

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 | H | | | | | | 45000 |

HOLDING: HOLDING TYPE OF ACTION: NO CHANGE

PATTERNS:

| PAT | DIR | IDENT | TYPE | RAD/CRS/BRG | CRS INBOUND | TURN (L OR R) | LEG LENGTH TIME 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) |
| 4 | RNAV (GPS) RWY 14 | KMIC | 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 |
|----------|--------------|-----|-----|---------------|-------------|---------|
| DP | DES MOINES | | | KDSM | DES MOINES | IA (US) |
| DP | COULT | | | KANE | MINNEAPOLIS | MN (US) |
| DP | KBREW | | | KANE | MINNEAPOLIS | MN (US) |
| DP | WLSTN | | | KANE | MINNEAPOLIS | MN (US) |
| DP | COULT | | | KFCM | MINNEAPOLIS | MN (US) |
| DP | KBREW | | | KFCM | MINNEAPOLIS | MN (US) |
| DP | WLSTN | | | KFCM | MINNEAPOLIS | MN (US) |
| DP | COULT | | | KMSP | MINNEAPOLIS | MN (US) |
| DP | KBREW | | | KMSP | MINNEAPOLIS | MN (US) |
| DP | LEINY (RNAV) | | | KMSP | MINNEAPOLIS | MN (US) |
| DP | WLSTN | | | KMSP | MINNEAPOLIS | MN (US) |
| DP | COULT | | | KSTP | ST PAUL | MN (US) |
| DP | KBREW | | | KSTP | ST PAUL | MN (US) |
| DP | WLSTN | | | KSTP | ST PAUL | 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 | | KMGG | 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 | EAU CLAIRE | | 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, CONTROLLER LOW, CONTROLLER HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 31

DATE OF REVISION: 01/25/2024

REASON FOR REVISION:

1. FIX USE: REMOVED VOR-A FOR KMGG.

| | | | |
|-----------------------------------|------------------|------------------|-----------------------|
| INITIATED BY: | DATE: | ORGANIZATION: | NAME: |
| OFFICE OF PRIMARY RESPONSIBILITY: | | AJV-A431 | NAME: DEXTER SWEETING |
| APPROVED BY: | DATE: 01/25/2024 | OFFICE: AJV-A431 | NAME: ERIC N SUSKI |
| | SIGNATURE: | | |

RADIO FIX AND HOLDING DATA RECORD

NAME: MAYER

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 445504.77N/0935829.08W

TYPE: WP, DME

AIRSPACE DOCKET: 23-AGL-18

FIX TYPE OF ACTION: MODIFY

FIX MAKE-UP FACILITIES:

| FAC | NAME | IDENT | TYPE | CLASS | MAG BRG | TRUE BRG | DME | DIST FROM NM | FAC FEET | MRA | MAA |
|-----|--------|-------|--------|-------|------------|-------------|-------|-----------------|-------------|------|-------|
| 1 | GOPHER | GEP | VORTAC | H | 236.12 | 242.12 | 29.01 | 29.01 | | 2900 | 17500 |

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

FIX USE:

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|----------|--------------------|-----|-----|---------------|-------------|---------|
| EN ROUTE | V148 | 1 | | | | (US) |
| IAP | RNAV (GPS) RWY 36 | | | KCFE | BUFFALO | MN (US) |
| IAP | RNAV (GPS) RWY 13 | | | KGYL | GLENCOE | MN (US) |
| IAP | RNAV (GPS) RWY 31 | | | KLJF | LITCHFIELD | MN (US) |
| IAP | RNAV (GPS) RWY 10L | | | KFCM | MINNEAPOLIS | MN (US) |
| IAP | RNAV (GPS) RWY 10R | | | KFCM | MINNEAPOLIS | MN (US) |
| STAR | ENCEE (RNAV) | | | KANE | MINNEAPOLIS | MN (US) |
| STAR | ENCEE (RNAV) | | | KFCM | MINNEAPOLIS | MN (US) |
| STAR | ENCEE (RNAV) | | | KLVN | MINNEAPOLIS | MN (US) |
| STAR | ENCEE (RNAV) | | | KMIC | MINNEAPOLIS | MN (US) |
| STAR | ENCEE (RNAV) | | | KSTP | ST PAUL | MN (US) |

REQUIRED CHARTING: STAR, IAP, AREA, EN ROUTE LOW, CONTROLLER LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 8

DATE OF REVISION: 05/16/2024

REASON FOR REVISION:

TYPE: REMOVED INT

AIRSPACE DOCKET: ADDED 23-AGL-18

FIX MAKE-UP FACILITIES: REMOVED FAC 2 DARWIN (DWN) VORTAC

REMARKS: REMOVED GOPHER (FAC 1) AND DARWIN (FAC 2) USED TO ESTABLISH FIX COORDINATES

FIX USE: REMOVED V171, REMOVED FAC 2 DARWIN (DWN) VORTAC FROM V148

REQUIRED CHARTING: CHANGED "CONTROLLER" TO "CONTROLLER LOW"

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A423

NAME: GALE SHELTON

APPROVED BY:

DATE: 05/16/2024

OFFICE: AJV-A423

NAME: ALLAN WILL

SIGNATURE:

RADIO FIX AND HOLDING DATA RECORD

NAME: REDWOOD FALLS VOR/DME STATE: MN COUNTRY: US ICAO REGION CODE: K3
 LATITUDE/LONGITUDE: 442802.19N/0950741.63W TYPE:

AIRSPACE DOCKET: 22-AGL-4 FIX TYPE OF ACTION: MODIFY

FIX MAKE-UP FACILITIES:

| FAC | NAME | IDENT | TYPE | CLASS | MAG BRG | TRUE BRG | DME | DIST FROM FAC NM | FEET | MRA | MAA |
|-----|---------------|-------|---------|-------|---------|----------|-----|------------------|------|-----|-------|
| 1 | REDWOOD FALLS | RWF | VOR/DME | 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 | S | RWF | VOR/DME | 196.00 | 016.00 | R | 1 | | 2600 | 6000 | 4 | 5 |
| 2 | SW | RWF | VOR/DME | 244.69 | 064.69 | L | 1 | | 7000 | 31000 | 8 | 23 |

CONTROLLING OBSTRUCTIONS:

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|-----|----------|----------------------|------------------------|-----------|---------------|
| 1 | 200 | WINDMILL (27-002448) | 443005.90N/0951032.20W | 1433 | 5D |
| 2 | 230 | TOWER (27-001418) | 442154.00N/0951928.00W | 1588 | 5D |

REASON FOR NONSTANDARD HOLDING:

PAT 2 AIR TRAFFIC REQUEST

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN(S)

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.
 ASSIGNED FACILITY MAG VAR: 7E/1965.

FIX USE:

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|----------|-------------------|-----|-----|---------------|---------------|---------|
| DP | SCHEP | | | KANE | MINNEAPOLIS | MN (US) |
| DP | SCHEP | | | KFCM | MINNEAPOLIS | MN (US) |
| DP | LEINY (RNAV) | | | KMSP | MINNEAPOLIS | MN (US) |
| DP | SCHEP | | | KMSP | MINNEAPOLIS | MN (US) |
| DP | SCHEP | | | KSTP | ST PAUL | MN (US) |
| EN ROUTE | J34 | | | | | (US) |
| EN ROUTE | J90 | | | | | (US) |
| EN ROUTE | T322 | | | | | (US) |
| EN ROUTE | V148 | | | | | (US) |
| EN ROUTE | V175 | | | | | (US) |
| EN ROUTE | V24 | | | | | (US) |
| EN ROUTE | V26 | | | | | (US) |
| EN ROUTE | V398 | | | | | (US) |
| EN ROUTE | V412 | | | | | (US) |
| IAP | VOR/DME RWY 33 | | | KGDB | GRANITE FALLS | MN (US) |
| IAP | ILS OR LOC RWY 12 | | | KMML | MARSHALL | MN (US) |
| IAP | RNAV (GPS) RWY 12 | | | KMML | MARSHALL | MN (US) |
| IAP | VOR RWY 12 | | | KMML | MARSHALL | MN (US) |
| IAP | RNAV (GPS) RWY 32 | | | KMVE | MONTEVIDEO | MN (US) |
| IAP | VOR/DME OR GPS-A | | 1 | KOVF | OLIVIA | MN (US) |
| IAP | RNAV (GPS) RWY 30 | | | KRWF | REDWOOD FALLS | MN (US) |
| IAP | VOR-A | | 1 | KRWF | REDWOOD FALLS | MN (US) |
| IAP | RNAV (GPS) RWY 13 | | | D42 | SPRINGFIELD | MN (US) |
| IAP | RNAV (GPS) RWY 31 | | | D42 | SPRINGFIELD | MN (US) |
| IAP | VOR RWY 13 | | | D42 | SPRINGFIELD | MN (US) |
| IAP | RNAV (GPS) RWY 11 | | | KTKC | TRACY | MN (US) |
| IAP | RNAV (GPS) RWY 29 | | | KTKC | TRACY | MN (US) |
| IAP | ILS OR LOC RWY 13 | | | KBDH | WILLMAR | MN (US) |
| IAP | RNAV (GPS) RWY 31 | | | KBDH | WILLMAR | MN (US) |
| IAP | RNAV (GPS) RWY 17 | | | KMWM | WINDOM | MN (US) |
| STAR | SKETR | | 2 | KMSP | MINNEAPOLIS | MN (US) |

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 22

DATE OF REVISION: 12/29/2022

REASON FOR REVISION:

AIRSPACE DOCKET ADDED 22-AGL-4
FIX MAKE-UP FACILITIES UPDATED FAC 1 CLASS FROM H TO VH

11/02/22: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 08/03/22.
1. FIX USE ADDED ILS OR LOC RWY 13 @ KBDH

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

OFFICE OF PRIMARY RESPONSIBILITY: AJV-A421 **NAME:** JOSHUA DUGAN

APPROVED BY: **DATE:** 12/29/2022 **OFFICE:** AJV-A420 **NAME:** MARLON ROBINSON

SIGNATURE: