

<b>Flight Procedure Tracking Form</b>		<b>Action:</b> FLIGHT CHECK	<b>Task Type:</b> IAP	<b>Date Open:</b> 08/05/2011	<b>Task #:</b> 2011061325908801002	<b>Request #:</b> 20110613259088
<b>Procedure:</b> RNAV (GPS) RWY 16 AMDT 2			<b>Airport ID:</b> KT78	<b>Airport:</b> LIBERTY MUNI		<b>Reimbursable #:</b>
<b>City:</b> LIBERTY		<b>ST:</b> TX	<b>GPS #:</b>	<b>Estimated Chart Date:</b> 09/20/2012		<b>FICO #:</b>
<b>Fac ID:</b>			<b>Fac. Type:</b> LPV	<b>Specialist:</b> TERENCE SHARP		

### Procedure Review

	Rec'd	Rel'd	Full Name	Comments
<b>Lead:</b>	03/06/2012	05/21/2012	TIMOTHY MCHENRY	
<b>QA:</b>				
<b>Liaison:</b>				

**Procedure Comments:**

ENROUTE

**Remark Type:** INFORMATION

FC: 07/22/12

PUB: 09/20/12

ATTACHED FORMS:

8260-3, 8260-9, 8260-10,

8260-2(S): HOLMI - REV2; PADDI - REV 3; WOVOL - ORIG; ZAVAK - ORIG; ZOTUG - ORIG;

WAAS CH <b>78130</b> <b>W16A</b>	APP CRS <b>181°</b>	Rwy Idg THRE Apt Elev	<b>3801</b> <b>69</b> <b>70</b>
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# RNAV (GPS) RWY 16

LIBERTY MUNI (T78)

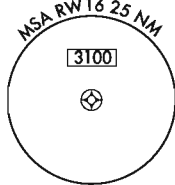
**NA** Circling to Rwy 34 NA at night. Use George Bush intercontinental/Houston altimeter setting. When VGSI inop, procedure NA at night. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.

**MISSED APPROACH:** Climb to 3000 direct WOVOL and hold.

HOUSTON APP CON <b>119.7 281.4</b>	CTAF <b>122.9 0</b>
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**PROTOTYPE - NOT FOR NAVIGATION**

HOLMI: 3016.571°N/09445.390°W  
 PADDI: 3010.741°N/09443.685°W  
 WOVOL: 2951.799°N/09438.171°W  
 ZAVAK: 3019.953°N/09439.659°W  
 ZOTUG: 3017.170°N/09452.285°W  
 RW16: 3004.972°N/09442.001°W



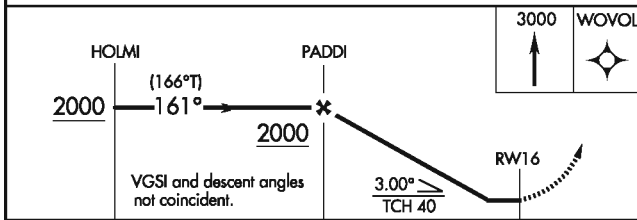
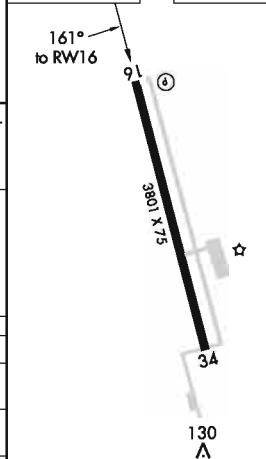
**RADAR REQUIRED**

MISSED APCH FIX

WOVOL



ELEV 70	THRE 69
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CATEGORY	A	B	C	D
IP MDA	620-1	551 (600-1)		NA
INAV MDA	640-1	571 (600-1)		NA
CIRCLING	640-1	570 (600-1)		NA

MIRL Rwy 16-34

# INFORMATION ONLY

AI-5196 (FAA)

LIBERTY, TEXAS

## RNAV (GPS) RWY 16

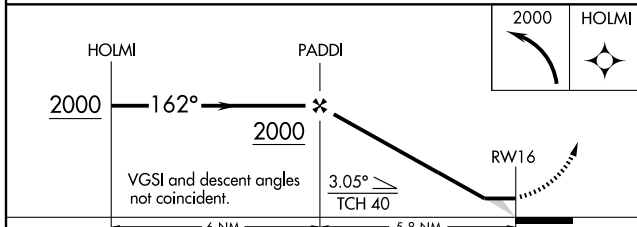
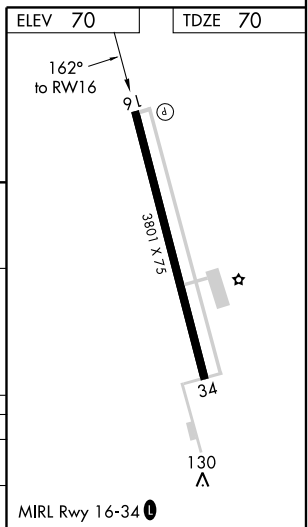
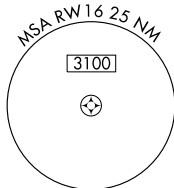
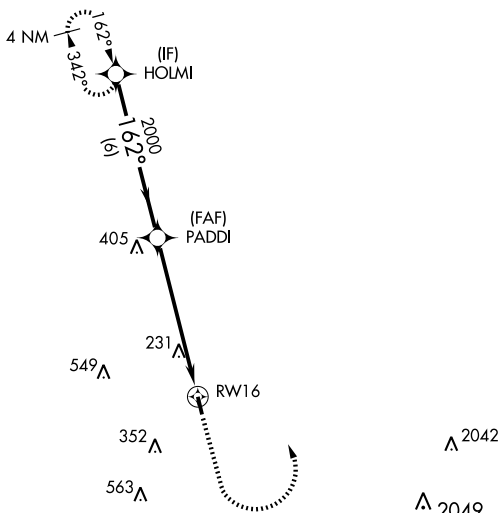
LIBERTY MUNI (T78)

APP CRS <b>162°</b>	Rwy ldg TDZE Apt Elev	<b>3801</b> <b>70</b> <b>70</b>
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<p>▼ DME/DME RNP-0.3 NA. ▲ NA Use George Bush Intercontinental/Houston altimeter setting.</p>	<p>MISSED APPROACH: Climbing left turn to 2000 direct HOLMI and hold.</p>
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<p>HOUSTON APP CON <b>119.7 281.4</b></p>	<p>CTAF <b>122.9 0</b></p>
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### RADAR REQUIRED



CATEGORY	A	B	C	D
LNAV MDA	620-1	550 (600-1)	NA	
CIRCLING	620-1	550 (600-1)	NA	

LIBERTY, TEXAS  
Amdt 1 11069

30°05'N-94°42'W

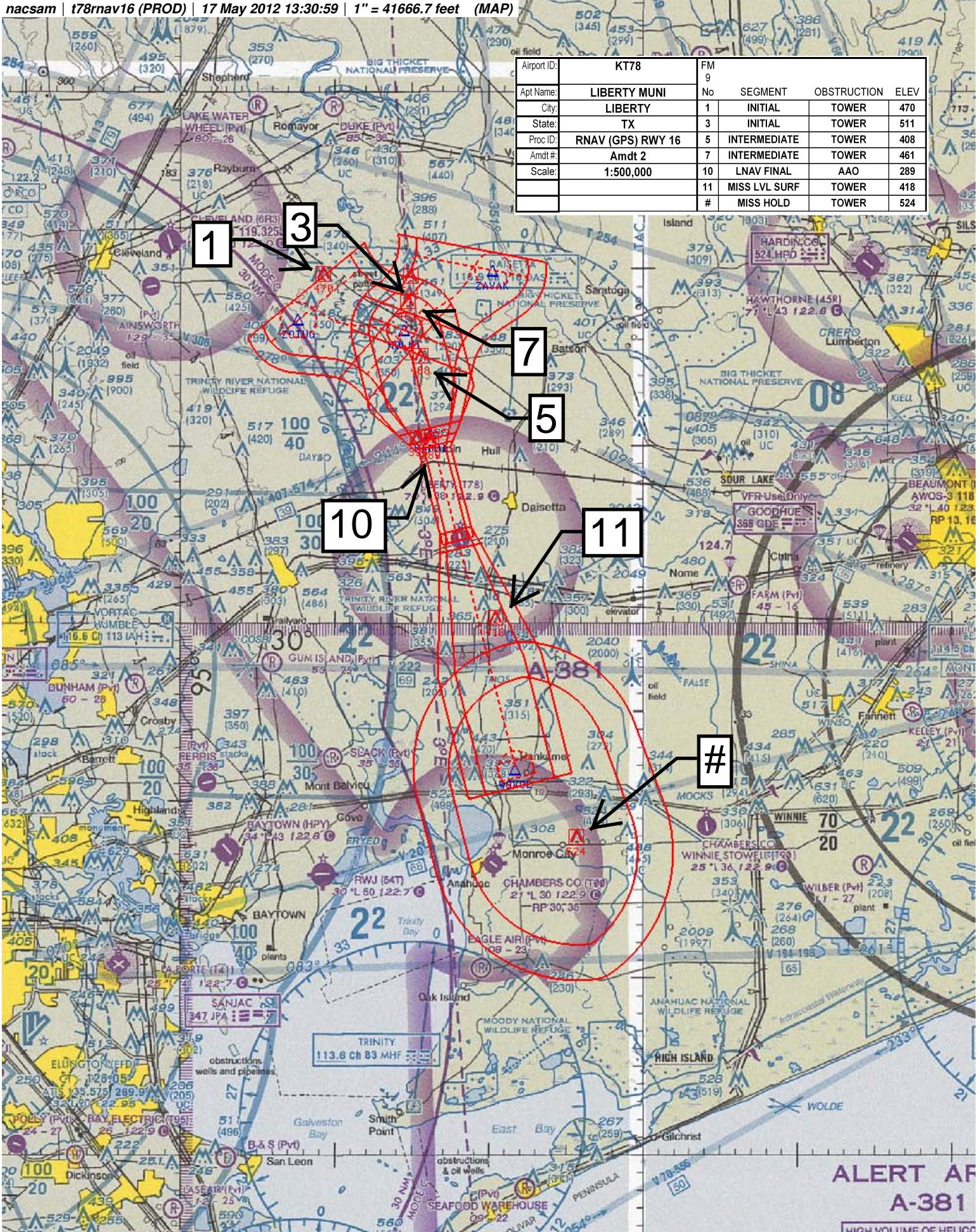
## LIBERTY MUNI (T78) RNAV (GPS) RWY 16

SC-5, 31 MAY 2012 to 28 JUN 2012

SC-5, 31 MAY 2012 to 28 JUN 2012

nacsam | t78rnv16 (PROD) | 17 May 2012 13:30:59 | 1" = 41666.7 feet (MAP)

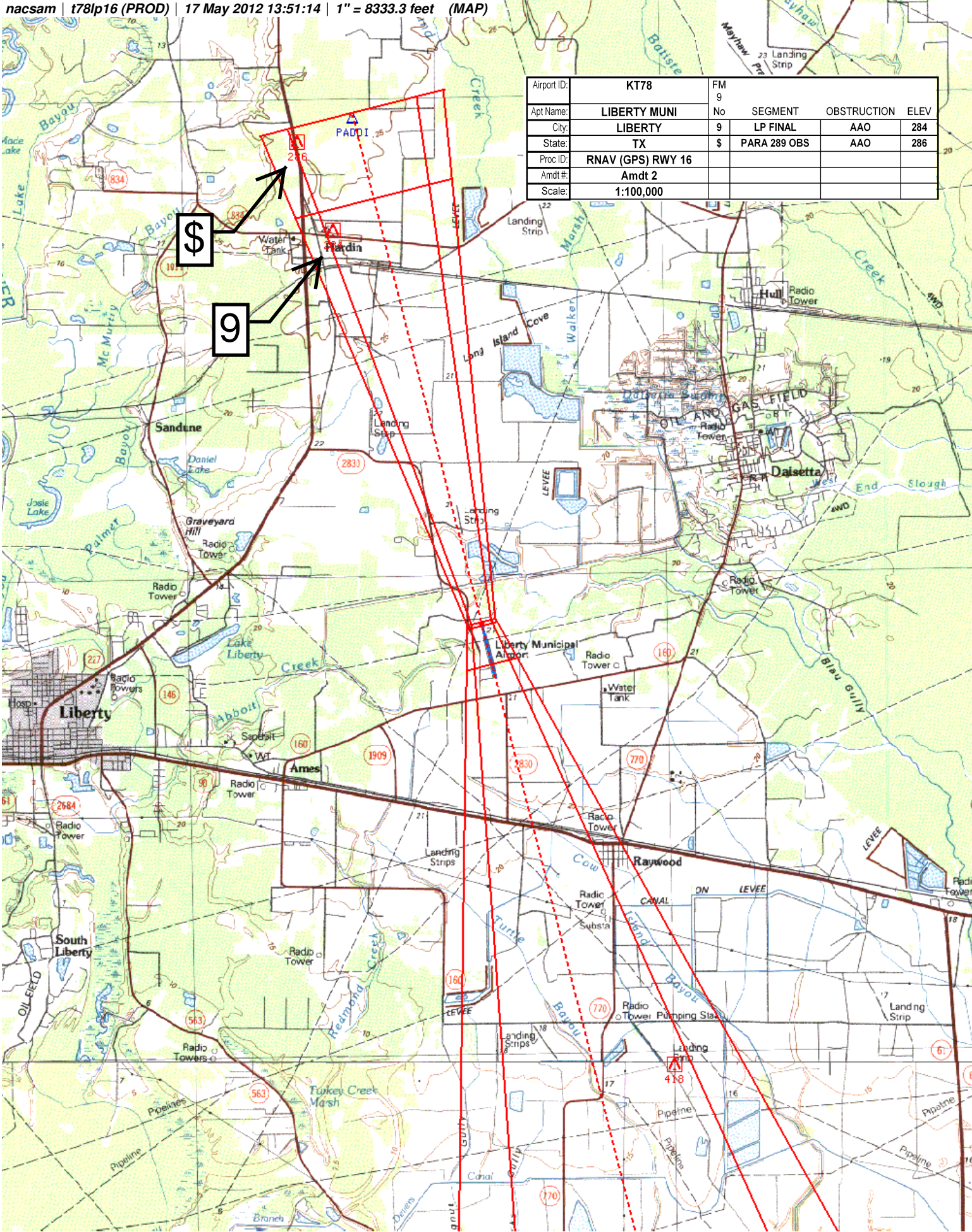
Airport ID:	KT78	FM	9			
Apt Name:	LIBERTY MUNI	No		SEGMENT	OBSTRUCTION	ELEV
City:	LIBERTY	1	INITIAL	TOWER	470	
State:	TX	3	INITIAL	TOWER	511	
Proc ID:	RNAV (GPS) RWY 16	5	INTERMEDIATE	TOWER	408	
Amdt #:	Amdt 2	7	INTERMEDIATE	TOWER	461	
Scale:	1:500,000	10	LNAV FINAL	AAO	289	
		11	MISS LVL SURF	TOWER	418	
		#	MISS HOLD	TOWER	524	



**ALERT AT A-381**  
 HIGH VOLUME OF HELICOPTER

nacsam | 178lp16 (PROD) | 17 May 2012 13:51:14 | 1" = 8333.3 feet (MAP)

Airport ID:	KT78	FM			
		9			
Apt Name:	LIBERTY MUNI	No	SEGMENT	OBSTRUCTION	ELEV
City:	LIBERTY	9	LP FINAL	AAO	284
State:	TX	\$	PARA 289 OBS	AAO	286
Proc ID:	RNAV (GPS) RWY 16				
Amdt #:	Amdt 2				
Scale:	1:100,000				



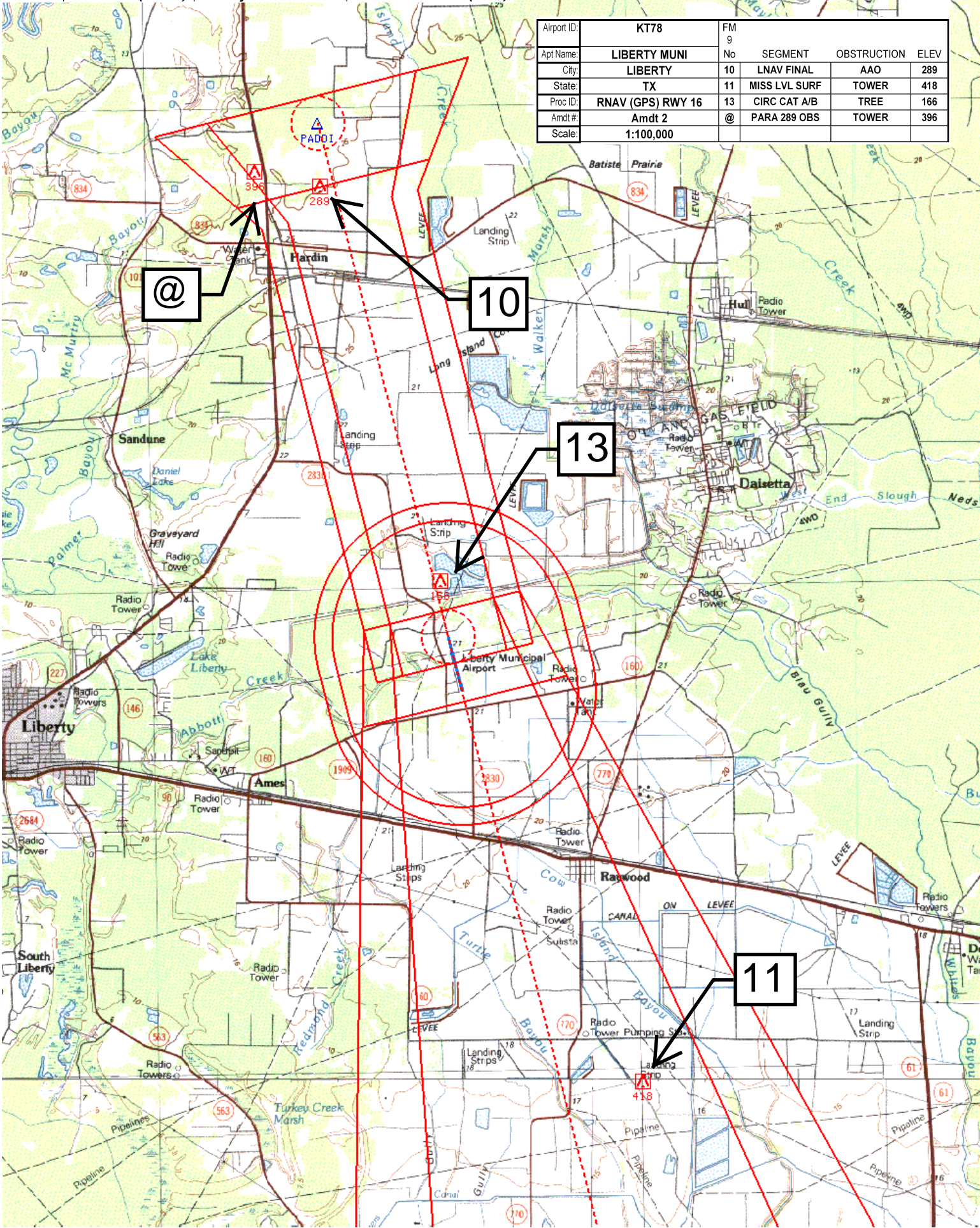
\$

9

NM 1 2 3 4 5 6 7 8 9 10  
 FT 8000 16000 24000 32000 40000 48000 56000 64000

nacsam | t78rnv16 (PROD) | 17 May 2012 14:00:48 | 1" = 8333.3 feet (MAP)

Airport ID:	KT78	FM			
Apt Name:	LIBERTY MUNI	No	9	SEGMENT	OBSTRUCTION
City:	LIBERTY	10	LNAV FINAL	AAO	289
State:	TX	11	MISS LVL SURF	TOWER	418
Proc ID:	RNAV (GPS) RWY 16	13	CIRC CAT A/B	TREE	166
Amdt #:	Amdt 2	@	PARA 289 OBS	TOWER	396
Scale:	1:100,000				



@

10

13

11

**RNAV - STANDARD  
INSTRUMENT APPROACH PROCEDURE  
TITLE 14 CFR PART 97.33**

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TERMINAL ROUTES				MISSED APPROACH	
FROM	TO	COURSE AND DISTANCE	ALTITUDE		
ZOTUG (IAF)	HOLMI (FB)	090.69 / 6.00	2000	LP: RW16 LNAV: RW16	
ZAVAK (IAF)	HOLMI (FB)	230.80 / 6.00	2000	CLIMB TO 3000 DIRECT WOVOL AND HOLD.	
HOLMI (IF)	PADDI (FB)	160.75 / 6.00	2000		
PADDI (FAF)	RW16 (MAP) (FO)	160.76 / 5.94		ADDITIONAL FLIGHT DATA: HOLD S, RT, 340.79 INBOUND. FAS OBST: 284 AAO 300921N/0944356W FAS OBST: 289 AAO 300957N/0944339W CHART: 396 TOWER 301007N/0944430W OBST: 286 AAO 301021N/0944424W WAAS CHANNEL # 78130 REFERENCE PATH ID: W16A PADDI TO RW16: 3.00/40. LTP HAE: -6.3 M	
RW16 (MAP)	470 MSL	160.76			
470 MSL	WOVOL (FO)		3000		

- PT        SIDE OF COURSE        OUTBOUND        FT WITHIN        MILES OF        (IAF)
- PROFILE STARTS AT HOLMI
- FAC: 160.76 FAF: PADDI DIST FAF TO MAP: 5.94 THLD: 5.94
- MIN. ALT: HOLMI 2000, PADDI 2000
- DIST TO THLD FROM OM:        MM:        IM:        150 HAT:        100 HAT:        GS ANT:
- MIN GS INCPT:        GS ALT AT:        OM:        MM:        IM:
- GS ANGLE:        TCH: 34:1 IS NOT CLEAR
- MSA FROM: RW16 3100

MAG VAR: 5E EPOCH YEAR: 1995

**MINIMUMS**

TAKEOFF: <b>SEE FAA FORM 8260-15A FOR THIS AIRPORT</b>	ALTERNATE: N A X														
CATEGORY >>>>>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
LP MDA	620	1	551	620	1	551		NA			NA				
LNAV MDA	640	1	571	640	1	571		NA			NA				
CIRCLING	640	1	570	640	1	570		NA			NA				

NOTES:  
 CHART NOTE: CIRCLING TO RWY 34 NA AT NIGHT.  
 CHART NOTE: USE GEORGE BUSH INTERCONTINENTAL/HOUSTON ALTIMETER SETTING.  
 CHART NOTE: WHEN VGSi INOP, PROCEDURE NA AT NIGHT.  
 CHART NOTE: DME/DME RNP-0.3 NA.  
 (SEE FORM 8260-10)



CITY AND STATE LIBERTY, TX	ELEVATION: 70 THRE: 69 AIRPORT NAME: LIBERTY MUNI	FACILITY IDENTIFIER: RNAV	PROCEDURE NO./AMDT NO./EFFECTIVE DATE: RNAV (GPS) RWY 16, AMDT 2	SUP: AMDT: 1 DATED 09/29/2005
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ALL AFFECTED PROCEDURES REVIEWED? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE  <div style="text-align: center;"><b>ROUTINE</b></div>							
COORDINATED WITH:									
<table style="width:100%; border: none;"> <tr> <td style="text-align: center; width: 10%;">ATA <input type="checkbox"/></td> <td style="text-align: center; width: 10%;">AAT <input type="checkbox"/></td> <td style="text-align: center; width: 10%;">ALPA <input checked="" type="checkbox"/></td> <td style="text-align: center; width: 10%;">APA <input type="checkbox"/></td> <td style="text-align: center; width: 10%;">AOPA <input checked="" type="checkbox"/></td> <td style="text-align: center; width: 10%;">NBAA <input checked="" type="checkbox"/></td> <td style="text-align: center; width: 10%;">OTHER (specify) <input checked="" type="checkbox"/> <u>CEN FPT, ZHU, IAH TRACON</u></td> </tr> </table>			ATA <input type="checkbox"/>	AAT <input type="checkbox"/>	ALPA <input checked="" type="checkbox"/>	APA <input type="checkbox"/>	AOPA <input checked="" type="checkbox"/>	NBAA <input checked="" type="checkbox"/>	OTHER (specify) <input checked="" type="checkbox"/> <u>CEN FPT, ZHU, IAH TRACON</u>
ATA <input type="checkbox"/>	AAT <input type="checkbox"/>	ALPA <input checked="" type="checkbox"/>	APA <input type="checkbox"/>	AOPA <input checked="" type="checkbox"/>	NBAA <input checked="" type="checkbox"/>	OTHER (specify) <input checked="" type="checkbox"/> <u>CEN FPT, ZHU, IAH TRACON</u>			
FLIGHT CHECKED BY									
NAME:	FIFO	DATE:							
DEVELOPED BY									
NAME:	FIFO	DATE:							
<b>TERENCE D. SHARP (SAMER MASSARUEH)</b>	<b>AJV-351</b>	<b>05/03/2012</b>							
APPROVED BY									
NAME:	FIFO	DATE:							
<b>LARRY H STROUT</b>	<b>AJV-353</b>								
CHANGES:									
<ol style="list-style-type: none"> <li>1. INITIALS FROM ZOTUG AND ZAVAK ADDED.</li> <li>2. ADDED LP MINIMUMS.</li> <li>3. MISSED APPROACH AND MISSED HOLDING CHANGED FROM HOLMI TO NEW FIX WOVOL.</li> <li>4. FAF MOVED 608' NORTHWEST. DISTANCE FROM FAF TO MAP CHANGED FROM 5.84NM TO 5.94NM.</li> <li>5. FINAL APPROACH COURSE CHANGED FROM 161.76 TO 160.76.</li> <li>6. RAISED LNAV MDA/HAT FROM 620/550 TO 640/571 AND CIRCLING CAT A/B FROM 620/550 TO 640/570.</li> <li>7. CHANGED VDA FROM 3.05 TO 3.00</li> <li>8. CHANGED TDZE 70 TO THRE 69.</li> </ol>									
REASONS:									
<ol style="list-style-type: none"> <li>1,2,3. AT REQUEST.</li> <li>4, 7. PFAF LOCATION RECALCULATED PER 8260.54A.</li> <li>5. 5E MAG VAR USED.</li> <li>6. NEW OBSTACLE EVALUATION</li> <li>8. 8260.3B, CHG 20</li> </ol>									
CHANGES TO FORMS MADE OUTSIDE OF IFP-SIAP:									
8260-3:									
<ol style="list-style-type: none"> <li>1. ADDED (FAF) TO PADDI IN TERMINAL ROUTES.</li> <li>2. REMOVED GS ANGLE AND TCH FROM LINE 7.</li> <li>3. CHANGED RW16 / RW16 (MAP) IN TERMINAL ROUTES FROM COLUMN TO READ RW16 (MAP).</li> <li>4. REMOVED "NA" FROM LINE 1</li> </ol>									
8260-9:									
<ol style="list-style-type: none"> <li>1. REMOVED GP ANGLE AND TCH FROM BLOCK 8.</li> </ol> SEE 8260-10									





US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION  
**RNAV - STANDARD**  
**INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.33**

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NOTES, (CONT.):  
 CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA.  
 CHART PLANVIEW NOTE: RADAR REQUIRED.  
 CHART PROFILE NOTE: VGSI AND DESCENT ANGLES NOT COINCIDENT.



CITY AND STATE <b>LIBERTY, TX</b>	ELEVATION: 70 THRE: 69 AIRPORT NAME: <b>LIBERTY MUNI</b>	FACILITY IDENTIFIER: <b>RNAV</b>	PROCEDURE NO./AMDT NO./EFFECTIVE DATE: <b>RNAV (GPS) RWY 16, AMDT 2</b>	SUP:
				AMDT: <b>1</b>
				DATED: <b>09/29/2005</b>

ALL AFFECTED PROCEDURES REVIEWED? <input type="checkbox"/> YES <input type="checkbox"/> NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
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COORDINATED WITH:						
ATA <input type="checkbox"/>	AAT <input type="checkbox"/>	ALPA <input type="checkbox"/>	APA <input type="checkbox"/>	AOPA <input type="checkbox"/>	NBAA <input type="checkbox"/>	OTHER (specify) _____ <input type="checkbox"/>

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

DEVELOPED BY		
NAME:	FIFO	DATE:

APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:  
**REASONS CONT.**  
**8260-10 ARINC SUMMARY:**  
**1. REMOVED 2.0 FROM MISSED APPROACH.**



**RNAV STANDARD INSTRUMENT APPROACH PROCEDURE  
FLIGHT STANDARDS SERVICE - FAR PART 97.33**

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**FAS DATA BLOCK INFORMATION**

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	T78
RUNWAY	RW16
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W16A
LTP/FTP LATITUDE	300458.2910N
LTP/FTP LONGITUDE	0944200.0725W
LTP/FTP ELLIPSOIDAL HEIGHT	-00063
FPAP LATITUDE	300331.7200N
FPAP LONGITUDE	0944134.8300W
THRESHOLD CROSSING HEIGHT (TCH)	00040.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1592
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	0.0
 <u>CRC REMAINDER</u>	 E712F966

**ADDITIONAL PATH POINT RECORD INFORMATION**

ICAO CODE	K4
LTP ORTHOMETRIC HEIGHT	+00210
FPAP ORTHOMETRIC HEIGHT	+00210



CITY AND STATE <b>LIBERTY, TX</b>	<b>ELEVATION: 70</b> <b>THRE: 69</b>	FACILITY IDENTIFIER: <b>RNAV</b>	PROCEDURE NO./AMDT NO./EFFECTIVE DATE: <b>RNAV (GPS) RWY 16, AMDT 2</b>	SUP:
	AIRPORT NAME: <b>LIBERTY MUNI</b>			AMDT: <b>1</b>
				DATED: <b>09/29/2005</b>

ALL AFFECTED PROCEDURES REVIEWED?

YES

NO

COORDINATES OF FACILITIES

REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA

AAT

ALPA

APA

AOPA

NBAA

OTHER (specify)

\_\_\_\_\_

FLIGHT CHECKED BY

NAME:

FIFO

DATE:

DEVELOPED BY

NAME:

FIFO

DATE:

APPROVED BY

NAME:

FIFO

DATE:

CHANGES:

REASONS:





ALL AFFECTED PROCEDURES REVIEWED? <input type="checkbox"/> YES <input type="checkbox"/> NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
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COORDINATED WITH:						
<input type="checkbox"/> ATA	<input type="checkbox"/> AAT	<input type="checkbox"/> ALPA	<input type="checkbox"/> APA	<input type="checkbox"/> AOPA	<input type="checkbox"/> NBAA	<input type="checkbox"/> OTHER (specify) _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

DEVELOPED BY		
NAME:	NFPG	DATE:

APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

**U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION**  
**RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE**  
**FLIGHT STANDARDS SERVICES - FAR PART 97.33**

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ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG (TRUE)	DISTANCE	ALTITUDE	SPEED
	ZAVAK	ZAVAK	010	IAF	IF		FB					
	ZAVAK	HOLMI	020		TF		FB	1.0	230.8 (235.8T)	006.0	AA 02000	
	ZOTUG	ZOTUG	010	IAF	IF		FB					
	ZOTUG	HOLMI	020		TF		FB	1.0	090.7 (095.7T)	006.0	AA 02000	
		HOLMI	010	FACF	IF		FB				AA 02000	
		PADDI	020	FAF	TF		FB	0.5	160.8 (165.8T)	006.0	AA 02000	
		RW16	030	MAP	TF		FO	0.3	160.8 (165.8T)	005.9	AT 00109	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG (TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		160.8 (165.8T)		AA 00470	
	WOVOL	050		DF		FO				AA 03000	
	WOVOL	060		HM	R	FO		340.8 (345.8T)	004.0	AA 03000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	HOLMI	N301634.24	W0944523.39	N3016.571	W09445.390
	PADDI	N301044.48	W0944341.12	N3010.741	W09443.685
	WOVOL	N295147.92	W0943810.27	N2951.799	W09438.171
	ZAVAK	N301957.20	W0943939.53	N3019.953	W09439.659
	ZOTUG	N301710.21	W0945217.10	N3017.170	W09452.285
	RW16	N300458.29	W0944200.07	N3004.972	W09442.001

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW16	00069	40

QUALITY  
9  
CHECKED

CITY AND STATE <b>LIBERTY, TX</b>	ELEVATION: <b>70</b>	FACILITY IDENTIFIER: <b>RNAV</b>	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE: <b>RNAV (GPS) RWY 16, AMDT 2</b>	SUP:
	THRE: <b>69</b>			AMDT: <b>1</b>
	AIRPORT NAME: <b>LIBERTY MUNI</b>			DATED: <b>09/29/2005</b>

ALL AFFECTED PROCEDURES REVIEWED? <input type="checkbox"/> YES <input type="checkbox"/> NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
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COORDINATED WITH:						
<input type="checkbox"/> ATA	<input type="checkbox"/> AAT	<input type="checkbox"/> ALPA	<input type="checkbox"/> APA	<input type="checkbox"/> AOPA	<input type="checkbox"/> NBAA	<input type="checkbox"/> OTHER (specify) _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

DEVELOPED BY		
NAME:	NFPG	DATE:

APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:	
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REASONS:	
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# STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

## PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.			
INITIAL	ZOTUG	HOLMI	1. TOWER (48-001858)	301921.40N/0945038.10W	470 (4D)	1000	AT530	2000			
			2. TERRAIN	301827.00N/0945024.00W	135 (100)		AS1500	1600			
INITIAL	ZAVAK	HOLMI	3. TOWER (48-008236)	301912.30N/0944458.73W	511 (1A)	1000	AT489	2000			
			4. TERRAIN	301746.00N/0944510.00W	112 (100)		AS1500	1600			
INTERMEDIATE	HOLMI	PADDI	5. TOWER (48-013613)	301444.00N/0944421.00W	408 (2C)	500	AT1092	2000			
			6. TERRAIN	301503.00N/0944436.00W	98 (100)		AS1500	1600			
INTERMEDIATE	HOLMI	PADDI	7. TOWER (48-000194)	301746.00N/0944510.00W	461 (2D)	500	AT1039	2000			
			8. TERRAIN	301736.00N/0944418.00W	102 (100)		AS1500	1600			
FINAL: LP	PADDI	RW16	9. AAO	300920.71N/0944355.87W	284 (2C)	250	RA82	620			
FINAL: LNAV	PADDI	RW16	10. AAO	300956.99N/0944339.30W	289 (2C)	250	RA82	640			
2. PROCEDURE TURN		NA									
3. MISSED APPROACH	MAP:	RW16 / RW16	WOVOL			ASC		3000			
	ELEV:	438/458		11. TOWER (48-008907)	295954.00N/0943929.00W	418 (5D)	1000	1500			
			12. TERRAIN	300251.00N/0944218.00W	73 (100)		AS1500	1600			
4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT.									
CATEGORY A	1.3 NM	REQUIRED	ACTUAL	570	13. TREE (KT78L033)	300530.93N/0944206.03W	166 (1A)	300	SI	640	
CATEGORY B	1.5 NM			450	570	13. TREE (KT78L033)	300530.93N/0944206.03W	166 (1A)	300	SI	640
CATEGORY C	1.7 NM			450							
CATEGORY D	2.3 NM			550							
CATEGORY E	4.5 NM			550							
5. MINIMUM SAFE ALTITUDES				PRIMARY NAVAID: RW16							
SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A		
360-360	TWR (48-009465)	287/ 23.8	2049 (5D)	3100							
CITY AND STATE		ELEVATION: 70		FACILITY		PROCEDURE AND AMENDMENT NO:		REGION			
LIBERTY, TX		AIRPORT NAME: LIBERTY MUNI		RNAV		RNAV (GPS) RWY 16, AMDT 2		ASW			

QUALITY  
9

CHECKED

**PART B - SUPPLEMENTAL DATA**

<b>1. COMMUNICATIONS WITH:</b>		<b>2. WEATHER SERVICE</b>		<b>3. ALTIMETER SETTING</b>	
HOU APP CON ZHU ARTCC		N W S	OTHER: ASOS		SOURCE: KIAH
		F A A			DISTANCE: 33.95
		A / C			HOURS REMOTE OPERATION: 24
<b>SATISFACTORY ON:</b>					
X	V H F	X	U H F	H F	LOCATION: KIAH
				ADJUSTMENT: 82	
<b>4. MONITOR STATUS</b>	PRIMARY NAVAID:				
	MONITOR POINT:				
	HRS OPTN:	CAT 1			
		CAT 3			
<b>5. APPROACH &amp; RUNWAY LIGHTING</b>	ALS				
	(S) SALS				
	MALS				
	HIRL				
	X	MIRL 16 (PCL), 34 (PCL)			
	REIL				
	TDZ				
C/LINE					
X	OTHER (SPECIFY) PAPI-2L 16				
<b>6. RUNWAY MARKINGS</b>	BASIC				
	ALL WEATHER				
	INSTRUMENT NPI-F 16, 34				
<b>7. RUNWAY VISUAL RANGE</b>	APPROACH				
	MIDFIELD				
	ROLL OUT				
<b>8. GLIDE PATH</b>	GP ANGLE:			ELEV RWY THRESHOLD:	
	DISTANCE FROM RWY:			ELEV GP ANTENNA:	
	THRESHOLD CROSSING HEIGHT:				
<b>9. FINAL APPROACH COURSE AIMING</b>	X	RUNWAY THRESHOLD			FT. FROM THRESHOLD
	X	ON CENTERLINE			FT. FROM CENTERLINE
<b>10. WAIVERS: NONE</b>					

**PART C - REMARKS:**  
VDP NOT ESTABLISHED - ALTIMETER ADJUSTMENT IN USE.  
PRECIPITOUS TERRAIN EVALUATION COMPLETED.  
TERPS PARAGRAPH 289 APPLIED TO 286 AAO 301021N/0944424W  
TERPS PARAGRAPH 289 APPLIED TO 396 TOWER 301007N/0944430W  
SEE ATTACHED AIRSPACE LETTER.  
TAA NOT USED, ATC REQUEST.  
NO BACKUP ALTIMETER REDUNDANT WEATHER SOURCES AVAILABLE AT KIAH. UNROUNDED RA ADJUSTMENT = 81.98FT.  
50' VEGETATION PER FPT.  
8260.3, VOLUME 1, "VISUAL PORTION OF FINAL" PENETRATIONS:  
20:1  
R16:  
106 POLE (KT78L009) 300502.05N-0944203.94W (24.52)  
133 TREE (KT78L021) 300511.46N-0944200.76W (8.9)  
R34:  
130 POLE (48-005274) 300410.00N-0944149.00W (13.07)  
118 TREE (KT78T0010) 300411.88N-0944144.42W (5.33)  
123 TREE (KT78T0012) 300409.75N-0944146.59W (2.25)  
34:1  
166 TREE (KT78L033) 300530.93N-0944206.03W (5.23)  
144 TREE (KT78L032) 300524.76N-0944203.17W (2.81)  
161 TREE (KT78L030) 300519.57N-0944206.75W (32.48)  
147 TREE (KT78L029) 300518.55N-0944207.76W (20.77)  
147 TREE (KT78L028) 300519.14N-0944203.38W (21.85)  
137 TREE (KT78L023) 300515.71N-0944203.96W (21.36)

<b>PART D - PREPARED BY:</b> TERENCE D. SHARP (SAMER MASSARUEH)	<b>DATE:</b> 05/03/2012
<b>TITLE:</b> AERONAUTICAL INFORMATION SPECIALIST	<b>OFFICE:</b> AJV-351



# RADIO FIX AND HOLDING DATA RECORD

**NAME:** HOLMI

**STATE:** TX

**COUNTRY:** US

**LATITUDE/LONGITUDE:** 301634.24N/0944523.39W

**TYPE:** WP

**AIRSPACE DOCKET:**

**FIX TYPE OF ACTION:** MODIFY

**HOLDING:**

**HOLDING TYPE OF ACTION:** CANCEL

**FIX USE:**

**USE TYPE**  
IAP

**USE TITLE**  
RNAV (GPS) RWY 16

**FAC PAT**

**AIRPORT IDENT**  
KT78

**CITY**  
LIBERTY

**STATE**  
TX (US)

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 2

**DATE OF REVISION:** 09/20/2012

**REASON FOR REVISION:**

FIX MOVED 601.47FT.  
HOLDING REMOVED.

**DEVELOPED BY:**

**DATE:** 04/30/2012

**OFFICE:** AJV-351

**NAME:** TERENCE SHARP (SAMER MASSARUEH)

**APPROVED BY:**

**DATE:**

**OFFICE:** AJV-353

**NAME:** LARRY STROUT

**SIGNATURE:**

**DISTRIBUTION:**

**NFDC**  
**FPO:** CEN  
**ARTCC:** ZHU  
**ATC FACILITY:** IAH APP CON  
**OTHER:**

QUALITY  
9  
CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** PADDI

**STATE:** TX

**COUNTRY:** US

**LATITUDE/LONGITUDE:** 301044.48N/0944341.12W

**TYPE:** WP

**AIRSPACE DOCKET:**

**FIX TYPE OF ACTION:** MODIFY

**HOLDING:**

**HOLDING TYPE OF ACTION:** NO CHANGE

**REMARKS:**

.54A LNAV/VNAV FORMULA USED TO ESTABLISH FIX COORDINATES.

**FIX USE:**  
**USE TYPE**  
IAP

**USE TITLE**  
RNAV (GPS) RWY 16

**FAC PAT**

**AIRPORT IDENT CITY**  
KT78 LIBERTY

**STATE**  
TX (US)

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 3

**DATE OF REVISION:** 09/20/2012

**REASON FOR REVISION:**

FIX MOVED 601.51 FT.

**DEVELOPED BY:**

**DATE:** 04/30/2012

**OFFICE:** AJV-351

**NAME:** TERENCE SHARP (SAMER MASSARUEH)

**APPROVED BY:**

**DATE:**

**OFFICE:** AJV-353

**NAME:** LARRY STROUT

**SIGNATURE:**

**DISTRIBUTION:**

**NFDC**  
**FPO:** CEN  
**ARTCC:** ZHU  
**ATC FACILITY:** IAH  
**OTHER:**



# RADIO FIX AND HOLDING DATA RECORD

NAME: WOVOL

STATE: TX

COUNTRY: US

LATITUDE/LONGITUDE: 295147.92N/0943810.27W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: ESTABLISH

HOLDING:

HOLDING TYPE OF ACTION: ESTABLISH

**PATTERNS:**

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME DME	HOLDING MIN	ALTITUDES MAX	TEMPLATES MIN	MAX
1	S		WP	160.79	340.79	R	4	3000	6000	5	6

**CONTROLLING OBSTRUCTIONS:**

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (48-007857)	294731.81N/0943412.67W	524	5D

**HOLDING RESTRICTIONS:**

HOLDING LIMITED TO ESTABLISHED PATTERN.

**REMARKS:**

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

**FIX USE:**

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 16		1	KT78	LIBERTY	TX (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG

DATE OF REVISION: 09/20/2012

DEVELOPED BY:

DATE: 04/30/2012

OFFICE: AJV-351

NAME: TERENCE SHARP (SAMER MASSARUEH)

APPROVED BY:

DATE:

OFFICE: AJV-353

NAME: LARRY STROUT

SIGNATURE:

DISTRIBUTION:

NFDC  
FPO: CEN  
ARTCC: ZHU  
ATC FACILITY: IAH APP CON  
OTHER:

QUALITY  
9  
CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** ZAVAK

**STATE:** TX

**COUNTRY:** US

**LATITUDE/LONGITUDE:** 301957.20N/0943939.53W

**TYPE:** WP

**AIRSPACE DOCKET:**

**FIX TYPE OF ACTION:** ESTABLISH

**FIX USE:**  
**USE TYPE**  
IAP

**USE TITLE**  
RNAV (GPS) RWY 16

**FAC PAT**

**AIRPORT IDENT CITY**  
KT78 LIBERTY

**STATE**  
TX (US)

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG

**DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:**      **DATE:** 04/30/2012

**OFFICE:** AJV-351

**NAME:** TERENCE SHARP (SAMER MASSARUEH)

**APPROVED BY:**      **DATE:**

**OFFICE:** AJV-353

**NAME:** LARRY STROUT

**SIGNATURE:**

**DISTRIBUTION:**

NFDC  
FPO: CEN  
ARTCC: ZHU  
ATC FACILITY: IAH APP CON  
OTHER:



# RADIO FIX AND HOLDING DATA RECORD

**NAME:** ZOTUG

**STATE:** TX

**COUNTRY:** US

**LATITUDE/LONGITUDE:** 301710.21N/0945217.10W

**TYPE:** WP

**AIRSPACE DOCKET:**

**FIX TYPE OF ACTION:** ESTABLISH

**FIX USE:**  
**USE TYPE**  
IAP

**USE TITLE**  
RNAV (GPS) RWY 16

**FAC PAT**

**AIRPORT IDENT CITY**  
KT78 LIBERTY

**STATE**  
TX (US)

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG

**DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:**      **DATE:** 04/30/2012

**OFFICE:** AJV-351

**NAME:** TERENCE SHARP (SAMER MASSARUEH)

**APPROVED BY:**      **DATE:**

**OFFICE:** AJV-353

**NAME:** LARRY STROUT

**SIGNATURE:**

**DISTRIBUTION:**

NFDC  
FPO: CEN  
ARTCC: ZHU  
ATC FACILITY: IAH APP CON  
OTHER:



# TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **LIBERTY**

STATE: **TX**

AIRPORT NAME: **LIBERTY MUNI**

ID: **KT78**

PROCEDURE: **RNAV (GPS) RWY 16**

AMDT: **2**

DOCKET#: **NOT REQUIRED**

(96-AXX-X/Required/Not Required)

**ALL DIST TO 1/100 NM; ELEV TO NEAREST FT; COORD TO 1/100 SEC; DEG TO 1/100 DG.**

- |  |   |                                |   |
|--|---|--------------------------------|---|
| 1. Distance from   | <u>          <b>THLD</b>          </u>  | to 1000' point                 | <u>          <b>2.94</b>          </u>    |
|  | <small>(Enter THLD, FAF, ARP, FACILITY, as appropriate)</small>                           |                                |   |
| 2. Width of  | <u>          <b>FINAL</b>          </u>   | segment at 1000' point         | <u>          <b>1.55</b>          </u>    |
|  | <small>(Enter appropriate segment, final, intermediate, etc.)</small>                     |                                |   |
| 3. True Course of  | <u>          <b>FINAL</b>          </u>   | segment containing 1000' point | <u>          <b>165.76</b>          </u>  |
| 4. High Terrain in   | <u>          <b>FINAL</b>          </u>   | segment containing 1000' point | <u>          <b>89</b>          </u>      |
| 5. Distance from   | <u>          <b>THLD</b>          </u>  | to 1500' point                 | <u>          <b>5.14</b>          </u>    |
|  | <small>(If 1500' point in PT maneuvering area or holding pattern note in remarks)</small> |                                |   |
| 6. Width of  | <u>          <b>FINAL</b>          </u>   | segment at 1500' point         | <u>          <b>1.92</b>          </u>    |
| 7. True Course of  | <u>          <b>FINAL</b>          </u>   | segment containing 1500' point | <u>          <b>165.76</b>          </u>  |
| 8. High Terrain in   | <u>          <b>FINAL</b>          </u>   | segment containing 1500' point | <u>          <b>89</b>          </u>      |
| 9. Threshold Coordinates (if straight-in) ...                | <u>          <b>300458.29N</b> / <b>0944200.07W</b>          </u>                         |                                |   |
| 10. ARP Coordinates .....                                    | <u>          <b>300440.10N</b> / <b>0944154.80W</b>          </u>                         |                                |   |
| 11. Runway Approach End and distance furthest from ARP ..... |   | RWY                            | <u>          <b>34</b>          </u>      |
|  |   | Distance                       | <u>          <b>0.31</b>          </u> NM |
| 12. FAF Coordinates .....                                    | <u>          <b>301044.48N</b> / <b>0944341.12W</b>          </u>                         |                                |   |

**REMARKS: Approach/Drawing attached.**