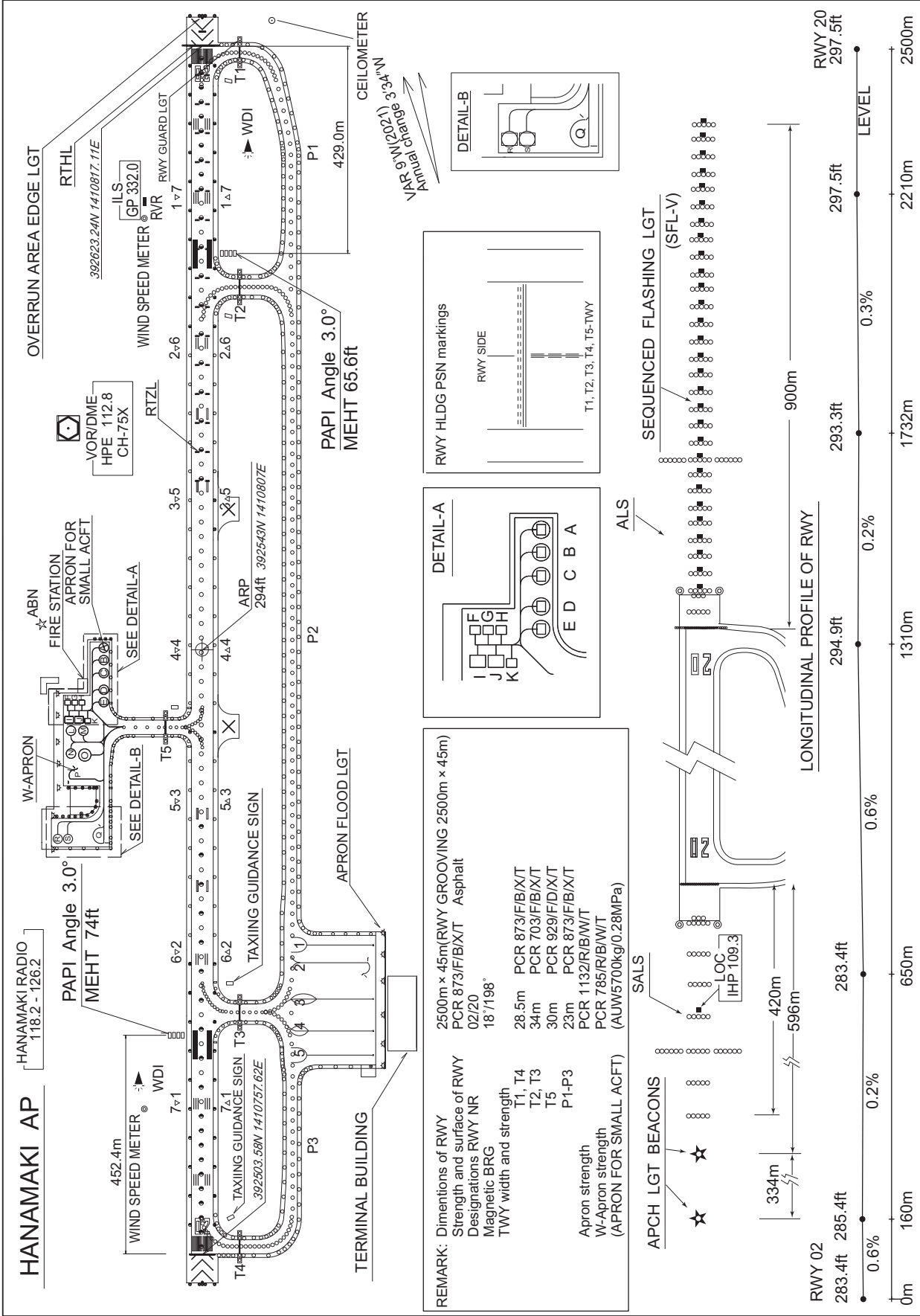


RJSI / HANAMAKI

AD CHART



RJSI / HANAMAKI

SID

RWY 02 : Climb RWY HDG to 900FT, turn left...
RWY 20 : Climb RWY HDG to 1300FT, turn left HDG 325°...
...to intercept and proceed via HPE R010 to OHSHU.



STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

SID

NIIGATA SIX DEPARTURE

RWY 02 : Climb RWY HDG to HPE 3.5 DME, turn right...

RWY 20 : Climb RWY HDG to HPE 3.5 DME, turn left...

...proceed to HPE VOR/DME, via HPE R236 to HPE 50.0DME(GTC 79.6DME),
via GTC R055 to GTC.Cross HPE VOR/DME at or above 2200 FT, cross HPE R236/50.0DME
(GTC R055/79.6DME) at or above 12000 FT.

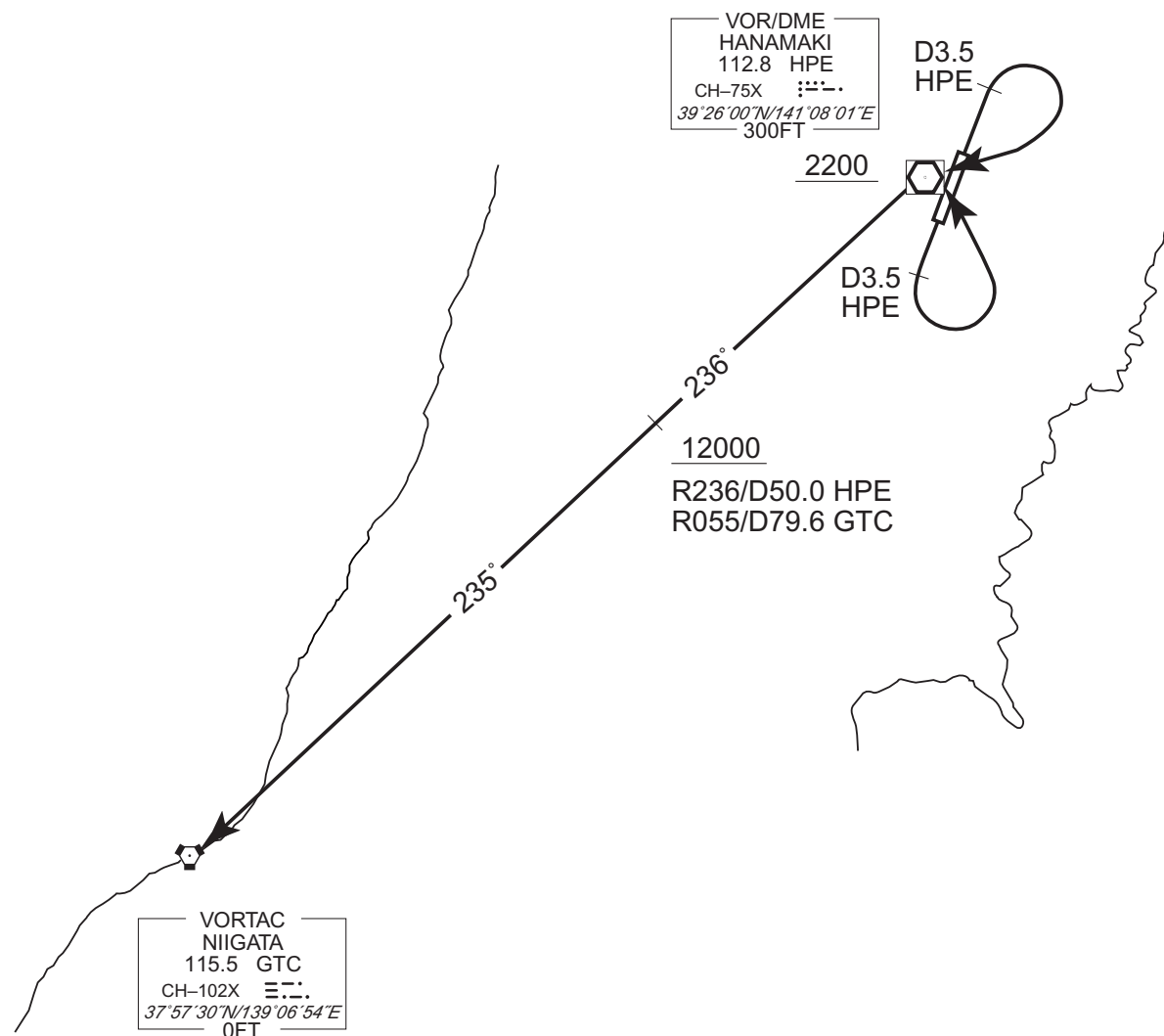
Note RWY02 : 4.5% climb gradient required up to 2400FT.

OBST ALT 1641FT located at 4.1NM 091° FM end of RWY02.

RWY20 : 3.9% climb gradient required up to 1100FT.

OBST ALT 722FT located at 2.8NM 166° FM end of RWY20.

CHANGE : SID renamed. ALT restriction at R236/D50.0 HPE, R055/D79.6 GTC.



STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

SID

HANAMAKI REVERSAL THREE DEPARTURE

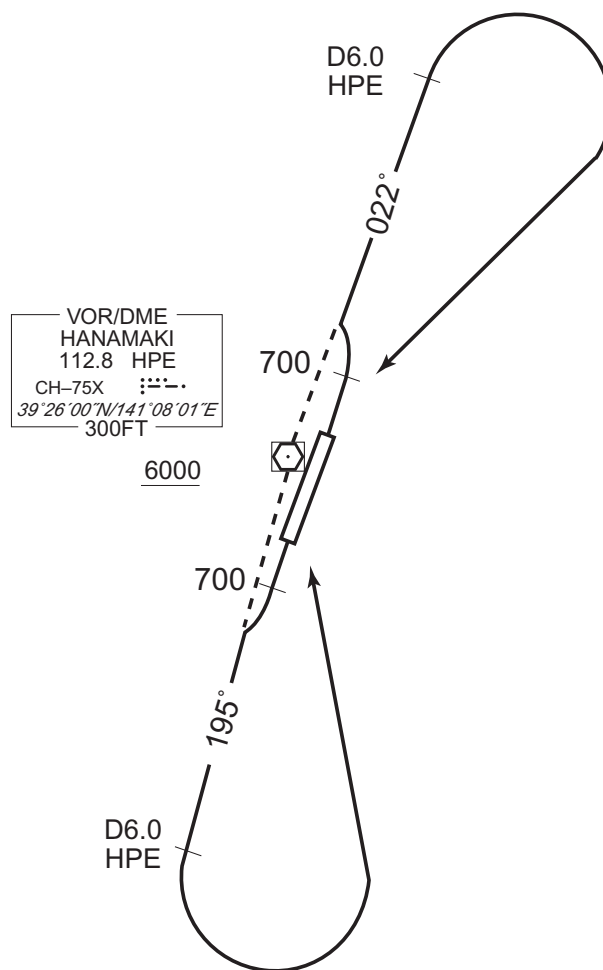
RWY 02 : Climb RWY HDG to 700FT, via HPE R022 to 6.0 DME, turn right...

RWY 20 : Climb RWY HDG to 700FT, via HPE R195 to 6.0 DME, turn left...
...direct to HPE VOR/DME.

Cross HPE VOR/DME at or above 6000FT.

Note RWY02 : 5.0% climb gradient required up to 3200FT.

OBST ALT 2691FT located at 9.1NM 058° FM end of RWY02.



CHANGE : PROC renamed. PROC course.

STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

RNAV SID

SAMBO ONE DEPARTURE

RNP1

Note GNSS required.

VAR 9°W

SAMBO
401115.9N
1405701.4E

DASCO
395109.2N
1410826.4E

AKARI
394317.5N
1410818.3E

SI010
392659.4N
1410155.6E

700

1300

019°

199°

025°

009°

345°

21.9

7.9

17.0

RWY02 : Climb on HDG 019° at or above 700FT, direct to AKARI, to DASCO to SAMBO.

RWY20 : Climb on HDG 199° at or above 1300FT, turn right direct to SI010, to AKARI, to DASCO to SAMBO .

Note RWY02 : 4.0% climb gradient required up to 700FT.
OBST ALT 318FT located at 0.2NM 061° FM end of RWY02.

RWY20 : 4.0% climb gradient required up to 2700FT.
OBST ALT 3117FT located at 10.7NM 351° FM end of RWY20.

RWY02

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	-	-	019 (010.7)	-8.7	-	-	+700	-	-	RNP1
002	DF	AKARI	-	-	-8.7	-	-	-	-	-	RNP1
003	TF	DASCO	-	009 (000.8)	-8.7	7.9	-	-	-	-	RNP1
004	TF	SAMBO	-	345 (336.6)	-8.7	21.9	-	-	-	-	RNP1

RWY20

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	-	-	199 (190.7)	-8.7	-	-	+1300	-	-	RNP1
002	DF	SI010	-	-	-8.7	-	R	-	-	-	RNP1
003	TF	AKARI	-	025 (016.7)	-8.7	17.0	-	-	-	-	RNP1
004	TF	DASCO	-	009 (000.8)	-8.7	7.9	-	-	-	-	RNP1
005	TF	SAMBO	-	345 (336.6)	-8.7	21.9	-	-	-	-	RNP1

STANDARD DEPARTURE CHART -INSTRUMENT

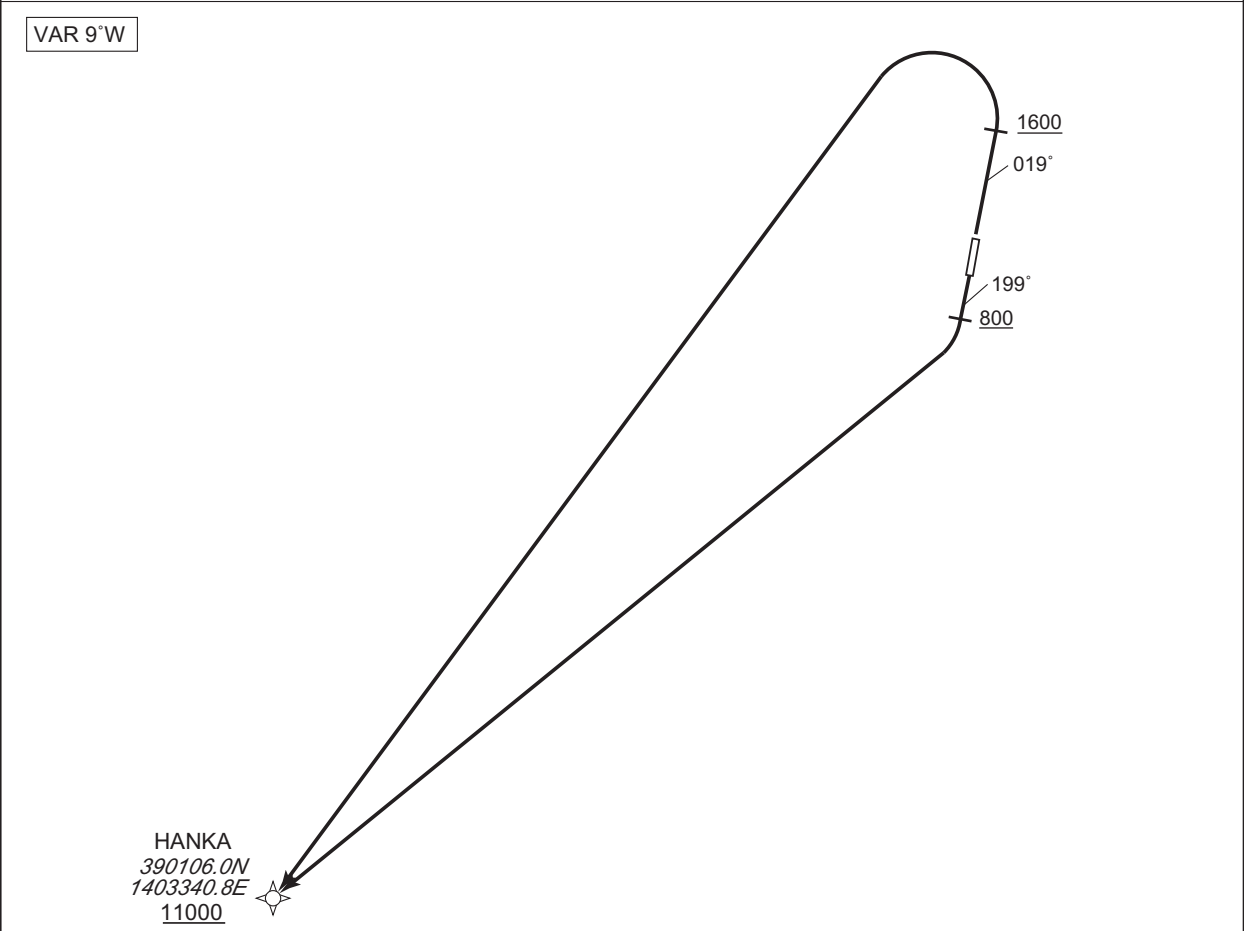
RJSI / HANAMAKI

RNAV SID

HANKA ONE DEPARTURE

RNP1

Note GNSS required



RWY02 : Climb on HDG 019° at or above 1600FT, turn left direct to HANKA, at or above 11000FT.
RWY20 : Climb on HDG 199° at or above 800FT, turn right direct to HANKA, at or above 11000FT.
Note RWY02: 5.0% climb gradient required up to 3600FT.
OBST ALT 1936FT located at 5.5NM 340° FM end of RWY02.
OBST ALT 3018FT located at 8.2NM 310° FM end of RWY02.
RWY20: 5.0% climb gradient required up to 5400FT.
OBST ALT 4593FT located at 18.2NM 227° FM end of RWY20.
OBST ALT 5151FT located at 20.8NM 232° FM end of RWY20.

CHANGE : Description of VOR/DME:

RWY02											
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	—	—	019 (010.7)	-8.7	—	—	+1600	—	—	RNP1
002	DF	HANKA	—	—	-8.7	—	L	+11000	—	—	RNP1
RWY20											
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	—	—	199 (190.7)	-8.7	—	—	+800	—	—	RNP1
002	DF	HANKA	—	—	-8.7	—	R	+11000	—	—	RNP1

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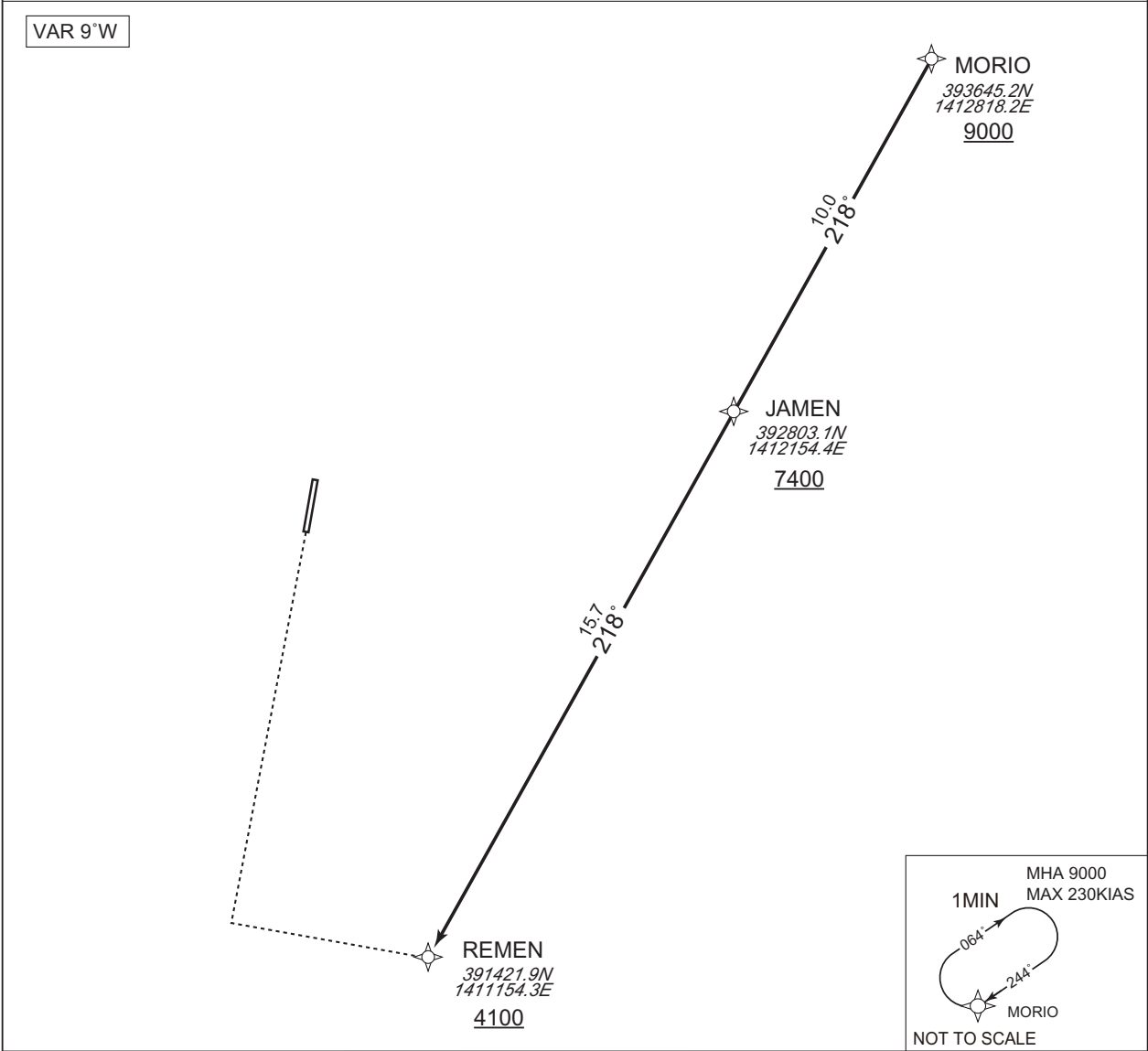
STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI

RNAV STAR RWY02

REMEN ARRIVAL	RNP1
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Note GNSS required



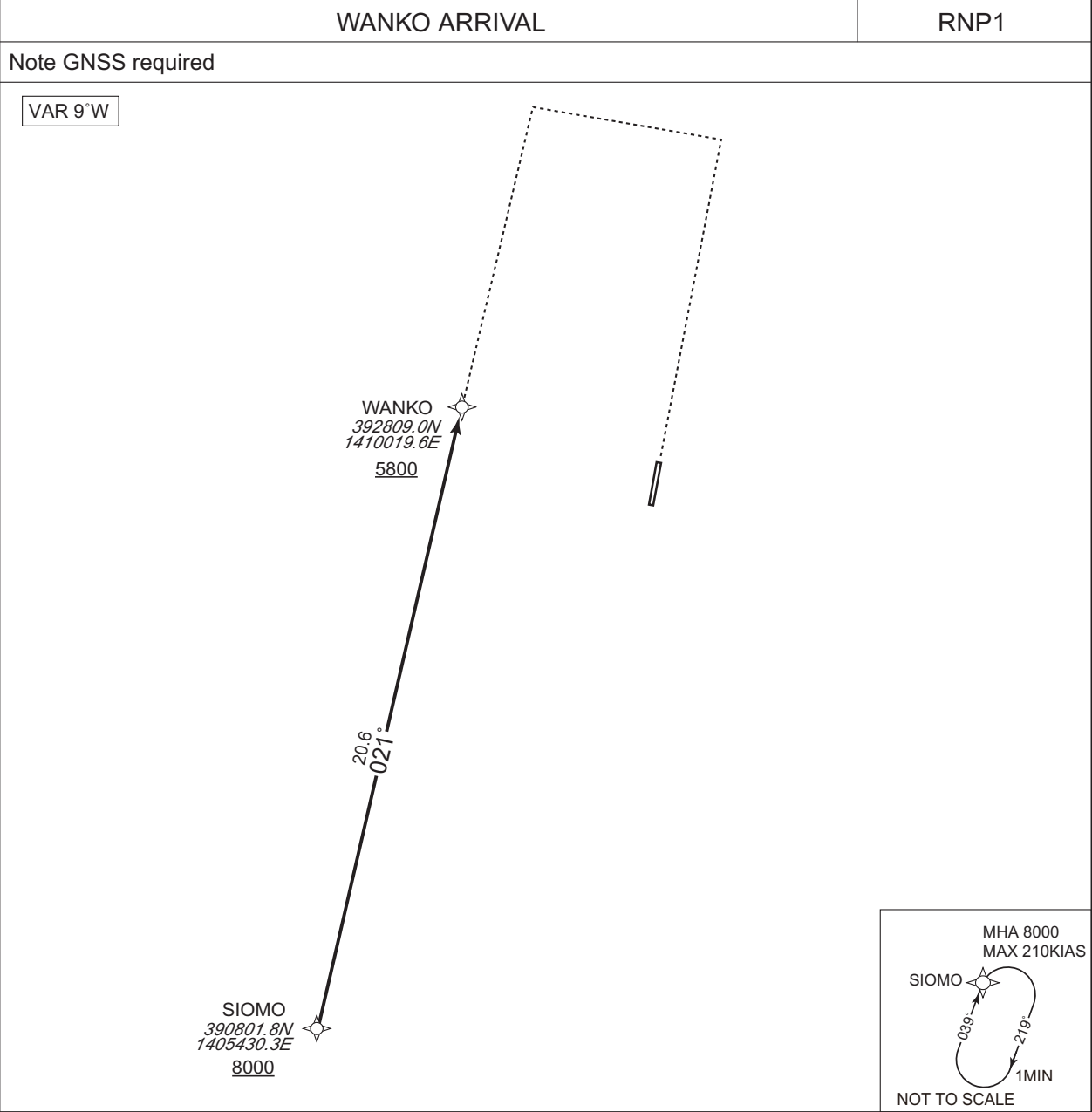
CHANGE : Description of VOR/DME.

From MORIO at or above 9000FT, to JAMEN at or above 7400FT, to REMEN at or above 4100FT.											
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	MORIO	—	—	-8.8	—	—	+9000	—	—	RNP1
002	TF	JAMEN	—	218 (209.6)	-8.8	10.0	—	+7400	—	—	RNP1
003	TF	REMEN	—	218 (209.5)	-8.8	15.7	—	+4100	—	—	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	MORIO	244 (235.7)	-8.8	1.0(-14000)	R	9000	FL140	-230(-14000)	RNP1		

STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI

RNAV STAR RWY20



From SIOMO at or above 8000FT, to WANKO at or above 5800FT.

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	SIOMO	—	—	-8.8	—	—	+8000	—	—	RNP1
002	TF	WANKO	—	021 (012.6)	-8.8	20.6	—	+5800	—	—	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	SIOMO	039 (030.1)	-8.8	1.0(-14000)	R	8000	FL140	-210(-14000)	RNP1

CHANGE : Description of VOR/DME.

STANDARD ARRIVAL CHART - INSTRUMENT

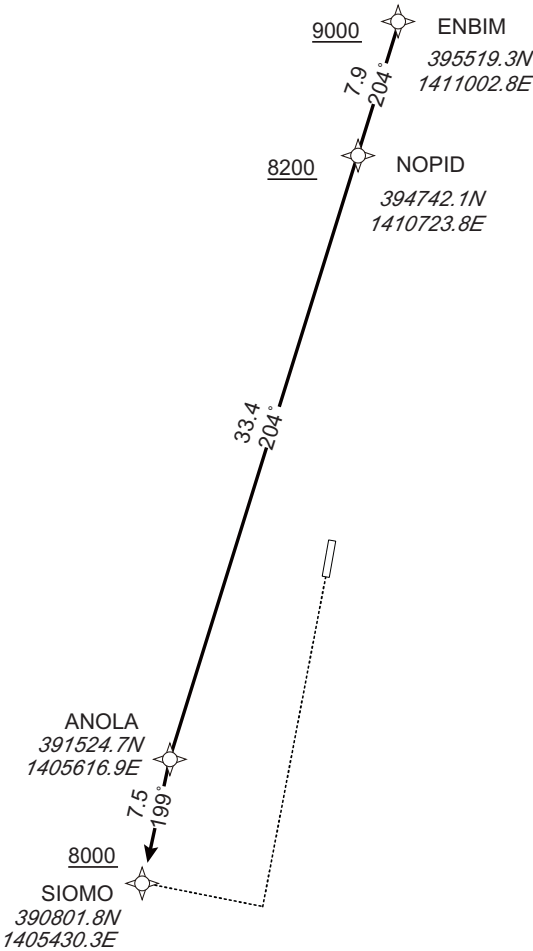
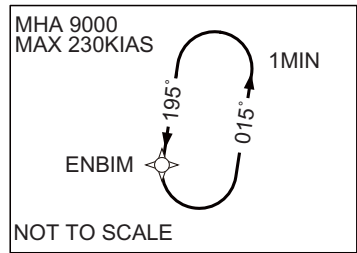
RJSI / HANAMAKI

RNAV STAR RWY02

SIOMO ARRIVAL	RNP1
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Note GNSS required.

VAR 9°W



From ENBIM at or above 9000FT, to NOPID at or above 8200FT, to ANOLA, to SIOMO at or above 8000FT.

CHANGE : Description of VOR/DME.

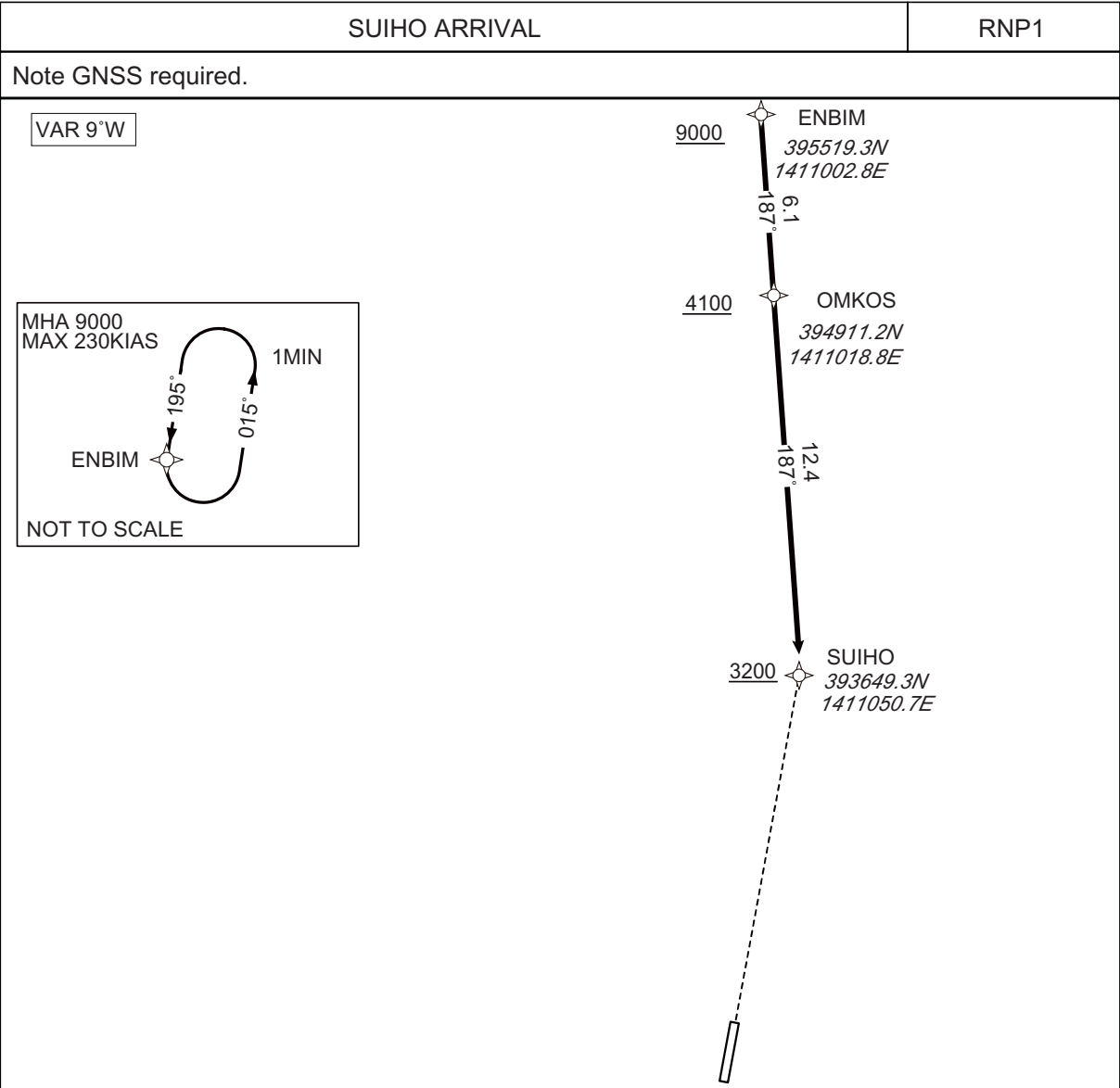
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ENBIM	—	—	-8.8	—	—	+9000	—	—	RNP1
002	TF	NOPID	—	204 (195.0)	-8.8	7.9	—	+8200	—	—	RNP1
003	TF	ANOLA	—	204 (194.9)	-8.8	33.4	—	—	—	—	RNP1
004	TF	SIOMO	—	199 (190.6)	-8.8	7.5	—	+8000	—	—	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	ENBIM	195 (186.5)	-8.8	1.0(-14000)	L	9000	FL140	-230 (-14000)	RNP1

STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI

RNAV STAR RWY20



From ENBIM at or above 9000FT, to OMKOS at or above 4100FT, to SUIHO at or above 3200FT.

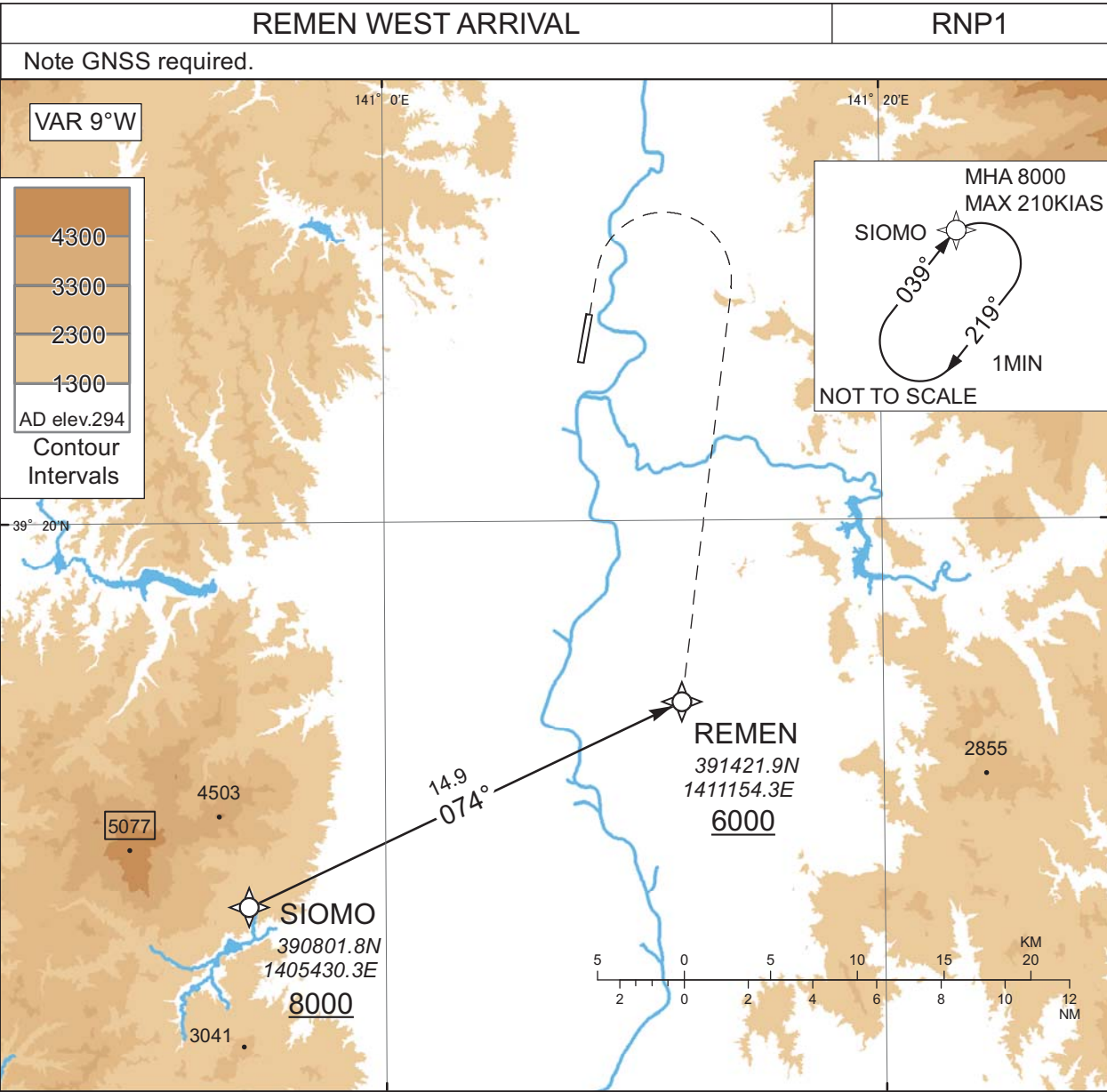
Serial Number	Path Descriptor	Waypoint Identifier	Fly Over	Course °M(°T)	Magnetic Variation	Distance (NM)	Turn Direction	Altitude (FT)	Speed (KIAS)	Vertical Angle	Navigation Specification
001	IF	ENBIM	—	—	-8.8	—	—	+9000	—	—	RNP1
002	TF	OMKOS	—	187 (178.1)	-8.8	6.1	—	+4100	—	—	RNP1
003	TF	SUIHO	—	187 (178.1)	-8.8	12.4	—	+3200	—	—	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	ENBIM	195 (186.5)	-8.8	1.0(-14000)	L	9000	FL140	-230 (-14000)	RNP1

CHANGE : Description of VOR/DME.

STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI RNAV STAR RWY20



CHANGE : Description of VOR/DME:

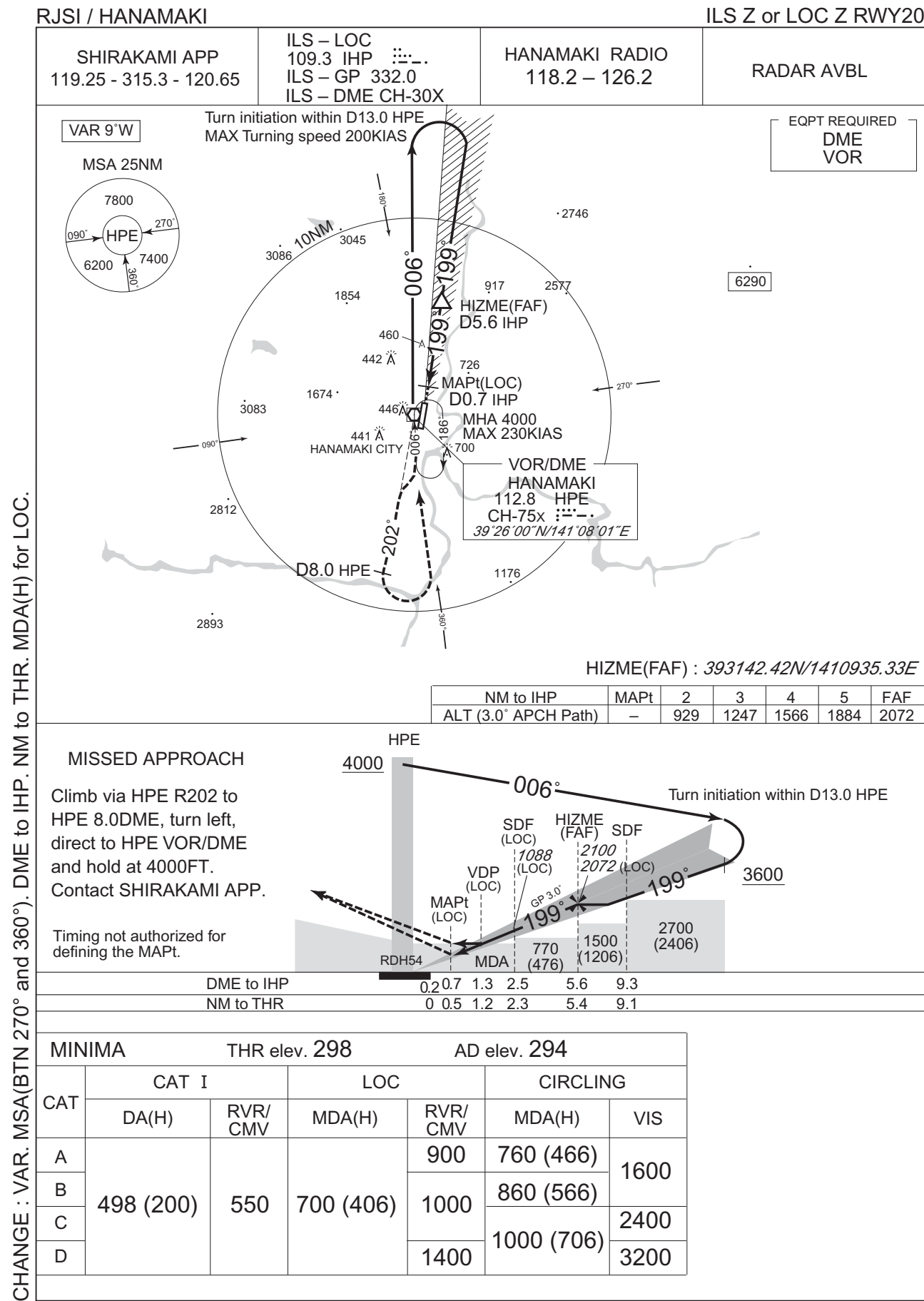
From SIOMO at or above 8000FT, to REMEN at or above 6000FT.

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	SIOMO	-	-	-8.8	-	-	+8000	-	-	RNP1
002	TF	REMEN	-	074 (064.7)	-8.8	14.9	-	+6000	-	-	RNP1

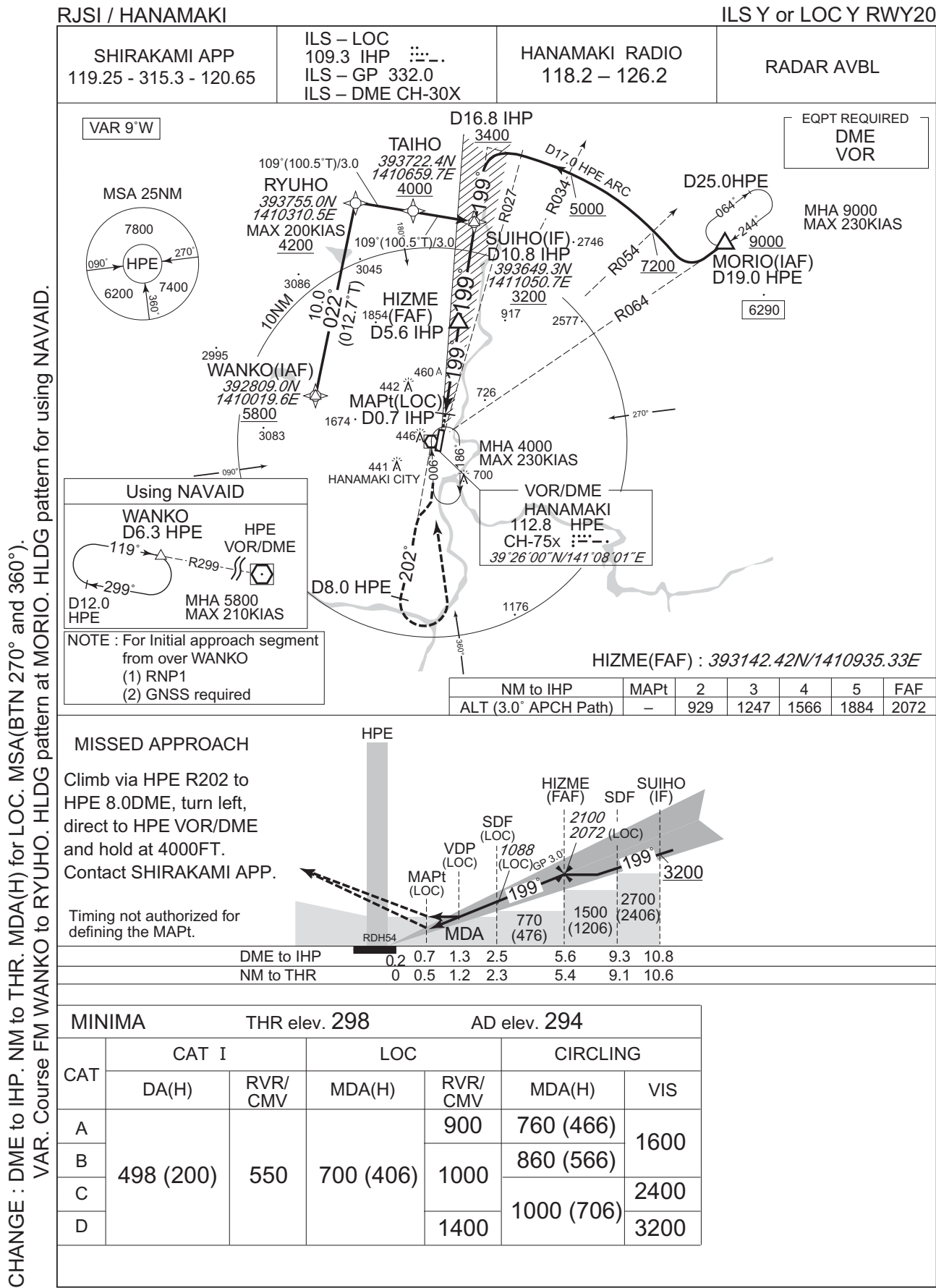
Path	Waypoint Identifier	Inbound Course °M(°T)	Magnetic Variation	Outbound Time (MIN)	Turn Direction	Minimum Altitude (FT)	Maximum Altitude (FT)	Speed (KIAS)	Navigation Specification
Hold	SIOMO	039 (030.1)	-8.8	1.0(-14000)	R	8000	FL140	-210(-14000)	RNP1

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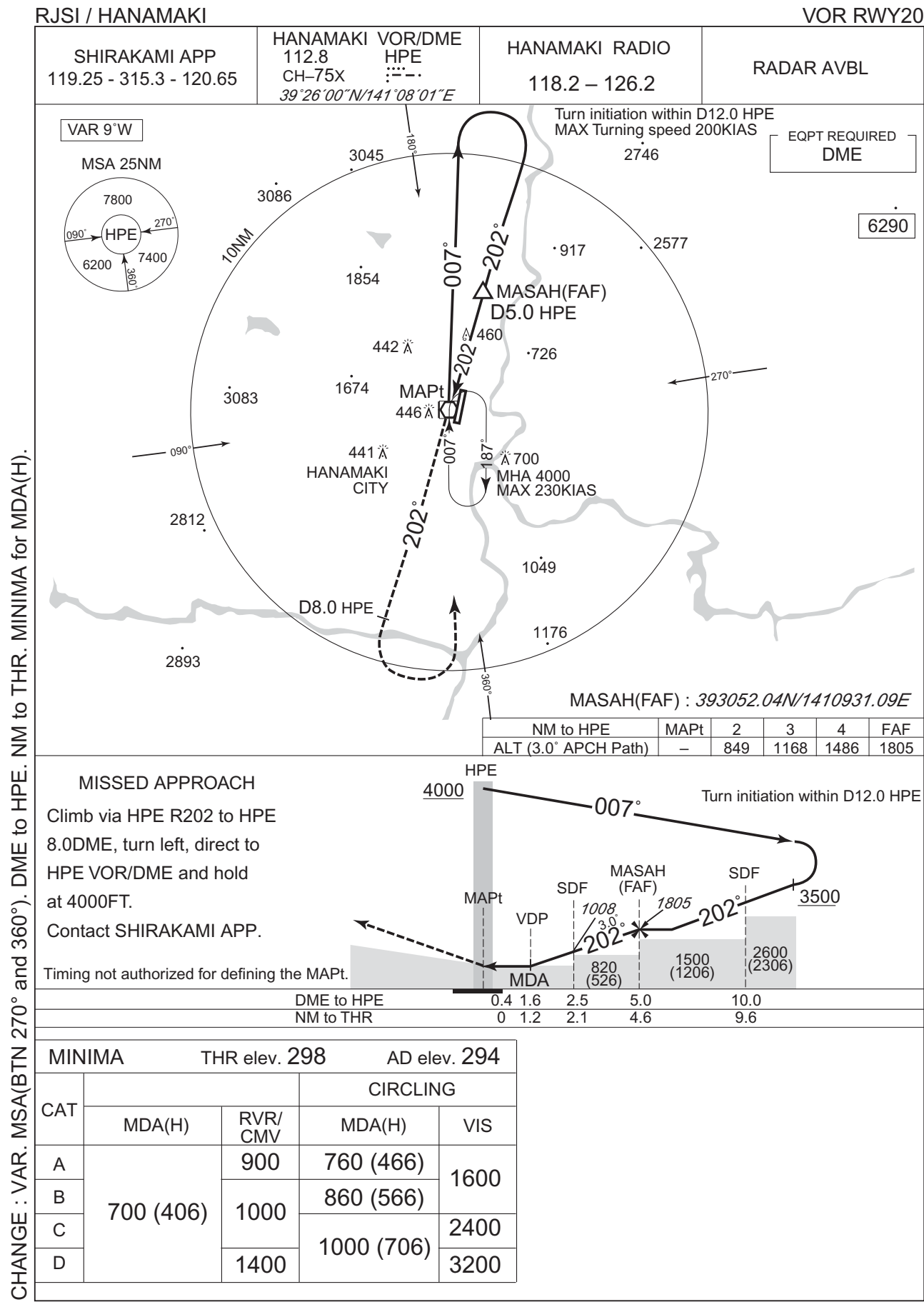
INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART



INSTRUMENT APPROACH CHART



RJSI / HANAMAKI

SHIRAKAMI APP

119.25 - 315.3 - 120.65

HANAMAKI VOR/DME

112.8 HPE
CH-75X
39°26'00"N/141°08'01"E

HANAMAKI RADIO

118.2 – 126.2

RADAR AVBL

VAR 9°W

MSA 25NM

7800

270°

HPE

090°

6200

7400

090°

EQPT REQUIRED

DME

6290

Map details: 10NM circle centered on HPE. HPE at 7800ft. SHIHO (FAF) at 2893ft. MAPt at 446ft. DME distances: 5.9, 4.0, 3.0, 2.0, 0.9 NM to HPE. Altitudes: 1500 (1217), 800 (517), 4500 HPE. Bearings: 015°, 179°. Turn initiation within D11.0 HPE. MAX Turning speed 200KIAS.

NM to HPE	FAF	5	4	3	2	MAPt
ALT (3.0° APCH Path)	1925	1626	1308	989	671	—

Turn initiation within D11.0 HPE

Profile details: 2300ft start, 015° climb to 1925ft at 5.9 NM. 015° climb to 830ft at 3.0 NM. SDF VDP at 2.5 NM. MDA at 2.0 NM. MAPt at 0.9 NM. 4500 HPE. 179° turn.

MISSED APPROACH

Climb via HPE R015 to HPE
6.0DME, turn right, direct to HPE
VOR/DME and hold at 4500FT.
Contact SHIRAKAMI APP.

Timing not authorized for defining the MAPt.

Missed APCH climb gradient MNM 3.6%

MINIMA	THR elev. 283	AD elev. 294		
CAT		CIRCLING		
	MDA(H)	CMV	MDA(H)	VIS
A	670 (387)	1200	760 (466)	1600
B		1300	860 (566)	
C		1400	1000 (706)	2400
D		1600		3200

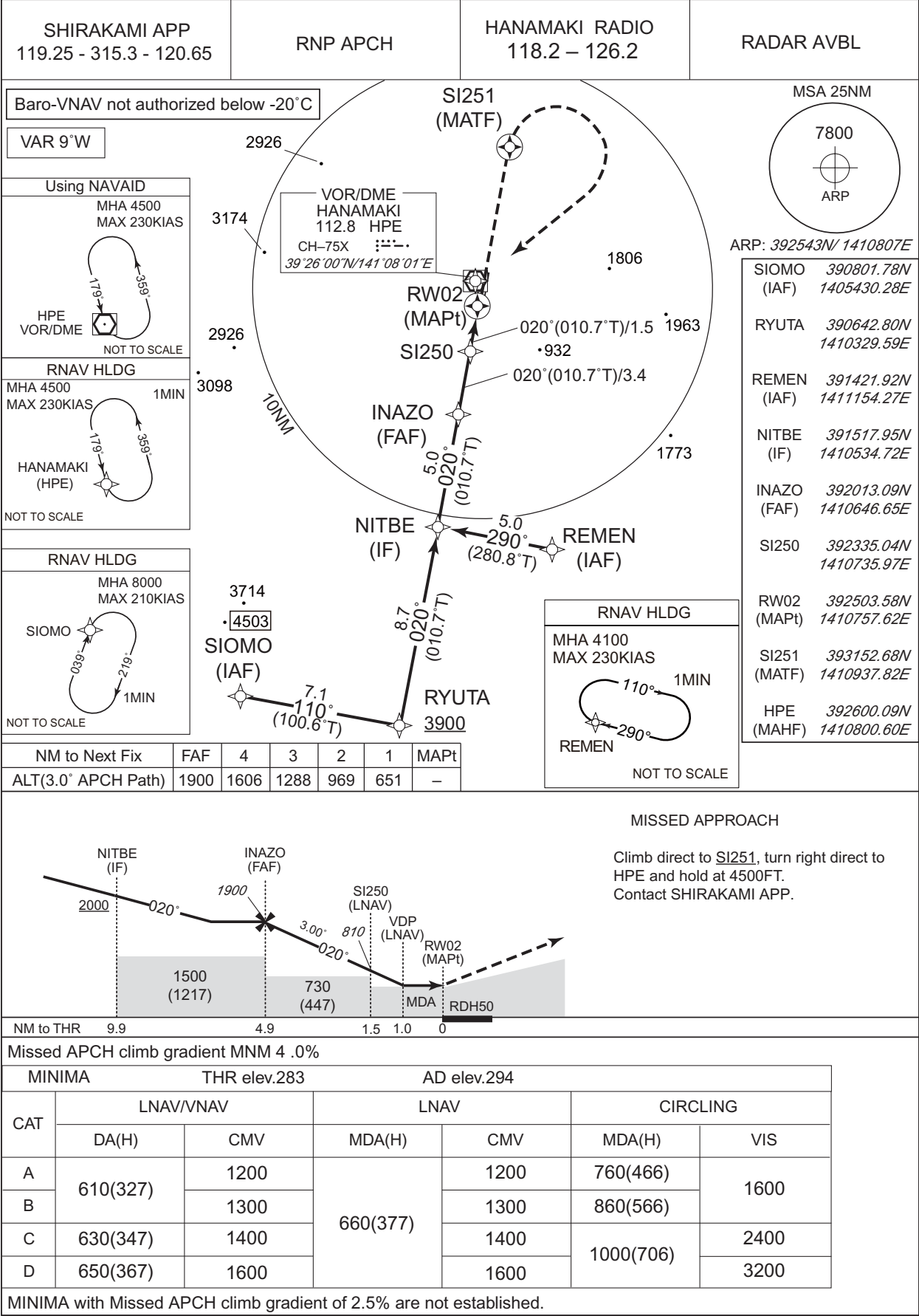
MINIMA with Missed APCH climb gradient of 2.5% are not established

CHANGE : VAR. MSA(BTN 270° and 360°). PROC course. Missed APCH course. HLDG pattern. OCA(H). DME to HPE. MINIMA for MDA(H).

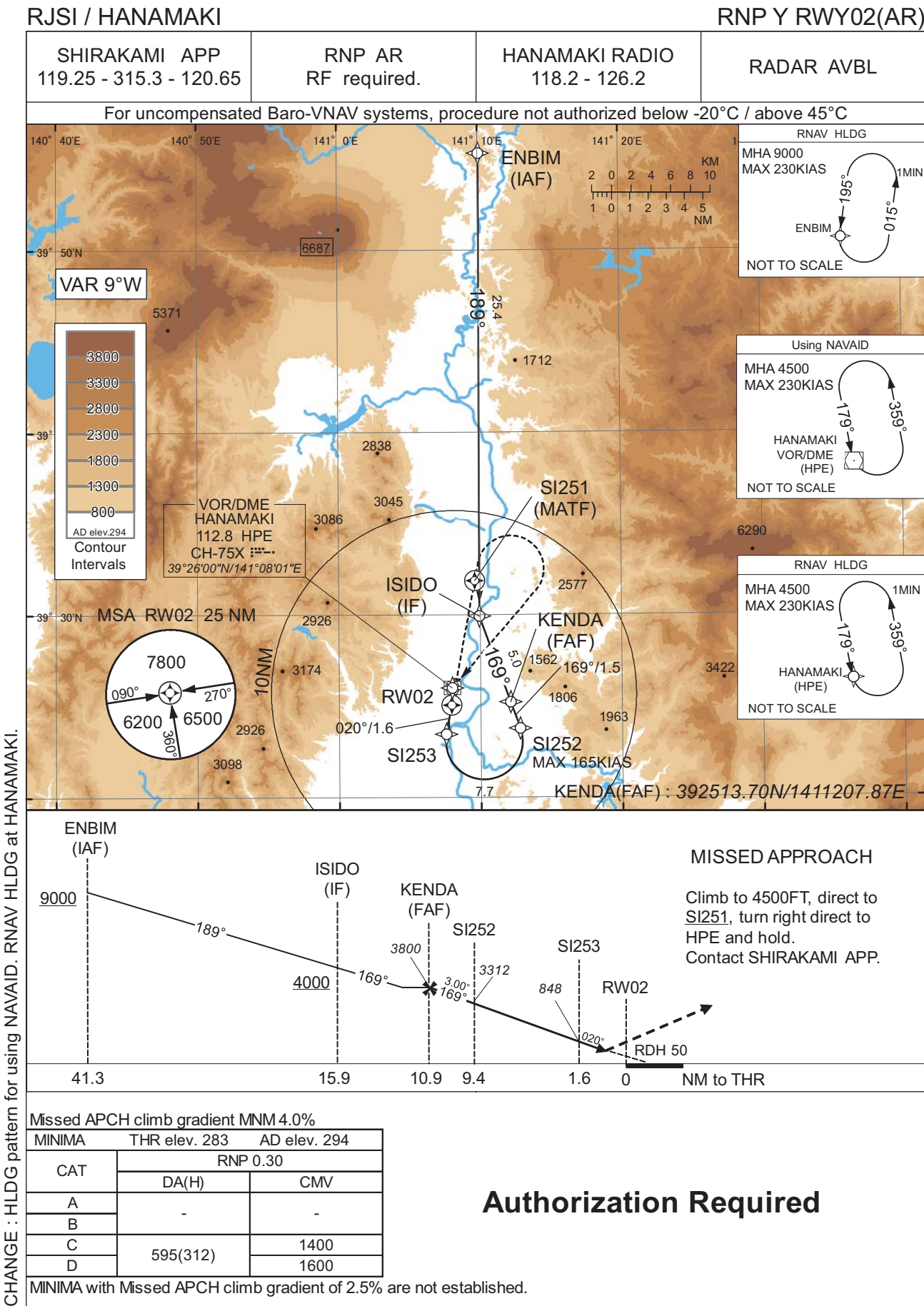
INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNP Z RWY02



INSTRUMENT APPROACH CHART



CHANGE : HLDG pattern for using NAVAID. RNAV HLDG at HANAMAKI.

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNP Y RWY02(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	ENBIM	-	-	-8.8	-	-	+9000	-	-	-
002	TF	ISIDO	-	189 (180.2)	-8.8	25.4	-	+4000	-	-	1.0
003	TF	KENDA	-	169 (160.3)	-8.8	5.0	-	3800	-	-	1.0
004	TF	SI252	-	169 (160.4)	-8.8	1.5	-	3312	-165	-3.00	0.3
005	RF Center: SIRF1 r=2.10NM	SI253	-	-	-8.8	7.7	R	848	-	-3.00	0.3
006	TF	RW02	Y	020 (010.7)	-8.8	1.6	-	333	-	-3.00/50	0.3
007	DF	SI251	Y	-	-8.8	-	-	-	-	-	1.0
008	DF	HPE	-	-	-8.8	-	R	4500	-	-	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	ENBIM	195 (186.5)	-8.8	1.0 (-14000)	L	9000	FL140	-230 (-14000)	1.0
Hold	HPE	179 (169.7)	-8.9	1.0 (-14000)	L	4500	FL140	-230 (-14000)	1.0

Waypoint Coordinates			
Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
ENBIM	395519.34N / 1411002.82E	SIRF1	392304.37N / 1411014.42E
ISIDO	392956.45N / 1410957.05E		
KENDA	392513.70N / 1411207.87E		
SI252	392347.07N / 1411247.89E		
SI253	392327.97N / 1410734.24E		
RW02	392503.58N / 1410757.62E		
SI251	393152.68N / 1410937.82E		
HPE	392600.09N / 1410800.60E		

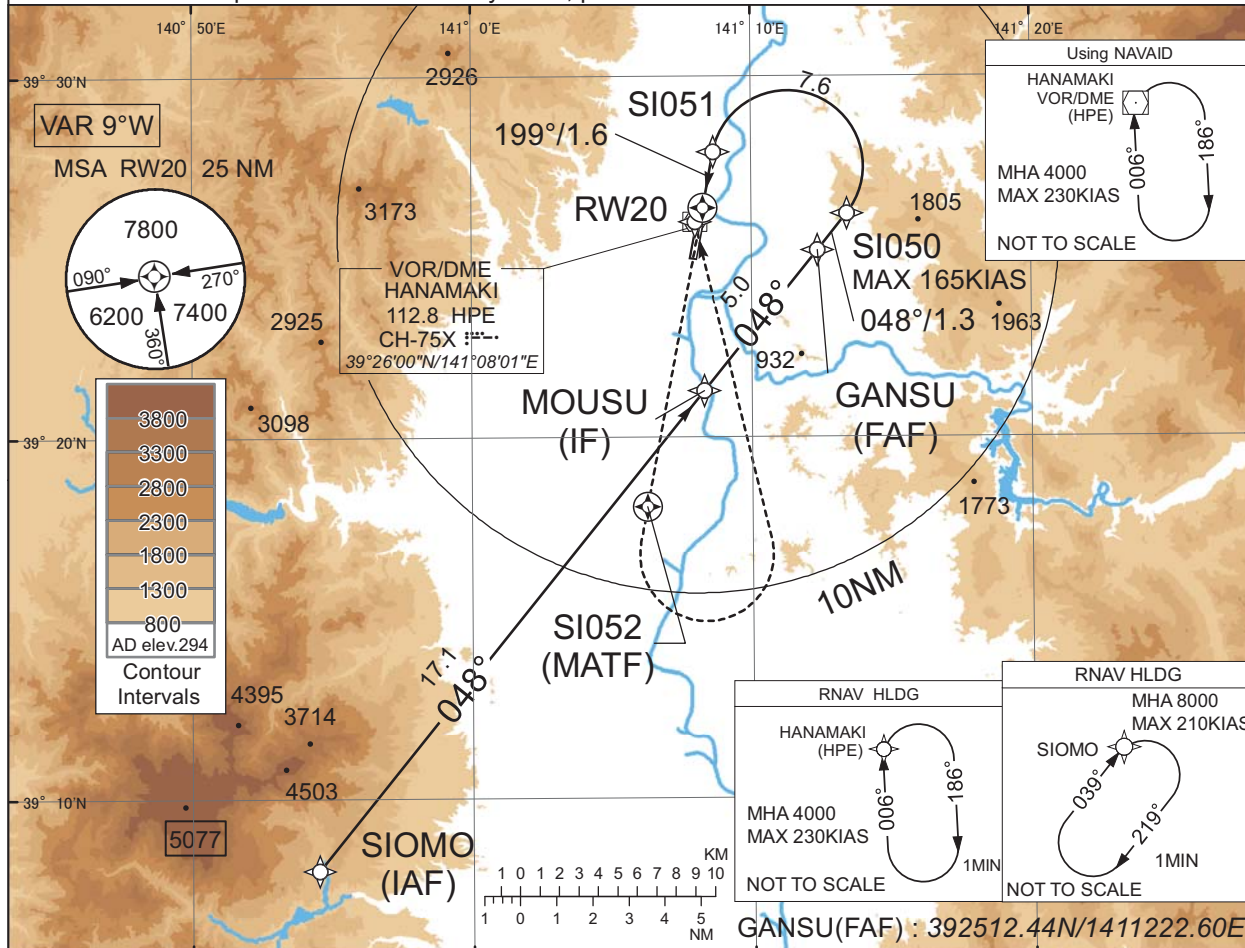
CHANGE : HLDG at HPE. VAR.

RJSI / HANAMAKI

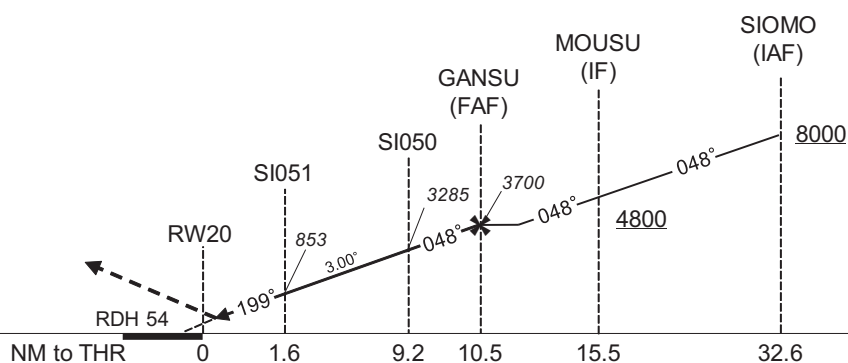
RNP Z RWY20(AR)

SHIRAKAMI APP 119.25 - 315.3 - 120.65	RNP AR RF required.	HANAMAKI RADIO 118.2 - 126.2	RADAR AVBL
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For uncompensated Baro-VNAV systems, procedure not authorized below -20°C / above 45°C



Climb to 4000FT, direct to SI052, turn left direct to HPE and hold.
Contact SHIRAKAMI APP.



MINIMA	THR elev. 298	AD elev. 294
CAT	RNP 0.30	
	DA(H)	RVR/CMV
A	-	-
B		
C	607(309)	1000
D		1400

Authorization Required

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNP Z RWY20(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	SIOMO	-	-	-8.8	-	-	+8000	-	-	-
002	TF	MOUSU	-	048 (038.8)	-8.8	17.1	-	+4800	-	-	1.0
003	TF	GANSU	-	048 (038.9)	-8.8	5.0	-	3700	-	-	1.0
004	TF	SI050	-	048 (038.9)	-8.8	1.3	-	3285	-165	-3.00	0.3
005	RF Center: SIRF2 r=2.10NM	SI051	-	-	-8.8	7.6	L	853	-	-3.00	0.3
006	TF	RW20	Y	199 (190.7)	-8.8	1.6	-	352	-	-3.00/54	0.3
007	DF	SI052	Y	-	-8.8	-	-	-	-	-	1.0
008	DF	HPE	-	-	-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	SIOMO	039 (030.1)	-8.8	1.0 (-14000)	R	8000	FL140	-210 (-14000)	1.0
Hold	HPE	006 (357.5)	-8.8	1.0 (-14000)	R	4000	FL140	-230 (-14000)	1.0

Waypoint Coordinates

Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
SIOMO	390801.78N / 1405430.28E	SIRF2	392732.73N / 1411119.82E
MOUSU	392119.11N / 1410818.81E		
GANSU	392512.44N / 1411222.60E		
SI050	392613.23N / 1411326.21E		
SI051	392756.30N / 1410839.89E		
RW20	392623.24N / 1410817.11E		
SI052	391806.42N / 1410615.76E		
HPE	392600.09N / 1410800.60E		

CHANGE : PROC renamed.

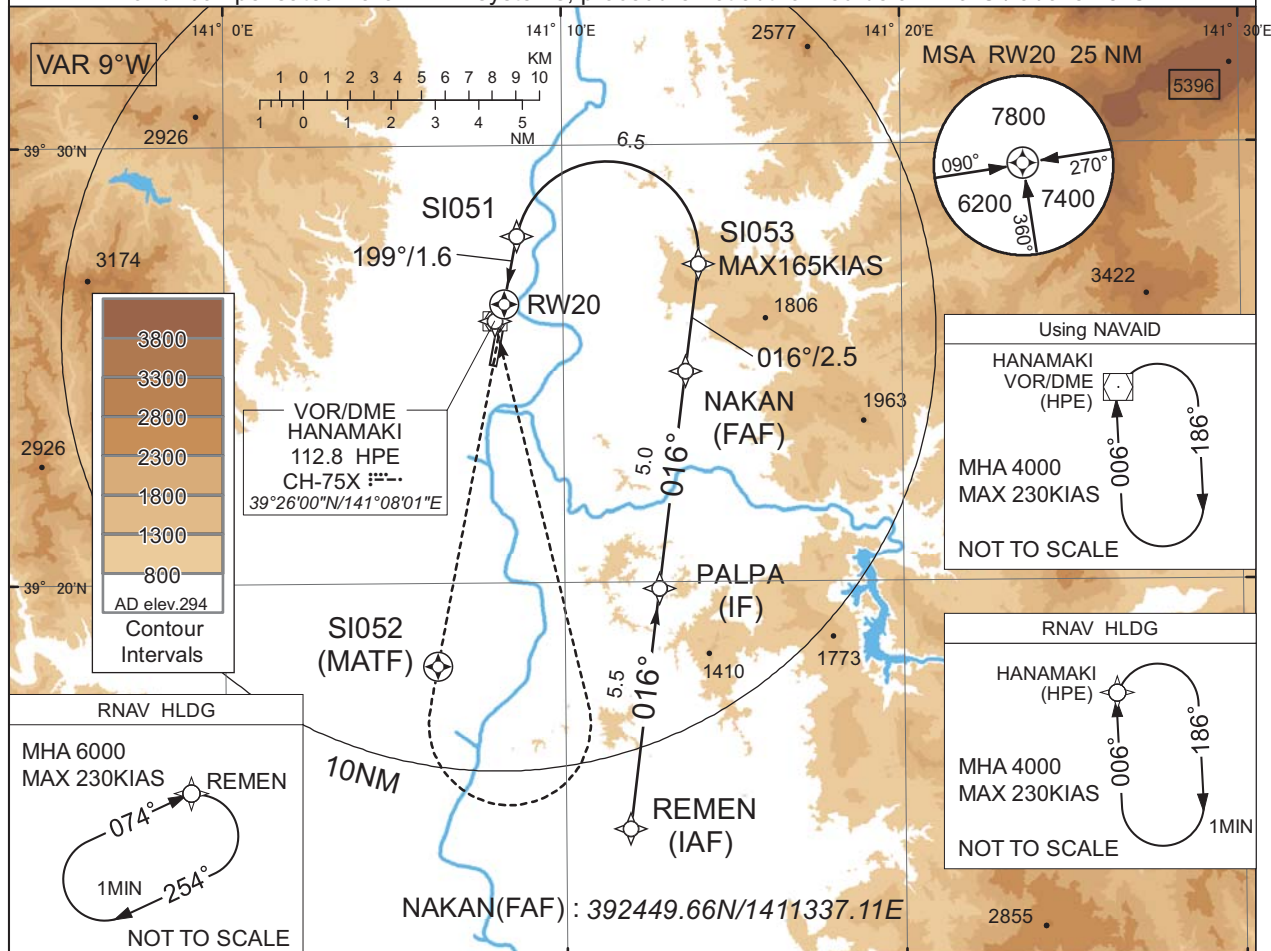
INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNP Y RWY20(AR)

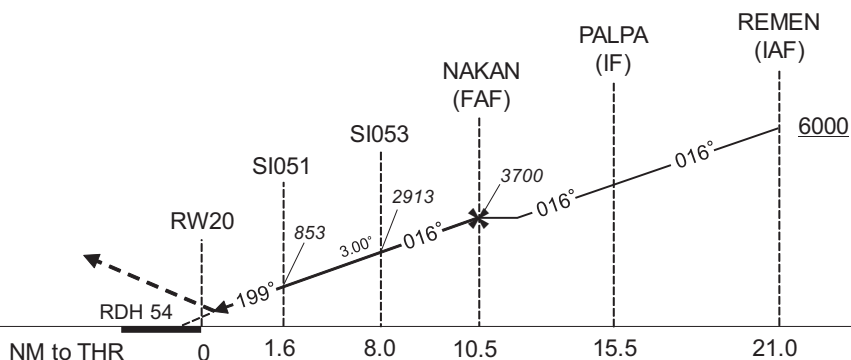
SHIRAKAMI APP 119.25 - 315.3 - 120.65	RNP AR RF required.	HANAMAKI RADIO 118.2 - 126.2	RADAR AVBL
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For uncompensated Baro-VNAV systems, procedure not authorized below -20°C / above 45°C



MISSED APPROACH

Climb to 4000FT, direct to SI052, turn left direct to HPE and hold.
Contact SHIRAKAMI APP.



MINIMA	THR elev. 298	AD elev. 294
CAT	RNP 0.30	
	DA(H)	RVR/CMV
A	-	-
B	-	-
C	607(309)	1000
D		1400

Authorization Required

CHANGE : ATC call sign and FREQ. Description of RADAR Service. Missed APCH PROC.

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNP Y RWY20(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	REMEN	-	-	-8.8	-	-	+6000	-	-	-
002	TF	PALPA	-	016 (007.2)	-8.8	5.5	-	-	-	-	1.0
003	TF	NAKAN	-	016 (007.2)	-8.8	5.0	-	3700	-	-	1.0
004	TF	SI053	-	016 (007.2)	-8.8	2.5	-	2913	-165	-3.00	0.3
005	RF Center: SIRF2 r=2.10NM	SI051	-	-	-8.8	6.5	L	853	-	-3.00	0.3
006	TF	RW20	Y	199 (190.7)	-8.8	1.6	-	352	-	-3.00/54	0.3
007	DF	SI052	Y	-	-8.8	-	-	-	-	-	1.0
008	DF	HPE	-	-	-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	REMEN	074 (065.0)	-8.8	1.0 (-14000)	R	6000	FL140	-230 (-14000)	1.0
Hold	HPE	006 (357.5)	-8.8	1.0 (-14000)	R	4000	FL140	-230 (-14000)	1.0

Waypoint Coordinates

Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
REMEN	391421.92N / 1411154.27E	SIRF2	392732.73N / 1411119.82E
PALPA	391951.68N / 1411248.23E		
NAKAN	392449.66N / 1411337.11E		
SI053	392716.81N / 1411401.29E		
SI051	392756.30N / 1410839.89E		
RW20	392623.24N / 1410817.11E		
SI052	391806.42N / 1410615.76E		
HPE	392600.09N / 1410800.60E		

CHANGE : PROC renamed.

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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. BRG/DIST from ARP. Taseko established. Tsuchisawa abolished.

Call sign	BRG / DIST from ARP	Remarks
盛岡 Morioka	360°T / 16.4NM	JR駅 JR Station
城山 Shiroyama	012°T / 8.4NM	城跡 The site of a castle
豊沢 Toyosawa	293°T / 8.1NM	豊沢ダム Dam
田瀬湖 Taseko	121°T / 10.0NM	田瀬ダム Dam
北上 Kitakami	184°T / 8.9NM	JR駅 JR Station
水沢 Mizusawa	178°T / 17.4NM	JR駅 JR Station



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Minimum Vectoring Altitude CHART

