



## **Sofia Airport - LBSF**

### **Standard Operating Procedures**

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## Exclusion of Liability

Everything contained herein is for use on the VATSIM Network only and should never be adopted for real-world use.

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## General aerodrome information



ICAO: LBSF

IATA: SOF

Airport elevation: 1745 ft

Runway: 09/27

Runway length: 3600 m

Transition altitude: 10500 ft

Transition level: by ATC

Preferred runway: 27

## ATC Stations

**Sofia Approach (LBSF\_APP) - 123.705 MHz**

**Sofia Tower (LBSF\_TWR) - 118.255 MHz**

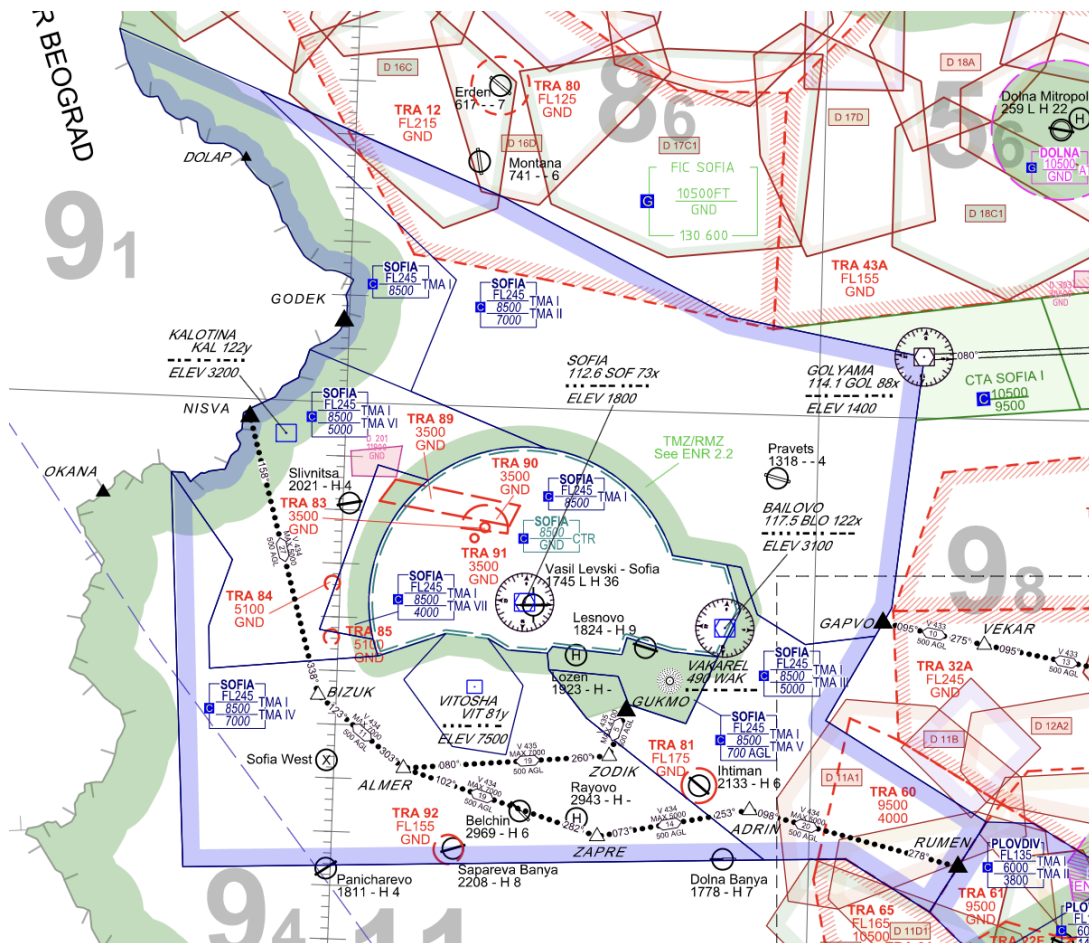
**Sofia Delivery (LBSF\_DEL) - 127.255 MHz**

**Sofia ATIS (LBSF\_ATIS) - 126.680 MHz**

Each position controls its designated airspace: Tower the CTR, Approach the TMA.

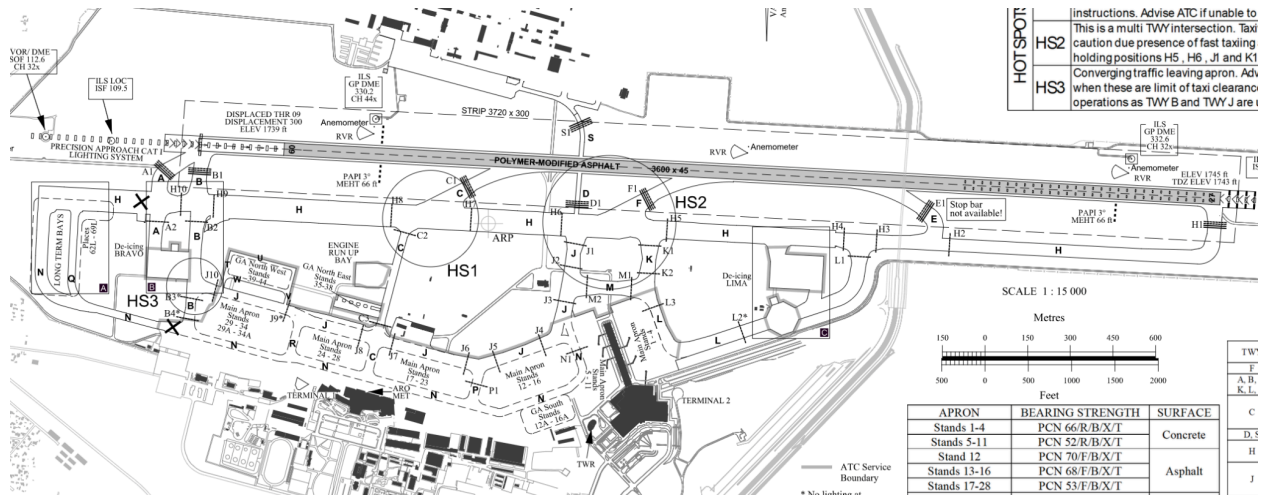
Handoffs from Tower to Approach for departures happen with the takeoff clearance. Handoffs from Approach to Tower for arrivals happen when an aircraft reports established on their approach. This must be no later than 5 nm from the threshold!

The basic airspace structure can be seen below:



## Ground layout and procedures

The airport has several aprons connected to the runway through a fairly complex network of taxiways. The ground layout chart can be seen below, please familiarize yourselves with it.



There are several key things to be aware of:

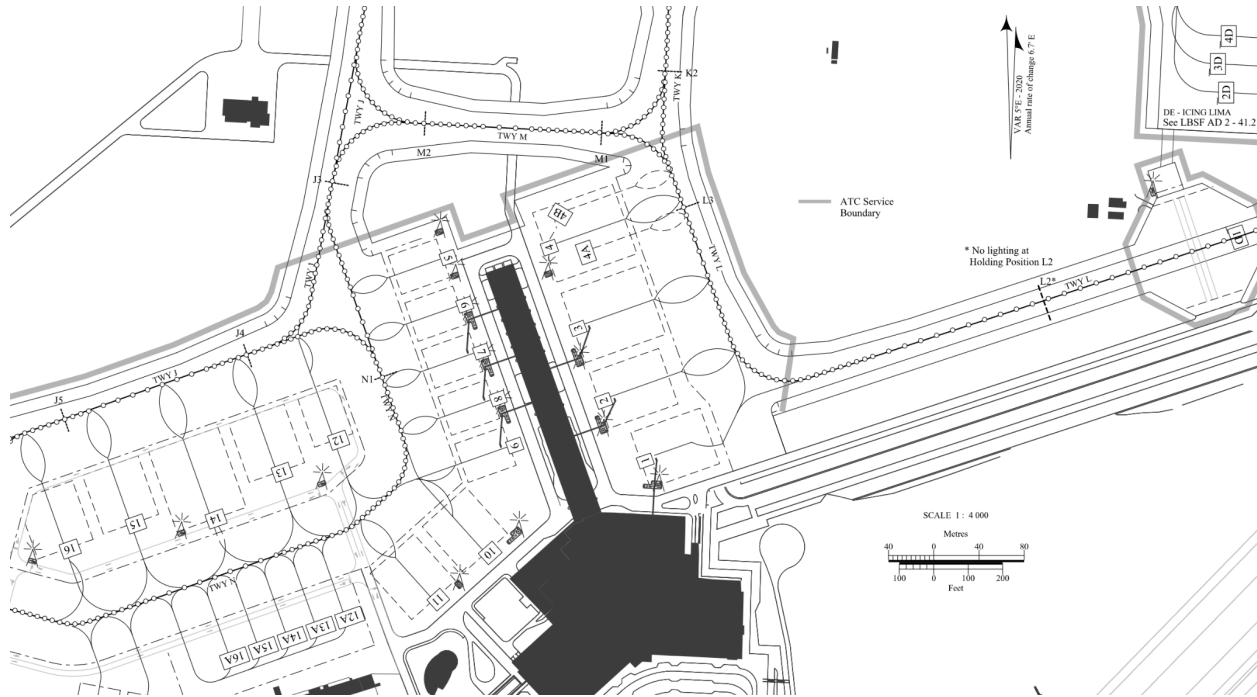
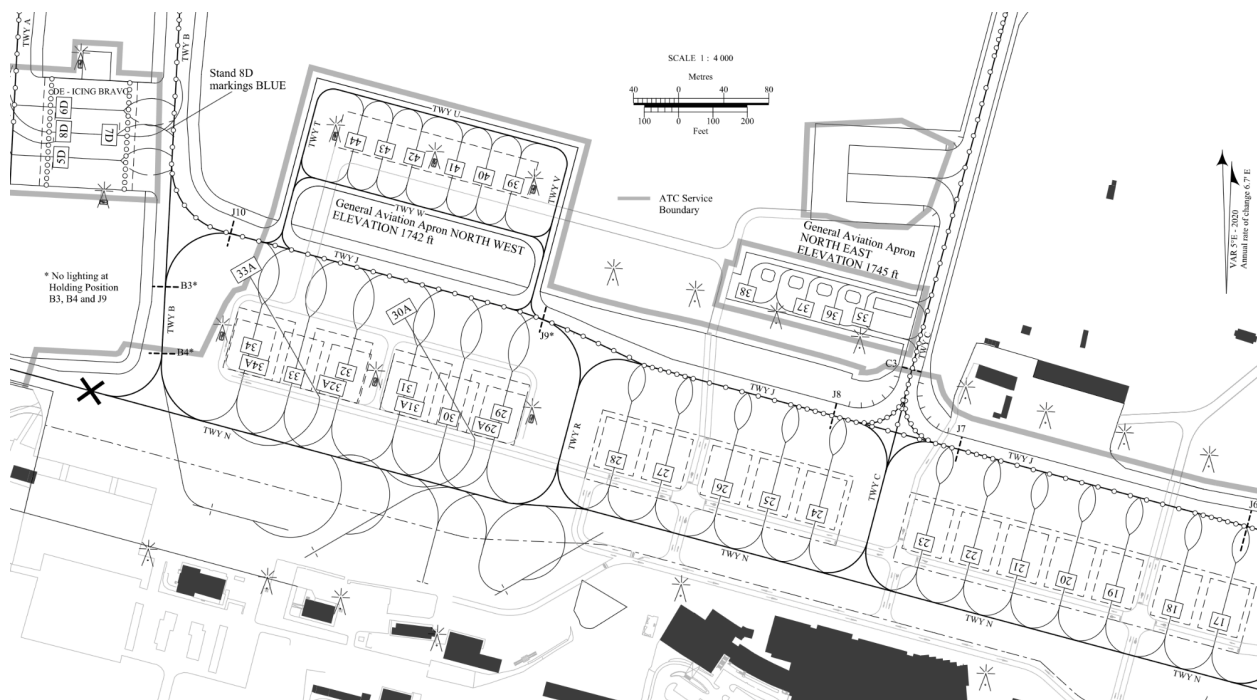
- The western ends of N and H are used for long-term storage and therefore closed.
- Taxiway R is often closed by NOTAM for operational reasons.
- Hotspot 2 is a complicated intersection where 5 taxiways meet. The whole thing is considered an intersection and as such aircraft should not be told to “taxi via” any taxiways within the intersection itself.
- Aircraft vacating via F and aircraft taxiing via K and H have enough clearance to pass each other safely.

### Intersection departures

Intersection take-off from TWY C, TWY F and TWY S can be performed during the day and the night, and at visibility of more than 2500 m. Intersection take-off from TWY E can be performed **only during the day** and at visibility of more than 2500 m.

Intersection take-off from RWY 27 is **not permitted** between 2200 - 0700 local time due to **noise abatement procedures**!

Sofia has several aprons, with a variety of parking positions. Here are the charts:



**Stand restrictions - Main Apron**

| Stand              | Max aircraft code letter      |
|--------------------|-------------------------------|
| 1,2                | D                             |
| 3,4                | E                             |
| 4A, 4B             | C                             |
| 5-9                | C                             |
| 10, 11             | D                             |
| 12                 | C                             |
| 13                 | D                             |
| 14                 | E (Code E with pushback only) |
| 15, 16             | D                             |
| 17 - 29            | C                             |
| 30, 31, 32, 33, 34 | C                             |
| 29A, 31A, 32A, 34A | D                             |
| 30A, 33A           | E                             |

**Stand restrictions - General Aviation Apron North - East**

| Stand   | Limitation                         |
|---------|------------------------------------|
| 35      | MAX wingspan 17 m, MAX length 11 m |
| 36 - 38 | MAX wingspan 17 m, MAX length 17 m |

### Stand restrictions - General Aviation Apron North - West

| Stand   | Limitation         |
|---------|--------------------|
| 39 - 44 | ACFT Code Letter B |

### Stand restrictions - General Aviation Apron South

| Stand     | Limitation                         |
|-----------|------------------------------------|
| 12A - 16A | MAX wingspan 17 m, MAX length 21 m |

### Taxiway restrictions

| Taxiway                                                          | Max aircraft code letter |
|------------------------------------------------------------------|--------------------------|
| A, B, J, K, L, M                                                 | E                        |
| C<br>BTN TWY N - TWY H<br>BTN TWY H - RWY                        | C<br>E                   |
| D*                                                               | C                        |
| E, F                                                             | E                        |
| H<br>BTN TWY A - RWY                                             | E                        |
| N<br>BTN TWY B - TWY R<br>BTN TWY R - TWY P<br>BTN TWY P - TWY J | E<br>C<br>D              |
| P                                                                | D                        |
| Q                                                                | -                        |
| R                                                                | C                        |
| S                                                                | C                        |

*\*Used only to cross RWY*

## Standard taxi routes

### RWY 27

- **Stands 1 - 4:** via L and H
- **Main apron:** via N, J, and H (or N, J, M, K, and H if there is vacating traffic via F)
- **Main apron (around terminal 1):** via N, C, and H
- **Code D and E aircraft from stands 29A - 34A:** via N, B, and H

### RWY 09

- **Stands 1 - 4:** via L, K, H, and B
- **Main apron:** via N and B

*Taxi routes should in general be as direct as possible.*

## Deicing procedures

Sofia Airport has two de-icing pads, located close to each active runway's end. De-icing BRAVO is used when RWY 09 is in use, and de-icing LIMA is used when RWY 27 is in use.

Aircraft requiring de-icing should ideally report so prior to requesting start-up clearance, but no later than prior to requesting taxi clearance.

### De-icing **LIMA**

- Stand 1D is located on TWY L and is designated for treatment of one aircraft, ICAO code E or lower
- Stands 2D and 4D are located between TWY L and TWY H for **simultaneous** treatment of two aircraft, ICAO code C or lower
- Stand 3D is located between TWY L and TWY H and is designated for treatment of one aircraft, ICAO code D or E

### De-icing **BRAVO**

- Stands 5D and 6D are designated for **simultaneous** treatment of two aircraft, ICAO Code C or lower
- Stands 7D and 8D are designated for use by aircraft, ICAO Code E or Code D

## Transponder Mode C

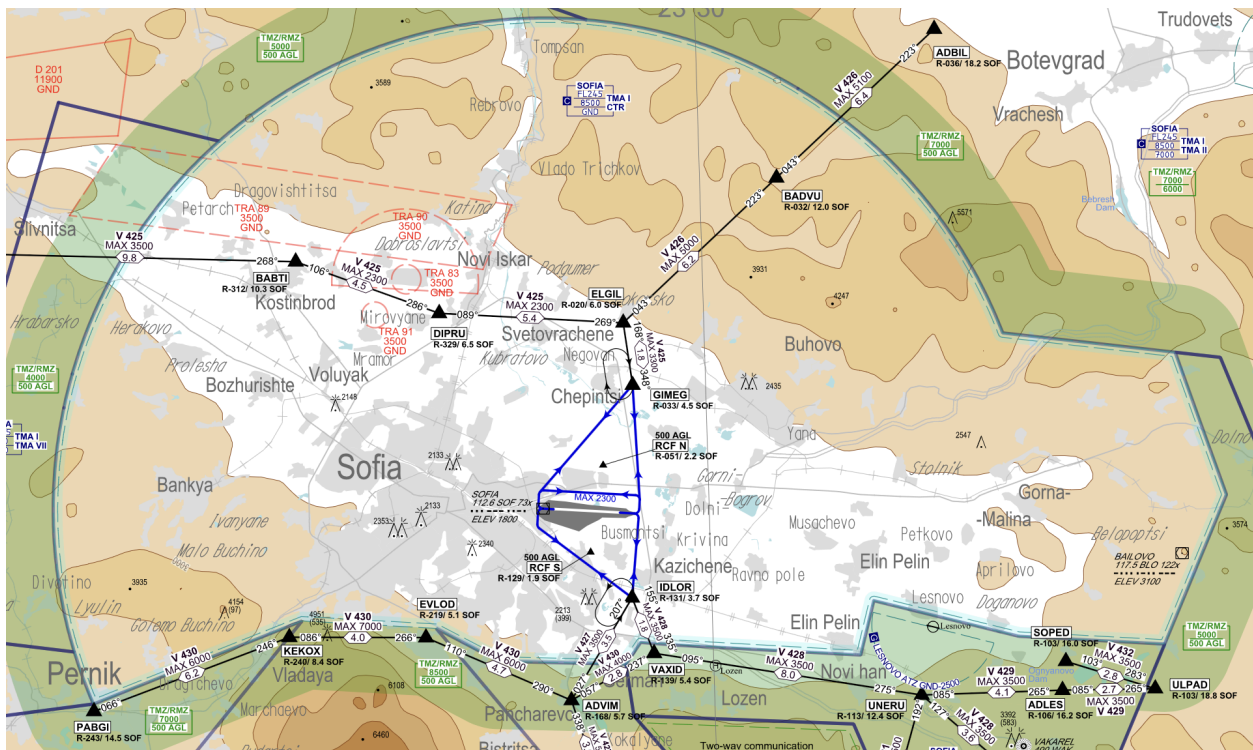
Aircraft at LBSF are required to set **transponder mode to C** before **any movement** on the ground is approved. Such movement includes pushback and taxi!

If an aircraft does not squawk mode C (with the correct assigned squawk code) before requesting pushback/taxi, then ATC will need to remind them and delay issuing the pushback/taxi clearance.

## Control Zone & VFR Traffic

Sofia Tower controls VFR traffic passing through Sofia CTR. All VFR traffic **MUST** follow published VFR routes and report each mandatory reporting waypoint along the way.

The Sofia Control Zone goes from GND to 8500 ft and can be seen in the chart below.

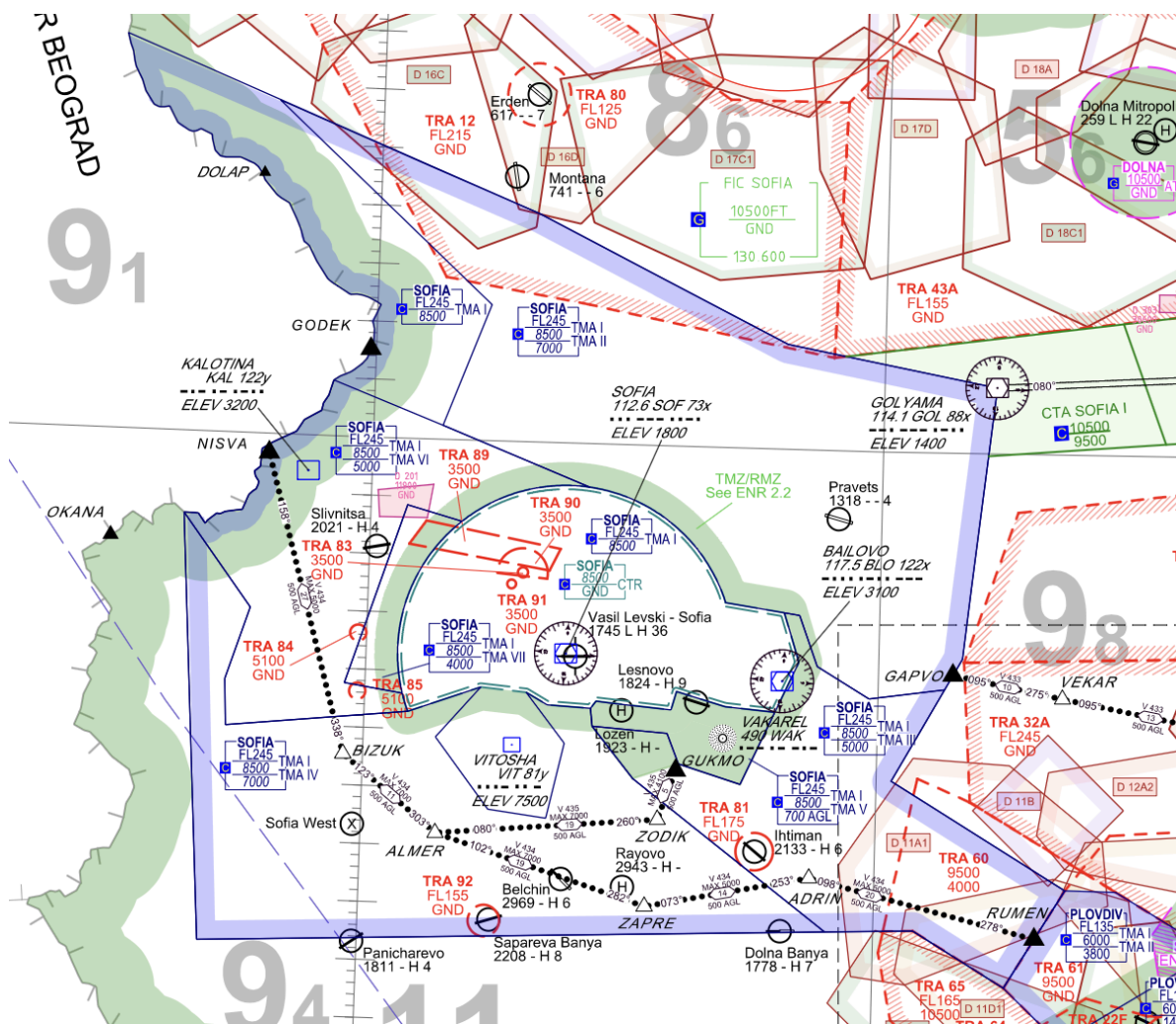


Most of the available VFR routes can also be seen above, but you can always access the full Visual Approach Chart on our [website](#).

VFR aircraft **MUST** obtain clearance prior to entering the airspace and can expect a hold over any of the reporting points. Upon leaving the CTR, aircraft should be handed off to Approach.

## TMA airspace

Sofia TMA starts a couple hundred feet above the ground and goes up to FL245. You can see the exact dimensions below. All aircraft within the TMA are the responsibility of LBSF\_APP.



Aircraft will be handed off to LBSF\_APP at least 10 nm prior to entering the airspace, or approximately 2 to 3 minutes prior to the boundary.

Aircraft leaving the TMA should be handed off to either Sofia Control or Beograd Radar several minutes prior to their exit from the TMA. Arrivals into LBPD via RUMEN will also descend through the TMA, and should be handed off to LBPD\_TWR several minutes prior to RUMEN.

Standard descent into LBPD over RUMEN is FL 120 for RWY 30 and 10000 ft (on LBPD QNH) for RWY 12, however higher/lower can be coordinated with ATC and/or aircraft.

## Procedures

### Departures

| Name     | Type         | Runway | Initial climb | Notes            |
|----------|--------------|--------|---------------|------------------|
| GODEK 3S | RNAV SID     | 09     | FL 240        | <i>Preferred</i> |
| OGOTA 4S | RNAV SID     | 09     | FL 240        | <i>Preferred</i> |
| GOL 4S   | RNAV SID     | 09     | FL 230        | <i>Preferred</i> |
| UMPIT 4S | RNAV SID     | 09     | FL 230        | <i>Preferred</i> |
| GAPVO 3S | RNAV SID     | 09     | FL 230        | <i>Preferred</i> |
| DEDIN 3S | RNAV SID     | 09     | FL 230        | <i>Preferred</i> |
| RUMEN 3S | RNAV SID     | 09     | FL 230        | <i>Preferred</i> |
| DILVO 3S | RNAV SID     | 09     | FL 230        | <i>Preferred</i> |
| OMENO 3S | RNAV SID     | 09     | FL 230        | <i>Preferred</i> |
| NAPET 3S | RNAV SID     | 09     | FL 240        | <i>Preferred</i> |
| DEDIN 3V | Non-RNAV SID | 09     | FL 230        | <i>N/A</i>       |
| DILVO 6A | Non-RNAV SID | 09     | FL 230        | <i>N/A</i>       |
| GAPVO 3V | Non-RNAV SID | 09     | FL 230        | <i>N/A</i>       |
| GODEK 6A | Non-RNAV SID | 09     | FL 240        | <i>N/A</i>       |
| GOL 5A   | Non-RNAV SID | 09     | FL 230        | <i>N/A</i>       |
| OGOTA 6A | Non-RNAV SID | 09     | FL 240        | <i>N/A</i>       |
| OMENO 4V | Non-RNAV SID | 09     | FL 230        | <i>N/A</i>       |
| RUMEN 7A | Non-RNAV SID | 09     | FL 230        | <i>N/A</i>       |
| UMPIT 3V | Non-RNAV SID | 09     | FL 230        | <i>N/A</i>       |
|          |              |        |               |                  |
| GODEK 3T | RNAV SID     | 27     | FL 240        | <i>Preferred</i> |
| OGOTA 3T | RNAV SID     | 27     | FL 240        | <i>Preferred</i> |

|          |              |    |        |                  |
|----------|--------------|----|--------|------------------|
| GOL 3T   | RNAV SID     | 27 | FL 230 | <i>Preferred</i> |
| UMPIT 3T | RNAV SID     | 27 | FL 230 | <i>Preferred</i> |
| GAPVO 3T | RNAV SID     | 27 | FL 230 | <i>Preferred</i> |
| DEDIN 3T | RNAV SID     | 27 | FL 230 | <i>Preferred</i> |
| RUMEN 3T | RNAV SID     | 27 | FL 230 | <i>Preferred</i> |
| DILVO 3T | RNAV SID     | 27 | FL 230 | <i>Preferred</i> |
| OMENO 3T | RNAV SID     | 27 | FL 230 | <i>Preferred</i> |
| NAPET 3T | RNAV SID     | 27 | FL 240 | <i>Preferred</i> |
| DEDIN 3W | Non-RNAV SID | 27 | FL 230 | <i>N/A</i>       |
| DILVO 3W | Non-RNAV SID | 27 | FL 230 | <i>N/A</i>       |
| GAPVO 3W | Non-RNAV SID | 27 | FL 230 | <i>N/A</i>       |
| GODEK 6E | Non-RNAV SID | 27 | FL 240 | <i>N/A</i>       |
| GOL 6E   | Non-RNAV SID | 27 | FL 230 | <i>N/A</i>       |
| OGOTA 6E | Non-RNAV SID | 27 | FL 240 | <i>N/A</i>       |
| OMENO 3W | Non-RNAV SID | 27 | FL 230 | <i>N/A</i>       |
| RUMEN 4W | Non-RNAV SID | 27 | FL 230 | <i>N/A</i>       |
| UMPIT 3W | Non-RNAV SID | 27 | FL 230 | <i>N/A</i>       |

Initial climbs follow the semi-circular rule. Flights departing/flying west fly on even levels, flights departing/flying east fly on odd levels.

If aircraft performance allows, preferred departures should always be used (RNAV or non-RNAV, depending on aircraft capabilities).

Omnidirectional departures are also available but are not part of the procedure list in Euroscope. For more information reference the charts.

***Important note: RNAV procedures require RNAV 1 GNSS or DME/DME/IRU certification!***

## Arrivals - STARs

LBSF makes extensive use of STARs to take aircraft from their last waypoint to the IAF. All procedures require RNAV 1, so non-RNAV aircraft will need to be vectored in.

| Name     | Type      | Runway | Notes                                                       |
|----------|-----------|--------|-------------------------------------------------------------|
| NISVA 5D | RNAV STAR | 09     | <i>Preferred</i>                                            |
| GOL 6D   | RNAV STAR | 09     | <i>Preferred</i>                                            |
| MOREK 6D | RNAV STAR | 09     | <i>Preferred</i>                                            |
| UMPIT 6D | RNAV STAR | 09     | <i>Preferred</i>                                            |
| GAPVO 6D | RNAV STAR | 09     | <i>Preferred</i>                                            |
| VANET 6D | RNAV STAR | 09     | <i>Preferred</i>                                            |
| DEDIN 6D | RNAV STAR | 09     | <i>Preferred</i>                                            |
| RUMEN 6D | RNAV STAR | 09     | <i>Preferred</i>                                            |
|          |           |        |                                                             |
| NISVA 4K | RNAV STAR | 27     | <i>Preferred</i>                                            |
| NISVA 5H | RNAV STAR | 27     | <i>Full-length star, used with higher levels of traffic</i> |
| MOREK 5H | RNAV STAR | 27     | <i>Preferred</i>                                            |
| VANET 5H | RNAV STAR | 27     | <i>Preferred</i>                                            |
| RUMEN 5H | RNAV STAR | 27     | <i>Preferred</i>                                            |
| DEDIN 5H | RNAV STAR | 27     | <i>Preferred</i>                                            |
| GAPVO 4H | RNAV STAR | 27     | <i>Preferred</i>                                            |
| UMPIT 5H | RNAV STAR | 27     | <i>Preferred</i>                                            |
| GOL 4H   | RNAV STAR | 27     | <i>Preferred</i>                                            |

Standard altitudes required over the IAF for an aircraft to commence approach:

- RWY 09 - BENG0/LUXUV at 6000 ft
- RWY 27 - RUBIV at 6000 ft
- RWY 27 - BAGIP at 4500 ft

### Important holding patterns

**BENG0:** Inbound course 089°, right turns

Maximum altitude: FL 140

Minimum altitude: 6100 ft

**GOL:** Inbound course 151°, right turns

Maximum altitude: FL 230

Minimum altitude: FL 170

**LANGI:** Inbound course 148°, left turns

Maximum altitude: 10000 ft

Minimum altitude: 8000 ft

### Arrivals - Approaches

Precision approaches are always preferred, however if an aircraft is unable then they should be assigned a corresponding alternative approach. The standard missed approach climb is 8000 ft.

| Name           | Type     | Runway | IAFs  | Notes                     |
|----------------|----------|--------|-------|---------------------------|
| ILS z or LOC z | ILS APP  | 09     | BENG0 | <i>RNAV Preferred</i>     |
| ILS y or LOC y | ILS APP  | 09     | BENG0 | <i>Non-RNAV preferred</i> |
| RNP            | RNAV APP | 09     | BENG0 | <i>N/A</i>                |
| VOR            | VOR APP  | 09     | BENG0 | <i>N/A</i>                |
|                |          |        |       |                           |
| ILS z or LOC z | ILS APP  | 27     | RUBIV | <i>RNAV Preferred</i>     |
| ILS y or LOC y | ILS APP  | 27     | BLO   | <i>Non-RNAV preferred</i> |

|     |          |    |       |     |
|-----|----------|----|-------|-----|
| RNP | RNAV APP | 27 | RUBIV | N/A |
| VOR | VOR APP  | 27 | BLO   | N/A |

*Note: RWY 27 is equipped and approved for ILS Category II/IIIA/IIIB approach and landing operations. However, these should only be used when Low Visibility Procedures are in force. In normal circumstances, Category I approaches should be used.*

### **Missed approaches**

Vectors after a missed approach should circle the aircraft back to the north of the airfield due to high terrain to the south!

## **Arrival sequencing**

Final approach sequencing should be as efficient as possible. Sofia has a number of rapid exits which means that aircraft should be sequenced with final separation of 5 to 7 miles.

Separation when runway 09 is in use can be increased to 6 to 8 miles due to the location of the only available rapid exit.

Larger gaps can be coordinated between APP and TWR to accommodate departures, although the standard separation should already accommodate a departure between each arrival.