

ORDER

ZOB 7110.2R

Cleveland ARTCC Standard Operating Procedures



March 25, 2022

**VATSIM Cleveland ARTCC
United States Division**

**VIRTUAL AIR TRAFFIC SIMULATION NETWORK
UNITED STATES DIVISION**

**CLEVELAND CENTER
NORTHEASTERN REGION**

SUBJ: Cleveland Center Standard Operating Procedures

This order prescribes standard operating procedures for use by Air Traffic Control Specialists at Cleveland Center on the VATSIM network. Controllers are required to be familiar with the provisions of this order that pertain to their operational responsibilities and to exercise their best judgment if they encounter situations not covered herein.

It is emphasized that information continued herein is designed specifically for use in the virtual controlling environment. It is not applicable, nor should be referenced for live operations in the National Airspace System (NAS). The procedures continued within this order document how the positions are to be operated and, in conjunction with FAA Order 7110.10, 7110.65, and 7210.3, will be the basis for performance evaluations, training, and certification.



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Record of Changes

Change #	Effective Date			Operating Initials
	M	D	Y	
P	01	30	2020	LL
Q	01	12	2021	LL
R	03	25	2022	LL

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Chapter 1. Administrative

1-1 Purpose

This order, in accordance with and supplementary to FAA Order 7110.65, establishes the procedures that are to be used for operating the positions within the Cleveland Center. The procedures contained within this order document how the positions are to be operated in conjunction with FAA Orders regarding evaluation, training, and certification. Controllers are required to be familiar with the provisions of this order that pertain to their operational responsibilities.

1-2 Distribution

This order is distributed to ZOB ATC personnel.

1-3 Cancellation

ZOB 7110.2R dated January 14, 2021 is hereby canceled.

1-4 Explanation of Changes

The significant changes to this order are identified in the Record Order of Changes page(s).

1-5 Effective Date

This order is effective March 25, 2022.

1-6 Software Utilization

ZOB has standardized on the Virtual Radar Client (VRC) and Virtual En-Route Automated Modernization client (vERAM) as its operating software of choice. Any reference to software in this and other Facility Orders are written with VRC and vERAM in mind. Controllers utilizing alternative VATSIM radar clients shall consult with ZOB Facility Engineer regarding the applicability of software settings to their client of choice.

Chapter 2. General

2-1. Sign In/Out Procedures

All controllers are required to sign into the network using the proper callsign and frequency. Controllers should familiarize themselves with traffic and weather present before signing in.

2-2. Position Relief Responsibility

The following procedures must be used when relieving a position.

- a. Relieving controllers shall observe the position of operation and indicate that the verbal briefing may begin.
- b. Controllers being relieved shall start the verbal briefing with the checklist and proceed in sequence through the remaining checklist items, ensuring to relay pertinent status information.
- c. After completion of the position relief briefing, both controllers shall state their operating initials as an acceptance/completion of the position relief briefing.
- d. Relieving and relieved controllers are equally responsible for ensuring the completeness of the position relief briefing.
- e. After giving the required position relief briefing, the controller being relieved shall monitor for a minimum of two minutes with the relieving controller to ensure all pertinent information and traffic situations are communicated and understood.

2-3. Intrafacility Automated Information Transfer (AIT)

The transfer of radar identification, altitude control, and/or enroute fourth line control information without verbal coordination. AIT includes the practice of “flashing through” when an aircraft will traverse another sector for a short time and the other sector does not require communications with the aircraft. This procedure is intended to reduce both controller and pilot workload.

- a. General
 - i. Intrafacility AIT Without Altitude Control: A handoff to a sector where the transferring controller is not requesting the receiving controller to release an altitude into the receiving sector’s altitude stratum:
 1. If there is a hard altitude in the data block, a handoff to any sector; or

2. If there is an interim altitude in the data block, only a handoff to a sector whose altitude stratum includes the altitude the aircraft is cleared to. If there is an interim altitude in the data block, the aircraft must enter the receiving sector from the side, not from above or below to be AIT Without Altitude Control.
- ii. For the purposes of this procedure, anytime sectors are combined, they are considered one sector.
NOTE: When handing off to a combined sector; unless the aircraft is climbing to 1,000 feet below the lowest base altitude, or descending to 1,000 feet above the highest top altitude of the receiving sector, it is deemed to be entering the receiving sector from the side and must be considered Intrafacility AIT Without Altitude Control regardless whether there is a hard or interim altitude in the data block.
 - iii. Any amendments or deviations from these procedures, unless specified in chapters 3-10 of this SOP, invalidates the procedure for that situation and requires verbal coordination.
 - iv. For the purposes of this procedure only, the transferring controller is defined as the one that is in communication with the aircraft.
NOTE: This definition of transferring controller necessarily differs from the 7110.65 definition so that the proper responsibilities can be assigned to the transferring and receiving controllers.
 - v. Any controller who “flashes through” an aircraft remains responsible for passing back any control instructions or restrictions to the previous controller.
 - vi. When transfer of communication is complete the AIT procedure has concluded.
- b. Procedure
- i. Intrafacility AIT Without Altitude Control:
 1. When a hard altitude is displayed in the data block:
 - a. Transferring Controller:
 - i. May handoff to any appropriate adjacent sector above, below, or laterally
 - ii. Has discretion to transfer communications to any sector that accepts the handoff if it is flashed through.

- b. Receiving Controller: may flash through to any appropriate adjacent sector; above, below or laterally.
- 2. When an interim altitude is displayed in the data block.
 - a. Transferring Controller:
 - i. Must handoff to an adjacent sector that includes the assigned altitude in its altitude stratum (a lateral handoff, aircraft enters the receiving sector from the side).
 - ii. Has discretion to transfer communications to any sector that accepts the handoff if it is flashed through.
 - b. Receiving Controller:
 - i. Must not change the assigned interim altitude.
 - ii. May only hand off to an adjacent sector that includes the assigned altitude in its altitude stratum (only a lateral "flash through").

2-4. Datablock

- a. For aircraft climbing to an altitude lower than the flight planned altitude, a temporary altitude should be entered to reflect the cleared altitude.
- b. Scratchpad entries should only be used if specific control instructions differing from SOP/LOA have been issued. These instructions shall be verbally coordinated unless standing verbal coordination has been effected.
 - i. Indicated speeds (eg., "S210" , "S270+")
 - ii. "M" for Mach restrictions (eg., "M81" , "M78-")
 - iii. "H" for heading assignments [eg., "H230" , "H15L" (fifteen degrees left of track)]
 - iv. Fourth line entries in vERAM must be entered as free-text (eg., "QS M81")
- c. When an aircraft is leaving the boundaries of the controlled airspace and the next facility is offline, remove any scratchpad entries and temporary altitudes.

2-5. Areas of Operation

- a. Cleveland Center is divided into eight operational areas. Sectors within these areas are listed in Figure 2-5.

FIGURE 2-5. AREA SECTORS

AREA	HIGH SECTORS	LOW SECTORS
1	ECK	FNT, <u>LAN</u> , JXN, LFD
2	DET, HUD	DRE, <u>YQG</u>
3	GEE, DSV	ROC, <u>BUF</u>
4	RAV	NONE
5	BKI	CIP, <u>IHD</u> , MGW
6	IRL, AIR	NONE
7	WRN	BFD, YNG. <u>DKK</u>
8	SKY	<u>PAN</u> , MNN, CRL, MFD, BSV

BOLD- primary area sector, Underlined is the low primary of the sector

- b. Unless authorized by the ATM/DATM, the following areas shall not be split from each other
- i. Area 1 combines with Area 2 at DET28.
 - ii. Area 3 combines with Area 7 at WRN77.
 - iii. Area 5 combines with Area 6 at AIR66.
 - iv. Area 8 combines with Area 4 at RAV48.
- c. RAV48 must be the first sector opened. After RAV48, the following sectors can be opened, workload permitting:
- i. PAN02, working all low sectors
 - ii. AIR66, working the east areas (3, 5, 6, 7)
 - iii. DET28, working the north areas (1, 2, 3, 7)

NOTE- Controllers are highly encouraged to open underlying approach airspaces during operating hours in place of splitting airspace.

2-6. Approach Control Airspace

- a. ZOB assumes control of approach airspace underlying our low altitude sectors when an approach control is closed.

- i. Assuming control of part time approach control airspace is a daily operation. The published closed hours for the part time approach controls are listed in Table 2-6
- ii. ZOB may be required to assume control of full time approach control airspace. ZOB may also be required to assume control of part-time approach control airspace outside of the normal hours.
- iii. CAK, LAN, and YNG operate as VFR Towers during normal approach control closed hours.

TABLE 2-6

Facility		Hours Closed (LCL)
AZO		0000-0530
CKB		2300-0700
CLE	SOUTH	0000-0600
	WEST	2300-0600
ELM		0000-0600
BUF (ERI sector)		0000-0600
JST		2300-0700
MTC		2300-0700
YNG		0000-0600

2-7 Weather Products

- a. Pre-Duty Weather Briefing
 - i. Controllers are encouraged to listen to the [Pre-Duty Weather Briefing](#) prior to starting their shift.
- b. METAR
 - i. The hourly weather sequences, also called METARs, are obtained:
 1. Via the ERAM command: WR aaa (aaa is the three letter airport ID)
 2. From the [Aviation Weather Center](#).
- c. Weather Forecasts

- i. Terminal and Area Forecasts are disseminated by various National Weather Service Forecast Offices and the Aviation Weather Center. Forecasts may be obtained from the following sources:
 - 1. [The Center Weather Service Unit.](#)
 - 2. [The Aviation Weather Center](#)
- d. Pilot Reports (PIREPs)
 - i. Solicitation: Controllers must solicit PIREPs when conditions warrant per FAAO 7110.65. Additionally, upon the receipt of an urgent PIREP, controllers must query the pilot regarding damages to the aircraft or injuries as soon as practical after the event.

Note: One of the conditions listed in the 7110.65 is ceilings at or below 5,000 ft. The rule requiring soliciting PIREPs, including cloud base and tops, applies to ZOB sectors that own to the surface and MGW Sector. (MGW Sector is included due to high terrain, 9,000 ft MSL is less than 5,000 ft. AGL.)
 - ii. PIREPs shall be entered into the IDS.
- e. Convective SIGMETs, SIGMETs, AIRMETs, CWAs:
 - i. Origination: Convective SIGMETs, SIGMETs and AIRMETs originate from the Aviation Weather Center in Kansas City. These weather reports often cover areas exceeding 3,000 square miles. CWAs are issued by the Center Weather Service Unit. The ZOB meteorologist determines the need.
 - ii. CWAs: CWAs are more specific in nature than SIGMETs/ AIRMETs and will address ZOB weather problems in greater detail.
 - iii. The phraseology for broadcasting a Canadian SIGMET is: "ATTENTION ALL AIRCRAFT. HAZARDOUS WEATHER INFORMATION CANADIAN SIGMET (letter and number) FOR (geographical area) AVAILABLE FROM YXU FLIGHT SERVICE."

2-8 Traffic Management Initiatives

- a. Dynamic Flow Restrictions
 - i. Description: Dynamic flow restrictions are implemented daily on an as needed basis. They may specify altitude crossing, in-trail and/or airspeed Restrictions, time based metering, as well as the time periods they are in effect.
 - ii. Coordination: Dynamic restrictions are posted by the TMU in the IDS.
- b. Approval Requests (APREQs):

- i. APREQs are a traffic management tool used to control traffic volume. Terminal controllers are required to APREQ departures when:
 - 1. The TMU needs to control traffic volume to specific destinations.
 - 2. CPCs need to control volume in a sector (regardless of destination)
 - 3. CPCs must notify the CIC/TMU, as soon as possible, when requiring APREQs.
- c. Ground Delay Programs: Expect Departure Clearance Times (EDCTs) are used when an airport's projected demand exceeds its arrival rate. The program assigns departure delays to all aircraft to balance demand with available capacity. Ground delay programs are initiated by the ATCSCC.
- d. Ground Stops: Ground stops are initiated by ATCSCC or ZOB. Those initiated by ZOB must be used as a short-term tool to assist in immediate volume problems not to exceed 30 minutes without ATCSCC approval.
- e. Implementing TMU Requests:
 - i. When TMU/CIC requests a sector to take action to resolve a spacing problem, it must be complied with if traffic and other conditions permit.
 - ii. If the supervisor/CIC or controller determines that the sector is unable to comply with a TMU request, coordination with the TMU is required to resolve the problem

2-9 Traffic Management Team

The TMT includes all of the members of the TMU, the Supervisor, and the controllers. This paragraph details the roles and responsibilities of the WS, area supervisors and controllers. Appendix I details the roles and responsibilities of the specific TMU positions.

- a. The Supervisor must:
 - i. Ensure compliance with restrictions.
 - ii. Initiate dynamic restrictions with terminals to address sector overload and advise TMU.
 - iii. Remove or reduce restrictions as traffic warrants and advise TMU.
 - iv. Monitor and/or seek information regarding the current and forecasted weather which affects or may affect the area's operation.
 - v. Serve as TMU communication focal point and utilize resources to assist controllers.
 - vi. Identify problems and consult with other TMT members.
 - vii. Serve as a liaison for controller input or requests.

NOTE: The supervisor is authorized to utilize CLE_T_CTR on 135.175 to help alleviate an overloaded sector or to issue re-routes, when necessary.

b. The Controller must:

- i. Review the weather information displayed and the flow restrictions listed on the IDS board, as part of pre-duty familiarization.
- ii. Maintain familiarity with ongoing traffic management initiatives.
- iii. Have the authority to stop traffic entering their sector. Supervision must be immediately advised.
- iv. Share concerns and provide feedback (through supervisors) regarding traffic management programs and traffic management personnel actions.

Chapter 3. Area 1 Binder

FIGURE 3-1 LETTER OF AGREEMENT INDEX

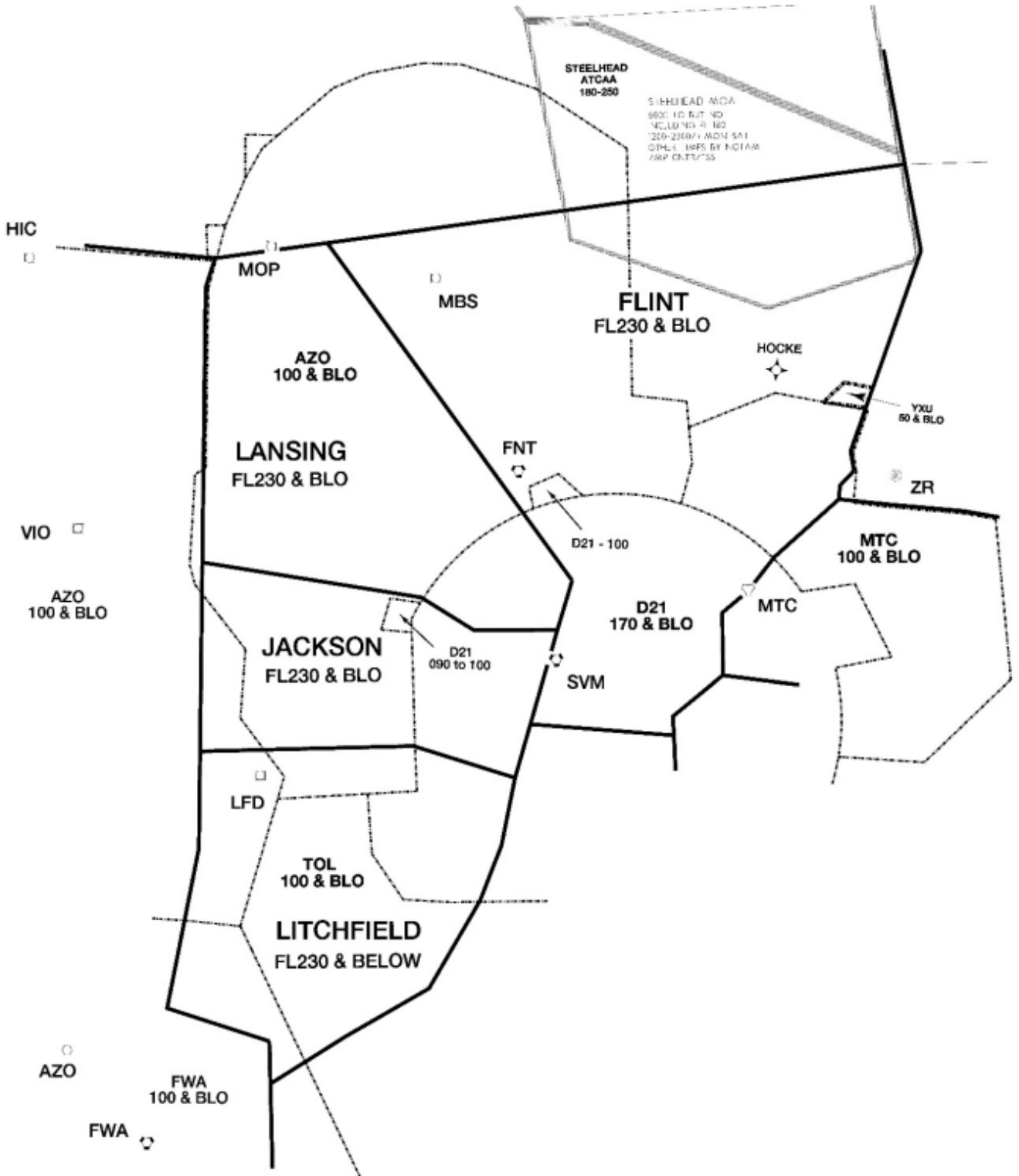
Type of Facility	Facility Name	Subject/Restrictions
Center	Chicago ARTCC (ZAU)	Link here
	Minneapolis ARTCC (ZMP)	Link here
	Toronto ACC (ZYZ)	Link here
Tower	Detroit TRACON (D21)	Link here
	Fort Wayne ATCT (FWA)	Cross 30 DME FWA at 11,000 ft.
	Lansing ATCT (LAN)	Link here
	Toledo ATCT (TOL)	Arrivals descending to 11,000 ft.

FIGURE 3-2 - AREA 1 ZOB SOP AGREEMENTS

Airport or Subject	Qualifier	Areas	Rule
CAK, CLE, CLE sats	arrivals	1, 2, 4, 8	Aircraft must be assigned the BRWNZ arrival. Aircraft must not be cleared further direct than FRYYE. YQG sector may issue "descend via" clearance on contact.
CAK, CLE, CLE sats	prop arrivals	1, 2, 4, 8	Props on the BRWNZ arrival must be descended and handed off to D21 so as not to enter YQG sector airspace.
DTW	arrivals	1, 8	KDTW arrivals must enter Area 1 on the correct route for the known flow, descending at pilot's discretion to 17,000 feet, or lowest available altitude. The LFD sector has control, on contact, for; issuing the "descend via" clearance, speed adjustments, left turns up to 30°, and right turns up to direct HANBL.

DTW satellites	arrivals	1, 8	Area 8 must deliver KDTW satellites to Area 1 on the PETTE STAR, descending to 14,000. LFD sector has control, on contact, for; speed adjustments, left turns up to 30°, and right turns up to direct PETTE.
DTW, DTW sats	Jet departures	1, 2, 3, 4 5, 7, 8	The first ZOB sector to work a D21 jet departure must delete or amend, via ATC clearance, any "SID assigned" speed restriction.
DTW, DTW sats	departures	1	All D21 departures routed over the CCOBB departure fix must be capped at or below FL220.
FNT	arrivals	1, 2, 4, 8	Except for those aircraft that will transit D21, KFNT arrivals west of VWV must be routed via HAZIT VHICL CITYE and handed off to the LFD sector. KFNT arrivals east of VWV must be routed via MARGN KFNT.
GRR,BTL, AZO, SBN, BEH	arrivals	1, 2	GRR, BTL, AZO, SBN, or BEH arrivals must be descended to FL240 and handed off to Area 1.
MTC	arrivals	1	KMTC arrivals may be routed through D21 via RRALF or PETTE STARS, or they may be routed "over the top" of D21. Aircraft taken "over the top" must be pointed out to D21 for a lower altitude. Note: All high performance tactical aircraft (departures and arrivals) will be worked by FNT or DRE sectors.
ORD	arrivals	1, 2	HUD/LAK sectors relinquish control to the ECK/GAM sectors for turns and speed control on KORD arrivals established on or north of Q436, providing the aircraft remain on or north of Q436. All speed adjustments must be entered in the 4th line. ECK/GAM assumes responsibility for separation with aircraft established on or north of Q436, routed into Area 1.
AIT	Climbing aircraft	1, 2, 8	When SKY and PAN sectors are combined, Areas 1, 2, and 8 may hand aircraft off to the SKY/PAN sector with an interim altitude of FL230 and a requested (hard) altitude AOA FL240. SKY/PAN will release altitude control by removing the interim altitude or entering a new interim altitude. SKY/PAN must verbally coordinate with the transferring controller as soon as practical when they are unable to approve an altitude or they need to amend the altitude initially entered.

FIGURE 3-3 AREA 1 LOW ALTITUDE



LANSING SECTOR (LAN) - 12

FIGURE 3-4 LANSING SECTOR INFORMATION

Sector	12
Callsign Usage (Primary/Relief)	CLE_12_CTR (CLE_LA_CTR)
Frequency/Location (AFV)	126.750 Flint, MI
Altitude above D21 TRACON	FL180-FL230
Altitude above LAN/AZO ATCT When open: When closed:	11000 ft.-FL230 SFC to FL230
Military Areas	NONE
Military Routes	NONE
Required Altimeters	DTW, LAN, MBS

- a. Sector Narrative. The LAN Sector is the D21 northwest arrival and departure sector. KLAN, KFNT, KGRR, KMBS, are some of the other arrivals and departures that transition the LAN Sector. LAN provides approach control services to portions of AZO ATCT airspace when that facility is closed.
- b. Assignment of Airspace.
 - i. LAN is the primary low sector for all of Area 1.
 - ii. JXN must be the first low sector split from LAN.
 - iii. FNT normally combines at LAN, except for a heavy DTW northbound departure flow event.

JACKSON SECTOR (JXN) - 14**FIGURE 3-5 JACKSON SECTOR INFORMATION**

Sector	14
Callsign Usage (Primary/Relief)	CLE_14_CTR (CLE_JX_CTR)
Frequency/Location (AFV)	120.450 Litchfield, MI
Altitude above D21 TRACON	FL180-FL230 & 11000 ft.-FL230
Altitude above LAN/AZO ATCT When open: When closed:	11000 ft.-FL230 SFC to FL230
Military Areas	NONE
Military Routes	NONE
Required Altimeters	DTW, LAN

- a. Sector Narrative. The JXN Sector is the D21 west/southwest departure sector. There are two departure gates; MTRCT, for aircraft routed via PMM/BAE, and BROZZ, for aircraft routed via JXN VOR and points southwest (BROZZ departures restricted to at or below FL220). JXN provides approach control services to portions of AZO ATCT airspace when that facility is closed.
- b. Assignment of Airspace.
 - i. JXN splits off of LAN for DTW events with expected heavy traffic from the SW.
 - ii. LFD normally combines at JXN, except for a heavy DTW westbound departure flow event.

LITCHFIELD SECTOR (LFD) - 15

FIGURE 3-6 LITCHFIELD SECTOR INFORMATION

Sector	15
Callsign Usage (Primary/Relief)	CLE_15_CTR (CLE_LF_CTR)
Frequency/Location (AFV)	134.650 Litchfield, MI
Altitude above D21 TRACON	FL180-FL230
Altitude above: AZO ATCT TOL ATCT FWA ATCT	11000 ft.-FL230
Military Areas	NONE
Military Routes	NONE
Required Altimeters	DTW, FDY, LAN

- a. Sector Narrative. The LFD Sector is the D21 west/southwest arrival sector. KDTW arrivals enter on two separate arrival streams based on KDTW's landing direction.
- b. Assignment of Airspace.
 - i. LFD normally combines at JXN, except for a heavy DTW westbound departure flow event.

FLINT SECTOR (FNT) - 16**FIGURE 3-7 FLINT SECTOR INFORMATION**

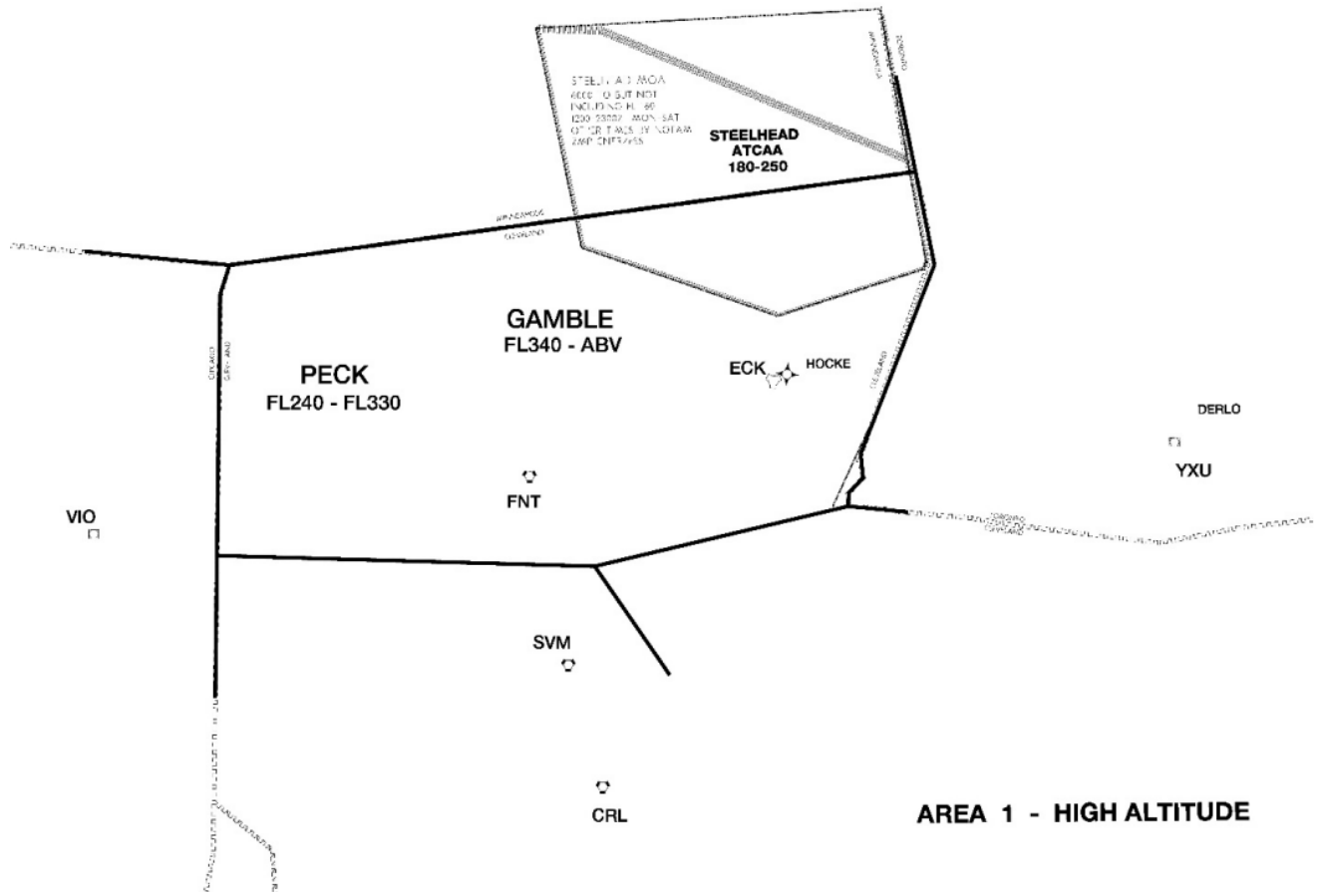
Sector	16
Callsign Usage (Primary/Relief)	CLE_16_CTR (CLE_FN_CTR)
Frequency/Location (AFV)	127.700 Saginaw, MI
Altitude above D21 TRACON	FL180-FL230 & 11000 ft.-FL230
Altitude above AZO ATCT	11000 ft.-FL230
Altitude above MTC RAPCON When open When closed	11000 ft.-FL230 SFC-FL230
Military Areas	Steelhead MOA/ATCAA
Military Routes	NONE
Required Altimeters	DTW, MBS, YXU

Sector Narrative. The FNT Sector is the D21 north departure and arrival sector. KMBS, KFNT and KMTC are some of the other arrivals and departures that transition the FNT Sector. The FNT Sector also works military aircraft to and from the Alpena Complex. FNT provides approach control services to portions of MTC RAPCON airspace when that facility is closed

Assignment of Airspace.

- i. FNT normally combines at LAN, except for a heavy DTW northbound departure flow event.

FIGURE 3-8 AREA 1 HIGH ALTITUDE



PECK SECTOR (ECK) - 18**FIGURE 3-9 PECK SECTOR INFORMATION**

Sector	18
Callsign Usage (Primary/Relief)	CLE_18_CTR (CLE_EC_CTR)
Frequency/Location (AFV)	133.875 Saginaw, MI
Altitudes	FL240 and above
Military Areas	Steelhead ATCAA
Military Routes	NONE

- a. Sector Narrative. The ECK Sector is a high altitude sector that underlies the GAM sector and overlies the FNT and LAN Sectors. The main flow of traffic is westbound KORD arrivals and CYYZ departures and eastbound CYYZ arrivals.
- b. Assignment of Airspace.
 - i. Area 1 fully combines into the ECK sector.

Chapter 4. Area 2 Binder

FIGURE 4-1 LETTER OF AGREEMENT INDEX

Type of Facility	Facility Name	Subject/Restrictions
Center	Chicago ARTCC (ZAU)	Link here
	Toronto ACC (ZYZ)	Link here
Tower	Cleveland ATCT (CLE)	Link here
	Detroit TRACON (D21)	Link here
	Buffalo ATCT (BUF)	Link here

FIGURE 4-2 AREA 2 ZOB SOP AGREEMENTS

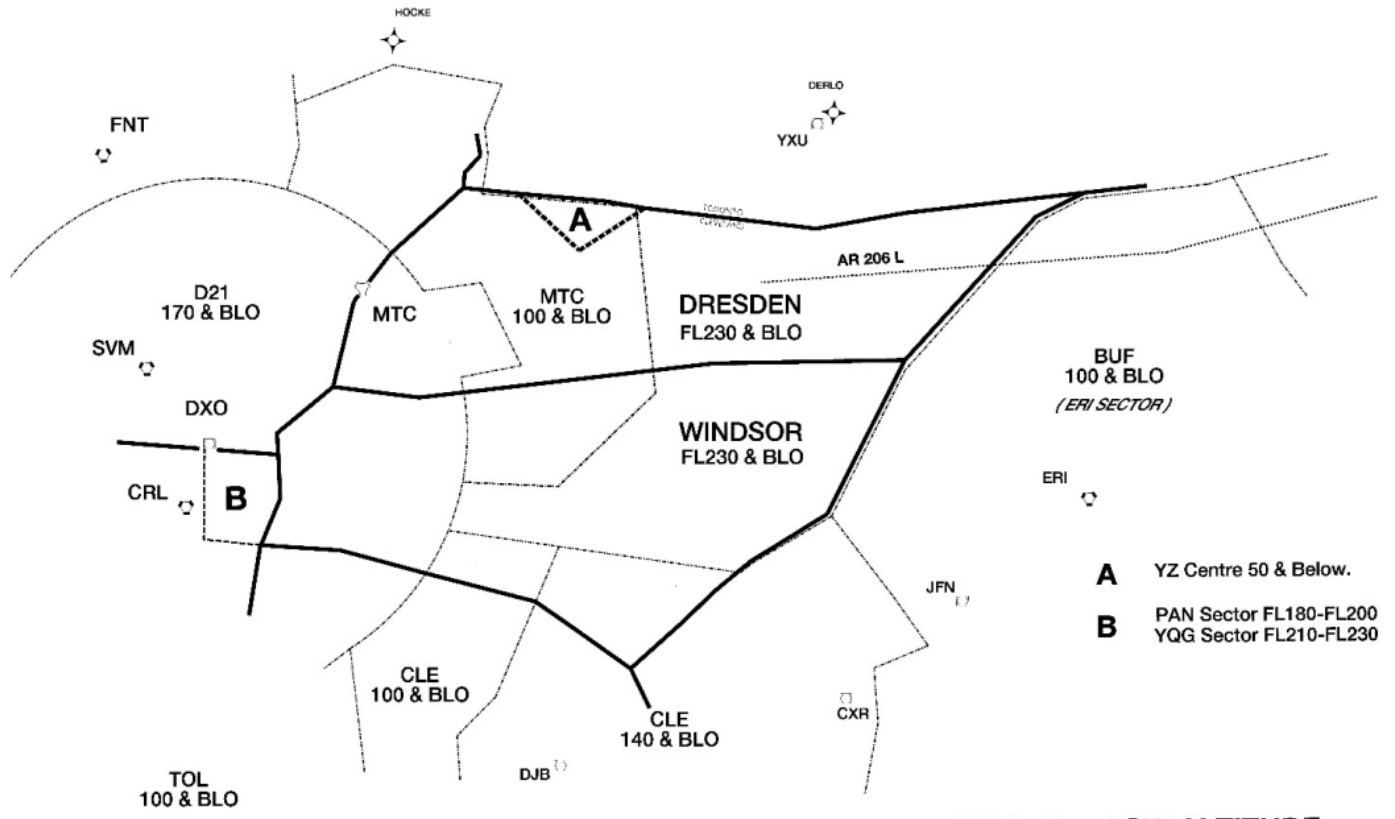
Airport or Subject	Qualifier	Areas	Rule
AVP	arrivals	2, 7	KAVP arrivals must be routed DMACK LACIE KAVP and must not be routed past DMACK.
BUF	arrivals	2, 7	KBUF arrivals entering Area 7 must be at or below FL270.
CAK, CLE, CLE sats	arrivals	1, 2, 4, 8	Aircraft must be assigned the BRWNZ arrival. Aircraft must not be cleared further direct than FRYYE. YQG sector may issue "descend via" clearance on contact.
CAK, CLE, CLE sats	prop arrivals	1, 2, 4, 8	Props on the BRWNZ arrival must be descended and handed off to D21 so as not to enter YQG sector airspace.
CMH	arrivals	2, 4	KCMH arrivals must enter RAV sector AOB FL280, routed via APE.
DTW	arrivals	2	KDTW arrivals descending to FL240 from HUD sector may be issued discretionary descents by DRE sector. HUD sector is responsible for advising DRE sector when discretionary descents cannot be approved.

DTW	arrivals	2, 3	KDTW arrivals must enter Area 2 on the correct route for the known flow, descending to FL300 or below. KDTW arrival aircraft must cross the sector boundary vertically separated under any conflicting traffic on Q436 and/or Q438/Q440.
DTW	arrivals	2, 7	KDTW arrivals must enter Area 2 on the correct route for the known flow.
DTW sats	arrivals	2, 4, 7	Any satellite arrival on the FOREY STAR that will enter YQG sector must be routed via NACCA.FOREY STAR.
DTW, DTW sats	departures	2, 3, 7	Departures routed via JHW must remain on course until level at requested altitude.
DTW, DTW sats	Jet departures	1, 2, 3, 4 5, 7, 8	The first ZOB sector to work a D21 jet departure must delete or amend, via ATC clearance, any "SID assigned" speed restriction.
DTW, DTW sats	departures via GRIVY	2, 4	Area 4 has control for right turns AOA FL220. Area 4 is responsible for any resulting coordination.
DTW, DTW sats	departures via ESSBE	2, 4, 5	Area 4 is responsible for pointouts to area 5 on D21 ESSBE departures.
DTW, DTW sats	departures via HHOWE	2, 7	Area 2 must ensure that KDTW and KDTW satellites departures requesting AOA FL280 via the HHOWE SID are issued the LNCON transition.
ERI	arrivals	2, 7	KERI arrivals are descended to 11,000 feet and handed off to DKK sector.
EWR	arrivals	2, 4, 5, 7	KEWR arrivals must be routed via SLT FQM STAR. KEWR arrivals enter Area 7 routed via J584 SLT or Q29 DORET J584 SLT or EWC050 J584 SLT (PIT depts. only) with SLT being the furthest direct routing allowed. KEWR arrivals should not be cleared direct SLT if the new route will take the aircraft south of YNG VORTAC.
FNT	arrivals	1, 2, 4, 8	Except for those aircraft that will transit D21, KFNT arrivals west of VWV must be routed via HAZIT VHICL CITYE and handed off to the LFD sector. KFNT arrivals east of VWV must be routed via MARGN KFNT.
FWA	arrivals	2,8	KFWA arrivals must not be handed off to the SKY sector.
GRR,BTL, AZO, SBN, BEH	arrivals	1, 2	GRR, BTL, AZO, SBN, or BEH arrivals must be descended to FL240 and handed off to Area 1.

JFK	jet arrivals	2, 4, 5, 7	KJFK arrivals must be routed via HOXIE LVZ LENDY STAR. KJFK arrivals enter WRN, JHW, DKK or BFD sectors routed via J70 J554 Q29, or J584 J190 J70 (PIT Deps only). KJFK arrivals are also commonly routed direct HOXIE.
JFK, FRG, TEB, MMU, CDW	arrivals	2, 7	Area 2 relinquishes control to Area 7 for right turns up to direct STENT on KJFK, KFRG, KTEB, KMMU and KCDW arrivals, at or above FL240 and within 20 nm of the common area boundary.
LAN	arrivals	2, 4, 8	KLAN arrivals from high altitude sectors must enter Area 2 at or below FL260 descending to FL240.
LUK	arrivals	2, 4, 8	KLUK arrivals via the MBL/BFT/SKY/PAN sectors must be routed via ROD HEDEE STAR and cross the Area 2/4 boundary AOB FL330. Area 4 must descend the aircraft to cross 75NM north of ROD @ FL310.
MDT	arrivals	2, 4, 5	KMDT arrivals departing KDTW must be restricted to at or below FL310. Other KMDT arrivals must enter Area 5 at or below FL350, and traffic permitting, descending to FL330. KMDT arrivals must not be given direct routing east of REC.
MDW	arrivals	2, 4	MDW arrivals from ZYZ must not be cleared direct further west than MAYZE.
ORD	arrivals	1, 2	HUD/LAK sectors relinquish control to the ECK/GAM sectors for turns and speed control on KORD arrivals established on or north of Q436, providing the aircraft remain on or north of Q436. All speed adjustments must be entered in the 4th line. ECK/GAM assumes responsibility for separation with aircraft established on or north of Q436, routed into Area 1.
PIT	arrivals	2, 4, 8	DET/WAY sector is required to initiate spacing to KPIT and ensure all aircraft are routed via TAMDE ACO and descending to FL310.
PWK, ARR, DPA, UGN, ENW, RAC	arrivals	2, 4	Arrivals routed direct PMM/SMUUV must cross the Area 2/4 common boundary AOB FL320. Arrivals routed via: ALPHE PMM/SMUUV or WODDS FRSST PMM/SMUUV are not restricted.
ROC	arrivals	2, 3, 7	KROC arrivals from Area 2 north of the DSV/WRN sector boundary must cross the Area 2 eastern boundary AOB FL270. KROC arrivals from Area 2 south of the DSV/WRN sector boundary must cross the Area 2 eastern boundary AOB FL290 descending to FL280.

SYR	arrivals	2, 3	KSYR arrivals must enter Area 3 at or below FL350.
TOL	arrivals	2, 3, 4, 7, 8	KTOL arrivals are routed via MOONN KTOL or DJB KTOL. If the MOONN route is used, KTOL arrivals must be handed off to MTC RAPCON. Alternately, CYYZ to KTOL flights may be routed via DJB KTOL (at or below FL220).
YXU, YHM	arrivals	2, 4	CYXU and CYHM arrivals, entering Area 2 east of J43, must be AOB FL290.
YYZ, YKZ, YKF	arrivals	2, 4	CYYZ, CYKZ, and CYKF arrivals, entering Area 2 east of J43, must be AOB FL330.
IAFDOF	JHW, HOXIE, or SLT	2, 7	Area 2 is not required to APREQ IAFDOF on flights via JHW, HOXIE or SLT thru Area 7. Area 7 approves IAFDOF by accepting the handoff. If unable to accept IAFDOF, Area 7 must call Area 2.
Direct Routing	WILET, MEMMS, or ITH	2, 3	Area 2 may clear eastbound flights direct WILET, MEMMS or ITH as appropriate without prior approval from area 3.
AIT	Climbing Aircraft	2	When LAK Sector uses the intrafacility AIT procedure to redirect a handoff from the HUD sector to the JHW Sector, the HUB Sector is responsible for any point outs to the WRN Sector.
AIT	Climbing Aircraft	1, 2, 8	When SKY and PAN sectors are combined, Areas 1, 2, and 8 may hand aircraft off to the SKY/PAN sector with an interim altitude of FL230 and a requested (hard) altitude AOA FL240. SKY/PAN will release altitude control by removing the interim altitude or entering a new interim altitude. SKY/PAN must verbally coordinate with the transferring controller as soon as practical when they are unable to approve an altitude or they need to amend the altitude initially entered.
AIT	BRWNZ arrival	2	After receiving a handoff from DET sector, YQG sector will flash to D21. DET sector must transfer communication to YQG sector.

FIGURE 4-3 AREA 2 LOW ALTITUDE



- A** YZ Centre 50 & Below.
- B** PAN Sector FL180-FL200
YQG Sector FL210-FL230

AREA 2 - LOW ALTITUDE

DRESDEN SECTOR (DRE) - 20**FIGURE 4-4 DRESDEN SECTOR INFORMATION**

Sector	20
Callsign Usage (Primary/Relief)	CLE_20_CTR (CLE_DR_CTR)
Frequency/Location (AFV)	132.250 Algonac, MI
Altitude above D21 TRACON	FL180-FL230
Altitude above MTC RAPCON When open: When closed:	11000 ft.-FL230 SFC-FL230
Altitudes everywhere else	SFC-FL230
Military Areas	NONE
Military Routes	AR206L
Required Altimeters	CLE, DTW, ERI, YXU

- a. Sector Narrative. The DRE Sector is the northeast arrival sector for KDTW and KDTW satellite airports. DRE provides approach control services to portions of MTC RAPCON airspace when that facility is closed.
- b. Assignment of Airspace.
 - i. DRE normally combines at YQG, except for a heavy DTW eastbound departure flow event.

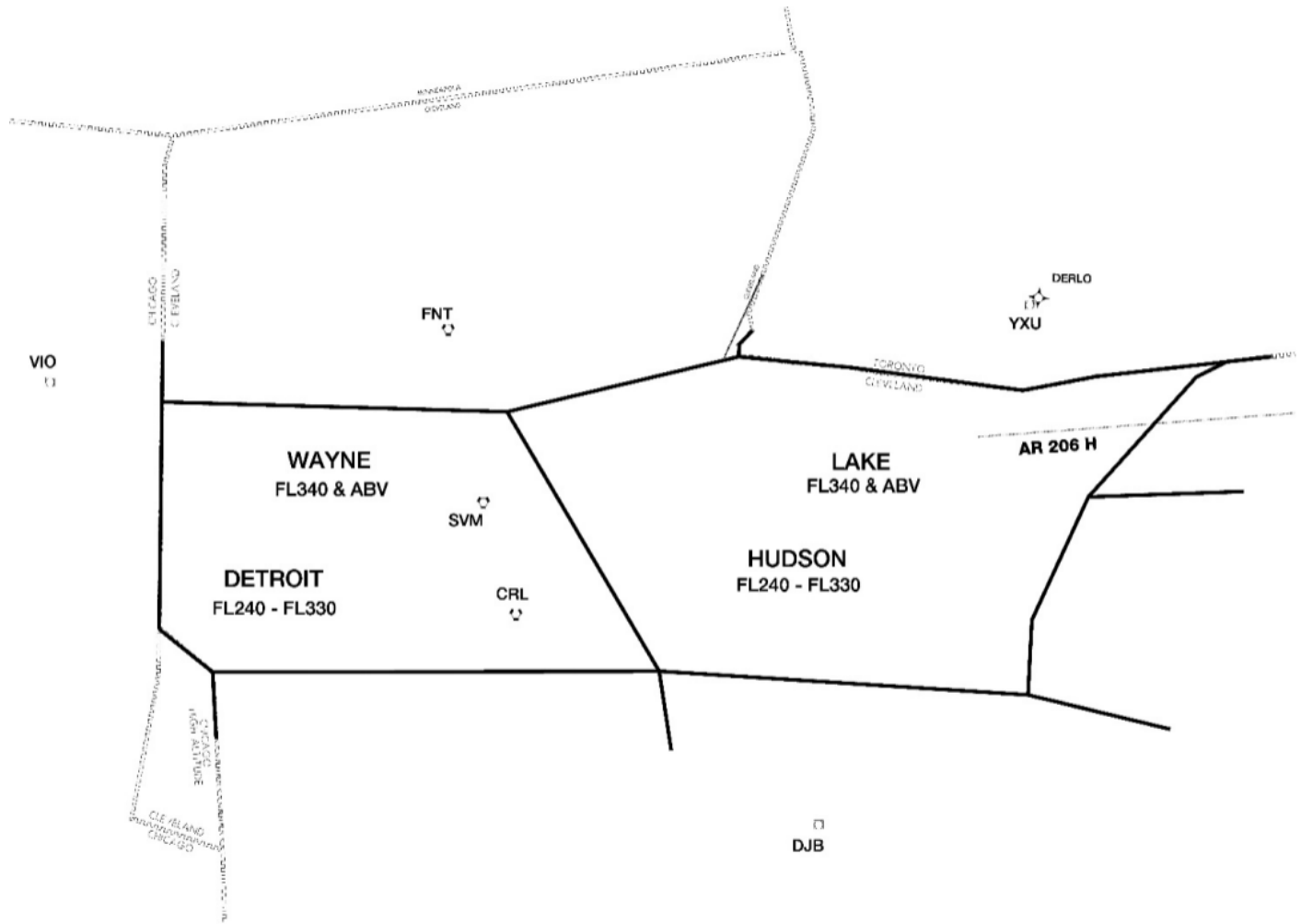
WINDSOR SECTOR (YQG) - 21

FIGURE 4-5 DRESDEN SECTOR INFORMATION

Sector	21
Callsign Usage (Primary/Relief)	CLE_21_CTR (CLE_YQ_CTR)
Frequency/Location (AFV)	132.450 Sandusky, OH
Altitude above D21 TRACON	FL180-FL230
Altitude above MTC RAPCON	11000 ft.-FL230
Altitudes above CLE ATCT	15000 ft.-FL230
PAN Sector Shelf	FL210-FL230
Everywhere else	SFC-FL230
Military Areas	NONE
Military Routes	NONE
Required Altimeters	CLE, DTW, ERI

- a. Sector Narrative. The YQG Sector is the D21 east/southeast departure sector and KCLE and Satellite northwest arrival sector.
- b. Assignment of Airspace.
 - i. DRE normally combines at YQG, except for a heavy DTW eastbound departure flow event.
 - ii. YQG is the Area 2 primary low sector. During single area operations, YQG with DRE combines into DET.

FIGURE 4-6 AREA 2 HIGH ALTITUDE



AREA 2 - HIGH ALTITUDE

HUDSON SECTOR (HUD) - 27**FIGURE 4-8 HUDSON SECTOR INFORMATION**

Sector	27
Callsign Usage (Primary/Relief)	CLE_27_CTR (CLE_HU_CTR)
Frequency/Location (AFV)	134.775 Algonac, MI
Altitudes	FL240 and above
Military Areas	NONE
Military Routes	AR206H

- a. Sector Narrative. The HUD sector works primarily east and westbound enroute traffic.
- b. Assignment of Airspace.
 - i. HUD normally combines with DET at DET.

DETROIT SECTOR (DET) - 28**FIGURE 4-9 DETROIT SECTOR INFORMATION**

Sector	28
Callsign Usage (Primary/Relief)	CLE_28_CTR (CLE_DE_CTR)
Frequency/Location (AFV)	135.725 Litchfield, MI
Altitudes	FL240 and above
Military Areas	NONE
Military Routes	AR206H

- a. Sector Narrative. The DET sector works primarily east and westbound enroute traffic.
- b. Assignment of Airspace.
 - i. WAY normally combines with DET at DET and/or HUD normally combines with DET and DET.
 - ii. During single area operations, DET is the primary sector for Area 2.

Chapter 5. Area 3 Binder

FIGURE 5-1 LETTER OF AGREEMENT INDEX

Type of Facility	Facility Name	Subject/Restrictions
Center	Boston ARTCC (ZBW)	Link here
	New York ARTCC (ZNY)	Link here
	Toronto ACC (ZYZ)	Link here
Tower	Buffalo ATCT	Link here
	Elmira ATCT	Arrivals descending to 9,000 ft.
	Rochester ATCT	Cross 30 DME ROC at 11,000 ft.
	Syracuse ATCT	Cross NABOR or 30 DME SYR at 11,000 ft.

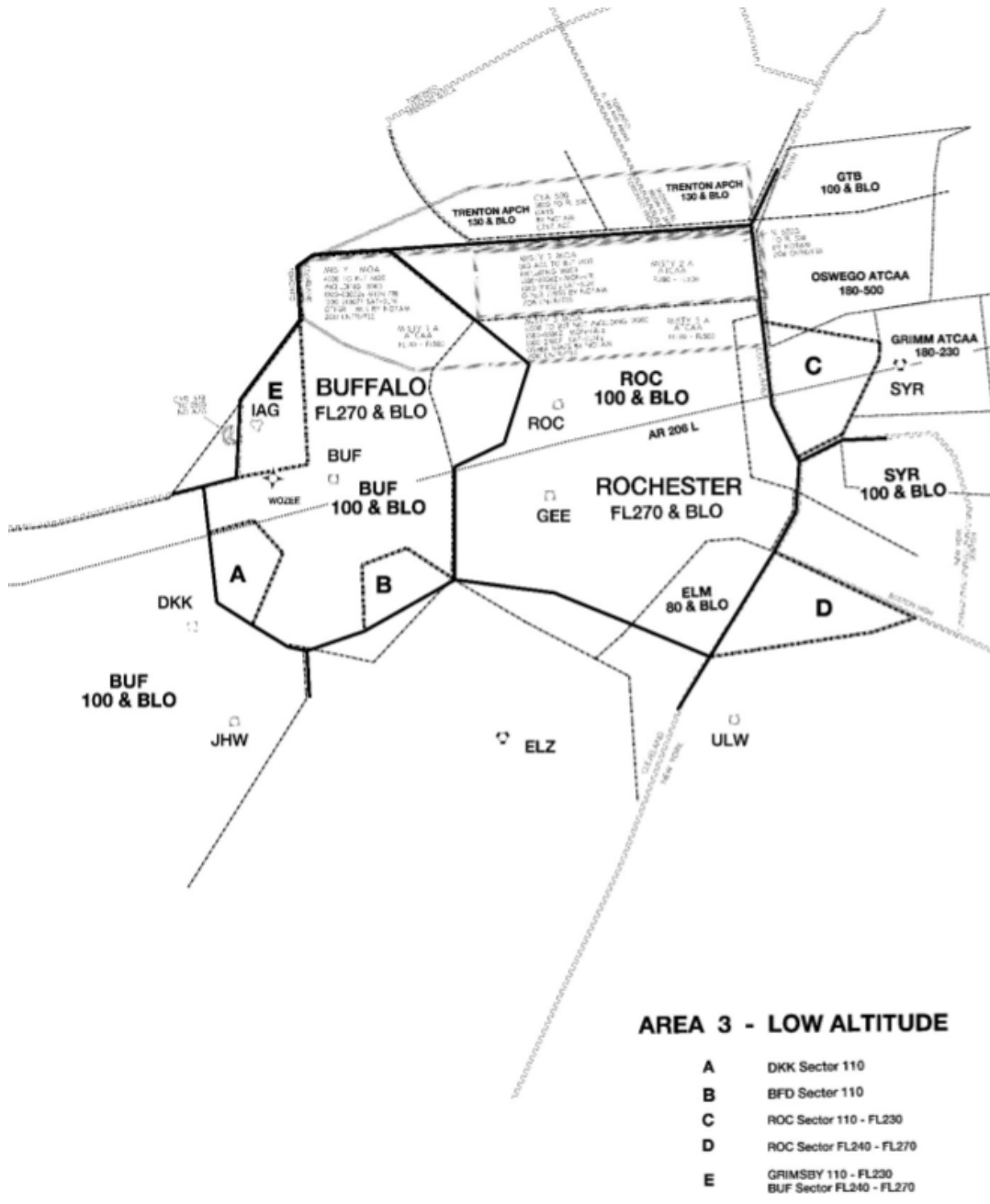
FIGURE 5-2 AREA 3 ZOB SOP AGREEMENTS

Airport or Subject	Qualifier	Areas	Rule
CLE satellites	arrivals	3, 7	RNAV arrivals from NE of JHW must cross the common boundary AOB FL340 and be routed JOSSY THOME TRYBE STAR or CLERI direct destination.
BUF	departures	3, 7	Southbound departures into the BFD Sector are routed BUF VAIRS.
BUF	departures	3, 7	Departures into the DKK sector are routed BUF JHW (For aircraft proceeding south and southwest) and BUF GGUCE (For aircraft proceeding west).

CLE	arrivals	3, 7	KCLE RNAV arrivals from NE of JHW must cross the common boundary AOB FL340 and be routed via THOME TRYBE STAR.
DTW	arrivals	2, 3	KDTW arrivals must enter Area 2 on the correct route for the known flow, descending to FL300 or below. KDTW arrival aircraft must cross the sector boundary vertically separated under any conflicting traffic on Q436 and/or Q438/Q440
DTW, DTW sats	Jet departures	1, 2, 3, 4 5, 7, 8	The first ZOB sector to work a D21 jet departure must delete or amend, via ATC clearance, any "SID assigned" speed restriction.
DTW, DTW sats	departures	2, 3, 7	Departures routed via JHW must remain on course until level at requested altitude.
MDW	arrivals	3, 4, 7	KMDW arrivals are routed DJB J60 GSH GSH STAR or DJB J60 ASHEN BAGEL PANGG STAR with NAPOL being the furthest "direct" routing allowed.
PIT	arrivals	3, 7	KPIT arrivals from Area 3 enter Area 7 at or below FL340.
ROC	arrivals	2, 3, 7	KROC arrivals from Area 2 north of the DSV/WRN sector boundary must cross the Area 2 eastern boundary AOB FL270. KROC arrivals from Area 2 south of the DSV/WRN sector boundary must cross the Area 2 eastern boundary AOB FL290 descending to FL280.
ROC	departures	3, 7	KROC departures routed GEE BURST are climbed to FL270 or their requested lower altitude. KROC departures must not be issued direct PSB unless verbally coordinated with Area 7.
SYR	arrivals	2, 3	KSYR arrivals must enter Area 3 at or below FL350.
SYR	arrivals	3, 7	KSYR arrivals west of JHW must cross the Area 3 boundary at or below FL330. KSYR arrivals east of JHW shall be descending to FL280 and handed off to DSV sector.

TOL	arrivals	2, 3, 4, 7, 8	KTOL arrivals are routed via MOONN KTOL or DJB KTOL. If the MOONN route is used, KTOL arrivals must be handed off to MTC RAPCON. Alternately, CYYZ to KTOL flights may be routed via DJB KTOL (at or below FL220).
YYZ	arrivals	3, 5, 7	CYYZ Arrivals via OXMAN are restricted to at or below FL340 from Area 5. CYYZ arrivals via WOZEE must enter Area 3 at or below FL340, descending to FL320, and are restricted to at or below FL360 from Area 5.
Direct Routing	WILET, MEMMS, or ITH	2, 3	Area 2 may clear eastbound flights direct WILET, MEMMS or ITH as appropriate without prior approval from area 3.
	Transitioning aircraft	3, 7	Transitioning aircraft entering Area 3 from Area 7 must remain over JHW.

FIGURE 5-3 AREA 3 LOW ALTITUDE



ROCHESTER SECTOR (ROC) - 31

FIGURE 5-4 ROCHESTER SECTOR INFORMATION

Sector	31
Callsign Usage (Primary/Relief)	CLE_31_CTR (CLE_RO_CTR)
Frequency/Location (AFV)	127.475 Rochester, NY
Altitude above: ROC ATCT SYR ATCT	11000 ft.-FL270
Above ELM ATCT: When open When closed	9000 ft.-FL270 SFC-FL270
ZBW delegated airspace above SYR ATCT	11000 ft-FL230
ZNY delegated airspace above ZNY CFB Sector	FL240-FL270
Military Areas	MISTY 1 MOA MISTY 3 MOA
Military Routes	AR206L
Required Altimeters	BUF, ROC

- a. Sector Narrative. ROC is an arrival/departure sector for KBUF, KROC, and KSYR. CYYZ, KITH, and KBGM arrivals and departures also transition ROC Sector.
- b. Assignment of Airspace.
 - i. ROC normally combines with BUF at BUF.

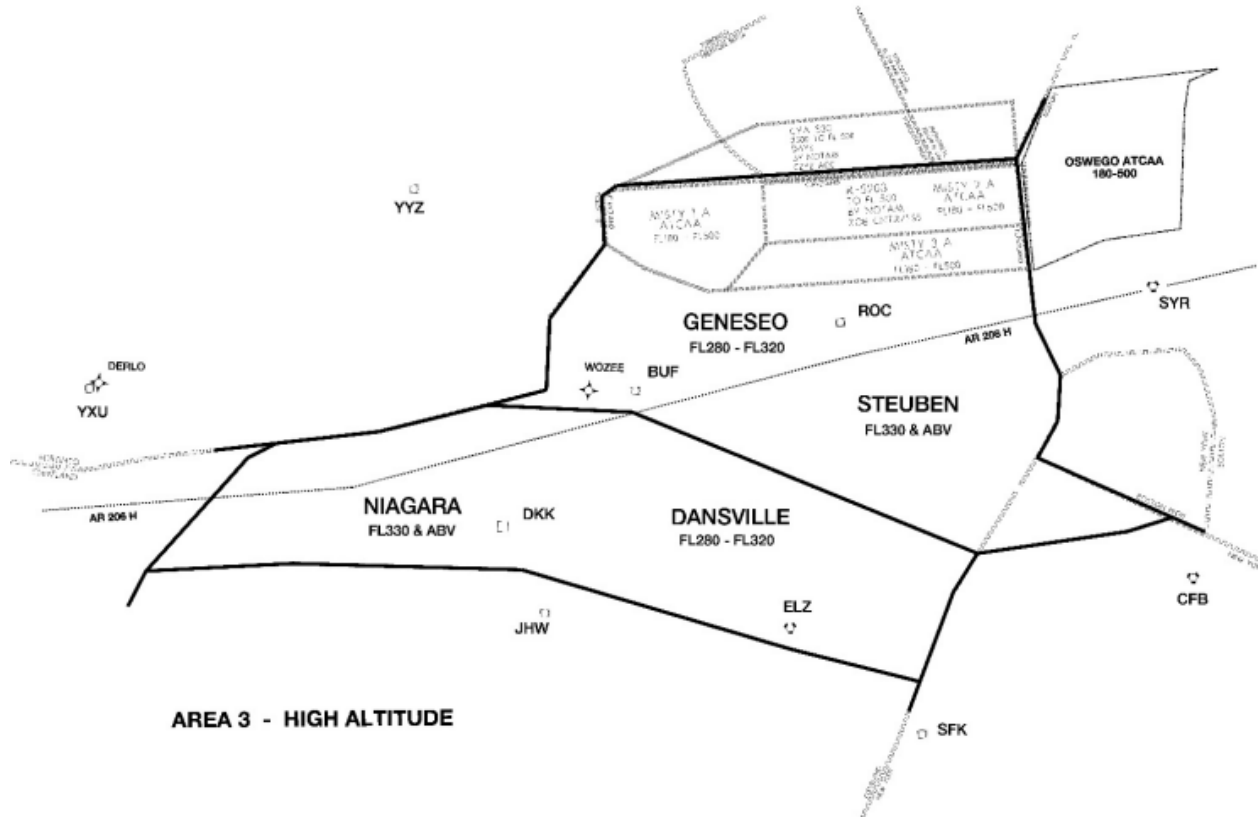
BUFFALO SECTOR (BUF) - 33

FIGURE 5-5 DRESDEN SECTOR INFORMATION

Sector	33
Callsign Usage (Primary/Relief)	CLE_33_CTR (CLE_BU_CTR)
Frequency/Location (AFV)	125.200 Dunkirk, NY
Altitude above: BUF ATCT, ROC ATCT	11000 ft.-FL270
Altitude above DKK Approach Gate BFD Approach Gate	12000 ft.-FL270
Military Areas	MISTY 1 MOA MISTY 3 MOA
Military Routes	AR206L
Required Altimeters	BUF, ROC

- a. Sector Narrative. BUF Sector is an arrival/departure sector for KBUF, KROC, and CYYZ.
- b. Assignment of Airspace.
 - i. ROC normally combines with BUF at BUF.
 - ii. BUF is the Area 3 Primary Low Sector. BUF combines into GEE during single area operations.

FIGURE 5-6 AREA 3 HIGH ALTITUDE



DANSVILLE SECTOR (DSV) - 36**FIGURE 5-7 DANSVILLE SECTOR INFORMATION**

Sector	36
Callsign Usage (Primary/Relief)	CLE_36_CTR (CLE_DS_CTR)
Frequency/Location (AFV)	118.625 Holland, NY
Altitudes	FL280 and above
Military Areas	None
Military Routes	AR206H

- a. Sector Narrative. The DSV Sector is a high altitude sector. The westbound traffic flow includes flights from Boston and New York metro airports to KDTW, KORD, KMDW, KCVG and west coast airports. The eastbound traffic flow includes arrivals to KALB, KBOS, KMHT, KBDL, KHPN, and other east coast airports. The southbound KCLE and KCVG arrivals and northbound CYYZ arrivals add to the complexity of the sector. The DSV Sector also provides higher altitudes for CYYZ and KROC southbound departures.
- b. Assignment of Airspace.
 - i. During single area operations, DSV normally combines into GEE at GEE.

GENESEO SECTOR (GEE) - 37**FIGURE 5-8 GENESEO SECTOR INFORMATION**

Sector	37
Callsign Usage (Primary/Relief)	CLE_37_CTR (CLE_GE_CTR)
Frequency/Location (AFV)	128.025 Geneseo, NY
Altitudes	FL280 and above
Military Areas	MISTY 1 MOA MISTY 2 MOA MISTY 3 MOA R5203
Military Routes	AR206H

- a. Sector Narrative. The GEE Sector is a high altitude sector. The westbound traffic flow includes flights from Boston and New York metro airports to KDTW, KMSP, KORD, CYYZ, and west coast airports. The eastbound traffic flow includes arrivals to KALB, KBOS, KMHT, KBDL, and KHPN. The GEE Sector also provides higher altitudes for CYYZ, KBUF, and KROC eastbound departures.
- b. Assignment of Airspace.
 - i. DSV normally combines with GEE at GEE.
 - ii. GEE is the Area 3 Primary Sector. BUF combines into GEE during single area operations.

Chapter 6. Area 4 Binder

FIGURE 6-1 LETTER OF AGREEMENT INDEX

Type of Facility	Facility Name	Subject/Restrictions
Center	Chicago ARTCC (ZAU)	Link here
	Indianapolis ARTCC (ZID)	Link here

FIGURE 6-2 AREA 4 ZOB SOP AGREEMENTS

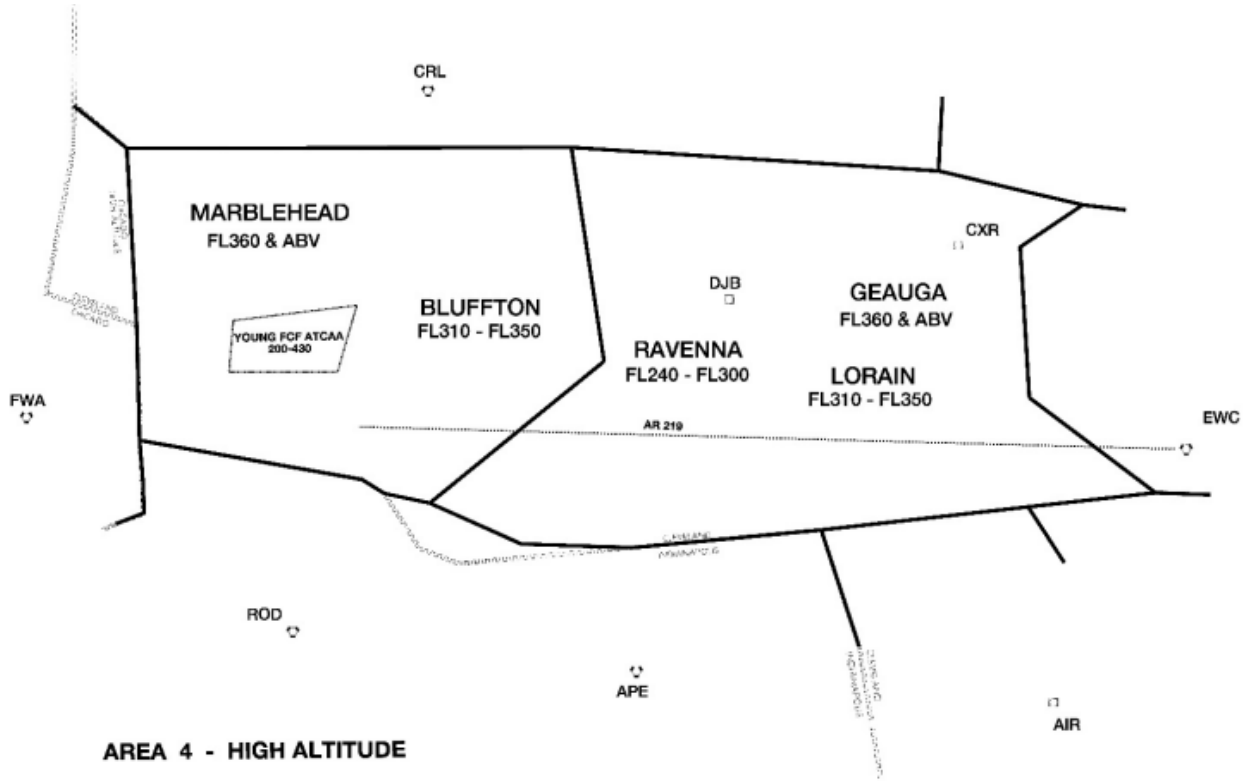
Airport or Subject	Qualifier	Areas	Rule
ABE	arrivals	4, 5	KABE arrivals departing KDTW and KDTW satellites must enter BKI sector at or below FL310.
BUF	arrivals	4, 7	If not already at a lower altitude, KBUF arrivals must be descending to FL280.
BWI	arrivals	4, 6	KBWI arrivals from Area 4 are routed AIR EMI STAR or NUSMM ANTHM STAR, with KEMAN being the furthest "direct" routing allowed. Area 6 has control for left or right turns up to 15°, south of J64 and is responsible for any resulting coordination.
CAK, CLE, CLE sats	arrivals	1, 2, 4, 8	Aircraft must be assigned the BRWNZ arrival. Aircraft must not be cleared further direct than FRYYE. YQG sector may issue "descend via" clearance on contact.
CAK, CLE, CLE sats	prop arrivals	1, 2, 4, 8	Props on the BRWNZ arrival must be descended and handed off to D21 so as not to enter YQG sector airspace.
CLE, CLE sats	departures	4, 5, 7	KCLE and KCLE satellites departures to the east and northeast must not be handed off to RAV sector for higher altitude.
CLE, CAK	departures to MDT	4, 5, 8	KCLE and KCAK departures to KMDT are restricted to at or below FL230.

CMH	arrivals	2, 4	KCMH arrivals must enter RAV sector AOB FL280, routed via APE.
CMH	arrivals	4, 5	KCMH arrivals must enter RAV sector AOB FL260, descending to FL240.
CMH	arrivals	4, 7	KCMH arrivals enter Area 4 AOB FL320 via WWSHR APE. Otherwise, enter Area 4 AOB FL280.
CMH	departures	4, 8	KCMH departures are routed APE WWSHR CXR, or APE WWSHR Q29.
DCA, ADW, NSF	arrivals	4, 6	KDCA, KADW, and KNSF arrivals from Area 4 are routed AIR J34 BUCKO FRDMM/NUMMY STAR with BUCKO being the furthest "direct" routing allowed. Area 6 has control for left or right turns up to 15°, south of J64 and is responsible for any resulting coordination.
DTW	arrivals	4, 5	KDTW arrivals must enter Area 4 at or below FL300, routed EEEZI BONZZ STAR or EEEZI KLYNK STAR.
DTW	arrivals	4, 6	KDTW arrivals must enter Area 4 at or below FL300, routed KOZAR BONZZ STAR or KOZAR KLYNK STAR, with EEEZI being the furthest direct routing allowed. Area 4 has control for right turns on contact, and is responsible for any resulting coordination.
DTW	arrivals	4, 8	KDTW arrivals must enter Area 8 on the correct route for the known flow, descending at pilot's discretion to FL240. Area 8 has control, on contact, to issue the "descend via" clearance.
DTW, DTW sats	Jet departures	1, 2, 3, 4 5, 7, 8	The first ZOB sector to work a D21 jet departure must delete or amend, via ATC clearance, any "SID assigned" speed restriction.
DTW sats	arrivals	2, 4, 7	Any satellite arrival on the FOREY STAR that will enter YQG sector must be routed via NACCA.FOREY STAR
DTW sats	arrivals	4, 5, 6	KDTW satellite arrivals routed via FOREY STAR must enter RAV sector at or below FL300 with NACCA being the furthest direct routing allowed.

DTW, DTW sats	departures via GRIVY	2, 4	Area 4 has control for right turns AOA FL220. Area 4 is responsible for any resulting coordination.
DTW, DTW sats	departures via ESSBE	2, 4, 5	Area 4 is responsible for pointouts to area 5 on D21 ESSBE departures.
DTW, DTW sats	departures via BGHRT	4, 8	Area 4 has control for up to 30° right turns south of J60 and AOA FL240 on D21 departures via FEZIK.
EWR	arrivals	2, 4, 5, 7	KEWR arrivals must be routed via SLT FQM STAR. KEWR arrivals enter Area 7 routed via J584 SLT or Q29 DORET J584 SLT or EWC050 J584 SLT (PIT depts. only) with SLT being the furthest direct routing allowed. KEWR arrivals should not be cleared direct SLT if the new route will take the aircraft south of YNG VORTAC.
FNT	arrivals	1, 2, 4, 8	Except for those aircraft that will transit D21, KFNT arrivals west of VWV must be routed via HAZIT VHICL CITYE and handed off to the LFD sector. KFNT arrivals east of VWV must be routed via MARGN KFNT.
IAD	arrivals	4, 6	KIAD arrivals from Area 4 are routed AIR MGW GIBBZ STAR with MGW being the furthest "direct" routing allowed. Area 6 has control for left or right turns up to 15°, south of J64 and is responsible for any resulting coordination.
JFK	jet arrivals	2, 4, 5, 7	KJFK arrivals must be routed via HOXIE LVZ LENDY STAR. KJFK arrivals enter WRN, JHW, DKK or BFD sectors routed via J70 J554 Q29, or J584 J190 J70 (PIT Deps only). KJFK arrivals are also commonly routed direct HOXIE.
LAN	arrivals	2, 4, 8	KLAN arrivals from high altitude sectors must enter Area 2 at or below FL260 descending to FL240.
LUK	arrivals	2, 4, 8	KLUK arrivals via the MBL/BFT/SKY/PAN sectors must be routed via ROD HEDEE STAR and cross the Area 2/4 boundary AOB FL330. Area 4 must descend the aircraft to cross 75NM north of ROD @ FL310.

MDT	arrivals	2, 4, 5	KMDT arrivals departing KDTW must be restricted to at or below FL310. Other KMDT arrivals must enter Area 5 at or below FL350, and traffic permitting, descending to FL330. KMDT arrivals must not be given direct routing east of REC.
MDW	arrivals	2, 4	MDW arrivals from ZYZ must not be cleared direct further west than MAYZE.
MDW	arrivals	3, 4, 7	KMDW arrivals are routed DJB J60 GSH GSH STAR or DJB J60 ASHEN BAGEL PANGG STAR with NAPOL being the furthest "direct" routing allowed.
PIT	arrivals	2, 4, 8	DET/WAY sector is required to initiate spacing to KPIT and ensure all aircraft are routed via TAMDE ACO and descending to FL310.
PWK, ARR, DPA, UGN, ENW, RAC	arrivals	2, 4	Arrivals routed direct PMM/SMUUV must cross the Area 2/4 common boundary AOB FL320. Arrivals routed via: ALPHE PMM/SMUUV or WODDS FRSS PMM/SMUUV are not restricted.
TOL	arrivals	2, 3, 4, 7, 8	KTOL arrivals are routed via MOONN KTOL or DJB KTOL. If the MOONN route is used, KTOL arrivals must be handed off to MTC RAPCON. Alternately, CYYZ to KTOL flights may be routed via DJB KTOL (at or below FL220).
TOL	arrivals	4, 5	KTOL arrivals must enter RAV sector AOB FL300.
UNV	arrivals	4, 5	KUNV arrivals from Area 4 must enter Area 5 airspace AOB FL310.
YXU, YHM	arrivals	2, 4	CYXU and CYHM arrivals, entering Area 2 east of J43, must be AOB FL290.
YYZ, YKZ, YKF	arrivals	2, 4	CYYZ, CYKZ, and CYKF arrivals, entering Area 2 east of J43, must be AOB FL330.
IAFDOF		4, 7	Area 4 is not required to APREQ IAFDOF altitudes with Area 7. Area 7 approves IAFDOF by accepting the handoff. If unable to accept IAFDOF, Area 7 will call Area 4.

FIGURE 6-3 AREA 4 HIGH ALTITUDE



RAVENNA SECTOR (RAV) - 48

FIGURE 6-4 RAVENNA SECTOR INFORMATION

Sector	48
Callsign Usage (Primary/Relief)	CLE_48_CTR (CLE_RA_CTR)
Frequency/Location (AFV)	119.875 Bloomingville, OH
Altitudes: Above SKY Sector	FL240 and above FL310 and above
Military Areas	NONE
Military Routes	AR219

- a. Sector Narrative. The RAV Sector is high sector above the Cleveland Metropolitan area with DJB as its focal point. This location makes it a crossroads for several major flows of traffic.
- b. Assignment of Airspace.
 - i. RAV can not be split and will own all of Area 4.
 - ii. **THIS IS THE ZOB PRIMARY FREQUENCY**

Chapter 7. Area 5 Sector Binder

FIGURE 7-1 LETTER OF AGREEMENT INDEX

Type of Facility	Facility Name	Subject/Restrictions
Center	Indianapolis ARTCC (ZID)	Link here
	New York ARTCC (ZNY)	Link here
	Washington ARTCC (ZDC)	Link here
Tower	Cleveland ATCT (CLE)	Link here
	Clarksburg ATCT (CKB)	All arrivals descending to 9,000 ft.
	Harrisburg ATCT (MDT)	See ZNY LOA
	Pittsburgh ATCT (PIT)	Link here
	Palmer ATCT (LBE)	Inbound calls when JST is offline
	Potomac TRACON (PCT)	Direct HGR AOB 10,000 ft., hand to IAD.
	Youngstown ATCT (YNG)	Cross 25 DME YNG at 11,000 ft.

FIGURE 7-2- AREA 5 ZOB SOP AGREEMENTS

Airport or Subject	Qualifier	Areas	Rule
ABE	arrivals	4, 5	KABE arrivals departing KDTW and KDTW satellites must enter BKI sector at or below FL310.
ABE, AVP	departures	5, 6	Area 6 has control for left turns up to 20°.
BKL, CGF	arrivals	5, 7	KBKL/KCGF arrivals must be routed via TRYBE STAR, and handed off to the YNG sector.

ORDER

ZOB 7110.2R

BKL, CGF	arrivals	5, 6	KBKL and KCGF arrivals enter Area 5 AOB FL300 descending to FL240 and are handed off to the BKI sector.
BFD	arrivals	5, 7	Area 5 gives Area 7 control for turns and descent of KBFD arrivals upon completion of handoff and frequency change.
BUF	arrivals	5, 7	KBUF arrivals routed via DKK must enter Area 7 at or below FL270 descending to FL240.
BUF, IAG	arrivals	5, 6	KBUF/KIAG arrivals west of ESL must be routed DKK direct; KBUF/KIAG arrivals east of ESL must be routed BENEE direct.
BUF, IAG, YHM	arrivals	5, 6	KBUF, CYHM and KIAG arrivals must enter Area 5 at or below FL310.
BUF, IAG, YHM	arrivals	5, 7	KBUF arrivals east of TDT and CYHM/KIAG arrivals must enter Area 7 at or below FL280. KBUF arrival aircraft west of TDT must be routed DKK BUF.
CAK, AKR, 1G3	arrivals	5, 6, 8	KCAK arrivals must be issued the ZZIPS STAR and may be cleared no further direct than ATWOO or FIITE.
CAK	departures	5, 8	Area 5 has control for turns not to exceed 15° (left or right) on contact.
CLE, CLE sats	departures	4, 5, 7	KCLE and KCLE satellites departures to the east and northeast must not be handed off to RAV sector for higher altitude.
CLE, CAK	departures to MDT	4, 5, 8	KCLE and KCAK departures to KMDT are restricted to at or below FL230.
CLE	arrivals	5, 6	KCLE arrivals must enter Area 5 at or below FL320. Area 6 may clear aircraft no further direct than UPPRR TRYBE STAR.
CLE	arrivals	5, 7	KCLE arrivals must enter Area 7 with a clearance to FL240, routed no further direct than UPPRR TRYBE STAR. Pilot's discretion descent is approved. Area 7 will have control to issue the "descend via" clearance on contact.

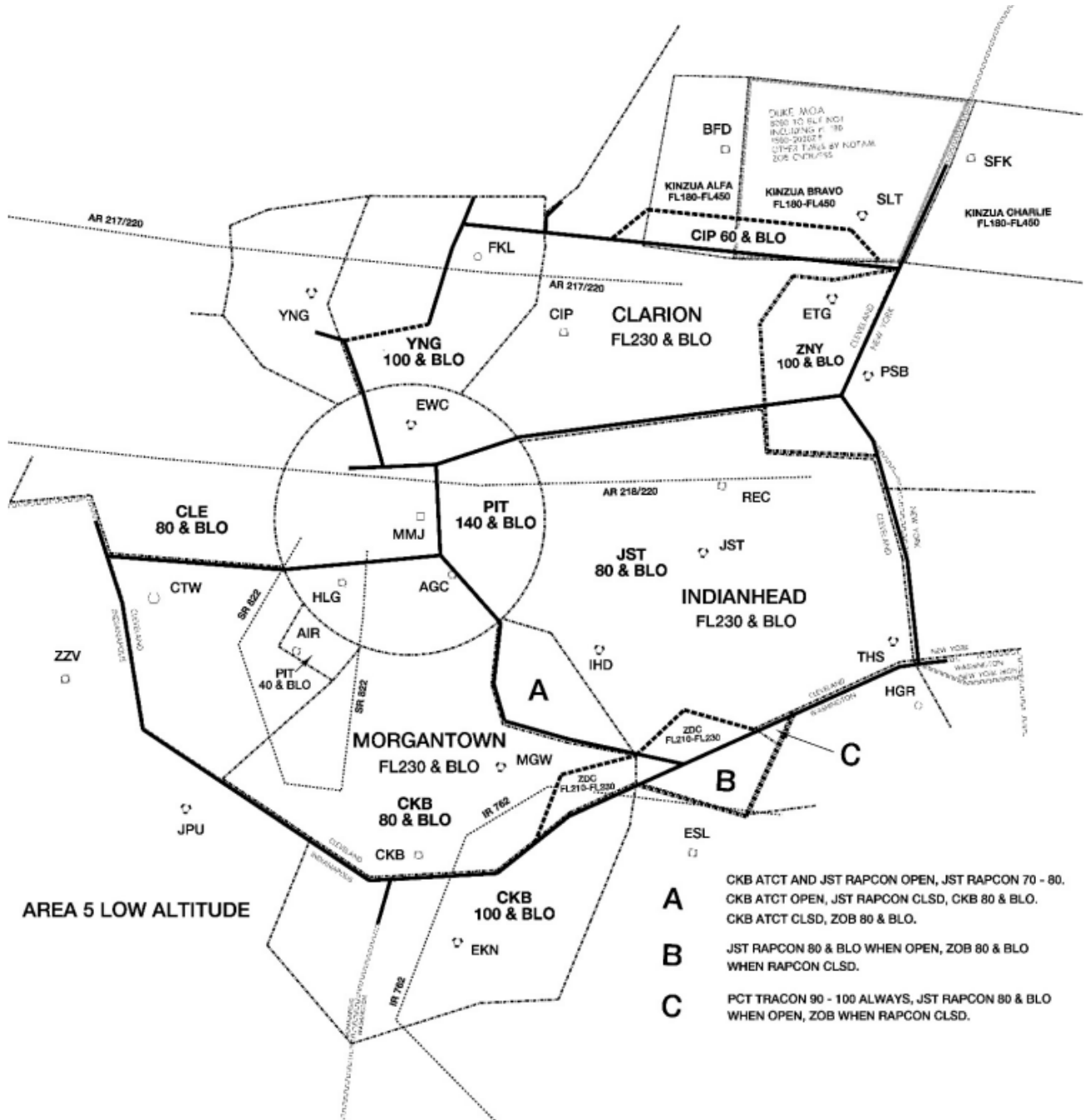
CMH	arrivals	4, 5	KCMH arrivals must enter RAV sector AOB FL260, descending to FL240.
CMH	arrivals	5, 6	KCMH arrivals enter Area 6 at or below FL340.
CMH	arrivals	5, 7	KCMH arrivals enter Area 5 AOB FL320 if routed via WWSHR or FL300 if routed via direct APE.
CVG	arrivals	5, 6	KCVG arrivals are routed via CINCE STAR or TIGRR STAR and enter Area 6 descending to FL380 or requested lower altitude.
DTW	arrivals	4, 5	KDTW arrivals must enter Area 4 at or below FL300, routed EEEZI BONZZ STAR or EEEZI KLYNK STAR.
DTW, DTW sats	Jet departures	1, 2, 3, 4 5, 7, 8	The first ZOB sector to work a D21 jet departure must delete or amend, via ATC clearance, any "SID assigned" speed restriction.
DTW sats	arrivals	4, 5, 6	KDTW satellite arrivals routed via FOREY STAR must enter RAV sector at or below FL300 with NACCA being the furthest direct routing allowed.
DTW, DTW sats	departures via ESSBE	2, 4, 5	Area 4 is responsible for pointouts to area 5 on D21 ESSBE departures.
EWR	arrivals	2, 4, 5, 7	KEWR arrivals must be routed via SLT FQM STAR. KEWR arrivals enter Area 7 routed via J584 SLT or Q29 DORET J584 SLT or EWC050 J584 SLT (PIT depts. only) with SLT being the furthest direct routing allowed. KEWR arrivals should not be cleared direct SLT if the new route will take the aircraft south of YNG VORTAC.
EWR	arrivals	5, 7	Area 5 gives area 7 control for speed adjustment and left turns up to 30° on KEWR arrival aircraft that are on or north of J146.
JFK	jet arrivals	2, 4, 5, 7	KJFK arrivals must be routed via HOXIE LVZ LENDY STAR. KJFK arrivals enter WRN, JHW, DKK or BFD sectors routed via J70 J554 Q29, or J584 J190 J70 (PIT Deps only). KJFK arrivals are also commonly routed direct HOXIE.

LGA	arrivals	5, 7	Area 7 gives Area 5 control for speed adjustment and right turns up to 30° on KLGGA arrival aircraft that are at or above FL240 and on or south of J584.
MDT	arrivals	2, 4, 5	KMDT arrivals departing KDTW must be restricted to at or below FL310. Other KMDT arrivals must enter Area 5 at or below FL350, and traffic permitting, descending to FL330. KMDT arrivals must not be given direct routing east of REC.
OYM	arrivals	5, 7	Area 7 gives Area 5 control for turns and descent of KOYM arrivals upon completion of handoff and frequency change.
PHL, PHL sats	arrivals	5, 6	KPHL and KPHL satellites arrivals routed via EWC JST are Area 6's control for right turns once the aircraft is between a point 10 miles northwest of EWC and JST.
PHL, PHL sats, IAD, DCA	arrivals	5, 7	KPHL, KPHL satellites, KIAD and KDCA arrivals handed off by BFD sector via PSB are AOB FL270. BKI sector has control south of J584 to descend to FL250 per the ZNY LOA.
RDG, LNS, MDT, CXY, PHL area PROPS	arrivals	5, 6	KRDG, KLNS, KMDT, and KCXY arrivals, and KPHL area prop arrivals must be descended to FL240 and handed off to the IHD sector.
PIT	arrivals	5, 7	KPIT arrivals from the BFD sector enter Area 5 AOB FL240. BFD sector establishes initial spacing for the KPIT arrivals over SLT.
PIT	arrivals	5	CIP sector may issue discretionary descents to KPIT arrivals from the BKI sector at FL240. BKI sector is responsible for advising CIP sector when discretionary descent cannot be approved.
PIT	departures	5	For KPIT departures to the northeast requesting AOA FL240, the BKI sector is responsible for any required point outs to the BFD sector.
PIT	departures	5, 8	KPIT departures to KCVG and KCVG satellites are

			restricted to at or below FL220.
ROC	arrivals	5, 6	KROC arrivals must enter Area 5 at or below FL350 descending to FL330.
ROC	arrivals	5, 7	KROC arrivals enter Area 7 at or below FL290 descending to FL280 from Area 5.
ROC	departures	5, 7	BFD/WRN sector is responsible for pointing out KROC departures routed direct PSB to MIP sector.
SYR	arrivals	5, 6	KSYR arrivals that are routed NABOR KSYR must enter Area 5 AOB FL370. Area 6 may clear aircraft direct NABOR entering Area 5 west of JST.
SYR	arrivals	5, 6	KSYR arrivals that are routed via PSB are not altitude restricted, however, IRL sector must ensure KSYR arrivals enter Area 5 descending to FL270 to meet the ZNY letter of agreement. Area 5 has control for turns up to 15° left on or north of J152.
SYR	arrivals	5, 7	KSYR arrivals east of TDT must be routed NABOR KSYR and are restricted to at or below FL340 from Area 5 to Area 7.
TOL	arrivals	4, 5	KTOL arrivals must enter RAV sector AOB FL300.
UNV	arrivals	4, 5	KUNV arrivals from Area 4 must enter Area 5 airspace AOB FL310.
YYZ	arrivals	3, 5, 7	CYYZ Arrivals via OXMAN are restricted to at or below FL340 from Area 5. CYYZ arrivals via WOZEE must enter Area 3 at or below FL340, descending to FL320, and are restricted to at or below FL360 from Area 5.
YYZ	arrivals	5, 6	CYYZ arrivals must enter Area 5 at or below FL390. CYYZ arrivals within 25 miles of EWC may be routed direct OXMAN LINNG STAR. CYYZ arrivals further east must be routed WOZEE LINNG STAR.
YYZ	departures	5, 6, 7	CYYZ arrivals must enter Area 5 at or below FL390. CYYZ arrivals within 25 miles of EWC may be routed direct OXMAN LINNG STAR. CYYZ arrivals further east must be routed WOZEE LINNG STAR.

P.O.	ZDC	5, 6	The ZDC EKN sector owns FL240. Aircraft entering ZDC below FL250 must be pointed out to the EKN sector. MGW sector is responsible for this point out when the AIR sector releases FL250 or above and redirects the handoff to the MOR sector.
IAFDOF		5, 7	CIP/BKI/FKL are not required to appreq IAFDOF with Area 7.
AIT		5, 8	If the BSV sector hands an aircraft off to the CIP sector with an interim altitude of FL230 and requested (hard) altitude of AOA FL240, the CIP sector may redirect (flash through) the handoff to the BKI sector.
AIT		5, 8	If the BSV sector hands an aircraft off to the MGW sector with an interim altitude of FL230 and requested (hard) altitude of AOA FL240, the MGW sector may redirect (flash through) the handoff to the AIR sector.

FIGURE 7-3 AREA 5 LOW ALTITUDE



CLARION SECTOR (CIP) - 50

FIGURE 7-4 CLARION SECTOR INFORMATION

Sector	50
Callsign Usage (Primary/Relief)	CLE_50_CTR (CLE_CI_CTR)
Frequency/Location (AFV)	126.725 Dubois, PA
Altitude above YNG ATCT: When open When closed	11000 ft.-FL230
Above ZNY Shelf	11000 ft.-FL230
Above PIT ATCT	15000 ft.-FL230
Shelf under BFD Sector	SFC-6000ft
Everywhere else	SFC-FL230
Military Areas	DUKE MOA, KINZUA A & B ATCAAs
Military Routes	AR217 AR220
Required Altimeters	ERI, DUJ, PIT

- a. Sector Narrative. The CIP sector is the KPIT northeast departure and arrival sector. CIP Sector also provides approach control services to the following airports:
 - i. Dubois-Jefferson County (KDUJ)
 - ii. Punxsutawney (N35)
 - iii. Clarion County (KAXQ)
 - iv. St. Mary’s Municipal (KOYM)
- b. Assignment of Airspace.
 - i. CIP normally combines with IHD at IHD (53).
 - ii. During midnight configuration, CIP normally combines with MGW and IHD at IHD (53).

INDIANHEAD SECTOR (IHD) - 53**FIGURE 7-5 INDIANHEAD SECTOR INFORMATION**

Sector	53
Callsign Usage (Primary/Relief)	CLE_53_CTR (CLE_IH_CTR)
Frequency/Location (AFV)	124.400 Blue Knob, PA
Altitude above JST RAPCON: When open. Under ZDC Shelf Everywhere else When closed. Shelf under ZDC Under ZDC Shelf Everywhere Else	9000 ft.-FL200 9000 ft.-FL230 SFC-8000 ft. SFC-FL200 SFC-FL230
Above CKB ATCT When open. When closed.	9000 ft.-FL230 SFC-FL230
Above ZNY Shelf	11000 ft.-FL230
Above PIT ATCT	15000 ft.-FL230
Military Areas	None
Military Routes	AR218 AR220
Required Altimeters	AOO, MGW, PIT, DUJ

- a. Sector Narrative. The IHD Sector is the southeast KPIT arrival sector. IHD Sector also provides approach control services to the Johnstown RAPCON when JST is closed.
- b. Assignment of Airspace.
 - i. CIP and/or MGW normally combines with IHD at IHD (53).
 - ii. During midnight configuration, CIP normally combines with MGW and IHD at IHD (53).

- iii. IHD is the Area 5 Low Primary Sector. During single area operations, IHD combines with BKI at BKI.

MORGANTOWN SECTOR (MGW) - 55

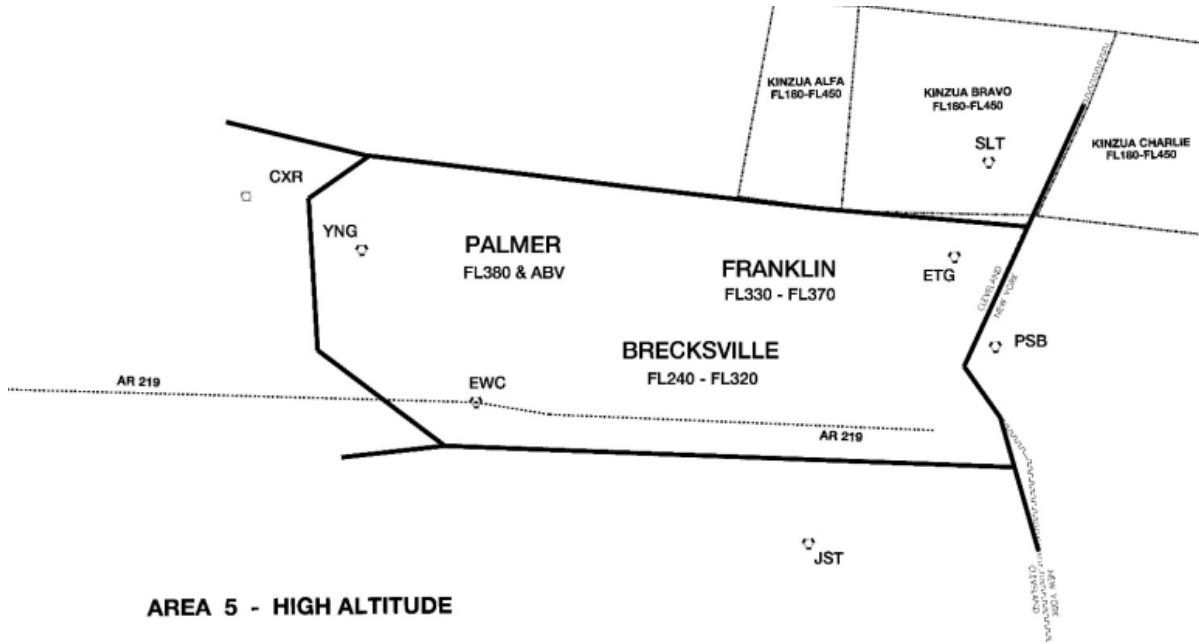
FIGURE 7-6 INDIANHEAD SECTOR INFORMATION

Sector	55
Callsign Usage (Primary/Relief)	CLE_55_CTR (CLE_MG_CTR)
Frequency/Location (AFV)	126.950 Belmont, OH
Altitude above CKB ATCT: When open. Under ZDC Shelf Everywhere else When closed. Shelf under ZDC Under ZDC Shelf Everywhere Else	9000 ft.-FL200 9000 ft.-FL230 SFC-8000 ft. SFC-FL200 SFC-FL230
Above PIT ATCT	15000 ft.-FL230
Everywhere else	SFC-FL230
Military Areas	None
Military Routes	IR762 SR822
Required Altimeters	CAK, MGW, PIT, PKB

- a. Sector Narrative. The MGW Sector lies south/southwest of PIT ATCT. MGW Sector controls KPIT southwest arrivals, KPIT south departures, KCMH arrivals westbound, KCAK departures southbound and KCAK arrivals northbound. MGW Sector provides approach control services for the following airports:
 - i. Harrison County (8G6)
 - ii. Woodsfield-Monroe County (4G5)
 - iii. Marshall County (74D)
 - iv. Barnesville-Bradfield (6G5)
 - v. Alderman-St. Clairsville (2P7)
 - vi. Cambridge (KCDI)

- vii. Noble County (I10)
 - 1. Prior to issuing an approach clearance, KCDI arrivals require coordination with the CMH sector and I10 arrivals require coordination with both the CMH and PKB sectors.
- viii. On the mid shifts MGW Sector provides approach control services for the following airports:
 - 1. Morgantown Muni (KMGW)
 - 2. North Central West Virginia Regional (KCKB)
 - 3. Wayne (KWAY)
- b. Assignment of Airspace.
 - iv. MGW normally combines with IHD at IHD (53).
 - v. During midnight configuration, MGW normally combines with CIP and IHD at IHD (53).
 - vi. IHD is the Area 5 Low Primary Sector. During single area operations, MGW combines with BKI at BKI.

FIGURE 7-7 AREA 5 HIGH ALTITUDE



AREA 5 - HIGH ALTITUDE

BRECKSVILLE SECTOR (BKI) - 57

FIGURE 7-8 BRECKSVILLE SECTOR INFORMATION

Sector	57
Callsign Usage (Primary/Relief)	CLE_57_CTR (CLE_BK_CTR)
Frequency/Location (AFV)	125.875 Warren, PA
Altitudes:	FL240 and above
Military Areas	KINZUA A & B ATCAAs
Military Routes	AR219

- a. Sector Narrative. The BKI Sector is a high sector that spaces KCVG, KORD, KMDW, KATL, KCLT, and KLGA arrivals. KDTW satellite, KCLE, CYYZ, KBUF, KROC, and KSYR arrivals are transitioned to lower altitudes through BKI Sector.
- b. Assignment of Airspace.
 - i. BKI is the Area 5 primary sector. During single area operations, MGW will combine into BKI at BKI.

Chapter 8. Area 6 Sectors

FIGURE 8-1 LETTER OF AGREEMENT INDEX

Type of Facility	Facility Name	Subject/Restrictions
Center	Indianapolis ARTCC (ZID)	Link here
	New York ARTCC (ZNY)	Link here
	Washington ARTCC (ZDC)	Link here

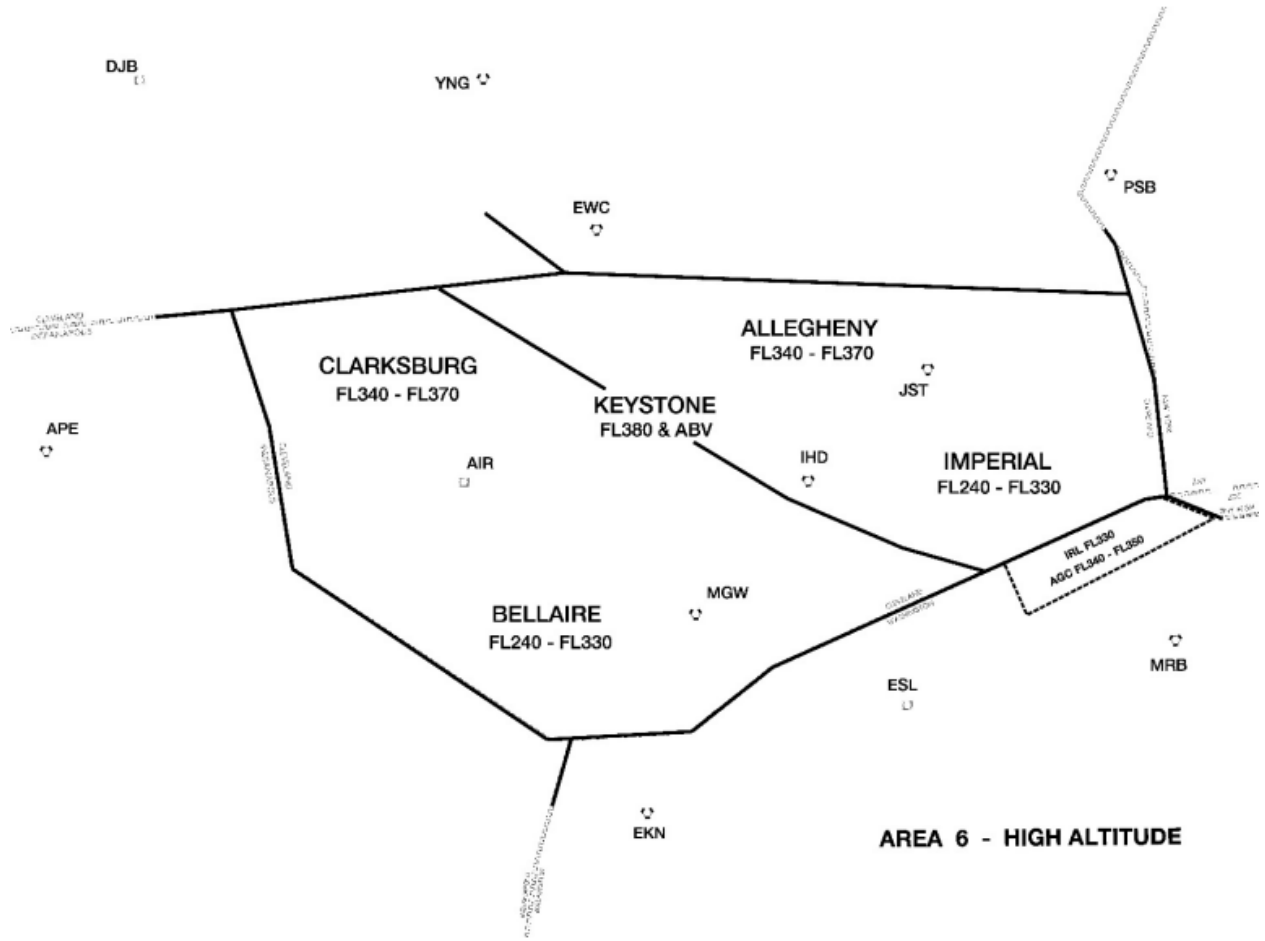
FIGURE 8-2 AREA 6 ZOB SOP AGREEMENTS

Airport or Subject	Qualifier	Areas	Rule
ABE, AVP	departures	5, 6	Area 6 has control for left turns up to 20°.
BKL, CGF	arrivals	5, 6	KBKL and KCGF arrivals enter Area 5 AOB FL300 descending to FL240 and are handed off to the BKI sector.
BUF, IAG	arrivals	5, 6	KBUF/KIAG arrivals west of ESL must be routed DKK direct; KBUF/KIAG arrivals east of ESL must be routed BENEE direct.
BUF, IAG, YHM	arrivals	5, 6	KBUF, CYHM and KIAG arrivals must enter Area 5 at or below FL310.
BWI	arrivals	4, 6	KBWI arrivals from Area 4 are routed AIR EMI STAR or NUSMM ANTHM STAR, with KEMAN being the furthest "direct" routing allowed. Area 6 has control for left or right turns up to 15°, south of J64 and is responsible for any resulting coordination.
CAK, AKR, 1G3	arrivals	5, 6, 8	KCAK arrivals must be issued the ZZIPS STAR and may be cleared no further direct than ATWOO or FIITE.

CLE	arrivals	5, 6	KCLE arrivals must enter Area 5 at or below FL320. Area 6 may clear aircraft no further direct than UPPRR TRYBE STAR.
CMH	arrivals	4, 6	KCMH arrivals enter Area 6 at or below FL340.
CVG	arrivals	5, 6	KCVG arrivals are routed via CINCE STAR or TIGRR STAR and enter Area 6 descending to FL380 or requested lower altitude.
DCA, ADW, NSF	arrivals	4, 6	KDCA, KADW, and KNSF arrivals from Area 4 are routed AIR J34 BUCKO FRDMM/NUMMY STAR with BUCKO being the furthest "direct" routing allowed. Area 6 has control for left or right turns up to 15°, south of J64 and is responsible for any resulting coordination.
DTW	arrivals	4, 6	KDTW arrivals must enter Area 4 at or below FL300, routed KOZAR BONZZ STAR or KOZAR KLYNK STAR, with EEEZI being the furthest direct routing allowed. Area 4 has control for right turns on contact, and is responsible for any resulting coordination.
DTW sats	arrivals	4, 5, 6	KDTW satellite arrivals routed via FOREY STAR must enter RAV sector at or below FL300 with NACCA being the furthest direct routing allowed.
IAD	arrivals	4, 6	KIAD arrivals from Area 4 are routed AIR MGW GIBBZ STAR with MGW being the furthest "direct" routing allowed. Area 6 has control for left or right turns up to 15°, south of J64 and is responsible for any resulting coordination.
PHL, PHL sats	arrivals	5, 6	KPHL and KPHL satellites arrivals routed via EWC JST are Area 6's control for right turns once the aircraft is between a point 10 miles northwest of EWC and JST.
RDG, LNS, MDT, CXY, PHL area PROPS	arrivals	5, 6	KRDG, KLNS, KMDT, and KCXY arrivals, and KPHL area prop arrivals must be descended to FL240 and handed off to the IHD sector.

ROC	arrivals	5, 6	KROC arrivals must enter Area 5 at or below FL350 descending to FL330.
SYR	arrivals	5, 6	KSYR arrivals that are routed NABOR KSYR must enter Area 5 AOB FL370. Area 6 may clear aircraft direct NABOR entering Area 5 west of JST.
SYR	arrivals	5, 6	KSYR arrivals that are routed via PSB are not altitude restricted, however, IRL sector must ensure KSYR arrivals enter Area 5 descending to FL270 to meet the ZNY letter of agreement. Area 5 has control for turns up to 15° left on or north of J152.
YYZ	arrivals	5, 6	CYYZ arrivals must enter Area 5 at or below FL390. CYYZ arrivals within 25 miles of EWC may be routed direct OXMAN LINNG STAR. CYYZ arrivals further east must be routed WOZEE LINNG STAR.
YYZ	departures	5, 6, 7	CYYZ arrivals must enter Area 5 at or below FL390. CYYZ arrivals within 25 miles of EWC may be routed direct OXMAN LINNG STAR. CYYZ arrivals further east must be routed WOZEE LINNG STAR.
P.O.	ZDC	5, 6	The ZDC EKN sector owns FL240. Aircraft entering ZDC below FL250 must be pointed out to the EKN sector. MGW sector is responsible for this point out when the AIR sector releases FL250 or above and redirects the handoff to the MOR sector.

FIGURE 8-3 AREA 6 HIGH ALTITUDE



AREA 6 - HIGH ALTITUDE

BELLAIRE SECTOR (AIR) - 66

FIGURE 8-4 BELLAIRE SECTOR INFORMATION

Sector	66
Callsign Usage (Primary/Relief)	CLE_66_CTR (CLE_AI_CTR)
Frequency/Location (AFV)	125.425 Belmont, OH
Altitudes:	FL240 and above
Military Areas	None
Military Routes	None

- a. Sector Narrative. The AIR Sector is a high sector with bi-directional overflight traffic and arrivals to KBWI, KIAD, and KDCA. AIR Sector transitions KCVG and KCMH departures and arrivals and KCAK and KPIT departures. Northbound traffic is primarily comprised of KBUF, KROC, KSYR, and CYYZ arrivals.
- b. Assignment of Airspace.
 - i. AIR is the Area 6 primary sector. During single area operations, IRL will combine into AIR at AIR.

IMPERIAL SECTOR (IRL) - 67

FIGURE 8-5 IMPERIAL SECTOR INFORMATION

Sector	67
Callsign Usage (Primary/Relief)	CLE_67_CTR (CLE_IR_CTR)
Frequency/Location (AFV)	132.125 Indianhead, PA
Altitudes:	FL240 and above
Military Areas	None
Military Routes	None

- a. Sector Narrative. The IRL Sector is a high sector. Several routes converge over JST. Spacing KPHL arrivals over JST is a primary responsibility of IRL Sector. KBWI, KIAD, and KDCA departures transition through IRL. KCVG arrivals transition through the northwest corner of IRL. Northbound traffic is primarily comprised of KBUF, KROC, KSYR, and CYYZ arrivals.
- b. Assignment of Airspace.
 - i. BKI is the Area 6 primary sector. During single area operations, IRL will combine into AIR at AIR.

Chapter 9. Area 7 Sectors

FIGURE 9-1 LETTER OF AGREEMENT INDEX

Type of Facility	Facility Name	Subject/Restrictions
Center	New York ARTCC (ZNY)	Link here
	Toronto ACC (ZYZ)	Link here
Tower	Buffalo ATCT (BUF)	Link here
	Cleveland ATCT (CLE)	Link here
	Elmira ATCT (ELM)	All arrivals descending to 9,000 ft.
	Rochester ATCT (ROC)	Cross 30 DME ROC at 11,000 ft.
	Youngstown ATCT (YNG)	Cross 25 DME YNG at 11,000 ft.

FIGURE 9-2 AREA 7 ZOB SOP AGREEMENTS

Airport or Subject	Qualifier	Areas	Rule
AVP	arrivals	2, 7	KAVP arrivals must be routed DMACK LACIE KAVP and must not be routed past DMACK.
BKL, CGF	arrivals	5, 7	KBKL/KCGF arrivals must be routed via TRYBE STAR, and handed off to the YNG sector.
CLE satellites	arrivals	3, 7	RNAV arrivals from NE of JHW must cross the common boundary AOB FL340 and be routed JOSSY THOME TRYBE STAR or CLERI direct destination.
BFD	arrivals	5, 7	Area 5 gives Area 7 control for turns and descent of KBFD arrivals upon completion of handoff and frequency change.

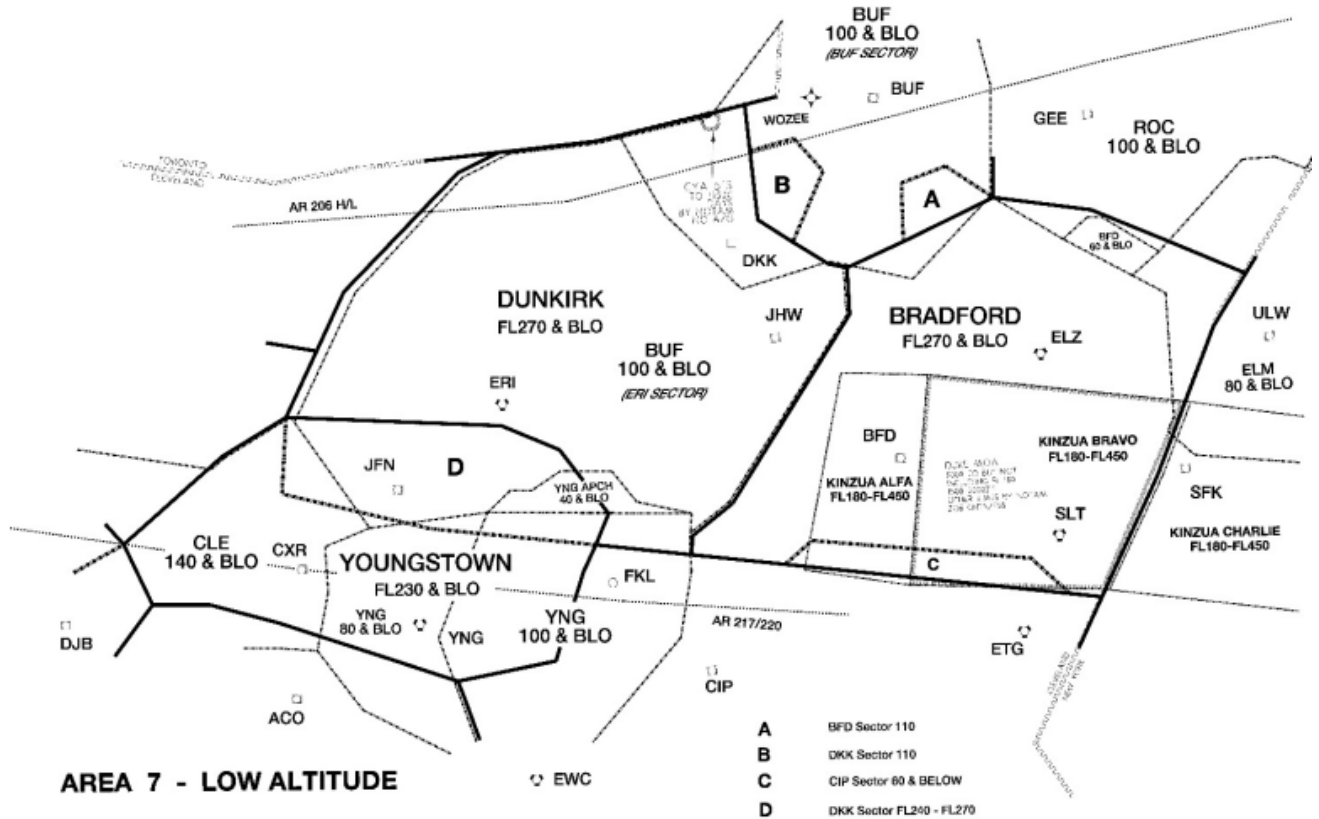
BUF	arrivals	5, 7	KBUF arrivals routed via DKK must enter Area 7 at or below FL270 descending to FL240.
BUF	arrivals	2, 7	KBUF arrivals entering Area 7 must be at or below FL270.
BUF	arrivals	4, 7	If not already at a lower altitude, KBUF arrivals must be descending to FL280.
BUF, IAG, YHM	arrivals	5, 7	KBUF arrivals east of TDT and CYHM/KIAG arrivals must enter Area 7 at or below FL280. KBUF arrival aircraft west of TDT must be routed DKK BUF.
BUF	departures	3, 7	Southbound departures into the BFD Sector are routed BUF VAIRS.
BUF	departures	3, 7	Departures into the DKK sector are routed BUF JHW (For aircraft proceeding south and southwest) and BUF GGUCE (For aircraft proceeding west).
CLE	arrivals	5, 7	KCLE arrivals must enter Area 7 with a clearance to FL240, routed no further direct than UPPRR TRYBE STAR. Pilot's discretion descent is approved. Area 7 will have control to issue the "descend via" clearance on contact.
CLE	arrivals	3, 7	KCLE RNAV arrivals from NE of JHW must cross the common boundary AOB FL340 and be routed via THOME TRYBE STAR.
CLE, CLE sats	departures	4, 5, 7	KCLE and KCLE satellites departures to the east and northeast must not be handed off to RAV sector for higher altitude.
CMH	arrivals	4, 7	KCMH arrivals enter Area 4 AOB FL320 via WWSHR APE. Otherwise, enter Area 4 AOB FL280.
CMH	arrivals	5, 7	KCMH arrivals enter Area 5 AOB FL320 if routed via WWSHR or FL300 if routed via direct APE.
DTW	arrivals	2, 7	KDTW arrivals must enter Area 2 on the correct route for the known flow.
DTW sats	arrivals	2, 4, 7	Any satellite arrival on the FOREY STAR that will enter YQG sector must be routed via NACCA.FOREY STAR

DTW, DTW sats	departures	2, 3, 7	Departures routed via JHW must remain on course until level at requested altitude.
DTW, DTW sats	Jet departures	1, 2, 3, 4 5, 7, 8	The first ZOB sector to work a D21 jet departure must delete or amend, via ATC clearance, any "SID assigned" speed restriction.
DTW, DTW sats	departures via HHOWE	2, 7	Area 2 must ensure that KDTW and KDTW satellites departures requesting AOA FL280 via the HHOWE SID are issued the LNCON transition.
ERI	arrivals	2, 7	KERI arrivals are descended to 11,000 feet and handed off to DKK sector.
EWR	arrivals	2, 4, 5, 7	KEWR arrivals must be routed via SLT FQM STAR. KEWR arrivals enter Area 7 routed via J584 SLT or Q29 DORET J584 SLT or EWC050 J584 SLT (PIT depts. only) with SLT being the furthest direct routing allowed. KEWR arrivals should not be cleared direct SLT if the new route will take the aircraft south of YNG VORTAC.
EWR	arrivals	5, 7	Area 5 gives area 7 control for speed adjustment and left turns up to 30° on KEWR arrival aircraft that are on or north of J146.
JFK	jet arrivals	2, 4, 5, 7	KJFK arrivals must be routed via HOXIE LVZ LENDY STAR. KJFK arrivals enter WRN, JHW, DKK or BFD sectors routed via J70 J554 Q29, or J584 J190 J70 (PIT Deps only). KJFK arrivals are also commonly routed direct HOXIE.
JFK, FRG, TEB, MMU, CDW	arrivals	2, 7	Area 2 relinquishes control to Area 7 for right turns up to direct STENT on KJFK, KFRG, KTEB, KMMU and KCDW arrivals, at or above FL240 and within 20 nm of the common area boundary.
LGA	arrivals	5, 7	Area 7 gives Area 5 control for speed adjustment and right turns up to 30° on KLGA arrival aircraft that are at or above FL240 and on or south of J584.
MDW	arrivals	3, 4, 7	KMDW arrivals are routed DJB J60 GSH GSH STAR or DJB J60 ASHEN BAGEL PANGG STAR with NAPOL being the furthest "direct" routing allowed.

OYM	arrivals	5, 7	Area 7 gives Area 5 control for turns and descent of KOYM arrivals upon completion of handoff and frequency change.
PHL, PHL sats, IAD, DCA	arrivals	5, 7	KPHL, KPHL satellites, KIAD and KDCA arrivals handed off by BFD sector via PSB are AOB FL270. BKI sector has control south of J584 to descend to FL250 per the ZNY LOA.
PIT	arrivals	3, 7	KPIT arrivals from Area 3 enter Area 7 at or below FL340.
ROC	arrivals	2, 3, 7	KROC arrivals from Area 2 north of the DSV/WRN sector boundary must cross the Area 2 eastern boundary AOB FL270. KROC arrivals from Area 2 south of the DSV/WRN sector boundary must cross the Area 2 eastern boundary AOB FL290 descending to FL280.
ROC	arrivals	5, 7	KROC arrivals enter Area 7 at or below FL290 descending to FL280 from Area 5.
ROC	departures	3, 7	KROC departures routed GEE BURST are climbed to FL270 or their requested lower altitude. KROC departures must not be issued direct PSB unless verbally coordinated with Area 7.
ROC	departures	5, 7	BFD/WRN sector is responsible for pointing out KROC departures routed direct PSB to MIP sector.
SYR	arrivals	3, 7	KSYR arrivals west of JHW must cross the Area 3 boundary at or below FL330. KSYR arrivals east of JHW shall be descending to FL280 and handed off to DSV sector.
SYR	arrivals	5, 7	KSYR arrivals east of TDT must be routed NABOR KSYR and are restricted to at or below FL340 from Area 5 to Area 7.
TOL	arrivals	2, 3, 4, 7, 8	KTOL arrivals are routed via MOONN KTOL or DJB KTOL. If the MOONN route is used, KTOL arrivals must be handed off to MTC RAPCON. Alternately, CYYZ to KTOL flights may be routed via DJB KTOL (at or below FL220).

YYZ	arrivals	3, 5, 7	CYYZ Arrivals via OXMAN are restricted to at or below FL340 from Area 5. CYYZ arrivals via WOZEE must enter Area 3 at or below FL340, descending to FL320, and are restricted to at or below FL360 from Area 5.
YYZ	departures	5, 6, 7	CYYZ arrivals must enter Area 5 at or below FL390. CYYZ arrivals within 25 miles of EWC may be routed direct OXMAN LINNG STAR. CYYZ arrivals further east must be routed WOZEE LINNG STAR.
	Transitioning aircraft	3, 7	Transitioning aircraft entering Area 3 from Area 7 must remain over JHW.
IAFDOF		2, 4, 5, 7	Area 4 and Area 5 are not required to APREQ IAFDOF altitudes with Area 7. Area 2 is not required to APREQ IAFDOF on flights via JHW, HOXIE or SLT thru Area 7. Area 7 approves IAFDOF by accepting the handoff. If unable to accept IAFDOF, Area 7 must call the transferring sector.

FIGURE 9-3 AREA 7 LOW ALTITUDE



DUNKIRK SECTOR (DKK) - 70**FIGURE 9-4 DUNKIRK SECTOR INFORMATION**

Sector	70
Callsign Usage (Primary/Relief)	CLE_70_CTR (CLE_DK_CTR)
Frequency/Location (AFV)	127.075 Waterford, PA
Altitude above BUF ATCT: In the DKK Chute ERI Sector: When Open When Closed BUF Sector:	11000 ft. 11000 ft.-FL270 SFC-FL270 11000 ft.-FL270
Above YNG ATCT	11000 ft.-FL270
Above YNG Sector	FL240-FL270
Military Areas	None
Military Routes	AR206L AR206H
Required Altimeters	BUF, ERI, YXU, DUJ

- a. Sector Narrative. The DKK Sector is a low sector that transitions CYYZ, KBUF, KCLE, and KERI departures and arrivals and KROC arrivals. Trouble spots include approximately 25 north of ERI VOR where CYYZ departures and KBUF/KROC landers commonly converge. DKK provides approach control services to portions of YNG ATCT and BUF ATCT airspace when those facilities are closed.
- b. Assignment of Airspace.
 - iii. BFD and YNG normally combine with DKK at DKK (70).
 - iv. DKK is the Area 7 Low Primary Sector.

BRADFORD SECTOR (BFD) - 73

FIGURE 9-5 BRADFORD SECTOR INFORMATION

Sector	73
Callsign Usage (Primary/Relief)	CLE_73_CTR (CLE_BF_CTR)
Frequency/Location (AFV)	124.325 Bradford, PA Wayland, NY
Altitude above: BUF ATCT ROC ATCT	11000 ft.-FL270
In BENEE Chute	11000 ft.
In Hornell Shelf	SFC-6000 ft.
Above ELM ATCT	9000 ft.-FL270
Above CIP Sector	7000 ft.-FL270
Everywhere else	SFC-FL270
Military Areas	Duke MOA Kinzua A & B ATCAAs
Military Routes	None
Required Altimeters	BUF, DUJ, ERI, ELM, ROC

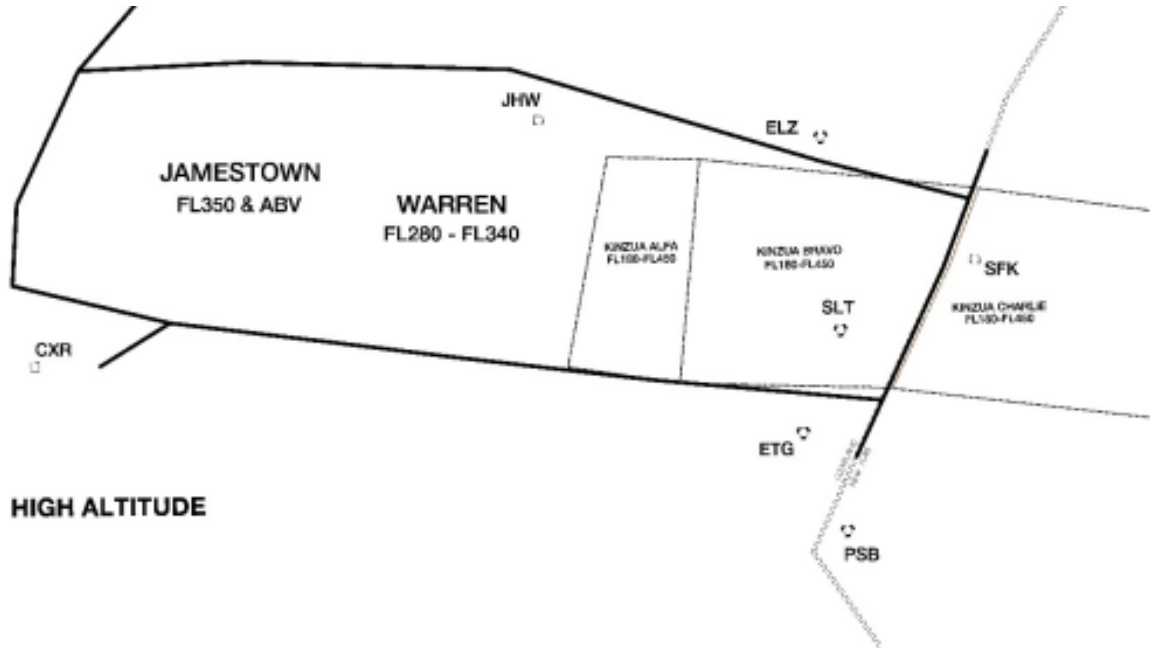
- a. Sector Narrative. The BFD Sector is a low sector that transitions KBUF, KROC, KPIT, KJHW, and KELM departures and arrivals.
- b. Assignment of Airspace.
 - i. BFD and YNG normally combine with DKK at DKK (70).

YOUNGSTOWN SECTOR (YNG) - 75**FIGURE 9-6 YOUNGSTOWN SECTOR INFORMATION**

Sector	75
Callsign Usage (Primary/Relief)	CLE_75_CTR (CLE_YN_CTR)
Frequency/Location (AFV)	120.775 Chardon, OH
Altitude above CLE ATCT	15000 ft.-FL230
Above above BUF ATCT	11000 ft.-FL230
Above YNG ATCT When Open	9000 ft.-FL230& 11000 ft.-FL230 See Figure 9-3
When Closed	SFC-FL230
IN YNG/BUF ATCT Shelf when YNG ATCT closed	SFC-4000 ft.
Military Areas	None
Military Routes	AR217 AR220
Required Altimeters	CAK, CLE, ERI, PIT

- a. Sector Narrative. The YNG Sector is the KCLE north and northeast arrival and departure sector. YNG Sector also transitions KYNG, KERI, and KCAK arrivals and departures. YNG provides approach control services to portions of YNG ATCT airspace when that facility is closed.
- b. Assignment of Airspace.
 - ii. BFD and YNG normally combine with DKK at DKK (70).
 - iii. During single area operations, DKK combines with WRN at WRN.

FIGURE 9-7 AREA 7 HIGH ALTITUDE



REA 7 - HIGH ALTITUDE

WARREN SECTOR (WRN) - 77

FIGURE 9-8 WARREN SECTOR INFORMATION

Sector	77
Callsign Usage (Primary/Relief)	CLE_77_CTR (CLE_WR_CTR)
Frequency/Location (AFV)	134.125 Warren, PA
Altitudes:	FL280 and above
Military Areas	Kinzua A & B ATCAAs
Military Routes	None

- c. Sector Narrative. The WRN Sector is a high sector. WRN does in-trail spacing to KJFK, KEWR, and KEWR satellites.
- d. Assignment of Airspace.
 - i. AIR is the Area 7 primary sector. During single area operations, DKK will combine into WRN at WRN.

Chapter 10. Area 8 Sectors

FIGURE 10-1 LETTER OF AGREEMENT INDEX

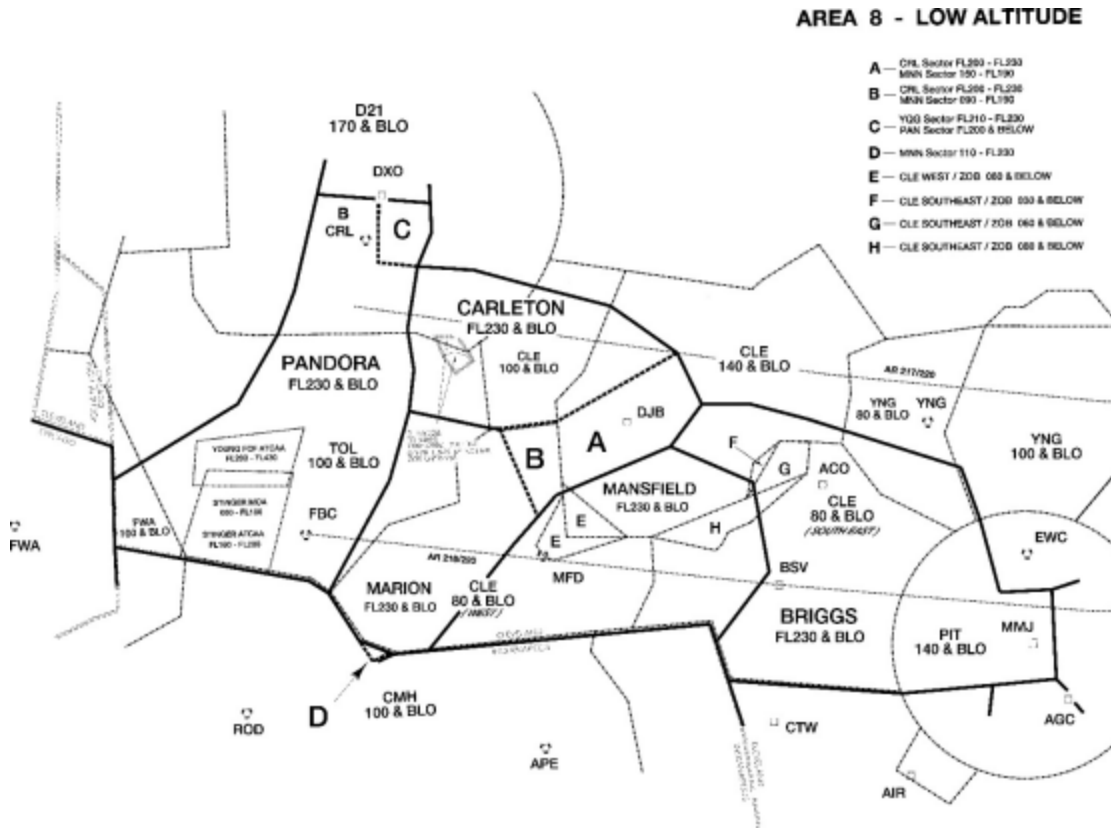
Type of Facility	Facility Name	Subject/Restrictions
Center	Chicago ARTCC (ZAU)	Link here
	Indianapolis ARTCC (ZID)	Link here
Tower	Cleveland ATCT (CLE)	Link here
	Akron Canton ATCT (CAK)	Inbound calls when CLE SOUTHEAST CLOSED
	Columbus ATCT (CMH)	All arrivals at 10,000 ft.
	Detroit TRACON (D21)	Link here
	Fort Wayne ATCT (FWA)	Cross 30 DME FWA at 11,000 ft.
	Pittsburgh ATCT (PIT)	Link here
	Toledo ATCT (TOL)	Arrivals descending to 10,000 ft.
	Youngstown ATCT (YNG)	Cross 25 DME YNG at 9,000 ft.

Table 8- Area 8 ZOB SOP Agreements			
Airport or Subject	Qualifier	Areas	Rule
CAK, CLE, CLE sats	arrivals	1, 2, 4, 8	Aircraft must be assigned the BRWNZ arrival. Aircraft must not be cleared further direct than FRYYE. YQG sector may issue "descend via" clearance on contact.
CAK,	prop arrivals	1, 2, 4, 8	Props on the BRWNZ arrival must be descended

CLE, CLE sats			and handed off to D21 so as not to enter YQG sector airspace.
CAK, AKR, 1G3	arrivals	5, 6, 8	KCAK arrivals must be issued the ZZIPS STAR and may be cleared no further direct than ATWOO or FIITE.
CAK	departures	5, 8	Area 5 has control for turns not to exceed 15° (left or right) on contact.
CLE, CAK	departures to MDT	4, 5, 8	KCLE and KCAK departures to KMDT are restricted to at or below FL230.
CMH	departures	4, 8	KCMH jet departures to KEWR should not be routed direct SLT, proper routing is via: YNG SLT, or CXR SLT.
CMH	departures	4, 8	KCMH departures are routed APE WWSHR CXR, or APE WWSHR Q29.
DTW	arrivals	1, 8	KDTW arrivals must enter Area 1 on the correct route for the known flow, descending at pilot's discretion to 17,000 feet, or lowest available altitude. The LFD sector has control, on contact, for; issuing the "descend via" clearance, speed adjustments, left turns up to 30°, and right turns up to direct HANBL.
DTW	arrivals	4, 8	KDTW arrivals must enter Area 8 on the correct route for the known flow, descending at pilot's discretion to FL240. Area 8 has control, on contact, to issue the "descend via" clearance.
DTW satellites	arrivals	1, 8	Area 8 must deliver KDTW satellites to Area 1 on the PETTE STAR, descending to 14,000. LFD sector has control, on contact, for; speed adjustments, left turns up to 30°, and right turns up to direct PETTE.
DTW, DTW sats	Jet departures	1, 2, 3, 4 5, 7, 8	The first ZOB sector to work a D21 jet departure must delete or amend, via ATC clearance, any "SID assigned" speed restriction.
DTW,	departures	4, 8	Area 4 has control for up to 30° right turns south

DTW sats	via BGHRT		of J60 and AOA FL240 on D21 departures via FEZIK.
FNT	arrivals	1, 2, 4, 8	Except for those aircraft that will transit D21, KFNT arrivals west of VWV must be routed via HAZIT VHICL CITYE and handed off to the LFD sector. KFNT arrivals east of VWV must be routed via MARGN KFNT.
FWA	arrivals	2,8	KFWA arrivals must not be handed off to the SKY sector.
LAN	arrivals	2, 4, 8	KLAN arrivals from high altitude sectors must enter Area 2 at or below FL260 descending to FL240.
LUK	arrivals	2, 4, 8	KLUK arrivals via the MBL/BFT/SKY/PAN sectors must be routed via ROD HEDEE STAR and cross the Area 2/4 boundary AOB FL330. Area 4 must descend the aircraft to cross 75NM north of ROD @ FL310.
PIT	arrivals	2, 4, 8	DET/WAY sector is required to initiate spacing to KPIT and ensure all aircraft are routed via TAMDE ACO and descending to FL310.
PIT	departures	5, 8	KPIT departures to KCVG and KCVG satellites are restricted to at or below FL220.
TOL	arrivals	2, 3, 4, 7, 8	KTOL arrivals are routed via MOONN KTOL or DJB KTOL. If the MOONN route is used, KTOL arrivals must be handed off to MTC RAPCON. Alternately, CYYZ to KTOL flights may be routed via DJB KTOL (at or below FL220).
AIT		5, 8	If the BSV sector hands an aircraft off to the CIP sector with an interim altitude of FL230 and requested (hard) altitude of AOA FL240, the CIP sector may redirect (flash through) the handoff to the BKI sector.
AIT		5, 8	If the BSV sector hands an aircraft off to the MGW sector with an interim altitude of FL230 and requested (hard) altitude of AOA FL240, the MGW sector may redirect (flash through) the handoff to the AIR sector.

FIGURE 10-3 AREA 8 LOW ALTITUDE



PANDORA SECTOR (PAN) - 02

FIGURE 10-4 PANDORA SECTOR INFORMATION

Sector	02
Callsign Usage (Primary/Relief)	CLE_02_CTR (CLE_PA_CTR)
Frequency/Location (AFV)	128.625 Waterville, OH
Above D21 TRACON Below the BRWNZ chute Everyone else	FL180-FL200 FL180-FL230
Above: TOL ATCT FWA ATCT	11000 ft.-FL230
Military Areas	Young FCF Stinger ATCAA
Military Routes	AR217 AR218 AR220
Required Altimeters	DTW, FDY

- a. Sector Narrative. The PAN Sector works D21 south and southwest arrivals and departures, KTOL arrivals and departures, and KCLE departures.
- b. Assignment of Airspace.
 - i. PAN normally combines with SKY at PAN (02).
 - ii. During single area operations, MFD and CRL combine with PAN at PAN.

MARION SECTOR (MNN) - 03

FIGURE 10-5 MARION SECTOR INFORMATION

Sector	03
Callsign Usage (Primary/Relief)	CLE_03_CTR (CLE_MN_CTR)
Frequency/Location (AFV)	135.100 Findlay, OH
Above: TOL ATCT CMH ATCT	11000 ft.-FL230
Above CLE ATCT: CLE North CLE West When open When closed	15000 ft.-FL190 9000 ft.-FL190& 9000 ft.-FL230 SFC-FL190 & SFC-FL230 See figure 10-3
Military Areas	None
Military Routes	AR217 AR218 AR220
Required Altimeters	CLE, FDY

- a. Sector Narrative. The MNN Sector is the CLE Area southwest, west, and northwest departure sector. The MNN sector also transitions KCLE and KDTW prop arrivals. MNN provides approach control services to portions of CLE ATCT airspace when that facility is closed.
- b. Assignment of Airspace.
 - i. MNN normally combines with CRL at CRL (08).

MANSFIELD SECTOR (MFD) - 04

FIGURE 10-6 MANSFIELD SECTOR INFORMATION

Sector	04
Callsign Usage (Primary/Relief)	CLE_04_CTR (CLE_MF_CTR)
Frequency/Location (AFV)	134.900 Mansfield, OH
Above CLE ATCT: CLE North CLE West When open When closed	15000 ft.-FL230 9000 ft.-FL230 SFC-6000 ft. & SFC-FL230 See figure 10-3
CLE Southeast When open When closed	9000 ft.-FL230 SFC-3000 ft. & SFC-6000 ft. & SFC-8000 ft. & SFC-FL230 See figure 10-3
Military Areas	None
Military Routes	AR218 AR220
Required Altimeters	CAK, CLE, FDY

- a. Sector Narrative. The MFD Sector is the CLE Area south departure sector, and the CLE Area south-southwest arrival sector. The MFD Sector also transitions KDTW prop arrivals northwest bound and KCMH, KMFD, and KCAK arrivals and departures. MFD provides approach control services to portions of CLE ATCT airspace when that facility is closed.
- b. Assignment of Airspace.
 - i. BSV normally combines with MFD at MFD (04).
 - ii. During single area operations, MFD and SKY combine into PAN at PAN (02).

BRIGGS SECTOR (BSV) - 06

FIGURE 10-7 BRIGGS SECTOR INFORMATION

Sector	06
Callsign Usage (Primary/Relief)	CLE_06_CTR (CLE_BS_CTR)
Frequency/Location (AFV)	120.600 Paris, OH
Above CLE ATCT: CLE North CLE Southeast	15000 ft.-FL230 9000 ft.-FL230
Above YNG ATCT	9000 ft.-FL230
Above PIT ATCT	15000 ft.-FL230
Military Areas	None
Military Routes	AR218 AR220
Required Altimeters	CAK, CLE, PIT

- a. Sector Narrative. The BSV Sector works west/northwest KPIT arrivals/departures and KCLE southeast departures. BSV Sector also transitions KCAK arrivals and departures, and KDTW prop arrivals and KYNG arrivals /departures from the southwest.
- b. Assignment of Airspace.
 - i. BSV normally combines with MFD at MFD (04).

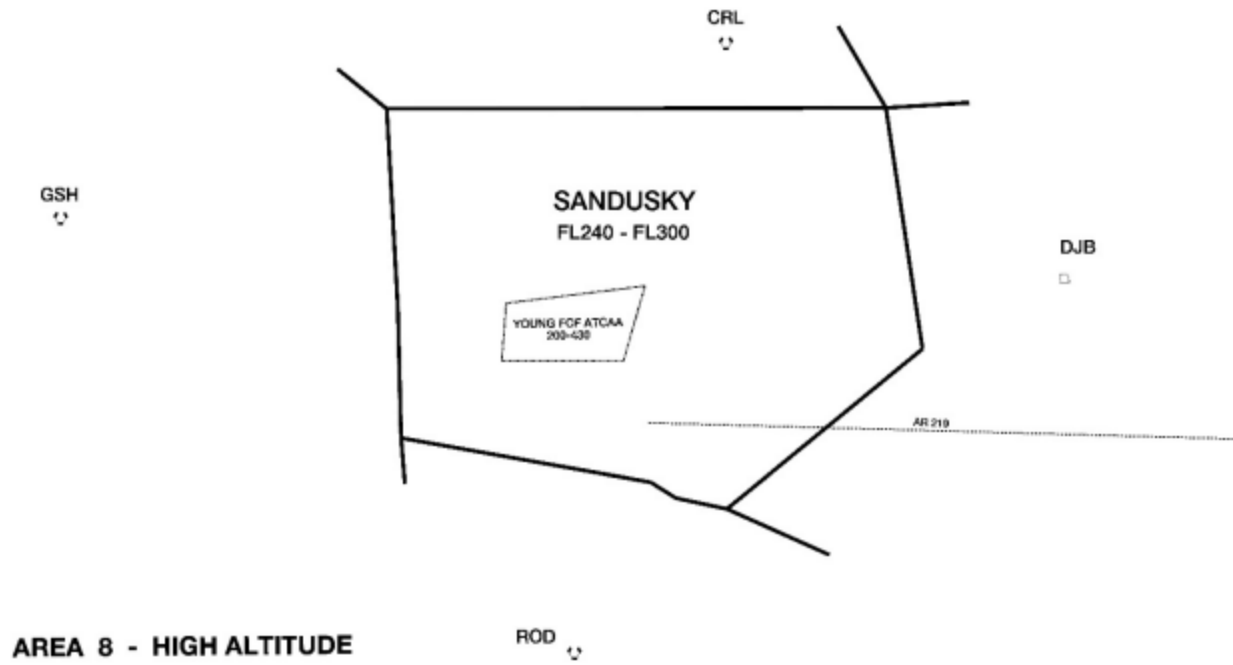
CARLETON SECTOR (CRL) - 08

FIGURE 10-8 CARLETON SECTOR INFORMATION

Sector	08
Callsign Usage (Primary/Relief)	CLE_08_CTR (CLE_CR_CTR)
Frequency/Location (AFV)	127.900 Bloomington, OH Sandusky, OH
Above CLE ATCT: CLE North	11000 ft.-FL230 & 15000 ft.-FL230
Above D21 TRACON	FL180-FL230
Above TOL ATCT	11000 ft.-FL230
Shelf above MNN Sector	FL200-FL230
Military Areas	R5502B
Military Routes	AR217 AR220
Required Altimeters	CLE, DTW, FDY

- a. Sector Narrative. The CRL sector is the KDTW southeast arrival sector. The primary traffic flow is northwest bound.
- b. Assignment of Airspace.
 - i. MNN normally combines with CRL at CRL (08).

FIGURE 10-9 AREA 8 HIGH ALTITUDE



SANDUSKY SECTOR (SKY) - 07

FIGURE 10-10 SANDUSKY SECTOR INFORMATION

Sector	07
Callsign Usage (Primary/Relief)	CLE_07_CTR (CLE_SK_CTR)
Frequency/Location (AFV)	127.675 Findlay, OH
Altitudes:	FL240-FL300
Military Areas	Young FCF ATCAA
Military Routes	AR219

- a. Sector Narrative. The SKY Sector is a high sector located south of KDTW and west of KCLE. SKY Sector transitions KORD and KMDW arrivals and departures, KDTW departures southbound, and KCLE departures southwest bound. SKY Sector works closely with the low sectors and BFT Sector to transition aircraft to their requested altitude
- b. Assignment of Airspace.
 - i. SKY normally combines with PAN at PAN (02).

Appendix 1. Sector Maps

