

RADIO FIX AND HOLDING DATA RECORD

NAME: BONNA **STATE:** MN **COUNTRY:** US **ICAO REGION CODE:** K3
LATITUDE/LONGITUDE: 444608.17N/0925609.02W **TYPE:** WP, RADAR, DME

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	13.12	14.47		5000	6000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-INN	LOC/DME	R-121	15	5000	6000

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

REMARKS:

I-INN DME: 445303.67N/0931148.87W.
 ESTABLISHED ESV IS FOR LOC/GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 13 **DATE OF REVISION:** 03/19/2026

REASON FOR REVISION:

REMOVED "MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES" AND "LOCATION IAW 8260.54A FORMULA 2-16B" FROM REMARKS.

INITIATED BY: **DATE:** **ORGANIZATION:** **NAME:**

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A432 **NAME:** SILVIA YOUNG

APPROVED BY: **DATE:** 02/12/2026 **OFFICE:** AJV-A432 **NAME:** CASIMIR TABAKA

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: COTTG STATE: MN COUNTRY: US ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 445028.21N/0925745.05W TYPE: WP

AIRSPACE DOCKET: FIX TYPE OF ACTION: ESTABLISH

HOLDING: HOLDING TYPE OF ACTION:

REMARKS:

PRECISE FIX COORDINATES: 445028.210N/0925745.052W.

FIX USE:
USE TYPE
IAPUSE TITLE
RNAV (RNP) Y RWY 30R

FAC

PAT

AIRPORT IDENT
KMSPCITY
MINNEAPOLISSTATE
MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG DATE OF REVISION: 04/30/2015

REASON FOR REVISION:

01/08/2015: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 09/11/2014: UPDATED LATITUDE/LONGITUDE COORDINATES AND PRECISE FIX COORDINATES IN REMARKS.

INITIATED BY: DATE: ORGANIZATION: NAME:

DEVELOPED BY: DATE: 09/11/2014 OFFICE: AJV-353 NAME: DONALD LANIER

APPROVED BY: DATE: 04/30/2015 OFFICE: AJV-353 NAME: GEORGE GONZALEZ

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: GOPHER VORTAC **STATE:** MN **COUNTRY:** US **ICAO REGION CODE:** K3

LATITUDE/LONGITUDE: 450844.47N/0932223.45W **TYPE:**

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	GOPHER	GEP	VORTAC	VH							45000

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

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG TIME	LENGTH DME	HOLDING ALTITUDES MIN	MAX	TEMPLATES MIN	MAX
1	NW	GEP	VORTAC	297.00	117.00	L	1		3000	14000	4	10
2	W	GEP	VORTAC	264.00	084.00	R	1		2700	14000	4	12
3	NW		WP	297.00	117.00	L		4	3000	14000	5	11
4	N		WP	346.00	166.00	L		4	3100	14000	5	11
5	W		WP	265.00	085.00	R		4	2700	14000	5	13

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
1	265	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
2	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
2	310	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
3	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
3	265	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
4	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
4	310	TOWER (27-000990)	452011.92N/0932331.17W	2048	1A
5	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
5	310	TOWER (27-000499)	450344.83N/0930822.61W	2438	1D

REASON FOR NONSTANDARD HOLDING:

PAT 1 ATC REQUEST
PAT 3 ATC REQUEST
PAT 4 ATC REQUEST

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
2	ILS OR LOC RWY 27	KANE	MINNEAPOLIS	MN (US)
5	RNAV (GPS) RWY 27	KANE	MINNEAPOLIS	MN (US)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED
HOLDING PATTERN 1 AND 4 EVALUATED FOR MILITARY AIRCRAFT AT KMSP
ASSIGNED FACILITY MAGVAR: E6 1965
PAT 5 310KT CONTROLLING OBSTACLE 1604 FT MSL PRIMARY EQUIVALENT.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
SPECIAL IAP	COPTER RNAV (GPS) 18		4	25MY	MINNEAPOLIS	MN (US)
SPECIAL IAP	COPTER RNAV (GPS) 18		4	MY65	MINNEAPOLIS	MN (US)
SPECIAL IAP	COPTER RNAV (GPS) 12		4	7MN1	ST PAUL	MN (US)
DP	MINNEAPOLIS			KMSP	MINNEAPOLIS	MN (US)
EN ROUTE	J114					(US)
EN ROUTE	J21					(US)
EN ROUTE	J25					(US)
EN ROUTE	J36					(US)
EN ROUTE	J68					(US)
EN ROUTE	J70					(US)
EN ROUTE	T330					(US)
EN ROUTE	T383					(US)
EN ROUTE	V148					(US)
EN ROUTE	V161					(US)
EN ROUTE	V2					(US)
EN ROUTE	V218					(US)
EN ROUTE	V413					(US)
EN ROUTE	V505					(US)
EN ROUTE	V510					(US)
EN ROUTE	V78					(US)
EN ROUTE	V82					(US)
EN ROUTE	V97					(US)
IAP	VOR-A			KCFE	BUFFALO	MN (US)
IAP	RNAV (GPS) RWY 34			KCBG	CAMBRIDGE	MN (US)
IAP	ILS OR LOC RWY 27		2	KANE	MINNEAPOLIS	MN (US)

IAP	RNAV (GPS) RWY 18		KANE	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 27	5	KANE	MINNEAPOLIS	MN (US)
IAP	VOR RWY 9	2	KANE	MINNEAPOLIS	MN (US)
IAP	COPTER ILS OR LOC RWY 10R		KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 10R		KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 10L		KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 10R		KFCM	MINNEAPOLIS	MN (US)
IAP	VOR RWY 10R		KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30		KLVN	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 14	4	KMIC	MINNEAPOLIS	MN (US)
IAP	ILS RWY 35 (CAT II/III)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 35 (SA CAT I)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12L (ALT MA)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30L		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30R	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II) (ALT MA)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III) (ALT MA)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I) (ALT MA)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 30L (CAT II)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS V RWY 35 (CONVERGING)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS Z OR LOC RWY 35		KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 17		KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 22		KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 4	1	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 4	3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R	3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 35	3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R	3	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 9		KRGK	RED WING	MN (US)
IAP	LOC RWY 34		KSGS	SOUTH ST PAUL	MN (US)
IAP	ILS OR LOC RWY 31		KSTC	ST CLOUD	MN (US)
IAP	VOR RWY 31		KSTC	ST CLOUD	MN (US)
IAP	ILS OR LOC RWY 14		KSTP	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 32		KSTP	ST PAUL	MN (US)
IAP	RNAV (GPS) RWY 14		KSTP	ST PAUL	MN (US)
STAR	AGUDE		KCFE	BUFFALO	MN (US)
STAR	AGUDE		KFBL	FARIBAULT	MN (US)
STAR	AGUDE		KGYL	GLENCOE	MN (US)
STAR	AGUDE		KMGS	MAPLE LAKE	MN (US)
STAR	AGUDE		KANE	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)		KANE	MINNEAPOLIS	MN (US)
STAR	GOPHER		KANE	MINNEAPOLIS	MN (US)
STAR	TWOLF		KANE	MINNEAPOLIS	MN (US)
STAR	AGUDE		KFCM	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)		KFCM	MINNEAPOLIS	MN (US)
STAR	GOPHER		KFCM	MINNEAPOLIS	MN (US)
STAR	TWOLF		KFCM	MINNEAPOLIS	MN (US)
STAR	AGUDE		KLVN	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)		KLVN	MINNEAPOLIS	MN (US)
STAR	GOPHER		KLVN	MINNEAPOLIS	MN (US)
STAR	TWOLF		KLVN	MINNEAPOLIS	MN (US)
STAR	AGUDE		KMIC	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)		KMIC	MINNEAPOLIS	MN (US)
STAR	GOPHER		KMIC	MINNEAPOLIS	MN (US)
STAR	TWOLF		KMIC	MINNEAPOLIS	MN (US)
STAR	BAINY (RNAV)		KMSP	MINNEAPOLIS	MN (US)
STAR	GOPHER		KMSP	MINNEAPOLIS	MN (US)
STAR	AGUDE		KSGS	SOUTH ST PAUL	MN (US)
STAR	AGUDE		21D	ST PAUL	MN (US)
STAR	AGUDE		KSTP	ST PAUL	MN (US)
STAR	ENCEE (RNAV)		KSTP	ST PAUL	MN (US)
STAR	GOPHER		KSTP	ST PAUL	MN (US)
STAR	TWOLF		KSTP	ST PAUL	MN (US)
STAR	AGUDE		KRNH	NEW RICHMOND	WI (US)
STAR	TWOLF		KRNH	NEW RICHMOND	WI (US)
STAR	AGUDE		KOEO	OSCEOLA	WI (US)
STAR	TWOLF		KOEO	OSCEOLA	WI (US)

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 34

DATE OF REVISION: 03/19/2026

REASON FOR REVISION:

1. FIX USE: REMOVED DP COULT, KBREW AND WLSTN AT KANE, KFCM, KMSP AND KSTP.
2. FIX USE: REMOVED DP LEINY (RNAV) AT KMSP.
3. FIX USE: REMOVED STAR EAU CLAIRE AT KMSP.
4. FIX USE: ADDED DP MINNEAPOLIS AT KMSP.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A431

NAME: EMMANUEL GONZALES

APPROVED BY:

DATE: 02/12/2026

OFFICE: AJV-A433

NAME: ROBERT HAMILTON

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: GEEQU **STATE:** WI **COUNTRY:** US **ICAO REGION CODE:** K5

LATITUDE/LONGITUDE: 444614.91N/0924519.26W **TYPE:** WP

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

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

FIX USE: USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS Z OR LOC RWY 30L			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS Z RWY 30L (CAT II)			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
STAR	KKILR (RNAV)			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 06/22/2017

REASON FOR REVISION:

1. UPDATED FIX USE: ADDED RNAV (GPS) Z RWY 30R KMSP

INITIATED BY:	DATE:	ORGANIZATION:	NAME:
DEVELOPED BY:	DATE: 12/21/2016	OFFICE: AJV-5432	NAME: DEANNA FIELDS
APPROVED BY:	DATE:	OFFICE: AJV-5430	NAME: PATRICK MULQUEEN

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: GROVZ **STATE:** MN **COUNTRY:** US **ICAO REGION CODE:** K3
LATITUDE/LONGITUDE: 444250.91N/0924838.71W **TYPE:** WP, RADAR, DME

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

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	19.40	20.75		5000	8000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-INN	LOC/DME	R-121	21	5000	8000

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

REMARKS:

I-INN DME: 445303.67N/0931148.87W.
 ESTABLISHED ESV IS FOR LOC/GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 03/19/2026

REASON FOR REVISION:

REMOVED "MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES" AND "LOCATION IAW 8260.54A FORMULA 2-16B" FROM REMARKS.

INITIATED BY: **DATE:** **ORGANIZATION:** **NAME:**

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A432 **NAME:** SILVIA YOUNG

APPROVED BY: **DATE:** 02/12/2026 **OFFICE:** AJV-A432 **NAME:** CASIMIR TABAKA

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: HIGHA STATE: MN COUNTRY: US ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 445435.98N/0925911.42W TYPE: WP

AIRSPACE DOCKET: FIX TYPE OF ACTION: ESTABLISH

HOLDING: HOLDING TYPE OF ACTION:

REMARKS:
PRECISE FIX COORDINATES: 445435.981N/0925911.423W.

FIX USE:	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
USE TYPE						
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG DATE OF REVISION: 04/30/2015

INITIATED BY: DATE: ORGANIZATION: NAME:

DEVELOPED BY: DATE: 09/11/2014 OFFICE: AJV-353 NAME: DONALD LANIER

APPROVED BY: DATE: 04/30/2015 OFFICE: AJV-353 NAME: GEORGE GONZALEZ

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: JACKO **STATE:** MN **COUNTRY:** US **ICAO REGION CODE:** K3

LATITUDE/LONGITUDE: 444924.94N/0930340.20W **TYPE:** WP, RADAR, 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	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	6.85	8.19	49760	3000	5300

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

REMARKS:

I-INN DME LAT/LONG: 445303.67N/0931148.87W.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 03/19/2026

REASON FOR REVISION:

1. FIX MOVED 2.04 FT SOUTHEAST AND COORDINATES UPDATED FROM 444924.96N-0930340.22W TO 444924.94N/0930340.20W.
2. UPDATED FIX MAKE-UP FACILITY: MINNEAPOLIS (I-INN) LOC/DME DME DIST FROM 6.84 TO 6.85; DIST FROM FAC IN FEET FROM 49759 TO 49760.
3. REMOVED REMARKS: LOCATION IAW 8260.54A FORMULA 2-16B; PRECISE FIX COORDINATES: 444924.957N/0930340.217W; MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES.

INITIATED BY: **DATE:** **ORGANIZATION:** **NAME:**

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A432 **NAME:** BARBARA GORMAN

APPROVED BY: **DATE:** 02/12/2026 **OFFICE:** AJV-A430 **NAME:** CASIMIR TABAKA

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: OSMOH

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 445749.95N/0930634.25W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
STAR	BAINY (RNAV)			KMSP	MINNEAPOLIS	MN (US)
STAR	TORGY (RNAV)			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2

DATE OF REVISION: 03/19/2026

REASON FOR REVISION:

REMOVED "FIX NAME RETAINED, PER JO 7400.2K" FROM REMARKS.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A432

NAME: SILVIA YOUNG

APPROVED BY:

DATE: 02/12/2026

OFFICE: AJV-A432

NAME: CASIMIR TABAKA

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: RVERR

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444858.23N/0930134.87W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: ESTABLISH

HOLDING:

HOLDING TYPE OF ACTION:

REMARKS:

PRECISE FIX COORDINATES: 444858.232N/0930134.869W.

FIX USE:	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
USE TYPE	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP						

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG

DATE OF REVISION: 04/30/2015

REASON FOR REVISION:

01/08/2015: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 09/11/2014: UPDATED LATITUDE/LONGITUDE COORDINATES AND PRECISE FIX COORDINATES IN REMARKS.

INITIATED BY:	DATE:	ORGANIZATION:	NAME:
DEVELOPED BY:	DATE: 09/11/2014	OFFICE: AJV-353	NAME: DONALD LANIER
APPROVED BY:	DATE: 04/30/2015	OFFICE: AJV-353	NAME: GEORGE GONZALEZ

SIGNATURE:

DISTRIBUTION:

NFDC

FPO: CEN

ARTCC: ZMP

ATC FACILITY: MSP APP CON, MSP TOWER

OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: SAMMZ

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444746.62N/0925954.51W

TYPE: WP, RADAR, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	9.98	11.33		4000	5300

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

I-INN DME: 445303.67N/0931148.87W.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
STAR	KKILR (RNAV)			KMSP	MINNEAPOLIS	MN (US)
STAR	MUSCL (RNAV)			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: STAR, MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6

DATE OF REVISION: 03/19/2026

REASON FOR REVISION:

REMOVED "MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES" AND "LOCATION IAW 8260.54A FORMULA 2-16B" FROM REMARKS.

ADDED STAR TO REQUIRED CHARTING.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A432

NAME: SILVIA YOUNG

APPROVED BY:

DATE: 02/12/2026

OFFICE: AJV-A432

NAME: CASIMIR TABAKA

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: SOGGY **STATE:** MN **COUNTRY:** US **ICAO REGION CODE:** K3

LATITUDE/LONGITUDE: 444740.29N/0925133.11W **TYPE:** WP

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

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

FIX USE:	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
USE TYPE						
IAP	ILS OR LOC RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
STAR	MUSCL (RNAV)			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 06/22/2017

REASON FOR REVISION:

1. UPDATED FIX USE: ADDED RNAV (GPS) Z RWY 30R KMSP.
2. REMOVED FROM REMARKS: PRECISE FIX COORDINATES: 444740.290N/0925133.112W.

INITIATED BY:	DATE:	ORGANIZATION:	NAME:
DEVELOPED BY:	DATE: 12/21/2016	OFFICE: AJV-5432	NAME: DEANNA FIELDS
APPROVED BY:	DATE:	OFFICE: AJV-5430	NAME: PATRICK MULQUEEN

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: TRTEL

STATE: WI

COUNTRY: US

ICAO REGION CODE: K5

LATITUDE/LONGITUDE: 445157.46N/0924543.09W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

FIX USE: USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
STAR	MUSCL (RNAV)			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2

DATE OF REVISION: 06/22/2017

REASON FOR REVISION:
1. UPDATED FIX USE: ADDED RNAV (GPS) Z RWY 30R KMSP.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

DEVELOPED BY:

DATE: 12/21/2016

OFFICE: AJV-5432

NAME: DEANNA FIELDS

APPROVED BY:

DATE:

OFFICE: AJV-5430

NAME: PATRICK MULQUEEN

SIGNATURE:

DISTRIBUTION:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: WULAM

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444429.60N/0925223.75W

TYPE: WP, RADAR, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	16.26	17.61		5000	7000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-INN	LOC/DME	R-121	18	5000	7000

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

I-INN DME: 445303.67N/0931148.87W.
ESTABLISHED ESV IS FOR LOC/GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6

DATE OF REVISION: 03/19/2026

REASON FOR REVISION:

REMOVED "MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES" AND "LOCATION IAW 8260.54A FORMULA 2-16B" FROM REMARKS.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A432

NAME: SILVIA YOUNG

APPROVED BY:

DATE: 02/12/2026

OFFICE: AJV-A432

NAME: CASIMIR TABAKA

SIGNATURE: