

**OPERATIONAL LETTER OF AGREEMENT BETWEEN**  
**NASSAU CENTRE**  
**AND**  
**MIAMI AIR ROUTE TRAFFIC CONTROL CENTER**

**SUBJECT: INTER-FACILITY COORDINATION AND AIR TRAFFIC CONTROL PROCEDURES BETWEEN MIAMI ARTCC AND NASSAU CENTRE.**

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1. **PURPOSE:** This agreement establishes inter-facility procedures between Miami Air Route Traffic Control Center (ARTCC) and Nassau Centre. These procedures are supplementary to the standards and procedures described in International Civil Aviation Organization (ICAO) Annex 2, Annex 11, ICAO Document 4444 Procedures for Air Navigation Services (PANS)-Air Traffic Management (ATM), and the Federal Aviation Administration (FAA) Order JO 7110.65, as amended.
2. **CANCELLATION:** This agreement updates and supersedes the Miami ARTCC and Nassau Centre Letter of Agreement dated August 27, 2009.
3. **EFFECTIVE DATE:** October 23, 2012
4. **RESPONSIBILITIES:** The Rules of the Air and Air Traffic Control (RAC) section in the Commonwealth of the Bahamas Aeronautical Information Publication (AIP) describes the airspace for Nassau CTA/FIR. Miami ARTCC is delegated that airspace adjacent to and above the Nassau CTA/FIR/TMA and is depicted in Appendix 4 of this agreement. Miami and Nassau have agreed to review this agreement, and the applicable Appendices, on an annual basis.

## 5. RADAR PROCEDURES

- 5.1 Miami ARTCC and Nassau Centre (hereafter referred to as Miami and Nassau) must transition arrivals, departures and overflights via the ARRIVAL TRANSITION AREAS (ATA's) and DEPARTURE TRANSITION AREAS (DTA's) as depicted in Appendix 2. Aircraft must be established on routes or radar vectors that will ensure transition within the confines of the appropriate ATA/DTA.
- 5.2 Transfer of Control must be at the Nassau Terminal Control Area (TMA) boundary, vertically and laterally or Transfer Control Points (TCP), as depicted in Appendix 2. Transfer of Control for an arriving aircraft must be for descent only, and only along the assigned route, unless otherwise coordinated or addressed elsewhere in this agreement.
- 5.3 Transfer of Communications must be accomplished prior to the transfer of control point.
- 5.4 Radar separation between successive arrivals or departures must not be less than 5 miles, constant or increasing, at the time of transfer of control.

## 5.5 ARRIVALS

### 5.5.1 LANDING MYNN

5.5.1.1 Miami must provide in-trail separation, and ensure that aircraft cross ATA fixes at the following specified altitudes:

<u>ATA</u>	<u>TURBOJETS</u>	<u>TURBOPROPS</u>	<u>OTHER AIRCRAFT</u>
RAJAY-HANKX SANNS	13,000	11,000	7000
BOSAR	12,000	10,000	8,000

5.5.1.2 Unless otherwise coordinated, turbojet and turboprop arrivals must be reduced to 250 knots between the hours of 0900-1900 LCL. Miami must issue the speed restriction so that arrivals cross RAJAY-HANKX-BOSAR-SANNS at 250 knots or less.

5.5.1.3 Upon completion of a radar handoff, Nassau has control for turns, up to 20 degrees left or right of course, on Nassau arrivals, 15 NM from HANKX, RAJAY, and SANNS as depicted in Appendix 2.

5.5.1.4 Nassau may assume control for descent on MYNN arrivals over BOSAR subject known departures and overflights 12,000 feet and below.

5.5.1.5 When holding is required with less than 5 minutes' notice, Nassau must accept the first arrival and Miami must clear subsequent arrivals to the appropriate ATA fix.

## 5.5.2 AIRPORTS OTHER THAN MYNN

5.5.2.1 Miami must clear aircraft arriving at airports other than MYNN to destination airport via direct, radar vectors, or on established Air Traffic Service (ATS) routes prior to radar handoff to Nassau.

5.5.2.2 Miami must coordinate all aircraft arriving Bahamian airports between sunset and sunrise. (Excluding the following Special Interest aircraft: U.S. Customs, DEA, U.S. Coast Guard)

*Note: VFR Operations are not authorized between sunset and sunrise in the Nassau CTA/FIR.*

## 5.6 DEPARTURES

5.6.1 Miami must issue departure clearances to Nassau Tower on Air Carriers for proposals departing MYNN at least 20 minutes prior to their proposed departure time, unless otherwise coordinated.

5.6.2 Miami must issue departure clearances using the format below:

5.6.3 Aircraft call sign, aircraft type, destination airport, THEN via one of the following:

5.6.3.1 DTA fix, followed by a minimum of one airway segment (DIRECT ROUTE where applicable), then AS FILED.

5.6.3.2 Appropriate airway/DTA, then a full route clearance (when FRC procedures apply).

5.6.3.3 Boundary associated fix and/or appropriate airway.

5.6.4 DTA names and routings are as follows:

<u>DTA</u>	<u>ROUTE</u>	<u>HIGHEST TERMINAL ASSIGNED ALTITUDE</u>
INGRA	G437/BR70V	12,000
PEACH	BR54V/57V/22V/65V	12,000
NICKO	BR49V/B646 (westbound)	12,000
LEPAS	A555	11,000
SEAN	BR55V	12,000
SANNS	R628	12,000

5.6.5 Miami must issue altitude assignments only if the assigned altitude will be at or below 12,000 feet.

5.6.6 Nassau must include in the departure clearance, the following phraseology: “\_\_\_\_ EXPECT CLEARANCE TO FILED ALTITUDE TEN MINUTES AFTER DEPARTURE”.

5.6.7 Nassau must issue beacon codes as assigned by Miami during radar or non-radar operations. Nassau must immediately advise Miami of aircraft with inoperative transponder equipment.

5.6.8 Miami may assume control for turns on NICKO departures, 25NM west of ZQA VOR/DME, up to 20 degrees left or right of course.

5.6.9 Miami Georgetown sector may assume control for climb on southeast bound MYNN departures subject known arrivals and overflights 12,000 feet and below.

5.6.10 When Nassau radar is out of service at either Miami or Nassau, paragraph six (NON RADAR PROCEDURES) must apply. The supervisors-in-charge at Miami and Nassau must ensure that complete coordination is accomplished during the transition.

## **6. NON RADAR PROCEDURES**

6.1 Nassau TMA airspace is defined in Appendix 1 and is depicted in Appendices 2, 3 and 4.

6.2 All aircraft entering Nassau airspace must be established on ATS routes.

6.2.1 Miami must coordinate all aircraft arriving at Bahamian airports between sunset and sunrise. (Exclude the following Special Interest aircraft: U.S. Customs, DEA, U.S. Coast Guard).

**Note:** *VFR Operations are not authorized between sunset and sunrise in the Nassau CTA/FIR.*

6.3 Nassau must ensure that arrivals are at or below 12,000 feet prior to the 20 mile DME ARC of the ZQA VOR.

6.4 M329 is closed during non-radar operations.

## **6.5 NON RADAR ARRIVAL CONTROL**

6.5.1 Miami must use inbound routings (airways) and clearance limits, as depicted in Appendix 2, unless otherwise coordinated.

6.5.2 Miami must ensure that arriving aircraft cross the appropriate clearance limit at the altitudes listed below, unless otherwise coordinated:

<u>CLEARANCE LIMIT</u>	<u>TURBOJETS</u>	<u>TURBOPROPS</u>	<u>OTHER AIRCRAFT</u>
RAJAY-HANKX SANNs	13,000	11,000	7,000
ZQA VOR/NDB	13,000		
BOSAR	12,000	10,000	8,000

6.5.3 Nassau must advise Miami when inbound aircraft are clear of airspace under Miami Center jurisdiction.

## **6.6 NON RADAR DEPARTURE CONTROL**

6.6.1 Miami must issue departure clearances via the DTA's depicted in Appendix 2. Miami must advise Nassau when departures are vertically or laterally clear of the TMA airspace.

6.6.2 Nassau must include in the departure clearance, the following phraseology: "\_\_\_\_ EXPECT CLEARANCE TO FILED ALTITUDE TEN MINUTES AFTER DEPARTURE".

6.6.3 Nassau must ensure that all departing aircraft are established on the radial/bearing from the associated NAVAID, which describes the route to be flown. Nassau must transition such aircraft within airspace under their jurisdiction until they are so established.

6.6.4 Nassau must provide separation between all departing aircraft under their control. Nassau must also provide separation between departures and all known arriving aircraft, from the transfer of control point to the destination airport.

## **7. COORDINATION**

7.1 ATA fix/common boundary estimates must be utilized for coordination purposes on aircraft at or above 7,000 entering Nassau TMA airspace.

7.2 Miami must forward ZBV and RAJAY estimates, to Nassau, on aircraft at or below 6,000 feet entering the Nassau CTA/FIR via BR55V/A555 from the west.

7.2.1 For traffic 6,000 feet and below, Nassau must coordinate a ZBV estimate to the Miami Bimini Low Sector at least 10 minutes prior to the common CTA/FIR boundary.

- 7.2.2 Miami must forward a DUKKY and BOSAR estimate to Nassau, on aircraft at or below 6,000 feet entering the Nassau CTA/FIR on A555. These aircraft must be instructed to contact Nassau on the following frequencies: 121.0 (primary) or 118.0 (Exuma advisory frequency). If the aircraft is unable contact on those frequencies, contact Nassau Flight Service (FSS) on 128.0, 80 miles southeast of the Nassau VOR.
- 7.3 Arrival information must be forwarded to Nassau using the following format:
- 7.3.1 Aircraft call sign, type, equipment suffix, departure point, destination (if other than MYNN), fix estimate, altitude (if necessary), and beacon code.
- 7.3.2 Inbound information on turbojet aircraft must be passed to Nassau at least 10 minutes prior to the Estimated Time of Arrival (ETA) of the transfer of control point/clearance limit (when applicable).
- 7.3.3 Inbound information on all other aircraft must be passed to Nassau at least 20 minutes prior to the ETA of the transfer of control point/clearance limit (when applicable).
- 7.4 Miami must advise Nassau of assigned headings/direct routings on aircraft landing airports other than MYNN.
- 7.5 Miami must forward boundary fix estimates to Nassau on overflight that will enter the Nassau CTA/FIR at least 10 minutes prior to CTA/FIR boundary.
- 7.5.1 Nassau must advise Miami Georgetown Sector when southeast bound overflight aircraft are over/abeam ZQA.
- 7.6 Clearance and approval requests by Nassau must be made to the appropriate Miami sector (Appendix 3).

## **8. ABACO AIRSPACE PROCEDURES**

- 8.1 The Abaco Airspace; for purposes of reference, procedures and the control of air traffic between Miami and Nassau, is defined in Appendix 1 and depicted in Appendix 4.
- 8.2 MYAT/MYAM ARRIVALS REQUESTING LOWER THAN 7,000 FEET**
- 8.2.1 Aircraft must be cleared to the appropriate NAVAID/FIX/WAYPOINT, serving the destination airport, to the lowest available Miami altitude. Miami must ensure aircraft are clear of the Grand Bahama TMA or coordinate with Freeport Approach accordingly.

8.2.2 Miami must coordinate aircraft call sign, type, point of departure, destination, estimate and assigned altitude with Nassau. When all known traffic conflicts are resolved, Miami must then terminate radar services and transfer communications to the appropriate Nassau operational frequency.

8.2.3 When deemed necessary by either Miami or Nassau, and only upon prior coordination and mutual consent, Miami may assume control of the Abaco Airspace for a specified amount of time and at any specified altitude. Once Miami and Nassau have agreed upon a release of the airspace, paragraph's 8.2.1 and 8.2.2 no longer apply.

8.2.4 Any changes or cancellation to paragraph 8.2.3 must be accomplished by the appropriate facility.

## **9. GEORGETOWN AIRSPACE PROCEDURES**

9.1 The Georgetown Airspace; for purposes of reference, procedures and the control of air traffic between Miami and Nassau, is defined in Appendix 1 and depicted in Appendix 4.

### **9.2 MYEG (Military only)/MYEF ARRIVALS REQUESTING LOWER THAN 7,000 FEET**

9.2.1 Aircraft must be cleared to the destination airport at the lowest available Miami altitude.

9.2.2 Miami must coordinate aircraft call sign, type, point of departure, destination, estimate and assigned altitude with Nassau. When all known traffic conflicts are resolved, Miami must then terminate radar services and transfer communications to the appropriate Nassau frequency 121.0 (primary) or 118.0 (Exuma advisory frequency) unless otherwise coordinated.

9.2.3 Nassau must advise Miami when aircraft are clear of Miami airspace.

9.2.4 Nassau must advise Miami of IFR departures that file requested altitudes above 6,000 feet prior to departure.

9.2.5 When deemed necessary by either Miami or Nassau, and only upon prior coordination and mutual consent, Miami may assume control of the Georgetown Airspace for a specified amount of time and at any specified altitude. Once Miami and Nassau have agreed upon a release of the airspace, paragraphs 9.2.2 and 9.2.3 no longer apply.

9.2.6 Any changes or cancellation to paragraph 9.2.2 must be accomplished by the appropriate facility.

9.2.7 During periods when Exuma AWOS is not in service, Nassau must inform ZMA Georgetown Sector of the Exuma altimeter within the first 10 minutes of the hour.

## **10. INTERPHONE FAILURE**

10.1 In the event of interphone failure between Nassau and Miami, each Air Traffic Control (ATC) facility must attempt communications via any available means [teletype, commercial telephone, pilot relay on frequency 125.7 (direct communication between the two facilities on the frequency should be avoided), etc.]. If all means of communication fail, the following procedures must be implemented:

10.1.1 Nassau must clear aircraft to the **lateral** limits of the CTA/FIR at the highest available altitude (hemispherical rules), 6,000 feet or below, with instructions to contact Miami.

10.1.2 7,000 feet and above Miami must clear aircraft to the appropriate clearance limit as described in paragraph 6.5.2 at the lowest available altitude, **7,000** feet or above, regardless of aircraft type or speed, with instructions to contact Nassau or, if unable, Nassau Radio.

10.1.3 6,000 feet and below Miami must clear aircraft to the lateral limits of the Nassau CTA/FIR, at a hemispherical rules altitude with instructions to contact Nassau or, if unable Nassau Radio.

## **11. SAFETY**

11.1 Nassau and Miami agree to promote and encourage a “Safety First Culture.” Miami and Nassau also agree to pursue and share concepts that facilitate the exchange of data regarding operational incidents and other pertinent safety information. The sharing of this data will promote a collaborative approach to Safety Risk Management.

11.2 Nassau and Miami will identify points of contact (POC) within their respective facilities, as the Safety POC. The Safety POC’s must ensure that when an incident occurs, proper incident investigation and data analysis is conducted so as to further promote the “Safety First Culture.”



**12.      MISCELLANEOUS**

- 12.1    Flight plans on hemispherical rules flights departing the Nassau CTA must be transmitted to Miami Center via AFTN/AMHS or dedicated aeronautical messaging circuits in ICAO format.
- 12.2    Deviation from procedures established in this agreement must be effected only after prior coordination is accomplished which completely defines responsibility in each case.

Original Signed by

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MARK RIOS  
(A) Air Traffic Manager  
Miami ARTC Center  
Miami, Florida  
U.S.A.

Original Signed by

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JOSEPH ALBURY  
Deputy Director ATS  
Civil Aviation Department  
Nassau, Bahamas

# APPENDIX 1

## Airspace definitions

### Nassau Approach (TMA)

A - 253800N 0774850W  
B - 253420N 0770000W  
C - 252500N 0765030W  
D - 252300N 0760000W  
E - 244830N 0760000W  
F - 245400N 0770000W  
G - 244500N 0770000W  
H - 242100N 0771945W  
I - 245750N 0781100W  
J - 251730N 0780810W  
A - 253800N 0774850W

### Arrival Transition Areas (ATA)

#### **RAJAY**

25230500N 78082800W to  
25212900N 78042500W to  
25173000N 78081000W to  
25131400N 78084700W to  
25144300N 78125300W to  
POINT OF BEGINNING

#### **HANKX**

25365400N 77343800W to  
25405500N 77345000W to  
25394000N 77185600W to  
25354500N 77200800W to  
POINT OF BEGINNING

#### **BOSAR**

24490200N 77000000W to  
24460900N 76553400W to  
24392700N 77002400W to  
24411100N 77030600W to  
24450000N 77000000W to  
POINT OF BEGINNING

### Departure Transition Areas (DTA)

#### **NICKO**

24564600N 78093200W to  
24572300N 78040400W to  
25110000N 78035000W to  
25125100N 78085000W to  
24575000N 78110000W to  
POINT OF BEGINNING

#### **PEACH**

25242700N 78013800W to  
25213100N 77570900W to  
25330600N 77421200W to  
25374000N 77442900W to  
25380000N 77485000W to  
POINT OF BEGINNING

#### **INGRA**

25354500N 77200800W to  
25304500N 77194500W to  
25263400N 76590300W to  
25305200N 76562800W to  
25342000N 77000000W to  
POINT OF BEGINNING

#### ATAs (Continued)

##### **HASUK**

24330300N 77094200W to  
24291900N 77080600W to  
24214500N 77141700W to  
24253000N 77155000W to  
POINT OF BEGINNING

#### DTAs (Continued)

##### **SEAAN**

25011300N 77044500W to  
24561300N 76402800W to  
24482300N 76422900W to  
24530400N 77052200W to  
POINT OF BEGINNING

##### **LEPAS**

24512300N 77033400W to  
24490200N 77000000W to  
24450000N 77000000W to  
24411100N 77030600W to  
24432700N 77063500W to  
POINT OF BEGINNING

#### **ABACO Airspace (NASSAU CTA/FIR) BOUNDARY DESCRIPTION**

Beginning at:

- C** 27-00-00N/78-00-00W Direct
- D** 27-00-00N/76-00-00W Direct
- O** 26-15-00N/76-00-00W Direct
- P** 26-15-00N/77-59-48W Direct to point of beginning from 1500 feet up to and including 6,000 feet.

That airspace which lies within the Nassau CTA/FIR bounded to the west by the Grand Bahama TMA, to the north and clockwise to the east by the Miami Oceanic CTA/FIR, to the south by 261500 degrees latitude, back to the Grand Bahama CTA/FIR must be considered the **ABACO Airspace** for purposes of reference, procedures, and control of air traffic between Miami and Nassau.

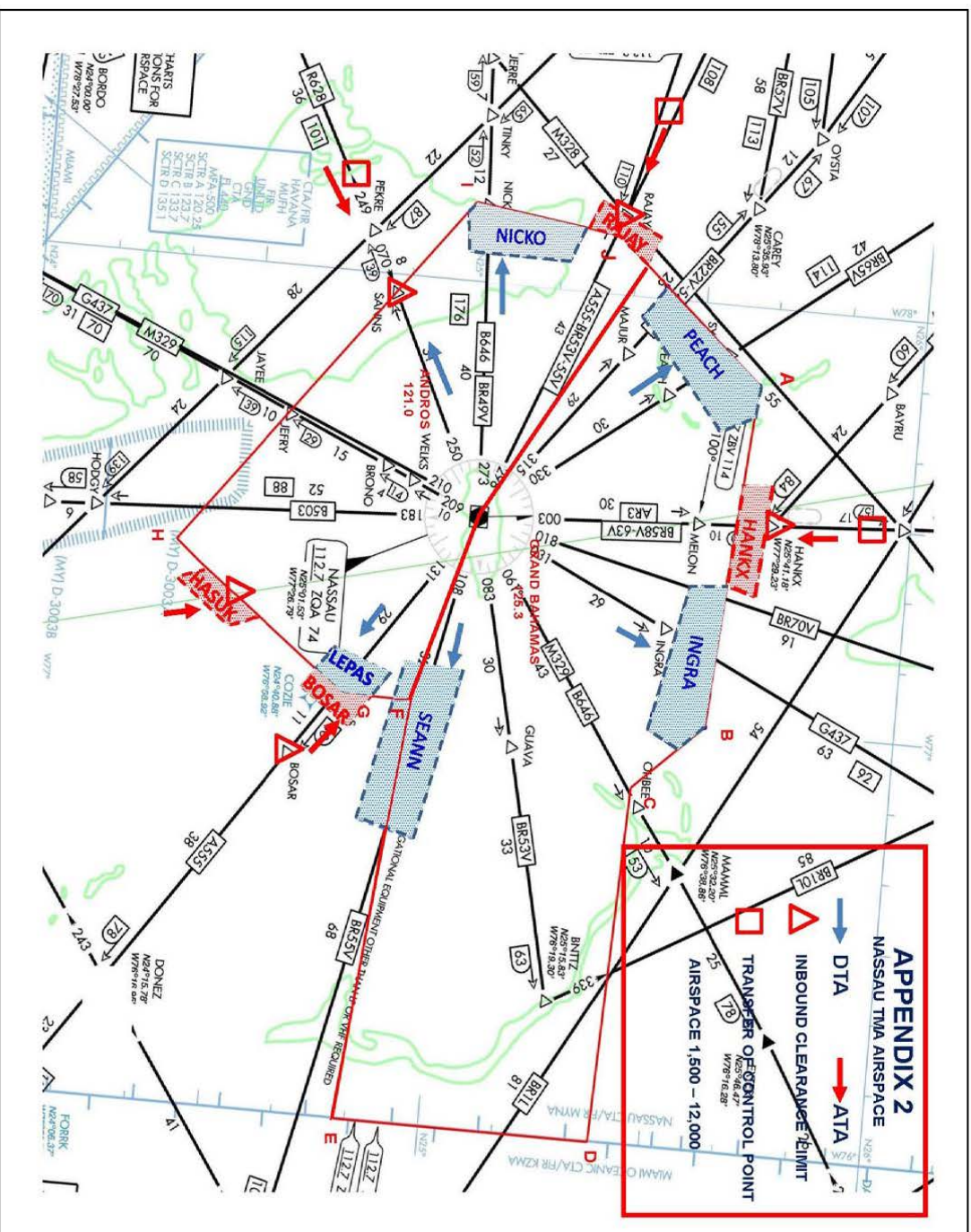
#### **GEORGETOWN Airspace (NASSAU CTA/FIR) BOUNDARY DESCRIPTION**

Beginning at:

- F** 24-00-00N/77-38-34W Direct
- G** 24-00-00N/76-00-00W Thence a 30 NM radius arc clockwise from 23-30-00N/ 76-00-00W
- H** 23-00-00N/76-00-00W Direct
- I** 22-35-00N/76-00-00W Direct
- J** 23-50-00N/77-45-00W Direct to point of beginning from 1500 feet up to and including 6,000 feet

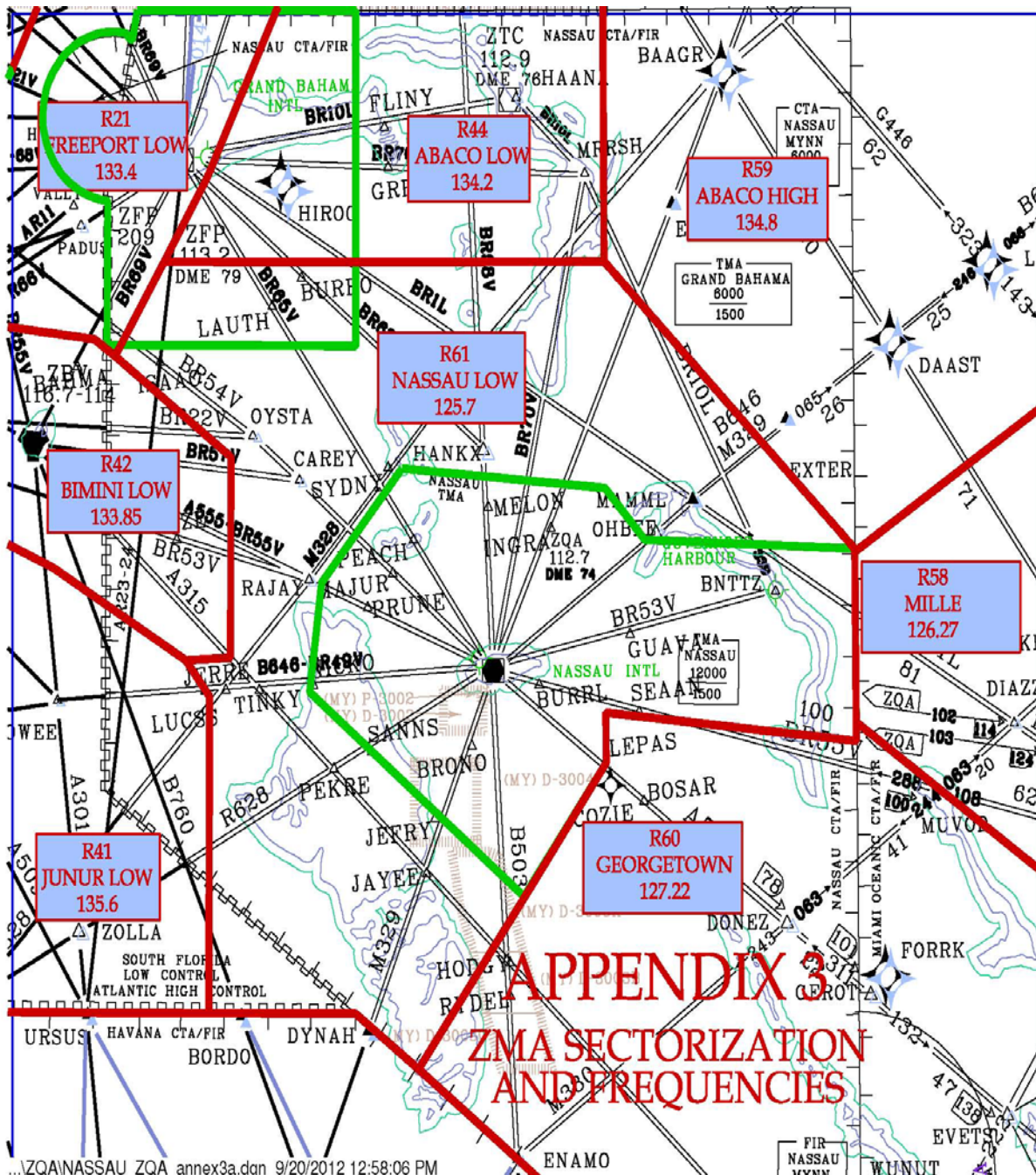
That airspace which lies within the Nassau CTA/FIR bounded on the north by 240000N 773634W, then eastward to 240000N 760000W, then clockwise a 30NM radius arc to 230000N 760000W, then south to 223500N 760000W, then NW bound to 235000N 774500W, then northeast to beginning point 240000N 773634W must be considered the **Georgetown Airspace** for purposes of reference, procedures, and control of air traffic between Miami and Nassau.

## APPENDIX 2



# APPENDIX 3

## ZMA SECTORIZATION AND FREQUENCIES





# APPENDIX 4

