LSC - AC South Central - 132.650 MHz
6. L - AC Bandbox - 127.430 MHz

In the absence of RAD or any position in the above list, AIR shall transfer departures on a HAZEL SID to Southampton APC (Solent Radar - 120.230 MHz).

2.9.3 Aircraft on Approach

The transfer of communications of an aircraft from FIN to AIR should occur no later than 4 NM from touchdown.

FIN will remain responsible for maintaining wake turbulence separation and/or radar separation until touchdown. As such, any instruction which AIR wishes to issue prior to touchdown which may erode separation must be co-ordinated with FIN before it is given.

2.10 Arrival Spacing

All arrival wake turbulence separation is as per MATS Part 1.

FIN shall coordinate with AIR to agree the required spacing taking into account the spacing required for pending departures and the number of inbounds and any delay.

Minimum spacing is 4 NM; typical spacing would be 8 NM to allow a departure between every arrival.

2.11 Minimum Radar Separation

A minimum radar separation of 3 NM applies between IFR/SVFR and other IFR/SVFR aircraft.

2.12 Missed Approaches

The standard missed approach varies dependent on the approach type, however for ILS (Z) approaches (the default approach type) the procedures are:

Runway	Missed Approach Procedure
06	Continuous climb to 3000 ft. Initially straight ahead to 1300 ft, then turn right onto track 243°, then as directed by ATC.
24	Continuous climb to 3000 ft. Initially straight ahead to 910 ft or I-FNB DME 1.0 outbound, whichever is later, then turn right onto track 279°, then as directed by ATC.

2.13 Go-Around Procedure

On becoming aware of, or after initiating a go-around, the AIR controller is to:

- Inform APC
- Ensure the aircraft is conforming with the published missed approach procedure
- Pass traffic information if appropriate
- Pass any instructions from APC to the aircraft and transfer communication back to the appropriate APC frequency.

RAD is responsible for the control of traffic conducting both planned and unplanned missed approaches unless they delegate control to FIN.

2.14 Circuit Procedures

Circuits take place to the south of the aerodrome (i.e. right-hand for Runway 06, left-hand for Runway 24) at:

- A minimum altitude of 1250 ft (1000 ft AAL) for piston aircraft with a maximum authorised take-off weight of 2730 kg or less
- A minimum altitude of 1700 ft (1500 ft AAL) until turning base for all jet and turboprop aircraft, and all other aircraft with a maximum authorised take-off weight of greater than 2730 kg.

The noise preferential routings detailed in GEN 2.1 are mandatory for all jet and turboprop aircraft, and all other aircraft with a maximum authorised take-off weight of greater than 2730 kg, unless otherwise instructed by ATC or unless deviations are required in the interests of safety. Additionally, this category of aircraft shall establish on final approach not below 1250 ft and at not less than 3 NM from touchdown.

RAD shall be informed when the circuit is active and ceases to be active, and whenever the downwind leg for traffic extends beyond 4 NM.

SVFR circuits require the approval of RAD and shall be coordinated to ensure standard separation is maintained against other IFR or SVFR traffic unless AIR is able to provide reduced separation in the vicinity of the aerodrome (RSIVA).

Aircraft remaining within the visual circuit should be instructed to squawk SSR code 7010.

2.14.1 Integrating circuit traffic with IFR approaches

VFR traffic may be instructed to orbit at the start or end of the downwind leg, to land or to leave the circuit and hold away from the instrument approach. Traffic information is to be passed as appropriate. Circuit traffic must report the relevant traffic in sight before turning base.

If the pilot cannot see the aircraft on final, they must either extend downwind or orbit left/right at the end of their downwind leg until the aircraft on final is sighted or has landed. Once the traffic is in sight or has landed, wake turbulence advisories should be passed (if applicable) with the instruction to report final.

Except when AIR is able to apply RSIVA, SVFR traffic must either land or be routed to maintain 3 NM separation from the final approach track whenever inbound IFR traffic is within 10 NM from touchdown.

2.14.2 Re-join Procedures

Aircraft shall typically be cleared to join a base leg appropriate to the direction of arrival, however, AIR may integrate traffic however necessary, taking into account applicable noise abatement procedures. Overhead joins are not normally to be permitted.

2.15 Helicopter Procedures

2.15.1 Aerodrome Movements

Three helicopter aiming points are established at Farnborough:

1. Heli Foxtrot - that part of Taxiway F between F3 and the entrance to West 2 Apron
2. Heli Yankee - the centre of South 2 Apron.

All departures or arrivals must take place from either Runway 06/24 or one of the defined helicopter aiming points. Movements to/from the helicopter aiming points shall be in the form *"lift at your discretion"* and *"land at your discretion"*.

Movements to/from the helicopter aiming points are not considered separated from Runway 06/24 for wake turbulence separation purposes.

Pilots should avoid overflying parked aircraft.

2.15.2 Departure/Arrival Procedures

Helicopter routes are detailed in LOW 4.2.

Inbound VFR helicopters and IFR helicopters conducting a visual approach will typically route via the established routes with landing conducted at the best positioned helicopter aiming point. Inbound IFR helicopters conducting an instrument approach will be transferred established on final approach to the runway in use and shall be cleared to land on the runway in use unless a visual break-off to a helicopter aiming point is requested.

Outbound helicopters will be individually coordinated with RAD; VFR flights will typically depart from the helicopter aiming point best positioned for the cleared route, IFR flights will depart from the runway in use.

2.16 Use of the Aerodrome Traffic Monitor

An Aerodrome Traffic Monitor (ATM) is available, and the information derived from the ATM may be used by all AIR controllers to:

- Determine the landing order, spacing, and distance from touchdown of arriving aircraft.
- Assist in applying longitudinal separation for departing aircraft.
- Enable controllers to confirm that the initial track of departing aircraft conforms with the clearance issued.
- Provide information to aircraft on the position of other aircraft in the circuit or conducting an instrument approach.

Additionally, ***radar validated controllers (S3+)*** may use the ATM for advanced uses:

- Following identification, validate SSR codes of departing aircraft and verify associated mode C read-outs.
- Monitor the progress of overflying aircraft identified by Approach Radar Control to ensure that they do not conflict with the tracks of arriving or departing aircraft.
- Establish separation between departing aircraft.
- Pass traffic information.
- Establish separation in the event of a missed approach.
- Assist in taking initial corrective action when the separation between arriving aircraft becomes less than the prescribed minima.

APC | APPROACH CONTROL (APC)

Chapter 1 Area of Responsibility and Sector Organisation

1.1 General

In this section, the following conventions for the naming of the Farnborough APC sector positions is adopted:

RAD	- Farnborough Radar
FIN	- Farnborough Director
LF LARS	- Farnborough Radar
APC	- Collective RAD, FIN, and LF LARS functions

1.2 Area of Responsibility

The area of responsibility for Farnborough APC is the Farnborough CTR and CTAs, the Farnborough RMA and TC airspace as delegated to Farnborough APC within 40 NM of Farnborough.

Farnborough APC shall provide approach/approach radar control services to aircraft from the time and place at which:

- Arriving aircraft are released by the relevant London TC sector until:
  - Control is transferred to ADC, or
  - They are clear of controlled airspace and/or transferred to an appropriate agency
- Aircraft approaching from outside controlled airspace place themselves under the control of Farnborough APC until control is transferred to ADC
- Overflying aircraft are within relevant controlled airspace or, for aircraft outside of controller airspace wish to be under the control of Farnborough APC
- Departing aircraft are transferred from ADC until:
  - Control is transferred to the relevant London TC sector, or
  - They are clear of controlled airspace and are transferred to an appropriate agency.

1.3 Function

Farnborough APC shall provide services appropriate for the Approach Control and Approach Radar Control functions, as specified in MATS Part 1, for aircraft departing and arriving Farnborough airport.

Farnborough APC shall also provide services appropriate for the Approach Radar Control function for aircraft departing and arriving from the Wessex Group (Blackbushe, Dunsfold, Fairoaks, Lasham and RAF Odiham).

Specific functions are detailed on the next page:

1.3.1 Farnborough Radar (RAD)

- Acceptance of releases and control of aircraft inbound to Farnborough from the release point until control is transferred to FIN
- Initial sequencing by radar vectoring for ILS, LOC/DME, SRA and/or visual approaches
- Control of aircraft departing Farnborough joining the ATS route network until control is transferred to TC South West, Southampton APC, or another appropriate unit
- Provision of a radar service to non- ATS route network IFR departures/arrivals from/to Farnborough
- Control of aircraft which have carried out a missed approach, unless control has been delegated to FIN
- Liaison with the AIR controller on pertinent issues excepting range checks, final approach spacing, and landing and go-around clearances
- Control of VFR/SVFR traffic entering, operating in, or leaving the Farnborough CTR/CTA
- Control of aircraft arriving to the Wessex Group airfields which are leaving the ATS route network following release from TC South West until transfer to the relevant unit
- Control of aircraft departing from the Wessex Group airfields which are joining the ATS route network from transfer from the relevant unit until transfer to TC South West
- Executive coordination with other units
- Assumes responsibility for FIN functions outside its period of operation
- Assumes responsibility for LF LARS functions outside its period of operation.

1.3.2 Farnborough Director (FIN)

- Final sequencing by radar vectoring for ILS, LOC/DME, SRA and/or visual approaches
- Provision of Surveillance Radar Approaches
- Coordinating planned and unplanned missed approaches and retaining control of such traffic when delegated by RAD
- Liaison with ADC as required for range checks, final approach spacing and landing or go-around clearances.

1.3.3 Farnborough Radar (LF LARS) – procedures detailed in LOW Chapter 5

- Provision of the Lower Airspace Radar Service (LARS) to aircraft operating outside controlled airspace in the defined area of responsibility
- Provision of the Odiham MATZ penetration service (when delegated by Odiham APC).

1.4 Farnborough APC Bandbox/Splitting Procedures

RAD is the master position and must be opened first, FIN/LF LARS **must not** be opened independently of RAD.

Once RAD is opened, FIN and/or LF LARS may by split as required.

If RAD closes when a split is open, the split controller has the option of either switching to RAD and covering the bandboxed APC sectors or logging off.

Chapter 2 Radar Controller General Operational Procedures

2.1 General Procedures

RAD is responsible for acceptance of inbound releases and the initial sequencing of inbounds by radar vectors. The arrival order is derived from the stack ATA or EAT subject to tactical considerations. RAD is also responsible for the initial control of all outbounds.

FIN is responsible for final sequencing of inbounds by radar vectors following transfer from RAD.

RAD is the master radar controller and responsible for executive coordination and overall flow through the Farnborough area of responsibility. This does not preclude FIN from coordinating with other agencies.

Both directors will manage their own electronic flight progress strip display.

2.2 Inbound Releases

All inbound releases will be to RAD. Inbounds routing via DIXIB and EVATA will be released in accordance with the silent release procedures detailed in APC 3.4.1. It is the responsibility of Farnborough APC to cancel the silent release procedures with London TC, in good time, when it is unable to accept an aircraft in accordance with the silent release. Inbounds routing via PEPIS will be released in accordance with the procedures outlined in APC 3.4.2.

Aircraft that cannot be released in accordance with these procedures shall be released by means of either a full release or, if in conflict with an overflying aircraft, a radar release. For reasons of expedition Farnborough APC may request, and London TC may offer alternative releases for aircraft that would otherwise be subject to the standard releases.

Except where agreed in a full release or radar release, following transfer of communication Farnborough APC may:

- Apply or remove speed control
- Issue descent to a lower level in accordance with release procedures
- Turn and descend the aircraft after reaching the release point.

Farnborough APC must not climb the aircraft or stop its descent above the release level; additionally, the Farnborough APC controller **must** ensure aircraft achieve any 'level by' restrictions imposed by either standing agreement or individual coordination. Once traffic has entered the Farnborough area of responsibility, it shall not be instructed to leave it.

2.3 Transfer of Data and Control between APC Radar Controllers

Transfer of data and control to FIN will be by electronic transfer of the aircraft track data-block coincident with the transfer of communication.

RAD is to ensure that all information on the electronic flight progress strip is accurate before transfer to FIN. When this is the case, no verbal coordination is required, unless either controller feels it necessary for reasons of clarity, or to highlight non-standard positioning or coordinated restrictions.

On transfer of control from RAD to FIN, controllers should use the phrase: *"Contact Farnborough Director 130.055 with callsign only."*

2.4 Identification and SSR Validation and Verification Procedures

All aircraft under the control of Farnborough APC must be identified, the assigned SSR code validated, and Mode C return verified. Except where described below this is to be by one of the methods described in MATS Part 1. Aircraft transferred from another radar unit either by standing agreement or individual coordination are deemed to have been validated and the Mode C return verified.

Aircraft departing Farnborough which are automatically code-callsign converted (correlated) with the correct callsign and are not displaying a squawk error (DUPE) indicator within the track data-block are deemed identified and validated. The first radar controller working these aircraft must however verify the Mode C return.

Any aircraft that does not automatically code-callsign convert, is displaying an incorrect callsign, or that is displaying a squawk error (DUPE) indicator shall be reassigned a unique code; however, for initial identification a controller may request an IDENT to avoid requiring the pilot to set a new squawk during the workload intensive departure phase.

Aircraft departing a Wessex Group airfield or any other unit outside controlled airspace, which has been passed a UKCP 'airways' SSR code or a Farnborough local SSR code allocated by Farnborough APC prior to departure, shall be instructed to IDENT or identified by another method regardless of whether automatic code-callsign conversion has taken place.

Local SSR code allocation procedures are detailed in LOW 1.3.

2.5 Separation Requirements for Farnborough APC

Farnborough APC controllers may apply reduced radar separation of 3 NM between aircraft provided that:

- Both aircraft are identified, and
- Both aircraft are either within 40 NM of Farnborough or, for traffic operating outside controlled airspace, within a defined Farnborough LARS sector, and
- If greater than 3 NM, the appropriate wake turbulence separation is applied, and
- If applied against an aircraft under the control of another agency, direct voice communication is available between the controllers, and the other agency must also be approved to apply reduced radar separation.

  Note: *All London TC sectors, TC approach units (including RAF Northolt), Bournemouth APC, Southampton APC, and Southend APC are authorised to apply 3 NM radar separation.*

2.6 Terrain and Obstacle Clearance

Levels shall be allocated in accordance with the Farnborough ATC SMAA chart detailed in the UK AIP AD 2.EGLF-5-1. The Minimum Sector Altitude (MSA) within 25 NM of Farnborough is:

NW	NE	SW	SE
2300 ft	2100 ft	2300 ft	2200 ft

2.7 Controlled Airspace Containment

Farnborough APC is authorised to vector IFR traffic within Farnborough controlled airspace to within 1 NM of the airspace boundary. When aircraft are vectored inside of 2 NM from the airspace boundary controllers must both radar monitor the operation of any aircraft in adjacent uncontrolled airspace and provide traffic information to the IFR flight on any observed aircraft in adjacent uncontrolled airspace.

2.8 Change to MSL Procedure

When a change to the London QNH results in a new MSL, TC South West shall inform Farnborough APC when the change to MSL becomes effective. Aircraft operating at the old MSL are deemed separated from aircraft operating at altitude 6000 ft until the new MSL is notified to be in effect.

Chapter 3 Inbound Procedures

3.1 Information to Arriving Aircraft

After an arriving aircraft has made its initial call to Approach Control, the following information shall be passed as soon as practicable:

- Runway in use and the type of approach, if not already received from the ATIS
- Current ATIS weather code
- LVP in operation, if not already received from the ATIS
- Any delay to be expected.

RAD is to confirm the cleared level of an aircraft transferred from London TC sectors on first contact. If it is not volunteered by the pilot, it is to be requested and verified by the receiving controller before giving any executive instruction. In addition, RAD is to confirm aircraft type, including type variants. Any aircraft type which is not as filed must be changed as soon as possible and advised to any controller who may be reliant on up-to-date information, say for the provision of wake vortex separation.

Aircraft that have received the information above must be kept informed of the following until they have landed:

- Significant changes in the meteorological and runway conditions
- Relevant reports from other pilots
- Implementation or cancellation of LVP.

3.2 Standard Arrival Routes (STARs)

Farnborough has both RNAV1 and RNAV5 standard arrival routes (STARs) established. Unless notified otherwise by the flight-plan navigation equipment field or the pilot, all traffic is deemed capable of RNAV1 routes.

The RNAV5 STARs terminate at PEPIS adjacent to Southampton APC delegated airspace and as such shall only be assigned to flights unable to accept the RNAV1 procedures. Flights assigned the RNAV5 procedures will typically then be radar vectored off-STAR as described in APC 3.4.2.

3.2.1 RNAV1 STARs

Designator	Arrival Via	Route
CPT 1V	Q63, N859, L179	CPT - GOBNU - INDOX - DIXIB - LFS02 - VEXUB
ELDAX 1V	N20, M8	ELDAX - NOTGI - EVEXU - RIMUP - NIDGO - IBGON - LUXIV - EVATA - LFS03 - VEXUB
KATHY 1V	L980, P83	KATHY - ABSAV - RUDMO - RIMUP - NIDGO - IBGON - LUXIV - EVATA - LFS03 - VEXUB
SOKDU 1V	N17	SOKDU - ABSAV - RUDMO - RIMUP - NIDGO - IBGON - LUXIV - EVATA - LFS03 - VEXUB

3.2.2 RNAV5 STARs

Designator	Arrival Via	Route
ABSAV 1P	L980	ABSAV - RUDMO - PEPIS
CPT 1P	Q63, N859, L179	CPT - HANKY - PEPIS
NOTGI 1P	N20	NOTGI - EVEXU - RUDMO - PEPIS

3.3 Holding Procedures

3.3.1 Holding Patterns for Farnborough Traffic

The table below indicates the holding areas available for Farnborough traffic:

Hold	Inbound Course	Direction	Holding Levels	Holding Speed	Notes
PEPIS	003°	Right	FL70 – FL100	Max 210 knots	Holds controlled by TC South West
RUDMO	276°	Left	FL80 – FL110	Max 210 knots	
VEXUB	056°	Left	3000 ft	Max 185 knots	

3.3.2 Holding Pattern Separation

Aircraft holding at PEPIS, RUDMO and VEXUB are deemed separated up to and including FL140.

3.3.3 Procedures for Holding Traffic

Farnborough APC may hold traffic at VEXUB without coordination with TC. However, traffic in the hold must be radar monitored against the Heathrow and Gatwick RMA, and against Heathrow and Gatwick departures. Additionally, because the hold has only a single level (3000 ft) and conflicts with both Farnborough inbounds and outbounds, it should be used only for short-term contingencies measures and not as a planned hold for periods of high inbound demand.

Instead, when holding is anticipated, coordination should take place with TC South West who will hold traffic at either PEPIS or RUDMO. RUDMO is the preferential hold for all Farnborough inbounds regardless of the direction of arrival because the hold at PEPIS conflicts with Solent Group traffic.

Traffic holding at PEPIS and RUDMO will be retained by TC South West who will either await “call-on” from RAD or may, if it is apparent from the situation display that RAD is in a position to accept the next inbound, vector and transfer to RAD in accordance with standard inbound agreements.

3.4 Inbound Releases

3.4.1 RNAV1 (DIXIB and EVATA) Inbounds

Aircraft inbound on the published RNAV1 STARs will be transferred from TC South West to RAD by means of the following silent transfer agreement:

Via	Standing Agreement	Release Point
DIXIB - North (*Notes 1, 2 & 3*)	5000 ft level (abeam) DIXIB	Passing FL70
EVATA - South (*Notes 4, 5 & 6*)	4000 ft level (abeam) EVATA	Passing 6000 ft (London QNH)

Note 1: *Transfer of communication must be no later than (abeam) DIXIB.*

Note 2: *Transferred either on own navigation DIXIB, or on a radar heading within 3 NM of DIXIB.*

Note 3: *During Heathrow Easterly Operations, TC SW shall ensure such aircraft are positioned no less than 3 NM from the Heathrow RMA. Farnborough APC shall not vector such aircraft so that the separation is reduced to less than 3 NM from the Heathrow RMA except when vectoring for an approach to Runway 24 using the procedures detailed in APC 4.3.4.*

Note 4: *Transfer of communication must be no later than (abeam) EVATA.*

Note 5: *Transferred either on own navigation EVATA, or on a radar heading within 3 NM of DIXIB.*

Note 6: *During Gatwick Easterly Operations, TC SW shall ensure such aircraft are positioned no less than 3 NM from the Gatwick RMA. Farnborough APC shall not vector such aircraft so that the separation is reduced to less than 3 NM from the Gatwick RMA.*

3.4.2 RNAV5 (PEPIS) Inbounds

Aircraft inbound on the published RNAV5 STARs will be handled by TC South West in one of three ways.

When there is no inbound delay at Farnborough, and the overall traffic flow does not preclude, TC South West will radar vector traffic off the RNAV5 STAR to follow the RNAV1 route. TC South West may then transfer the traffic on a radar heading as though it were following the RNAV1 route in accordance with the procedures for RNAV1 STAR inbounds outlined in APC 3.4.1. There is no requirement for TC South West to individually coordinate traffic handled in this manner unless it is unable to meet conditions of the silent transfer agreement.

In the exceptional event that holding is required or traffic within the LTMA prevents TC South West from vectoring as described, traffic will route to PEPIS and, if required, hold. Traffic holding at PEPIS will be retained by TC South West. TC South West will then either individually coordinate inbounds with RAD and, if penetration of Southampton airspace is required, Southampton APC.

3.5 Expected Approach Times (EATs)

EATs are not normally passed if the expected delay is less than 20 minutes; instead, the anticipated hold delay shall be passed in 5-minute intervals, standard phrases for this are: *"Less than 5 minutes"*, *"5 to 10 minutes"*, *"10 to 15 minutes"* and *"15 to 20 minutes."*

If the expected delay is greater than 20 minutes, then EATs shall be issued in 5-minute intervals for both radar vectored or procedural approaches.

Farnborough APC shall only issue an EAT alongside a specific additional instruction to hold.

Chapter 4 Procedures for Intermediate and Final Approach

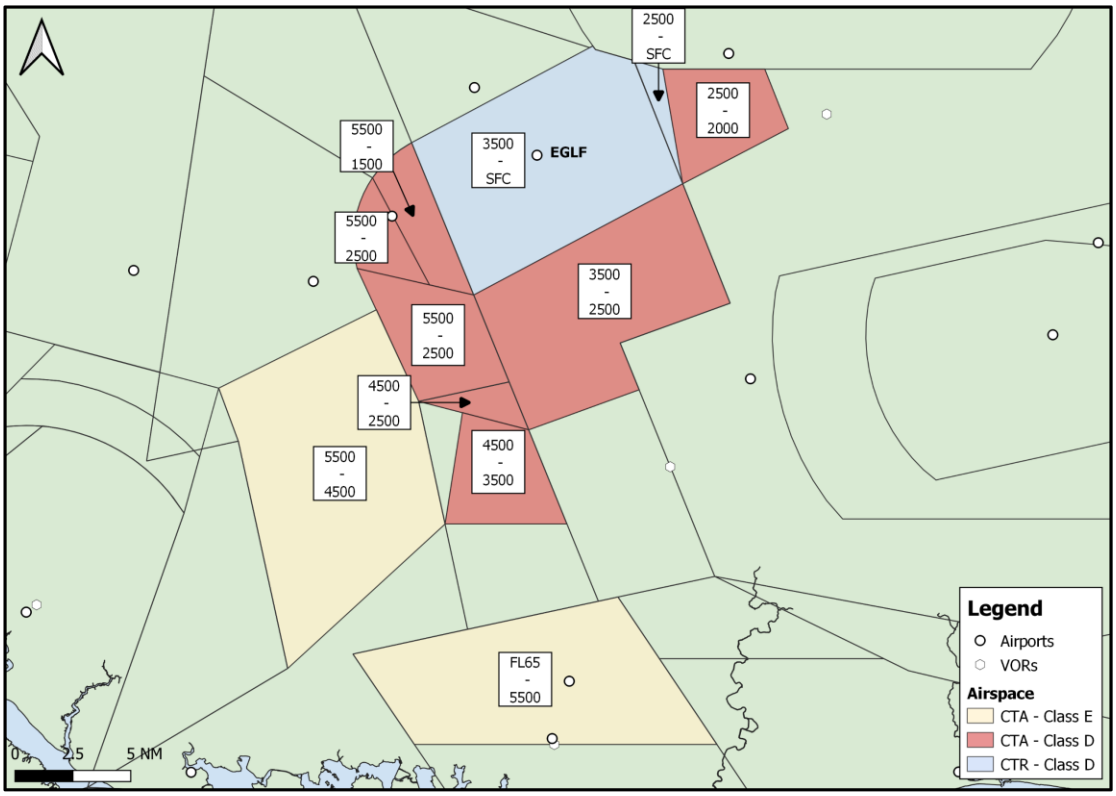
4.1 Farnborough CTR/CTA and Radar Manoeuvring Area (RMA)

4.1.1 Farnborough CTR/CTA

Farnborough APC is responsible for the control of all traffic operating within the Farnborough CTR and CTA except for traffic operating within the vicinity of Farnborough under the control of AIR, traffic under the control of either TC South West or Southampton APC routing through Farnborough controlled airspace in accordance with published procedures, and traffic operating within the Blackbushe Local Flying Area (detailed in LOW 2.2).

The Farnborough CTR and CTA-1-7 are notified as Class D airspace, CTA-8 and -9 are notified as Class E airspace and Transponder Mandatory Zones. The CTR is split into CTR-1 which forms the majority of the total CTR and extends from the surface to 3500 ft in the region around Farnborough, and CTR-2 which forms a small slither of the total CTR in the northeast from the surface to 2500 ft beneath the lowest London TMA base. For convenience CTR-1 and -2 will be referred to simply as the CTR.

Figure 1 - Farnborough Controlled Airspace



4.1.2 Farnborough Class E Airspace and Transponder Mandatory Zones

Farnborough CTA-8 (4500 ft-5500 ft) and CTA-9 (5500 ft-FL65) are established as Class E airspace and notified as Transponder Mandatory Zones (TMZ). Farnborough SID outbounds will route through CTA-8 at 5000 ft and STAR inbounds from the south will route through CTA-9.

Additionally, Southampton APC is permitted to route traffic under its control through both CTA-8 and -9 without a specific clearance from Farnborough, however Southampton APC is responsible for separation against IFR traffic and for initiating coordination with Farnborough APC as required.

VFR traffic operating a transponder is permitted to enter CTA-8 and -9 without ATC clearance although pilots are encouraged to contact Farnborough for a UK Flight Information Service. IFR traffic is to be provided traffic information on relevant VFR traffic within Class E airspace, but the pilot is responsible for separation. Controllers shall only provide deconfliction advice if specifically requested by the pilot or if the controller deems it necessary for safety.

Local traffic under the control of RAD/LF LARS will be allocated a local SSR code appropriate to the flight rules in use in accordance with LOW 1.3 (this allows London TC/Southampton APC to identify the flight rules of transit traffic under the control of RAD/LF LARS).

Unknown traffic squawking 7000, the Farnborough frequency monitoring code 4572 or the Solent frequency monitoring code 7011 shall be deemed as operating VFR.

Unknown traffic squawking any other code must be treated as operating IFR and be subject to separation standards for aircraft which have infringed controlled airspace.

4.1.3 Farnborough RMA

Additional to the Farnborough CTR/CTA, London Terminal Control delegates a portion of the London TMA to Farnborough APC. This delegated airspace is known as the Farnborough RMA and the extent of delegated airspace is dependent on the Heathrow runway in use.

Figure 2 - Farnborough RMA (Heathrow on westerlies)

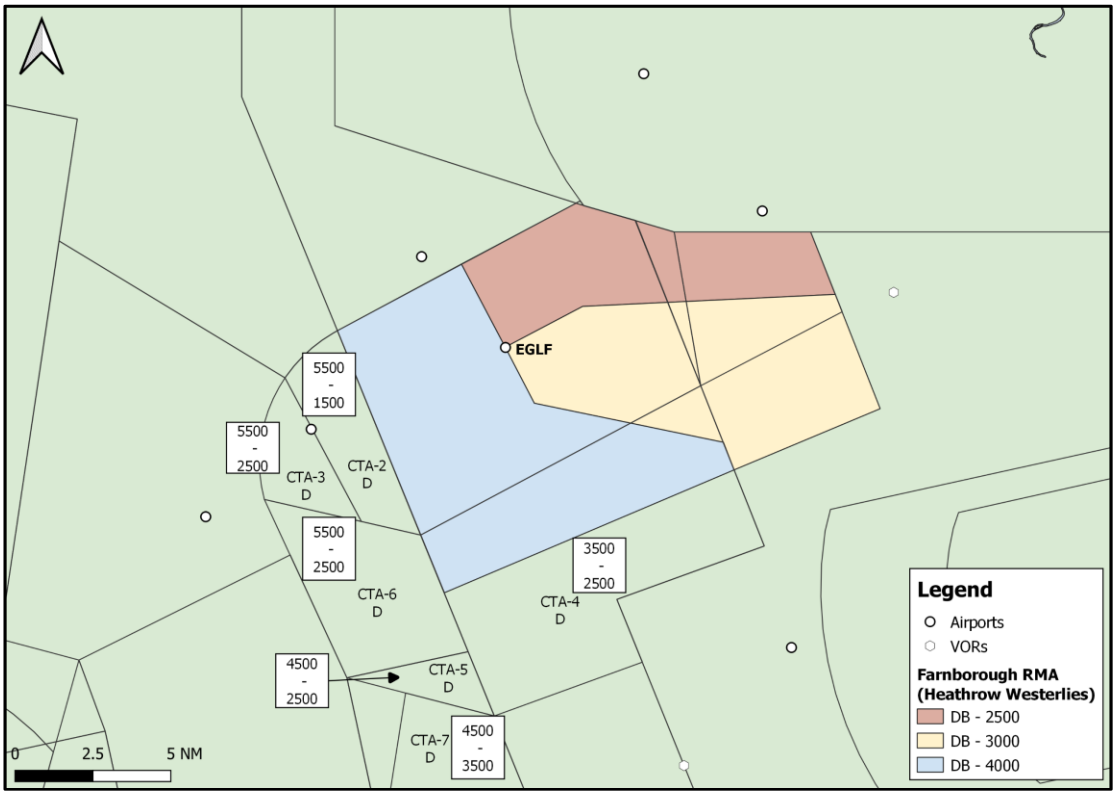
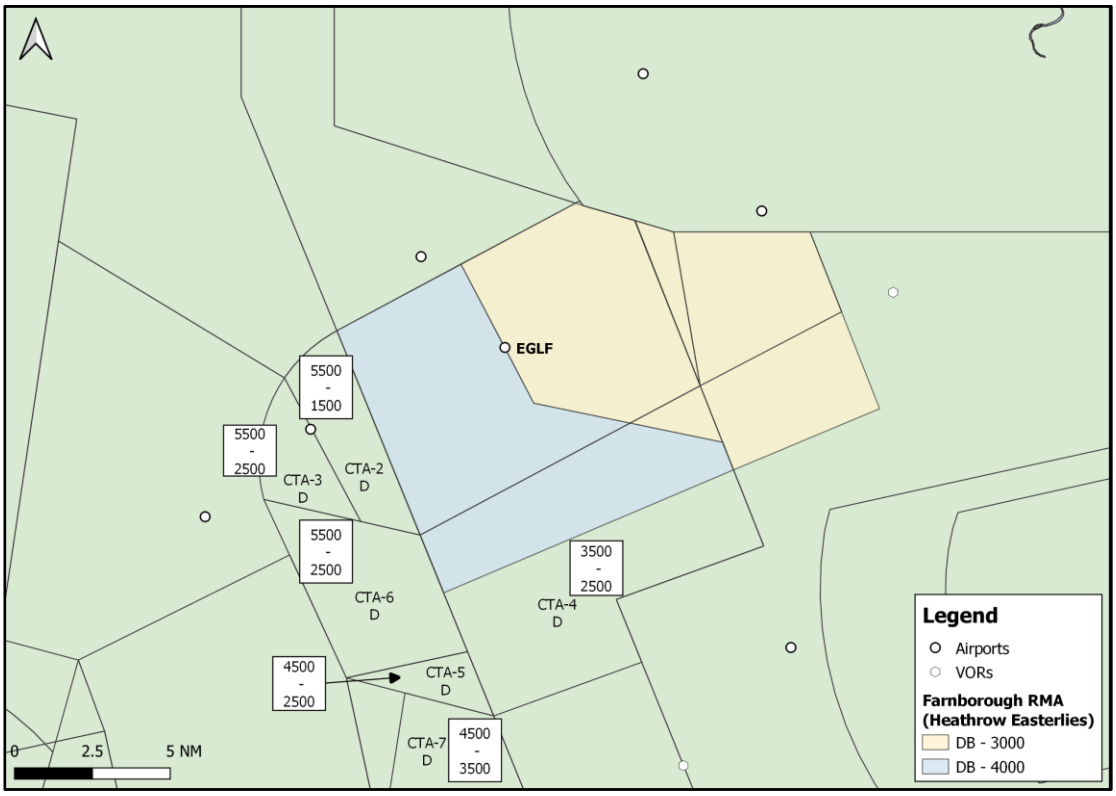


Figure 3 - Farnborough RMA (Heathrow on easterlies)



When Heathrow is on westerly operations (Runways 27L/R in use) then that portion of the Farnborough RMA immediately adjacent to the London CTR (that portion shaded red in Figure 2) is restricted to a maximum altitude of 2500 ft. When Heathrow is on easterly operations (Runway 09L/R in use) then Farnborough may operate to a maximum of 3000 ft throughout the eastern part of the RMA.

4.2 Intermediate Approach Procedures

4.2.1 Vectoring and Descent before Release Point

Inbound traffic is released for vectoring, to continue in the same general direction towards Farnborough, passing the release point (which is a level as defined in APC 3.4.1) with full release for vectoring once within the Farnborough CTR/CTA/RMA. Once within the Farnborough area of responsibility inbound traffic must not leave it (except into adjacent uncontrolled airspace) without coordination with the relevant unit.

Inbound traffic is released for descent on contact.

4.2.2 Altitude Control

Due to airspace restrictions, and to deconflict against Heathrow and Gatwick outbounds, traffic inbounds to Farnborough must strictly achieve the level restrictions imposed by the Farnborough RMA.

Due to this, continuous descent approaches are not achievable at Farnborough, and pilots should be passed their position in the radar circuit (i.e. downwind, base) as opposed to track miles to touch down.

4.2.3 Speed Control

To maintain manoeuvrability if vectoring/avoiding action is required against slow climbing Heathrow or Gatwick outbounds, the following speed limits must be imposed:

- Max 250 knots passing CPT/ABSAV/EVEXU
- Max 210 knots passing GOBNU/RIMUP.

4.2.4 Initial Sequencing

Traffic should be radar vectored for an ILS approach (ILS Z for Runway 24). All traffic is to be vectored south of Farnborough due to the Blackbushe Local Flying Area within the northern part of the Farnborough CTA.

Traffic approaching from outside controlled airspace must not be vectored within 3 NM of Lasham gliding site below 5000 ft.

4.2.5 Avoidance of Noise Sensitive Areas

When possible, traffic should not be vectored directly overhead Guildford and should instead be vectored to the north or south of the town.

4.2.6 Transfer of Traffic to FIN

Traffic shall normally be transferred to FIN descending to 3000 ft on a downwind leg, at an airspeed of 210 knots, clean of outbounds and other traffic under the control of RAD.

4.3 Final Approach Procedures

4.3.1 Responsibility

FIN shall retain responsibility for **separation** of inbound aircraft until touchdown as described in APC 4.4.7.

Although it is the responsibility of FIN for establishing and maintaining the necessary separation between inbound aircraft, AIR is to monitor the ATM and check that the required spacing between inbound aircraft does not degrade. AIR will not issue any instructions for speed adjustment on final approach without first obtaining the approval of FIN.

4.3.2 Coordination with AIR

FIN shall provide AIR with a 10 NM range check with regards to:

- Traffic conducting other than an ILS approach (type of approach must be specified)
- Traffic which is not code-callsign converted
- Traffic which is conducting a training approach or not intending to land.

4.3.3 Runway 06 Vectoring Restrictions

At weekends when VMC prevails, gliding may take place within the RAF Odiham ATZ and portions of CTA-2, -3 and -6 which are delegated up to 4000 ft (see chart AD 2.EGLF-5-1). This prevents ILS approaches to Runway 06 unless an agreement is reached with glider traffic to vacate the delegated airspace (on VATSIM this can be achieved be use of the private message function). Therefore, when VMC prevails inbounds to Runway 06 should be offered a visual approach with vectoring to a base leg to turn final inside the CTR.

The glider delegated airspace is deemed separated from the Runway 24 SID/NPR track.

4.3.4 Runway 24 Vectoring Restrictions

The Farnborough CTR and CTA-1 directly abut the southern boundary of the London CTR.

Farnborough APC is authorised to vector inbounds to Runway 24 within 3 NM of the common boundary/the Heathrow RMA and whilst doing so Farnborough APC is responsible for ensuring separation against all observed traffic within the London CTR.

The airspace available for vectoring to Runway 24 is particularly restrictive and controllers must ensure they achieve all restrictions relating to controlled airspace containment (APC 2.7) and the Farnborough RMA restrictions (APC 4.1.3). The following process should be followed at all times when vectoring to Runway 24:

1. Aircraft must be restricted to a maximum of 185 knots prior to turning base
2. On base leg aircraft must be given a timely descent to 2500 ft once within the lateral confines of CTA-1

   Note: *During Heathrow westerly operations this descent may need to be given early, temporarily routing aircraft outside of controlled airspace, to achieve the Farnborough RMA 2500 ft restriction.*

3. Aircraft shall be turned on an intercept heading to parallel the common CTR boundary, remaining outside the London CTR, and positioning the traffic to establish final at 6 NM.

Farnborough APC shall coordinate with TC Thames/TC Heathrow with respect to any low-level traffic operating within the London CTR within 3 NM of the common boundary west of the Brooklands LFA. TC Thames/TC Heathrow shall confirm the flight rules of any such traffic and provide sufficient information to allow Farnborough APC to provide traffic information with respect to VFR flights or to maintain separation with respect to SVFR and IFR flights. It is the responsibility of Farnborough APC to maintain separation unless coordinated otherwise with TC Thames/TC Heathrow.

When issuing the left base turn for Runway 24, controllers are to warn pilots of the proximity of Fairoaks which is below the extended centreline at 9 NM using the following phraseology:

"Caution, possible late or no warning of traffic in the Fairoaks ATZ in your 1 o'clock range 4 miles."

Controllers should note that Fairoaks departures may trigger TCAS warnings for Runway 24 instrument approach traffic even when they remain clear of controlled airspace due to closure rates (climbing Fairoaks outbounds vs descending Farnborough inbound).

4.3.5 Speed Control on Final Approach

Controllers shall apply speed control as required to achieve and maintain final approach spacing.

When applying speed control, controllers shall apply a maximum of 185 knots within 10 NM to touchdown and allow aircraft to slow to a maximum of 160 knots by 6 NM to touch down.

Speed control shall not be applied inside 4 NM on final.

4.3.6 Final Approach Spacing

FIN is responsible for ensuring the agreed final approach **spacing** is maintained until the lead aircraft reaches 4 NM from touchdown.

The minimum **spacing** between aircraft on final approach is 4 NM, however controllers will typically apply increased spacing to facilitate departures. It is the responsibility of AIR to monitor runway arrival spacing and to notify any required increases in arrival spacing to FIN.

4.3.7 Final Approach Separation

FIN is responsible for applying both radar and wake turbulence **separation** on final approach until touchdown.

The radar separation minima are described in APC 2.5 and wake turbulence separation between aircraft on final approach shall be applied in accordance with MATS Part 1 (CAP 493).

The 'catch-up' (sometimes referred to as compression) that occurs after the leading aircraft passes 4 NM from touchdown must be factored into the spacing provided to ensure that radar and wake turbulence separation are provided until touchdown. In most cases, adding 1 NM to the required **separation** between aircraft and maintaining this until 4 NM from touchdown will act as a sufficient buffer.

> ***Note 1:*** *FIN shall not assume Reduced Separation in the Vicinity of an Aerodrome is being applied without coordination.*
>
> ***Note 2:*** *Aircraft performing a visual approach are responsible for their own wake turbulence separation.*

If either radar or wake turbulence separation are eroded below the required minima, the approach must be discontinued and the aircraft taken off the approach.

4.3.8 Transfer of Communication

Aircraft should be transferred to AIR before reaching 4 NM on final approach and shall be transferred in the intended landing order.

4.4 Surveillance Radar Approach (SRA) Procedures

SRA are available to both runways at Farnborough and may be offered subject to controller workload. All SRA are to be terminated at 2 NM from touchdown. If the pilot is not visual at this stage, then they must carry out the missed approach procedure as no further radar guidance can be provided.

The approach will be routinely carried out on the Farnborough QNH unless the pilot specifically requests to operate on the Farnborough QFE. Aircraft on an SRA should be positioned onto final approach no later than 6 NM from touchdown.

4.4.1 SRA Coordination

FIN will advise the AIR controller when the aircraft is 10 NM from touchdown. AIR shall ensure that FIN has received a landing clearance for the aircraft before it reaches 2 NM.

If the aircraft reports visual before 2 NM, then the aircraft will be transferred to AIR in the normal manner. If a landing clearance has been passed and acknowledged, then the aircraft should be instructed to contact AIR after landing.

4.5 Missed Approach Procedures

The missed approach/go-around procedures are detail in ADC 2.12 and ADC 2.13.

RAD is responsible for the control of traffic conducting both planned and unplanned missed approaches unless they delegate control to FIN.

Chapter 5 Outbound Procedures

5.1 General

5.1.1 Responsibility for Outbound IFR Traffic

RAD is responsible for the initial radar control of all outbound IFR traffic.

5.1.2 Identification of Departing Traffic and SSR Validation/Verification

RAD is responsible for identification, and SSR validation and verification of all Farnborough and Wessex Group outbounds under its control in accordance with APC 2.4.

5.1.3 Departure Speed Limits

To improve departure flow and assist London TC controllers to maintain separation between aircraft a speed limit of 250 knots applies to all outbound aircraft below FL100. Additionally, Farnborough SIDs include an initial speed limit of 210 knots until ESULU to ensure track keeping on initial turns. RAD shall not remove either speed restriction.

5.2 Departure Releases

All traffic departing Farnborough is subject to a release from RAD. Additionally, for traffic joining the ATS route network RAD must obtain a release from TC South West.

ATS route network traffic will route via one of three routings:

To	SID	Route	Coordination Reference
North	HAZEL 2F/L	HAZEL L620 SAM Q41 PEPIS →	*"HAZEL 2F/L **Northbound**"*
Southwest	HAZEL 2F/L	HAZEL L620 SAM →	*"HAZEL 2F/L **Southbound**"*
Southeast	GWC 2F/L	GWC →	*"GWC 2F/L"*

When requesting a release from TC South West for HAZEL SIDs Farnborough APC must also state the subsequent direction of flight. This is because of differing interactions with Southampton APC delegated airspace, through which outbounds on a HAZEL SID will route following L620 SAM. The subsequent direction of flight influences which unit controls this traffic through/clear of Southampton APC delegated airspace and as such TC South West must know the direction of flight after HAZEL to be able to accurately assess the traffic situation and issue an appropriate release.

For traffic routing on a GWC SID TC South West will either issue a release when able or inform RAD of the expected delay.

For traffic routing on a HAZEL SID TC South West will either:

- Issue a *"TC release only"*, or
- Issue a *"released subject Solent"*, or
- Inform RAD of the expected delay.

When AC South/Worthing is covering TC South West and Southampton APC top-down they may issue a *"TC and Solent release"* indicating traffic should be transferred to them as though they were Solent Radar.

RAD must confirm with TC the nature of any release if it is unclear (e.g. just *"released"*).

When TC South West issues a *"released subject Solent"*, RAD must then obtain a second release from Southampton APC (Solent Radar position) or the sector covering this position top-down. Southampton APC may elect not to work the Farnborough traffic, in which case RAD may be responsible for meeting the Solent agreement to TC SW (detailed in APC 5.4).

For HAZEL SIDs issued a *"released subject Solent"* that have been released by Solent, RAD should inform TC South West (via text coordination) which unit (either Farnborough or Solent) will be transferring the flight to TC South West.

All TC South West/Southampton APC releases expire after 5 minutes.

Additionally, a 5-minute interval applies between departures routing on the same SID.

5.3 Vectoring and Climbing Departures

All Farnborough SIDs have stop altitudes of 3000 ft to ensure separation against Heathrow and Gatwick outbounds. All departures must be instructed to *"maintain altitude 3000 ft on reaching"* on initial contact to minimise the risk of level bust.

Except when required for reasons of safety, aircraft are not to be vectored off the SID track until level at 3000 ft. This restriction does not apply to piston aircraft with a maximum authorised take-off weight of 2730 kg or less.

Farnborough APC may climb outbound traffic within the Farnborough CTR/CTA limits. Additionally, departures may be climbed above Farnborough airspace into the LTMA underneath Heathrow/Gatwick outbounds. This is subject to the following conditions:

- The aircraft is correctly squawking an assigned code and there is no reason to suspect inaccurate code/callsign conversion (for example if a DUPE indicator is displayed in the track data-block), *and*
- The indicated cleared level in the track data-block of conflicting LTMA traffic indicates a credible level for the traffic to be climbing to, *and*
- The Mode C of all conflicting LTMA traffic indicates 400 ft above (MATS Part 1 occupancy rule) the altitude RAD intends to climb to and the traffic is observed to be continuing their climb.

Additionally, where 10 NM lateral separation exists against conflicting LTMA traffic routing in the same general direction **and** the Farnborough aircraft has an observed ground speed of 210 knots or greater, RAD may climb to a level above that occupied by the conflicting traffic.

RAD is responsible for separation of any departure climbed into the LTMA.

5.4 Agreements with Area Control and Southampton APC

All outbound traffic on SIDs shall be transferred to either TC South West, Southampton APC, or the appropriate top-down controller on a silent handover in accordance with the conditions on the following page.

Departures shall be transferred clean of inbounds/overflights.

It is important that traffic is transferred in a timely manner to the next unit with transfer of communication achieved prior to leaving the lateral confines of CTA-8 (except when working

northbound traffic skipped by Solent which may be retained by RAD through Solent delegated airspace as required to achieve the Solent – TC South West agreement).

Route	To	Level	Condition
HAZEL Northbound TC Release Only	TC SW	FL70	Own navigation routing direct PEPIS, max 6000 ft until within CTA-6, must not enter Solent airspace or delegated airspace
HAZEL Northbound Released subject Solent	Solent Radar	5000 ft	On a westerly radar heading tracking south of HANKY whilst remaining 5 NM north of the L620 (HAZEL – SAM) centreline
HAZEL Northbound Released subject Solent and Solent elect to skip	TC SW	FL70	Own navigation or radar heading to PEPIS, must be vectored to pass south of HANKY whilst remaining 5 NM north of the L620 (HAZEL – SAM) centreline, max 6000 ft until within CTA-6
HAZEL Southbound Released subject Solent	Solent Radar	5000 ft	Following SID track or an appropriate radar heading
HAZEL Southbound TC Release Only or Released subject Solent and Solent elect to skip	TC SW	5000 ft	Following SID track or an appropriate radar heading
GWC	TC SW	5000 ft	Following SID track or an appropriate radar heading

TC SW (133.180) → TC S (134.125) → TC (135.805) → LH (134.440) → LS (129.430) → LSC (132.605) → L (127.430)

Solent Radar (120.230) → LH (134.440) → LS (129.430) → LSC (132.605) → L (127.430)

5.5 Non-Standard Departures via BIG Joining the ATS Route Network

Traffic which has requested to join the ATS route network via BIG should be coordinated with TC South West. If TC South West is unable to approve a join prior to BIG then the departure should route outside controlled airspace below the LTMA and be coordinated with TC Thames to facilitate a join via the Thames RMA at BIG/DET.

5.6 Non-ATS Route Network Departures

RAD is responsible for providing a radar service to non-ATS route network departures until they are clear of controlled airspace and is (subject to workload) responsible for providing UK FIS to any traffic leaving controlled airspace which requires a service, except that this traffic may be coordinated with and transferred to LF LARS when the function is split. ADC will request clearance from RAD for any non-standard IFR departure.

Chapter 6 Flights to and from London TMA Airfields

6.1 Flights to the Solent Group

Route: HAZEL DCT SAM

Flights to the Solent Group are subject to coordination between Farnborough APC and Southampton APC (Solent Radar), skipping TC airspace. RAD is to obtain a release from Solent Radar and will transfer traffic to Solent Radar at 5000 ft on route unless otherwise coordinated with Solent.

RAD may only climb within Farnborough controlled airspace and this traffic must not enter/be climbed into the LTMA unless coordinated as this is unknown traffic to TC controllers.

6.2 Flights to all other London TMA Airfields

Flights to other London TMA airfields from Farnborough require no additional action from Farnborough APC beyond the mandatory releases required from TC South West for any IFR departure joining the ATS route network.

AIR will prenote the appropriate TC controllers as detail in ADC 2.8.

6.3 Flights from Gatwick

Route: IMVUR/NOVMA DCT EVATA

Flights from Gatwick route are capped to 3000 ft on the SID and may leave controlled airspace. TC South West will coordinate the inbound with RAD. Traffic which has left controlled airspace shall be offered the maximum UK FIS possible but must not re-enter the LTMA unless coordinated with TC South West (i.e. the aircraft shall re-enter controlled airspace within the Farnborough CTR/CTA).

6.4 Flights from the Solent Group

Route: SAM DCT RUDMO

Subject to overall traffic Southampton APC (Solent Radar) will either coordinate these inbounds directly with Farnborough APC on radar vectors through CTA-8, skipping TC South West, or they will be transferred to TC South West on the flight plan route with transfer to RAD in accordance with normal procedures.

Traffic accepted directly from Solent Radar via CTA-8 must not enter the LTMA without coordination with TC South West as this is unknown traffic to TC controllers.

6.5 Flights from all other London TMA Airfields

Flights from all other London TMA airfields route as per normal procedures.

Chapter 7 Wessex Group Procedures

7.1 General

This chapter details procedures for IFR traffic joining/leaving the ATS route network from/to the Wessex Group airfields of Blackbushe, Dunsfold, Fairoaks, Lasham and RAF Odiham. Procedures for VFR traffic are detailed in Section LOW.

Inbound IFR traffic from the ATS route network will route via the STARs detailed in APC 3.2 and will be released to Farnborough APC in accordance with the procedures detailed in APC 3.4.

Outbound IFR traffic to the ATS route network should flight plan via the following initial routes to then join the UK SRD outbound routings published for **Farnborough** (i.e. search with the EGLF ICAO code in the departing airfield field):

Departure to	Via	Notes
North Northeast West Northwest	CPT	Includes departures to EGGW, EGSC, EGSG, EGSS and EGSU
South	GWC	Includes departures to EGKA, EGKB, EGKK, EGKR, EGLC and EGMC
East Southeast Southwest	HAZEL	Includes departures to EGLD, EGLL and EGWU

All traffic joining the ATS route network will require an individual ATS route network clearance/release from TC South West.

Traffic flight planned via BIG and DET will require individual coordination and, due to the density of traffic within the overlying LTMA between OCK-BIG-DET, may initially route outside controlled airspace under the control of Farnborough. Traffic may be coordinated with TC Thames to join controlled airspace via the Thames RMA at BIG/DET.

The following sections outline specific procedures for each Wessex Group airfield. Farnborough APC is not responsible for providing top-down control at any Wessex Group airfield.

7.2 Blackbushe (EGLK)

Blackbushe is located 4 NM northwest of Farnborough. Blackbushe has a varied mixture of general aviation traffic including light business jet traffic. Blackbushe Information (122.305 MHz) provides an aerodrome flight information service to traffic operating within the Blackbushe ATZ.

For ATS route network departures, the Blackbushe Information will request departure clearance from RAD. RAD is to request a joining clearance from TC South West and issue appropriate departure instructions to Blackbushe Information, typical clearances are:

EGLK Runway	Clearance
07	*Farnborough clears (callsign) to join controlled airspace, right turn out on track OCK, climb to altitude 2000 ft, squawk (SSR code), QNH (LF QNH)*
25	*Farnborough instructs (callsign) to depart on track to the west remaining outside controlled airspace, climb to altitude 3000 ft, squawk (SSR code), QNH (LF QNH)*

For ATS route network arrivals Blackbushe Information shall be notified with an inbound estimate and will inform RAD of the runway in use at Blackbushe and any other relevant information. During VMC conditions traffic shall be radar vectored onto a base leg from the south to a position where a visual approach can be completed.

Regardless of the approach type traffic to Runway 06 must remain clear of the Odiham ATZ. Once the inbound reports visual with Blackbushe they shall be instructed to contact Blackbushe Information prior to entering the Blackbushe ATZ.

If a Blackbushe IFR inbound conducts a missed approach, Blackbushe Information will request the traffic either remain within the visual circuit and ATZ or, when this is not possible:

EGLK Runway	Missed Approach
07	Climb straight ahead until passing 2 DME BLC, or 1500 ft (whichever is sooner) then turn left own navigation for WOD NDB, to remain outside of controlled airspace and climb to altitude 2400 ft.
25	Climb straight ahead until passing 2 DME BLC, or 1500 ft QNH (whichever is sooner) then turn right on track to the west, climbing to altitude 2400 ft.

Traffic observed to re-enter Farnborough controlled airspace will be treated as an infringing IFR flight for the purposes of separation until it is in contact with Farnborough ATC.

7.3 Dunsfold (EGTD)

Dunsfold is located 13 NM southeast of Farnborough adjacent to the Gatwick CTA. Dunsfold is a private site and traffic is typically limited. Dunsfold Radio (119.105 MHz) provides an air-ground communication service to traffic.

For ATS route network departures, the Dunsfold Radio will obtain a joining clearance from TC South West who will normally issue a *"released subject Farnborough"* although they may elect to work the traffic into controlled airspace themselves depending on workload and the direction of flight. When required, Farnborough RAD will issue appropriate departure instructions to Dunsfold Radio.

For ATS route network arrivals Dunsfold Radio shall be notified with an inbound estimate and will inform RAD of the runway in use at Dunsfold and any other relevant information. Traffic shall be radar vectored to a position where a visual approach can be completed and be provided an appropriate UK FIS once outside of controlled airspace. Once the inbound reports visual with Dunsfold they shall be instructed to contact Dunsfold Radio.

7.4 Fairoaks (EGTF)

Fairoaks is located 9 NM northeast of Farnborough. Fairoaks has a varied mixture of general aviation traffic including light business jet traffic. Fairoaks Information (123.430 MHz) provides an aerodrome flight information service to traffic operating within the Fairoaks ATZ.

For ATS route network departures, the Fairoaks Information will request departure clearance from RAD. RAD is to request a joining clearance from TC South West and issue appropriate departure instructions to Fairoaks Information.

When Runway 24 is in use at both Farnborough and Fairoaks, a clearance may be issued to Fairoaks Information, clearing the outbound into Farnborough controlled airspace immediately after departure. The clearance must stipulate the aircraft climb above 1500 ft only once clear of the Fairoaks ATZ to prevent inadvertent infringement of the London CTR.

During all other configurations, the aircraft should be instructed to remain outside of controlled airspace with a clearance passed to the aircraft directly when the situation permits.

For ATS route network arrivals Fairoaks Information shall be notified with an inbound estimate and will inform RAD of the runway in use at Fairoaks and any other relevant information. Traffic shall be radar vectored to a position where a visual approach can be completed and be provided an appropriate UK FIS once outside of controlled airspace. Once the inbound reports visual with Fairoaks they shall be instructed to contact Fairoaks Radio.

7.5 Lasham (EGHL)

Lasham is located 11 NM southwest of Farnborough underneath the Runway 06 extended centreline. Lasham's traffic is predominantly glider traffic however 2 Excel Engineering are based on site and provide maintenance to jet aircraft of size 757 type and smaller. Lasham Radio (126.650 MHz) provides an air-ground communication service to non-glider traffic. All operations for non-glider traffic are to Runways 09/27.

For ATS route network departures, the Lasham Radio will request departure clearance from RAD. RAD is to request a joining clearance from TC South West and issue appropriate departure instructions to Lasham Radio.

For ATS route network arrivals Lasham Radio shall be notified with an inbound estimate and will inform RAD of the runway in use at Lasham and any other relevant information. Traffic shall be radar vectored to a position where a visual approach can be completed. For Lasham Runway 27 traffic shall, when the overall traffic loads permit, be retained inside Farnborough controlled airspace until cleared to leave by descent on final approach. For Lasham Runway 09 traffic will leave controlled airspace on a downwind leg and be provided an appropriate UK FIS. Traffic must remain clear of the Odiham ATZ. Once the inbound reports visual with Lasham they shall be instructed to contact Lasham Radio.

7.6 RAF Odiham (EGVO)

7.6.1 Overview

RAF Odiham is a front-line support helicopter base located 6 NM southwest of Farnborough. Operations from Odiham are principally Chinook HC Mk4/5/6 however the base can accept

fixed wing traffic. RAF Odiham has an ATZ whose eastern boundary abuts the Farnborough CTR, and a MATZ of standard dimensions with a western stub for Runway 09. The eastern portion of the MATZ is partly contained by Farnborough controlled airspace.

At weekends, the base is typically closed, and gliding takes place within the ATZ and a delegated portion of Farnborough CTA-2, -3 and -6 up to 4000 ft (see chart AD 2.EGLF-4-2). This impacts on aircraft conducting approaches to Runway 06 at Farnborough. SID/NPR departures from Runway 24 are deemed separated (see APC 4.3.3).

Odiham ATC comprises Odiham Tower - 119.230 MHz, Odiham Approach - 131.305 MHz and Odiham Talkdown - 123.300 MHz for the provision of surveillance/precision radar approaches. When multiple Odiham positions are open all coordination is via Odiham Approach.

All Odiham procedures are flown on the Odiham QNH.

7.6.2 Outbounds

All IFR outbounds and any VFR outbounds wishing to route via Farnborough controlled airspace are subject to release from RAD. For flights joining the ATS route network an additional release is required from TC South West.

Odiham has SIDs published for departures to CPT and HAZEL (these are also used by IFR traffic remaining outside controlled airspace), traffic routing via GWC will fly a HAZEL SID then route HAZEL DCT GWC. In practice traffic is typically radar vectored to deconflict from other movements.

IFR outbounds joining the ATS route network are transferred from Odiham Tower to RAD. All other traffic is worked by Odiham Approach except for VFR flights which wish to transit Farnborough controlled airspace which will be transferred to RAD by radar handover prior to entering Farnborough controlled airspace.

7.6.3 Inbounds

ATS route network arrivals shall be individually coordinated by RAD with Odiham Approach and are typically transferred to Odiham inside controlled airspace. Odiham will then vector the aircraft to the appropriate instrument approach.

For IFR arrivals from outside controlled airspace that need to transit Farnborough controlled airspace Odiham Approach will coordinate with RAD prior to entering controlled airspace. This traffic must not enter the LTMA as it is unknown traffic to London TC.

To expedite Farnborough movements against Odiham IFR inbounds the following procedures are available:

1. Approved Farnborough AIR controllers may provide RSIVA for Runway 24 IFR departures against Odiham Runway 27 IFR inbounds provided that the Farnborough departure is visual with the Odiham inbound prior to take-off and the Odiham inbound has cleared the Farnborough SID track – Odiham will provide traffic information and advise *"Farnborough departure maintaining visual separation"*.
2. Odiham will request Runway 27 IFR inbounds report when they have the aerodrome in site – once the aerodrome is in sight Odiham will request if the pilot can cancel their IFR flight and convert to VFR – if this is agreed then Odiham will inform Farnborough of the change of flight rules.

7.7 Other Aircraft Joining or Leaving Controlled Airspace

Dependent on the direction of flight, flights to and from other airfields below the London TMA may join or leave controlled airspace via Farnborough controlled airspace. Aircraft may free call Farnborough APC or be transferred by TC South West. Farnborough APC shall obtain relevant details, allocate a UKCP 'airways' SSR code, and identify/validate/verify the flight. An ATS route network clearance should be obtained from the appropriate London TC sector before clearing aircraft to enter controlled airspace.

LOW | LOW LEVEL OPERATIONS

Chapter 1 General Principles

1.1 Provision of Air Traffic Services

RAD is responsible for the provision of air traffic services to VFR, SVFR and IFR flights operating within Farnborough Class D airspace and additionally to IFR flights operating within Farnborough Class E airspace. Farnborough Zone is bandboxed with RAD except when notified by temporary procedure change.

LF LARS is responsible for the provision of air traffic services to VFR and IFR flights operating outside controlled airspace within the Farnborough LARS area of responsibility and additionally to VFR flights operating within Farnborough Class E airspace. LF LARS assumes responsibility for all three (West, North and East) LARS sectors and LF LARS N/E are bandboxed with LF LARS except when notified by temporary procedure change.

When RAD and LF LARS operate bandboxed, RAD may elect to provide the LARS function within just the LARS West sector or throughout all three sectors subject to overall workload and the availability of adjacent units.

1.2 Coordination

To minimise verbal coordination Farnborough APC controllers may apply the following procedure to effect silent handovers between controllers:

1. The transferring controller must first ensure that:
    a. the aircraft is correctly squawking a unique SSR code assigned from the *transferring* controller's local SSR code range
    b. the aircraft flight plan is correct with regards to aircraft type and routing
    c. the scratch-pad records the current/requested UK FIS (e.g. LF/TS)
    d. the cleared level field displays any level restriction (e.g. not above 2000 ft)
2. The transferring controller shall then instruct the aircraft to *"report your squawk to Farnborough Radar XXX.XXX"*
3. The receiving controller shall confirm the reported SSR code against the SSR code observed in the track data-block – if the SSR codes match (and no duplicates are observed) then this constitutes a valid transfer of radar identification
4. The receiving controller shall then assign a new SSR code from their local SSR code range.

RAD shall transfer any aircraft leaving Farnborough controlled airspace which has requested a UK FIS outside of controlled airspace to LF LARS by means of the above process – transfer may occur prior to leaving controlled airspace so long as any conflictions have been resolved.

LF LARS shall transfer any aircraft receiving a UK FIS which has requested to transit Farnborough controlled airspace (except VFR traffic in Class E airspace) to RAD by means of the above process – controllers shall instruct aircraft to *"remain outside controlled airspace"* prior to or alongside the instruction to change frequency.

1.3 Local SSR Code Allocation Procedures

Farnborough APC controllers shall allocate the following SSR codes dependent on the controller position and/or flight rules of the traffic:

RAD

IFR/SVFR traffic: 0421-0427

VFR traffic: 0460-0467

FIN

IFR traffic (intended for IFR circuits under the control of FIN): 1750-1757

LF LARS

LARS West Sector: 0430-0456

LARS North Sector: 5020-5036

LARS East Sector: 1730-1746

If LF LARS exhaust the available code range for a particular sector they may allocate the following conspicuity codes to traffic receiving a basic service only:

LARS West Conspicuity: 0457

LARS North Conspicuity: 5037

LARS East Conspicuity: 1747

Code 4572 is the designated frequency monitoring code (“listening squawk”), aircraft squawking this code in the vicinity of Farnborough should be maintaining a listening watch on the LF LARS frequency 125.250 MHz, however the Mode A and C readout displayed must be considered unvalidated and unverified, respectively.

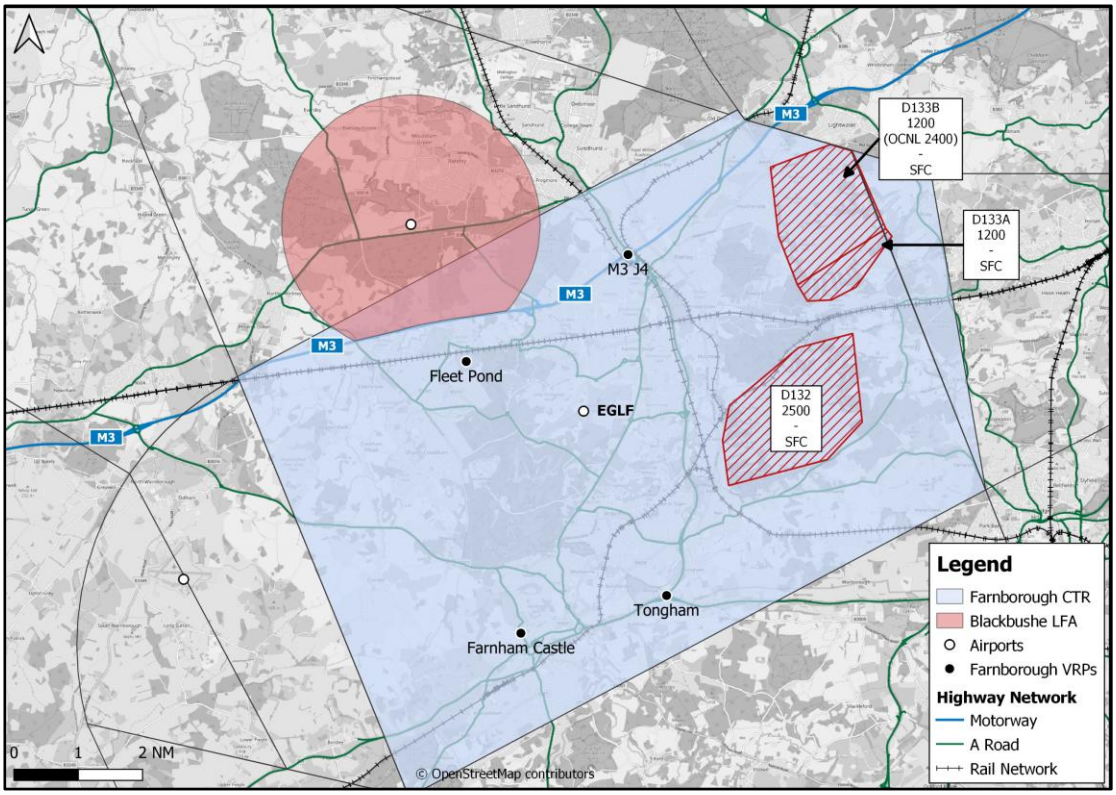
Chapter 2 Airspace

2.1 Classification

Farnborough has a combination of Class D and Class E airspace as described in APC 4.1.1 and APC 4.1.2.

RAD is responsible for all traffic operating within Class D airspace. Within Class E airspace LF LARS may provide a service to VFR traffic but must coordinate IFR traffic with RAD.

Figure 4 - Farnborough CTR and Blackbushe LFA



2.2 Blackbushe Local Flying Area

Blackbushe is delegated a Local Flying Area (LFA) to allow autonomous operations for circuit traffic within the Farnborough CTR. The LFA is that part of the Blackbushe ATZ that exists between the Farnborough CTR boundary and the M3 motorway from the surface to 2000 ft AMSL (maximum 1500 ft AMSL during SVFR conditions).

Traffic operating within the LFA shall be in contact with Blackbushe Information - 122.305 MHz when the position is open and squawk SSR code 7010 unless otherwise instructed.

When the meteorological report at Farnborough indicates a visibility of less than 5 km or a cloud ceiling of less than 1500 ft operations may take place in the LFA under deemed SVFR without individual clearance from Farnborough APC subject to the following restrictions:

- By day only
- Remain clear of cloud and with the surface in sight
- Fly at a speed of 140 knots IAS or less
- A minimum cloud ceiling of 600 ft (per Farnborough meteorological report)
- A minimum flight visibility of 3 km (per Farnborough meteorological report)

When the LFA is operating SVFR, Blackbushe Information shall:

- Instruct aircraft to squawk 0424 (this is an allocation from the RAD IFR/SVFR code range)
- Limit the total number of circuit aircraft to three at any one time
- Operate the circuit at 800 ft Blackbushe QFE with overhead joins at 1400 ft AMSL (1075 ft Blackbushe QFE)

Farnborough APC is not responsible for provision of separation for SVFR flights operating within the LFA. Flights within the LFA are deemed separated against SVFR flights outside the LFA which remain either south of the M3 motorway or east of the A331 dual-carriageway (which tracks northwest, roughly perpendicular to the CTR boundary, from the M3 Junction 4 VRP to the CTR boundary) and IFR flights which are either established on the ILS for Runways 06/24 or departing on the GWC 2L/F or HAZEL 2L/F SIDs.

In the event of an IFR departure/arrival from/to Blackbushe or and IFR departure from Odiham Runway 09 (which are not deemed separated from SVFR operations in the LFA) Farnborough APC shall inform Blackbushe Information of the pending IFR traffic and instruct any SVFR circuit to land or leave the LFA until the IFR traffic is clear.

2.3 Visual Reference Points (VRPs)

VRPs are established both within and outside the Farnborough CTR along transit routes that deconflict against IFR traffic flows.

2.4 Other Aerodromes in the Vicinity

The Wessex Group aerodromes of Blackbushe, Dunsfold, Fairoaks, Lasham and RAF Odiham all lie within close proximity to Farnborough alongside a number of private sites. Traffic operating outside of controlled airspace to/from these aerodromes are encouraged to obtain a service from LF LARS when clear of the relevant aerodrome ATZ.

Chapter 3 VFR and SVFR Operations

3.1 VFR and Special VFR Minima

VFR and SVFR flights within the Farnborough CTR are permitted in accordance with the criteria detailed in SERA 5001. For flights not entering an ATZ the VMC minima relate to in-flight conditions as opposed to airport reported weather.

Below these minima SVFR flight may take place subject to SERA 5001.

Criteria relating to the Blackbushe LFA are detailed in LOW 2.3.

In marginal weather conditions, when the reported meteorological visibility falls below 5 km or the reported cloud ceiling falls below 1500 ft, RAD shall inform pilots of transiting aircraft requesting a VFR clearance of the reported weather and ask them to specify the type of clearance required. It is the pilot's responsibility to determine his flight conditions, whether or not the relevant VMC can be maintained, and whether he can accept a SVFR clearance bearing in mind he must remain clear of cloud and in sight of the surface.

Controllers should note that pilots may be simulating alternate weather to real world conditions and therefore may be able to maintain VMC at any time. If the pilot reports this to be the case, the controller may choose to issue either a VFR or SVFR clearance.

3.2 Farnborough CTR Procedures

3.2.1 General Procedures

Aircraft may be cleared to enter the Farnborough CTR by RAD either VFR or SVFR or IFR subject to other traffic and appropriate coordination as required. RAD may delay issuing a clearance to transit aircraft for traffic reasons. In such situations RAD will advise the pilot when to expect a clearance.

RAD is to provide standard separation between IFR and SVFR traffic, and between SVFR and other SVFR traffic, except where a deemed separation standard is applicable. Traffic information will be provided to VFR transit aircraft to enable them to avoid IFR/SVFR traffic and arriving/departing aircraft. If necessary, routeing instructions or altitude instructions may be issued to the VFR traffic.

The main transit routes through the Farnborough CTR are established north-south, with a route east of the airfield via M3 Junction 4 - A31 Tongham Roundabout and to the west of the airfield via Fleet Pond - Farnham castle. Traffic should be cleared by the route that best matches their onward routing whilst assisting with separation against adjacent ATZs/CTRs. For example, traffic requesting a transit from the south to the north with an onward routing to Wycombe/Booker (EGTB) would be cleared via A31 Tongham Roundabout - M3 Junction 4 even during Runway 06 operations, whereas traffic intending to then route northwest towards CPT may be cleared via Farnham Castle - Fleet Pond - Hook to remain clear of the Blackbushe ATZ.

Details of inbound VFR traffic must be passed to AIR and transfer of control and communication shall take place when the pilot reports visual with the airfield. Aircraft may only penetrate the Farnborough ATZ with the prior approval of AIR.

SVFR inbounds will be retained by RAD until such time as they can be safely integrated into the inbound stream maintaining standard separation and the aircraft has become number one to land (in order to ensure that it cannot execute any manoeuvre which will erode the separation against the aircraft ahead). This is unless AIR is able to provide RSIVA and has co-ordinated with RAD and agreed to provide reduced separation. Subject to this, the responsibility for separating the aircraft from IFR and/or other SVFR flights will remain with RAD until AIR is visual with the relevant traffic.

VFR and SVFR outbounds shall typically be cleared via a compass-point direction. Clearance will be requested from RAD by GMC when the aircraft starts, and departure is subject to release from RAD. Outbounds and aircraft transiting via the overhead shall be transferred from AIR to RAD when all local conflicts have been resolved and the aircraft is clear of the Farnborough ATZ.

Traffic leaving the Farnborough CTR to the:

- North must be instructed to remain clear of the Blackbushe ATZ
- East must be instructed to remain clear of the Fairoaks ATZ
- West must be instructed to remain clear of the Odiham ATZ

unless approval/clearance has been obtained from the relevant unit.

3.2.2 Airspace Restrictions within the Farnborough CTR

Controllers shall not issue clearances which impair a pilot's ability to remain clear of the following Danger Areas within the Farnborough CTR:

D132 – Ash Ranges

Hours of Operation: By NOTAM
Vertical Extent: Surface – 2500 ft

D133A – Pirbright

Hours of Operation: 0800-2359 (0700-2300) and as activated by NOTAM
Vertical Extent: Surface – 1200 ft

D133B – Pirbright

Hours of Operation: 0800-2359 (0700-2300) and as activated by NOTAM
Vertical Extent: Surface – 1200 ft (occasionally 2400 ft by NOTAM)

These Danger Areas are depicted in Figure 4.

3.2.3 Altitude Restrictions and Separation from IFR Traffic

Within the Farnborough CTR VFR and SVFR traffic may operate at a maximum altitude of 3400 ft within CTR-1 and 2400 ft within CTR-2 however, except within the vicinity of the aerodrome, traffic should not routinely be cleared to operate above levels which provide 1000 ft vertical separation from IFR traffic.

3.2.4 Geographical Deemed Separations

SVFR traffic instructed to hold north of Fleet Pond or M3 Junction 4, or south of Farnham Castle or A31 Tongham Roundabout is deemed separated against IFR traffic established on the ILS for Runways 06/24 or departing on the GWC 2L/F or HAZEL 2L/F SIDs.

3.2.5 Procedures for Blackbushe/Fairoaks Departures Requesting CTR Entry

VFR traffic departing Blackbushe and Fairoaks which intend to route via the Farnborough CTR will be coordinated with RAD by either Blackbushe or Fairoaks Information prior to departure.

For aircraft departing Blackbushe, RAD will provide a clearance and SSR code to Blackbushe Information to be passed on to the pilot prior to departure. Aircraft departing Blackbushe are not identified/validated/verified, and therefore need to be identified/validated/verified by RAD on first contact.

The following are standard clearances for traffic wishing to route via the Farnborough CTR from Blackbushe. The specific clearance is selected based on the requested direction of flight and is not dependent on either Farnborough or Blackbushe runway in use.

Standard Fleet Pond Departure: *"G-ABCD is cleared to cross the Farnborough Control Zone, via Fleet Pond, VFR, not above altitude 2000 ft, hold northwest of Fleet Pond. Squawk XXXX, QNH XXXX. Contact Farnborough Radar Frequency 133.450."*

Standard M3 Junction 4 Departure: *"G-ABCD is cleared to cross the Farnborough Control Zone, via M3 Junction 4, VFR, not above altitude 2000 ft, hold north of M3 Junction 4. Squawk XXXX, QNH XXXX. Contact Farnborough Radar Frequency 133.450."*

For aircraft departing Fairoaks, RAD will provide a clearance and SSR code to Fairoaks Information to be passed on to the pilot. Aircraft departing Fairoaks are not identified/validated/verified, and therefore need to be identified/validated/verified by RAD on first contact. No standard clearances are defined and traffic may be instructed to remain outside of controlled airspace prior to contacting Farnborough dependent on overall traffic.

3.2.6 Coordination with TC Thames/TC Heathrow

Farnborough APC shall coordinate with TC Thames/TC Heathrow with respect to any low-level traffic operating within the London CTR within 3 NM of the common boundary west of the Brooklands LFA. TC Thames/TC Heathrow shall confirm the flight rules of any such traffic and provide sufficient information to allow Farnborough APC to provide traffic information with respect to VFR flights or to maintain separation with respect to SVFR and IFR flights. It is the responsibility of Farnborough APC to maintain separation unless coordinated otherwise with TC Thames/TC Heathrow.

Traffic wishing to enter the London CTR must be coordinated with TC Thames/TC Heathrow prior to entry.

Unless coordination has been affected with Farnborough APC, traffic entering or leaving the London CTR to the southwest will be instructed by TC Thames/TC Heathrow to remain outside Farnborough controlled airspace and traffic routing via H3 will be instructed to route west of Bagshot at the CTR boundary.

Chapter 4 Helicopter Operations

4.1 General

Inbound helicopters should advise Farnborough APC as to whether they require an instrument or a visual approach on first contact, if this is not offered then it shall be requested. Due to the noise sensitivity of the areas surrounding Farnborough, the preferred approach for helicopters during daylight hours is visual via the designated routes.

Outbound helicopters shall be cleared by the appropriate helicopter route if operating VFR or if operating IFR then RAD shall provide a clearance with an assigned level and heading which will ensure deconfliction from other traffic and compliance with noise abatement procedures.

4.2 Helicopter Routes

To minimise delays and noise disturbance helicopters routing to or from Farnborough, VFR, should follow one of four established routes:

Route	Description
West Route	From the Basingstoke - Woking railway line to "North Gate", then towards the northern aerodrome boundary via Southwood Country Park (*see Note 1*)
North Route	From the M3 until "North Gate", then towards the northern aerodrome boundary via Southwood Country Park (*see Note 1*)
East Route	From Worplesdon Station to Longerend Farm on the A324 and then to Surprise Hill continuing west to join the Basingstoke Canal where it passes under the B3411 and railway bridges "Two Bridges" to the southern end of Queens Parade, then towards the southern aerodrome boundary either via the Queens Roundabout or the Army Golf Course (*see Notes 2 and 3*)
South Route	From the A31/A331 junction "The Junction" avoiding the built up areas around Farnham to join the Basingstoke canal where it crosses over the dual carriageway then to the southern end of Queens Parade, then towards the southern aerodrome boundary either via the Queens Roundabout or the Army Golf Course (*see Notes 2 and 3*)

Note 1: *"North Gate" is the unpopulated area between Fleet Pond VRP and M3 Junction 4A. Helicopters are not permitted to overfly the terminal building and must maintain at least 1700 ft if they require to fly over any part of the QinetiQ site, Southwood, or Fleet.*

Note 2: *The section of the East Route between Longerend Farm and Surprise Hill comes close to the southern edge of D132. Normally it is active to 500 ft AGL and it is the pilot's responsibility to remain outside the Danger Area. If EGD132 is notified as active above this level, this route will be closed by NOTAM. Pilots will be instructed to either follow the Woking to Basingstoke railway line to join via "North Gate", or to use the South Route, depending on traffic.*

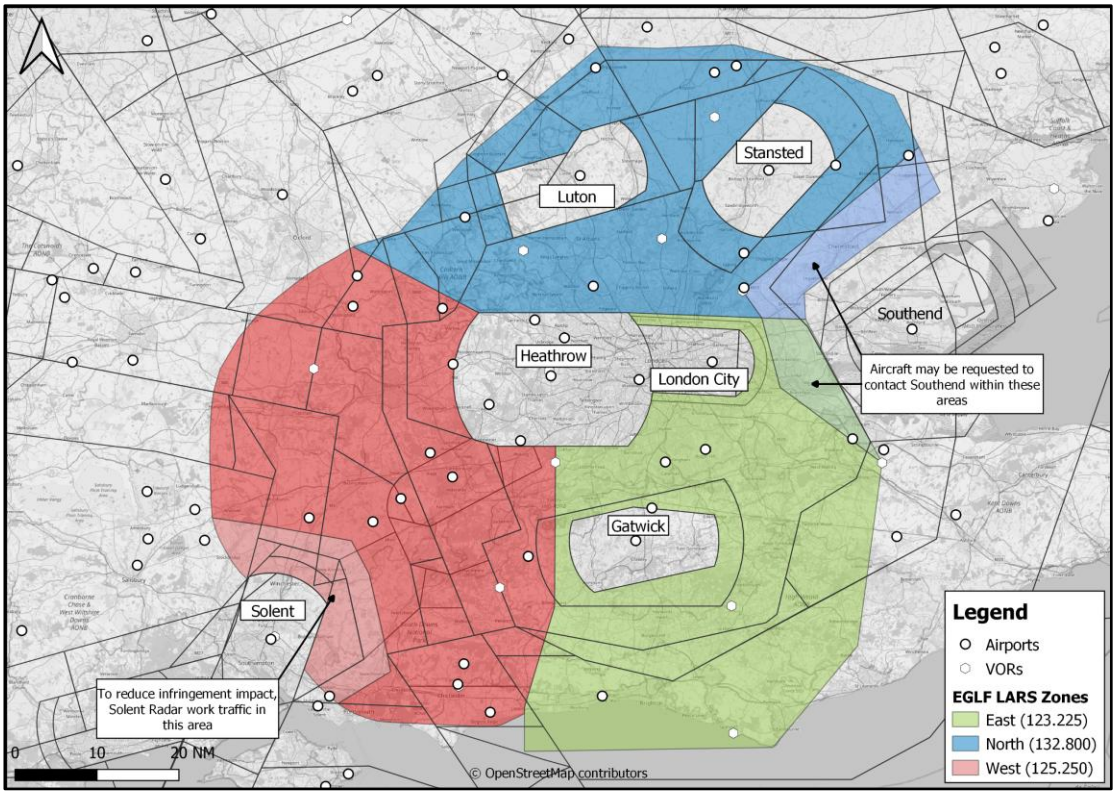
Note 3: *Helicopters must avoid overflying all built up areas below 1700 ft unless instructed by ATC. Pilots may be instructed to route to Heli Yankee to hold on the ground if there is fixed-wing traffic arriving or departing.*

Chapter 5 Farnborough Lower Airspace Radar Service (LARS)

5.1 LARS Sectors

The Farnborough LARS function is split into three sectors, West, North and East, however the sectors are bandboxed into LF LARS - 125.250 MHz except when notified by temporary procedure change.

Figure 5 - Farnborough LARS Sectors



Traffic should be allocated an SSR code appropriate to the LARS sector they are operating within (including allocation of a new code when transiting between sectors) as described in LOW 1.3.

When a split of LF LARS is authorised, LARS North will operate on 132.800 MHz and LARS East will operate on 123.225 MHz. LARS West will retain the main LARS frequency 125.250 MHz.

5.1.1 Delegation of Responsibility to Southampton APC and Southend APC

To mitigate against the risk of infringement of Southampton and Southend controlled airspace (which have more complex airspace divisions compared to other LTMA aerodromes and typically have IFR traffic operating immediately adjacent to airspace boundaries), traffic requesting a UK FIS within the highlight regions in Figure 5 adjacent to Southampton and Southend should be coordinated and transferred to Solent Radar and Southend Radar (Southend Director or Thames Director when top-down) respectively.

5.2 Provision of UK Flight Information Services

MATS Part 1 and CAP 774 (UK Flight Information Services) detail the services which may be provided outside controlled airspace. Standard traffic information thresholds and deconfliction minima are to be used. Reduced horizontal radar separation of 3 NM is approved for use against appropriately identified and coordinated traffic provided both radar tracks are within 40 NM of Farnborough or within a defined LF LARS sector. Outside of these limits 5 NM separation must be used at all times.

When the LARS function is provided bandboxed to RAD, the provision of UK FIS is to be limited so that it does not adversely affect the service provided to aircraft inside controlled airspace.

Controllers must not give a Deconfliction Service or radar vectors under a Traffic Service to aircraft below SMAA levels or minimum sector altitudes. Additionally, a radar service must not be given to traffic operating below 1500 ft.

5.3 Service Limitations

When providing a surveillance derived service, there may be circumstances that prevent controllers from passing timely traffic information and/or deconfliction advice. Examples include high workload, areas of high traffic density, service against aircraft conducting high energy manoeuvres, or when traffic is not displayed to the controller. Controllers shall inform the pilot of reductions in traffic information along with the reason and the probable duration however, it is recognised it may not always be possible to provide these warnings in a timely fashion.

The following paragraphs outline situations that should cause controllers to consider warning of reduced service provision with example phraseology.

In high workload situations, which may not always be apparent from RT loading, it may not be possible for controllers to always provide timely traffic information and/or deconfliction advice. High workload situations may not necessarily be linked to high traffic density.

“reduced traffic information due to controller workload.”

High traffic density can cause difficulty interpreting surveillance system data and may affect RT loading or controller workload to the extent that they are unable to pass timely traffic information and/or deconfliction advice on all traffic.

“approaching an area of high traffic density, possible late or no warning of traffic for the next X miles.”

Where aircraft are operating close to the lateral and/or vertical limits of solid surveillance system cover, or close to a radar overhead, there is the potential for conflicting traffic to be detected late. When close to the limits of surveillance cover, the service should be downgraded to a Basic Service.

“reduced traffic information from the left/right for the next X miles due to the limits of surveillance/radar coverage.”

“Basic Service, you are nearing the edge of my surveillance/radar coverage.”

“Basic Service, you are outside my area of surveillance/radar coverage.”

5.4 Airspace Hazards

5.4.1 Provision of Warnings

Subject to workload controllers should provide warning of the following hazards to all identified traffic regardless of service type. However, the primary task of providing traffic information and/or deconfliction advice to traffic operating under a radar service should not be compromised by the provision of these warnings.

When warnings involve the provision of routing advice controllers must consider relevant SMAA levels or minimum sector altitudes. Traffic operating below these levels should only be provided generic advice and should not be radar vectored. If a controller deems a situation urgent enough to warrant or a pilot requests a specific radar vector then the controller must provide a terrain warning and, if vectoring is to be continued, a climb to a terrain safe level.

5.4.2 Controlled Airspace Infringement

Identified traffic should be radar monitored when operating in close proximity to controlled airspace boundaries. Traffic which is within 2 NM of a controlled airspace boundary and on an observed track that would result in infringement should be informed of the airspace ahead and provided advice on how to remain clear.

Traffic which is observed to infringe controlled airspace (including vertically into the London TMA) must be immediately informed and provided advice on how to leave controlled airspace in the most expeditious manner. Controllers must take care to ensure any advice provided does not result in a course of action that degrades observed separation against traffic operating within controlled airspace. Additionally, controllers must coordinate traffic which has infringed controlled airspace with the controlling unit at the earliest opportunity providing sufficient detail to allow rapid radar identification by the other controller and allow a reduction in the separation minima from those for unknown to those for known traffic. The controlling unit may pass instructions via LF LARS or may request the traffic be transferred to their frequency.

Of all the airspace warnings provided by LF LARS, warnings relating to infringement of controlled airspace must take the highest priority.

5.4.3 Danger and Restricted Areas

Identified traffic should be provided warning if the observed track is likely to take the aircraft through any notified Danger or Restricted Area.

5.4.4 Areas of Gliding Activity

Identified traffic should be provided warning if the observed track is likely to take the aircraft through the defined “avoidance areas” for the following gliding sites. Pilots may opt to continue on own navigation at their own risk.

LARS Sector	Gliding Site	Position	Avoidance Area
West	Lasham (EGHL)	MID/300°/17.3 NM	Within 3 NM below 5000 ft
	Rivar Hill	CPT/235°/15.1 NM	Within 2 NM below 3800 ft
North	Dunstable	BNN/003°/8.5 NM	Within 3 NM below 2500 ft
	Gransden	BKY/333°/13 NM	Within 2 NM below 3300 ft
	Ridgewell	BKY/080°/18.7 NM	Within 2 NM below 2300 ft
	Wethersfield	BKY/095°/16.5 NM	Within 2.5 NM below 2400 ft
East	Kenley	BIG/255°/5 NM	Within 2 NM below 2500 ft
	Parham	MID/145°/9.7 NM	Within 2 NM below 2100 ft
	Ringmer	MAY/185°/6.6 NM	Within 2 NM below 2600 ft
	Spilsted Farm	MAY/108°/16 NM	Within 2 NM below 2200 ft

5.4.5 Other Airspace Restrictions

Identified traffic on an observed track that would result in infringement of an ATZ should be informed.

Traffic routing through the Benson MATZ should be coordinated with Benson Approach - 136.455 MHz when the position is open.

5.5 Stansted TMZ Procedures

Entry into the Stansted TMZ by non-transponder equipped aircraft may be authorised by LF LARS following identification of the traffic by a non-SSR method. Non-transponder equipped aircraft which have TMZ entry authorised by LF LARS should be notified to TC Essex. LF LARS is not permitted to clear aircraft into TC Essex controlled airspace.

5.6 Biggin Hill Procedures

IFR traffic joining/leaving the ATS route network at Biggin Hill will route outside of controlled airspace whilst within the vicinity of Biggin Hill. The Biggin Hill ATZ is 2.5 NM in diameter however it does not fully contain instrument procedures and IFR traffic is generally operating outside of controlled airspace in the region 5 NM from Biggin Hill.

Specific traffic flows are IFR inbounds which route via the ILS approach to Runway 21, establishing on the ILS inside the London City CTR/CTA before leaving controlled airspace at 6 NM on final, and IFR outbounds, which route west to join via DET following either a right-hand climb-out from Runway 21 back through the Biggin Hill (BIG) overhead or a northeast climb-out from Runway 03 with a right-hand turn on track. There are no instrument approach procedures defined for Runway 03 and traffic which is landing on Runway 03 will route via the Runway 21 ILS before performing a visual circle-to-land to the west of Biggin Hill (left-hand downwind for Runway 03).

These procedures take place within a bottleneck formed by the London/London City CTR/CTA and the Gatwick CTR/CTA and there are frequent transits of this region by traffic outside of controlled airspace. Traffic to/from Biggin Hill will be transferred between Biggin Hill ATC and TC Thames which introduces additional risk should a confliction occur whilst the Biggin Hill IFR traffic is changing frequency. Additionally, the Biggin Hill IFR traffic is often in a position of low manoeuvrability whilst in the initial climb-out/final approach phases of flight.

Because of these factors, and to assist TC Thames/Biggin Hill ATC with achieving deconfliction for IFR flight joining/leaving the ATS route network, LF LARS:

- Should coordinate all flights under the control of LF LARS within the region within 10 NM of Biggin Hill
- Must coordinate any flights under the control routing through the airspace north of Biggin Hill/south of London City which will conflict with the Biggin Hill Runway 21 ILS

Traffic under a Basic Service should be coordinated with Biggin Approach - 129.405 MHz, traffic under a Traffic/Deconfliction Service should be coordinated with Thames Director - 132.700 MHz. Either unit may request traffic be transferred to their frequency.

5.7 RAF Odiham MATZ Procedures

LF LARS is delegated responsibility for authorising transit of the Odiham MATZ by civilian aircraft. Additionally, when Odiham ATC is open but there is no flying taking place, the Odiham ATZ may also be delegated to LF LARS.

When Odiham is ATC is closed at weekends, aircraft must be instructed to remain outside the Odiham ATZ due to possible glider activity. During this period parts of Farnborough CTA-2, -3 and -6 are delegated to glider traffic up to 4000 ft – see APC 4.3.3.

Civilian traffic requesting Odiham MATZ transit may be authorised to transit the Odiham MATZ using the following phraseology:

"Odiham MATZ penetration approved, remain outside the Odiham ATZ."

Coordination with Odiham ATC is not required for civilian traffic unless:

- The aircraft is non-transponder equipped and has been identified by LF LARS
- The Odiham instrument pattern is notified as active by Odiham ATC
- A potential confliction is evident with traffic under the control of Odiham ATC
- The aircraft wishes to enter the Odiham ATZ.

All military aircraft require clearance from Odiham ATC to transit the Odiham MATZ, even when under the control of LF LARS.

5.8 Coordination with Adjacent Units

5.8.1 General Principles

VFR traffic under a Basic Service will not normally be coordinated unless traffic workload permits, however IFR traffic should be pre-noted whenever possible regardless of service type. Traffic under a surveillance service should be subject to a radar handover to the next unit.

Traffic which notifies LF LARS of an intent to transit the controlled airspace of another unit shall be pre-noted to the controlling unit.

5.8.2 Solent Radar

Solent Radar will instruct north/northeast-bound traffic in receipt of UK FIS to free-call LF LARS once it is north of the Solent CTA boundary or north/east of Alton and Petersfield. LF LARS should instruct south/southwest-bound traffic in receipt of UK FIS to free-call Solent Radar - 120.230 MHz once it is south of the Odiham MATZ/Alton VRP or approaching Petersfield westbound.

5.8.3 Boscombe Down / Bournemouth Radar

LF LARS should instruct traffic in receipt of UK FIS to free-call Boscombe Approach - 126.700 MHz once it is west of the Odiham MATZ westbound. When Boscombe Approach is not manned, aircraft should instead be transferred to Bournemouth Radar - 119.480 MHz.

5.8.4 Brize Radar

LF LARS should instruct traffic in receipt of UK FIS to free-call Brize Radar - 124.280 MHz once it is north of CPT/Hungerford, provided that it is remaining clear of the Benson MATZ. Traffic routing through the Benson MATZ should be transferred to Benson Approach - 136.455 MHz.

5.8.5 Shoreham ATC

Shoreham ATC (ADC or APC) may pre-note IFR departures remaining outside controlled airspace which are planned to route through the LF LARS area of responsibility. If they wish to work the traffic, LF LARS is to pass a discrete SSR code and contact frequency to Shoreham. Shoreham is not equipped with radar; traffic working Shoreham IFR will be instructed to squawk 3762, and VFR traffic will be instructed to squawk 3763. These codes will not be validated/verified. Shoreham inbound traffic routing towards Washington Intersection (A24/A283) VRP or Littlehampton VRP should be instructed to free-call Shoreham Approach - 123.155 MHz or Shoreham Tower – 125.405 MHz for local traffic information prior to reaching the VRP.

GLOSSARY

Abbreviation	Definition
AC	Area Control
ADC	Aerodrome Control
AIR	Air Controller (i.e. Tower Controller)
APC	Approach Control
CTA	Control Area
CTR	Control Zone
DME	Distance Measuring Equipment
EAT	Estimated Approach Time
FIN	Final Director
FIS	Flight Information Service
FL	Flight Level
ft	Foot (feet)
GMC	Ground Movement Control
GS	Groundspeed
hPa	Hectopascal
IAS	Indicated Airspeed
ICAO	International Civil Aviation Organisation
ILS	Instrument Landing System
INT	Intermediate Director
Kts	Knots
LTMA	London TMA
MDI	Minimum Departure Interval
MHz	Megahertz
MSL	Minimum Stack Level
NM	Nautical Mile
RAD	Radar Controller
RFC *	Released for Climb
RFD *	Released for Descent
RFT *	Released for Turn
RSIVA	Reduced Separation In the Vicinity of an Aerodrome
SID	Standard Instrument Departure
SSR	Secondary Surveillance Radar
STAR	Standard Terminal Arrival Route
TC	Terminal Control

* Although these acronyms are not used in this document, they may be useful for controllers to be aware of as common notation in text coordination.