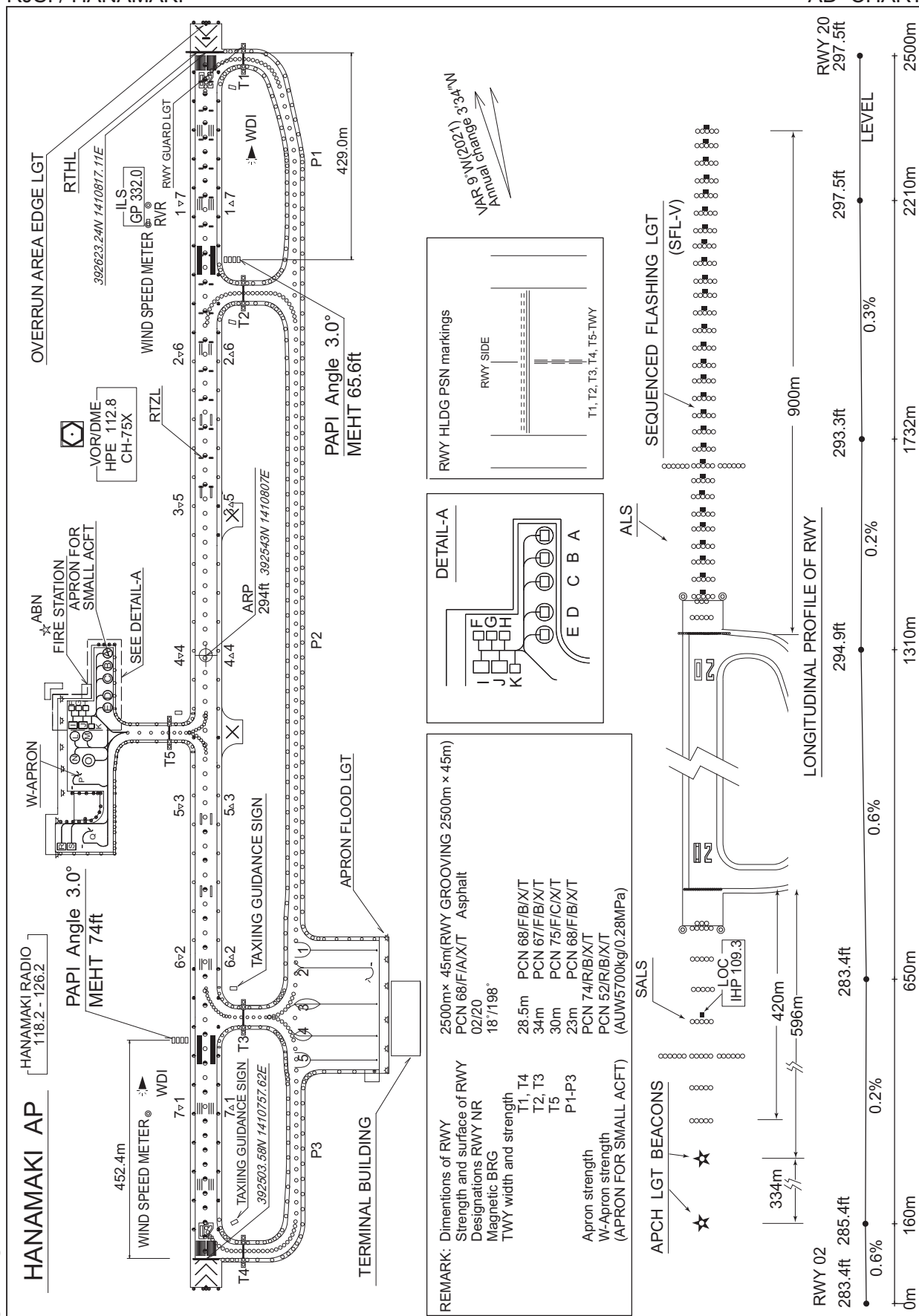


AD CHART



STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

➡ SID

OHSU ONE DEPARTURE

RWY 02 : Climb RWY HDG to 900FT, turn left...

RWY 20 : Climb RWY HDG to 1300FT, turn left HDG 324° ...
...to intercept and proceed via HPE R009 to OHSU.

OHSU ONE DEPARTURE



STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

SID

NIIGATA FOUR 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 GTC VORTAC.

Cross HPE VOR/DME at or above 2200 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.



STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

SID

HANAMAKI REVERSAL TWO 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 R194 to 6.0 DME, turn left...

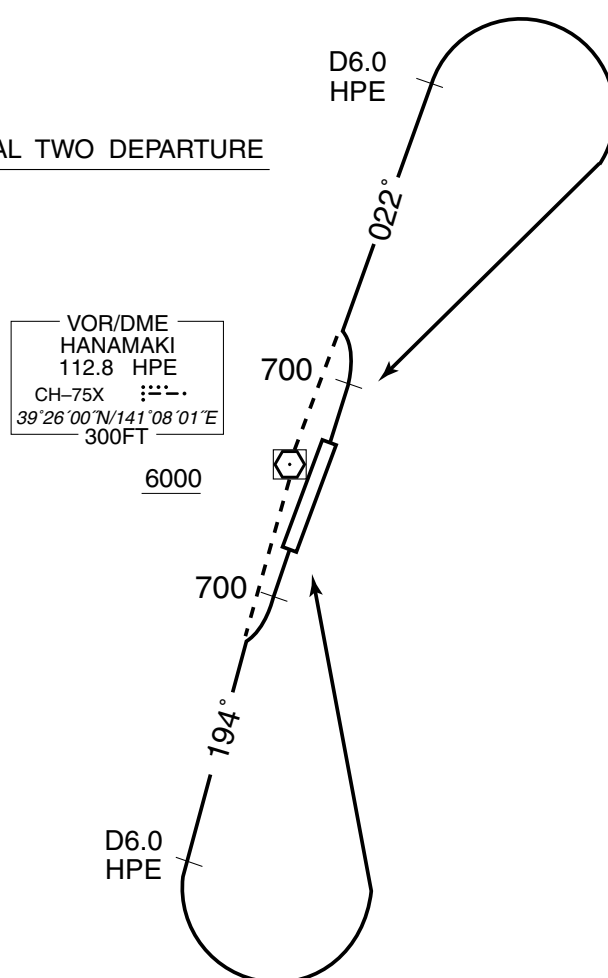
...proceed to HPE VOR/DME.

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.

HANAMAKI REVERSAL TWO DEPARTURE



STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

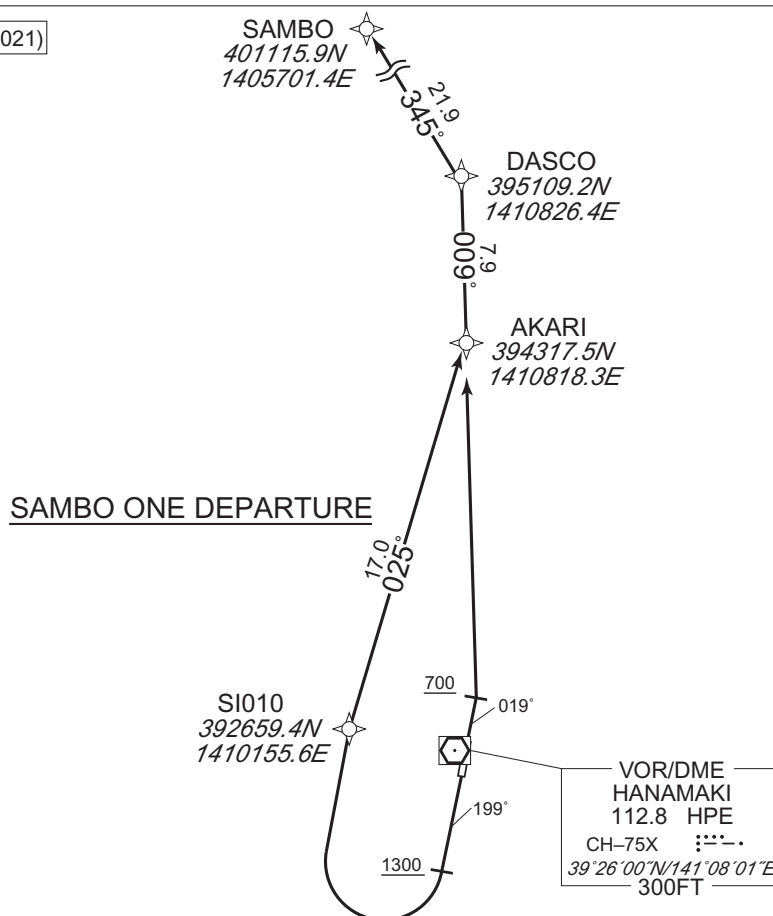
RNAV SID

SAMBO ONE DEPARTURE

Basic RNP1

Note GNSS required.

VAR 9°W (2021)



SAMBO ONE DEPARTURE

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

CHANGE : VAR. Note RWY20 (OBST).

STANDARD DEPARTURE CHART -INSTRUMENT

RJSI / HANAMAKI

RNAV SID

HANKA ONE DEPARTURE	Basic RNP1
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Note GNSS required

VAR 9°W (2021)



HANKA ONE DEPARTURE

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.

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	—	—	Basic RNP1
002	DF	HANKA	—	—	-8.7	—	L	+11000	—	—	Basic 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	—	—	Basic RNP1
002	DF	HANKA	—	—	-8.7	—	R	+11000	—	—	Basic RNP1

CHANGE : VAR. Note RWY20 (OBST).

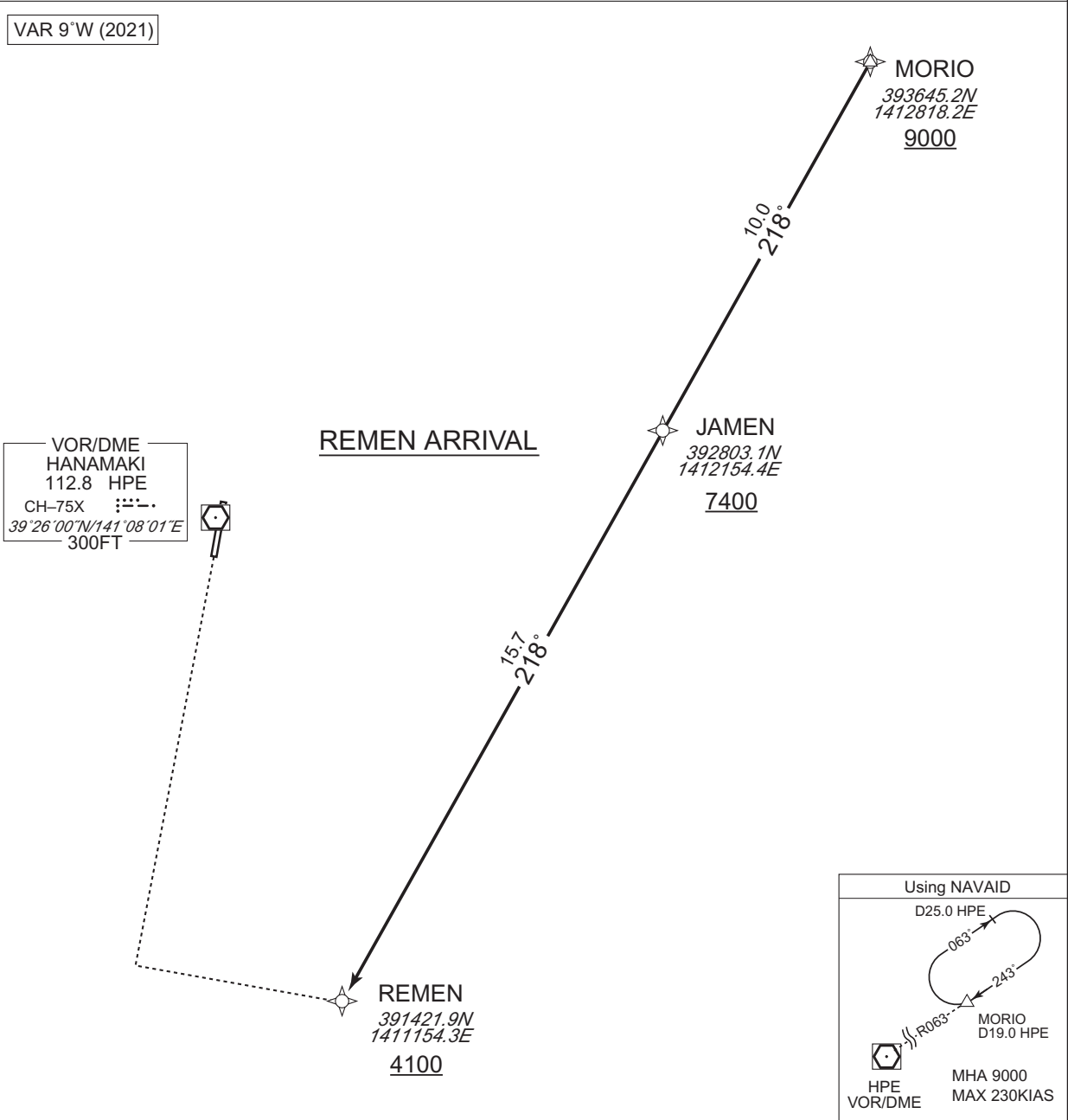
STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI

RNAV STAR RWY02

REMEN ARRIVAL	Basic RNP1
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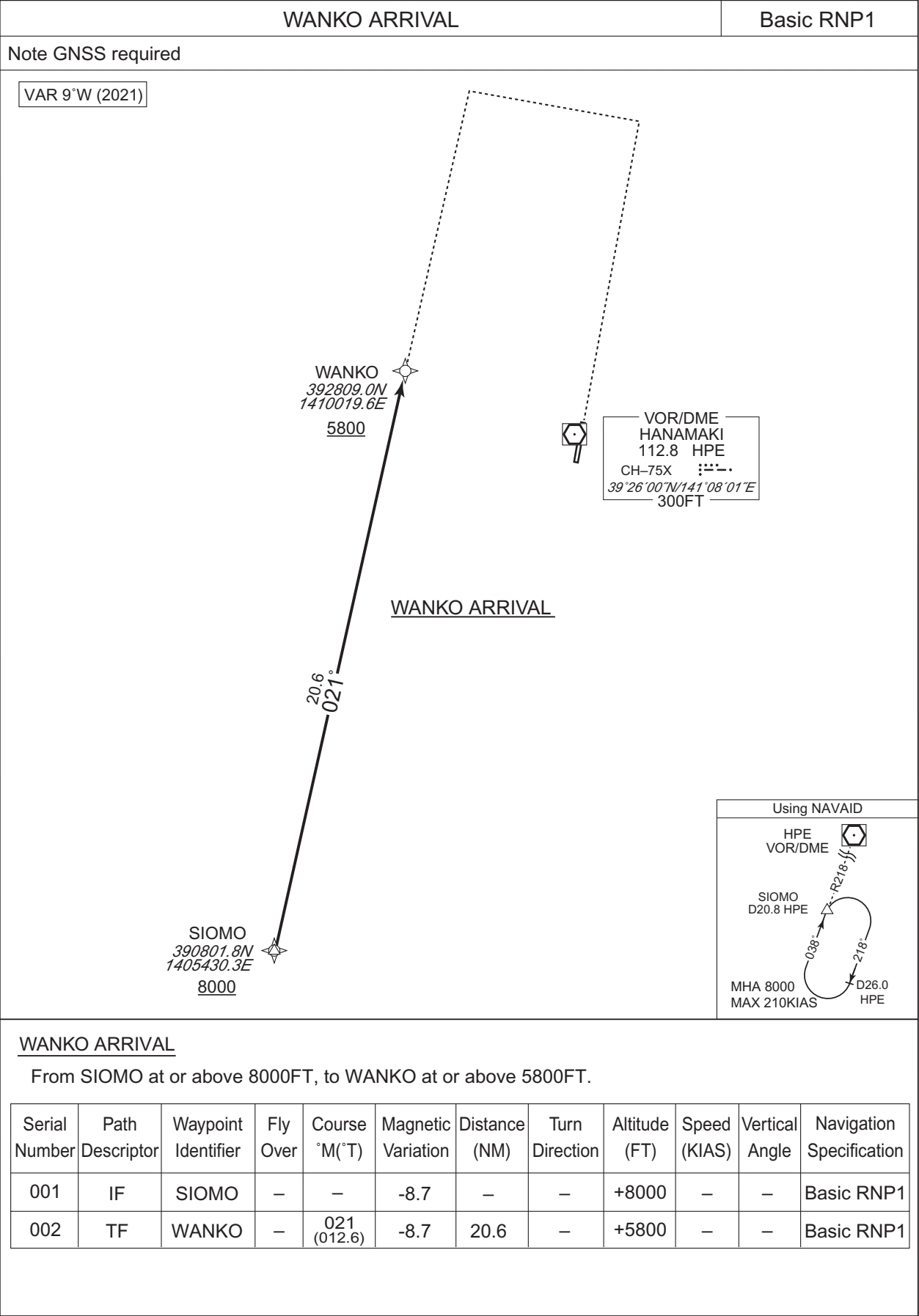
Note GNSS required



STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI

RNAV STAR RWY20



CHANGE : VAR.

STANDARD ARRIVAL CHART - INSTRUMENT

CHANGE : VAR. Course FM ESBEL to SIOMO. HLDG pattern(RNAV) abolished. HLDG pattern(Using NAVAID) abolished. HLDG pattern(RNAV) established.
Coding table(Hold) added.



STANDARD ARRIVAL CHART - INSTRUMENT

RJSI / HANAMAKI

RNAV STAR RWY20

SUIHO ARRIVAL

Basic RNP1

Note GNSS required.

VAR 9°W (2021)



SUIHO ARRIVAL

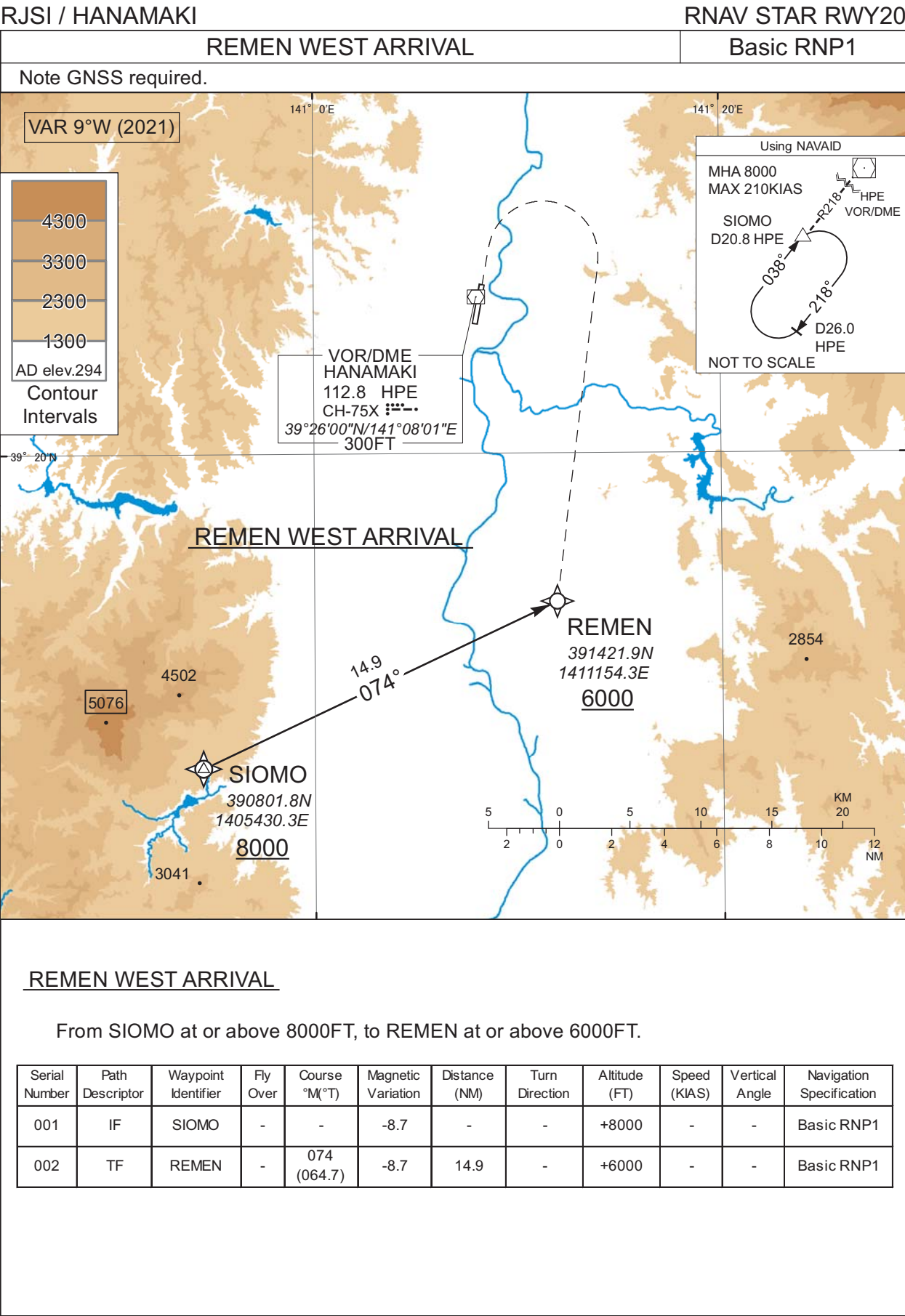
From ESBEL at or above 9000FT, to MAMEB at or above 8200FT, to NONBE at or above 6600FT, to SUIHO at or above 3200FT.

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	ESBEL	—	—	-8.7	—	—	+9000	—	—	Basic RNP1
002	TF	MAMEB	—	159 (150.7)	-8.7	4.6	—	+8200	—	—	Basic RNP1
003	TF	NONBE	—	159 (150.8)	-8.7	3.4	—	+6600	—	—	Basic RNP1
004	TF	SUIHO	—	160 (150.8)	-8.7	10.0	—	+3200	—	—	Basic 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	ESBEL	174 (165.3)	-8.7	1.0(-14000)	R	9000	FL140	-230 (-14000)	Basic RNP1

CHANGE : VAR. Course FM NONBE to SUIHO. HLDG pattern(Using NAVAID) abolished. HLDG pattern(RNAV) established. Coding table(Hold) added.

STANDARD ARRIVAL CHART - INSTRUMENT

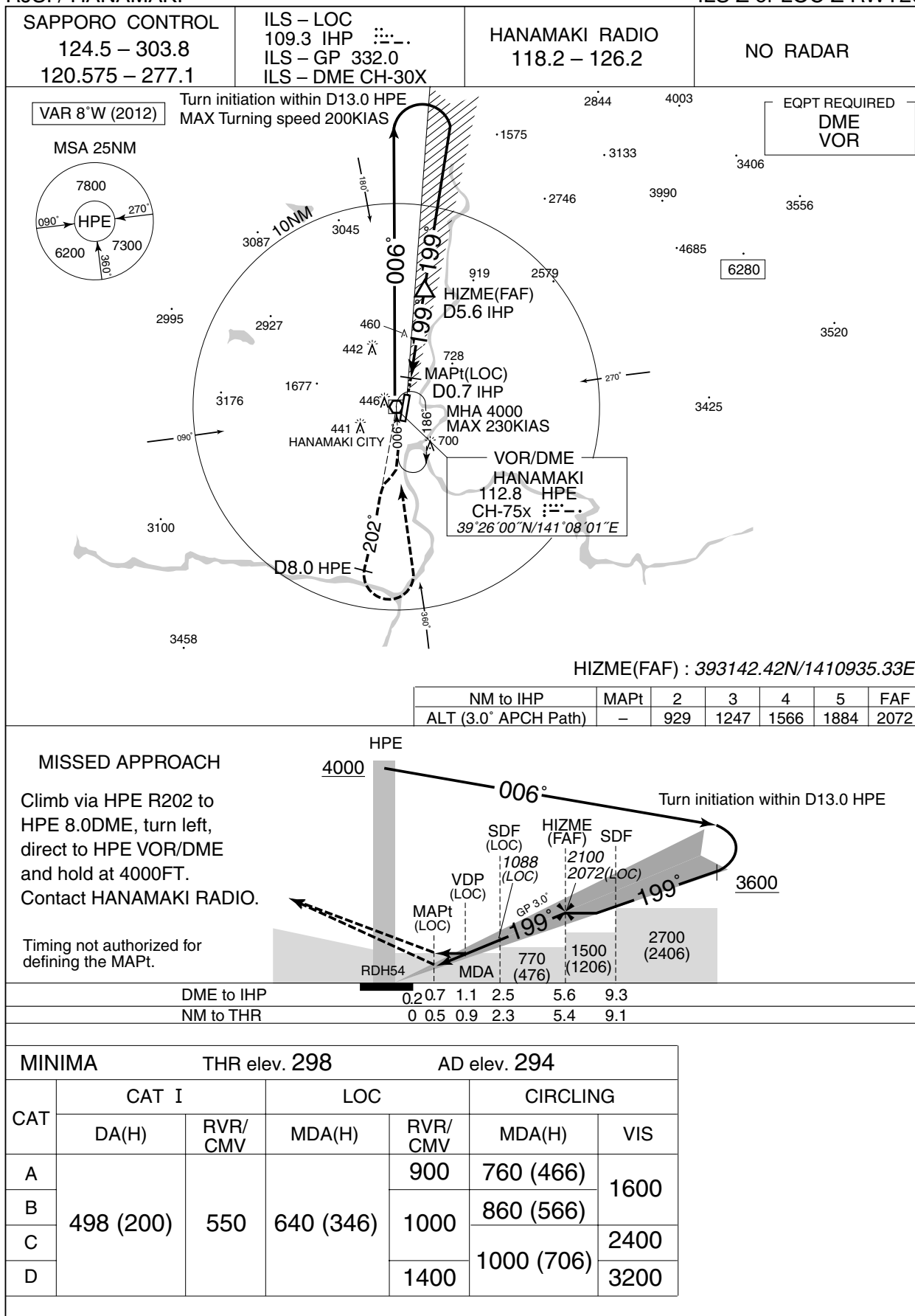


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INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

ILS Z or LOC Z RWY20



INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

ILS Y or LOC Y RWY20



CHANGE : FIX symbol (HLDG)

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

VOR RWY20



RJSI / HANAMAKI

SAPPORO CONTROL
124.5 – 303.8
120.575 – 277.1

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

HANAMAKI RADIO
118.2 – 126.2

NO RADAR

VAR 8°W (2012)

MSA 25NM

EQPT REQUIRED
DME

6280

SHIHO(FAF) : 392005.53N/1410711.95E
3458

MAPt 446
D0.9 HPE
441
HANAMAKI CITY

SHIHO (FAF)
D5.9 HPE

MHA4500
MAX 230KIAS

700

689

1050

1178

853
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

4500 HPE

178°

SHIHO (FAF)

1925

830

3.0°

SDF VDP

MAPt

MDA

2300

014°

014°

1500 (1217)

750 (467)

	5.9	2.5	1.9	0.9	
	5.0	1.6	1.0	0	DME to HPE
					NM to THR

Missed APCH climb gradient MNM 3.6%

MINIMA		THR elev. 283		AD elev. 294	
CAT			CIRCLING		VIS
	MDA(H)	CMV	MDA(H)		
A	640 (357)	1200	760 (466)	1600	
B		1300	860 (566)		
C		1400			
D	650 (367)	1600	1000 (706)	3200	

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

MISSED APPROACH

Climb via HPE R014 to HPE
6.0DME, turn right, proceed to HPE
VOR/DME and hold at 4500FT.
Contact HANAMAKI RADIO.

Timing not authorized for defining the MAPt.

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNAV(GNSS) Z RWY02

SAPPORO CONTROL
124.5 – 303.8
120.575 – 277.1

1. DME/DME RNP0.3 not authorized.
2. RNP0.3 required.
3. GNSS required.

HANAMAKI RADIO
118.2 – 126.2

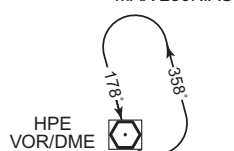
NO RADAR

Baro-VNAV not authorized below -20°C

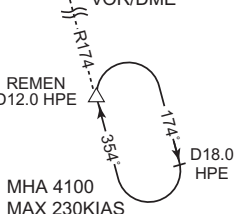
VAR 9°W (2021)

Using NAVAID

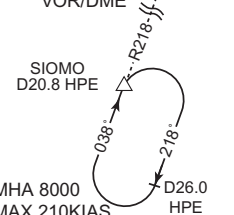
MHA 4500
MAX 230KIAS



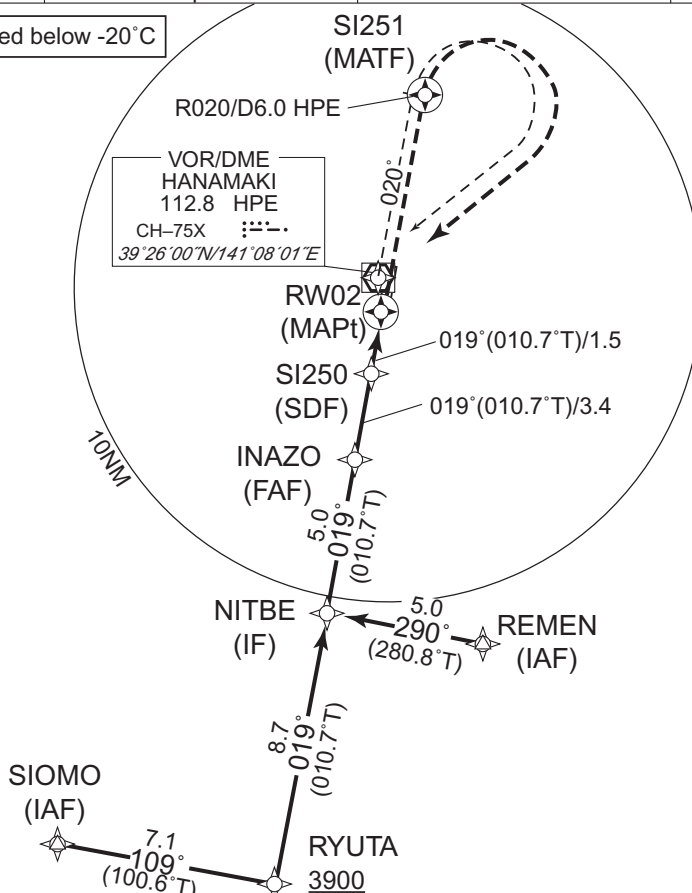
HPE VOR/DME



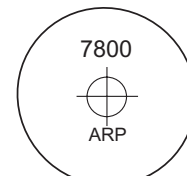
HPE VOR/DME



CHANGE : PROC renamed. VAR. Course FM REMEN to NITBE.



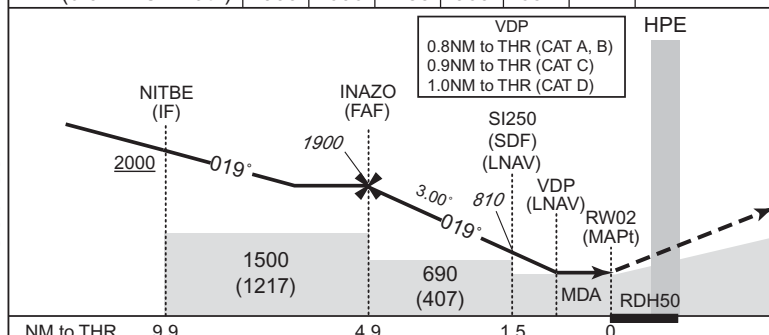
MSA 25NM



ARP: 392543N/ 1410807E

SIOMO (IAF)	390801.78N 1405430.28E
RYUTA (IAF)	390642.80N 1410329.59E
REMEM (IAF)	391421.92N 1411154.27E
NITBE (IF)	391517.95N 1410534.72E
INAZO (FAF)	392013.09N 1410646.65E
SI250 (SDF)	392335.04N 1410735.97E
RW02 (MAPt)	392503.58N 1410757.62E
SI251 (MATF)	393152.68N 1410937.82E
HPE (MAHF)	392600.09N 1410800.60E

NM to Next Fix	FAF	4	3	2	1	MAPt
ALT(3.0° APCH Path)	1900	1606	1288	969	651	—



MISSED APPROACH

Climb direct to SI251, turn right direct to HPE and hold at 4500FT.
Contact HANAMAKI RADIO.

(For using VOR/DME)
Climb via HPE R020 to HPE 6.0DME, turn right, direct to HPE VOR/DME and hold at 4500FT.
Contact HANAMAKI RADIO.

NM to THR 9.9

4.9

1.5

0

Missed APCH climb gradient MNM 4.0%

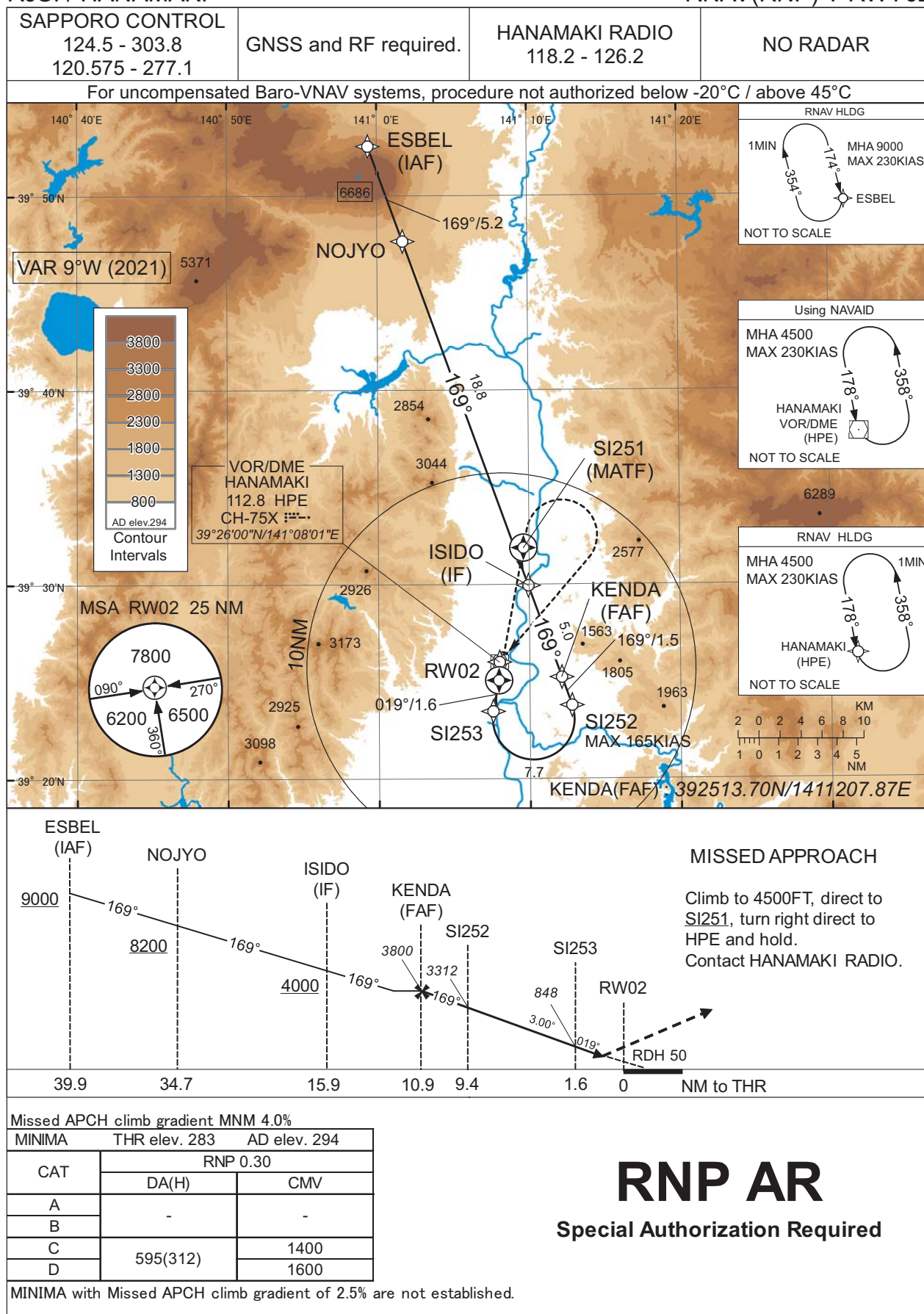
MINIMA		THR elev.283		AD elev.294		
CAT	LNAV/VNAV		LNAV		CIRCLING	
	DA(H)	CMV	MDA(H)	CMV	MDA(H)	VIS
A	610(327)	1200	610(327)	1200	760(466)	1600
B		1300		1300	860(566)	
C	630(347)	1400	630(347)	1400	1000(706)	2400
D	650(367)	1600	650(367)	1600		3200

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

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNAV(RNP) Y RWY02



CHANGE : New PROC.

RNP AR

Special Authorization Required

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNAV(RNP) Y RWY02

RNAV(RNP) Y RWY02Coding 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	ESBEL	-	-	-8.7	-	-	+9000	-	-	-
002	TF	NOJYO	-	169 (160.2)	-8.7	5.2	-	+8200	-	-	1.0
003	TF	ISIDO	-	169 (160.2)	-8.7	18.8	-	+4000	-	-	1.0
004	TF	KENDA	-	169 (160.3)	-8.7	5.0	-	3800	-	-	1.0
005	TF	SI252	-	169 (160.4)	-8.7	1.5	-	3312	-165	-3.00	0.3
006	RF Center: SIRF1 r=2.10NM	SI253	-	-	-8.7	7.7	R	848	-	-3.00	0.3
007	TF	RW02	Y	019 (010.7)	-8.7	1.6	-	333	-	-3.00/50	0.3
008	DF	SI251	Y	-	-8.7	-	-	-	-	-	1.0
009	DF	HPE	-	-	-8.7	-	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	ESBEL	174 (165.3)	-8.7	1.0 (-14000)	R	9000	FL140	-230 (-14000)	1.0
Hold	HPE	178 (169.7)	-8.7	1.0 (-14000)	L	4500	FL140	-230 (-14000)	1.0

Waypoint Coordinates

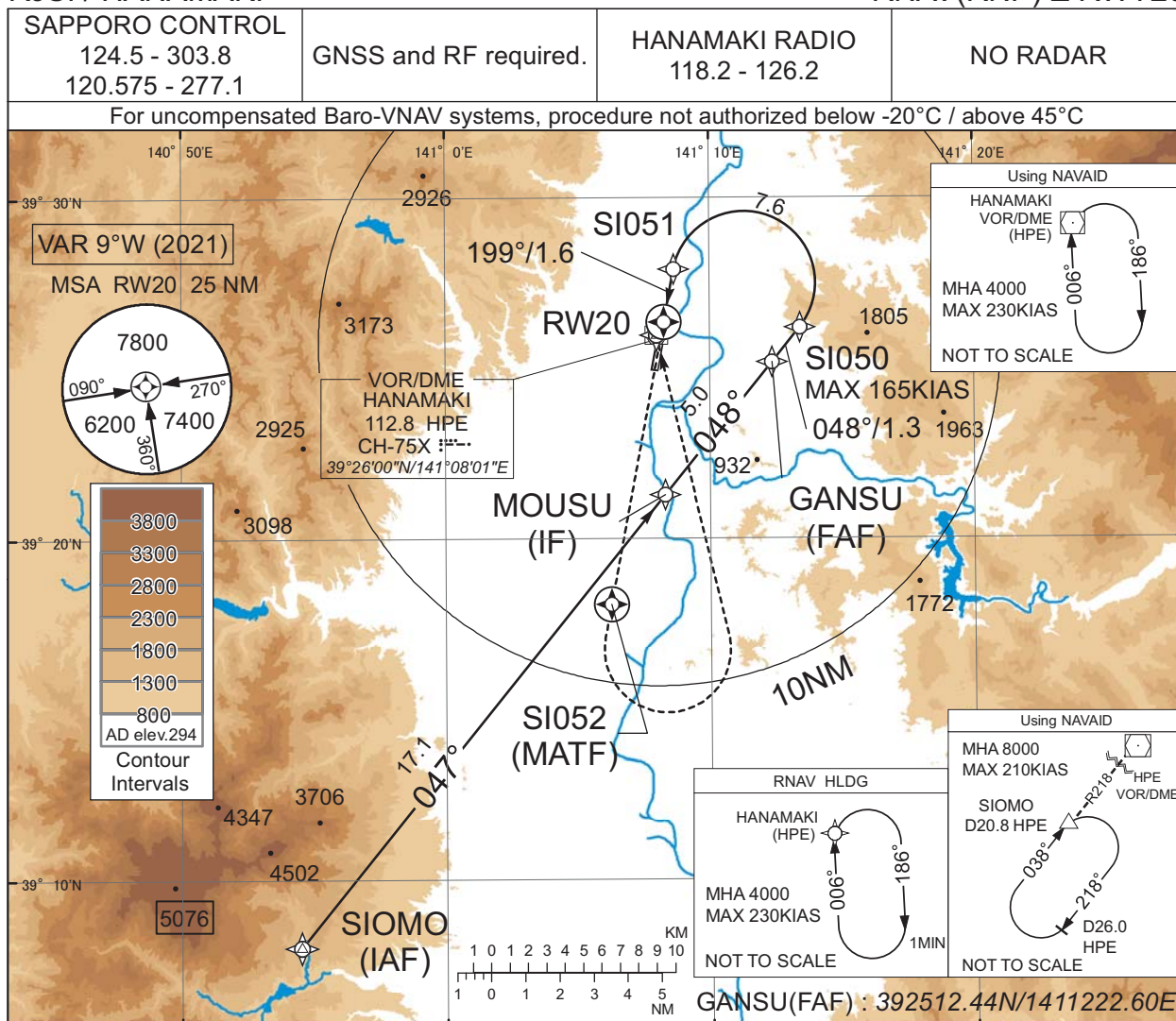
Waypoint Identifier	Coordinates	RF Arc Center Identifier	Coordinates
ESBEL	395233.23N / 1405924.90E	SIRF1	392304.37N / 1411014.42E
NOJYO	394739.56N / 1410142.35E		
ISIDO	392956.45N / 1410957.05E		
KENDA	392513.70N / 1411207.87E		
SI252	392347.07N / 1411247.89E		
SI253	392327.97N / 1410734.24E		
RW02	392503.58N / 1410757.62E		
SI251	393152.68N / 1410937.82E		
HPE	392600.09N / 1410800.60E		

CHANGE : New PROC.

INSTRUMENT APPROACH CHART

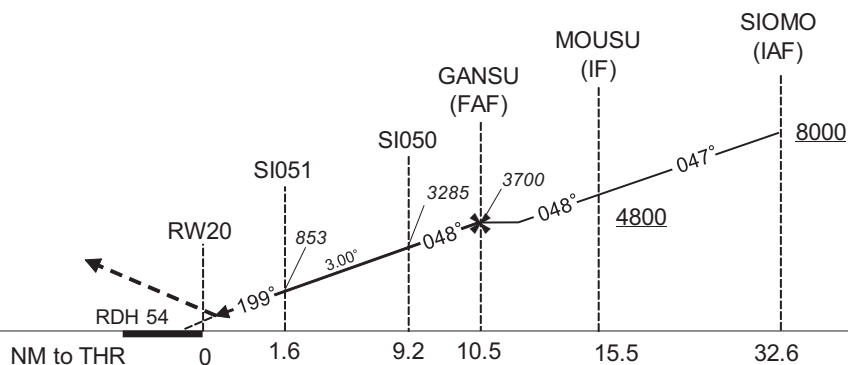
RJSI / HANAMAKI

RNAV(RNP) Z RWY20



MISSED APPROACH

Climb to 4000FT, direct to
SI052, turn left direct to HPE
and hold.
Contact HANAMAKI RADIO.



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

RNP AR

Special Authorization Required

CHANGE : New PROC.

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNAV(RNP) Z RWY20

RNAV(RNP) Z RWY20Coding 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	-	-	-8.7	-	-	+8000	-	-	-
002	TF	MOUSU	-	047 (038.8)	-8.7	17.1	-	+4800	-	-	1.0
003	TF	GANSU	-	048 (038.9)	-8.7	5.0	-	3700	-	-	1.0
004	TF	SI050	-	048 (038.9)	-8.7	1.3	-	3285	-165	-3.00	0.3
005	RF Center: SIRF2 r=2.10NM	SI051	-	-	-8.7	7.6	L	853	-	-3.00	0.3
006	TF	RW20	Y	199 (190.7)	-8.7	1.6	-	352	-	-3.00/54	0.3
007	DF	SI052	Y	-	-8.7	-	-	-	-	-	1.0
008	DF	HPE	-	-	-8.7	-	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	HPE	006 (357.5)	-8.7	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 : New PROC.

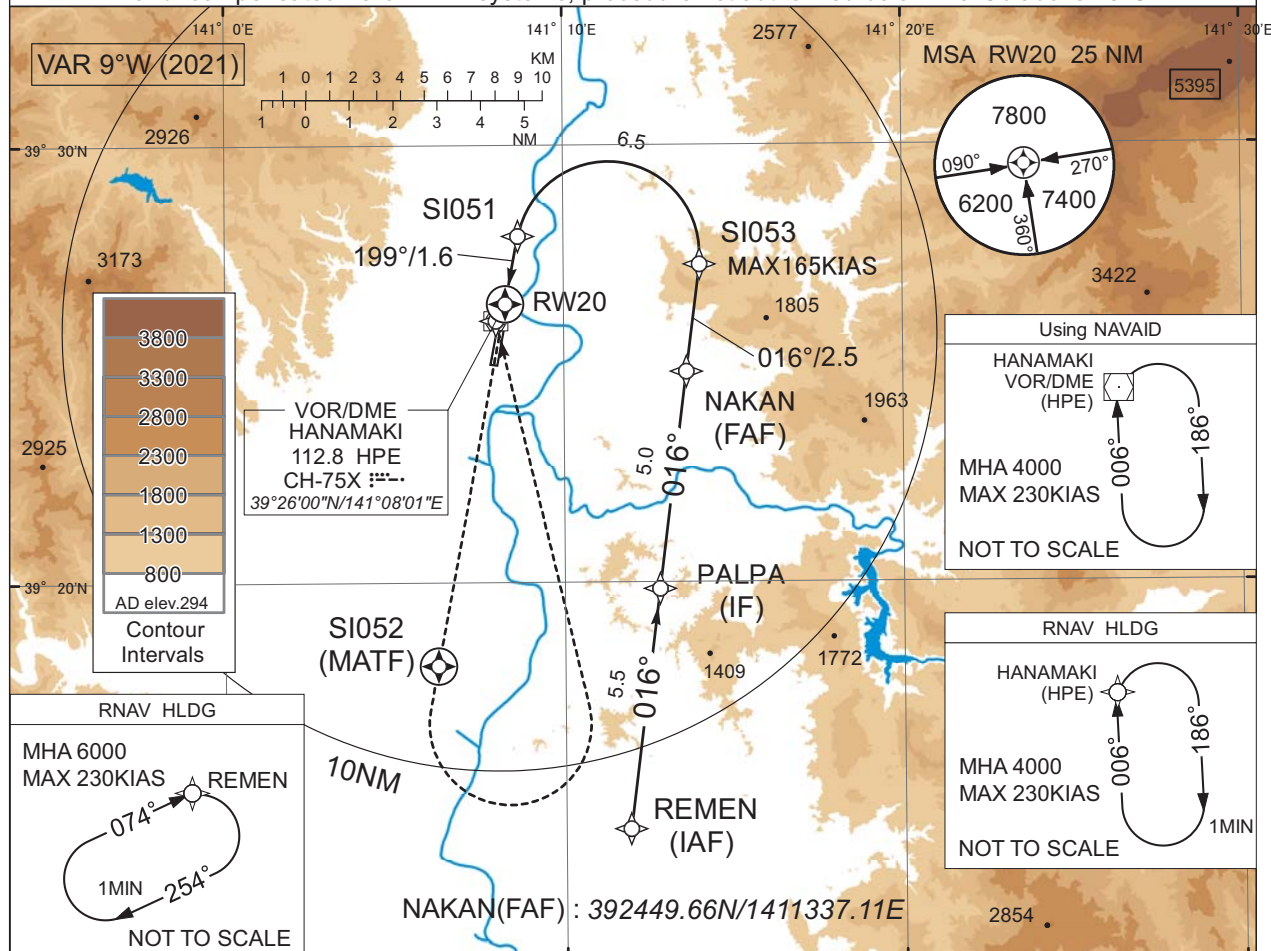
INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNAV(RNP) Y RWY20

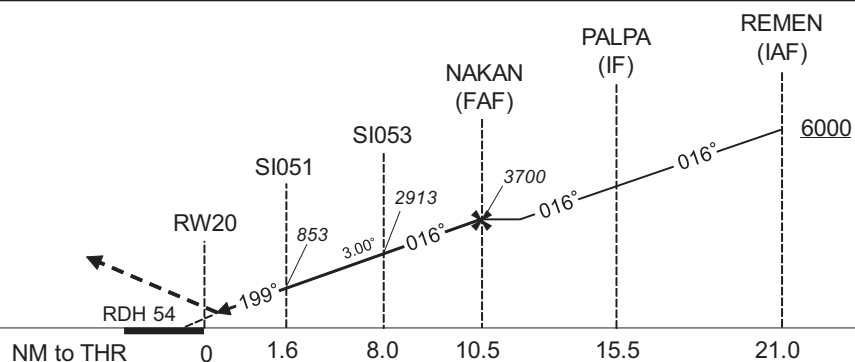
SAPPORO CONTROL 124.5 - 303.8 120.575 - 277.1	GNSS and RF required	HANAMAKI RADIO 118.2 - 126.2	NO RADAR
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For uncompensated Baro-VNAV systems, procedure not authorized below -20°C / above 45°C



MISSED APPROACH

Climb to 4000FT, direct to SI052, turn left direct to HPE and hold.
Contact HANAMAKI RADIO.



CHANGE : New PROC.

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

RNP AR

Special Authorization Required

INSTRUMENT APPROACH CHART

RJSI / HANAMAKI

RNAV(RNP) Y RWY20

RNAV(RNP) Y RWY20Coding 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	-	-	-8.7	-	-	+6000	-	-	-
002	TF	PALPA	-	016 (007.2)	-8.7	5.5	-	-	-	-	1.0
003	TF	NAKAN	-	016 (007.2)	-8.7	5.0	-	3700	-	-	1.0
004	TF	SI053	-	016 (007.2)	-8.7	2.5	-	2913	-165	-3.00	0.3
005	RF Center: SIRF2 r=2.10NM	SI051	-	-	-8.7	6.5	L	853	-	-3.00	0.3
006	TF	RW20	Y	199 (190.7)	-8.7	1.6	-	352	-	-3.00/54	0.3
007	DF	SI052	Y	-	-8.7	-	-	-	-	-	1.0
008	DF	HPE	-	-	-8.7	-	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)	-8.7	1.0 (-14000)	R	6000	FL140	-230 (-14000)	1.0
Hold	HPE	006 (357.5)	-8.7	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 : New PROC.

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Visual REP



CHANGE : Map updated. BRG/DIST from ARP. Taseko established. Tsuchisawa abolished.

※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).

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

