EHRD — ROTTERDAM/Rotterdam

Note: the following sections in this chapter are intentionally left blank:
AD 2.16, AD 2.21.

EHRD AD 2.1 AERODROME LOCATION INDICATOR AND NAME

EHRD — ROTTERDAM/Rotterdam

EHRD AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA

1	**ARP co-ordinates and site at AD**	515725N 0042614E 013 DEG GEO 921 M from TWR.
2	**Direction and distance from (city)**	3 NM NNW from Rotterdam.
3	**Elevation/reference temperature**	-14 FT AMSL/20.8(AUG).
4	**Geoid undulation at AD ELEV PSN**	143 FT.
5	**MAG VAR/annual change**	1° E (2020)/9'E
6	**AD operator, postal address, telephone, telefax, email, AFS, website**	Post: Rotterdam The Hague Airport P.O. Box 12025 3004 GA Rotterdam The Netherlands Tel: +31 (0)10 446 3444 (GEN) +31 (0)10 446 3450 (OPS) +31 (0)10 446 3453 (OPS) +31 (0)10 446 3456 (Duty Manager Operations) Email: info@rtha.com (GEN) operations@rtha.com (OPS) URL: https://www.rotterdamthehagueairport.nl
7	**Types of traffic permitted (IFR/VFR)**	IFR/VFR
8	**Remarks**	1. AD is slot-coordinated, for details see EHRD AD 2.20. 2. Upon request, contact airport authority (OPS) on channel 121.950.

EHRD AD 2.3 OPERATIONAL HOURS

1	**AD operator**	Daily 0600-2200 (0500-2100). For exemptions see remarks.
2	**Customs and immigration**	H24
3	**Health and sanitation**	H24
4	**AIS briefing office**	H24 Tel: +31 (0)20 406 2315 URL: https://www.homebriefing.nl
5	**ATS reporting office (ARO)**	Competent ATS unit: ARO Schiphol, see EHAM AD 2.3.
6	**MET briefing office**	H24
7	**ATS**	H24
8	**Fuelling**	• Jet A-1 AVBL 0500-2230 (0400-2130). Outside these hours 3 HR PN, TEL: +31 (0)10 437 7341. • Jet A-1 for general aviation AVBL 0500-2200 (0400-2100). Outside these hours TEL: +31 (0)10 298 4949. • AVGAS 100LL AVBL H24.
9	**Handling**	H24. Handling is compulsory, see EHRD AD 2.20 and AD 2.23.
10	**Security**	H24
11	**De-icing**	H24

12	**Remarks**	• H24 for emergency, rescue, police, coastguard, military, government and ambulance flights. • H24 for executive flights with aircraft certificated for MAX 19 seats and MTOM of 45 000 KG. • H24 for diverting aircraft due to meteorological or technical reasons (AD may be filed as alternate). • Landing of positioning flights between 0500-0600 (0400-0500). • In case of delay, permission can be granted by airport authority for landing till 2400 (2300). • Chapter 2 aircraft and noisy Chapter 3 aircraft are not allowed.

EHRD AD 2.4 HANDLING SERVICES AND FACILITIES

1	**Cargo-handling facilities**	For addresses and other details of ground handling companies see EHRD AD 2.23 paragraph 4.
2	**Fuel/oil types**	AVGAS 100LL, Jet A-1, liquid hydrogen/All kinds.
3	**Fuelling facilities/capacity**	AVGAS 100LL: self service, Air BP Sterling card only/ capacity 120 litres/MIN. Jet A-1: unlimited.
4	**De-icing facilities**	AVBL
5	**Hangar space for visiting aircraft**	O/R, limited.
6	**Repair facilities for visiting aircraft**	Major repair to light aircraft and O/R to other aircraft.
← **7**	**Remarks**	Liquid hydrogen for demonstration purposes only (requirements via hydrogen@rtha.com).

EHRD AD 2.5 PASSENGER FACILITIES

1	**Hotels**	At AD: 4 hotels (430 rooms) In Rotterdam: unlimited.
2	**Restaurants**	AVBL 0500-2200 (0400-2100).
3	**Transportation**	Buses and taxis.
4	**Medical facilities**	First aid treatment, hospitals in Rotterdam 3 NM.
5	**Bank and post office**	Bank AVBL; post office not AVBL.
6	**Tourist office**	AVBL at information desk.
7	**Remarks**	NIL

EHRD AD 2.6 RESCUE AND FIRE FIGHTING SERVICES

1	**AD category for fire fighting**	CAT 7[1)2)].
2	**Rescue equipment**	3 crash trucks equipped with 10 000 litres of water, 1300 litres of foam (level C), 250 KG of dry chemical powder and hydraulic rescue equipment; 1 rapid intervention vehicle with foam, 500 KG dry chemical powder, hydraulic rescue equipment and mobile lighting; 1 command vehicle.
3	**Capability for removal of disabled aircraft**	Airbags and cranes AVBL via contractors.
4	**Remarks**	1) CAT 8 or 9 AVBL on request (24 HR PN). 2) During snow clearing and anti/de-icing operations CAT may be temporarily CAT 5, only in case of no active CAT 6/7 traffic.

EHRD AD 2.7 SEASONAL AVAILABILITY - CLEARING

1	**Types of clearing equipment**	3 snowsweep combinations with ploughs, 1 snowblower, 2 de-icing cars.
2	**Clearance priorities**	RWY, TWY, apron; simultaneously if possible.
3	**Remarks**	1. Responsible authority: airport authority. 2. No specially prepared winter runways AVBL. 3. Methods of snow removal: snowploughs and sweeping machines. 4. Chemical treatment of runway surface by KAC. 5. Assessment and measuring of contamination: observation by own experienced staff. 6. Runway condition is determined and reported according to the global reporting format and broadcast via ATIS. 7. Information on the runway condition is published by: a. SNOWTAM via the international NOTAM office at Schiphol. b. RCR (only mandatory items) via ATIS. c. RCR (only RWYCC) via RTF on TWR channel.

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

1	**Apron surface and strength**	Surface: CONC. Strength: PCN 66/R[1)]/A/W/T.
2	**Taxiway width, surface and strength**	**TWY** / **Width (M)** / **Surface** / **Strength (PCN)** V1 / 23 / ASPH / 70/R[1)]/D/X/T V2[2)] / 22 / ASPH / 70/R[1)]/D/X/T V3[2)] / 22 / ASPH / 70/R[1)]/D/X/T V4[2)] / 15 / ASPH / 40/R[1)]/D/X/T V5[2)] / 22 / ASPH / 70/R[1)]/D/X/T V6 / 23 / ASPH / 70/R[1)]/D/X/T
3	**Altimeter checkpoint location and elevation**	Location: apron. Elevation: -15 FT AMSL.
4	**VOR checkpoints**	Not AVBL
5	**INS checkpoints**	See AD 2.EHRD-APDC.
6	**Remarks**	[1)] Composite construction. [2)] Maximum wingspan 36 M (limited outer main gear wheel span up to but not including 9 M).

EHRD 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 at aircraft stands**	**Aircraft stand ID signs** • Stands A, B, C and D: stand identification markings. **TWY guide lines** • Boundary lines; • Aircraft stand identification markings; • One way arrows; • Illuminated guidance sign boards. **Visual docking/parking guidance system** • Marshaller (except home-based general aviation); • Follow-me car AVBL.
2	**RWY and TWY markings and LGT**	**RWY markings** • RWY 06: DTHR, designation,TDZ, aiming point, CL, edge. • RWY 24: DTHR, designation,TDZ, aiming point, CL, edge. **RWY LGT** • RWY 06: THR, CL, edge, RWY end. • RWY 24: THR, CL, edge, RWY end. **TWY markings** • CL. • holding points. **TWY LGT** • Retroreflective CL markers (except TWY V4). • Edge (except TWY V4). • RWY guard LGT at holding positions (except TWY V3).
3	**Stop bars**	No-entry bar TWY V3.
4	**Remarks**	NIL

EHRD AD 2.10 AERODROME OBSTACLES

Area 2					
OBST ID/ Designation	**OBST Type**	**OBST Position**	**ELEV/HGT in FT**		**Markings/ LGT Type, Colour**
			AMSL	**AGL**	
1	**2**	**3**	**4**		**5**
-	-	-	-	-	-

Remarks
6
• All obstacles are marked and lighted day and night. For obstacles in take-off area see AD 2.EHRD-AOC-06-24. • A list of close-in obstacles associated with the departure procedures is available on request. • No obstacle data sets AVBL.

EHRD AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1	**Associated MET office**	De Bilt
2	**Hours of service** **MET office outside hours**	H24 -
3	**Office responsible for TAF preparation** **Periods of validity**	De Bilt 30 HR
4	**Trend forecast** **Interval of issuance**	TREND H24
5	**Briefing/consultation provided**	Self-briefing; briefing on request from MWO-De Bilt by telephone after self-briefing (see item 10).
6	**Flight documentation** **Language(s) used**	Reports, forecasts, charts. English, Dutch.
7	**Charts and other information available for briefing or consultation**	S, P, W, T
8	**Supplementary equipment available for providing information**	WXR, APT
9	**ATS units provided with information**	Rotterdam TWR, Rotterdam APP.
10	**Additional information (limitation of service, etc.)**	Tel: 0900 202 3341 Briefing low level flights (IFR/VFR). Tel: 0900 202 3343 Briefing IFR flights above FL 100. Tel: 0900 202 3340 Briefing balloon flights within Amsterdam FIR. **Note:** charge for TEL briefings and consultations is € 0,50/MIN. **Note:** due to environmental influences the windreport for RWY 24 is not representative for the wind conditions at TDZ; 1. Windspeed from sector 290-010 DEG is underestimated up to 17 percent. 2. Windspeed from sector 130-170 DEG overestimated up to 12 percent. 1) Weather bulletin (Dutch language) and METARs via Dutch public TV 'Teletekst' page 707.

EHRD AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designations RWY NR	True BRG	Dimensions of RWY (M)	Strength (PCN) and surface of RWY and SWY	THR co-ordinates RWY end co-ordinates THR GUND	THR elevation and highest elevation of TDZ of precision APCH RWY
1	**2**	**3**	**4**	**5**	**6**
06	057.10°	2199 x 45	70/F/D/W/T ASPH [1) 2)]	515711.03N 0042550.45E INFO not AVBL 143 FT	-14.4 FT INFO not AVBL
24	237.12°	2199 x 45	70/F/D/W/T ASPH [1) 2)]	515742.69N 0042709.69E INFO not AVBL 143 FT	-14.6 FT INFO not AVBL

Designations RWY NR	Slope of RWY-SWY	SWY dimensions (M)	CWY dimensions (M)	Strip dimensions (M)	RESA dimensions (M)	Location and type of arresting system	OFZ
1	**7**	**8**	**9**	**10**	**11**	**12**	**13**
06	0%	NIL	60 x 300	2319 x 300	240 x 150	NIL	NA
24	0%	NIL	60 x 300	2319 x 300	240 x 150	NIL	NA

Remarks
14
1) Regarding RWY strength, an unlimited use will be permitted for aircraft with an AUW <= 5700 KG. 2) A 180° turn is allowed for aircraft up to and including aerodrome reference code C only.

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EHRD AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (M)	TODA (M)	ASDA (M)	LDA (M)	Remarks
1	2	3	4	5	6
06	2199	2259	2199	2004	Take-off from RWY extremity. (DTHR 195 M)
	2004	2064	2004	NA	Take-off from intersection with TWY V2.
24	2199	2259	2199	2002	Take-off from RWY extremity. (DTHR 197 M)
	2002	2062	2002	NA	Take-off from intersection with TWY V5.
	1500	1560	1500	NA	Take-off from intersection with TWY V4.
For determination of the datum line for intersection take-off, see EHRD AD 2.23 paragraph 2.					

EHRD AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type, length, INTST	THR LGT colour, WBAR	VASIS (MEHT) PAPI	TDZ LGT length	RWY centre line LGT length, spacing, colour, INTST	RWY edge LGT length, spacing, colour, INTST	RWY end LGT colour, WBAR	SWY LGT length, colour
1	2	3	4	5	6	7	8	9
06	CAT I 450 M LIH	G -	PAPI left/3° (51 FT)	NIL	2200 M 15 M 1) LIH	2200 M 30 M 2) LIH	R -	NIL
24	CAT I 780 M LIH	G -	PAPI left/3° (51 FT)	NIL	2200 M 15 M 1) LIH	2200 M 30 M 2) LIH	R -	NIL

Remarks
10
1) White from THR to 900 M from RWY-end; white/red from 900 M from RWY-end to 300 M from RWY-end; red from 300 M from RWY-end to RWY-end. 2) White; last 600 M yellow. 1. RWY 06: LED lights used for APCH, THR, CL, edge and end lights. RWY 24: LED lights used for APCH, THR, CL, edge and end lights.

EHRD 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**	LDI not AVBL. Anemometer: see GEN 3.5 paragraph 3.
3	**TWY edge and centre line lighting**	See EHRD AD 2.9.
4	**Secondary power supply** **Switch-over time**	RWY/TWY: generator. RWY: within 8 SEC, when RVR < 800 M within 1 SEC. TWY: within 8 SEC.
5	**Remarks**	Lighted WDI at position 100 M in front of THR RWY 06 and THR RWY 24 (left side).

EHRD AD 2.17 ATS AIRSPACE

1	**Designation and lateral limits**	**ROTTERDAM CTR:** 515052N 0041850E - 514822N 0041239E - 515323N 0040721E - 515553N 0041333E - along clockwise arc (radius 8 NM, centre 515725N 0042614E) - 515052N 0041850E.
2	**Vertical limits**	GND to 3000 ft AMSL.
3	**Airspace classification**	C

4	**ATS unit call sign** **Language(s)**	Rotterdam Tower English
5	**Transition altitude**	IFR: 3000 ft AMSL; VFR: 3500 ft AMSL.
6	**Hours of applicability**	H24
7	**Remarks**	NIL

EHRD AD 2.18 ATS COMMUNICATION FACILITIES

Service designa-tion	Call sign	Channel(s)	SATVOICE NR	Logon address	Hours of operation	Remarks
1	**2**	**3**	**4**	**5**	**6**	**7**
APP	Rotterdam Approach	122.990	NIL	NIL	MON-SUN: 0600-2200 (0500-2100)	TAR. Doppler VDF, bearings Class B.
		315.825	NIL	NIL		
		131.155	NIL	NIL	O/R	O/R or at ATC discretion.
TWR	Rotterdam Tower	118.205	NIL	NIL	H24	Primary. Doppler VDF, bearings Class B.
		362.875	NIL	NIL		NIL
		119.705	NIL	NIL		Regional Guard. O/R or at ATC discretion. Doppler VDF, bearings Class B.
	Rotterdam Delivery	122.180	NIL	NIL	H24	Start-up control and clear-ance delivery.
ATIS	Rotterdam Information	128.565	NIL	NIL	H24	NIL
-	As appropriate.	121.500	NIL	NIL	As appropriate.	Emergency. Doppler VDF, bearings Class B.

EHRD AD 2.19 RADIO NAVIGATION AND LANDING AIDS

Type of aid, MAG VAR, Type of supported OPS (VOR/ILS/MLS: declination)	ID	Frequency CH service provider and reference path identifier	Hours of operation	Position of transmitting antenna co-ordinates	Elevation of DME transmitting antenna or GBAS: eleva-tion, ellipsoid height of refer-ence point SBAS: ellips-oid height of LTP/FTP	Service volume radius from the GBAS reference point	Remarks
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
DVOR/DME (1°E/2020)	RTM	110.400 MHz CH41X	H24	515825.3N 0042851.5E	0 FT	NA	Designated operational cover-age: BTN 030°-240° MAG 50 NM/FL 250; BTN 240°-030° MAG 100 NM/FL 250.
LOC 06 ILS CAT I/C/1 (1°E/2020)	ROS	109.100 MHz	H24	515749.9N 0042727.8E	NA	NA	410 M from THR RWY 24.
DME 06	ROS	CH28X	H24	515719.9N 0042601.1E	0 FT	NA	DME reads zero at THR RWY 06. Distance DME antenna/THR is 0.18 NM.
GP 06	-	331.400 MHz	H24	515719.9N 0042601.1E	NA	NA	NIL
LOC 24 ILS CAT I/C/1 (1°E/2020)	RSV	110.900 MHz	H24	515702.1N 0042528.1E	NA	NA	503 M from THR RWY 06.
DME 24	RSV	CH46X	H24	515740.3N 0042652.2E	0 FT	NA	DME reads zero at THR RWY 24. Distance DME antenna/THR is 0.18 NM).
GP 24	-	330.800 MHz	H24	515740.3N 0042652.2E	NA	NA	NIL
GPS	NA	L1 1575.42 MHz	H24	NA	NA	NA	NIL

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Type of aid, MAG VAR, Type of supported OPS (VOR/ILS/MLS: declination)	ID	Frequency CH service provider and reference path identifier	Hours of operation	Position of transmitting antenna co-ordinates	Elevation of DME transmitting antenna or GBAS: elevation, ellipsoid height of reference point SBAS: ellipsoid height of LTP/FTP	Service volume radius from the GBAS reference point	Remarks
1	2	3	4	5	6	7	8
EGNOS	NA	L1 1575.42 MHz[1)]	H24	NA	[1)]	NA	[1)] See EHRD AD 2.22 for FAS data block

EHRD AD 2.20 LOCAL AERODROME REGULATIONS

1 SLOT COORDINATION

All aircraft with MTOM > 45000 KG and/or equipped with >= 20 seats have to obtain a slot prior to arrival. This also applies to cargo flights with MTOM > 6000 KG. Due to noise abatement new commercial flights are only allowed to be operated by aircraft that comply with category R4 or better of the ACI aircraft noise rating index.

Requests for slots must be filed at Airport Coordination Netherlands (ACNL) in standard IATA format.

During office hours:
Airport Coordination Netherlands (ACNL)
Tel: +31 (0)20 405 9730
Email: scr@slotcoordination.nl
URL: https://www.slotcoordination.nl

Aircraft of aerodrome reference code letter D and E require special permission from airport authority regardless of any slot confirmation. Permission has to be requested 24 HR prior to operations via operations@rtha.com.
Not applicable for unplanned traffic; the airport may be filed as alternate for code letter D and E aircraft.

2 GROUND MOVEMENT OPERATIONS

Ground movement operations of aircraft with wingspan > 36 M and outer main gear wheel span > 9 M are subject to the following mitigating restrictions:

1. Follow-me service is mandatory during taxiing.
2. Adhere strictly to the follow-me instructions.
3. TWYs V2, V3, V4 and V5 do not meet the required minimum outer main wheel clearance distance (taxiway width) for aircraft with outer main gear wheel span > 9 M (i.e. also not for aircraft with wingspan > 36 M).
4. Simultaneous use of TWY N and TWY Y is not allowed for aircraft with wingspan > 36 M.
5. TWY V between TWY V1 and TWY V3 does not meet the required minimum separation distance for aircraft with wingspan > 36 M, strictly adhere to the follow-me instructions to stay clear of obstacles.
6. Limited parking space available for aircraft with wingspan > 36 M.
7. Aircraft with wingspan > 36 M cannot be parked using the aircraft stand lead-in lines.

Pilots are to use the minimum power necessary when manoeuvring on the aprons and taxiway system. MAX speed 15 KT on aprons and taxiways, except TWYs V, V1, V2, V3, V4, V5 and V6. Specific caution is advised during taxiing on aprons and TWY N and TWY Y. It is of particular importance to:

- use minimum breakaway thrust/power setting when taxiing out from aircraft stands A, B, C and D to avoid jet blast hazard at adjacent aircraft stands;
- use idle power and do not use breakaway thrust when turning from TWY N and TWY Y towards aircraft stands D, to avoid jet blast hazard at adjacent aprons and service roads. Notify ATC if breakaway thrust is required at this location;
- avoid excessive jet blast towards other aircraft when manoeuvring at J-apron.

High visibility clothing is mandatory on airside for aircraft crew and personnel.

3 ENVIRONMENTAL BURDEN REDUCTION DURING TAXI

In order to reduce the environmental burden:

- after landing, **all arriving aircraft** shall switch off as many engines as possible before taxiing to the aircraft stand;
- **all departing aircraft** shall use as few engines as possible whilst taxiing to the runway.

Reduced engine taxiing should only be executed when allowed in accordance with company standard operating procedures (SOP) and when deemed safe by the crew.

4 USE OF APU

The use of auxiliary power units (APU) and ground power units (GPU) is strictly controlled by airport authority at all aircraft stands. Flight crew are urgently requested to limit use of the APU as much as possible to reduce environmental and noise burden.

The APU should be shut down as soon as practicable following actual in block time (AIBT), but not later than 5 MIN after parking brakes set, and not restarted until 5 MIN prior to estimated off block time (EOBT) in order to start the engines.

Exceptions:

- When it is necessary to use the APU to ensure safety on board, at flight crew decision. Report to airport authority (OPS) on channel 121.950 as soon as practicable.
- When the outside temperature is below 0°C or above +20°C (according to METAR) the APU should not be restarted until actual start boarding time (ASBT).
- When it is necessary to use an APU to diagnose and/or rectify aircraft faults (for technical/maintenance reasons). Prior permission required from the Airside Operations office, TEL: +31 (0)10 446 3450.
- At all aircraft stands other than the main apron the following applies:
  - When no GPU is available at the aircraft stand the APU may be started from 30 MIN prior to EOBT and should be shut down not later than 20 MIN after parking brakes set.
  - When a GPU is available, limit use of the APU as much as possible (within the time bracket 30 MIN prior to EOBT and 20 MIN after parking brakes set).

5 GROUND HANDLING

Ground handling is mandatory for all commercial aircraft regardless of any slot confirmation.

For security reasons ground handling is mandatory for all non-homebased general aviation. Visiting Rotterdam The Hague Airport is only permitted with confirmed handling from GA ground handling companies.

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Ground handling companies may need to tow aircraft due to limited parking space.

Single and twin-engine propeller aircraft with an MTOM < 4000 KG are exempted from ground handling if the only purpose of visiting is self-service fuelling AVGAS 100LL, with a maximum ground time of 30 MIN and if no airport facilities (e.g. coffee, toilet, etc.) are used. Notify operations@rtha.com at least 24 HR in advance. Note: Air BP Sterling card payment only.

For contact information see EHRD AD 2.23.

6 RESTRICTIONS ON TRAINING FLIGHTS

Rotterdam The Hague Airport is PPR for training flights with aircraft with MTOM > 2000 KG. For permission contact operations@rtha.com at least 24 HR in advance. Further restrictions apply:

1. The execution of training flights is prohibited daily from 2200-0600 (2100-0500).
2. Training flights prohibited for aircraft with MTOM >= 6000 KG due to environmental reasons (noise capacity).
3. For aircraft with MTOM < 6000 KG circuit flights in the course of training flights are prohibited during the following periods:
   - MON-FRI: before 0700 and after 1700 (before 0600 and after 1600).
   - SAT before 0800 and after 1200 (SAT before 0700 and after 1100).
   - SAT for aircraft equipped with turbojet engines.
   - SUN and HOL during the entire day: H24.
4. IFR training flights and IFR examination flights must obtain a slot time. Slot times can be obtained from the Flight Service Centre, which is located at Schiphol East. The Flight Service Centre can be reached by telephone H24:
   Tel: +31 (0)20 406 2315
   Slot times must be obtained at least one day before the flight. It is also possible to obtain a slot time longer in advance. If a flight cannot take place, the slot time must always be cancelled, even if cancellation occurs on the day of the flight. To cancel a slot time, the Flight Service Centre should be contacted.

7 FORMATION TAKE-OFFS AND LANDINGS

Formation take-offs and landings are not allowed except with a pre-arranged operational agreement with ATC. Contact atmproceduresservices@lvnl.nl for such an agreement.

8 DEVIATIONS FROM EASA REGULATIONS

8.1 Commission Regulation (EU) No 139/2014 - Certification Specifications

Reference	Deviation	Related AIP section
1	2	3
Objects on runway strips		
CS ADR-DSN.B.165 (a)	Frangible objects with limited height are present on runway shoulders.	EHRD AD 2.12
Taxiway minimum separation distance (Y, N, A3)		
CS ADR-DSN.D.260 (b)	The separation distance between TWY N and TWY Y and between TWY Y and aircraft stand A3 is less than the appropriate dimension for code letter D and E aircraft.	EHRD AD 2.8
Taxiway minimum separation distance (D, G, L)		
CS ADR-DSN.D.260 (b)	The separation distance between the centre line of taxiway D, G, L and surrounding objects does not meet the appropriate dimension.	EHRD AD 2.8
Width of taxiway strips		
CS ADR-DSN.D.315 (b)	The taxiway strip of TWY V between TWY V1 and TWY V3 does not meet the required width for code letter D and E aircraft.	EHRD AD 2.8
Objects on taxiway strips		
CS ADR-DSN.D.320	TWY V between TWY V1 and TWY V3 does not meet the required minimum separation distance for code letter D and E aircraft.	EHRD AD 2.8
Runway holding positions		
CS ADR-DSN.D.335 (b)(1)	Runway holding positions V2, V4 and V5 do not meet the required distance which results in the infringement of a ILS/MLS critical/sensitive area.	EHRD AD 2.8
Clearance distances on aircraft stands		
CS ADR-DSN.E.365 (b)	The clearance distance between aircraft stands Q-apron is less than 3 M for code letter A aircraft.	EHRD AD 2.9
Precision approach category I lighting system		
CS ADR-DSN.M.630 (b)(1)	For RWY 06 the system does not extend 900 M from the runway threshold.	EHRD AD 2.14
Apron floodlighting		
CS ADR-DSN.M.750 (d)(2)	The illuminance requirement will not be met for aircraft stands A1, A2 and A3.	EHRD AD 2.8
Road holding position light		
CS ADR-DSN.M.770 (a)	Road holding position lights are not provided.	NIL
Electrical systems – monitoring		
CS ADR-DSN.S.890 (d)	AGL is not monitored fully automatic.	NIL
Emergency access and service roads		

Reference	Deviation	Related AIP section
1	2	3
CS ADR-DSN.T.900	No road holding position lights are provided.	NIL

EHRD AD 2.22 FLIGHT PROCEDURES

1 INSTRUMENT DEPARTURE PROCEDURES

1.1 Introduction

The instrument departure procedures are based on ICAO Annex 2 and on ICAO Documents 4444-ATM/501 (PANS-ATM), 7030 (SUPPS) and 8168-OPS/611 (PANS-OPS).

Note: in the Rotterdam TMAs VFR flights without ATC clearance are permitted. For such flights radio communications is not compulsory.

1.2 Instrument departure procedures

1.2.1 Start-up permission

Pilots shall request permission from ATC before starting engines and when applicable report a cross-bleed start. The request for start-up shall be made to Rotterdam Delivery after all preparations for departure have been made (doors closed etc.) and shall include:

- aircraft identification (e.g. KL101).
- position (e.g. D3).
- ATIS information (e.g. information R).
- flight rules (e.g. IFR).
- destination (e.g. London).
- request start-up.

If unable RNAV, inform ATC prior to start-up.

Permission for start-up will be issued either immediately or at a specified time. Since ATC planning of outbound traffic (involving en-route clearance and co-ordination with adjacent ACCs) is based on the start-up time, the pilot shall be able to comply with start-up and taxi permission. Any delay in start-up or taxiing shall be reported to ATC immediately. In case of indefinite delay the probable duration of delay will be given.

Apart from the ATIS broadcast no MET information will be provided to departing aircraft except RVR (see EHRD AD 2.18).

Note: for commercial flights ground start-up crew is mandatory for engine start.

Note: performing a cross-bleed start at aircraft stand or apron is not permitted. Towing or taxi-out on one engine to an assigned location for cross-bleed start is necessary.

1.2.2 En-route clearance

1.2.2.1 Contents

The en-route clearance will be issued after start-up clearance has been given by Rotterdam Delivery. An en-route clearance contains:

a. Clearance limit: airport of destination.
b. Standard instrument departure (SID).
c. SSR code.
d. Departure instructions if applicable.
e. CTOT if applicable.

Example of an en-route clearance: "KLM345 cleared to London, SOMEL 2A Departure, squawk 2123, slot 25".

1.2.2.2 Standard instrument departures

The instrument departure procedures are laid down in standard instrument departures (SIDs). SIDs are designated in accordance with ICAO Annex 11. SID designation is composed of the following elements:

- a basic indicator, i.e. a significant point.
- a validity indicator, i.e. a number from 1 to 9 indicating the valid version of a specific SID.
- a route indicator, i.e. a letter representing the runway where the SID begins.

SIDs are published for RWY 06 and 24.

Note: if not able to comply with the crossing conditions prescribed in the SIDs, inform Rotterdam Delivery.

1.2.2.3 Departure instructions (Contents item d.)

Instructions containing deviations from the standard instrument departure may be added to the en-route or take-off clearance. These instructions may comprise an opposite turn after take-off, maintaining a specified heading or temporary altitude restrictions; this additional instructions amend the relevant part of the SID only.

1.2.2.4 General instructions

Climb as rapidly as practicable to at least 2000 FT AMSL.

1.2.3 Taxi procedures

Aircraft shall request taxi clearance from Rotterdam Tower.

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1.2.4 Transfer of control to Schiphol APP

Aircraft proceeding via the Schiphol TMAs will normally be transferred to Schiphol APP during crossing.

1.3 Communication failure

- Select transponder code 7600.
- If possible call Amsterdam ACC Supervisor on telephone number +31 (0)20 406 3999.

  Note: Use telephone connection to mitigate COM failure only. All telephone calls will be automatically recorded.
- If telephone connection is disconnected prematurely (before read-back), revert to general communication failure procedure (see ENR 1.3).

1.4 SID descriptions

1.4.1 General remarks

1.4.1.1 Procedures and constraints

- Transition altitude: 3000 FT AMSL.
- SIDs have to be considered as minimum noise routings which shall be strictly adhered to.
- Turn radii based on a 25° bank angle.
- MAX 250 KIAS below FL 100 unless otherwise instructed.
- For continuous routings and crossing conditions on ATS routes as applicable see paragraph 1.4.3.

1.4.1.2 Additional departure instructions

Especially propeller-driven aircraft can expect additional departure instructions. These instructions may be added to the en route or take-off clearance and may comprise a specific heading or temporary altitude restriction. Such additives amend the relevant part of the SID only.

1.4.1.3 Application of RNAV

All SIDs shall be flown according to the RNAV 1 specification. For SIDs with RF legs, RNP 1 is required.
Furthermore:

- Engage FMS lateral guidance as early as possible.
- The RD-waypoints shall not be used in RTF procedures.
- The navigation aid (e.g. VOR) mentioned in the column "Expected path terminator" is for selection of MAG station declination only.

1.4.1.4 Application of radius to fix (RF) turns

For some SIDs, differences in the way the coding for these SIDs is processed by the various FMS systems may result in considerable track dispersion during turns. This track dispersion can be reduced by the application of radius to fix turns, which results in concentration of the flight paths. Thus, in order to enhance noise abatement, for the RWY 06 SOMEL and TULIP SIDs an alternative coding comprising a radius to fix turn is introduced.

To distinguish between the standard coding and the coding comprising the RF turn the letter "Y" has been added after the SID identification. Consequently, two coding tables are listed for the SOMEL 2A and TULIP 4A SIDs:

1. [SOME2A] or [TULI4A] is the standard designator where only fly-over and fly-by turns are applied;
2. [SOM2AY] or [TUL4AY] is the designator with the addition "Y" where the RF turn coding is applied.

In the ATC clearance, only the standard (unchanged) designator will be used without changes in the ATC clearance phraseology. This clearance allows for selection of either coding version as the resulting flight paths are considered identical by ATC.

Note that for RWY 24 also alternative SIDs with a "Y" addition to the designator are available, though exclusively for WTC L and M aircraft. In analogy to the relevant SIDs RWY 06, these SIDs RWY 24 are alternative coding variants to enhance noise abatement. However, for RWY 24 the SID coding does not comprise the RF path terminator.

For the use of the RF coding version the following requirements are applicable:

- The aircraft must be equipped with an FMS comprising a pre-loaded navigation database and a navigation display.
- The aircraft FMS must be capable of processing the RF path terminator.
- The aircraft FMS must use GNSS as the primary navigation sensor.
- The operator must be approved for RNP 1 operations by their state of registry.

1.4.2 Specific remarks

1. RWY 06 SOMEL or TULIP SID: in addition to the standard coding [SOME2A] or [TULI4A], an alternative coding [SOM2AY] and [TUL4AY] comprising radius to fix (RF) turns is available. See paragraph 1.4.1.4 for requirements to use the RF coding version. Due to noise abatement aircraft with the appropriate equipment and approval are encouraged to fly the RF procedure.
2. RWY 24: for relevant SIDs, e.g. COA 2B SID, in addition to the standard coding [COA2B] an alternative coding [COA2BY] is available for exclusive use by WTC L and M aircraft. As resulting flight paths of standard and alternative coding are considered identical by ATC, only the standard (unchanged) designator will be used in the ATC clearance (see also paragraph 1.4.1.4). Due to noise abatement considerations, pilots of WTC L and M aircraft are encouraged to select the alternative coding version.
3. RNAV 1 required.
4. Close-in obstacles up to 110 FT shortly after RWY end (see EHRD AD 2.10).

1.4.3 Continuous routings for SIDs with crossing conditions on ATS routes as applicable

Note: aircraft may only continue to climb above 3000 FT AMSL after an ATC clearance has been received.

Note: REF EHRD AD 2.22 paragraph 1.2.2 "En-route clearance": if not able to comply with the crossing conditions prescribed in the SIDs, inform Rotterdam Delivery before take-off.

ARNEM Departures	
L620	If the requested flight level is above FL 245, cross OLDOD at or above FL 250.

INKET Departures	
Q21	IFR flights to EHLE with requested flight level below FL 055 shall file ATS route Q21 when available at 2000 FT AMSL.

LUNIX Departures	
Z739	If the requested flight level is above FL 245, cross AMOSU at or above FL 250.

NEPTU Departures	
T604	IFR flights to EHLE with requested flight level above FL 055 shall file ATS route T604 to BADEX.

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1.4.4 SIDs RWY 06

See charts AD 2.EHRD-SID-06.1 and AD 2.EHRD-SID-06.2.

ANDIK 2A	See paragraph 1.4.2 specific remark: 3, 4. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[ANDI2A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	To RD153 on course 063° MAG	RD153 [M063]	CF (RTM)	N
	To RD151	RD151	TF	N
	To RD150	RD150	TF	N
	To PAM	PAM	TF	N
	To ANDIK	ANDIK	TF	N

ARNEM 3A	See paragraph 1.4.2 specific remark: 3, 4. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[ARNE3A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	To RD153 on course 063° MAG	RD153 [M063]	CF (RTM)	N
	To RD151	RD151	TF	N
	To RD150	RD150	TF	N
	To IVLUT	IVLUT	TF	N
	To NYKER	NYKER	TF	N
	To ARNEM	ARNEM	TF	N

COA 2A	See paragraph 1.4.2 specific remark: 3, 4. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[COA2A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	To RD157 on course 063° MAG	RD157 [M063]	CF (RTM)	N
	To RD161	RD161	TF	N
	To RD154	RD154	TF	N
	To COA at or below FL 050	COA [F050-]	TF	N

INKET 2A	See paragraph 1.4.2 specific remark: 3, 4. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[INKE2A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	To RD157 on course 063° MAG	RD157 [M063]	CF (RTM)	N
	To INKET	INKET	TF	N

LUNIX 2A	See paragraph 1.4.2 specific remark: 3, 4. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[LUNI2A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	To RD153 on course 063° MAG	RD153 [M063]	CF (RTM)	N
	To RD151	RD151	TF	N
	To RD150	RD150	TF	N
	To IVLUT	IVLUT	TF	N
	To LUNIX	LUNIX	TF	N

NEPTU 2A	See paragraph 1.4.2 specific remark: 3, 4. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[NEPT2A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	To RD157 on course 063° MAG	RD157 [M063]	CF (RTM)	N
	To INKET	INKET	TF	N
	To PELUB	PELUB	TF	N
	To NEPTU	NEPTU	TF	N

SOMEL 2A	See paragraph 1.4.2 specific remark: 3, 4. Minimum climb gradient 8.0% to 500 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[SOME2A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	Direct to RD181	=> RD181	DF	Y
	To RD186 on course 215° MAG, MAX 220 KIAS	RD186 [M215; L; K220-]	CF (RTM)	N
	To SOMEL	SOMEL	TF	N
	To ABNED	ABNED	TF	N
[SOM2AY]	RNP 1 required. See paragraph 1.4.2 specific remark: 1, 4. Minimum climb gradient 7.5% to 400 FT AMSL. After departure climb to 3000 FT AMSL.			
	To RD182 on course 056° MAG	RD182 [M057]	CF (RTM)	N
	Turn right with 4.780 NM radius to RD183, arc centre RD187	RD183 [R, 4.780, arc centre RD187]	RF	N
	Turn left with 1.600 NM radius to RD184, arc centre RD188, MAX 210 KIAS	RD184 [L, 1.600, arc centre RD188; K210-]	RF	N
	Turn left with 1.880 NM radius to RD185, arc centre RD189, MAX 210 KIAS	RD185 [L, 1.880, arc centre RD189; K210-]	RF	N
	To RD186	RD186	TF	N
	To SOMEL	SOMEL	TF	N
	To ABNED	ABNED	TF	N
	Waypoints: RD182 RD183 RD184 RD185	Co-ordinates: 515819.8N 0042842.6E 515846.8N 0043009.0E 515923.7N 0043123.5E 520135.1N 0042627.3E		
	RF arc centres: RD187 RD188 RD189	Co-ordinates: 515419.1N 0043253.9E 520016.4N 0042913.7E 520025.6N 0042851.0E		

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TULIP 4A	See paragraph 1.4.2 specific remark: 3, 4. Minimum climb gradient 8.0% to 500 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[TULI4A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	Direct to RD181	=> RD181	DF	Y
	To RD186 on course 215° MAG, MAX 220 KIAS	RD186 [M215; L; K220-]	CF (RTM)	N
	To SOMEL	SOMEL	TF	N
	To OBAGU	OBAGU	TF	N
	To TULIP	TULIP	TF	N
[TUL4AY]	RNP 1 required. See paragraph 1.4.2 specific remark: 1, 4. Minimum climb gradient 7.5% to 400 FT AMSL. After departure climb to 3000 FT AMSL.			
	To RD182 on course 056° MAG	RD182 [M056]	CF (RTM)	N
	Turn right with 4.780 NM radius to RD183, arc centre RD187	RD183 [R, 4.780, arc centre RD187]	RF	N
	Turn left with 1.600 NM radius to RD184, arc centre RD188, MAX 210 KIAS	RD184 [L, 1.600, arc centre RD188; K210-]	RF	N
	Turn left with 1.880 NM radius to RD185, arc centre RD189, MAX 210 KIAS	RD185 [L, 1.880, arc centre RD189; K210-]	RF	N
	To RD186	RD186	TF	N
	To SOMEL	SOMEL	TF	N
	To OBAGU	OBAGU	TF	N
	To TULIP	TULIP	TF	N
	Waypoints: RD182 RD183 RD184 RD185	Co-ordinates: 515819.8N 0042842.6E 515846.8N 0043009.0E 515923.7N 0043123.5E 520135.1N 0042627.3E		
	RF arc centres: RD187 RD188 RD189	Co-ordinates: 515419.1N 0043253.9E 520016.4N 0042913.7E 520025.6N 0042851.0E		

WOODY 2A	See paragraph 1.4.2 specific remark: 3, 4. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[WOOD2A]	Climb on course 056° MAG, at or above 500 FT AMSL turn right	[M056; A500+; R]	CA (RTM)	N
	To RD157 on course 063° MAG	RD157 [M063]	CF (RTM)	N
	To RD161	RD161	TF	N
	To RD154	RD154	TF	N
	To WOODY	WOODY	TF	N

1.4.5 SIDs RWY 24

See charts AD 2.EHRD-SID-24.1 and AD 2.EHRD-SID-24.2.

ANDIK 2B	See paragraph 1.4.2 specific remark: 3, 4. Minimum climb gradient 4.5% to 500 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[ANDI2B]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 500 FT AMSL turn right	[M236; A500+; R]	CA (RTM)	N
	Direct to RD207, MAX 230 KIAS	=> RD207 [K230-]	DF	N
	To RD163	RD163	TF	N
	To RD150	RD150	TF	N
	To PAM	PAM	TF	N
	To ANDIK	ANDIK	TF	N

ARNEM 3B	See paragraph 1.4.2 specific remark: 3, 4. Minimum climb gradient 4.5% to 500 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[ARNE3B]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 500 FT AMSL turn right	[M236; A500+; R]	CA (RTM)	N
	Direct to RD207, MAX 230 KIAS	=> RD207 [K230-]	DF	N
	To RD163	RD163	TF	N
	To RD150	RD150	TF	N
	To IVLUT	IVLUT	TF	N
	To NYKER	NYKER	TF	N
	To ARNEM	ARNEM	TF	N

COA 2B	See paragraph 1.4.2 specific remark: 2, 3, 4. Minimum climb gradient 6.3% to 400 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[COA2B]	To RD166 on course 236° MAG	RD166 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 400 FT AMSL turn right	[M236; A400+; R]	CA (RTM)	N
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD156	RD156	TF	N
	To COA at or below FL 050	COA [F050-]	TF	N
[COA2BY]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD156	RD156	TF	N
	To COA at or below FL 050	COA [F050-]	TF	N

INKET 2B	See paragraph 1.4.2 specific remark: 2, 3, 4. Minimum climb gradient 6.3% to 400 FT AMSL After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[INKE2B]	To RD166 on course 236° MAG	RD166 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 400 FT AMSL turn right	[M236; A400+; R]	CA (RTM)	N
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD164	RD164	TF	N
	To RD165	RD165	TF	N
	To INKET	INKET	TF	N
[INK2BY]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD164	RD164	TF	N
	To RD165	RD165	TF	N
	To INKET	INKET	TF	N

LUNIX 2B	See paragraph 1.4.2 specific remark: 3, 4. Minimum climb gradient 4.5% to 500 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[LUNI2B]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 500 FT AMSL turn right	[M236; A500+; R]	CA [RTM]	N
	Direct to RD207, MAX 230 KIAS	=> RD207 [K230-]	DF	N
	To RD163	RD163	TF	N
	To RD150	RD150	TF	N
	To IVLUT	IVLUT	TF	N
	To LUNIX	LUNIX	TF	N

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NEPTU 2B	See paragraph 1.4.2 specific remark: 2, 3, 4. Minimum climb gradient 6.3% to 400 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[NEPT2B]	To RD166 on course 236° MAG	RD166 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 400 FT AMSL turn right	[M236; A400+; R]	CA (RTM)	N
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD164	RD164	TF	N
	To RD165	RD165	TF	N
	To INKET	INKET	TF	N
	To PELUB	PELUB	TF	N
	To NEPTU	NEPTU	TF	N
[NEP2BY]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD164	RD164	TF	N
	To RD165	RD165	TF	N
	To INKET	INKET	TF	N
	To PELUB	PELUB	TF	N
	To NEPTU	NEPTU	TF	N

SOMEL 2B	See paragraph 1.4.2 specific remark: 2, 3, 4. Minimum climb gradient 6.3% to 400 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[SOME2B]	To RD166 on course 236° MAG	RD166 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 400 FT AMSL turn right	[M236; A400+; R]	CA (RTM)	N
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To SOMEL	SOMEL	TF	N
	To ABNED	ABNED	TF	N
[SOM2BY]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To SOMEL	SOMEL	TF	N
	To ABNED	ABNED	TF	N

TULIP 3B	See paragraph 1.4.2 specific remark: 2, 3, 4. Minimum climb gradient 6.3% to 400 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[TULI3B]	To RD166 on course 236° MAG	RD166 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 400 FT AMSL turn right	[M236; A400+; R]	CA (RTM)	N
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To SOMEL	SOMEL	TF	N
	To OBAGU	OBAGU	TF	N
	To TULIP	TULIP	TF	N
[TUL3BY]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To SOMEL	SOMEL	TF	N
	To OBAGU	OBAGU	TF	N
	To TULIP	TULIP	TF	N

WOODY 2B	See paragraph 1.4.2 specific remark: 2, 3, 4. Minimum climb gradient 6.3% to 400 FT AMSL. After departure climb to 3000 FT AMSL.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[WOOD2B]	To RD166 on course 236° MAG	RD166 [M236]	CF (RTM)	Y
	Climb on course 236° MAG, at or above 400 FT AMSL turn right	[M236; A400+; R]	CA (RTM)	N
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD164	RD164	TF	N
	To HELHO	HELHO	TF	N
	To RD162	RD162	TF	N
	To WOODY	WOODY	TF	N
[WOO2BY]	To RD159 on course 236° MAG	RD159 [M236]	CF (RTM)	Y
	Direct to RD158, MAX 220 KIAS	=> RD158 [K220-]	DF	N
	To RD164	RD164	TF	N
	To HELHO	HELHO	TF	N
	To RD162	RD162	TF	N
	To WOODY	WOODY	TF	N

2 INSTRUMENT APPROACH PROCEDURES

2.1 Introduction

The arrival, instrument approach and holding procedures are based on ICAO Annex 2 and on ICAO Documents 4444-ATM/501 (PANS-ATM), 7030 (SUPPS) and 8168-OPS/611 (PANS-OPS). During initial and intermediate approach to Rotterdam Airport radar services may be provided by Schiphol APP.

Note: in the Rotterdam TMAs VFR flights without ATC clearance are permitted. For such flights radio communication is not compulsory.

2.2 Arrival

2.2.1 Arrival clearance

At, or before, entering the Amsterdam Control Area, an arrival clearance will be issued by Amsterdam ACC containing:

a. Standard arrival route[1)] or direct route.
b. Main landing runway[2)].
c. Level instructions (normally descent instructions).
d. Any other necessary instructions or information.

[1)] when cleared via a standard arrival route (STAR), the clearance limit is the initial approach fix (IAF).
[2)] issued by ATIS (see EHRD AD 2.18) or ATC.

2.2.2 Level restrictions

The following level restrictions shall be applied by aircraft with destination Rotterdam AD. If unable to comply, inform ATC immediately.

a. Flights via ENKOS or FLEVO should comply with the following crossing condition: cross ENKOS or FLEVO at FL 070.
b. Flights via COA, DENUT or HELEN should comply with the following crossing condition: cross DOFMU at FL 060 or below, unless otherwise instructed.
c. Flights via LAMSO, MOLIX, REDFA or TOPPA should comply with the following crossing condition: cross MASOS at FL 060 or below, unless otherwise instructed.

2.2.3 Transfer of control

a. To Schiphol APP: inbound traffic via ENKOS or FLEVO will be transferred to Schiphol APP.
b. To Rotterdam APP: transfer to Rotterdam APP will normally take place when entering Rotterdam TMAs.
c. To Rotterdam TWR: transfer to Rotterdam TWR will normally take place after intercepting final approach.

2.2.4 STAR descriptions

See charts AD 2.EHRD-STAR.

BLUFA 1R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[BLUF1R]	BLUFA	BLUFA	IF	N
	To FLEVO, at FL 070	FLEVO [F070]	TF	N
	To PAM	PAM	TF	N
	To KAKKO	KAKKO	TF	N
	To DOFMU, between FL 060 and FL 050	DOFMU [B F060 F050]	TF	N

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COA 2R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[COA2R]	COA, at or below FL 050	COA [F050-]	IF	N
	To DOFMU	DOFMU	TF	N

DENUT 2R	RNAV 1 required.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[DENU2R]	DENUT	DENUT	IF	N
	To RIMBU	RIMBU	TF	N
	To DOFMU, at or below FL 060	DOFMU [F060-]	TF	N

ENKOS 3R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[ENKO3R]	ENKOS, at FL 070	ENKOS [F070]	IF	N
	To PAM	PAM	TF	N
	To KAKKO	KAKKO	TF	N
	To DOFMU, between FL 060 and FL 050	DOFMU [B F060 F050]	TF	N

HELEN 4R	RNAV 1 required.			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[HELE4R]	HELEN	HELEN	IF	N
	To RIMBU	RIMBU	TF	N
	To DOFMU, at or below FL 060	DOFMU [F060-]	TF	N

INKET 2R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[INKE2R]	INKET	INKET	IF	N
	To KAKKO	KAKKO	TF	N
	To DOFMU, between FL 060 and FL 050	DOFMU [B F060 F050]	TF	N

LAMSO 3R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[LAMS3R]	LAMSO	LAMSO	IF	N
	To MASOS, at or below FL 060	MASOS [F060-]	TF	N

MOLIX 3R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[MOLI3R]	MOLIX	MOLIX	IF	N
	To MASOS, at or below FL 060	MASOS [F060-]	TF	N

REDFA 3R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[REDF3R]	REDFA	REDFA	IF	N
	To MASOS, at or below FL 060	MASOS [F060-]	TF	N

RKN 3R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[RKN3R]	RKN	RKN	IF	N
	To TENLI	TENLI	TF	N
	To FLEVO, at FL 070	FLEVO [F070]	TF	N
	To PAM	PAM	TF	N
	To KAKKO	KAKKO	TF	N
	To DOFMU, between FL 060 and FL 050	DOFMU [B F060 F050]	TF	N

SONEB 3R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[SONE3R]	SONEB	SONEB	IF	N
	To TENLI	TENLI	TF	N
	To FLEVO, at FL 070	FLEVO [F070]	TF	N
	To PAM	PAM	TF	N
	To KAKKO	KAKKO	TF	N
	To DOFMU, between FL 060 and FL 050	DOFMU [B F060 F050]	TF	N

TOPPA 3R	RNAV 1 required			
ARINC designator	**Formal description**	**Abbreviated description**	**Expected path terminator**	**Fly-over required**
[TOPP3R]	TOPPA	TOPPA	IF	N
	To MASOS, at or below FL 060	MASOS [F060-]	TF	N

2.2.5 Holdings

Standard holdings are located at the IAFs DOFMU and MASOS. The KAKKO holding may be used at ATC discretion only. The RTM holding is intended only for the VOR approach.

Holding and entry procedures and the calculations of the associated protected areas are in accordance with ICAO Doc 8168 (PANS-OPS) Volume II, part 4. Since separation is based on the calculated areas, compliance with these in-flight procedures is essential.

2.3 Initial approach

2.3.1 General

Navigation in the initial approach phase is primarily based on vectors provided by ATC. Initial approach procedures are available for occasional use and in case of COM failure.

The published initial and intermediate approaches are RNAV 1 tracks from IAFs MASOS and DOFMU. These are applicable for the following approach types:

- ILS or LOC approach:
  1. Initial and intermediate approach: RNAV 1 tracks from IAF to FAP/FAF;
  2. Final approach: ILS or LOC final approach;
  3. Missed approach: RNAV 1 missed approach.
- RNP approach:
  1. Initial and intermediate approach: RNAV 1 tracks from IAF to FAP/FAF;
  2. Final approach: LNAV, LNAV/VNAV or LPV CAT 1 approach;
  3. Missed approach: RNP APCH missed approach.

The interception of the ILS-LOC or the RNP approach takes place on the intermediate segment.

For traffic not capable of flying RNAV 1 procedures, a conventional VOR approach is available from VOR/DME RTM. This approach may also be used for training flights, after permission of ATC.

The approach procedures in the Rotterdam TMA are developed with the safeguard of a radar display being available to ATC, showing the position of the aircraft.

2.3.2 Approach instructions

Approach instructions will contain as applicable:

a. Additional instructions with respect to clearance limit, route and level.
b. Approach procedure.
c. Runway in use[1)].
d. EAT, if holding procedures are applied.
e. QNH.
f. Transition level[1)].
g. MET information[1)].
h. Runway condition[1)].

[1)] Information included in the ATIS broadcast may be omitted.

2.3.3 ILS Y approach procedure

For the ILS approach RWY 24, two variants are available: ILS Z and ILS Y. On initiative of ATC, the ILS Y RWY 24 approach can be assigned to aircraft inbound Rotterdam Airport. This approach procedure has been introduced in order to reduce noise nuisance, fuel consumption, CO2 emissions, and to provide flexible and efficient ATC dispatch.

Pilots must pay special attention to the large ILS interception angle of 88 degrees and the reduced length of the intermediate segment of 2.2 NM. The length of the intermediate segment is shorter than the ICAO minimum in case of an ILS interception angle of more than 60 degrees (3.0 NM).

2.3.4 Clearances and constraints

Pilots may be instructed to execute one of the following approach procedures:

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- RWY 06:
  - ILS or LOC approach RWY 06, which starts at IAF DOFMU or IAF MASOS;
  - RNP approach RWY 06, which starts at IAF DOFMU or IAF MASOS;
  - VOR approach RWY 06, which starts at IAF RTM.
- RWY 24:
  - ILS Z or LOC Z approach RWY 24, which starts at IAF DOFMU or IAF MASOS;
  - ILS Y or LOC Y approach RWY 24, which starts at IAF DOFMU only;
  - RNP approach RWY 24, which starts at IAF DOFMU or IAF MASOS;
  - VOR approach RWY 24, which starts at IAF RTM.

ATC may provide instructions to pick up an approach procedure at a point beyond the IAF. The clearance for the approach procedure includes initial, intermediate, and final approach. Once the crew reports to be established on the final approach segment, the transfer to Rotterdam TWR will take place. Landing clearance will be issued by the TWR controller.

Further details are published on the relevant instrument approach chart AD 2.EHRD-IAC-xx.x.

2.3.5 Aircraft and operator requirements

For the use of the RNAV instrument approach procedures between IAF and FAF/FAP, the following requirements are applicable:

- The aircraft must be equipped with an FMS comprising a pre-loaded navigation database and a navigation display.
- The aircraft FMS must use GNSS as the primary navigation sensor in case of RNP approaches.
- The operator must be approved for RNAV 1 operations by their state of registry.

2.3.6 Non-RNAV 1 equipped aircraft

Pilots of aircraft that are not able to fly RNAV 1 procedures, i.e. not meeting the requirements in paragraph 2.3.5, shall inform ATC by use of the phrase "UNABLE RNAV" if instructed to fly the RNAV based initial approach procedure preceding the IF. Aircraft will then be guided towards the final approach of the ILS/LOC or VOR approach or directed to RTM in order to fly the published VOR procedure.

2.4 Intermediate and final approach

Advised speed in the intermediate approach is 180 KIAS up to 6 NM and in the final approach 160 KIAS up to 4 NM from threshold.

2.4.1 Final approach procedures

Note: an aircraft vectored to intercept final approach shall report to ATC when established on the final approach track (ICAO Doc 4444-ATM/501 (PANS-ATM) chapter 8.9.4.1).

2.4.1.1 Final approach procedure

The following (final) approaches are published for Rotterdam Airport:

- RWY 06:
  - ILS or LOC approach RWY 06;
  - RNP approach RWY 06 with LNAV, LNAV-VNAV and LPV CAT 1 minima;
  - VOR approach RWY 06.
- RWY 24:
  - ILS Z or LOC Z approach RWY 24;
  - ILS Y or LOC Y approach RWY 24;
  - RNP approach RWY 24 with LNAV, LNAV-VNAV and LPV CAT 1 minima;
  - VOR approach RWY 24.

For the RNP APCH the following requirements are applicable:

- The aircraft must be equipped with an FMS comprising a pre-loaded navigation database and a navigation display.
- The aircraft FMS must use GNSS as the primary navigation sensor.
- The operator holds an RNP APCH operations approval issued by their State of registry. The approval should be compliant with EASA CS-ACNS or equivalent.

When the aircraft is unable to fly the RNP APCH and no other instrument approach is available on the assigned runway direction, the pilot shall inform ATC by use of the phrase "UNABLE RNP APPROACH" and expect an alternative approach. An alternative approach may be an ILS approach to the opposite runway followed by a circling or a visual approach, or diversion to an airport with a suitable approach.

When radar control is exercised the aircraft will be directed to a position, from which a final instrument approach or a visual approach can be made.

2.4.1.2 Visual approach

To minimise noise nuisance, aircraft executing a visual approach shall intercept the final approach leg at an altitude of at least 1000 FT AMSL, unless residential areas can be avoided.

2.4.1.3 Circling approach

For each runway at Rotterdam Airport a circling approach may be allowed or offered. For OCA (OCH) see relevant instrument approach chart AD 2.EHRD-IAC-xx.x.

2.4.2 Missed approach procedure

2.4.2.1 Missed approach procedure during instrument approach

See relevant instrument approach chart AD 2.EHRD-IAC-xx.x.

2.4.2.2 Missed approach procedure during visual approach

Turn to the intended landing runway, intercept the runway track MAG of that runway while:

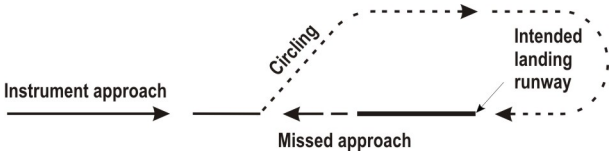
a. When visual:
   - remain visual and inform ATC, or

b. When unable to remain visual:
   - execute the missed approach procedure as depicted on the relevant approach chart AD 2.EHRD-IAC-xx.x and inform ATC.

2.4.2.3 Missed approach while circling to land

Note: This procedure is different from ICAO Doc 8168 Volume I (PANS-OPS).

- Inform ATC immediately.
- Start climbing and complete the turn to the intended landing runway (see figure).
- Execute the missed approach procedure as depicted on the relevant approach chart of the intended landing runway (AD 2.EHRD-IAC-xx.x).



Note: the indicated situation is applicable for an initial instrument approach to RWY 06. Circling approaches southeast of RWY 06/24 and extended centre line are prohibited.

2.5 Communication failure

2.5.1 General

- Select transponder code 7600.
- If possible call Amsterdam ACC Supervisor on telephone number +31 (0)20 406 3999.

  Note: Use telephone connection to mitigate COM failure only. All telephone calls will be automatically recorded.

- If telephone connection is disconnected prematurely (before read-back), revert to general communication failure procedure.

For the general procedures for IFR flights see ENR 1.3 paragraph "Communication Failure". In addition, for arriving flights, the following communication failure procedures apply.

2.5.2 Arrival clearance not received

- Proceed according to the current flight plan route and STAR, to the appropriate holding fix: MASOS or DOFMU, if capable of RNAV 1. Non-RNAV 1 traffic proceed to RTM.
- Maintain the last cleared and acknowledged flight level or altitude.
- Flights via INKET or PAM with last cleared and acknowledged flight level or altitude below FL 050 shall avoid the segment KAKKO – DOFMU and proceed direct to DOFMU.
- After arrival over the holding fix intercept the holding pattern.
- For MASOS commence descent to FL 050 at or as near as possible to the ETO over the holding fix.
- For DOFMU, KAKKO or RTM commence descent to 3000 FT AMSL at or as near as possible to the ETO over the holding fix.
- After reaching FL 050 or 3000 FT AMSL leave the holding fix and carry out an instrument approach procedure to the runway in use (see 2.5.4). Flights via RTM can only use the VOR approach.

2.5.3 Arrival clearance received on or outside standard arrival route and prior to the IAF

- Proceed direct to the appropriate holding fix:
  1. MASOS or DOFMU, if capable RNAV 1;
  2. RTM, only if not capable RNAV 1 or if previously instructed by ATC;
  3. KAKKO, only if previously instructed by ATC.
- Maintain the last cleared and acknowledged flight level or altitude.
- After arrival over the holding fix intercept the holding pattern.
- For MASOS commence descent to FL 050 at or as near as possible to the ETO over the holding fix.
- For DOFMU, KAKKO or RTM commence descent to 3000 FT AMSL at or as near as possible to the ETO over the holding fix.
- After reaching FL 050 or 3000 FT AMSL leave the holding fix and carry out an instrument approach procedure to the received and acknowledged runway (see 2.5.4). Flights via RTM can only use the VOR approach.

2.5.4 Instrument approach procedure

- After leaving the IAF carry out an instrument approach procedure to the received and acknowledged runway or the runway-in-use as is included in the ATIS broadcast (see AD 2.EHRD-IAC-xx.x).
- Do not use the ILS Y approach RWY 24 unless instructed by ATC.
- Do not use the VOR approach unless instructed by ATC or when unable RNAV 1.
- In case the COM failure occurs after a direct was received to a WPT beyond the IAF, pick up the expected approach procedure from there.
- For approach RWY 24 pass KAKKO at 3000 FT AMSL.

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2.5.5 Missed approach procedure in case of communication failure

2.5.5.1 Missed approach procedure during instrument approach

The missed approach in case of communication failure is equal to the standard missed approach procedure as described on the relevant instrument approach chart AD 2.EHRD-IAC-xx.x.

2.5.5.2 Missed approach procedure during visual approach

Turn to the intended landing runway, intercept the runway track MAG of that runway while:

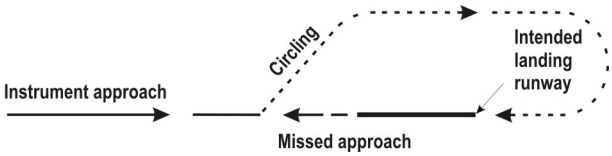
a. When visual:
   - remain visual and execute a circuit for that runway or

b. When unable to remain visual:
   - climb to 2000 FT AMSL,
   - execute the missed approach procedure as depicted on the relevant approach chart AD 2.EHRD-IAC-xx.x.

2.5.5.3 Missed approach while circling to land

Note: This procedure is different from ICAO Doc 8168 Volume I (PANS-OPS).

- Start climbing and complete the turn to the intended landing runway (see figure).
- Execute the missed approach procedure as depicted on the relevant approach chart of the intended landing runway (AD 2.EHRD-IAC-xx.x).



Note: the indicated situation is applicable for an initial instrument approach to RWY 06. Circling approaches southeast of RWY 06/24 and extended centre line are prohibited.

2.6 Instrument approach descriptions

2.6.1 General remarks

Between the IAF and interception of final approach navigation is primarily based on vectors provided by ATC.

2.6.2 ILS Y RWY 24 approach

See EHRD AD 2.22 paragraph 2.3.3.

2.6.3 Instrument approach segments

Note: recommended navaid for selection of MAG station declination only.

Note: for positions of RD-waypoints see relevant instrument approach charts.

2.6.3.1 RWY 06

2.6.3.1.1 ILS approach RWY 06

Serial number	Path descriptor	WPT ident	Fly-over	Course/Track °MAG / (°T)	Recom. navaid	Dist. (NM)	Turn	Altitude (FT / FL)	Speed (KIAS)	VPA (°) / TCH (FT)	NAV specification
001	IF	MASOS	-	-	-	-	-	-	-	-	-
002	TF	RD254	-	071 / (072.0)	-	12.0	-	-	-	-	RNAV 1
003	TF	HELHO	-	088 / (088.7)	-	11.4	-	+ 2000	-	-	RNAV 1
004	IF	DOFMU	-	-	-	-	-	-	- 220	-	RNAV 1
005	TF	RD201	-	334 / (335.2)	-	4.0	-	-	-	-	RNAV 1
006	TF	HELHO	-	005 / (006.6)	-	3.8	-	+ 2000	-	-	RNAV 1
007	IF	HELHO	-	-	-	-	-	+ 2000	-	-	-
008	CF	RD250	-	056 / (057.0)	ROS	3.6	-	+ 2000	-	-	-
009	CF	THR06	Y	056 / (057.1)	ROS	6.2	-	-	-	-3.00 / 50	-
010	TF	RD212	-	056 / (057.1)	-	9.0	-	@ 2000	-	-	RNAV 1
011	TF	RD213	-	146 / (147.3)	-	5.3	-	-	- 210	-	RNAV 1
012	TF	KAKKO	-	236 / (237.3)	-	6.9	-	-	-	-	RNAV 1
013	TF	DOFMU	-	230 / (231.1)	-	14.9	-	@ 2000	-	-	RNAV 1

2.6.3.1.2 RNP approach RWY 06

Serial number	Path descriptor	WPT ident	Fly-over	Course/Track °MAG / (°T)	Recom. navaid	Dist. (NM)	Turn	Altitude (FT / FL)	Speed (KIAS)	VPA (°) / TCH (FT)	NAV specification
001	IF	MASOS	-	-	-	-	-	-	-	-	-
002	TF	RD254	-	071 / (072.0)	-	12.0	-	-	-	-	RNAV 1
003	TF	HELHO	-	088 / (088.7)	-	11.4	-	+ 2000	-	-	RNAV 1
004	IF	DOFMU	-	-	-	-	-	-	- 220	-	RNAV 1
005	TF	RD201	-	334 / (335.2)	-	4.0	-	-	-	-	RNAV 1
006	TF	HELHO	-	005 / (006.6)	-	3.8	-	+ 2000	-	-	RNAV 1
007	IF	HELHO	-	-	-	-	-	+ 2000	-	-	-
008	TF	RD250	-	056 / (057.0)	-	3.6	-	+ 2000	-	-	RNP APCH
009	TF	THR06	Y	056 / (057.1)	-	6.2	-	-	-	-3.00 / 50	RNP APCH
010	TF	RD212	-	056 / (057.1)	-	9.0	-	@ 2000	-	-	RNP APCH
011	TF	RD213	-	146 / (147.3)	-	5.3	-	-	- 210	-	RNP APCH
012	TF	KAKKO	-	236 / (237.3)	-	6.9	-	-	-	-	RNP APCH
013	TF	DOFMU	-	230 / (231.1)	-	14.9	-	@ 2000	-	-	RNP APCH

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2.6.3.1.3 FAS data block - RWY 06

Input data

Operation Type	0
SBAS Provider	1 (EGNOS)
Airport Identifier	EHRD
Runway	06
Runway Letter	0 (None)
Approach Performance Designator	0
Route Indicator	
Reference Path Data Selector	0
Reference Path Identifier	E06A
LTP/FTP Latitude	515711.0300N
LTP/FTP Longitude	0042550.4480E
LTP/FTP Ellipsoidal Height (metres)	39.1
FPAP Latitude	515746.1505N
Delta FPAP Latitude (seconds)	35.1205
FPAP Longitude	0042718.3550E
Delta FPAP Longitude (seconds)	87.9070
Threshold Crossing Height	50.0
TCH Units Selector	0 (feet)
Glidepath Angle (degrees)	3.00
Course Width (metres)	105.00
Length Offset (metres)	0
HAL (metres)	40.0
VAL (metres)	35.0

Output data

Data Block	10 04 12 08 05 06 00 00 01 36 30 05 EC BB 4B 16 E0 C4 E6 01 87 15 61 12 01 C6 AE 02 F4 01 2C 01 64 00 C8 AF C5 45 29 EC
Calculated CRC Value	C54529EC

Additional Data	
Parameters	**Values**
ICAO Code	EH
LTP/FTP Orthometric Height (metres)	-4.4

2.6.3.2 RWY 24

2.6.3.2.1 ILS Y approach RWY 24

Serial number	Path descriptor	WPT ident	Fly-over	Course/Track °MAG / (°T)	Recom. navaid	Dist. (NM)	Turn	Altitude (FT / FL)	Speed (KIAS)	VPA (°) / TCH (FT)	NAV specification
001	IF	DOFMU	-	-	-	-	-	-	-	-	RNAV 1
002	TF	KAKKO	-	050 / (050.8)	-	14.9	-	@ 3000	-	-	RNAV 1
003	TF	ROVOX	-	050 / (051.1)	-	5.9	-	B 3000 2500	- 190	-	RNAV 1
004	TF	RD241	-	324 / (325.3)	-	4.7	-	+ 1500	-	-	RNAV 1
005	CF	RD242	-	236 / (237.1)	RSV	2.2	-	+ 1500	-	-	-
006	CF	THR 24	-	236 / (237.2)	RSV	4.6	-	-	-	-3.00 / 50	-
007	TF	RD214	-	236 / (237.1)	-	13.7	-	@ 2000	-	-	RNAV 1
008	TF	DOFMU	-	146 / (146.9)	-	6.9	-	@ 2000	-	-	RNAV 1

2.6.3.2.2 ILS Z approach RWY 24

Serial number	Path descriptor	WPT ident	Fly-over	Course/Track °MAG / (°T)	Recom. navaid	Dist. (NM)	Turn	Altitude (FT / FL)	Speed (KIAS)	VPA (°) / TCH (FT)	NAV specification
001	IF	MASOS	-	-	-	-	-	-	-	-	-
002	TF	KAKKO	-	080 / (080.2)	-	36.1	-	B 3000 2000	-	-	RNAV 1
003	TF	REWIK	-	050 / (051.1)	-	10.2	-	@ 2000	- 190	-	RNAV 1
004	TF	RD203	-	354 / (355.7)	-	2.7	-	-	-	-	RNAV 1
005	TF	ATWIT	-	264 / (265.7)	-	3.8	-	-	-	-	RNAV 1
006	IF	DOFMU	-	-	-	-	-	-	-	-	RNAV 1
007	TF	KAKKO	-	050 / (050.8)	-	14.9	-	B 3000 2000	-	-	RNAV 1
008	TF	REWIK	-	050 / (050.8)	-	10.2	-	@ 2000	- 190	-	RNAV 1
009	TF	RD203	-	354 / (355.7)	-	2.7	-	-	-	-	RNAV 1
010	TF	ATWIT	-	264 / (265.7)	-	3.8	-	-	-	-	RNAV 1
011	IF	ATWIT	-	-	-	-	-	-	-	-	-
012	CF	RD252	-	236 / (237.3)	RSV	3.0	-	+ 2000	-	-	-
013	CF	RD255	-	236 / (237.3)	RSV	2.2	-	+ 1310	- 160	-	-
014	CF	THR 24	-	236 / (237.2)	RSV	4.0	-	-	-	-3.00 / 50	-
015	TF	RD214	-	236 / (237.1)	-	13.7	-	@ 2000	-	-	RNAV 1
016	TF	DOFMU	-	146 / (146.9)	-	6.9	-	@ 2000	-	-	RNAV 1

2.6.3.2.3 RNP approach RWY 24

Serial number	Path descriptor	WPT ident	Fly-over	Course/Track °MAG / (°T)	Recom. navaid	Dist. (NM)	Turn	Altitude (FT / FL)	Speed (KIAS)	VPA (°) / TCH (FT)	NAV specification
001	IF	MASOS	-	-	-	-	-	-	-	-	-
002	TF	KAKKO	-	080 / (080.2)	-	36.1	-	B 3000 2000	-	-	RNAV 1
003	TF	REWIK	-	050 / (051.1)	-	10.2	-	@ 2000	- 190	-	RNAV 1
004	TF	RD203	-	354 / (355.7)	-	2.7	-	-	-	-	RNAV 1
005	TF	ATWIT	-	264 / (265.7)	-	3.8	-	-	-	-	RNAV 1
006	IF	DOFMU	-	-	-	-	-	-	-	-	RNAV 1
007	TF	KAKKO	-	050 / (050.8)	-	14.9	-	B 3000 2000	-	-	RNAV 1
008	TF	REWIK	-	050 / (050.8)	-	10.2	-	@ 2000	- 190	-	RNAV 1
009	TF	RD203	-	354 / (355.7)	-	2.7	-	-	-	-	RNAV 1
010	TF	ATWIT	-	264 / (265.7)	-	3.8	-	-	-	-	RNAV 1
011	IF	ATWIT	-	-	-	-	-	-	-	-	-
012	TF	RD252	-	236 / (237.3)	-	3.0	-	+ 2000	-	-	RNP APCH
013	TF	THR24	Y	236 / (237.2)	-	6.2	-	-	-	-3.00 / 50	RNP APCH
014	TF	RD214	-	236 / (237.1)	-	13.7	-	@ 2000	-	-	RNP APCH
015	TF	DOFMU	-	146 / (146.9)	-	6.9	-	@ 2000	-	-	RNP APCH

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2.6.3.2.4 FAS data block - RWY 24

Input data

Operation Type	0
SBAS Provider	1 (EGNOS)
Airport Identifier	EHRD
Runway	24
Runway Letter	0 (None)
Approach Performance Designator	0
Route Indicator	
Reference Path Data Selector	0
Reference Path Identifier	E24A
LTP/FTP Latitude	515742.6900N
LTP/FTP Longitude	0042709.6900E
LTP/FTP Ellipsoidal Height (metres)	39.0
FPAP Latitude	515707.4700N
Delta FPAP Latitude (seconds)	-35.2200
FPAP Longitude	0042541.5290E
Delta FPAP Longitude (seconds)	-88.1610
Threshold Crossing Height	50.0
TCH Units Selector	0 (feet)
Glidepath Angle (degrees)	3.00
Course Width (metres)	105.00
Length Offset (metres)	8
HAL (metres)	40.0
VAL (metres)	35.0

Output data

Data Block	10 04 12 08 05 18 00 00 01 34 32 05 44 B3 4C 16 F4 2F E9 01 86 15 D8 EC FE 3E 4F FD F4 01 2C 01 64 01 C8 AF CC B6 42 56
Calculated CRC Value	CCB64256

Additional Data	
Parameters	**Values**
ICAO Code	EH
LTP/FTP Orthometric Height (metres)	-4.5

3 LOW VISIBILITY PROCEDURES

During periods of low visibility the overall ATC capacity is reduced. To guarantee aircraft safety and optimal use of ATC capacity, Rotterdam Airport uses ATC low visibility procedures. When the visibility falls below 1500 M and the ceiling becomes equal to or below 300 FT, cautionary measures are taken. Four low visibility phases are recognised:

Phase	Conditions	Procedure
A	Lowest RVR <= 1500 M and/or ceiling <= 300 FT	No conditional clearances. Limited use of intersection take-offs.
B	Lowest RVR < 550 M and/or ceiling < 200 FT	RWY 06/24 will only be used in one direction. Taxiing only allowed under the guidance of a marshaller or with a follow-me car. If no marshaller/car is available ATC may give permission to taxi if no other aircraft is moving or expected to be moving in the manoeuvring area.
C	Lowest RVR < 350 M	RWY 06/24 will only be used in one direction. Taxiing only allowed under the guidance of a marshaller or with a follow-me car. If no marshaller/car is available ATC may give permission to taxi if no aircraft is moving or expected to be moving in the manoeuvring area.
D	Highest RVR < 100 M	The airport is below operational limits for arriving and departing aircraft.

4 VFR FLIGHT PROCEDURES AND REGULATIONS

Note: for visual approach chart and visual traffic circuits see AD 2.EHRD-VAC.1, AD 2.EHRD-VAC.2 and AD 2.EHRD-VAC.3.

4.1 General

1. All VFR flights within the Rotterdam CTR shall submit a flight plan (see ENR 1.10).
2. Prior permission is required from Rotterdam TWR for all VFR operations in the CTR.
3. The use of RWY 06/24 is restricted to aircraft maintaining two-way radio contact with TWR.
4. Pilots shall adhere to the approach or departure route as indicated on the charts, unless otherwise instructed by ATC.
5. Pilots shall strictly adhere to the circuits as indicated on the charts, unless otherwise instructed by ATC.
6. Noise abatement has been included in the procedures.
7. Built-up areas shall be avoided as much as possible.
8. Marked areas shall be avoided.
9. Standard circuit altitude is 1000 FT AMSL for inbound VFR traffic. Standard altitude for VFR training circuit is 500 FT AMSL.
10. IFR areas: VFR flights within the CTR may be instructed by ATC to stay clear of the specified IFR areas. These areas are indicated on the chart.
11. VFR reporting points positions:

VFR reporting point	Position
FOXTROT	515428N 0043258E
HOTEL	515818N 0040736E
MIKE	515954N 0043905E
OSCAR	515656N 0043150E
PAPA	515626N 0042802E
ROMEO	515125N 0043550E
SIERRA	515822N 0041903E
TANGO	515824N 0042347E
WHISKEY	515820N 0041323E

4.2 Visual departure procedures

Pilots must have obtained start-up clearance from ATC before starting engines. A request for start-up shall be made to Rotterdam Delivery; clearance for start-up will either be issued immediately or at a specified time depending on traffic. A request for start-up includes:

- aircraft identification (e.g. PHSPY).
- position (e.g. opposite tower).
- ATIS information (e.g. information J).
- flight rules (e.g. VFR).
- destination (e.g. Hilversum).
- request start-up.

1. **MIKE Departure**: after take-off follow the VFR route via OSCAR (or ABM OSCAR) to MIKE while climbing to 1000 FT AMSL and keep 500 M to the right-hand side of the railway.
2. **ROMEO Departure**: after take-off follow the VFR route via OSCAR (or ABM OSCAR) and FOXTROT to ROMEO while climbing to 1500 FT AMSL and keep 500 M to the right-hand side of the highway.
3. **HOTEL Departure** (ATC discretion only): after take-off follow the VFR route via TANGO, SIERRA to WHISKEY in the direction HOTEL while climbing to 1000 FT AMSL. (This VFR route coincides with RTM VOR radial 271).
4. **For other directions**. Departure instructions will be given.

4.3 Visual approach procedures

1. Contact Rotterdam TWR 2 minutes before reaching the CTR boundary for permission to enter the CTR.
2. **MIKE Arrival:** enter the CTR via MIKE at 1000 FT AMSL; follow the VFR route via OSCAR (or ABM OSCAR) to PAPA and keep 500 M to the right-hand side of the railway.
3. **ROMEO Arrival**: enter the CTR via ROMEO at 1500 FT AMSL; follow the VFR route via OSCAR (or ABM OSCAR) to PAPA and keep 500 M to the right-hand side of the highway.
4. **HOTEL Arrival** (ATC discretion only): enter the CTR via WHISKEY at 1500 FT AMSL; follow the VFR route via SIERRA to TANGO. (This VFR route coincides with RTM VOR radial 271).
5. Pilots may be instructed to hold over ROMEO, FOXTROT, ABM MIKE, ABM OSCAR, WHISKEY, SIERRA or TANGO.
6. When instructed to approach via ABM PAPA the following applies for RWY 06/24:
   a. Join the circuit as instructed by ATC.
   b. Maintain 1000 FT AMSL (MIKE Arrival) or 1500 FT AMSL (ROMEO Arrival).
   c. After passing ABM PAPA cross the runway in the middle and join the downwind leg as instructed by ATC.
7. In case of an overshoot enter the relevant traffic circuit and inform ATC.

4.4 VFR traffic circuits

4.4.1 General

RWY 06: a lefthand circuit at 1000 FT AMSL.
RWY 24: a righthand circuit at 1000 FT AMSL, maintain 1000 FT AMSL until turning base leg.

Note: for traffic reasons pilots may be instructed to extend the downwind leg.

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4.4.2 VFR training circuits

To avoid noise in the villages north of RWY 24, a VFR training circuit has been established at 500 FT AMSL within a designated area. For these flights the threshold RWY 24 has been displaced 800 metres beyond the normal threshold RWY 24 indicated by white marking and red/white markers on the right side of the runway.

4.4.2.1 RWY 06

1. Always stay inside the designated circuit area.
2. Lefthand circuit, altitude 500 FT AMSL.
3. After passing the red/white markers along the runway turn to crosswind leg.
4. Downwind leg is marked by the orange coloured VHF COM station.
5. Turn base leg after passing the Delftsche Schie.
6. Touchdown at threshold RWY 06.

4.4.2.2 RWY 24

1. Always stay inside the designated circuit area.
2. Righthand circuit, altitude 500 FT AMSL.
3. Turn crosswind leg after passing the Delftsche Schie.
4. Downwind leg is marked by the orange coloured VHF COM station.
5. Turn base leg abeam the normal threshold RWY 24.
6. Touchdown at displaced threshold.

Note: for traffic reasons pilots may be instructed to hold in area ALPHA or BRAVO within the designated circuit area. Both areas are separated by the area between highway A13 and the Delftsche Schie.

4.5 Communication failure procedures

4.5.1 General

- Select transponder code 7600.
- If possible call Amsterdam ACC Supervisor on telephone number +31 (0)20 406 3999.

  Note: Use telephone connection to mitigate COM failure only. All telephone calls will be automatically recorded.
- If telephone connection is disconnected prematurely (before read-back), revert to communication failure procedures below.

4.5.2 VFR outbound

In case of communication failure adhere to the departure instructions. If the departure instructions contain a clearance limit in the CTR, act in accordance with paragraph 4.5.4.

4.5.3 VFR inbound

4.5.3.1 Via ROMEO and MIKE Arrival

a. In case of communication failure before joining the circuit leave the CTR according to the ROMEO or MIKE Departure and divert to an appropriate aerodrome.
b. In case of communication failure over or after a position from where to join the circuit (this is past the reporting point PAPA) execute a circuit for the last received and acknowledged runway as short as practicable. Make a full stop landing and vacate as soon as possible. In case of go-around execute a similar circuit (be aware of the fact that your flight path could interfere with the flight path of other aerodrome traffic).

4.5.3.2 Via HOTEL Arrival

a. In case of communication failure before joining the circuit leave the CTR according to the HOTEL Departure and divert to an appropriate aerodrome.
b. In case of communication failure over or after a position from where to join the circuit (this is past compulsory reporting point TANGO) act in accordance with paragraph 4.5.3.1 item b.

4.5.3.3 Via a different route to the field

a. In case of communication failure before joining the circuit act in accordance with paragraph 4.5.4.
b. In case of communication failure over or after a position from where to join the circuit act in accordance with paragraph 4.5.3.1 item b.

4.5.4 VFR crossing the CTR

In case of communication failure leave the CTR via the shortest route, maintain altitude until outside the CTR, do not cross runway centre line or IFR areas and proceed to an appropriate aerodrome.

EHRD AD 2.23 ADDITIONAL INFORMATION

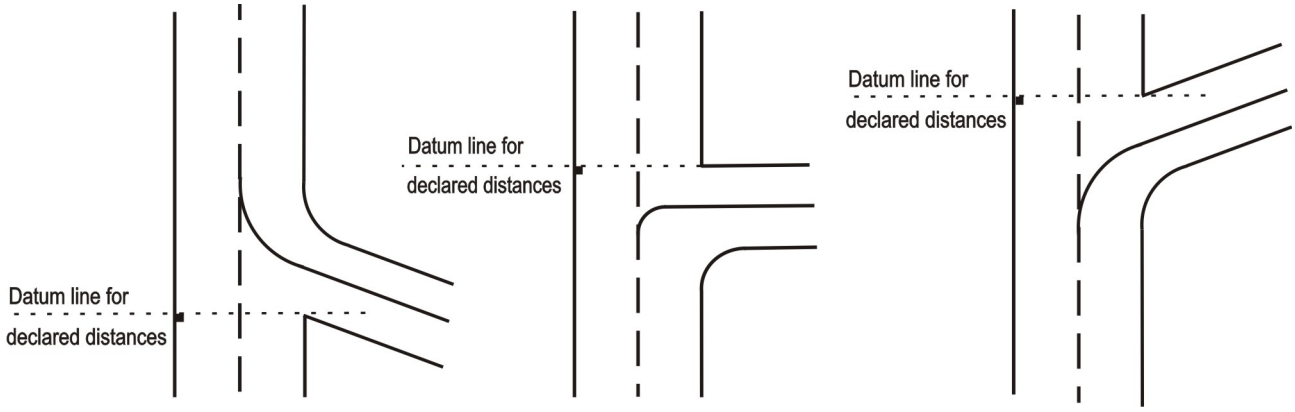
1 CAUTIONS AND ADDITIONAL INFORMATION

1. Pilots are urgently advised to maintain two-way radio communication within the Rotterdam TMAs. When operating in Rotterdam TMA 1 and 2 or in the vicinity of Schiphol TMA 1 and below Rotterdam TMA 1 and 2, the use of a frequency monitoring code as outlined in ENR 1.2 is strongly recommended.
2. For details of the low flying areas and routes see ENR 5.2.
3. VFR flights shall not be operated in the Schiphol TMAs, unless authorised by the appropriate ATS authority (see ENR 1.2).
4. Pilots are urgently requested not to execute VFR flights in the vicinity of the published instrument arrival and departure routes within the Rotterdam TMA, see EHRD AD 2.24.

5. Caution during approach to RWY 06 with south-eastern (light, moderate or strong) wind, pilots should be aware and must be prepared for the possibility of building-induced turbulence, wind shear and wind gradient effects over the THR and TDZ of RWY 06. During these circumstances, while landing at RWY 06, pilots should be aware of suddenly increased turbulence.
6. Pilots shall be aware that in the vicinity of the aerodrome ATC gives priority to:
   - aircraft in state of an emergency;
   - hospital and police aircraft with the status priority or scramble;
   - aircraft engaged in SAR operations.
7. Bird-scare activities 24 hours a day available/active with the use of various equipment/means including flare shellcrackers, bird dispersal guns and amplified cries of distress.
8. When lightning discharges are observed in the vicinity of the airport, the Duty Manager Operations (DMO) will announce that all ground handling and re-fuelling operations are prohibited until further notice. When it is safe to do so, the DMO will declare that ground handling and re-fuelling operations can be resumed. Handling stop will be indicated by special light/sound signals or by ATC.

2 DETERMINATION OF DATUM LINE FOR INTERSECTION TAKE-OFF

The datum line from which the reduced runway declared distances for take-off should be determined is defined by the intersection of the downwind edge of the specific taxiway with the runway edge as shown in the diagram below. The loss of runway length due to alignment of the aircraft prior to take-off should be taken into account by the operators for the calculation of the aircraft's take-off mass (ICAO Annex 6, Part 1, paragraph 5.2.8).
If an intersection take-off will take place from a taxiway with an intersection angle of 55°, and the taxiway centre line is followed until the runway centre line, there is a loss of line-up distance of APRX 100 M.



TWY V2 TWY V4 TWY V5

3 MEDICAL EMERGENCY PROCEDURES

Pilots shall declare a medical emergency to ATC only in case of a patient on board suffering from a life-threatening condition. A patient's medical condition is categorised and should be handled as follows:

- Medical emergency (life-threatening): pilots shall contact ATC to declare a medical emergency by radio call prefixed by PAN PAN (3X) for urgency. Priority handling will be provided. Medical crew will board the aircraft before passengers disembark.
- Medical care at the stand (non-life-threatening): flight crew shall contact ground handler only to arrange medical crew at the stand.

4 GROUND HANDLING COMPANIES

1. **Commercial passengers and cargo**
   Post: Aviapartner B.V.
   P.O. Box 12036
   3004 GA Rotterdam
   Tel: +31 (0)10 238 2704
   Fax: +31 (0)10 238 2707
   Email: rtm.handling.ops@aviapartner.aero
   SITA: RTMAOXH

   Note: Aviapartner Rotterdam 131.755
2. **Ground handling (business and general aviation)**
   Post: Jet Aviation Netherlands
   Fornebubaan 19
   3045 AV Rotterdam
   Tel: +31 (0)10 298 4949
   Fax: +31 (0)10 298 4948
   Email: RTMfbo@jetaviation.com
   URL: http://www.jetaviation.com

   Note: Jet Aviation Rotterdam 131.980
3. **Ground handling (recreational general aviation only)**
   Post: Vliegclub Rotterdam (Flying Club Rotterdam)
   Zaventembaan 1
   3045 AR Rotterdam
   Tel: +31 (0)10 415 3353
   Fax: +31 (0)10 415 8063
   Email: OPS@vliegclubrotterdam.nl
   URL: https://www.vliegclubrotterdam.nl

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Note: request handling Vliegclub Rotterdam via website 24 HR before ETA.

EHRD AD 2.24 CHARTS RELATED TO AN AERODROME

Type of chart	Page
Aerodrome chart	AD 2.EHRD-ADC
Aircraft parking / docking chart	AD 2.EHRD-APDC
Aerodrome ground movement chart taxi routes RWY 06	AD 2.EHRD-GMC.1
Aerodrome ground movement chart taxi routes RWY 24	AD 2.EHRD-GMC.2
Aerodrome obstacle chart RWY 06/24	AD 2.EHRD-AOC-06-24
Standard instrument departure chart	AD 2.EHRD-SID-OVERVIEW
Standard instrument departure chart RWY 06 east	AD 2.EHRD-SID-06.1
Standard instrument departure chart RWY 06 west	AD 2.EHRD-SID-06.2
Standard instrument departure chart RWY 24 east	AD 2.EHRD-SID-24.1
Standard instrument departure chart RWY 24 west	AD 2.EHRD-SID-24.2
Standard arrival chart	AD 2.EHRD-STAR
ATC surveillance minimum altitude chart	AD 2.EHRD-SMAC
Instrument approach chart ILS or LOC RWY 06	AD 2.EHRD-IAC-06.1
Instrument approach chart VOR RWY 06	AD 2.EHRD-IAC-06.2
Instrument approach chart RNP RWY 06	AD 2.EHRD-IAC-06.3
Instrument approach chart ILS Z or LOC Z RWY 24	AD 2.EHRD-IAC-24.1
Instrument approach chart ILS Y or LOC Y RWY 24	AD 2.EHRD-IAC-24.2
Instrument approach chart VOR RWY 24	AD 2.EHRD-IAC-24.3
Instrument approach chart RNP RWY 24	AD 2.EHRD-IAC-24.4
Visual approach chart / VFR procedures	AD 2.EHRD-VAC.1
Visual approach chart VFR traffic circuits radio equipped light aircraft	AD 2.EHRD-VAC.2
Visual approach chart VFR training circuits	AD 2.EHRD-VAC.3

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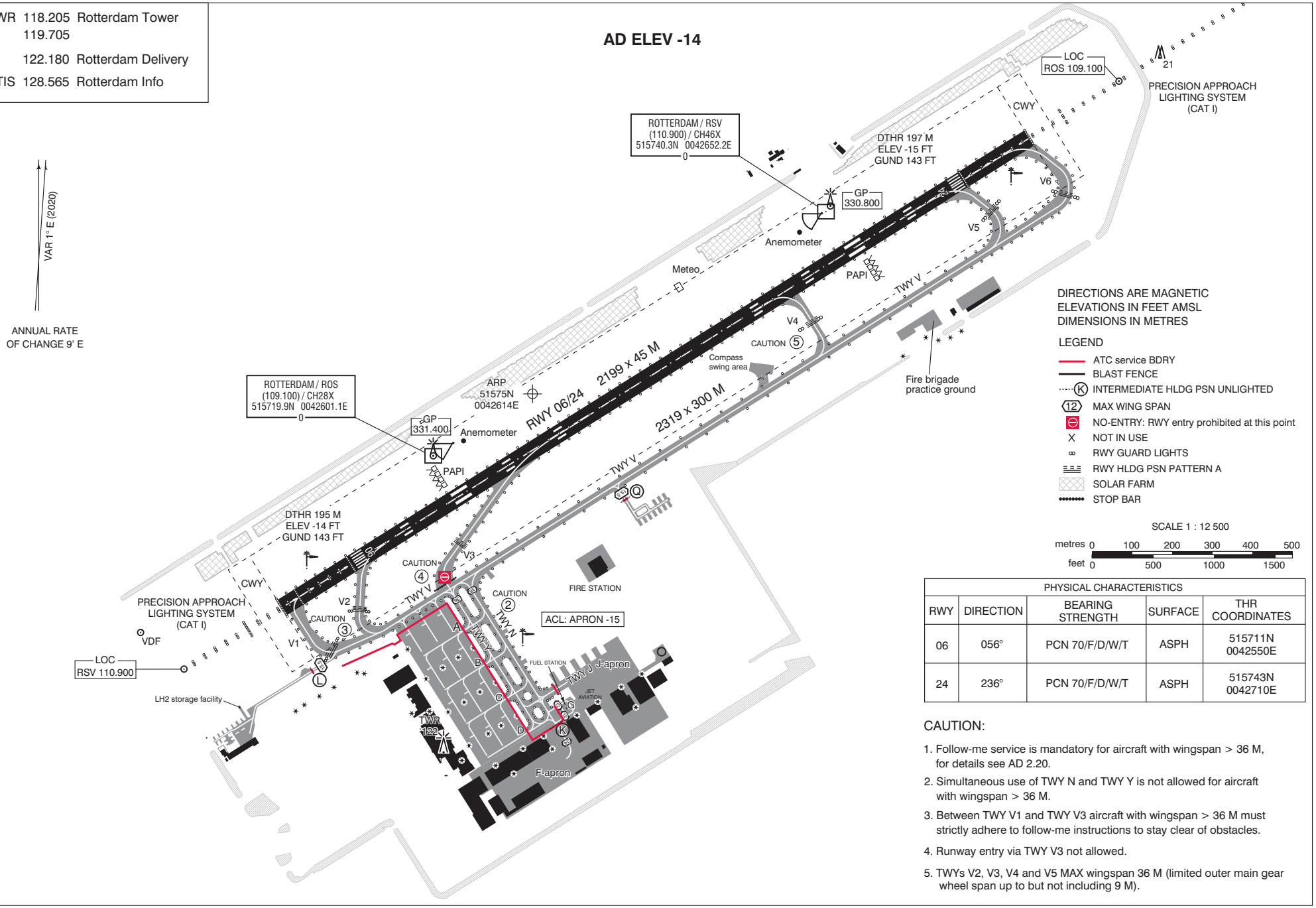
TWR	118.205	Rotterdam Tower
	119.705	
	122.180	Rotterdam Delivery
ATIS	128.565	Rotterdam Info

AD ELEV -14



DIRECTIONS ARE MAGNETIC
ELEVATIONS IN FEET AMSL
DIMENSIONS IN METRES

LEGEND

- ATC service BDRY
- BLAST FENCE
- (K) INTERMEDIATE HLDG PSN UNLIGHTED
- (12) MAX WING SPAN
- NO-ENTRY: RWY entry prohibited at this point
- X NOT IN USE
- RWY GUARD LIGHTS
- RWY HLDG PSN PATTERN A
- SOLAR FARM
- STOP BAR

SCALE 1 : 12 500

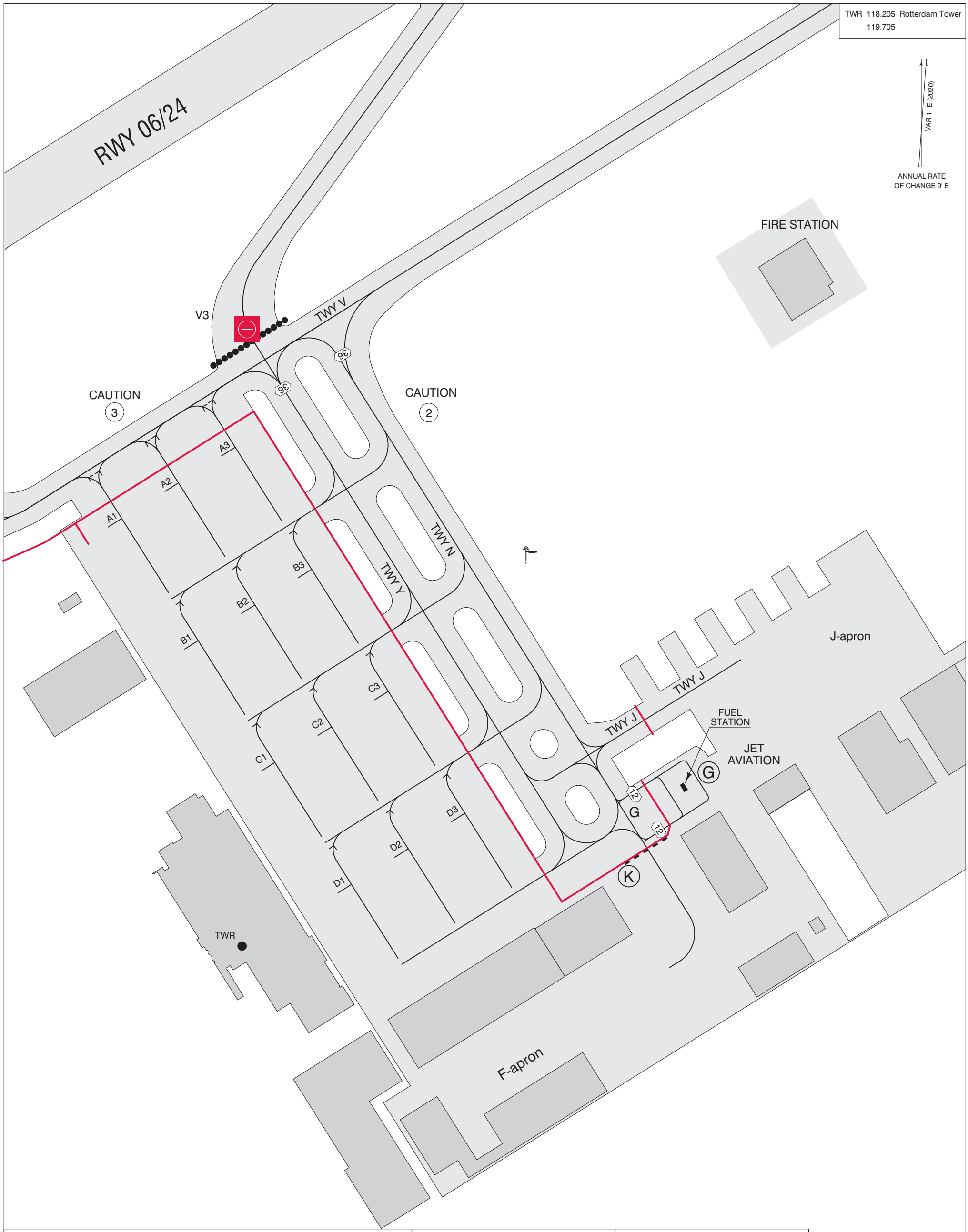
metres 0 100 200 300 400 500
feet 0 500 1000 1500

PHYSICAL CHARACTERISTICS				
RWY	DIRECTION	BEARING STRENGTH	SURFACE	THR COORDINATES
06	056°	PCN 70/F/D/W/T	ASPH	515711N 0042550E
24	236°	PCN 70/F/D/W/T	ASPH	515743N 0042710E

CAUTION:

1. Follow-me service is mandatory for aircraft with wingspan > 36 M, for details see AD 2.20.
2. Simultaneous use of TWY N and TWY Y is not allowed for aircraft with wingspan > 36 M.
3. Between TWY V1 and TWY V3 aircraft with wingspan > 36 M must strictly adhere to follow-me instructions to stay clear of obstacles.
4. Runway entry via TWY V3 not allowed.
5. TWYs V2, V3, V4 and V5 MAX wingspan 36 M (limited outer main gear wheel span up to but not including 9 M).

CHANGE: LH2 facility added; editorial.



CAUTION:

1. Follow-me service is mandatory for aircraft with wingspan > 36 M, for details see AD 2.20.
2. Simultaneous use of TWY N and TWY Y is not allowed for aircraft with wingspan > 36 M.
3. Between TWY V1 and TWY V3 aircracft with wingspan > 36 M must strictly adhere to follow-me instructions to stay clear of obstacles.

SCALE 1 : 2 500

M 100 0 100

FT 250 0 250

DIRECTIONS ARE MAGNETIC
ELEVATION IN FEET AMSL
DIMENSIONS IN METERS

LEGEND:

- ATC service BDRY
- (K) Intermediate HLDG PSN unlighted
- 36 MAX WING SPAN
- No-entry: RWY entry prohibited at this point
- X NOT IN USE
- One-way arrow
- STOP BAR

INS COORDINATES FOR ACFT STANDS

STAND	LAT	LONG
A1	515705.48N	0042558.16E
A2	515706.30N	0042600.21E
A3	515707.11N	0042602.25E
B1	515702.77N	0042601.00E
B2	515703.59N	0042603.05E
B3	515704.40N	0042605.09E
C1	515700.05N	0042603.85E
C2	515700.86N	0042605.89E
C3	515701.68N	0042607.94E
D1	515657.33N	0042606.69E
D2	515658.15N	0042608.73E
D3	515658.96N	0042610.78E

CHANGE: one-way arrows added; editorial.

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TWR 118.205 Rotterdam Tower
119.705

ARRIVALS

CAUTION
4
V3
TWY V
36
CAUTION
2
FIRE STATION
V2
CAUTION
3
V1
A
TWY Y
TWY N
ACL: APRON -15
B
FUEL STATION
TWY J
J-apron
JET AVIATION
C
G
12
12
TWR
D
K
24
F-apron
Q
O
L
13
90
VAR 1° E (2020)

CAUTION:
1. Follow-me service is mandatory for aircraft with wingspan >36 M, for details see AD 2.20.
2. Simultaneous use of TWY N and TWY Y is not allowed for aircraft with wingspan >36 M.
3. Between TWY V1 and TWY V3 aircraft with wingspan >36 M must strictly adhere to follow-me instructions to stay clear of obstacles.
4. Runway entry via TWY V3 not allowed.

DIRECTIONS ARE MAGNETIC
ELEVATIONS IN FEET AMSL
DIMENSIONS IN METERS

LEGENDA:
- ATC service BDRY
- Intermediate HLDG PSN unlighted
- NO-entry: RWY entry prohibited at this point
- NOT IN USE
- RWY HLDG PSN MARKING PATTERN A
- STOP BAR

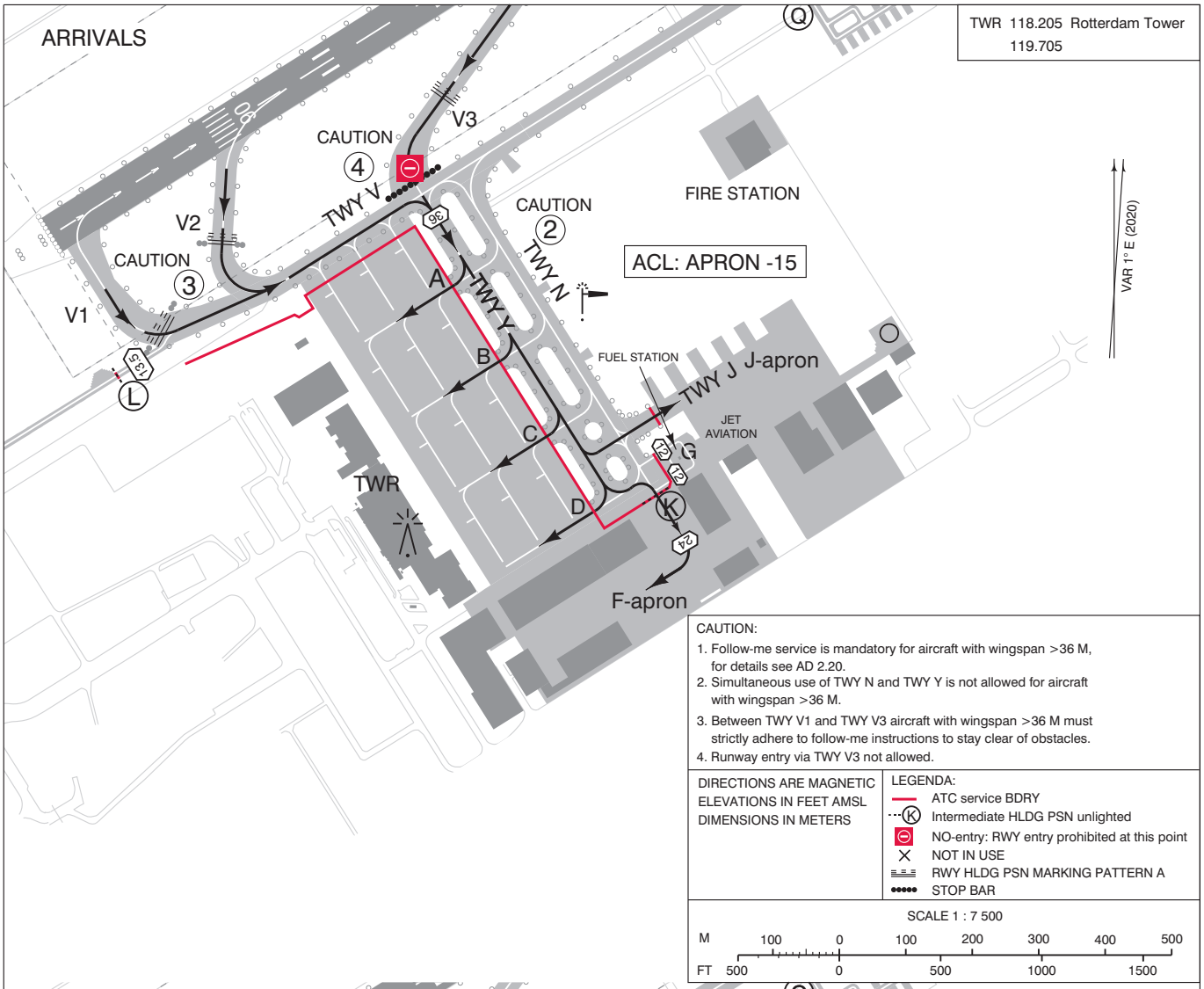
SCALE 1 : 7 500
M 100 0 100 200 300 400 500
FT 500 0 500 1000 1500

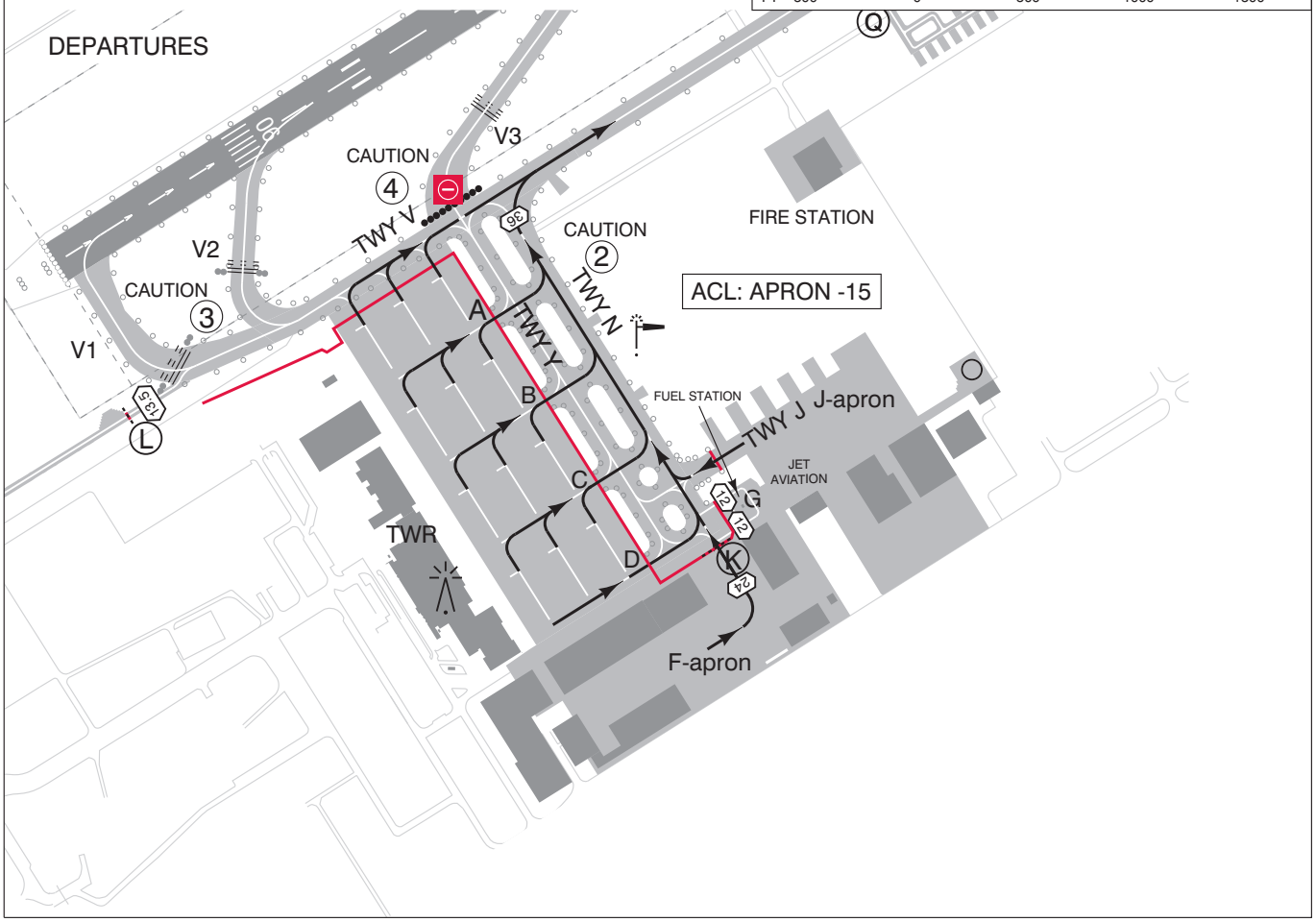
HOTSPOT
CAUTION:
DO NOT CROSS THE HOLDING POSITION MARKING WITHOUT A CLEARANCE

DEPARTURES

CAUTION
4
V3
TWY V
36
CAUTION
2
FIRE STATION
V2
CAUTION
3
V1
A
TWY Y
TWY N
ACL: APRON -15
B
FUEL STATION
TWY J
J-apron
JET AVIATION
C
G
12
12
TWR
D
K
24
F-apron
Q
O
L
13
90

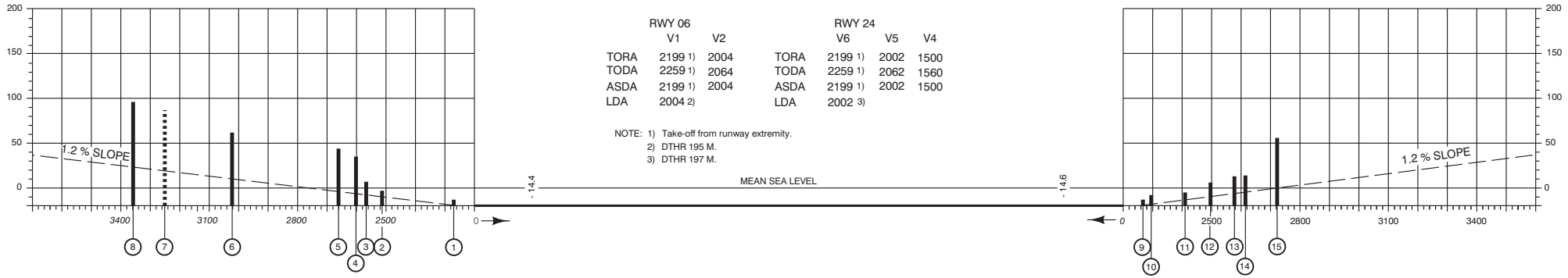
CHANGE: intermediate HLDG PSN added; editorial.





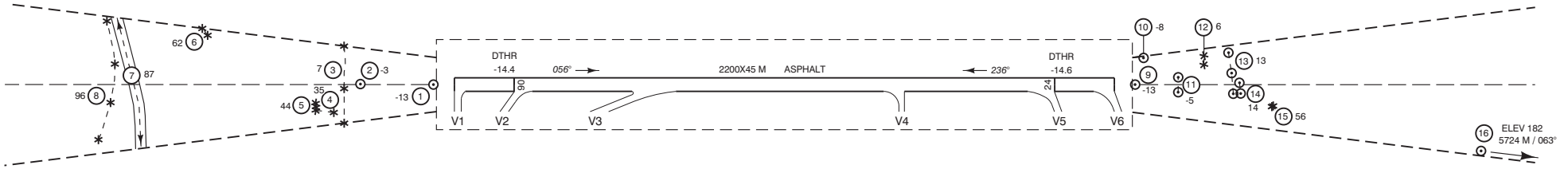
CHANGE: intermediate HLDG PSN added; editorial.

ROTTERDAM/Rotterdam RWY 06 -24
AERODROME OBSTACLE CHART - TYPE A



	RWY 06 V1	V2		RWY 24 V6	V5	V4
TORA	2199 1)	2004	TORA	2199 1)	2002	1500
TODA	2259 1)	2064	TODA	2259 1)	2062	1560
ASDA	2199 1)	2004	ASDA	2199 1)	2002	1500
LDA	2004 2)		LDA	2002 3)		

NOTE: 1) Take-off from runway extremity.
2) DTHR 195 M.
3) DTHR 197 M.



MAGNETIC VARIATION : 1° E (2020)
DIMENSIONS IN METRES
ELEVATIONS IN FEET
DIRECTIONS ARE MAGNETIC
(15) IDENTIFICATION NUMBER
TREE
X —— X FENCE
POLE, TOWER, SPIRE, ANTENNA, CHIMNEY
BUILDING OR LARGE STRUCTURE
(17) TRAFFIC (IN PLAN)
TRAFFIC (IN PROFILE)
WINDMILL

SCALE 1 : 20 000
500 0 500 1000 1500 METRES
1000 0 1000 2000 3000 4000 5000 FEET

SCALE 1 : 2 000
FEET METRES
150 100 50 0 50
50 40 30 20 10 0 10

SURVEYING AGENCY : Rijkswaterstaat, Adviesdienst Geo-informatie en ICT.
DATE OF SURVEY : NOV 2010

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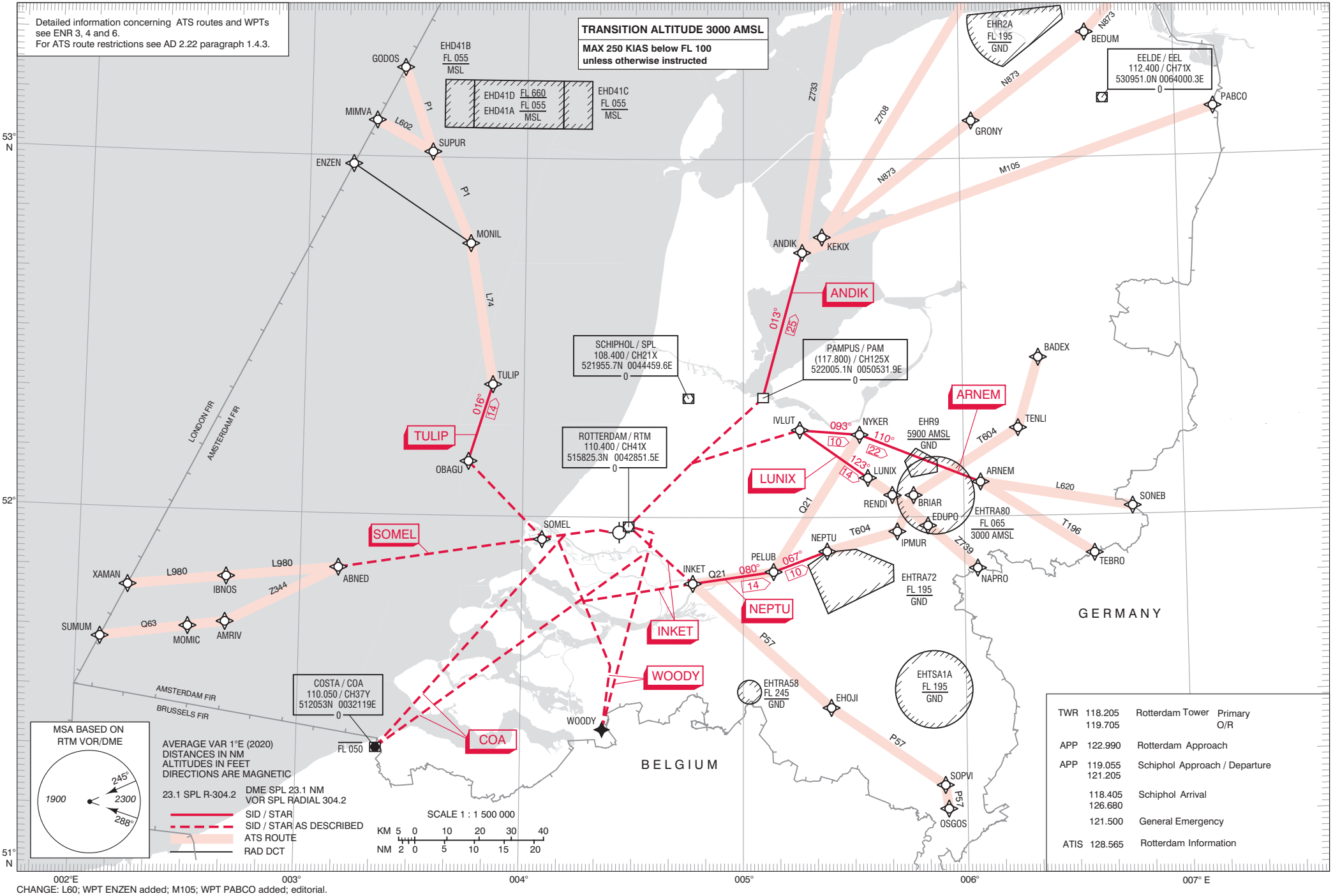
CHANGE: MAG VAR 2020; editorial.



CHANGE: L60; WPT ENZEN added; M105; WPT PABCO added; editorial.

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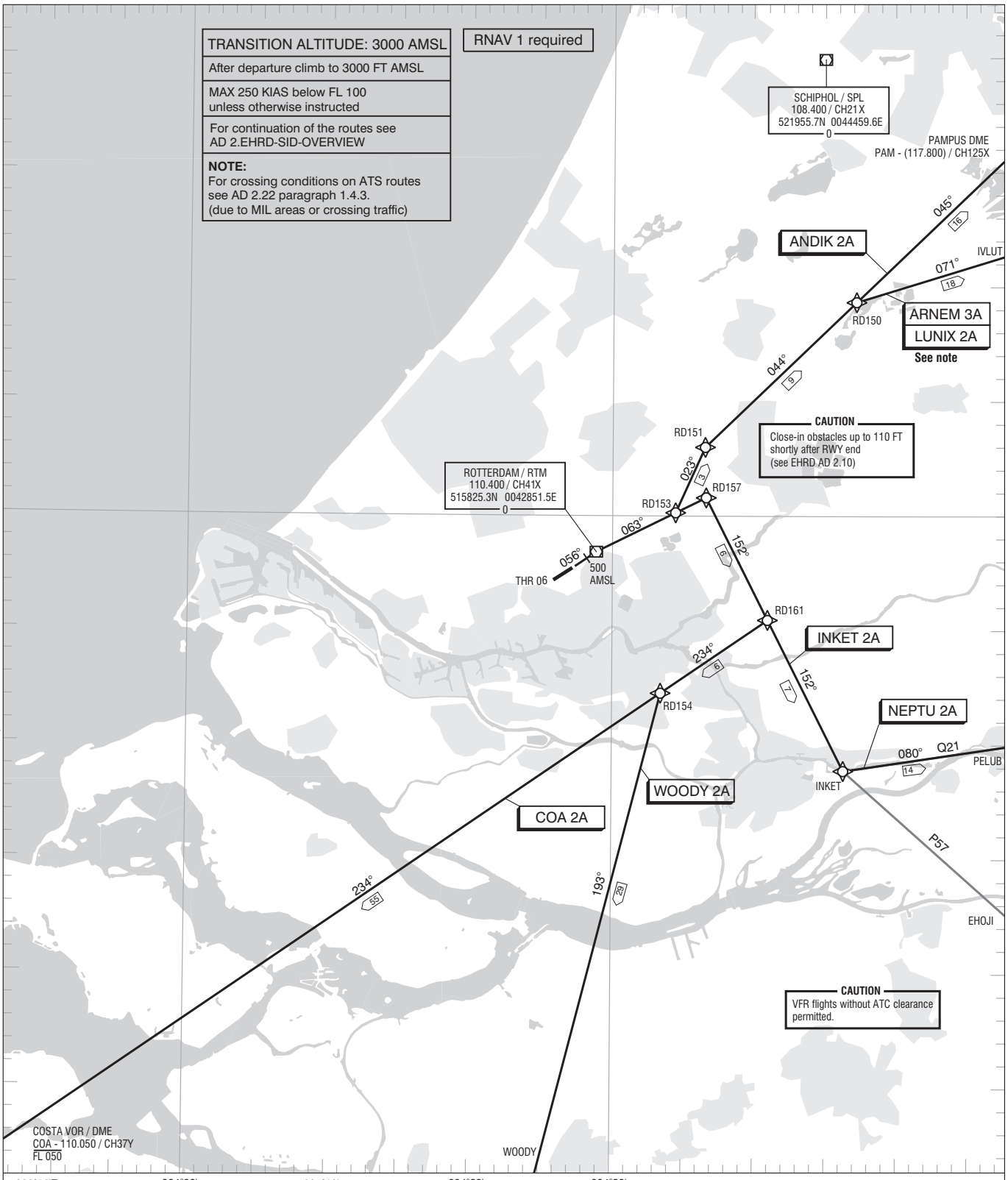


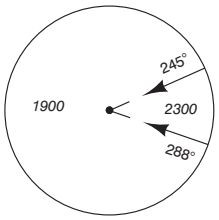
SCALE 1 : 450 000

KM 5 0 5 10 15 20
NM 2 1 0 2 4 6 8 10

RD150	520920.3N	0044713.3E
RD151	520300.0N	0043631.9E
RD153	520008.3N	0043427.0E
RD154	515215.9N	0043325.4E
RD157	520047.9N	0043636.3E
RD161	515527.8N	0044057.8E

TWR	118.205	Rotterdam Tower Primary
	119.705	O/R
APP	122.990	Rotterdam Approach
	119.055	Schiphol Approach / Departure
	121.205	
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

MSA BASED ON RTM VOR/DME

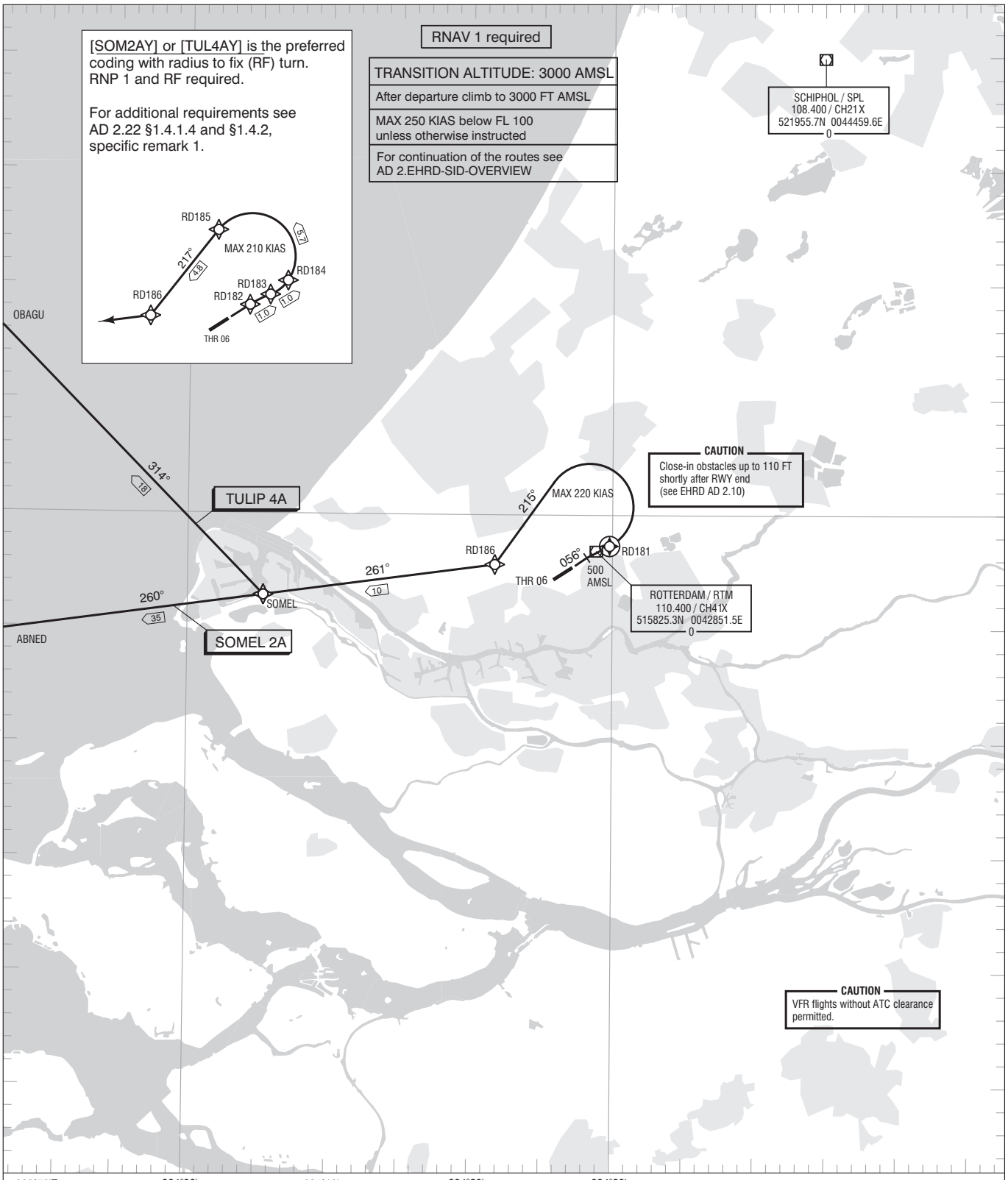


DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC

AVERAGE VAR 1° E (2020)

SID
ATS ROUTE

CHANGE: SID Designator; editorial.



SCALE 1 : 450 000

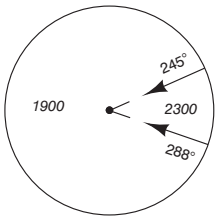
KM 5 0 5 10 15 20

NM 2 1 0 2 4 6 8 10

RD181	515839.2N	0042947.5E
RD182	SEE SID DESCRIPTION	
RD183	SEE SID DESCRIPTION	
RD184	SEE SID DESCRIPTION	
RD185	SEE SID DESCRIPTION	
RD186	515749.6N	0042141.5E

TWR	118.205	Rotterdam Tower Primary
	119.705	O/R
APP	122.990	Rotterdam Approach
	119.055	Schiphol Approach / Departure
	121.205	
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

MSA BASED ON RTM VOR/DME

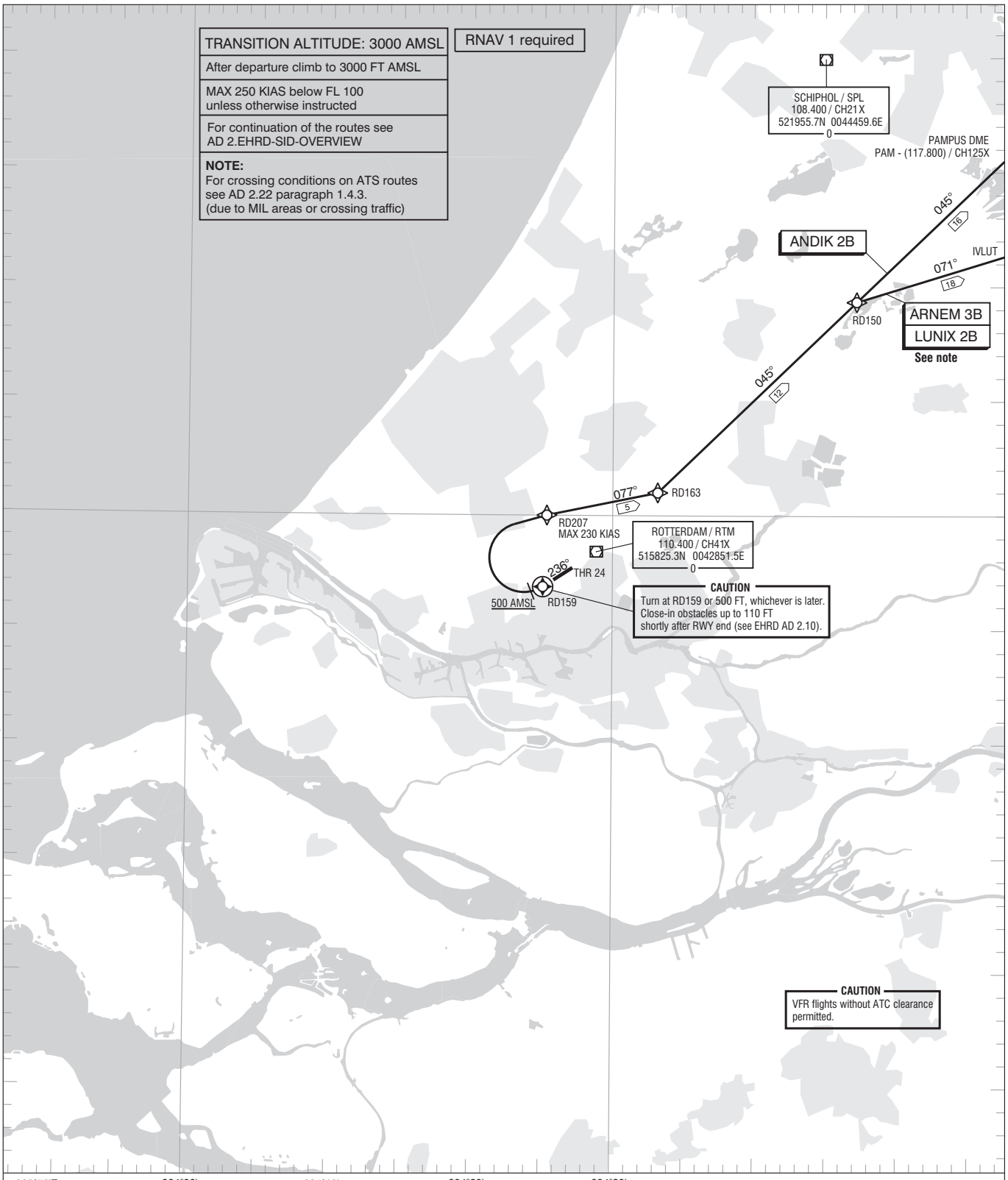


DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC

AVERAGE VAR 1° E (2020)

SID
ATS ROUTE

CHANGE: editorial.



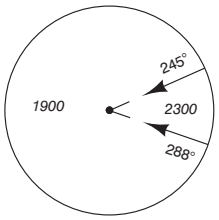
SCALE 1 : 450 000

KM 5 0 5 10 15 20
NM 2 1 0 2 4 6 8 10

RD150	520920.3N	0044713.3E
RD159	515652.8N	0042504.9E
RD163	520100.0N	0043310.5E
RD207	520000.3N	0042520.9E

TWR	118.205	Rotterdam Tower Primary
	119.705	O/R
APP	122.990	Rotterdam Approach
	119.055	Schiphol Approach / Departure
	121.205	
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

MSA BASED ON RTM VOR/DME

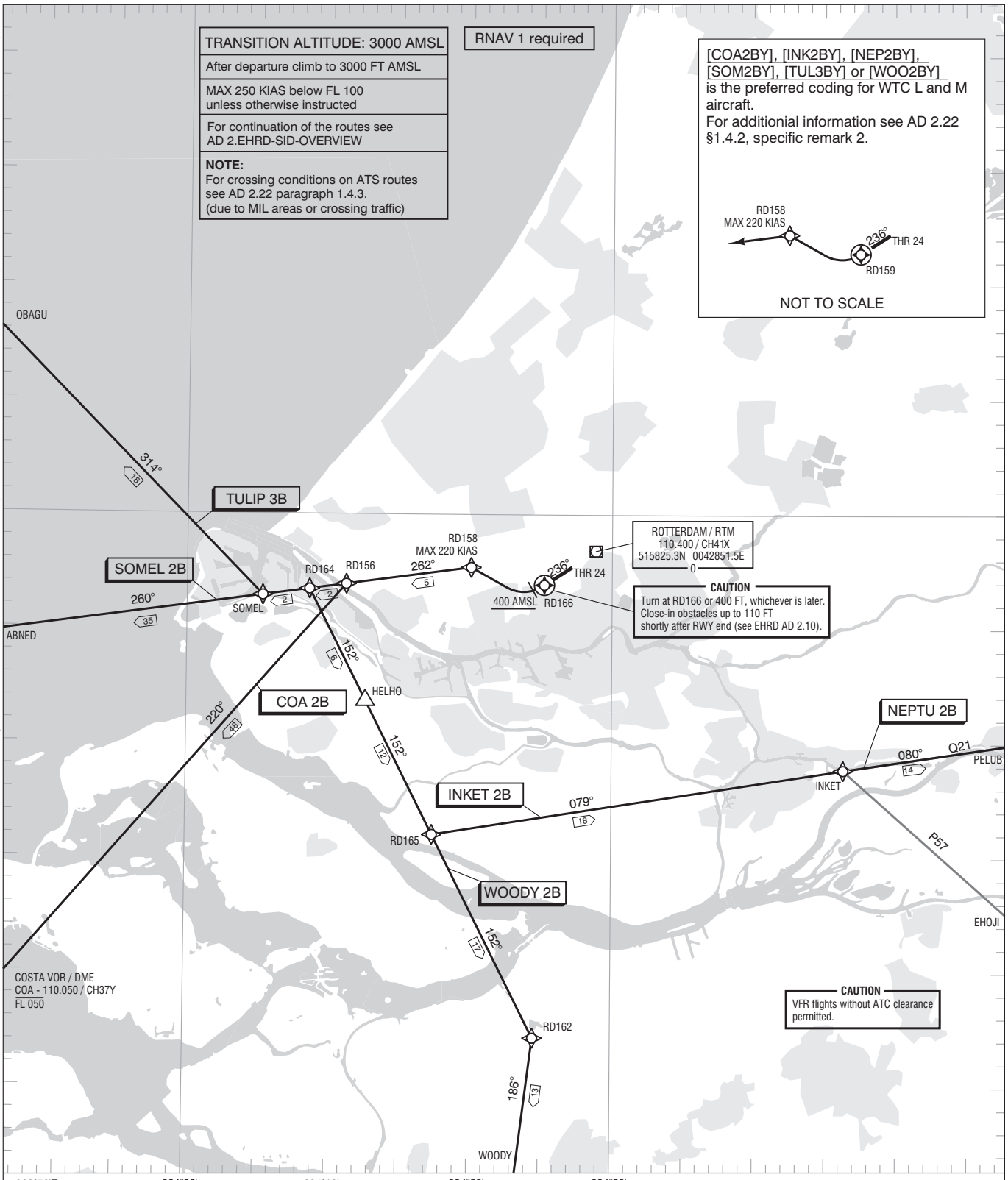


DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC

AVERAGE VAR 1° E (2020)

SID
ATS ROUTE

CHANGE: MNM Operating Network implementation; MAG VAR 2020; editorial.



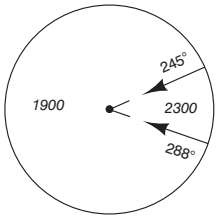
SCALE 1 : 450 000

KM 5 0 5 10 15 20
NM 2 1 0 2 4 6 8 10

RD156	515656.8N	0041114.2E
RD158	515741.4N	0042002.7E
RD159	515652.8N	0042504.9E
RD162	513710.0N	0042433.2E
RD164	515643.5N	0040838.8E
RD165	514601.4N	0041722.9E
RD166	515656.0N	0042513.0E

TWR	118.205	Rotterdam Tower Primary
	119.705	O/R
APP	122.990	Rotterdam Approach
	119.055	Schiphol Approach / Departure
	121.205	
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

MSA BASED ON RTM VOR/DME



DISTANCES IN NM
ALTITUDES IN FEET
DIRECTIONS ARE MAGNETIC

AVERAGE VAR 1° E (2020)

SID
ATS ROUTE

CHANGE: SID Designator; editorial.

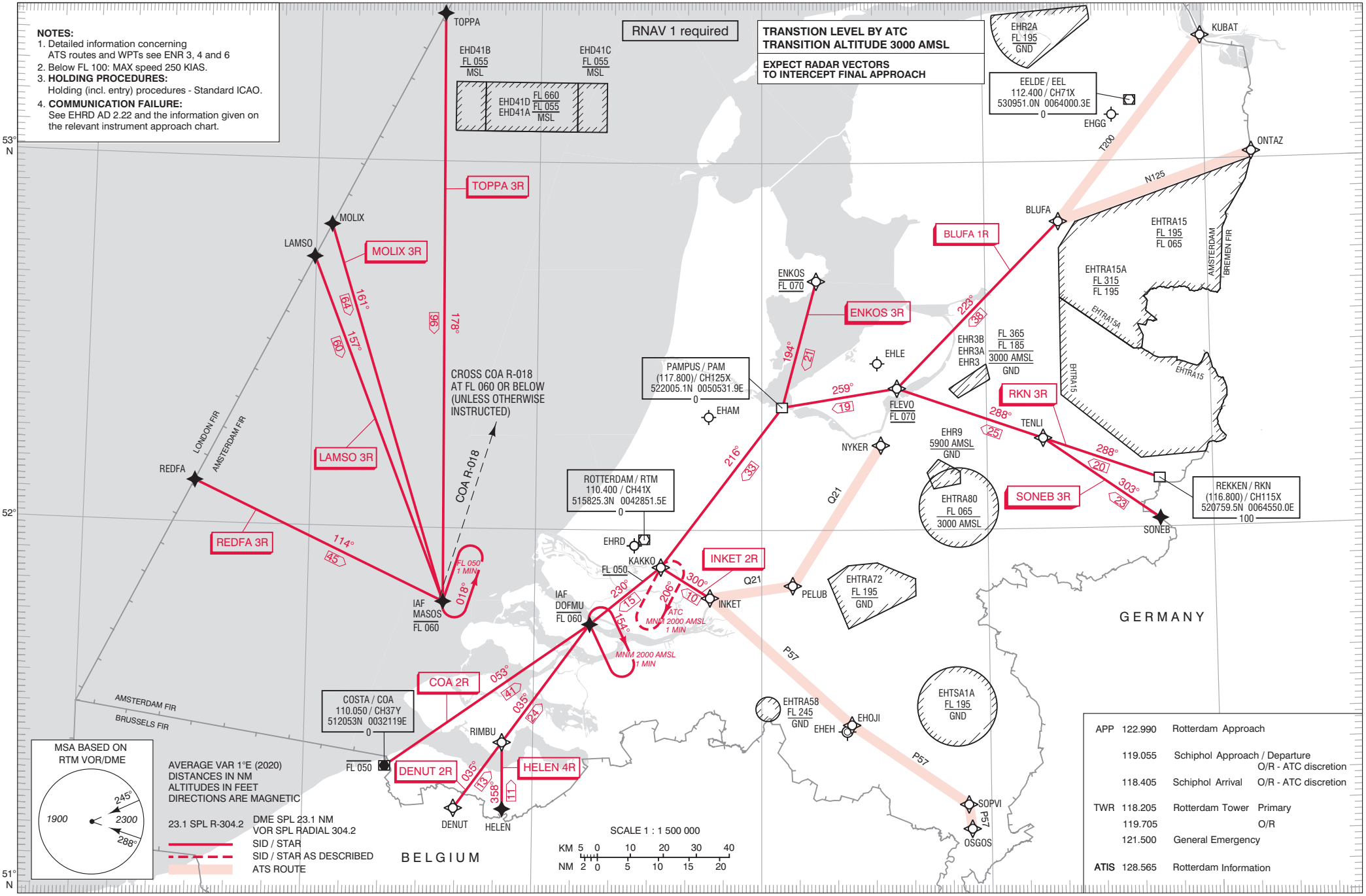
© LVNL

NOTES:
1. Detailed information concerning ATS routes and WPTs see ENR 3, 4 and 6
2. Below FL 100: MAX speed 250 KIAS.
3. **HOLDING PROCEDURES:** Holding (incl. entry) procedures - Standard ICAO.
4. **COMMUNICATION FAILURE:** See EHRD AD 2.22 and the information given on the relevant instrument approach chart.

RNAV 1 required

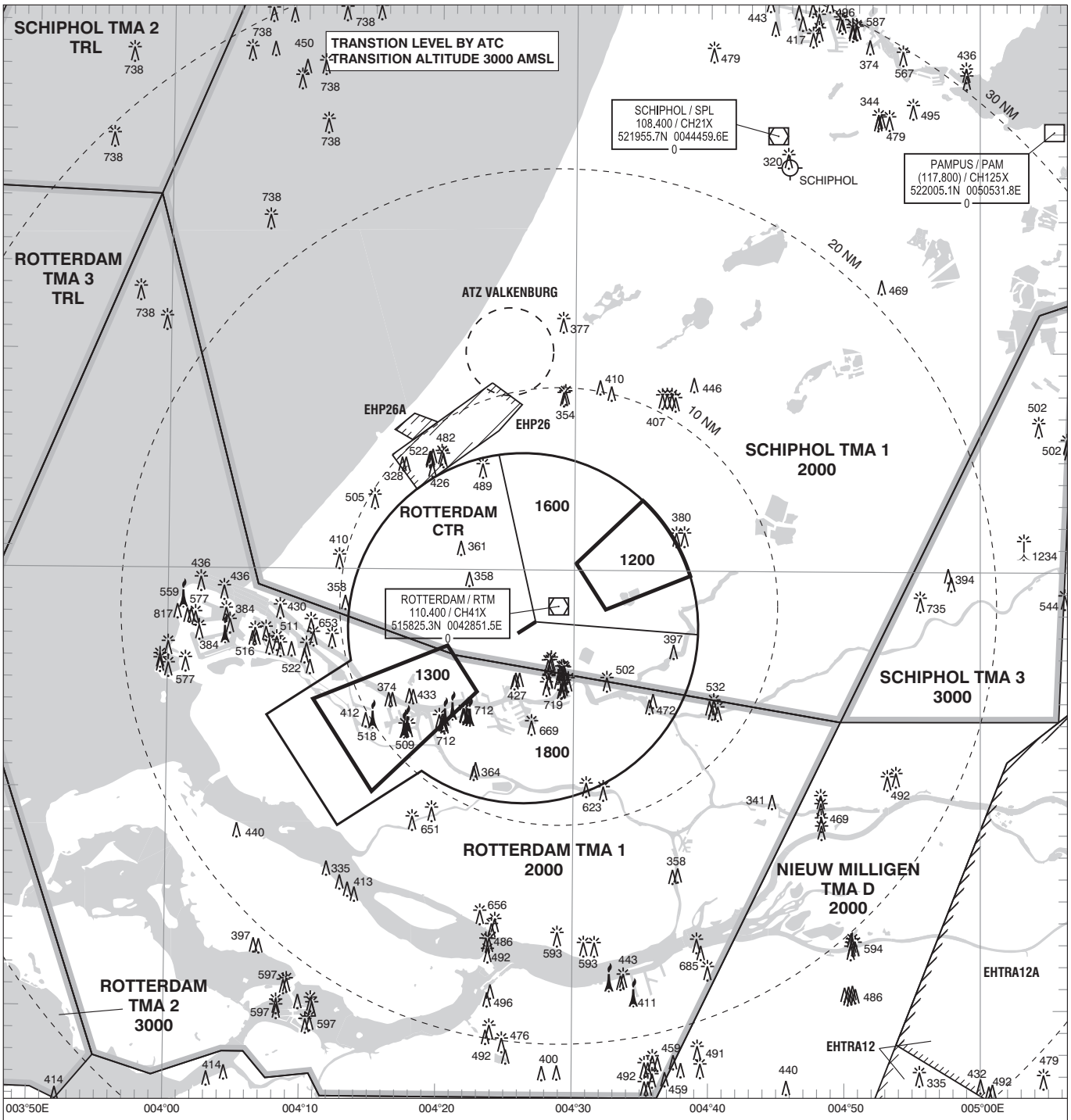
TRANSTION LEVEL BY ATC
TRANSITION ALTITUDE 3000 AMSL

EXPECT RADAR VECTORS TO INTERCEPT FINAL APPROACH



APP	122.990	Rotterdam Approach	
	119.055	Schiphol Approach / Departure	O/R - ATC discretion
	118.405	Schiphol Arrival	O/R - ATC discretion
TWR	118.205	Rotterdam Tower	Primary
	119.705		O/R
	121.500	General Emergency	
ATIS	128.565	Rotterdam Information	

CHANGE: N125 and T200 added; WPTs BLUFA, KUBAT and ONTAZ added; STAR designators; EHTRA15; EHTRA15A added; editorial.



SCALE 1 : 500 000

KM 5 0 5 10 15 20
NM 2 1 0 2 4 6 8 10

AVERAGE VAR 1° E (2020)
ALTITUDES IN FEET AMSL
DISTANCES IN NM
DIRECTIONS ARE MAGNETIC

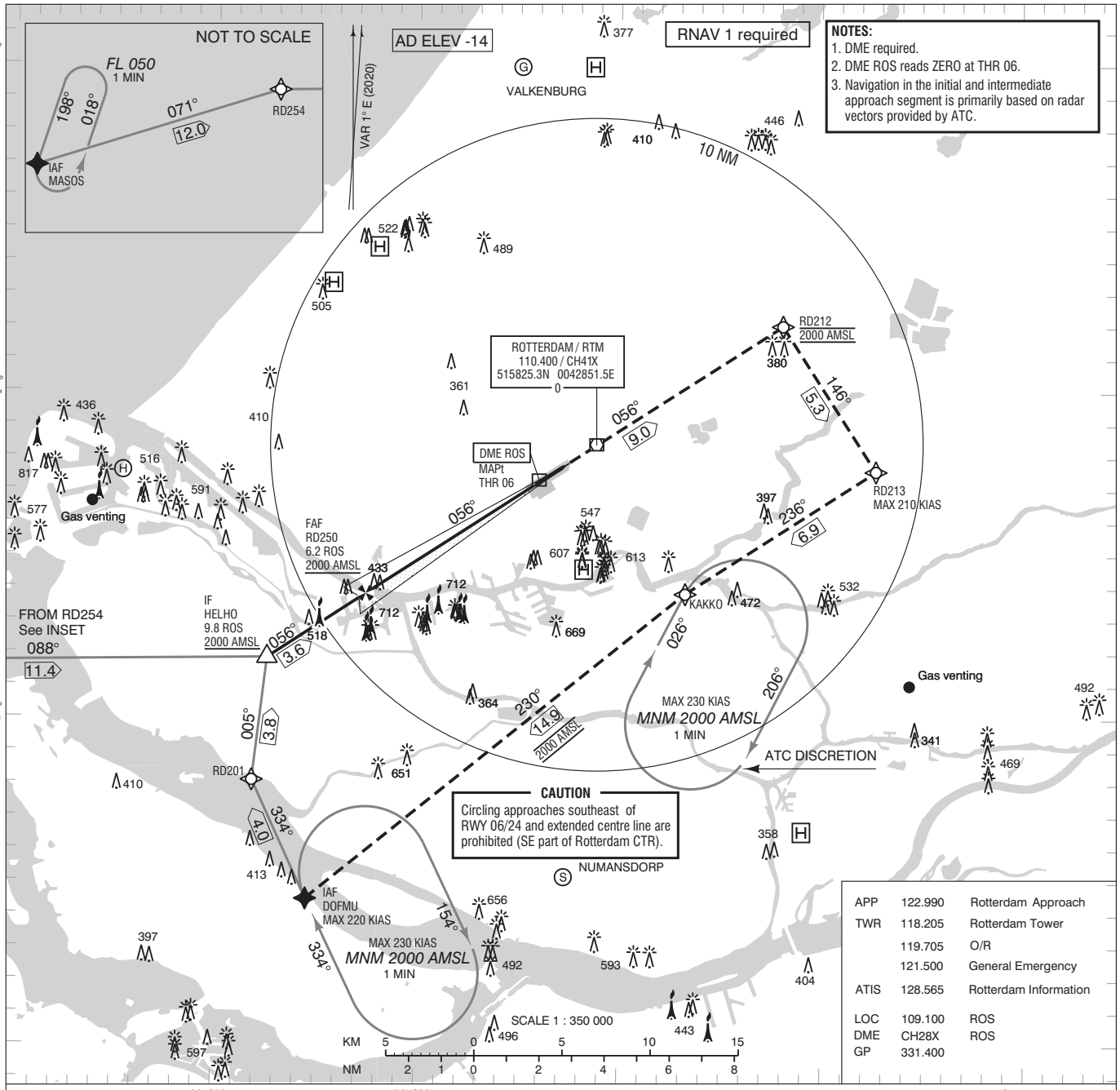
Final approach vectoring area (FAVA)
Minimum vectoring altitude sector (MVA)

APP	122.990	Rotterdam Approach
	119.055	Schiphol Approach / Departure
	118.405	Schiphol Arrival
TWR	118.205	Rotterdam Tower
	119.705	
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

NOTES:

1. This chart may only be used for cross-checking of altitudes, assigned while the aircraft is identified by the responsible ATC unit.
2. Aeronautical data and minimum vectoring altitudes are provided only within the relevant CTR and TMA.
3. Temperature correction: at or below -14°C the FAVA 1300 should read 1400 FT AMSL;
   at or below -16°C the MVA 1600 should read 1800 FT AMSL;
   at or below -13°C the MVA 1800 should read 2000 FT AMSL.
4. A descent clearance to the FAVA will only be issued when the aircraft is established on the ILS final approach track, or on an intercept of 30 degrees or less.
5. In case of a communication failure, execute the COM failure procedure of the last assigned approach.

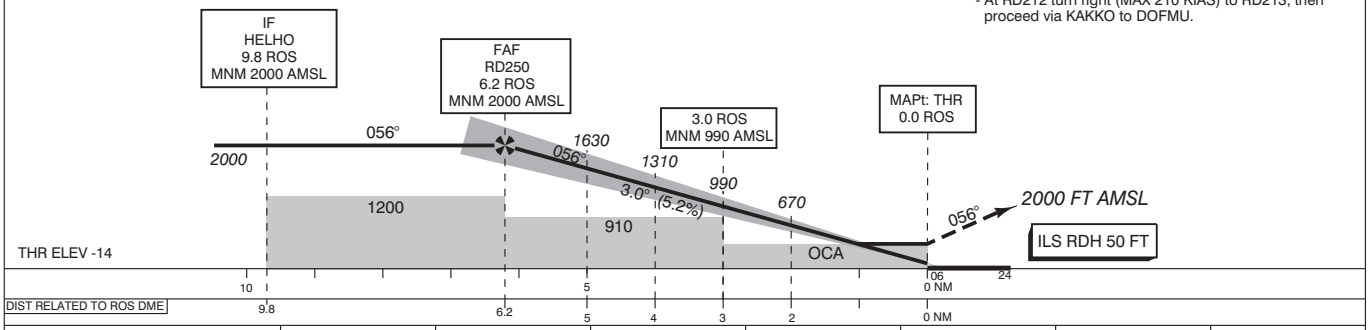
CHANGE: MVA; NOTES; editorial.



APP	122.990	Rotterdam Approach
TWR	118.205	Rotterdam Tower
	119.705	O/R
	121.500	General Emergency
ATIS	128.565	Rotterdam Information
LOC	109.100	ROS
DME	CH28X	ROS
GP	331.400	

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL

Missed approach:
- Track 056° MAG to RD212 and climb to 2000 FT AMSL;
- Inform ATC;
- At RD212 turn right (MAX 210 KIAS) to RD213, then proceed via KAKKO to DOFMU.



GS IN KT	60	80	100	120	140	160	180
VERTICAL SPEED	320 FT/MIN	425 FT/MIN	530 FT/MIN	635 FT/MIN	745 FT/MIN	850FT/MIN	955 FT/MIN

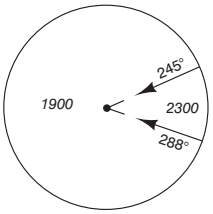
OCA*(OCH)* ELEV THR 06: -14.4 FT

ACFT CAT	CAT I	LOC MAPt: THR	CIRCLING*
A	178 *(193)*	470 *(484)*	490 *(504)*
B	184 *(199)*		960 *(974)*
C	194 *(209)*		1050 *(1064)*
D	201 *(216)*		1050 *(1064)*

* Circling SE of RWY 06/24 is prohibited (see CAUTION).

THR 06	515711.0N	0042550.4E
RD201	514806.4N	0041154.5E
RD212	520203.2N	0043804.7E
RD213	515736.4N	0044242.2E
RD250	515350.0N	0041728.8E
RD254	515138.8N	0035412.7E

MSA BASED ON RTM VOR/DME

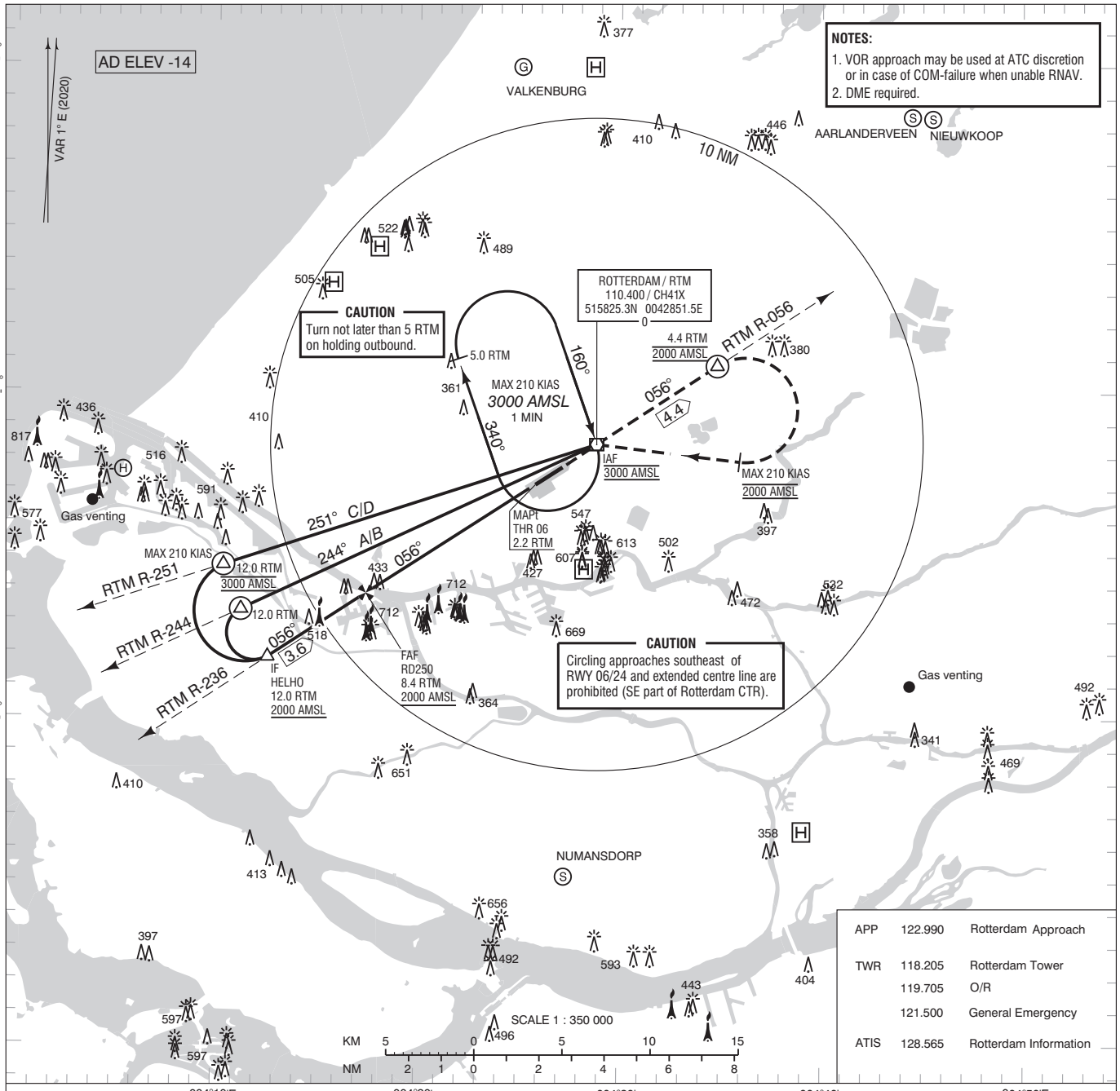


CEILING AND VISIBILITY MINIMA

TAKE-OFF	DAY:	NA	NIGHT:	NA
LANDING	DAY:		NIGHT:	

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET

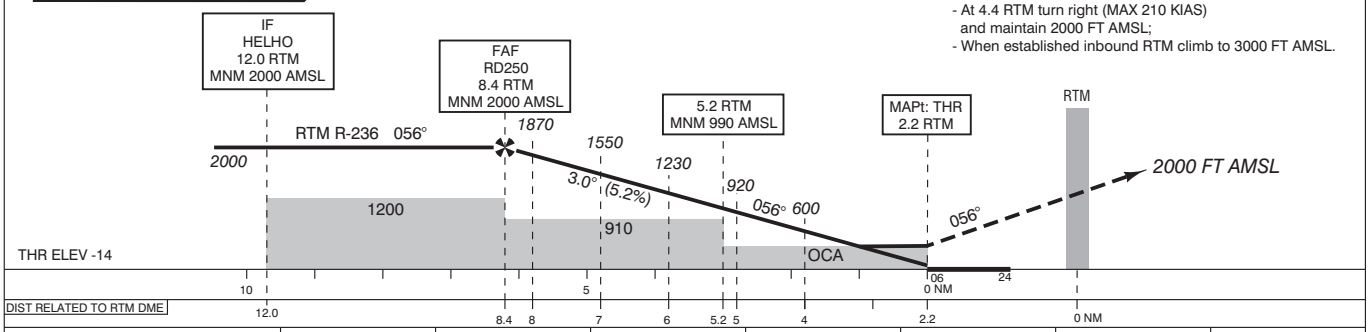
CHANGE: editorial.



APP	122.990	Rotterdam Approach
TWR	118.205	Rotterdam Tower
	119.705	O/R
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL

Missed approach:
- Climb on track 056° MAG to 2000 FT AMSL;
- Inform ATC;
- At 4.4 RTM turn right (MAX 210 KIAS) and maintain 2000 FT AMSL;
- When established inbound RTM climb to 3000 FT AMSL.



GS IN KT	60	80	100	120	140	160	180
VERTICAL SPEED	320 FT/MIN	425 FT/MIN	530 FT/MIN	635 FT/MIN	745 FT/MIN	850FT/MIN	955 FT/MIN

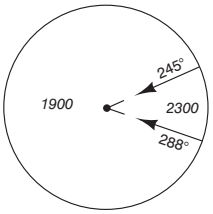
OCA*(OCH)* ELEV THR 06: -14.4 FT

ACFT CAT	VOR MAPt: THR	CIRCLING*
A	470 *(484)*	490 *(504)*
B		960 *(974)*
C		1050 *(1064)*
D		1050 *(1064)*

* Circling SE of RWY 06/24 is prohibited (see CAUTION).

THR 06	515711.0N	0042550.4E
RD250	515350.0N	0041728.8E

MSA BASED ON RTM VOR/DME

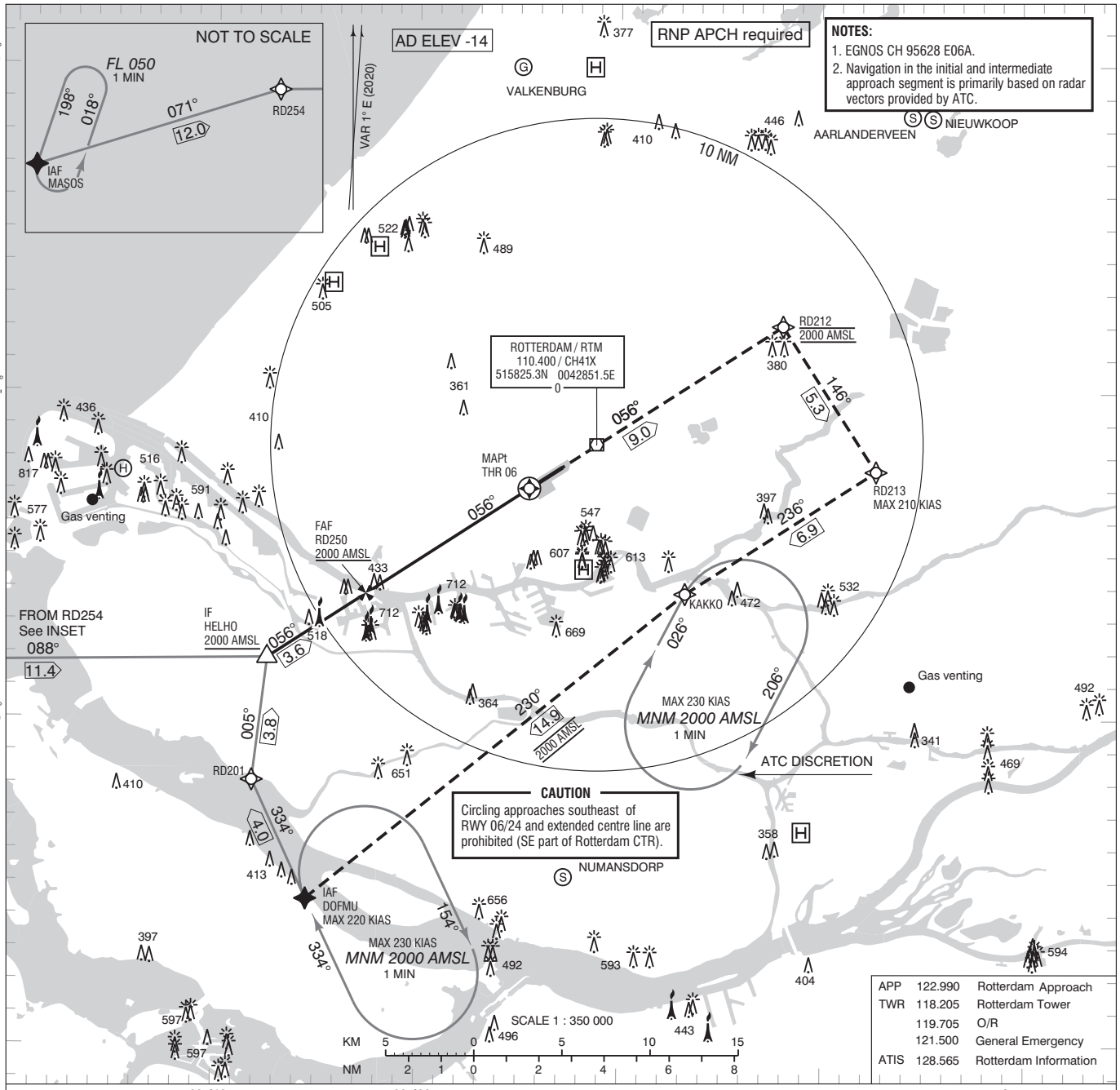


CEILING AND VISIBILITY MINIMA

TAKE-OFF	DAY:	NA	NIGHT:	NA
LANDING	DAY:		NIGHT:	

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET

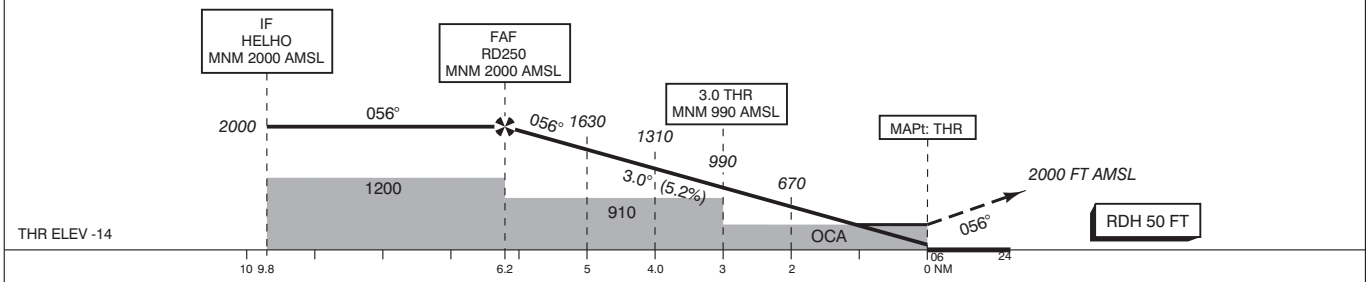
CHANGE: editorial.



APP	122.990	Rotterdam Approach
TWR	118.205	Rotterdam Tower
	119.705	O/R
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL

Missed approach:
- Track 056° MAG to RD212 and climb to 2000 FT AMSL;
- Inform ATC;
- At RD212 turn right (MAX 210 KIAS) to RD213, then proceed via KAKKO to DOFMU.



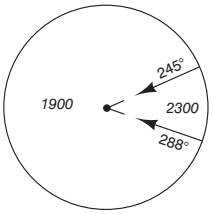
GS IN KT	60	80	100	120	140	160	180
VERTICAL SPEED	320 FT/MIN	425 FT/MIN	530 FT/MIN	635 FT/MIN	745 FT/MIN	850FT/MIN	955 FT/MIN

OCA *(OCH)* ELEV THR 06: -14.4 FT

ACFT CAT	LPV	LNAV/VNAV MNM TEMP -20°C	LNAV	CIRCLING*
A	240 *(255)*	323 *(337)*	470 *(484)*	490 *(504)*
B	250 *(265)*	334 *(348)*		960 *(974)*
C	259 *(274)*	344 *(358)*		1050 *(1064)*
D	269 *(284)*	354 *(368)*		1050 *(1064)*

THR 06	515711.0N	0042550.4E
RD201	514806.4N	0041154.5E
RD212	520203.2N	0043804.7E
RD213	515736.4N	0044242.2E
RD250	515350.0N	0041728.8E
RD254	515138.8N	0035412.7E

MSA BASED ON RTM VOR/DME



CEILING AND VISIBILITY MINIMA

TAKE-OFF	DAY:	NA	NIGHT:	NA
LANDING	DAY:		NIGHT:	

* Circling SE of RWY 06/24 is prohibited (see CAUTION).

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET

CHANGE: editorial.

RNAV 1 required

NOTES:

1. DME required.
2. DME RSV reads ZERO at THR 24.
3. Navigation in the initial and intermediate approach segment is primarily based on radar vectors provided by ATC.
4. Given RD waypoints beyond the FAF must be considered to be supplementary information.

AD ELEV -14

VAR 1° E (2020)

VALKENBURG

10 NM

IF
ATWIT
9.3 RSV

FAF
RD252
6.2 RSV
2000 AMSL

RD255
4.0 RSV
160 KIAS

RD203

REWIK
2000 AMSL
MAX 190 KIAS

DME RSV

MAPt
THR 24

ROTTERDAM / RTM
110.400 / CH41X
515825.3N 0042851.5E
0

KAKKO
3000 AMSL
2000 AMSL

FROM
IAF MASOS

RD214
2000 AMSL

MAX 230 KIAS
MNM 2000 AMSL
1 MIN

ATC DISCRETION

Gas venting

CAUTION

Circling approaches southeast of RWY 06/24 and extended centre line are prohibited (SE part of Rotterdam CTR).

NUMANSDORP

IAF
DOFMU

MAX 230 KIAS
MNM 2000 AMSL
1 MIN

SCALE 1 : 350 000

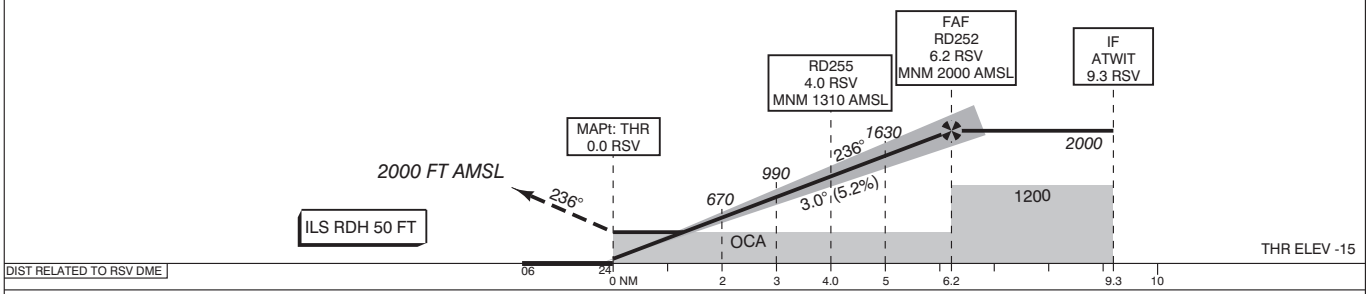
APP	122.990	Rotterdam Approach
TWR	118.205	Rotterdam Tower
	119.705	O/R
	121.500	General Emergency
ATIS	128.565	Rotterdam Information
LOC	110.900	RSV
DME	CH46X	RSV
GP	330.800	

004°10'E 004°20' 004°30' 004°40' 004°50'E

52° 10' N
52° 00'
51° 50'
51° 40' N

Missed approach:
- Track 236° MAG to RD214 and climb to 2000 FT AMSL;
- Inform ATC;
- At RD214 turn left to DOFMU.

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL



GS IN KT	60	80	100	120	140	160	180
VERTICAL SPEED	320 FT/MIN	425 FT/MIN	530 FT/MIN	635 FT/MIN	745 FT/MIN	850FT/MIN	955 FT/MIN

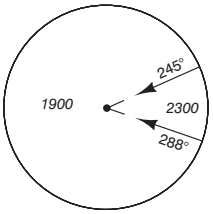
OCA *(OCH)* ELEV THR 24: -14.6 FT

ACFT CAT	CAT I	LOC MAPt: THR	CIRCLING*
A	187 *(202)*	440 *(454)*	490 *(504)*
B	197 *(212)*		960 *(974)*
C	204 *(219)*		1050*(1064)*
D	214 *(229)*		1050*(1064)*

* Circling SE of RWY 06/24 is prohibited (see CAUTION).

THR 24	515742.7N	0042709.7E
RD203	520257.6N	0044549.0E
RD214	515014.2N	0040833.6E
RD252	520103.1N	0043532.9E
RD255	515952.7N	0043235.8E

MSA BASED ON RTM VOR/DME



CEILING AND VISIBILITY MINIMA

TAKE-OFF	DAY:	NA	NIGHT:	NA
LANDING	DAY:		NIGHT:	

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET

CHANGE: MNM Operating Network Implementation; MAG VAR 2020; editorial.

RNAV 1 required

AD ELEV -14

VAR 1° E (2020)

NOTES:
1. DME required.
2. DME RSV reads ZERO at THR 24.
3. Navigation in the initial and intermediate approach segment is primarily based on radar vectors provided by ATC.

CAUTION:
Notice the short distance between IF and FAF available for final course interception.

VALKENBURG

10 NM

ROTTERDAM / RTM
110.400 / CH41X
515825.3N 0042851.5E
0

FAF
RD242
4.6 RSV
1500 AMSL

IF
RD241
6.8 RSV

MAPt
THR 24

DME RSV

ROVOX
3000 AMSL
2500 AMSL
MAX 190 KIAS

KAKKO
3000 AMSL

RD214
2000 AMSL

IAF
DOFMU

MAX 230 KIAS
MNM 2000 AMSL
1 MIN

ATC DISCRETION

CAUTION
Circling approaches southeast of RWY 06/24 and extended centre line are prohibited (SE part of Rotterdam CTR).

NUMANSDORP

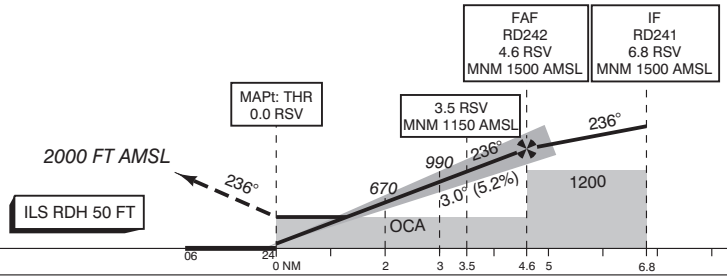
Gas venting

SCALE 1 : 350 000

APP	122.990	Rotterdam Approach
TWR	118.205	Rotterdam Tower
	119.705	O/R
	121.500	General Emergency
ATIS	128.565	Rotterdam Information
LOC	110.900	RSV
DME	CH46X	RSV
GP	330.800	

Missed approach:
- Track 236° MAG to RD214 and climb to 2000 FT AMSL;
- Inform ATC;
- At RD214 turn left to DOFMU.

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL



GS IN KT	60	80	100	120	140	160	180
VERTICAL SPEED	320 FT/MIN	425 FT/MIN	530 FT/MIN	635 FT/MIN	745 FT/MIN	850FT/MIN	955 FT/MIN

OCA *(OCH)* ELEV THR 24: -14.6 FT

ACFT CAT	CAT I	LOC MAPt: THR	CIRCLING*
A	187 *(202)*	440 *(454)*	490 *(504)*
B	197 *(212)*		960 *(974)*
C	204 *(219)*		1050 *(1064)*
D	214 *(229)*		1050 *(1064)*

* Circling SE of RWY 06/24 is prohibited (see CAUTION).

THR 24	515742.7N	0042709.7E
RD214	515014.2N	0040833.6E
RD241	520123.6N	0043624.4E
RD242	520012.2N	0043324.8E

MSA BASED ON RTM VOR/DME

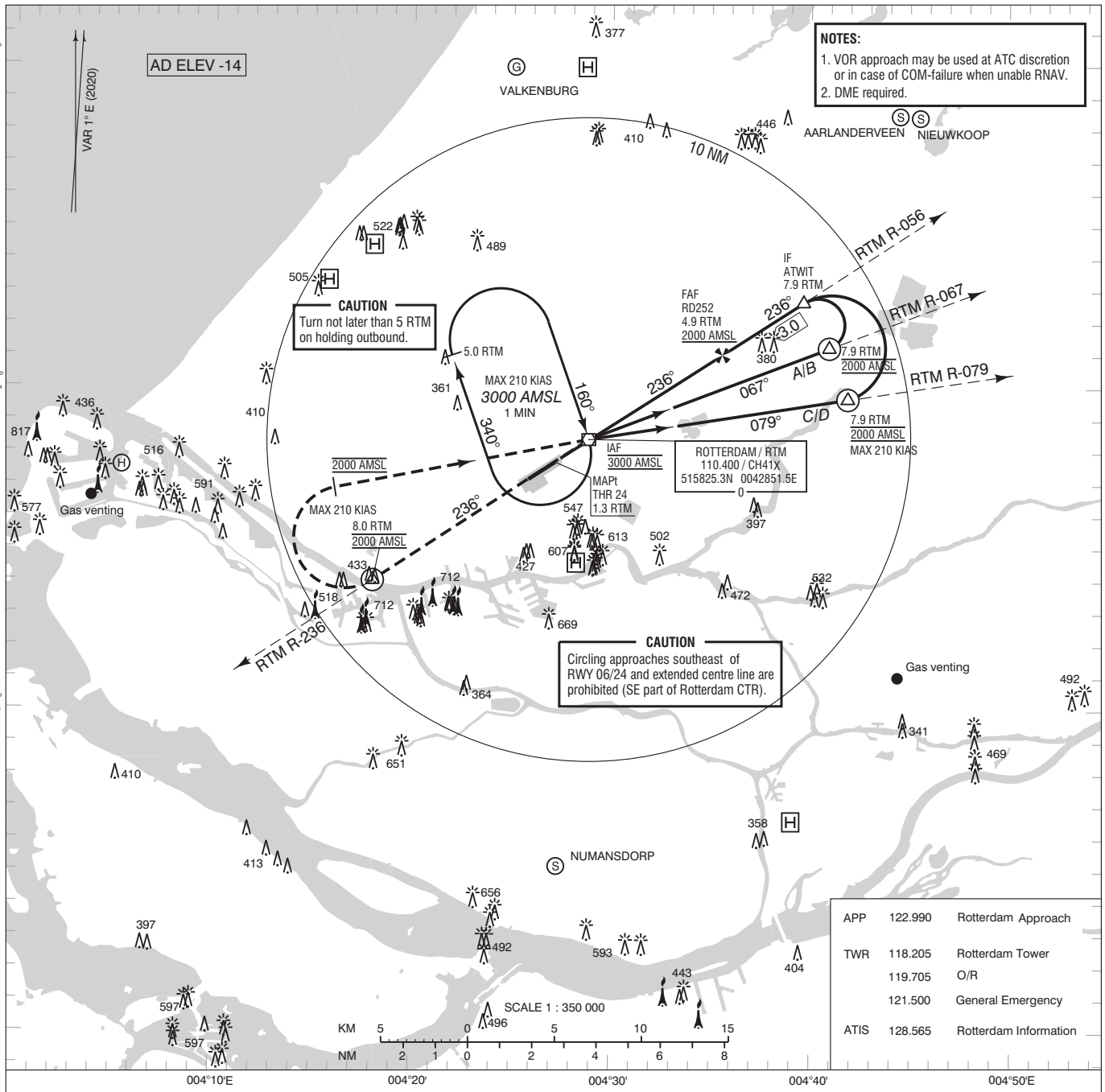
1900 245° 2300 288°

CEILING AND VISIBILITY MINIMA

TAKE-OFF	DAY:	NA	NIGHT:	NA
LANDING	DAY:		NIGHT:	

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET

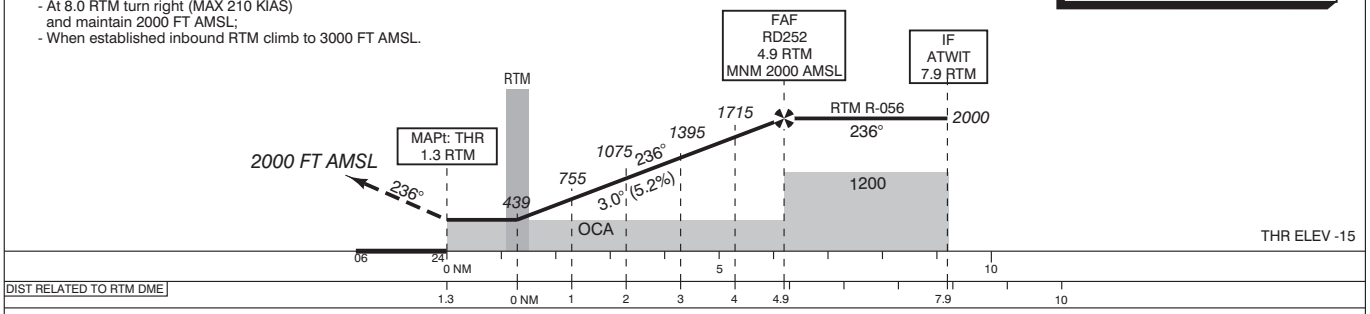
CHANGE: MNM Operating Network Implementation; MAG VAR 2020; editorial.



APP	122.990	Rotterdam Approach
TWR	118.205	Rotterdam Tower
	119.705	O/R
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

Missed approach:
- Climb on track 236° MAG to 2000 FT AMSL;
- Inform ATC;
- At 8.0 RTM turn right (MAX 210 KIAS) and maintain 2000 FT AMSL;
- When established inbound RTM climb to 3000 FT AMSL.

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL



GS IN KT	60	80	100	120	140	160	180
VERTICAL SPEED	320 FT/MIN	425 FT/MIN	530 FT/MIN	635 FT/MIN	745 FT/MIN	850FT/MIN	955 FT/MIN

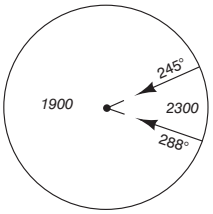
OCA *(OCH)* ELEV THR 24: -14.6 FT

ACFT CAT	VOR MAPt: THR	CIRCLING*
A	430 *(444)*	490 *(504)*
B		960 *(974)*
C		1050 *(1064)*
D		1050 *(1064)*

* Circling SE of RWY 06/24 is prohibited (see CAUTION).

THR 24	515742.7N	0042709.7E
RD252	520103.1N	0043532.9E

MSA BASED ON RTM VOR/DME



CEILING AND VISIBILITY MINIMA			
TAKE-OFF	DAY: NA	NIGHT: NA	
LANDING	DAY:	NIGHT:	

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET

CHANGE: MNM Operating Network Implementation; MAG VAR 2020; editorial.

RNP APCH required

NOTES:
1. EGNOS CH 81293 E24A.
2. Navigation in the initial and intermediate approach segment is primarily based on radar vectors provided by ATC.

AD ELEV -14

VAR 1° E (2020)

VALKENBURG

AARLANDERVEEN NIEUWKOOP

10 NM

IF ATWIT

FAF RD252 2000 AMSL

RD203

REWIK 2000 AMSL MAX 190 KIAS

MAPt THR 24

ROTTERDAM / RTM 110.400 / CH41X 515825.3N 0042851.5E 0

KAKKO 3000 AMSL 2000 AMSL

FROM IAF MASOS

RD214 2000 AMSL

MAX 230 KIAS MNM 2000 AMSL 1 MIN

ATC DISCRETION

Gas venting

CAUTION
Circling approaches southeast of RWY 06/24 and extended centre line are prohibited (SE part of Rotterdam CTR).

NUMANSDORP

IAF DOFMU

SCALE 1 : 350 000

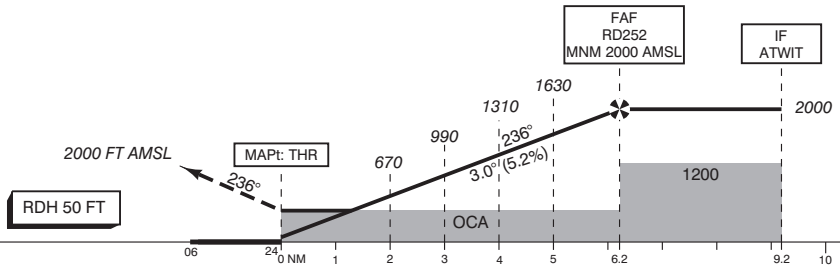
APP	122.990	Rotterdam Approach
TWR	118.205	Rotterdam Tower
	119.705	O/R
	121.500	General Emergency
ATIS	128.565	Rotterdam Information

004°10'E 004°20' 004°30' 004°40' 004°50'E

52° 10' N 52° 00' 51° 50' 51° 40' N

Missed approach:
- Track 236° MAG to RD214 and climb to 2000 FT AMSL;
- Inform ATC;
- At RD214 turn left to DOFMU.

TRANSITION LEVEL BY ATC
TRANSITION ALTITUDE 3000 FT AMSL



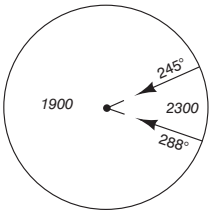
GS IN KT	60	80	100	120	140	160	180
VERTICAL SPEED	320 FT/MIN	425 FT/MIN	530 FT/MIN	635 FT/MIN	745 FT/MIN	850FT/MIN	955 FT/MIN

OCA *(OCH)* ELEV THR 24: -14.6 FT

ACFT CAT	LPV	LNAV/VNAV MNM TEMP -20°C	LNAV	CIRCLING*
A	205 *(220)*	310 *(325)*	450 *(464)*	490 *(504)*
B	215 *(230)*	320 *(335)*		960 *(974)*
C	225 *(240)*	330 *(345)*		1050 *(1064)*
D	235 *(250)*	340 *(355)*		1050 *(1064)*

THR 24	515742.7N	0042709.7E	
RD203	520257.6N	0044549.0E	
RD214	515014.2N	0040833.6E	
RD252	520103.1N	0043532.9E	

MSA BASED ON RTM VOR/DME



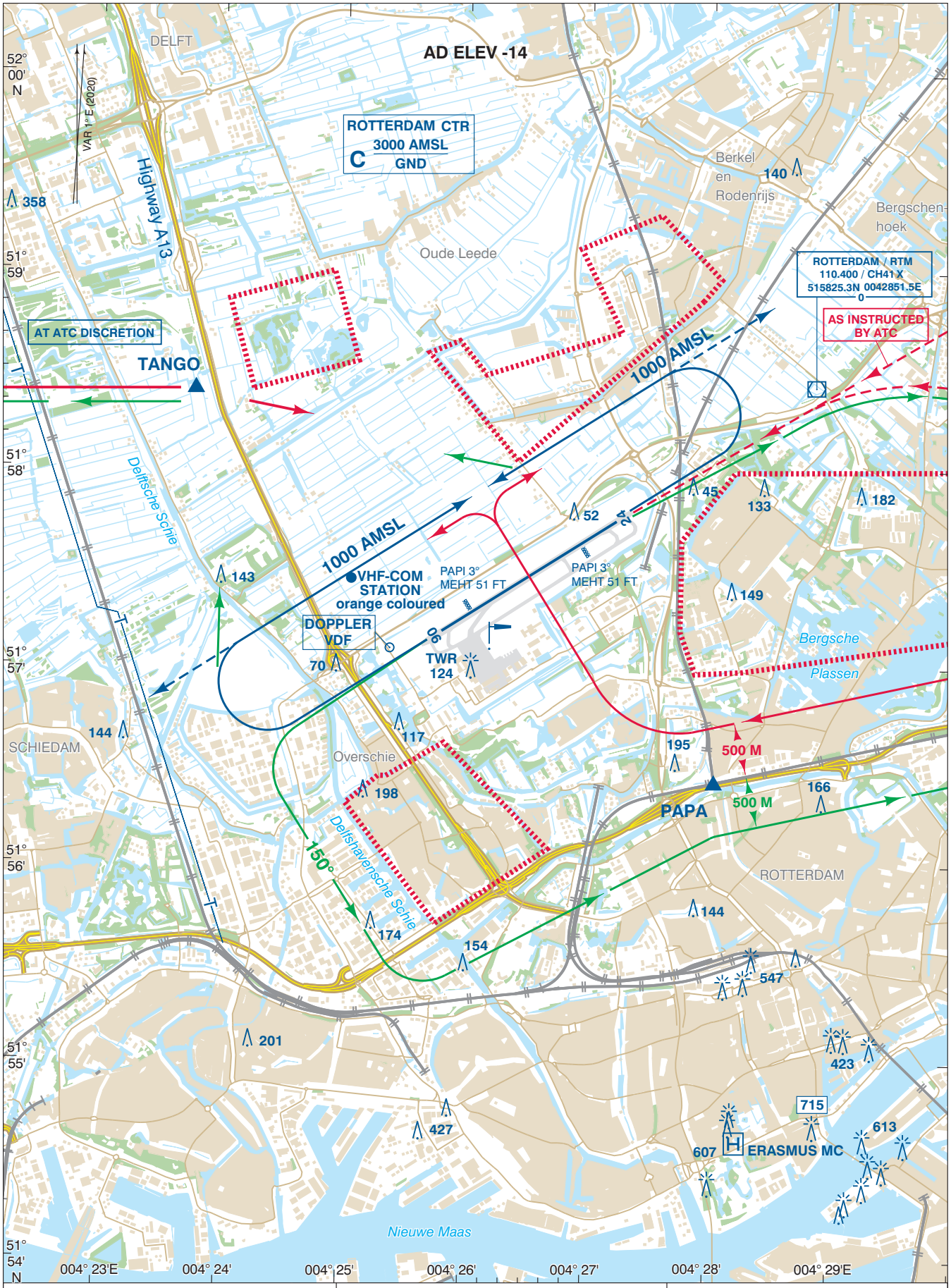
CEILING AND VISIBILITY MINIMA

TAKE-OFF	DAY:	NA	NIGHT:	NA
LANDING	DAY:		NIGHT:	

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET

CHANGE: MNM Operating Network Implementation; MAG VAR 2020; editorial.

CHANGE: TMZ Schiphol Area added; editorial.



For description VFR - procedures see EHRD AD 2.22.

Area to be avoided

Outbound

Inbound

SCALE 1 : 50 000

M 1000 500 0 1000

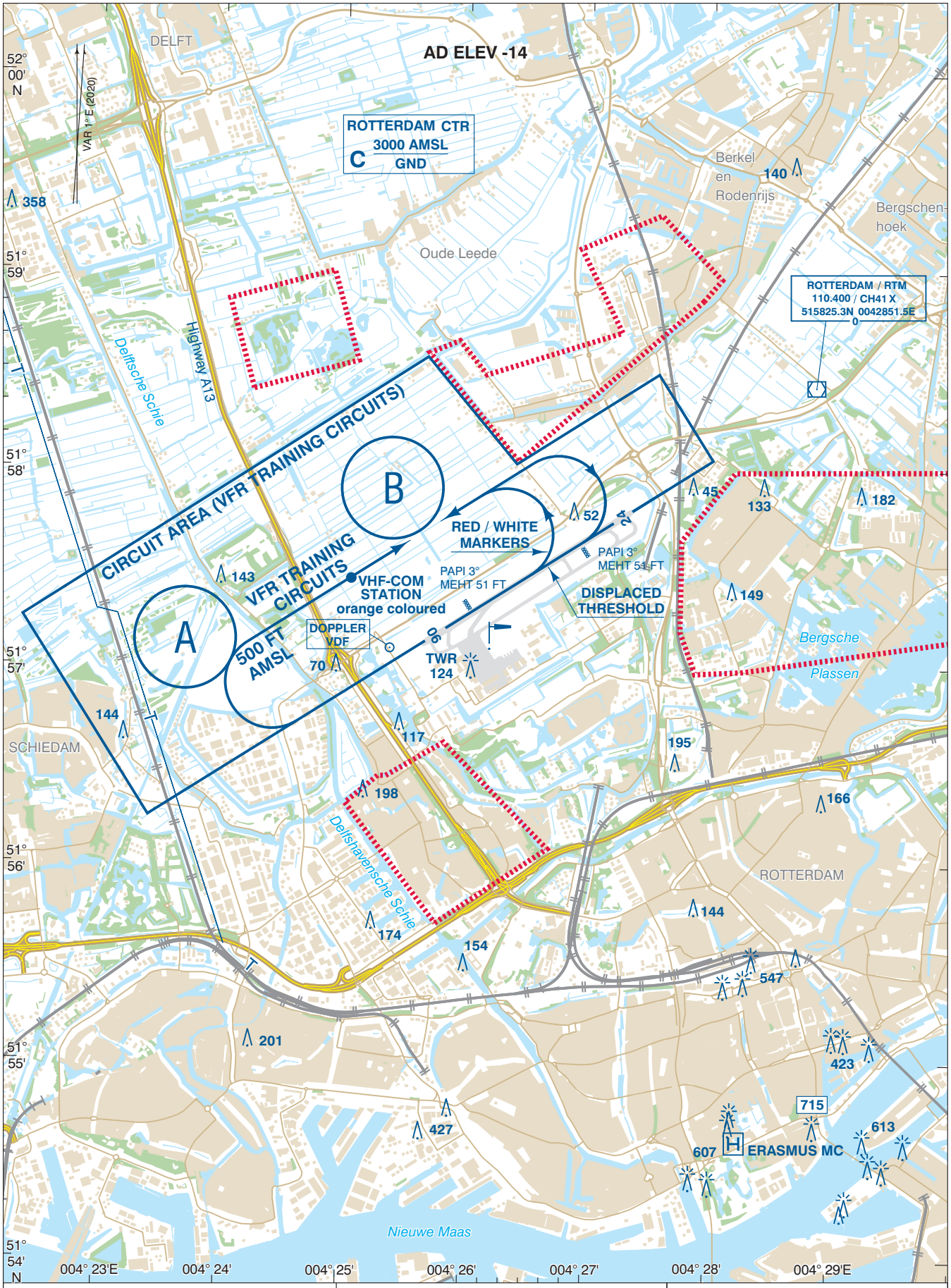
FT 2000 0 2000 4000

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS IN FEET AMSL

HIGHEST KNOWN ELEVATION ON THIS CHART: 715

TWR	118.205	Rotterdam Tower
	119.705	O/R
	122.180	Rotterdam Delivery Start-up control & clearance delivery
APP	122.990	Rotterdam Approach
ATIS	128.565	Rotterdam Info

CHANGE: PSN COM station; editorial.



For description VFR - procedures see EHRD AD 2.22.

Area to be avoided

Outbound

Inbound

SCALE 1 : 50 000

M 1000 500 0 1000

FT 2000 0 2000 4000

DIRECTIONS ARE MAGNETIC
DISTANCES IN NM
ALTITUDES AND ELEVATIONS
IN FEET AMSL
HIGHEST KNOWN ELEVATION
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CHANGE: PSN COM station; editorial.