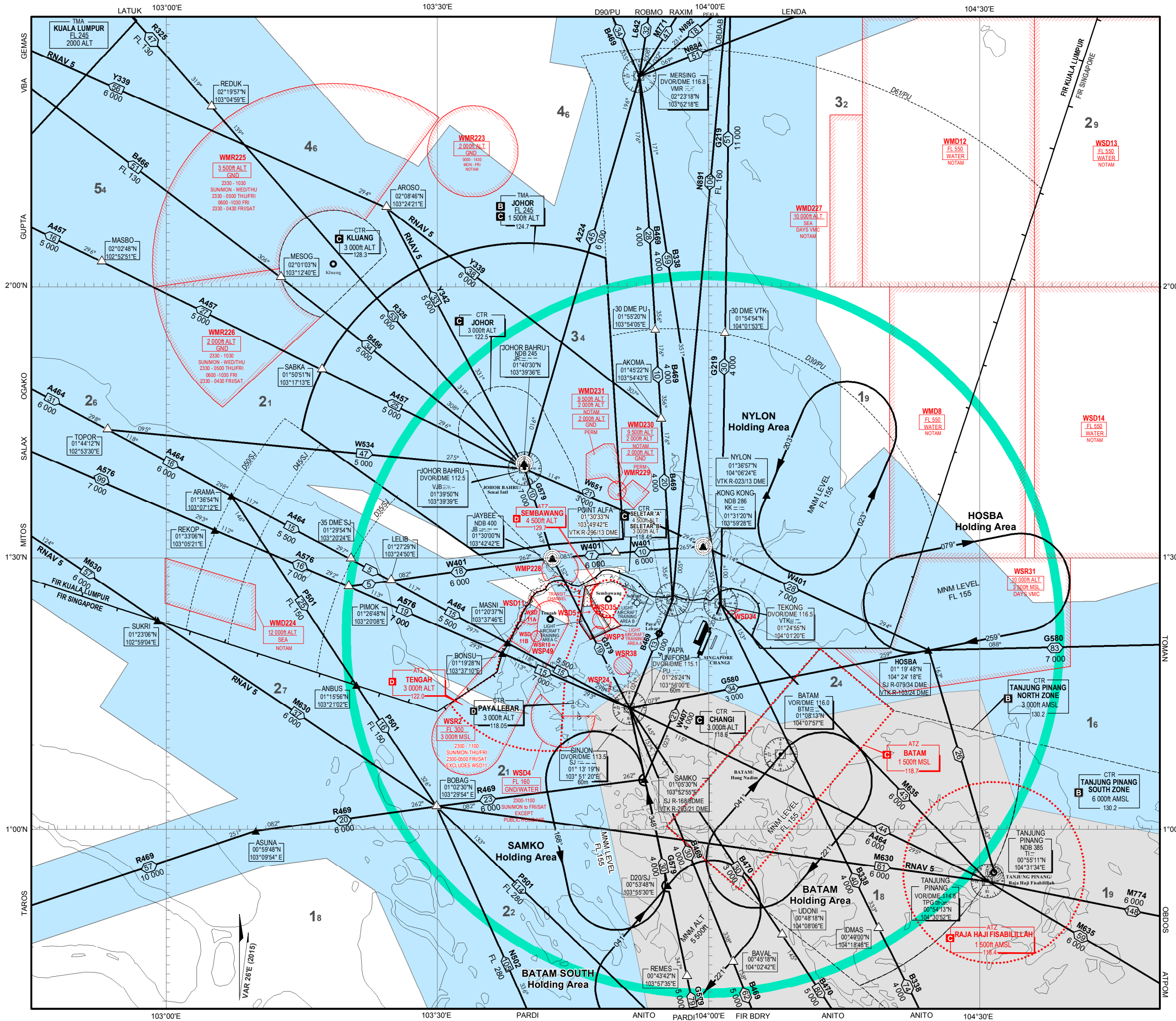


# AREA CHART - ICAO

SINGAPORE/JOHOR AIRSPACE COMPLEX  
HIGH LEVEL HOLDING AREAS



LEGEND											
<b>Terminal Control Area (TMA)</b>	<table border="1"> <tr><td>Name of TMA</td><td>TMA JOHOR</td></tr> <tr><td>Airspace Classification</td><td>FL 145</td></tr> <tr><td>Upper Limit</td><td>1 500ft</td></tr> <tr><td>Lower Limit</td><td>124.7</td></tr> <tr><td>Radio frequency(ies)</td><td></td></tr> </table>	Name of TMA	TMA JOHOR	Airspace Classification	FL 145	Upper Limit	1 500ft	Lower Limit	124.7	Radio frequency(ies)	
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<b>Control Zone (CTR)</b>	<table border="1"> <tr><td>Name of CTR</td><td>CTR CHANGI</td></tr> <tr><td>Airspace Classification</td><td>3 000ft</td></tr> <tr><td>Upper Limit</td><td>118.6m</td></tr> <tr><td>Radio frequency(ies)</td><td></td></tr> </table>	Name of CTR	CTR CHANGI	Airspace Classification	3 000ft	Upper Limit	118.6m	Radio frequency(ies)			
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<b>Aerodrome Traffic Zone (ATZ)</b>	<table border="1"> <tr><td>Name of ATZ</td><td>ATZ TENGAH</td></tr> <tr><td>Airspace Classification</td><td>3 000ft</td></tr> <tr><td>Upper Limit</td><td>122.0</td></tr> <tr><td>Radio frequency(ies)</td><td></td></tr> </table>	Name of ATZ	ATZ TENGAH	Airspace Classification	3 000ft	Upper Limit	122.0	Radio frequency(ies)			
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<b>ATS Routes</b>	<table border="1"> <tr><td>Route designator</td><td>B469</td></tr> <tr><td>Distance in nautical miles</td><td>4 000/FL 160</td></tr> <tr><td>Minimum flight altitude (ft)/flight level</td><td></td></tr> </table>	Route designator	B469	Distance in nautical miles	4 000/FL 160	Minimum flight altitude (ft)/flight level					
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<b>Oceanic Control Area (OCA)</b>											
<b>Reporting Point</b>	<table border="1"> <tr><td>Compulsory</td><td>▲</td></tr> <tr><td>On request</td><td>△</td></tr> </table>	Compulsory	▲	On request	△						
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On request	△										
<b>DME distance from SJ Navaid</b>	D35/SJ										
<b>Radio Navigation Aid</b>	<table border="1"> <tr><td>Name</td><td>SINJON DVOR/DME 113.5</td></tr> <tr><td>Identification and frequency</td><td>SJ 113.5</td></tr> <tr><td>Geographical Coordinates</td><td>01°12'21"N 103°51'19"E</td></tr> <tr><td>Elevation of DME site</td><td>60m</td></tr> </table>	Name	SINJON DVOR/DME 113.5	Identification and frequency	SJ 113.5	Geographical Coordinates	01°12'21"N 103°51'19"E	Elevation of DME site	60m		
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<b>Collocated VOR and DME Radio Navigation Aids</b>	Compass rose orientated on the chart to Magnetic North										
<b>Restricted Airspace (P - Prohibited, R - Restricted, D - Danger)</b>	<table border="1"> <tr><td>Identification of area</td><td>WSD13</td></tr> <tr><td>Nationality letter</td><td>FL 400</td></tr> <tr><td>Vertical limits</td><td>WATER</td></tr> <tr><td>Activation by NOTAM</td><td>NOTAM</td></tr> </table>	Identification of area	WSD13	Nationality letter	FL 400	Vertical limits	WATER	Activation by NOTAM	NOTAM		
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NOTE :- See flip side for details of designated areas

**Area Minimum Altitude (AMA)**

Each quadrilateral contains an area minimum altitude (AMA) which represents the lowest altitude which may be used under instrument meteorological conditions (IMC). The AMA provides a minimum clearance of 1 000 feet (300m) above all terrain and obstacles in the quadrilateral. It is represented in thousands and hundreds of feet above mean sea level.

Example : 3 400 feet **34**

NOTE :- In computing the area minimum altitude, a margin of 200 feet (60m) for vegetation has been added for spot elevations.

**Speed Control Procedures**

Speed control procedures are in force unless notified otherwise by ATC or ATIS.

All arriving turbo-propeller and turbo-jet aircraft are to fly at not faster than indicated air speed 250 knots when within 40nm from Singapore Changi Airport or when at or below 10,000ft except all arriving aircraft into Singapore Changi Airport shall comply with the speed restrictions depicted on the transitions and RNAV STARS. Further speed reductions will be regulated by ATC as necessary.

Pilots who may not be able to comply with the speed limits specified above for reasons of flight safety and/or weather should inform ATC and state the speed(s) acceptable.

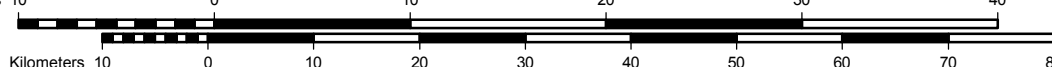
**AIRSPACE CLASSIFICATION IN THE SINGAPORE FIR**

Airspace	Levels	Classification
Controlled airspace	FL150 to FL460	A
	Surface to FL150	B
Controlled airspace more than 100 nm seaward from the shoreline	Lower limit to FL460	A
Control Zone (CTRs)	Changi CTR	C
	Paya Lebar CTR	D
	Seletar CTR	C
ATZs	Surface to upper limit	D
Uncontrolled airspace		G*

\* Aircraft operating in the Light Aircraft Training Areas A, B and C (please refer to page ENR 5.2-1) are required to have continuous two-way communications with the appropriate ATIS authority.

SINGAPORE	D-ATIS	128.6
	APP	120.3
	TWR	119.3
		118.6
		118.25

Note : FOR DEPARTURE AND ARRIVAL ROUTES REFER TO WSSS AD 2-51 TO WSSS AD 2-100



**PROHIBITED, RESTRICTED AND DANGER AREAS**

	ACTIVITY	UPPER LIMIT LOWER LIMIT	REMARKS
WSD1	Rifle Range	500ft ALT GND	Permanently Active as in ENR 5
WSR2	Jet Let-down Sector	FL 300 3 000ft MSL	Permanently Active as in ENR 5
WSP3	-	750ft ALT GND	Permanently Active as in ENR 5
WSD4	A/G and G/G Firing Range	FL 160 GND/WATER	Permanently Active as in ENR 5
WSD5	Rifle Range	500ft ALT GND	Permanently Active as in ENR 5
WMD8	Naval Air/Air Firing Range	FL 550 WATER	Activation by NOTAM
WSD11	Small Arm Firing	1 300ft ALT GND	Permanently Active as in ENR 5
WSD11A	Artillery Firing	FL 125 GND	Activation by NOTAM
WSD11B	Artillery Firing	FL 125 GND	Activation by NOTAM
WMD12	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD13	Naval Anti-aircraft Firing	FL 550 WATER	Activation by NOTAM
WSD14	Naval Anti-aircraft Firing & Live Air/Air Firing	FL 550 WATER	Activation by NOTAM
WSP24	-	800ft ALT GND/WATER	Permanently Active as in ENR 5
WSR31	Training Area	10 000ft ALT 3 500ft MSL	Permanently Active as in ENR 5
WSD33	Rifle Range	500ft ALT GND	Permanently Active as in ENR 5
WSD34	Rifle Range	500ft ALT GND	Permanently Active as in ENR 5
WSD35	Rifle Range	900ft ALT GND	Permanently Active as in ENR 5
WSR10	-	5 500ft ALT GND	Permanently Active as in ENR 5
WSR38	-	10 000ft ALT GND	Permanently Active as in ENR 5
WSP49	-	300ft ALT GND	Permanently Active as in ENR 5
	Transit Channel	2 000ft ALT GND	Activated only for Military acft crossing
*	Light Aircraft Training Area A	4 500ft ALT GND/*2 000ft	Training & Local Flts in VMC only
*	Light Aircraft Training Area B	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
*	Light Aircraft Training Area C	10 500ft ALT 4 500ft ALT	High Flying Training Ops in VMC only
WMR223	Parachute Dropping	10 000ft ALT GND	Permanently Active as in ENR 5
WMD224	Firing Range	12 000ft ALT SEA	Activation by NOTAM
WMR225	RMAF Helicopter Training Area	3 500ft ALT GND	Permanently Active as in ENR 5
WMR226	RMAF Helicopter Training Area	2 000ft ALT GND	Permanently Active as in ENR 5
WMD227	Radar Bombing Range	10 000ft ALT SEA	Activation by NOTAM
WMP228	Sultan's Palace	5 000ft ALT GND	Permanently Active as in ENR 5
WMR229	Helicopter Operations	1 500ft ALT GND	Permanently Active as in ENR 5
WMD230	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5
WMD231	Artillery Firing Range	2 000ft ALT GND	Permanently Active as in ENR 5

\* AEROBATICS IS PROHIBITED IN LIGHT AIRCRAFT TRAINING AREAS A, B and C.

**SPECIAL NOTE :-**

**1. GLIDER FLYING**

GLIDER FLYING MAY TAKE PLACE WITHIN TENGAH ATZ BTN 0100/1000 ON SUNDAYS AND PUBLIC HOLIDAYS. VERTICAL LIMIT 3 000ft. DURING ABOVE ACTIVITY NO ATC WILL BE PROVIDED.

**2. WEATHER BALLOONS**

BALLOONS WILL BE RELEASED FOR MET OBS AT 0120N 10353E (UPPER AIR OBSERVATORY), BRG 244° MAG AND DIST 1.5NM FROM SOUTHERN END OF PAYA LEBAR RWY 02 AND AT 0122N 10359E (CHANGI MET STATION), BRG 014° MAG AND DIST 1.1NM FROM SOUTHERN END OF RWY 02L (SINGAPORE CHANGI).

(A) AT UPPER AIR OBSERVATORY,

(i) BALLOONS WILL BE RELEASED DAILY AT 2330 AND 1000 PLUS OR MINUS 30 MIN. RATE OF ASCENT IS 1 000ft (305m) PER MIN. MAX HGT OF BALLOON 110 000ft (33 500m). THE BALLOON, WHITE IN COLOUR AND 6ft (2m) DIAMETER, IS ATTACHED WITH RADIOSONDE EQUIPMENT. IT WILL BURST 1.5 TO 2 HR AFTER RELEASE AND RADIOSONDE EQUIPMENT WILL DESCEND WITHIN 60NM RADIUS.

(ii) A BALLOON WILL BE RELEASED BETWEEN 0130 - 0230 ON THE SECOND THU OF EVERY MONTH. RATE OF ASCENT IS 1 000ft (305m) PER MIN. MAX HGT OF BALLOON IS 115 000ft (35 000m). THE BALLOON, WHITE IN COLOUR AND 6ft (2m) DIAMETER, IS ATTACHED WITH OZONESONDE/RADIOSONDE EQUIPMENT AND PARACHUTE. IT WILL BURST 1.5 TO 2 HR AFTER RELEASE.

(B) AT CHANGI MET STATION, BALLOONS WILL BE RELEASED DAILY AT 0530 AND 1800 PLUS OR MINUS 15 MIN. RATE OF ASCENT IS 500ft (150m) PER MIN. MAX HGT OF BALLOON IS ABOUT 40 000ft (12 200m). THE BALLOON IS RED IN COLOUR AND 2.1ft (0.7m) IN DIAMETER. AT NIGHT, A SMALL PAPER LANTERN LIGHTED UP WITH A CANDLE IS ATTACHED. THE BALLOON WILL BURST 1 TO 1.5 HR AFTER RELEASE.

**3. AEROMODELLING AND KITE FLYING**

**(A) GENERAL WARNING**

- i) PILOTS FLYING AT LOW ALTITUDES SHOULD WATCH OUT FOR POSSIBLE HAZARDS SUCH AS MODEL AIRCRAFT AND KITES, ESPECIALLY WHEN FLYING NEAR PARKS AND OPEN GROUND.
- ii) THE LOCATION OF SOME OF THE PARKS IN SINGAPORE WHERE KITE AND AERO MODEL FLYING MAY OCCUR ARE SHOWN ON ENR 3.4-5. PILOTS SHOULD NOTE THAT THE CHART AT ENR 3.4-5 DOES NOT SHOW ALL THE PARKS IN SINGAPORE AND THAT HAZARDS SUCH AS KITE FLYING AND AERO MODEL FLYING MAY TAKE PLACE AT PARKS AND OPEN GROUND NOT INDICATED IN ENR 3.4-5.
- iii) ACCORDING TO THE SINGAPORE AIR NAVIGATION ORDER, 1985, KITE FLYING AND AERO MODEL FLYING ARE NOT PERMITTED ABOVE 200ft OR WITHIN 5km OF AN AERODROME. HOWEVER, PILOTS ARE ADVISED TO LOOK OUT FOR SUCH HAZARDS AT ALL TIMES AS MEMBERS OF THE PUBLIC MAY INADVERTENTLY FLY KITES OR AERO MODELS ABOVE THE HGT OF 200ft OR WITHIN 5km OF AN AERODROME.

**(B) AERO MODELLING AT SEMBAWANG ATZ**

AERO MODELLING MAY TAKE PLACE WITHIN SEMBAWANG ATZ BTN 0200/0700 ON SUNDAYS AND PUBLIC HOLIDAYS. DURING THE ABOVE ACTIVITY, SEMBAWANG ATZ WILL BE CLOSED TO ALL AIRCRAFT.

\* In Transit Channel