




Flight Procedure Tracking Form		Action: AMENDMENT	Task Type: SID	Date Open: 12/11/2017	Task #: 2017121130565101010	Request #: 20171211305651
Procedure: SID PIEPE (RNAV) FIVE MEMPHIS TN KMEM			Airport ID: KMEM	Airport: MEMPHIS INTL		Reimbursable #: NO
City: MEMPHIS	ST: TN	GPS #:	Estimated Chart Date: 11/08/2018		FICO #: 1209386	
Fac ID: N/A		Fac. Type:		Specialist: HEIDI SNIDER		
Procedure Review						
	Rec'd	Rel'd	Full Name	Comments		
Lead:	12/20/2017	07/24/2018	ANDI LAU	 Digitally signed by		
QA:	04/05/2018	04/05/2018	ANDI LAU	 GEORGETTE P BARNETT		
Liaison:	04/05/2018	04/06/2018	MARY MCDONALD	 Sep 12, 2018		
Procedure Comments:			ENROUTE	Remark Type: INFORMATION		
<p>ACTIVE DATA USED</p> <p>REMARKS: REQUEST TABLE TOP ONLY FC EVAL; REQUIRES REVIEW BY RNAV-PRO GROUP.</p> <p>WAIVER REQUEST: 8260.46F, APNDX E, SECT 1, PARA 10C, REMOVE MCA 5000 AT BEBIE.</p> <p>07/17/18: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 02/08/2018: 1. UPDATED DP ROUTE DESCRIPTION FOR RWY 9, 27: ADDED "THEN CONTINUE CLIMB TO 2300 ON HEADING..."</p> <p>09/11/18: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 02/08/2018: 1. ADDITIONAL FLIGHT DATA - DELETED: CHART: MEA/MOCA FROM BEBIE TO PIEPE, 9000/1700.</p> <p>CONTACT ROBERT HAMILTON 405-954-4608</p>						

FIPC DME/DME FORM							
PROCEDURE: SID,PIEPE (RNAV),FIVE,MEMPHIS,TN,KMEM,!			AIRPORT NAME: MEMPHIS INTL		AIRPORT ID: KMEM	SPECIAL CONTROL NO: AG-04-094-18	
FAC ID: PIEPE5		CITY: MEMPHIS			ST: TN	ORIG CHART DATE: 07/19/2018	
DFL TYPE: PROC/D	THIRD PARTY: <input type="checkbox"/> YES	EST. TIME ON SITE: 1.0	REIMB. NUMBER:		PTS TASK ID: 2017121130565101010		
PREFLIGHT NOTES							
REVIEWER: jeffrey eckman					DATE: 04/10/2018		
COMMENTS:					CHECK ONE:		
					<input type="checkbox"/> FLT CK REQ <input checked="" type="checkbox"/> NFCR <input type="checkbox"/> REJECT		
							YES
					CPV COMPLETE?		X
PROCEDURE RESULTS							
INSPECTION DATE: 04/12/2018		CREW #: VN327	N #:	INSTRUMENT PROCEDURE STATUS: <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT W/CHANGES <input type="checkbox"/> UNSAT		ARINC CODING: <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT/GOLD <input type="checkbox"/> UNSAT	
FLIGHT INSPECTOR SIGNATURE: jeffrey eckman @ 04/12/2018 14:00			PRINTED NAME: ECKMAN, JEFFREY ALAN			NOTAM INITIATED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
FLIGHT INSPECTOR REMARKS: NFCR: REMOVED CROSSING RESTRICTION, REMOVED CHART MINIMUM CROSSING ALTITUDE and REMOVED TAKEOFF OBSTACLE NOTES.							
DME/DME STATUS: <input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT		SPECIALIST SIGNATURE: mark ctr schoenhoff @ 04/25/2018 08:28			PRINTED NAME: MARK SCHOENHOFF		
SPECIALIST REMARKS: No Flight Check Required. Procedure table topped. No RNAV-Pro Analysis necessary.							
IN-FLIGHT OBSTACLE REPORT							
OBSTRUCTION ID #:	COORDINATES OR LOCATION:		GNSS ALTITUDE (MSL):		BAROMETRIC ALTITUDE (MSL):		HEIGHT ABOVE GROUND LEVEL:

FIPC DME/DME FORM

PROCEDURE: SID,PIEPE (RNAV),FIVE,MEMPHIS,TN,KMEM,!		AIRPORT NAME: MEMPHIS INTL		AIRPORT ID: KMEM	SPECIAL CONTROL NO: AG-04-094-18
FAC ID: PIEPE5		CITY: MEMPHIS		ST: TN	ORIG CHART DATE: 07/19/2018
DFL TYPE: PROC/D	THIRD PARTY: <input type="checkbox"/> YES	EST. TIME ON SITE: 1.0	REIMB. NUMBER:	PTS TASK ID: 2017121130565101010	

PREFLIGHT NOTES

REVIEWER: jeffrey eckman	DATE: 04/10/2018	
COMMENTS:	CHECK ONE: <input type="checkbox"/> FLT CK REQ <input checked="" type="checkbox"/> NFCR <input type="checkbox"/> REJECT	
		YES NO
	CPV COMPLETE?	<input type="checkbox"/> <input checked="" type="checkbox"/> X

PROCEDURE RESULTS

INSPECTION DATE: 04/10/2018	CREW #: VN327	N #:	INSTRUMENT PROCEDURE STATUS: <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT W/CHANGES <input type="checkbox"/> UNSAT	ARINC CODING: <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT/GOLD <input type="checkbox"/> UNSAT
FLIGHT INSPECTOR SIGNATURE: jeffrey eckman @ 04/10/2018 06:42			PRINTED NAME: ECKMAN, JEFFREY ALAN	NOTAM INITIATED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

FLIGHT INSPECTOR REMARKS: NFCR: REMOVED CROSSING RESTRICTION, REMOVED CHART MINIMUM CROSSING ALTITUDE and REMOVED TAKEOFF OBSTACLE NOTES.	
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DME/DME STATUS: <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	SPECIALIST SIGNATURE:	PRINTED NAME:
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SPECIALIST REMARKS:

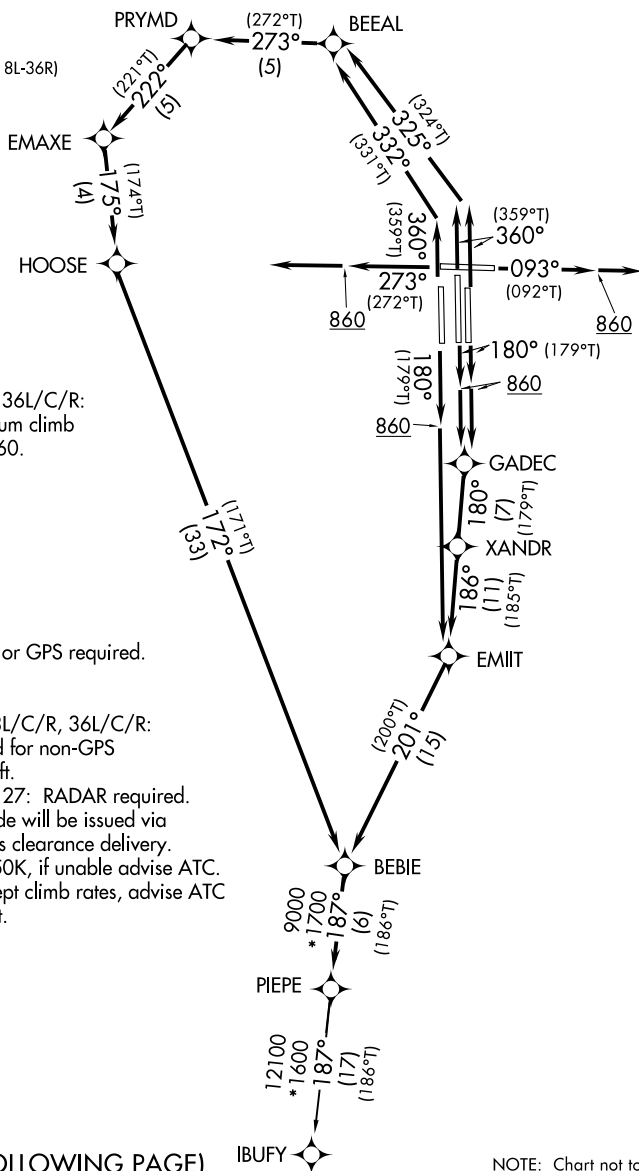
IN-FLIGHT OBSTACLE REPORT

OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:
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MEMPHIS INTL (MEM)
MEMPHIS, TENNESSEE

TOP ALTITUDE:
5000

PROTOTYPE-NOT FOR NAVIGATION



Rwys 9, 18L/C/R, 27, 36L/C/R:
Standard with minimum climb
of 500' per NM to 860.

- NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: Turbojets only.
NOTE: Takeoff Rwys 18L/C/R, 36L/C/R:
RADAR required for non-GPS
equipped aircraft.
NOTE: Takeoff Rwys 9, 27: RADAR required.
NOTE: Transponder code will be issued via
PDC or Memphis clearance delivery.
NOTE: Accelerate to 250K, if unable advise ATC.
NOTE: If unable to accept climb rates, advise ATC
on initial contact.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

MEMPHIS, TENNESSEE
MEMPHIS INTL (MEM)

(PIEPE5.PIEPE) FIG

PIEPE FIVE DEPARTURE (RNAV)



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 9: Climb heading 093° to 860, then continue climb to 2300 on heading 093° or as assigned by ATC, for RADAR vectors to BEBIE, then on depicted route to PIEPE, thence. . . .

TAKEOFF RWYS 18C/L: Climb heading 180° to 860, then direct GADEC, then on depicted route to PIEPE, thence. . . .

TAKEOFF RWY 18R: Climb heading 180° to 860, then direct EMIIT, then on depicted route to PIEPE, thence. . . .

TAKEOFF RWY 27: Climb heading 273° to 860, then continue climb to 2300 on heading 273° or as assigned by ATC, for RADAR vectors to BEBIE, then on depicted route to PIEPE, thence. . . .

TAKEOFF RWYS 36C/R: Climb heading 360° to intercept course 325° to BEEAL, then on depicted route to PIEPE, thence. . . .

TAKEOFF RWY 36L: Climb heading 360° to intercept course 332° to BEEAL, then on depicted route to PIEPE, thence. . . .

. . . .maintain 5000. Expect clearance to filed altitude within ten (10) minutes after departure.

IBUFY TRANSITION (PIEPE5.IBUFY):

PROTOTYPE-NOT FOR NAVIGATION

(PIEPE4.PIEPE) FIG
PIEPE FOUR DEPARTURE (RNAV)

OLD

MEMPHIS INTL (MEM)
MEMPHIS, TENNESSEE

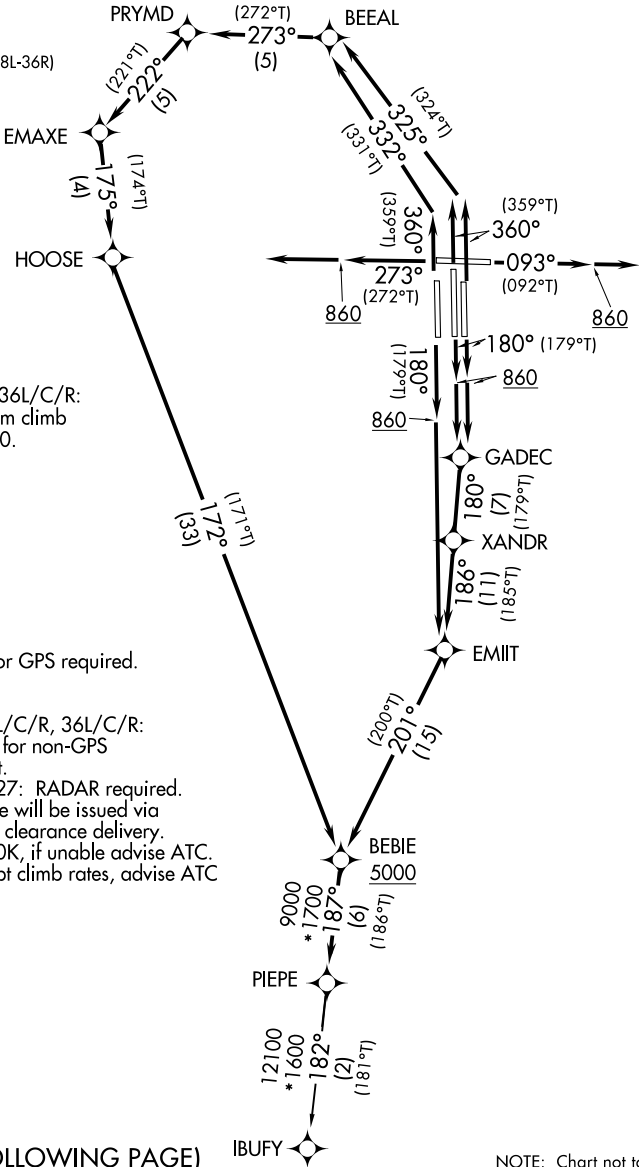
TOP ALTITUDE:
5000

ATIS
127.75
CLNC DEL
125.2
CPDLC
GND CON
121.0 379.2 (Rwy 9-27)
121.9 379.2 (Rwys 18C-36C, 18L-36R)
121.65 379.2 (Rwy 18R-36L)
MEMPHIS TOWER
118.3 257.8 (Rwy 9-27)
119.7 257.8 (Rwys 18C-36C, 18L-36R)
128.425 257.8 (Rwy 18R-36L)
MEMPHIS DEP CON
124.65 284.7

PROTOTYPE-NOT FOR NAVIGATION

TAKEOFF MINIMUMS:
Rwys 9, 18L/C/R, 27, 36L/C/R:
Standard with minimum climb
of 500' per NM to 860.

- NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: Turbojets only.
NOTE: Takeoff Rwys 18L/C/R, 36L/C/R:
RADAR required for non-GPS
equipped aircraft.
NOTE: Takeoff Rwys 9, 27: RADAR required.
NOTE: Transponder code will be issued via
PDC or Memphis clearance delivery.
NOTE: Accelerate to 250K, if unable advise ATC.
NOTE: If unable to accept climb rates, advise ATC
on initial contact.



(NARRATIVE ON FOLLOWING PAGE)

NOTE: Chart not to scale.

PIEPE FOUR DEPARTURE (RNAV)



DEPARTURE ROUTE DESCRIPTION

TAKEOFF RWY 9: Climb heading 093° to 860, then continue climb on heading 093° or as assigned by ATC, for RADAR vectors to cross BEBIE at or above 5000, then on depicted route to PIEPE, thence....

TAKEOFF RWYS 18C/L: Climb heading 180° to 860, then direct GADEC, then on depicted route to PIEPE, thence....

TAKEOFF RWY 18R: Climb heading 180° to 860, then direct EMIIT, then on depicted route to PIEPE, thence....

TAKEOFF RWY 27: Climb heading 273° to 860, then continue climb on heading 273° or as assigned by ATC, for RADAR vectors to cross BEBIE at or above 5000, then on depicted route to PIEPE, thence....

TAKEOFF RWYS 36C/R: Climb heading 360° to intercept course 325° to BEEAL, then on depicted route to PIEPE, thence....

TAKEOFF RWY 36L: Climb heading 360° to intercept course 332° to BEEAL, then on depicted route to PIEPE, thence....

....maintain 5000. Expect clearance to filed altitude within ten (10) minutes after departure.

IBUFY TRANSITION (PIEPE4.IBUFY):TAKEOFF OBSTACLE NOTES:

Rwy 9: Light pole 1497' from DER, 799' left of centerline, 43' AGL/342' MSL.

Rwy 18R: VORTAC and rod on pole beginning 3209' from DER, 1019' left of centerline, up to 43' AGL/412' MSL. Trees 3231' from DER, 1038' right of centerline, up to 87' AGL/406' MSL.

Rwy 27: Trees 4145' from DER, 1382' left of centerline, up to 112' AGL/361' MSL.

Rwy 36C: Light pole 1948' from DER, 928' right of centerline, 77' AGL/336' MSL.

PROTOTYPE-NOT FOR NAVIGATION

1. FLIGHT PROCEDURE IDENTIFICATION:

Memphis, TN
Memphis Intl Airport
PIEPE DEPARTURE (RNAV)

2. WAIVER REQUIRED AND APPLICABLE STANDARD:

Radar Vectors (RV) for RWYs 9 and 27; a waiver to FAA 8260.46 F, Appendix E, para 10. C.

3. REASON FOR WAIVER (JUSTIFICATION FOR NONSTANDARD TREATMENT):

The waiver of the requirement to publish a minimum crossing altitude is needed to reduce the confusion caused by different requirements for ATC clearance dependent upon which runway the aircraft will depart. This inconsistency in clearance delivery requirements creates the potential for the issuance of an erroneous departure clearance. Clearance Delivery does not know what runway the aircraft will be assigned for departure at the time the departure clearance is initially issued. A failure to issue a required amendment to the departure clearance by Ground or Local Control due to a runway reassignment could result in the aircraft departing with an incorrect departure clearance. Removal of the coded altitude at the IF will eliminate the inconsistency, and will allow the same departure clearance to be issued regardless of the departure procedure or departure runway assigned.

4. EQUIVALENT LEVEL OF SAFETY PROVIDED:

1. With an initial procedurally required minimum initial climb gradient of 500 ft/NM to 860 and then the standard climb gradient of 200 ft/NM, a departing aircraft will be above 2300 within 10 NM after departure and a minimum of 27.34 NM prior to the IF (BEBIE) which is 35.85 NM from the closest DER. The departure route description for runways 9 and 27 will provide instruction for the aircraft to conduct an uninterrupted climb to 2300 which is at or above the MVA from the airport to the IF.
2. ATC will ensure aircraft departing RWY 9/27 cross the IF at or above 2300 ft. MSL. This requirement is included in the M03 facility operating instructions.
3. An OCS with a starting elevation of 1300 ft. (2300 MVA-1000 ROC) was evaluated for the route starting at BEBIE and the surface was clear.

5. ALTERNATIVE ACTIONS DEEMED NOT FEASIBLE:

1. Creating runway dependent SIDs for aircraft departing runway 9 or 27 would create additional work load and potential confusion for both air crews and controllers due to different requirements for ATC clearance dependent upon which runway the aircraft will depart and the need for controllers having to issue a revised departure clearance with a different SID, and the air crews having to reload a revised flight plan based on a runway assignment. Revised departure clearances would have to be verbally issued during the taxi portion of the flight by the ground controller or local controller instead of clearance delivery, and could distract from other higher priority duties and could interrupt air crew pre-departure preparation and require a crew re-brief.
2. Modifying all the SIDs to be either totally RV SIDs or totally OTG SIDs would be incompatible with procedure efficiency and local environmental concerns.

6. COORDINATION WITH USER ORGANIZATIONS (SPECIFY):

Eastern Service Area PBN FAA and NATCA leads
Memphis ARTCC (ZME)
Memphis Approach Control (M03)
Memphis Tower
Industry

7. SUBMITTED BY:

DATE	OFFICE IDENTIFICATION	TITLE
7/31/2018	AJV-542	MANAGER

SIGNATURE

Digitally signed by
JULIE A MORGAN
Jul 31, 2018

8. AFS ACTIONS:

☐ APPROVED ☐ DISAPPROVED ☐ NOT REQUIRED


COMMENTS:

DATE	ROUTING SYMBOL	SIGNATURE
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Federal Aviation Administration

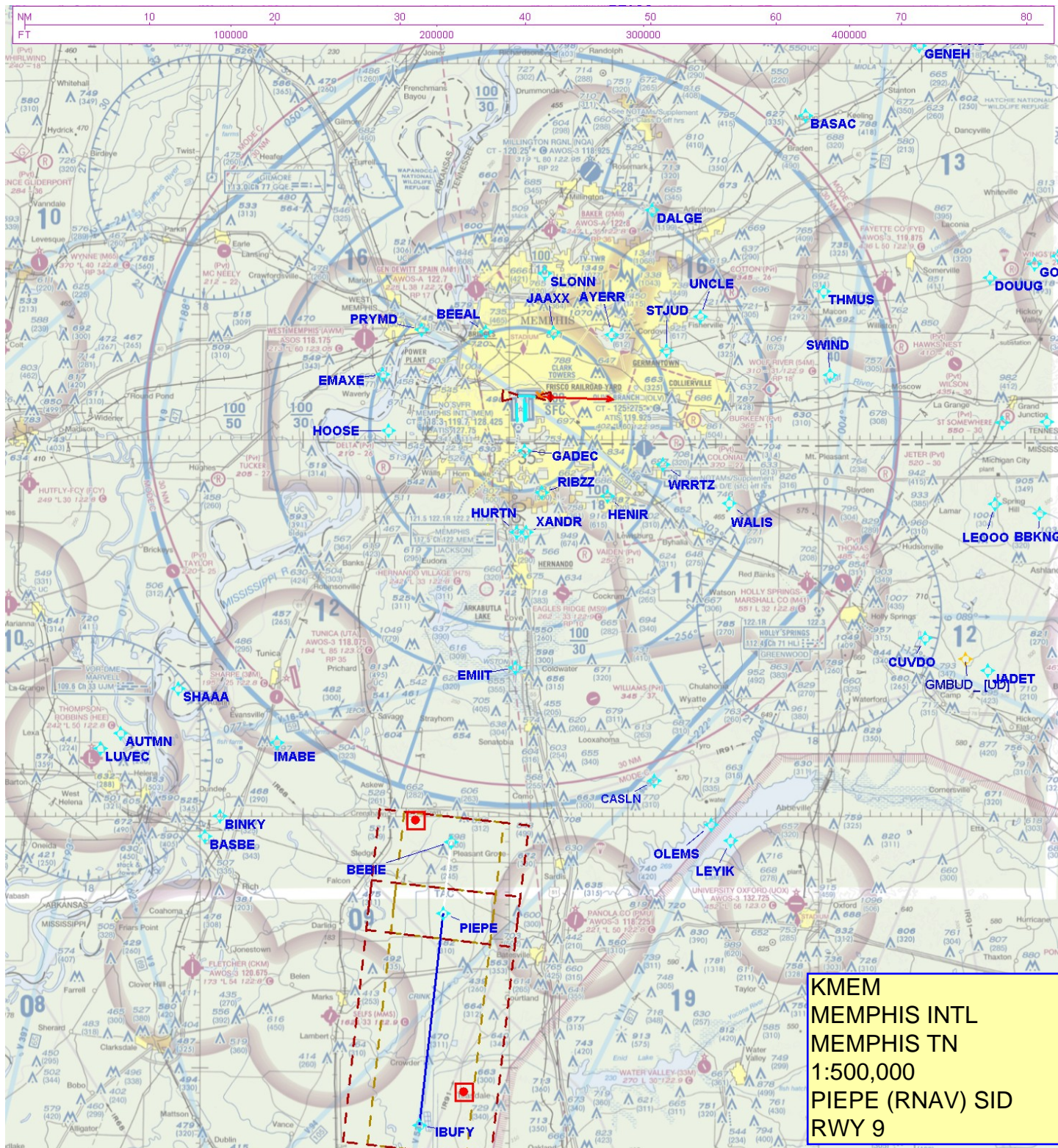
Memorandum

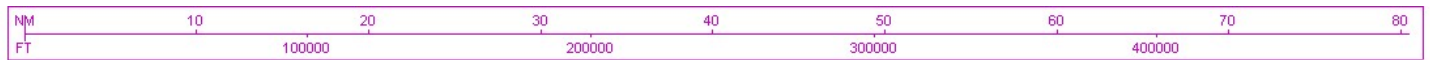
Date: November 14, 2016
To: Matthew Cathcart, Air Traffic Control Specialist, ATO
From: 
Edward S. Campbell, Air Traffic Manager, M03
Prepared by: Jim McVeigh, Support Specialist, M03
Subject: Letter of Approval for 45 degree Limitation on RNAV SIDs

Memphis TRACON (M03) understands and accepts a limitation of a 45 degree interception angle at the IDF, in lieu of 90 degrees, when departing Runway 9/27 for the following SIDs:

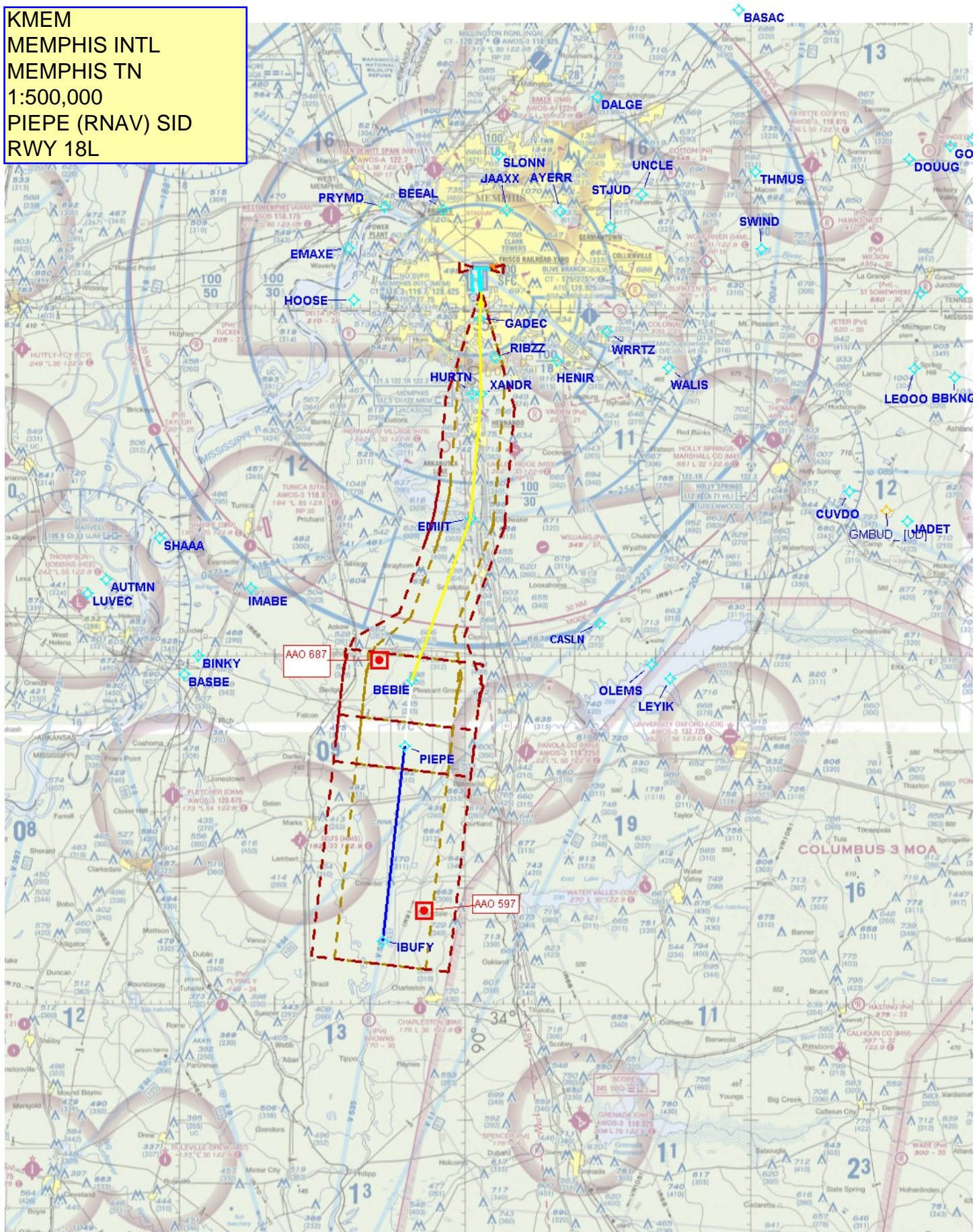
SID	IDF
AUTMN4	SHAAA
AZONE5	TOWND
BBKNG5	LEOOO
CRSON5	LYZZI
GMBUD5	CUVDO
GOETZ5	DOUUG
OLEMS4	CASLN
PIEPE4	BEBIE

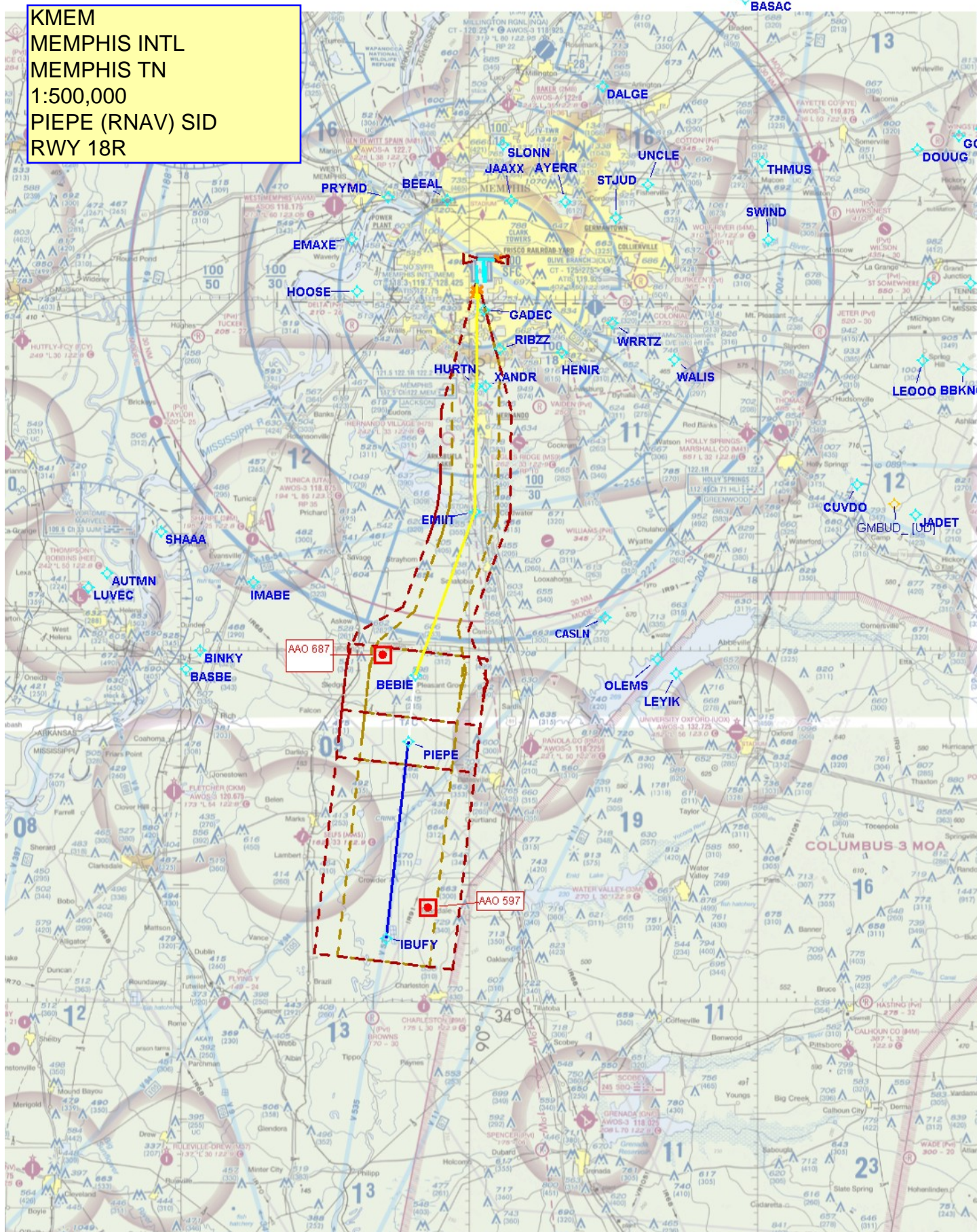
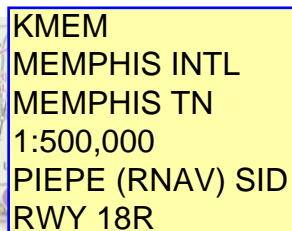
Appropriate controller training and changes to the local directives will be developed.

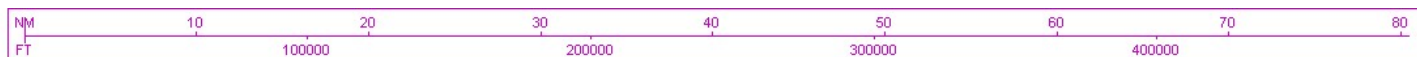




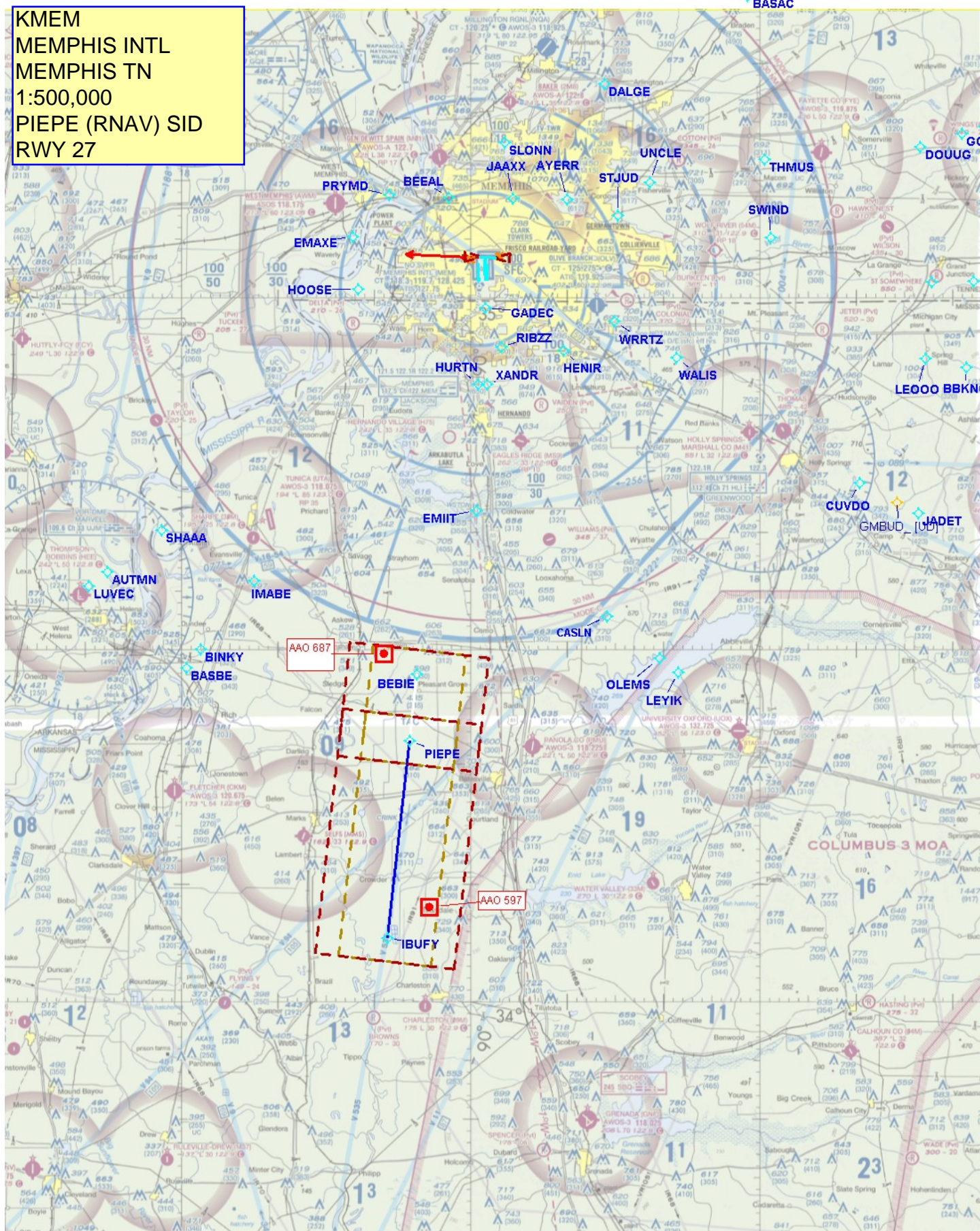
KMEM
MEMPHIS INTL
MEMPHIS TN
1:500,000
PIEPE (RNAV) SID
RWY 18L

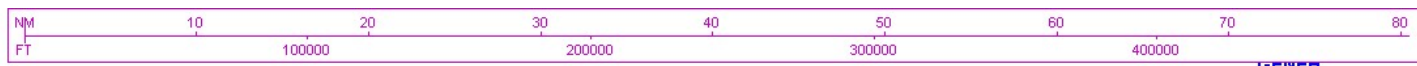




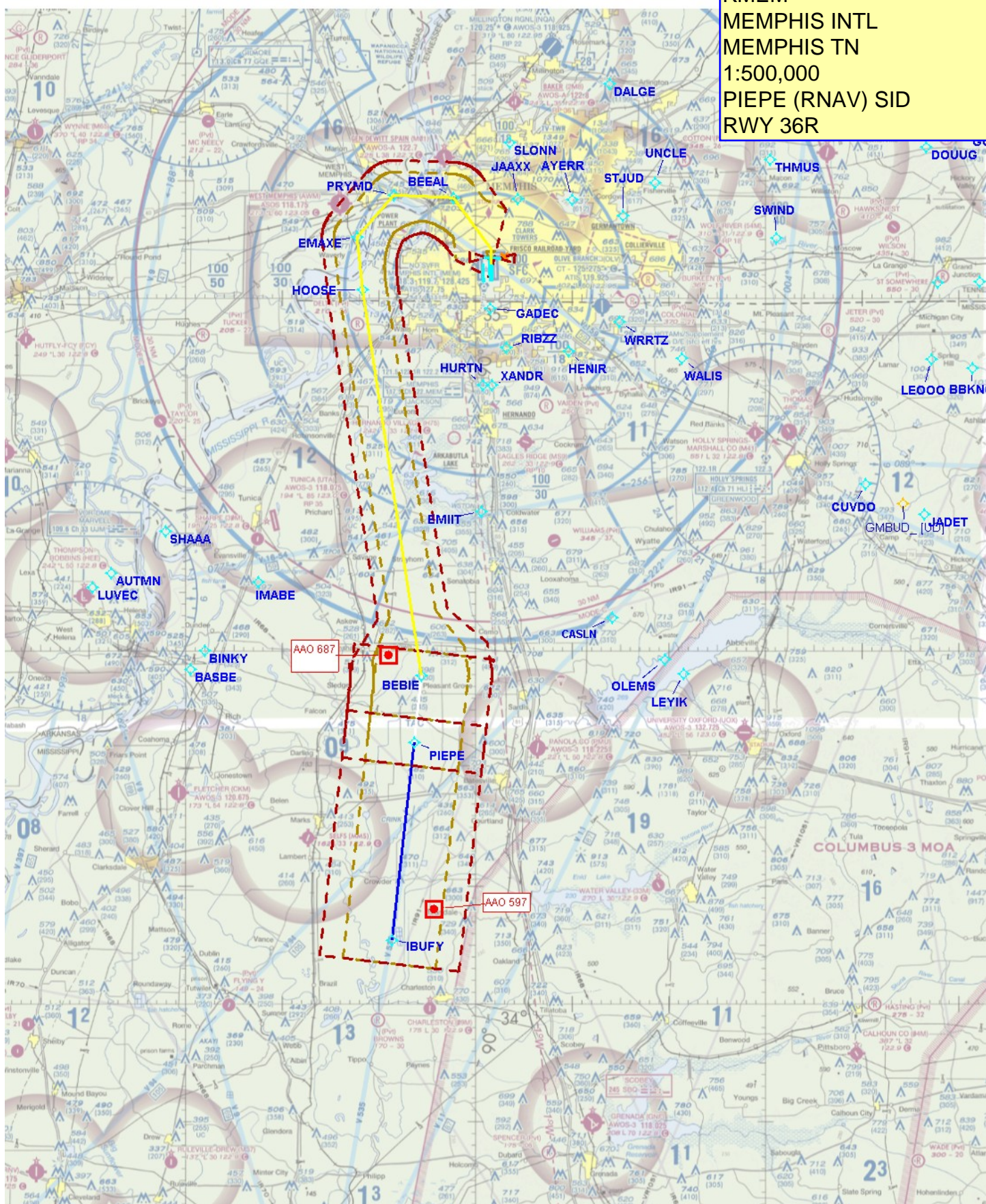


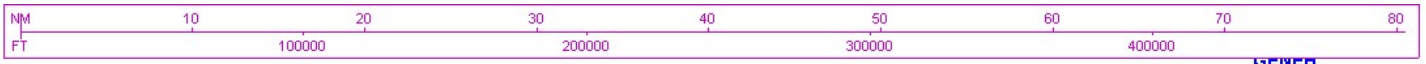
KMEM
MEMPHIS INTL
MEMPHIS TN
1:500,000
PIEPE (RNAV) SID
RWY 27



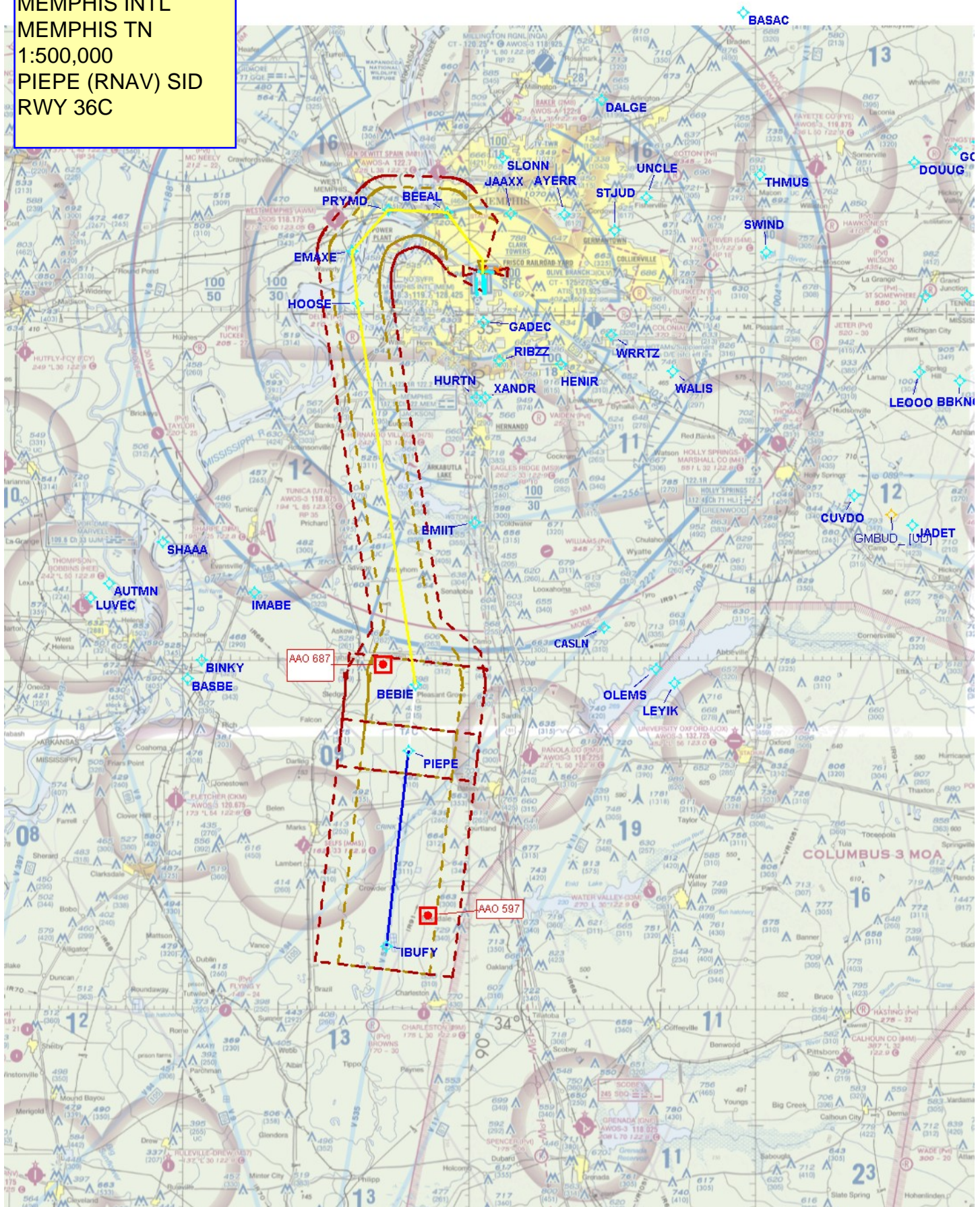


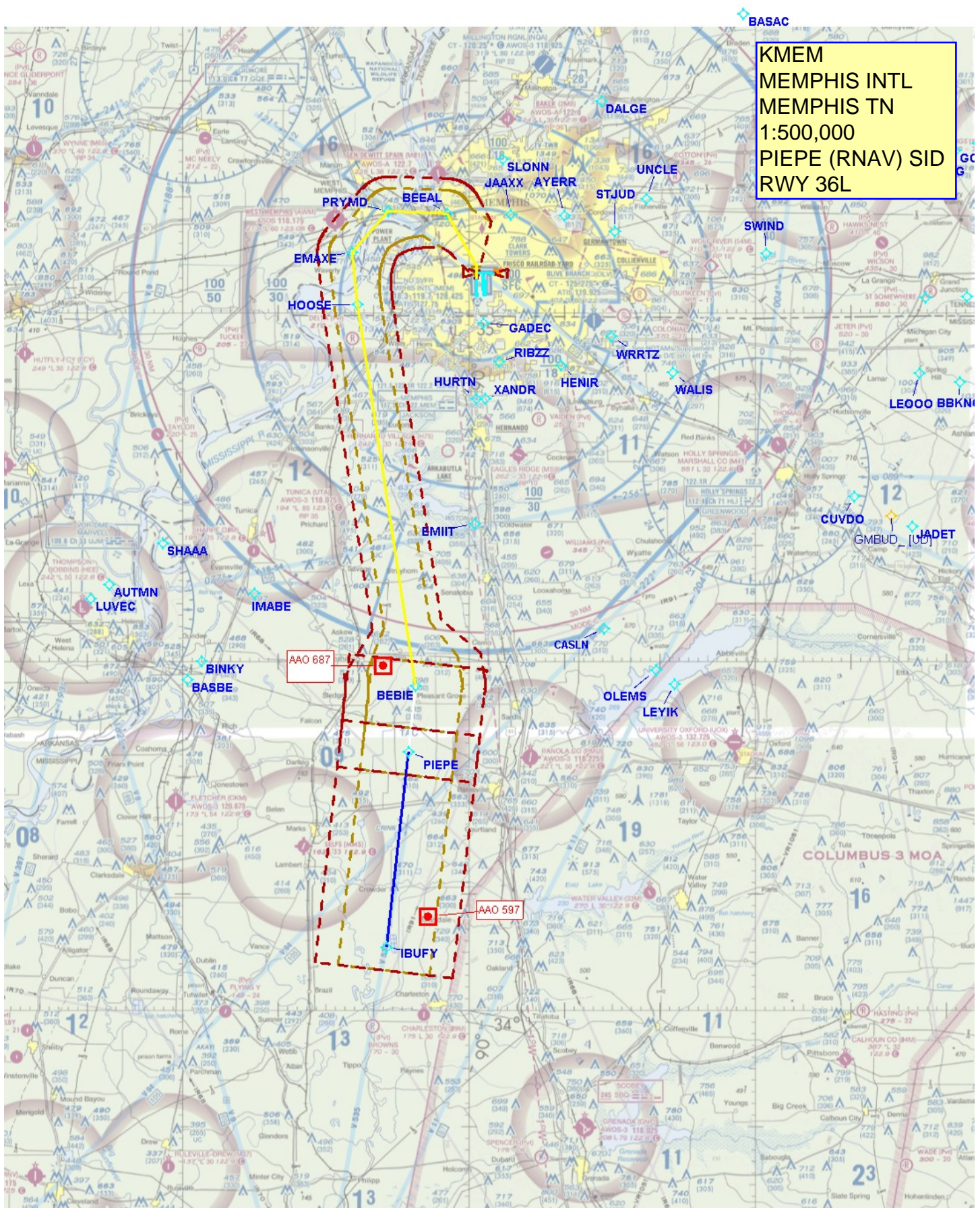
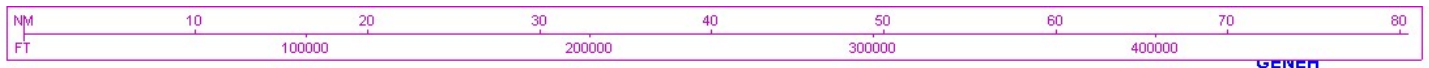
KMEM
MEMPHIS INTL
MEMPHIS TN
1:500,000
PIEPE (RNAV) SID
RWY 36R

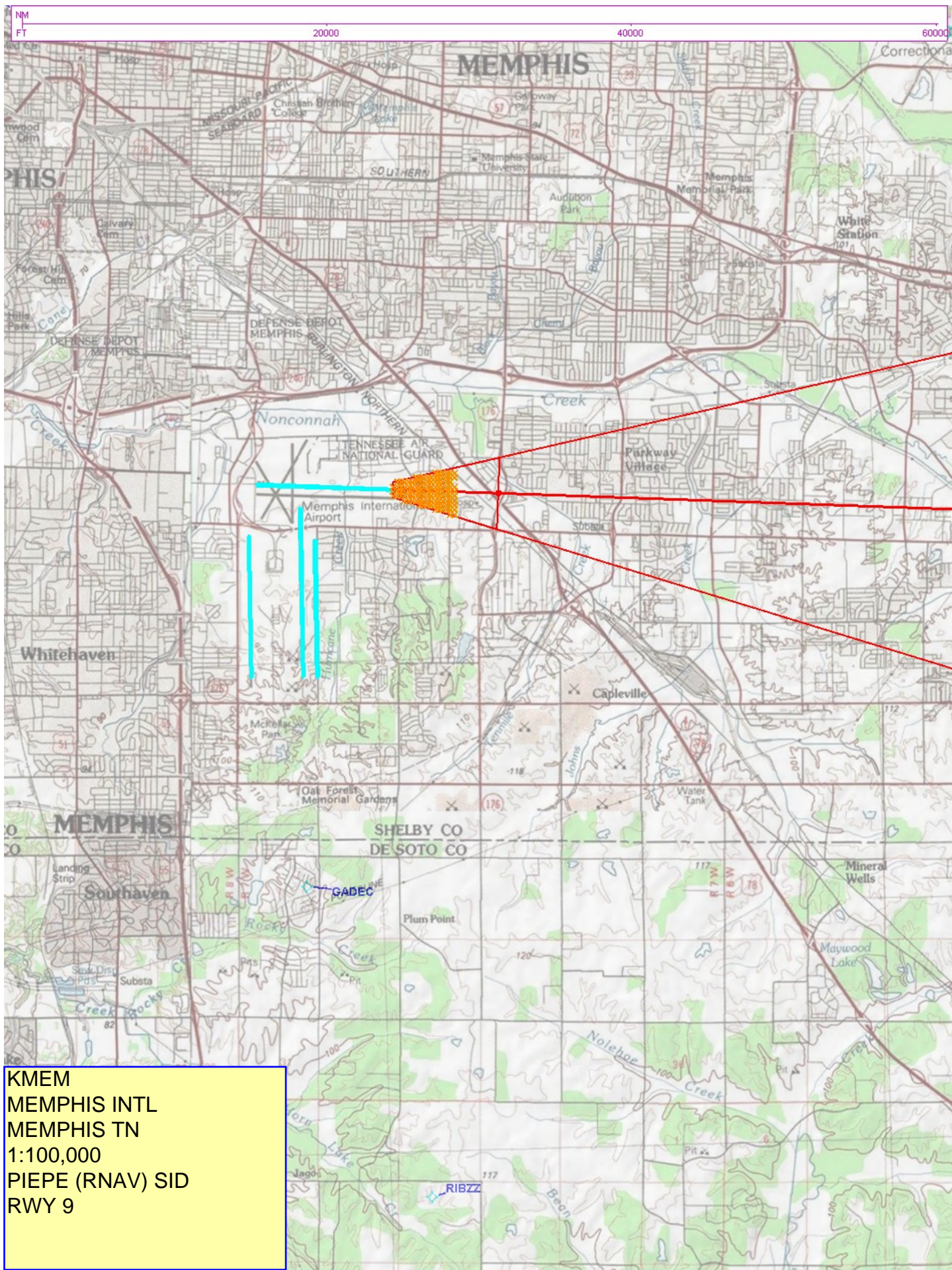




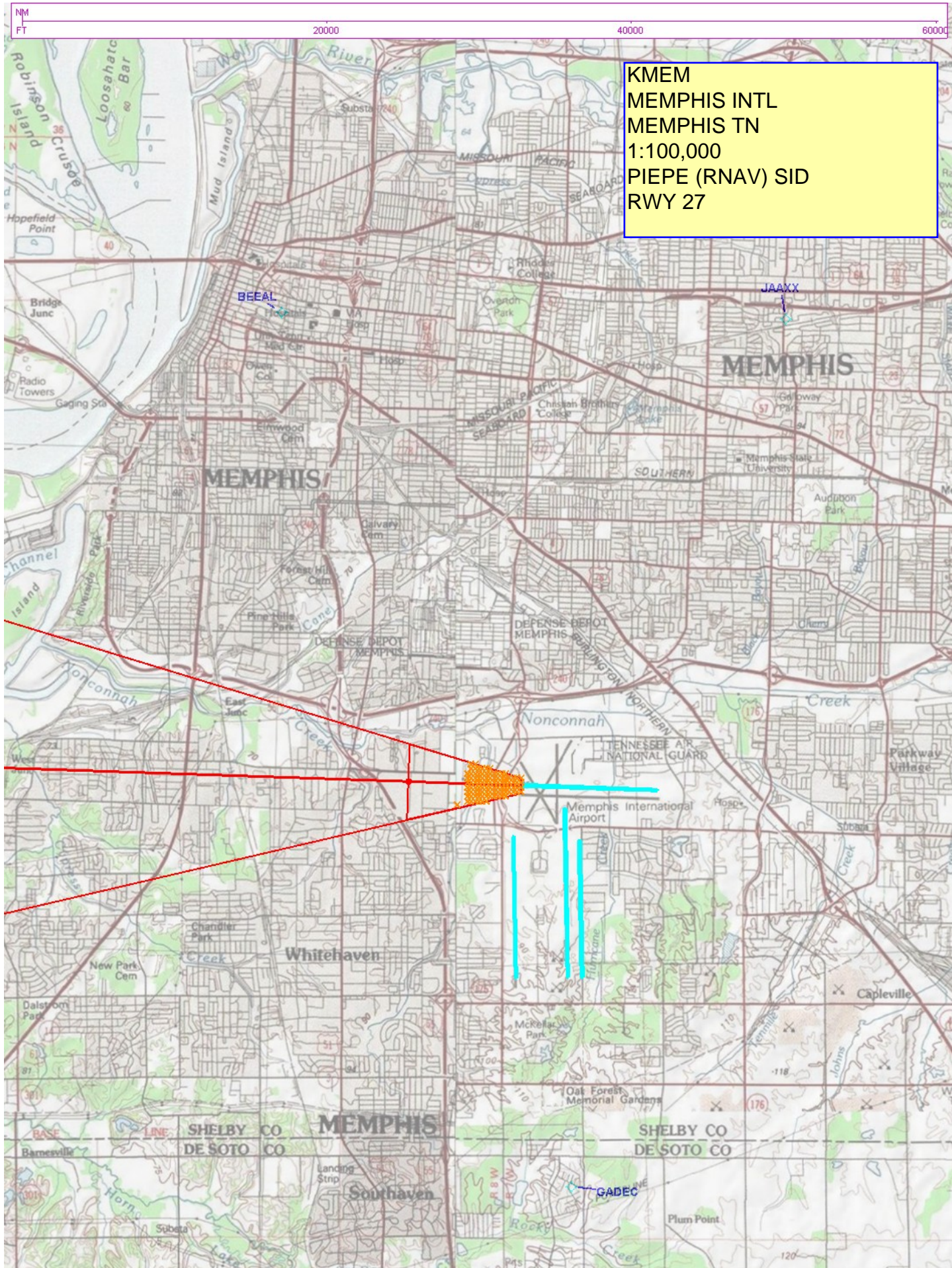
KMEM
MEMPHIS INTL
MEMPHIS TN
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PIEPE (RNAV) SID
RWY 36C

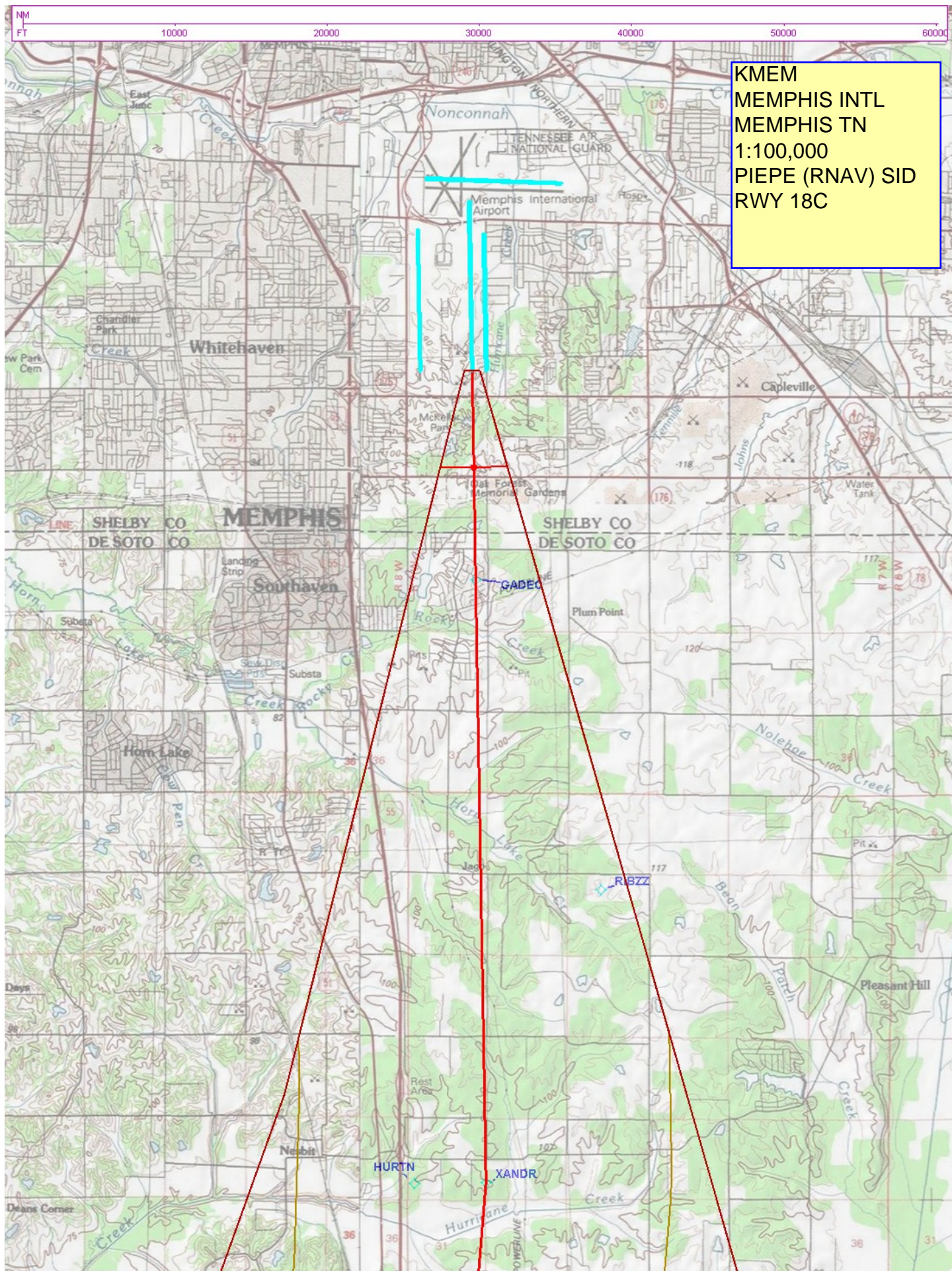






KMEM
MEMPHIS INTL
MEMPHIS TN
1:100,000
PIEPE (RNAV) SID
RWY 9





KMEM
MEMPHIS INTL
MEMPHIS TN
1:100,000
PIEPE (RNAV) SID
RWY 18C

