Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 01/24/2012	Task #: 2012012425132101001	Request #: 20120124251321
Procedure: RNAV (GPS) RWY 12 AMDT 1		Airport ID: K9D9	Airport: HASTINGS		Reimbursable #:
City: HASTINGS	**ST:** MI	GPS #:		Estimated Chart Date: 01/10/2013	FICO #:
Fac ID:	**Fac. Type:** LPV		**Specialist:** AISHAT NAUZO		

LPV

Procedure Review

	Rec'd	Rel'd	Full Name	Comments
Lead:	07/18/2012	09/20/2012	JOHNNIE BAKER	
QA:	09/20/2012	09/22/2012	DAVID PUGLISI	
Liaison:	09/22/2012		Spurlin	MAGVAR

MAG VAR

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

pkg 1 of 3

HASTINGS, MI HASTINGS (K9D9) RNAV (GPS) RWY 12, AMDT 1 (LPV) ENROUTE-YES FC: 11.13.12 PUB: 1.10.13

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): AGEYU, REV 1; BLBBY-INT, REV 1; BOHRR-INT, REV 9; DERRE-INT, REV 1; UNSUN-INT, REV 7; (INFO ONLY) EDOGE, ORIG; JAKES-INT, REV 11.

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

NEW

HASTINGS, MICHIGAN

AL-5778 (FAA)

FIG

RNAV (GPS) RWY 12

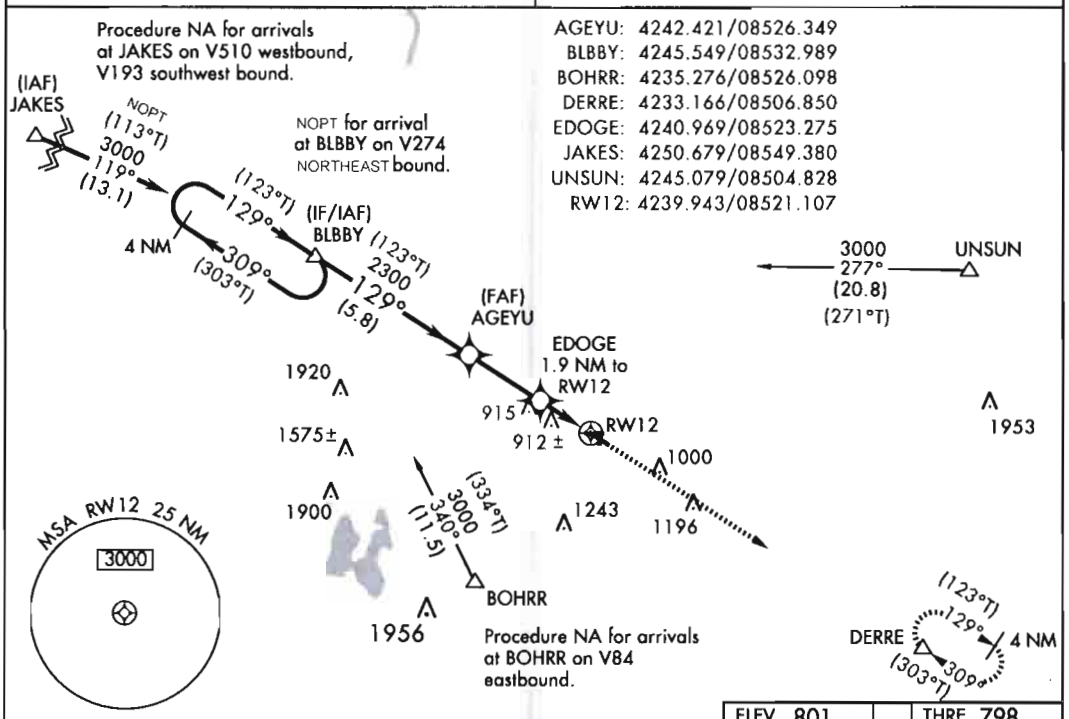
HASTINGS (9D9)

WAAS	APP CRS	Rwy Idg	3900
CH 53326	129°	THRE	798
W12A		Apt Elev	801

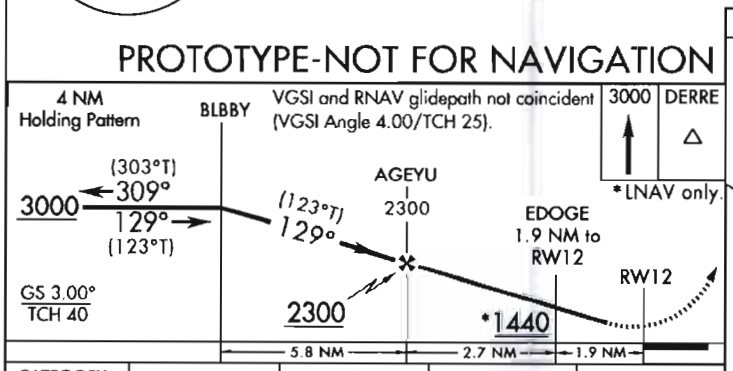
T NA PROCEDURE NA AT NIGHT. BARO-VNAV NA. DME/ DME RNP-0.3 NA. USE GRAND RAPIDS ALTIMETER SETTING: WHEN NOT RECEIVED, USE IONIA ALTIMETER SETTING AND INCREASE ALL DA 15 FEET, AND ALL MDA 20 FT. INCREASE LNAV CAT C VISIBILITY 1/8 MILE. HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED.

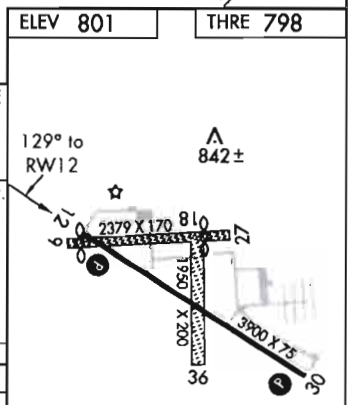
MISSED APPROACH: Climb to 3000 direct DERRE and hold.

GRAND RAPIDS APP CON *	UNICOM
128.4 257.6	123.075 (CTAF) L



PROTOTYPE-NOT FOR NAVIGATION





CATEGORY	A	B	C	D
LPV DA	1084-1 286 (300-1)			NA
LNAV/ VNAV DA	1123-1⅛ 325 (400-1⅛)			NA
LNAV MDA	1220-1 422 (500-1)		1220-1¼ 422 (500-1¼)	NA
CIRCLING	1380-1 579 (600-1)	1400-1 599 (600-1)	1420-1¾ 619 (700-1¾)	NA

MIRL Rwy 12-30 L
REIL Rwys 12 and 30 L

HASTINGS, MICHIGAN
Amdt 1 FIG

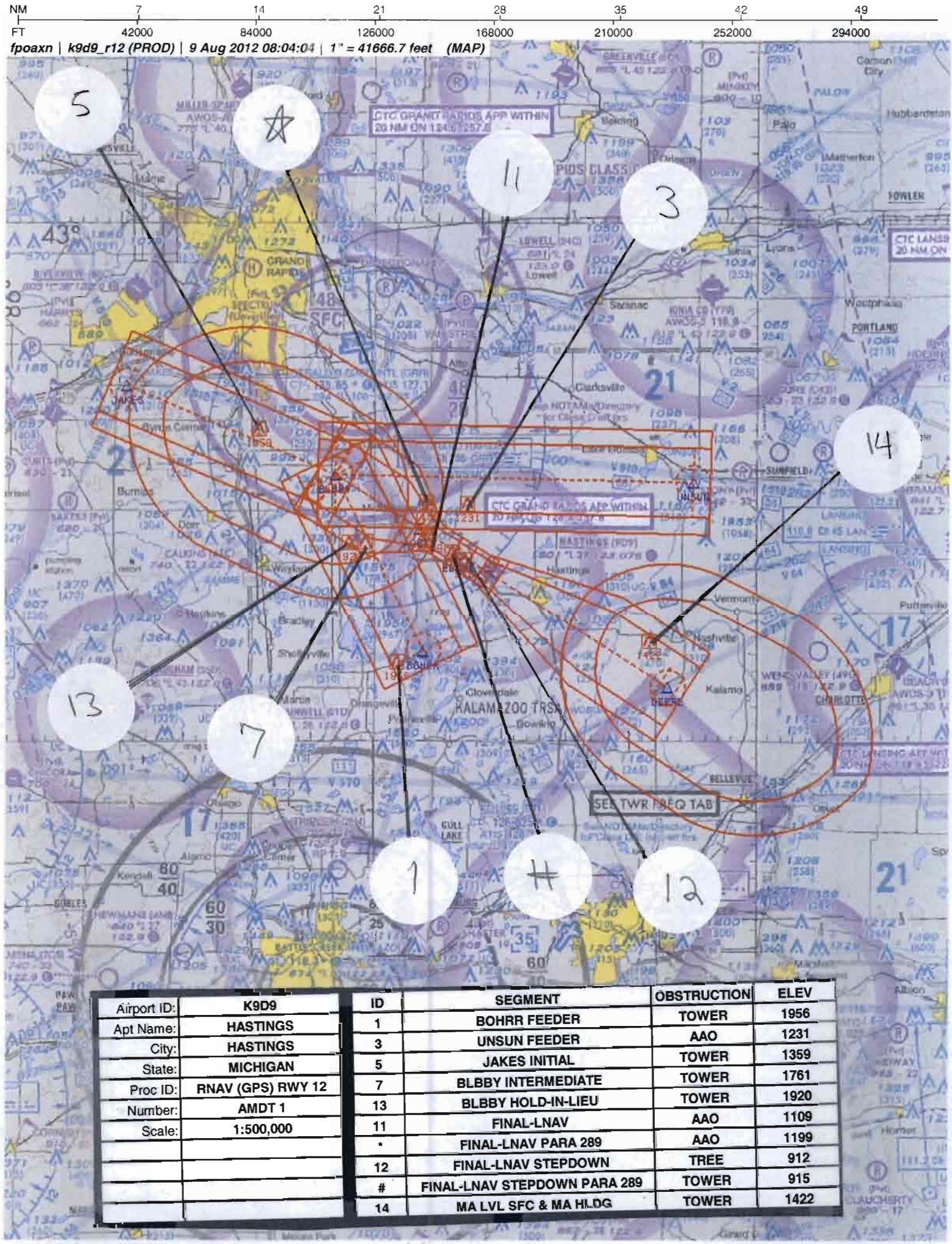
42°40'N - 85°21'W

HASTINGS (9D9)

RNAV (GPS) RWY 12

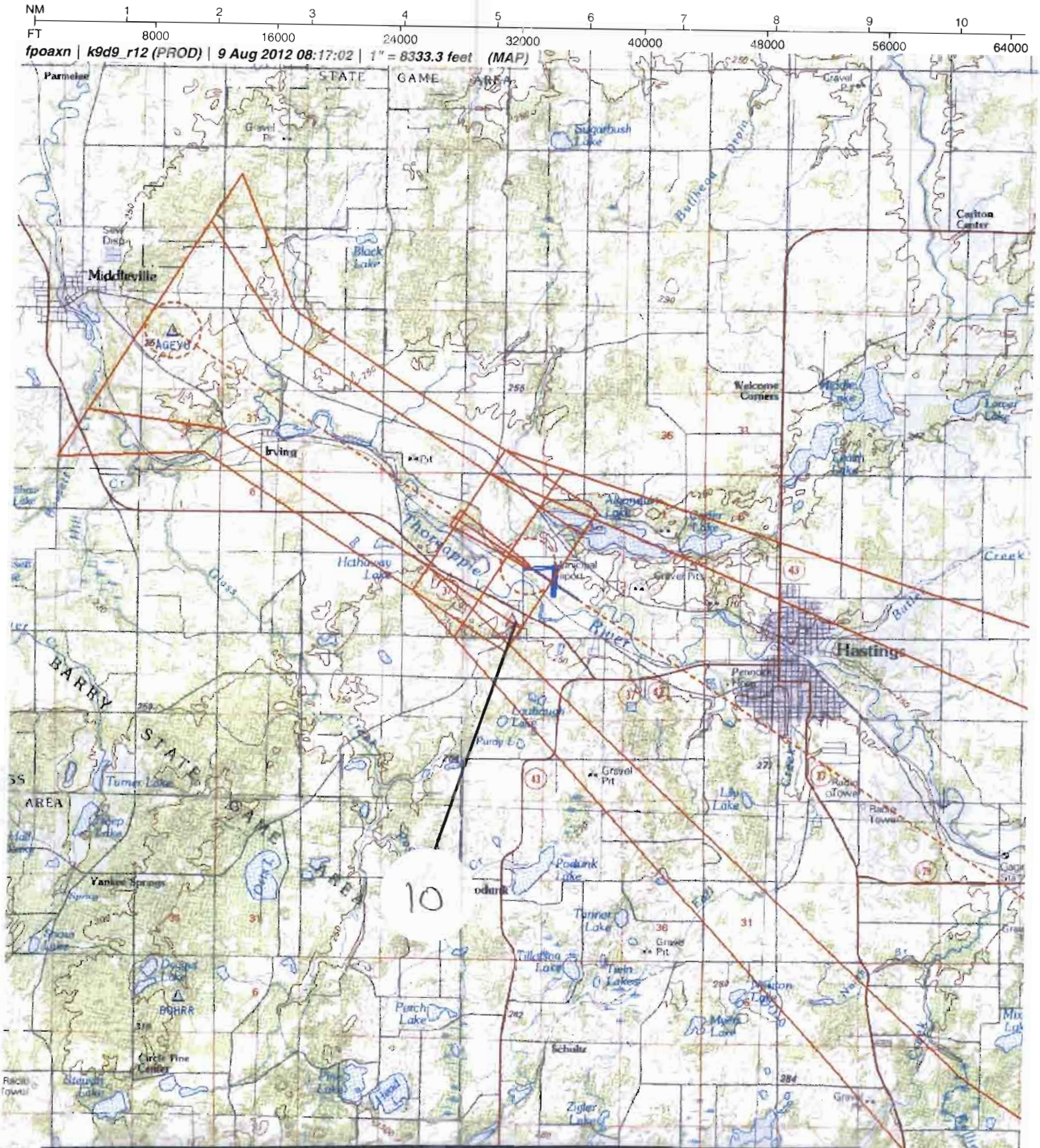
AUTOMATED AL-5778 RNAV (GPS) RWY 12

EC-1
8/13/12
COMPILER: GM
REVIEWER:
DBL CHKER:
EFF DATE: FIG



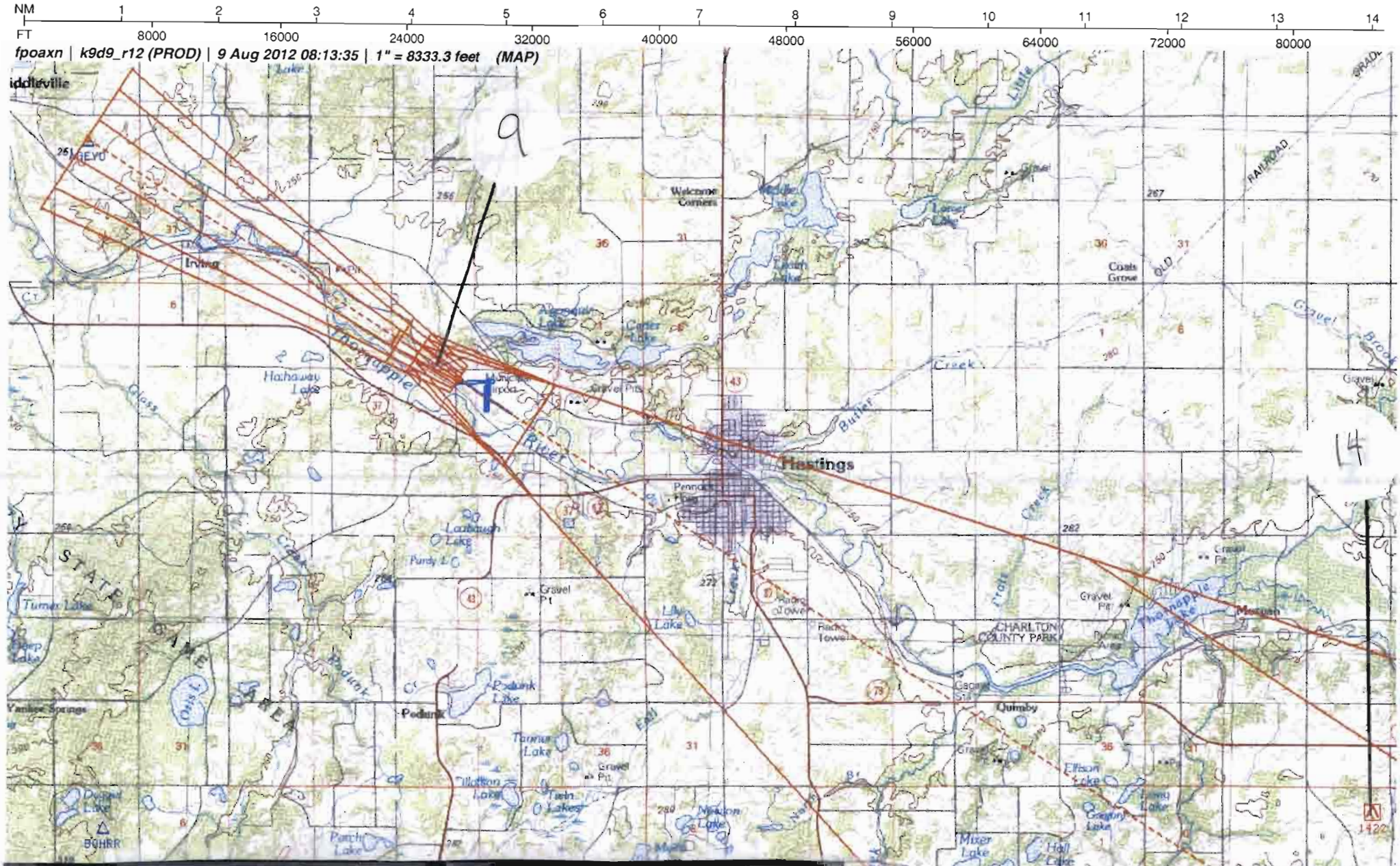
Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 12
Number:	AMDT 1
Scale:	1:500,000

ID	SEGMENT	OBSTRUCTION	ELEV
1	BOHRR FEEDER	TOWER	1956
3	UNSUN FEEDER	AAO	1231
5	JAKES INITIAL	TOWER	1359
7	BLBBY INTERMEDIATE	TOWER	1761
13	BLBBY HOLD-IN-LIEU	TOWER	1920
11	FINAL-LNAV	AAO	1109
*	FINAL-LNAV PARA 289	AAO	1199
12	FINAL-LNAV STEPDOWN	TREE	912
#	FINAL-LNAV STEPDOWN PARA 289	TOWER	915
14	MA LVL SFC & MA HLDG	TOWER	1422



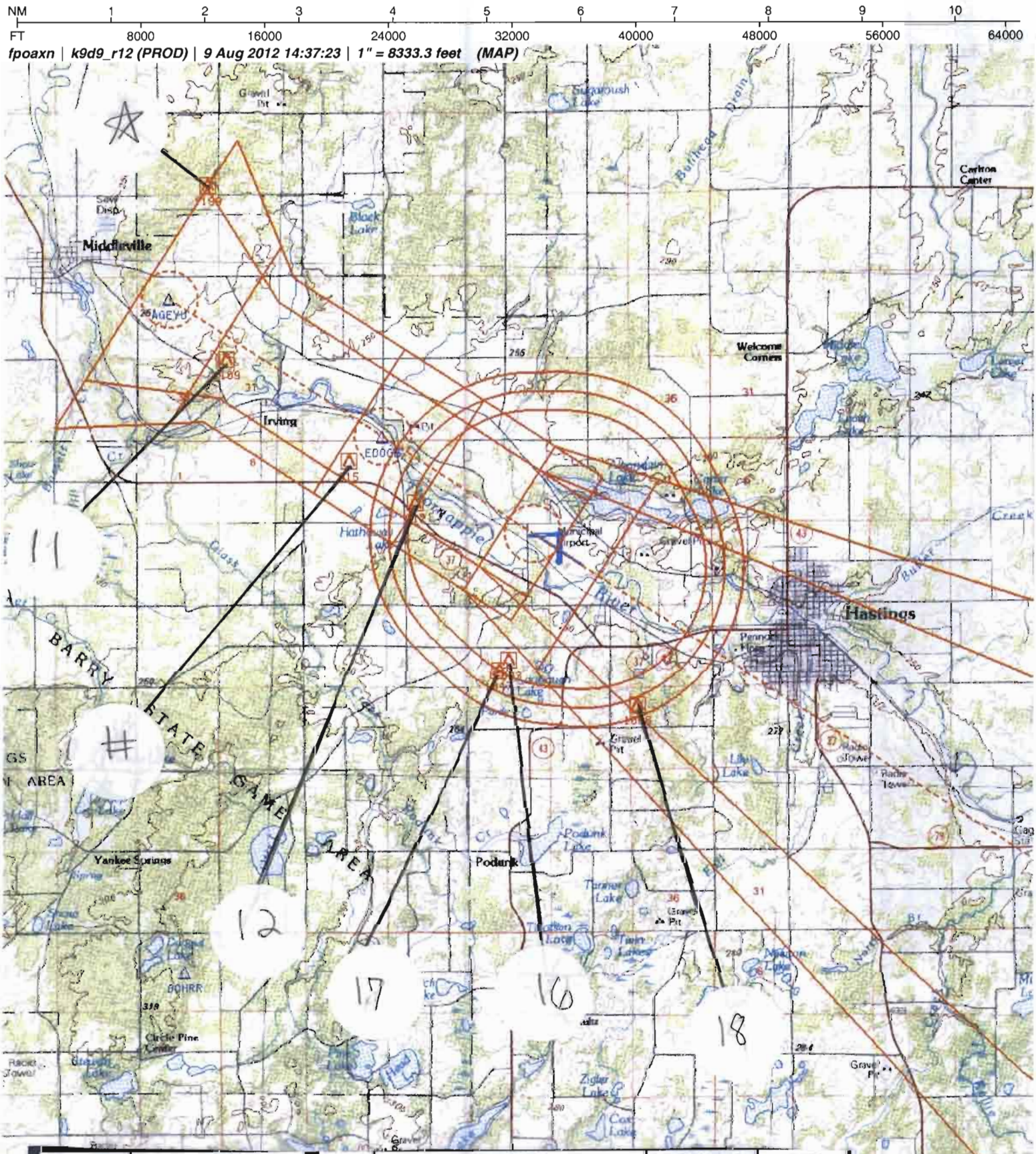
Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 12
Number:	AMDT 1
Scale:	1:100,000

ID	SEGMENT	OBSTRUCTION	ELEV
10	FINAL-LNAV/VNAV	TREE	955



Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 12
Number:	AMDT 1
Scale:	1:100,000

ID	SEGMENT	OBSTRUCTION	ELEV
9	FINAL-LPV	TREE	879
14	MA LVL SFC	TOWER	1422



Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 12
Number:	AMDT 1
Scale:	1:100,000

ID	SEGMENT	OBSTRUCTION	ELEV
11	FINAL-LNAV	AAO	1109
*	FINAL-LNAV PARA 289	AAO	1199
12	FINAL-LNAV STEPDOWN	TREE	912
#	FINAL-LNAV STEPDOWN PARA 289	TOWER	915
16	CIRCLING CAT A	TREE	1033
17	CIRCLING CAT B	TREE	1047
18	CIRCLING CAT C	TREE	1066

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
BOHRR	BLBBY (FO)	339.71 / 11.46	3000
UNSUN	BLBBY (FO)	277.46 / 20.75	3000
JAKES (IAF)	BLBBY (NOPT) (FB)	118.93 / 13.11	3000
BLBBY (IF/IAF)	AGEYU (FB)	128.54 / 5.81	2300
AGEYU (FAF)	EDOGE/1.90 NM TO RW12 (FB)	128.62 / 2.69	
EDOGE/1.90 NM TO RW12	RW12 (MAP) (FO)	128.62 / 1.90	
(SEE FORM 8260-10)			

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW12

CLIMB TO 3000 DIRECT DERRE AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. HOLD NW BLBBY, RT, 128.54 INBOUND, 3000 FT. IN LIEU OF PT (IAF)
3. FAC: 128.62 FAF: AGEYU DIST FAF TO MAP: 4.59 THLD: 4.59
4. MIN. ALT: BLBBY 3000, AGEYU 2300, EDOGE/1.90 NM TO RW12 1440*
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2300 GS ALT AT: AGEYU 2300 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 40.0 34:1 IS NOT CLEAR
8. MSA FROM: RW12 3000

ADDITIONAL FLIGHT DATA:
HOLD SE, RT, 308.84 INBOUND.
CHART FAS OBST: 955 TREE 423916N/0852120W
CHART FAS OBST: 912 TREE 424011N/0852248W
CHART: 915 TOWER 424037N/0852345W
1199 AAO 424333N/0852547W
DISTANCE TO THLD FROM 286 HATH: 0.77 NM.
WAAS CHANNEL # 53326
REFERENCE PATH ID: W12A
LTP HAE: 209.4 M

MAG VAR: 6W EPOCH YEAR: 2015

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT 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
LPV DA	1084	1	286	1084	1	286	1084	1	286		NA				
LNAV/VNAV DA	1123	1 1/8	325	1123	1 1/8	325	1123	1 1/8	325		NA				
LNAV MDA	1220	1	422	1220	1	422	1220	1 1/4	422		NA				
CIRCLING	1380	1	579	1400	1	599	1420	1 3/4	619		NA				

NOTES:
CHART NOTE: BARO-VNAV NA.
CHART NOTE: DME/DME RNP-0.3 NA.
CHART PLANVIEW NOTE: NOPT FOR ARRIVAL AT BLBBY ON V274 NORTHEAST BOUND.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT BOHRR ON V84 EASTBOUND.
(SEE FORM 8260-10)

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801 THRE: 798 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
HASTINGS, MI	HASTINGS	RNAV	RNAV (GPS) RWY 12, AMDT 1	AMDT: ORIG
				DATED 10/20/2011

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]	[X] ZAU, GRR APP CON, AMGR

FLIGHT CHECKED BY

NAME:	FIFO	DATE:

DEVELOPED BY

NAME:	FIFO	DATE:
JILL OLSON (AISHAT NAUZO)	AJV-353	08/07/2012

APPROVED BY

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

CHANGES:

1 ALL TERMINAL ROUTE COURSES CHANGED 2W.
2 REMOVED LP AND ADDED LPV AND LNAV/VNAV MINIMA AND ASSOCIATED NOTES.
3 BOHRR TO BLBBY COURSE CHANGED FROM 337.70 TO 339.71.
4 BLBBY TO AGEYU COURSE CHANGED FROM 126.55 TO 128.54.
5 REMOVED CHART NOTE: CIRCLING TO RWY 09, 18, 27, 36 NA AT NIGHT.
6 REMOVED CHART NOTE: WHEN VGSI INOP, CIRCLING RWY 30 NA AT NIGHT.
7 REMOVED CHART NOTE: WHEN VGSI INOP, STRAIGHT-IN/CIRCLING RWY 12 PROCEDURE NA AT NIGHT.
8 ADDED CHART NOTE: PROCEDURE NA AT NIGHT.
9 REPLACED VISIBILITY REDUCTION BY HELICOPTERS NA NOTE WITH HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED.

REASONS:

1 MAGVAR UPDATE FROM 4W TO 6W.
2 FPT REQUEST.
3,4 DUE TO BLBBY (IF/IAF) MOVE.
5-8 EXISTING 20:1 PENETRATIONS WOULD REQUIRE AN AFS APPROVAL LETTER OR PROCEDURE NA AT NIGHT NOTE. FPT AGREED WITH PROCEDURE NA AT NIGHT NOTE.
9 IMPLEMENTED 8260.19E CHG 2 PARA 8-541(3)

PDF EDITS:
1 8260-3, TERMINAL ROUTES, ADDED (FAF) TO AGEYU.
2 8260-3, TERMINAL ROUTES, AGEYU TO EDOGE DELETED 1440* ALTITUDE.
3 8260-3, ADDITIONAL FLIGHT DATA, REMOVED OBST FROM 1199 AAO.
4 8260-3 ADDITIONAL FLIGHT DATA, REMOVED AGEYU TO RW12: 3.00/40.
5 8260-10 R020HM, REMOVED 020.
6 8260-10 RNP 2.0 REMOVED 2.0.
7 8260-9, BACK, KY70 ALTIMETER SETTING ADJ ADDED 51.
8 8260-9, BACK, REMOVED PARAGRAPH FROM TERPS 289 NOTE FOR 1199 AAO AND 915 TOWER.
9 8260-10, CHANGED MA ALTITUDE FROM 1084 TO 3000.
10 8260-9. LNA/VNAV LINE VALUE, ADDED PDA.

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.

TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
RW12 (MAP)	1084 MSL	128.62	
1084 MSL	DERRE (FO)		3000

NOTES, (CONT.):
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS AT JAKES ON V510 WESTBOUND, V193 SOUTHWEST BOUND.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
*LNAV ONLY

CHART NOTE: USE GRAND RAPIDS ALTIMETER SETTING; WHEN NOT RECEIVED, USE IONIA ALTIMETER SETTING AND INCREASE ALL DA 15 FEET, AND ALL MDA 20 FT, INCREASE LNAV CAT C VISIBILITY 1/8 MILE.
CHART NOTE: HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801 THRE: 798	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: HASTINGS	RNAV	RNAV (GPS) RWY 12, AMDT 1	AMDT: ORIG
				DATED: 10/20/2011

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	9D9
RUNWAY	RW12
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W12A
LTP/FTP LATITUDE	423956.5745N
LTP/FTP LONGITUDE	0852106.4145W
LTP/FTP ELLIPSOIDAL HEIGHT	+02094
FPAP LATITUDE	423908.4300N
FPAP LONGITUDE	0851924.7800W
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	1560
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	E432084E

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K5
LTP ORTHOMETRIC HEIGHT	+02431
FPAP ORTHOMETRIC HEIGHT	+02431

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801 THRE: 798	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: HASTINGS	RNAV	RNAV (GPS) RWY 12, AMDT 1	AMDT: ORIG
				DATED: 10/20/2011

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:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR 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.

ARINC PACKET - 424-18 - RNAV (GPS)

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
WP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   AGEYU K50    W      N42422526W085262095                      W0056     NAR           AGEYU
        SUSAEAENRT   BLBBY K50    C    L N42453292W085325932                      W0056     NAR           BLBBY
        SUSAEAENRT   BOHRR K50    C    L N42351653W085260587                      W0056     NAR           BOHRR
        SUSAEAENRT   DERRE K50    C    L N42330996W085065101                      W0059     NAR           DERRE
        SUSAEAENRT   EDOGE K50    W      N42405812W085231650                      W0057     NAR           EDOGE
        SUSAEAENRT   JAKES K50    C    L N42504071W085492279                      W0054     NAR           JAKES
        SUSAEAENRT   UNSUN K50    C    L N42450472W085044970                      W0059     NAR           UNSUN

                1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 9D9 K5A9D9     0     039YHN42394911W085204680W006000801         1800018000C    MNAR    HASTINGS

                1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 9D9 K5FR12   ABOHRR 010BOHRRK5EA0E       IF                                          18000                A JS
        SUSAP 9D9 K5FR12   ABOHRR 020BLBBYK5EA0EY   020TF                    33970115    + 03000                        A JS
        SUSAP 9D9 K5FR12   ABOHRR 030BLBBYK5EA0EE AR   HF                    12850040    + 03000                        A JS
        SUSAP 9D9 K5FR12   AJAKES 010JAKESK5EA0E  A    IF                                          18000                A JS
        SUSAP 9D9 K5FR12   AJAKES 020BLBBYK5EA0EE B 010TF                    11890131    + 03000                        A JS
        SUSAP 9D9 K5FR12   AUNSUN 010UNSUNK5EA0E       IF                                          18000                A JS
        SUSAP 9D9 K5FR12   AUNSUN 020BLBBYK5EA0EY   020TF                    27750208    + 03000                        A JS
        SUSAP 9D9 K5FR12   AUNSUN 030BLBBYK5EA0EE AR   HF                    12850040    + 03000                        A JS
        SUSAP 9D9 K5FR12   R      010BLBBYK5EA0E  I    IF                                + 03000    18000               A JS
        SUSAP 9D9 K5FR12   R      020AGEYUK5EA1E  F 051TF                    12850058    + 02300              RW12  K5PGA JS
        SUSAP 9D9 K5FR12   R      020AGEYUK5EA2WALPV       ALNAV/VNAV ALNAV                                              JS
        SUSAP 9D9 K5FR12   R      021EDOGEK5EA0E S  031TF                    12860027    V 0144001443        -300      A JS
        SUSAP 9D9 K5FR12   R      030RW12 K5PG0GY M 031TF                    12860019      00838             -300      A JS
        SUSAP 9D9 K5FR12   R      040         0  M     CA                    1286        + 01084                      A JS
        SUSAP 9D9 K5FR12   R      050DERREK5EA0EY      DF                                + 03000                      A JS
        SUSAP 9D9 K5FR12   R      060DERREK5EA0EE  R   HM                    30880040    + 03000                      A JS

                1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 9D9 K5GRW12    0039001287 N42395657W085210641-0100    +020940079800004007 5R

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

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801 THRE: 798	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: **HASTINGS**	**RNAV**	**RNAV (GPS) RWY 12, AMDT 1**	AMDT: **ORIG**
				DATED: **10/20/2011**

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.

```
        SUSAP 9D9 K5PR12   RW12 001 0000W12A0N4239565745W08521064145+020940300N4239084300W08519247800106751560000400F400500E432084E
        SUSAP 9D9 K5PR12   RW12 002E      +02431+02431LPV       53326

                  1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP 9D9 K5SRW12 K5PG                0   18018003025                                                                          M
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801 THRE: 798	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: HASTINGS	RNAV	RNAV (GPS) RWY 12, AMDT 1	AMDT: ORIG
				DATED: 10/20/2011

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
	BOHRR	BOHRR	010		IF		FB					
	BOHRR	BLBBY	020		TF		FO	2.0	339.7(333.7T)	011.5	AA 03000	
	BOHRR	BLBBY	030	IAF	HF	R	FO		128.5(122.5T)	004.0	AA 03000	
	JAKES	JAKES	010	IAF	IF		FB					
	JAKES	BLBBY	020		TF		FB	1.0	118.9(112.9T)	013.1	AA 03000	
	UNSUN	UNSUN	010		IF		FB					
	UNSUN	BLBBY	020		TF		FO	2.0	277.5(271.5T)	020.8	AA 03000	
	UNSUN	BLBBY	030	IAF	HF	R	FO		128.5(122.5T)	004.0	AA 03000	
		BLBBY	010	FACF	IF		FB				AA 03000	
		AGEYU	020	FAF	TF		FB	0.5	128.5(122.5T)	005.8	AA 02300	
		EDOGE	021	SDF	TF		FB	0.3	128.6(122.6T)	002.7	AA 01440 GS 01443	
		RW12	030	MAP	TF		FO	0.3	128.6(122.6T)	001.9	AT 00838	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		128.6(122.6T)		AA 01084	
	DERRE	050		DF		FO				AA 03000	
	DERRE	060		HM	R	FO		308.8(302.8T)	004.0	AA 03000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	AGEYU	N424225.26	W0852620.95	N4242.421	W08526.349
	BLBBY	N424532.92	W0853259.32	N4245.549	W08532.989
	BOHRR	N423516.53	W0852605.87	N4235.276	W08526.098
	DERRE	N423309.96	W0850651.01	N4233.166	W08506.850
	EDOGE	N424058.12	W0852316.50	N4240.969	W08523.275
	JAKES	N425040.71	W0854922.79	N4250.679	W08549.380
	UNSUN	N424504.72	W0850449.70	N4245.079	W08504.828
	RW12	N423956.57	W0852106.41	N4239.943	W08521.107

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW12	00798	40

CITY AND STATE	ELEVATION: 801 THRE: 798	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: HASTINGS	RNAV	RNAV (GPS) RWY 12, AMDT 1	AMDT: ORIG
				DATED: 10/20/2011

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.
FEEDER	BOHRR	BLBBY	1. TOWER (26-000456)	423415.00N/0852809.00W	1956 (4D)	1000		3000
			2. TERRAIN	423655.70N/0852553.50W	1138 (1100)		AS1500	2600
FEEDER	UNSUN	BLBBY	3. AAO	424327.00N/0852236.00W	1231 (4E)	1000	AT769	3000
			4. TERRAIN	424327.00N/0852236.00W	1031 (1000)		AS1500	2500
INITIAL	JAKES	BLBBY	5. TOWER (26-000392)	424747.00N/0853859.00W	1359 (3C)	1000	AT641	3000
			6. TERRAIN	424748.00N/0853900.00W	1047 (1000)		AS1500	2500
INTERMEDIATE	BLBBY (IF/IAF)	AGEYU	7. TOWER (26-000006)	424114.66N/0853034.98W	1761 (2C)	500	AT377 SA-338	2300
			8. TERRAIN	424332.69N/0852547.17W	999 (1000)		AS1000	2000
FINAL: LPV	AGEYU	RW12	9. TREE (K9D9T0471)	424009.95N/0852123.44W	879 (1A)	34:1	RA36	1084/286
FINAL: LNAV/VNAV	AGEYU	RW12	10. TREE (K9D9T0789)	423916.30N/0852119.59W	955 (2C)	PDA	RA36 AC20	1123/325
FINAL: LNAV	AGEYU	EDOGE/1.90 NM TO	11. AAO	424141.93N/0852530.99W	1109 (2C)	250	RA51 DG30	1440
		RW12						
FINAL: LNAV STEPDOWN	EDOGE/1.90 NM TO	RW12	12. TREE (K9D9T0504)	424011.03N/0852247.99W	912 (1B)	250	RA36 XP22	1220
	RW12							
2. HOLD-IN-LIEU-OF-PT	BLBBY	P-5	13. TOWER (26-001048)	424112.00N/0853152.00W	1920 (5E)	1000		3000
			6. TERRAIN	424748.00N/0853900.00W	1047 (1000)		AS1500	2500
3. MISSED APPROACH MAP:	DA / DA / RW12	DERRE				ASC		3000
			14. TOWER (26-001938)	423526.00N/0850816.00W	1422 (5D)	1000		2500
ELEV:	881/973/1084		15. TERRAIN	423430.00N/0850939.00W	1044 (1000)		AS1500	2500

4. CIRCLING AREA	DISTANCE		HT. ABV. ARPT.		
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	579
CATEGORY B	1.5 NM		450		599
CATEGORY C	1.7 NM		450		619
CATEGORY D	2.3 NM		550		
CATEGORY E	4.5 NM		550		

16. TREE (K9D9T0717)	423830.75N/0852126.86W	1033 (2C)	300	RA36	1380
17. TREE (K9D9T0714)	423824.49N/0852134.81W	1047 (2C)	300	RA36	1400
18. TREE (K9D9T0692)	423803.05N/0851934.60W	1066 (2C)	300	RA36	1420

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **RW12**

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (26-000456)	228/ 07.7	1956 (4D)	3000					

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
HASTINGS, MI	HASTINGS	RNAV	RNAV (GPS) RWY 12, AMDT 1	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
GRR APP CON **ORD APP CON**	N W S OTHER:	SOURCE: **KGRR / KY70**
	F A A	DISTANCE: **15.18 / 20.74**
	A / C	HOURS REMOTE OPERATION: **24**
SATISFACTORY ON:		
X V H F X U H F H F	LOCATION:	ADJUSTMENT: **36 / 51**

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

5. APPROACH & RUNWAY LIGHTING	
	ALS
	(S) SALS
	MALS
	HIRL
X	**MIRL 12 (PCL), 30 (PCL)**
X	**REIL 12 (PCL), 30 (PCL)**
	TDZ
	C/LINE
X	**OTHER (SPECIFY)** **PAPI-4R 12 (PCL) PAPI-4L 30 (PCL)**

6. RUNWAY MARKINGS	
BASIC	
ALL WEATHER	
INSTRUMENT	**NPI-G 12, 30**

7. RUNWAY VISUAL RANGE	
APPROACH	
MIDFIELD	
ROLL OUT	

8. GLIDE PATH		
GP ANGLE: **3.00**	ELEV RWY THRESHOLD: **797.6**	
DISTANCE FROM RWY:	ELEV GP ANTENNA:	
	THRESHOLD CROSSING HEIGHT: **40.0**	

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:
JILL OLSON (AISHAT NAUZO)	**08/07/2012**
TITLE: **AERONAUTICAL INFORMATION SPECIALIST**	OFFICE: **AJV-353**

PART C - REMARKS:

VDP NOT ESTABLISHED - 20:1 PENETRATIONS, AND REMOTE ALTIMETER IN USE.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

TERPS 289 APPLIED TO 1199 AAO
424333N/0852547W

TERPS 289 APPLIED TO 915 TOWER
424037N/0852345W

NO ADDITIONAL AIRSPACE REQUIRED.

VEGETATION 100' PER FPT

LPV SLOPE 34:1
LNAV/VNAV SLOPE 23.441:1

TAA NOT DEVELOPED PER FPT

VGSI DATA: 4.00/33.

RASS PRESSURE PATTERNS SAME
K9D9 800.8, KGRR 794, KY70 817.8
RA PRIMARY= 35.87 (KGRR)
RA SECONDARY= 50.09 (KY70)

KGRR ASOS AND KY70 AWOS-3 ON SERVICE A.

FPT NOTIFIED OF 34:1 AND 20:1 PENETRATIONS.
ORDER 8260.3, VOLUME 1, VISUAL PORTION OF FINAL PENETRATIONS:
20:1 PENS
RWY 09
844 TREE (K9D9T0407) 423952.23N/0852115.98W (22.07)
841 TREE (K9D9T0413) 423953.20N/0852117.56W (13.44)
848 TREE (K9D9T0422) 423957.35N/0852120.50W (10.61)
845 TREE (K9D9T0417) 423957.35N/0852120.25W (7.84)
826 TREE (K9D9T0411) 423953.40N/0852115.82W (4.98)
824 TREE (K9D9T0414) 423955.55N/0852115.59W (4.42)
847 TREE (K9D9T0424) 423955.70N/0852122.25W (2.63)
852 TREE (K9D9T0432) 423957.39N/0852123.92W (1.86)
840 TREE (K9D9T0418) 423956.07N/0852120.67W (1.62)

RWY 12
850 TREE (K9D9T0430) 423959.32N/0852121.79W (6.55)
837 TREE (K9D9T0423) 423958.49N/0852119.54W (2.88)
840 TREE (K9D9T0425) 423959.48N/0852119.97W (1.83)
879 TREE (K9D9T0471) 424009.95N/0852123.44W (1.32)

RWY 18
889 TREE (K9D9T0759) 424012.40N/0852039.00W (21.09)
841 TREE (K9D9T0344) 424004.17N/0852044.65W (15.45)

RWY 27
880 TREE (K9D9T0270) 423957.66N/0852018.20W (1.29)

RWY 36
827 TREE (K9D9T0282) 423934.22N/0852041.42W (21.73)
810 TREE (K9D9T0289) 423935.44N/0852043.33W (10.70)
816 TREE (K9D9T0286) 423933.97N/0852042.94W (9.27)
819 TREE (K9D9T0274) 423933.19N/0852040.72W (8.62)
830 TREE (K9D9T0279) 423930.71N/0852044.07W (6.64)
853 TREE (K9D9T0256) 423925.43N/0852042.04W (3.20)
804 TREE (K9D9T0292) 423935.03N/0852044.77W (2.39)

CONT.

QUALITY 9 CHECKED

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
3. MISSED APPROACH MAP:								
ELEV:								

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT.		
		REQUIRED		ACTUAL
CATEGORY A	1.3 NM		350	
CATEGORY B	1.5 NM		450	
CATEGORY C	1.7 NM		450	
CATEGORY D	2.3 NM		550	
CATEGORY E	4.5 NM		550	

5. MINIMUM SAFE ALTITUDES

PRIMARY NAVAID:

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

CITY AND STATE	ELEVATION: 801 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
HASTINGS, MI	HASTINGS	RNAV	RNAV (GPS) RWY 12, AMDT 1	AGL

QUALITY CHECKED

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
SATISFACTORY ON:	☐ NWS ☐ FAA ☐ A/C OTHER:	SOURCE: DISTANCE: HOURS REMOTE OPERATION:
☐ VHF ☐ UHF ☐ HF	LOCATION:	ADJUSTMENT:

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

5. APPROACH & RUNWAY LIGHTING	
☐	ALS
☐	(S) SALS
☐	MALS
☐	HIRL
☐	MIRL
☐	REIL
☐	TDZ
☐	C/LINE
☐	OTHER (SPECIFY)

6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	
	MIDFIELD	
	ROLL OUT	
8. GLIDE PATH	GP ANGLE:	ELEV RWY THRESHOLD:
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT:

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

10. WAIVERS:

PART D - PREPARED BY:	DATE:
TITLE:	OFFICE:

PART C - REMARKS:

CONTINUED.
34:1 RWY 12
846 TREE (K9D9T0447) 424003.08N/0852122.92W (13.30)
839 TREE (K9D9T0434) 423958.58N/0852123.15W (13.10)
839 TREE (K9D9T0437) 424000.65N/0852122.50W (10.98)
850 TREE (K9D9T0461) 424007.51N/0852121.64W (12.54)
855 TREE (K9D9T0467) 424010.80N/0852122.10W (11.41)
844 TREE (K9D9T0448) 424003.10N/0852122.93W (11.25)
839 TREE (K9D9T0437) 424000.65N/0852122.50W (10.98)
840 TREE (K9D9T0439) 424003.03N/0852121.34W (10.30)
840 TREE (K9D9T0441) 424000.44N/0852124.07W (9.41)
860 TREE (K9D9T0477) 424012.31N/0852124.85W (8.90)
836 TREE (K9D9T0436) 424001.43N/0852121.65W (8.30)
862 TREE (K9D9T0483) 424012.75N/0852126.90W (6.40)
837 TREE (K9D9T0443) 423959.47N/0852125.21W (5.86)
863 TREE (K9D9T0486) 424011.75N/0852128.97W (5.18)
860 TREE (K9D9T0482) 424011.86N/0852127.63W (4.48)
854 TREE (K9D9T0475) 424009.72N/0852126.29W (4.40)
852 TREE (K9D9T0474) 424011.14N/0852124.20W (3.98)
861 TREE (K9D9T0487) 424009.34N/0852131.21W (2.91)
837 TREE (K9D9T0454) 424000.90N/0852125.70W (2.66)
844 TREE (K9D9T0464) 424002.08N/0852128.49W (2.60)
823 TREE (K9D9T0427) 424000.47N/0852119.44W (0.92)
858 TREE (K9D9T0485) 424011.02N/0852129.40W (0.56)
862 TREE (K9D9T0491) 424011.24N/0852131.56W (0.21)

OBS #7 LOCATED 4101 FT INTO SECONDARY.
OBS #10 LOCATED 317 FT INTO SECONDARY.

XP 22: MAINTAIN CURRENT LNAV MDA

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: AGEYU **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 424225.26N/0852620.95W **TYPE:** WP

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

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

REMARKS:
COORDINATES ESTABLISHED USING 8260.54A FORMULA 2-16B.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 12			K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
FIX MOVED .75 FT EAST; COORDINATES UPDATED.
ADDED REMARK; COORDINATES ESTABLISHED USING 8260.54A FORMULA 2-16B.

DEVELOPED BY: **DATE:** 08/06/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (AISHAT NAUZO)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZAU
ATC FACILITY: GRAND RAPIDS APP CON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: BLBBY **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 424532.92N/0853259.32W **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	GRAND RAPIDS	GRR	VOR/DME	H	238.66	234.66	2.86	2.86		3000	17500

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	NW		WP	308.54	128.54	R		4	3000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (26-001048)	424112.00N/0853152.00W	1920	5E

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V274	1				(US)
IAP	RNAV (GPS) RWY 12		1	K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
FIX MOVED 7.55 FT SOUTHEAST TO ALIGN ON AIRWAY; COORDINATES UPDATED.
CHANGED PAT 1 INBOUND HOLDING COURSE FROM 126.55 TO 128.54 DUE TO MAGVAR CHANGE.

DEVELOPED BY: **DATE:** 08/06/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (AISHAT NAUZO)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZAU
ATC FACILITY: GRAND RAPIDS APP CON
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: BOHRR **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 423516.53N/0852605.87W **TYPE:** WP, INT, 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	PULLMAN	PMM	VOR/DME	H	075.95	075.95	30.60	30.60		3000	17500
2	GRAND RAPIDS	GRR	VOR/DME	H	171.00	167.00	12.24	12.24		3000	17500

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

REMARKS:
PULLMAN (FAC 1) AND GRAND RAPIDS (FAC 2) USED TO ESTABLISH FIX COORDINATES

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	ENROUTE V285	1, 2				(US)
EN ROUTE	ENROUTE V84	1, 2				(US)
IAP	RNAV (GPS) RWY 29			K35D	ALLEGAN	MI (US)
IAP	RNAV (GPS) RWY 35			KGRR	GRAND RAPIDS	MI (US)
IAP	RNAV (GPS) RWY 12			K9D9	HASTINGS	MI (US)
IAP	RNAV (GPS) RWY 30			K9D9	HASTINGS	MI (US)
IAP	RNAV (GPS) RWY 23			KAZO	KALAMAZOO	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 9 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
UPDATED FAC 2 FROM HX TO ACTIVE STATUS.
ADDED REMARK, PULLMAN (FAC 1) AND GRAND RAPIDS (FAC 2) USED TO ESTABLISH FIX COORDINATES.

DEVELOPED BY: **DATE:** 08/31/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (AISHAT NAUZO)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZAU
ATC FACILITY: GRR/AZO APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: DERRE **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 423309.96N/0850651.01W **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	LANSING	LAN	VORTAC	L	246.99	241.99	20.93	20.93		3000	17500

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	SE		WP	128.84	308.84	R		4	3000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (26-001938)	423526.00N/0850816.00W	1422	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
EN ROUTE	V218	1				(US)
IAP	RNAV (GPS) RWY 12		1	K9D9	HASTINGS	MI (US)
IAP	RNAV (GPS) RWY 30		1	K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
CHANGED PAT 1 HOLD INBOUND COURSE FROM 306.84 TO 308.84 DUE TO MAGVAR.
UPDATED FAC 1 FROM HX TO ACTIVE STATUS.
ADDED CONTROLLER TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 08/06/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (AISHAT NAUZO)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZAU
ATC FACILITY: GRAND RAPIDS APP CON
OTHER:

QUALITY 9 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: UNSUN **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 424504.72N/0850449.70W **TYPE:** WP, INT, 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	LANSING	LAN	VORTAC	L	281.98	276.98	17.06	17.06		2700	17500
2	BATTLE CREEK	BTL	VORTAC	T	018.00	016.00		27.56		2700	17500
3	GRAND RAPIDS	GRR	VOR/DME	H	100.44	096.44	18.53	18.53		2700	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
BTL	VORTAC	R-018	28	2700	17500

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

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	GRR	VOR/DME	100.44	100.44	R	1		3000	6000	5	6
2	W		WP	280.00	100.00	R		4	3000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	265	TOWER (26-000456)	423415.00N/0852809.00W	1956	4D
1	200	TOWER (26-001692)	424045.00N/0850357.00W	1953	5D
2	200	TOWER (26-001692)	424045.00N/0850357.00W	1953	5D

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.

REMARKS:
BATTLE CREEK (FAC 2) AND LANSING (FAC 1) USED TO ESTABLISH FIX COORDINATES
PRECIPITIOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V510	1, 2, 3				(US)
IAP	RNAV (GPS) RWY 20			KFPK	CHARLOTTE	MI (US)
IAP	RNAV (GPS) RWY 26L			KGRR	GRAND RAPIDS	MI (US)
IAP	RNAV (GPS) RWY 12			K9D9	HASTINGS	MI (US)
IAP	RNAV (GPS) RWY 30		2	K9D9	HASTINGS	MI (US)
IAP	ILS OR LOC RWY 10R	1, 2		KLAN	LANSING	MI (US)
IAP	ILS OR LOC RWY 28L	2, 3	1	KLAN	LANSING	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
UPDATED FAC 1 FROM HX TO ACTIVE STATUS.
ADDED CONTROLLER TO REQUIRED CHARTING.
ADDED REMARK, BATTLE CREEK (FAC 2) AND LANSING (FAC 1) USED TO ESTABLISH FIX COORDINATES.

DEVELOPED BY: **DATE:** 08/31/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (AISHAT NAUZO)

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZAU
ATC FACILITY: GRR
OTHER:

RADIO FIX AND HOLDING DATA RECORD INFO ONLY

NAME: EDOGE **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 424058.12N/0852316.50W **TYPE:** WP

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 12			K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 10/20/2011

DEVELOPED BY: **DATE:** 05/02/2011 **OFFICE:** AJV-353 **NAME:** JOSE ALFONSO (RODNEY TEMPLETON)

APPROVED BY: **DATE:** 08/23/2011 **OFFICE:** AJV-353 **NAME:** GREGORY YAMAMOTO

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZAU
ATC FACILITY: GRAND RAPIDS APP CON
OTHER:

QUALITY 9 CHECKED

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

NAME: JAKES **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 425040.71N/0854922.79W **TYPE:** WP, RADAR, INT, 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	GRAND RAPIDS	I-CYZ	LOC		265.29	261.29		14.35		2700	5200
2	PULLMAN	PMM	VOR/DME	H	028.69	028.69	25.91	25.91		2700	7500
3	GRAND RAPIDS	GRR	VOR/DME	H	287.68	283.68	14.81	14.81		2700	7500
4	MUSKEGON	MKG	VORTAC	L	154.86	153.86	21.68	21.68		2700	17500

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

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	I-CYZ	LOC	265.29	085.29	R	1		2700	6000	5	6
2	W		WP	265.32	085.32	R		4	2700	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (26-000466)	424833.00N/0854919.00W	1210	1D
2	200	TOWER (26-000466)	424833.00N/0854919.00W	1210	1D

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V193	2, 3, 4				(US)
EN ROUTE	V510	2, 3, 4				(US)
IAP	ILS OR LOC RWY 8R	1	1	KGRR	GRAND RAPIDS	MI (US)
IAP	RNAV (GPS) RWY 26L		2	KGRR	GRAND RAPIDS	MI (US)
IAP	RNAV (GPS) RWY 8R			KGRR	GRAND RAPIDS	MI (US)
IAP	RNAV (GPS) RWY 12			K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 10/20/2011

REASON FOR REVISION:
ADDED DIST FROM FAC FOR ALL FACS.
DELETED FAC 5 (KGRR RO8R).
MOVED HOLDING REMARK TO HOLDING RESTRICTIONS.
ADDED PRECIPITOUS TERRAIN REMARK.
UPDATED FIX USE.
RAISED FAC 1 MAA FROM 5000 TO 5200.
CHANDED FAC 1 MIN/MAX TEMPLATES FROM 4/7 TO 5/6.
RAISED FAC 1 AND 2 MAX HOLDING ALTITUDE FROM 5000 TO 6000.

DEVELOPED BY: **DATE:** 06/08/2011 **OFFICE:** AJV-353 **NAME:** JOSE ALFONSO (RODNEY TEMPLETON)

APPROVED BY: **DATE:** 08/23/2011 **OFFICE:** AJV-353 **NAME:** GREGORY YAMAMOTO

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZAU
ATC FACILITY: GRR
OTHER:

QUALITY 9 CHECKED

Federal Aviation Administration

Memorandum

Date:

To: Dick Powell Manager, National Flight Data Center, AJV-21

From: Larry Strout, Manager, Central Products Team, AJV-353

Subject: **ACTION:** Magnetic Variation Change for Hastings, MI (K9D9)

The Magnetic Variation (MV) data for the airport(s) and/or facility(s) listed under the 'Airport/Facility" column will be revised effective concurrent with the publication of the procedure(s) listed below.

RNAV (GPS) RWY 12, AMDT 1
RNAV (GPS) RWY 30, AMDT 1
TAKEOFF MINIMUMS AND OBSTACLE DP, AMDT 5

Estimated Chart Date: 01/10/2013

Runway Numbers are not affected.

Please publish these changes in the National Flight Data Digest.

MICHIGAN

Location	Name	Airport /Facility	Identifier	Assigned Magnetic Variation Value	Epoch Year
Hastings	Hastings	Airport	K9D9 / 9D9	Old 4 ° West New 6 ° West	2015

If you have any questions please notify Larry H. Strout, larry.h.strout@faa.gov (405) 954-5070

CONCURRENCES
ROUTING SYMBOL AJV-34 SBaker
INITIALS/SIG
DATE
ROUTING SYMBOL AJV-353 JOlson
INITIALS/SIG
DATE
ROUTING SYMBOL AJV-353 LStrout
INITIALS/SIG
DATE
ROUTING SYMBOL AJV-34 JAlfonso
INITIALS/SIG
DATE
ROUTING SYMBOL
INITIALS/SIG
DATE
ROUTING SYMBOL
INITIALS/SIG
DATE
ROUTING SYMBOL
INITIALS/SIG
DATE
ROUTING SYMBOL
INITIALS/SIG
DATE

cc: AVJ-3rf
sjb:x7537:08/3/2012 :U:\AVN100\PIT\MAGVAR\MAGVAR Letters 2012\MV Change Request for Hastings, MI (K9D9) 8-3-12
Requestor:ANauzo, Evaluated By:LFortier