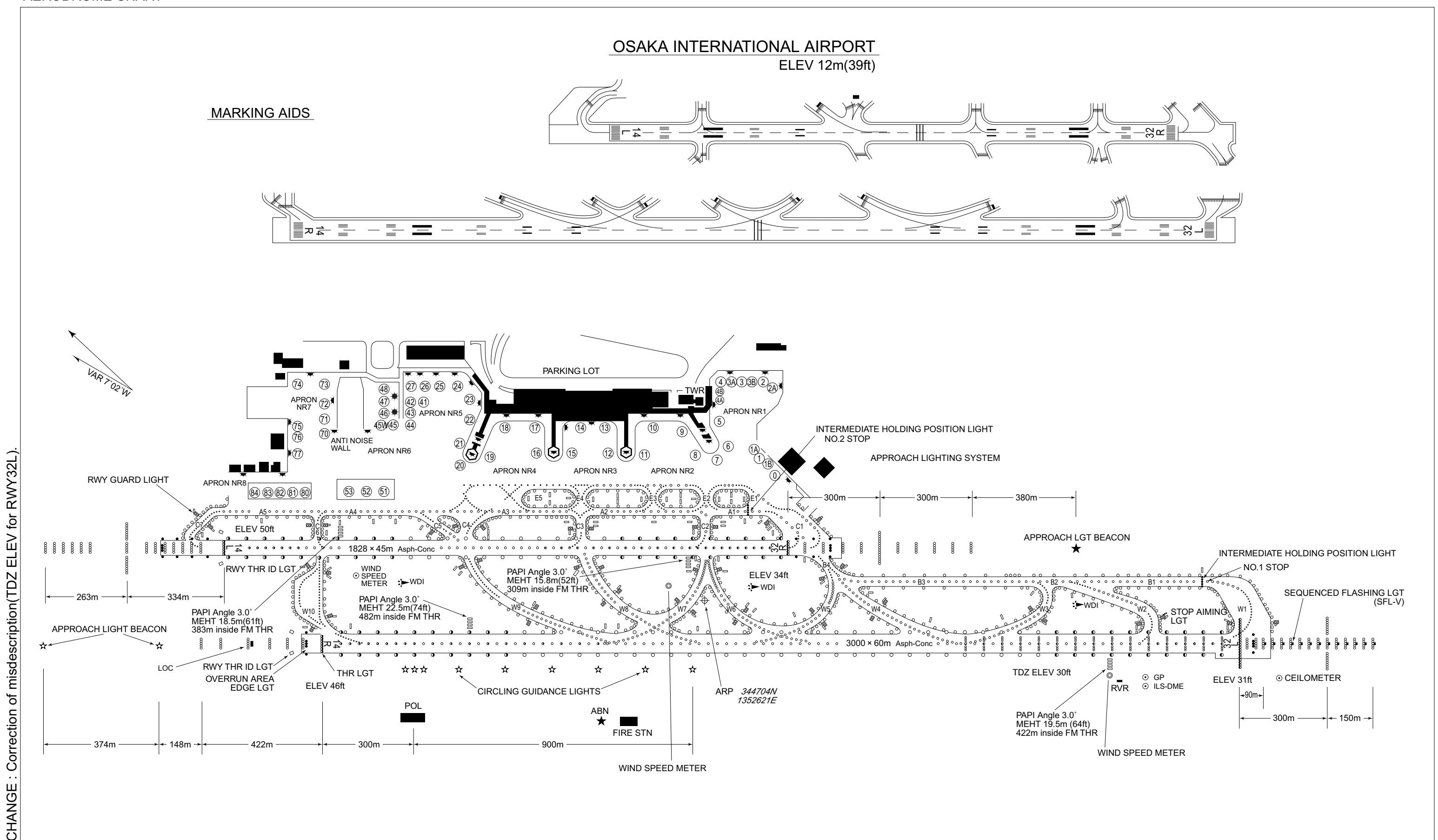


AERODROME CHART



RJOO / OSAKA INTL

AD CHART

OSAKA INTERNATIONAL AIRPORT		
		ELEV 12m(39ft)
Designation	Call Sign	Frequency (MHz)
ATIS	Osaka Intl Airport	128.6
DLRY	Osaka Delivery	118.8
GND	Osaka Ground	121.7 126.2
TWR	Osaka Tower	118.1 126.2 236.8



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DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

MAGNETIC VARIATION 8° W-FEB 2017



DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

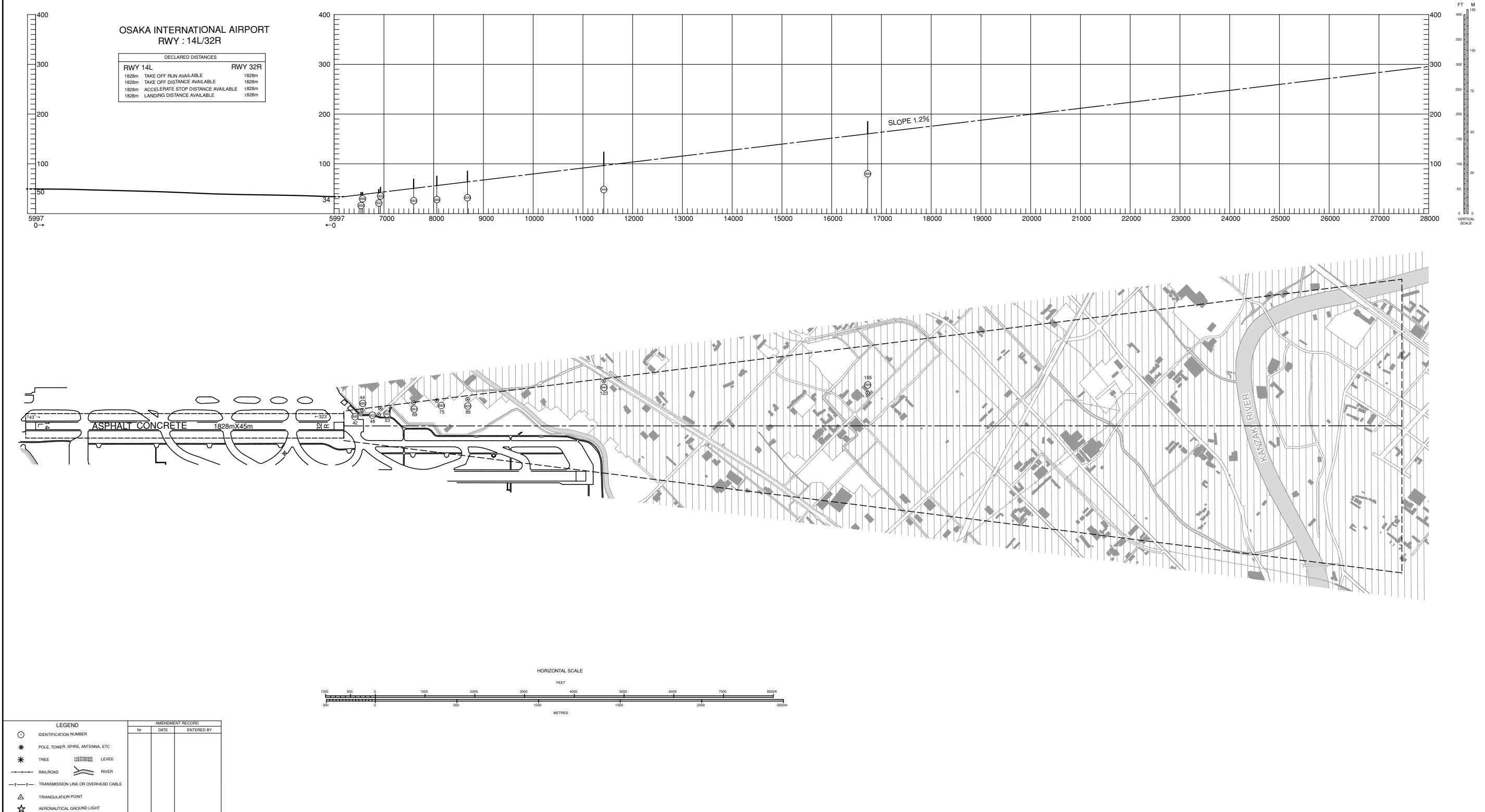
MAGNETIC VARIATION 8° W-FEB 2017



DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

AERODROME OBSTACLE CHART-ICAO
TYPE A (OPERATING LIMITATIONS)

MAGNETIC VARIATION 8° W-FEB 2017



AERODROME OBSTACLE CHART-ICAO TYPE A (OPERATING LIMITATIONS)

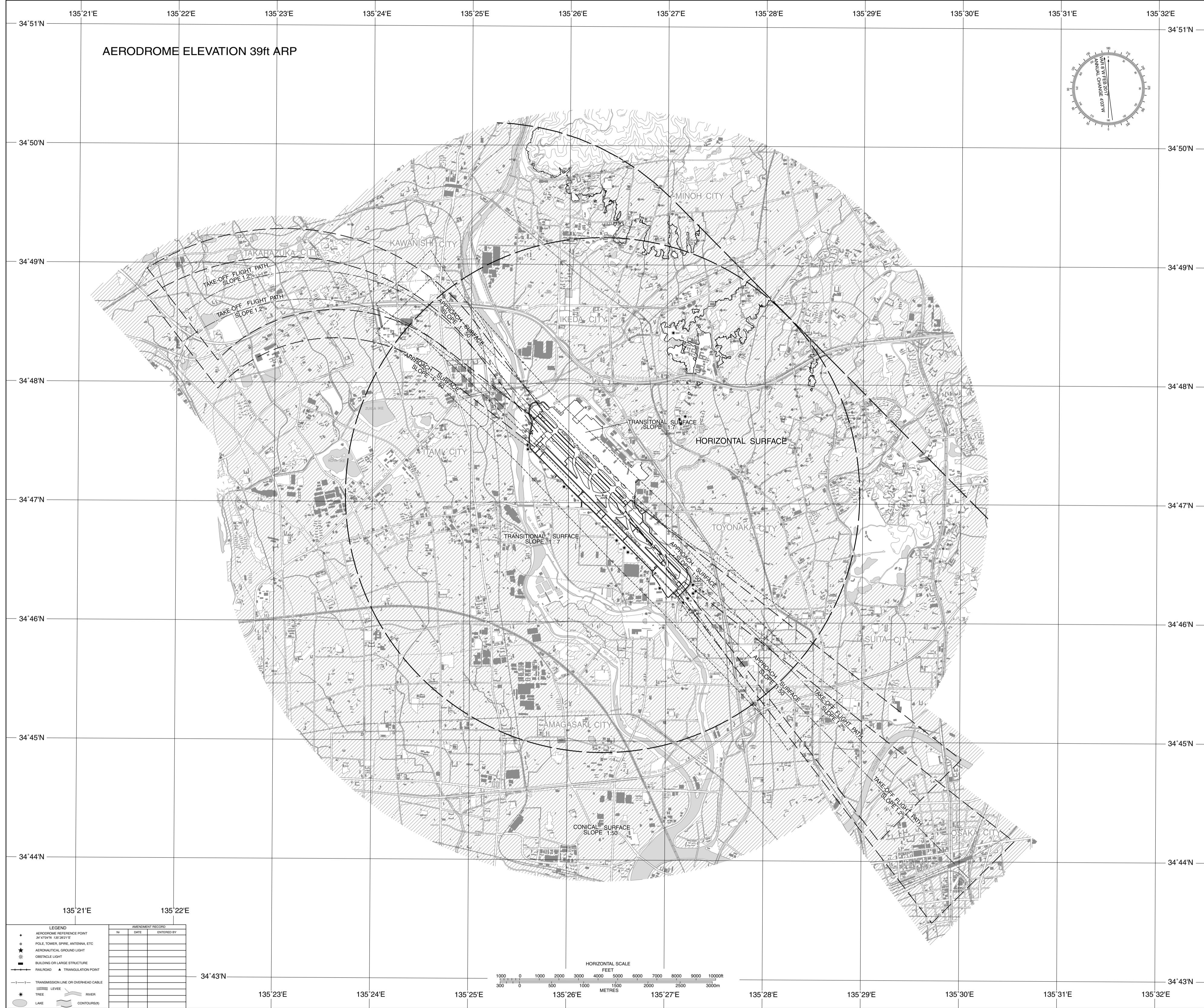
DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC

MAGNETIC VARIATION 8° W-FEB 2017



AERODROME OBSTACLE CHART-ICAO TYPE B

DIMENSIONS AND ELEVATIONS IN FEET BEARINGS ARE MAGNETIC



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

SID

ASUKA FOUR DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...
...via ITE R101 to ASUKA.

Cross ASUKA at or above 5000FT.

Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

PANAS ONE DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...
...via ITE R101 to PANAS.

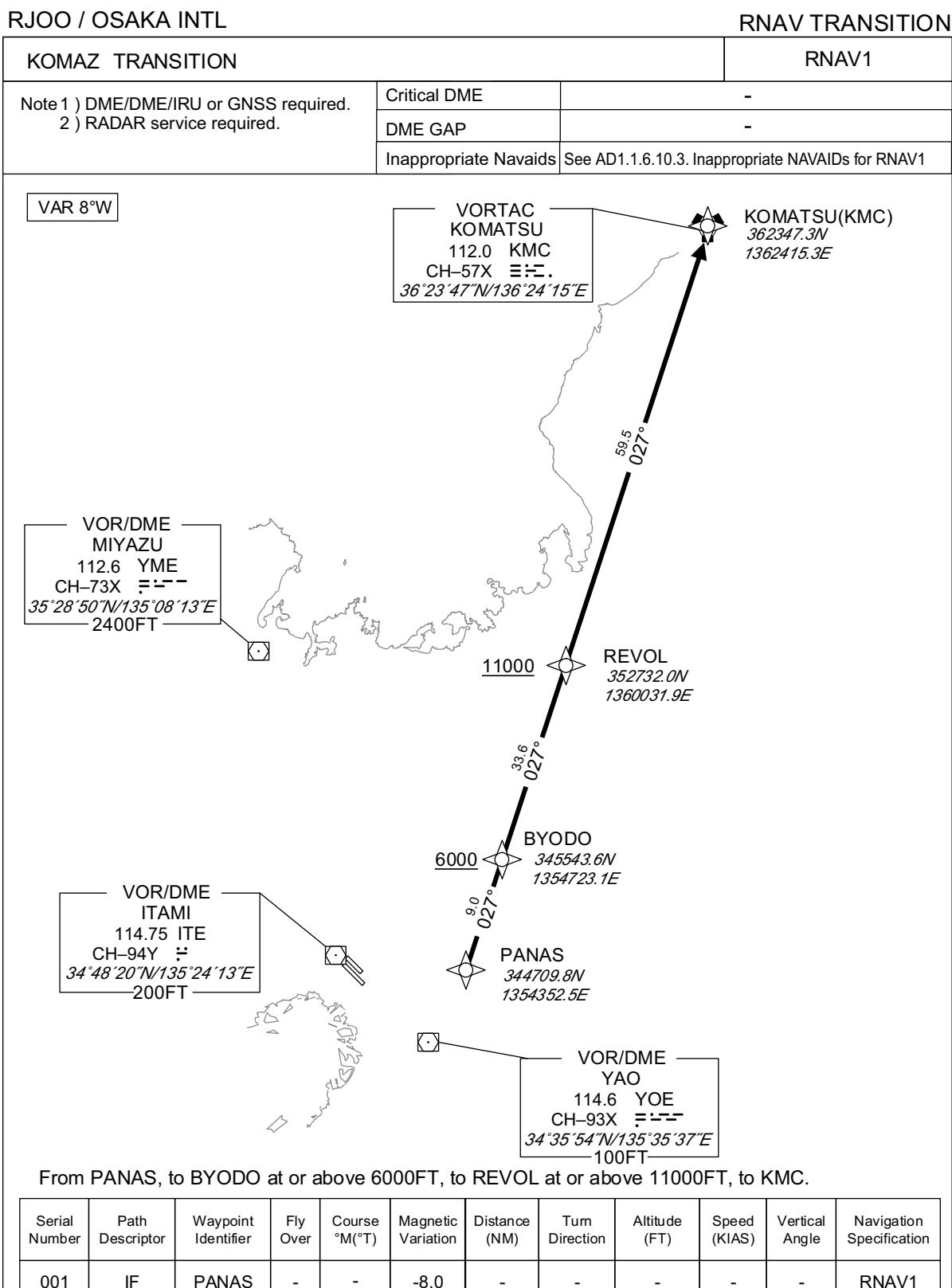
Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

CHANGE: New PROC(PANAS ONE DEPARTURE).



STANDARD DEPARTURE CHART -INSTRUMENT



CHANGE : Description of VAR and PROC name.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	PANAS	-	-	-8.0	-	-	-	-	-	RNAV1
002	TF	BYODO	-	027 (018.6)	-8.0	9.0	-	+6000	-	-	RNAV1
003	TF	REVOL	-	027 (018.6)	-8.0	33.6	-	+11000	-	-	RNAV1
004	TF	KMC	-	027 (018.7)	-8.0	59.5	-	-	-	-	RNAV1

STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

SID

IZUMI ONE DEPARTURE

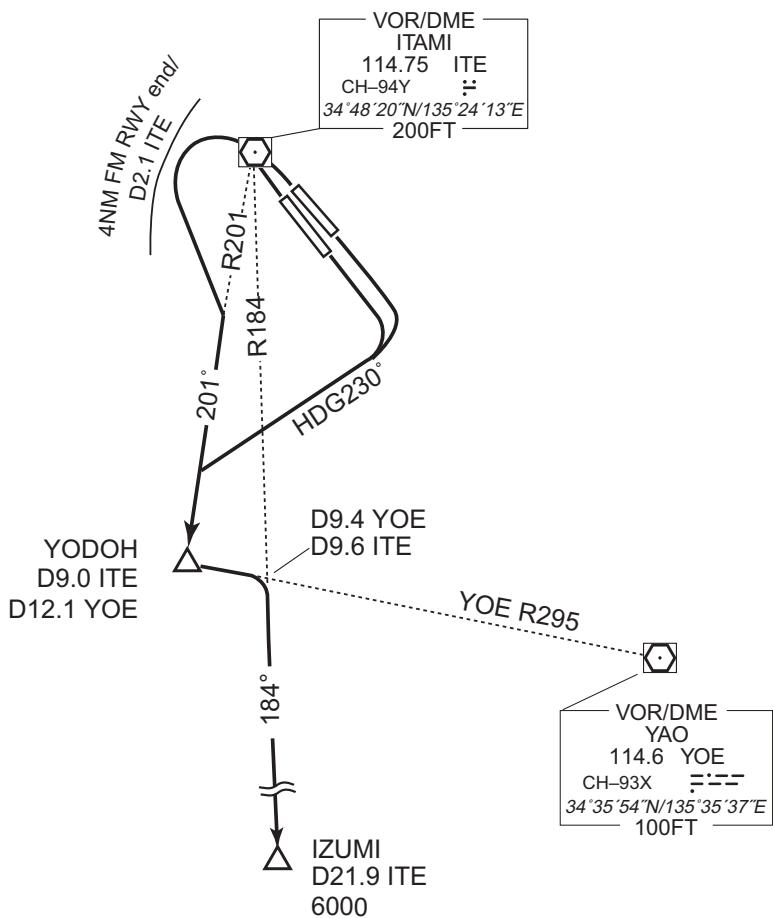
RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME, via ITE R201 to YODOH,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn right HDG230° to intercept and proceed via ITE R201 to YODOH,...
...turn left, via YOE R295 to intercept and proceed via ITE R184 to IZUMI.
Cross IZUMI at or above 6000FT.

Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

CHANGE : Description of PROC name.



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

SID

EAST REVERSAL FOUR DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...
...via ITE R101 to 3000FT or above, turn left direct to ITE VOR/DME within ITE 14.0DME.

Cross ITE VOR/DME at assigned altitude.

Note : When take off RWY 14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

CHANGE : Description of PROC name.



STANDARD DEPARTURE CHART -INSTRUMENT

AIP JAPAN
RJOO / OSAKA INTL

SID

TIGER TWO DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME, via ITE R201 until crossing YOE R301...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn right HDG230° until crossing YOE R301...

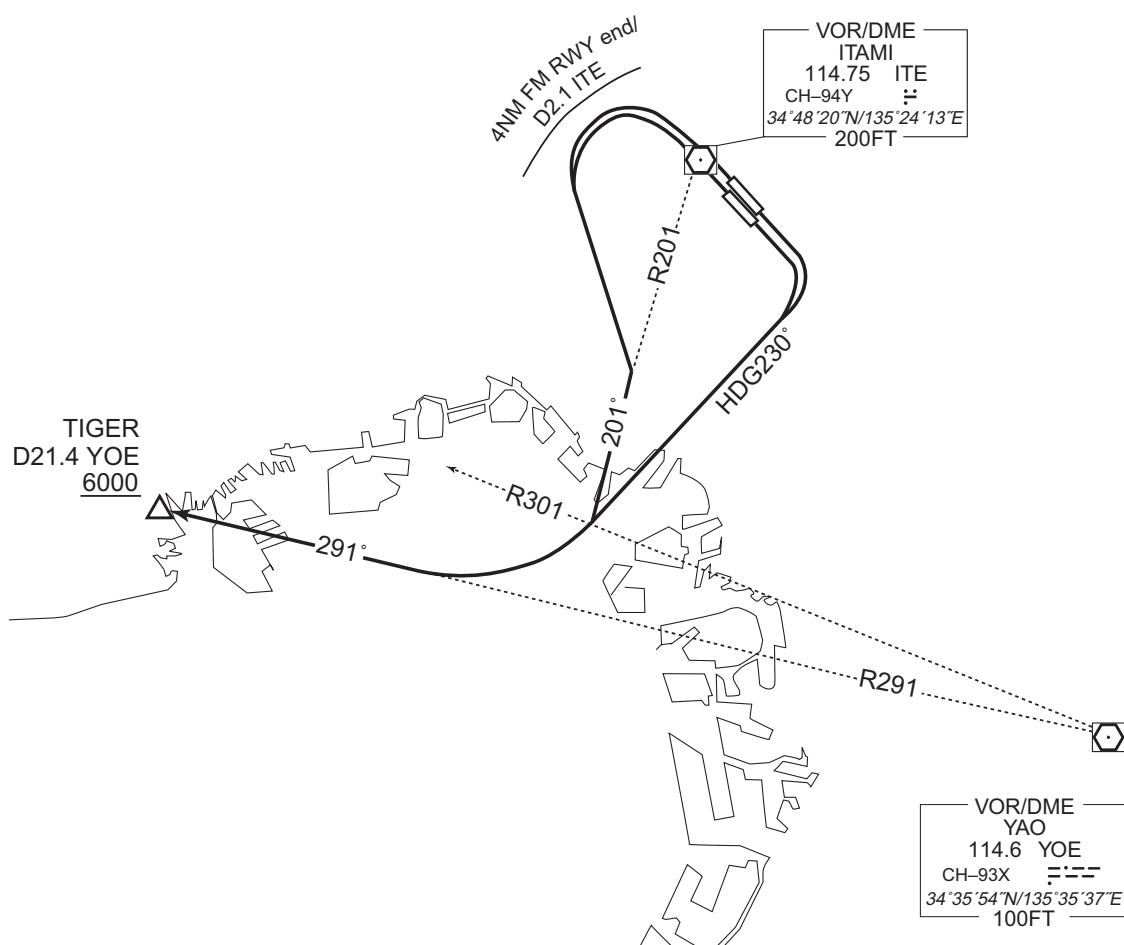
...turn right to intercept and proceed via YOE R291 to TIGER.

Cross TIGER at or above 6000FT.

Note : Following climb gradient should be maintained until 2500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

CHANGE : Description of PROC name.



STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

TRANSITION

KAGAWA TRANSITION

From over TIGER, via YOE R291 to SUMAR, via ITE R260 to intercept and proceed via KTE R057 to KTE VOR/DME.

Cross SUMAR at or above 9000FT, cross ITE R260/43.1DME at or above FL180.



CHANGE : Description of PROC name.

STANDARD DEPARTURE CHART -INSTRUMENT

RJOO / OSAKA INTL

TRANSITION

ASAGI TRANSITION

From over TIGER, via KCE R324 to ASAGI.
Cross KCE R324/22.4DME at or above 7000FT.

TOZAN TRANSITION

From over TIGER, via KCE R324 to TOZAN, via ASAGI.
Cross KCE R324/22.4DME at or above 7000FT, cross KCE R324/47.0DME at or above 10000FT.

BUMER TRANSITION

From over TIGER, via YOE R291 to intercept and proceed via KCE R311 to BUMER.

CHANGE : TOZAN TRANSITION. Radial FM KCE.



STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

SID and TRANSITION

MINAC FOUR DEPARTURE

RWY 32R/32L : Climb RWY HDG to 500FT or above, turn left within 4NM from RWY end/ITE 2.1DME,...

RWY 14R/14L : Climb RWY HDG to 500FT or above, turn left,...
...via ITE R101 to intercept and proceed via KCE R077 to MINAC.

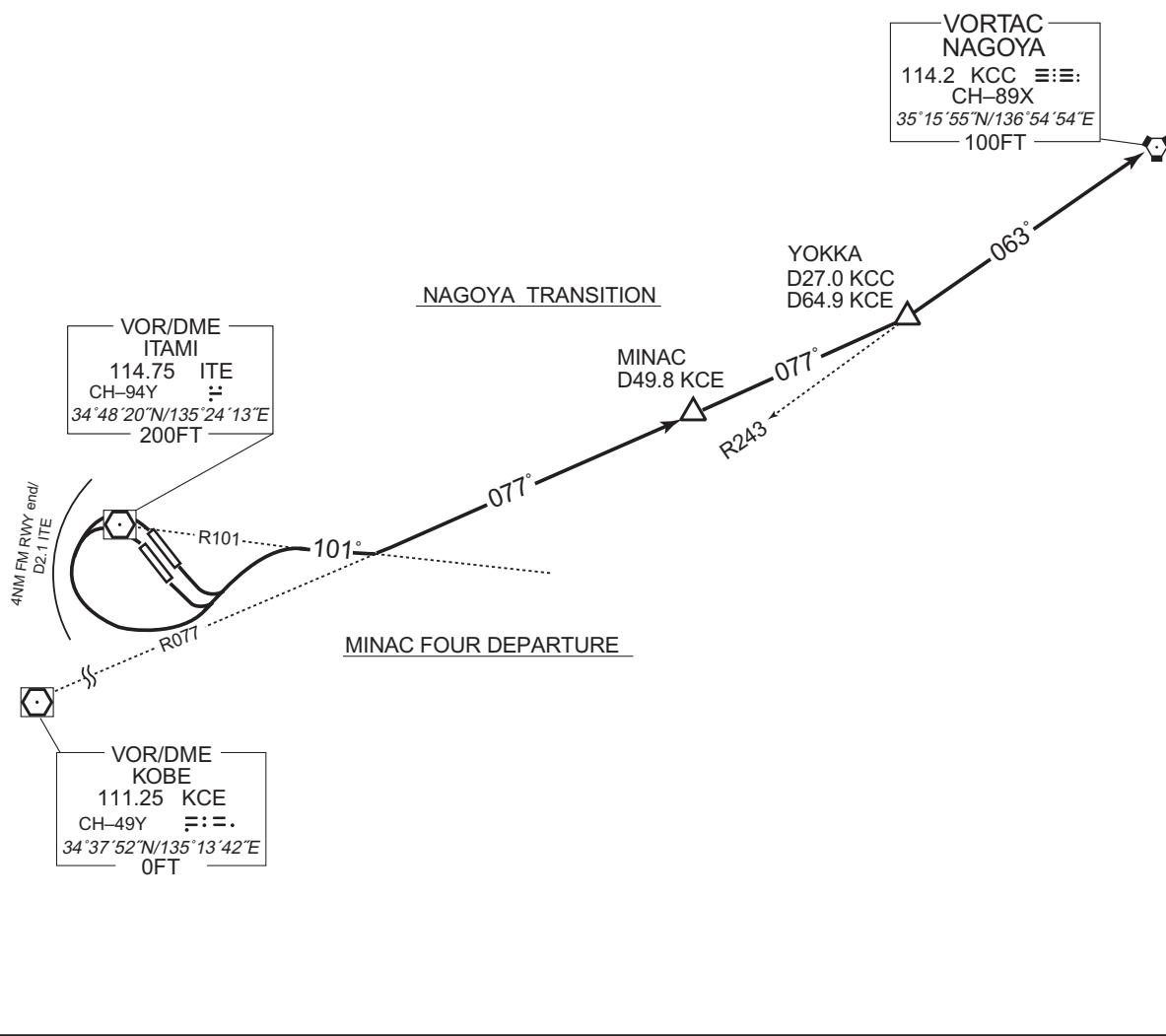
Note: When take off RWY14R/14L, following climb gradient should be maintained until 500FT.

Speed (Knots)	60	90	120	150	180	210
Rate (Feet/Min)	300	450	600	750	900	1050

NAGOYA TRANSITION

From over MINAC, via KCE R077 to YOKKA, via KCC R243 to KCC VORTAC.

CHANGE : PROC renamed. Radial FM KCE.

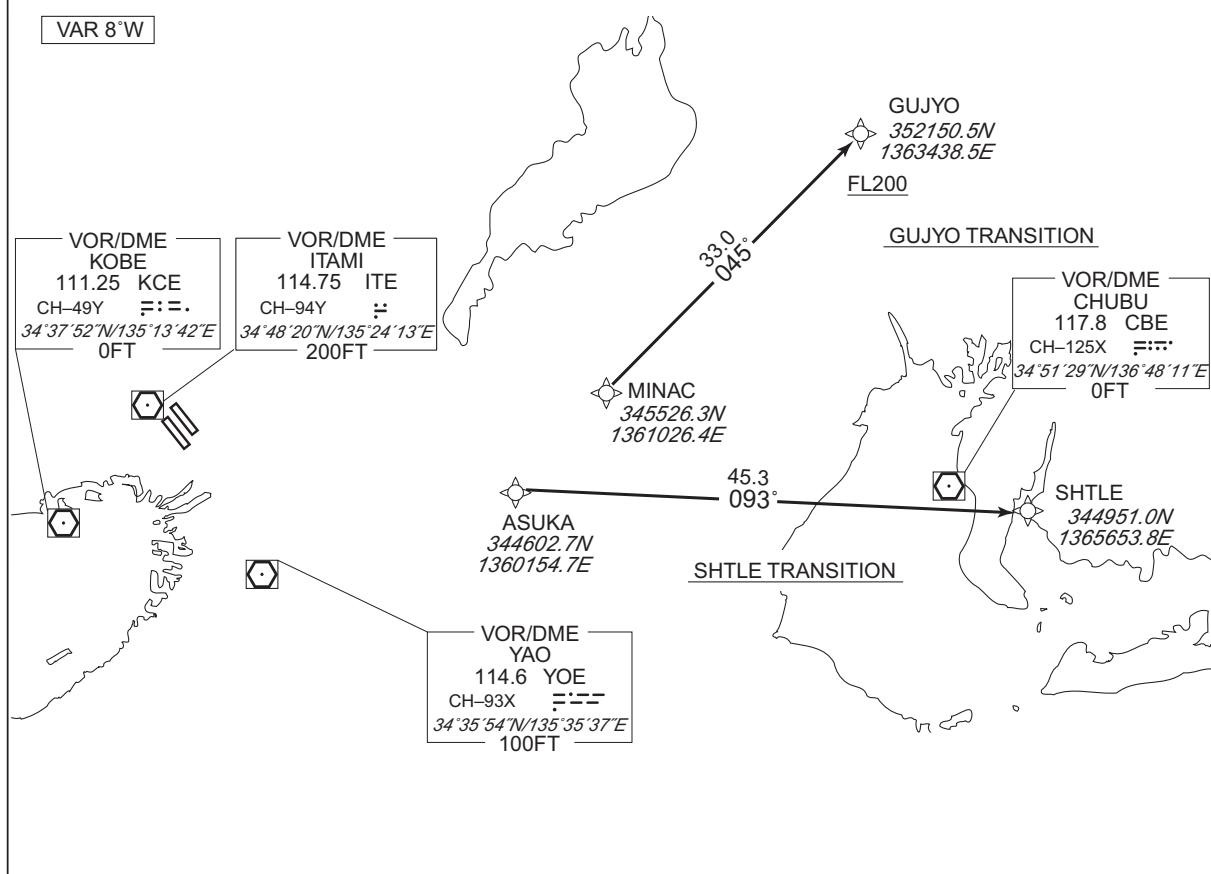


STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

GUJYO TRANSITION / SHTLE TRANSITION		RNAV1
NOTE 1) DME/DME/IRU or GNSS required. 2) RADAR service required.	Critical DME	-
	DME GAP	-
	Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVADs for RNAV1



GUJYO TRANSITION

From MINAC, to GUJYO at or above FL200.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	MINAC	—	—	-8.0	—	—	—	—	—	RNAV1
002	TF	GUJYO	—	045 (036.7)	-8.0	33.0	—	+FL200	—	—	RNAV1

CHANGE : Description of VAR.

SHTLE TRANSITION

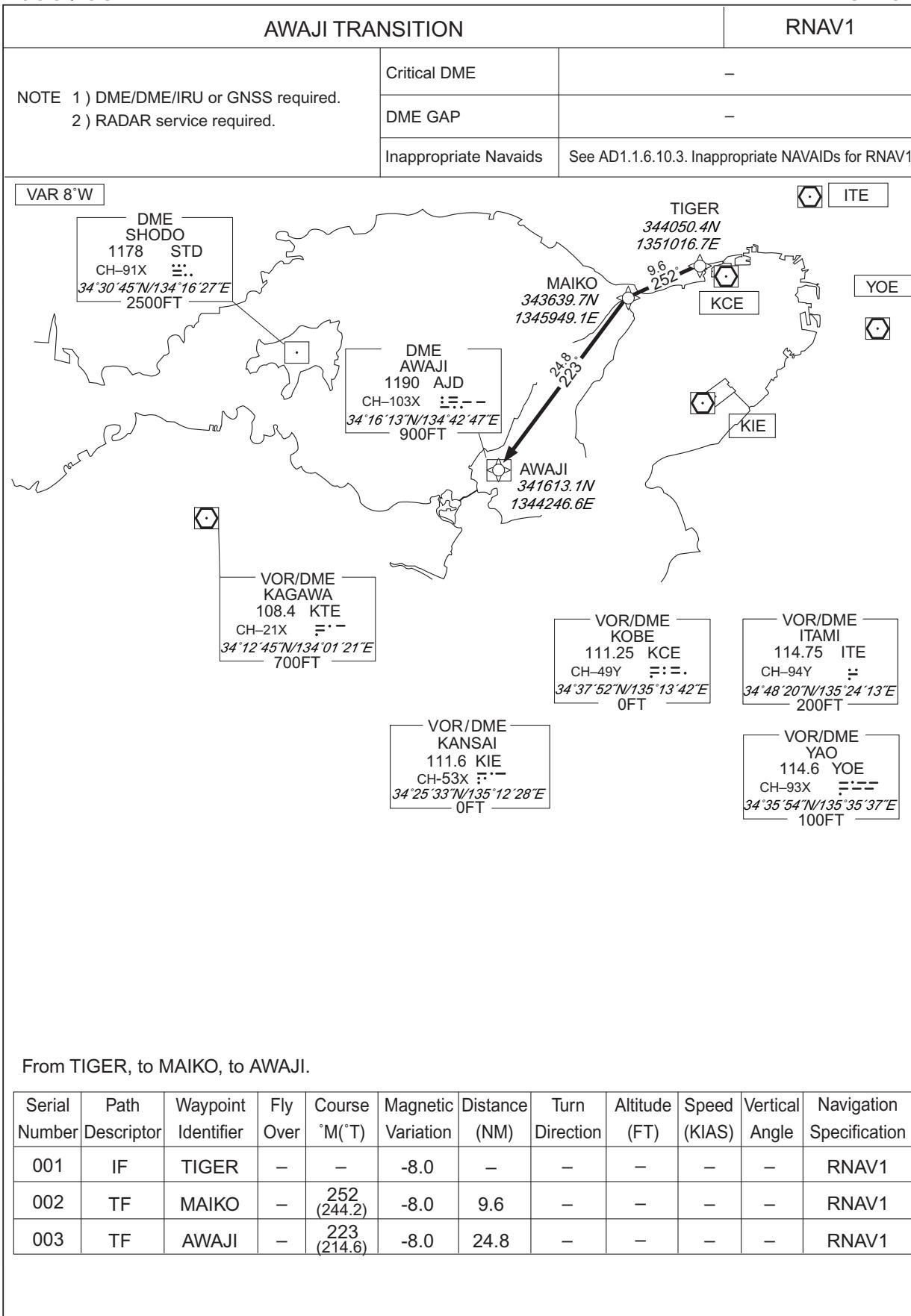
From ASUKA, to SHTLE.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ASUKA	—	—	-8.0	—	—	—	—	—	RNAV1
002	TF	SHTLE	—	093 (084.9)	-8.0	45.3	—	—	—	—	RNAV1

STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

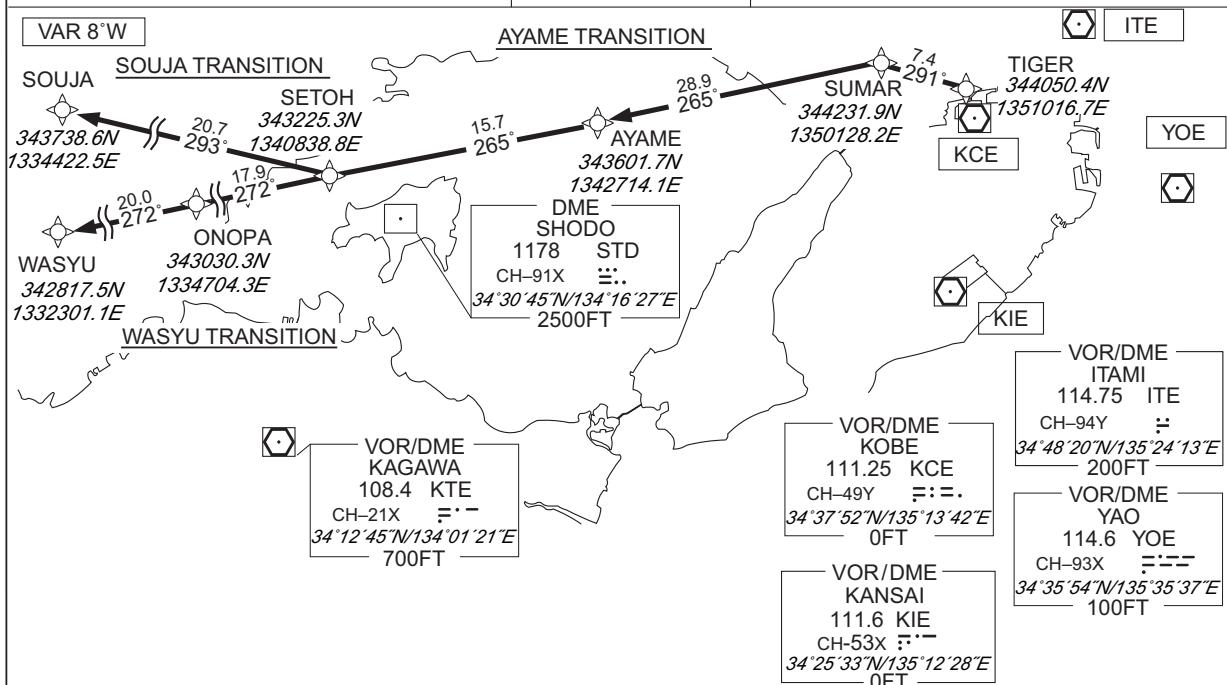


STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

AYAME TRANSITION / SOUJA TRANSITION / WASYU TRANSITION		RNAV1
NOTE 1) DME/DME/IRU or GNSS required.	Critical DME	—
2) RADAR service required.	DME GAP	—
	Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDS for RNAV1



AYAME TRANSITION

From TIGER, to SUMAR, to AYAME.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	TIGER	—	—	-8.1	—	—	—	—	—	RNAV1
002	TF	SUMAR	—	291 (283.2)	-8.1	7.4	—	—	—	—	RNAV1
003	TF	AYAME	—	265 (257.2)	-8.1	28.9	—	—	—	—	RNAV1

CHANGE : TAKAMATSU TACAN abolished.

SOUJA TRANSITION

From TIGER, to SUMAR, to AYAME, to SETOH, to SOUJA,

Flight Plan from TIGER to SUMAR to AYAME to SETOH to SOUJA												
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification	
001	IF	TIGER	—	—	-8.1	—	—	—	—	—	RNAV1	
002	TF	SUMAR	—	291 (283.2)	-8.1	7.4	—	—	—	—	RNAV1	
003	TF	AYAME	—	265 (257.2)	-8.1	28.9	—	—	—	—	RNAV1	
004	TF	SETOH	—	265 (256.8)	-8.1	15.7	—	—	—	—	RNAV1	
005	TF	SOUJA	—	293 (284.8)	-8.1	20.7	—	—	—	—	RNAV1	

STANDARD DEPARTURE CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV TRANSITION

WASYU TRANSITION

From TIGER, to SUMAR, to AYAME, to SETOH, to ONOPA, to WASYU.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	TIGER	—	—	-8.1	—	—	—	—	—	RNAV1
002	TF	SUMAR	—	291 (283.2)	-8.1	7.4	—	—	—	—	RNAV1
003	TF	AYAME	—	265 (257.2)	-8.1	28.9	—	—	—	—	RNAV1
004	TF	SETOH	—	265 (256.8)	-8.1	15.7	—	—	—	—	RNAV1
005	TF	ONOPA	—	272 (263.9)	-8.1	17.9	—	—	—	—	RNAV1
006	TF	WASYU	—	272 (263.7)	-8.1	20.0	—	—	—	—	RNAV1

CHANGE : VAR. PROC course. ONOPA established.

STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

STAR

IZUMI ARRIVAL

From over IZUMI, via ITE 21.9DME counter-clockwise ARC to intercept and proceed via ITE R141 to IKOMA.

Cross ITE R141/19.0DME at or above 4000FT, cross IKOMA at or above 3500FT.

AGPUK ARRIVAL

From over AGPUK, via YOE R113 to intercept and proceed via ITE R141 to IKOMA.

Cross AGPUK at or above 9000FT, cross YOE R113/21.0DME at or above 4700FT, cross ITE R141/19.0DME at or above 4000FT, cross IKOMA at or above 3500FT.

CHANGE : AGPUK ARRIVAL established.



STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV STAR RWY32L/32R

IKOMA EAST ARRIVAL / IKOMA NORTH ARRIVAL

RNAV1

- Note 1) DME/DME/IRU or GNSS required
 2) RADAR service required

VAR 8°W

ROKKO
350700.6N
1351800.9E
7000

VOR/DME
ITAMI
114.75 ITE
CH-94Y
34°48'20"N/135°24'13"E
200FT

VOR/DME
KOB
111.25 KCE
CH-49Y
34°37'52"N/135°13'42"E
0FT

MAX 210KIAS for
IKOMA NORTH
ARRIVAL

IKOMA
343616.7N
1353914.8E
3500

VOR/DME
KANSAI
111.6 KIE
CH-53X
34°25'33"N/135°12'28"E
0FT

IKOMA NORTH ARRIVAL22.8
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STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV STAR RWY32L/32R

IKOMA EAST ARRIVAL

From AGPUK, to MIRAI at or above 6000FT, to ABENO, to IKOMA at or above 3500FT.

Critical DME	KCC : AGPUK – MIRAI
DME GAP	–
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	AGPUK	–	–	-8.0	–	–	–	–	–	RNAV1
002	TF	MIRAI	–	297 (288.7)	-8.0	9.5	–	+6000	–	–	RNAV1
003	TF	ABENO	–	297 (288.6)	-8.0	10.5	–	–	–	–	RNAV1
004	TF	IKOMA	–	296 (288.5)	-8.0	2.3	–	+3500	–	–	RNAV1

IKOMA NORTH ARRIVAL

From ROKKO at or above 7000FT, to KAMEO at or above 7000FT, to OTABE, to ABENO, to IKOMA at or above 3500FT.

Critical DME	ITE : 9.9NM to KAMEO – KAMEO YME : 19.7NM to OTABE – 13.7NM to OTABE
DME GAP	–
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ROKKO	–	–	-8.0	–	–	+7000	–	–	RNAV1
002	TF	KAMEO	–	148 (140.4)	-8.0	12.9	–	+7000	–	–	RNAV1
003	TF	OTABE	–	148 (140.5)	-8.0	22.8	–	–	–	–	RNAV1
004	TF	ABENO	–	226 (218.0)	-8.0	5.0	–	–	-210	–	RNAV1
005	TF	IKOMA	–	296 (288.5)	-8.0	2.3	–	+3500	-210	–	RNAV1

CHANGE : VAR. KODAI abolished. AGPUK established. PROC course.

STANDARD ARRIVAL CHART-INSTRUMENT

RJOO / OSAKA INTL

RNAV STAR RWY32L/32R

HABIK ARRIVAL

RNAV1

- Note 1) DME/DME/IRU or GNSS required
 2) RADAR service required

VAR 8°W

VOR/DME
ITAMI
114.75 ITE
CH-94Y
 $34^{\circ}48'20''N/135^{\circ}24'13''E$
200FT



VOR/DME
KOB
111.25 KCE
CH-49Y
 $34^{\circ}37'52''N/135^{\circ}13'42''E$
0FT

VOR/DME
YAO
114.6 YOE
CH-93X
 $34^{\circ}35'54''N/135^{\circ}35'37''E$
100FT

IKOMA
 $34^{\circ}36'16.7''N$
 $135^{\circ}39'14.8''E$
3500

VOR/DME
KANSAI
111.6 KIE
CH-53X
 $34^{\circ}25'33''N/135^{\circ}12'28''E$
0FT

IZUMI
 $34^{\circ}26'28.5''N$
 $135^{\circ}23'1.3''E$

HABIK
 $34^{\circ}32'46.8''N$
 $135^{\circ}39'14.2''E$

Using NAVAID

IZUMI D12.6 YOE R229°
YAO VOR/DME (YOE)
D19.0 YOE
MHA 4200 MAX 230KIAS

Using NAVAID

ITAMI VOR/DME (ITE) R141°
IKOMA D17.3 ITE 141°
D22.0 ITE 327°

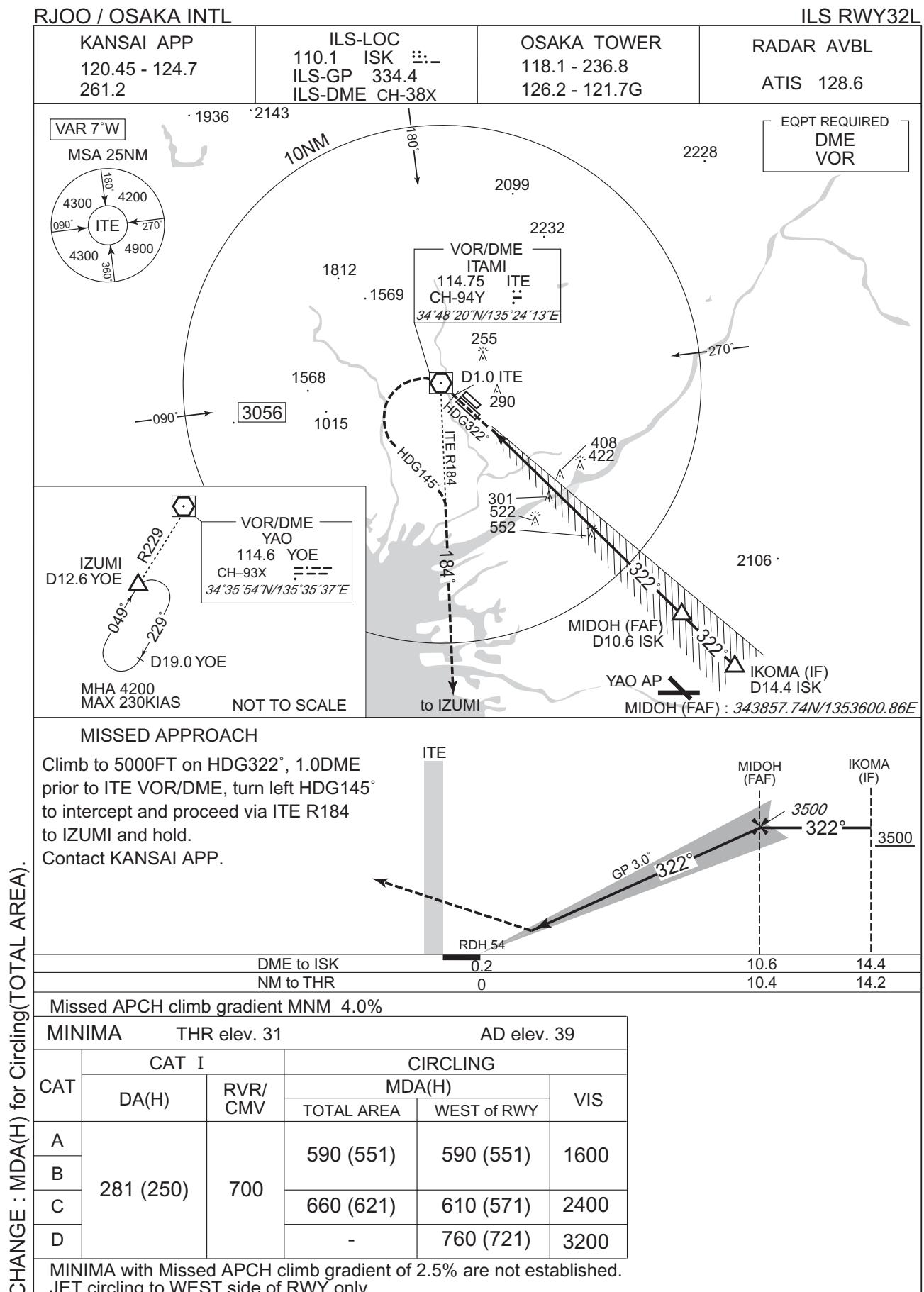
From IZUMI, to HABIK, to IKOMA at or above 3500FT.

Critical DME	-
DME GAP	-
Inappropriate Navaids	See AD1.1.6.10.3. Inappropriate NAVAIDs for RNAV1

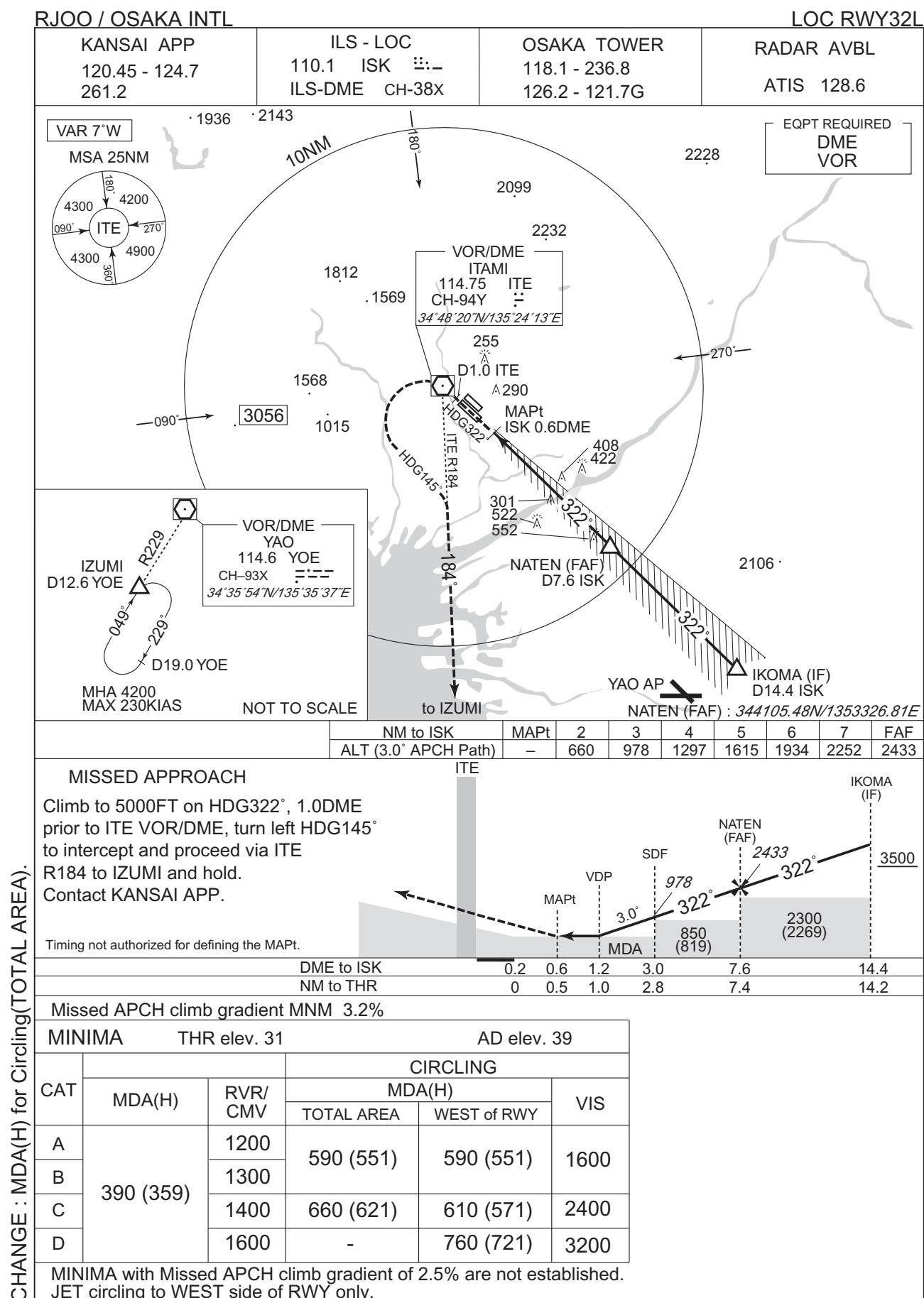
CHANGE : Description of VAR and PROC name.

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	IZUMI	-	-	-8.0	-	-	-	-	-	RNAV1
002	TF	HABIK	-	(069) (060.8)	-8.0	13.0	-	-	-	-	RNAV1
003	TF	IKOMA	-	(008) (000.1)	-8.0	3.5	-	+3500	-	-	RNAV1

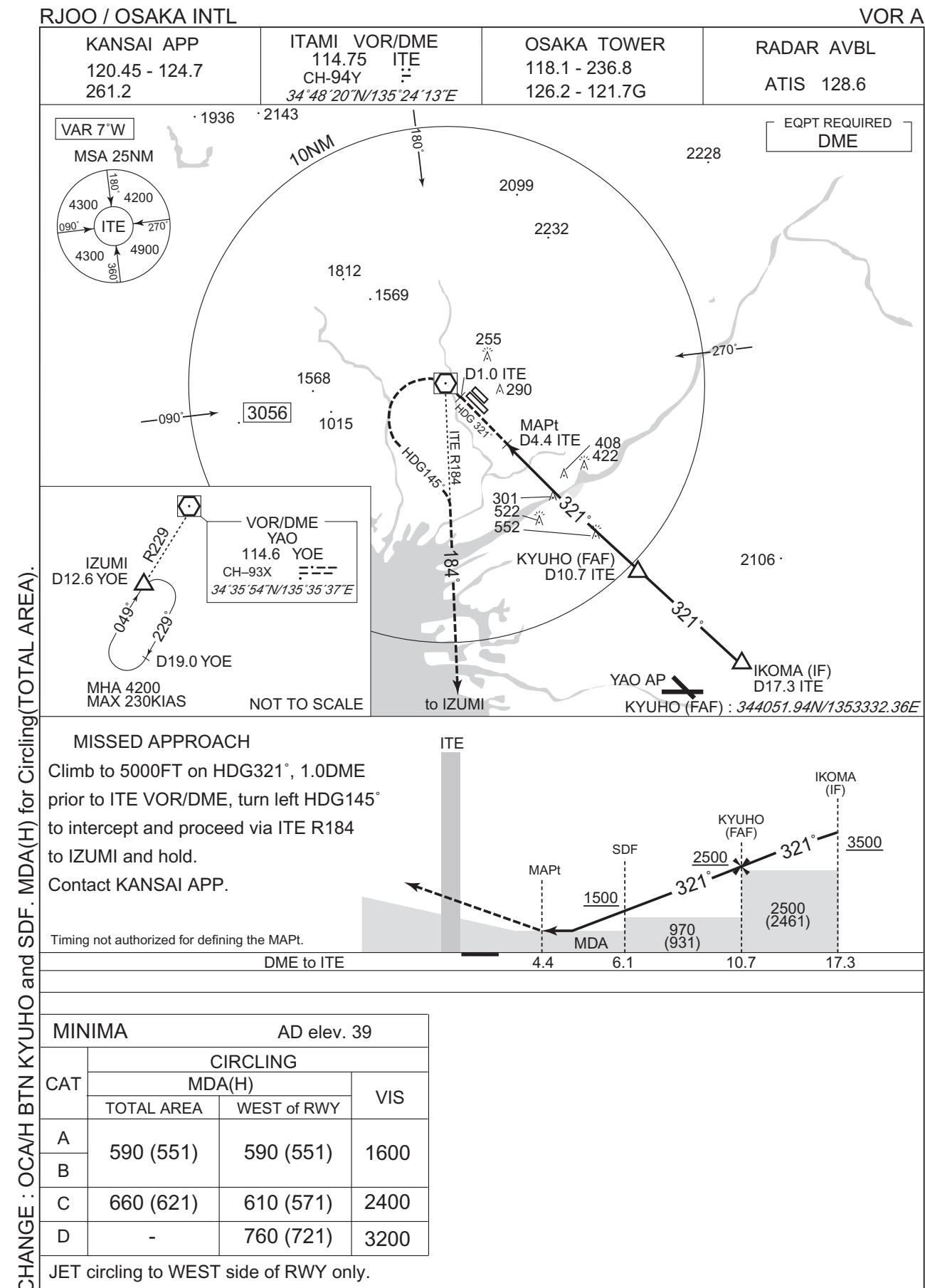
INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART

RJOO / OSAKA INTL

RNP RWY32L

CHANGE : 02L53 established. MSAS CH added. Minimum TEMP for Baro-VNAV, HLDG Pattern, PROC ALT at FAF. Missed APCH for Using VOR/DME abolished. OCA/H BTN KOSAK and UMEDA, LPV established. MINIMA, NM to THR at VDP.

INSTRUMENT APPROACH CHART

RJOO / OSAKA INTL

RNP RWY32L

FAS DATA BLOCK

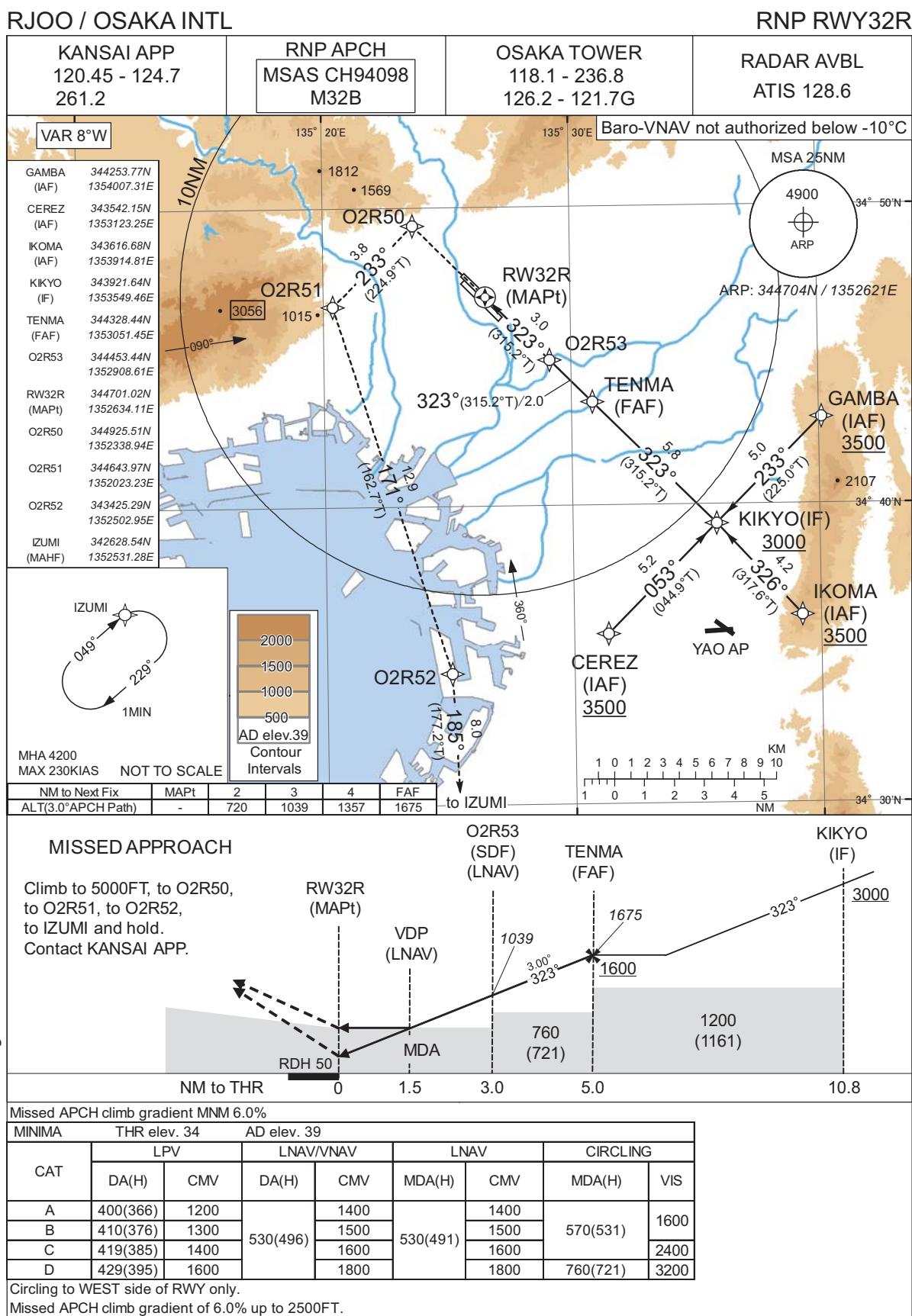
Operation type	0	LTP/FTP ellipsoidal height	+00469
SBAS service provider identifier	2	FPAP latitude	344728.7535N
Airport identifier	RJOO	FPAP longitude	1352543.3300E
Runway	323	Threshold crossing height	00016.5
Approach performance designator	0	TCH units selector	1
Route indicator		Glide path angle	03.00
Reference path data selector	0	Course width at threshold	105.00
Reference path ID	M32A	△ length offset	0000
LTP/FTP latitude	344619.8985N	HAL	40.0
LTP/FTP longitude	1352706.7455E	VAL	50.0
CRC remainder	D799CA35		

Required additional data

LTP/FTP orthometric height	9.6
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CHANGE : FAS DATA BLOCK, Required additional data established.

INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART

RJOO / OSAKA INTL

RNP RWY32R

FAS DATA BLOCK

Operation type	0	LTP/FTP ellipsoidal height	+00478
SBAS service provider identifier	2	FPAP latitude	344742.9515N
Airport identifier	RJOO	FPAP longitude	1352543.2590E
Runway	321	Threshold crossing height	00015.0
Approach performance designator	0	TCH units selector	1
Route indicator		Glide path angle	03.00
Reference path data selector	0	Course width at threshold	105.00
Reference path ID	M32B	△ length offset	0000
LTP/FTP latitude	344700.9970N	HAL	40.0
LTP/FTP longitude	1352634.0960E	VAL	50.0
CRC remainder	49D4256C		

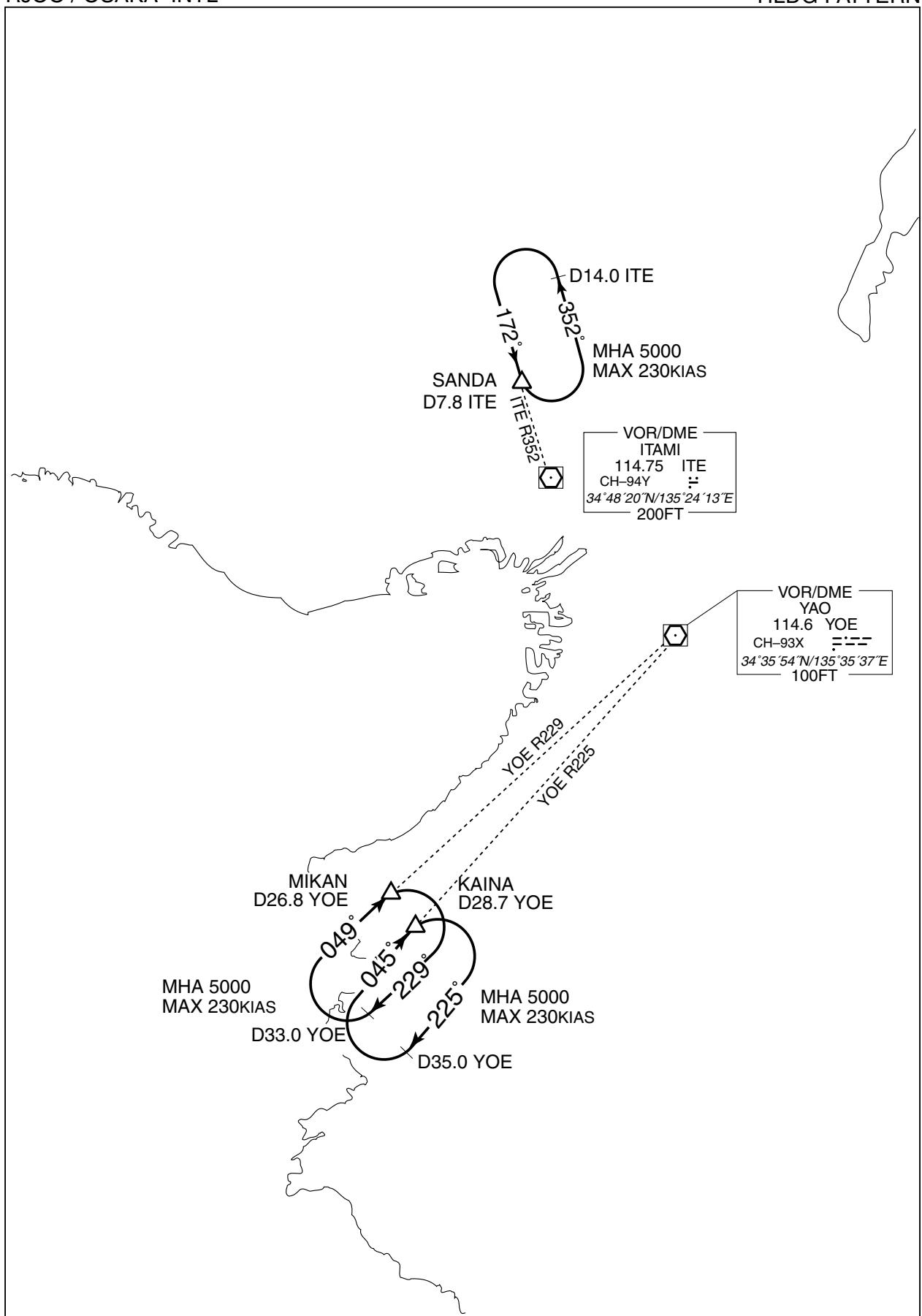
Required additional data

LTP/FTP orthometric height	10.6
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CHANGE : FAS DATA BLOCK, Required additional data established.

RJOO / OSAKA INTL

HLDG PATTERN



RJOO / OSAKA INTL

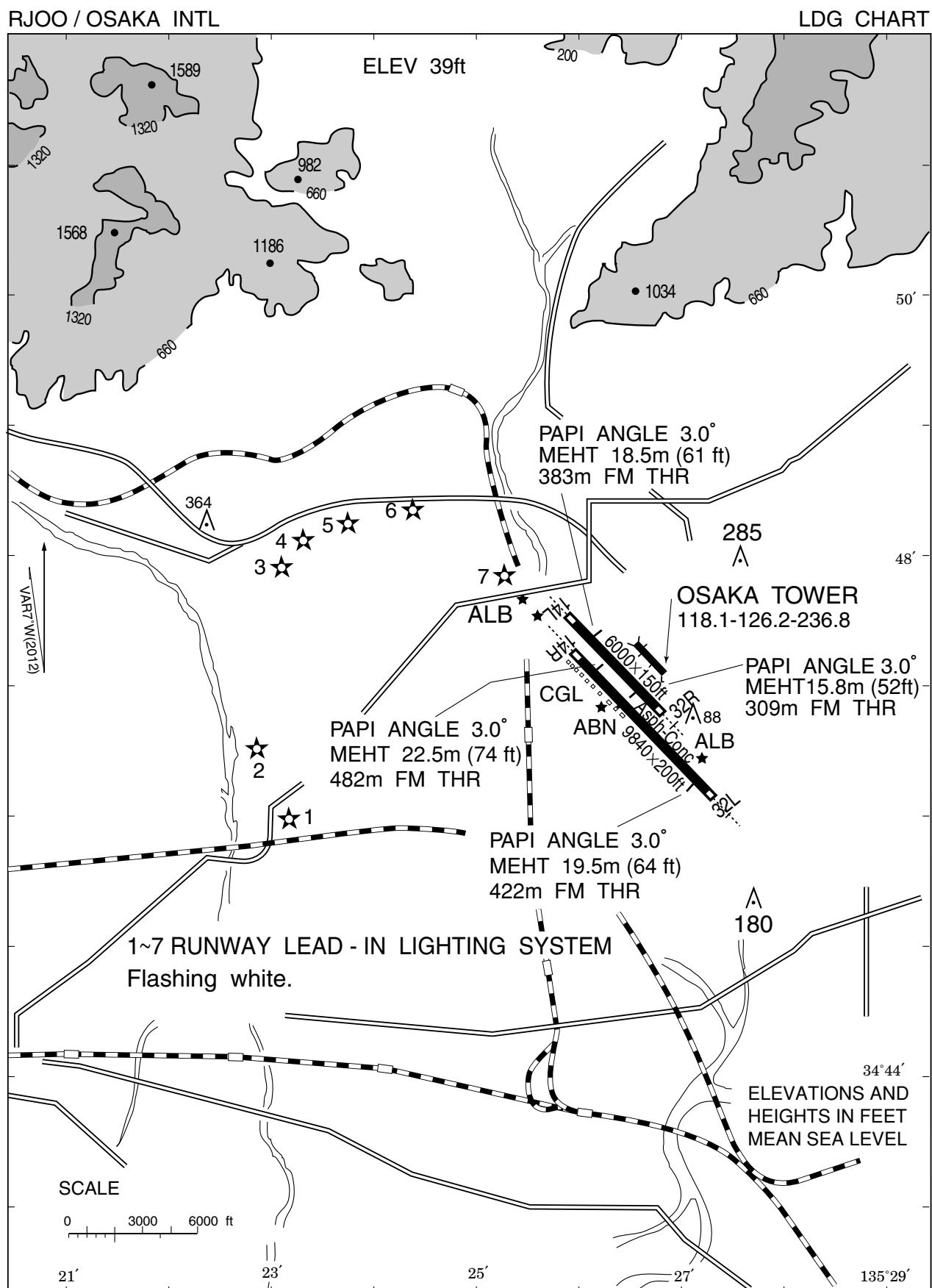
Visual REP



※図中に標高を示す数字がある場合、単位はメートル(m)である。The unit of measurement used to express elevation is meter(m).

CHANGE : Map updated. Call sign(Itami→Arioka). BRG/DIST from ARP. Senri(Remarks), Saita(Remarks).

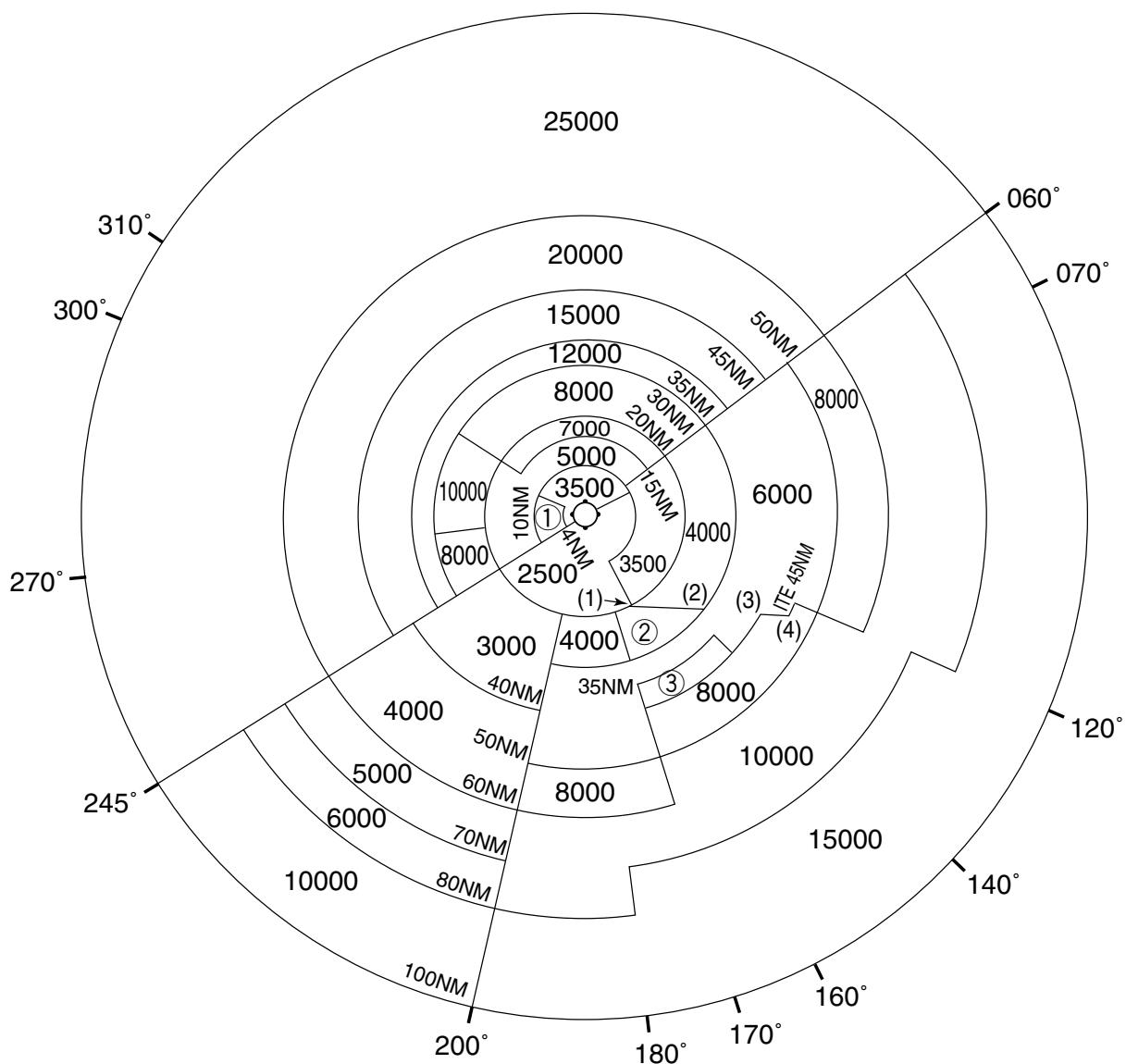
Call sign	BRG / DIST from ARP	Remarks
川西 Kawanishi	339°T / 4.9NM	多田神社 Shrine
石橋 Ishibashi	013°T / 1.5NM	阪急石橋阪大前駅 Station
千里 Senri	063°T / 3.0NM	千里インターチェンジ Interchange
吹田 Saita	077°T / 5.2NM	吹田ジャンクション Junction
刀根山 Toneyama	037°T / 1.2NM	中国豊中インターチェンジ Interchange
有岡 Arioka	255°T / 0.9NM	JR伊丹駅 Station
鳥飼 Torikai	103°T / 6.8NM	鳥飼大橋 Bridge
鳴尾 Naruo	225°T / 5.4NM	甲子園球場 Baseball ground



RJOO / OSAKA INTL

Minimum Vectoring Altitude CHART

VAR 7°W (2011)



- | | |
|--------|----------------------|
| ① 4500 | (1) 342930N/1353527E |
| ② 5000 | (2) 342925N/1355432E |
| ③ 7000 | (3) 342918N/1360849E |
| | (4) 342924N/1361335E |

CENTER : 344752N/1352550E (No.1 RADAR SITE)
CENTER : 344659N/1352600E (No.2 RADAR SITE)