Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 10/27/2004	Task #: 2004102707903901001	Request #: 20041027079039
Procedure: RNAV (GPS) RWY 9 ORIG		Airport ID: KN98	Airport: BOYNE CITY MUNI		Reimbursable #:
City: BOYNE CITY	ST: MI	GPS #:		Estimated Chart Date: 02/09/2012	FICO #:
Fac ID:	Fac. Type: LP Proc W	Specialist: JOHN ROSARIO			

Procedure Review

P3

	Rec'd	Rel'd	Full Name	Comments
Lead:	05/27/2011	10/20/2011	JOSE ALFONSO	
QA:	10/20/2011	10/20/2011	STEVEN SZUKALA	
Liaison:	10/20/2011		Terrell	

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

pkg 2 of 4

BOYNE CITY, MI BOYNE CITY MUNI (KN98) RNAV (GPS) RWY 9, ORIG (LP) ENROUTE-YES FC: 12.13.11 PUB: 2.9.12

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): ADENO-INT, REV 5; AKRIF, ORIG; OZKIW, ORIG; VEBHA, ORIG; WOMOP-INT, ORIG; ZUNUG, ORIG; (INFO ONLY) GAYLORD (GLR) VDME, REV 9; PELLSTON (PLN) VTAC, REV 13.

CONTACT: JOSE ALFONSO/STEVE BARNETT, AJV-353 LEADS, 405.954.6378/9307:

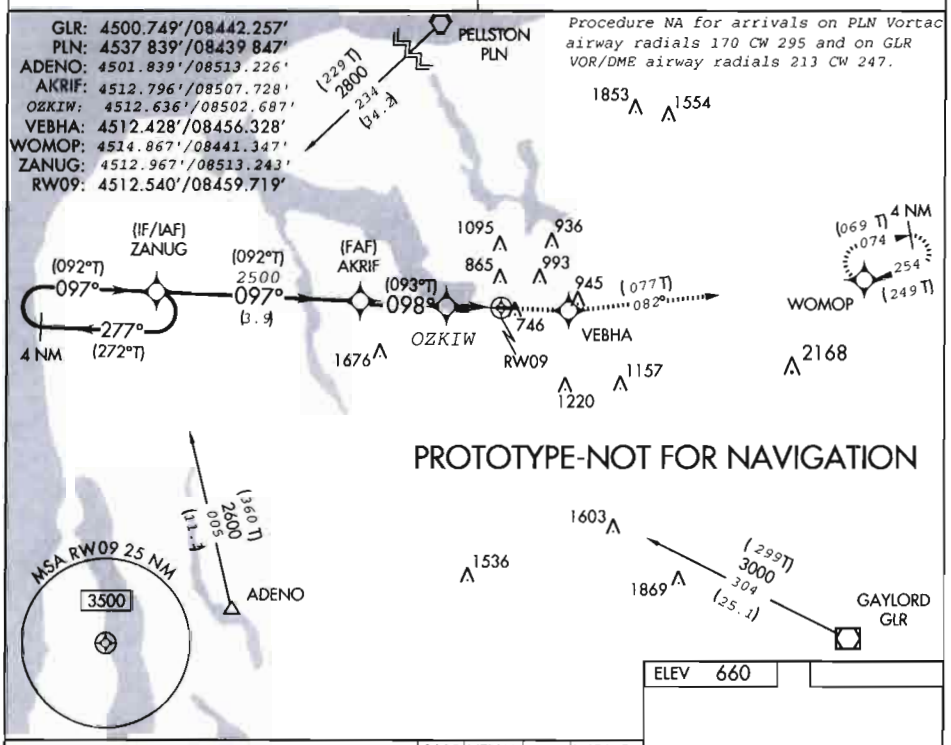
WAAS CH 97526 W09A	APP CRS 098°	Rwy ldg 3402 THRE 655 Apt Elev 660

RNAV (GPS) RWY 9
BOYNE CITY MUNI (N98)

Use Charlevoix altimeter setting; when not received, use Harbor Springs altimeter setting.
NA DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
When VGSI inop, procedure na at night.

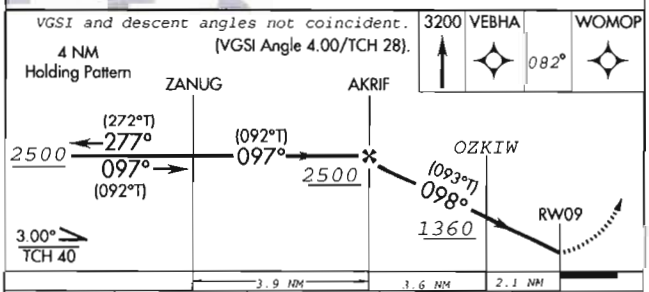
MISSED APPROACH: Climb to 3200 direct VEBHA and on track 082 to WOMOP and hold.

UNICOM 122.8 (CTAF)	122.9 L



ELEV 660

VGSI and descent angles not coincident. (VGSI Angle 4.00/TCH 28).



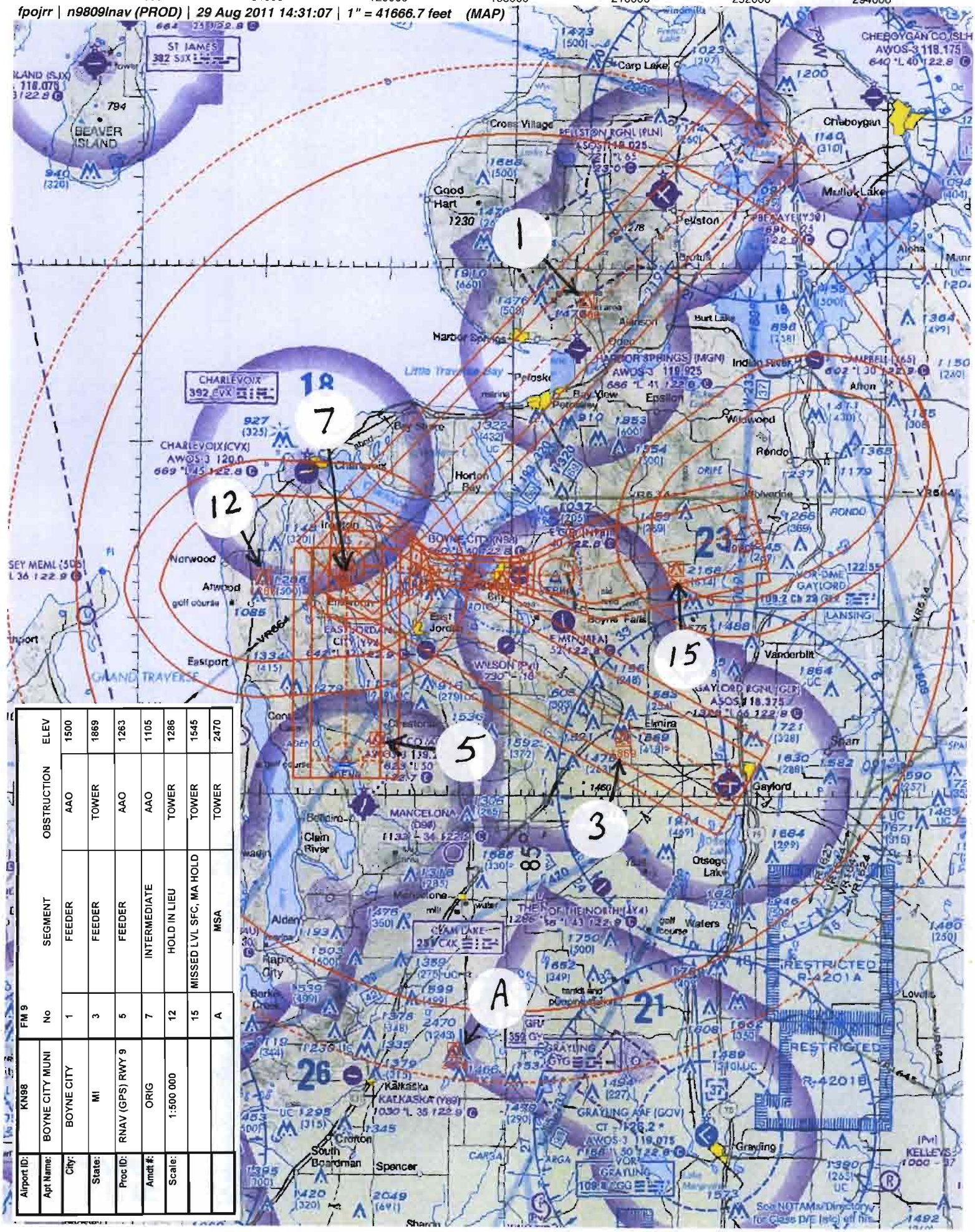
CATEGORY	A	B	C	D
LP MDA	1060-1 405		NA	
LNAV MDA	1260-1 605		NA	
CIRCLING	1480-1 1/4 820	1600-1 1/4 840	NA	

REIL Rwy 27 L
MIRL Rwy 9-27 L

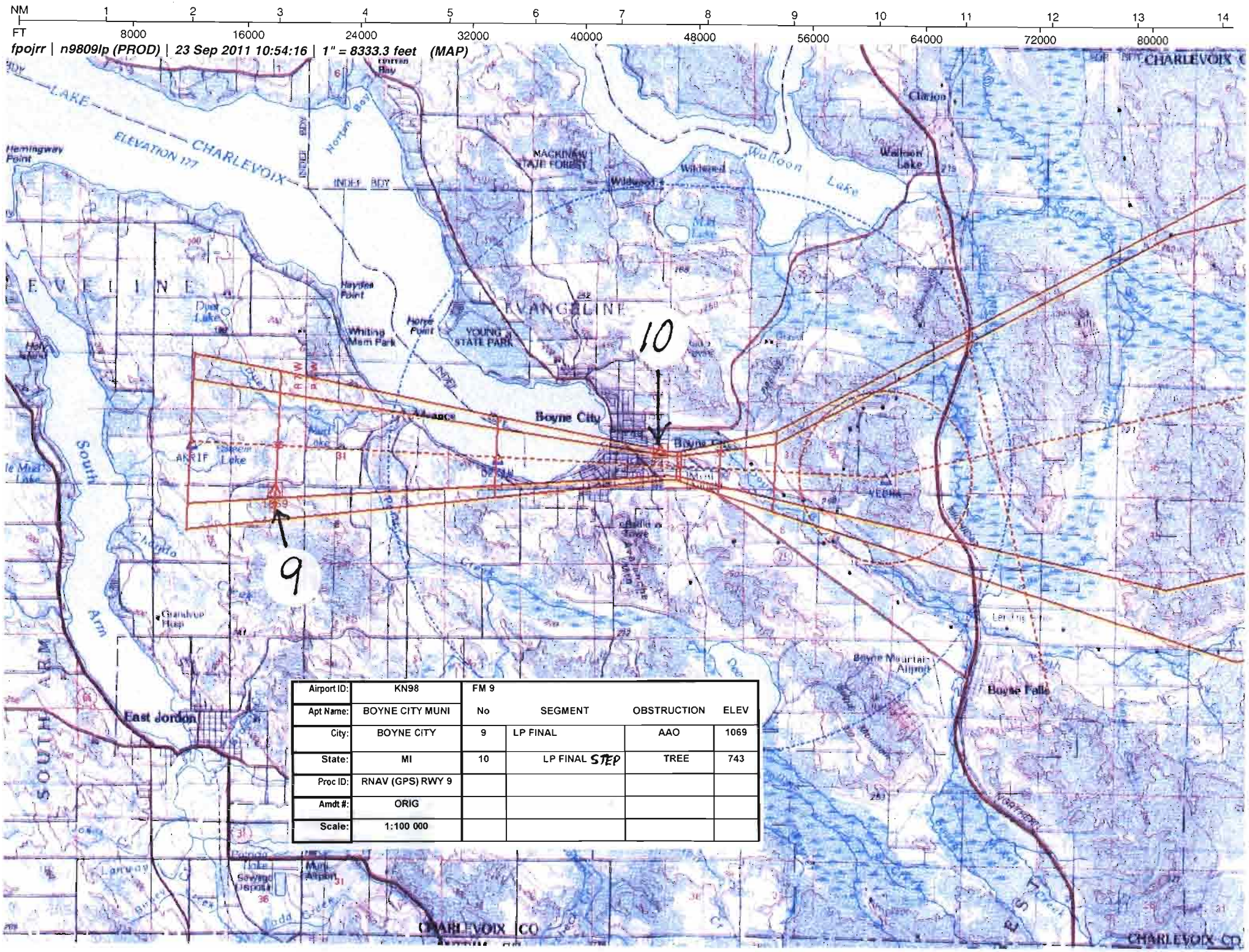
NM 7 14 21 28 35 42 49

FT 42000 84000 126000 168000 210000 252000 294000

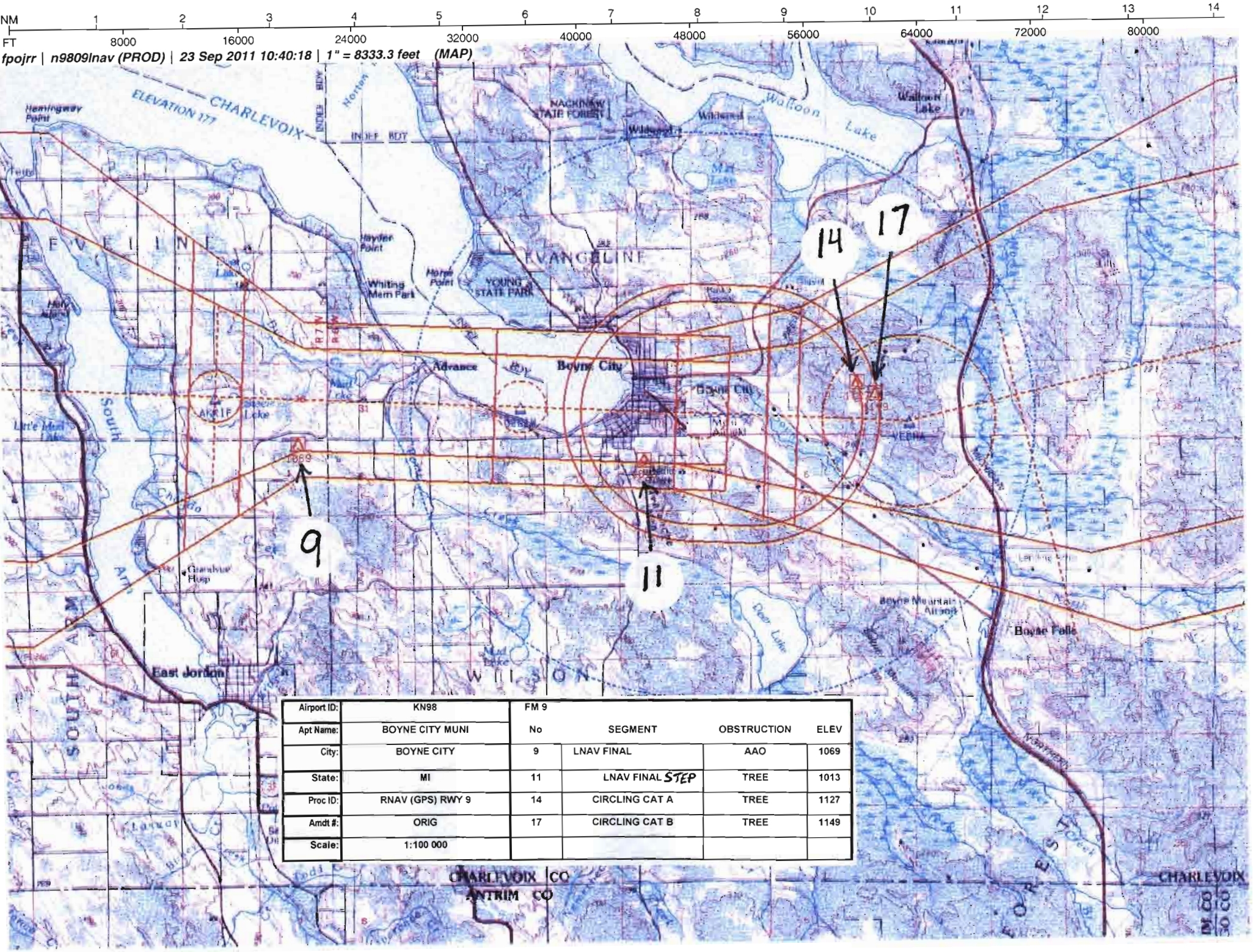
fpojrr | n9809lnav (PROD) | 29 Aug 2011 14:31:07 | 1" = 41666.7 feet (MAP)



Airport ID:	KN98	FM 9				
Apt Name:	BOYNE CITY MUNI	No	SEGMENT	OBSTRUCTION	ELEV
City:	BOYNE CITY	1	FEEDER	AAO	1500
State:	MI	3	FEEDER	TOWER	1869
Proc ID:	RNAV (GPS) RWY 9	5	FEEDER	AAO	1263
Amdt #:	ORIG	7	INTERMEDIATE	AAO	1105
Scale:	1:500 000	12	HOLD IN LIEU	TOWER	1286
		15	MISSED LVL SFC, MA HOLD	TOWER	1545
		A	MSA	TOWER	2470



Airport ID:	KN98	FM 9			
Apt Name:	BOYNE CITY MUNI	No	SEGMENT	OBSTRUCTION	ELEV
City:	BOYNE CITY	9	LP FINAL	AAO	1069
State:	MI	10	LP FINAL STEP	TREE	743
Proc ID:	RNAV (GPS) RWY 9				
Amdt #:	ORIG				
Scale:	1:100 000				



Airport ID:	KN98	FM 9			
Apt Name:	BOYNE CITY MUNI	No	SEGMENT	OBSTRUCTION	ELEV
City:	BOYNE CITY	9	LNAV FINAL	AAO	1069
State:	MI	11	LNAV FINAL STEP	TREE	1013
Proc ID:	RNAV (GPS) RWY 9	14	CIRCLING CAT A	TREE	1127
Amdt #:	ORIG	17	CIRCLING CAT B	TREE	1149
Scale:	1:100 000				

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
PLN VORTAC	ZANUG (FO)	228.59 / 34.24	2800
GLR VOR/DME	ZANUG (FO)	304.29 / 25.12	3000
ADENO	ZANUG (FO)	004.94 / 11.13	2600
ZANUG (IF/IAF)	AKRIF (FB)	097.48 / 3.90	2500
AKRIF *(FAF)*	OZKIW/2.10 NM TO RW09 (FB)	097.55 / 3.57	
OZKIW/2.10 NM TO RW09	RW09 (MAP) (FO)	097.60 / 2.10	
(SEE FORM 8260-10)			

MISSED APPROACH

LP: RW09
LNAV: RW09

CLIMB TO 3200 DIRECT VEBHA AND ON TRACK 081.94 TO WOMOP AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. HOLD W ZANUG, RT, 097.48 INBOUND, 2500 FT. IN LIEU OF PT (IAF)
3. FAC: 097.55 FAF: AKRIF DIST FAF TO MAP: 5.67 THLD: 5.67
4. MIN. ALT: ZANUG 2500, AKRIF 2500, OZKIW/2.10 NM TO RW09 1360
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: ____ GS ALT AT: ____ OM: ____ MM: ____ IM: ____
7. GS ANGLE: ____ TCH: *34:1 IS NOT CLEAR*
8. MSA FROM: RW09 3500

ADDITIONAL FLIGHT DATA:
HOLD E, RT, 253.93 INBOUND.
CHART FAS OBST: 743 TREE 451238N/0850001W
CHART FAS OBST: 1013 TREE 451155N/0850040W
CHART 838 TREE 451218N/0850244W.
WAAS CHANNEL # 97526
REFERENCE PATH ID: W09A
AKRIF TO RW09: 3.00/40
CHART CHARLEVOIX AWOS-3
LTP HAE: 164.7 M

MAG VAR: 5W EPOCH YEAR: 1985

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
LP MDA	1060	1	405	1060	1	405		NA			NA				
LNAV MDA	1260	1	605	1260	1	605		NA			NA				
CIRCLING	1480	1 1/4	820	1500	1 1/4	840		NA			NA				

NOTES:
CHART NOTE: USE CHARLEVOIX ALTIMETER SETTING; WHEN NOT RECEIVED, USE HARBOR SPRINGS ALTIMETER SETTING.
CHART NOTE: WHEN VGSI INOP, PROCEDURE NA AT NIGHT.
CHART NOTE: DME/DME RNP-0.3 NA.
(SEE FORM 8260-10)

QUALITY CHECKED

CITY AND STATE	ELEVATION: 660 THRE: 655	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
BOYNE CITY, MI	AIRPORT NAME: BOYNE CITY MUNI	RNAV	RNAV (GPS) RWY 9, ORIG	AMDT: NONE
				DATED

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

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[ ]	[ ]	[X]	[ ]	[X]	[X]	[X] **ZMP, AIRPORT MANAGER**

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME: **JOHN R. ROSARIO**	FIFO **AJV-353**	DATE: **06/23/2011**
APPROVED BY		
NAME: **LARRY H STROUT** **MANAGER**	FIFO **AJV-353**	DATE:

CHANGES:

REASONS:

EFFECTIVE CONCURRENT WITH: AIRSPACE DOCKET 11-AGL-16

THIS FORM WAS PDF EDITED
TERMINAL ROUTES: ADDED (FAF), REMOVED 1360
LINE 7: REMOVED 3.00 AND 40.0

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
RW09 (MAP)	1060 MSL	097.60	
1060 MSL	VEBHA (FB)		
VEBHA	WOMOP (FO)	081.94 / 10.87	3200

NOTES, (CONT.):
CHART NOTE: VISIBILITY REDUCTION BY HELICOPTERS NA.
CHART PLANVIEW NOTE: PROCEDURE NA FOR ARRIVALS ON PLN VORTAC AIRWAY RADIALS 170 CW 295 AND ON GLR VOR/DME AIRWAY RADIALS 213 CW 247.
CHART PROFILE NOTE: VGSI AND DESCENT ANGLES NOT COINCIDENT.

QUALITY CHECKED

CITY AND STATE	ELEVATION: 660 THRE: 655	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
BOYNE CITY, MI	AIRPORT NAME: BOYNE CITY MUNI	RNAV	RNAV (GPS) RWY 9, ORIG	AMDT: NONE
				DATED:

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:

THIS FORM WAS PDF EDITED
REMOVED RW09 /

QUALITY CHECKED

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FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	N98
RUNWAY	RW09
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W09A
LTP/FTP LATITUDE	451232.3675N
LTP/FTP LONGITUDE	0845943.1510W
LTP/FTP ELLIPSOIDAL HEIGHT	+01647
FPAP LATITUDE	451228.2500N
FPAP LONGITUDE	0845737.2600W
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	1712
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	0.0
CRC REMAINDER	ED67600A

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K5
LTP ORTHOMETRIC HEIGHT	+01997
FPAP ORTHOMETRIC HEIGHT	+01997

QUALITY CHECKED 9

CITY AND STATE	ELEVATION: 660 THRE: 655	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
BOYNE CITY, MI	AIRPORT NAME: BOYNE CITY MUNI	RNAV	RNAV (GPS) RWY 9, ORIG	AMDT: NONE
				DATED:

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:

QUALITY 9 CHECKED

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ARINC PACKET - 424-18 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAD        GLR   K5010920VDLW N45004495W084421541    N45004444W084421575W0060013551     NARGAYLORD
        SUSAD        PLN   K5011180VTLA N45375032W084395082    N45375032W084395082W0060008361     NARPELLSTON

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   ADENO K50    C   L N45015032W085131353                     W0063     NAR           ADENO
        SUSAEAENRT   AKRIF K50    W     N45124775W085074365                     W0065     NAR           AKRIF
        SUSAEAENRT   OZKIW K50    W     N45123813W085024119                     W0065     NAR           OZKIW
        SUSAEAENRT   VEBHA K50    W     N45122569W084561969                     W0066     NAR           VEBHA
        SUSAEAENRT   WOMOP K50    C   L N45145203W084412079                     W0069     NAR           WOMOP
        SUSAEAENRT   ZANUG K50    W     N45125801W085131458                     W0064     NAR           ZANUG

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP N98 K5AN98     0     040YHN45123173W084592359W005000660         1800018000C    MNAR    BOYNE CITY MUNI

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP N98 K5FR09   AADENO 010ADENOK5EA0E       IF                                          18000                A JS
        SUSAP N98 K5FR09   AADENO 020ZANUGK5EA0EY   020TF                    00490111    + 02600                          A JS
        SUSAP N98 K5FR09   AADENO 030ZANUGK5EA0EE AR   HF                    09750040    + 02500                          A JS
        SUSAP N98 K5FR09   AGLR   010GLR  K5D 0V       IF                                          18000                A JS
        SUSAP N98 K5FR09   AGLR   020ZANUGK5EA0EY   020TF                    30430251    + 03000                          A JS
        SUSAP N98 K5FR09   AGLR   030ZANUGK5EA0EE AR   HF                    09750040    + 02500                          A JS
        SUSAP N98 K5FR09   APLN   010PLN  K5D 0V       IF                                          18000                A JS
        SUSAP N98 K5FR09   APLN   020ZANUGK5EA0EY   020TF                    22860342    + 02800                          A JS
        SUSAP N98 K5FR09   APLN   030ZANUGK5EA0EE AR   HF                    09750040    + 02500                          A JS
        SUSAP N98 K5FR09   R      010ZANUGK5EA0E  I    IF                                + 02500     18000                A JS
        SUSAP N98 K5FR09   R      020AKRIFK5EA1E  F 051TF                    09750039    + 02500                 RW09  K5PGA JS
        SUSAP N98 K5FR09   R      020AKRIFK5EA2WALP        N          ALNAV                                                JS
        SUSAP N98 K5FR09   R      021OZKIWK5EA0E S  031TF                    09760036    V 0136001364        -300          A JS
        SUSAP N98 K5FR09   R      030RW09 K5PG0GY M 031TF                    09760021      00695             -300          A JS
        SUSAP N98 K5FR09   R      040         0  M     CA                    0976        + 01060                          A JS
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QUALITY CHECKED

CITY AND STATE	ELEVATION: 660 THRE: 655	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
BOYNE CITY, MI	AIRPORT NAME: BOYNE CITY MUNI	RNAV	RNAV (GPS) RWY 9, ORIG	AMDT: NONE
				DATED:

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:

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```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP N98 K5FR09   R      050VEBHAK5EA0E       DF                                                                    A JS
        SUSAP N98 K5FR09   R      060WOMOPK5EA0EY   010TF                     0819        + 03200                             A JS
        SUSAP N98 K5FR09   R      070WOMOPK5EA0EE  R   HM                     25390040    + 03200                             A JS
```

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                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP N98 K5GRW09    0040010976 N45123237W084594315+0100    +0164700655059940075R
```

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                 1         2         3         4         5         6         7         8         9         0         1         2         3
PP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP N98 K5PR09   RW09 001 0000W09A0N4512323675W08459431510+016470300N4512282500W084573726001067517120004 00F400000ED67600A
        SUSAP N98 K5PR09   RW09 002E      +01997+01997LP        97526
```

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP N98 K5SRW09 K5PG                0   18018003525                                                                   M
```

QUALITY CHECKED

CITY AND STATE	ELEVATION: 660 THRE: 655	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
BOYNE CITY, MI	AIRPORT NAME: BOYNE CITY MUNI	RNAV	RNAV (GPS) RWY 9, ORIG	AMDT: NONE
				DATED:

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 STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICE - FAR PART 97.33

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ARINC FLIGHT INSPECTION SUMMARY - VERSION 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE
	ADENO	ADENO	010		IF						
	ADENO	ZANUG	020		TF		FO	2.0	004.9(359.9T)	011.1	02600
	ADENO	ZANUG	030	IAF	HF	R	FO		097.5(092.5T)	004.0	02500
	GLR	GLR	010		IF						
	GLR	ZANUG	020		TF		FO	2.0	304.3(299.3T)	025.1	03000
	GLR	ZANUG	030	IAF	HF	R	FO		097.5(092.5T)	004.0	02500
	PLN	PLN	010		IF						
	PLN	ZANUG	020		TF		FO	2.0	228.6(223.6T)	034.2	02800
	PLN	ZANUG	030	IAF	HF	R	FO		097.5(092.5T)	004.0	02500
		ZANUG	010	FACF	IF						02500
		AKRIF	020	FAF	TF		FB	0.5	097.5(092.5T)	003.9	02500
		OZKIW	021	SDF	TF		FB	0.3	097.6(092.6T)	003.6	0136001364
		RW09	030	MAP	TF		FO	0.3	097.6(092.6T)	002.1	00695

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE
		040		CA				097.6(092.6T)		01060
	VEBHA	050		DF		FB				
	WOMOP	060		TF		FO	1.0	081.9(076.9T)		03200
	WOMOP	070		HM	R	FO		253.9(248.9T)	004.0	03200

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	GLR	N450044.95	W0844215.41	N4500.749	W08442.257
	PLN	N453750.32	W0843950.82	N4537.839	W08439.847
	ADENO	N450150.32	W0851313.53	N4501.839	W08513.226
	AKRIF	N451247.75	W0850743.65	N4512.796	W08507.728
	OZKIW	N451238.13	W0850241.19	N4512.636	W08502.687
	VEBHA	N451225.69	W0845619.69	N4512.428	W08456.328
	WOMOP	N451452.03	W0844120.79	N4514.867	W08441.347
	ZANUG	N451258.01	W0851314.58	N4512.967	W08513.243
	RW09	N451232.37	W0845943.15	N4512.540	W08459.719

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW09	00655	40

QUALITY 1 CHECKED

CITY AND STATE	ELEVATION: 660 THRE: 655	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
BOYNE CITY, MI	AIRPORT NAME: BOYNE CITY MUNI	RNAV	RNAV (GPS) RWY 9, ORIG	AMDT: NONE
				DATED:

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:

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	PLN VORTAC	ZANUG	1. AAO	452742.00N/0845400.00W	1500 (4E)	1000		2500
			2. TERRAIN	452800.00N/0845404.00W	1322 (1300)		AS1500	2800
FEEDER	GLR VOR/DME	ZANUG	3. TOWER (26-000556)	450244.00N/0845047.00W	1869 (4D)	1000		2900
			4. TERRAIN	450209.00N/0845024.00W	1470 (1500)		AS1500	3000
FEEDER	ADENO	ZANUG	5. AAO	450239.00N/0851036.00W	1263 (4E)	1000		2300
			6. TERRAIN	450239.00N/0851036.00W	1063 (1100)		AS1500	2600
INTERMEDIATE	ZANUG (IF/IAF)	AKRIF	7. AAO	451206.00N/0851330.00W	1105 (4E)	500	AC98 AT699	2500
			8. TERRAIN	451248.00N/0851130.00W	899 (900)		AS1500	2400
FINAL: LP	AKRIF	OZKIW/2.10 NM TO	9. AAO	451209.00N/0850623.00W	1069 (2C)	250	RA35	1360
		RW09						
FINAL: LP STEPDOWN	OZKIW/2.10 NM TO	RW09	10. TREE (KN98T0854)	451238.29N/0850001.20W	743 (1A)	250	RA35 MA20	1060
	RW09							
FINAL: LNAV	AKRIF	OZKIW/2.10 NM TO	9. AAO	451209.00N/0850623.00W	1069 (2C)	250	RA35	1360
		RW09						
2. HOLD-IN-LIEU-OF-PT	ZANUG	P-5	12. TOWER (26-002359)	451154.00N/0851959.00W	1286 (5E)	1000		2300
			13. TERRAIN	451118.00N/0850633.00W	995 (1000)		AS1500	2500
3. MISSED APPROACH MAP:	RW09	WOMOP	14. TREE (KN98T2063)	451248.52N/0845709.89W	1127 (1A)	ASC		3200
			15. AAO	451228.00N/0844636.00W	1545 (2C)	1000		2600
ELEV:	925/1125		16. TERRAIN	451228.00N/0844636.00W	1345 (1300)		AS1500	2800

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	ACTUAL							
CATEGORY A	1.3 NM	350	820	14. TREE (KN98T2063)	451248.52N/0845709.89W	1127 (1A)	300	RA35	1480
CATEGORY B	1.5 NM	450	840	17. TREE (KN98T2309)	451240.32N/0845651.68W	1149 (1A)	300	RA35	1500
CATEGORY C	1.7 NM	450							
CATEGORY D	2.3 NM	550							
CATEGORY E	4.5 NM	550							

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **RW09**

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TOWER (26-000479)	191/ 27.8	2470 (4D)	3500					

ORIG 1 CHECKED

CITY AND STATE	ELEVATION: 660 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
BOYNE CITY, MI	BOYNE CITY MUNI	RNAV	RNAV (GPS) RWY 9, ORIG	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
ZMP ARTCC	N W S / OTHER: AWOS-3	SOURCE: KCVX / KMGN
	F A A	DISTANCE: 13.40 / 13.40
SATISFACTORY ON:	A / C	HOURS REMOTE OPERATION: 24 / BACKUP
X V H F X U H F H F	LOCATION: KCVX	ADJUSTMENT: 35 / 35

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

5. APPROACH & RUNWAY LIGHTING	
	ALS
	(S) SALS
	MALS
	HIRL
X	MIRL 27 (PCL), 09 (PCL)
X	REIL 09
	TDZ
	C/LINE
X	OTHER (SPECIFY) PAPI-2L 27, 09 (PCL)

6. RUNWAY MARKINGS	
BASIC	BSC-F 27, 09
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			
	X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: JOHN R. ROSARIO	DATE: 06/23/2011
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-353

PART C - REMARKS:

VDP NOT ESTABLISHED - FULL TIME REMOTE ALTIMETER.

THRESHOLD DISPLACED 598.44.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

SEE ATTACHED AIRSPACE LETTER.

KN98, KCVX, AND KMGN PRESSURE PATTERNS SAME
KN98 660, KMGN 686, KCVX 669
KMGN RA = 34.46
KCVX RA = 32.08
KCVX AND KMGN ARE SAME DISTANCE FROM KN98. THE GREATER ADJUSTMENT (35 FEET) WAS APPLIED FOR BOTH LOCATIONS

LPV AND LNAV/VNAV NOT DEVELOPED DUE TO NUMEROUS PENETRATIONS REQUIRING WAIVER ACTION

DTED NOT USED IN FINAL, CIRCLING, AND MISSED APPROACH DUE TO REQUIRED ACCURACY ADJUSTMENT. AAO AND TREE OBSTACLES WERE DERIVED FROM 1:24/25 TOPO CHART, BY THE NEXT HIGHER METRIC CONTOUR, MINUS ONE FOOT METHOD

#11 LOCATED 303 FEET FROM EDGE OF PRIMARY

TERPS PARAGRAPH 289 APPLIED TO 838 TREE
451218N/0850244W

TERPS, VOLUME 1, "VISUAL PORTION OF FINAL" PENETRATIONS

20:1 719 TREE (KN98T0500) 451234.61N/0845950.22W (48.01)
725 TREE (KN98T0514) 451234.54N/0845952.01W (47.62)
728 TREE (KN98T0617) 451230.19N/0845955.08W (40.66)
725 TREE (KN98T0679) 451235.30N/0845956.18W (32.54)
THE TOP FOUR PENETRATIONS ARE LISTED HERE. THE ENTIRE LIST OF PENETRATORS IS VERY EXTENSIVE (SEE MR#1) AND HAS BEEN SUBMITTED AS SUPPORTING DATA. IT WILL BE FILED ALONG WITH PROCEDURE FORMS AND CORRESPONDENCE

34:1 727 TREE (KN98T0714) 451234.31N/0845957.40W (47.45)
727 TREE (KN98T0717) 451230.27N/0845957.69W (47.40)
726 TREE (KN98T0720) 451234.40N/0845957.48W (46.27)
722 TREE (KN98T0673) 451234.44N/0845956.03W (45.32)
THE TOP FOUR PENETRATIONS ARE LISTED HERE. THE ENTIRE LIST OF PENETRATORS IS VERY EXTENSIVE (MR#2) AND HAS BEEN SUBMITTED AS SUPPORTING DATA. IT WILL BE FILED ALONG WITH PROCEDURE FORMS AND CORRESPONDENCE

NIGHT EFFECT OF RWY 9 AND 27 CIRCLING VISUAL AREA PENETRATIONS (VAAR) MITIGATED BY VGSI NOTE, IAW 8260.3B CHANGE 20 PARAGRAPH 3.3.2.D(2)(D)

KCVX AND KMGN AWOS ON SERVICE-A

TREE HEIGHT 100'

VGSI DATA: 4.00/28

QUALITY CHECKED

THIS FORM WAS PDF EDITED
FRONT SIDE: BLOCK 3 MAP: REMOVED RW09 /
BLOCK 5: COMPLETED OBSTRUCTION NUMBER
BACK SIDE: BLOCK 2: CHANGED FROM NULL TO 3
BLOCK 3: REVISED ADJUSTMENT FROM 0 TO 35
BLOCK 8: REMOVED DATA

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
FINAL: LNAV STEPDOWN	**OZKIW/2.10 NM TO RW09**	**RW09**	**11. TREE (KN98T2888)**	**451155.15N/0850039.63W**	**1013 (1A)**	**250**	**RA35 SA-48**	**1260**

3. MISSED APPROACH	
MAP:	
ELEV:	

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. 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)	1 M S A

QUALITY CHECKED

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
BOYNE CITY, MI	**ELEVATION: 660** AIRPORT NAME: **BOYNE CITY MUNI**	**RNAV**	**RNAV (GPS) RWY 9, ORIG**	**AGL**

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE			3. ALTIMETER SETTING
SATISFACTORY ON:		N W S	OTHER:	SOURCE:
		F A A		DISTANCE:
		A / C		HOURS REMOTE OPERATION:
V H F / U H F / H F	LOCATION:			ADJUSTMENT:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: ADENO **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 450150.32N/0851313.53W **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	TRAVERSE CITY	TVC	VORTAC	H	034.76	032.76	25.92	25.92		3000	17500
2	GAYLORD	GLR	VOR/DME	L	279.02	273.02		21.99		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	SW		WP	217.76	037.76	R		4	3000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	TOWER (26-001068)	451049.00N/0850550.20W	1676	2C
1	200	AAO	445652.00N/0850918.00W	1381	2C

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000

REMARKS:
GAYLORD (FAC 2) AND TRAVERSE CITY (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	V193-320	1, 2				(US)
IAP	RNAV (GPS) RWY 27		1	KN98	BOYNE CITY	MI (US)
IAP	RNAV (GPS) RWY 9			KN98	BOYNE CITY	MI (US)
IAP	RNAV (GPS) RWY 17			KBFA	BOYNE FALLS	MI (US)
IAP	RNAV (GPS) RWY 35			KBFA	BOYNE FALLS	MI (US)
IAP	RNAV (GPS) RWY 9			KGLR	GAYLORD	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 02/09/2012

REASON FOR REVISION:
FAC 1 AND 2 UPDATED, ADDED DIST FROM FACS 1 & 2 - CRITERIA
REFORMATTED UNPLANNED HOLDING DATA, UPDATED CONTROLLING OBSTACLE, UNPLANNED HOLDING ALTITUDE REVISED FROM 3500 TO 3000 - NEW OBSTACLE DATA
ADDED PAT 1 HOLDING DATA, OBSTACLE, ALTITUDES - FPT REQUEST
FORMATTED FIX USE AND ADDED KN98 SIAPS
ADDED PRECIPITOUS TERRAIN REMARK - CRITERIA
ADDED WP TO FIX TYPE - WP HOLDING FOR RNAV SIAPS

DEVELOPED BY: **DATE:** 06/16/2011 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: AKRIF **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 451247.75N/0850743.65W **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 9			KN98	BOYNE CITY	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 12/15/2011

DEVELOPED BY: **DATE:** 06/17/2011 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: OZKIW **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 451238.13N/0850241.19W **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 9			KN98	BOYNE CITY	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 12/15/2011

DEVELOPED BY: **DATE:** 08/11/2011 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: VEBHA **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 451225.69N/0845619.69W **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 9			KN98	BOYNE CITY	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/17/2011 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: WOMOP **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 451452.03N/0844120.79W **TYPE:** WP, DME

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

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	PELLSTON	PLN	VORTAC	L	188.64	182.64	23.00	23.00		3200	17500

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	E		WP	073.93	253.93	R		4	3200	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	451228.00N/0844636.00W	1545	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
EN ROUTE	V233	1				(US)
IAP	RNAV (GPS) RWY 27		1	KN98	BOYNE CITY	MI (US)
IAP	RNAV (GPS) RWY 9		1	KN98	BOYNE CITY	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/15/2011 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

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

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED 1

RADIO FIX AND HOLDING DATA RECORD

NAME: ZANUG **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 451258.01N/0851314.58W **TYPE:** WP

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

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

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	W		WP	277.48	097.48	R		4	2500	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (26-002359)	451154.00N/0851959.00W	1286	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
IAP	RNAV (GPS) RWY 9		1	KN98	BOYNE CITY	MI (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

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

DEVELOPED BY: **DATE:** 06/17/2011 **OFFICE:** AJV-353 **NAME:** JOHN ROSARIO

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

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: GAYLORD VOR/DME **STATE:** MI **COUNTRY:** US

LATITUDE/LONGITUDE: 450044.95N/0844215.41W **TYPE:**

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

INFO ONLY

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	GAYLORD	GLR	VOR/DME	L							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	E	GLR	VOR/DME	090.00	270.00	R	1	-	3000	6000	4	5

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	TOWER (26-001587)	451014.00N/0844505.00W	2168	5D
1	200	TOWER (26-002361)	450532.00N/0843403.00W	1864	4D

HOLDING RESTRICTIONS:
UNPLANNED HOLDING ABOVE 3200 AUTHORIZED NORTH OF R-270, LEFT TURNS ONLY. UNPLANNED HOLDING ABOVE 3200 AUTHORIZED NORTH OF R-090, RIGHT TURNS ONLY.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V-420					(US)
EN ROUTE	V215					(US)
EN ROUTE	V233					(US)
IAP	RNAV (GPS) RWY 2			KACB	BELLAIRE	MI (US)
IAP	RNAV (GPS) RWY 9			KN98	BOYNE CITY	MI (US)
IAP	RNAV (GPS) RWY 27			KCVX	CHARLEVOIX	MI (US)
IAP	ILS OR LOC RWY 9		1	KGLR	GAYLORD	MI (US)
IAP	NDB RWY 9			KGLR	GAYLORD	MI (US)
IAP	RNAV (GPS) RWY 27			KGLR	GAYLORD	MI (US)
IAP	RNAV (GPS) RWY 9			KGLR	GAYLORD	MI (US)
IAP	VOR RWY 27		1	KGLR	GAYLORD	MI (US)
IAP	VOR RWY 9		1	KGLR	GAYLORD	MI (US)
IAP	RNAV (GPS) RWY 14			KGOV	GRAYLING	MI (US)
IAP	VOR OR GPS-A			KMGN	HARBOR SPRINGS	MI (US)
IAP	RNAV (GPS) RWY 5			KPLN	PELLSTON	MI (US)
IAP	VOR OR TACAN OR GPS-A			KTVC	TRAVERSE CITY	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 9 **DATE OF REVISION:** 12/15/2011

REASON FOR REVISION:
ADD PRECIPITOUS TERRAIN TO REMARKS.

DEVELOPED BY: **DATE:** 05/17/2011 **OFFICE:** AJV-353 **NAME:** THOMAS KIRKPATRICK

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** GREGORY YAMAMOTO

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY:
OTHER:

QUALITY CHECKED

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

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

LATITUDE/LONGITUDE: 453750.32N/0843950.82W **TYPE:** INFORMATION ONLY

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	PELLSTON	PLN	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	PLN	VORTAC	066.00	246.00	R	1		2400	10000	4	9
2	W	PLN	VORTAC	262.15	082.15	R	1		2800	10000	4	9
3	S	PLN	VORTAC	191.65	011.65	R	1		2400	10000	4	9
4	NE	PLN	VORTAC	046.61	226.61	R	1		3000	10000	4	9
5	NE	PLN	VORTAC	063.00	243.00	R	1		2400	10000	4	9
6	NE		WP	066.00	246.00	R		4	2400	10000	5	10

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	AAO	453233.00N/0845142.00W	1349	4E
1	200	TOWER (26-001896)	453923.00N/0843742.00W	1200	5D
2	200	AAO	453242.00N/0845118.00W	1263	4E
3	200	TOWER (26-001896)	453923.00N/0843742.00W	1200	5D
4	200	TOWER (26-001896)	453923.00N/0843742.00W	1200	5D
5	200	TOWER (26-001896)	453923.00N/0843742.00W	1200	5D
6	200	TOWER (26-001896)	453923.00N/0843742.00W	1200	5D

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 3000.

REMARKS:
OFF AIRPORT VORTAC AT PELLSTON, MI.
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V193					(US)
EN ROUTE	V233					(US)
EN ROUTE	V320					(US)
EN ROUTE	V609					(US)
EN ROUTE	V78					(US)
IAP	NDB RWY 27			KSJX	BEAVER ISLAND	MI (US)
IAP	RNAV (GPS) RWY 27			KSJX	BEAVER ISLAND	MI (US)
IAP	RNAV (GPS) RWY 9			KN98	BOYNE CITY	MI (US)
IAP	RNAV (GPS) RWY 17			KBFA	BOYNE FALLS	MI (US)
IAP	RNAV (GPS) RWY 27			KCVX	CHARLEVOIX	MI (US)
IAP	RNAV (GPS) RWY 9			KCVX	CHARLEVOIX	MI (US)
IAP	RNAV (GPS) RWY 10			KSLH	CHEBOYGAN	MI (US)
IAP	RNAV (GPS) RWY 28			KSLH	CHEBOYGAN	MI (US)
IAP	VOR RWY 10		2	KSLH	CHEBOYGAN	MI (US)
IAP	VOR-A		4	KMGN	HARBOR SPRINGS	MI (US)
IAP	GPS RWY 26			KMCD	MACKINAC ISLAND	MI (US)
IAP	VOR/DME OR GPS-A		3	KMCD	MACKINAC ISLAND	MI (US)
IAP	ILS OR LOC RWY 32		1	KPLN	PELLSTON	MI (US)
IAP	RNAV (GPS) RWY 23			KPLN	PELLSTON	MI (US)
IAP	RNAV (GPS) RWY 32		6	KPLN	PELLSTON	MI (US)
IAP	VOR RWY 23		1	KPLN	PELLSTON	MI (US)
IAP	VOR/DME RWY 5		5	KPLN	PELLSTON	MI (US)
IAP	RNAV (GPS) RWY 27			KPZQ	ROGERS CITY	MI (US)
IAP	RNAV (GPS) RWY 9			KPZQ	ROGERS CITY	MI (US)
IAP	NDB RWY 34			KCIU	SAULT STE MARIE	MI (US)
IAP	RNAV (GPS) RWY 27			KCIU	SAULT STE MARIE	MI (US)
IAP	RNAV (GPS) RWY 9			KCIU	SAULT STE MARIE	MI (US)
IAP	RNAV (GPS) RWY 25			K83D	ST. IGNACE	MI (US)
IAP	RNAV (GPS) RWY 7			K83D	ST. IGNACE	MI (US)

REQUIRED CHARTING: IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 13 **DATE OF REVISION:** 08/27/2009

QUALITY CHECKED

REASON FOR REVISION:
FAC MOVED 13.96 FT. PER SURVEY DATA.
UPDATE OBSTACLE HOLDING A/S (OLD 230, NEW 200).
UPDATE CONTROLLING OBSTACLES (PAT 1,2,3,4,5).
ADDED HOLDING PATTERN 6.
UPDATE REMARKS
UPDATE PELLSTON (KPLN) FIX USE.

DEVELOPED BY:	**DATE:** 05/22/2009	**OFFICE:** AVN-120	**NAME:** CHRIS OBRIEN
APPROVED BY:	**DATE:** 07/24/2009	**OFFICE:** AVN-120	**NAME:** SUE CRUMB
	SIGNATURE:		

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: APN APP CON
OTHER: AIRPORT MANAGER

QUALITY CHECKED

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **BOYNE CITY** STATE: **MI**

AIRPORT NAME: **BOYNE CITY MUNI** ID: **KN98**

PROCEDURE: **RNAV (GPS) RWY 9** AMDT: **ORIG**

DOCKET # :
(96-AXX-X/Required/Not Required)

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

1. Distance from **THLD** to 1000' point **3.67**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.2**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **092.55**
4. High Terrain in **FINAL** segment containing 1000' point **900**
5. Distance from **THLD** to 1500' point **5.47**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **FINAL** segment at 1500' point **1.39**
7. True Course of **FINAL** segment containing 1500' point **092.55**
8. High Terrain in **FINAL** segment containing 1500' point **900**
9. Threshold Coordinates (if straight-in) ... **451232.37N** / **0845943.15W**
10. ARP Coordinates ..... **451231.73N** / **0845923.59W**
11. Runway Approach End and distance furthest from ARP.....RWY **27**
    Distance **0.33** NM
12. FAF Coordinates ..... **451247.75N** / **0850743.65W**
    (Click to Select)

REMARKS: Approach/Drawing attached.