Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 01/24/2012	Task #: 201201242513210100 2	Request #: 20120124251321
Procedure: RNAV (GPS) RWY 30 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

ESV REQUEST INCLUDED

pkg 2of3

Procedure Comments:

Remark Type: INFORMATION

HASTINGS, MI HASTINGS (K9D9) RNAV (GPS) RWY 30, AMDT 1 (LPV) ENROUTE-YES FC: 11.13.12 PUB: 1.10.13

ATTACHED FORMS: ESV REPORTS; 8260-3; 8260-10; 8260-9; 8260-2(S): BOHRR-INT, REV 9; DERRE-INT, REV 1; POSIE-INT, REV 4; UNSUN-INT, REV 7; (INFO ONLY) CADIM, ORIG; ECAVU, ORIG; LANSING (LAN) VTAC, REV 16.

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

New

HASTINGS, MICHIGAN | AL-5778 (FAA) | FIG

RNAV (GPS) RWY 30
HASTINGS (9D9)

WAAS	APP CRS	Rwy Idg	3900
CH 86326	307°	THRE	795
W30A		Apt Elev	801

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.

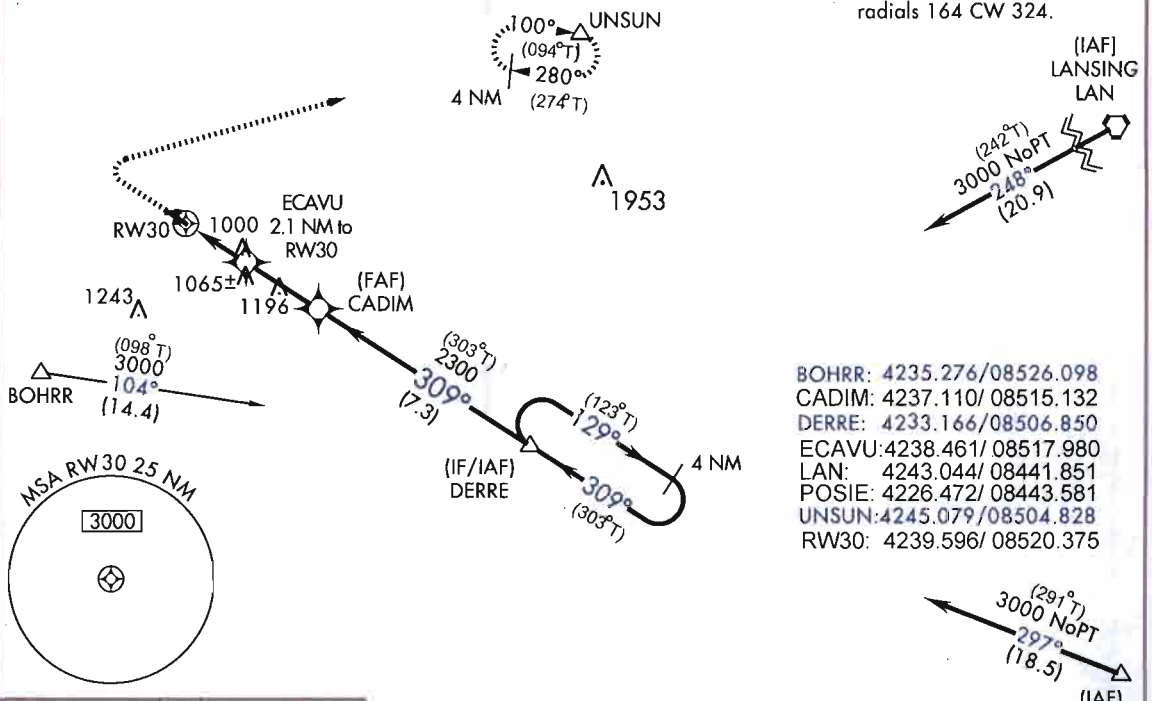
MISSED APPROACH: Climb to 1400 then climbing right turn to 3000 direct UNSUN and hold.

GRAND RAPIDS APP CON* 128.4 257.6

UNICOM 123.075 (CTAF) L

PROTOTYPE-NOT FOR NAVIGATION

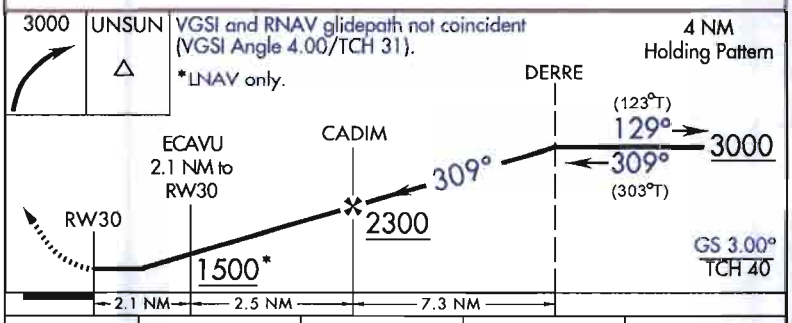
Procedure NA for arrivals on LAN VORTAC airway radials 164 CW 324.



BOHRR: 4235.276/08526.098
CADIM: 4237.110/ 08515.132
DERRE: 4233.166/08506.850
ECAVU:4238.461/ 08517.980
LAN: 4243.044/ 08441.851
POSIE: 4226.472/ 08443.581
UNSUN:4245.079/08504.828
RW30: 4239.596/ 08520.375

Procedure NA for arrivals at POSIE on V170 eastbound.

ELEV 801 | THRE 795



307° to RW30

CATEGORY	A	B	C	D
LPV DA	1081-1 286 (300-1)			NA
LNAV/ VNAV DA	1357-2 562 (600-2)			NA
LNAV MDA	1300-1 505 (500-1)		1300-1⅜ 505 (500-1⅜)	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

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : SALEM VORTAC	City : SALEM	Ident : SVM	State : MI
Type/Class : L-VOR	Frequency : M114.3	Reference No.: 12085600	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 697433-052	276	0	51	30	175

Requirement: FOR FIX POSIE ON K9D9 RNAV(GPS) RWY 30		
Signature: nauzo aishat	Routing Symbol:	Date: 08/07/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 697433-052	276	0	51	30	175	APPROVE

Requirement/Remarks: FOR FIX POSIE ON K9D9 RNAV(GPS) RWY 30APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: NASSR NASHAAT	Routing Symbol:	Date: 08/07/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 697433-052	276	0	51	30	175	APPROVE

Requirement/Remarks: FOR FIX POSIE ON K9D9 RNAV(GPS) RWY 30APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 08/07/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 697433-052	276	0				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : SALEM VORTAC	City : SALEM	Ident : SVM	State : MI
Type/Class : TACR	Frequency : M1177	Reference No.: 12085601	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 698158-020	276	0	51	30	175

Requirement: FOR FIX POSIE ON K9D9 RNAV(GPS) RWY 30		
Signature: nauzo aishat	Routing Symbol:	Date: 08/07/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 698158-020	276	0	51	30	175	APPROVE

Requirement/Remarks: FOR FIX POSIE ON K9D9 RNAV(GPS) RWY 30APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: NASSR NASHAAT	Routing Symbol:	Date: 08/07/2012

Expanded Service Volume Data: (Super FMO)

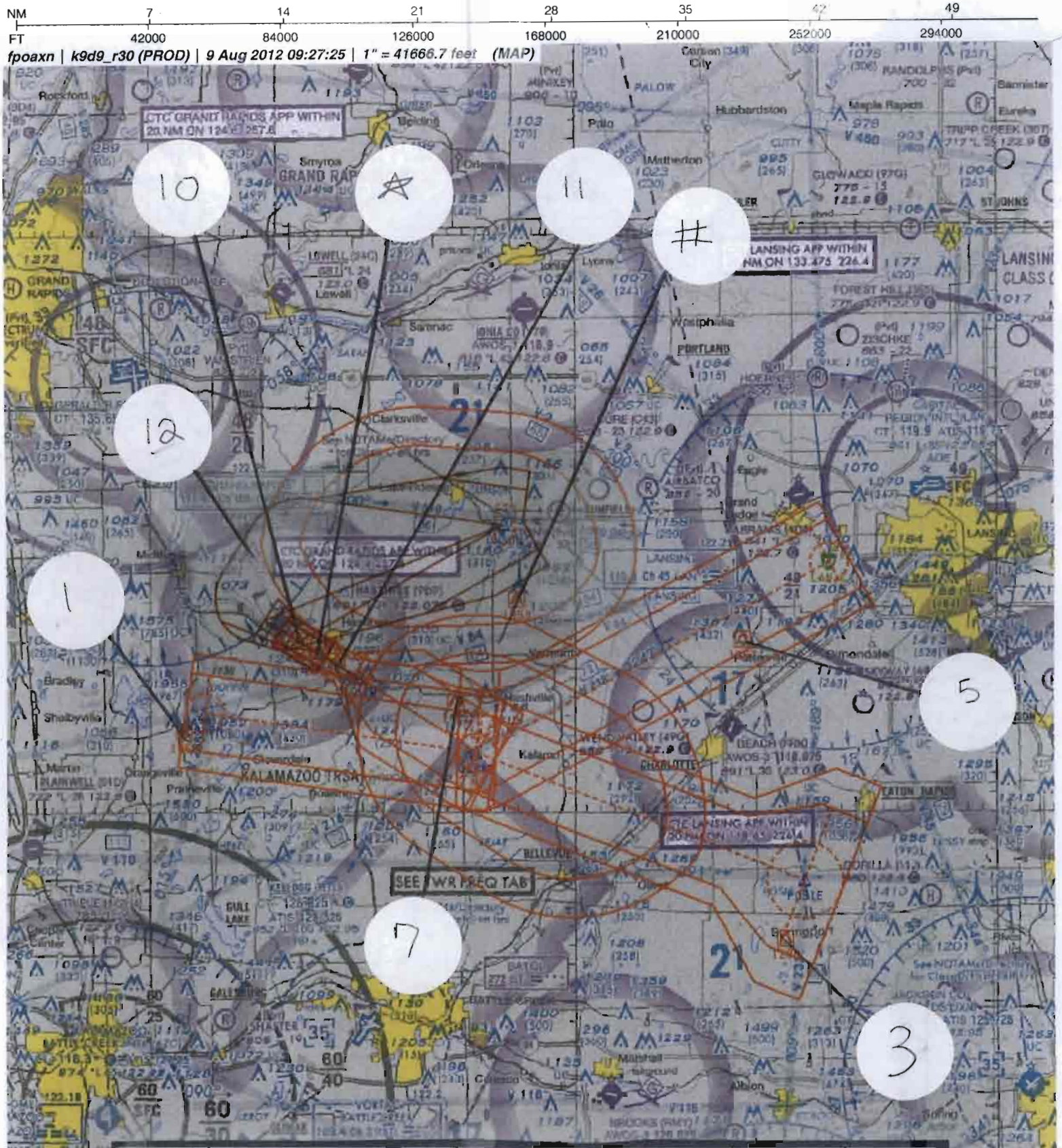
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 698158-020	276	0	51	30	175	APPROVE

Requirement/Remarks: FOR FIX POSIE ON K9D9 RNAV(GPS) RWY 30APPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 08/07/2012

Expanded Service Volume Data: (FIFO)

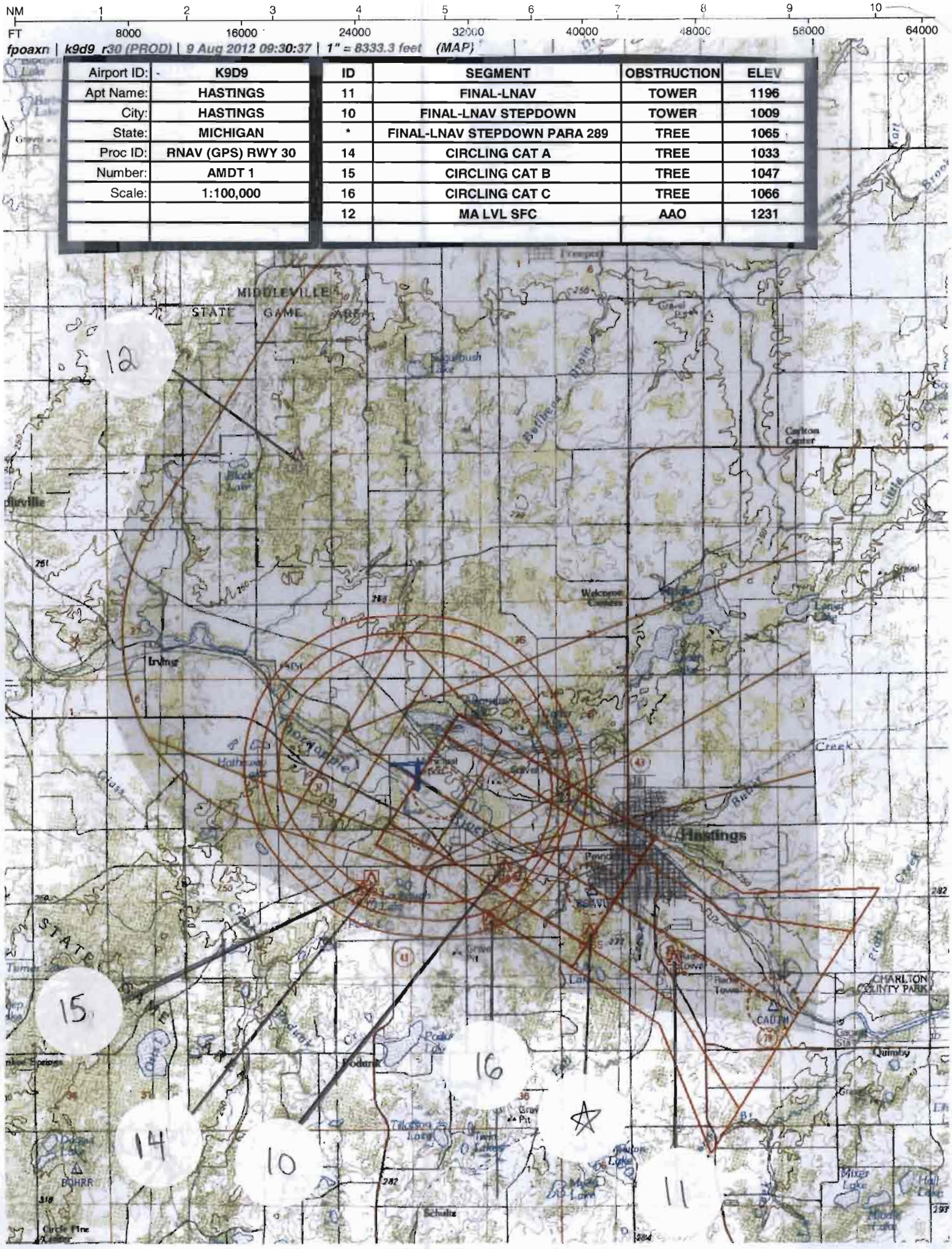
ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 698158-020	276	0				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:



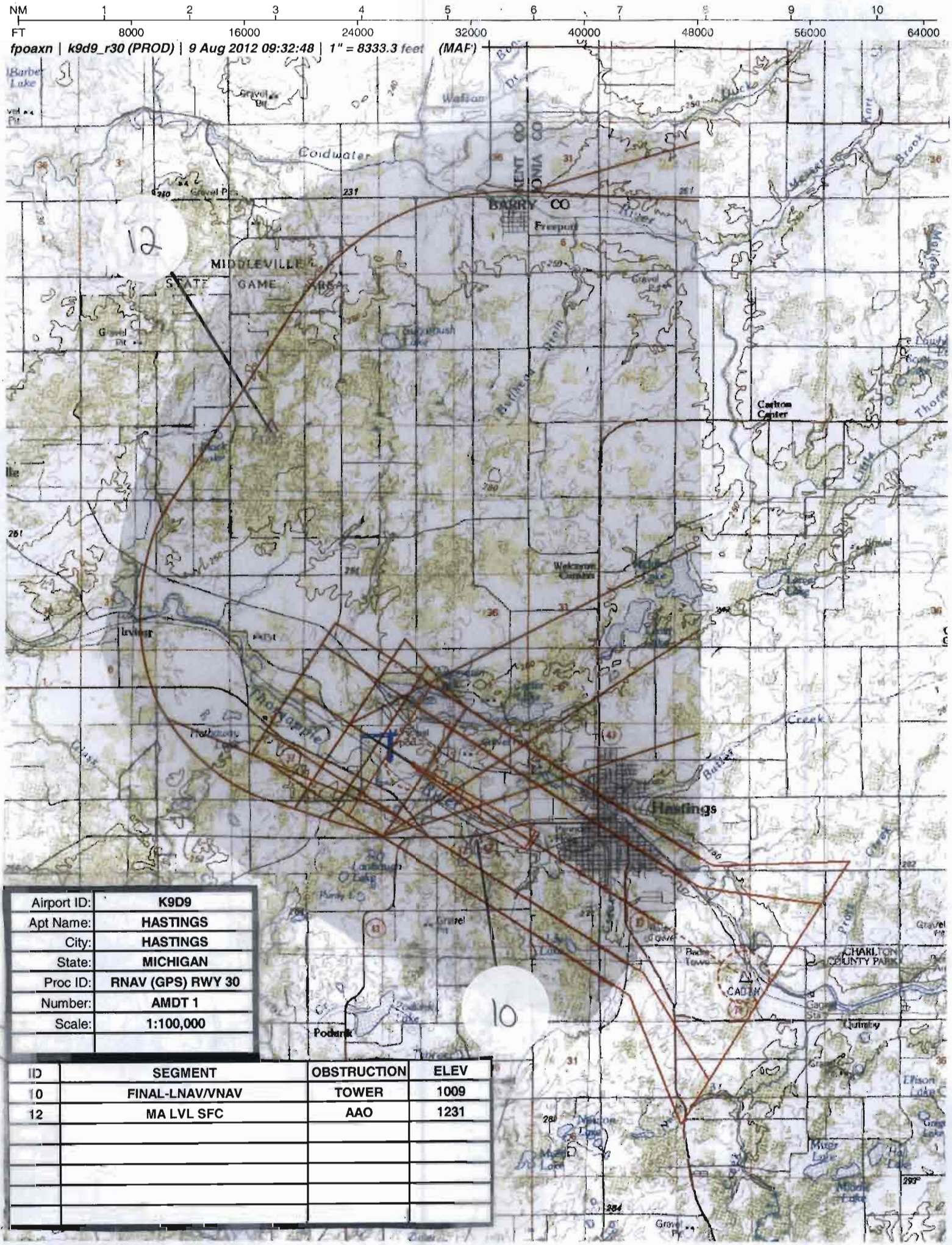
Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 30
Number:	AMDT 1
Scale:	1:500,000

ID	SEGMENT	OBSTRUCTION	ELEV
1	BOHRR FEEDER	TOWER	1952
3	POSIE INITIAL	AAO	1208
5	LAN VORTAC INITIAL	TOWER	1367
7	CADIM INTERMEDIATE & DERRE H-I-L	TOWER	1422
11	FINAL-LNAV	TOWER	1196
10	FINAL-LNAV STEPDOWN	TOWER	1009
*	FINAL-LNAV STEPDOWN PARA 289	TREE	1065
12	MA LVL SFC	AAO	1231
#	MA HOLDING	TOWER	1953



Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 30
Number:	AMDT 1
Scale:	1:100,000

ID	SEGMENT	OBSTRUCTION	ELEV
11	FINAL-LNAV	TOWER	1196
10	FINAL-LNAV STEPDOWN	TOWER	1009
*	FINAL-LNAV STEPDOWN PARA 289	TREE	1065
14	CIRCLING CAT A	TREE	1033
15	CIRCLING CAT B	TREE	1047
16	CIRCLING CAT C	TREE	1066
12	MA LVL SFC	AAO	1231



Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 30
Number:	AMDT 1
Scale:	1:100,000

ID	SEGMENT	OBSTRUCTION	ELEV
10	FINAL-LNAV/VNAV	TOWER	1009
12	MA LVL SFC	AAO	1231

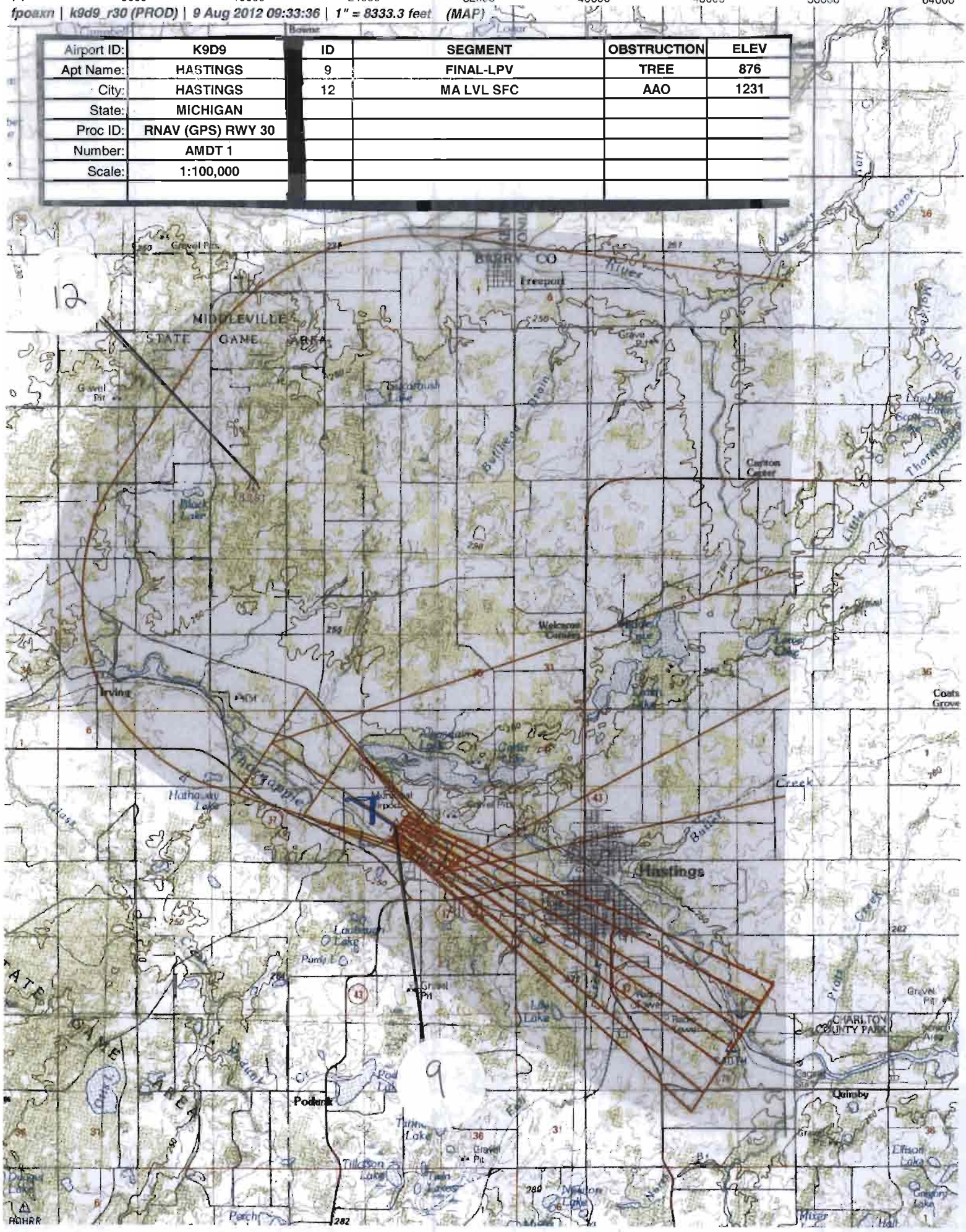
NM 1 2 3 4 5 6 7 8 9 10

FT 8000 16000 24000 32000 40000 48000 56000 64000

fpoaxn | k9d9_r30 (PROD) | 9 Aug 2012 09:33:36 | 1" = 8333.3 feet (MAP)

Airport ID:	K9D9
Apt Name:	HASTINGS
City:	HASTINGS
State:	MICHIGAN
Proc ID:	RNAV (GPS) RWY 30
Number:	AMDT 1
Scale:	1:100,000

ID	SEGMENT	OBSTRUCTION	ELEV
9	FINAL-LPV	TREE	876
12	MA LVL SFC	AAO	1231



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	DERRE (FO)	104.33 / 14.38	3000
POSIE (IAF)	DERRE (NOPT) (FB)	297.37 / 18.47	3000
LAN VORTAC (IAF)	DERRE (NOPT) (FB)	247.99 / 20.93	3000
DERRE (IF/IAF)	CADIM (FB)	308.84 / 7.28	2300
CADIM (FAF)	ECAVU/2.10 NM TO RW30 (FB)	308.75 / 2.50	
ECAVU/2.10 NM TO RW30	RW30 (MAP) (FO)	308.75 / 2.10	
(SEE FORM 8260-10)			

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW30

CLIMB TO 1400 THEN CLIMBING RIGHT TURN TO 3000 DIRECT UNSUN AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD W, RT, 100.00 INBOUND.
CHART FAS OBST: 1009 TWR 423840N/0851921W
CHART 1009 TWR 423840N/0851921W.
CHART 1196 TOWER 423734N/0851641W.
CHART: 1065 TREE 423754N/0851800W
DISTANCE TO THLD FROM 286 HATH: 0.77 NM.
WAAS CHANNEL # 86326
REFERENCE PATH ID: W30A
LTP HAE: 208.7 M

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. HOLD SE DERRE, RT, 308.84 INBOUND, 3000 FT. IN LIEU OF PT (IAF)
3. FAC: 308.75 FAF: CADIM DIST FAF TO MAP: 4.60 THLD: 4.60
4. MIN. ALT: DERRE 3000, CADIM 2300, ECAVU/2.10 NM TO RW30 1500*
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 2300 GS ALT AT: CADIM 2300 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 40.0 34:1 IS NOT CLEAR
8. MSA FROM: RW30 3000

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	1081	1	286	1081	1	286	1081	1	286		NA				
LNAV/VNAV DA	1357	2	562	1357	2	562	1357	2	562		NA				
LNAV MDA	1300	1	505	1300	1	505	1300	1 3/8	505		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: PROCEDURE NA FOR ARRIVALS AT POSIE ON V170 EASTBOUND.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS ON LAN VORTAC AIRWAY RADIALS 164 CW 324.
(SEE FORM 8260-10)

QUALITY CHECKED

CITY AND STATE	AIRPORT NAME	FACILITY IDENTIFIER	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	
HASTINGS, MI	ELEVATION: 801 THRE: 795 HASTINGS	RNAV	RNAV (GPS) RWY 30, AMDT 1	SUP: 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, AMGR

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:

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

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 LOWERED LNAV MDA FROM 1360-1 565 CATS A/B, CAT C 1360-1 5/8 565 TO 1300-1 505 CATS A/B AND CAT C 1300-1 3/8 505.
4 ADDED MISSED APPROACH CLIMB TO 1400 BEFORE CLIMBING RIGHT TURN.
5 REMOVED CHART NOTE: CIRCLING TO RWY 09, 18, 27, 36 NA AT NIGHT.
6 REMOVED CHART NOTE: WHEN VGSI INOP, CIRCLING RWY 12 NA AT NIGHT.
7 REMOVED CHART NOTE: WHEN VGSI INOP, STRAIGHT-IN/CIRCLING RWY 30 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 7:1 OVER EXISTING STEPDOWN CONTROLLING OBSTACLE, NEW CONTROLLING OBSTACLE.
4 AIRSPACE AND OBSTACLE EVALUATION.
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 CADIM.
2 8260-3, TERMINAL ROUTES, CADIM TO ECAVU DELETED 1500* ALTITUDE.
3 8260-4, ADDITIONAL FLIGHT DATA, REMOVED CADIM TO RW 30: 3.00/40.
4 8260-10 R020HM, REMOVED 020.
5 8260-10 RNP 2.0 REMOVED 2.0.
6 8260-9, BACK, KY70 ALTIMETER SETTING ADJ ADDED 51.
7 8260-9, BACK, REMOVED (PARAGRAPH) FROM TERPS 289 1065 TREE.

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

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

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
RW30 (MAP)	1400 MSL	308.75	1400
1400 MSL	UNSUN (FO)		3000

NOTES, (CONT.):
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: PROCEDURE NA AT NIGHT.
CHART NOTE: HELICOPTER VISIBILITY REDUCTION BELOW 1 SM NOT AUTHORIZED.

QUALITY 9 CHECKED

CITY AND STATE	ELEVATION: 801 THRE: 795	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: HASTINGS	RNAV	RNAV (GPS) RWY 30, 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	RW30
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W30A
LTP/FTP LATITUDE	423935.7690N
LTP/FTP LONGITUDE	0852022.4790W
LTP/FTP ELLIPSOIDAL HEIGHT	+02087
FPAP LATITUDE	424023.8900N
FPAP LONGITUDE	0852204.1300W
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	0AC10116

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K5
LTP ORTHOMETRIC HEIGHT	+02424
FPAP ORTHOMETRIC HEIGHT	+02424

QUALITY CHECKED 9

CITY AND STATE		FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
HASTINGS, MI	ELEVATION: 801 THRE: 795 AIRPORT NAME: HASTINGS	RNAV	RNAV (GPS) RWY 30, AMDT 1	AMDT: ORIG DATED: 10/20/2011

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

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
NAVAID  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
        SUSAD        LAN   K5011080VTLW N42430262W084415103    N42430262W084415103W0050008871     NARLANSING

                1         2         3         4         5         6         7         8         9         0         1         2         3
WP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   BOHRR K50    C   L N42351653W085260587                    W0056     NAR           BOHRR
        SUSAEAENRT   CADIM K50    W     N42370657W085150794                    W0058     NAR           CADIM
        SUSAEAENRT   DERRE K50    C   L N42330996W085065101                    W0059     NAR           DERRE
        SUSAEAENRT   ECAVU K50    W     N42382767W085175880                    W0057     NAR           ECAVU
        SUSAEAENRT   POSIE K50    C   L N42262834W084433483                    W0062     NAR           POSIE
        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 K5FR30   ABOHRR 010BOHRRK5EA0E       IF                                          18000                A JS
        SUSAP 9D9 K5FR30   ABOHRR 020DERREK5EA0EY   020TF                    10430144    + 03000                       A JS
        SUSAP 9D9 K5FR30   ABOHRR 030DERREK5EA0EE AR   HF                    30880040    + 03000                       A JS
        SUSAP 9D9 K5FR30   ALAN   010LAN  K5D 0V  A    IF                                          18000                A JS
        SUSAP 9D9 K5FR30   ALAN   020DERREK5EA0EE B 010TF                    24800209    + 03000                       A JS
        SUSAP 9D9 K5FR30   APOSIE 010POSIEK5EA0E  A    IF                                          18000                A JS
        SUSAP 9D9 K5FR30   APOSIE 020DERREK5EA0EE B 010TF                    29740185    + 03000                       A JS
        SUSAP 9D9 K5FR30   R      010DERREK5EA0E  I    IF                                 + 03000  18000                A JS
        SUSAP 9D9 K5FR30   R      020CADIMK5EA1E  F 051TF                    30880073    + 02300              RW30  K5PGA JS
        SUSAP 9D9 K5FR30   R      020CADIMK5EA2WALPV       ALNAV/VNAV ALNAV                                              JS
        SUSAP 9D9 K5FR30   R      021ECAVUK5EA0E S  031TF                    30880025    V 0150001504        -300      A JS
        SUSAP 9D9 K5FR30   R      030RW30 K5PG0GY M 031TF                    30880021      00835             -300      A JS
        SUSAP 9D9 K5FR30   R      040         0  M     CA                    3088        + 01400                       A JS
        SUSAP 9D9 K5FR30   R      050UNSUNK5EA0EY  R   DF                              + 03000                       A JS
        SUSAP 9D9 K5FR30   R      060UNSUNK5EA0EE  R   HM                    10000040    + 03000                       A JS

                1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ----------------------------------------------------------------------------------------------------------------------------
        SUSAP 9D9 K5GRW30    0039003087 N42393577W085202248+0100    +020870079500004007 5R
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801 THRE: 795	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: **HASTINGS**	**RNAV**	**RNAV (GPS) RWY 30, 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.

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
PP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 9D9 K5PR30   RW30 001 0000W30A0N4239357690W08520224790+020870300N4240238900W085220413001067515600004 00F4005000AC10116
        SUSAP 9D9 K5PR30   RW30 002E      +02424+02424LPV       86326

                1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP 9D9 K5SRW30 K5PG              0   18018003025                                                                    M
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 801	THRE: 795	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:	
HASTINGS, MI	AIRPORT NAME: HASTINGS		RNAV	RNAV (GPS) RWY 30, 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:

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 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	DERRE	020		TF		FO	2.0	104.3(098.3T)	014.4	AA 03000	
	BOHRR	DERRE	030	IAF	HF	R	FO		308.8(302.8T)	004.0	AA 03000	
	LAN	LAN	010	IAF	IF		FB					
	LAN	DERRE	020		TF		FB	1.0	248.0(242.0T)	020.9	AA 03000	
	POSIE	POSIE	010	IAF	IF		FB					
	POSIE	DERRE	020		TF		FB	1.0	297.4(291.4T)	018.5	AA 03000	
		DERRE	010	FACF	IF		FB				AA 03000	
		CADIM	020	FAF	TF		FB	0.5	308.8(302.8T)	007.3	AA 02300	
		ECAVU	021	SDF	TF		FB	0.3	308.8(302.8T)	002.5	AA 01500 GS 01504	
		RW30	030	MAP	TF		FO	0.3	308.8(302.8T)	002.1	AT 00835	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		308.8(302.8T)		AA 01400	
	UNSUN	050		DF	R	FO				AA 03000	
	UNSUN	060		HM	R	FO		100.0(094.0T)	004.0	AA 03000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	LAN	N424302.62	W0844151.03	N4243.044	W08441.851
	BOHRR	N423516.53	W0852605.87	N4235.276	W08526.098
	CADIM	N423706.57	W0851507.94	N4237.110	W08515.132
	DERRE	N423309.96	W0850651.01	N4233.166	W08506.850
	ECAVU	N423827.67	W0851758.80	N4238.461	W08517.980
	POSIE	N422628.34	W0844334.83	N4226.472	W08443.581
	UNSUN	N424504.72	W0850449.70	N4245.079	W08504.828
	RW30	N423935.77	W0852022.48	N4239.596	W08520.375

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW30	00795	40

CITY AND STATE	ELEVATION: **801** THRE: **795**	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
HASTINGS, MI	AIRPORT NAME: **HASTINGS**	**RNAV**	**RNAV (GPS) RWY 30, 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	DERRE	1. TOWER (26-001911)	423352.12N/0852731.04W	1952 (5D)	1000		3000
			2. TERRAIN	423703.00N/0852536.00W	1070 (1100)		AS1500	2600
INITIAL	POSIE	DERRE	3. AAO	422257.00N/0844454.00W	1208 (4E)	1000	AT792	3000
			4. TERRAIN	423100.00N/0850512.00W	1004 (1000)		AS1500	2500
INITIAL	LAN VORTAC	DERRE	5. TOWER (26-000910)	423836.00N/0844757.00W	1367 (5E)	1000	AT633	3000
			6. TERRAIN	423524.00N/0850248.00W	988 (1000)		AS1500	2500
INTERMEDIATE	DERRE (IF/IAF)	CADIM	7. TOWER (26-001938)	423526.00N/0850816.00W	1422 (5D)	500	AT378	2300
			8. TERRAIN	423430.00N/0850939.00W	1044 (1000)		AS1000	2000
FINAL: LPV	CADIM	RW30	9. TREE (K9D9T0176)	423931.67N/0852021.37W	876 (1A)	34:1	RA36	1081/286
FINAL: LNAV/VNAV	CADIM	RW30	10. TWR (K9D9T0594)	423840.32N/0851920.75W	1009 (1B)	23.44:1	RA36 AC10	1357/562
FINAL: LNAV	CADIM	ECAVU/2.10 NM TO	11. TOWER (26-000638)	423734.00N/0851641.00W	1196 (1A)	250	RA51	1500
		RW30						
FINAL: LNAV STEPDOWN	ECAVU/2.10 NM TO	RW30	10. TWR (K9D9T0594)	423840.32N/0851920.75W	1009 (1B)	250	RA36	1300
	RW30							
2. HOLD-IN-LIEU-OF-PT	DERRE	P-5	7. TOWER (26-001938)	423526.00N/0850816.00W	1422 (5D)	1000	AT500	3000
			8. TERRAIN	423430.00N/0850939.00W	1044 (1000)		AS1500	2500
3. MISSED APPROACH MAP:	DA / DA / RW30	UNSUN				ASC		3000
			12. AAO	424327.00N/0852236.00W	1231 (2C)	1000		2300
ELEV:	858/1171/1164		13. TERRAIN	424327.00N/0852236.00W	1031 (1000)		AS1500	2500

4. CIRCLING AREA	DISTANCE		REQUIRED		ACTUAL
		HT. ABV. ARPT.			
CATEGORY A	1.3 NM		350		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		

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

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW30

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (26-000456)	233/ 07.8	1956 (4D)	3000					

QUALITY CHECKED

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
HASTINGS, MI	ELEVATION: 801 AIRPORT NAME: HASTINGS	RNAV	RNAV (GPS) RWY 30, AMDT 1	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
ORD APP CON GRR 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	
	HRS OPTN: 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: 795.4
	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: JILL OLSON (AISHAT NAUZO)	DATE: 08/08/2012
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 1065 TREE 423754N/0851800W

NO ADDITIONAL AIRSPACE REQUIRED.

VEGETATION 100' PER FPT

25 DEGREES BANK ANGLE USED FOR IPDS DEVELOPED MISSED APPROACH.

ADDED 1 FT TO OBS #10 FOR AC CODE ADJ TO MATCH IPDS EVALUATION.

USED IPDS HMAS VALUES.

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

VGSI DATA: 4.00/31 PARAGRAPH

TAA NOT DEVELOPED PER FPT

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

FPT NOTIFIED OF 20:1 PENETRATIONS.
ORDER 8260.3 VOLUME 1, VISUAL PORTION OF FINAL PENETRATIONS:

20:1 RWY 30
876 TREE (K9D9T0176) 423931.67N-0852021.37W (75.91)
874 TREE (K9D9T0175) 423931.69N-0852021.32W (73.80)
868 TREE (K9D9T0136) 423927.88N-0852016.16W (41.17)
831 TREE (K9D9T0177) 423937.28N-0852016.64W (31.37)
878 TREE (K9D9T0101) 423293.34N-0852003.67W (26.84)
845 TREE (K9D9T0147) 423928.62N-0852018.04W (26.10)
835 TREE (K9D9T163) 423930.90N-0852018.50W (23.78)
835 TREE (K9D9T0156) 423935.93N-0852013.30W (21.19)
873 TREE (K9D9T0096) 423932.35N-0852003.78W (19.48)
851 TREE (K9D9T0130) 423934.31N-0852008.93W (19.02)
837 TREE (K9D9T0141) 423935.02N-0852010.68W (12.47)
850 TREE (K9D9T0119) 423933.54N-0852006.47W (8.19)
841 TREE (K9D9T0124) 423933.58N-0852007.88W (3.73)

34:1 RWY 30
842 TREE (K9D9T0108) 423925.22N-0852011.62W (15.44)
855 TREE (K9D9T0069) 423927.82N-0852002.22W (15.25)
855 TREE (K9D9T0067) 423928.83N-0852000.89W (14.41)
860 TREE (K9D9T0049) 423924.40N-0852001:78W (13.93)
855 TREE (K9D9T0060) 423926.27N-0852002.06W (12.46)
847 TREE (K9D9T0080) 423930.41N-0852001.72W (10.49)
854 TREE (K9D9T0056) 423930.30N/0851957.91W (10.26)
830 TREE (K9D9T0125) 423928.27N/0852012.60W (10.16)
878 TREE (K9D9T0534) 423927.42N/0851947.28W (9.98)
849 TREE (K9D9T0071) 423927.49N/0852002.64W (9.49)
839 TREE (K9D9T0091) 423927.39N/0852007.73W (8.74)
831 TREE (K9D9T0118) 423926.26N/0852012.73W (8.17)
856 TREE (K9D9T0041) 423928.75N/0851957.01W (8.11)
843 TREE (K9D9T0082) 423922.92N/0852009.02W (7.94)
843 TREE (K9D9T0081) 423924.36N/0852007.38W (7.22)
CONT.

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:								
3. MISSED APPROACH								
3. MISSED APPROACH ELEV:								

4. CIRCLING AREA	DISTANCE		HT. ABV. ARPT.		
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	
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		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
HASTINGS, MI	ELEVATION: 801 AIRPORT NAME: **HASTINGS**	**RNAV**	**RNAV (GPS) RWY 30, 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.
832 TREE (K9D9T0112) 423928.99N/0852008.94W (6.55)
853 TREE (K9D9T0043) 423926.60N/0851959.62W (6.48)
850 TREE (K9D9T0058) 423923.06N/0852004.32W (6.47)
846 TREE (K9D9T0070) 423931.50N/0851959.08W (6.36)
858 TREE (K9D9T0026) 423928.12N/0851955.45W (6.21)
844 TREE (K9D9T0072) 423926.11N/0852004.03W (4.84)
854 TREE (K9D9T0035) 423929.62N/0851955.20W (4.16)
829 TREE (K9D9T0111) 423931.55N/0852006.59W (3.32)
858 TREE (K9D9T0022) 423924.24N/0851957.17W (3.15)
851 TREE (K9D9T0040) 423927.79N/0851957.78W (2.99)
853 TREE (K9D9T0034) 423924.00N/0851959.96W (2.92)
845 TREE (K9D9T0062) 423924.90N/0852003.44W (2.81)
818 TREE (K9D9T0134) 423929.25N/0852014.18W (2.66)
830 TREE (K9D9T0100) 423928.46N/0852007.75W (1.50)
833 TREE (K9D9T0088) 423927.78N/0852006.33W (0.78)
847 TREE (K9D9T0047) 423923.97N/0852002.03W (0.70)
859 TREE (K9D9T0013) 423923.01N/0851956.24W (0.46)

20:1 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-0852120.35W (10.61)
845 TREE (K9D9T0417) 423954.78N-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)

20:1 RWY 12
840 TREE (K9D9T0425) 423959.48N/0852119.97W (1.83)

20:1 RWY 18
869 TREE (K9D9T0759) 424012.40N-0852039.00W (21.09)
841 TREE (K9D9T0344) 424004.17N-0852044.65W (15.45)

20:1 RWY 27
880 TREE (K9D9T0270) 423957.66N-0852018.20W (1.29)

20:1 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) 423935.43N-0852042.04W (3.20)
804 TREE (K9D9T0292) 423935.03N-0852044.77W (2.39)

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 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: POSIE **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 422628.34N/0844334.83W **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	SALEM	SVM	VORTAC	L	275.61	272.61	50.36	50.36		3000	17500
2	LANSING	LAN	VORTAC	L	189.42	184.42	16.62	16.62		3000	17500

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
SVM	VORTAC	R-276	51	3000	17500

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

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	265	TOWER (26-000062)	422633.00N/0843421.00W	1956	1D

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.

REMARKS:
SALEM (FAC 1) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V170	1, 2				(US)
EN ROUTE	V233	1, 2				(US)
IAP	RNAV (GPS) RWY 30			K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4 **DATE OF REVISION:** 01/10/2013

REASON FOR REVISION:
CHANGED FAC 1 COURSE FROM 272.59T TO 272.61T AND FAC DISTANCE FROM 50.35NM TO 50.36NM.
UPDATED FAC 2 FROM HX TO ACTIVE STATUS.
ADDED CONTROLLER TO REQUIRED CHARTING.
ADDED REMARK, SALEM (FAC 1) USED TO ESTABLISH FIX COORDINATES.

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: 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

NAME: CADIM **STATE:** MI **COUNTRY:** US

INFO ONLY

LATITUDE/LONGITUDE: 423706.57N/0851507.94W **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 30			K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 05/03/2011 **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 CHECKED

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: ECAVU **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 423827.67N/0851758.80W **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 30			K9D9	HASTINGS	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 05/03/2011 **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 CHECKED

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: LANSING VORTAC **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 424302.62N/0844151.03W **TYPE:**

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							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	NE	LAN	VORTAC	035.76	215.76	R	1		2500	5000	4	5
2	SW	LAN	VORTAC	236.93	056.93	R	1		2500	5000	4	5
3	S	LAN	VORTAC	165.00	345.00	L	1		2500	5000	4	5
4	SE	LAN	VORTAC	135.00	315.00	L	1		2500	5000	4	5
5	NW	LAN	VORTAC	311.81	131.81	R	1		2600	5000	4	5

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	STACK (26-000677)	424132.00N/0843924.00W	1356	1D
2	200	TOWER (26-000910)	423836.00N/0844757.00W	1367	5E
3	200	STACK (26-000677)	424132.00N/0843924.00W	1356	1D
4	200	TOWER (26-000308)	423844.00N/0843339.00W	1413	5D
5	200	STACK (26-000677)	424132.00N/0843924.00W	1356	1D

REASON FOR NONSTANDARD HOLDING:
PAT 3 AT REQUEST.
PAT 4 AT REQUEST.

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	PALACE			KARB	ANN ARBOR	MI (US)
DP	PALACE			KDET	DETROIT	MI (US)
DP	PALACE			KDTW	DETROIT	MI (US)
DP	PALACE			KYIP	DETROIT	MI (US)
DP	PALACE			KPTK	PONTIAC	MI (US)
EN ROUTE	V103					(US)
EN ROUTE	V2					(US)
EN ROUTE	V2-26					(US)
EN ROUTE	V218					(US)
EN ROUTE	V233					(US)
EN ROUTE	V26					(US)
EN ROUTE	V45					(US)
EN ROUTE	V510					(US)
EN ROUTE	V84					(US)
IAP	RNAV (GPS) RWY 23R			KBTL	BATTLE CREEK	MI (US)
IAP	VOR RWY 23R			KBTL	BATTLE CREEK	MI (US)
IAP	VOR OR GPS RWY 20		1	KFPK	CHARLOTTE	MI (US)
IAP	ILS OR LOC RWY 27			KFNT	FLINT	MI (US)
IAP	VOR RWY 27			KFNT	FLINT	MI (US)
IAP	COPTER VOR 345		3	K4D0	GRAND LEDGE	MI (US)
IAP	VOR OR GPS-A		3	K4D0	GRAND LEDGE	MI (US)
IAP	VOR/DME-A			K6D6	GREENVILLE	MI (US)
IAP	RNAV (GPS) RWY 30			K9D9	HASTINGS	MI (US)
IAP	ILS OR LOC RWY 13			KOZW	HOWELL	MI (US)
IAP	VOR-A		4	KY70	IONIA	MI (US)
IAP	ILS OR LOC RWY 10R		2	KLAN	LANSING	MI (US)
IAP	ILS OR LOC RWY 28L		2	KLAN	LANSING	MI (US)
IAP	VOR RWY 6		2	KLAN	LANSING	MI (US)
IAP	VOR-A		5	KTEW	MASON	MI (US)
IAP	RNAV (GPS) RWY 11			KRNP	OWOSSO	MI (US)
STAR	SPRTN			CYQG	ONTARIO, CANADA	(CA)
STAR	SPRTN			KARB	ANN ARBOR	MI (US)
STAR	SPRTN			KDET	DETROIT	MI (US)
STAR	POLAR			KDTW	DETROIT	MI (US)
STAR	SPRTN			KYIP	DETROIT	MI (US)
STAR	SPRTN			KONZ	DETROIT/GROSSE ILE	MI (US)
STAR	SPRTN			KOZW	HOWELL	MI (US)
STAR	SPRTN			KTTF	MONROE	MI (US)
STAR	SPRTN			KMTC	MOUNT CLEMENS	MI (US)

STAR	SPRTN	KY47	NEW HUDSON	MI (US)
STAR	SPRTN	K1D2	PLYMOUTH	MI (US)
STAR	SPRTN	KPTK	PONTIAC	MI (US)
STAR	SPRTN	KD98	ROMEO	MI (US)
STAR	SPRTN	K3TE	TECUMSEH	MI (US)
STAR	SPRTN	KVLL	TROY	MI (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 16 **DATE OF REVISION:** 02/09/2012

REASON FOR REVISION:
1. DELETED EATON RAPIDS (K60G) VOR OR GPS-A FROM FIX USE AND ASSOCIATED HOLDING PATTERN (PAT 6). THE PROCEDURE IS BEING CANCELLED.

DEVELOPED BY: **DATE:** 10/25/2011 **OFFICE:** AJV-353 **NAME:** JOSE ALFONSO (STEVE NELSON)

APPROVED BY: **DATE:** 10/27/2011 **OFFICE:** AJV-353 **NAME:** GREGORY YAMAMOTO

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CHI
ARTCC: ZOB
ATC FACILITY: LAN APP CON, LAN ATCT, AZO APP CON
OTHER:

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

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