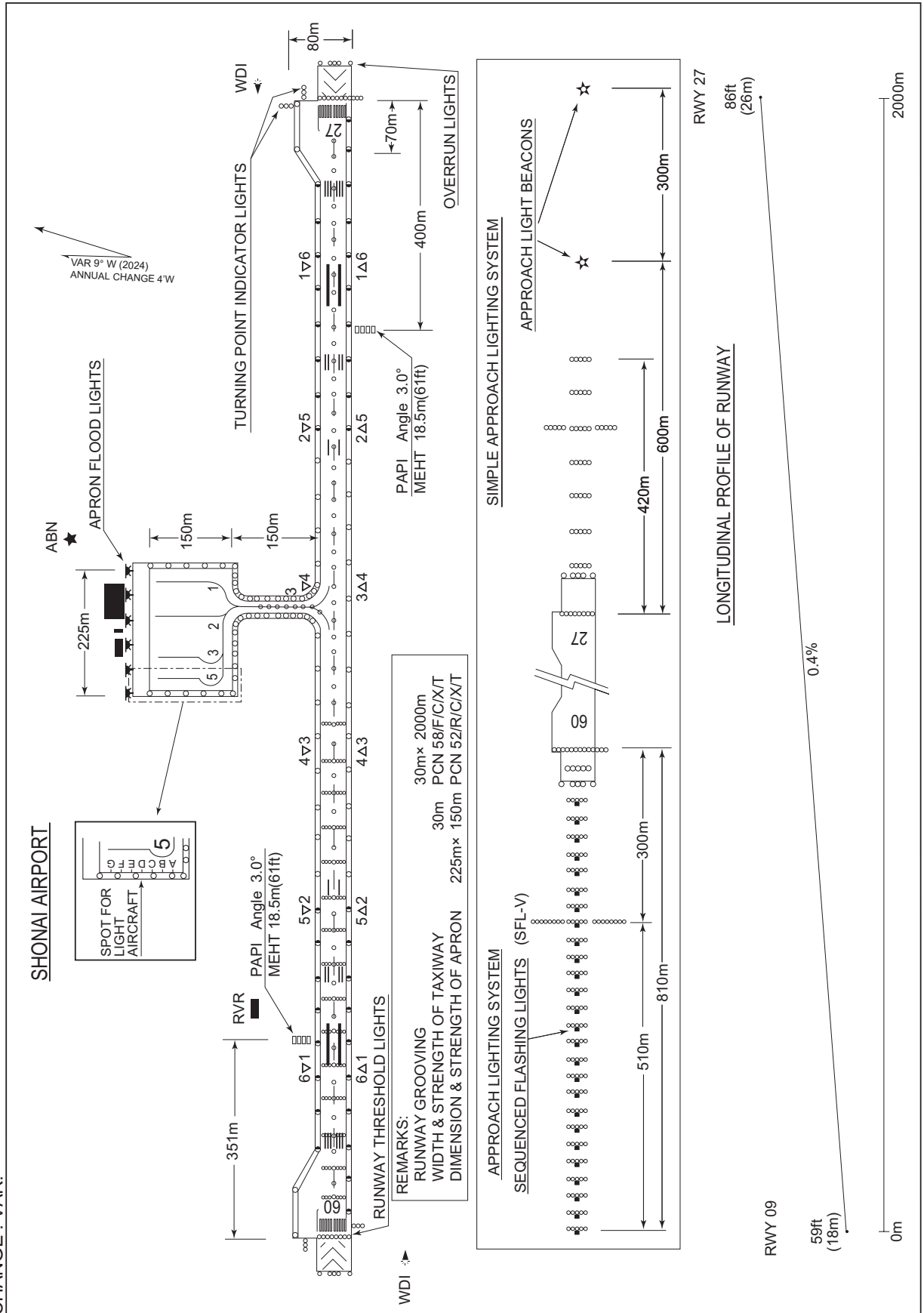


RJSY / SHONAI

AD CHART

CHANGE : VAR.



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STANDARD DEPARTURE CHART - INSTRUMENT

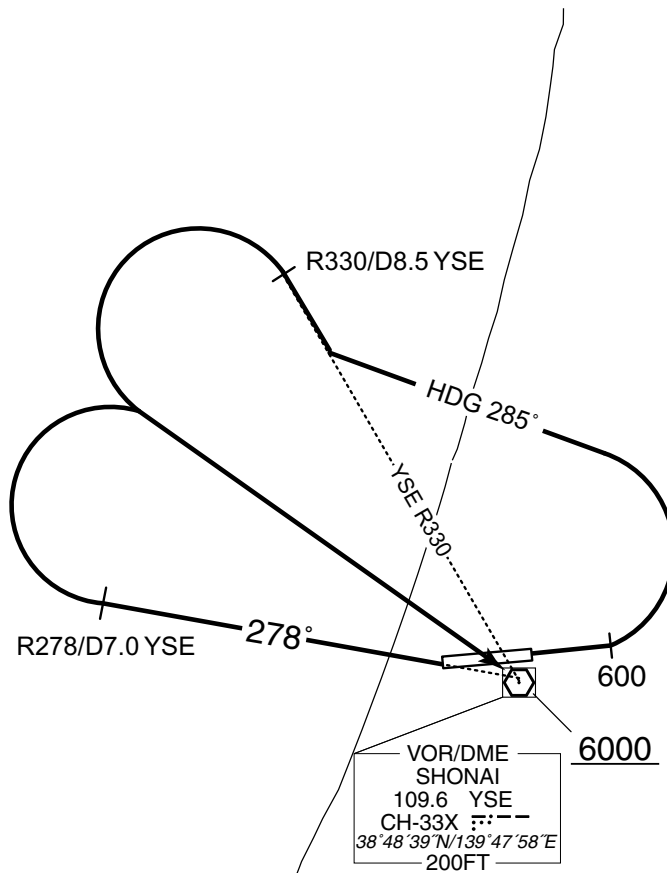
RJSY / SHONAI

SID

SHONAI REVERSAL THREE DEPARTURE

RWY 09 : Climb RWY HDG to 600FT, turn left HDG 285° to intercept and proceed via YSE R330 to YSE R330/8.5DME, turn left,...

RWY 27 : Climb via YSE R278 to YSE R278/7.0DME, turn right, ...direct to YSE VOR/DME.  
Cross YSE VOR/DME at or above 6000FT.



SHONAI REVERSAL THREE DEPARTURE

STANDARD DEPARTURE CHART - INSTRUMENT

RJSY / SHONAI

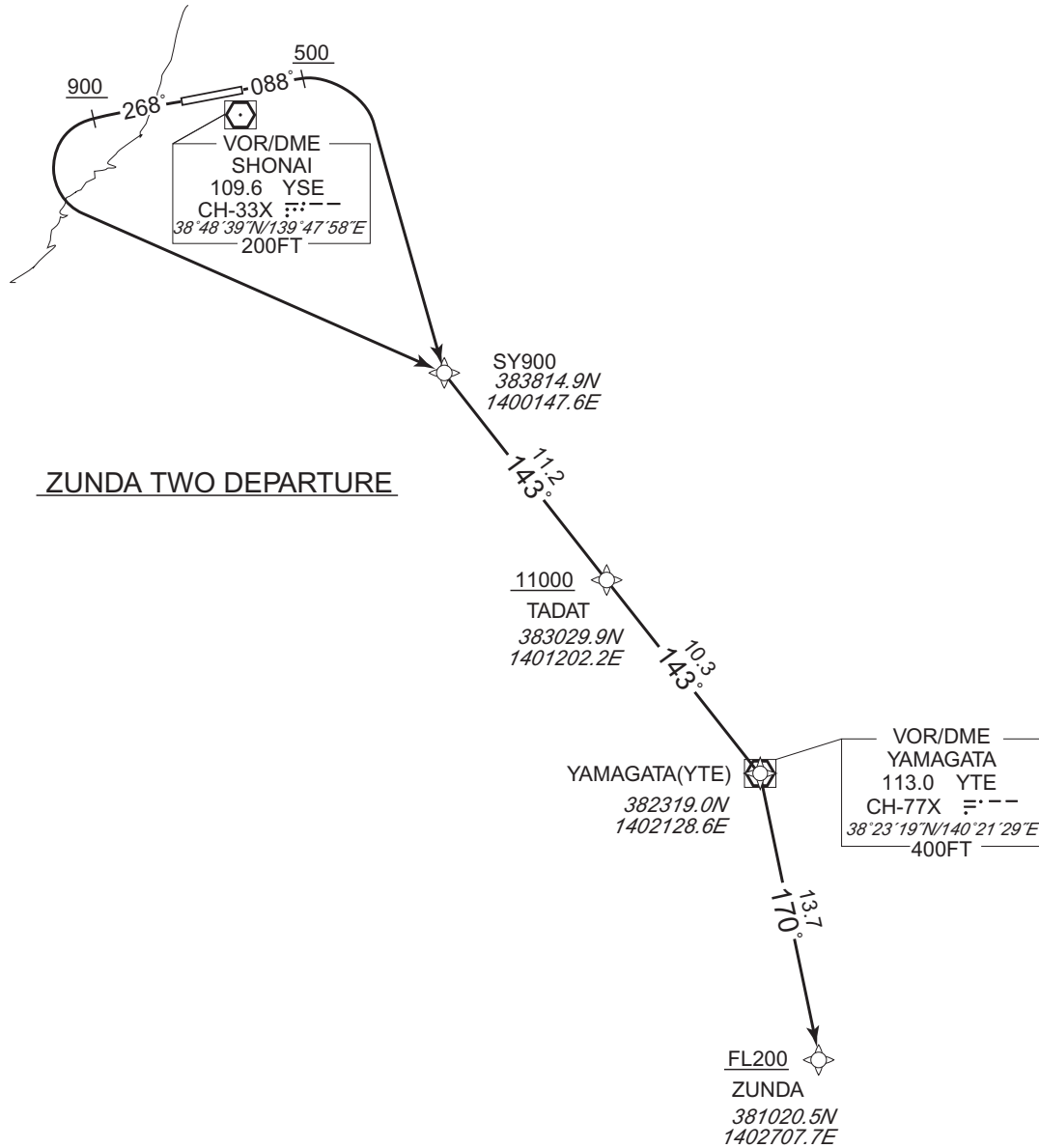
RNAV SID

ZUNDA TWO DEPARTURE

RNP1

Note GNSS required.

VAR 9°W (2022)



CHANGE : Navigation Specification(Basic RNP1 → RNP1).

ZUNDA TWO DEPARTURE

RWY09 : Climb on HDG 088° at or above 500FT, turn right direct to SY900, to TADAT at or above 11000FT, to YTE, to ZUNDA at or above FL200.

RWY27 : Climb on HDG 268° at or above 900FT, turn left direct to SY900, to TADAT at or above 11000FT, to YTE, to ZUNDA at or above FL200.

NOTE RWY09 : 4.8% climb gradient required up to 5000FT.  
OBST ALT 4758FT located at 17.2NM 150°FM end of RWY09.

RWY27 : 4.4% climb gradient required up to 3500FT.  
OBST ALT 1117FT located at 3.1NM 212°FM end of RWY27.

STANDARD DEPARTURE CHART - INSTRUMENT

RJSY / SHONAI

RNAV SID

ZUNDA TWO DEPARTURE

RWY09

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	VA	-	-	088 (079.5)	-8.8	-	-	+500	-	-	RNP1
002	DF	SY900	-	-	-8.8	-	R	-	-	-	RNP1
003	TF	TADAT	-	143 (134.0)	-8.8	11.2	-	+11000	-	-	RNP1
004	TF	YTE	-	143 (134.1)	-8.8	10.3	-	-	-	-	RNP1
005	TF	ZUNDA	-	170 (161.1)	-8.8	13.7	-	+FL200	-	-	RNP1

RWY27

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	VA	-	-	268 (259.5)	-8.8	-	-	+900	-	-	RNP1
002	DF	SY900	-	-	-8.8	-	L	-	-	-	RNP1
003	TF	TADAT	-	143 (134.0)	-8.8	11.2	-	+11000	-	-	RNP1
004	TF	YTE	-	143 (134.1)	-8.8	10.3	-	-	-	-	RNP1
005	TF	ZUNDA	-	170 (161.1)	-8.8	13.7	-	+FL200	-	-	RNP1

CHANGE : Navigation Specification(Basic RNP1 → RNP1).

STANDARD ARRIVAL CHART -INSTRUMENT

RJSY / SHONAI

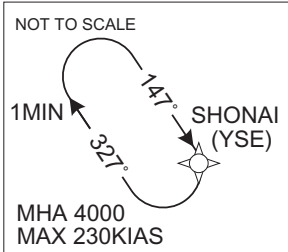
RNAV STAR RWY27

MOKKE ARRIVAL  
SHONAI ARRIVAL

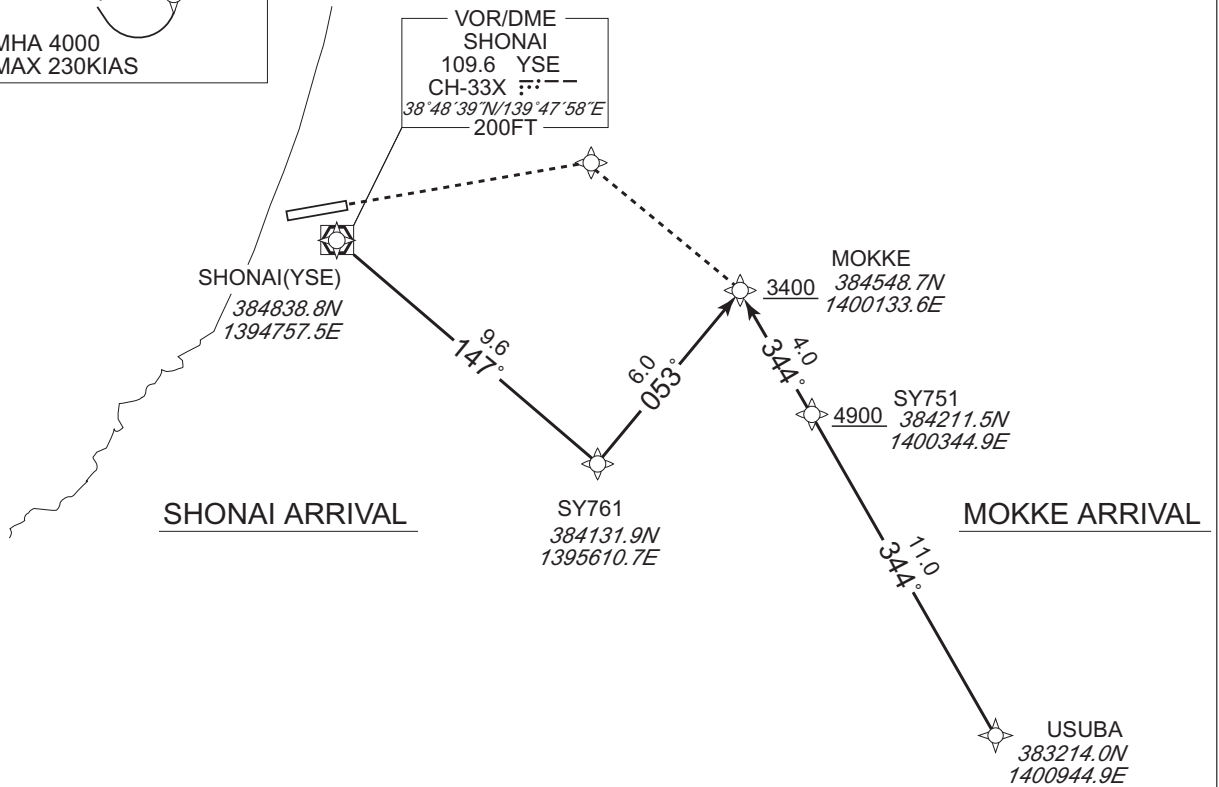
RNP1

Note GNSS required.

VAR 9°W (2022)



VOR/DME  
SHONAI  
109.6 YSE  
CH-33X ---  
38°48'39"N/139°47'58"E  
200FT



CHANGE : Navigation Specification(Basic RNP1 → RNP1).

STANDARD ARRIVAL CHART -INSTRUMENT

RJSY / SHONAI

RNAV STAR RWY27

MOKKE ARRIVAL

From USUBA, to SY751 at or above 4900FT, to MOKKE at or above 3400FT.

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	USUBA	-	-	-8.8	-	-	-	-	-	RNP1
002	TF	SY751	-	344 (334.8)	-8.8	11.0	-	+4900	-	-	RNP1
003	TF	MOKKE	-	344 (334.8)	-8.8	4.0	-	+3400	-	-	RNP1

SHONAI ARRIVAL

From YSE, to SY761, to MOKKE at or above 3400FT.

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	YSE	-	-	-8.8	-	-	-	-	-	RNP1
002	TF	SY761	-	147 (137.9)	-8.8	9.6	-	-	-	-	RNP1
003	TF	MOKKE	-	053 (044.4)	-8.8	6.0	-	+3400	-	-	RNP1

Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	Navigation Specification
Hold	YSE	147 (137.9)	-8.8	1.0(-14000)	R	4000	FL140	-230(-14000)	RNP1

CHANGE : Navigation Specification(Basic RNP1 → RNP1).

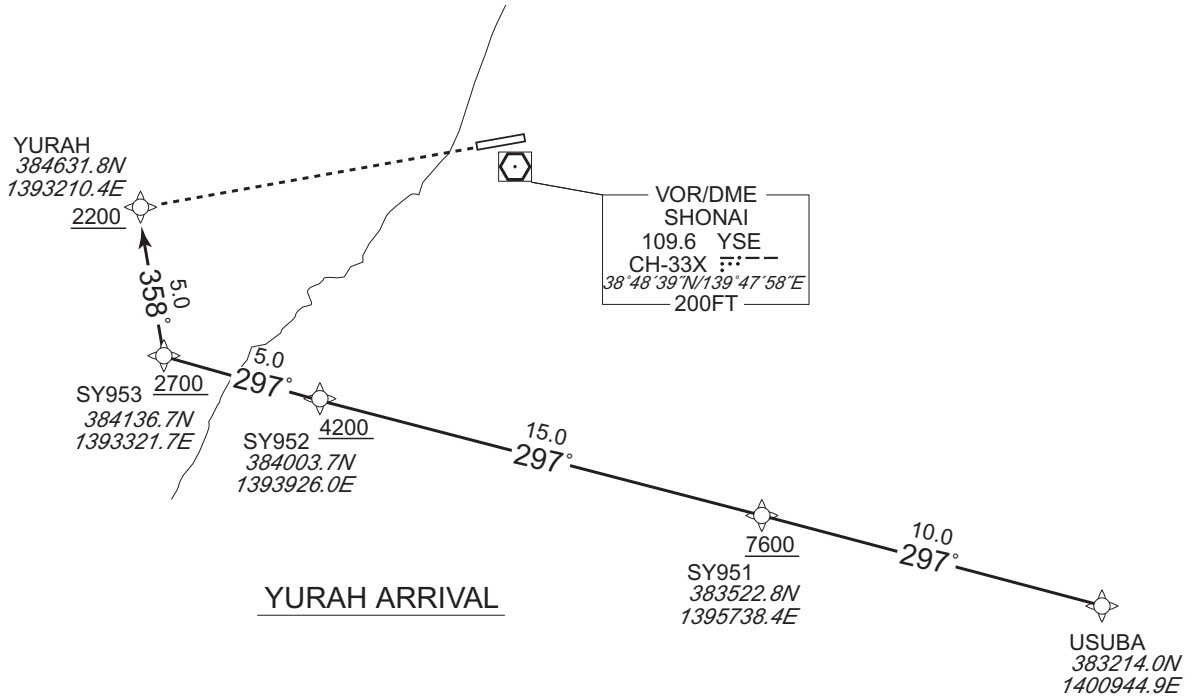
STANDARD ARRIVAL CHART -INSTRUMENT

RJSY / SHONAI RNAV STAR RWY09

**YURAH ARRIVAL** RNP1

Note GNSS required.

VAR 9°W (2022)



CHANGE : Navigation Specification(Basic RNP1 → RNP1).

**YURAH ARRIVAL**

From USUBA, to SY951 at or above 7600FT, to SY952 at or above 4200FT, to SY953 at or above 2700FT, to YURAH at or above 2200FT.

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	USUBA	—	—	-8.8	—	—	—	—	—	RNP1
002	TF	SY951	—	297 (288.4)	-8.8	10.0	—	+7600	—	—	RNP1
003	TF	SY952	—	297 (288.3)	-8.8	15.0	—	+4200	—	—	RNP1
004	TF	SY953	—	297 (288.1)	-8.8	5.0	—	+2700	—	—	RNP1
005	TF	YURAH	—	358 (349.3)	-8.8	5.0	—	+2200	—	—	RNP1

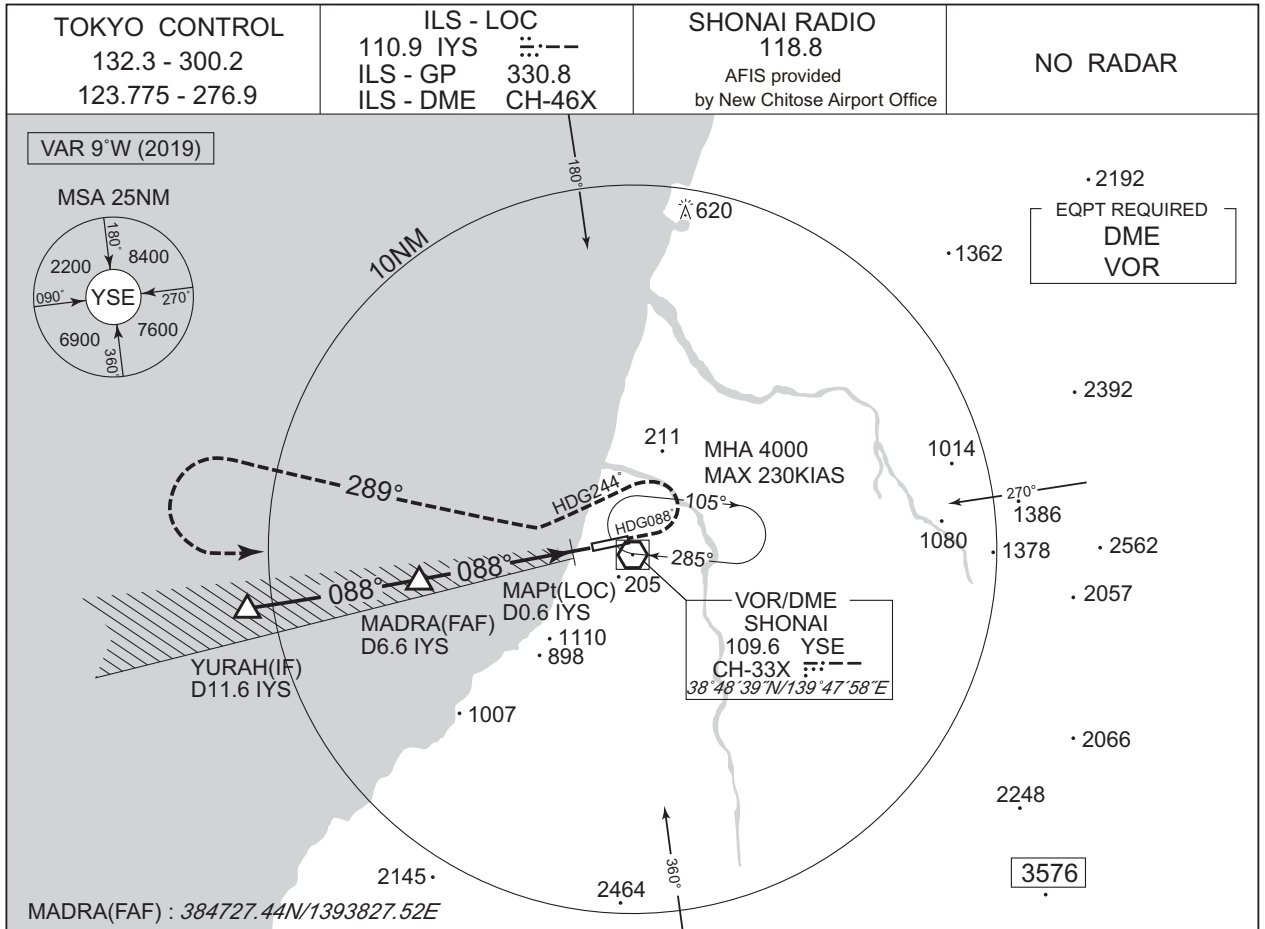


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INSTRUMENT APPROACH CHART

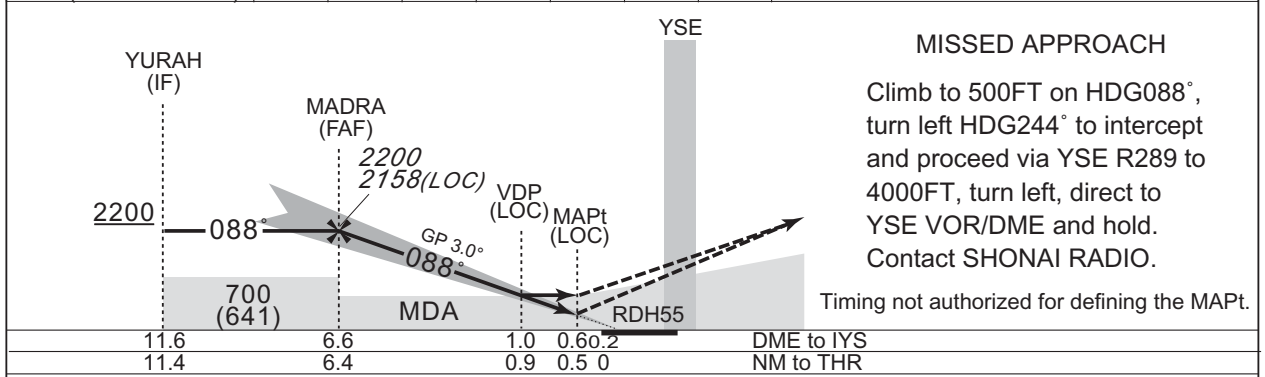
RJSY / SHONAI

ILS Z or LOC Z RWY09



NM to IYS	FAF	6	5	4	3	2	MAPt
ALT (3.0° APCH Path)	2158	1967	1648	1330	1011	693	-

CHANGE : Secondary FREQ for TOKYO CONTROL.



Missed APCH climb gradient MNM 5.0%

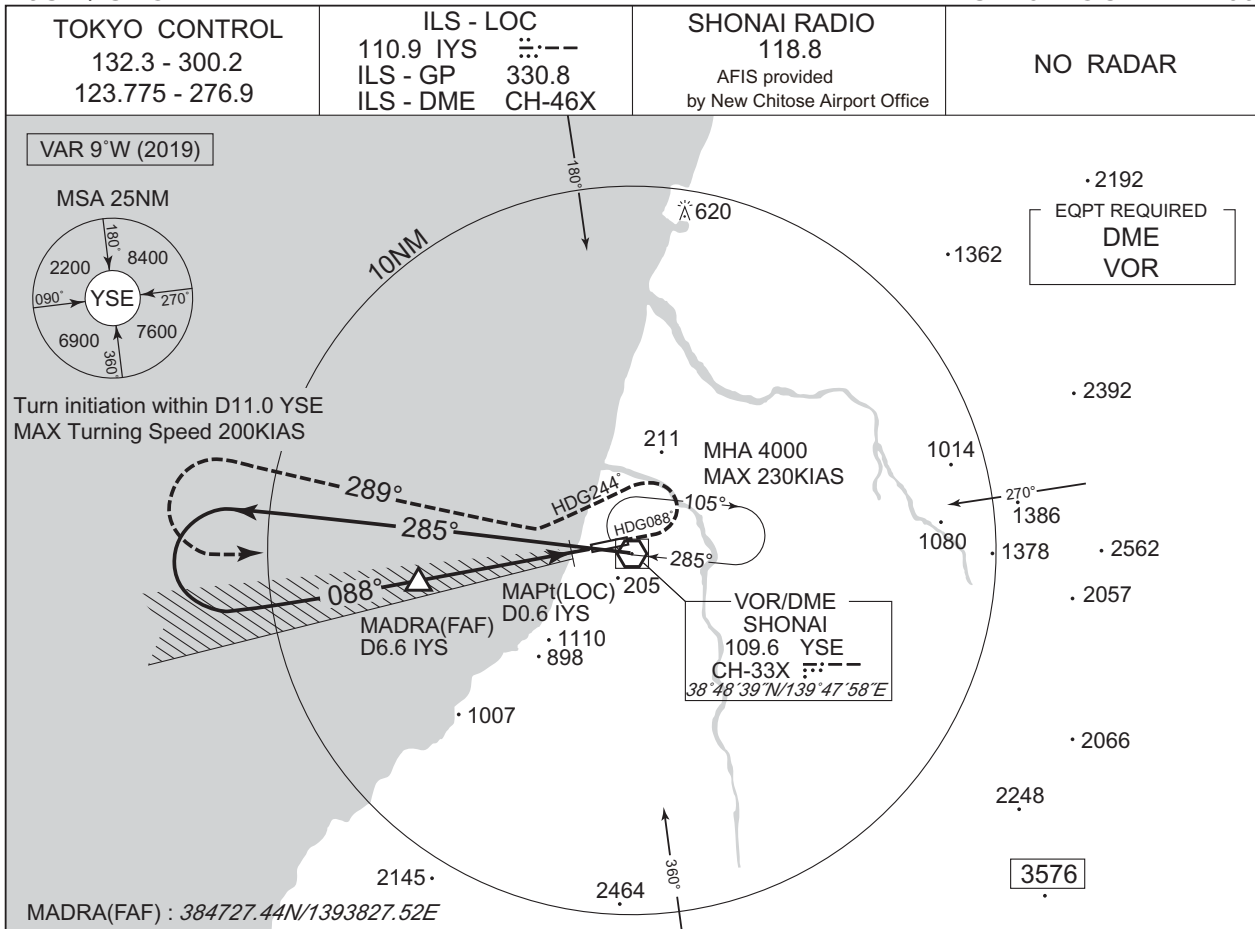
MINIMA		THR elev. 59		AD elev. 72				
CAT	CAT I		LOC		CIRCLING			
	DA(H)	RVR/CMV	MDA(H)	RVR/CMV	MDA(H)	VIS		
A	259 (200)	550	380 (321)	900	530 (458)	1600		
B				1000				
C				1400			700 (628)	3200
D								

MINIMA with Missed APCH climb gradient of 2.5% are not established.  
 Circling to NORTH side of RWY only.

INSTRUMENT APPROACH CHART

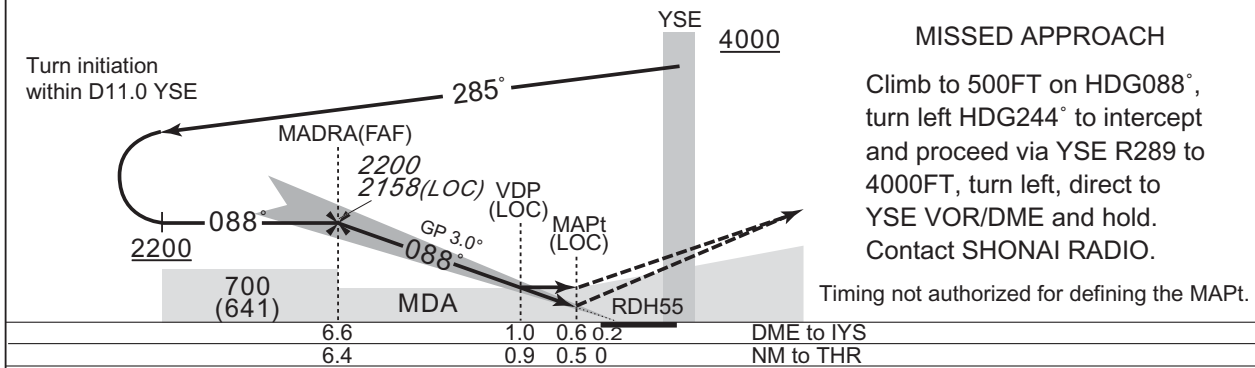
RJSY / SHONAI

ILS Y or LOC Y RWY09



NM to IYS	FAF	6	5	4	3	2	MAPt
ALT (3.0° APCH Path)	2158	1967	1648	1330	1011	693	-

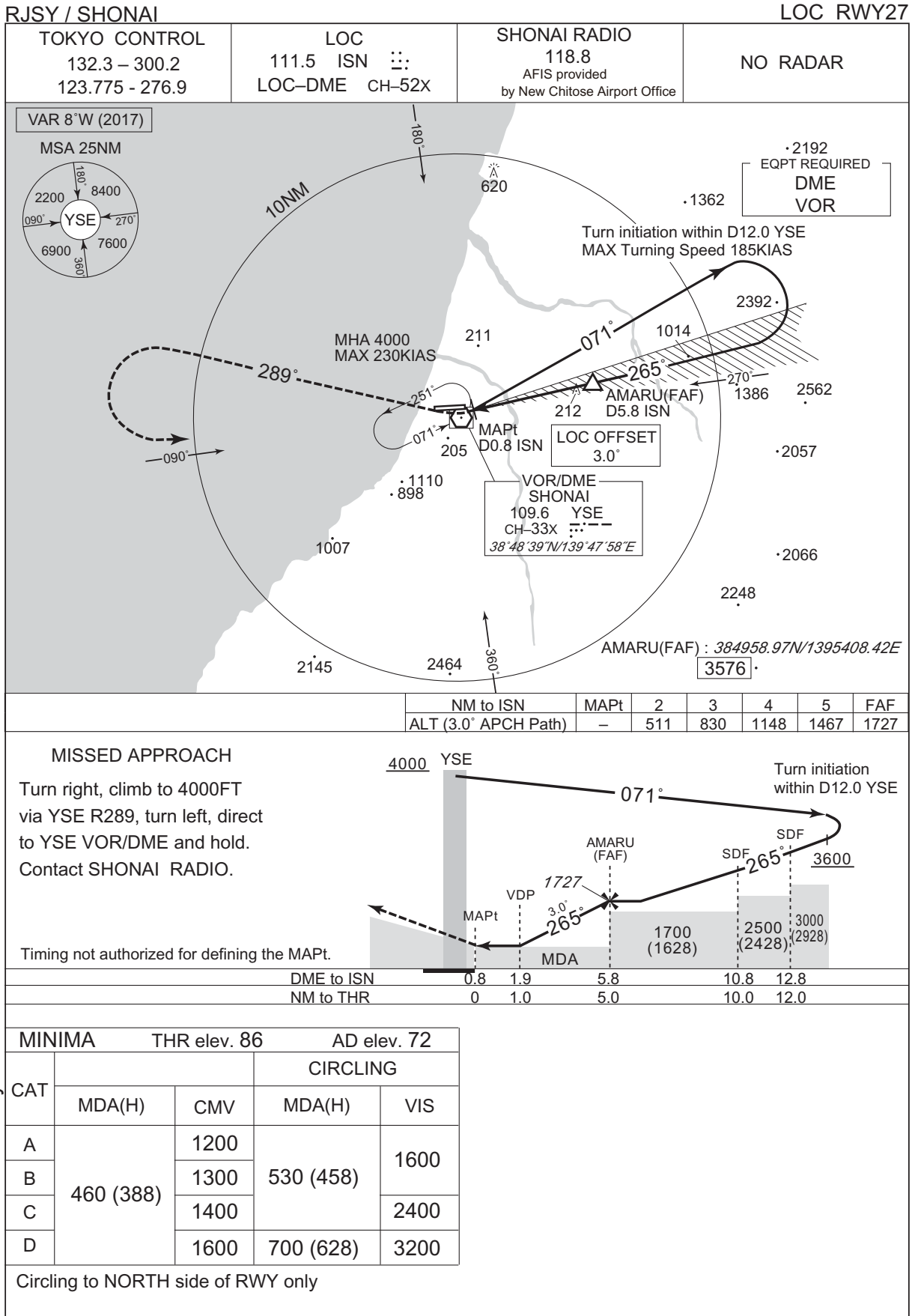
CHANGE : Secondary FREQ for TOKYO CONTROL.



Missed APCH climb gradient MNM 5.0%						
MINIMA		THR elev. 59		AD elev. 72		
CAT	CAT I		LOC		CIRCLING	
	DA(H)	RVR/CMV	MDA(H)	RVR/CMV	MDA(H)	VIS
A	259 (200)	550	380 (321)	900	530 (458)	1600
B				1000		
C				1400	700 (628)	3200
D						

MINIMA with Missed APCH climb gradient of 2.5% are not established.  
Circling to NORTH side of RWY only.

INSTRUMENT APPROACH CHART

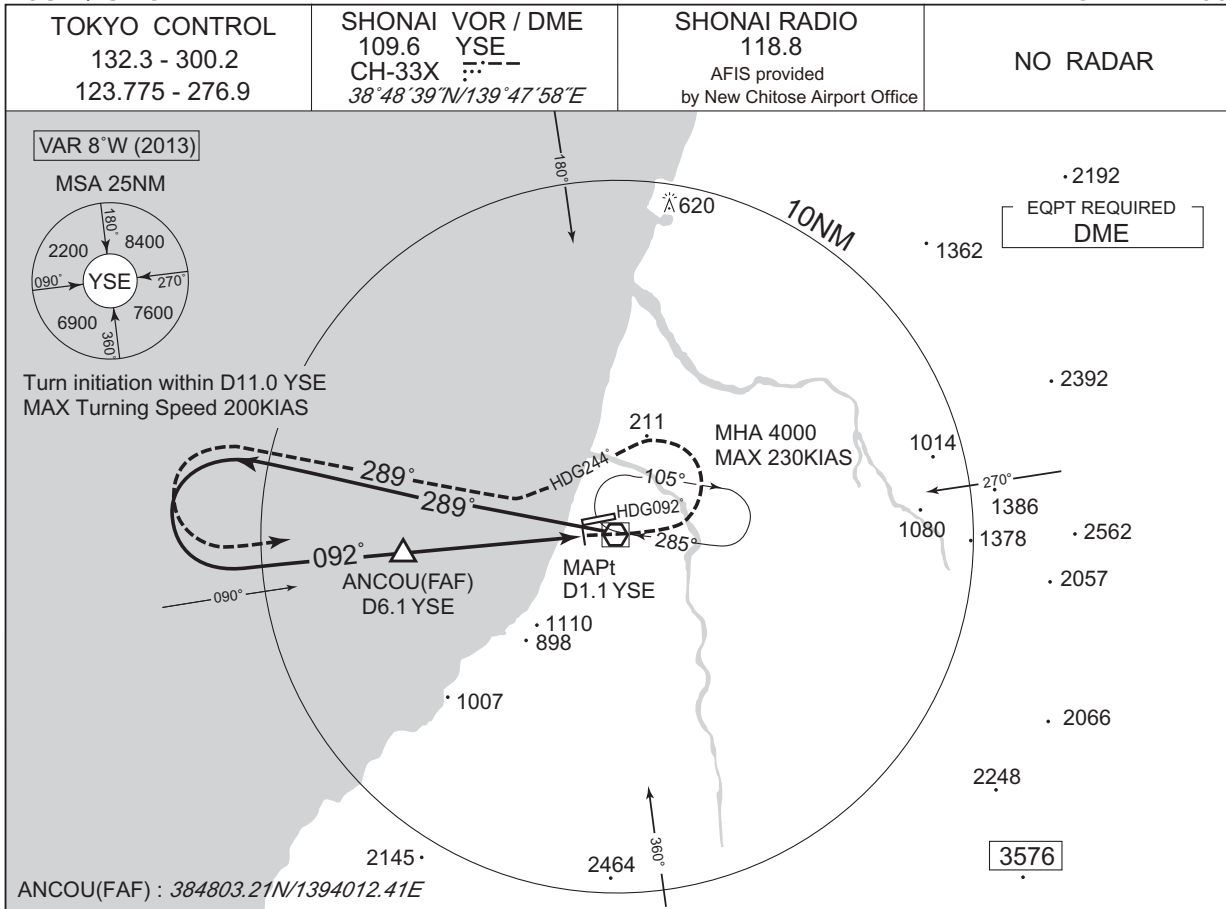


CHANGE : Secondary FREQ for TOKYO CONTROL.

INSTRUMENT APPROACH CHART

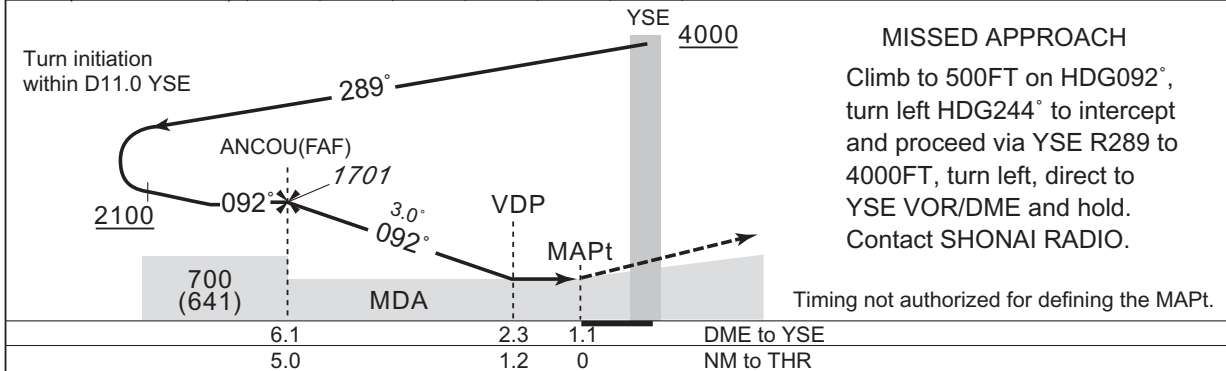
RJSY / SHONAI

VOR RWY09



NM to YSE	FAF	6	5	4	3	MAPt
ALT (3.0° APCH Path)	1701	1673	1355	1036	718	-

CHANGE : Secondary FREQ for TOKYO CONTROL.



**MISSED APPROACH**  
 Climb to 500FT on HDG092°,  
 turn left HDG244° to intercept  
 and proceed via YSE R289 to  
 4000FT, turn left, direct to  
 YSE VOR/DME and hold.  
 Contact SHONAI RADIO.

	6.1	2.3	1.1	DME to YSE
	5.0	1.2	0	NM to THR

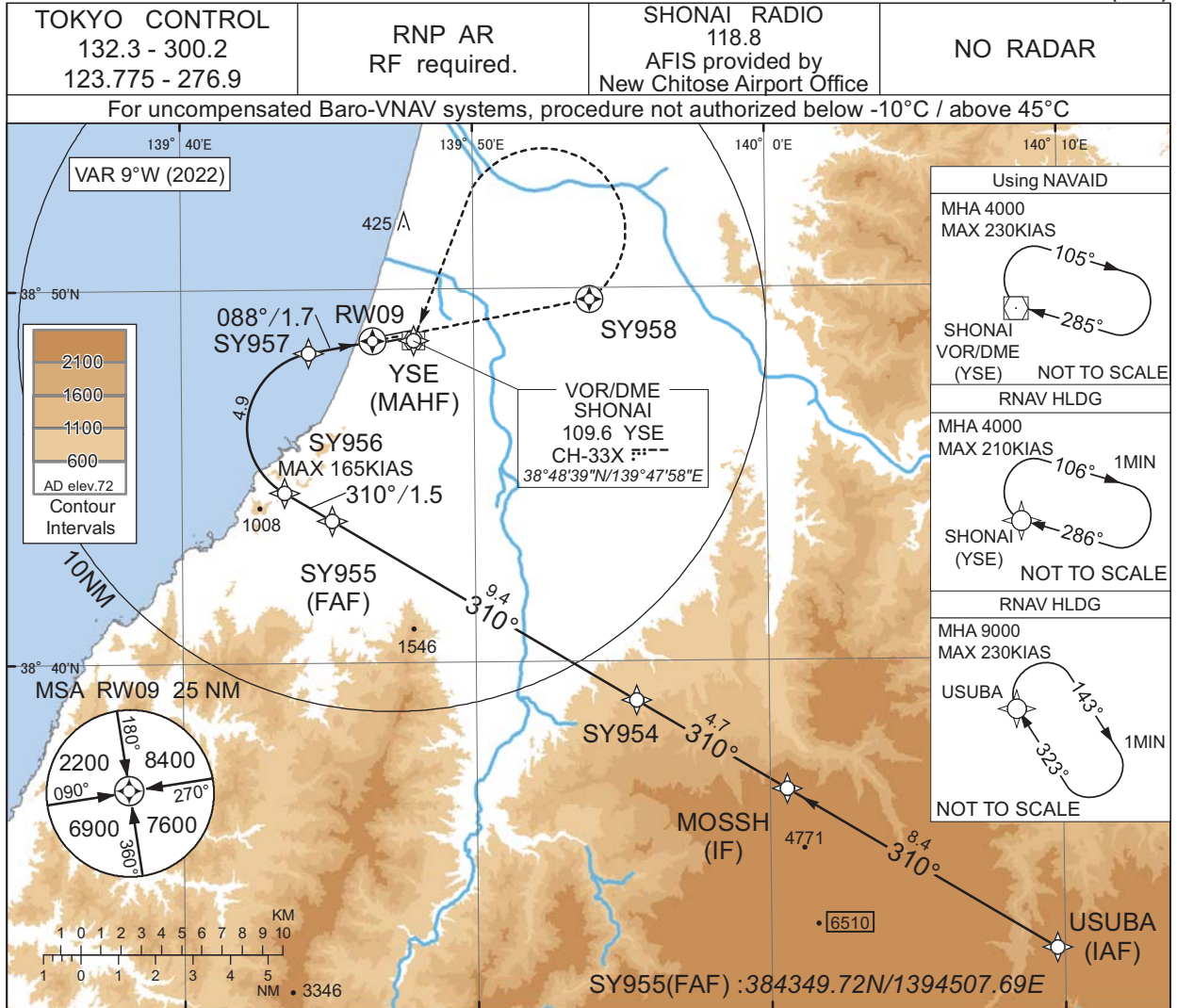
MINIMA		THR elev. 59	AD elev. 72	
CAT			CIRCLING	
	MDA(H)	RVR/CMV	MDA(H)	VIS
A	470 (411)	900	530 (458)	1600
B		1000		2400
C			1400	700 (628)
D				

Circling to NORTH side of RWY only

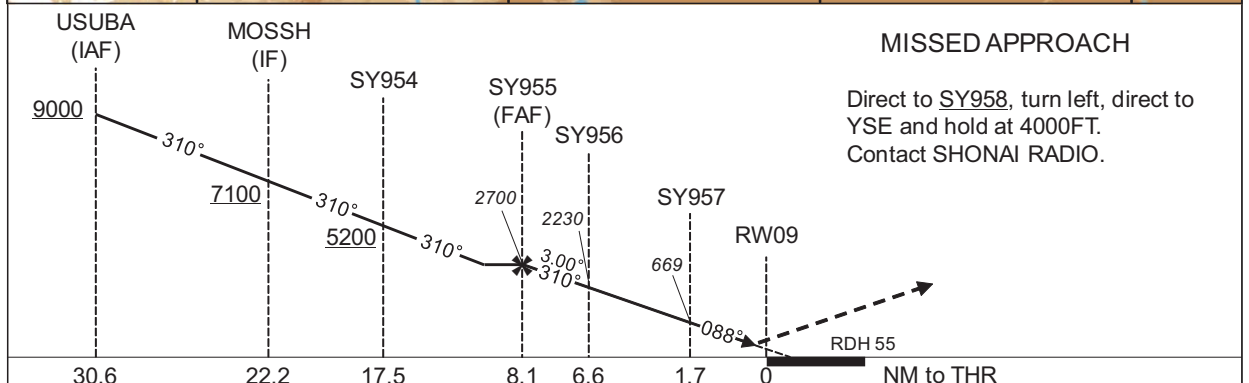
INSTRUMENT APPROACH CHART

RJSY / SHONAI

RNP RWY09(AR)



CHANGE : Secondary FREQ for TOKYO CONTROL.



Missed APCH climb gradient MNM 5.0%

CAT	THR elev. 59		AD elev. 72	
	RNP 0.10		RNP 0.30	
	DA(H)	RVR/CMV	DA(H)	RVR/CMV
A	-	-	-	-
B	-	-	-	-
C	372(313)	1000	424(365)	1000
D	372(313)	1400	424(365)	1400

MINIMA with Missed APCH climb gradient of 2.5% are not established.

**Authorization Required**

## INSTRUMENT APPROACH CHART

RJSY / SHONAI

RNP RWY09(AR)

Coding Table

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	VPA/RDH (°/FT)	RNP Value
001	IF	USUBA	-	-	-8.8	-	-	+9000	-	-	-
002	TF	MOSSH	-	310 (301.2)	-8.8	8.4	-	+7100	-	-	1.0
003	TF	SY954	-	310 (301.1)	-8.8	4.7	-	+5200	-	-	1.0
004	TF	SY955	-	310 (301.1)	-8.8	9.4	-	2700	-	-	1.0
005	TF	SY956	-	310 (301.0)	-8.8	1.5	-	2230	-165	-3.00	0.1 0.3
006	RF Center: SYRF1 r=2.03NM	SY957	-	-	-8.8	4.9	R	669	-	-3.00	0.1 0.3
007	TF	RW09	Y	088 (079.4)	-8.8	1.7	-	114	-	-3.00/55	0.1 0.3
008	DF	SY958	Y	-	-8.8	-	-	-	-	-	1.0
009	DF	YSE	-	-	-8.8	-	L	4000	-	-	1.0

Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	RNP Value
Hold	USUBA	323 (314.1)	-8.8	1.0 (-14000)	R	9000	FL140	-230 (-14000)	1.0
Hold	YSE	286 (277.0)	-8.8	1.0 (-14000)	R	4000	FL140	-210 (-14000)	1.0

Waypoint Coordinates

Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
USUBA	383214.02N / 1400944.88E	SYRF1	384619.71N / 1394450.17E
MOSSH	383634.00N / 1400035.10E		
SY954	383858.43N / 1395528.53E		
SY955	384349.72N / 1394507.69E		
SY956	384435.19N / 1394330.47E		
SY957	384819.37N / 1394421.61E		
RW09	384838.58N / 1394633.12E		
SY958	384943.40N / 1395359.19E		
YSE	384838.81N / 1394757.51E		

CHANGE : PROC renamed.

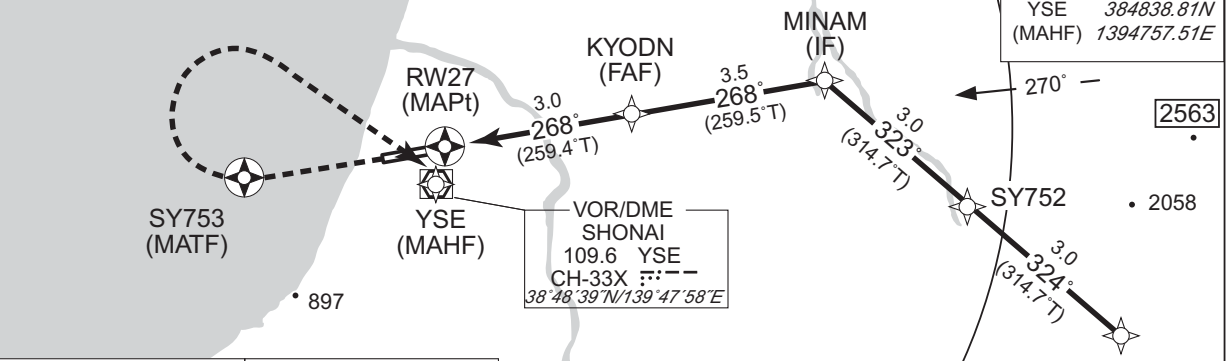
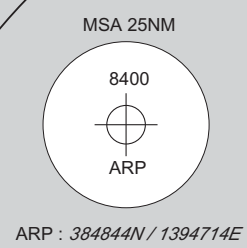
INSTRUMENT APPROACH CHART

RJSY / SHONAI RNP Z RWY27

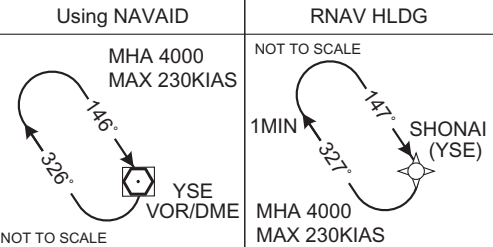
TOKYO CONTROL 132.3 - 300.2 123.775 - 276.9	RNP APCH	SHONAI RADIO 118.8 AFIS provided by New Chitose Airport Office	NO RADAR
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Baro-VNAV not authorized below -10°C

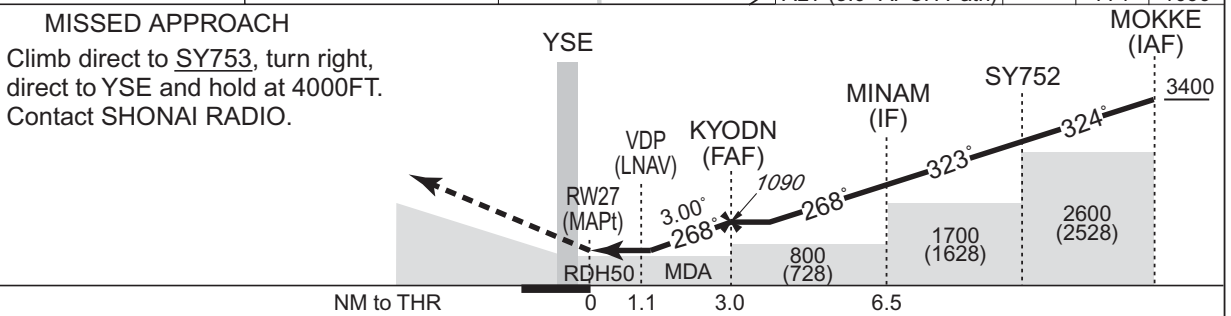
VAR 9°W



MOKKE	384548.71N (IAF) 1400133.59E
SY752	384755.22N 1395849.59E
MINAM	385001.66N (IF) 1395605.42E
KYODN	384923.39N (FAF) 1395141.10E
RW27	384850.46N (MAPt) 1394754.61E
SY753	384817.41N (MATF) 1394408.18E
YSE	384838.81N (MAHF) 1394757.51E



NM to Next Fix	MAPt	2	FAF
ALT (3.0° APCH Path)	-	771	1090



Missed APCH climb gradient MNM 3.0%

<b>MINIMA</b>		THR elev. 86	AD elev. 72			
CAT	LNAV/VNAV		LNAV		CIRCLING	
	DA(H)	CMV	MDA(H)	CMV	MDA(H)	VIS
A	480 (394)	1200	480 (408)	1200	530 (458)	1600
B		1300		1300		
C		1400		1400		
D		1600		1600		

MINIMA with Missed APCH climb gradient of 2.5% are not established.  
Circling to NORTH side of RWY only

CHANGE: Missed APCH for using VOR/DME abolished.



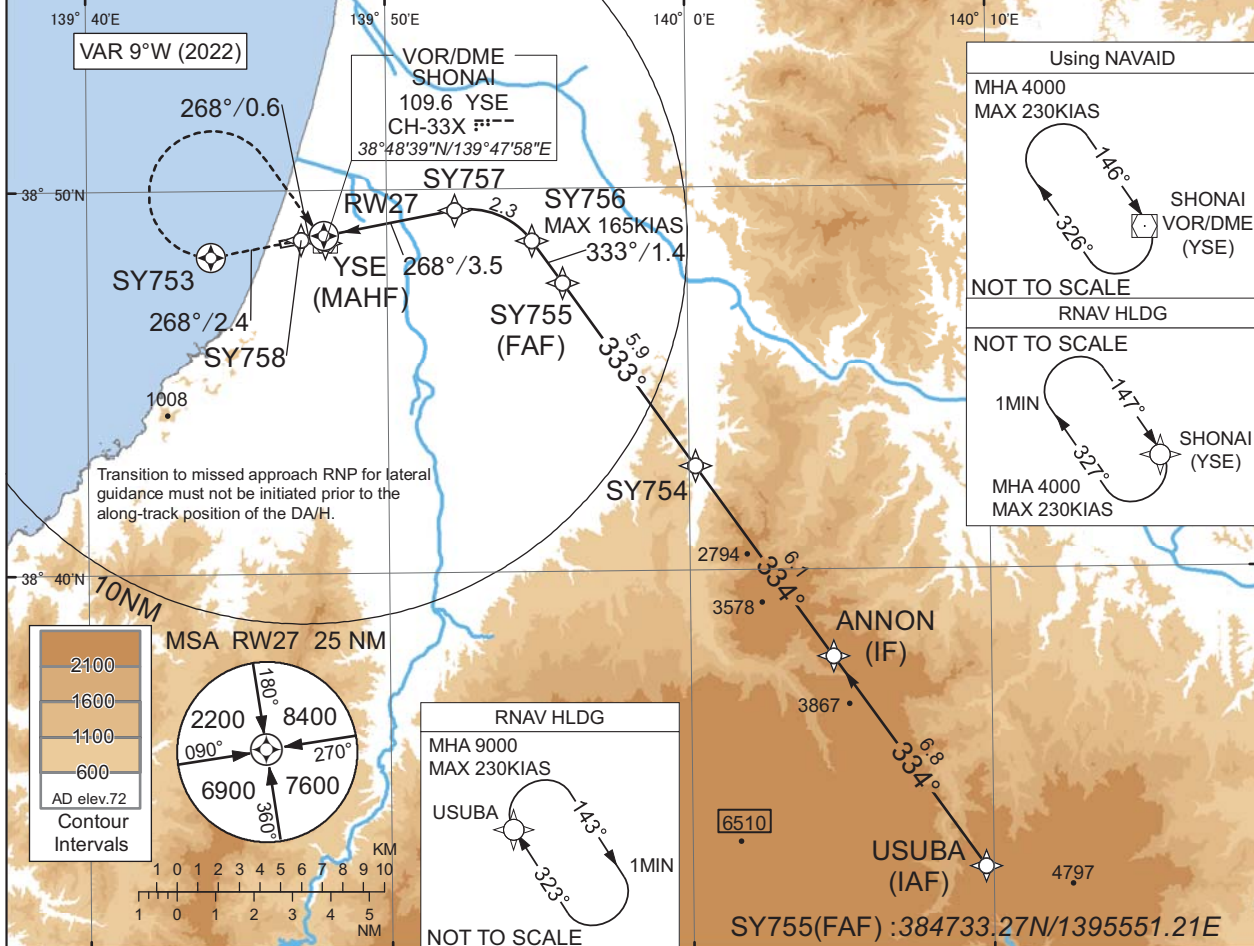
INSTRUMENT APPROACH CHART

RJSY / SHONAI

RNP Y RWY27(AR)

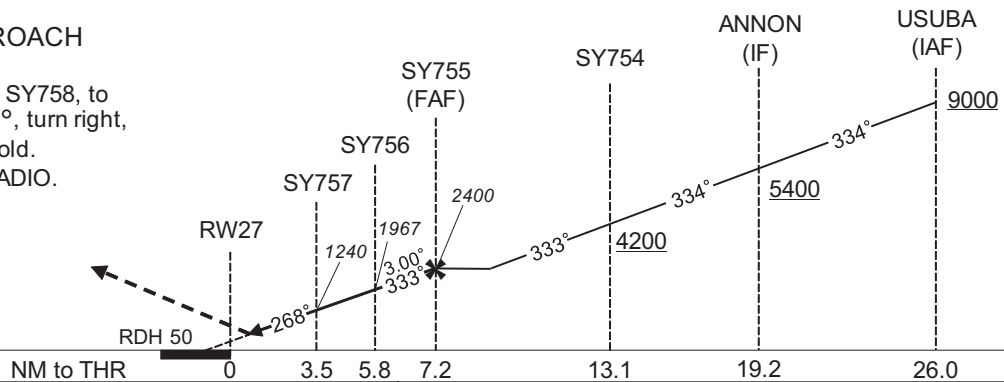
TOKYO CONTROL 132.3 - 300.2 123.775 - 276.9	RNP AR RF required.	SHONAI RADIO 118.8 AFIS provided by New Chitose Airport Office	NO RADAR
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For uncompensated Baro-VNAV systems, procedure not authorized below -10°C / above 45°C



MISSED APPROACH

Climb to 4000FT, to SY758, to SY753 on track 268°, turn right, direct to YSE and hold.  
Contact SHONAI RADIO.



Missed APCH climb gradient MNM 5.0%

CAT	THR elev. 86		AD elev. 72	
	RNP 0.12	RNP 0.30	RNP 0.12	RNP 0.30
	DA(H)	CMV	DA(H)	CMV
A	-	-	-	-
B	-	-	-	-
C	386(300)	1400	424(338)	1400
D		1600		1600

MINIMA with Missed APCH climb gradient of 2.5% are not established.

**Authorization Required**

CHANGE : Secondary FREQ for TOKYO CONTROL.

INSTRUMENT APPROACH CHART

RJSY / SHONAI

RNP Y RWY27(AR)

Coding Table

Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	VPA/ RDH (°/FT)	RNP Value
001	IF	USUBA	-	-	-8.8	-	-	+9000	-	-	-
002	TF	ANNON	-	334 (324.8)	-8.8	6.8	-	+5400	-	-	1.0
003	TF	SY754	-	334 (324.7)	-8.8	6.1	-	+4200	-	-	1.0
004	TF	SY755	-	333 (324.7)	-8.8	5.9	-	2400	-	-	1.0
005	TF	SY756	-	333 (324.6)	-8.8	1.4	-	1967	-165	-3.00	0.12 0.30
006	RF Center: SYRF2 r=2.01NM	SY757	-	-	-8.8	2.3	L	1240	-	-3.00	0.12 0.30
007	TF	RW27	Y	268 (259.5)	-8.8	3.5	-	136	-	-3.00/50	0.12 0.30
008	TF	SY758	-	268 (259.4)	-8.8	0.6	-	-	-	-	0.12 0.30
009	CF	SY753	Y	268 (259.4)	-8.8	2.4	-	-	-	-	1.0
010	DF	YSE	-	-	-8.8	-	R	4000	-	-	1.0

Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	RNP Value
Hold	USUBA	323 (314.1)	-8.8	1.0 (-14000)	R	9000	FL140	-230 (-14000)	1.0
Hold	YSE	147 (137.9)	-8.8	1.0 (-14000)	R	4000	FL140	-230 (-14000)	1.0

Waypoint Coordinates

Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
USUBA	383214.02N / 1400944.88E	SYRF2	384729.55N / 1395244.67E
ANNON	383745.37N / 1400445.25E		
SY754	384245.22N / 1400013.26E		
SY755	384733.27N / 1395551.21E		
SY756	384839.83N / 1395450.54E		
SY757	384928.52N / 1395216.49E		
RW27	384850.46N / 1394754.61E		
SY758	384843.80N / 1394708.93E		
SY753	384817.41N / 1394408.18E		
YSE	384838.81N / 1394757.51E		

CHANGE : PROC renamed.

RJSY / SHONAI

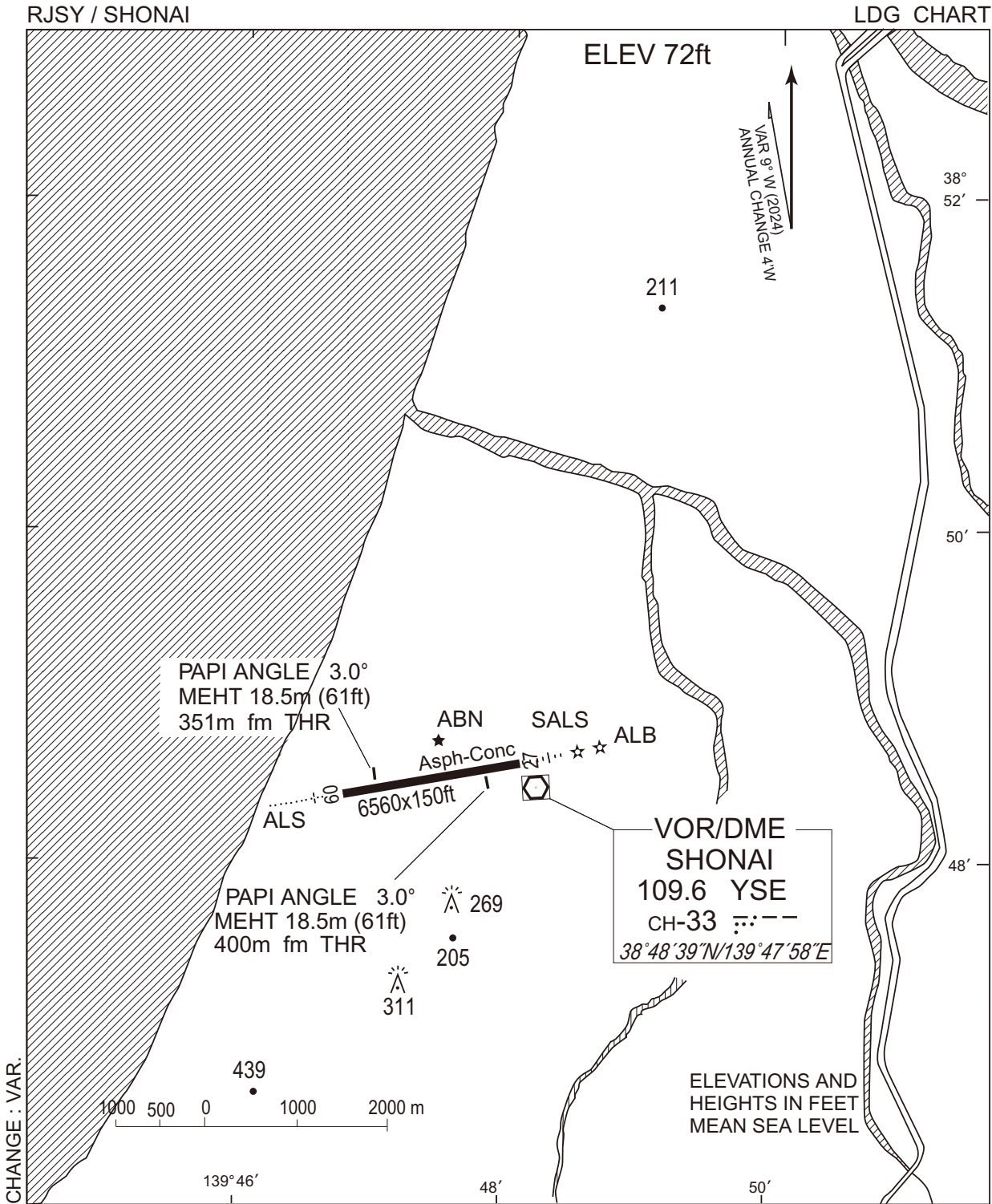
Visual REP



※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 : VAR.

Call sign	BRG / DIST from ARP	Remarks
吹浦 Fukura	014°T / 16.0NM	吹浦港 Harbor
酒田 Sakata	009°T / 8.1NM	酒田港 Harbor
最上 Mogami	089°T / 9.1NM	最上川橋 Bridge
鶴岡 Tsuruoka	153°T / 4.9NM	JR駅 Station
波渡崎 Hatozaki	225°T / 10.6NM	岬 Cape
あさひインター Asahi Inter	167°T / 11.9NM	山形自動車道 庄内あさひインターチェンジ Interchange



RJSY / SHONAI

Minimum Vectoring Altitude CHART

