

AD 2. AERODROME**VNVN AD 2.1 AERODROME LOCATION INDICATOR AND NAME****VNVN – BIRATNAGAR / Domestic****VNVN AD 2.2 AERODROME GEOGRAPHICAL AND
ADMINISTRATIVE DATA**

1.	ARP Coordinates and site at AD	262903N 0871552E**
2.	Direction and Distance from (city)	5. Km, North West of Biratnagar City
3.	Elevation/Reference Temperature	73.8m. (242.1ft.), 40°C (June)
4.	MAG VAR/Annual Change	0 ° W
5.	AD Administration, address Telephone, Telefax, Telex AFS	Civil Aviation Authority of Nepal Biratnagar Civil Aviation Office, Biratnagar, Morang. Tel: Tower- 021-465641, Airport chief 021-465566, Admin Section:021-465060 Email: - biratnagar _ cao@caanepal.gov.np AFS - VNVTYDYX, VNVNZZZX
6.	Types of traffic permitted (IFR/VFR)	IFR / VFR
7.	Remarks	-

VNVN AD 2.3 OPERATIONAL HOURS

1.	AD Administration	SUN-THU 10:00 -17:00 LT (SUMMER), 10:00-1600 LT (WINTER), FRI 10:00-1500 LT
2.	Customs and immigration	NIL
3.	Health and sanitation	NIL
4.	AIS Briefing Office	NIL
5.	ATS Reporting Office (ARO)	NIL
6.	MET Briefing	Half Hourly METAR provided during ATS Operation Hours
7.	ATS	1) From 16 Feb - 15 Nov (0015 - 1815) UTC 2) From 16 Nov - 15 Feb (0045 - 1815) UTC
8.	Fuelling	Jet A1 during Operation Hours
9.	Handling (Cargo)	NIL
10.	Security	H-24
11.	Remarks	Any change will be notified by NOTAM

* WGS -84 Coordinates

VNVT AD 2.4 HANDLING SERVICES AND FACILITIES

1.	Cargo-handling facilities	Available with local airlines operator
2.	Fuel/Oil Types	JET A-1 / Not available
3.	Fuelling facilities/capacity	Storage Capacity (KL): Physical -210, Mobile-22 Storage Type: UG Tank (70×3) Refueller Details: AR15(11KL), AR33 (11KL)
4.	De-icing facilities	NIL
5.	Hangar space for visiting aircraft	NIL
6.	Repair facilities for visiting aircraft	NIL
7.	Remarks	-

VNVT AD 2.5 PASSENGER FACILITIES

1.	Hotels	Near by Airport and in the city
2.	Restaurants	Near by Airport and in the city
3.	Transportation	Taxi Service, Rickshaw from AD
4.	Medical Facilities	First Aid at AD, Hospitals in the city
5.	Bank and Post Office	ATM Availbale (Globe IME Bank)
6.	Tourist Office	In the city.
7.	Remarks	-

VNVT AD 2.6 RESCUE AND FIRE FIGHTING SERVICE

1.	AD Category for firefighting	Category 5
2.	Rescue equipment	Available as per Category
3.	Capability for removal of disabled aircraft	NIL
4.	Remarks	Ambulance service and wheel type of fire extinguishers available.

VNVT AD 2.7 SEASONAL AVAILABILITY

Aerodrome is available throughout the year.

VNVT AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATION DATA

1.	Apron surface and strength	Surface - Asphalt Concrete, Strength - ...
2.	Taxiway width, surface and strength	Width -TWY A 18m, TWY B 15m, TWY C 20m, Surface - Asphalt Strength - 20/F/D/Y/T
3.	Altimeter check point location and elevation	Location: - At Apron Elevation:- 246 ft.
4.	VOR/DME checkpoints	VOR:- Taxi holding position.
5.	Remarks	Total APRON area = Flexible 180m × 63m + Rigid 69m x 40m

VNVN AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1.	Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Taxiing guidance signs at intersections with TWY and RWY and at holding positions. Guide lines at apron.
2.	RWY and TWY markings and LGT	RWY: 09/27, THR, TDZ, Center line, RWY edge marked and RWY END, THR, RWY edge have lights. TWY: Center line, holding positions at all TWY/RWY intersections marked and edge with blue lights.
3.	Stop bars	Not Available
4.	Remarks	-

VNVN AD 2.10 AERODROME OBSTACLES

Obstacle ID	Obstacle Name	WGS84 coordinates		Elevation (M/Ft)	Remarks
		Longitudes	Latitudes		
VT0001	Makalu FM	26°26'58.8"N	87°16'41.2"E	106/346	
VT0002	Telecom Tower	26°27'06.4"N	87°16'47.0"E	120/395	
VT0003	Water Tank	26°27'36.1"N	87°17'08.8"E	98/322	
VT0004	Telecom Tower (NTC)	26°27'40.7"N	87°17'09.4"E	136/448	
VT0005	NDB	26°29'07.0"N	87°15'59.4"E	104/342	
VT0006	NDB-SML	26°29'05.6"N	87°15'59.6"E	95/313	
VT0007	ATC Tower	26°29'02.2"N	87°15'57.5"E	95/313	
VT0008	Noble Medical College Hostel	26°29'27.5"N	87°16'00.5"E	96/313	
VT0009	Noble Medical College Hostel (Right)	26°29'27.4"N	87°16'01.5"E	96/314	
VT0010	FM Tower	26°29'02.7"N	87°16'00.3"E	97/319	
VT0011	House	26°28'58.7"N	87°16'16.4"E	84/277	
VT0012	House	26°29'02.1"N	87°16'15.3"E	87/287	
VT0013	House	26°29'02.9"N	87°16'16.0"E	87/284	
VT0014	House	26°29'01.4"N	87°16'18.1"E	87/285	
VT0015	Tree	26°28'58.9"N	87°16'18.9"E	84/275	
VT0016	House	26°28'59.6"N	87°16'19.4"E	86/281	
VT0017	House	26°28'59.2"N	87°16'19.3"E	83/273	
VT0018	House	26°28'58.4"N	87°16'20.3"E	82/270	
VT0019	House	26°29'01.3"N	87°16'21.5"E	85/279	
VT0020	House	26°28'59.1"N	87°16'21.4"E	83/271	
VT0021	House	26°28'58.4"N	87°16'21.1"E	81/265	
VT0022	House	26°29'00.6"N	87°16'22.5"E	86/281	
VT0023	Tree	26°29'02.5"N	87°16'23.3"E	89/292	
VT0024	Tree	26°29'02.6"N	87°16'22.5"E	88/289	
VT0025	Hotel Asiatique Pvt. Ltd	26°29'05.6"N	87°16'25.7"E	97/319	
VT0026	Tree	26°28'58.3"N	87°16'22.6"E	89/292	
VT0027	House	26°28'59.2"N	87°16'23.3"E	83/272	
VT0028	House	26°28'59.6"N	87°16'24.3"E	83/271	

VT0029	House	26°29'01.3"N	87°16'26.0"E	85/280	
VT0030	Tree	26°29'00.2"N	87°16'27.8"E	94/308	
VT0031	House	26°29'00.3"N	87°16'32.2"E	91/299	
VT0032	House	26°29'00.7"N	87°16'31.3"E	87/286	
VT0033	House	26°29'01.6"N	87°16'32.3"E	91/300	
VT0034	House	26°28'57.3"N	87°16'32.2"E	89/291	
VT0035	Tree	26°28'57.5"N	87°16'31.2"E	88/288	
VT0036	House	26°28'57.1"N	87°16'33.4"E	90/295	
VT0037	House	26°28'56.3"N	87°16'32.1"E	88/288	
VT0038	Tree	26°28'55.0"N	87°16'31.7"E	91/297	
VT0039	House	26°28'55.5"N	87°16'32.3"E	85/280	
VT0040	House	26°28'54.0"N	87°16'32.0"E	86/282	
VT0041	House	26°28'52.4"N	87°16'32.4"E	86/281	
VT0042	Tree	26°28'53.0"N	87°16'31.1"E	88/288	
VT0043	House	26°28'51.6"N	87°16'32.5"E	87/286	
VT0044	Tree	26°28'51.7"N	87°16'30.4"E	89/290	
VT0045	Tree	26°28'50.0"N	87°16'29.1"E	87/286	
VT0046	Tree	26°28'49.3"N	87°16'28.9"E	85/280	
VT0047	House	26°28'46.0"N	87°16'30.3"E	95/313	
VT0048	House	26°28'50.6"N	87°16'26.8"E	83/273	
VT0049	Tree	26°28'51.2"N	87°16'25.1"E	87/286	
VT0050	Tree	26°28'50.6"N	87°16'25.1"E	82/270	
VT0051	House	26°28'50.8"N	87°16'23.3"E	82/270	
VT0052	House	26°28'51.1"N	87°16'22.1"E	83/272	
VT0053	House	26°28'51.2"N	87°16'21.1"E	84/275	
VT0054	House	26°28'51.2"N	87°16'21.4"E	83/272	
VT0055	House	26°28'51.2"N	87°16'19.4"E	86/281	
VT0056	House	26°28'48.5"N	87°16'16.7"E	85/277	
VT0057	House	26°28'51.2"N	87°16'17.4"E	83/271	
VT0058	House	26°28'50.2"N	87°16'15.7"E	86/282	
VT0059	House	26°28'51.4"N	87°16'16.2"E	80/263	
VT0060	House	26°28'56.9"N	87°16'38.5"E	96/314	
VT0061	Tree	26°28'50.3"N	87°15'24.8"E	84/275	
VT0062	Tree	26°28'48.8"N	87°15'24.7"E	88/289	
VT0063	Tree	26°28'48.5"N	87°15'20.2"E	86/284	
VT0064	Tree	26°28'48.9"N	87°15'18.5"E	86/283	
VT0065	Windshock	26°28'58.6"N	87°15'23.2"E	81/266	
VT0066	Tree	26°29'03.1"N	87°15'19.0"E	91/299	

VT0075	Tree	26°28'58.4"N	87°15'05.2"E	85/280	
VT0076	Tree	26°28'57.7"N	87°15'03.2"E	83/273	
VT0077	Tree	26°28'48.8"N	87°14'59.2"E	88/290	
VT0078	Tree	26°28'48.8"N	87°14'59.1"E	87/285	
VT0079	Tree	26°28'46.5"N	87°14'52.6"E	90/296	
VT0080	Tree	26°28'49.1"N	87°14'49.6"E	86/281	
VT0081	Tree	26°29'00.5"N	87°14'42.0"E	90/296	
VT0082	House	26°29'02.6"N	87°14'45"E	88/289	
VT0083	Tree	26°29'02.6"N	87°14'50.2"E	90/296	
VT0084	Tree	26°28'54.6"N	87°14'41.2"E	89/293	
VT0085	Tree	26°29'06.7"N	87°14'58"E	91/297	
VT0086	Tree	26°29'06.8"N	87°15'4.3"E	92/302	
VT0087	VOR	26°28'58.2"N	87°14'58.3"E	86/283	
VT0088	VOR	26°28'57.5"N	87°14'58.5"E	86/283	
VT0089	VOR	26°28'57.6"N	87°14'57.7"E	86/283	
VT0090	Telecom Tower	26°29'12.3"N	87°16'40.0"E	99/325	
VT0091	Telecom Tower	26°29'10.5"N	87°16'33.1"E	96/314	
VT0092	House	26°29'11.1"N	87°16'01.4"E	89/293	
VT0093	House	26°29'11.3"N	87°16'04.5"E	86/282	
VT0094	Telecom Tower(NTC)	26°30'47.3"N	87°13'46.4"E	104/341	
VT0095	Telecom Tower	26°30'10.6"N	87°13'48.3"E	110/361	
VT0096	Noble Medical College	26°29'21.7"N	87°16'12.4"E	99/326	
VT0097	House	26°30'56.8"N	87°16'45.8"E	111/364	
VT0098	House	26°30'50.8"N	87°17'07.3"E	135/443	
VT0099	House	26°30'58.0"N	87°16'45.8"E	102/335	
VT0100	Telecom Tower	26°31'06.3"N	87°16'48.3"E	114/373	
VT0101	Chimney	26°31'04.3"N	87°16'43.9"E	111/364	
VT0102	Chimney	26°31'04.6"N	87°16'23.0"E	117/383	
VT0103	Chimney	26°31'06.9"N	87°16'23.1"E	110/361	
VT0104	Telecom Tower	26°31'26.0"N	87°16'42.9"E	136/446	
VT0105	Water Tank	26°30'07.8"N	87°17'15.8"E	106/348	
VT0106	Water Tank	26°29'51.9"N	87°17'23.5"E	102/336	
VT0107	Chimney	26°30'19.9"N	87°18'24.9"E	111/363	
VT0108	Telecom Tower	26°29'44.2"N	87°18'22.7"E	102/334	
VT0109	Telecom Tower	26°28'46.3"N	87°18'0.8"E	92/303	
VT0110	Water Tank	26°28'21.9"N	87°17'4.6"E	103/338	
VT0111	FM	26°28'05.6"N	87°17'01.0"E	113/370	
VT0112	House	26°28'03.8"N	87°17'07.0"E	113/370	
VT0113	Wi-Fi	26°28'02.5"N	87°17'02.1"E	101/331	
VT0114	Telecom Tower	26°27'51.0"N	87°16'58.0"E	108/354	
VT0115	Wi-Fi	26°27'53.5"N	87°16'57.5"E	108/354	
VT0116	Panchmukhi Hanuman Mandir	26°27'21.7"N	87°16'48.2"E	92/301	

VT0117	Wi-Fi	26°27'22.6"N	87°16'49.3"E	107/349	
VT0118	Wi-Fi	26°27'26.3"N	87°16'49.6"E	102/336	
VT0119	Telecom Tower	26°27'27.7"N	87°16'48.7"E	110/360	
VT0120	Bhatbhateni Supermarket	26°27'35.2"N	87°16'40.2"E	102/333	
VT0121	Golcha House	26°27'56.8"N	87°16'37.4"E	91/299	
VT0122	NHC	26°27'46.1"N	87°16'39.4"E	94/309	
VT0123	Telecom Tower	26°27'59.5"N	87°16'40.2"E	106/349	
VT0124	Water Tank	26°28'12.3"N	87°16'38.7"E	106/348	
VT0125	Telecom Tower (Ncell)	26°28'06.4"N	87°16'39.2"E	100/328	
VT0126	Telecom Tower	26°28'33.7"N	87°16'04.3"E	94/307	
VT0127	Telecom Tower	26°28'34.6"N	87°15'58.8"E	96/314	
VT0128	Water Tank	26°28'34.1"N	87°16'11.8"E	98/322	
VT0129	FM	26°28'20.8"N	87°16'22.4"E	120/392	
VT0130	Telecom Tower	26°29'32.2"N	87°16'53.6"E	98/321	
VT0131	Telecom Tower	26°29'32.0"N	87°16'51.3"E	106/346	
VT0132	Chimney	26°29'56.8"N	87°16'43.2"E	108/354	

VNVT AD 2.11 METEOROLOGICAL INFORMATION PROVIDED

1.	Associated MET Office	MET office, BIRATNAGAR AIRPORT
2.	Hours of service MET office outside hours	Available during Operation Hrs.
3.	Office responsible for TAF preparation periods of validity	NIL
4.	Type of landing forecast interval of issuance	NIL
5.	Briefing/Consultation provided	METAR
6.	Flight documentation language(s) used	Charts or Tabular forms Text English
7.	Charts and other information available for briefing or consultation	Personnel consultation based on past data logbook
8.	Supplementary equipment available for providing information	AFS : VNVTYMYX
9.	ATS units provided with information	Biratnagar TWR
10.	Additional information (limitation of service, etc.)	MET Office Tel: 977 - 021-465276

VNVT AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS

Designation RWY NR	TRUE & MAG BRG	Dimensions of RWY (M)	Strength (PCN) and surface of RWY and SWY	THR Coordinates	THR elevation
1	2	3	4	5	6
09	092	1775x30	37/F/D/Y/T Bitumen	262856.93N 0871522.24E	73.70 m (241.70 ft.)
27	272	1775X30	37/F/D/Y/T Bitumen	262855.02N 0871616.34E	73.80 m (242.10 ft.)
Slope of RWY-SWY	SWY Dimension	CWY Dimension	Strip Dimension	OFZ	Remarks
7	8	9	10	11	12
.....					

VNVT AD 2.13 DECLARED DISTANCES

RWY Designator	TORA (m)	TODA (m)	ASDA (m)	LDA (m)	Remarks
1	2	3	4	5	6
09	1775	1775	1775	1675	
27	1775	1775	1775	1600	

VNVT AD 2.14 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT type LEN INTST	THR LGT color WBAR	VASIS PAPI	TDZ LGT LEN	RWY Center Line LGT Length, spacing color, INTST	RWY edge LGT LEN, spacing color INTST	RWY End LGT color	SWY LGT LEN (M) color	Remarks
1	2	3	4	5	6	7	8	9	10
09	SALS barrette type) 420 M LIM	Green	PAPI 3.15°	NIL	NIL	1775m, 60m, variable white, white-yellow, Red-yellow, LIH	Red	NIL	
27	NIL	Green	PAPI 3.00°	NIL	NIL	1775m, 60m, variable white, white-yellow, Red-yellow, LIH	Red	NIL	

* WGS 84 Coordinates

VNVT AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY

1.	ABN /IBN Location, characteristics and hours of operation	ABN: at above Aerodrome Control Tower, Green flashes alternating with white flashes, 28 flashes per minute normally after Sunset.
2.	LDI Location and LGT Anemometer Location and LGT	NIL
3.	TWY edge and Centre line lighting	Edge: All TWY Centre Line : NIL
4.	Secondary power supply / switch over time	Stand-by Diesel Generator to all lighting and Uninterrupted Power Supply to Airfield Ground Lighting (AGL) System at AD. With 30 minutes back up.
5.	Runway Threshold Identification Light (RTIL) Location and Characteristics.	Location : RWY Threshold 09, Flashing white light with flash frequency 120 per Minute : RWY Threshold 27, Flashing white light with flash frequency 120 per minutes.
6.	Remarks	NIL

VNVT AD 2.16 HELICOPTER LANDING AREA

Helicopter landing area - RWY or TWY A and RWY intersection or paralalled TWY B

VNVT AD 2.17 ATS AIRSPACE

1. Designation and lateral limits	<u>Biratnagar CTR</u> : An area bounded by VNSM boundary to the south and an arc of a circle 20 NM in radius centered at 'BRT' VOR (262858N, 0871458E*) plus an area enclosed by R295 BRT – R345 BRT upto 30 NM <u>Biratnagar ATZ</u> : An area of a circle of radius 5 NM centered at 'ARP' and to the south bounded by VNSM boundary.	
2. Vertical Limits	CTR	ATZ
	10500' MSL GND	2000' AGL GND
3. Airspace classification	C	
4. ATS units call sign/languages(s)	Biratnagar TWR/English	
5. Transition Altitude	13500' AMSL	
6. Remarks	-	

VNVT AD 2.18 ATS COMMUNICATION FACILITIES

Service Designation	Call Sign	Frequency	Hours of Operation**	Remarks
1	2	3	4	5
TWR	Biratnagar Tower	123.8 MHZ	As ATS	-

* WGS 84 Coordinates

VNAV AD 2.19 RADIO NAVIGATION AND LANDING AID

Type of Aid MAG VAR Type of supported OP (for VOR/ILS/MLS give declinations)	ID	Frequency	OPR Hours	Position of Transmitting Antenna Coordinates	Elevation of DME Transmitting Antenna	Remarks
1	2	3	4	5	6	7
DVOR/DME 0° W	BRT	114.1 MHz CHN 88 X	H24	262858N* 0871458E	87 m	DVOR Range 100NM DME Range 100NM

VNAV AD 2.20 LOCAL TRAFFIC REGULATIONS

To be Developed

VNAV AD 2.21 NOISE ABATEMENT PROCEDURES

NIL

* WGS -84 Coordinates

VNVT AD 2.22 FLIGHT PROCEDURES

Intentionally Blank

VNVT AD 2.23 ADDITIONAL INFORMATION

1. Bird Activity

- a) Sometimes cases of bird concentrations in the vicinity of aerodrome may be encountered.
- b) 2. No Special procedures have been adopted to control these bird concentrations except driving them through guards and security personnel.

VNVT AD 2.24 CHARTS RELATED TO BIRATNAGAR AIRPORT

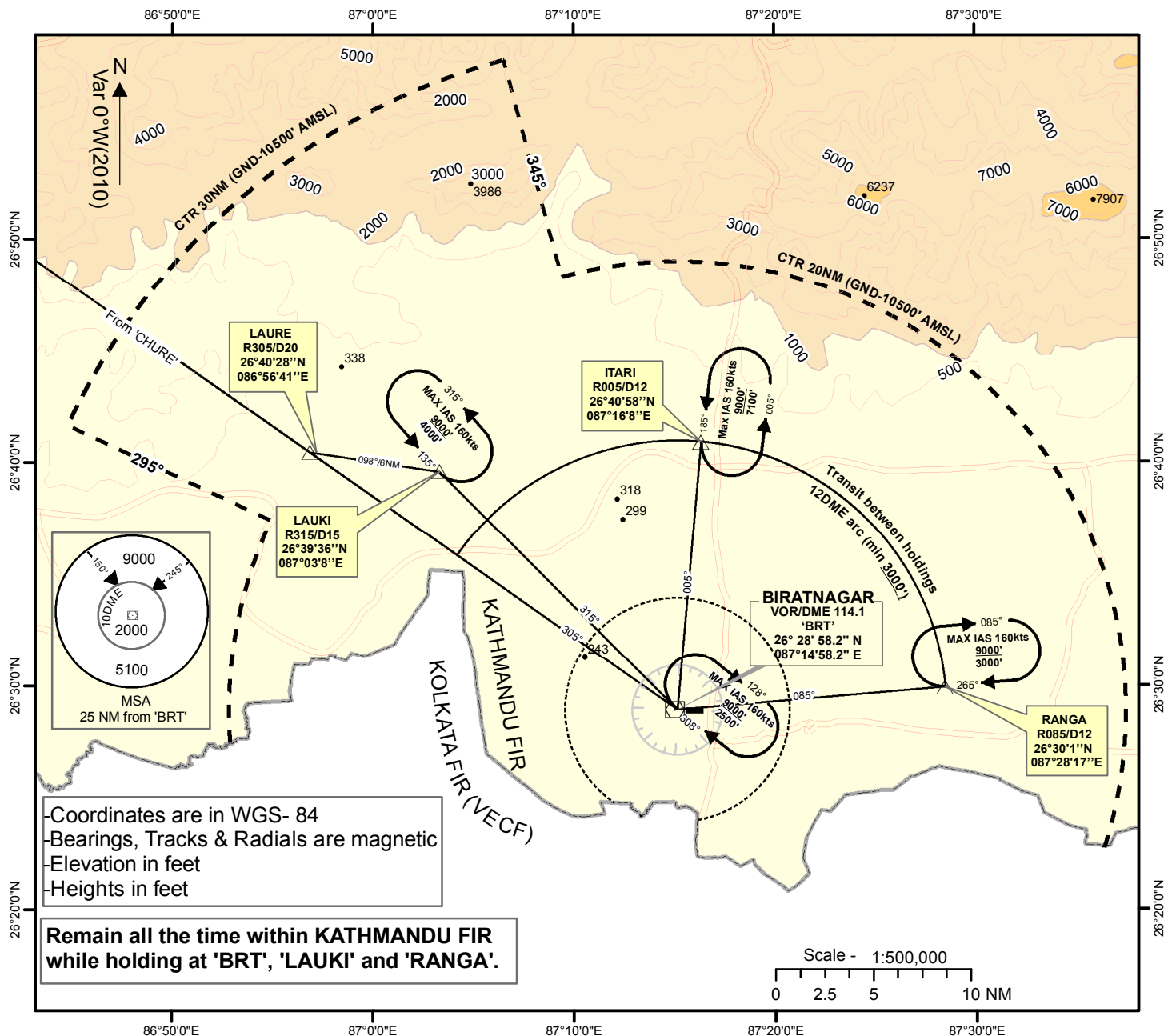
Control Zone and Holding Points	VNVT AD 2-12
Instrument Approach Chart –ICAO VOR Z RWY 09	VNVT AD 2-13
Instrument Approach Chart –ICAO VOR Y RWY 09	VNVT AD 2-14
Instrument Approach Chart – ICAO VOR RWY 27	VNVT AD 2-15
Standard Departure Chart – Instrument (SID) - ICAO - LAUKI 1 A, LAUKI 1B, LAUKI 1C, LAUKI 1D	VNVT AD 2-16
Standard Departure Chart – Instrument (SID) - ICAO - ITARI 1A, ITARI 1B, ITARI 1C, ITARI 1D	VNVT AD 2-17
Standard Departure Chart – Instrument (SID) - ICAO - RANGA 1A, RANGA 1B	VNVT AD 2-18
Standard Arrival Chart – Instrument (STAR) - ICAO - CHURE ARRIVAL	VNVT AD 2-19
RNAV GNSS approach procedure at Biratnagar Airport	VNVT AD 2-22
Standard Arrival Chart – Instrument (STAR) - ICAO - RWY 09 CHURE 2A	VNVT AD 2-23
Instrument Approach Chart – ICAO RNP RWY 09 (LNAV ONLY)	VNVT AD 2-24
Standard Departure Chart – Instrument (SID) - ICAO - RWY 27 LAUKI 1E	VNVT AD 2-25
Aerodrome Chart	VNNT AD 2-26
Aerodrome Chart (Aeronautical Ground Lighting System)	VNVT AD 2-27

AERODROME ELEV 242'
TRANS LEVEL: FL150
TRANS ALT: 13500 ft.
Mag Var. 0°W (2010)

TWR 123.8

BIRATNAGAR, NEPAL
Biratnagar Airport
VOR 'BRT' 114.1
NDB 'VTN' 358

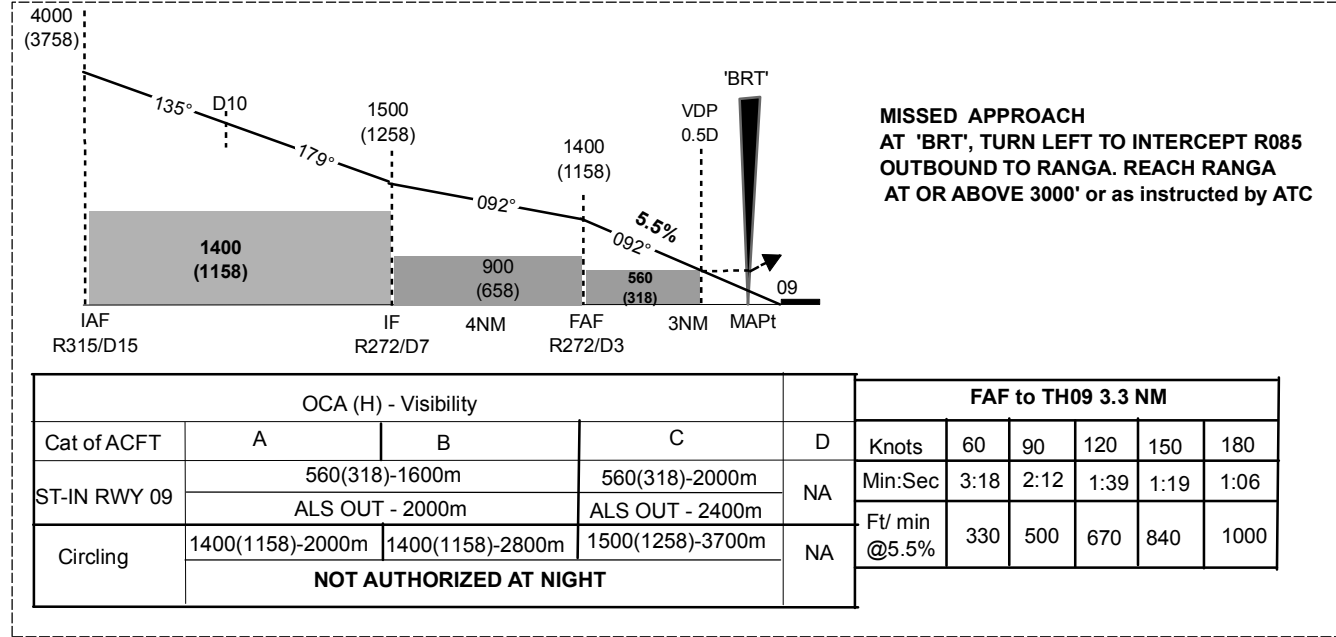
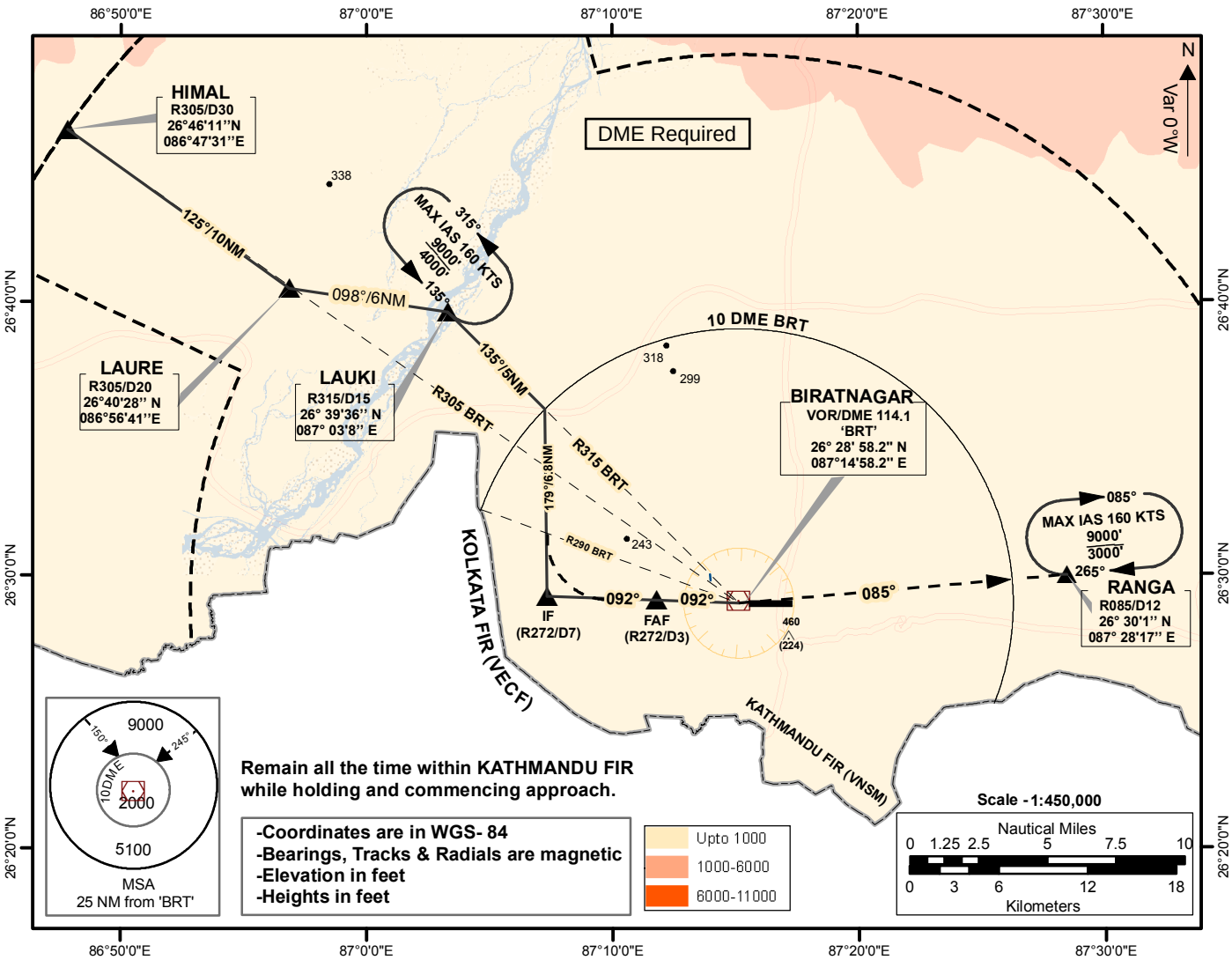
CONTROL ZONE AND IFR HOLDING POINTS



- 'LAUKI' and 'RANGA' holdings are laterally separated from each other
- 'LAUKI' and 'BRT' holdings are laterally separated from each other

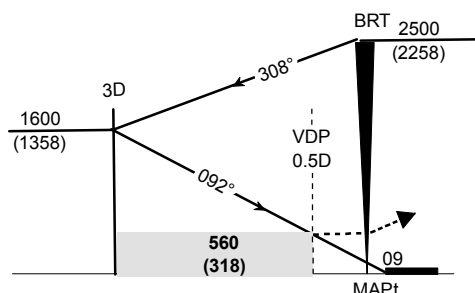
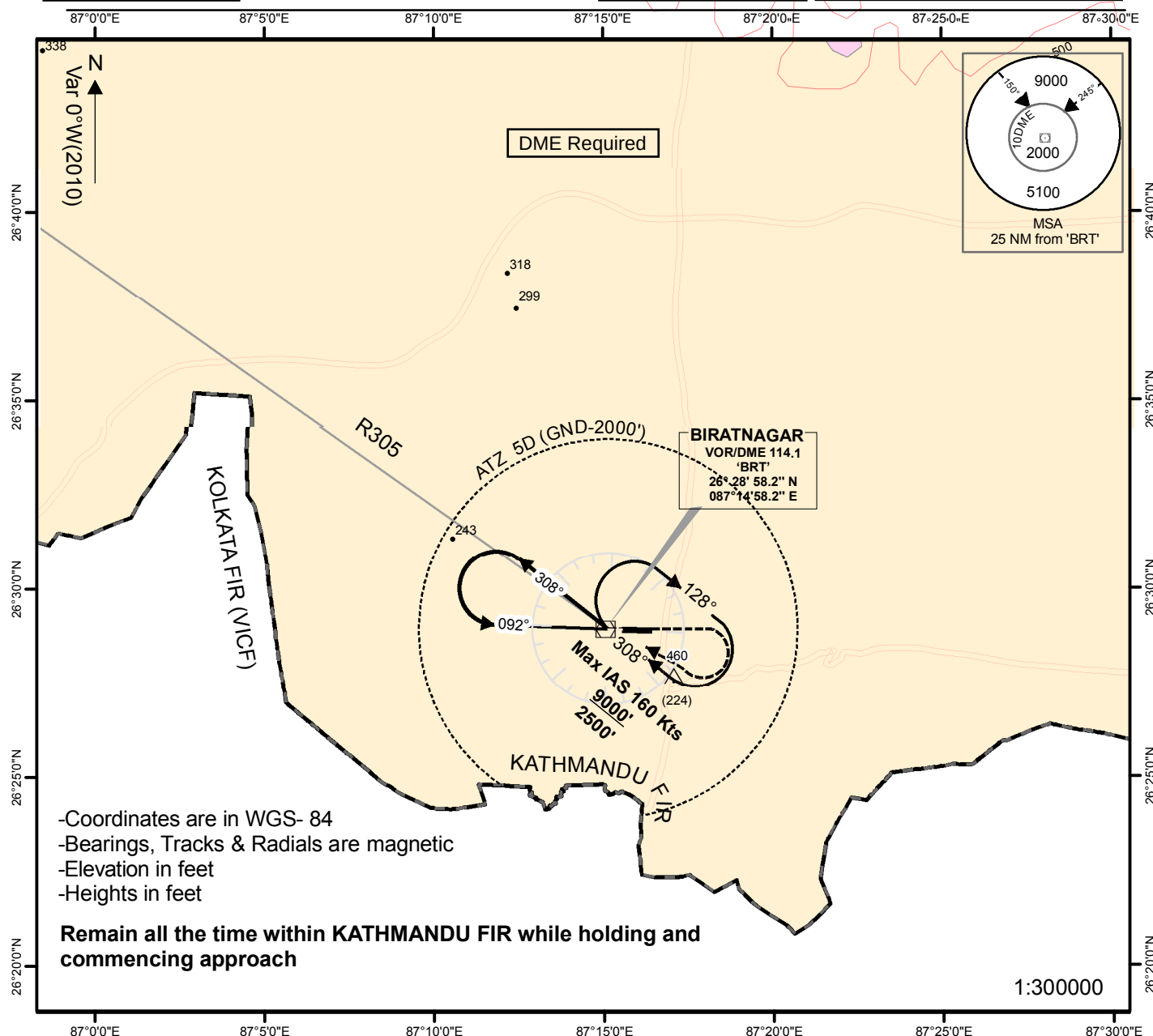
NAV FAC	FRQ	COORDINATE
DVOR/DME 'BRT'	114.1MHz/88X	26°28'58.2"N 087°14'58.2"E

INSTRUMENT APPROACH CHART - ICAO	AERODROME ELEV 242' TRANS LEVEL: FL150 TRANS ALT: 13500 ft. Mag Var. 0°W (2010)	TWR 123.8 MHZ	BIRATNAGAR, NEPAL Biratnagar Airport VOR Z RWY 09 VOR 'BRT' 114.1
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INSTRUMENT
APPROACH
CHART - ICAOAERODROME ELEV 242'
TRANS LEVEL: FL150
TRANS ALT: 13500 ft.
Mag Var. 0°W (2010)

TWR 123.8 MHZ

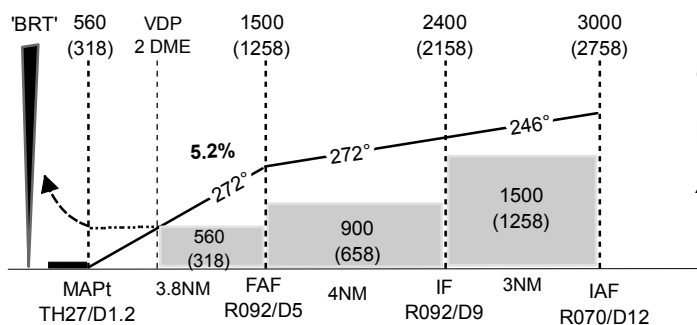
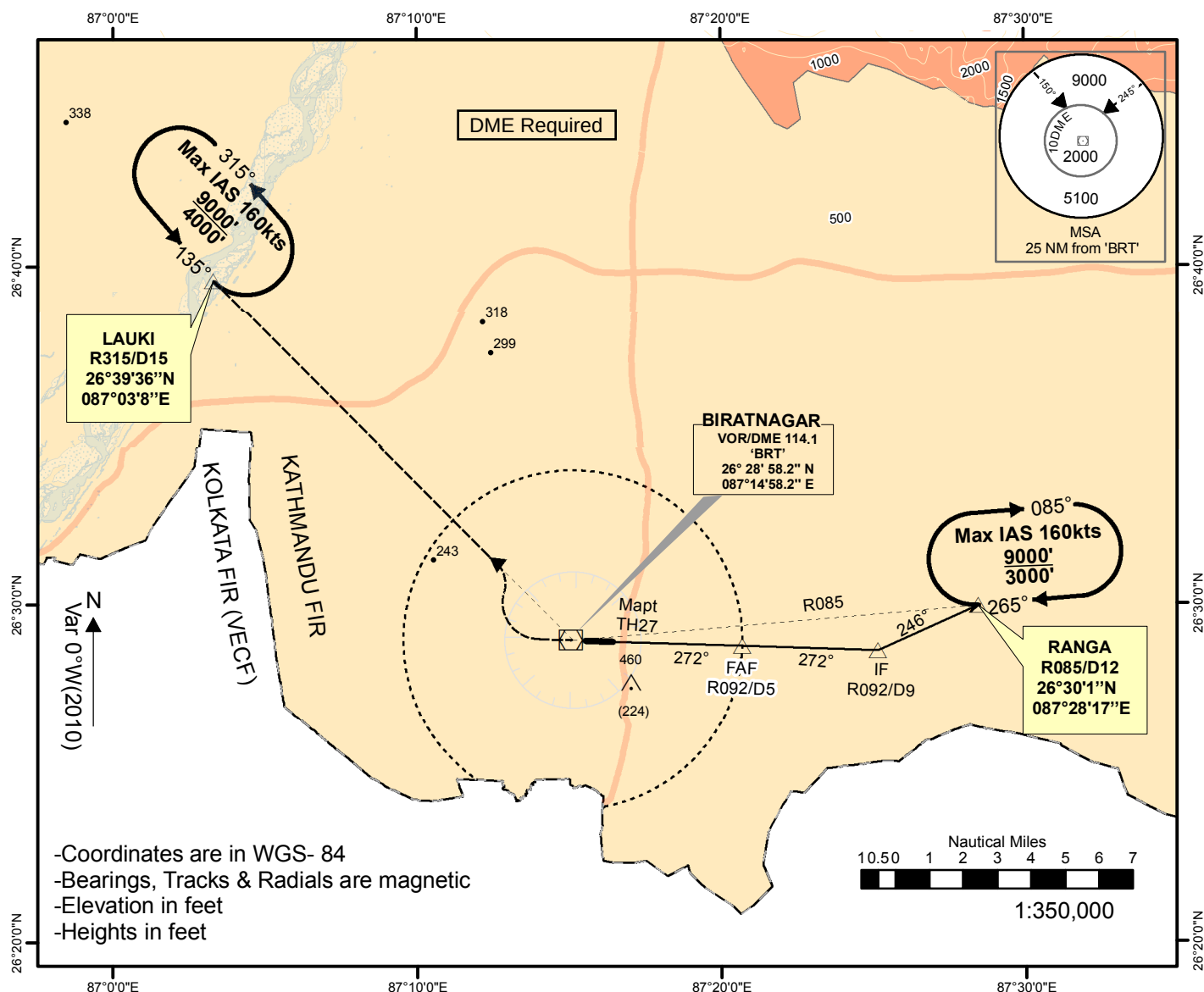
BIRATNAGAR, NEPAL
Biratnagar Airport
VOR Y RWY 09
VOR 'BRT' 114.1

MISSED APPROACH
CLIMB STRAIGHT AHEAD TO 1000'. TURN RIGHT
TO JOIN 'BRT' HOLDING PATTERN. REACH
'BRT' AT OR ABOVE 2500'

OCA (H) - Visibility				
Cat of ACFT	A	B	C	D
ST-IN RWY 09	560(318)-1600m		560(318)-2000m	
	ALS OUT - 2000m		ALS OUT - 2400m	
Circling	1400(1158)-2000m	1400(1158)-2800m	1500(1258)-3700m	
	NOT AUTHORIZED AT NIGHT			

INSTRUMENT
APPROACH
CHART - ICAOAERODROME ELEV 242'
TRANS LEVEL: FL150
TRANS ALT: 13500 ft. Var
0°W (2010)

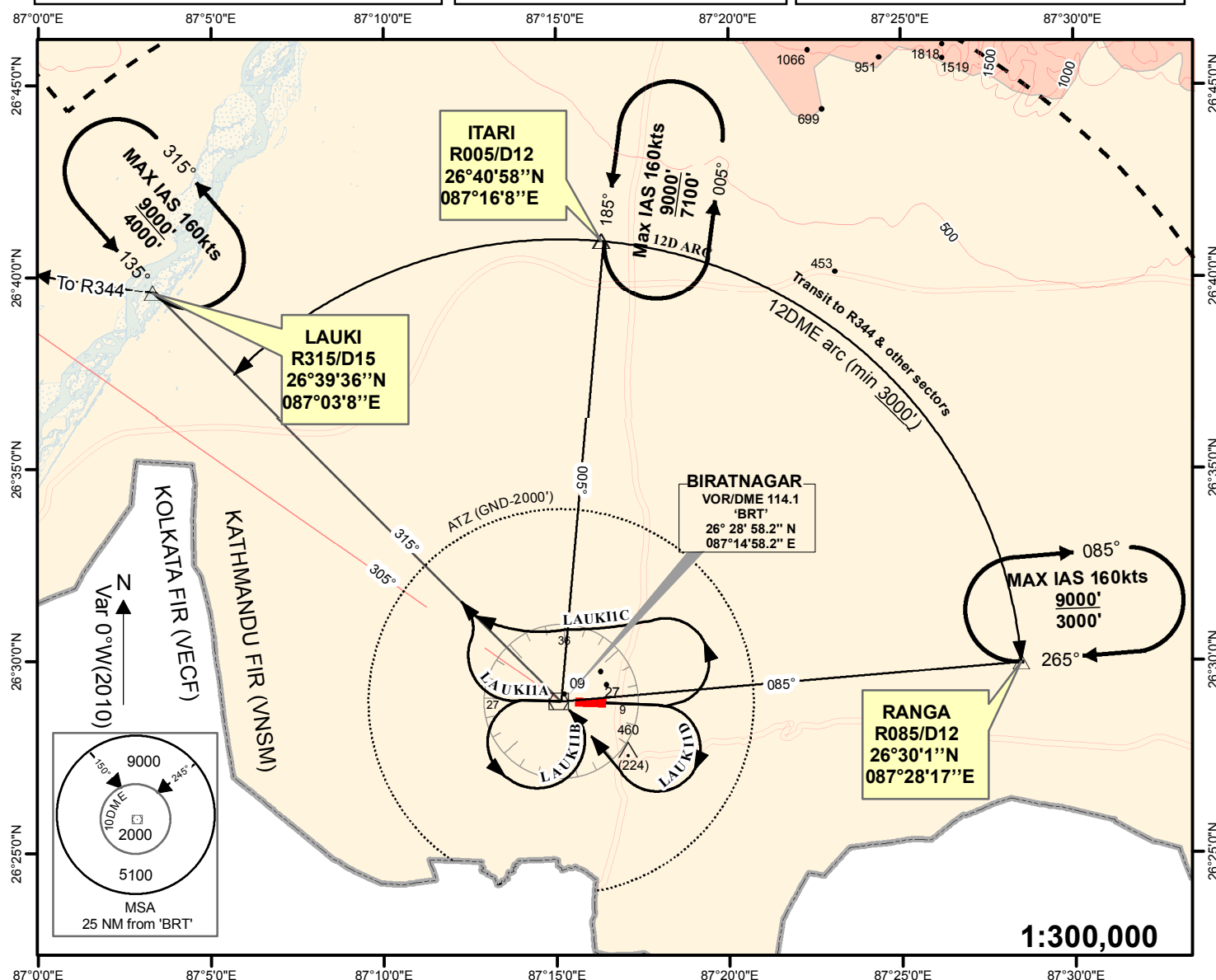
TWR 123.8 MHZ

BIRATNAGAR, NEPAL
Biratnagar Airport
VOR RWY 27
VOR 'BRT' 114.1

MISSED APPROACH
CLIMB STRAIGHT AHEAD TO 'BRT'. TURN
RIGHT TO INTERCEPT R315 OUTBOUND TO
LAUKI. REACH LAUKI AT OR ABOVE 4000'.
**THIS PROCEDURE REQUIRES A MISSED
APPROACH GRADIENT OF 4.8%**

OCA (H) - Visibility					FAF to TH27 3.8 NM					
Cat of ACFT	A	B	C	D	Knots	60	90	120	150	180
ST-IN RWY 27	560(318)- 2000m		560(318)-2400m	NA	Min:Sec	3:50	2:33	1:55	1:32	1:17
Circling	1400(1158)- 2000m	1400(1158)-2800m	1500(1258)-3700m	NA	Ft/ min	316	474	632	790	948
	NOT AUTHORIZED AT NIGHT									

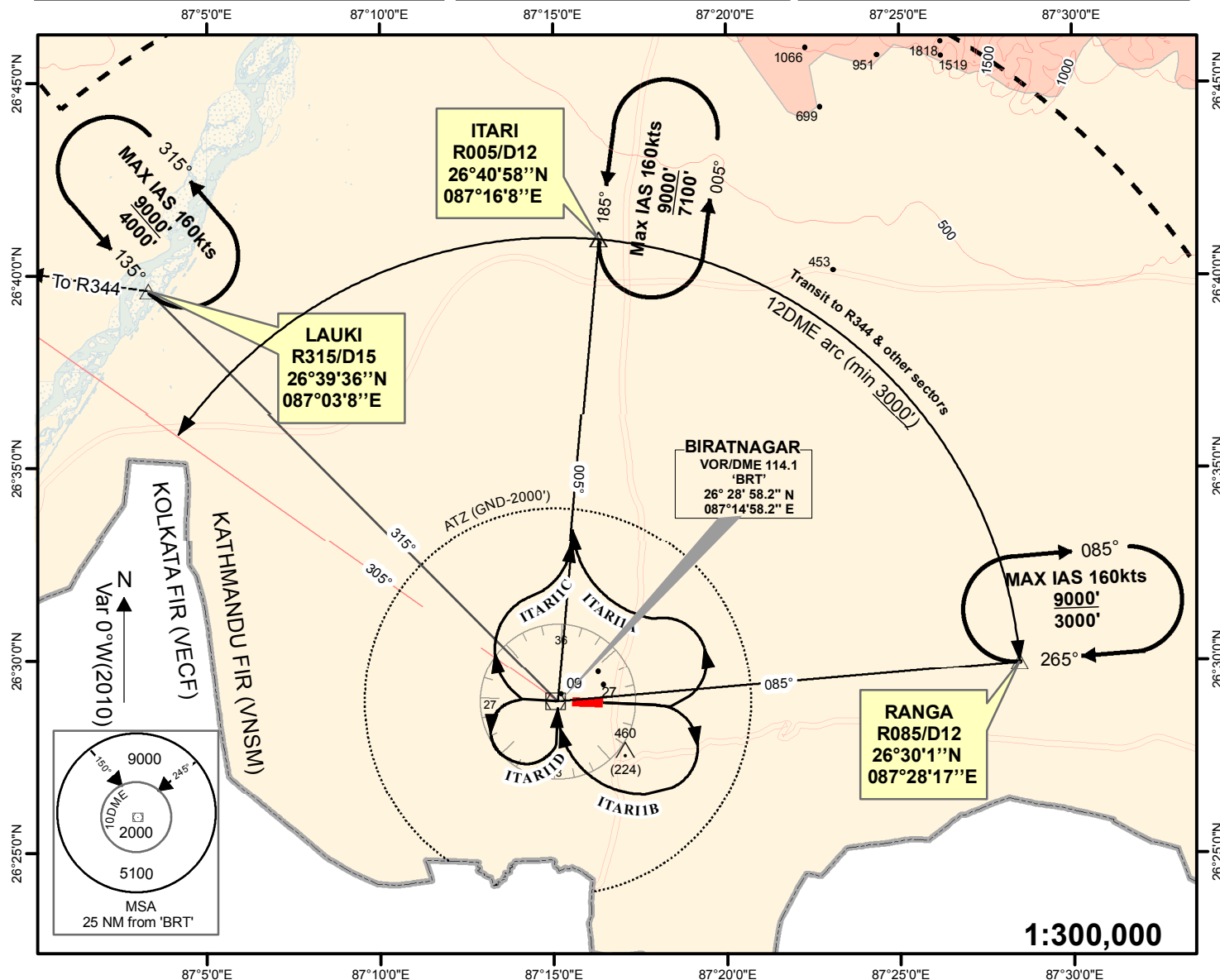
BIRATNAGAR, NEPAL
Biratnagar Airport
LAUKI 1A, LAUKI 1B,
LAUKI 1C, LAUKI 1D
'BRT' VOR 114.1



Minimum visibility required - 1600 m

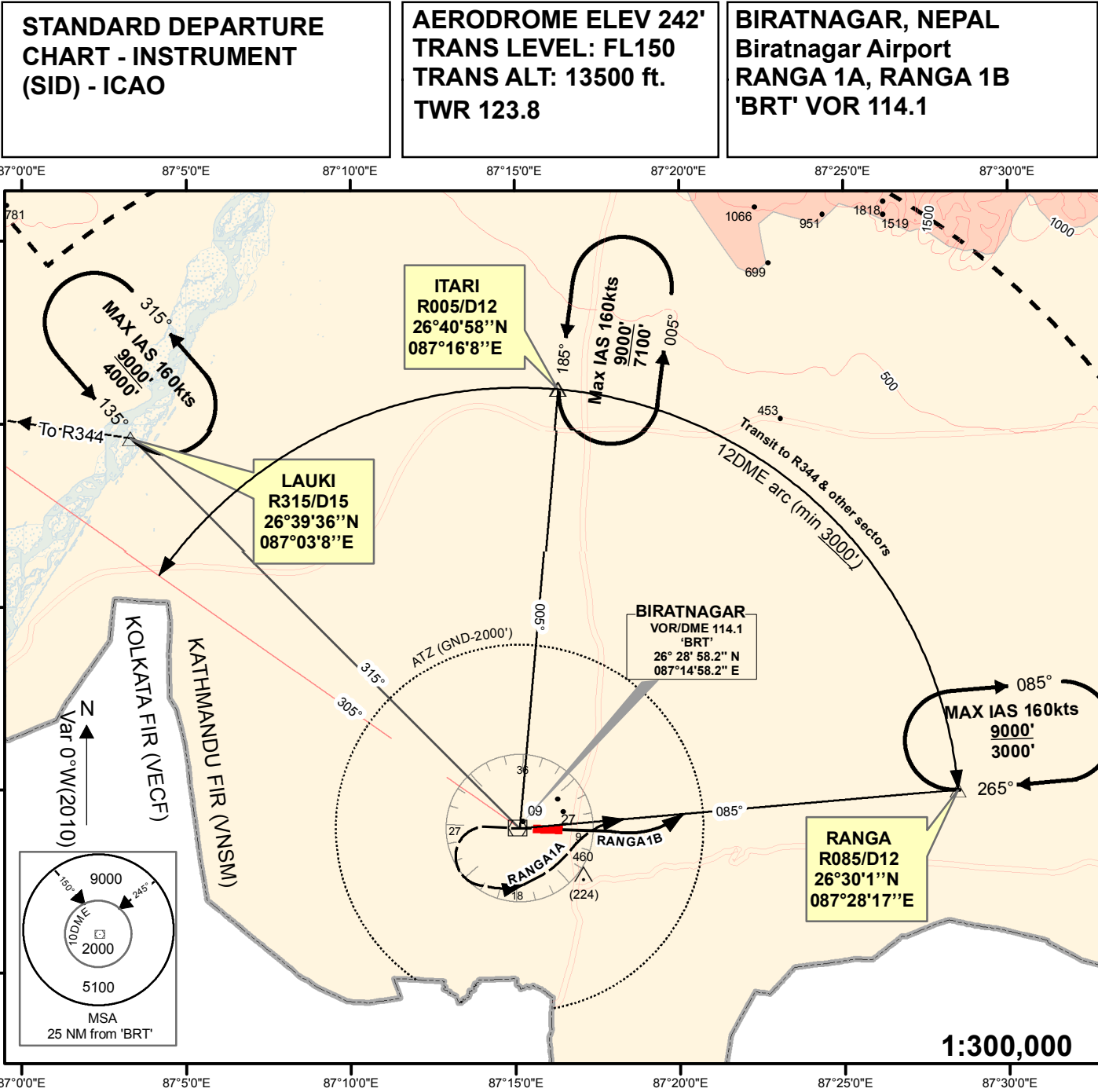
RWY 27	LAUKI 1A PDG = 5% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 1DME, TURN RIGHT TO INTERCEPT R315 OUTBOUND TO LAUKI (R315/D15) REACH LAUKI AT OR ABOVE 4000' LAUKI 1B PDG = 5% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 1DME, TURN LEFT (REMAINING WITHIN 4 DME ARC) TO 'BRT'. FOLLOW OUTBOUND R315 TO LAUKI (R315/D15). REACH LAUKI AT OR ABOVE 4000'
RWY 09	LAUKI 1C PDG = 5% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN LEFT TO INTERCEPT R315 OUTBOUND TO LAUKI (R315/D15) REACH LAUKI AT OR ABOVE 4000' LAUKI 1D PDG = 5% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN RIGHT (REMAINING WITHIN 4 DME ARC) TO INTERCEPT R135 TO 'BRT'. FOLLOW OUTBOUND R315 TO LAUKI (R315/D15). REACH LAUKI AT OR ABOVE 4000'

Note: At LAUKI climb to 5000 ft then set course to R344 via LAURE at 4% climb gradient till reaching MEA.

STANDARD DEPARTURE
CHART - INSTRUMENT
(SID) - ICAOAERODROME ELEV 242'
TRANS LEVEL: FL150
TRANS ALT: 13500 ft.
TWR 123.8BIRATNAGAR, NEPAL
Biratnagar Airport
ITARI 1A, ITARI 1B,
ITARI 1C, ITARI 1D
'BRT' VOR 114.1

Minimum visibility required - 1600 m

RWY 27	ITARI 1C PDG = 9% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 1DME, TURN RIGHT TO INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100' ITARI 1D PDG = 7% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 1DME, TURN LEFT (REMAINING WITHIN 4 DME ARC) TO 'BRT'. THEN INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100'
RWY 09	ITARI 1A PDG = 9% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN LEFT TO INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100' ITARI 1B PDG = 7% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 2.5DME, TURN RIGHT (REMAINING WITHIN 4 DME ARC) TO 'BRT'. THEN INTERCEPT R005 TO 'ITARI' (R005/D12). REACH ITARI AT OR ABOVE 7100'



Minimum visibility required - 1600 m

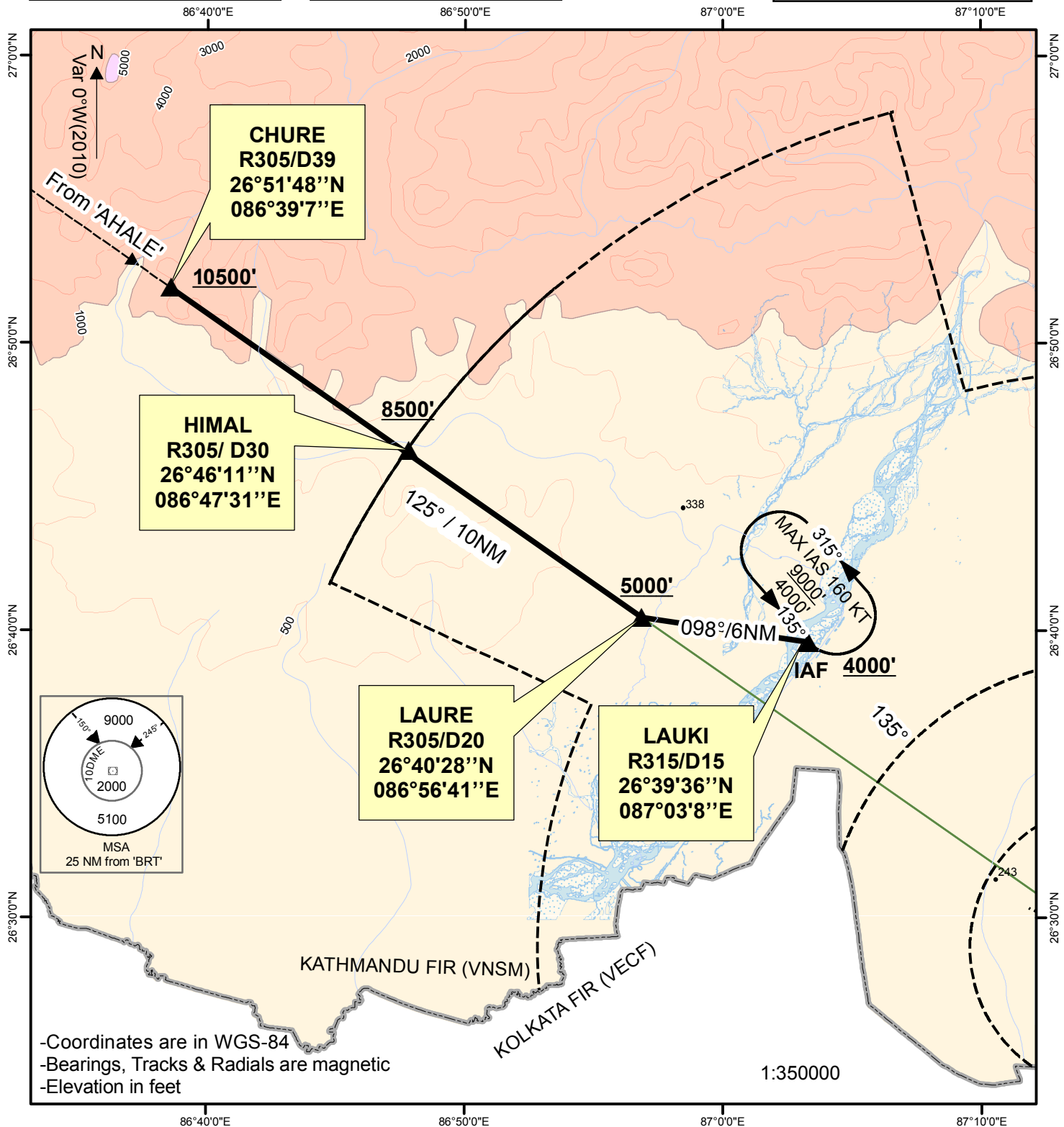
RWY 27	RANGA 1A PDG = 5% Max IAS 180Kts CLIMB STRAIGHT AHEAD. AT 1DME, TURN LEFT (REMAINING WITHIN 4D ARC)TO INTERCEPT R085 OUTBOUND TO RANGA(R085/D12). REACH RANGA AT OR ABOVE 3000'
RWY 09	RANGA 1B (PDG 4%) CLIMB STRAIGHT AHEAD TO INTERCEPT R085 TO RANGA (R085/D12). REACH RANGA AT OR ABOVE 3000'

STANDARD ARRIVAL
CHART - INSTRUMENT
(STAR) - ICAO

AERODROME ELEV 242'
TRANS LEVEL: FL150
TRANS ALT: 13500 ft.
Var 0°W (2010)

TWR 123.8

BIRATNAGAR, NEPAL
Biratnagar Airport
CHURE ARRIVAL
VOR 'BRT' 114.1



Routing: From 'CHURE' (R305/D39 'BRT'), track to 'LAURE' (R305/D20 'BRT') via HIMAL then track H098° to 'LAUKI' (R315/D15 'BRT').

Altitude: Maintain A105 or above till 'CHURE', Then descend to 8500' to 'HIMAL'. Reach 'LAURE' at or above 5000' then descend to 4000' to LAUKI

RNAV (GNSS) approach procedure at BIRATNAGAR AIRPORT (VNVT)

1. INTRODUCTION

- 1.1 The following RNP Approach (RNAV GNSS) Procedure is designed for VNVT in accordance with the criteria as stipulated in the ICAO PANS-OPS (DOC 8168) Vol. II.
- 1.2 The RNAV (GNSS) Instrument Approach Procedure to VNVT is designed to enhance the safety and efficiency of the aircraft operations with an alternative approach procedure to access the airport.
- 1.3 This procedure provides an alternate to the existing VNVT VORDME z RWY 09 approach procedure to the aircraft with the RNP APCH capability
- 1.4 This RNAV GNSS approach procedure along with RNP1 STAR has been designed with LNAV Specifications only and utilizes GNSS as primary navigation system as stipulated in ICAO PBN Manual DOC 9613.
- 1.5 A full arrival, approach and missed approach trajectories have been designed. However, existing conventional holdings-LAUKI and RANGA shall be used for RNP approach and missed approach.
- 1.6 RNP 1 SID has been designed from RWY27 of the Biratnagar AirPort. This SID is an alternate to the existing VNVT LAUKI 1A Departure RWY 27.

2. APPROVED USERS, EQUIPMENT AND OPERATIONS

- 2.1 For the RNAV (GNSS) Approach Procedure, the operators shall ensure that they hold the all necessary operational approvals from Civil Aviation Authority of Nepal (CAAN).
- 2.2 The aircraft shall be equipped with GNSS as specified in Nepalese Flight Operations Requirements (FOR) and governed by the AIC 001/2011 dated 01 August 2011 (ATS Requirements for PBN in Nepalese Airspace)
- 2.3 All necessary navigation system are to installed onboard so as to keep the track keeping accuracy while commencing RNP1 SID and STAR, RNP Approach and associated Missed Approach.
- 2.4 Before commencing the procedure, pilot in command must ensure that the navigation database is current and the aircraft's capability of conducting the procedure like GNSS availability, system performance, etc.

3. NAMING OF RNAV (GNSS) APPROACH PROCEDURES

There is one RNP1 STAR RWY09, one RNP 1 SID RWY27 and one RNP Approach (LNAV only) procedure to Biratnagar Runway 09 and are named in accordance with the ICAO naming convention as tabulated below.

STAR	SID	RNP Approach
CHURE 2A (RWY09)	LAUKI 1E (RWY27)	RNP RWY09 (LNAV Only)

4. RNP CAPABILITY LOST

If the RNP APCH capability is lost, ATC shall be informed as soon as possible the alternate course of action from the pilots of the concerned aircraft.

RNP RWY 09

<i>Serial No.</i>	<i>Path Descriptor</i>	<i>Waypoint Identifier</i>	<i>Fly-over</i>	<i>Course/Track (°M/°T)</i>	<i>Magnetic Variation</i>	<i>Distance (NM)</i>	<i>Turn Direction</i>	<i>Altitude (ft)</i>	<i>Speed (kts)</i>	<i>VPA/TCH</i>	<i>Navigation Specification</i>
001	IF	LAUKI (IAF)	-	-	-	-	-	+4000	-	-	RNP APCH
002	TF	INAWA	-	136°	-	3.0	R	-	-	-	RNP APCH
003	TF	VT202 (IF)	-	162°	-	8.7	L	+1500	- 180	-	RNP APCH
004	TF	VT204 (FAF)	-	92 °	-	3.0	-	+1300	-	-	RNP APCH
004	TF	RW09 (MAPt)	Y	92 °	-	3.2	-	@550	-	3.00/50	RNP APCH
005	DF	RANGA (MAHF)	-	-	-	-	L	+3000	-	-	RNP APCH
006	HM	RANGA (MAHF)	-	-	-	-	R	+3000	- 160	-	RNP APCH

List way of Waypoints:

IAF(LAUKI)	26°39' 36.000" N/087°03' 07.800" E
INAWA	26°37' 26.602" N/087°05' 27.702" E
IF(VT202)	26°29' 11.3513" N/087°08' 30.1872" E
FAF(VT204)	26°29' 04.3755" N /087°11' 50.7299" E
RW09 (MAPt)	26°28' 56.99301" N/ 087°15' 22.24677" E
MAHF(RANGA)	26°30' 03.437" N/ 087°28' 17.242" E

Coding Table: SID LAUKI 1E RWY 27

Serial No.	Path Descriptor	Waypoint Identifier	Flyover	Course/Track (°M/°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (ft)	Speed (kts)	VPA/TCH	Navigation Specification
001	CA	-	-	272°	-	-	R	@700	-180	-	RNP-1
002	DF	LAUKI	-	-	-	-	L	+4000	-	-	RNP-1
003	TF	CHURE	-	300 °	-	24.7	-	+10500	-	-	RNP-1

List of Way points:

DER	26°28' 56.99301" N/ 087°15' 22.24677" E
LAUKI	26°39' 36.000" N/087°03' 07.800" E
CHURE	26°51'48.000" N/ 086°39'07.000" E

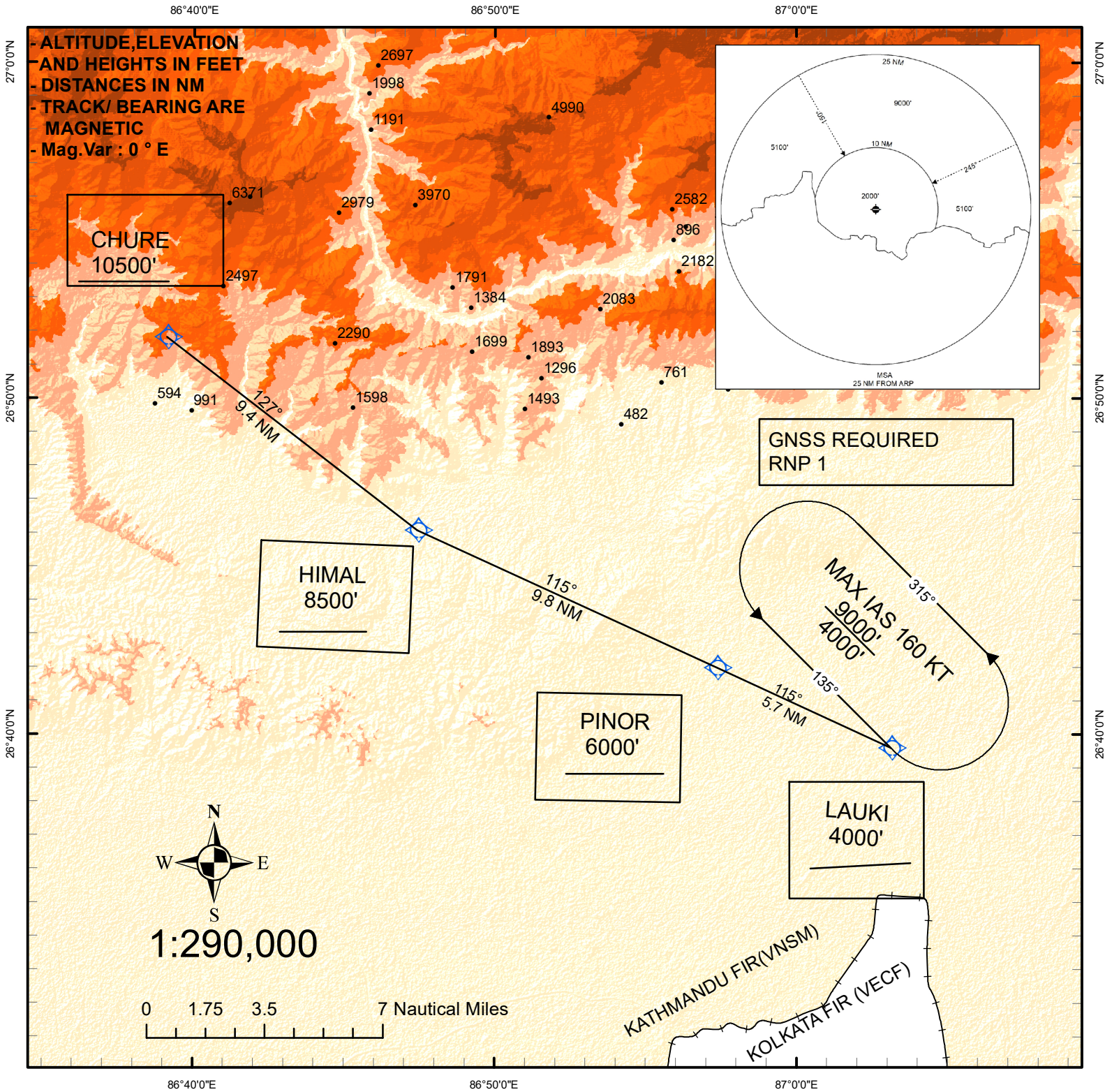
Coding Table: CHURE 2A Arrival

Serial No.	Path Descriptor	Waypoint Identifier	Fly-over	Course/Track (°M/°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (ft)	Speed (kts)	VPA/TCH	Navigation Specification
001	IF	CHURE	-	-	-	-	-	+10500	-	-	RNP-1
002	TF	HIMAL	-	127°	-	9.4	L	+8500	-	-	RNP-1
003	TF	PINOR	-	115°	-	9.8	-	+6000	-	-	RNP-1
004	TF	LAUKI	-	115°	-	5.7	-	+4000	-	-	RNP-1

List of Way points:

CHURE	26°51'48.000" N / 086°39'07.000" E
HIMAL	26°46'05.314" N / 086°47'26.158" E
PINOR	26°41' 59.687" N / 086°57' 20.764"E
LAUKI	26°39' 36.000" N/087°03' 07.800" E

STANDARD ARRIVAL CHART- INSTRUMENT (STAR) -ICAO	AERODROME ELE.242' TRANSITION LEVEL: FL150 TRANSITION ALTITUDE: 13500'	TWR 123.8	BIRATNAGAR/BIRATNAGAR AIRPORT (VNVT) RWY 09 CHURE 2A
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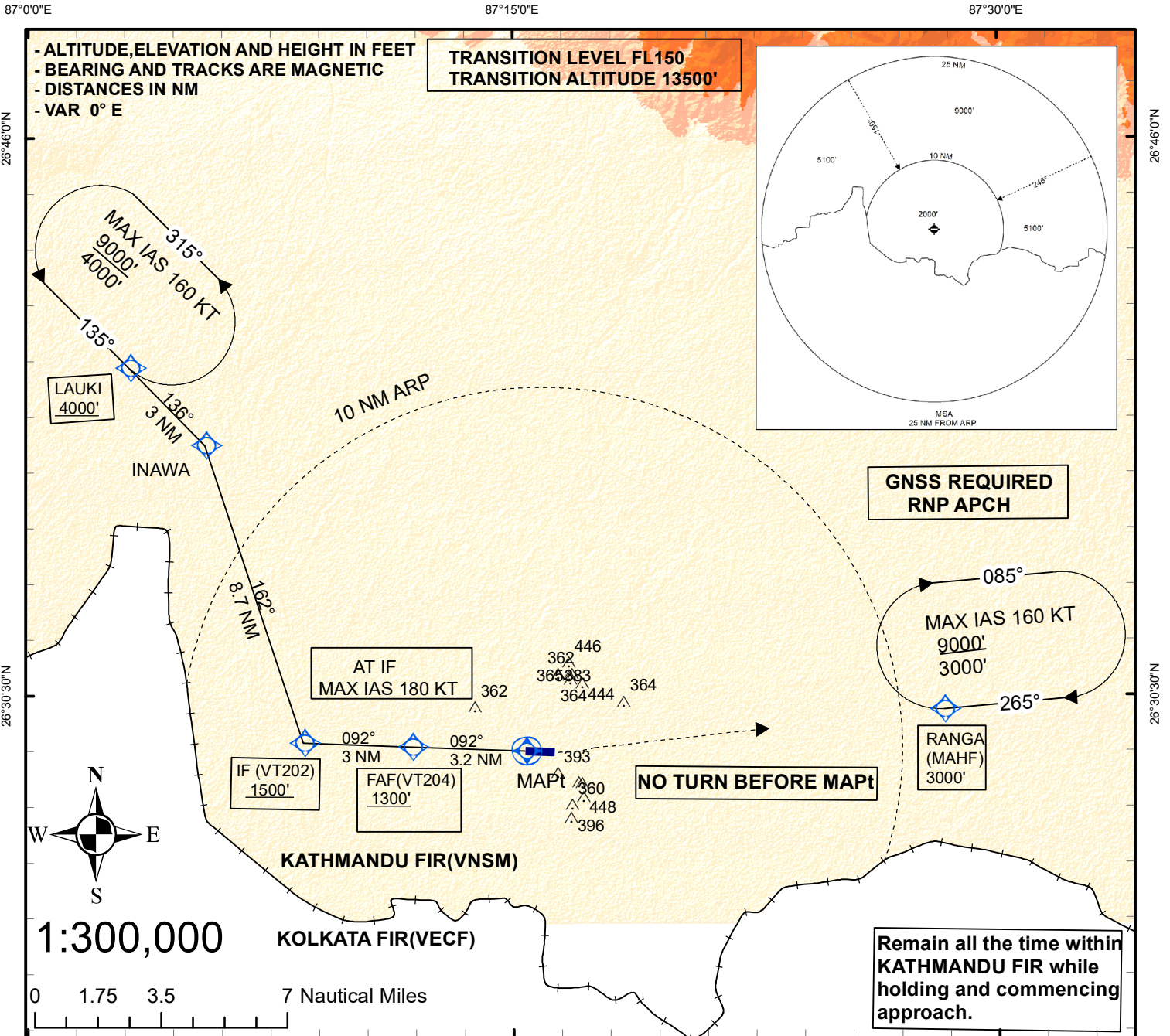
RNP1 STAR	Routing
CHURE 2A	From CHURE descend to 85 00 ft or above at HIMAL then PINOR at or above 6000 ft then descend to LAUKI at or above 4000ft .

INSTRUMENT
APPROACH CHART -
ICAO

AERODROME ELEV 242'
HEIGHTS RELATED TO THR
RWY 09-ELEV 242'

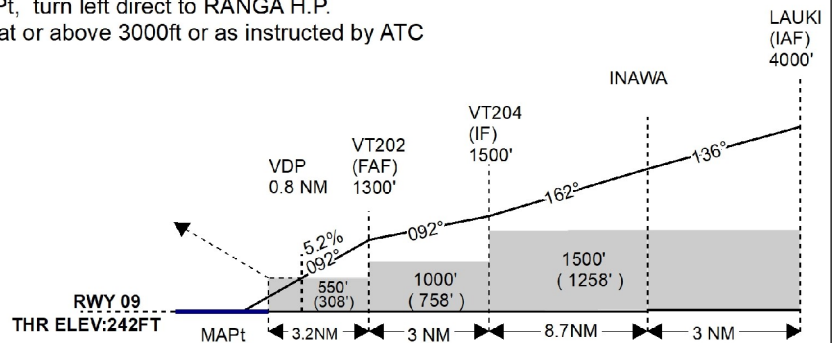
TWR
123.8

BIRATNAGAR/BIRATNAGAR AIRPORT
RNP RWY 09 (LNAV ONLY)



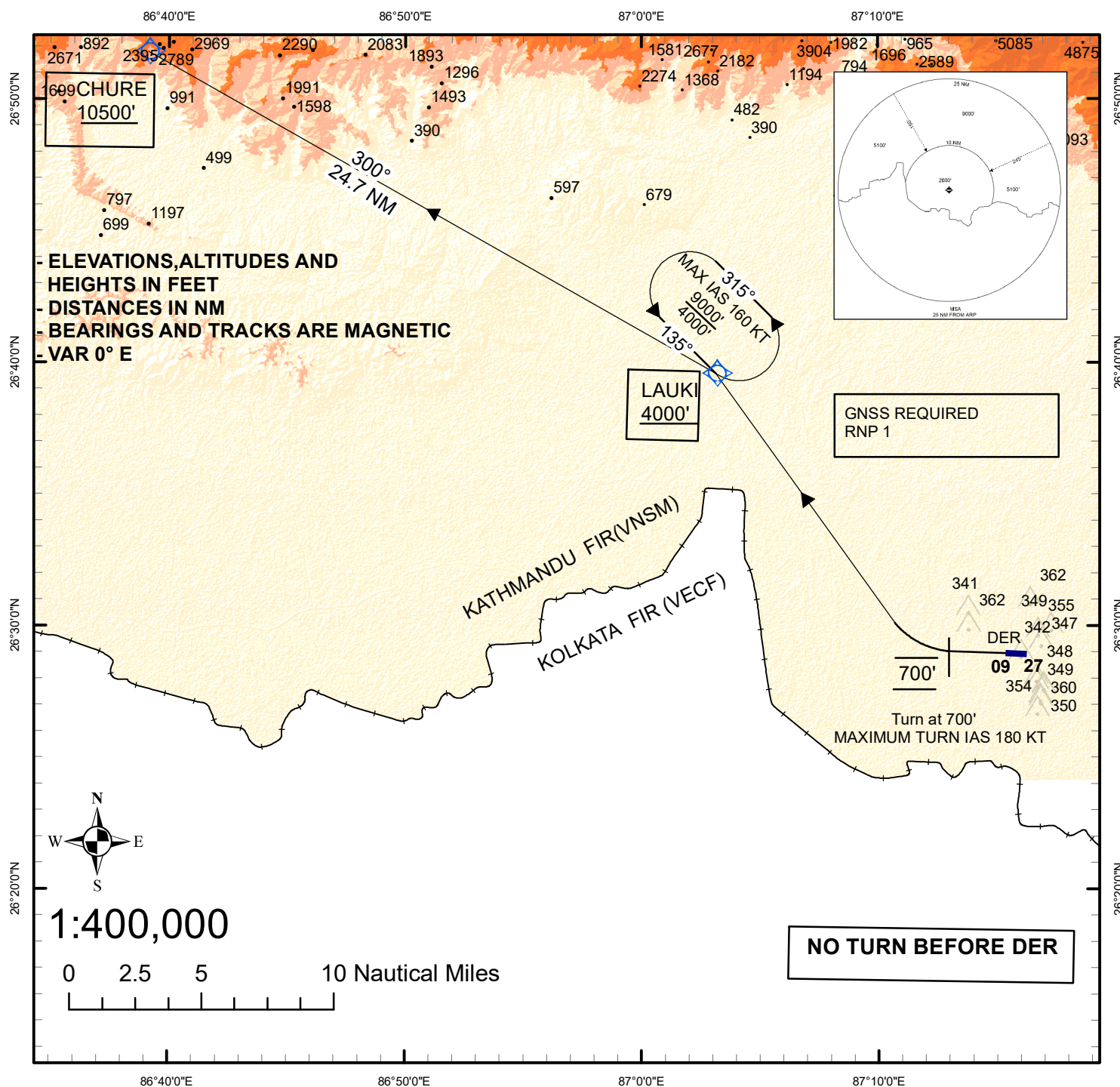
LNAV	Aircraft Category					
	A		B		C	
	OCA (OCH)	Visibility	OCA (OCH)	Visibility	OCA (OCH)	Visibility
Straight-in	550' (308')	1600m	550' (308')	1600m	550' (308')	1600m
Straight-in (ALS-OUT)	550' (308')	2000m	550' (308')	2000m	550' (308')	2000m
Circling	750' (508')	2400m	750' (508')	2400m	840' (598')	2800m
NOT AUTHORIZED AT NIGHT						
FAF TO MAPt : 3.2 NM						
GS	60	90	120	150	180	
Min:Sec	3:10	2:6	1:35	1:16	1:30	
Feet/Minute@5.2%	320	480	640	790	960	

MISSED APPROACH: (Climb Gradient 3.9%)
AT MAPt, turn left direct to RANGA H.P.
Reach at or above 3000ft or as instructed by ATC



PAPI does not coincide with the final approach gradient

STANDARD DEPARTURE CHART- INSTRUMENT(SID)- ICAO	AERODROME ELEV:242' TRANSITION LEVEL: F150' TRANSITION ALT:13500'	TWR 123.8	BIRATNAGAR/BIRATNAGAR AIRPORT(VNAV) RWY 27 LAUKI 1E
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**MINIMUM VISIBILITY REQUIRED-1600m****LAUKI 1E RWY 27 (Climb Gradient 4.0 %)**

Climb RWY heading to 700 ft then turn right direct to LAUKI at or above 4000 ft.

Transition to route

To 344 : From LAUKI track 300° to CHURE at or above 10500ft

