Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 05/14/2012	Task #: 201203261210040100 1	Request #: 20120326121004
Procedure: RNAV (GPS) RWY 28 L AMDT 2		Airport ID: KFCM	**Airport:** FLYING CLOUD		Reimbursable #:
City: MINNEAPOLIS	**ST:** MN	GPS #:		Estimated Chart Date: 01/10/2013	FICO #:
Fac ID:	**Fac. Type:** LPV		**Specialist:** DEANNA FIELDS		

LPV

Procedure Review

P2

	Rec'd	Rel'd	Full Name	Comments
Lead:	05/16/2012	09/24/2012	JILL OLSON	
QA:	09/24/2012	09/30/2012	STEVEN SZUKALA	
Liaison:	09/30/2012		Spurlin	

Procedure Comments: ENROUTE **Remark Type:** INFORMATION

pkg 1 of 1

MINNEAPOLIS, MN FLYING CLOUD (KFCM) RNAV (GPS) RWY 28L, AMDT 2 (LPV) ENROUTE-YES FC: 11.13.12 PUB: 1.10.13

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): ELOIT, REV 2; HERBO, REV 2; (INFO ONLY) FARMINGTON (FGT) VTAC, REV 16; ZAMUD-INT, REV 2.

CONTACT: JILL OLSON/STEVE BARNETT -AVJ-353 LEADS, 405.954.4014 / 405.954.9307.

RNAV (GPS) RWY 28L

MINNEAPOLIS/ FLYING CLOUD (FCM)

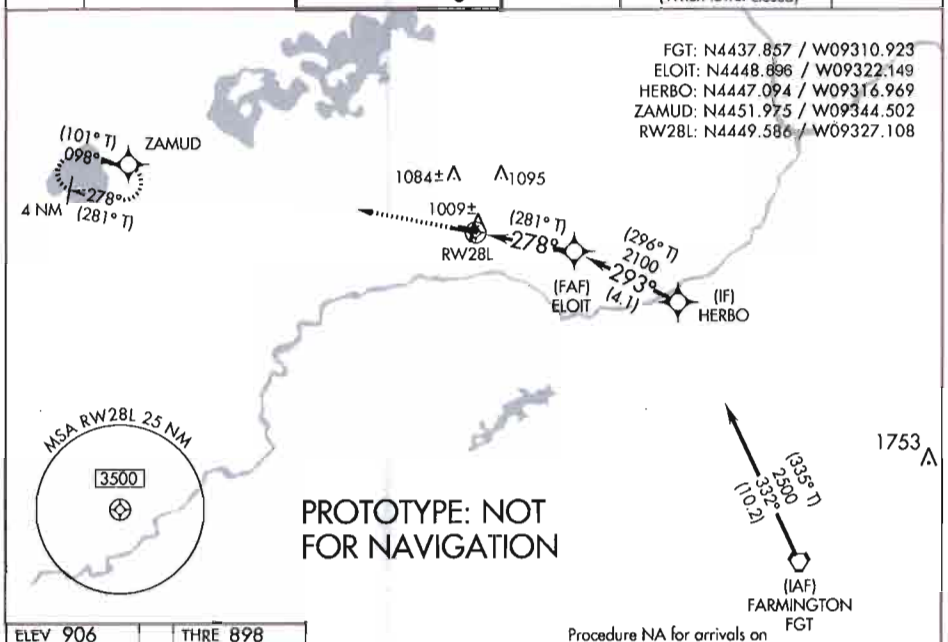
WAAS	APP CRS	Rwy Idg	5000
CH 90218 W28B	278°	THRE	898
		Apt Elev	906

Circling Rwy 36 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (2°F) or above 54°C (130°F). When local altimeter setting not received, use Minneapolis-St Paul Intl/Wold-Chamberlain altimeter setting and increase all DA 34 feet and all MDA 40 feet, increase LNAV Cats C and D visibility ⅛ mile. Rwy 28L, Straight-in/Circling minimums NA at night. DME/DME RNP- 0.3 NA. Helicopter visibility reduction below 1 SM not authorized.

MISSED APPROACH: Climb to 2700 direct ZAMUD and hold.

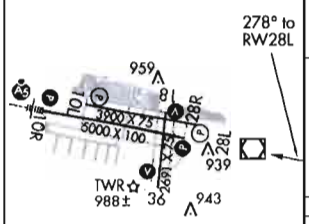
ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER*	GND CON	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 357.4	119.15 (CTAF) L	121.7	121.7 (When tower closed)	122.95

FGT: N4437.857 / W09310.923
ELOIT: N4448.896 / W09322.149
HERBO: N4447.094 / W09316.969
ZAMUD: N4451.975 / W09344.502
RW28L: N4449.586 / W09327.108



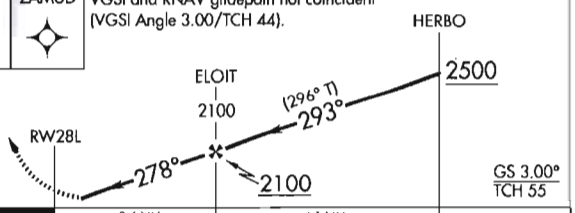
Procedure NA for arrivals on FGT VORTAC airway radials 258 CW 011.

ELEV 906 THRE 898



2700 ZAMUD

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 44).

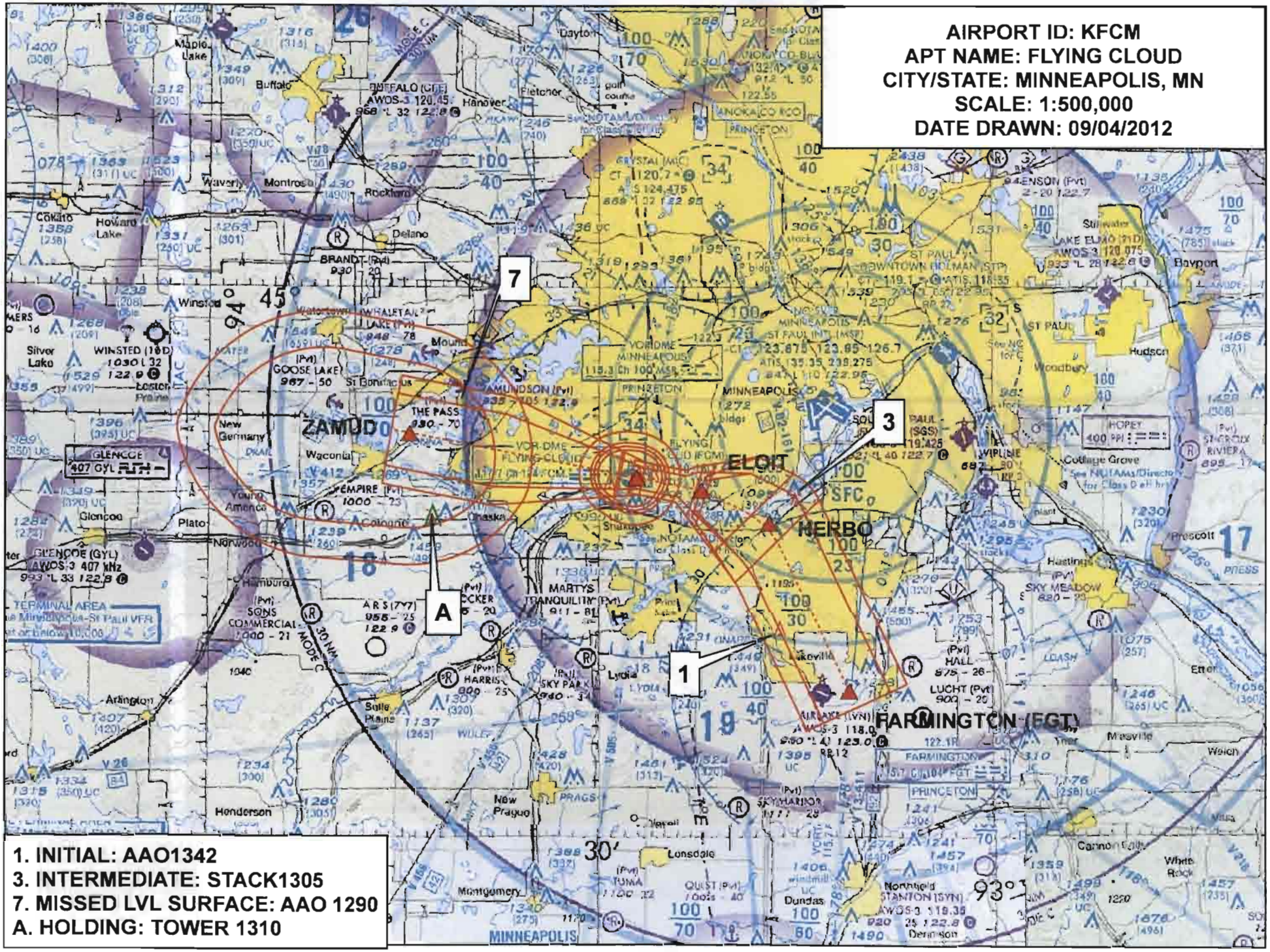


CATEGORY	A	B	C	D
LPV DA	1148-1 250 (300-1)			
LNAV/VNAV DA	1190-1 292 (300-1)			
LNAV MDA	1280-1 382 (400-1)		1280-1⅛ 382 (400-1⅛)	
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)

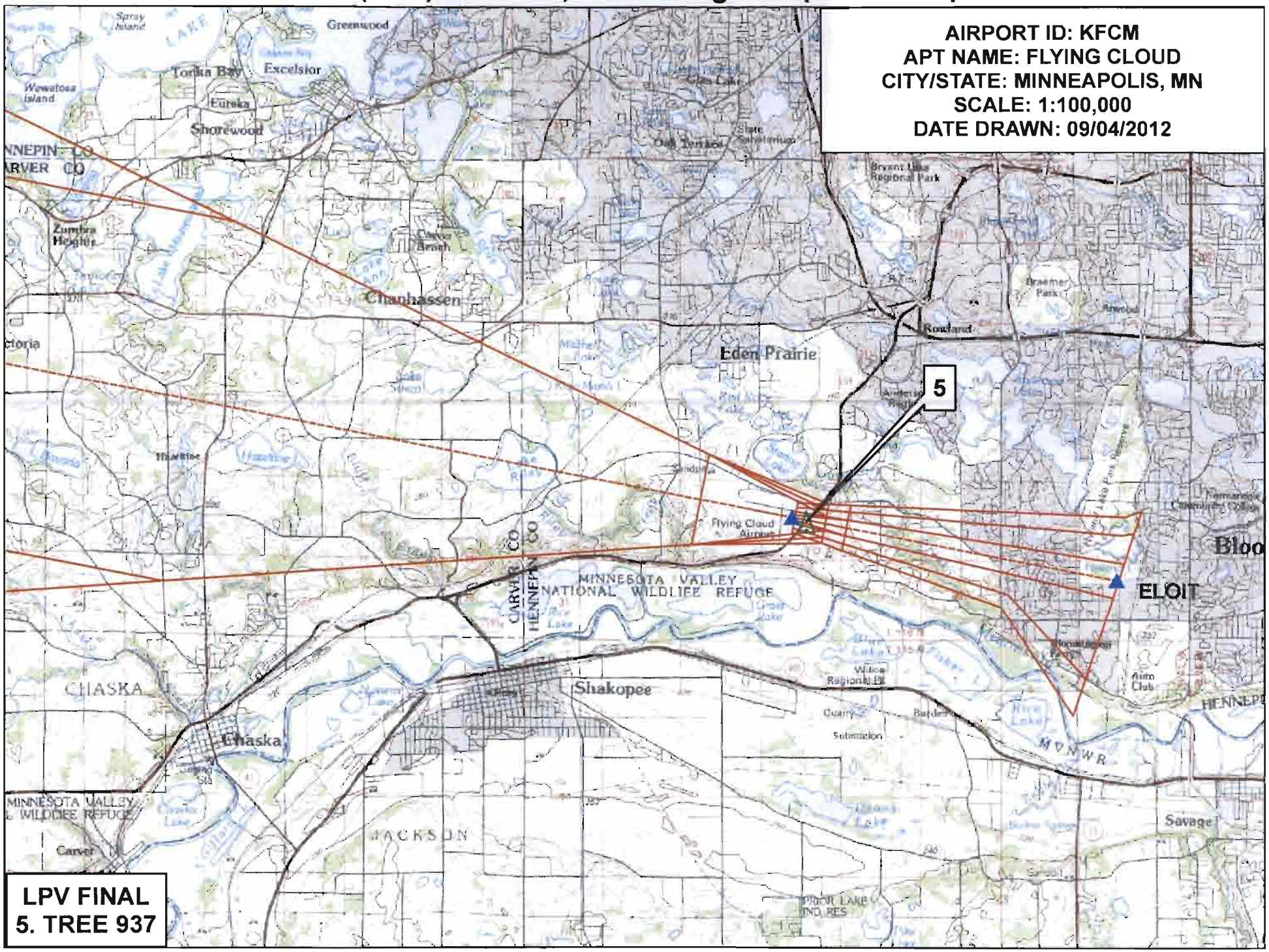
MIRL Rwy 10L-28R
HIRL Rwy 10R-28L L
MIRL Rwy 18-36 L
REIL Rwys 18, 28L, and 36 L

44°50'N - 93°28'W

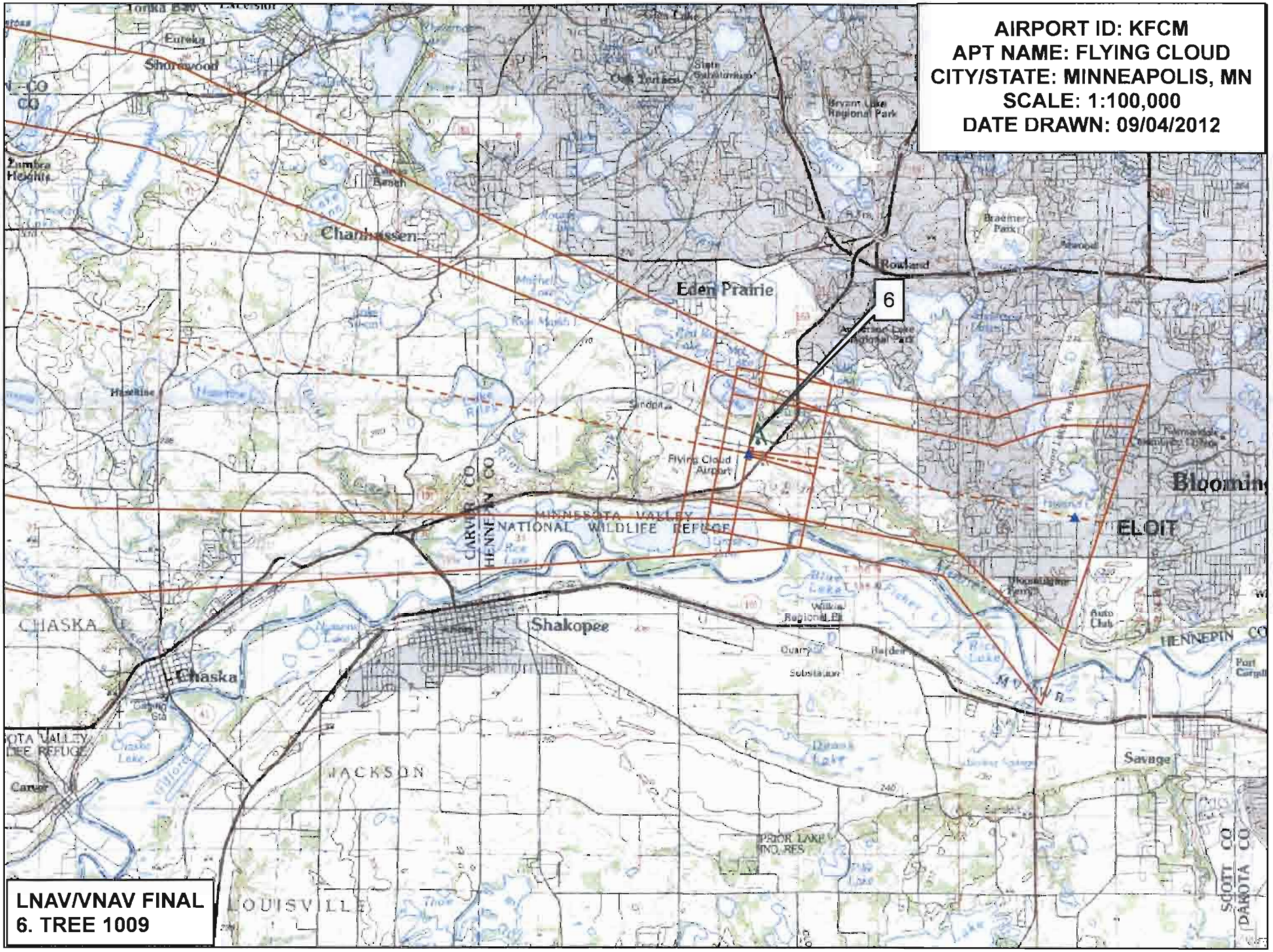
RNAV (GPS) RWY 28L, Amdt 2 Flight Inspection Map



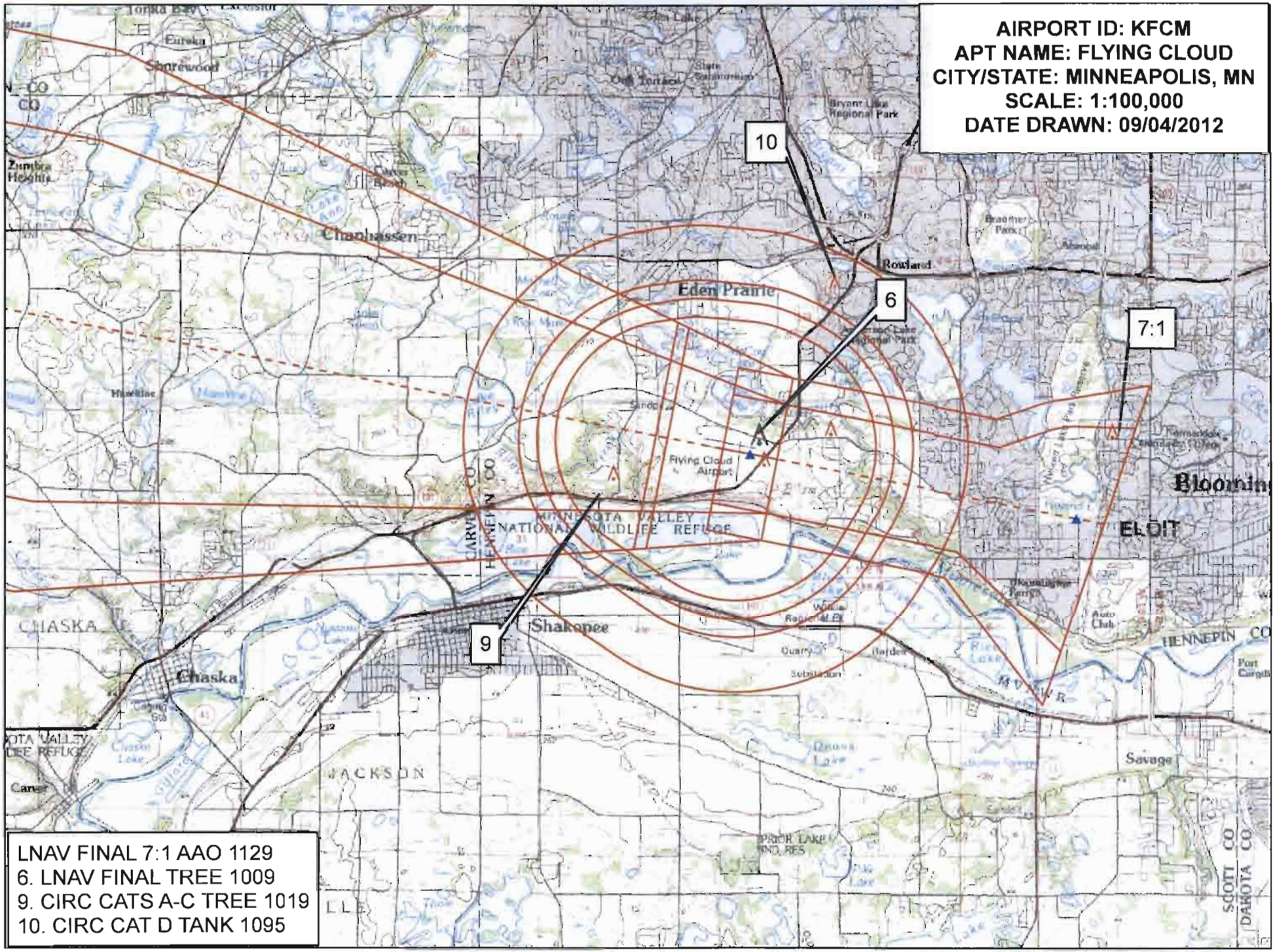
RNAV (GPS) RWY 28L, Amdt 2 Flight Inspection Map



RNAV (GPS) RWY 28L, Amdt 2 Fight Inspection Map



RNAV (GPS) RWY 28L, Amdt 2 Fight Inspection Map



US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
FGT VORTAC (IAF)	HERBO (FB)	332.01 / 10.19	2500
HERBO (IF)	ELOIT (FB)	293.07 / 4.11	2100
ELOIT (FAF)	RW28L (MAP) (FO)	278.09 / 3.60	
RW28L (MAP)	1148 MSL	278.09	
1148 MSL	ZAMUD (FO)		2700

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW28L

CLIMB TO 2700 DIRECT ZAMUD AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD W, RT, 097.82 INBOUND.
CHART FAS OBST: 1009 TREE 444948N/0932658W
OBST: 1129 AAO 444951N/0932136W
DISTANCE TO THLD FROM 250 HATH: 0.61 NM.
WAAS CHANNEL # 90218
REFERENCE PATH ID: W28B
LTP HAE: 246.9 M

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT HERBO
3. FAC: 278.09 FAF: ELOIT DIST FAF TO MAP: 3.60 THLD: 3.60
4. MIN. ALT: HERBO 2500, ELOIT 2100
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2100 GS ALT AT: ELOIT 2100 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 55.0 34:1 IS NOT CLEAR
8. MSA FROM: RW28L 3500

MAG VAR: 3E EPOCH YEAR: 1985

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT | ALTERNATE: N A | STANDARD @

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
LPV DA	1148	1	250	1148	1	250	1148	1	250	1148	1	250			
LNAV/VNAV DA	1190	1	292	1190	1	292	1190	1	292	1190	1	292			
LNAV MDA	1280	1	382	1280	1	382	1280	1 1/8	382	1280	1 1/8	382			
CIRCLING	1320	1	414	1360	1	454	1360	1 1/2	454	1460	2	554			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -16C (2F) OR ABOVE 54C (130F).
@ NA WHEN LOCAL WEATHER NOT AVAILABLE.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN ALTIMETER SETTING AND INCREASE ALL DA 34 FEET AND ALL MDA 40 FEET, INCREASE LNAV CATS C AND D VISIBILITY 1/8 MILE.
(SEE FORM 8260-10)

CITY AND STATE	ELEVATION: 906 THRE: 898	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: FLYING CLOUD	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED 06/30/2011

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[ ] YES [X] NO		ROUTINE

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[ ]	[ ]	[ ]	[ ]	[X]	[X]	[X] ZMP, FCM ATCT, AMGR, MSP APP CON

FLIGHT CHECKED BY

NAME:	FIFO	DATE:

DEVELOPED BY

NAME:	FIFO	DATE:
DEANNA M. FIELDS	AJV-353	08/20/2012

APPROVED BY

NAME:		FIFO	DATE:
LARRY H STROUT	MANAGER	AJV-353	

CHANGES:

TERMINAL ROUTES:
1. FROM: FGT VORTAC TO HERBO - COURSE AND DISTANCE CHANGED FROM 338.92/9.82 TO 332.01/10.19.
2. FROM HERBO TO ELOIT - COURSE AND DISTANCE CHANGED FROM 286.11/5.23 TO 293.07/4.11.
3. CHANGED UNCOMPENSATED BARO-VNAV NOTE, HIGH TEMPERATURE, FROM 38C (100F) TO 54C (130F).
4. CHART NOTE: WHEN VGSI INOP, CIRCLING RWY 18, 36 NA AT NIGHT, CHANGED TO, CIRCLING RWY 36 NA AT NIGHT.
5. CHART NOTE: WHEN VGSI INOP, STRAIGHT-IN/CIRCLING RWY 28L PROCEDURE NA AT NIGHT, CHANGED TO, RWY 28L STRAIGHT-IN/CIRCLING MINIMUMS NA AT NIGHT.
6. CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA, CHANGED TO, HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED.

PDFEDIT ITEMS FOR 8260-3 TERMINAL ROUTE:
1. FROM COLUMN - ADDED (FAF) TO ELOIT.
2. ALTITUDE COLUMN - CHANGED 1148 TO 2700.
3. #1: PT NA, DELETED NA.

REASONS:

1 & 2.PROCEDURE ALIGNMENT REQUESTED BY FPT.

3. CALCULATOR ASSOCIATED WITH LOW/HIGH TEMPERATURE LIMITS FOR BAROMETRIC VERTICAL NAVIGATION (BARO-VNAV) BASED APPROACH PROCEDURES MEMORANDUM DATED MAY 30, 2012.

4. RWY 18 CLEAR OF PENETRATIONS AND FAAO 8260.19E CHANGE 2.

5 & 6. FAAO 8260.19E CHANGE 2.

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

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

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

NOTES, (CONT.):
CHART NOTE: DME/DME RNP-0.3 NA.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS ON FGT VORTAC AIRWAY RADIALS 258 CW 011.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
CHART NOTE: CIRCLING RWY 36 NA AT NIGHT.
CHART NOTE: RWY 28L STRAIGHT-IN/CIRCLING MINIMUMS NA AT NIGHT.
CHART NOTE: HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED.

CITY AND STATE	ELEVATION: 906 THRE: 898	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: FLYING CLOUD	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED: 06/30/2011

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:

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KFCM
RUNWAY	RW28L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W28B
LTP/FTP LATITUDE	444935.1400N
LTP/FTP LONGITUDE	0932706.4500W
LTP/FTP ELLIPSOIDAL HEIGHT	+02469
FPAP LATITUDE	444952.1685N
FPAP LONGITUDE	0932909.3390W
THRESHOLD CROSSING HEIGHT (TCH)	00055.0
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	1232
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	928E8E23

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+02737
FPAP ORTHOMETRIC HEIGHT	+02737

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:

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 PACKET - 424-18 - RNAV (GPS)

```
          1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID    12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
          ------------------------------------------------------------------------------------------------------------------------
          SUSAD        FGT   K3011570VTH  N44375143W093105537    N44375143W093105537E0060009722     NARFARMINGTON

          1         2         3         4         5         6         7         8         9         0         1         2         3
WP        12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
          ------------------------------------------------------------------------------------------------------------------------
          SUSAEAENRT   ELOIT K30    W     N44485375W093220893                    E0006     NAR          ELOIT
          SUSAEAENRT   HERBO K30    W     N44470562W093165811                    E0006     NAR          HERBO
          SUSAEAENRT   ZAMUD K30    C     N44515848W093443013                    E0009     NAR          ZAMUD

          1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT   12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
          ------------------------------------------------------------------------------------------------------------------------
          SUSAP KFCMK3AFCM     0     050YHN44493888W093273087E003000906         1800018000C    MNAR    FLYING CLOUD

          1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT   12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
          ------------------------------------------------------------------------------------------------------------------------
          SUSAP KFCMK3FR28L  AFGT   010FGT  K3D 0V  A    IF                                                 18000                A JS
          SUSAP KFCMK3FR28L  AFGT   020HERBOK3EA0EE B 010TF                    33200102    + 02500                                A JS
          SUSAP KFCMK3FR28L  R      010HERBOK3EA0E  I    IF                               + 02500     18000                      A JS
          SUSAP KFCMK3FR28L  R      020ELOITK3EA1E  F 051TF                    29310041    + 02100                 RW28L K3PGA JS
          SUSAP KFCMK3FR28L  R      020ELOITK3EA2WALPV       ALNAV/VNAV ALNAV                                                    JS
          SUSAP KFCMK3FR28L  R      030RW28LK3PG0GY M 031TF                    27810036      00953           -300               A JS
          SUSAP KFCMK3FR28L  R      040         0  M     CA                    2781        + 01148                              A JS
          SUSAP KFCMK3FR28L  R      050ZAMUDK3EA0EY      DF                               + 02700                              A JS
          SUSAP KFCMK3FR28L  R      060ZAMUDK3EA0EE  R   HM                    09780040    + 02700                              A JS

          1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY    12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
          ------------------------------------------------------------------------------------------------------------------------
          SUSAP KFCMK3GRW28L   0050002780 N44493514W093270645+0000    +02469008980000551O0R

          1         2         3         4         5         6         7         8         9         0         1         2         3
PP        12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
          ------------------------------------------------------------------------------------------------------------------------
          SUSAP KFCMK3PR28L  RW28L001 0000W28B0N4449351400W09327064500+024690300N4449521685W093290933901067512320005 50F400500928E8E23
          SUSAP KFCMK3PR28L  RW28L002E      +02737+02737LPV       90218

          1         2         3         4         5         6         7         8         9         0         1         2         3
MSA       12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
          ------------------------------------------------------------------------------------------------------------------------
```

CITY AND STATE	ELEVATION: 906 THRE: 898	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: **FLYING CLOUD**	**RNAV**	**RNAV (GPS) RWY 28L, AMDT 2**	AMDT: **1**
				DATED: **06/30/2011**

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:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

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```
SUSAP KFCMK3SRW28LK3PG          0   18018003525                                    M
```

CITY AND STATE	ELEVATION: 906 THRE: 898	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: FLYING CLOUD	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED: 06/30/2011

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:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	FGT	FGT	010	IAF	IF		FB					
	FGT	HERBO	020		TF		FB	1.0	332.0(335.0T)	010.2	AA 02500	
		HERBO	010	FACF	IF		FB				AA 02500	
		ELOIT	020	FAF	TF		FB	0.5	293.1(296.1T)	004.1	AA 02100	
		RW28L	030	MAP	TF		FO	0.3	278.1(281.1T)	003.6	AT 00953	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		278.1(281.1T)		AA 01148	
	ZAMUD	050		DF		FO				AA 02700	
	ZAMUD	060		HM	R	FO		097.8(100.8T)	004.0	AA 02700	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	FGT	N443751.43	W0931055.37	N4437.857	W09310.923
	ELOIT	N444853.75	W0932208.93	N4448.896	W09322.149
	HERBO	N444705.62	W0931658.11	N4447.094	W09316.969
	ZAMUD	N445158.48	W0934430.13	N4451.975	W09344.502
	RW28L	N444935.14	W0932706.45	N4449.586	W09327.108

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW28L	00898	55

CITY AND STATE	ELEVATION: 906 THRE: 898	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: FLYING CLOUD	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED: 06/30/2011

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:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

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	FGT VORTAC	HERBO	1. AAO	444118.00N/0931612.00W	1342	1000	AT83 AC75	2500
			2. TERRAIN	444118.00N/0931612.00W	1142 (1100)		AS1000	2100
INTERMEDIATE	HERBO	ELOIT	3. STACK (27-000479)	444839.00N/0931457.00W	1305 (5D)	500	AT295	2100
			4. TERRAIN	444454.00N/0931806.00W	1014 (1000)		AS1000	2000
FINAL: LPV	ELOIT	RW28L	5. TREE (KFCMT0004)	444932.24N/0932653.25W	937 (2C)	34:1	AC20	1148/250
FINAL: LNAV/VNAV	ELOIT	RW28L	6. TREE	444948.40N/0932657.90W	1009 (2C)	PDA	AC20	1190/292
FINAL: LNAV	ELOIT	RW28L	6. TREE	444948.40N/0932657.90W	1009 (2C)	250	XP21	1280
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / DA / RW28L	ZAMUD				ASC		2700
			7. AAO	445336.00N/0934206.00W	1290	1000	AC75	2400
ELEV:	958/1029/1180		8. TERRAIN	445336.00N/0934206.00W	1090 (1100)		AS1500	2600

4. CIRCLING AREA	DISTANCE		HT. ABV. ARPT.								
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	414	9. TREE	444923.00N/0932911.00W	1019 (2C)	300		1320
CATEGORY B	1.5 NM		450		454	9. TREE	444923.00N/0932911.00W	1019 (2C)	300	HAA	1360
CATEGORY C	1.7 NM		450		454	9. TREE	444923.00N/0932911.00W	1019 (2C)	300	HAA	1360
CATEGORY D	2.3 NM		550		554	10. TANK (27-001399)	445131.00N/0932549.00W	1095 (5D)	300	AC50	1460
CATEGORY E	4.5 NM		550								

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **RW28L**

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (27-000499)	040/ 19.4	2438 (4D)	3500					

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MINNEAPOLIS, MN	ELEVATION: 906 AIRPORT NAME: FLYING CLOUD	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
MSP APP CON FCM TOWER	[ ] NWS OTHER: ASOS [ ] FAA [ ] A/C	SOURCE: KFCM / KMSP DISTANCE: 0 / 10.62 HOURS REMOTE OPERATION: 24 / BACKUP
SATISFACTORY ON: [X] VHF [X] UHF [ ] HF	LOCATION: KFCM	ADJUSTMENT: 0 / 34

4. MONITOR STATUS	
PRIMARY NAVAID:	
MONITOR POINT:	
HRS OPTN: CAT 1	
HRS OPTN: CAT 3	

5. APPROACH & RUNWAY LIGHTING	
	ALS
	(S) SALS
X	MALSR 10R (PCL)
X	HIRL 10R (PCL), 28L (PCL)
X	MIRL 18 (PCL), 36 (PCL), 10L (PCL), 28R (PCL)
X	REIL 18 (PCL), 36 (PCL), 28L (PCL)
	TDZ
	C/LINE
X	OTHER (SPECIFY) PAPI-4L 10L (PCL), 28R (PCL), 10R (PCL), 28L (PCL) VASI-4L 18 (PCL), 36

6. RUNWAY MARKINGS	
BASIC	
ALL WEATHER	PIR-G 10R
INSTRUMENT	NPI-G 18, 36, 10L, 28R, 28L

7. RUNWAY VISUAL RANGE	
APPROACH	
MIDFIELD	
ROLL OUT	

8. GLIDE PATH		
GP ANGLE: 3.00		ELEV RWY THRESHOLD: 898.0
DISTANCE FROM RWY:		ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 55.0

9. FINAL APPROACH COURSE AIMING			
	X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY:	DATE:
DEANNA M. FIELDS	08/20/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-353

PART C - REMARKS:

ISA DEVIATION USED: -30C (-22F)
AVERAGE COLD TEMPERATURE NOT AVAILABLE.

VDP NOT ESTABLISHED - OBSTACLES PENETRATE VISIBILITY SURFACE.

PARA 251, 20:1 PENETRATION.

PARA 251, 34:1 PENETRATION.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

TERPS PARAGRAPH 289 APPLIED TO 1129 AAO
444951N/0932136W

FPT INFORMED OF 20:1 PENETRATIONS.

ORDER 8260.3, VOLUME 1, "VISUAL PORTION OF FINAL"
PENETRATIONS:
20:1:
939 POLE (KFCM0031) 444929.31N/0932657.43W (13.45)
913 BLDG (KFCMT117) 444931.410N/0932702.85W (8.65)
934 UTILITY (KFCMT114) 444930.00N/0932656.48W (5.75)
934 POLE (KFCM0006) 444930.26N/0932656.26W (5.23)

34:1
937 TREE (KFCMT0004) 444932.24N/0932653.25W (15.76)
932 TREE (KFCM0045) 444931.68N/0932653.58W (11.13)
932 TREE (KFCMT119) 444932.01N/0932652.02W (8.07)

RWY 36
20:1 PENETRATION:
930 TREE (KFCM0012) 444911.70N/0932718.17W (5.32)

PART B: SUPPLEMENTAL DATA
2. KFCM/KMSP ASOS/ASOS ON SERVICE A

VGSI DATA: 3.00/43.8

RASS PRESSURE PATTERNS SAME
KFCM 906, KMSP 841.9
RA = 33.4 FT.
NO ADDITIONAL AIRSPACE REQUIRED.

TAA NOT DEVELOPED PER FPO.

LPV: SURFACE 34:1.
LNAV/VNAV: INNER SURFACE 23.441:1

USED 55 FT TCH TO MITIGATE GQS PENETRATION.

LNAV/VNAV-KNOW PROBLEM IN IPDS: IF AN OBSTACLE IS LISTED AS AN OCS PENETRATOR THAT HAS A MSL THAT IS LESS THAN 89FT ABOVE THE THRESHOLD ELEVATION THEN THIS OBSTACLE IS A FALSE PENETRATOR AND SHOULD BE MANUALLY EVALUATED AS A LEVEL SURFACE OBSTACLE.
THE CONTROLLING OBSTACLE DATA 27-020511, TOWER, IS A FALSE PENETRATOR AND A MANUAL EVALUATION HAS BEEN DONE FOR THE LNAV/VNAV FINAL AND MISSED APPROACH. THE CONTROLLING DATA IS 100 FT TREE, 444948.400N-0932657.900W, 1009 MSL, 2C.

INTERMEDIATE SEGMENT OFFSET IS 15 DEGREES PER ATC REQUEST TO REMAIN CLEAR OF KMSF AREA.

XP21: PREV MDA

RADIO FIX AND HOLDING DATA RECORD

NAME: ELOIT **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 444853.75N/0932208.93W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
PFAF DETERMINED IAW FAAO 8260.54A FORMULA 2-16B.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KFCM	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
FIX MOVED 33FT NORTH WEST.

DEVELOPED BY: **DATE:** 08/08/2012 **OFFICE:** AJV-353 **NAME:** DEANNA FIELDS

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: FCM ATCT
OTHER: MSP APP CON

RADIO FIX AND HOLDING DATA RECORD

NAME: HERBO **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 444705.62N/0931658.11W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
PER ATC: FIX NAME RETAINED DUE TO OPERATIONAL NECESSITY.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KFCM	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
FIX MOVED 1.25 NM SOUTH WEST.

DEVELOPED BY: **DATE:** 08/09/2012 **OFFICE:** AJV-353 **NAME:** DEANNA FIELDS

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: FCM ATCT
OTHER: MSP APP CON

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: FARMINGTON VORTAC **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 443751.43N/0931055.37W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	FARMINGTON	FGT	VORTAC	H							45000

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	S	FGT	VORTAC	178.03	358.03	R	1		2800	14000	4	10
2	E	FGT	VORTAC	085.00	265.00	L	1		2800	14000	4	10
3	S		WP	178.03	358.03	R		4	2800	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (27-000313)	442835.00N/0931107.00W	1474	4D
1	310	TOWER (27-001201)	444121.00N/0930423.00W	1753	5D
2	200	TOWER (27-001333)	443417.00N/0930441.00W	1360	5D
3	200	TOWER (27-000313)	442835.00N/0931107.00W	1474	4D

REASON FOR NONSTANDARD HOLDING:
PAT 2 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	LOC RWY 17	KMSP	MINNEAPOLIS	MN (US)

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ROCHESTER			KANE	MINNEAPOLIS	MN (US)
DP	SCHEP			KANE	MINNEAPOLIS	MN (US)
DP	WAUKON			KANE	MINNEAPOLIS	MN (US)
DP	ROCHESTER			KFCM	MINNEAPOLIS	MN (US)
DP	SCHEP			KFCM	MINNEAPOLIS	MN (US)
DP	WAUKON			KFCM	MINNEAPOLIS	MN (US)
DP	COULT			KMSP	MINNEAPOLIS	MN (US)
DP	DARWIN			KMSP	MINNEAPOLIS	MN (US)
DP	KBREW			KMSP	MINNEAPOLIS	MN (US)
DP	MEADOW LAKE			KMSP	MINNEAPOLIS	MN (US)
DP	MINNEAPOLIS			KMSP	MINNEAPOLIS	MN (US)
DP	ORSKY			KMSP	MINNEAPOLIS	MN (US)
DP	ROCHESTER			KMSP	MINNEAPOLIS	MN (US)
DP	SCHEP			KMSP	MINNEAPOLIS	MN (US)
DP	SMERF (RNAV)			KMSP	MINNEAPOLIS	MN (US)
DP	WAUKON			KMSP	MINNEAPOLIS	MN (US)
DP	ZMBRO			KMSP	MINNEAPOLIS	MN (US)
DP	AGUDE			KSGS	SOUTH ST PAUL	MN (US)
DP	ROCHESTER			KSTP	ST PAUL	MN (US)
DP	SCHEP			KSTP	ST PAUL	MN (US)
DP	WAUKON			KSTP	ST PAUL	MN (US)
EN ROUTE	V13					(US)
EN ROUTE	V161					(US)
EN ROUTE	V171					(US)
EN ROUTE	V26					(US)
EN ROUTE	V411					(US)
EN ROUTE	V82					(US)
IAP	COPTER ILS OR LOC RWY 10R			KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 10R			KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 10L			KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 28L			KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 28R			KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30		2	KLVN	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 12			KLVN	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 30			KLVN	MINNEAPOLIS	MN (US)
IAP	VOR RWY 12		2	KLVN	MINNEAPOLIS	MN (US)
IAP	CONVERGING ILS RWY 30L			KMSP	MINNEAPOLIS	MN (US)
IAP	CONVERGING ILS RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	CONVERGING ILS RWY 35			KMSP	MINNEAPOLIS	MN (US)

IAP	ILS OR LOC RWY 12L		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12R	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30L		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30R		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 35		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT II)	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT III)	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 30L (CAT II)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 35 (CAT II)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 35 (CAT III)		KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 17	1	KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 22	1	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 12R	3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 22	3	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30		KOWA	OWATONNA	MN (US)
IAP	ILS OR LOC RWY 9	2	KRGK	RED WING	MN (US)
IAP	LOC RWY 34		KSGS	SOUTH ST PAUL	MN (US)
IAP	NDB OR GPS-B		KSGS	SOUTH ST PAUL	MN (US)
IAP	RNAV (GPS) RWY 34		KSGS	SOUTH ST PAUL	MN (US)
IAP	NDB RWY 4		K21D	ST PAUL	MN (US)
IAP	RNAV (GPS) RWY 32		K21D	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 14		KSTP	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 32		KSTP	ST PAUL	MN (US)
IAP	NDB RWY 31		KSTP	ST PAUL	MN (US)
STAR	AGUDE		KCFE	BUFFALO	MN (US)
STAR	AGUDE		KFBL	FARIBAULT	MN (US)
STAR	AGUDE		KGYL	GLENCOE	MN (US)
STAR	AGUDE		KMGG	MAPLE LAKE	MN (US)
STAR	AGUDE		KANE	MINNEAPOLIS	MN (US)
STAR	TWOLF		KANE	MINNEAPOLIS	MN (US)
STAR	AGUDE		KFCM	MINNEAPOLIS	MN (US)
STAR	TWOLF		KFCM	MINNEAPOLIS	MN (US)
STAR	AGUDE		KLVN	MINNEAPOLIS	MN (US)
STAR	TWOLF		KLVN	MINNEAPOLIS	MN (US)
STAR	AGUDE		KMIC	MINNEAPOLIS	MN (US)
STAR	TWOLF		KMIC	MINNEAPOLIS	MN (US)
STAR	KASPR		KMSP	MINNEAPOLIS	MN (US)
STAR	TWOLF		KMSP	MINNEAPOLIS	MN (US)
STAR	WILDD		KMSP	MINNEAPOLIS	MN (US)
STAR	AGUDE		KRGK	RED WING	MN (US)
STAR	AGUDE		KSGS	SOUTH ST PAUL	MN (US)
STAR	AGUDE		K21D	ST PAUL	MN (US)
STAR	AGUDE		KSTP	ST PAUL	MN (US)
STAR	TWOLF		KSTP	ST PAUL	MN (US)
STAR	AGUDE		KRNH	NEW RICHMOND	WI (US)
STAR	TWOLF		KRNH	NEW RICHMOND	WI (US)
STAR	AGUDE		KOEO	OSCEOLA	WI (US)
STAR	TWOLF		KOEO	OSCEOLA	WI (US)

REQUIRED CHARTING: DP, STAR, IAP, AREA, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 16 **DATE OF REVISION:** 02/11/2010

REASON FOR REVISION:
CHANGED PAT 1 MAX TEMPLATE SIZE FROM 13 TO 10.
ADDED C-I-H TO PAT 1 FOR LOC RWY 17 AT KMSP.
REMOVED C-I-H FROM PAT 3, UNABLE TO DETERMINE WHICH PROCEDURE IT APPLIED TOO.
ADDED PRECIPITOUS TERRAIN STATEMENT.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 08/20/2009 **OFFICE:** AVN-120 **NAME:** JON DENTON

APPROVED BY: **DATE:** **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: ZAMUD **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445158.48N/0934430.13W **TYPE:** WP, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-FCM	LOC		278.02	281.02		12.71		2600	5300
2	FLYING CLOUD	FCM	VOR/DME	L			13.00	13.00		2600	5300

HOLDING: **HOLDING TYPE OF ACTION:** ESTABLISH

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	W		WP	277.82	097.82	R		4	2700	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (27-001034)	444731.56N/0934242.93W	1310	2C

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	ILS OR LOC RWY 10R	1, 2		KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 10R		1	KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 28L		1	KFCM	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 09/23/2010

REASON FOR REVISION:
ADDED WP TO FIX MAKE-UP
ADDED HOLDING PATTERN 1
ADDED HOLDING RESTRICTION
ADDED PRECIPITOUS TERRAIN NOTE
UPDATED FIX USE

DEVELOPED BY: **DATE:** 04/03/2010 **OFFICE:** AVN-120 **NAME:** CHRIS OBRIEN

APPROVED BY: **DATE:** 06/14/2010 **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: FCM ATCT
OTHER: MSP APP CON