

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

**ORDER  
P50 TRACON  
7110.65A**

**Effective Date:  
06/18/2007**

**SUBJECT: Phoenix TRACON Standard Operating Procedures (SOP)**

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This order establishes procedures that are to be used for the operating positions at Phoenix Terminal Radar Approach Control (P50 TRACON). It is emphasized that information contained herein is designed and specifically for use in a virtual controlling environment. It is not applicable, nor should be referenced for live operations in the National Airspace System (NAS). The procedures contained within this order document how the positions are to be operated and, in conjunction with FAA Orders 7110.10, 7110.65, and 7210.3, will be the basis for performance evaluations, training, and certification.

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**Chapter 1: General**

**Section 1: Introduction**

- 1-1-1. Purpose.** This order prescribes standard operating procedures for use by persons providing air traffic control services at the Phoenix TRACON. 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 by this order.
- 1-1-2. Scope.** This order affects all VATUSA Albuquerque ARTCC controllers, staff, and visitors staffing Phoenix TRACON positions.
- 1-1-3. Cancellation.** This order cancels P50 7110.47A, Standard Operating Procedures, dated July 28, 2006, and all associated changes.
- 1-1-4. Effective Date.** This order is effective June 18, 2007.

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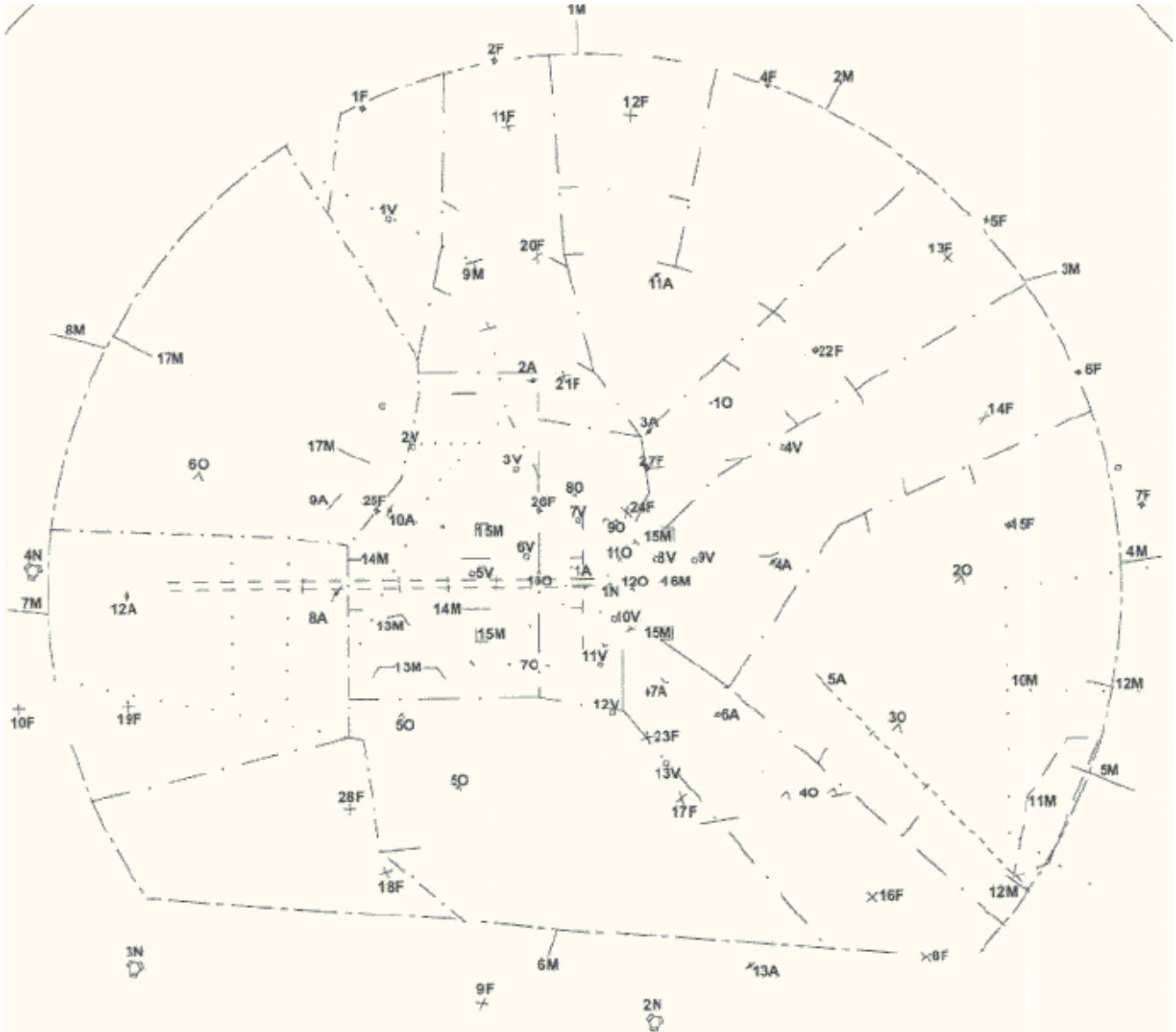
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**Section 2: Video Maps**

**1-2-1. 60 NM Video Maps**

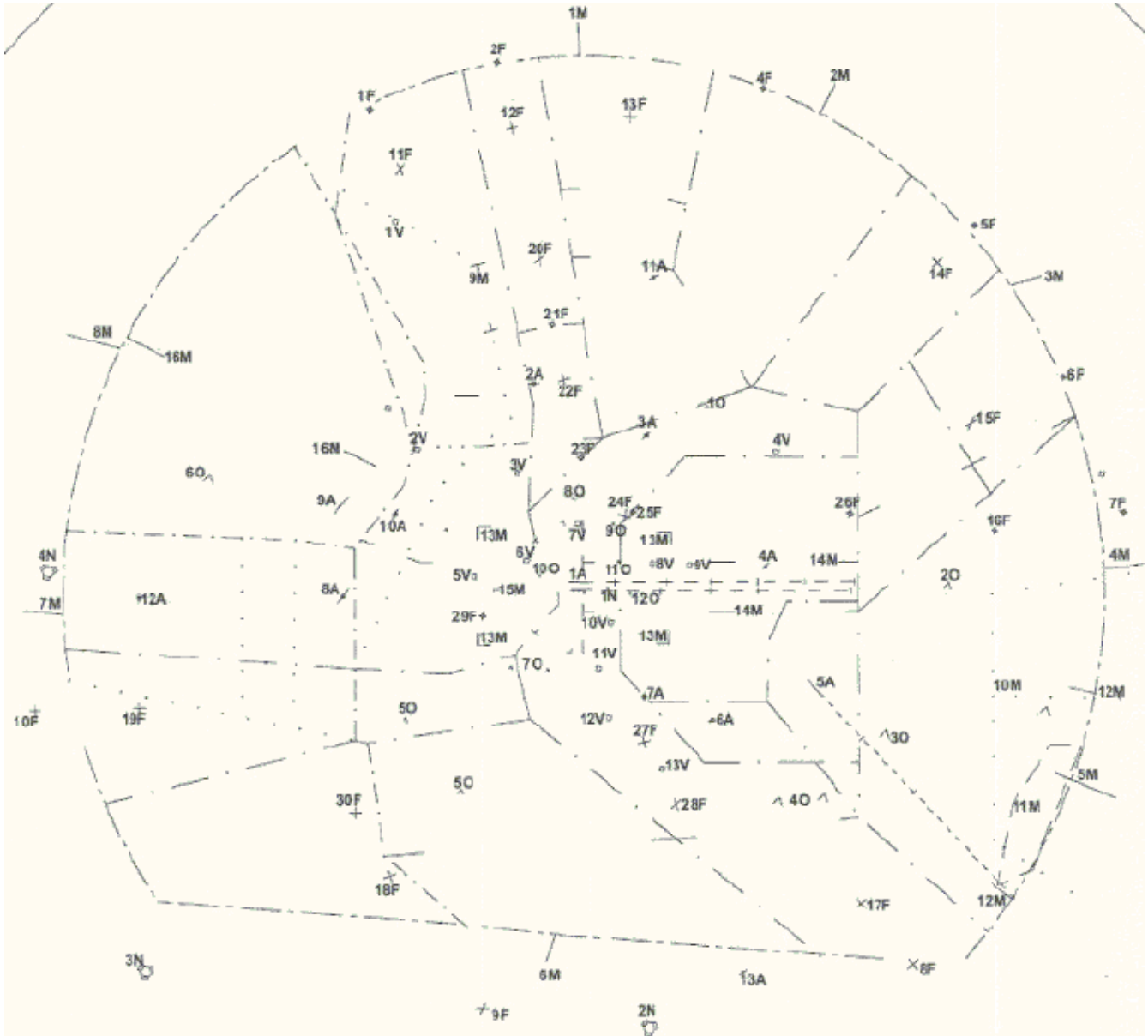
**Figure 1-2-1. East Flow**



**Table 1-2-1. Legend – 60 NM Video Map – East Flow**

<b>Airports</b>	<b>Map Lines</b>
1A. PHX	1M. <del>ZAB 43/45 Boundary</del> (Not Used)
2A. DVT	2M. ZAB 43/38 Boundary
3A. SDL	3M. <del>ZAB 39/38 Boundary</del> (Not Used)
4A. FFZ	4M. ZAB 38/46 Boundary
5A. IWA	5M. PXR 100 Radial
6A. CHD	6M. ZAB 42/46 Boundary
7A. P19	7M. <del>ZAB 49/42 Boundary</del> (Not Used)
8A. GYR	8M. ZAB 42/43 Boundary
9A. LUF	9M. LUF/P50 Northwest Gate
10A. GEU	10M. <del>Outlaw MOA</del> (Not Used)
11A. 18AZ	11M. <del>R-2310</del> (Not Used)
12A. BXX	12M. Southeast Departure Gate
13A. CGZ	13M. Estrella 5,500'/5,000' MVA
<b>NAVAIDS</b>	14M. Prearranged Coordination Airspace (F and V)
1N. PXR	15M. Class B Surface Area
2N. TFD	16M. PXR 4 DME Fix
3N. GBN	17M. <del>LUF Area J and K Boundary</del> (Not Used)
4N. BXX	<b>VFR Waypoints</b>
<b>Fixes</b>	1V. Lake Pleasant
1F. ZEPER	2V. Sun City
2F. BRUSR	3V. Metro Center
3F. SWIRL	4V. Fountain Hills
4F. THOMM	5V. Tank Farms
5F. HOMRR	6V. Veterans Coliseum
6F. FORPE	7V. Arizona Biltmore
7F. CHOPR	8V. Scottsdale Motorola
8F. BBALL	9V. Beeline Y
9F. POTER	10V. Arizona Mills
10F. PAYNT	11V. Ahwatukee Golf Course
11F. MAHEM	12V. Firebird Lake
12F. <del>HZZEY</del> (Obsolete)	13V. Sun Lakes
13F. BUNTR	<b>Obstructions</b>
14F. PEAKS	10. McDowell Mountains
15F. BAYTA	20. Superstition Mountains
16F. SUNNS	30. Rittenhouse Antenna
17F. JAROD	40. San Tan Mountains
18F. MOBIE	50. Estrella Mountains
19F. ARLIN	60. White Tank Mountains
20F. BANYO	70. South Mountain
21F. AVENT	80. Squaw/Piestewa Mountain
22F. BADNE	90. Camelback Mountain
23F. ARULY	100. Chase Tower
24F. GELTS	110. Papago Buttes
25F. BASBL	120. ASU Stadium
26F. HINEY	
27F. QUENY	
28F. AZARR	

Figure 1-2-2. West Flow



**Table 1-2-2. Legend – 60 NM Video Map – West Flow**

Airports	Map Lines
1A. PHX	1M. <del>ZAB 43/45 Boundary</del> (Not Used)
2A. DVT	2M. ZAB 43/38 Boundary
3A. SDL	3M. <del>ZAB 39/38 Boundary</del> (Not Used)
4A. FFZ	4M. ZAB 38/46 Boundary
5A. IWA	5M. PXR 100 Radial
6A. CHD	6M. ZAB 42/46 Boundary
7A. P19	7M. <del>ZAB 49/42 Boundary</del> (Not Used)
8A. GYR	8M. ZAB 42/43 Boundary
9A. LUF	9M. LUF/P50 Northwest Gate
10A. GEU	10M. <del>Outlaw MOA</del> (Not Used)
11A. 18AZ	11M. <del>R-2310</del> (Not Used)
12A. BXX	12M. Southeast Departure Gate
13A. CGZ	13M. Class B Surface Area
<b>NAVAIDS</b>	14M. Prearranged Coordination Airspace (F and V)
1N. PXR	15M. PXR 9 DME Fix
2N. TFD	16M. <del>LUF Area J and K Boundary</del> (Not Used)
3N. GBN	<b>VFR Waypoints</b>
4N. BXX	1V. Lake Pleasant
<b>Fixes</b>	2V. Sun City
1F. ZEPER	3V. Metro Center
2F. BRUSR	4V. Fountain Hills
3F. SWIRL	5V. Tank Farms
4F. THOMM	6V. Veterans Coliseum
5F. HOMRR	7V. Arizona Biltmore
6F. FORPE	8V. Scottsdale Motorola
7F. CHOPR	9V. Beeline Y
8F. BBALL	10V. Arizona Mills
9F. POTER	11V. Ahwatukee Golf Course
10F. PAYNT	12V. Firebird Lake
11F. <del>UNOWN</del> (Obsolete)	13V. Sun Lakes
12F. MAHEM	<b>Obstructions</b>
13F. <del>ZZEY</del> (Obsolete)	10. McDowell Mountains
14F. BUNTR	20. Superstition Mountains
15F. PEAKS	30. Rittenhouse Antenna
16F. BAYTA	40. San Tan Mountains
17F. SUNNS	50. Estrella Mountains
18F. MOBIE	60. White Tank Mountains
19F. ARLIN	70. South Mountain
20F. BANYO	80. Squaw/Piestewa Mountain
21F. HOKEY	90. Camelback Mountain
22F. AVENT	100. Chase Tower
23F. EDDNA	110. Papago Buttes
24F. GELTS	120. ASU Stadium
25F. KUCOO	
26F. BELLY	
27F. ARULY	
28F. JAROD	
29F. ANGRY	
30F. AZARR	

1-2-2. Class D, Final Approach Course, and Holding Pattern Maps

Figure 1-2-3. Facility Map

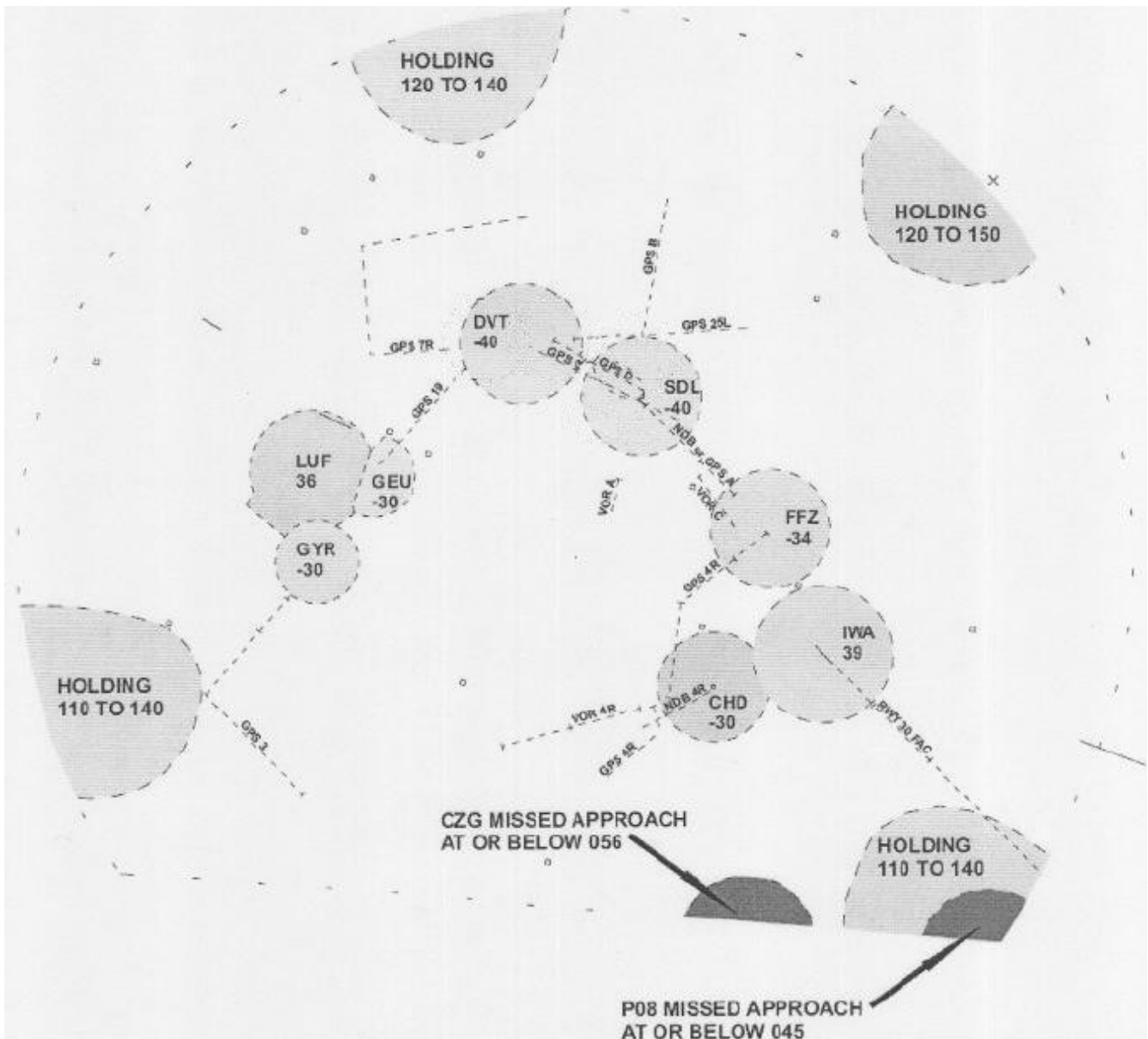


Figure 1-2-4. North Area Detail

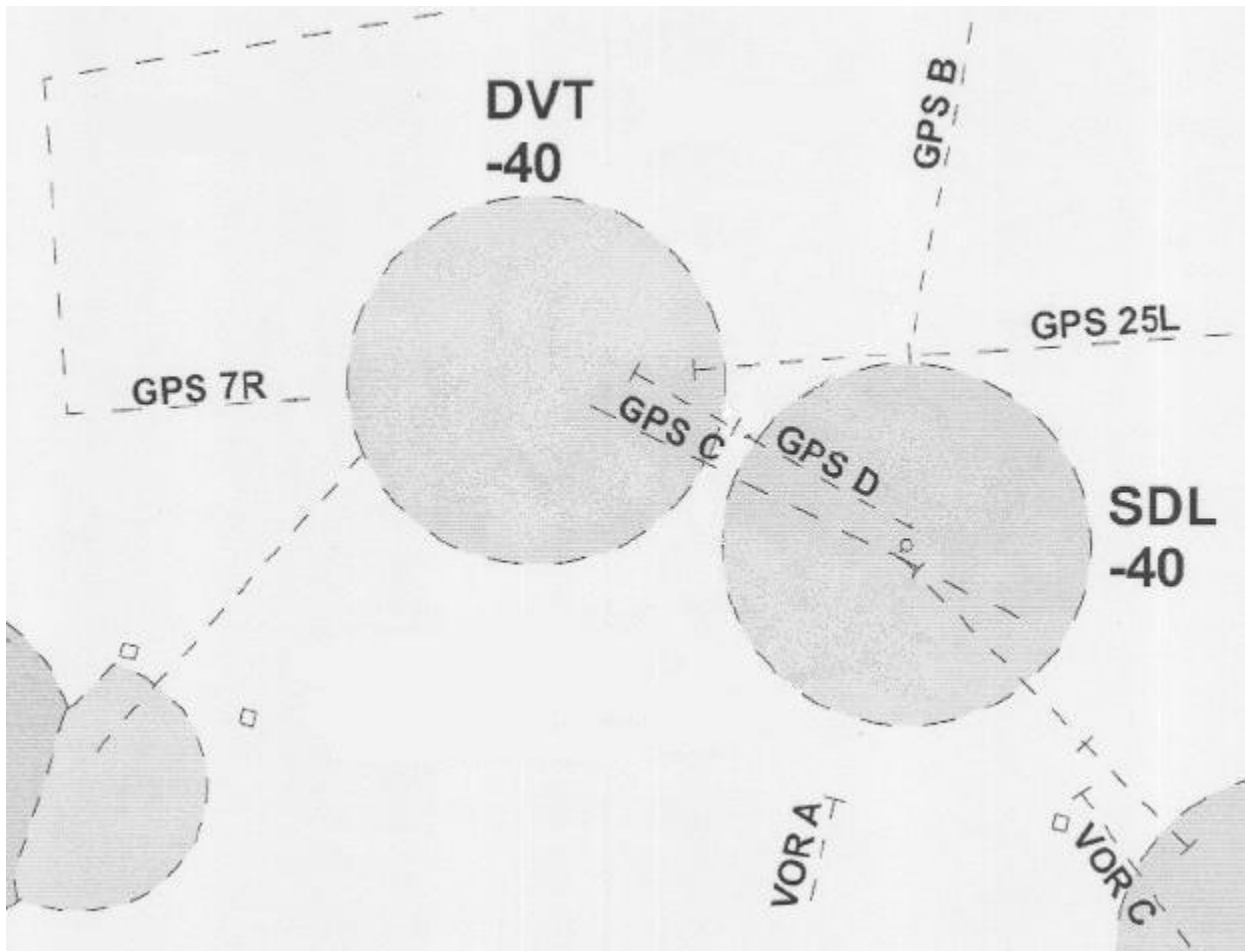


Figure 1-2-5. Southeast Area Detail

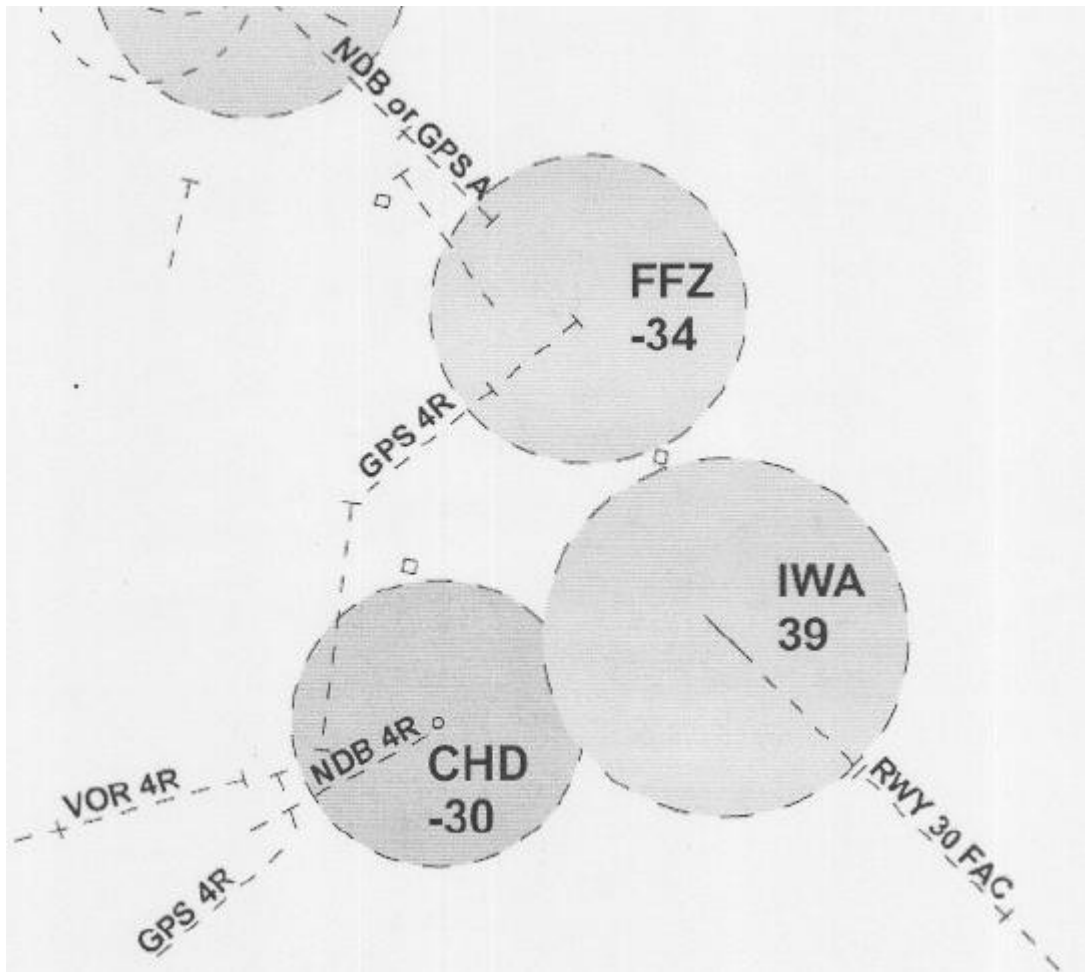
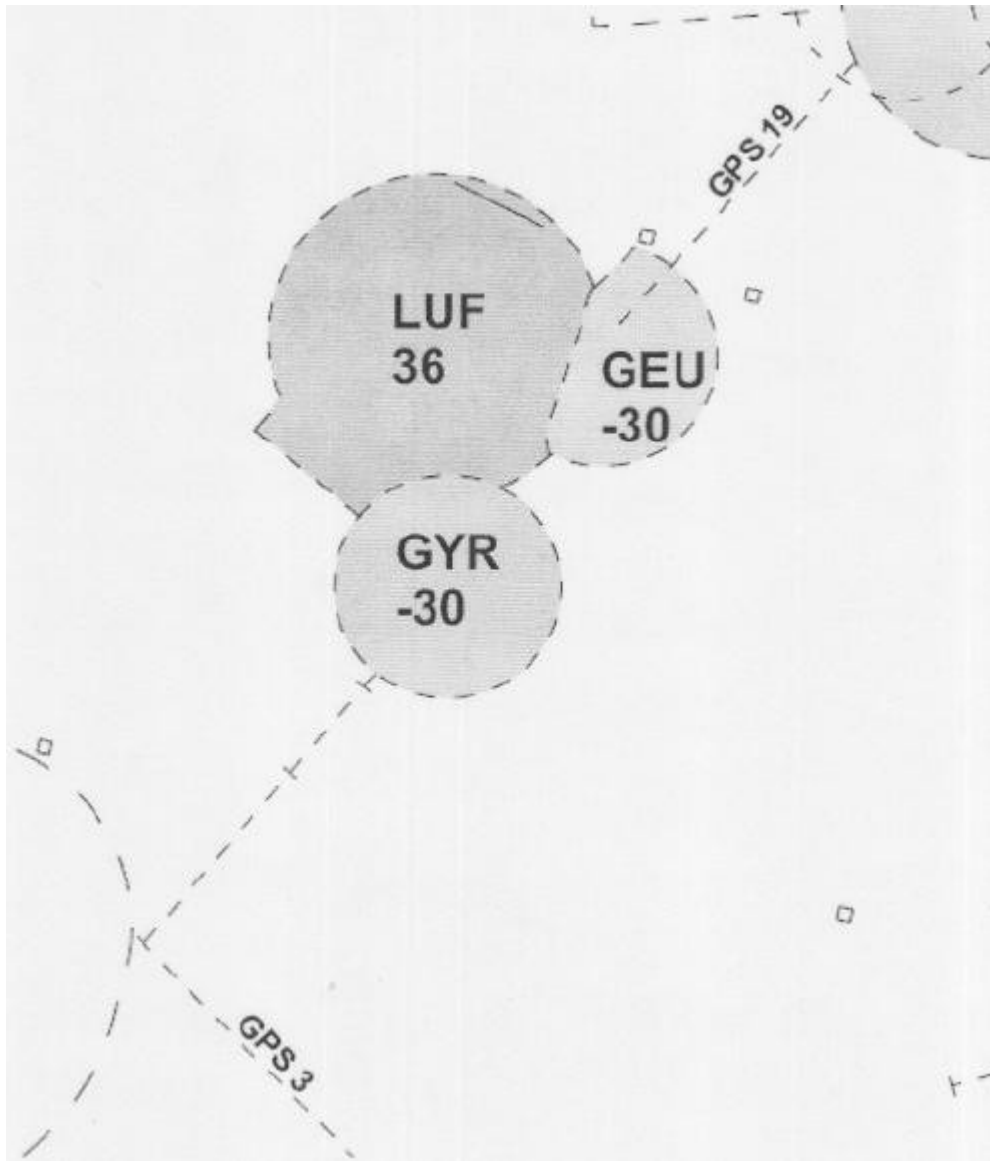


Figure 1-2-6. Southwest Area Detail



### Section 3: Position Login / Communications and Radar Settings

#### 1-3-1. Position Login / Communications Settings

**Table 1-3-1. Position Login and Frequency Assignments**

Position / Symbol	Description	Login Callsign	Frequency	Voice Server/Channel
APACHE * / (PA)	North Arrival	PHX_A_APP	128.65	rw.liveatc.net/P50_A
QUARTZ / (PQ)	South Arrival	PHX_Q_APP	124.1	rw.liveatc.net/P50_Q
FREEWAY / (PF)	North Final	PHX_F_APP	126.6	rw.liveatc.net/P50_F
VERDE / (PV)	South Final	PHX_V_APP	120.4	rw.liveatc.net/P50_V
NAVAJO / (PN)	North Departure	PHX_N_DEP	119.2	rw.liveatc.net/P50_N
SANTAN / (PS)	South Departure	PHX_S_DEP	126.8	rw.liveatc.net/P50_S
BILTMORE / (PB)	North Satellite	PHX_B_APP	120.7	rw.liveatc.net/P50_B
PIMA / (PP)	South Satellite	PHX_P_APP	123.7	rw.liveatc.net/P50_P
WILLY / (PW)	East Satellite	PHX_W_APP	124.9	rw.liveatc.net/P50_W

\* Apache is the default combined P50 TRACON position

#### 1-3-2. Radar Settings. Controllers shall, to the extent practical, use the following radar settings:

- a. A single visibility point centered on KPHX ( Command: .vis KPHX <enter> ).
- b. Adjust visibility range to no less than 60 and no greater than 100 NM.
- c. STARS Radar Mode (VRC) or ARTS Radar Mode (ASRC).
- d. Select video maps appropriate to the flow in use via Diagrams (VRC) or IAP (ASRC).
  - (1) Available Video Maps:
    - (a) East Flow (Selected when runways 8, 7L, and 7R are in use at PHX)
    - (b) West Flow (Selected when runways 26, 25R, and 25L are in use at PHX)
    - (c) MVA Map (Displays Minimum Vectoring Altitudes in hundreds of feet)
    - (d) Class B (Displays PHX Class B airspace with base altitudes in hundreds of feet)
    - (e) Class D / Approaches (Displays Class D airspace and related approach courses)

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## **Chapter 2: Air Traffic Operations**

### **Section 1: General Facility Operations**

**2-1-1. Transfer of Control.** The receiving controller shall have control in the transferring controller's airspace for turns on course, speed adjustment, and climb or descent, except Biltmore ("B") and Pima ("P") do not have control for climb or descent within each other's airspace.

**2-1-2. Position Combining and De-Combining.** Controllers shall conduct position relief briefings and make appropriate announcements of position changes via chat message or ATC channel.

#### **2-1-3. Prearranged Coordination (PC)**

**a. Definition.** A facility's standardized procedure that describes the process by which one controller may allow an aircraft to penetrate or transit another controller's airspace in a way that assures standard separation without individual coordination for each aircraft.

**b. Use.** Prearranged Coordination shall only be used when practical. If PC becomes impractical, potentially from heavy traffic situations or network / communications difficulties, controllers shall retain aircraft within the vertical and lateral confines of their designated airspace.

#### **c. Procedures**

##### **(1) Between APACHE/QUARTZ and NAVAJO/SANTAN**

**(a)** NAVAJO may enter APACHE airspace, and SANTAN may enter QUARTZ airspace as depicted in Figures 2-1-1 and 2-1-2 provided:

1. The departure controller ensures separation from all traffic in the arrival controller's airspace and shall coordinate the use of visual separation.
2. Departing aircraft are not within 5 NM of the P50/ZAB boundary.

##### **(2) Between FREEWAY and VERDE**

**(a)** FREEWAY may enter VERDE airspace within the PC airspace depicted in Figure 2-1-3 and 2-1-4 provided they ensure:

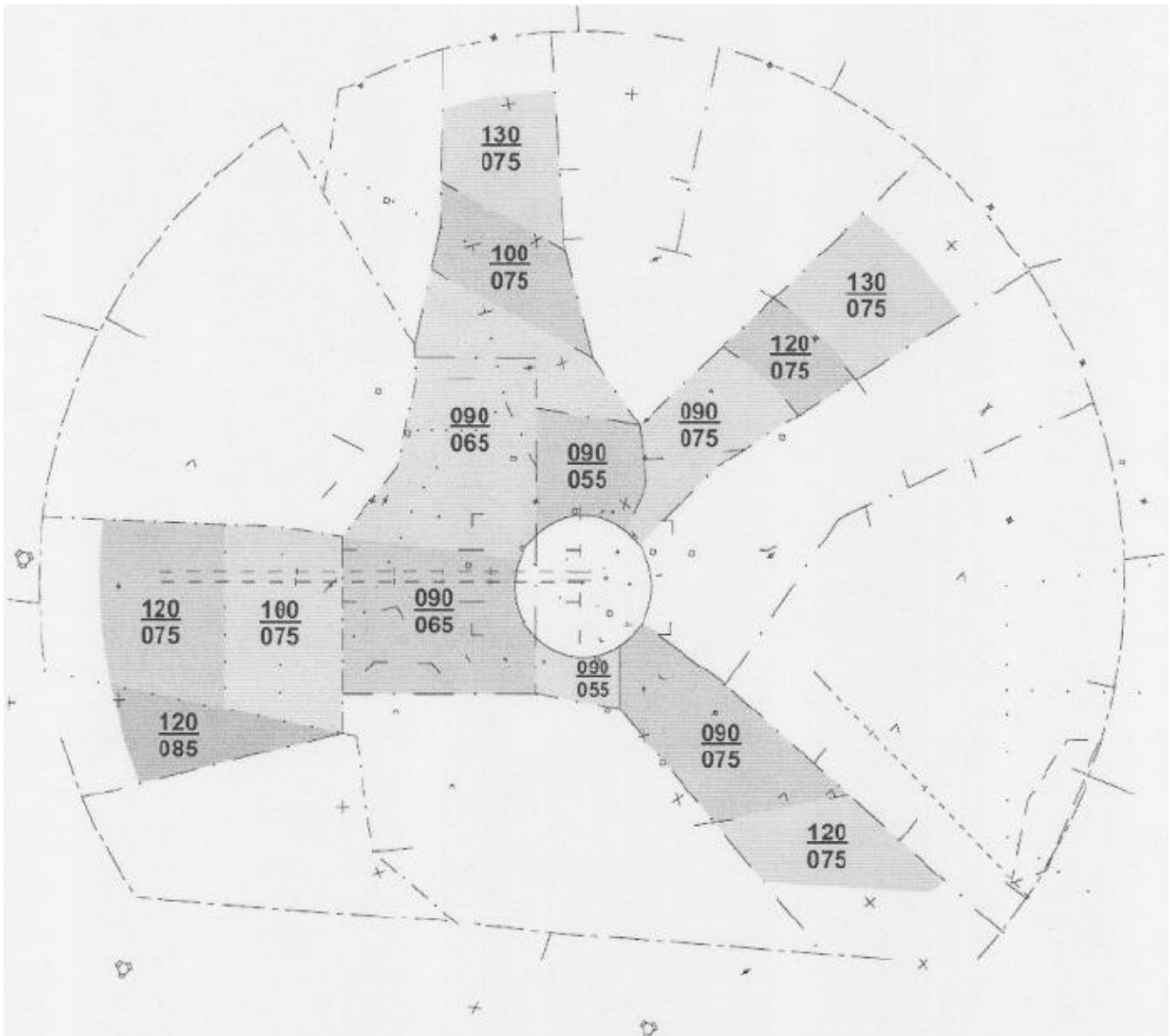
1. All data blocks are displayed with "Quick Look."
2. FREEWAY will normally sequence aircraft to RWY 8 or 26 and VERDE will normally sequence aircraft to RWY 7R or 25L.

3. A scratch pad entry has been made indicating the type of approach issued.
  4. The aircraft has acknowledged the approach clearance issued.
  5. The aircraft is established within 30 degrees of the final approach course.
  6. Separation is ensured from aircraft already within PC airspace.
- (b)** FREEWAY shall ensure separation from all VERDE traffic on final approach.
- (c)** Visual separation between FREEWAY and VERDE shall be coordinated.
- (d)** Aircraft not landing PHX shall remain 3 NM from PHX final approach courses.

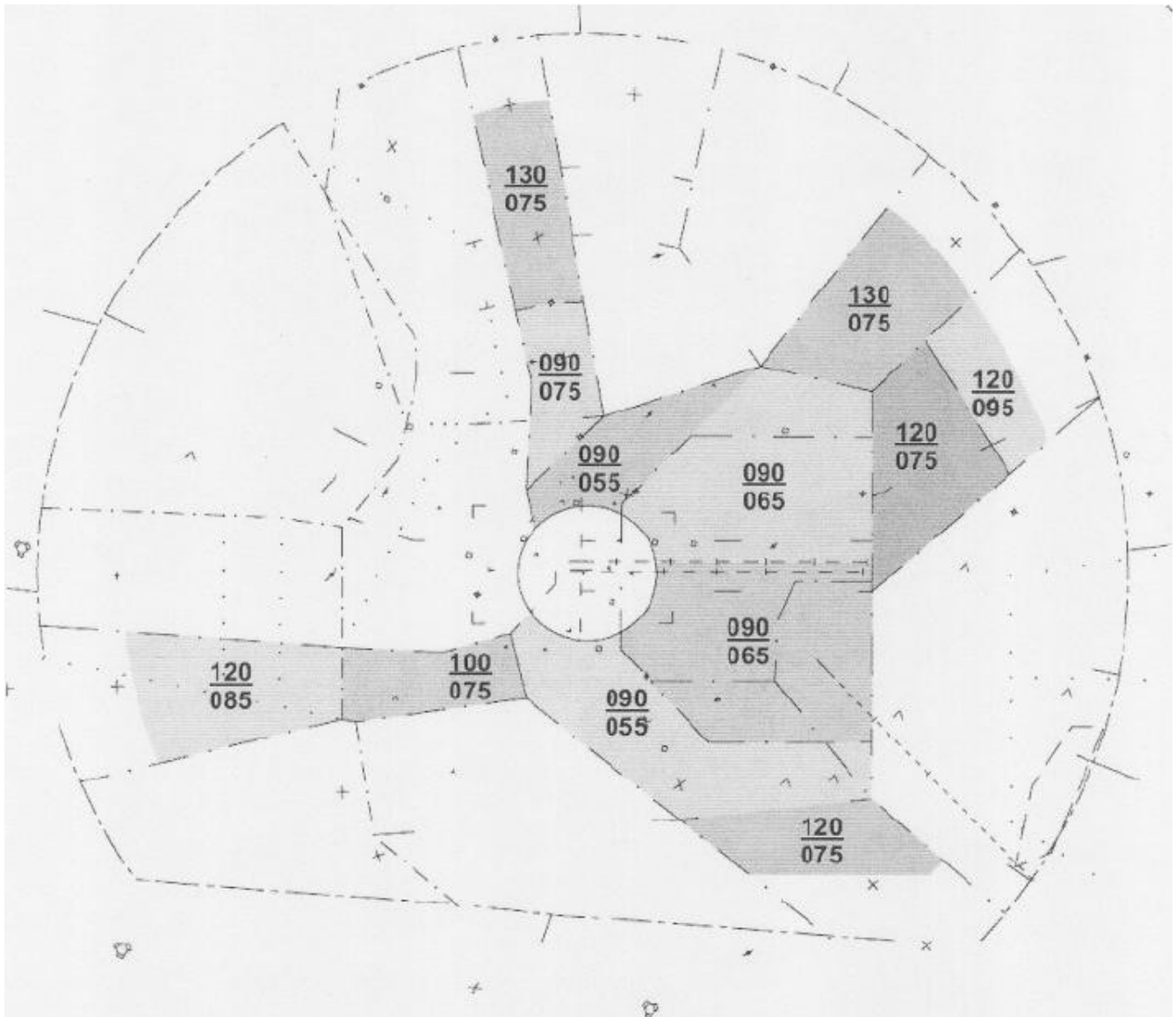
**2-1-4. Prearranged Coordination (PC) Airspace Diagrams**

**a. APACHE/QUARTZ PC Airspace Diagrams**

**Figure 2-1-1. APACHE/QUARTZ PC Airspace – East Flow**

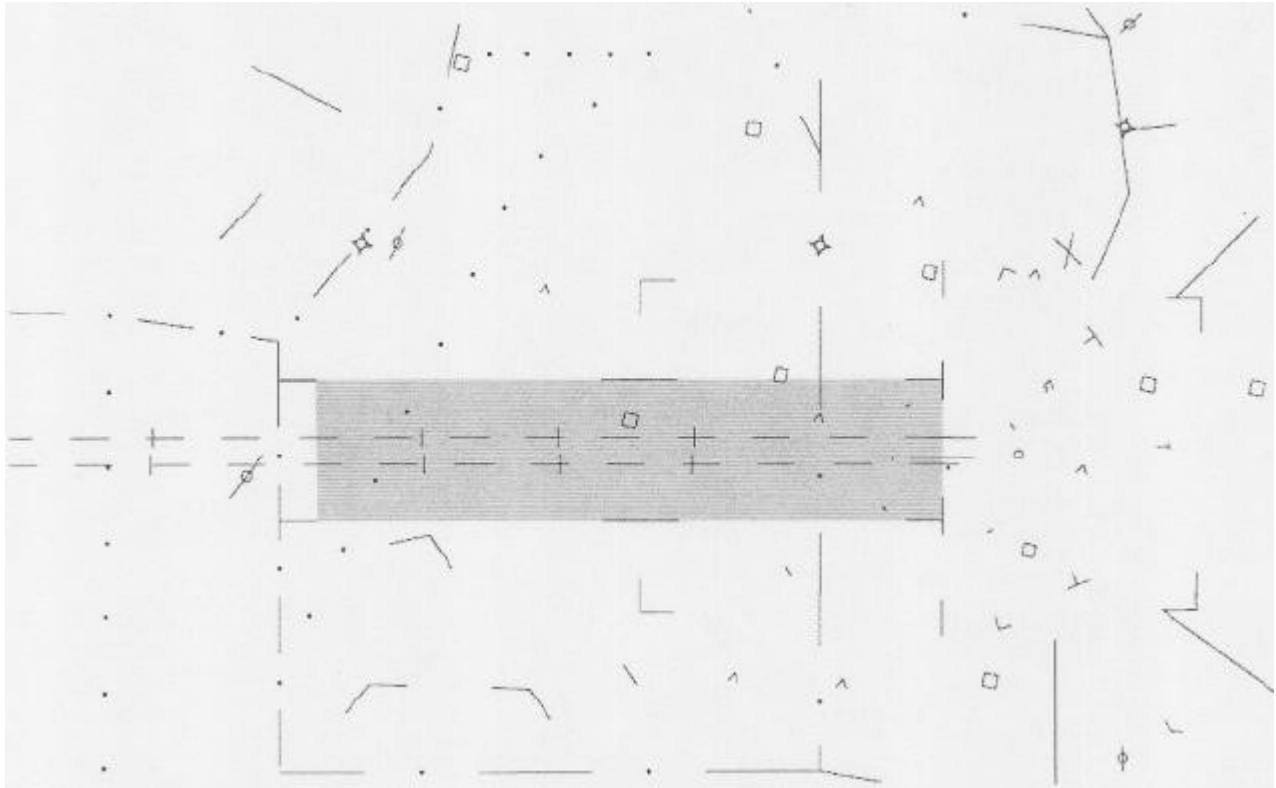


**Figure 2-1-2. APACHE/QUARTZ PC Airspace – West Flow**

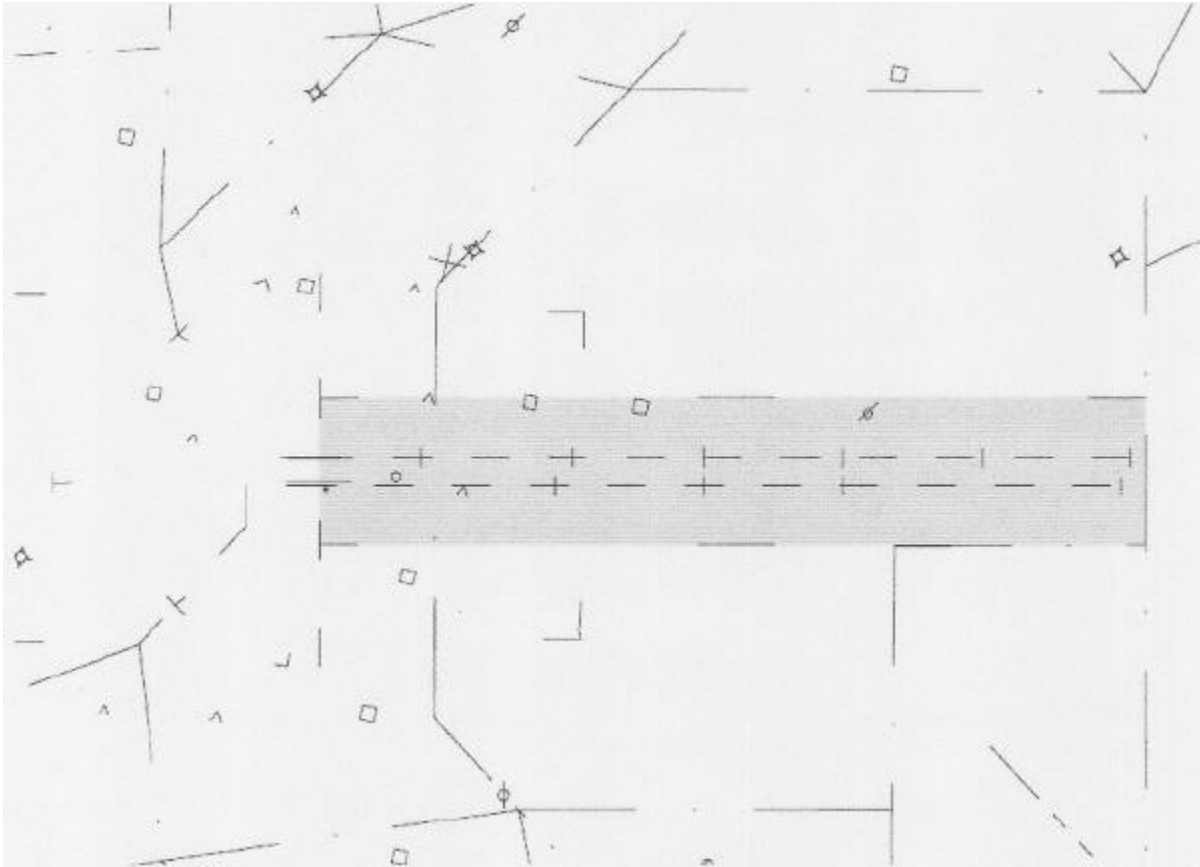


**b. FREEWAY/VERDE PC Airspace**

**Figure 2-1-3. FREEWAY/VERDE PC Airspace – East Flow**



**Figure 2-1-4. FREEWAY/VERDE PC Airspace – West Flow**



**2-1-5. ATIS/Arrival Information.** The first position providing radar service to an arrival aircraft shall ensure current ATIS/arrival information has been received for the destination airport.

**2-1-6. Crossovers.** A crossover is defined as a PHX arrival that is vectored over the airport to the opposite downwind leg. Crossovers shall be initiated and coordinated between APACHE and QUARTZ as necessary to balance traffic between the designated arrival runways.

**2-1-7. Departure Sequencing Procedures**

a. East Flow: Leave turbojets on SID until 4 DME east PXR VORTAC.

b. West Flow: Leave BXK and northbound turbojets on SID until 9 DME west PXR VORTAC.

**2-1-8. LUF RAPCON Airspace Delegation.** LUF RAPCON delegates airspace to Phoenix TRACON when not open. The delegation of airspace to P50, and the airspace LUF RAPCON operates when open is depicted on the following as follows:

a. P50 Airspace – LUF RAPCON Closed – East Flow: Figure 2-1-5

b. P50 Airspace – LUF RAPCON Closed – West Flow: Figure 2-1-6

c. LUF Airspace – LUF RAPCON Open: Figure 2-1-7

**NOTE** – Figures 2-1-5 and 2-1-6 indicate P50 control position symbols (e.g. - “B” is Biltmore). Letters in Figure 2-1-7 label subdivisions of LUF RAPCON airspace. They are not directly associated with specific LUF RAPCON control positions and only enhance illustration.

Figure 2-1-5. P50 Airspace – LUF RAPCON Closed – East Flow

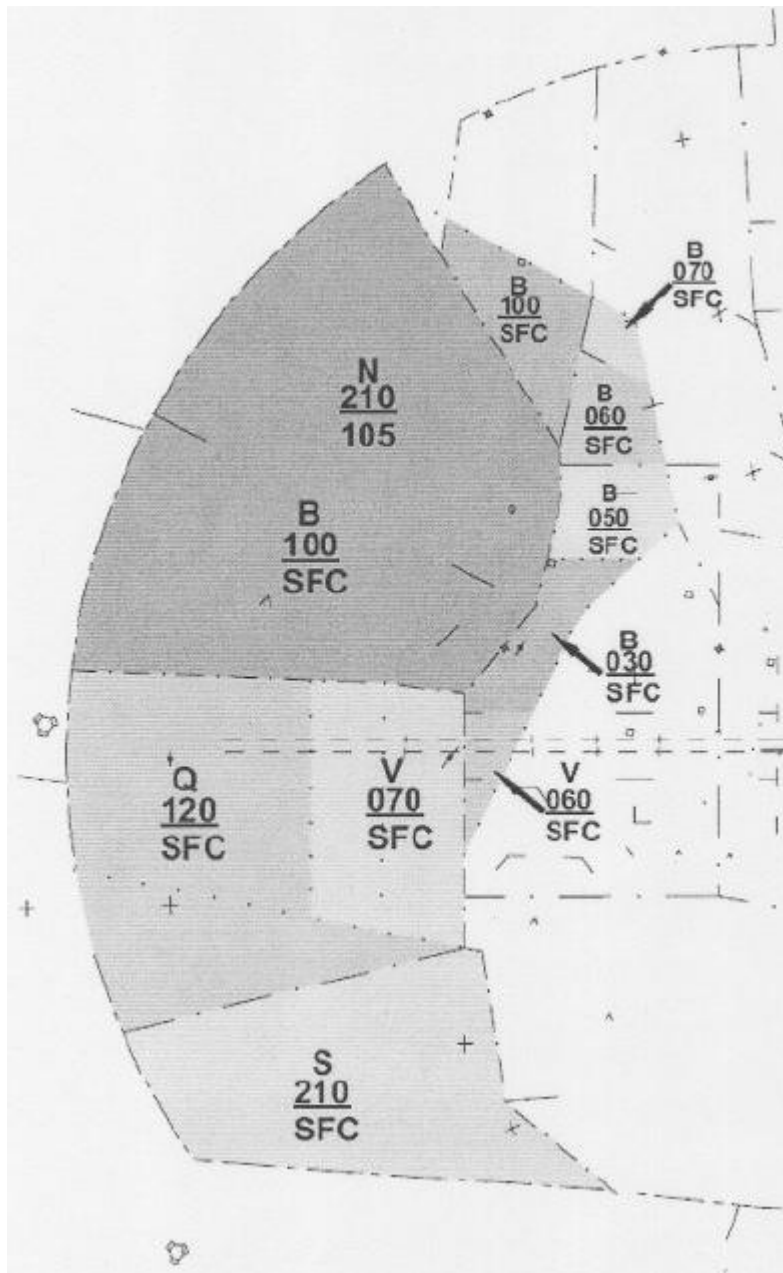
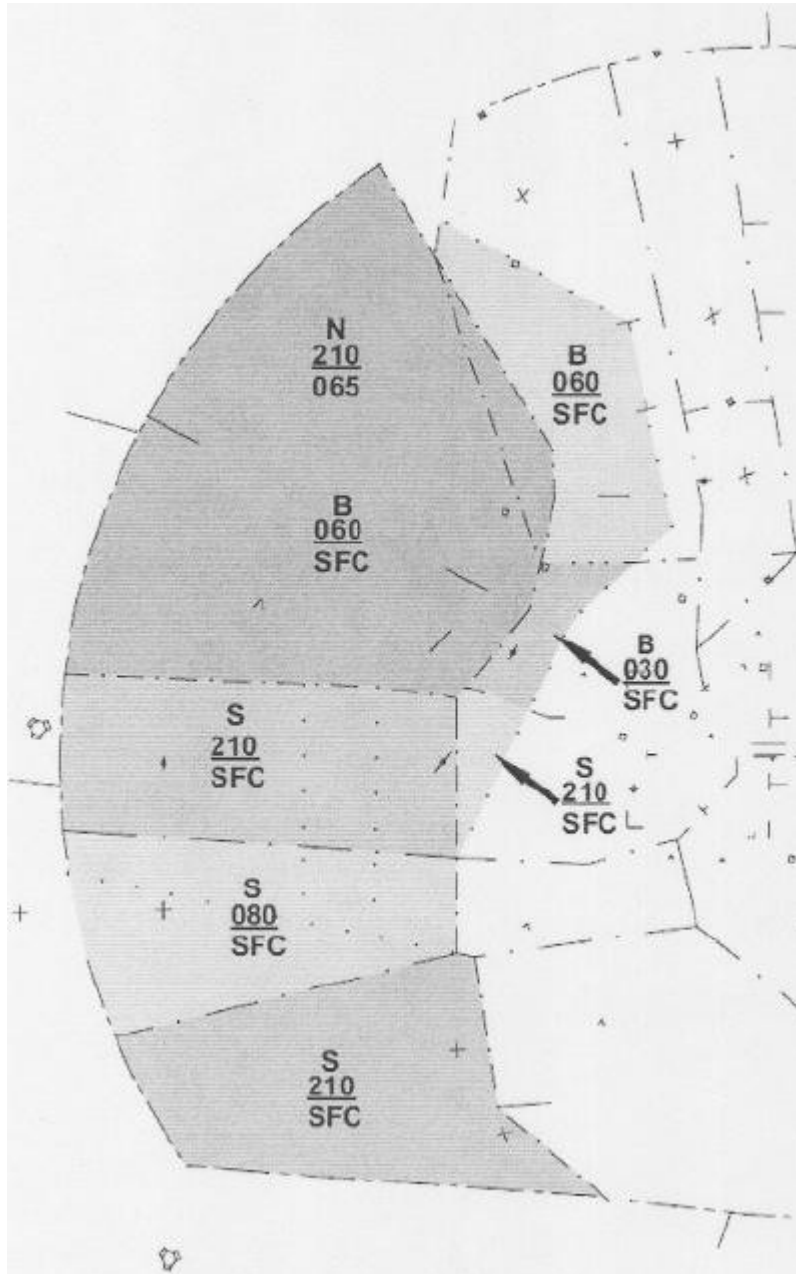
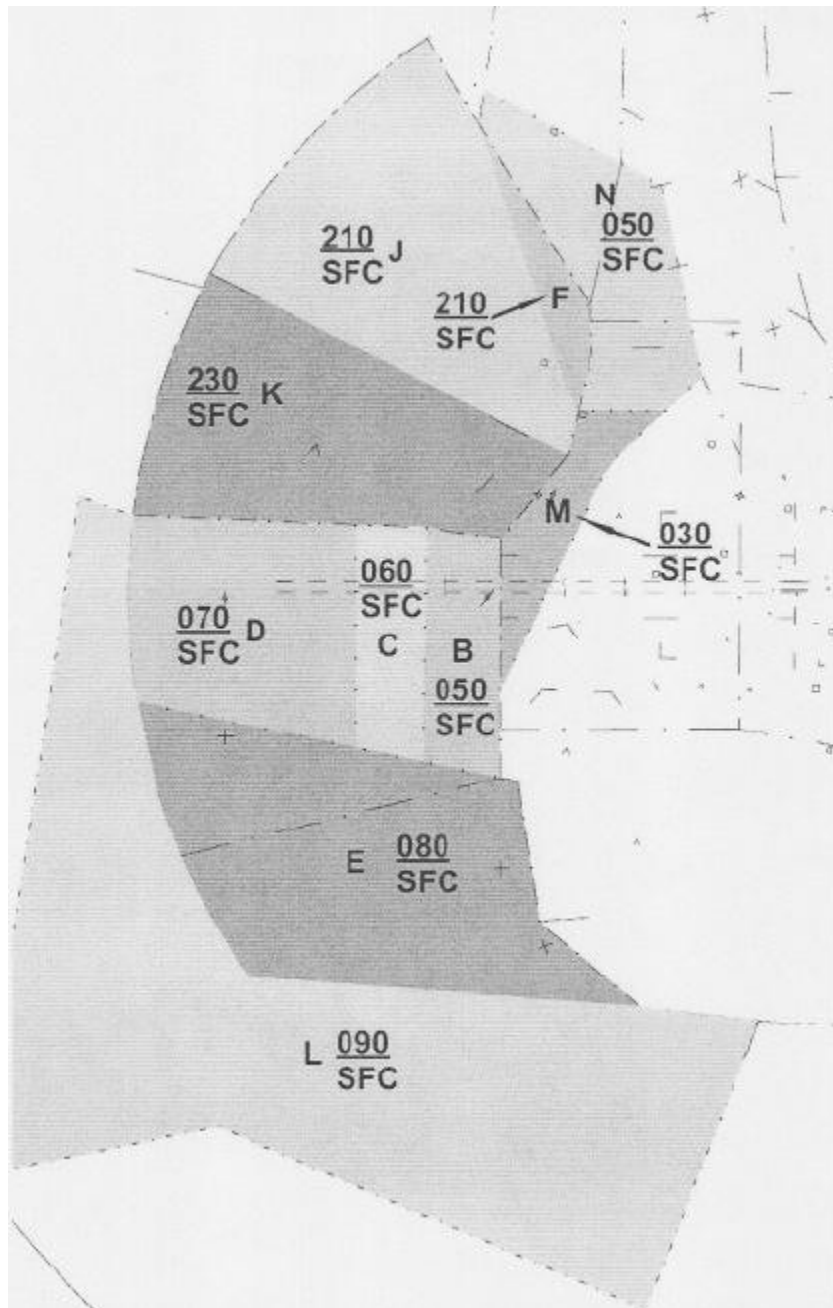


Figure 2-1-6. P50 Airspace – LUF RAPCON Closed – West Flow



**Figure 2-1-7. LUF Airspace – LUF RAPCON Open**



**2-1-9. Reduced Longitudinal Separation.** For aircraft landing PHX, 2.5 NM separation is authorized between aircraft established on the final approach course within 10 NM of the landing runway.

**2-1-10. Phoenix (PHX) Arrival Plans.** The CIC shall determine the arrival plan in use. If no CIC is available, APACHE/QUARTZ shall coordinate with FREEWAY/VERDE to determine the arrival plan in use. The least restrictive plan shall be used for the traffic and staffing situation.

**a. Plan “Free.”** – Used during slow traffic periods. “Free” has minimal flow requirements.

- (1) Assign a route toward “F” or “V” airspace.
- (2) “A” and “Q” shall assign base leg and straight-in traffic 8000'.
- (3) “A” and “Q” shall assign downwind 6000'.
- (4) “B,” “P,” and “W” shall assign 4000'.
- (5) Speed assignment is optional.

**b. Plan “Square.”** – Used when “F” or “V” is staffed. “Square” assures an organized sequence.

- (1) “A” and “Q” shall provide spacing to accommodate a single runway sequence (~5 NM).
- (2) “A” and “Q” shall establish a perpendicular base leg or straight-in, assign 8,000'.
- (3) “A” and “Q” shall establish a 6 NM parallel downwind, assign 6,000'.
- (4) “B,” “P,” and “W” shall coordinate PHX arrivals with “F,” “V,” or CIC, assign 4,000'.
- (5) Assign turbojet aircraft 210 knots prior to “F” or “V” boundary.
- (6) Practice approaches entering “F” or “V” airspace shall be discontinued in heavy traffic.

**c. Plan “Slow.”** – Used for heavy traffic periods. “Slow” assures maximum flow organization.

- (1) “A” and “Q” shall provide spacing to accommodate a dependent ILS sequence (~7 NM).
- (2) “A” and “Q” shall assign straight-in 8,000'. **NOTE** – Base leg entry not authorized.
- (3) “A” and “Q” shall assign 6 NM parallel downwind, assign 6,000'.
- (4) “B,” “P,” and “W” shall coordinate PHX arrivals with “F,” “V,” or CIC, assign 4,000'.
- (5) Assign aircraft 180 knots prior to “F” or “V” boundary.
- (6) Practice approaches entering “F” or “V” airspace shall be discontinued.

**Section 2: Automation Procedures**

**2-2-1. Scratch Pad Entries.** Approach information shall be indicated in the data block scratch pad by either the airport identifier (for visual approaches), or one of the following entries:

- a. The letter “V” preceding a runway assignment indicates:
  - 1. The aircraft has been instructed to maintain visual separation or follow the preceding traffic assigned to the same runway.
  - 2. The aircraft is executing a VOR or “VOR or GPS” approach.
- b. The letter “I” preceding a runway assignment indicates the aircraft is executing an ILS approach to that runway.
- c. The letter “G” preceding a runway assignment indicates the aircraft is executing a GPS or RNAV (GPS) approach to that runway.

**Table 2-2-1. Example Scratch Pad Entries**

Phoenix (PHX)		Chandler (CHD)		Scottsdale (SDL)	
<b>L</b>	Visual Apch to RWY 7L or 25L	<b>N4R</b>	NDB RWY 4R	<b>VRA</b>	VOR-A or GPS-A
<b>R</b>	Visual Apch to RWY 7R or 25R	<b>V4R</b>	VOR RWY 4R	<b>VRC</b>	VOR-C or GPS-C
<b>8</b>	Visual Apch to RWY 8	<b>G4R</b>	RNAV/GPS RWY 4R	<b>GPD</b>	GPS-D
<b>26</b>	Visual Apch to RWY 26				
		Stellar Airpark (P19)		Deer Valley (DVT)	
<b>Gateway (IWA)</b>		<b>V19</b>	VOR-A or GPS-A	<b>G2L</b>	GPS RWY 25L
<b>I3C</b>	ILS RWY 30C			<b>G7R</b>	GPS RWY 7R
<b>V3C</b>	VOR/TACAN RWY 30C	<b>Goodyear (GYR)</b>		<b>GPB</b>	GPS-B
<b>G3C</b>	GPS RWY 30C	<b>GP3</b>	GPS RWY 3	<b>GPC</b>	GPS-C
<b>G3L</b>	RNAV/GPS RWY 30L				
<b>G1R</b>	RNAV/GPS RWY 12R	<b>Glendale (GEU)</b>		<b>Falcon Field (FFZ)</b>	
<b>G1C</b>	RNAV/GPS RWY 12C	<b>G19</b>	GPS RWY 19	<b>NDA</b>	NDB-A or GPS-A
<b>HI3</b>	HI ILS RWY 30C			<b>G4R</b>	GPS RWY 4R
<b>HV3</b>	HI VOR/DME RWY 30C	<b>Other Approved Entries</b>			
		<b>RMA</b>	MAIER RNAV STAR		
		<b>REA</b>	EAGUL RNAV STAR		
		<b>HLD</b>	Holding Aircraft		

**2-2-2. Inter-facility Handoff.** Initiating an inter-facility handoff.

**Table 2-2-2. Example Inter-facility Handoff Computer Entries**

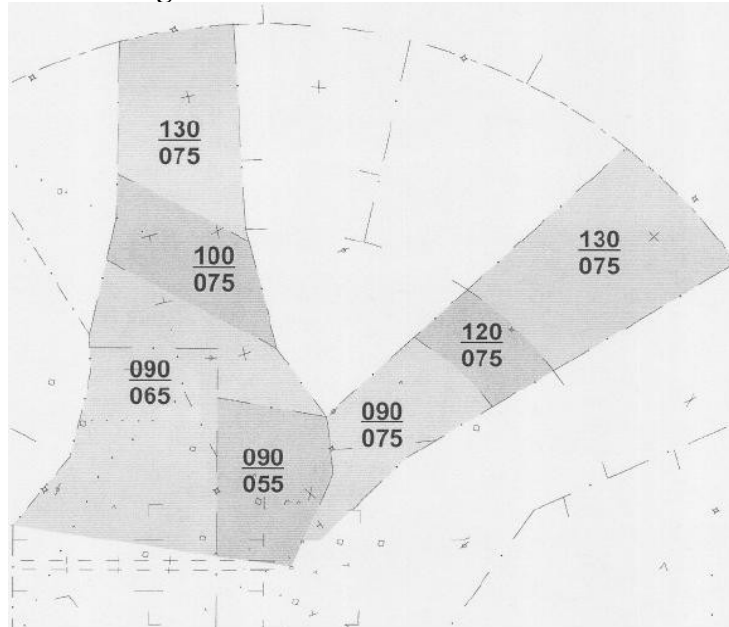
Facility	Action			Facility	Action		
ZAB (Sector)	<F4>	(Sec #)	Click	CHD TWR	<F4>	IT	Click
PHX TWR (Local South)*	<F4>	PT	Click	DVT TWR	<F4>	VT	Click
PHX TWR (Local North)	<F4>	PE	Click	FFZ TWR	<F4>	ZT	Click
LUF APCH	<F4>	LA	Click	GEU TWR	<F4>	GT	Click
LUF TWR	<F4>	LT	Click	GYR TWR	<F4>	YT	Click
IWA TWR	<F4>	JT	Click	SDL TWR	<F4>	DT	Click

\* Local South is the default combined PHX Tower position

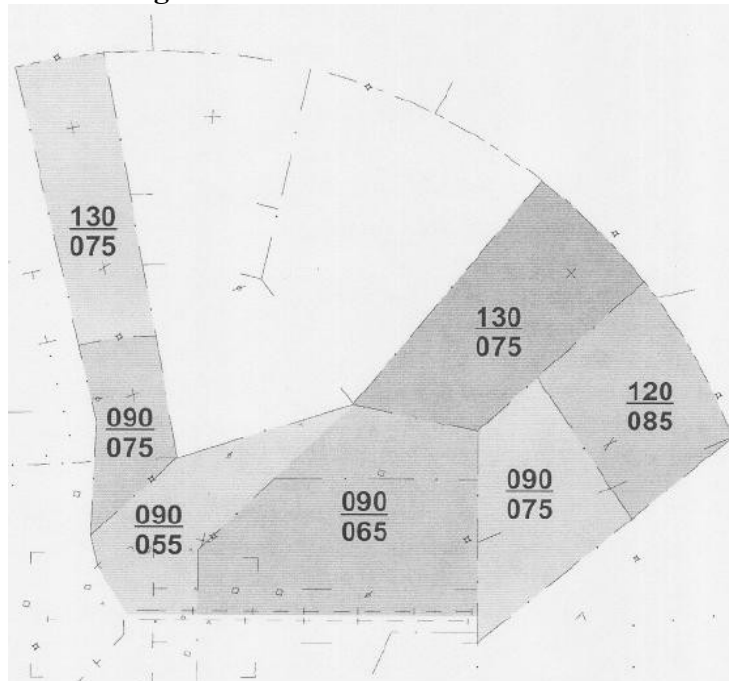
**Section 3: Sector Airspace and Operations**

**2-3-1. APACHE – “A”.** PHX arrivals shall be sequenced in accordance with Phoenix Arrival Plans.

**Figure 2-3-1. APACHE – East Flow**

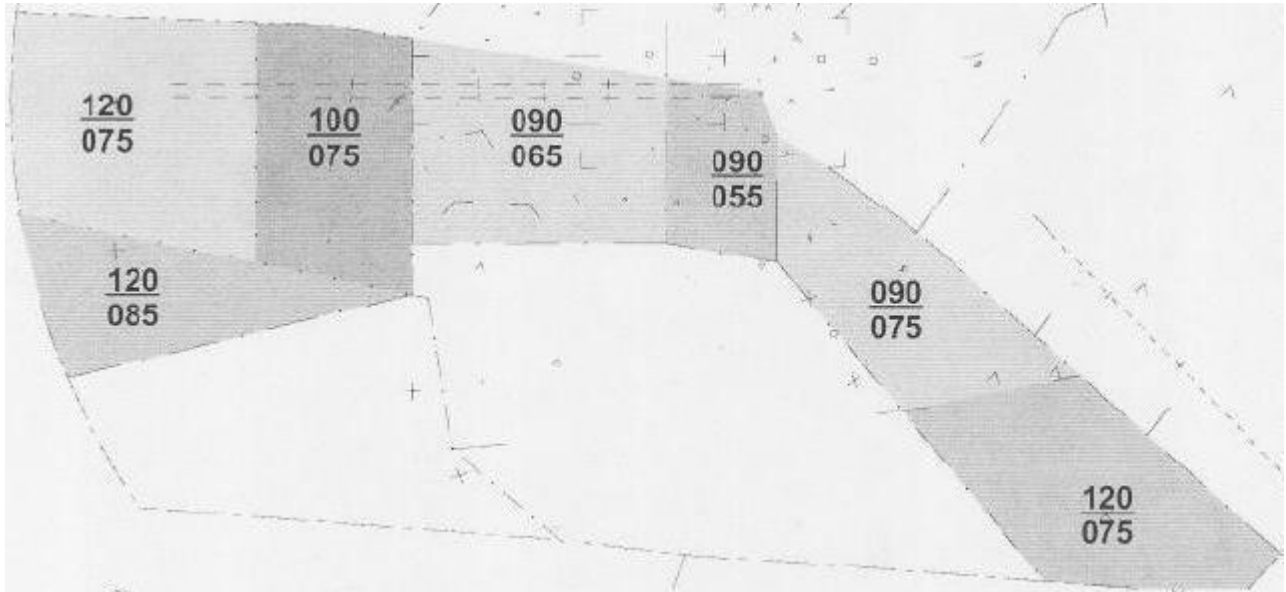


**Figure 2-3-2. APACHE – West Flow**

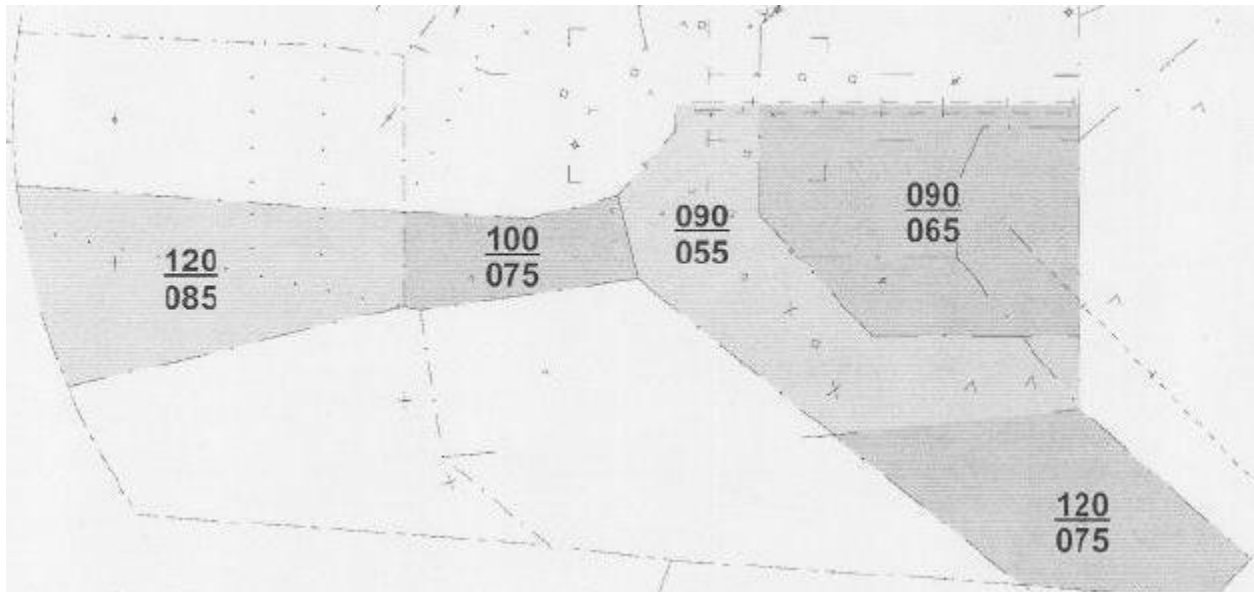


**2-3-2. QUARTZ – “Q”.** PHX arrivals shall be sequenced in accordance with Phoenix Arrival Plans. Satellite arrivals shall be vectored and descended toward satellite or departure airspace and handed off as necessary.

**Figure 2-3-3. QUARTZ – East Flow**



**Figure 2-3-4. QUARTZ – West Flow**



**2-3-3. FREEWAY/VERDE – “F” / “V”**

- a. When ILS or simultaneous visual approaches are in use at PHX, aircraft shall be issued a heading to intercept the runway extended centerline at an angle not greater than 30 degrees.
- b. Satellite departures and arrivals shall be coordinated with affected sectors as necessary.

**Figure 2-3-5. FREEWAY and VERDE – East Flow**

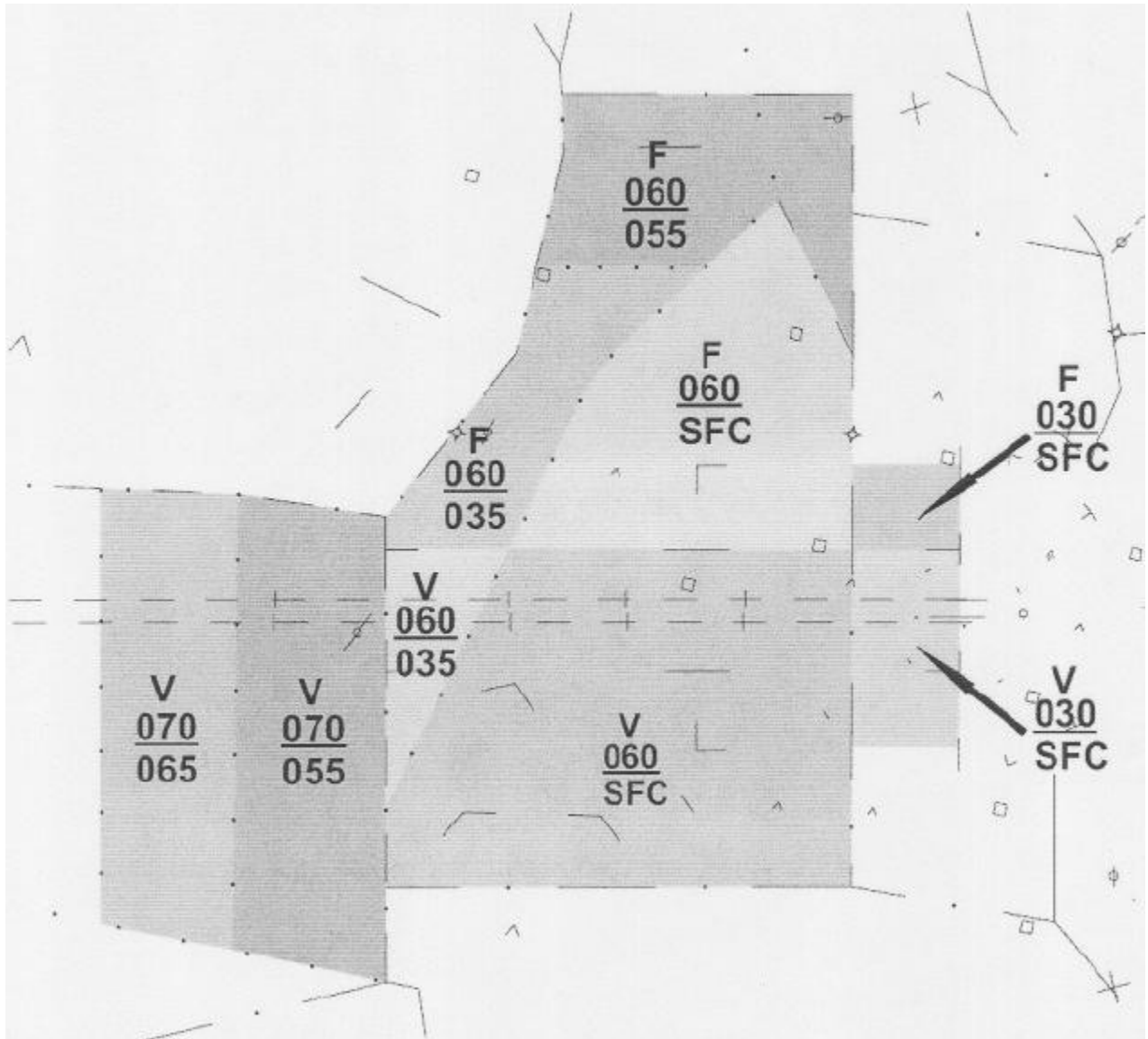
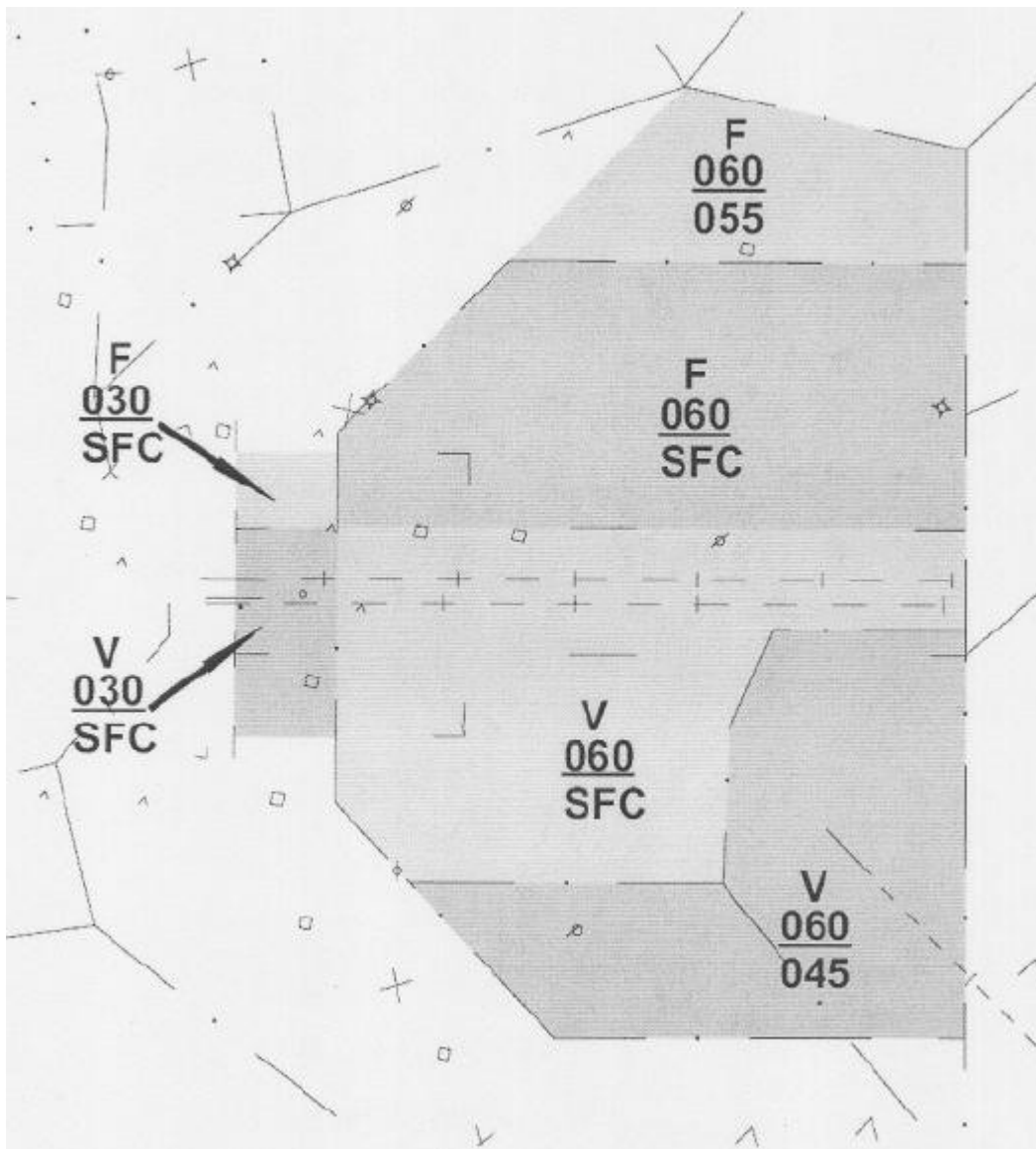


Figure 2-3-6. FREEWAY and VERDE – West Flow



**2-3-4. NAVAJO – “N”**

**a. Southbound Turbojet and Turboprop Satellite Departures**

- (1) Vector toward “S” airspace, assign 13,000'.
- (2) Hand off to “S,” if open.

**b. Northbound PHX Prop Departures**

- (1) Vector toward “B” airspace, assign 5,000'.
- (2) Hand off to “B,” if open.

**Figure 2-3-7. NAVAJO – East Flow**

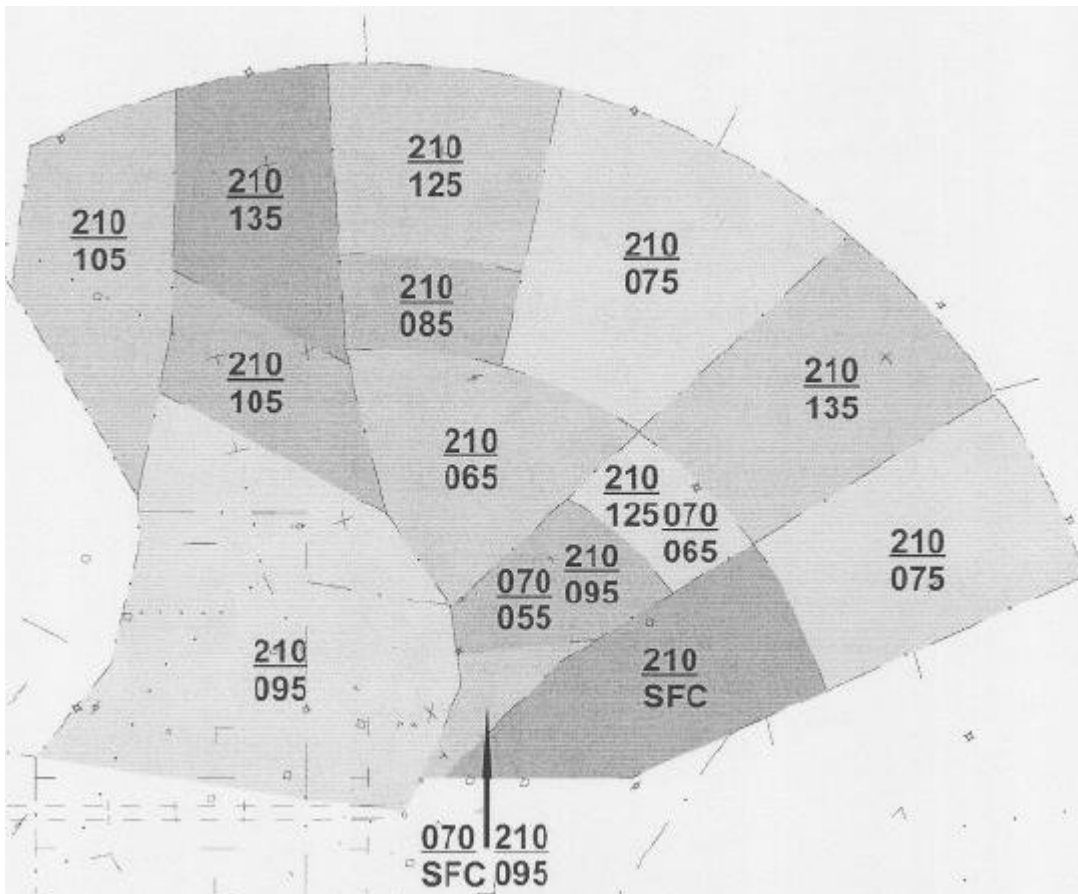
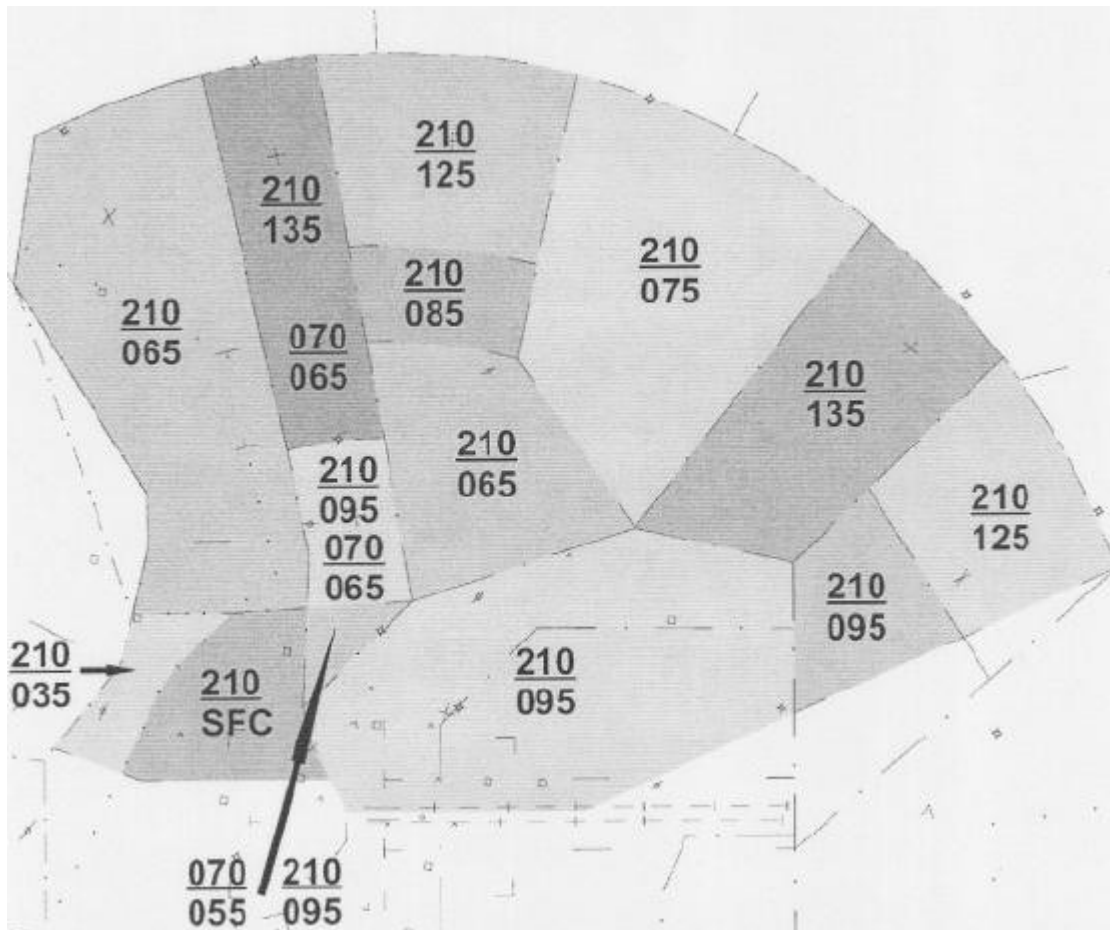


Figure 2-3-8. NAVAJO – West Flow



2-3-5. SANTAN – “S”.

Figure 2-3-9. SANTAN – East Flow

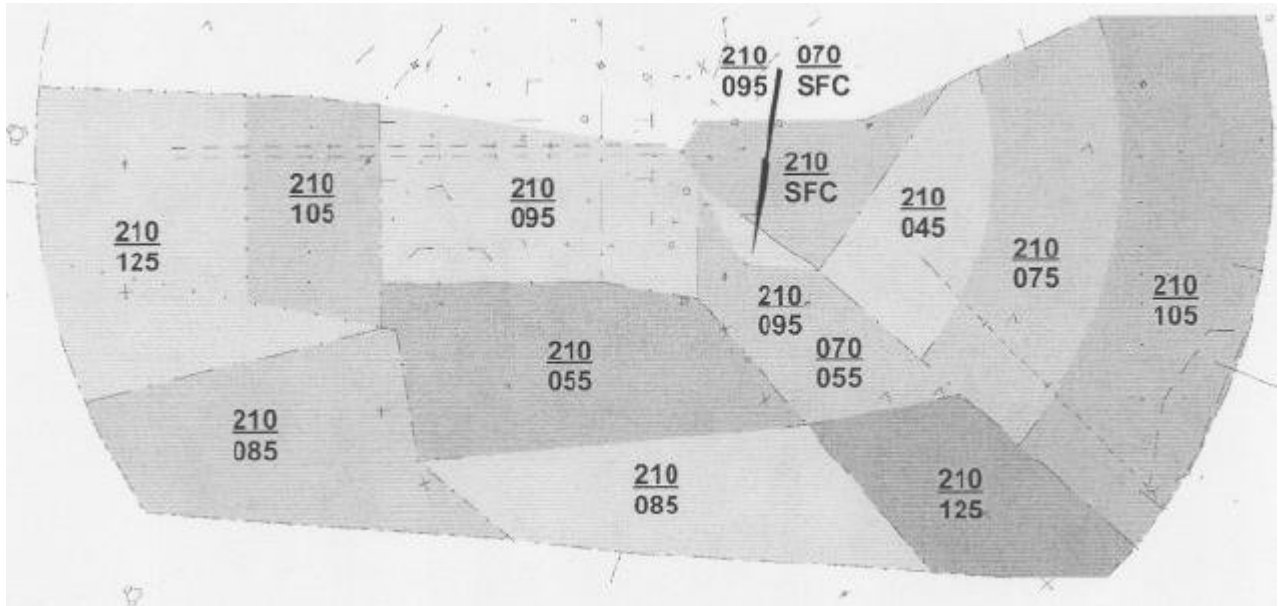
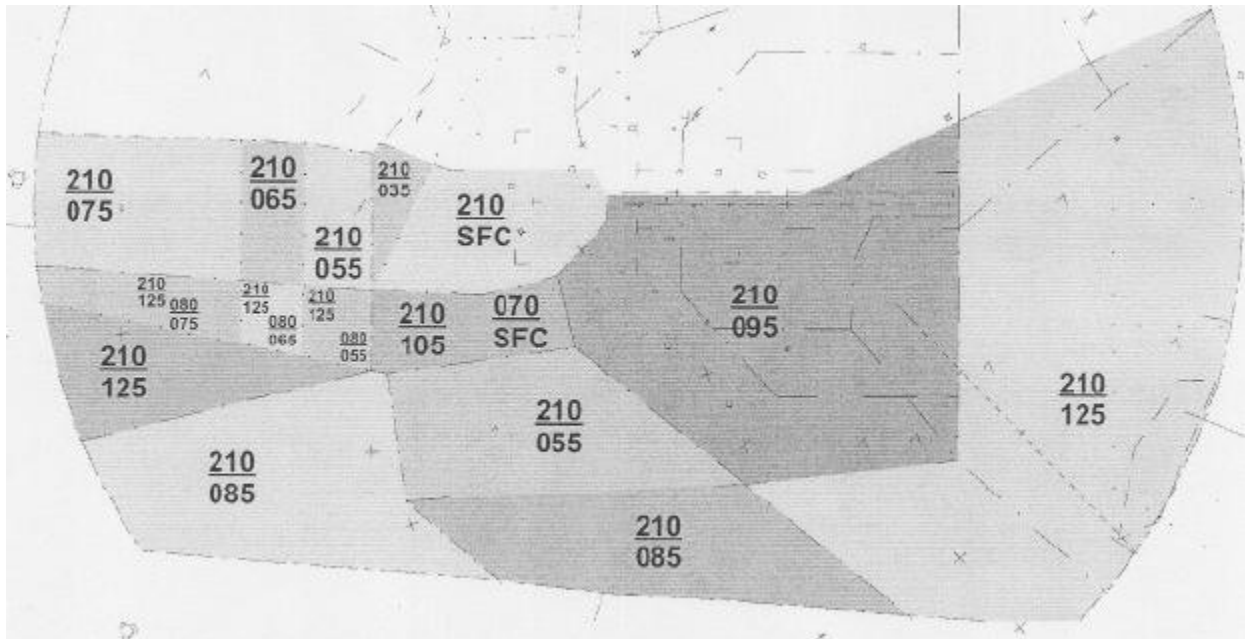


Figure 2-3-10. SANTAN – West Flow



**2-3-6. BILTMORE – “B”.** PHX arrivals shall be sequenced in accordance with Phoenix Arrival Plans. Other aircraft shall be routed as follows:

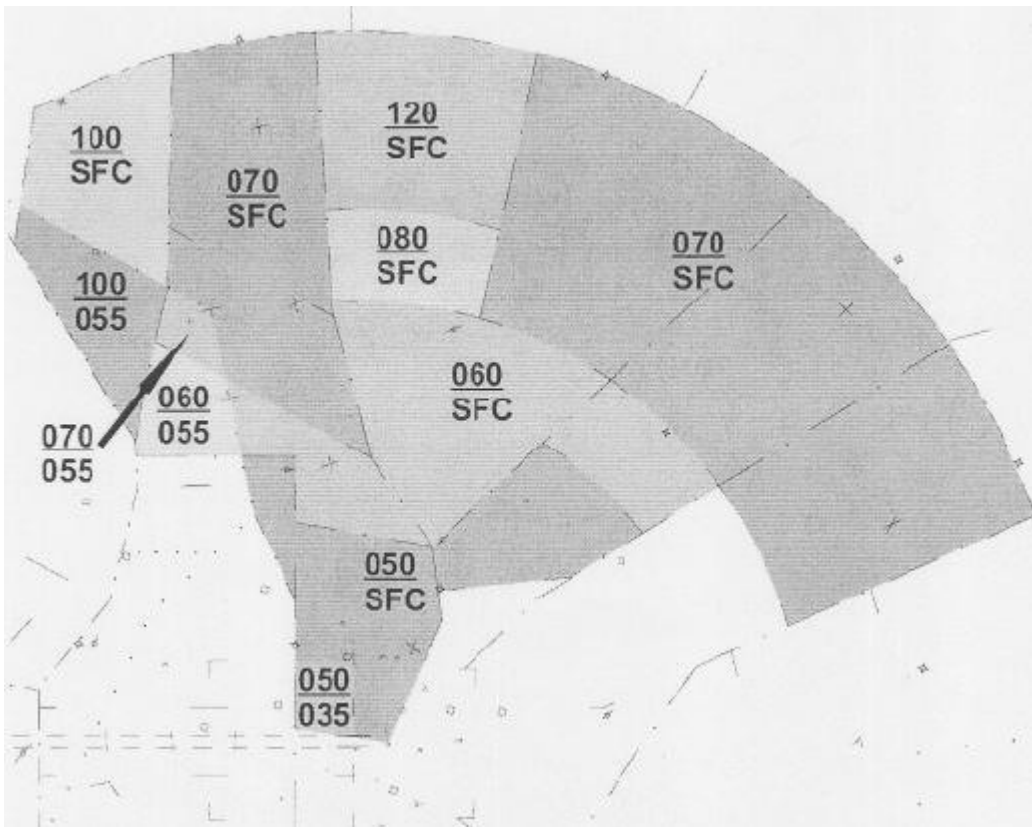
**a. Southbound Prop Aircraft**

- (1) Vector over PHX.
- (2) Ensure level at 5000'. VFR East/West transition aircraft ensure level 3,500' or 5,000'.
- (3) Hand off to “P,” if open.

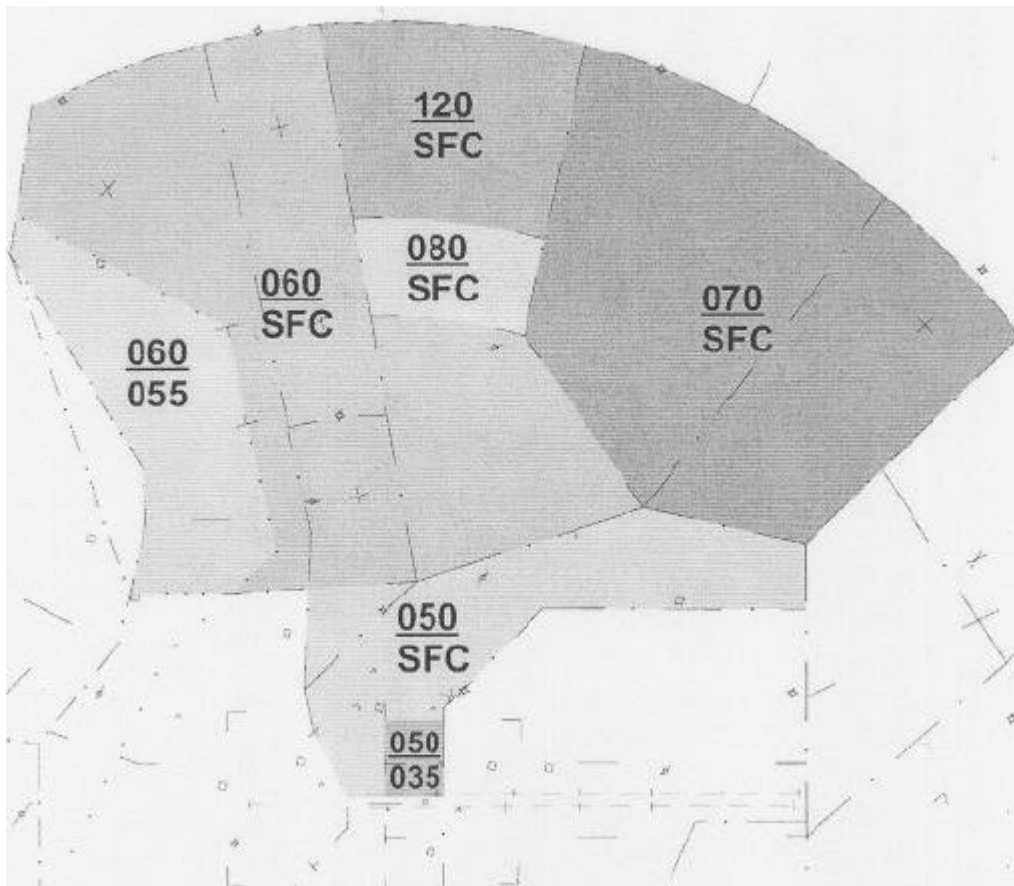
**b. SDL Departures**

- (1) Assign heading 030 except for aircraft routed via ZEPER (northwest bound).
- (2) Assign 6,000'.
- (3) Hand off to “N,” if open.

**Figure 2-3-11. BILTMORE – East Flow**



**Figure 2-3-12. BILTMORE – West Flow**

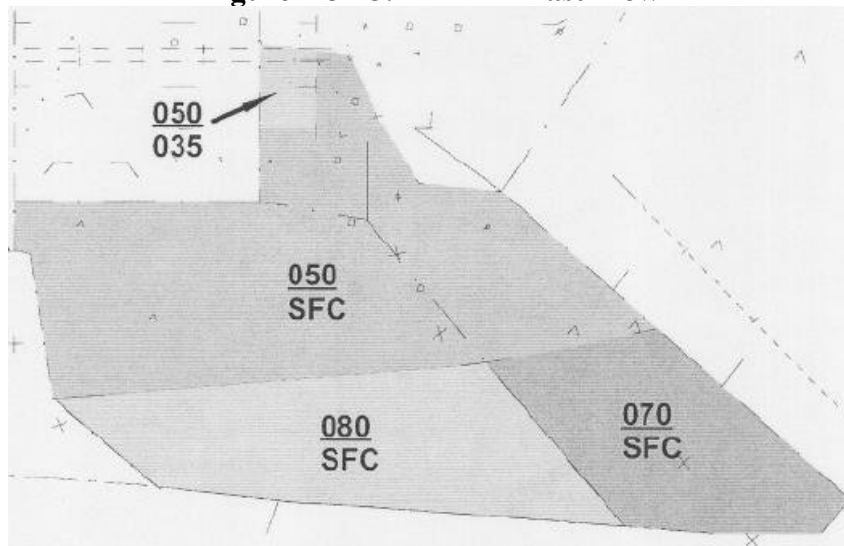


**2-3-7. PIMA – “P”.** PHX arrivals shall be sequenced in accordance with Phoenix Arrival Plans. Other aircraft shall be routed as follows:

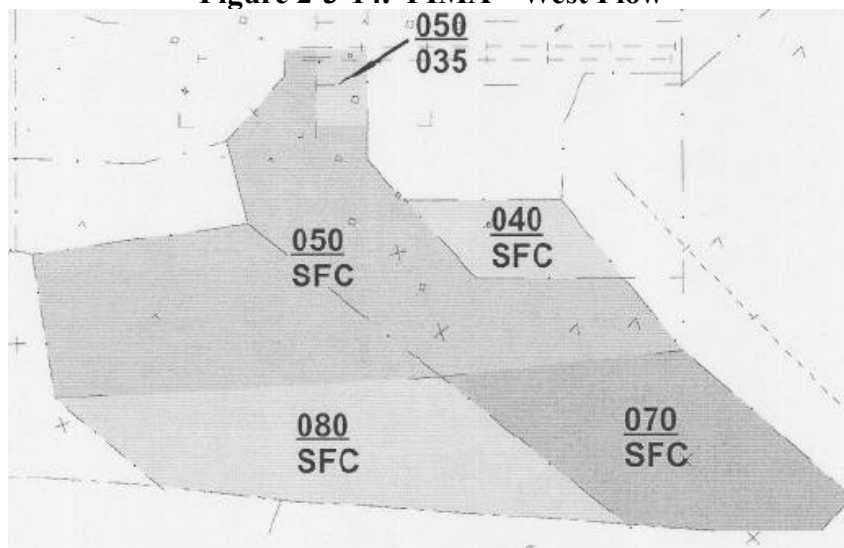
**a. Northbound Satellite Departures and SDL / DVT / 18AZ Arrivals**

- (1) Vector over PHX.
- (2) Ensure level at 4,000'. VFR East/West transition aircraft ensure level 4,000' or 4,500'.
- (3) Hand off to “B,” if open.

**Figure 2-3-13. PIMA – East Flow**



**Figure 2-3-14. PIMA – West Flow**



**2-3-8. WILLY – “W”.** PHX arrivals shall be sequenced in accordance with Phoenix Arrival Plans. Other aircraft shall be routed as follows:

**a. Departures**

- (1) Assign initial heading 090.
- (2) Assign 7,000'. Assign 5,000' if southbound.
- (3) Hand off to “S” or “P” as appropriate, if open.

**b. SDL / CHD / DVT / P19 / 18AZ Arrivals**

- (1) Vector toward “P” airspace, assign 5,000'.
- (2) Hand off to “P,” if open.

**Figure 2-3-15. WILLY – East Flow**

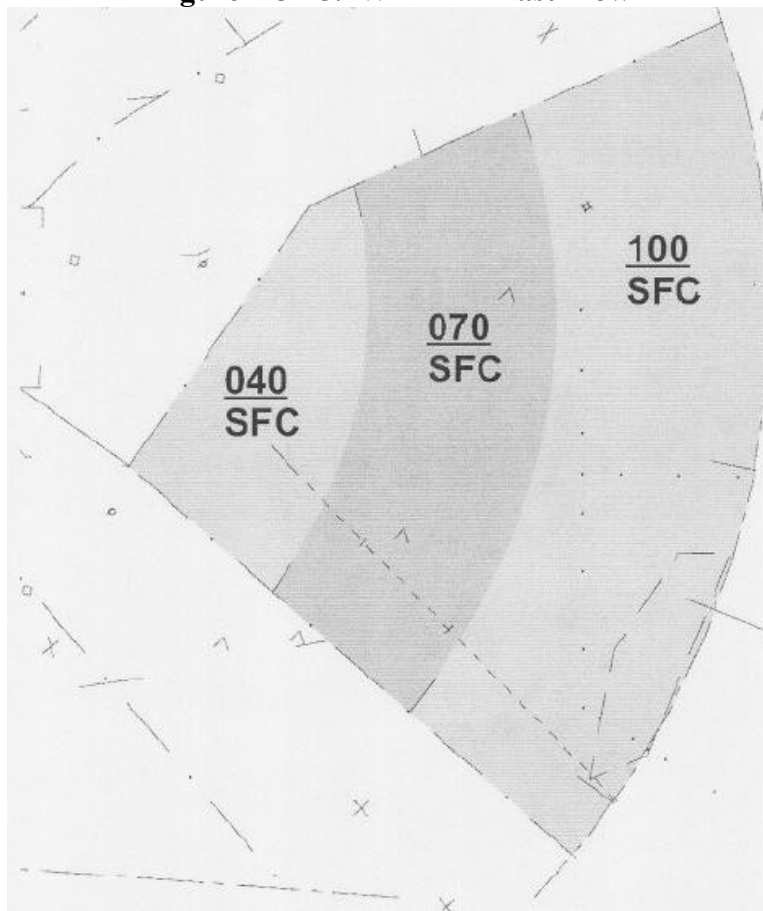


Figure 2-3-16. WILLY – West Flow

