

Flight Procedures Cover Page	Task Action: FLIGHT CHECK	Task Type: STAR	Estimated Chart Date: 10/02/2025	APWS Task ID: 24B7E81B78F6451CA9A9C886B3612677	APWS Project ID: 71956E36951B48A9AD9BAE93DA482B7E
Procedure: QERVO (RNAV) TWO ARRIVAL		Enroute: YES	Specialist: Garrity, Michael		Agreement Number:
Airport ID: KSAT			Airport City: SAN ANTONIO		State: TX
Facility ID:	Facility Type:	Flight Inspection Remark Type: New FC Slot			
<div>Procedure Comments:</div> <div>ACTIVE DATA USED FOR KSAT, K5C1, KCVB, KSKF, KBAZ, KPEZ, KRND AIRPORTS AND RUNWAYS. PENDING DATA USED FOR KSSF AIRPORT AND RUNWAYS.</div> <div>PROCEDURE IS FC TABLE-TOP CANDIDATE.</div> <div>CONTACT: ALLAN WILL, TEAM 2 SUBTEAM-C MANAGER, 405.954.6103.</div> <div><div>QUALITY 41 CHECKED</div><div>04/24/2025 QUALITY 14 CHECKED</div></div>					

<b>FIPC DME/DME FORM</b>						
<b>PROCEDURE:</b> QERVO (RNAV) TWO ARRIVAL			<b>AIRPORT NAME:</b> SAN ANTONIO INTL		<b>AIRPORT ID:</b> KSAT	<b>SPECIAL CONTROL NO:</b> OG-05-005-25
<b>FAC ID:</b> QERVO2		<b>CITY:</b> SAN ANTONIO			<b>ST:</b> TX	<b>ORIG CHART DATE:</b> 10/02/2025
<b>DFL TYPE:</b> PROC/D	<b>THIRD PARTY:</b> <input type="checkbox"/> YES	<b>EST. TIME ON SITE:</b> 1.0	<b>REIMB. NUMBER:</b>	<b>PTS TASK ID:</b> 24B7E81B78F6451CA9A9C886B3612677		
<b>PREFLIGHT NOTES</b>						
<b>REVIEWER:</b>					<b>DATE:</b>	
<b>COMMENTS:</b>					<b>CHECK ONE:</b> <input type="checkbox"/> FLT CK REQ <input type="checkbox"/> NFCR <input type="checkbox"/> REJECT	
					<div style="display: flex; justify-content: space-between;"> <span></span> <span>YES</span> <span>NO</span> </div>	
					<b>CPV COMPLETE?</b> <div style="display: flex; justify-content: space-between;"> <span>X</span> <span></span> </div>	
<b>PROCEDURE RESULTS</b>						
<b>INSPECTION DATE:</b> 06/18/2025	<b>CREW #:</b> VN568	<b>N #:</b> N73	<b>INSTRUMENT PROCEDURE STATUS:</b> <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT W/CHANGES <input type="checkbox"/> UNSAT		<b>ARINC CODING:</b> <input checked="" type="checkbox"/> SAT <input type="checkbox"/> SAT/GOLD <input type="checkbox"/> UNSAT	
<b>FLIGHT INSPECTOR SIGNATURE:</b> russell roslewski @ 06/18/2025 16:53			<b>PRINTED NAME:</b> ROSLEWSKI, RUSSELL BRIAN			<b>NOTAM INITIATED?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
<b>FLIGHT INSPECTOR REMARKS:</b>						
<b>DME/DME STATUS:</b> <input type="checkbox"/> SAT <input type="checkbox"/> UNSAT	<b>SPECIALIST SIGNATURE:</b>				<b>PRINTED NAME:</b>	
<b>SPECIALIST REMARKS:</b>						
<b>IN-FLIGHT OBSTACLE REPORT</b>						
<b>OBSTRUCTION ID #:</b>	<b>COORDINATES OR LOCATION:</b>	<b>GNSS ALTITUDE (MSL):</b>	<b>BAROMETRIC ALTITUDE (MSL):</b>	<b>HEIGHT ABOVE GROUND LEVEL:</b>		

NEW

(MARCS.QERVO2) FIG

QERVO TWO ARRIVAL(RNAV) Transition Routes

SAN ANTONIO, TEXAS

SAN ANTONIO APP CON  
127.1 269.1  
BAZ ATIS  
119.325  
KRND ATIS ★  
290.525  
KSKF ATIS  
120.45 273.5  
SAT D-ATIS  
118.9  
SSF ATIS  
128.8

RNAV 1-DME/DME/IRU or GPS.  
RADAR required.

## PROTOTYPE-NOT FOR NAVIGATION

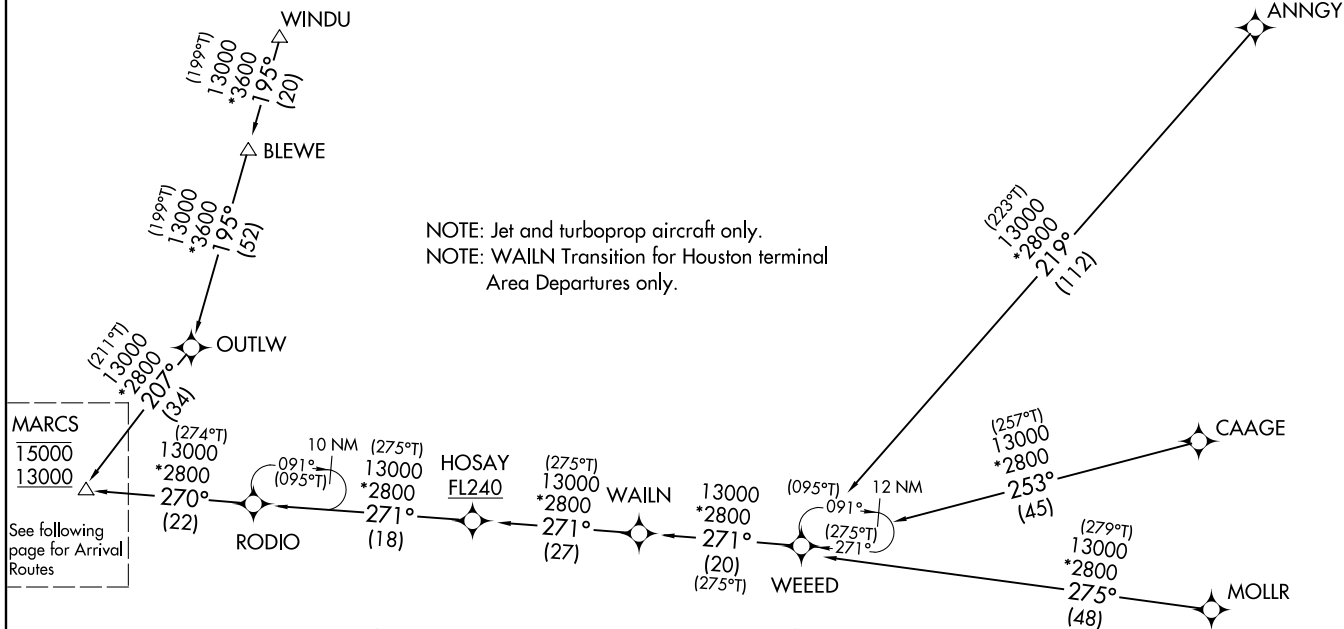


ANNGY TRANSITION (ANNGY.QERVO2)  
BLEWE TRANSITION (BLEWE.QERVO2)  
CAAGE TRANSITION (CAAGE.QERVO2)  
MOLLR TRANSITION (MOLLR.QERVO2)  
WAILN TRANSITION (WAILN.QERVO2)  
WINDU TRANSITION (WINDU.QERVO2)

(MARCS.QERVO2) FIG

AL-369 (FAA)

SAN ANTONIO, TEXAS

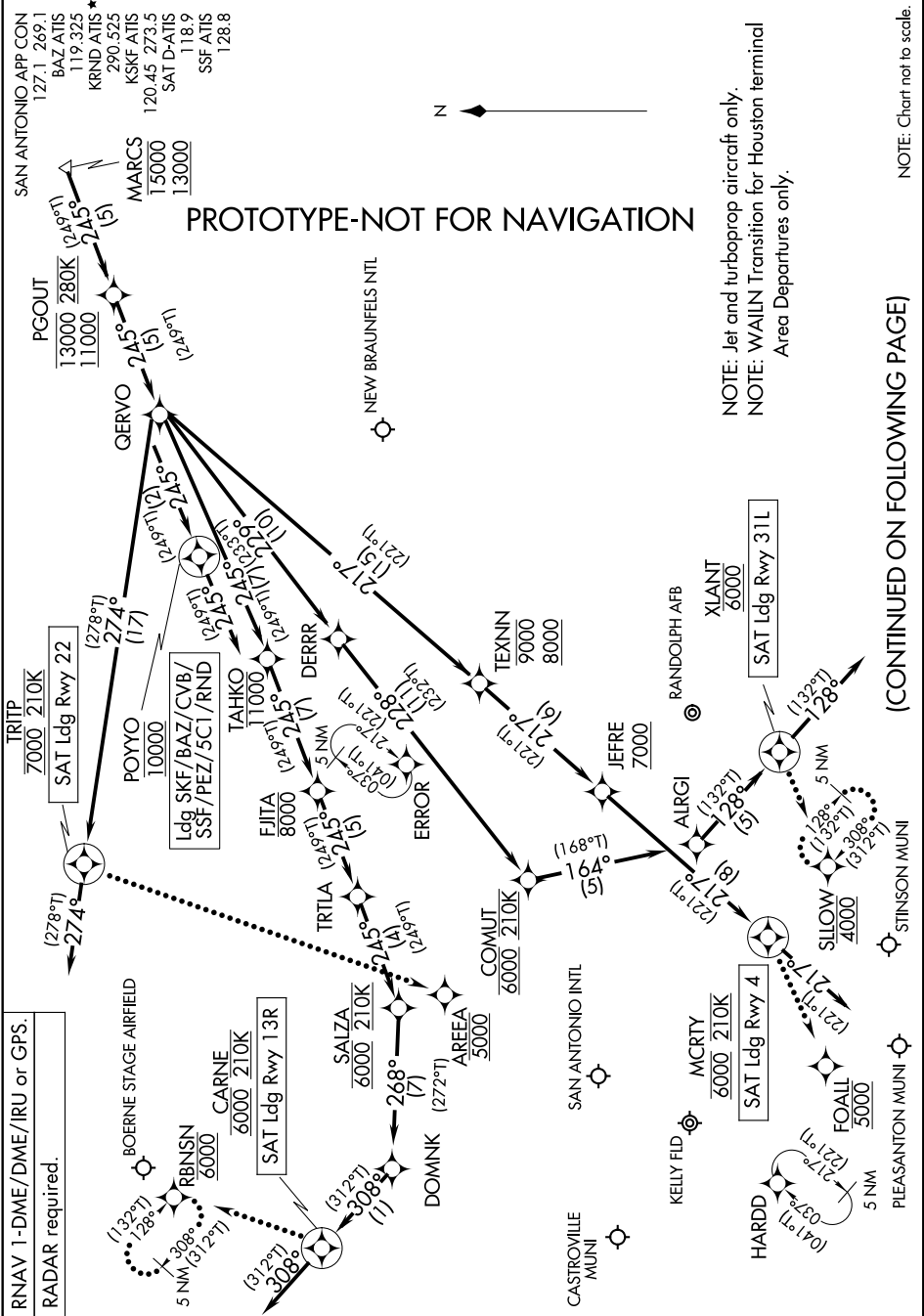


NOTE: Chart not to scale.

(CONTINUED ON FOLLOWING PAGE)

QERVO TWO ARRIVAL (RNAV) Arrival Routes

SAN ANTONIO, TEXAS



QERVO TWO ARRIVAL (RNAV) Arrival Routes

SAN ANTONIO, TEXAS

## QERVO TWO ARRIVAL (RNAV)

SAN ANTONIO, TEXAS

## ARRIVAL ROUTE DESCRIPTION

SAN ANTONIO INTL (SAT): From MARCS on track 245° to cross PGOUT between 11000 and 13000 and at 280K, then on track 245° to QERVO.

LANDING SAT RUNWAY 4: From QERVO on track 217° to cross TEXNN between 8000 and 9000, then on track 217° to cross JEFRE at or above 7000, then on track 217° to cross MCRTY at 6000 and at 210K, then on track 217°. Expect RADAR vectors to final approach course.

LANDING SAT RUNWAY 13R: From QERVO on track 245° to cross TAHKO at or below 11000, then on track 245° to cross FJITA at or below 8000, then on track 245° to TRTLA, then on track 246° to cross SALZA at 6000 and at 210K, then on track 268° to DOMNK, then on track 308° to cross CARNE at 6000, then on track 308°. Expect RADAR vectors to final approach course.

LANDING SAT RUNWAY 22: From QERVO on track 274° to cross TRITP at 7000 and at 210K, then on track 274°. Expect RADAR vectors to final approach course.

LANDING SAT RUNWAY 31L: From QERVO on track 229° to DERRR, then on track 228° to cross COMUT at 6000 and at 210K, then on track 164° to ALRGI, then on track 128° to cross XLANT at 6000, then on track 128°. Expect RADAR vectors to final approach course.

LANDING SKF/BAZ/CVB/SSF/PEZ/5C1/RND: From MARCS on track 245° to cross PGOUT between 11000 and 13000 and at 280K, then on track 245° to QERVO, then on track 245° to cross POYYO at 10000, then on track 245°. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS:

SAT RUNWAY 4: After MCRTY, proceed to FOALL at 5000, then on ILS or LOC RWY 4 or RNAV (GPS) Y RWY 4 approach.

SAT RUNWAY 13R: After CARNE, proceed to RBNSN at 6000 and hold.

SAT RUNWAY 22: After TRITP proceed to AREEA at 5000, then on RNAV (GPS) Y RWY 22 approach.

SAT RUNWAY 31L: After XLANT, proceed to SLOW at 4000 and hold.

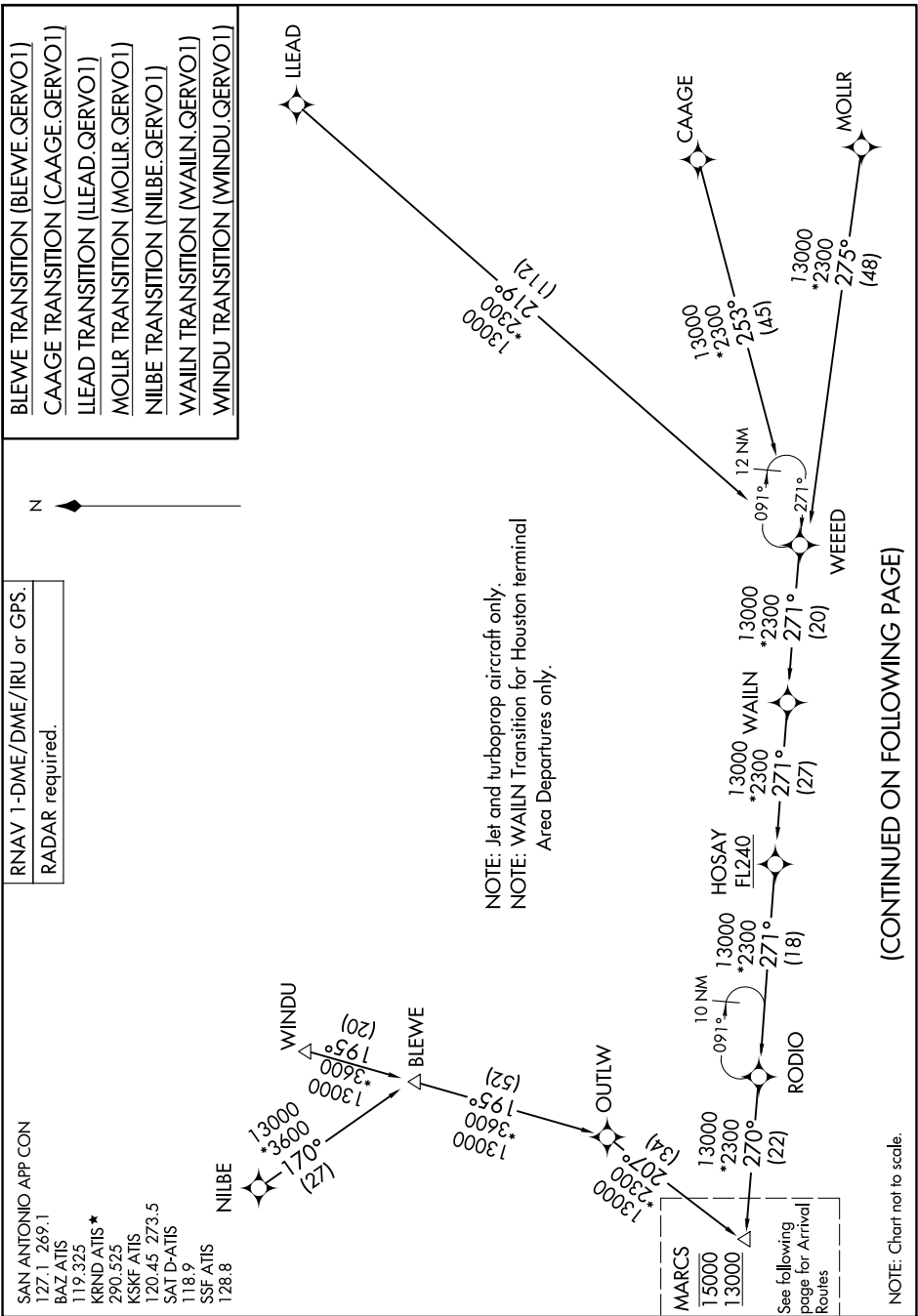
PROTOTYPE-NOT FOR NAVIGATION



QERVO ONE ARRIVAL (RNAV) Transition Routes

SAN ANTONIO, TEXAS

SC-3, 20 MAR 2025 to 17 APR 2025



QERVO ONE ARRIVAL (RNAV) Transition Routes

SAN ANTONIO, TEXAS

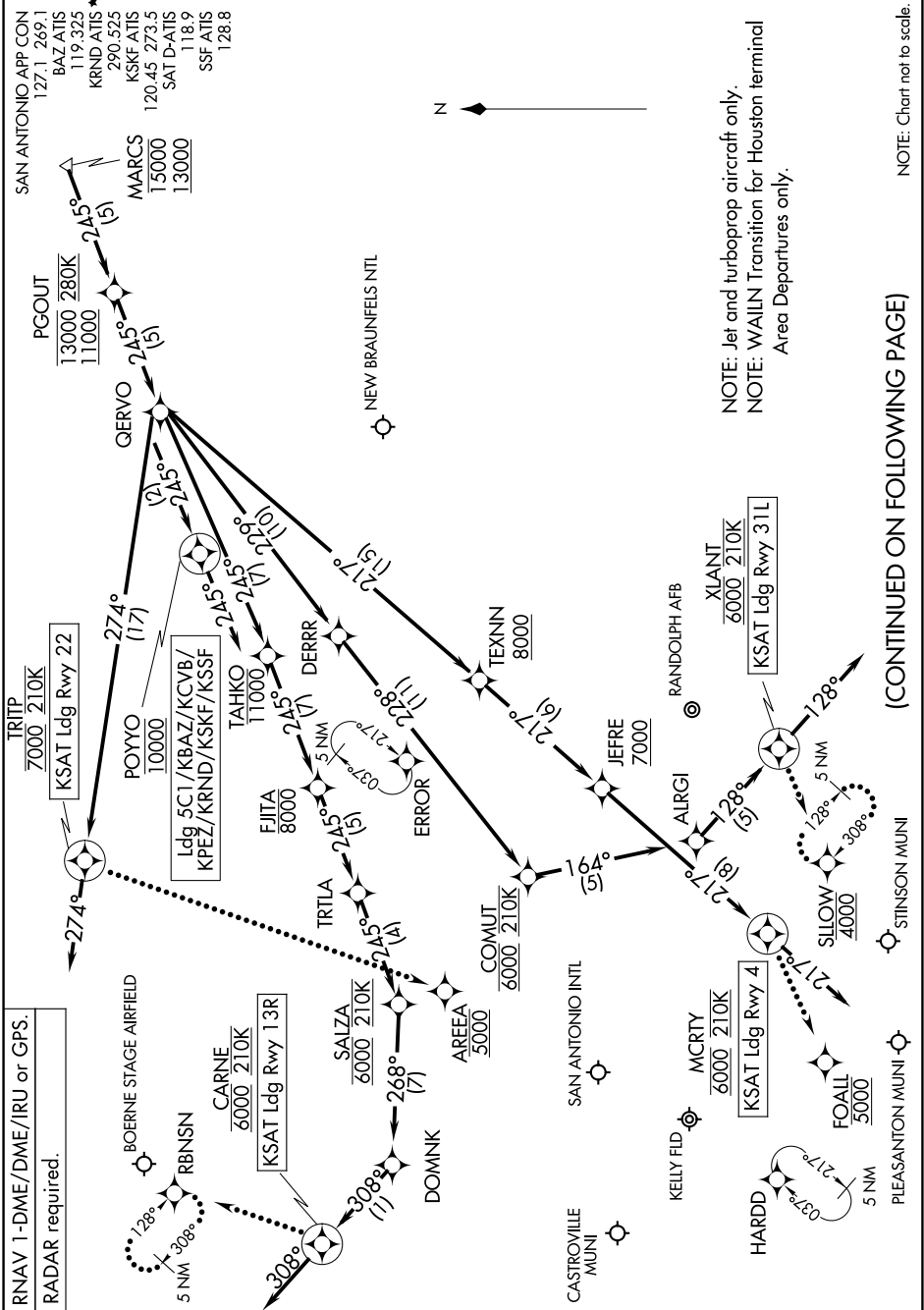


QERVO ONE ARRIVAL (RNAV) Arrival Routes

SAN ANTONIO, TEXAS

SC-3, 20 MAR 2025 to 17 APR 2025

RNAV 1-DME/DME/IRU or GPS.
RADAR required.



NOTE: Chart not to scale.

(CONTINUED ON FOLLOWING PAGE)

SC-3, 20 MAR 2025 to 17 APR 2025

QERVO ONE ARRIVAL (RNAV) Arrival Routes

SAN ANTONIO, TEXAS

QERVO ONE ARRIVAL (RNAV)

ARRIVAL ROUTE DESCRIPTION

SAN ANTONIO INTL (KSAT): From MARCS on track 245° to cross PGOUT between 11000 and 13000 and at 280K, then on track 245° to QERVO.

LANDING KSAT RUNWAY 4: From QERVO on track 217° to cross TEXNN at or above 8000, then on track 217° to cross JEFRE at or above 7000, then on track 217° to cross MCRTY at 6000 and at 210K, then on track 217°. Expect RADAR vectors to final approach course.

LANDING KSAT RUNWAY 13R: From QERVO on track 245° to cross TAHKO at or below 11000, then on track 245° to cross FJITA at or below 8000, then on track 245° to TRTLA, then on track 246° to cross SALZA at 6000 and at 210K, then on track 268° to DOMNK, then on track 308° to cross CARNE at 6000 and at 210K, then on track 308°. Expect RADAR vectors to final approach course.

LANDING KSAT RUNWAY 22: From QERVO on track 274° to cross TRITP at 7000 and at 210K, then on track 274°. Expect RADAR vectors to final approach course.

LANDING KSAT RUNWAY 31L: From QERVO on track 229° to DERRR, then on track 228° to cross COMUT at 6000 and at 210K, then on track 164° to ALRGI, then on track 128° to cross XLANT at 6000 and at 210K, then on track 128°. Expect RADAR vectors to final approach course.

LANDING KSKF/KBAZ/KCVB/KSSF/KPEZ/5C1/KRND: From MARCS on track 245° to cross PGOUT between 11000 and 13000 and at 280K, then on track 245° to QERVO, then on track 245° to cross POYYO at 10000, then on track 245°. Expect RADAR vectors to final approach course.

LOST COMMUNICATIONS:

KSAT RUNWAY 4: After MCRTY, proceed to FOALL at 5000, then on ILS or LOC RWY 4 or RNAV (GPS) Y RWY 4 approach.

KSAT RUNWAY 13R: After CARNE, proceed to RBNSN and hold.

KSAT RUNWAY 22: After TRITP proceed to AREEA at 5000, then on RNAV (GPS) Y RWY 22 approach.

KSAT RUNWAY 31L: After XLANT, proceed to SLOW at 4000 and hold.



# FAA

## Aviation Safety

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### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Wade Terrell  
Signed By: Wade Terrell Thu Jul 13  
2023 12:45:45 GMT-05:00:00  
(Central Standard Time)

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Your request to utilize a descent gradient 406.12 FT/NM from MARCS to PGOUT on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

Please direct all inquiries to Sherri Hubbard, PRB Lead, Flight Procedures and Airspace Group, at (405) 954-6618.

Attachments



## Federal Aviation Administration

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# Memorandum

To: Christopher J Hope, Manager, Flight Technologies and Procedures Division  
THRU: Wade E.K. Terrell, Manager, Flight Procedures and Airspace Group.

From: Bev Bordy, Manager, Instrument Flight Procedures (IFP) Coordination  
Team, AJV-A45

*Digitally signed by*  
**LAURA M COLLIER**  
May 02, 2023

Subject: Approval Request: San Antonio Intl, San Antonio, TX (KSAT)

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KSAT QERVO Standard Terminal Arrival Route (STAR): MARCS to PGOUT Descent Gradient.

Currently, FAAO 8260.3E, para 2-2-8a (1), the maximum permissible descent gradient 10,000ft MSL and above is 330 ft/nm (approximately 3.11 degrees). MARCS altitude is at or below 15000 ft MSL but at or above 13000 ft MSL and PGOUT altitude is at or below 13000 ft MSL but at or above 11000 ft MSL. The descent gradient (406.12ft/nm) from MARCS to PGOUT is greater than the maximum permissible gradient allowed. Flight Standards approval is required.

The QERVO STAR serves San Antonio International Airport. The descent gradient of 406.12ft/NM from MARCS to PGOUT is calculated from altitude of at or below 13000 ft MSL at MARCS descending to an at or above altitude of 11000ft MSL at PGOUT, over a distance of 4.92 NM. However, the gradient over multiple fixes is within the maximum permissible descent gradient. Descending from altitude of 13000ft MSL at MARCS to altitude of at or above 11000ft MSL at QERVO, over a distance of 9.57 NM, is a gradient of 208.99 ft/NM. The block altitude of at or below 15000 ft MSL to at or above 13000ft MSL at MARCS is for ATC operational requirement. Simulator data indicates aircraft of varying weights with varying wind conditions will all be at or above 13000ft MSL. The reference software indicated no descent gradient issues below 11000ft MSL restriction is operationally necessary for procedural deconfliction. 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, ZHU is requesting a Letter of Approval to utilize the mandatory altitude at MARCS (13000B15000 ft MSL) to PGOUT (11000B13000 ft MSL) resulting in a descent gradient 406.12ft/NM as developed for the QERVO STAR.



# FAA

## Aviation Safety

### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Your request to utilize a descent gradient 406.12 FT/NM from MARCS to PGOUT on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

Please direct all inquiries to Sherri Hubbard, PRB Lead, Flight Procedures and Airspace Group, at (405) 954-6618.

Attachments

CONCURRENCES

ROUTING SYMBOL  
AFS-410 MANAGER

INITIALS/SIG

DATE

ROUTING SYMBOL  
AFS-410B MANAGER

INITIALS/SIG

Merrill Armstrong  
Signed By: Merrill Armstrong Tue Jul  
11 2023 10:50:40 GMT-05:00:00  
(Central Standard Time)ROUTING SYMBOL  
AFS-420C MANAGER

INITIALS/SIG

Wayne C Radicke  
Signed By: Wayne C Radicke Thu  
Jul 13 2023 11:45:48 GMT-05:00:00  
(Central Standard Time)ROUTING SYMBOL  
AFS-420E MANAGER

INITIALS/SIG

DATE

ROUTING SYMBOL  
AFS-420W MANAGER

INITIALS/SIG

DATE

ROUTING SYMBOL

INITIALS/SIG

DATE

ROUTING SYMBOL

INITIALS/SIG

DATE

ROUTING SYMBOL

INITIALS/SIG

DATE



# FAA

## Aviation Safety

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### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Wade Terrell  
Signed By: Wade Terrell Thu Jul 13  
2023 12:45:45 GMT-05:00:00  
(Central Standard Time)

---

Your request to utilize a descent gradient 428.66 FT/NM from TAHKO to FJITA on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

Please direct all inquiries to Sherri Hubbard, PRB Lead, Flight Procedures and Airspace Group, at (405) 954-6618.

Attachments



## Federal Aviation Administration

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# Memorandum

To: Christopher J Hope, Manager, Flight Technologies and Procedures Division  
THRU: Wade E.K. Terrell, Manager, Flight Procedures and Airspace Group.

From: Bev Bordy, Manager, Instrument Flight Procedures (IFP) Coordination  
Team, AJV-A45

*Digitally signed by*  
**LAURA M COLLIER**  
May 02, 2023

Subject: Approval Request: San Antonio Intl, San Antonio, TX (KSAT)

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KSAT QERVO Standard Terminal Arrival Route (STAR): TAHKO to FJITA Descent Gradient.

Currently, FAAO 8260.3E, para 2-2-8a (3), the maximum permissible descent gradient is 322 ft/nm (approximately 3.11 degrees) which is in proportion to the amount of altitude change that is below/above 10,000ft MSL. TAHKO altitude is at or below 11000 ft MSL and FJITA altitude is at or below 8000 ft MSL. The descent gradient (428.66ft/NM) from TAHKO to FJITA is greater than the maximum permissible gradient allowed. Flight Standards approval is required.

The QERVO STAR serves San Antonio International Airport. The descent gradient of 428.66ft/NM from TAHKO to FJITA is calculated from altitude of at or below 11000 ft MSL at TAHKO descending to an at or below altitude of 8000ft MSL at FJITA, over a distance of 6.99 NM. However, the gradient over multiple fixes is within the maximum permissible descent gradient. Descending from altitude of at or below 11000 ft MSL at TAHKO to altitude of at 6000ft MSL at CARNE, over a distance of 30.86 NM, is a gradient of 162.02ft/NM. The altitude of at or below 11000 ft MSL at TAHKO is for ATC operational requirement. Simulator data indicates aircraft of varying weights with varying wind conditions will all be at or below 11000ft MSL. The reference software indicated no descent gradient issues below 8000ft MSL restriction is operationally necessary for procedural deconfliction. 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, ZHU is requesting a Letter of Approval to utilize the mandatory altitude at TAHKO (AT OR BELOW 11000 ft MSL) to FJITA (AT OR BELOW 8000 ft MSL) resulting in a descent gradient 428.66ft/NM as developed for the QERVO STAR.



# FAA

## Aviation Safety

### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Your request to utilize a descent gradient 428.66 FT/NM from TAHKO to FJITA on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

Please direct all inquiries to Sherri Hubbard, PRB Lead, Flight Procedures and Airspace Group, at (405) 954-6618.

Attachments

CONCURRENCES

ROUTING SYMBOL

AFS-410 MANAGER

INITIALS/SIG

DATE

ROUTING SYMBOL

AFS-410B MANAGER

INITIALS/SIG

Merrill Armstrong

Signed By: Merrill Armstrong Tue Jul

11 2023 10:50:40 GMT-05:00

(Central Standard Time)

ROUTING SYMBOL

AFS-420C MANAGER

INITIALS/SIG

Wayne C Radicke

Signed By: Wayne C Radicke Thu

Jul 13 2023 11:45:49 GMT-05:00

(Central Standard Time)

DATE

ROUTING SYMBOL

AFS-420E MANAGER

INITIALS/SIG

DATE

ROUTING SYMBOL

AFS-420W MANAGER

INITIALS/SIG

DATE

ROUTING SYMBOL

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DATE



# FAA

## Aviation Safety

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### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Wade Terrell  
Signed By: Wade Terrell Thu Jul 13  
2023 12:45:46 GMT-05:00:00  
(Central Standard Time)

---

Your request to utilize a leg length of 4.92 nautical miles from MARCS to PGOUT on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

Please direct all inquiries to Sherri Hubbard, PRB Lead, Flight Procedures and Airspace Group, at (405) 954-6618.

Attachments



## Federal Aviation Administration

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# Memorandum

To: Christopher J Hope, Manager, Flight Technologies and Procedures Division  
THRU: Wade E.K. Terrell, Manager, Flight Procedures and Airspace Group.

From: Bev Bordy, Manager, Instrument Flight Procedures (IFP) Coordination  
Team, AJV-A45

*Digitally signed by*  
**LAURA M COLLIER**  
May 02, 2023

Subject: Approval Request: San Antonio Intl, San Antonio, TX (KSAT)

---

KSAT QERVO Standard Terminal Arrival Route (STAR): MARCS to PGOUT Deceleration Distance.

Currently, FAAO 8260.3E, PARA 2-2-10 prescribes allowable deceleration distances for STAR development. The length of the leg from MARCS to PGOUT is 4.92 NM. This leg must be at least 9.06 NM long due to deceleration from 310.0 KIAS to 280.0 KIAS between 15,000 feet MSL and 11,000 feet MSL. Flight Standards approval is required.

The QERVO STAR serves San Antonio International Airport. The altitude and speed restrictions on the QERVO 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 MARCS to cross PGOUT at 280 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 QERVO STAR are sufficient to meet both the altitude and speed restrictions.

Therefore, ZHU is requesting a Letter of Approval to utilize the leg length of 4.92 NM at MARCS to PGOUT segment as designed with mandatory altitudes, and speed restrictions for publication.



# FAA

## Aviation Safety

### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Your request to utilize a leg length of 4.92 nautical miles from MARCS to PGOUT on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

Please direct all inquiries to Sherri Hubbard, PRB Lead, Flight Procedures and Airspace Group, at (405) 954-6618.

Attachments

CONCURRENCES
ROUTING SYMBOL AFS-410 MANAGER
INITIALS/SIG
DATE
ROUTING SYMBOL AFS-410B MANAGER
INITIALS/SIG Merrill Armstrong Signed By: Merrill Armstrong Tue Jul 11 2023 10:50:40 GMT-05:00:00 (Central Standard Time)
DATE
ROUTING SYMBOL AFS-420C MANAGER
INITIALS/SIG Wayne C Radicke Signed By: Wayne C Radicke Thu Jul 13 2023 11:45:49 GMT-05:00:00 (Central Standard Time)
DATE
ROUTING SYMBOL AFS-420E MANAGER
INITIALS/SIG
DATE
ROUTING SYMBOL AFS-420W MANAGER
INITIALS/SIG
DATE
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INITIALS/SIG
DATE



# FAA

## Aviation Safety

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### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Wade Terrell  
Signed By: Wade Terrell Thu Jul 13  
2023 12:45:46 GMT-05:00:00  
(Central Standard Time)

---

Your request to utilize a leg length of 6.99 nautical miles from TAHKO to FJITA on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

Please direct all inquiries to Sherri Hubbard, PRB Lead, Flight Procedures and Airspace Group, at (405) 954-6618.

Attachments



## Federal Aviation Administration

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# Memorandum

To: Christopher J Hope, Manager, Flight Technologies and Procedures Division  
THRU: Wade E.K. Terrell, Manager, Flight Procedures and Airspace Group.

From: Bev Bordy, Manager, Instrument Flight Procedures (IFP) Coordination  
Team, AJV-A45

*Digitally signed by*  
**LAURA M COLLIER**  
May 02, 2023

Subject: Approval Request: San Antonio Intl, San Antonio, TX (KSAT)

---

KSAT QERVO Standard Terminal Arrival Route (STAR): TAHKO to FJITA Deceleration Distance.

Currently, FAAO 8260.3E, PARA 2-2-10 prescribes allowable deceleration distances for STAR development. The length of the leg from TAHKO to FJITA is 6.99 NM. This leg must be at least 12.09 NM long due to deceleration from 280.0 KIAS to 250.0 KIAS between 11,000 feet MSL and 8,000 feet MSL. Flight Standards approval is required.

The QERVO STAR serves San Antonio International Airport. The altitude and speed restrictions on the QERVO 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 TAHKO to cross FJITA 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 QERVO STAR are sufficient to meet both the altitude and speed restrictions.

Therefore, ZHU is requesting a Letter of Approval to utilize the leg length of 6.99 NM at TAHKO to FJITA segment as designed with mandatory altitudes, and speed restrictions for publication.



# FAA

## Aviation Safety

### Memorandum

Date: 07/11/2023

To: Manager, Instrument Flight Procedures Coordination Team

From: Manager, Flight Technologies and Procedures Division

Prepared by: Flight Procedures & Airspace Group

Subject: Approval Request; Memorandum Dated 05/02/2023

Your request to utilize a leg length of 6.99 nautical miles from TAHKO to FJITA on the "QERVO (RNAV) STAR" at San Antonio Intl, San Antonio, TX was discussed at the Flight Standards Procedure Review Board on 05/25/2023 and is approved.

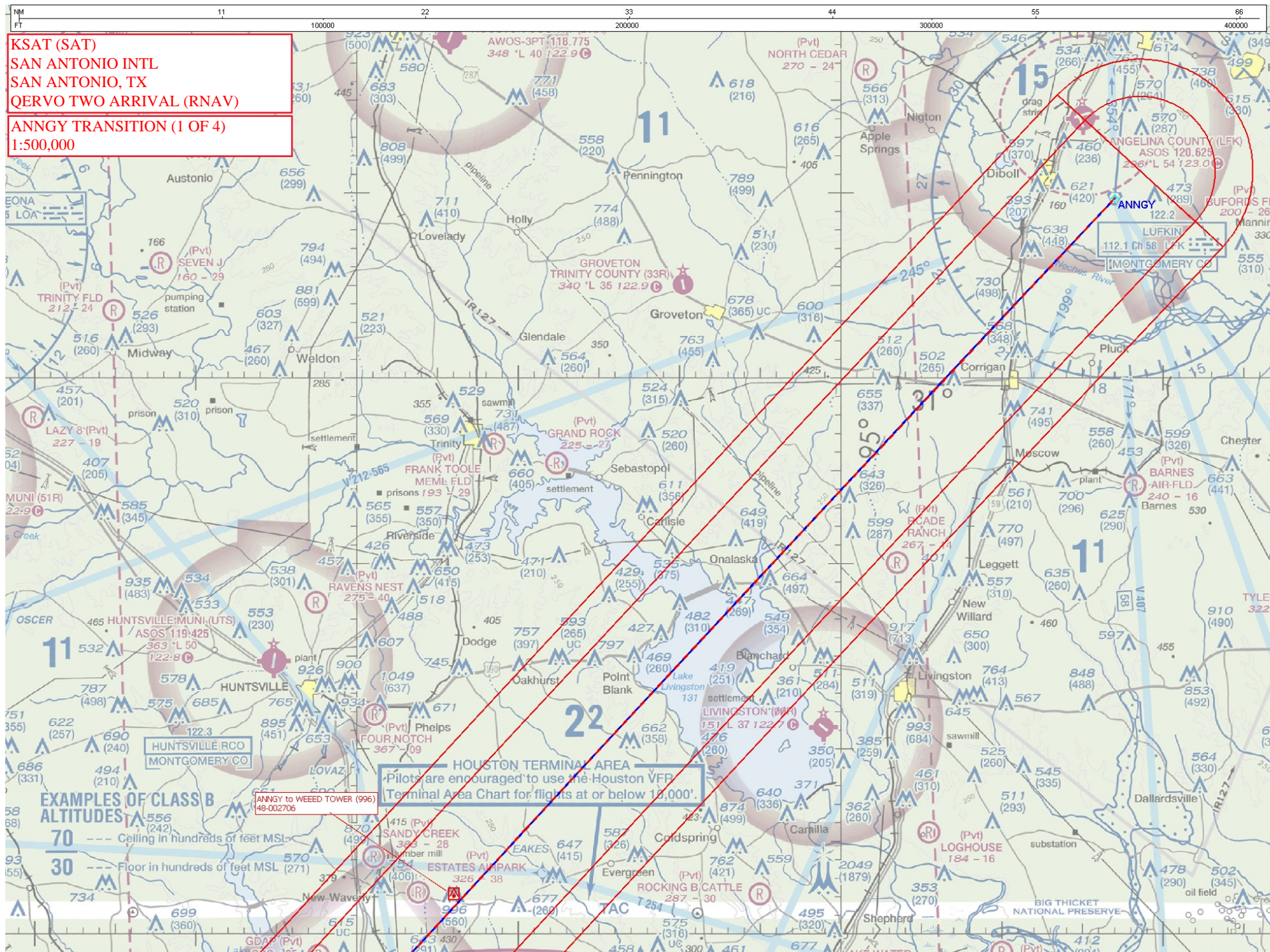
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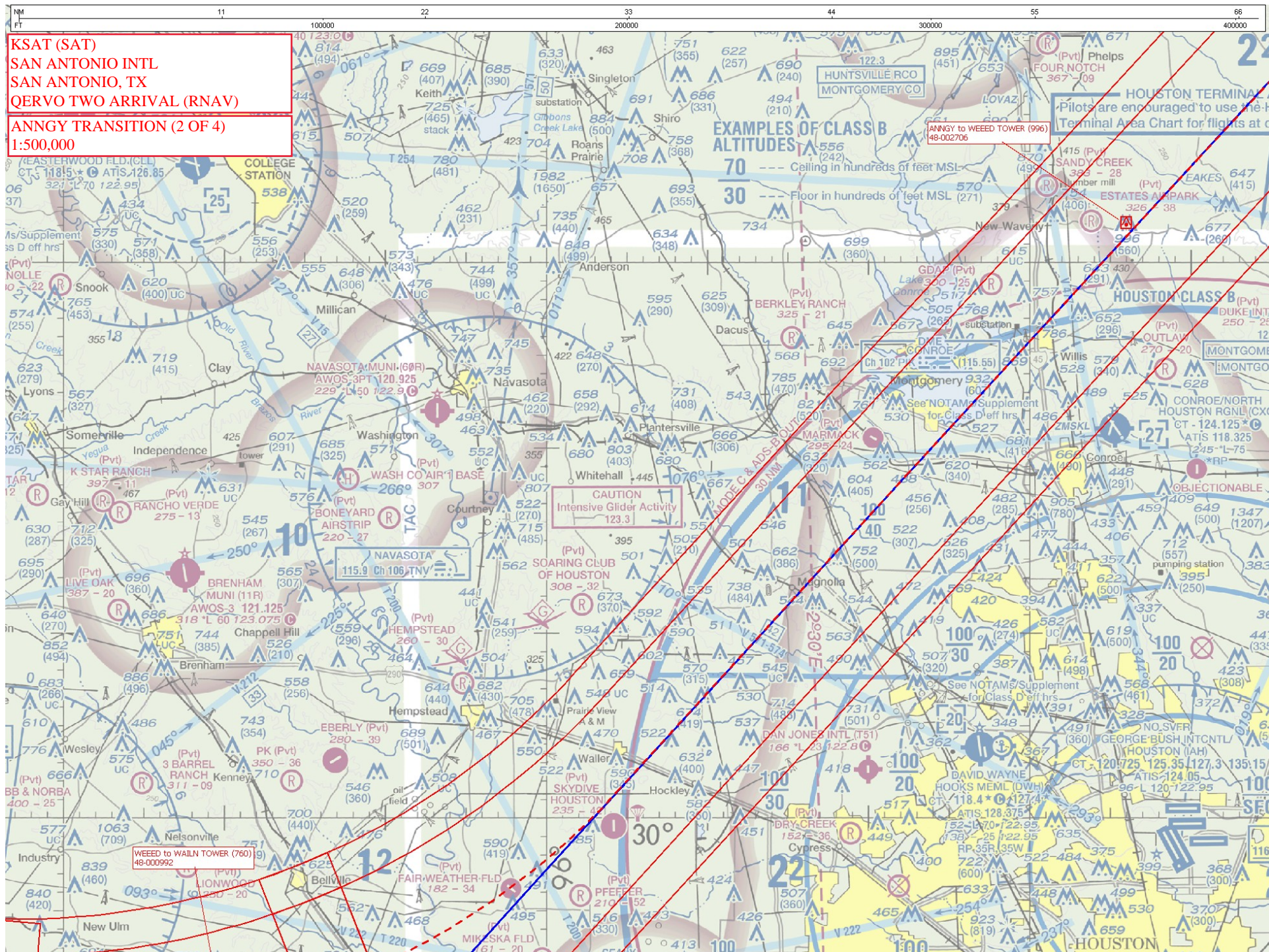
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ROUTING SYMBOL AFS-410 MANAGER
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INITIALS/SIG
DATE

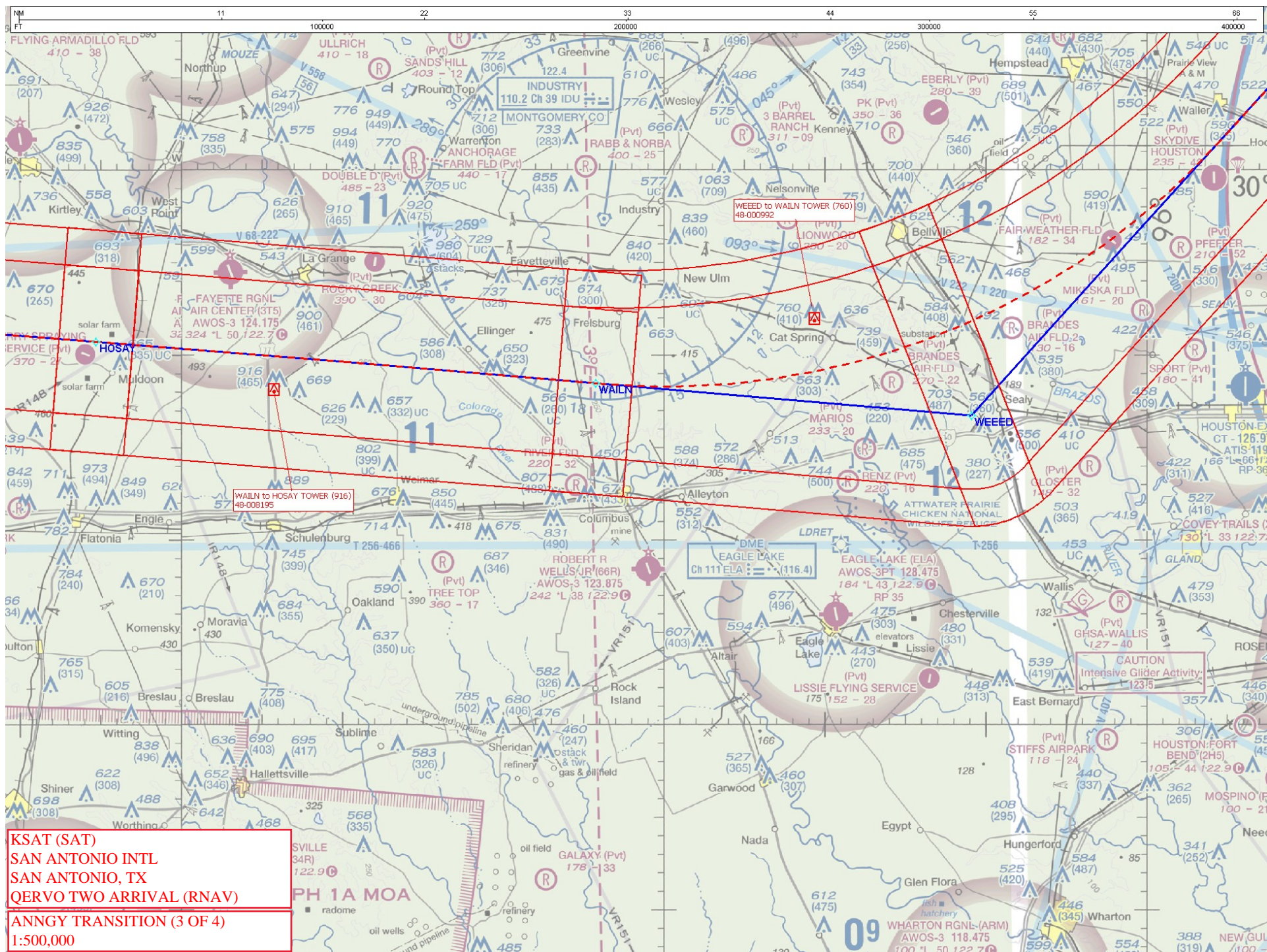
KSAT (SAT)  
SAN ANTONIO INTL  
SAN ANTONIO, TX  
QERVO TWO ARRIVAL (RNAV)

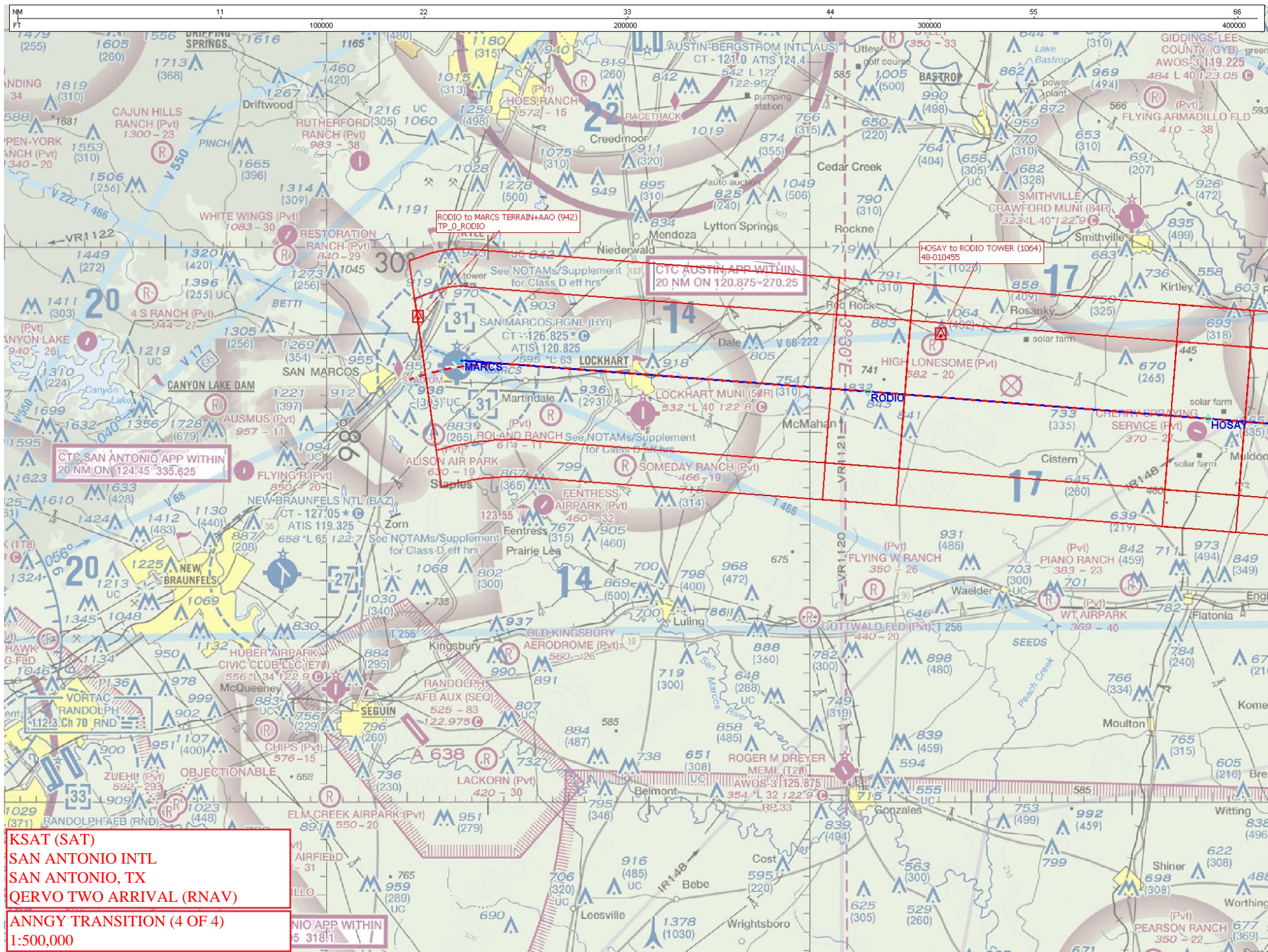
ANNGY TRANSITION (1 OF 4)  
1:500,000



ANNGY TRANSITION (2 OF 4)  
1:500,000







BLEWE TRANSITION (1 OF 2)  
1:500,000

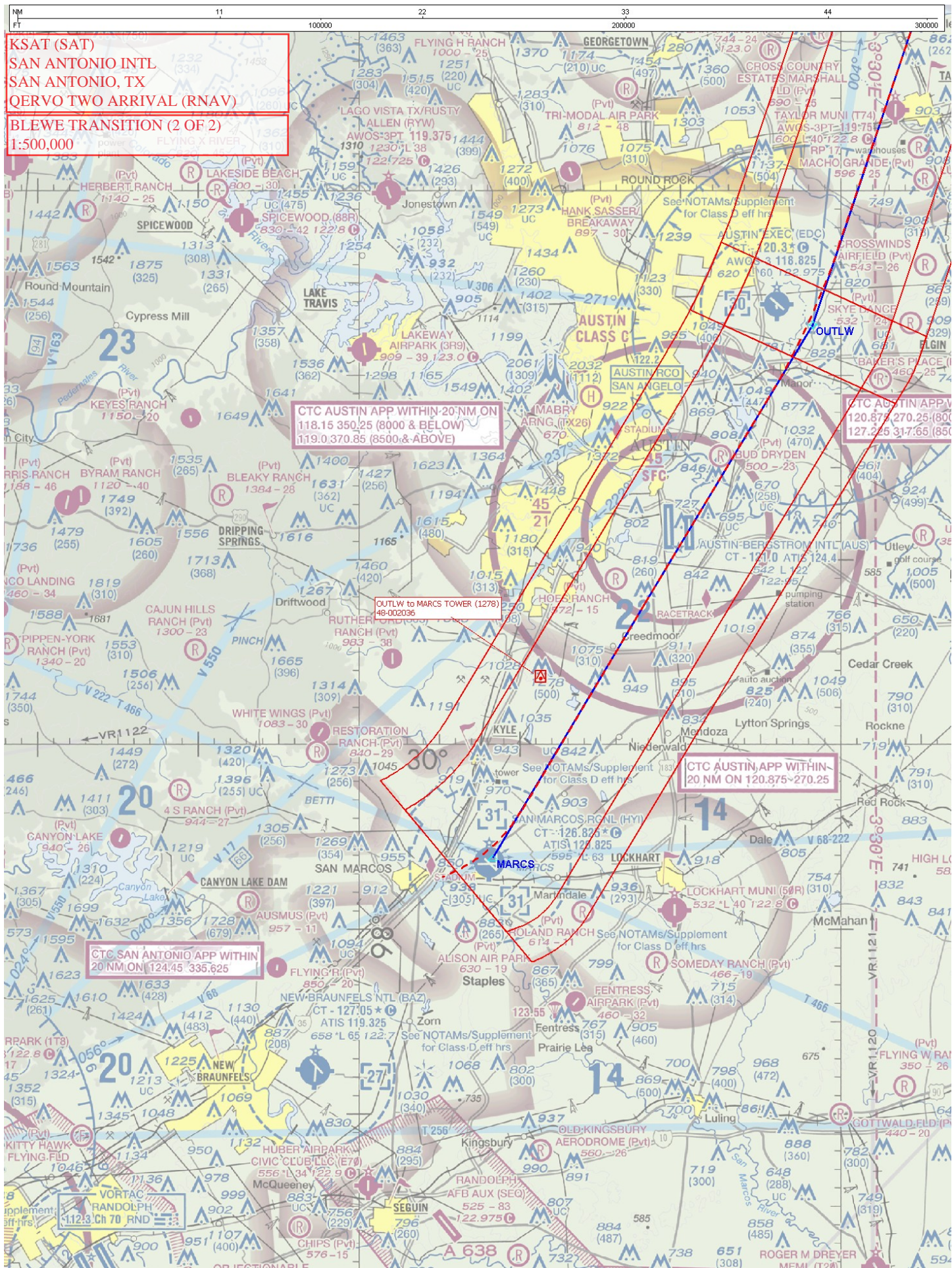
BLEWE to OUTLW/WINDU to BLEWE TOWER (2550)  
48-003981

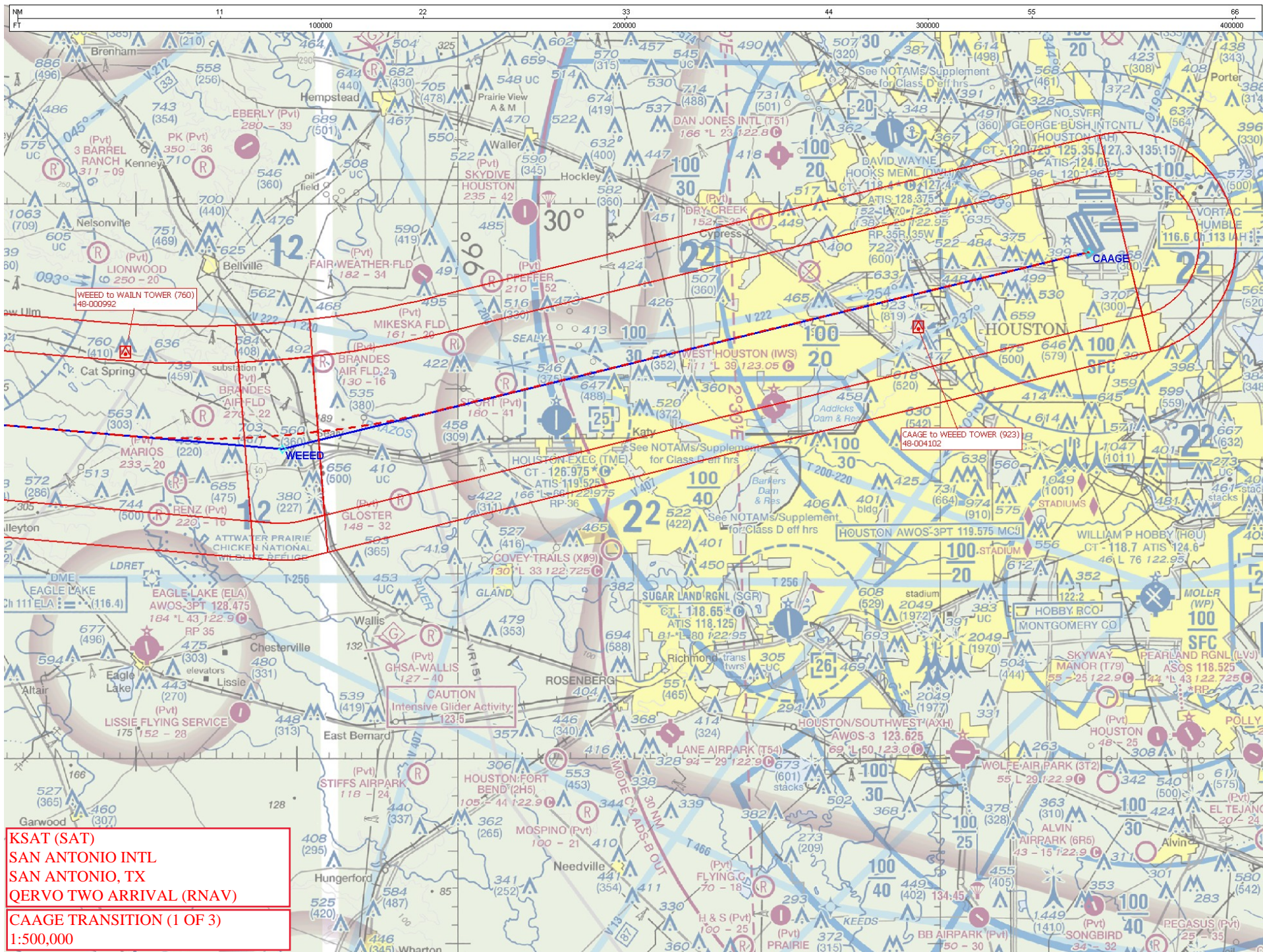
See NOTAMs/Supplement  
for Class E (sfc) eff hrs



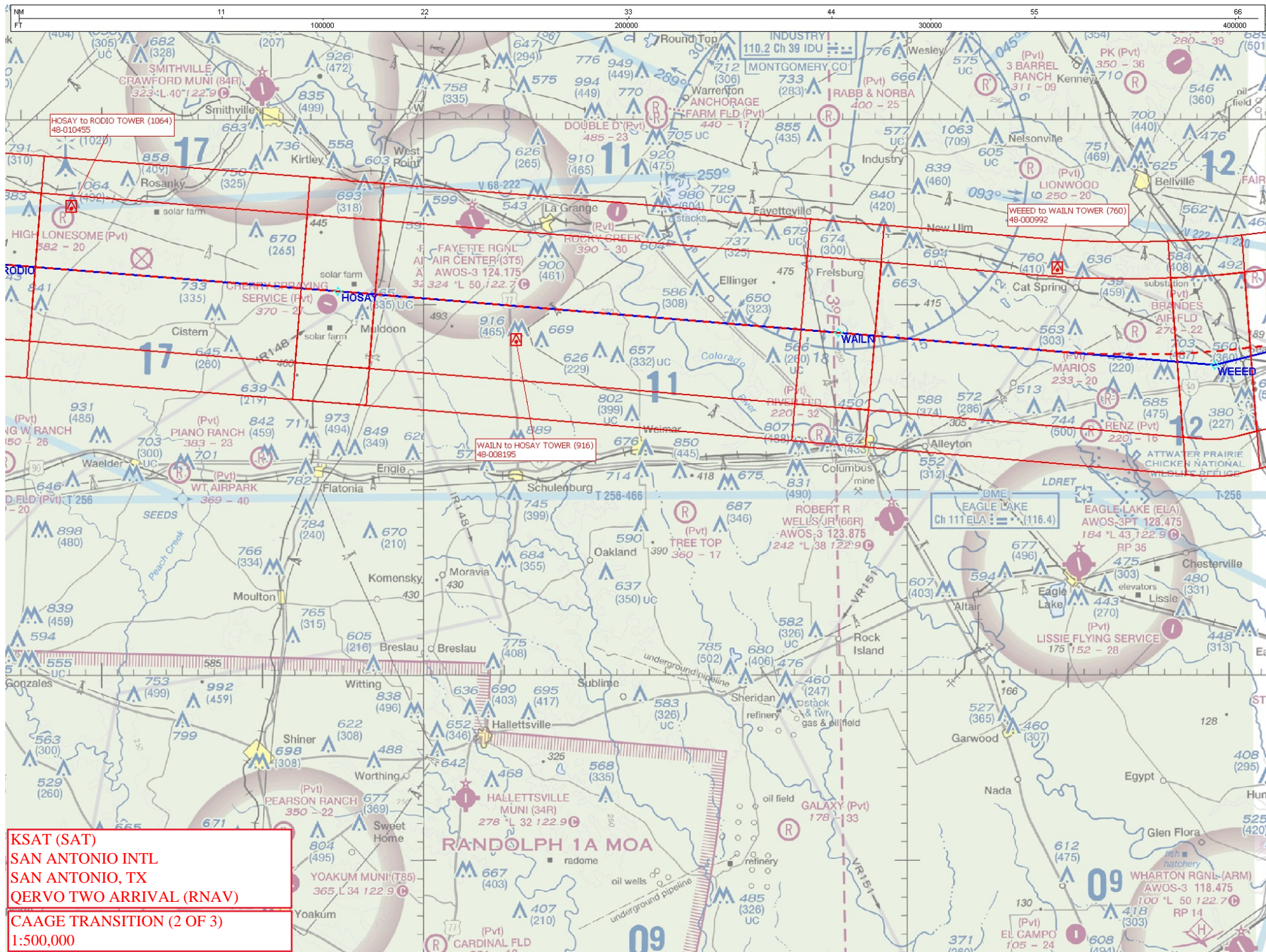
CTC AUSTIN APP WITHIN 20 NM ON  
120.875-270.25 (8000' & BELOW)  
127.225-317.65 (8500' & ABOVE)

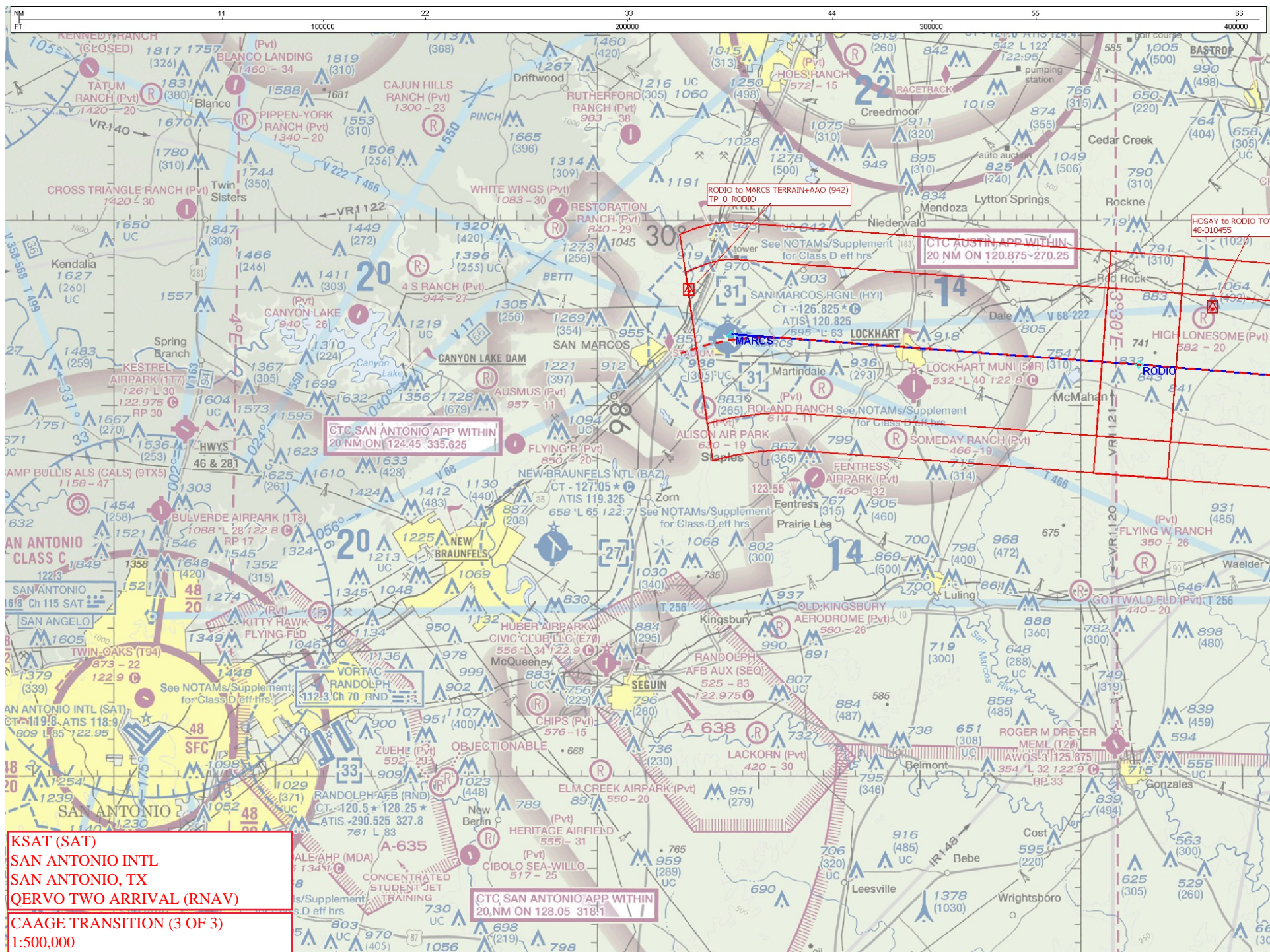
BLEWE TRANSITION (2 OF 2)  
1:500,000

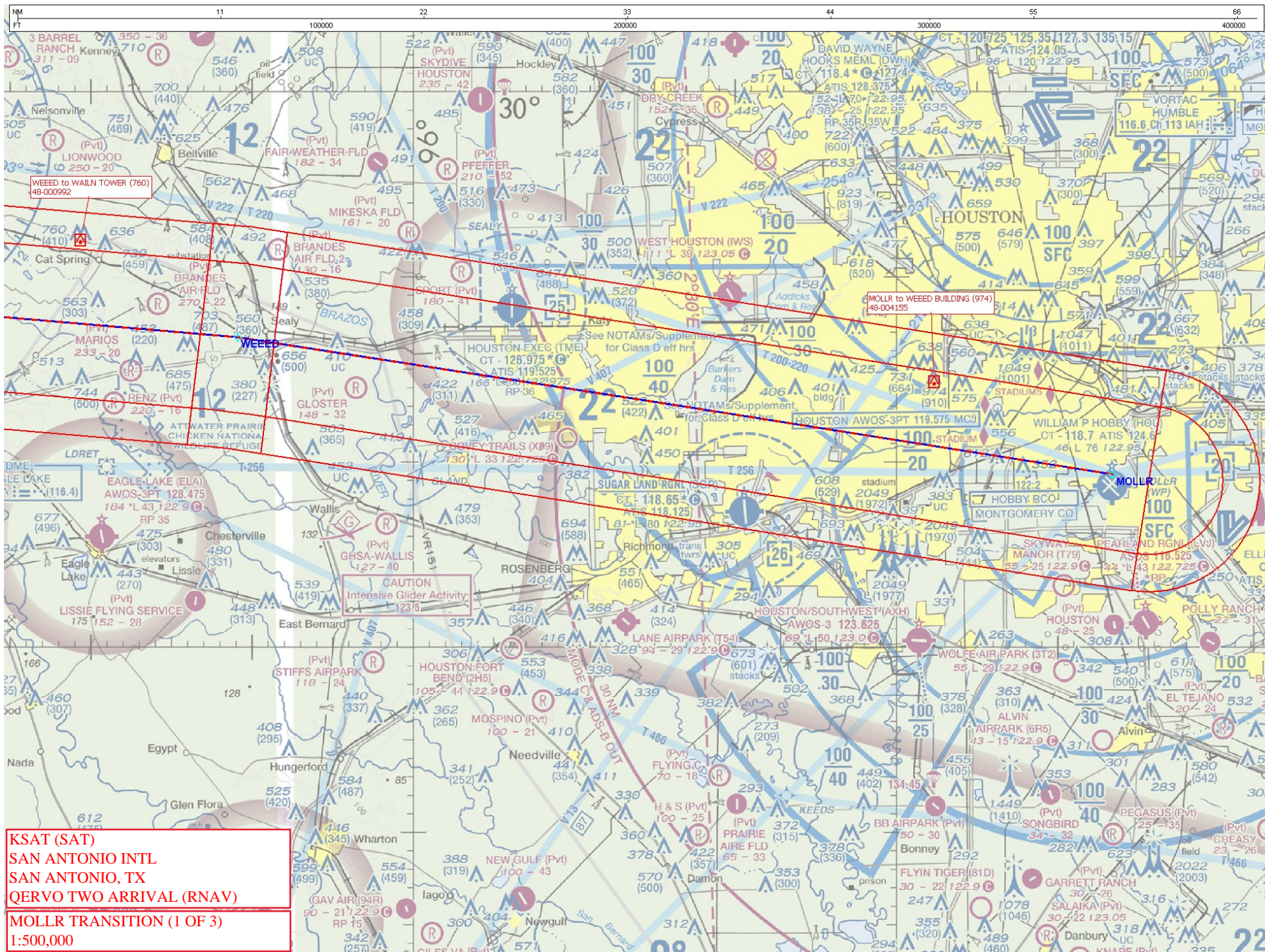


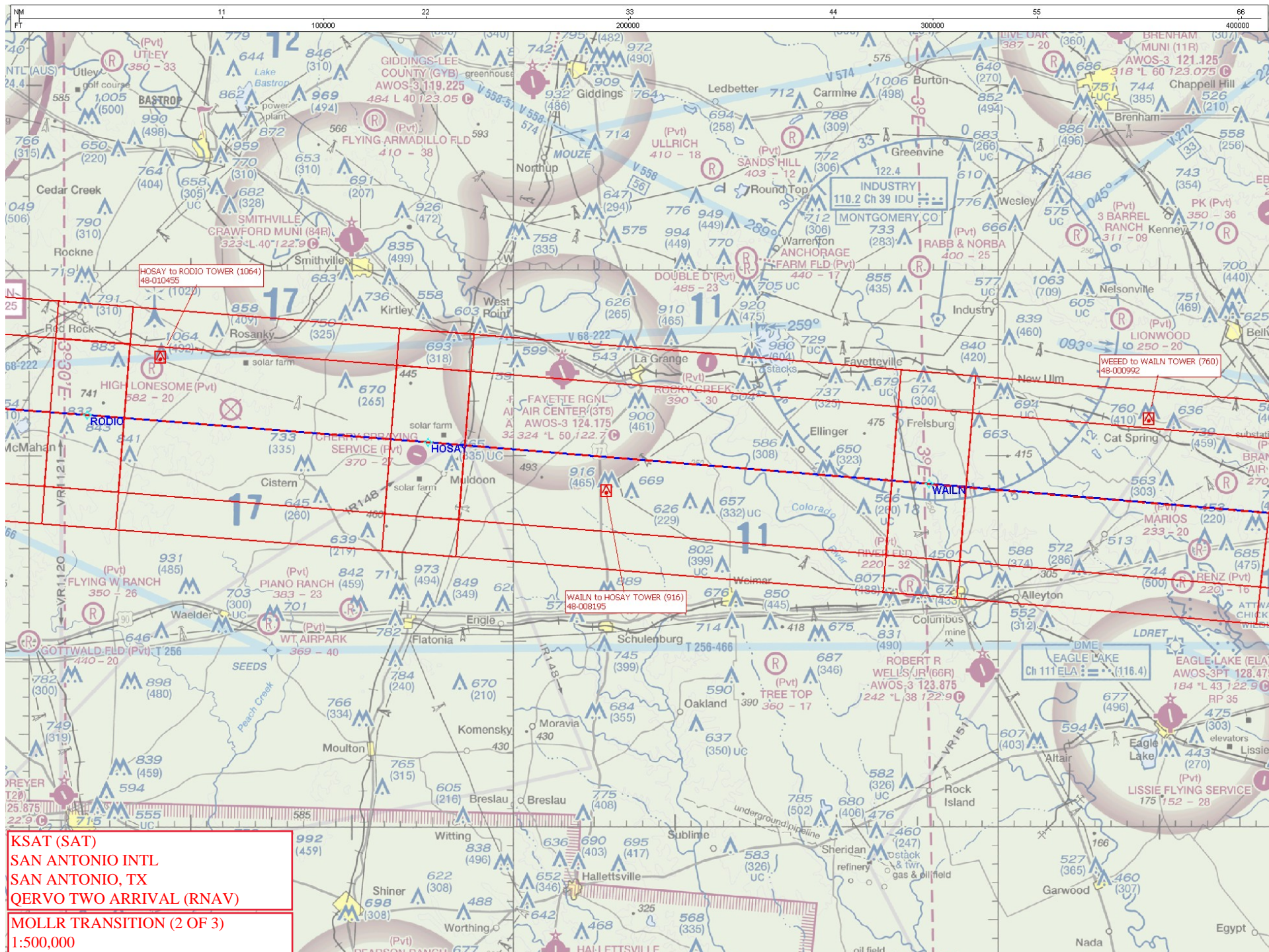


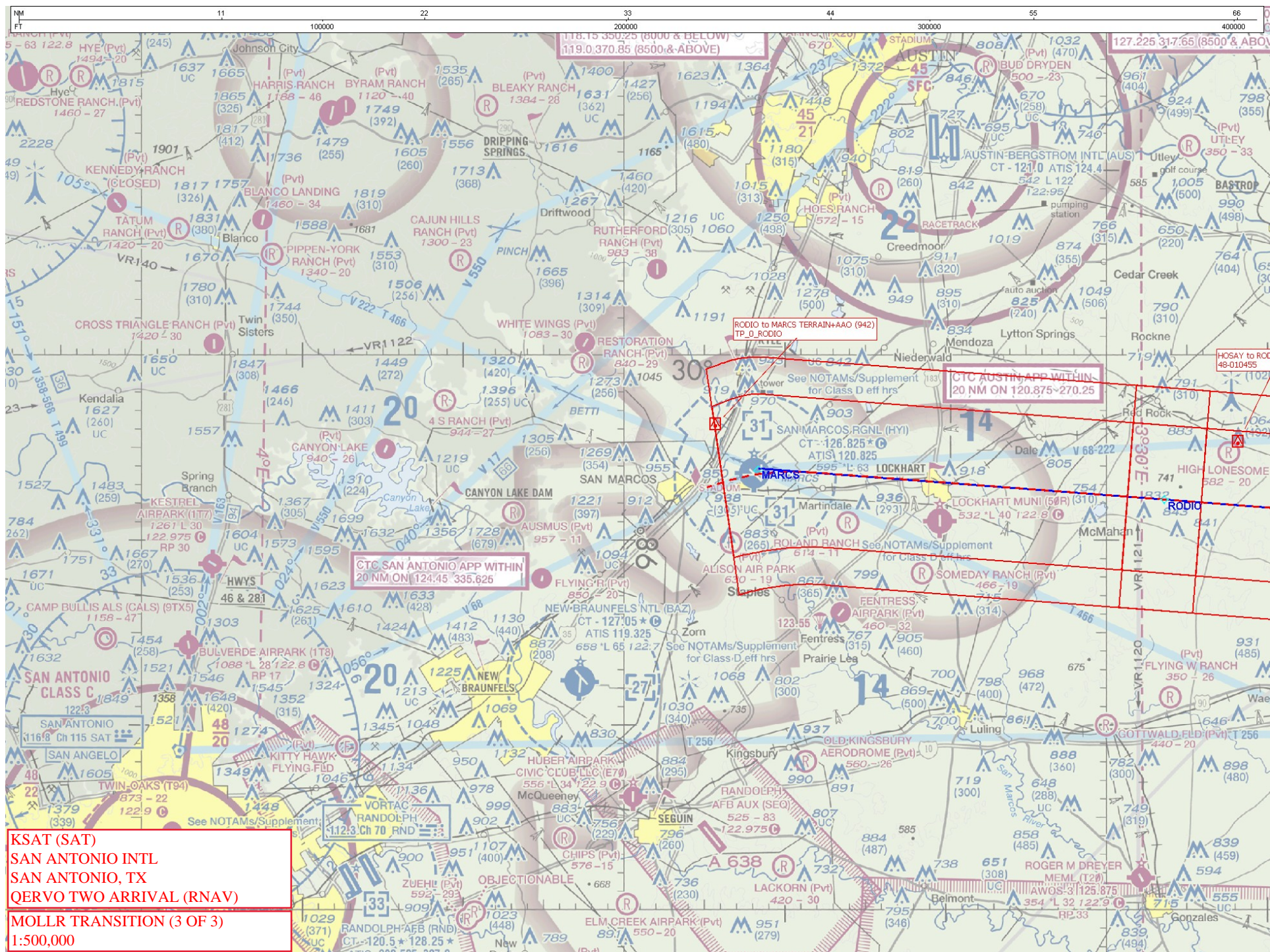
KSAT (SAT)  
SAN ANTONIO INTL  
SAN ANTONIO, TX  
QERVO TWO ARRIVAL (RNAV)  
CAAGE TRANSITION (1 OF 3)  
1:500,000

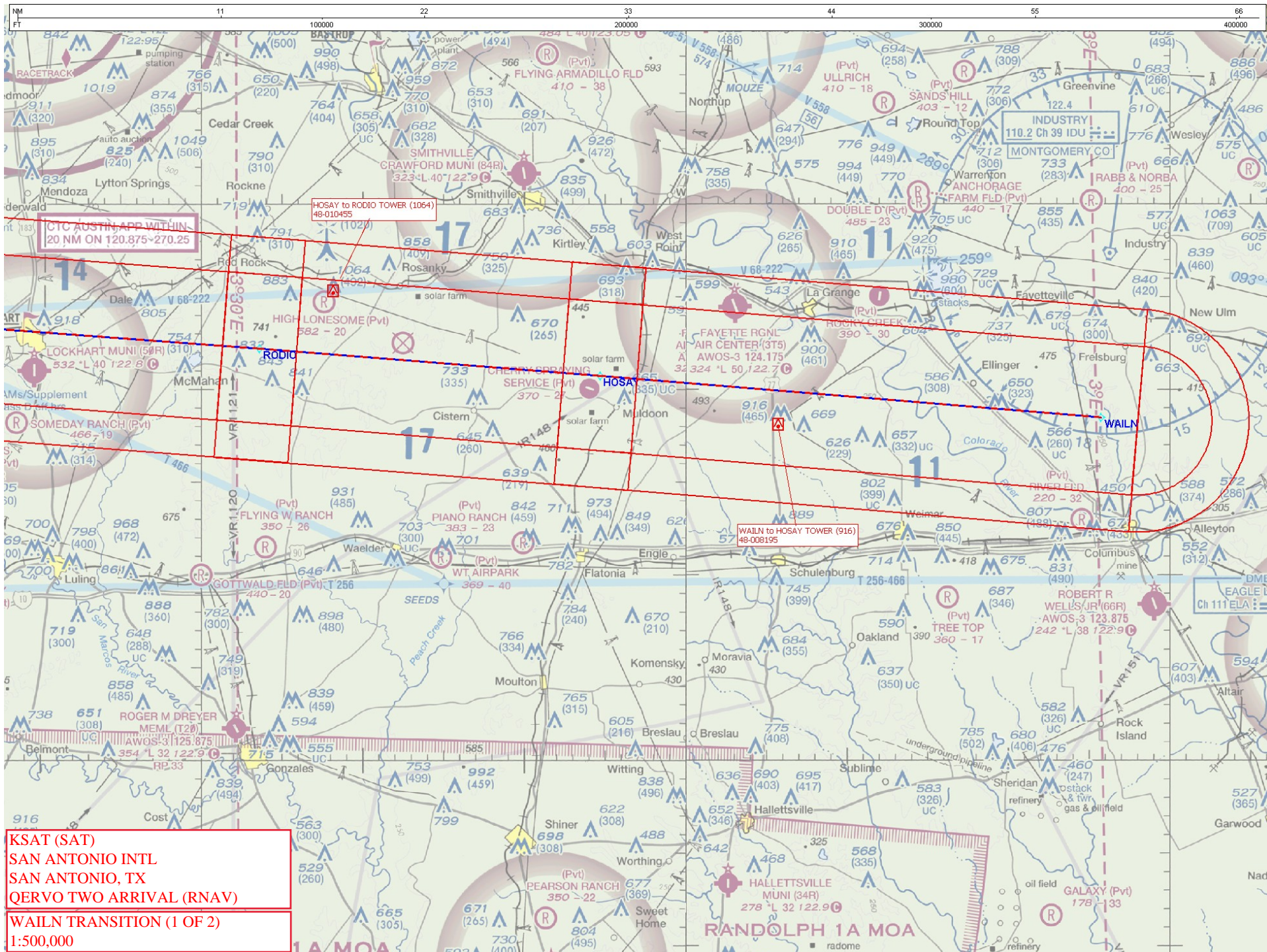


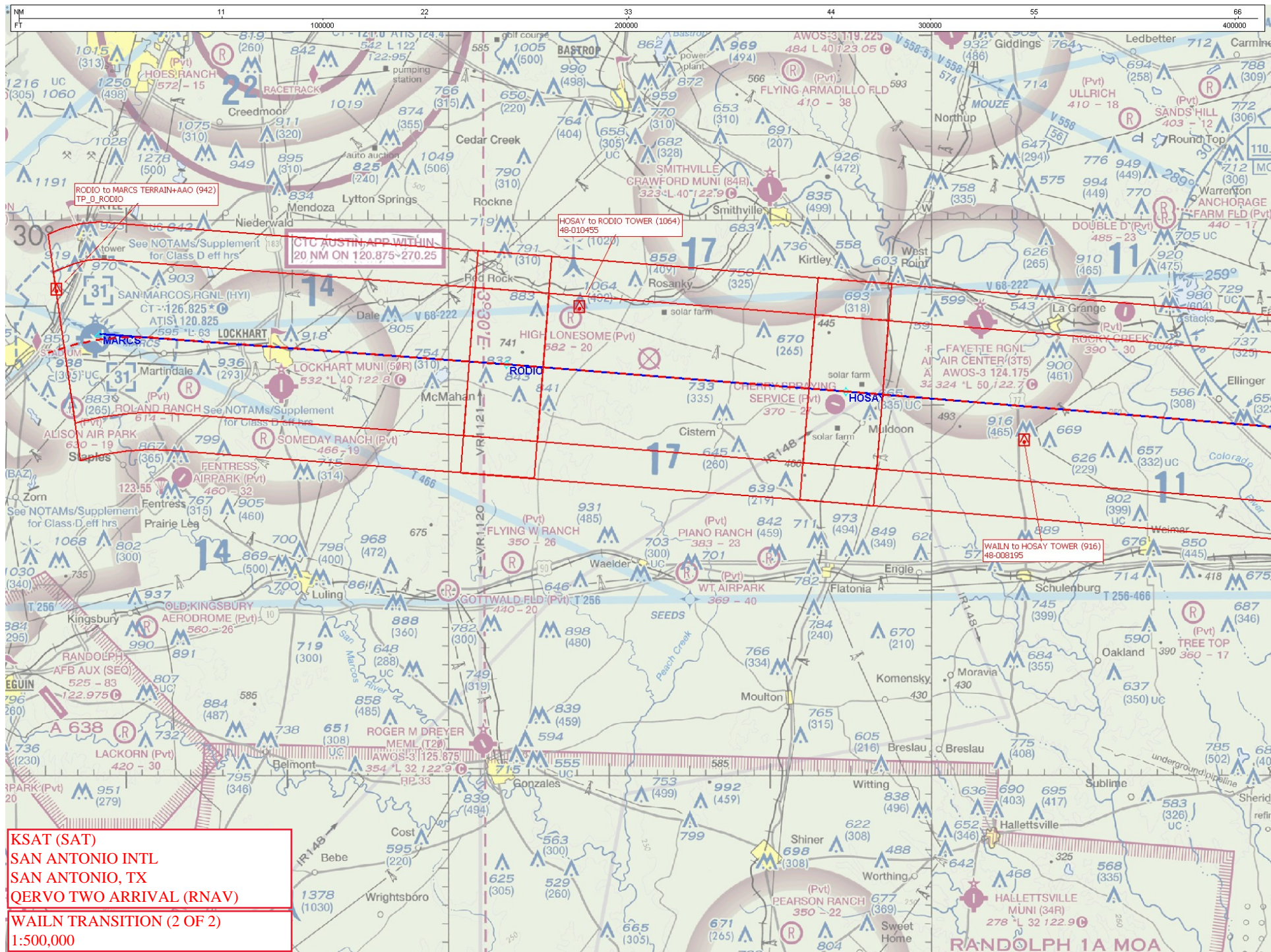












WINDU TRANSITION (1 OF 2)  
1:500,000



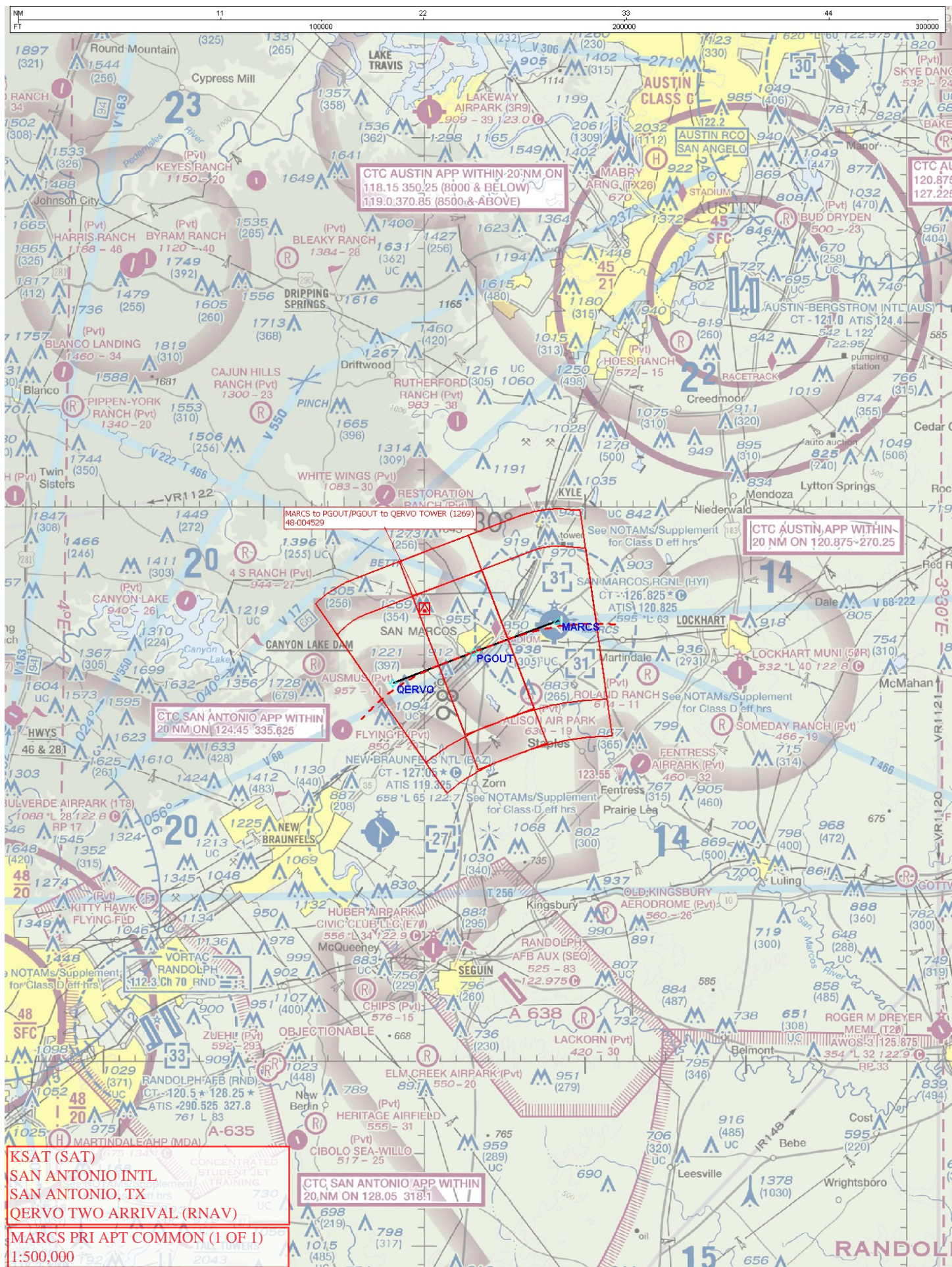
WINDU TRANSITION (2 OF 2)  
1:500,000

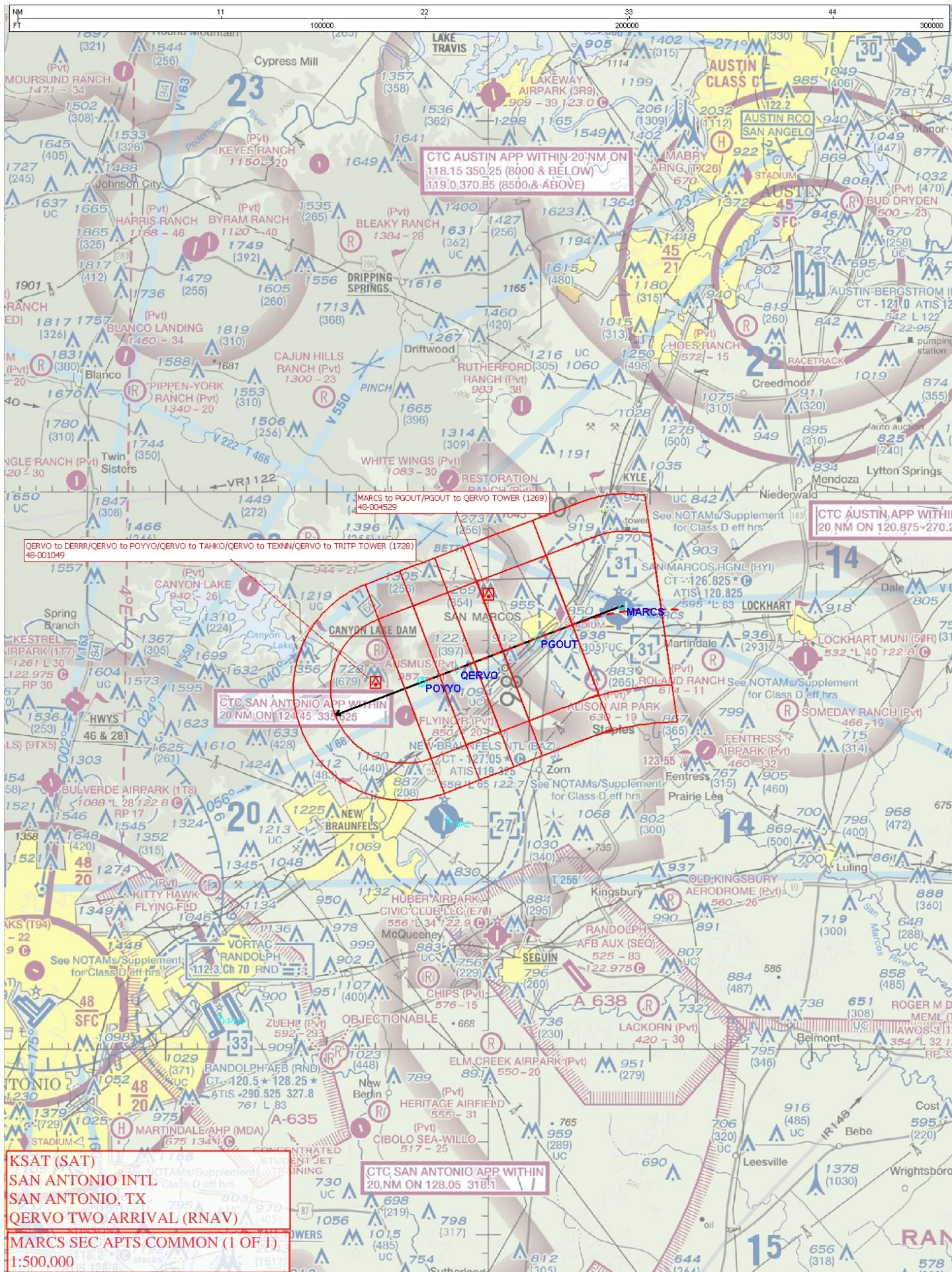
CTC AUSTIN APP WITHIN 20 NM ON  
118.15 350.25 (8000 & BELOW)  
119.0 370.85 (8500 & ABOVE)

ETC AGSTIN APP WITHIN 20 NM ON  
120.875-270.25 (8000 & BELOW)  
127.225-317.65 (8500 & ABOVE)

CTC AUSTIN APP WITHIN  
20 NM ON 120.875-270.25

0 APP WITHIN  
335.625







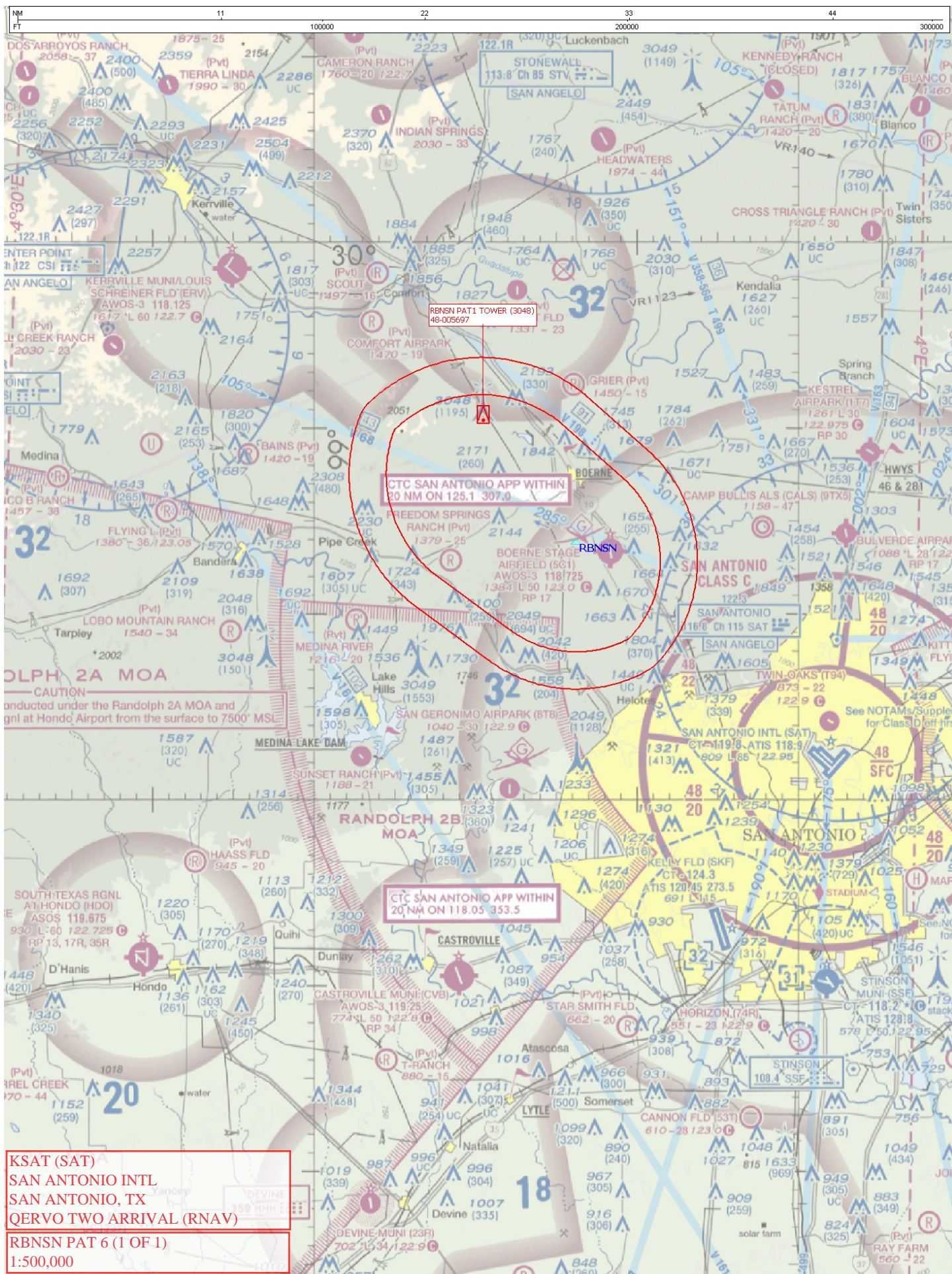


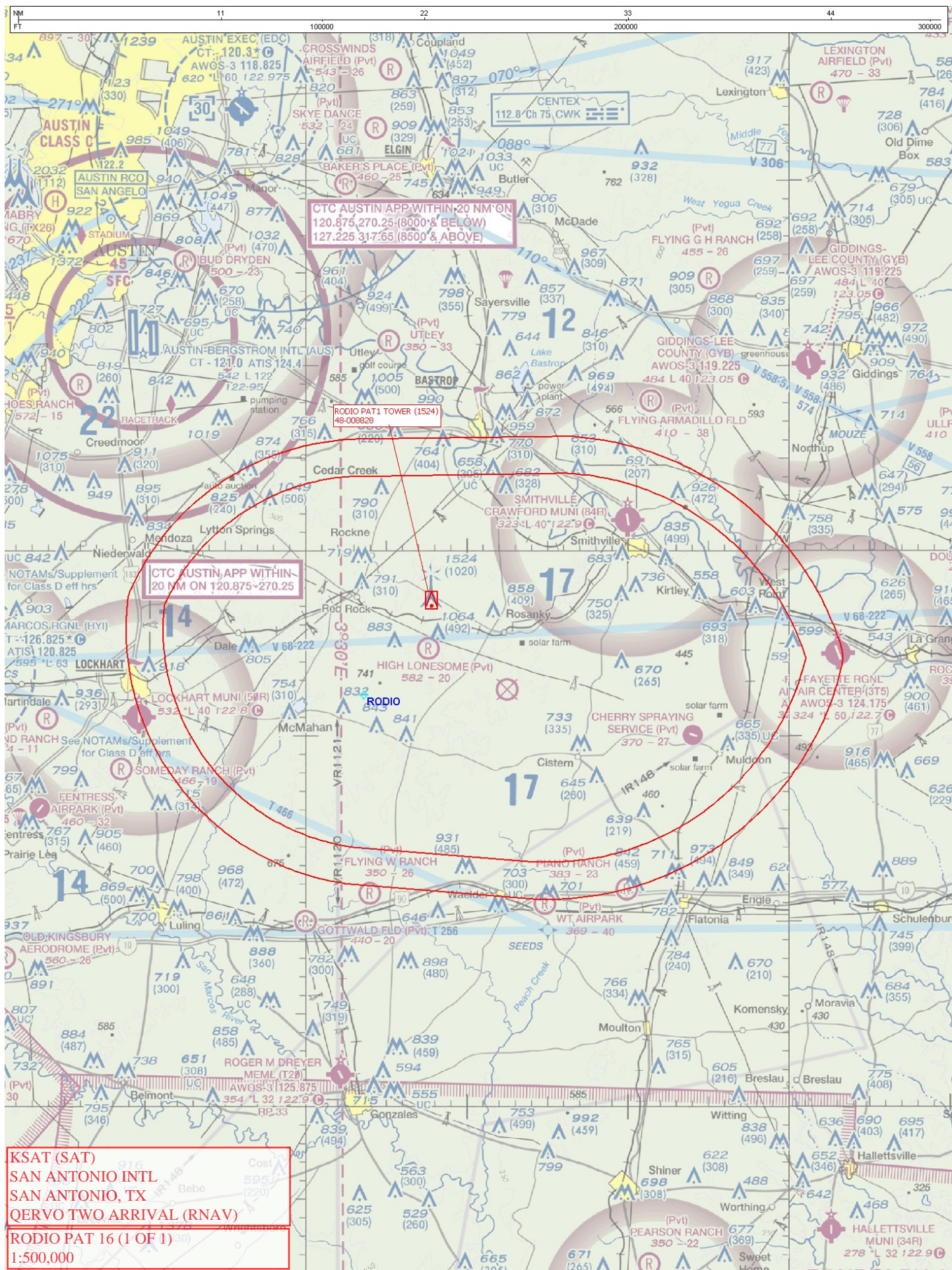






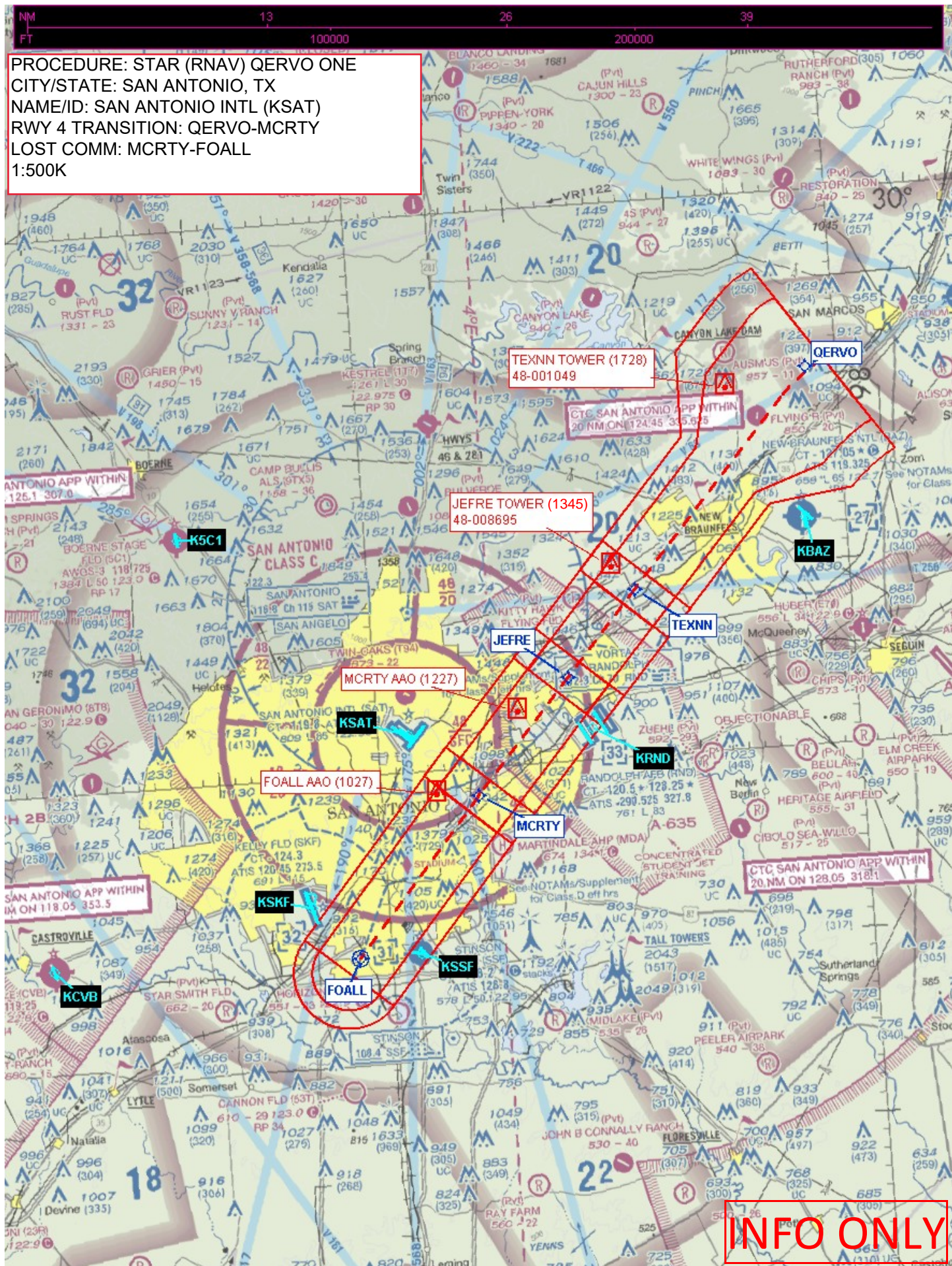






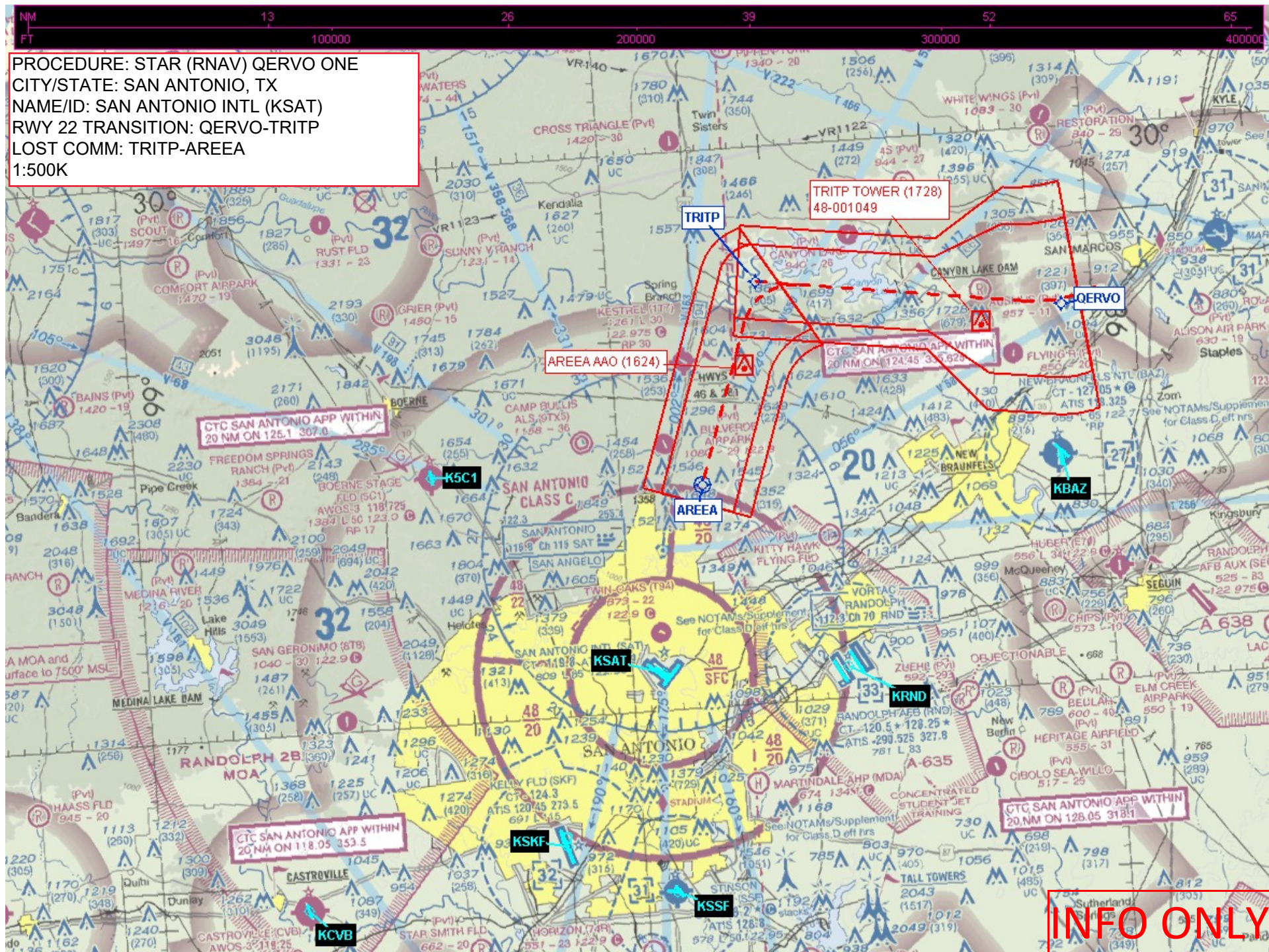


PROCEDURE: STAR (RNAV) QERVO ONE  
CITY/STATE: SAN ANTONIO, TX  
NAME/ID: SAN ANTONIO INTL (KSAT)  
RWY 4 TRANSITION: QERVO-MCRTY  
LOST COMM: MCRTY-FOALL  
1:500K

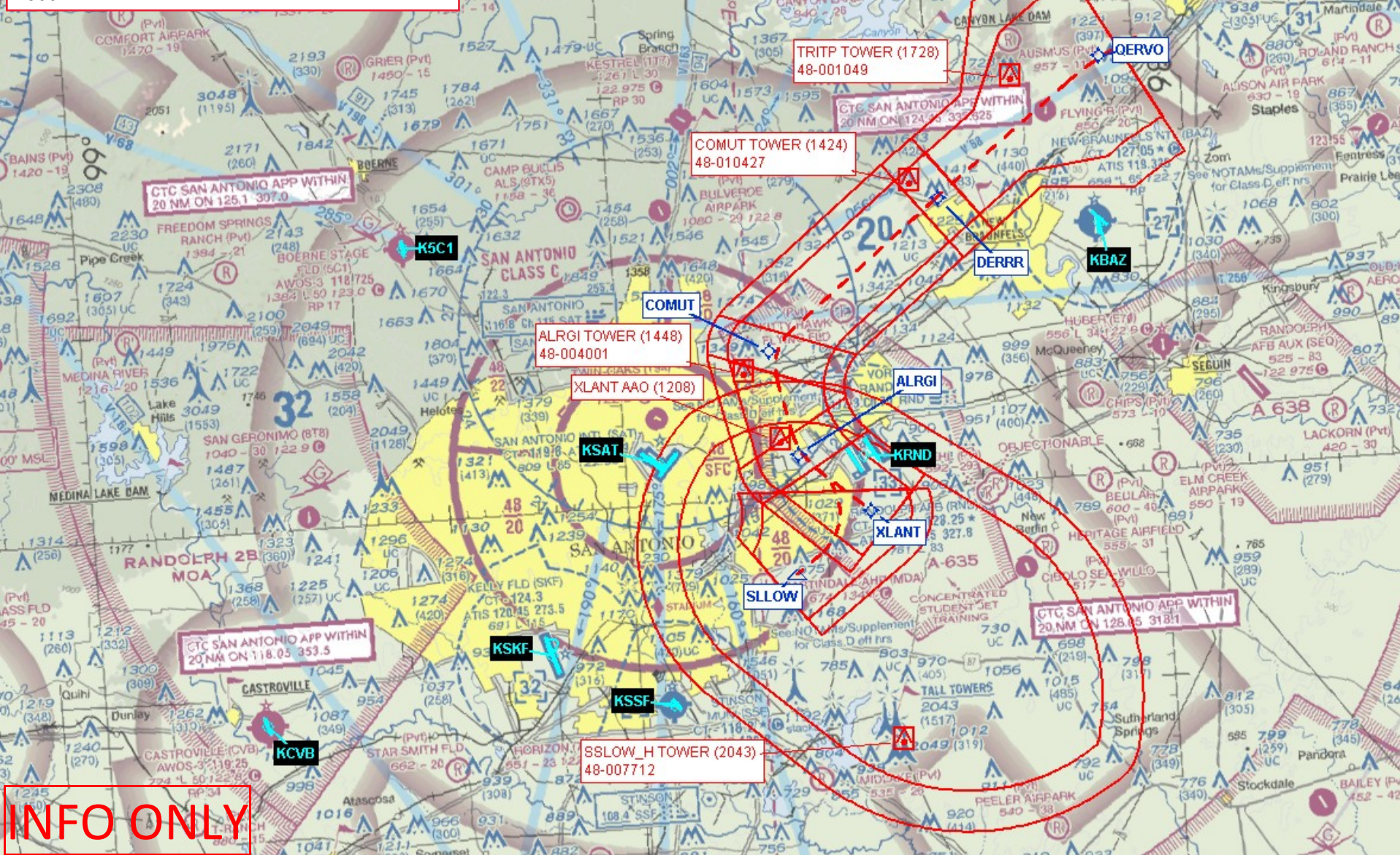




PROCEDURE: STAR (RNAV) QERVO ONE  
CITY/STATE: SAN ANTONIO, TX  
NAME/ID: SAN ANTONIO INTL (KSAT)  
RWY 22 TRANSITION: QERVO-TRITP  
LOST COMM: TRITP-AREEA  
1:500K



PROCEDURE: STAR (RNAV) QERVO ONE  
CITY/STATE: SAN ANTONIO, TX  
NAME/ID: SAN ANTONIO INTL (KSAT)  
RWY 31L TRANSITION: QERVO-XLANT  
LOST COMM: XLANT-SLOW  
1:500K



INFO ONLY