

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
TITLE 14 CFR PART 97.33**

Bearings, headings, courses, tracks 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 feet RVR.

<u>AIRPORT</u> RICHARD B HELGESON	<u>AIRPORT ID</u> KTWM	<u>PROCEDURE NAME</u> RNAV (GPS) RWY 6	<u>ORIGINAL/AMENDMENT</u> ORIG-C	<u>CITY</u> TWO HARBORS	<u>STATE</u> MN
<u>AIRPORT ELEVATION</u> 1073	<u>TDZE</u> 1073	<u>SUPERSEDED</u> RNAV (GPS) RWY 6	<u>ORIGINAL/AMENDMENT</u> ORIG-B	<u>DATED</u> 01/31/2019	<u>MAG VAR</u> 1E
<u>EPOCH YEAR</u> 1990					
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 5 DECEMBER 2019	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>	

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
FOSUP	IAF	TARUE		TF	FB	1.00	140.39	6.94	3100
TARUE	IF	ZENKU		TF	FB	1.00	061.04	4.52	3100
ZENKU		GIBEY		TF	FB	1.00	061.11	1.50	3000
GIBEY	FAF	WIZNU/2.50 NM TO RW06		TF	FB	0.30	061.14	3.42	
WIZNU/2.50 NM TO RW06		RW06	MAP	TF	FO	0.30	061.14	2.50	
RW06	MAP	1420 MSL		CA			061.14		
1420 MSL		WARIL		DF	FO	1.00			3000

MISSED APPROACH

MAP:

LP: RW06
LNAV: RW06

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 3000 DIRECT WARIL AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT SIDE OF COURSE OUTBOUND FT WITHIN MILES OF (IAF)

2. PROFILE STARTS AT TARUE

3. FAC: 061.14 FAF: GIBEY DIST FAF TO MAP: 5.92 DIST FAF TO THLD: 5.92

4. MIN ALT: TARUE 3100, ZENKU 3100, GIBEY 3000, WIZNU/2.50 NM TO RW06 1900

5. DIST TO THLD FROM OM: MM: IM: 150 HAT: GS ANT: OM: MM: IM:

6. MIN GP INCPT: GP ALT AT FAF :

7. GP ANGLE: 34:1: IS NOT CLEAR 20:1: IS CLEAR TCH:

8. MSA FROM: RW06 3300

PBN REQUIREMENTS NOTE:

RNP APCH.

NOTES:

CHART NOTE: RWY 6 HELICOPTER VISIBILITY REDUCTION BELOW 3/4 SM NOT AUTHORIZED.
CHART PROFILE NOTE: VGSI AND DESCENT ANGLES NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).
CHART NOTE: CIRCLING RWY 15, 33 NA.

ADDITIONAL FLIGHT DATA:

GIBEY TO RW06: 3.00/40
CHART VDP AT 1.01 NM TO RW06
WAAS CHANNEL #53721
REFERENCE PATH ID: W06A
CHART FAS OBST: 1156 TREE 470244N/0914551W, 1239 TREE 470246N/0914709W.
FAS OBST: 1589 AAO 470109N/0915000W.
HOLD NE, RT, 241.42 INBOUND
LTP HAE: 298.6 M

MINIMUMS:

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ STANDARD - NA WHEN LOCAL WEATHER NOT AVAILABLE.

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
LP MDA	1420	1	347	1420	1	347		NA			NA				
LNAV MDA	1500	1	427	1500	1	427		NA			NA				
CIRCLING	1600	1	527	1680	1	607		NA			NA				



CHANGES - REASONS

1. REMOVED CHART PLAINVIEW NOTE: PROCEDURE FOR ARRIVALS AT FOSUP ON V177 NORTHBOUND - FPT REQUEST PER IFPR
2. ADDED 20:1 IS CLEAR TO PROFILE LINE 7 - 20:1 VISUAL SURFACE PENETRATIONS REMOVED.
3. REMOVED CHART NOTE: DME/DME RNP-0.3 NA. ADDED PBN REQUIREMENTS NOTE: RNP APCH - IAW 8260.19H.
4. ADDED ADDITIONAL FLIGHT DATA: CHART VDP AT 1.01 NM TO RWY06 - UPDATED EVALUATION 20:1 VISUAL SURFACE PENETRATIONS REMOVED.
5. CHANGED CHART PROFILE NOTE: VGSI AND DECENT ANGLES NOT COINCIDENT TO VGSI AND DESCENT ANGLES NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH{FEET}) - IAW 8260.19H CH 8.
6. REMOVED BACKUP ALTIMETER SETTING - KTWM AWOS ON WMSCR/AJV POLICY CHANGE - MOVED TO BACK OF -9 AS CONTINGENCY NOTE.
7. TERMINAL ROUTES: CHANGED WIZNU/2.50 NM TO RW06 AND CA LEG COURSE FROM 061.19 TO 061.14 - TO MATCH FINAL COURSE IAW 8260.19H.
8. ORIG A AND B HAVE BEEN INCORPORATED INTO THIS AMENDMENT.

COORDINATED WITH:

A4A ☐

ALPA ☒

AOPA ☒

APA ☐

HAI ☐

NBAA ☒

OTHER:

FLIGHT CHECKED BY

PROCESSED IAW AIRCRAFT OPERATIONS GROUP (AJW-33) MEMO, OCTOBER 3, 2018, SUBJECT:

FLIGHT INSPECTION REVIEW NOT REQUIRED

OFFICE

DATE

Digitally signed by

DEVELOPED BY

DONALD H. LANIER (DEXTER SWEETING)

Digitally signed by

DONALD H LANIER

DONALD H LANIER

Jul 24, 2019

OFFICE

AJV-A431

DATE

06/26/2019

APPROVED BY

GEORGE DAVIS

Digitally signed by

DONALD H LANIER

Jul 24, 2019

OFFICE

AJV-A430

DATE

TITLE

MANAGER

Jul 24, 2019



FAS DATA BLOCK INFORMATION

<u>DATA FIELD</u>	<u>DATA</u>
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KTWM
RUNWAY	RW06
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W06A
LTP/FTP LATITUDE	470250.2975N
LTP/FTP LONGITUDE	0914511.1465W
LTP/FTP ELLIPSOIDAL HEIGHT	+02986
FPAP LATITUDE	470331.7800N
FPAP LONGITUDE	0914315.8400W
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	1408
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	0.0
CRC REMAINDER	7D89ABE7

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+03271
FPAP ORTHOMETRIC HEIGHT	+03271

