

Flight Procedures Cover Page	Task Action: FLIGHT CHECK	Task Type: STAR	Estimated Chart Date: 07/11/2024	APWS Task ID: 47C127183A1A423FBC3319E9E1114470	APWS Project ID: 7B846F46AA794ADD8C31971F1E22EEEE0
Procedure: DLAMP (RNAV) EIGHT ARRIVAL		Enroute: YES	Specialist: Johnson, Raymond		Agreement Number:
Airport ID: KSDF			Airport City: LOUISVILLE		State: KY
Facility ID:	Facility Type:	Flight Inspection Remark Type: New FC Slot			
<div>Procedure Comments: PROCEDURE COMPLETED USING ACTIVE AIRNAV AIRPORT DATA. LOA (1): DG/DECEL CONTACT: ALLAN WILL (AJV-A423) - (405) 954-6103. 05/14/2024. THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 3/28/24. 8260-2 FILE BRELL, CURRT, QARRY FIX TYPE ACTION, CHANGED FROM NO CHANGE TO CANCEL. 06/05/24: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 05/14/24. 8260-2_FILE ZOPOM 1.FIX MAKE-UP FACILITIES: ADDED FAC 1 - CORRECT ADMINISTRATIVE ERROR. 2.ADDED ENROUTE V5 TO FIX USE - CORRECT ADMINISTRATIVE ERROR.</div> <div><div>QUALITY 38 CHECKED</div><div>QUALITY 35 CHECKED</div></div>					

FIPC DME/DME FORM						
PROCEDURE: STAR DLAMP EIGHT (RNAV) LOUISVILLE KY KSDF			AIRPORT NAME: LOUISVILLE MUHAMMAD ALI INTL		AIRPORT ID: KSDF	SPECIAL CONTROL NO: AG-04-029-24
FAC ID: DLAMP8		CITY: LOUISVILLE			ST: KY	ORIG CHART DATE: 07/11/2024
DFL TYPE: PROC/D	THIRD PARTY: <input type="checkbox"/> YES	EST. TIME ON SITE: 1.0	REIMB. NUMBER:	PTS TASK ID: 47C127183A1A423FBC3319E9E1114470		
PREFLIGHT NOTES						
REVIEWER:					DATE:	
COMMENTS:					CHECK ONE: <input type="checkbox"/> FLT CK REQ <input type="checkbox"/> NFCR <input type="checkbox"/> REJECT <div style="display: flex; justify-content: flex-end; align-items: center; gap: 10px;"> <div style="border-top: 1px solid black; width: 150px;"></div> <div style="border-top: 1px solid black; width: 40px; text-align: center;">YES</div> <div style="border-top: 1px solid black; width: 40px; text-align: center;">NO</div> </div>	
					CPV COMPLETE? X	
PROCEDURE RESULTS						
INSPECTION DATE: 05/09/2024	CREW #: VN364	N #: N81	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: kevin riese @ 05/09/2024 18:02			PRINTED NAME: RIESE, KEVIN JOHN			NOTAM INITIATED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
FLIGHT INSPECTOR REMARKS: Inspection completed. "Procedure Satisfactory for GNSS operations, DME/DME awaiting approval by the applicable AJV Operations Support Group."						
DME/DME STATUS: <input checked="" type="checkbox"/> SAT <input type="checkbox"/> UNSAT	SPECIALIST SIGNATURE: steven s-ctr rager @ 05/15/2024 10:34			PRINTED NAME: Steven Rager		
SPECIALIST REMARKS: Post Flight DME/DME Analysis has been performed on the KSDF DLAMP8 STAR with satisfactory results. All modeled DME's and ESV's were recorded by Flight Inspection or certified by TARGETS and are suitable for DME/DME/IRU operations.						
IN-FLIGHT OBSTACLE REPORT						
OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:		

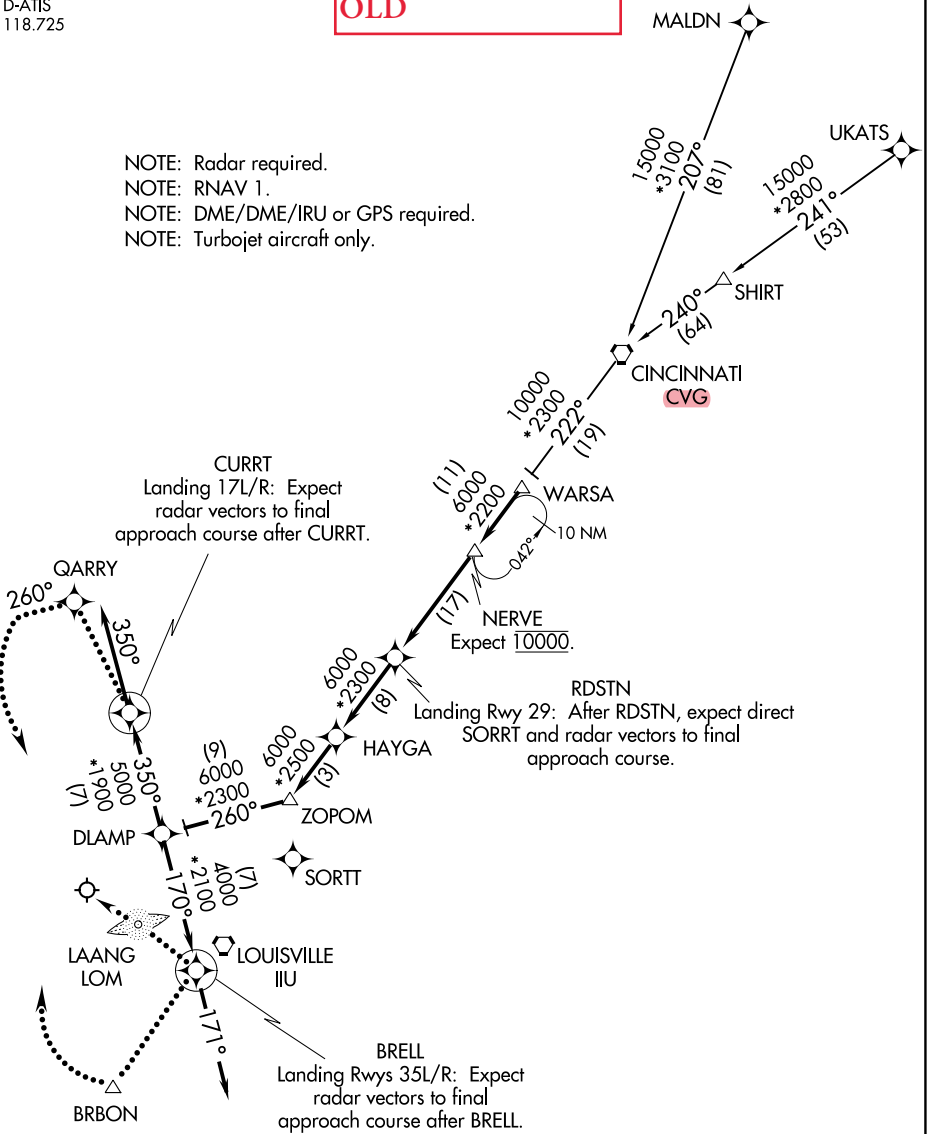
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FAC ID: DLAMP8		CITY: LOUISVILLE			ST: KY	ORIG CHART DATE: 07/11/2024
DFL TYPE: PROC/D	THIRD PARTY: <input type="checkbox"/> YES	EST. TIME ON SITE: 1.0	REIMB. NUMBER:	PTS TASK ID: 47C127183A1A423FBC3319E9E1114470		
PREFLIGHT NOTES						
REVIEWER:					DATE:	
COMMENTS:					CHECK ONE: <input type="checkbox"/> FLT CK REQ <input type="checkbox"/> NFCR <input type="checkbox"/> REJECT <div style="display: flex; justify-content: flex-end; align-items: center; gap: 10px;"> <div style="border-top: 1px solid black; width: 150px;"></div> <div style="border-top: 1px solid black; width: 40px; text-align: center;">YES</div> <div style="border-top: 1px solid black; width: 40px; text-align: center;">NO</div> </div>	
					CPV COMPLETE? <div style="border-top: 1px solid black; width: 40px; text-align: center;">X</div>	
PROCEDURE RESULTS						
INSPECTION DATE: 05/09/2024	CREW #: VN364	N #: N81	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	
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OBSTRUCTION ID #:	COORDINATES OR LOCATION:	GNSS ALTITUDE (MSL):	BAROMETRIC ALTITUDE (MSL):	HEIGHT ABOVE GROUND LEVEL:		

FIPC BASIC FORM									
PROCEDURE: STAR DLAMP EIGHT (RNAV) LOUISVILLE KY KSDF				AIRPORT NAME: LOUISVILLE MUHAMMAD ALI INTL		AIRPORT ID: KSDF		SPECIAL CONTROL NO: AG-04-029-24	
FAC ID: DLAMP8			CITY: LOUISVILLE			ST: KY		ORIG CHART DATE: 07/11/2024	
DFL TYPE: PROC/D	THIRD PARTY: <input type="checkbox"/> YES	EST. TIME ON SITE: 1.0	REIMB. NUMBER:		PTS TASK ID: 47C127183A1A423FBC3319E9E1114470				
PREFLIGHT NOTES									
REVIEWER:						DATE:			
COMMENTS:						CHECK ONE: <input type="checkbox"/> FLT CK REQ <input type="checkbox"/> NFCR <input type="checkbox"/> REJECT			
								YES	NO
						CPV COMPLETE?		X	
PROCEDURE RESULTS									
INSPECTION DATE: 05/09/2024		CREW #: VN364	N #: N81	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: kevin riese @ 05/09/2024 18:02				PRINTED NAME: RIESE, KEVIN JOHN				NOTAM INITIATED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
FLIGHT INSPECTOR REMARKS: Inspection completed. "Procedure Satisfactory for GNSS operations, DME/DME awaiting approval by the applicable AJV Operations Support Group."									
IN-FLIGHT OBSTACLE REPORT									
OBSTRUCTION ID #:	COORDINATES OR LOCATION:		GNSS ALTITUDE (MSL):		BAROMETRIC ALTITUDE (MSL):		HEIGHT ABOVE GROUND LEVEL:		

LOUISVILLE APP CON
132.075 327.0
D-ATIS
118.725

OLD

NOTE: Radar required.
NOTE: RNAV 1.
NOTE: DME/DME/IRU or GPS required.
NOTE: Turbojet aircraft only.



NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

OLD

ARRIVAL ROUTE DESCRIPTION

CINCINNATI TRANSITION (CVG.DLAMP6):
MALDN TRANSITION (MALDN.DLAMP6):
UKATS TRANSITION (UKATS.DLAMP6):

From WARSA on track 222° to NERVE, then on track 222° to RDSTN, then on track 222° to HAYGA, then on track 222° to ZOPOM, then on track 260° to DLAMP, then on assigned runway transition.

LANDING RWYS 17L/R: From DLAMP on track 350° to CURRT, then on track 350°. Expect radar vectors to final approach course.

LANDING RWY 29: From DLAMP on track 170° to BRELL, then on track 171°. Expect radar vectors to final approach course after RDSTN.

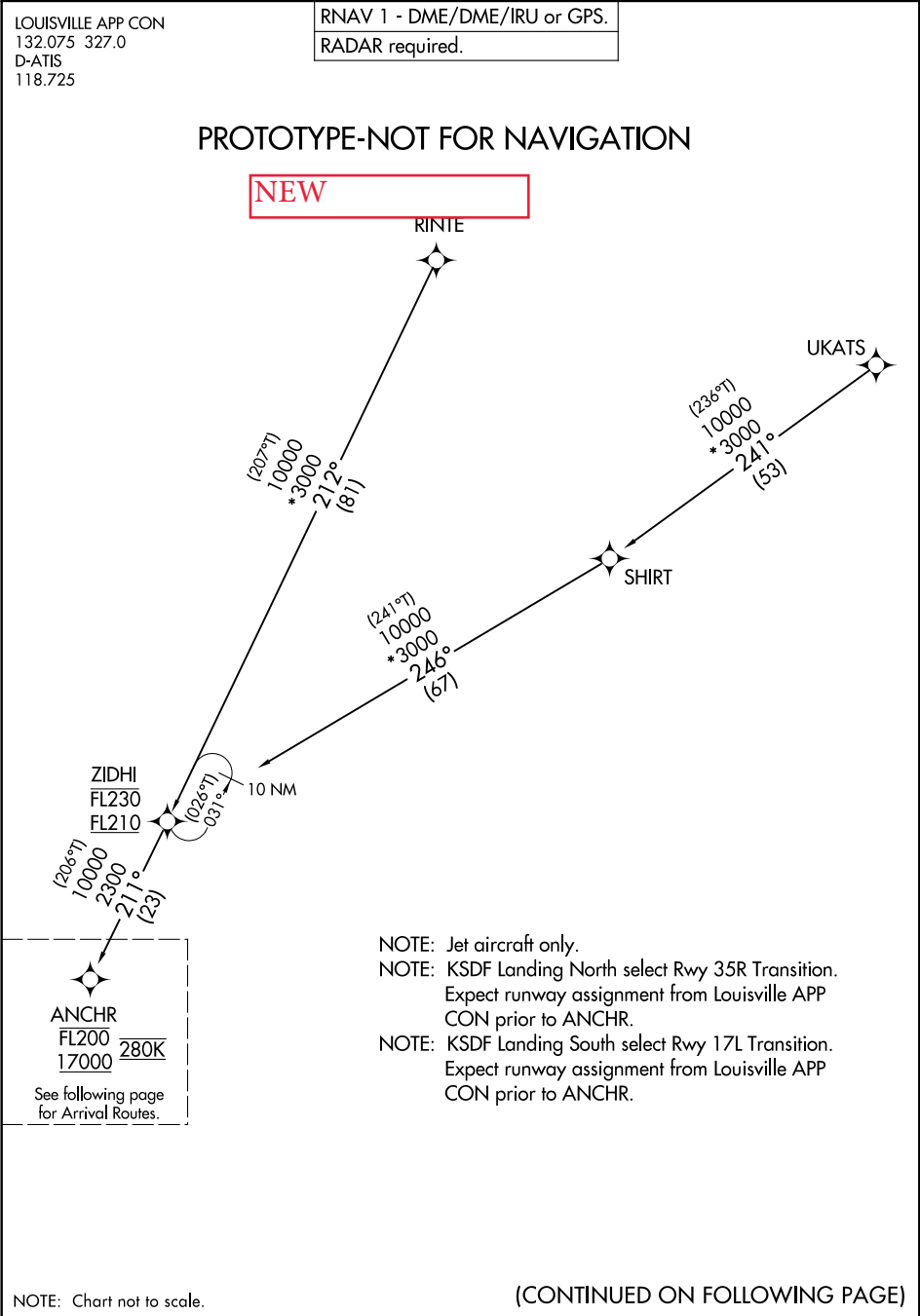
LANDING RWYS 35L/R: From DLAMP on track 170° to BRELL, then on track 171°. Expect radar vectors to final approach course.

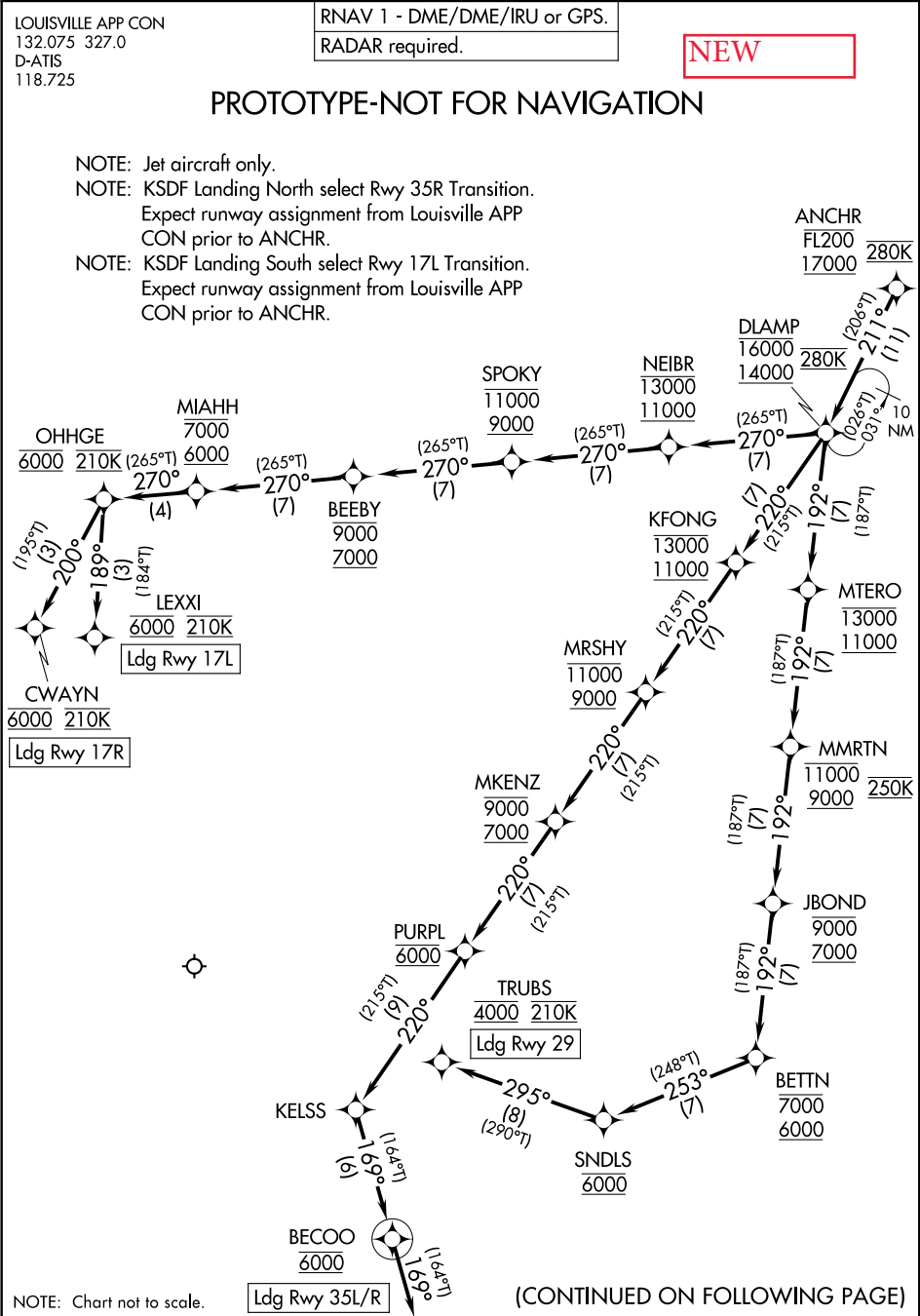
LOST COMMUNICATIONS:

Landing Rwys 17L/R: Track to CURRT, cross CURRT at 5000, then proceed direct QARRY, at QARRY fly heading 260°, maintain 5000, intercept and execute ILS or LOC Rwy 17L approach. If unable, proceed to IIU VORTAC and hold, maintain 6000.

Landing Rwy 29: Track to BRELL, cross BRELL at 4000, then proceed direct LAANG LOM, maintain 4000, execute LOC Rwy 29 approach. If unable, proceed to IIU VORTAC and hold, maintain 6000.

Landing Rwys 35L/R: Track to BRELL, cross BRELL at 4000, then proceed direct BRBON, maintain 4000. Execute ILS or LOC Rwy 35R approach. If unable proceed to IIU VORTAC and hold maintain 6000.





ARRIVAL ROUTE DESCRIPTION

NEW

RINTE TRANSITION (RINTE.DLAMP8):
UKATS TRANSITION (UKATS.DLAMP8):

From ANCHR on track 211° to cross DLAMP between 14000 and 16000 and at 280K.

LANDING RUNWAY 17L: From DLAMP on track 270° to cross NEIBR between 11000 and 13000, then on track 270° to cross SPOKY between 9000 and 11000, then on track 270° to cross BEEBY between 7000 and 9000, then on track 270° to cross MIAHH between 6000 and 7000, then on track 270° to cross OHHGE at 6000 and at 210K, then on track 189° to cross LEXXI at 6000 and at 210K. Expect ILS or LOC Rwy 17L approach.

LANDING RUNWAY 17R: From DLAMP on track 270° to cross NEIBR between 11000 and 13000, then on track 270° to cross SPOKY between 9000 and 11000, then on track 270° to cross BEEBY between 7000 and 9000, then on track 270° to cross MIAHH between 6000 and 7000, then on track 270° to cross OHHGE at 6000 and at 210K, then on track 200° to cross CWAYN at 6000 and at 210K. Expect ILS or LOC Rwy 17R approach.

LANDING RUNWAY 29: From DLAMP on track 192° to cross MTERO between 11000 and 13000, then on track 192° to cross MMRTN between 9000 and 11000 and at 250K, then on track 192° to cross JBOND between 7000 and 9000, then on track 192° to cross BETTN between 6000 and 7000, then on track 253° to cross SNDLS at 6000, then on track 295° to cross TRUBS at 4000 and at 210K. Expect LOC Rwy 29 approach.

LANDING RUNWAYS 35L/R: From DLAMP on track 220° to cross KFONG between 11000 and 13000, then on track 220° to cross MRSHY between 9000 and 11000, then on track 220° to cross MKENZ between 7000 and 9000, then on track 220° to cross PURPL at 6000, then on track 220° to KELSS, then on track 169° to cross BECOO at 6000, then on track 169°. Expect radar vectors to final approach course.

PROTOTYPE-NOT FOR NAVIGATION



Federal Aviation Administration

Memorandum

Date: Nov 14, 2023
To: Tom Lattimer, Airspace Manager CSA PBN Team
From: Jeffrey Chester, TCID Airspace and Procedures Manager
Prepared by: Steven Pullen, Senior ATC Specialist, NAVTAC Support
Subject: Letter of Approval Request DLAMP STAR, KSDF

KSDF DLAMP Standard Terminal Arrival Route (STAR):

DLAMP to KFONG Descent Gradient
DLAMP to MTERO Descent Gradient
DLAMP to NEIBR Descent Gradient
MTERO to MRTNN Deceleration Distances
SNDLS to TRUBS Deceleration Distances
MRSHY to MKENZ Deceleration Distances
SPOKY to BEEBY Deceleration Distances

DLAMP to KFONG Descent Gradient

Currently, FAAO 8260.3E, para 2-2-8a (1), the maximum permissible descent gradient above 10,000ft MSL and above is 330 ft/nm (approximately 3.11 degrees). DLAMP block altitude 14,000 to 16,000 ft MSL and KFONG block altitude 11,000 to 13,000 ft MSL. The descent gradient (428.32 ft/NM) from DLAMP to KFONG is greater than the maximum permissible gradient allowed. Flight Standards approval is required.

The DLAMP STAR serves Louisville Muhammad Ali International Airport. The descent gradient of 428.32 ft/NM from DLAMP to KFONG is calculated from altitude of at or below 16,000 ft MSL at DLAMP descending to an altitude of 13,000ft MSL at KFONG, over a distance of 7.0 NM. However, the gradient over those fixes is within the maximum permissible descent gradient. Descending from block altitude of 14,000 to 16,000 ft MSL at DLAMP to a block altitude of at 11,000 to 13,000ft MSL at KFONG, over a distance of 7.0 NM, is a gradient of 142.85 ft/NM when a minimum descent of 1000' is applied or 285.71 ft/nm with a 2000' descent over that same leg. The block altitude of 11,000 to 13,000ft MSL at KFONG is for ATC operational requirement. Simulator data indicates aircraft of varying weights with varying wind conditions will all be below 13,000ft MSL. SIM data supports the overall profile and lateral design. Industry indicates that the procedure can be easily managed without increased energy management actions by the flight crew.

Therefore, ZID is requesting a Letter of Approval to utilize the block altitude at DLAMP (Block altitude 14,000 to 16,000 ft MSL) to KFONG (Block altitude 11,000 to 13,000 ft

MSL) resulting in a descent gradient of 428.32/NM as developed for the DLAMP STAR.

DLAMP to MTERO Descent Gradient

Currently, FAAO 8260.3F, para 2-2-8a (1), the maximum permissible descent gradient above 10,000ft MSL and above is 330 ft/nm (approximately 3.11 degrees). DLAMP block altitude 14,000 to 16,000 ft MSL and MTERO block altitude 11,000 to 13,000 ft MSL. The descent gradient (428.79 ft/NM) from DLAMP to MTERO is greater than the maximum permissible gradient allowed. Flight Standards approval is required.

The DLAMP STAR serves Louisville Muhammad Ali International Airport. The descent gradient of 428.79 ft/NM from DLAMP to MTERO is calculated from altitude of at or below 16,000 ft MSL at DLAMP descending to an altitude of 13,000ft MSL at MTERO, over a distance of 6.99 NM. However, the gradient over those fixes is within the maximum permissible descent gradient. Descending from block altitude of 14,000 to 16,000 ft MSL at DLAMP to a block altitude of at 11,000 to 13,000ft MSL at MTERO, over a distance of 6.99 NM, is a gradient of 143.06 ft/NM when a minimum descent of 1000 ft MSL is applied or 286.12 ft/nm with a 2000 ft MSL descent over that same leg. The block altitude of 11,000 to 13,000ft MSL at MTERO is for ATC operational requirement. Simulator data indicates aircraft of varying weights with varying wind conditions will all be below 13,000ft MSL. SIM data supports the overall profile and lateral design. Industry indicates that the procedure can be easily managed without increased energy management actions by the flight crew. There is a total distance of 32.15NM for an 8000ft. descent and a 70kt deceleration. This equates to a 318.09ft/NM descent gradient while allowing 7NM level flight for the 70kt deceleration.

Therefore, ZID is requesting a Letter of Approval to utilize the block altitude at DLAMP (Block altitude 14,000 to 16,000 ft MSL) to MTERO (Block altitude 11,000 to 13,000 ft MSL) resulting in a descent gradient of 428.79/NM as developed for the DLAMP STAR.

DLAMP to NEIBR Descent Gradient

Currently, FAAO 8260.3F, para 2-2-8a (1), the maximum permissible descent gradient above 10,000ft MSL and above is 330 ft/nm (approximately 3.11 degrees). DLAMP block altitude 14,000 to 16,000 ft MSL and NEIBR block altitude 11,000 to 13,000 ft MSL. The descent gradient (429.04 ft/NM) from DLAMP to NEIBR is greater than the maximum permissible gradient allowed. Flight Standards approval is required.

The DLAMP STAR serves Louisville Muhammad Ali International Airport. The descent gradient of 429.04 ft/NM from DLAMP to NEIBR is calculated from altitude of at or below 16,000 ft MSL at DLAMP descending to an at altitude of 13,000ft MSL at NEIBR, over a distance of 6.98 NM. However, the gradient over those fixes is within the maximum permissible descent gradient. Descending from block altitude of 14,000 to 16,000 ft MSL at DLAMP to a block altitude of at 11,000 to 13,000ft MSL at NEIBR, over a distance of 6.98 NM, is a gradient of 143.06 ft/NM when a minimum descent of 1000' is applied or 286.12 ft/nm with a 2000' descent over that same leg. The block altitude of 11,000 to 13,000ft MSL at NEIBR is for ATC operational requirement. Simulator data indicates aircraft of varying weights with varying wind conditions will all be below 13,000ft MSL. SIM data supports the overall profile and lateral design. Industry indicates that the procedure can be easily managed without increased energy management actions by the flight crew.

Therefore, ZID is requesting a Letter of Approval to utilize the block altitude at DLAMP (Block altitude 14,000 to 16,000 ft MSL) to NEIBR (Block altitude 11,000 to 13,000 ft MSL) resulting in a descent gradient of 429.04ft/NM as developed for the DLAMP STAR.

Deceleration leg length

MTERO to MRTNN Deceleration Distances

Currently, FAAO 8260.3F, PARA 2-2-10 prescribes allowable deceleration distances for STAR development. The length of the leg from MTERO to MRTNN is 7.01 NM. This leg must be at least 9.06 NM long due to deceleration from 280.0 KIAS to 250.0 KIAS between a block altitude of 11,000 and 13,000 feet MSL; and a block altitude of between 9,000 and 11,000 feet MSL. Flight Standards approval is required.

The DLAMP STAR serves Louisville Muhammad Ali Airport. The altitude and speed restrictions on the DLAMP STAR are designed to separate aircraft on the procedure from either adjacent airspace or other traffic.

Industry flight data shows aircraft will begin the deceleration phase prior to MTERO to cross MRTNN at 250 KIAS. The deceleration of aircraft is not dependent upon the distance between two waypoints, but rather the distance between two speed restrictions. Industry has verified the leg lengths designed for the DLAMP STAR are sufficient to meet both the altitude and speed restrictions.

Therefore, ZID is requesting a Letter of Approval to utilize the leg length of 7.01NM at MTERO to MRTNN segment as designed with mandatory altitudes, and speed restrictions for publication.

SNDLS to TRUBS Deceleration Distances

Currently, FAAO 8260.3F, PARA 2-2-10 prescribes allowable deceleration distances for STAR development. The length of the leg from SNDLS to TRUBS is 7.62 NM. This leg must be at least 12.00 NM long due to deceleration from 250.0 KIAS to 210.0 KIAS between an altitude of 6,000 feet MSL and an altitude of 4,000 feet MSL. Flight Standards approval is required.

The DLAMP STAR serves Louisville Muhammad Ali Airport. The altitude and speed restrictions on the DLAMP STAR are designed to separate aircraft on the procedure from either adjacent airspace or other traffic.

Industry flight data shows aircraft will begin the deceleration phase prior to SNDLS to cross TRUBS at 210 KIAS. The deceleration of aircraft is not dependent upon the distance between two waypoints, but rather the distance between two speed restrictions. Industry has verified the leg lengths designed for the DLAMP STAR are sufficient to meet both the altitude and speed restrictions.

Therefore, ZID is requesting a Letter of Approval to utilize the leg length of 7.62NM at SNDLS to TRUBS segment as designed with mandatory altitudes, and speed restrictions for publication.

MRSHY to MKENZ Deceleration Distances

Currently, FAAO 8260.3F, PARA 2-2-10 prescribes allowable deceleration distances for STAR development. The length of the leg from MRSHY to MKENZ is 7.00 NM. This leg must be at least 9.06 NM long due to deceleration from 280.0 KIAS to 250.0 KIAS due to crossing below 10,000 feet MSL. Flight Standards approval is required.

The DLAMP STAR serves Louisville Muhammad Ali Airport. The altitude and speed restrictions on the DLAMP STAR are designed to separate aircraft on the procedure from either adjacent airspace or other traffic.

Industry flight data shows aircraft will begin the deceleration phase prior to MRSHY to cross MKENZ at 250 KIAS. The deceleration of aircraft is not dependent upon the distance between two waypoints, but rather the distance between two speed restrictions. Industry has verified the leg lengths designed for the DLAMP STAR are sufficient to meet both the altitude and speed restrictions.

Therefore, ZID is requesting a Letter of Approval to utilize the leg length of 7.00NM at MRSHY to MKENZ segment as designed with mandatory altitudes, and speed restrictions for publication.

SPOKY to BEEBY Deceleration Distances

Currently, FAAO 8260.3F, PARA 2-2-10 prescribes allowable deceleration distances for STAR development. The length of the leg from SPOKY to BEEBY is 7.05 NM. This leg must be at least 9.06 NM long due to deceleration from 280.0 KIAS to 250.0 KIAS due to crossing below 10,000 feet MSL. Flight Standards approval is required.

The DLAMP STAR serves Louisville Muhammad Ali Airport. The altitude and speed restrictions on the DLAMP STAR are designed to separate aircraft on the procedure from either adjacent airspace or other traffic.

Industry flight data shows aircraft will begin the deceleration phase prior to SPOKY to cross BEEBY at 250 KIAS. The deceleration of aircraft is not dependent upon the distance between two waypoints, but rather the distance between two speed restrictions. Industry has verified the leg lengths designed for the DLAMP STAR are sufficient to meet both the altitude and speed restrictions.

Therefore, ZID is requesting a Letter of Approval to utilize the leg length of 7.05NM at SPOKY to BEEBY segment as designed with mandatory altitudes, and speed restrictions for publication.

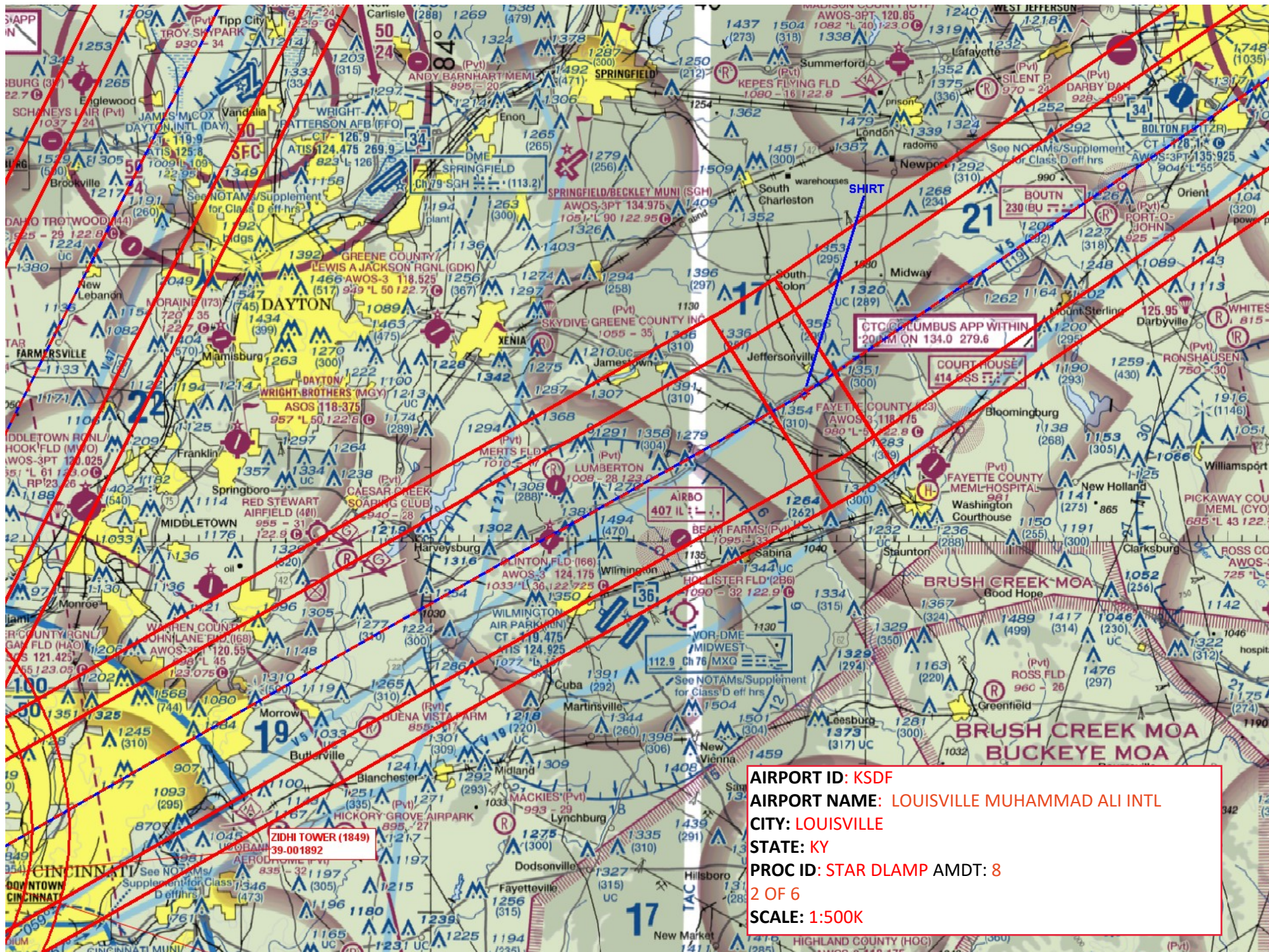
Sincerely,

JEFFREY W
CHESTER

Digitally signed by
JEFFREY W CHESTER
Date: 2023.11.16
14:14:22 -05'00'

SCALE: 1:500K

CTC COLUMBUS APP WITHIN
20 NM ON 125.95, 317.875



AIRPORT ID: KSDF

AIRPORT NAME: LOUISVILLE MUHAMMAD ALI INTL

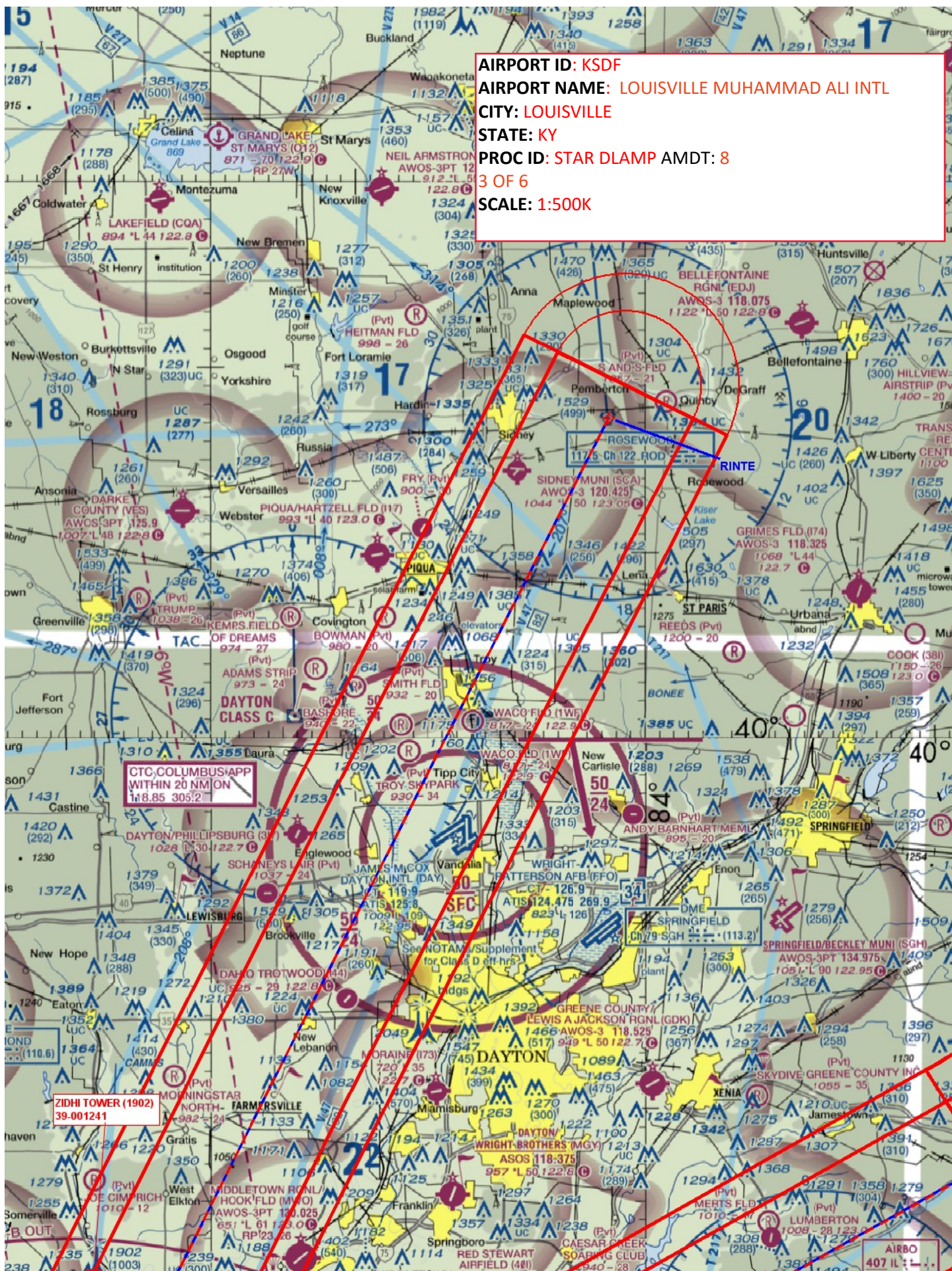
CITY: LOUISVILLE

STATE: KY

PROC ID: STAR DLAMP AMDT: 8

3 OF 6

SCALE: 1:500K



SCALE: 1:500K

