Sármellék scenery

LHSM – FlyBalaton International Airport
(FS2004 ONLY!)

General:
Sármellék is one of the five international airport in Hungary located at the west side of Balaton, the biggest lake in the country. Lufthansa, Hamburg International, Bulgaria Air is operating scheduled flights from Dresden, Frankfurt, Leipzig, Burgas.
The airport has only one 2500m (8000ft) long runway (16/34). And one direction (RWY16) is equipped with ILS system.
The airport already existed in 1940 but mainly for military operation. In 1950 the new runway was built with concrete. From 1960 the soviet air force was based here till 1990 sometimes with 70-80 fighters mainly Mig-21, Mig-23 and Mig-29. The old hangars and some old buildings are still in place. Since 1991 the airport is operating as civil international airport. In 2006 a new modern terminal was built. In 2007 DHL established a logistic base at the aiport.

The scenery:
No previous high quality flight simulator scenery existed for Sármellék despite the airport is very popular among the members of flight simulator community. The demand for a more realistic airport in FS was existing still long time. In 2008 November we created a small team to launch the Sármellék project. We had no experience creating sceneries but great help from the community and with a lot of power and effort we managed to create very high quality scenery. The project lasted almost 1 year. Our goal was to create reasonable good quality scenery, with very low system requirements.
The scenery was created from pictures what we found on the internet or kindly received from other members. Unfortunately we had no opportunity to visit the airport and to make own pictures. This is the reason why this scenery may deviate in some cases from the reality.

The Team:
István Bíró created all the textures for the scenery.
Gábor Czinszky created the ground polygons and details e.g. aprons, taxiways, runway etc.
Sándor Tar created the 3D objects in the scenery.

Thanks to:
We would like to thank the great help and support for the following people:
Orosz Péter (Alert)
Jankovics István (Papírzacsi)
Szabó Tamás
Dávid Zoltán (scenery of 'Kis-Balaton')
Speacial thanks for the Beta tester team!

Installation:

1. Execute the installer file 'LHSM.exe'!
2. Follow the instructions of the installer! Choose your FS folder!
3. Start the flight simulator
4. At settings execute the scenery library
5. Add to the library the 'LHSM' folder
6. Restart your Flight Simulator
7. Enjoy!

Troubleshooting:
The scenery is incompatible with the freeware Hungary scenery 2004. If you have installed the Hungary scenery 2004 you have to delete the following files from Addon scenery\Hungary 2004\ folder:

- lhsm_1.bgl
- lhsm_2.bgl
- lhsm_3.bgl

The scenery is not tested with the Hungary VFR 2009!

Why beta?
The scenery is only available for FS2004 only! Some night textures are missing, and some parking lines.

Contact:
For Support contact us on the LHSimulations forum:
http://lhsimulations.co.cc/forum/index.php

Charts:
On the following pages you can find charts for the airport.

LHSM AD 2.1 AERODROME LOCATION INDICATOR - NAME

LHSM SÁRMELLÉK/BALATON

LHSM AD 2.2 AERODROME GEOGRAPHICAL DATA AND ADMINISTRATION

1	ARP coordinates and site at AD	464110.85N 0170932.56E
2	Direction and distance from (city)	1 KM SSW from centre of Sármellék village
3	Elevation/Reference temperature	124.4 M/22°C
4	Geoid undulation	46 M
5	MAG VAR/ annual change	2.48° E/0.1° (2005), increasing
6	AD Administration, address, telephone, telefax, AFS	Cape Clear Aviation Repülõtér Üzemeltetõ és Fejlesztõ Kft. Post: H-8391 Sármellék P.O.Box 4 Post: H-1052 Budapest Deák Ferenc u. 10. Phone: (+36) 83-554-200 Fax: (+36) 83-554-210 AFS: LHSMZPZX SITA: SOBFBXH Email: info@flybalaton.com URL: www.flybalaton.com TWR Phone: Fax: (+36) 83-355-551 General Aviation Phone: (+36) 83-554-002 Fax: (+36) 83-554-002 Email: info_ga@flybalaton.com
7	Types of traffic permitted (IFR/VFR)	IFR/VFR/Night VFR
8	Remarks	Nil

LHSM AD 2.3 OPERATIONAL HOURS

1	AD Administration	**01 APR - 31 OCT** MON, WED, THU and FRI: 0800-2000 LT, TUE: 0800-2200 LT, SAT: 0800-2400 LT, SUN: 0600-2000 LT **01 NOV - 31 MAR** MON to FRI: 0800-2100 LT, SAT and SUN: 0800-1800 LT
2	Customs and immigration*	H24
3	Health and sanitation	On contract
4	AIS Briefing Office	Nil
5	ATS Reporting Office (ARO)	Nil
6	MET Briefing Office	For services provided *See AD 2-LHSM*
7	ATS	As AD Administration

8	Fuelling	As AD Administration
9	Handling	As AD Administration
10	Security	H24
11	De-icing	As AD Administration
12	Remarks	Beyond operational hours on 7 days prior request Service fee is 120 EUR/hour

LHSM AD 2.4 HANDLING SERVICES AND FACILITIES

1	Cargo-handling facilities	Nil
2	Fuel/oil types	AVGAS 100LL, Jet A1
3	Fuelling facilities/capacity	1 kerosene truck (40 tonnes), 1 petrol truck (7.5 tonnes)
4	De-icing facilities	2 SIMON de-icer truck, on request at parking stand
5	Hangar space for visiting aircraft	Nil
6	Repair facilities for visiting aircraft	Nil
7	Remarks	Nil

LHSM AD 2.5 PASSENGER FACILITIES

1	Hotels	At Hévíz and Keszthely town
2	Restaurants	Buffet at AD, restaurants at Hévíz and Keszthely
3	Transportation	Taxi, car hire, public coach
4	Medical facilities	First aid at AD, hospital at Keszthely
5	Bank and Post Office	ATM at airport, post office at Sármellék
6	Tourist Office	At Hévíz and Keszthely, and at the aerodrome
7	Remarks	Hévíz 12 KM and Keszthely 16 KM from AD

LHSM AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	AD category for fire fighting	CAT 3, on request up to CAT 7
2	Rescue equipment	3 fire fighting vehicle, manual tools
3	Capability for removal of disabled aircraft	Nil
4	Remarks	Trained staff: 14

LHSM AD 2.7 SEASONAL AVAILABILITY - CLEARING

1	Types of clearing equipment	3 snow ploughs/sweepers, snow blower, carbamid spreader
2	Clearance priorities	RWY, TWY A3, apron 3, TWY A2, TWY A1, apron 1
3	Remarks	Nil

LHSM AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA

1	Apron surface and strength	Surface: Strength:	Concrete PCN 50R/B/X/T
2	Taxiway width, surface and strength	Width: Surface: Strength:	12-18 M Concrete
3	Altimeter checkpoint location and elevation	Location: Elevation:	At RWY THRs THR 16: 124.39 M THR 34: 121.52 M
4	VOR checkpoints	Nil	
5	INS checkpoints	Nil	
6	Remarks	Nil	

LHSM AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1	Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Signboards at TWY and RWY intersections and at holding points	
2	RWY and TWY markings and LGT	RWY: TWY:	Designator, THR, centre line Centre line markings
3	Stop bars	Nil	
4	Remarks	Nil	

LHSM AD 2.10 AERODROME OBSTACLES

In approach/TKOF areas			In circling area and at AD		Remarks
1			2		3
RWY NR/Area affected	Obstacle type Elevation Markings/LGT	Direction (GEO) Distance (M)	Obstacle type Elevation Markings/LGT	Coordinates	Nil
a	b	c	a	b	
16/APCH	Chimney 150 M	151.7° 1200 M from THR			
16/TKOF	Water tower 146 M	154.7° 3100 M from THR			
16/TKOF	Steeple 150 M	184.7° 3200 M from THR			
34/APCH	Building 130 M	168.7° 800 M from THR			
34/APCH	Water tower 146 M	116.7° 850 M from THR			
34/APCH	Steeple 150 M	234.7° 1000 M from THR			
34/TKOF	Chimney 150 M	001.7° 1500 M from THR			

LHSM AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	Associated MET Office	National Meteorological Service, Aeronautical Meteorological Centre
2	Hours of service	H24
3	Office responsible for TAF preparation Periods of validity	National Meteorological Service, Aeronautical Meteorological Centre TAF 9 hours on request
4	Type of landing forecast Interval of issuance	Nil
5	Briefing/consultation provided	Consultation via phone, fax or telex. *See GEN 3.5*
6	Flight documentation Language(s) used	Charts, abbreviated plain language text Hungarian, English
7	Charts and other information available for briefing or consultation	Aerodrome reports and forecasts for EUR, area forecasts, met. observations and warnings in Budapest FIR
8	Supplementary equipment available for providing information	Satellite cloud map covering Europe
9	ATS Units provided with information	Budapest FIC on request
10	Additional information	Nil

LHSM AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	TRUE and MAG BRG	Dimensions of RWY (M)	Strength (PCN) and surface of RWY and SWY	THR coordinates	THR elevation and highest elevation of TDZ of precision APP RWY
1	2	3	4	5	6
16	165.3° G 163° M	2500 x 60	Concrete 60R/B/X/T	464150.16N 0170917.69E	124.39 M 46 M
34	345.3° G 343° M	2500 x 60	Concrete 60R/B/X/T	464031.84N 0170947.48E	121.50 M 46 M
Slope of RWY - SWY	**SWY dimensions (M)**	**CWY dimensions (M)**	**Strip dimensions (M)**	**OFZ**	**Remarks**
7	8	9	10	11	12
					Nil Nil

LHSM AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (M)	TODA (M)	ASDA (M)	LDA (M)	Remarks
1	2	3	4	5	6
16	2500	2500	2500	2500	Nil
34	2500	2500	2500	2500	Nil

LHSM AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type LEN INTST	THR LGT colour WBAR	VASIS (MEHT) PAPI	TDZ LGT LEN	RWY Centre Line LGT Length, spacing, colour, INTST	RWY edge LGT LEN, spacing colour INTST	RWY End LGT colour WBAR	SWY LGT LEN (M) colour	Remarks
1	2	3	4	5	6	7	8	9	10
16	HIAL CAT I 900 m LIH	Green and barret	PAPI 3° (16.5 M)	Nil	White/red	2500 M 58 M White / Yellow LIH	Red	Nil	Nil
34	SALS 420 M LIH	Green	PAPI 3° (16.5 M)	Nil	White/red	2500 M 58 M White / Yellow LIH	Red	Nil	Nil

LHSM AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1	ABN/IBN location, characteristics and hours of operation	Nil
2	LDI location and LGT Anemometer location and LGT	
3	TWY edge and centre line lighting	Nil
4	Secondary power supply	Yes for ATS/ AFIS, RWY lighting and navigational aids
5	Remarks	Nil

LHSM AD 2.16 HELICOPTER ALIGHTING AREA

1	Coordinates TLOF or THR of FATO	4641.10N 0170932.56E
2	TLOF and/or FATO elevation M/FT	124.4 M
3	TLOF and FATO area dimensions, surface, strength, marking	Rectangle 3 x 45 M, concrete
4	True and MAG BRG of FATO	Nil
5	Declared distances available	Nil
6	APP and Fato lighting	Nil
7	Remarks	Nil

LHSM AD 2.17 ATS AIRSPACE

1	Designation and lateral limits	SARMELLEK CTA and SARMELLEK TIZ2 465211N 0164912E - 465233N 0171252E - 463423N 0171944E - 462847N 0171750E - 462539N 0170031E - 465211N 0164912E	SARMELLEK CTR and SARMELLEK TIZ1 465232N 0170443E - 465233N 0171252E - 464035N 0171331E - 463224N 0171903E - 462847N 0171750E - 462659N 0170752E - 463919N 0170630E - 465010N 0165907E - 465232N 0170443E
2	Vertical limits	CTA and TIZ 2: 9500 FT ALT / 2000 FT ALT	CTR and TIZ 1: 2000 FT ALT / GND
3	Airspace classification	CTA and CTR: Class D	TIZ 1 and TIZ 2: Class F
4	ATS unit call sign Language(s)	SÁRMELLÉK TOWER EN, HU	BALATON INFO EN, HU
5	Transition altitude	9000 FT AMSL	

6	Remarks	ATC (CTA + CTR) operational hours: APR 01 - OCT 31 TUE: 0800-2200 LT, THU: 0800-2000 LT and SAT: 0800-2400 LT NOV 01 - MAR 31 TUE, THU: 0800-2100 LT, SAT: 0800-1800 LT AFIS (TIZ 1 + TIZ 2) operational hours: APR 01 - OCT 31 MON, WED, FRI, SUN: 0800-2000 LT NOV 01 - MAR 31 MON, WED, FRI: 0800-2100 LT SUN: 0800-1800 LT

LHSM AD 2.18 ATS COMMUNICATION FACILITIES

Service designation	Call sign	Frequency	Hours of operation	Remarks
1	2	3	4	5
TOWER	SÁRMELLÉK TOWER	134.575 MHZ	As AD Administration	Reserve frequency 135.700 MHZ
AFIS	Balaton Info	134.575 MHZ	As AD Administration	Reserve frequency 135.700 MHZ

LHSM AD 2.19 RADIO NAVIGATION/LANDING FACILITIES

Facility	Ident (Emission)	Frequency	Hours of operation	Position of transmitting antenna coordinates	Elevation of DME transmitting antenna	Remarks
1	2	3	4	5	6	7
LLZ 16	SMK (A9W)	108.75 MHZ	H24	464022.76N 0170950.91E		ILS category I
GP 16	- (A8W)	330.35 MHZ	H24	464140.62N 0170927.14E		GP angle: 3°
DME	SMK (PON)	CH 24Y	H24	464140.62N 0170927.14E	135 M	Collocated with GP 16
DME	SME (PON)	CH 79X	H24	463956.57N 0170958.94E	138 M	Collocated with LI
LI	SME (NON/A2A)	436 KHZ	H24	463956.90N 0171000.74E		1 KM from THR 34

LHSM AD 2.20 LOCAL REGULATIONS

Nil

LHSM AD 2.21 NOISE ABATEMENT PROVISIONS

The published Standard Instrument Departure (SID) routes are part of the noise abetment procedures, Therefore strict adherence is compulsory for all IFR flights, except light propeller aircraft until passing 7000 FT QNH.

LHSM AD 2.22 FLIGHT PROCEDURES

1. PROCEDURES FOR FLIGHTS DURING OPERATION OF AIR TRAFFIC CONTROL (ATC)

1.1 GENERAL

1.1.1 Departing aircraft

Flights departing from Sármellék Airport, shall request enroute clearance before take off from the Aerodrome Control Service (further on Tower).The enroute clearance will be delivered by the Tower in standard circumstances after giving the start-up clearance on the parking stand.

Departing aircraft have to follow the procedures included in enroute clearance given before the take-off clearance.

1.1.2 Taxiing

Taxiing shall be carried out as instructed by Tower.

1.2 IFR FLIGHTS

Maximum speed for IFR operation is 250 kt (460 km/h) IAS.

1.2.1 Standard Instrument Departure (SID)

Tower will use one of the Standard Instrument Departures published for IFR flights.

The departure procedures in use are based on those contained in ICAO Doc 8168 OPS/611 (PANS OPS).

1.2.2 Instrument approach procedures

The instrument approach procedures are published on Instrument Approach Charts in part AD 2-LHSM.

1.2.3 Visual approach

A visual approach will only be allowed or offered if the visibility is at least 5 km and the cloud-base at least 1500 ft (450m).

1.3 VFR FLIGHTS

ATC clearance for VFR flights within Sármellék CTA and in CTR will be given on the following conditions:

a. Flight plan has to be submitted for request of ATC clearance, containing the items 7 to 18 inclusive;

b. ATC clearance shall be obtained before the aircraft enters the areas concerned.

c. Position reports shall be submitted in accordance within 3.6.3 of ICAO Annex 2.

d. Deviation from the ATC clearance may only be made, if prior permission has been obtained;

e. The flight shall be conducted with vertical visual reference to the ground;

f. wo-way radio communication shall be maintained with Sármellék Tower on the frequency prescribed

g. The aircraft shall be equipped with SSR transponder with 4096 codes in mode A/C.

1.3.1 Procedures for VFR flights within Sármellék CTR

Traffic Pattern:

- Left hand traffic pattern for RWY 34
- Right hand traffic pattern for RWY 16

1.3.2 Designated VFR reporting points for entry and exit to/from Sármellék CTR:

- BALATON:

  46 42 22, 485 N; 017 15 52, 785 E

  (influx of river Zala)

- DIOSKAL:

  46 39 37, 458 N; 017 03 45, 026 E

  (Meteorological Radar Antenna/ approx. 0,8 NM South East of Dioskál village)

Unless otherwise instructed VFR flights approaching from uncontrolled airspace are required to enter CTR via the designated reporting points.

Holding procedure has to be carried out by the instruction of ATC over the designated reporting points or other point identifiable by the pilot.

1.3.3 Communication failure procedures

- Arriving aircraft:

  Proceed as cleared. If no landing clearance has been received, hold over the designated entry point of the CTR at 2000' (600 m) AMSL or below for 5 minutes and then make landing on the designated landing area.

- Departing aircraft:

  Do not take-off, if communication failure experienced before take-off. Return to parking position.

2. PROCEDURES FOR FLIGHTS DURING THE OPERATION OF AERODROME FLIGHT INFORMATION SERVICE (AFIS)

2.1 IFR flights

2.1.1 Departing aircraft

The IFR flights entering controlled airspace after departure, shall obtain enroute clearance before take off.

In standard circumstances the enroute clearance will be delivered by AFIS on the parking stand after start-up.

Departing aircraft have to follow the procedures included in enroute clearance given before the take-off.

2.1.2 Standard Instrument Departure (SID)

Standard Instrument Departures are published in part AD 2-LHSM.

The departure procedures in use are based on those contained in ICAO Doc 8168 OPS/611 (PANS OPS).

2.1.3 Instrument approach procedures

The instrument approach procedures are published on Instrument Approach Charts in part AD 2-LHSM.

2.2 VFR flights

2.2.1 Arrival

Contact shall be established with AFIS prior to reaching the area boundary;

AFIS provides information about aerodrome local traffic, „Traffic circuit" available as well as conditions of approach and landing.

Traffic Pattern:

- Left hand traffic pattern for RWY 34

- Right hand traffic pattern for RWY 16

Designated VFR reporting points:

- BALATON:

  46 42 22, 485 N; 017 15 52, 785 E

  (influx of river Zala)

- DIOSKAL:

  46 39 37, 458 N; 017 03 45, 026 E

  (Meteorological Radar Antenna/ approx. 0,8 NM South East of Dioskál village)

When instrument approach is in progress all VFR aircraft operating within the TIZ will be advised to land or hold outside Sármellék TIZ.

LHSM AD 2.23 ADDITIONAL INFORMATION

1. OPERATION OF AIRCRAFT TYPES

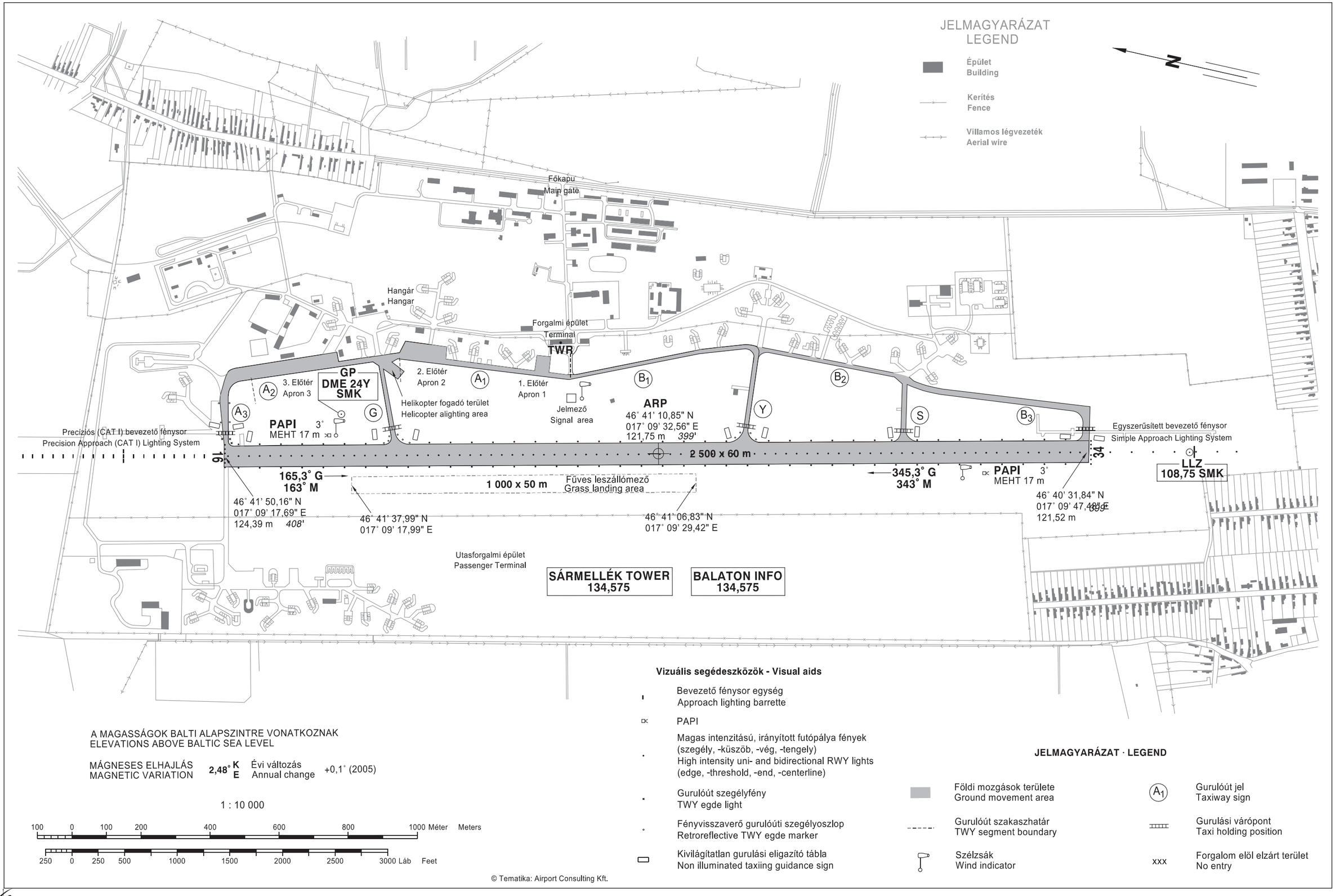
Only on workdays between 0800-1600 LT, on work-off days and holidays not authorized.

Maximum two flights with aircraft type IL76 or IL62 daily, furthermore in every 14 days one IL86.

Flights are subject to pay 15% noise surcharge over the standard landing fee.

LHSM AD 2.24 CHARTS RELATED TO THE AERODROME

Aerodrome Ground Movement Chart - ICAO	AD 2-LHSM-GMC
Aerodrome Obstacle Chart - ICAO Type A	AD 2-LHSM-AOC/A
Standard Instrument Departures - ICAO	AD 2-LHSM-SID 16
	AD 2-LHSM-SID 34
Instrument Approach Chart - ICAO	AD 2-LHSM-ILS 16
	AD 2-LHSM-NDB 16
	AD 2-LHSM-NDB 34
RNAV (GNSS) Approach Chart	AD 2-LHSM-RNAV (GNSS) 16
	AD 2-LHSM-RNAV (GNSS) 34
Visual Approach Chart - ICAO	AD 2-LHSM-VAC



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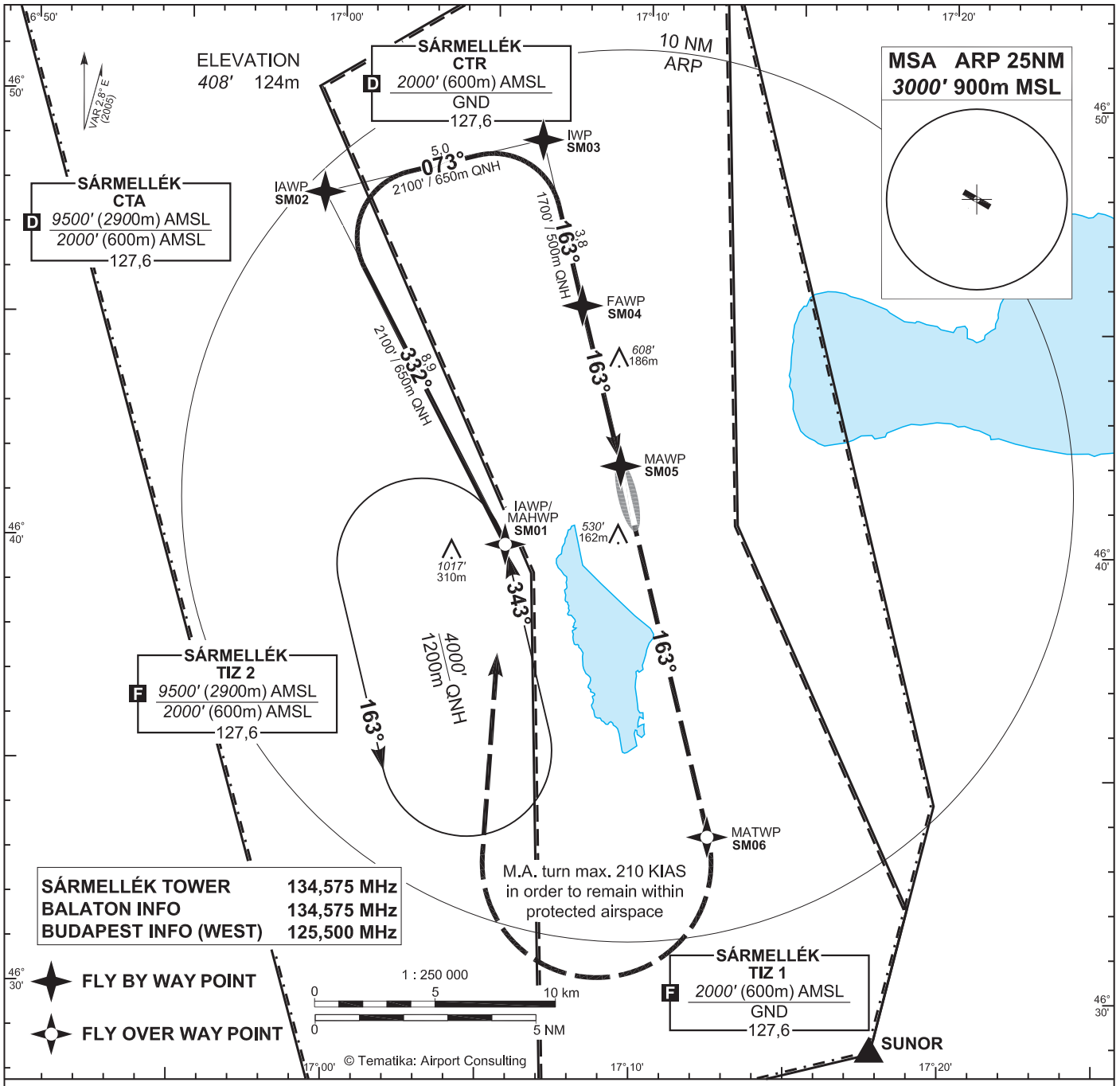
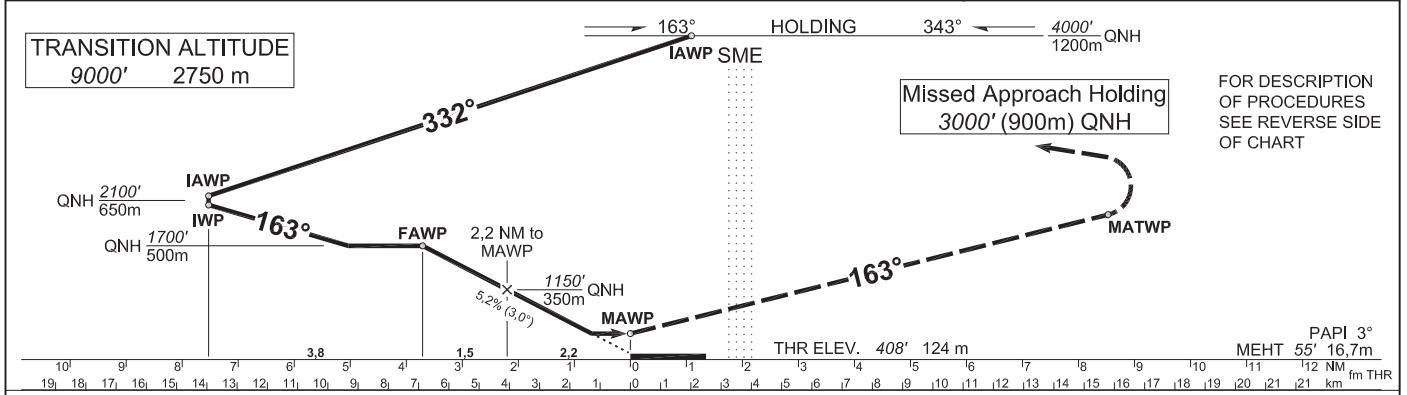




OCA (OCH)		A	B	C	D
STRAIGHT-IN APPROACH	ft	770 (360)			
	m	235 (115)			
CIRCLING	ft/m MSL	840 / 255	920 / 280	1410 / 430	1410 / 430
	VIS m	1900	2800	3700	4600

DISTANCE	60 kt 111km/h	90 kt 167km/h	120 kt 222km/h	150 kt 278km/h	180 kt 333km/h
FAWP - MAWP 3.71 NM 6.87 km MIN : s	Timing not authorized to define the MAWP.				
	3 : 43	2 : 28	1 : 51	1 : 29	1 : 14

AD 2-LHSM - RNAV$_{(GNSS)}$ 16

Only aircraft, equipment and aircrew **approved by the State of the Operator** to carry out GNSS approaches, may use the procedure.

Arrivals:
Arrivals on 212°-092° may enter the initial approach directly at *4000'* (1200 m) QNH, according to the advice of BALATON INFO.
Other arrivals must enter the holding.

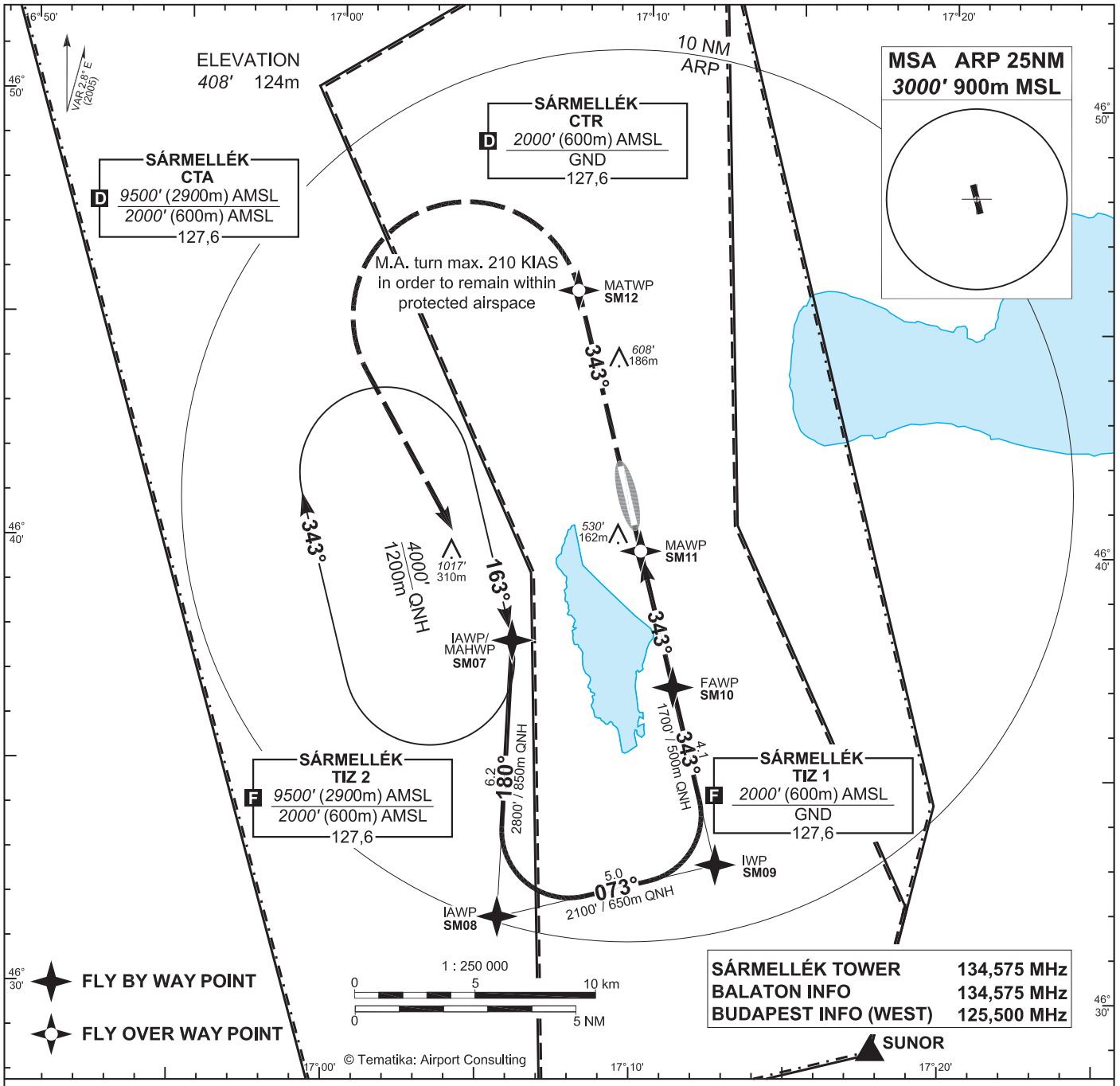
Missed approach:
Climb straight ahead.
At SM06 turn right direct to SM01 (MAHWP) and hold at *3000'* (900 m) QNH.
Missed approach turn limited to 210 KIAS.

Holding procedure:
Holding fix: SM01 (IAWP/MAHWP).
Left hand holding pattern.

Inbound track:	343° MAG
Outbound track:	163° MAG
Rate of turn:	3°/sec. or 25° bank angle (whichever requires lesser bank)
Outbound distance:	8,0 km
Minimum holding altitude:	*3000'* (900 m) MSL

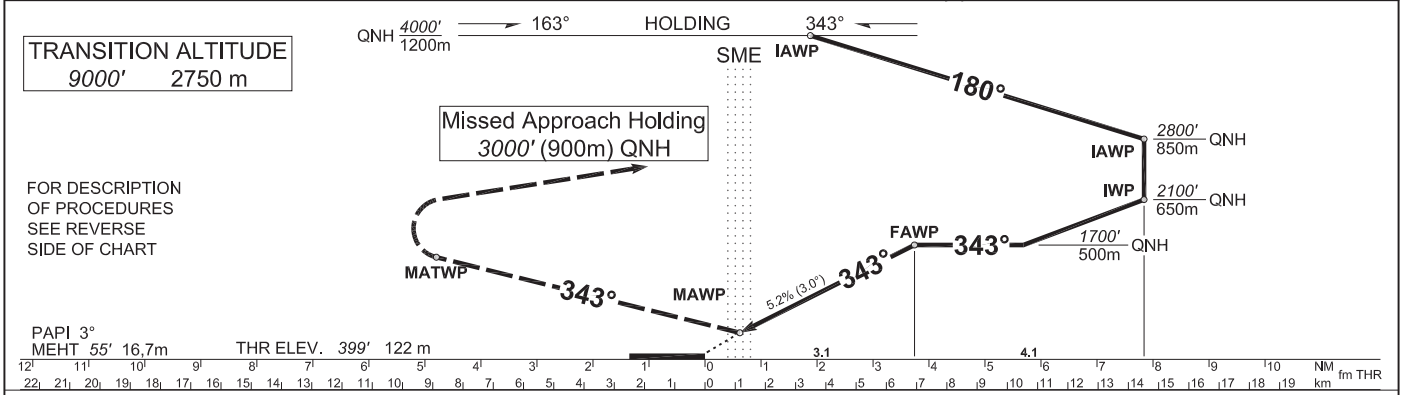
WAYPOINT COORDINATES
AD 2-LHSM-RNAV$_{(GNSS)}$16

WP	LATITUDE	LONGITUDE	DEFINITIONS
SM01	N 4640 02,550	E 01705 35,520	IAWP
SM02	N 4647 50,280	E 01659 26,870	IAWP
SM03	N 4649 06,960	E 01706 31,080	IWP
SM04	N 4645 25,360	E 01707 55,690	FAWP
SM05	N 4641 50,160	E 01709 17,670	MAWP
SM06	N 4633 35,340	E 01712 25,460	MATWP
SM01	N 4640 02,550	E 01705 35,520	MAHWP



TRANSITION ALTITUDE
9000′ 2750 m

FOR DESCRIPTION OF PROCEDURES SEE REVERSE SIDE OF CHART



OCA (OCH)		A	B	C	D
STRAIGHT-IN APPROACH	ft	690 (290)			
	m	210 (90)			
CIRCLING	ft/m MSL	840 / 255	920 / 280	1410 / 430	1410 / 430
	VIS m	1900	2800	3700	4600

DISTANCE	60 kt 111km/h	90 kt 167km/h	120 kt 222km/h	150 kt 278km/h	180 kt 333km/h
FAWP - MAWP 3.13 NM 5.80 km MIN : s	Timing not authorized to define the MAWP.				
	3 : 08	2 : 05	1 : 34	1 : 15	1 : 03

AD 2-LHSM - RNAV$_{(GNSS)}$ 34

Only aircraft, equipment and aircrew **approved by the State of the Operator** to carry out GNSS approaches, may use the procedure.

Arrivals:
Arrivals on 060°-300° may enter the initial approach directly at *4000'* (1200 m) QNH, according to the advice of BALATON INFO.
Other arrivals must enter the holding.

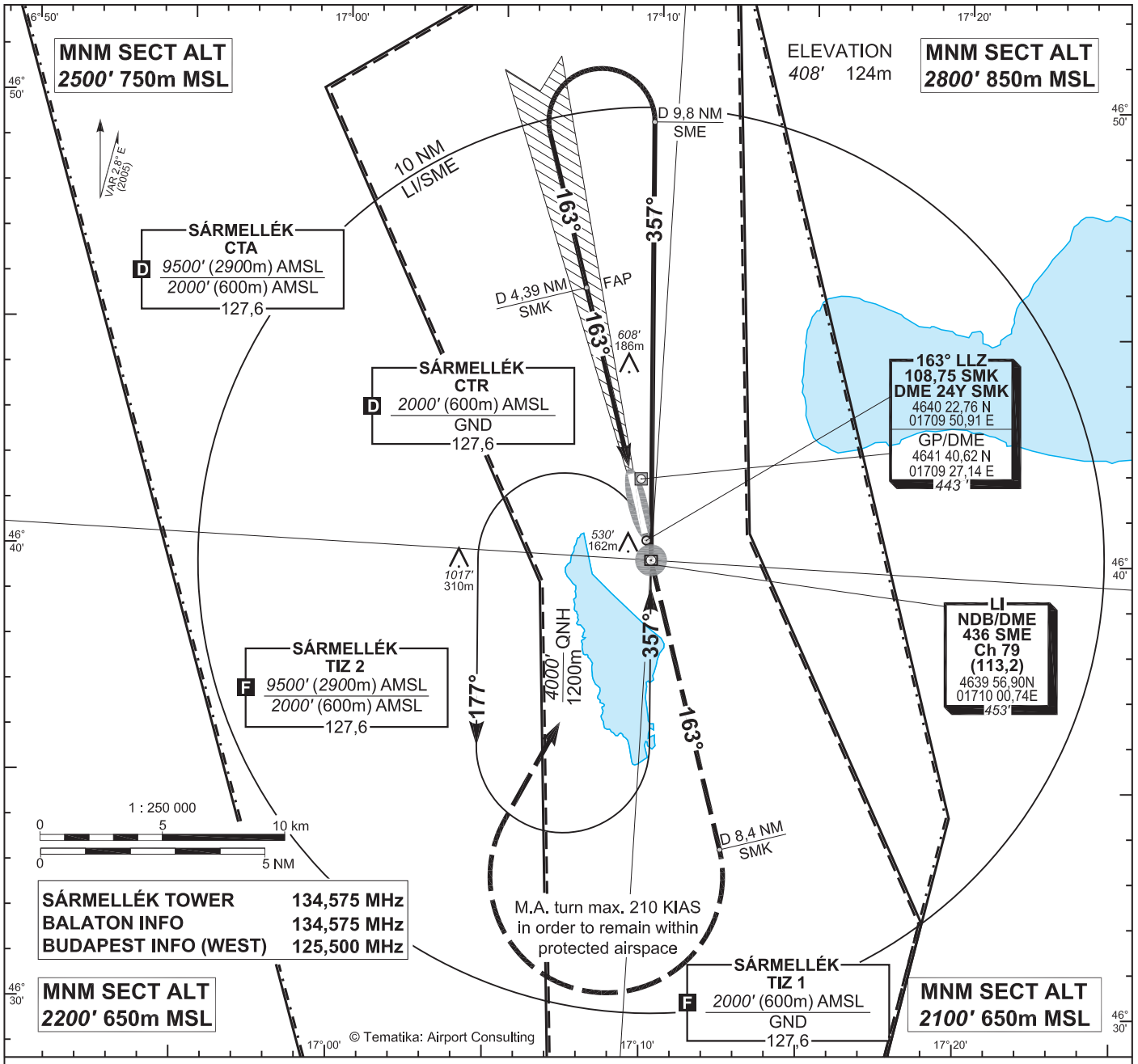
Missed approach:
Climb straight ahead.
At SM12 turn left direct to SM07 (MAHWP) and hold at *3000'* (900 m) QNH.
Missed approach turn limited to 210 KIAS.

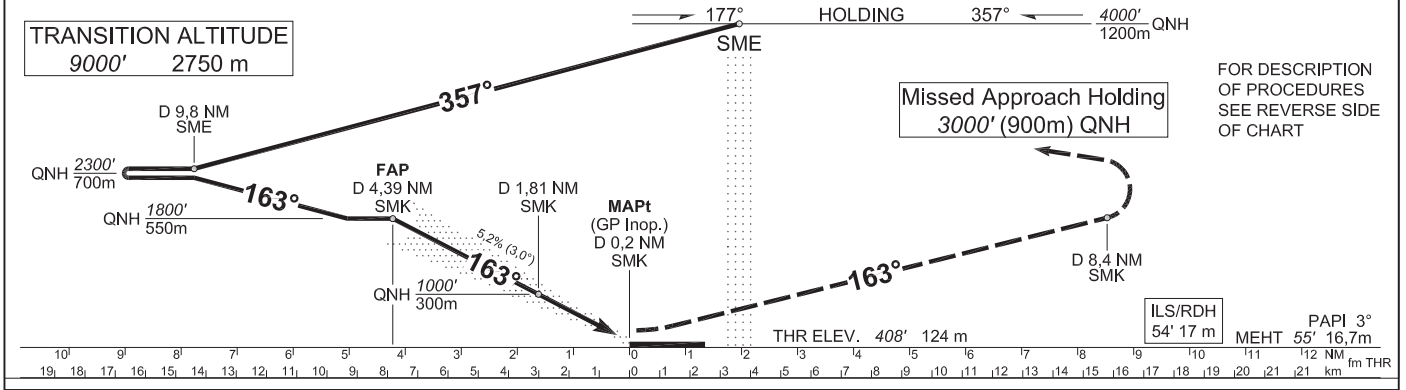
Holding procedure:
Holding fix: SM07 (IAWP/MAHWP).
Right hand holding pattern.

Inbound track:	163° MAG
Outbound track:	343° MAG
Rate of turn:	3°/sec. or 25° bank angle (whichever requires lesser bank)
Outbound distance:	8,0 km
Minimum holding altitude:	*3000'* (900 m) MSL

WAYPOINT COORDINATES
AD 2-LHSM - RNAV$_{(GNSS)}$34

WP	LATITUDE	LONGITUDE	DEFINITIONS
SM07	N 4637 53,040	E 01705 54,200	IAWP
SM08	N 4631 40,680	E 01705 37,750	IAWP
SM09	N 4632 56,970	E 01712 39,980	IWP
SM10	N 4636 54,800	E 01711 09,890	FAWP
SM11	N 4639 56,900	E 01710 00,740	MAWP
SM12	N 4645 46,160	E 01707 47,760	MATWP
SM07	N 4637 53,040	E 01705 54,200	MAHWP





OCA (OCH)			A	B	C	D
STRAIGHT-IN APPROACH	Cat. I.	ft	540 (130)	550 (140)	560 (150)	570 (160)
		m	164 (40)	167 (43)	170 (46)	173 (49)
	GP INOP	ft	770 (360)			
		m	235 (115)			
CIRCLING	ft/m MSL		825 / 250	1030 / 315	1410 / 430	1410 / 430
	VIS m		1900	2800	3700	4600

DISTANCE	60 kt 111km/h	90 kt 167km/h	120 kt 222km/h	150 kt 278km/h	180 kt 333km/h
FAP - MAPt 4,22 NM 7,82 km MIN : s	4 : 14	2 : 49	2 : 07	1 : 41	1 : 25

AD 2-LHSM - ILS 16

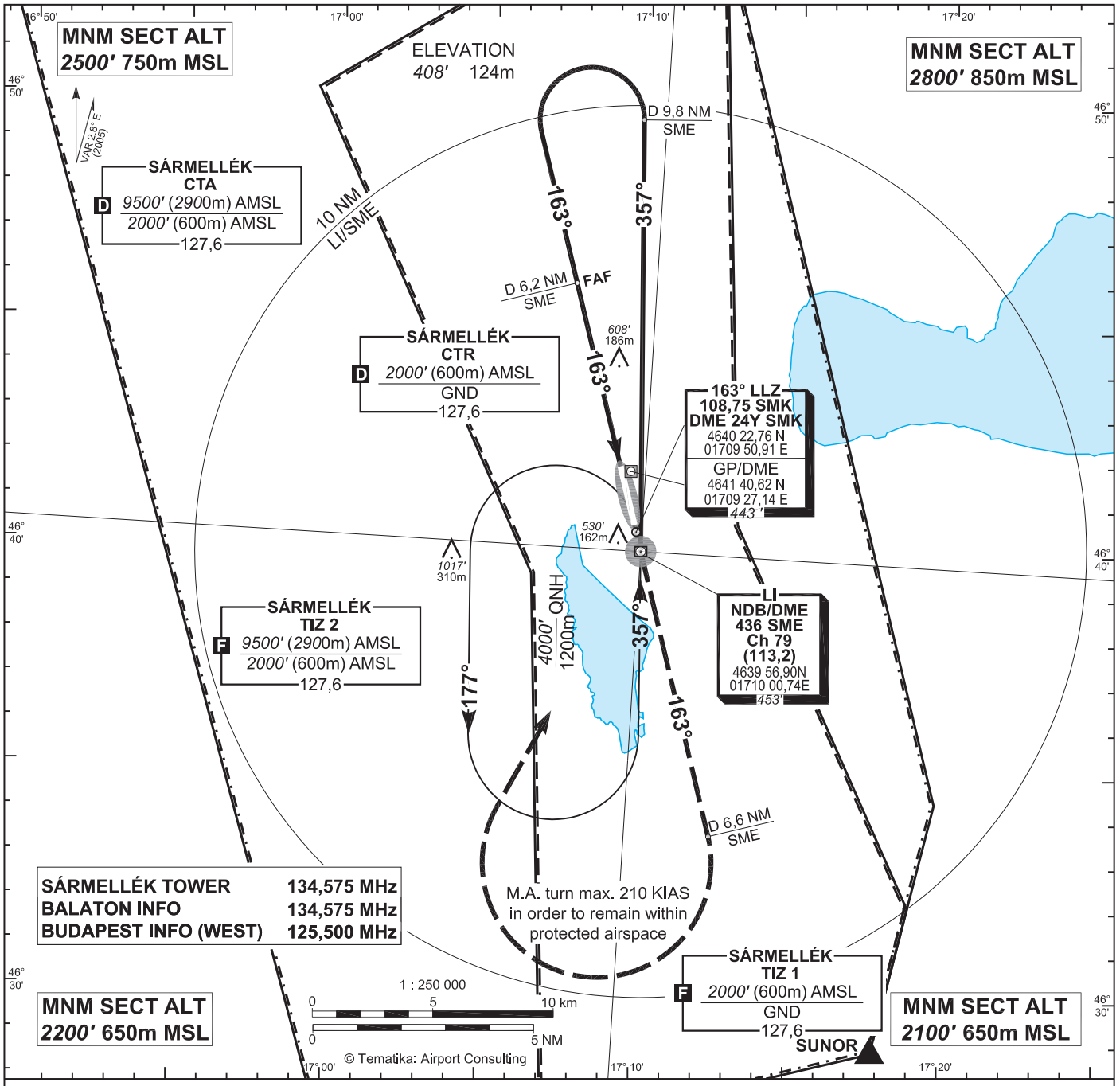
Approach from LI/SME:
Initial altitude: *4000'* (1200 m) QNH.
Fly outbound on 357° for 3 minutes or D 9,8 NM LI/SME (whichever comes first) and descend to *2300'* (700 m) QNH.
Turn left (max. 185 KIAS) intercept the localizer inbound on 163°, then descend to *1800'* (550 m) QNH.
Glide path interception at D 4,39 NM SMK (GP/DME), then follow ILS.

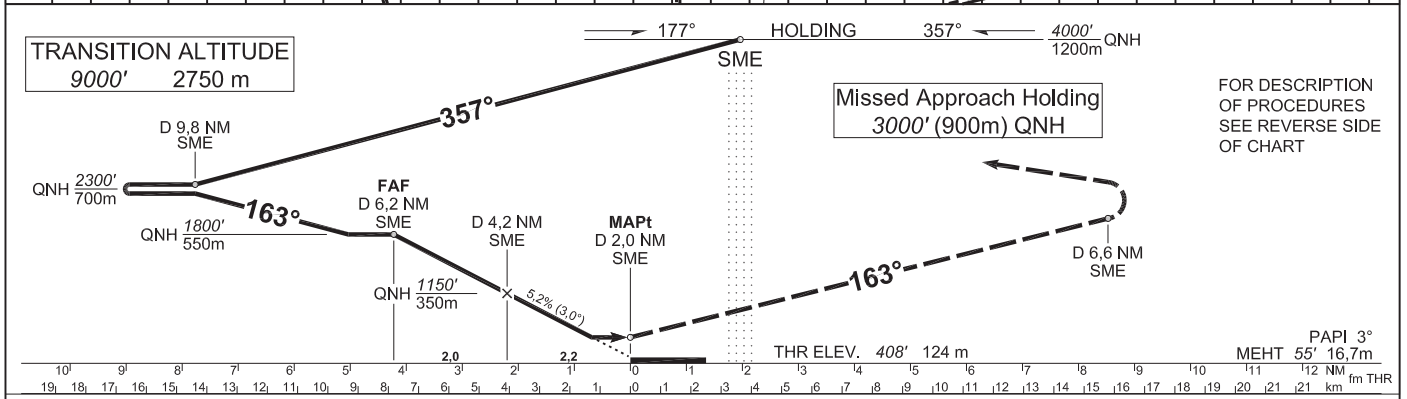
Missed approach:
Climb straight ahead.
At D 8,4 NM SMK (GP/DME) turn right direct to LI/SME and hold at *3000'* (900 m) QNH.
Missed approach turn limited to 210 KIAS.

Holding procedure:
Holding fix: LI/SME.
Left hand holding pattern.

Inbound track:	357° MAG
Outbound track:	177° MAG
Rate of turn:	3°/sec. or 25° bank angle (whichever requires lesser bank)
Outbound timing:	1'
Minimum holding altitude:	*4000'* (1200 m) MSL *3000'* (900 m) MSL for missed approach holding

Final approach descent: 3,00° (5,24 %)





OCA (OCH)		A	B	C	D	DISTANCE	60 kt 111km/h	90 kt 167km/h	120 kt 222km/h	150 kt 278km/h	180 kt 333km/h
STRAIGHT-IN APPROACH	ft	770 (360)				FAF - MAPt 4,18 NM 7,75 km MIN : s	4 : 11	2 : 47	2 : 06	1 : 40	1 : 24
	m	235 (115)									
CIRCLING	ft/m MSL	825 / 250	1030 / 315	1410 / 430	1410 / 430						
	VIS m	1900	2800	3700	4600						

AD 2-LHSM - NDB 16

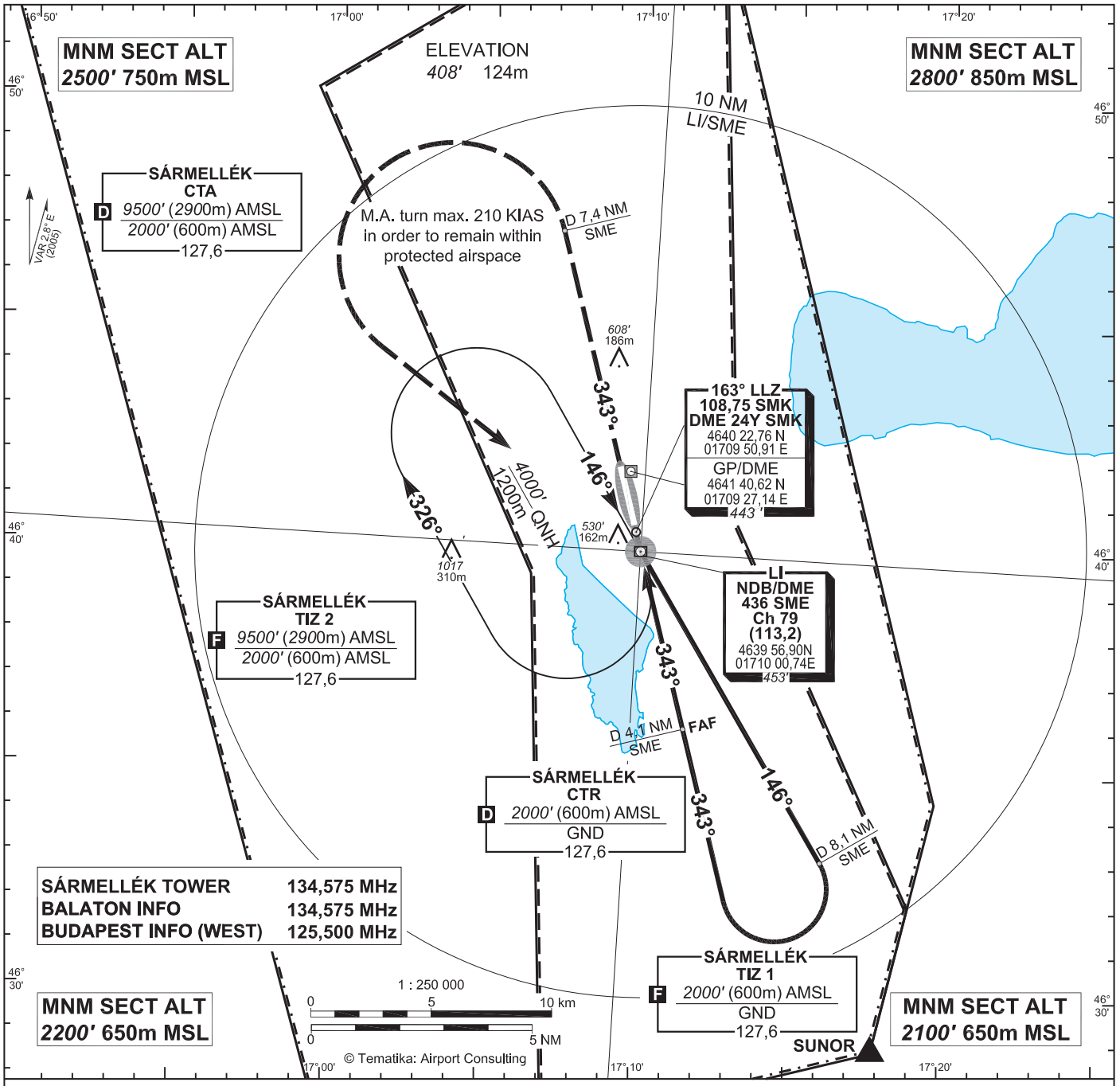
Approach from LI/SME:
Initial altitude: *4000'* (1200 m) QNH.
Fly outbound on 357° for 3 minutes or D 9,8 NM LI/SME (whichever comes first) and descend to *2300'* (700 m) QNH.
Turn left (max. 185 KIAS) to 163° inbound LI/SME, then descend to *1800'* (550 m) QNH.
At D 6,2 NM SME descend to *1150'* (350m) QNH.
At D 4,2 NM SME descend to *770'* (235 m) QNH.

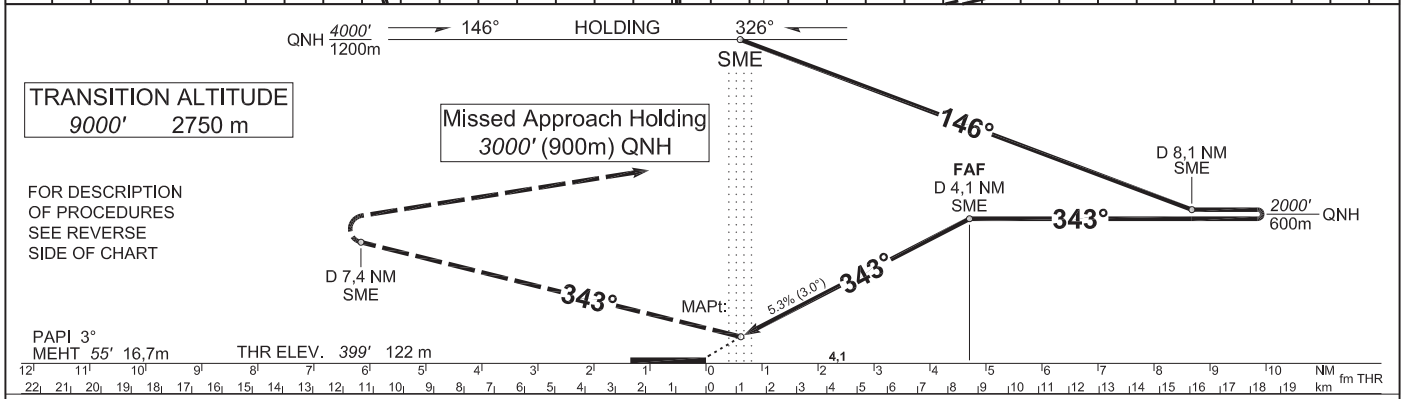
Missed approach:
Climb straight ahead.
At D 6,6 NM SME turn right direct to LI/SME and hold at *3000'* (900 m) QNH.
Missed approach turn limited to 210 KIAS.

Holding procedure:
Holding fix: LI/SME.
Left hand holding pattern.

Inbound track:	357° MAG
Outbound track:	177° MAG
Rate of turn:	3°/sec. or 25° bank angle (whichever requires lesser bank)
Outbound timing:	1'
Minimum holding altitude:	*4000'* (1200 m) MSL *3000'* (900 m) MSL for missed approach holding

Final approach descent: 3,00° (5,24 %)





OCA (OCH)		A	B	C	D
STRAIGHT-IN APPROACH	ft	690 (290)			
	m	210 (90)			
CIRCLING	ft/m MSL	825 / 250	1030 / 315	1410 / 430	1410 / 430
	VIS m	1900	2800	3700	4600

DISTANCE	60 kt 111km/h	90 kt 167km/h	120 kt 222km/h	150 kt 278km/h	180 kt 333km/h
FAF - MAPt 4,09 NM 7,58 km MIN : s	4 : 15	2 : 49	2 : 07	1 : 42	1 : 25

AD 2-LHSM - NDB 34

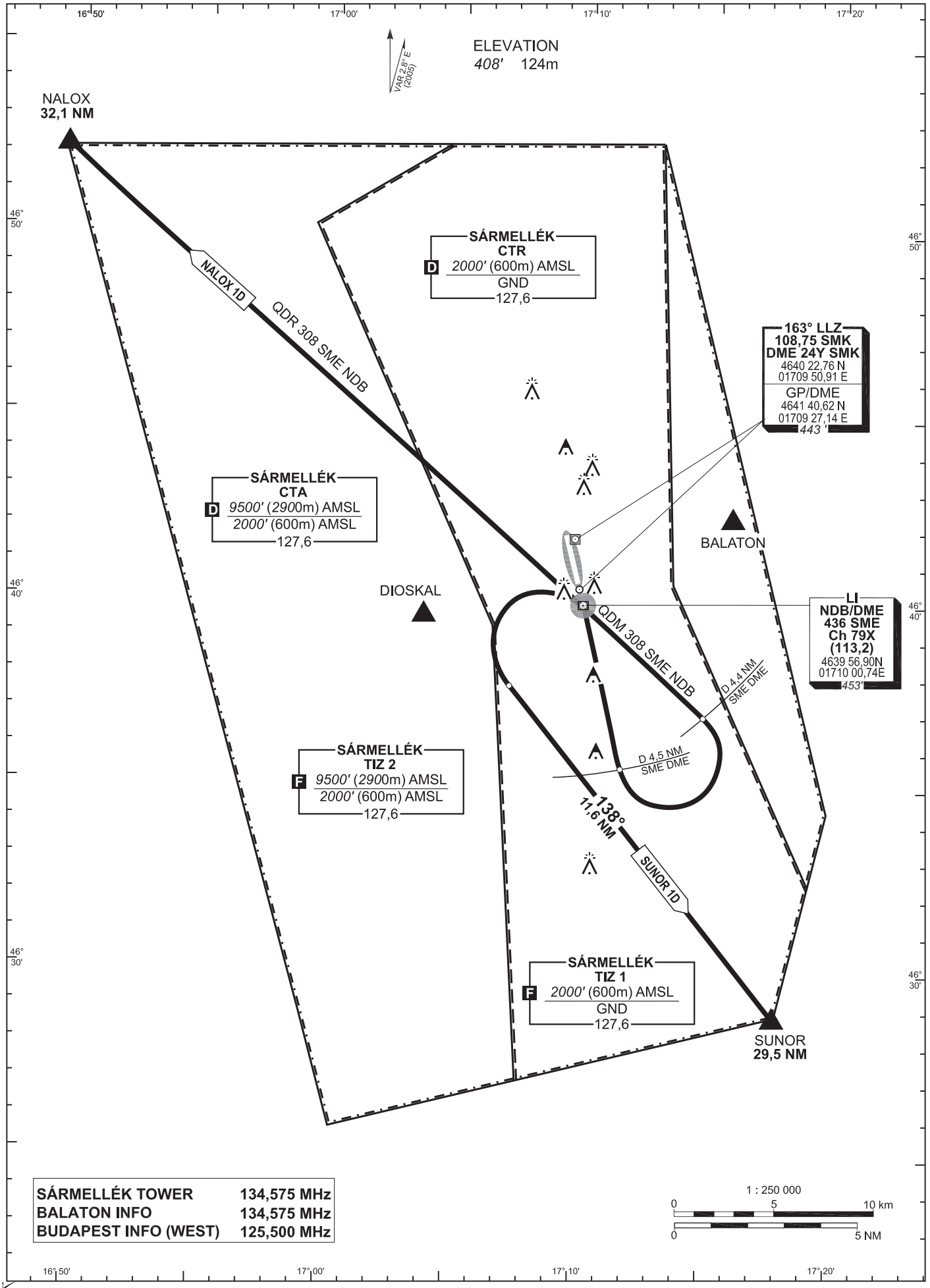
Approach from LI/SME:
Initial altitude: *4000'* (1200 m) QNH.
Fly outbound on 146° for 2,5 minutes or D 8,1 NM LI/SME (whichever comes first) and descend to *2000'* (600 m) QNH.
Turn right (max. 185 KIAS) to 343° inbound LI/SME
At D 4,1 NM SME descend to *690'* (210 m) QNH.

Missed approach:
Climb straight ahead.
At D 7,4 NM SME turn left direct to LI/SME and hold at *3000'* (900 m) QNH.
Missed approach turn limited to 210 KIAS.

Holding procedure:
Holding fix: LI/SME.
Left hand holding pattern.

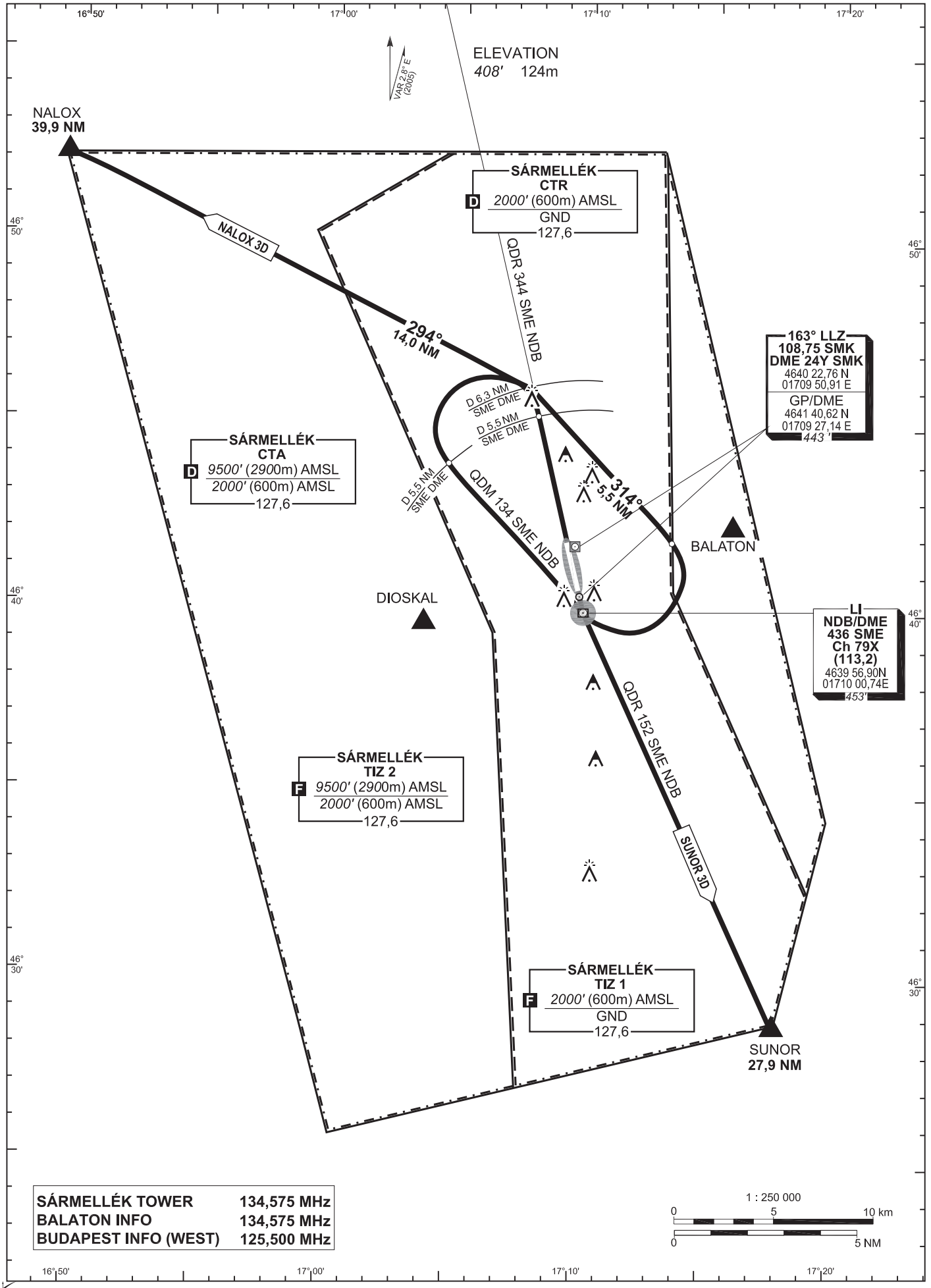
Inbound track:	146° MAG
Outbound track:	326° MAG
Rate of turn:	3°/sec. or 25° bank angle (whichever requires lesser bank)
Outbound timing:	1'
Minimum holding altitude:	*4000'* (1200 m) MSL *3000'* (900 m) MSL for missed approach holding

Final approach descent: 3,04° (5,31 %)


16°50'
17°00'
17°10'
17°20'
46° 50'
46° 40'
46° 30'
VAR 2,8° E (2005)
ELEVATION
408' 124m
NALOX
32,1 NM
NALOX 1D
QDR 308 SME NDB
SÁRMELLÉK
CTR
D 2000' (600m) AMSL
GND
127,6
163° LLZ
108,75 SMK
DME 24Y SMK
4640 22,76 N
01709 50,91 E
GP/DME
4641 40,62 N
01709 27,14 E
443'
SÁRMELLÉK
CTA
D 9500' (2900m) AMSL
2000' (600m) AMSL
127,6
BALATON
DIOSKAL
LI
NDB/DME
436 SME
Ch 79X
(113,2)
4639 56,90N
01710 00,74E
453'
QDM 308 SME NDB
D 4,4 NM SME DME
D 4,5 NM SME DME
SÁRMELLÉK
TIZ 2
F 9500' (2900m) AMSL
2000' (600m) AMSL
127,6
138°
11,6 NM
SUNOR 1D
SÁRMELLÉK
TIZ 1
F 2000' (600m) AMSL
GND
127,6
SUNOR
29,5 NM
SÁRMELLÉK TOWER 134,575 MHz
BALATON INFO 134,575 MHz
BUDAPEST INFO (WEST) 125,500 MHz
1 : 250 000
0 5 10 km
0 5 NM

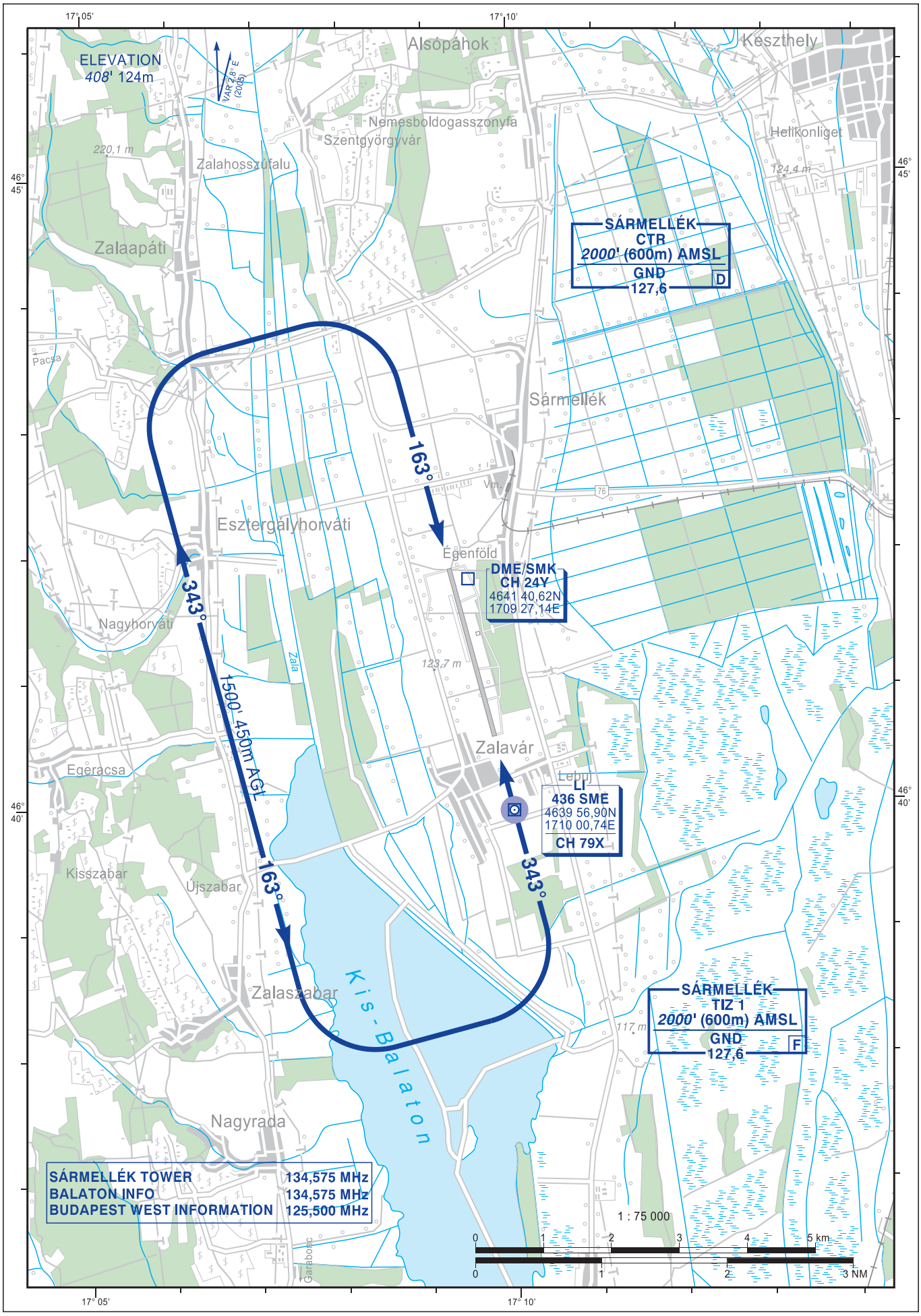
AD 2-LHSM - SID 16

SID NAME	PROCEDURE
NALOX 1D (32,1 NM)	After departure continue runway heading. Cross SME DME 4,5 NM at ALT *2000'* (PDG 5,10% i.e. *1081 ft/min*) or above climbing to FL 100 and turn left to intercept QDM SME NDB 308. (Turn limited to 210 kt IAS MAX.) After crossing SME NDB fly on QDR SME NDB 308 and proceed to NALOX. Cross NALOX at FL 100.
SUNOR 1D (29,5 NM)	After departure continue runway heading. Cross SME DME 4,5 NM at ALT *2000'* (PDG 5,10% i.e. *1081 ft/min*) or above climbing to FL 100 and turn left to intercept QDM SME NDB 308. (Turn limited to 210 kt IAS MAX.) After crossing SME NDB turn left on track 138 and proceed to SUNOR. (Turn limited to 210 kt IAS MAX.) Cross SUNOR at FL 100.


16°50'
17°00'
17°10'
17°20'
VAR 2,8° E (2005)
ELEVATION
408' 124m
NALOX
39,9 NM
NALOX 3D
294°
14,0 NM
SÁRMELLÉK
CTR
D 2000' (600m) AMSL
GND
127,6
QDR 344 SME NDB
D 6,3 NM SME DME
D 5,5 NM SME DME
163° LLZ
108,75 SMK
DME 24Y SMK
4640 22,76 N
01709 50,91 E
GP/DME
4641 40,62 N
01709 27,14 E
443'
SÁRMELLÉK
CTA
D 9500' (2900m) AMSL
2000' (600m) AMSL
127,6
D 5,5 NM SME DME
QDM 134 SME NDB
314°
5,5 NM
BALATON
DIOSKAL
LI
NDB/DME
436 SME
Ch 79X
(113,2)
4639 56,90N
01710 00,74E
453'
QDR 152 SME NDB
SUNOR 3D
SÁRMELLÉK
TIZ 2
F 9500' (2900m) AMSL
2000' (600m) AMSL
127,6
SÁRMELLÉK
TIZ 1
F 2000' (600m) AMSL
GND
127,6
SUNOR
27,9 NM
46°50'
46°40'
46°30'
SÁRMELLÉK TOWER 134,575 MHz
BALATON INFO 134,575 MHz
BUDAPEST INFO (WEST) 125,500 MHz
1 : 250 000
0 5 10 km
0 5 NM

AD 2-LHSM - SID 34

SID NAME	PROCEDURE
NALOX 3D (39,9 NM)	After departure continue runway heading. Cross SME DME 5,5 NM at ALT *2000'* (PDG 7,28% i.e. *1544 ft/min*) or above climbing to FL 100 and turn left to intercept QDM SME NDB 134. (Turn limited to 210 kt IAS MAX.) After crossing SME NDB turn left on track 314. (Turn limited to 210 kt IAS MAX.) After crossing QDR SME NDB 344 turn left on track 294 and proceed to NALOX. Cross NALOX at FL 100.
SUNOR 3D (27,9 NM)	After departure continue runway heading. Cross SME DME 5,5 NM at ALT *2000'* (PDG 7,28% i.e. *1544 ft/min*) or above climbing to FL 100 and turn left to intercept QDM SME NDB 134. (Turn limited to 210 kt IAS MAX.) After crossing SME NDB intercept QDR SME NDB 152 and proceed to SUNOR. Cross SUNOR at FL 100.


17° 05'
17° 10'
46° 45'
46° 40'
ELEVATION
408' 124m
VAR 2,8° E (2005)
Alsópáhok
Keszthely
Nemesboldogasszonyfa
Szentgyörgyvár
Helikonliget
220,1 m
124,4 m
Zalahosszúfalu
Zalaapáti
Pacsa
SÁRMELLÉK
CTR
2000' (600m) AMSL
GND
127,6
D
Sármellék
163°
343°
Esztergályhorváti
Egenföld
DME/SMK
CH 24Y
4641 40,62N
1709 27,14E
Nagyhorváti
Zala
123,7 m
1500' 450m AGL
Zalavár
Egeracsa
Lebuj
LI
436 SME
4639 56,90N
1710 00,74E
CH 79X
Kisszabar
Újszabar
Zalaszabar
Kis-Balaton
SÁRMELLÉK
TIZ 1
2000' (600m) AMSL
GND
127,6
F
117 m
Nagyrada
SÁRMELLÉK TOWER 134,575 MHz
BALATON INFO 134,575 MHz
BUDAPEST WEST INFORMATION 125,500 MHz
1 : 75 000
0 1 2 3 4 5 km
0 1 2 3 NM

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