

**STANDARD ARRIVAL CHART**  
**RNAV (GNSS) -**  
**INSTRUMENT (STAR)**

ACC 134.4  
 APP 124.05 / 120.3  
 ARR 119.3  
 TWR 118.6 / 118.25

TRANSITION ALTITUDE  
 11 000ft

D-ATIS AP ID-WSSS  
 128.6

**SINGAPORE/Singapore Changi**  
**RWY 20R/C**  
**SURGA ONE BRAVO ARRIVAL**  
**SURGA 1B**

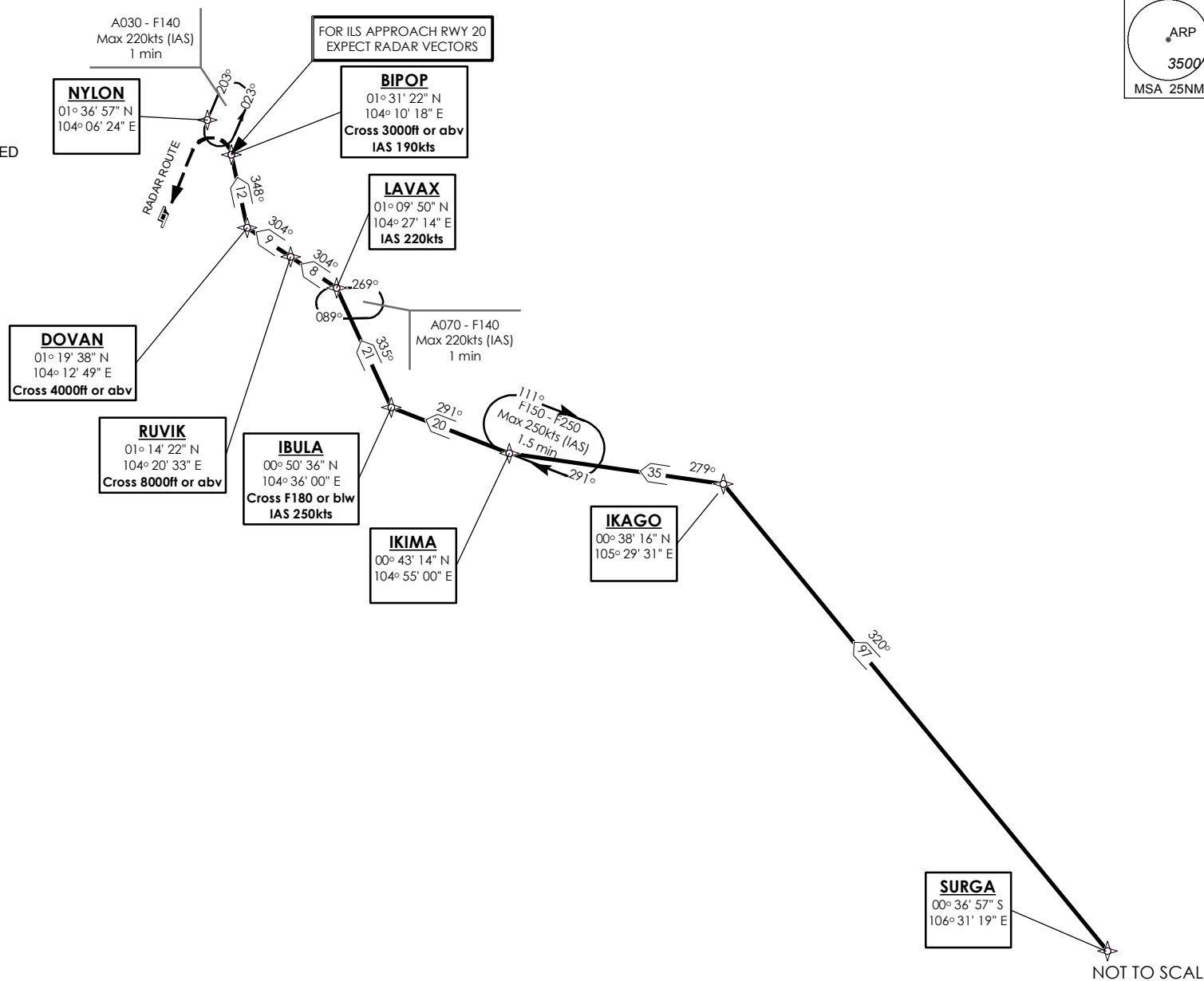
ELEV, ALT IN FEET  
 BEARINGS, TRACKS AND  
 RADIALS ARE MAGNETIC  
 VAR 26°E (2015)

DISTANCES IN NM

**NOTE:** RADAR REQUIRED

**NOTE:** RNAV-1 NAVIGATION SPECIFICATION GNSS REQUIRED

**NOTE:** REFER TO BACK PAGE FOR  
 - FORMAL AND TABULAR DESCRIPTIONS  
 - RADIO COM FAILURE PROCEDURES



NOT TO SCALE

21 JUL 16

**SURGA 1B (STAR) RNAV GNSS RWY 20R/20C - DESCRIPTIONS****Formal & Abbreviated Descriptions**

Formal Description	Abbreviated Description	Path Terminator	Fly-Over required
From SURGA. To IKAGO, turn left. To IKIMA, turn right. To IBULA at or below FL180, speed 250kts, turn right. To LAVAX, speed 220kts, turn left. To RUVIK at or above 8000ft. To DOVAN at or above 4000ft, turn right. To BIPOP at or above 3000ft, speed 190kts.	SURGA -	IF	N
	IKAGO [L] -	TF	N
	IKIMA [R] -	TF	N
	IBULA [FL180-; K250; R] -	TF	N
	LAVAX [K220; L] -	TF	N
	RUVIK [A080+] -	TF	N
	DOVAN [A040+; R] -	TF	N
BIPOP [A030+; K190]	TF	N	

**Tabular Descriptions**

Path Term	Waypoint Name	Fly-Over	Course °M(°T)	Magnetic Variation	Turn Direction	Altitude	Speed Limit	Navigation Spec
IF	SURGA	-	-	-0.5	-	-	-	RNAV1
TF	IKAGO	-	320(320.4)	-0.5	L	-	-	RNAV1
TF	IKIMA	-	279(279.5)	-0.5	R	-	-	RNAV1
TF	IBULA	-	291(291.1)	-0.5	R	FL180-	K250	RNAV1
TF	LAVAX	-	335(335.4)	-0.5	L	-	K220	RNAV1
TF	RUVIK	-	304(304.0)	-0.5	-	A080+	-	RNAV1
TF	DOVAN	-	304(304.1)	-0.5	R	A040+	-	RNAV1
TF	BIPOP	-	348(348.5)	-0.5	-	A030+	K190	RNAV1

**RADIO COMMUNICATIONS FAILURE PROCEDURE**

1	<b>SET TRANSPONDER TO MODE A/C CODE 7600</b>
2	<p><b>When cleared via SURGA 1B by Singapore ATC</b></p> <p>(a) Maintain last assigned flight level or altitude and proceed on SURGA 1B to BIPOP, then direct to NYLON</p> <p>(b) From NYLON commence descent and carry out appropriate landing procedure for RWY 20 as close as possible to EAT or ETA</p> <p>(c) If unable to effect a landing, refer to Singapore AIP for missed approach procedure</p>
3	<p><b>No clearance or instruction received from Singapore ATC</b></p> <p>- Refer to Singapore AIP for radio communications failure procedure</p>