| Flight Procedure Tracking Form | Action: FLIGHT CHECK | Task Type: IAP | Date Open: 09/28/2009 | Task #: 20090928188965 02001 | Request #: 20090928188965 |
|---|---|---|---|---|---|
| Procedure: RNAV (RNP) Z RWY 16 L ORIG | | Airport ID: KSMF | Airport: SACRAMENTO INTL | | Reimbursable #: |
| City: SACRAMENTO | ST: CA | GPS #: | | Estimated Chart Date: 09/20/2012 | FICO #: 1088915 |
| Fac ID: SMF | Fac. Type: RNP Proc-P | | Specialist: JIMMY HUGHES | | P1 |

## Procedure Review

| | Rec'd | Rel'd | Full Name | Comments |
|---|---|---|---|---|
| Lead: | 03/16/2012 | 07/20/2012 | ADOLFO URRUTIA | |
| QA: | 06/21/2012 | 06/21/2012 | STEVEN SZUKALA | |
| Liaison: | 06/21/2012 | | K. Spurlin | WAIVER - P1 - REPLACEMENT 7/19/12 - REQUEST TABLE TOP |

**Procedure Comments:** ENROUTE **Remark Type:** INFORMATION PKG 1 of 7

SACRAMENTO, CA SACRAMENTO INTL (KSMF) RNAV (RNP) Z RWY 16L, ORIG (RNP) ENROUTE-YES FC. 7.24.12 PUB. 9.20.12
ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): CFBGB, ORIG; CFBHN, ORIG; CFBJJ, ORIG; ELKOE-INT, REV 4; FIKAN, ORIG; JULUK, ORIG; MUKVY, ORIG; OVOME, ORIG; TENCO-INT, REV 5; TUDOR-INT, REV 9; UWFUR, ORIG; UZIZY, ORIG; WENUD, ORIG; WOSKI, ORIG; ZIMAM, ORIG; (INFO ONLY) GRIME-INT, REV 10
REPLACEMENT 7/19/12 -3, -10, GRAPHIC
CONTACT: ADOLFO URRUTIA/LONNIE EVERHART-AVN-130 LEADS, 405.954.2079/405.954.4576

| APP CRS | Rwy ldg | 8605 |
|---|---|---|
| 164° | THRE | 27 |
| | Apt Elev | 27 |

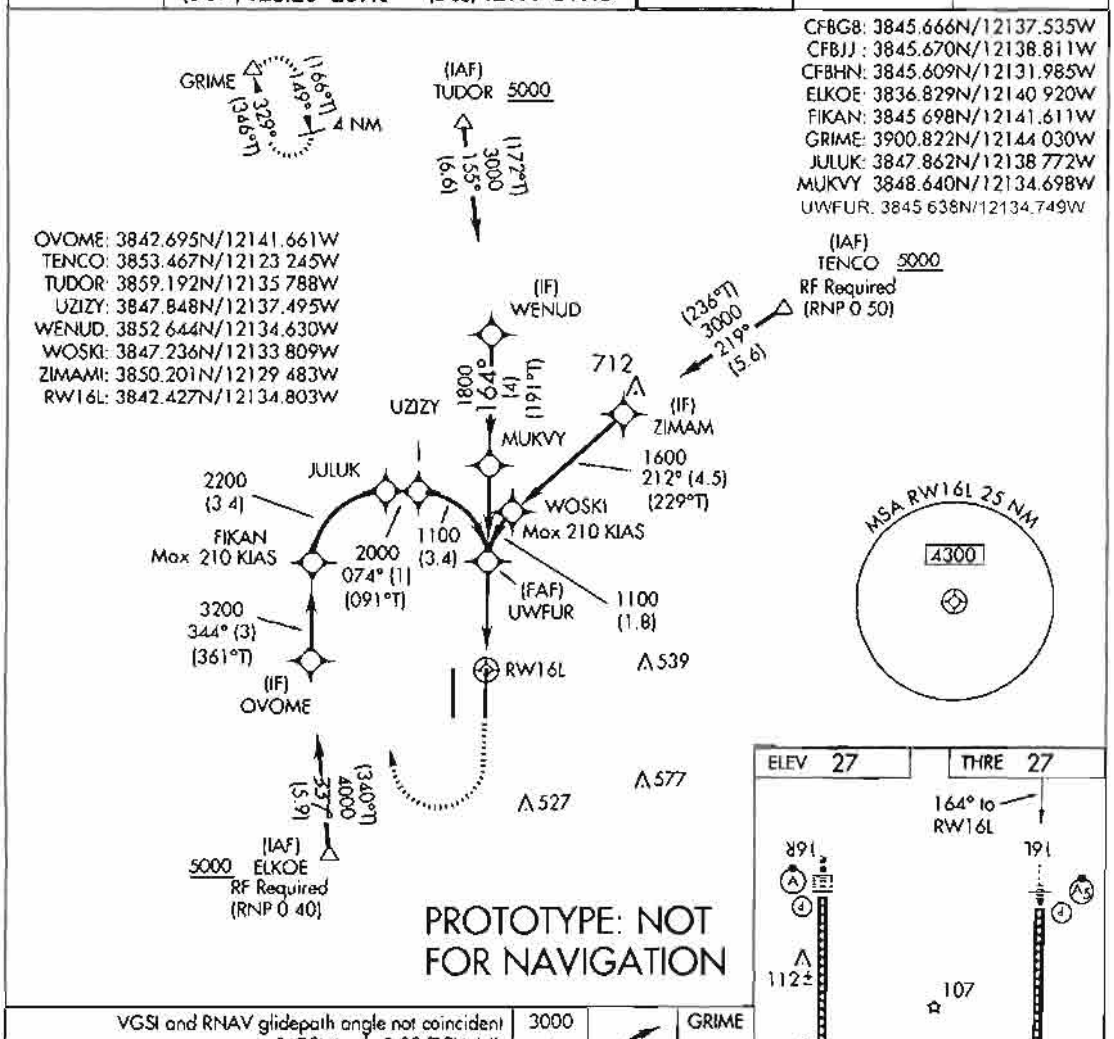
# RNAV (RNP) Z RWY 16L
## SACRAMENTO INTL (SMF)

For uncompensated Baro-VNAV systems, procedure NA below -15°C (5°F) or above 54°C (130°F). For inoperative MALSR, increase RNP 0.30 all Cats visibility to RVR 5500. When VGSI inop, procedure NA at night. GPS Required.

MALSR

MISSED APPROACH: Climb to 3000 then right turn direct GRIME and hold.

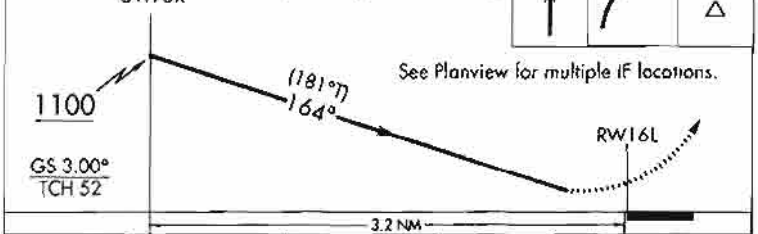
| ATIS | NORCAL APP CON | | CAPITAL TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|---|
| 126.75 | (W-N) 134.8 270.25 (S-SW) 125.25 257.9 | (NE) 125.4 259.1 (E-SE) 127.4 317.5 | 125.7 256.7 | 121.7 | 121.1 256.7 |



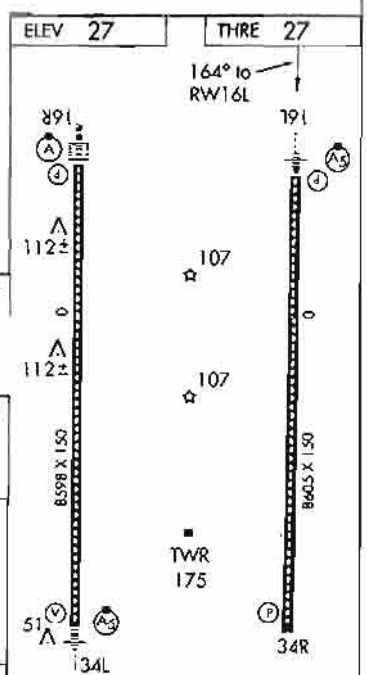

VGSI and RNAV glidepath angle not coincident | 3000 | GRIME

PROTOTYPE: NOT
FOR NAVIGATION

VGSI and RNAV glidepath angle not coincident (VGSI Angle 3.00/TCH 64). | 3000 | GRIME




| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| RNP 0.3 DA | 362/50 335 (400-1) | | | |




TDZ/CL Rwys 16L and 16R
HIRL Rwys 16R-34L and 16L-34R

| APP CRS | Rwy ldg | 8605 |
|---|---|---|
| 164° | THRE | 27 |
| | Apt Elev | 27 |

# RNAV (RNP) Z RWY 16L
## SACRAMENTO INTL (SMF)

For uncompensated Baro-VNAV systems, procedure NA below -15°C (5°F) or above 54°C (130°F). For inoperative MALSR, increase RNP 0.30 all Cats visibility to RVR 5500. When VGSI inop, procedure NA at night. GPS Required.

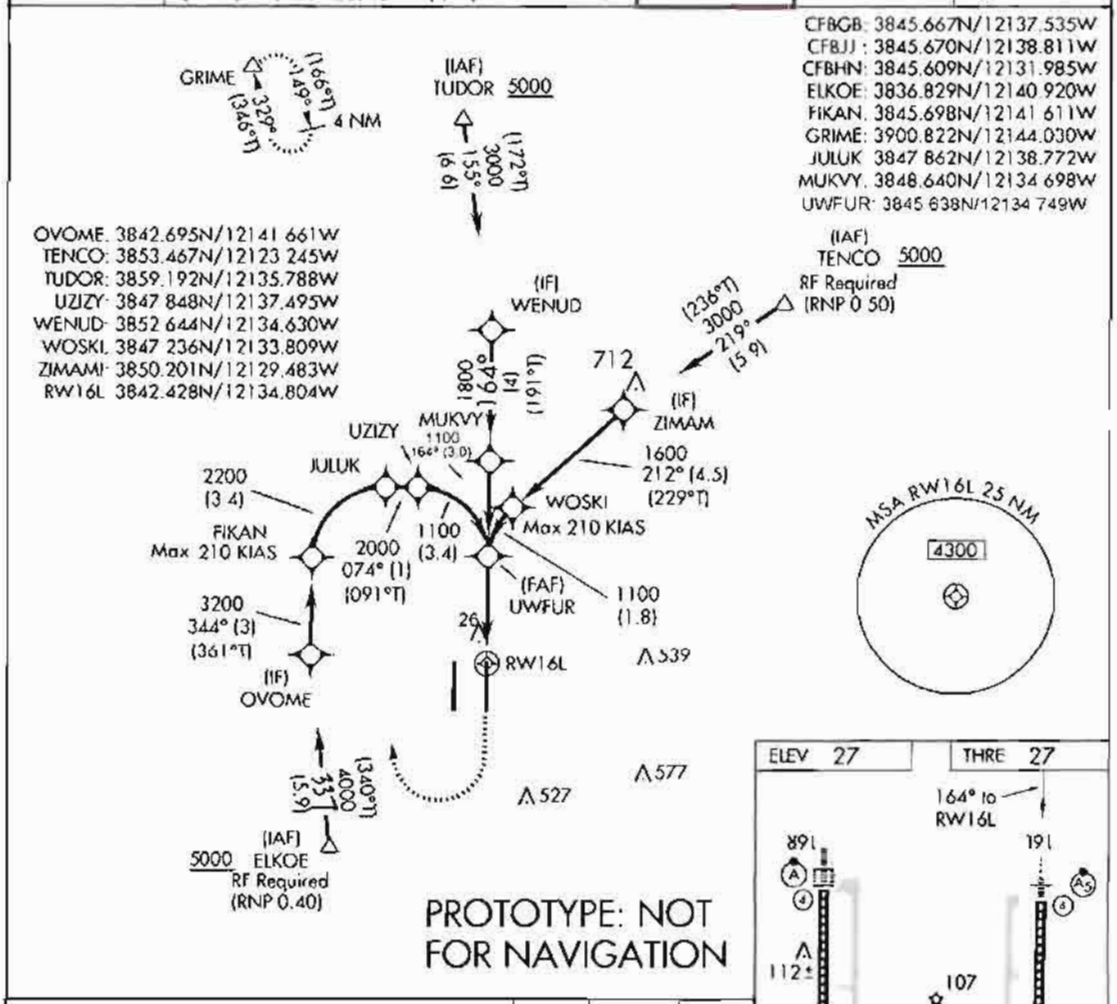
MALSR

MISSED APPROACH: Climb to 3000 then right turn direct GRIME and hold.

| ATIS | NORCAL APP CON | | CAPITAL TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|---|
| 126.75 | (W-N) 134.8 270.25 (S-SW) 125.25 257.9 | (NE) 125.4 259.1 (E-SE) 127.4 317.5 | 125.7 256.7 | 121.7 | 121.1 256.7 |

CFBGB: 3845.667N/12137.535W
CFBJJ: 3845.670N/12138.811W
CFBHN: 3845.609N/12131.985W
ELKOE: 3836.829N/12140.920W
FIKAN: 3845.698N/12141.611W
GRIME: 3900.822N/12144.030W
JULUK: 3847.862N/12138.772W
MUKVY: 3848.640N/12134.698W
UWFUR: 3845.638N/12134.749W

OVOME: 3842.695N/12141.661W
TENCO: 3853.467N/12123.245W
TUDOR: 3859.192N/12135.788W
UZIZY: 3847.848N/12137.495W
WENUD: 3852.644N/12134.630W
WOSKI: 3847.236N/12133.809W
ZIMAM: 3850.201N/12129.483W
RW16L: 3842.428N/12134.804W

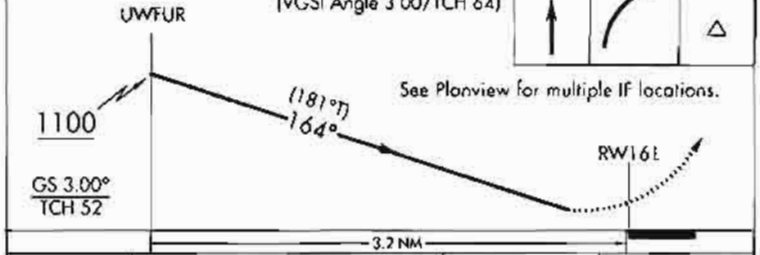



PROTOTYPE: NOT FOR NAVIGATION

VGSI and RNAV glidepath angle not coincident | 3000 | GRIME

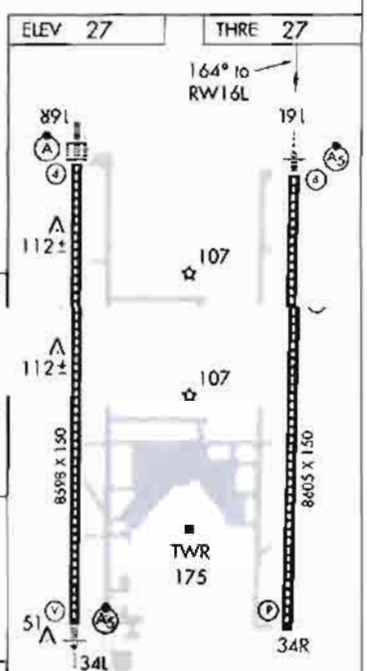
PROTOTYPE: NOT FOR NAVIGATION

VGSI and RNAV glidepath angle not coincident (VGSI Angle 3.00/TCH 64) | 3000 | GRIME




See Planview for multiple IF locations.

| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| RNP 0.3 DA | 362/50 335 (400-1) | | | |




TDZ/CL Rwys 16L and 16R
HIRL Rwys 16R-34L and 16L-34R

| APP CRS | Rwy ldg | 8605 |
|---|---|---|
| 164° | THRE | 27 |
| | Apt Elev | 27 |

# RNAV (RNP) Z RWY 16L
## SACRAMENTO INTL (SMF)

For uncompensated Baro-VNAV systems, procedure NA below -15°C (5°F) or above 54°C (130°F). For inoperative MALSR, increase RNP 0.30 all Cats visibility to RVR 5500. When VGSI inop, procedure NA at night. GPS Required.

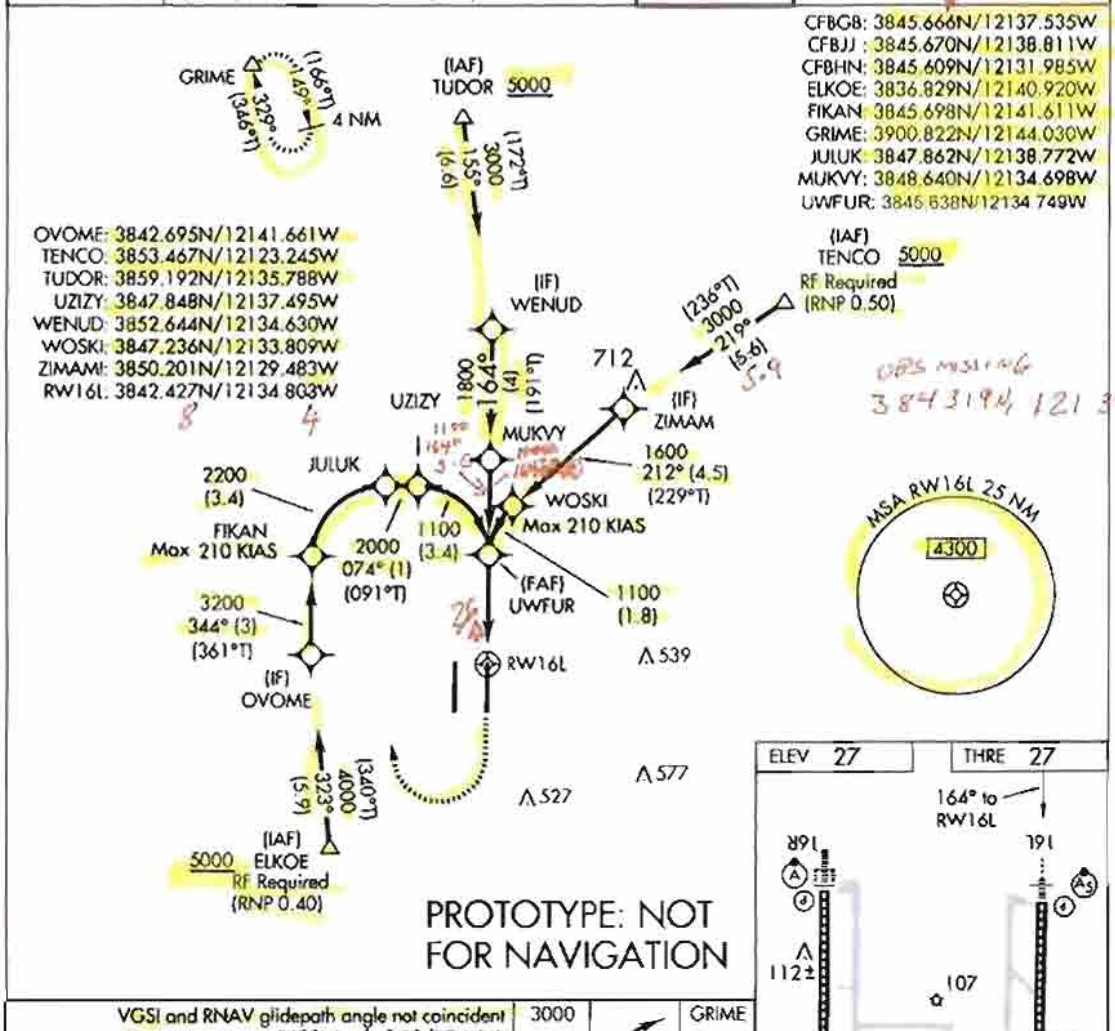
MALSR

MISSED APPROACH: Climb to 3000 then right turn direct GRIME and hold.

| ATIS | NORCAL APP CON | | CAPITAL TOWER | GND CON | CLNC DEL |
|---|---|---|---|---|---|
| 128.75 | (W-N) 134.8 270.25 (S-SW) 125.25 257.9 | (NE) 125.4 259.1 (E-SE) 127.4 317.5 | 125.7 256.7 | 121.7 | 121.1 256.7 |

CFBGB: 3845.666N/12137.535W
CFBJJ : 3845.670N/12138.811W
CFBHN: 3845.609N/12131.985W
ELKOE: 3836.829N/12140.920W
FIKAN: 3845.698N/12141.611W
GRIME: 3900.822N/12144.030W
JULUK: 3847.862N/12138.772W
MUKVY: 3848.640N/12134.698W
UWFUR: 3845.638N/12134.749W

OVOME: 3842.695N/12141.661W
TENCO: 3853.467N/12123.245W
TUDOR: 3859.192N/12135.788W
UZIZY: 3847.848N/12137.495W
WENUD: 3852.644N/12134.630W
WOSKI: 3847.236N/12133.809W
ZIMAM: 3850.201N/12129.483W
RW16L: 3842.427N/12134.803W

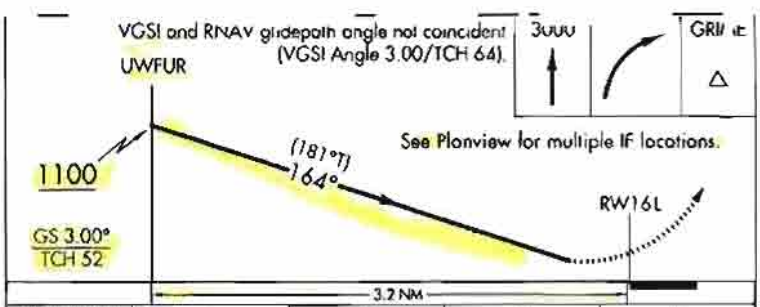



PROTOTYPE: NOT FOR NAVIGATION

VGSI and RNAV glidepath angle not coincident | 3000 | GRIME

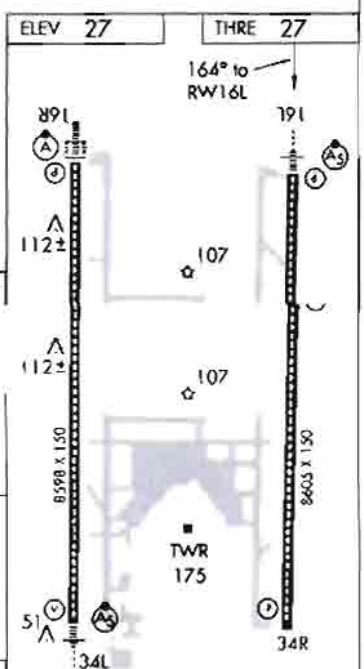
PROTOTYPE: NOT FOR NAVIGATION

VGSI and RNAV glidepath angle not coincident (VGSI Angle 3.00/TCH 64).

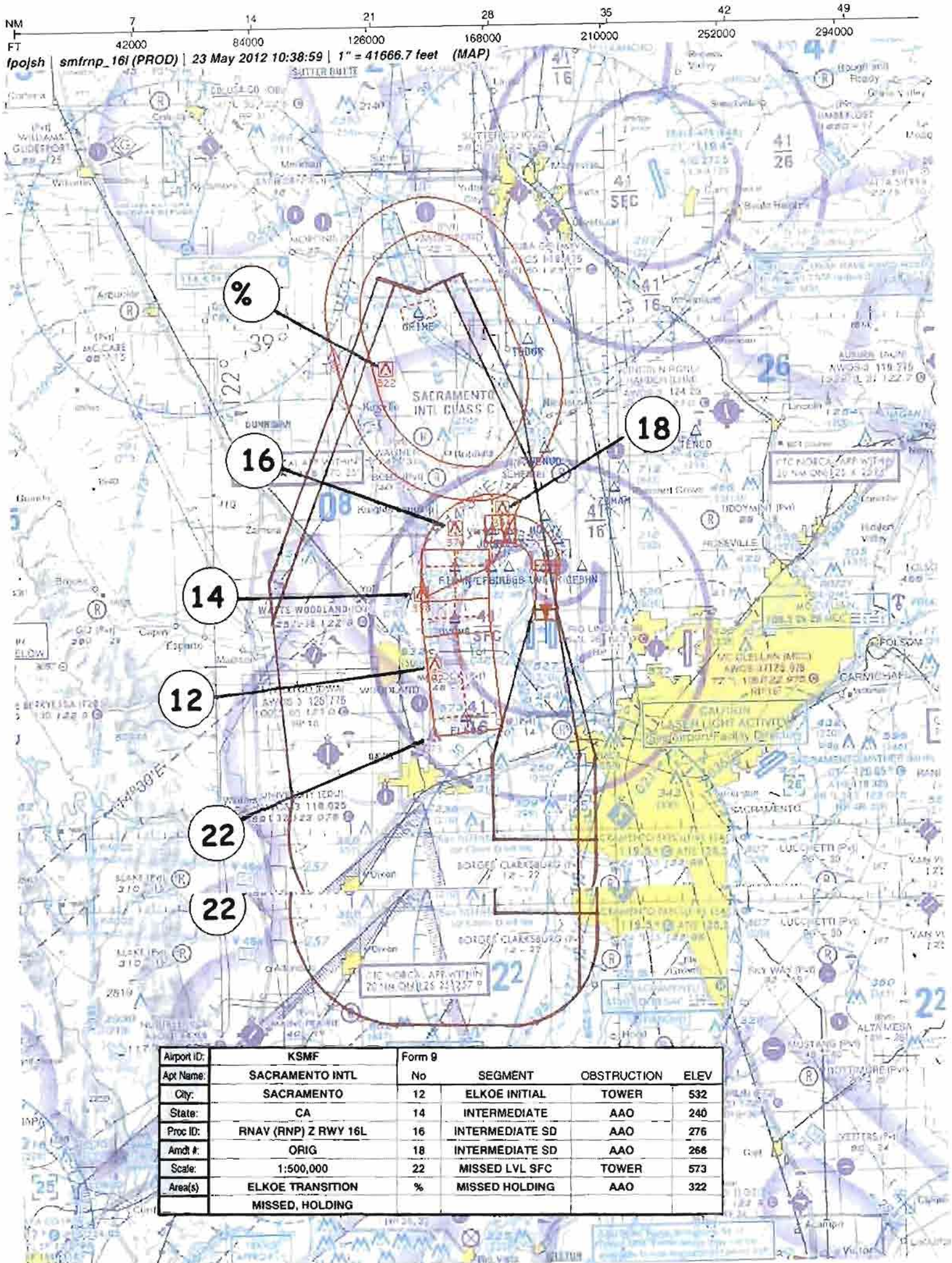



See Planview for multiple IF locations.

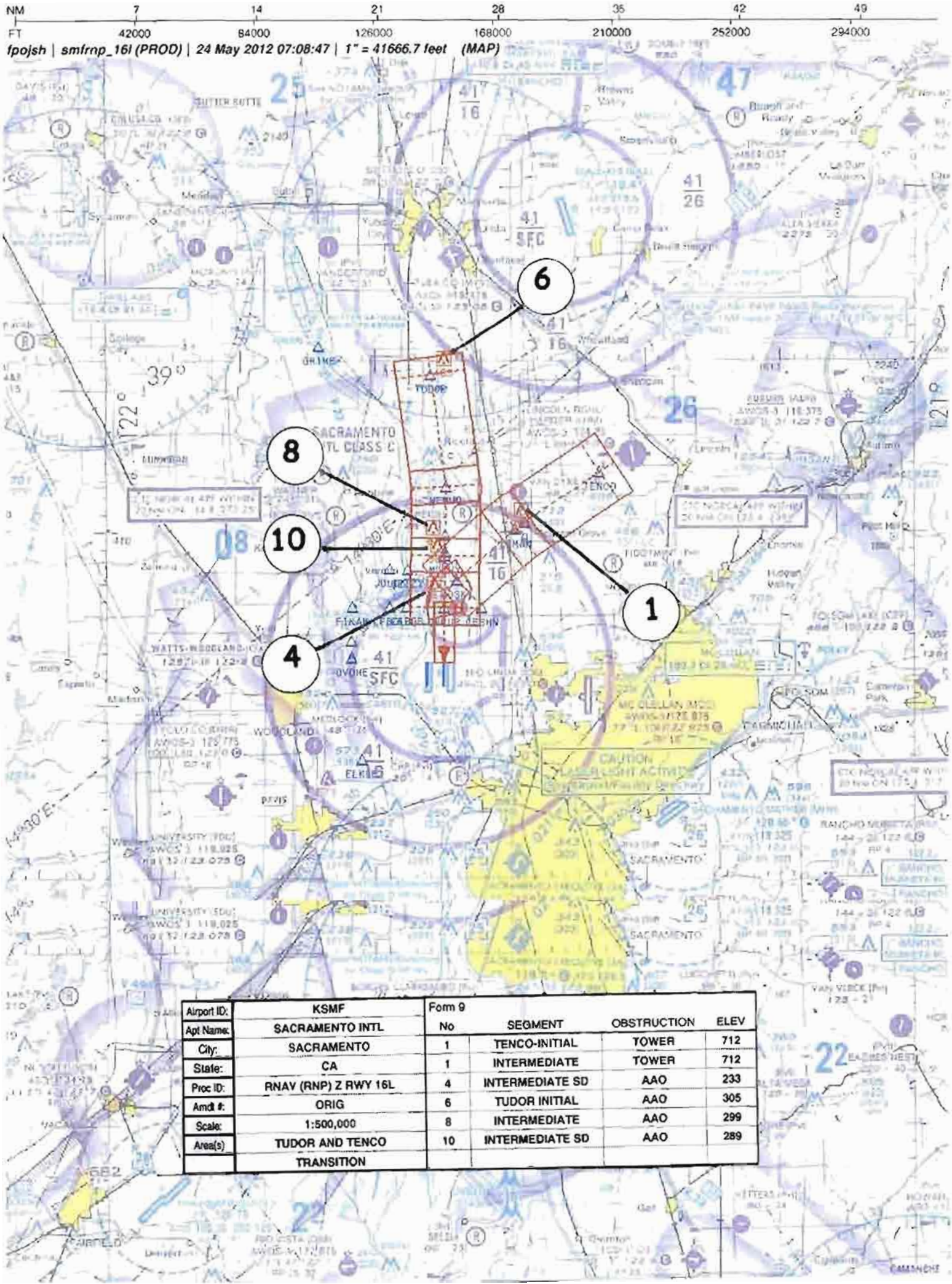
| CATEGORY | A | B | C | D |
|---|---|---|---|---|
| RNP 0.3 DA | 362/50 | 335 (400-1) | | |




TDZ/CL Rwys 16L and 16R
HIRL Rwys 16R-34L and 16L-34R



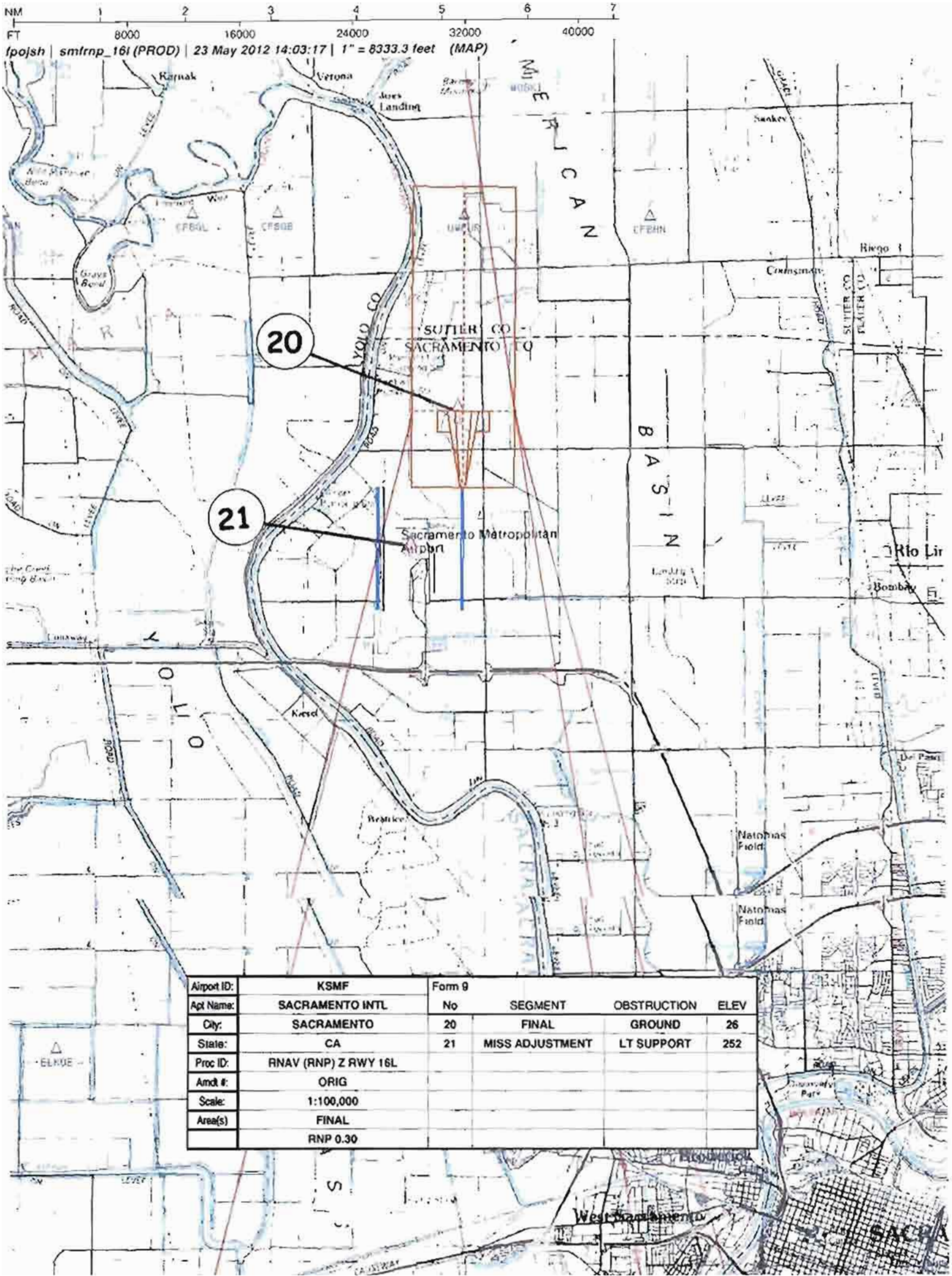

| Airport ID: | KSMF | Form 9 | | | |
|---|---|---|---|---|---|
| Apt Name: | SACRAMENTO INTL | No | SEGMENT | OBSTRUCTION | ELEV |
| City: | SACRAMENTO | 12 | ELKOE INITIAL | TOWER | 532 |
| State: | CA | 14 | INTERMEDIATE | AAO | 240 |
| Proc ID: | RNAV (RNP) Z RWY 16L | 16 | INTERMEDIATE SD | AAO | 276 |
| Amdt #: | ORIG | 18 | INTERMEDIATE SD | AAO | 266 |
| Scale: | 1:500,000 | 22 | MISSED LVL SFC | TOWER | 573 |
| Area(s) | ELKOE TRANSITION | % | MISSED HOLDING | AAO | 322 |
| | MISSED, HOLDING | | | | |




| Airport ID: | KSMF |
|---|---|
| Apt Name: | SACRAMENTO INTL |
| City: | SACRAMENTO |
| State: | CA |
| Proc ID: | RNAV (RNP) Z RWY 16L |
| Amdt #: | ORIG |
| Scale: | 1:500,000 |
| Area(s) | TUDOR AND TENCO |
| | TRANSITION |

Form 9

| No | SEGMENT | OBSTRUCTION | ELEV |
|---|---|---|---|
| 1 | TENCO-INITIAL | TOWER | 712 |
| 1 | INTERMEDIATE | TOWER | 712 |
| 4 | INTERMEDIATE SD | AAO | 233 |
| 6 | TUDOR INITIAL | AAO | 305 |
| 8 | INTERMEDIATE | AAO | 299 |
| 10 | INTERMEDIATE SD | AAO | 289 |




| Airport ID: | KSMF | Form 9 | | | |
|---|---|---|---|---|---|
| Apt Name: | SACRAMENTO INTL | No | SEGMENT | OBSTRUCTION | ELEV |
| City: | SACRAMENTO | 20 | FINAL | GROUND | 26 |
| State: | CA | 21 | MISS ADJUSTMENT | LT SUPPORT | 252 |
| Proc ID: | RNAV (RNP) Z RWY 16L | | | | |
| Amdt #: | ORIG | | | | |
| Scale: | 1:100,000 | | | | |
| Area(s) | FINAL | | | | |
| | RNP 0.30 | | | | |

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

# RNAV (RNP) - 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 |
|---|---|---|---|
| TENCO (IAF) | ZIMAM (TF) (FB) (RNP 1.00) | 219.22 / 5.86 | 3000 |
| ZIMAM (IF) | WOSKI (TF) (FB) (RNP 1.00) | 211.80 / 4.49 | 1600 |
| WOSKI | UWFUR (RF) (FB) (RNP 0.50) | (2.16 NM RADIUS CCW CFBHN)/1.81 | 1100 |
| TUDOR (IAF) | WENUD (TF) (FB) (RNP 1.00) | 155.13 / 6.60 | 3000 |
| WENUD (IF) | MUKVY (TF) (FB) (RNP 1.00) | 163.76 / 4.00 | 1800 |
| (SEE FORM 8260-10) | | | |

## MISSED APPROACH

RNP: DA

CLIMB TO 3000 THEN RIGHT TURN DIRECT GRIME AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT UWFUR
3. FAC: 163.76 FAF: ____ DIST FAF TO MAP: ____ THLD: ____
4. MIN. ALT: UWFUR 1100
5. DIST TO THLD FROM OM: 3.21 MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 1100 GS ALT AT: UWFUR 1100 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 51.8 34:1 IS NOT CLEAR
8. MSA FROM: RW16L 4300

ADDITIONAL FLIGHT DATA:
HOLD SE, RT, 329.00 INBOUND.
CHART FAS OBST: 26 GRD 384319N/1213452W
DISTANCE TO THLD FROM 335 HATH: 0.89 NM.
ROUTE TYPE: A, H
ROUTE TYPE QUALIFIER 1: F
ROUTE TYPE QUALIFIER 2: S
#TCH 78.7 (DO NOT CHART)
CHART MINIMUM 5000 AT ELKOE.
CHART MINIMUM 5000 AT TUDOR.
CHART MINIMUM 5000 AT TENCO.

MAG VAR: 17E EPOCH YEAR: 1980

## MINIMUMS

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

| 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 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| AUTHORIZATION REQUIRED | | | | | | | | | | | | | | | |
| RNP 0.30 DA | 362 | 5000 | 335 | 362 | 5000 | 335 | 362 | 5000 | 335 | 362 | 5000 | 335 | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

NOTES:

CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, PROCEDURE NA BELOW -15C (5F) OR ABOVE 54C (130F).
CHART NOTE: WHEN VGSI INOP, PROCEDURE NA AT NIGHT.
CHART NOTE: FOR INOPERATIVE MALSR, INCREASE RNP 0.30 ALL CATS VISIBILITY TO RVR 5500.
(SEE FORM 8260-10)

QUALITY CHECKED

| CITY AND STATE | ELEVATION: 27 THRE: 27 | FACILITY IDENTIFIER: | PROCEDURE NO./AMDT NO./EFFECTIVE DATE: | SUP: |
|---|---|---|---|---|
| SACRAMENTO, CA | AIRPORT NAME: SACRAMENTO INTL | RNAV | RNAV (RNP) Z RWY 16L, ORIG | AMDT: NONE |
| | | | | DATED |

| 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 | X | X NORCAL APP CON, ZOA, SMF ATCT |

| FLIGHT CHECKED BY | | |
|---|---|---|
| NAME | FIFO | DATE |
| | | |

| DEVELOPED BY | | |
|---|---|---|
| NAME | FIFO | DATE |
| JIMMY S. HUGHES | AJV-354 | 05/23/2012 |

| APPROVED BY | | |
|---|---|---|
| NAME | FIFO | DATE |
| DEZ SILAGYI MANAGER | AJV-354 | |

CHANGES

1. ORIGINAL PROCEDURE.

REASONS

1. FPT REQUEST.

07/16/2012: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 05/23/2012.
1. TERMINAL ROUTE ELKOE TO OVOME CHANGED FROM 322.56 TO 337.35.

QUALITY CHECKED

TERMINAL ROUTES, (CONT.):

| FROM | TO | COURSE AND DISTANCE | ALTITUDE |
|---|---|---|---|
| MUKVY | UWFUR (TF) (FB) (RNP 1.00) | 163.76 / 3.00 | 1100 |
| ELKOE (IAF) | OVOME (TF) (FB) (RNP 1.00) | 337.35 / 5.89 | 4000 |
| OVOME (IF) | FIKAN (TF) (FB) (RNP 1.00) | 343.75 / 3.00 | 3200 |
| FIKAN | JULUK (RF) (FB) (RNP 1.00) | (2.19 NM RADIUS CW CFBJJ)/3.44 | 2200 |
| JULUK | UZIZY (TF) (FB) (RNP 0.40) | 073.80 / 1.00 | 2000 |
| UZIZY | UWFUR (RF) (FB) (RNP 0.40) | (2.18 NM RADIUS CW CFBGB)/3.42 | 1100 |
| UWFUR (FAF) | RW16L (MAP) (TF) (FO) | 163.76 / 3.21 | |
| RW16L (MAP) | 3000 MSL (CA) | 163.76 | 3000 |
| 3000 MSL | GRIME (DF) (FO) | | 3000 |

NOTES, (CONT.):
CHART PLANVIEW NOTE AT WOSKI : MAX 210 KIAS.
CHART PLANVIEW NOTE AT FIKAN : MAX 210 KIAS.
CHART PLANVIEW NOTE ADJACENT TO TENCO IAF: RF REQUIRED.
CHART PLANVIEW NOTE ADJACENT TO ELKOE IAF: RF REQUIRED.
CHART PLANVIEW NOTE AT TENCO: (RNP 0.50).
CHART PLANVIEW NOTE AT ELKOE: (RNP 0.40).
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
CHART PROFILE NOTE: SEE PLANVIEW FOR MULTIPLE IF LOCATIONS.
CHART NOTE: GPS REQUIRED.

QUALITY CHECKED

| 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:

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 (RNP)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        --------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   CFBGB K20    W     N38454000W121373207                     E0142    NAR          CNF(CFBGB)
        SUSAEAENRT   CFBHN K20    W     N38453655W121315912                     E0142    NAR          CNF(CFBHN)
        SUSAEAENRT   CFBJJ K20    W     N38454018W121384866                     E0142    NAR          CNF(CFBJJ)
        SUSAEAENRT   ELKOE K20    C     N38364976W121405518                     E0141    NAR          ELKOE
        SUSAEAENRT   FIKAN K20    W     N38454186W121413664                     E0142    NAR          FIKAN
        SUSAEAENRT   GRIME K20    C   L N39004933W121440181                     E0143    NAR          GRIME
        SUSAEAENRT   JULUK K20    W     N38475170W121384631                     E0142    NAR          JULUK
        SUSAEAENRT   MUKVY K20    W     N38483842W121344190                     E0142    NAR          MUKVY
        SUSAEAENRT   OVOME K20    W     N38424171W121413965                     E0142    NAR          OVOME
        SUSAEAENRT   TENCO K20    C     N38532801W121231470                     E0142    NAR          TENCO
        SUSAEAENRT   TUDOR K20    C     N38591149W121354725                     E0142    NAR          TUDOR
        SUSAEAENRT   UWFUR K20    W     N38453830W121344495                     E0142    NAR          UWFUR
        SUSAEAENRT   UZIZY K20    W     N38475085W121372968                     E0142    NAR          UZIZY
        SUSAEAENRT   WENUD K20    W     N38523863W121343781                     E0142    NAR          WENUD
        SUSAEAENRT   WOSKI K20    W     N38471416W121334851                     E0142    NAR          WOSKI
        SUSAEAENRT   ZIMAM K20    W     N38501204W121292900                     E0142    NAR          ZIMAM

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
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                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        --------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSMFK2FH16LZ AELKOE 010ELKOEK2EA0E  A    IF                                  + 05000     18000                A FS
        SUSAP KSMFK2FH16LZ AELKOE 020OVOMEK2EA0E  B 010TF                                  + 04000                          A FS
        SUSAP KSMFK2FH16LZ AELKOE 030FIKANK2EA0E    010TF                                  + 03200         210              A-FS
        SUSAP KSMFK2FH16LZ AELKOE 040JULUKK2EA0E   R010RF       0021903438    07380034    + 02200                CFBJJ K2EAA FS
        SUSAP KSMFK2FH16LZ AELKOE 050UZIZYK2EA0E    041TF                                  + 02000                          A FS
        SUSAP KSMFK2FH16LZ AELKOE 060UWFURK2EA0EE  R041RF       0021800738    16380034    + 01100                CFBGB K2EAA FS
        SUSAP KSMFK2FH16LZ ATENCO 010TENCOK2EA0E  A    IF                                  + 05000     18000                A FS
        SUSAP KSMFK2FH16LZ ATENCO 020ZIMAMK2EA0E  B 010TF                                  + 03000                          A FS
        SUSAP KSMFK2FH16LZ ATENCO 030WOSKIK2EA0E    010TF                                  + 01600         210              A-FS
        SUSAP KSMFK2FH16LZ ATENCO 040UWFURK2EA0EE  L051RF       0021602118    16380018    + 01100                CFBHN K2EAA FS
        SUSAP KSMFK2FH16LZ ATUDOR 010TUDORK2EA0E  A    IF                                  + 05000     18000                A FS
        SUSAP KSMFK2FH16LZ ATUDOR 020WENUDK2EA0E  B 010TF                                  + 03000                          A FS
        SUSAP KSMFK2FH16LZ ATUDOR 030MUKVYK2EA0E    010TF                                  + 01800                          A FS
        SUSAP KSMFK2FH16LZ ATUDOR 040UWFURK2EA0EE   010TF                                  + 01100                          A FS
        SUSAP KSMFK2FH16LZ H      020UWFURK2EA1E  F    IF                                  + 01100     18000       RW16L K2PGA FS
        SUSAP KSMFK2FH16LZ H      020UWFURK2EA2W                                               A031                           FS
```

QUALITY CHECKED

| CITY AND STATE | ELEVATION: 27 THRE: 27 | FACILITY IDENTIFIER: | PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE: | SUP: |
|---|---|---|---|---|
| SACRAMENTO, CA | AIRPORT NAME: SACRAMENTO INTL | RNAV | RNAV (RNP) Z RWY 16L, 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: | NFPG | DATE: |
| **APPROVED BY** | | |
| NAME: | NFPG | DATE: |

CHANGES:

REASONS:

QUALITY CHECKED

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.

```
        SUSAP KSMFK2FH16LZ H      030RW16LK2PG0GY M 031TF                                  00079          -300          A FS
        SUSAP KSMFK2FH16LZ H      040          0  M     CA                  1638        + 03000                        A FS
        SUSAP KSMFK2FH16LZ H      050GRIMEK2EA0EY      DF                               + 03000                        A FS
        SUSAP KSMFK2FH16LZ H      060GRIMEK2EA0EE  R   HM                  32900040     + 03000                        A FS
```

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSMFK2GRW16L   0086051638 N38422570W121344821-0100    -0022300027000052150IIMDK1
```

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSMFK2SRW16LK2PG                0   18018004325                                                                    M
```

QUALITY CHECKED

| CITY AND STATE | ELEVATION: 27 THRE: 27 | FACILITY IDENTIFIER: | PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE: | SUP: |
|---|---|---|---|---|
| SACRAMENTO, CA | AIRPORT NAME: SACRAMENTO INTL | RNAV | RNAV (RNP) Z RWY 16L, 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: | NFPG | DATE: |
| **APPROVED BY** | | |
| NAME: | NFPG | DATE: |

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

# RNAV (RNP) 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 (RNP)

| ROUTES | TRANSITION | FIX | SEQ | USE | PATH | TURN | FO/FB | RNP | MAG(TRUE) | DISTANCE | ALTITUDE | SPEED |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ELKOE | ELKOE | 010 | IAF | IF | | FB | | | | AA 05000 | |
| | ELKOE | OVOME | 020 | | TF | | FB | 1.0 | | | AA 04000 | |
| | ELKOE | FIKAN | 030 | | TF | | FB | 1.0 | | | AA 03200 | AB 210 |
| | ELKOE | JULUK | 040 | | RF | R | FB | 1.0 | | 003.4 | AA 02200 | |
| | ELKOE | UZIZY | 050 | | TF | | FB | 0.4 | | | AA 02000 | |
| | ELKOE | UWFUR | 060 | | RF | R | FB | 0.4 | | 003.4 | AA 01100 | |
| | TENCO | TENCO | 010 | IAF | IF | | FB | | | | AA 05000 | |
| | TENCO | ZIMAM | 020 | | TF | | FB | 1.0 | | | AA 03000 | |
| | TENCO | WOSKI | 030 | | TF | | FB | 1.0 | | | AA 01600 | AB 210 |
| | TENCO | UWFUR | 040 | | RF | L | FB | 0.5 | | 001.8 | AA 01100 | |
| | TUDOR | TUDOR | 010 | IAF | IF | | FB | | | | AA 05000 | |
| | TUDOR | WENUD | 020 | | TF | | FB | 1.0 | | | AA 03000 | |
| | TUDOR | MUKVY | 030 | | TF | | FB | 1.0 | | | AA 01800 | |
| | TUDOR | UWFUR | 040 | | TF | | FB | 1.0 | | | AA 01100 | |
| | | UWFUR | 020 | FAF | IF | | FB | | | | AA 01100 | |
| | | RW16L | 030 | MAP | TF | | FO | 0.3 | | | AT 00079 | |

| MISSED APPROACH | FIX | SEQ | USE | PATH | TURN | FO/FB | RNP | MAG(TRUE) | DISTANCE | ALTITUDE | SPEED |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 040 | | CA | | FB | | 163.8(180.8T) | | AA 03000 | |
| | GRIME | 050 | | DF | | FO | | | | AA 03000 | |
| | GRIME | 060 | | HM | R | FO | | 329.0(346.0T) | 004.0 | AA 03000 | |

| POINT DATA | WAYPOINT | LAT IN SECS | LONG IN SECS | LAT IN MINS | LONG IN MINS |
|---|---|---|---|---|---|
| | CFBGB | N384540.00 | W1213732.07 | N3845.667 | W12137.535 |
| | CFBHN | N384536.55 | W1213159.12 | N3845.609 | W12131.985 |
| | CFBJJ | N384540.18 | W1213848.66 | N3845.670 | W12138.811 |
| | ELKOE | N383649.76 | W1214055.18 | N3836.829 | W12140.920 |
| | FIKAN | N384541.86 | W1214136.64 | N3845.698 | W12141.611 |
| | GRIME | N390049.33 | W1214401.81 | N3900.822 | W12144.030 |
| | JULUK | N384751.70 | W1213846.31 | N3847.862 | W12138.772 |
| | MUKVY | N384838.42 | W1213441.90 | N3848.640 | W12134.698 |
| | OVOME | N384241.71 | W1214139.65 | N3842.695 | W12141.661 |
| | TENCO | N385328.01 | W1212314.70 | N3853.467 | W12123.245 |
| | TUDOR | N385911.49 | W1213547.25 | N3859.192 | W12135.788 |
| | UWFUR | N384538.30 | W1213444.95 | N3845.638 | W12134.749 |
| | UZIZY | N384750.85 | W1213729.68 | N3847.848 | W12137.495 |
| | WENUD | N385238.63 | W1213437.81 | N3852.644 | W12134.630 |
| | WOSKI | N384714.16 | W1213348.51 | N3847.236 | W12133.809 |
| | ZIMAM | N385012.04 | W1212929.00 | N3850.201 | W12129.483 |
| | RW16L | N384225.70 | W1213448.21 | N3842.428 | W12134.804 |

| CITY AND STATE | ELEVATION: 27 THRE: 27 | FACILITY IDENTIFIER: | PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE: | SUP: |
|---|---|---|---|---|
| SACRAMENTO, CA | AIRPORT NAME: SACRAMENTO INTL | RNAV | RNAV (RNP) Z RWY 16L, 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: | NFPG | DATE |
| **APPROVED BY** | | |
| NAME: | NFPG | DATE |

CHANGES:

REASONS:

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RUNWAY DATA

| RWY | THRESHOLD ELEVATION | TCH |
|---|---|---|
| RW16L | 00027 | 52 |

QUALITY CHECKED

| CITY AND STATE | ELEVATION: 27 THRE: 27 | FACILITY IDENTIFIER: | PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE: | SUP: |
|---|---|---|---|---|
| SACRAMENTO, CA | AIRPORT NAME: SACRAMENTO INTL | RNAV | RNAV (RNP) Z RWY 16L, 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: | 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. |
|---|---|---|---|---|---|---|---|---|
| INITIAL | TENCO | ZIMAM | 1. TOWER (06-000022) | 385052.00N/1212900.00W | 712 (4D) | 1000 | AC50 AT1238 | 3000 |
| (RNP 1.00) | | | 2. TERRAIN | 385224.00N/1212409.00W | 109 (100) | | AS1500 | 1600 |
| | | | | | | | | |
| INTERMEDIATE | ZIMAM | WOSKI | 1. TOWER (06-000022) | 385052.00N/1212900.00W | 712 (4D) | 500 | AC50 | 1300 |
| (RNP 1.00) | | | 3. TERRAIN | 384851.00N/1213515.00W | 89 (100) | | AS1500 | 1600 |
| | | | | | | | | |
| INTERMEDIATE: STEPDOWN | WOSKI | UWFUR | 4. AAO | 384633.00N/1213530.00W | 233 (4E) | 500 | AC98 AT269 | 1100 |
| (RNP 0.50) | | | 5. TERRAIN | 384645.00N/1213545.00W | 33 (0) | | AS1000 | 1000 |
| | | | | | | | | |
| INITIAL | TUDOR | WENUD | 6. AAO | 385942.00N/1213445.00W | 305 (4E) | 1000 | AC98 AT1597 | 3000 |
| (RNP 1.00) | | | 7. TERRAIN | 385636.00N/1213651.00W | 86 (100) | | AS1500 | 1600 |
| | | | | | | | | |
| INTERMEDIATE | WENUD | MUKVY | 8. AAO | 384951.00N/1213533.00W | 299 (4E) | 500 | AC98 AT903 | 1800 |
| (RNP 1.00) | | | 9. TERRAIN | 384951.00N/1213533.00W | 99 (100) | | AS1500 | 1600 |
| | | | | | | | | |
| INTERMEDIATE: STEPDOWN | MUKVY | UWFUR | 10. AAO | 384851.00N/1213515.00W | 289 (4E) | 500 | AC98 DG213 | 1100 |
| (RNP 1.00) | | | 11. TERRAIN | 384654.00N/1213627.00W | 43 (0) | | AS1000 | 1000 |
| | | | | | | | | |
| INITIAL | ELKOE | OVOME | 12. TOWER (06-002117) | 383926.00N/1214316.00W | 532 (5D) | 1000 | AC50 AT2418 | 4000 |
| (RNP 1.00) | | | 13. TERRAIN | 383754.00N/1214257.00W | 92 (100) | | AS1500 | 1600 |
| 2. PROCEDURE TURN | NA | | | | | | | |
| 3. MISSED APPROACH — MAP | DA | GRIME | 21. LT SUPT | 384142.90N/1213534.60W | 252 (2C) | ASC | | 3000 |
| | | | 22. TOWER (06-000599) | 383520.00N/1214330.00W | 573 (5D) | 1000 | AC50 | 1700 |
| ELEV. | 201 | | 23. TERRAIN | 385757.00N/1215030.00W | 168 (200) | | AS1500 | 1700 |

| 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: RW16L

| SECTOR | OBSTRUCTION | BRG/DIST | ELEVATION (MSL) | M S A | SECTOR | OBSTRUCTION | BRG/DIST | ELEVATION (MSL) | M S A |
|---|---|---|---|---|---|---|---|---|---|
| 360-360 | AAO | 249/ 28.7 | 3257 (6A) | 4300 | | | | | |

| CITY AND STATE | ELEVATION: 27 / AIRPORT NAME | FACILITY | PROCEDURE AND AMENDMENT NO. | REGION |
|---|---|---|---|---|
| SACRAMENTO, CA | SACRAMENTO INTL | RNAV | RNAV (RNP) Z RWY 16L, ORIG | AWP |

## PART B - SUPPLEMENTAL DATA

| 1. COMMUNICATIONS WITH: | 2. WEATHER SERVICE | | 3. ALTIMETER SETTING |
|---|---|---|---|
| ZOA ARTCC<br>NORCAL APP CON<br>SMF TOWER | N W S<br>F A A<br>A / C | OTHER:<br>ASOS | SOURCE: KSMF<br>DISTANCE:<br>HOURS REMOTE OPERATION: |
| SATISFACTORY ON: | | | |
| X V H F  X U H F  H F | LOCATION: KSMF | | ADJUSTMENT: 0 |

| | | |
|---|---|---|
| 4. MONITOR STATUS | PRIMARY NAVAID: | |
| | MONITOR POINT: | |
| | HRS OPTN: | CAT 1 |
| | | CAT 3 |
| 5. APPROACH & RUNWAY LIGHTING | X | ALSF-2 16R |
| | | (S) SALS |
| | X | MALSR 16L, 34L |
| | X | HIRL 16L, 34L, 16R, 34R |
| | | MIRL |
| | | REIL |
| | X | TDZ 16L, 16R |
| | X | C/L 16L, 34L, 16R, 34R |
| | X | OTHER (SPECIFY)<br>PAPI-4R 16R PAPI-4L 16L, 34R VASI-4L 34L |
| 6. RUNWAY MARKINGS | BASIC | |
| | ALL WEATHER | PIR-G 16L, 34L, 16R |
| | INSTRUMENT | NPI-G 34R |
| 7. RUNWAY VISUAL RANGE | APPROACH | 16L, 34L, 16R, 34R |
| | MIDFIELD | 16L, 34L, 16R, 34R |
| | ROLL OUT | 16L, 34L, 16R, 34R |
| 8. GLIDE PATH | GP ANGLE: 3.00 | ELEV RWY THRESHOLD: 26.9 |
| | DISTANCE FROM RWY: | ELEV GP ANTENNA: |
| | | THRESHOLD CROSSING HEIGHT: 51.8 |
| 9. FINAL APPROACH COURSE AIMING | X | RUNWAY THRESHOLD — FT. FROM THRESHOLD |
| | X | ON CENTERLINE — FT. FROM CENTERLINE |

10. WAIVERS: 1

AFS-400 MEMORANDUM DATED OCT 3, 2011, 1. B. RF RULE: CALCULATED RF BANK ANGLE BASED ON THE DESIGN RADIUS NOT TO EXCEED 25 DEGREES (20 DEGREES FOR RNP/ATT VALUES LESS THAN 1.0).

| | |
|---|---|
| PART D - PREPARED BY: JIMMY S. HUGHES | DATE: 05/23/2012 |
| TITLE: AERONAUTICAL INFORMATION SPECIALIST | OFFICE: AJV-354 |

## PART C - REMARKS:

MAX SPEED WOSKI TO UWFUR - 210 KIAS.

MAX SPEED FIKAN TO JULUK - 210 KIAS.

PARA 251, 20:1 PENETRATION.

PARA 251, 34:1 PENETRATION.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

SEE ATTACHED AIRSPACE LETTER.

BARO-VNAV NA BELOW -15C (5F) OR ABOVE 54C (130F).
ACT: -15

TREE HEIGHT 50 FT PER FPT.

THE PORTION OF THE ACCESS ROAD WHICH CROSSES THE GQS AREA IS WHOLLY CONTAINED WITHIN AN ATC CONTROLLED ACCESS RSA. THIS AREA IS CONTINUOUSLY MONITORED (24/7) BY ATC. VEHICLE HEIGHT NOT ADDED IN THIS AREA SINCE ATC WILL PREVENT VEHICLES FROM ENTERING THIS AREA SIMULTANEOUSLY WITH USE OF THE APPROACH. SPECIFICALLY, OBSTACLES KSMFT0183, KSMFT0185 AND KSMFT0187 WERE NOT CONSIDERED IN THE EVALUATION OF THIS PROCEDURE.

TERPS VOLUME 1, VISUAL PORTION OF FINAL PENETRATIONS:
20:1 PENETRATIONS:
RWY 34R:

34 ROAD (KSMFT0266) 384058.07N/1213450.45W (8.81)
34 ROAD (KSMFT0274) 384056.98N/1213450.48W (3.30)

RWY 16L:
26 SIGN (KSMFT0180) 384227.61N/1213445.00W (2.10)

34:1 PENETRATIONS:
30 ROAD (KSMFT0189) 384231.48N/1213447.85W (3.37)

AVERAGE COLD TEMPERATURE DATA NOT AVAILABLE, AVERAGE COLD TEMPERATURE BASED ON STANDARD -30 C ISA DEVIATION.

BACK-UP ALTIMETER NOT REQUIRED, MULTIPLE SOURCES.

VEB ROC APPLIED/USED.
VEB DATA: SEE ATTACHED SPREADSHEET.

| SEGMENT | ALT | KIAS | KTAS | HAA | VKTW | TR | BA |
|---|---|---|---|---|---|---|---|
| WOSKI-UWFUR | 1600 | 210 | 216.72 | 1573 | 30.00 | 2.16 | 22.33 |
| FIKAN-JULUK | 3200 | 210 | 223.44 | 3173 | 38.00 | 2.19 | 24.48 |
| UZIZY-UWFUR | 2000 | 210 | 214.62 | 1973 | 30.00 | 2.18 | 21.83 |

SEGMENT JULIK TO UZIZY DOESNT MEET MIN SEG LENGTH AS A 1.0 RNP LEVEL IS REQUIRED DUE TO NEXT SEGMENT BANK ANGLE IN EXCESS OF 20 DEGREES (OCT 3, 2011 MEMO).
BUILT AS A 0.40 SEGMENT THEN MANUALLY EVALUATED FOR CONTROLLING OBSTACLE AND TERRAIN

QUALITY CHECKED

# STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

| 1. APP SEGMENT | FROM | TO | OBSTRUCTION | COORDINATES | ELEV. MSL | ROC | ALT. ADJUSTMENTS | MIN. ALT. |
|---|---|---|---|---|---|---|---|---|
| INTERMEDIATE | OVOME | FIKAN | 14. AAO | 384342.00N/1214412.00W | 240 (4E) | 500 | AC98 AT2362 | 3200 |
| (RNP 1.00) | | | 15. TERRAIN | 384342.00N/1214412.00W | 40 (0) | | AS1500 | 1500 |
| | | | | | | | | |
| INTERMEDIATE: STEPDOWN | FIKAN | JULUK | 16. AAO | 384733.00N/1214130.00W | 276 (4E) | 500 | AC98 AT1326 | 2200 |
| (RNP 1.00) | | | 17. TERRAIN | 384733.00N/1214130.00W | 76 (100) | | AS1500 | 1600 |
| | | | | | | | | |
| INTERMEDIATE: STEPDOWN | JULUK | UZIZY | 18. AAO | 384839.00N/1213757.00W | 266 (4E) | 500 | AC98 AT1136 | 2000 |
| (RNP 0.40) | | | 19. TERRAIN | 384839.00N/1213757.00W | 66 (100) | | AS1500 | 1600 |
| | | | | | | | | |
| INTERMEDIATE: STEPDOWN | UZIZY | UWFUR | 18. AAO | 384839.00N/1213757.00W | 266 (4E) | 500 | AC98 DG236 | 1100 |
| (RNP 0.40) | | | 19. TERRAIN | 384742.00N/1213724.00W | 43 (0) | | AS1000 | 1000 |
| | | | | | | | | |
| FINAL: RNP 0.30 | UWFUR | RW16L | 20. GRD (KSMFT0201) | 384318.63N/1213451.50W | 26 (1A) | 21:68 | AC3 MA30 | 362/335 |
| | | | | | | | | |
| MISSED APPROACH | DA | RW16L | | | | ASC | | |
| (RNP 0.30-1.00) | | | | | | | | |

| 3. MISSED APPROACH | |
|---|---|
| MAP: | |
| 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 |
|---|---|---|---|---|
| SACRAMENTO, CA | ELEVATION: 27<br>AIRPORT NAME: SACRAMENTO INTL | RNAV | RNAV (RNP) Z RWY 16L, ORIG | AWP |

## 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 |
| | | 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:** CFBGB **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384540.00N/1213732.07W **TYPE:** CNF

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** CFBHN **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384536.55N/1213159.12W **TYPE:** CNF

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:** **NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

QUALITY CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** CFBJJ **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384540.18N/1213848.66W **TYPE:** CNF

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 06/04/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:** **NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** ELKOE **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 383649.76N/1214055.18W **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 | SACRAMENTO | SAC | VORTAC | H | 311.99 | 328.99 | 11.90 | 11.90 | | 1000 | 17500 |
| 2 | MARYSVILLE | MYV | VOR/DME | T | 174.00 | 190.00 | 29.51 | 29.51 | | 3000 | 12000 |

**EXPANDED SERVICE VOLUME (ESV):**

| FAC IDENT | FAC TYPE | RADIAL/BEARING | DISTANCE | MIN ALTITUDE | MAX ALTITUDE |
|---|---|---|---|---|---|
| MYV | VOR/DME | R-174 | 30 | 3000 | 12000 |

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16R | | | KSMF | SACRAMENTO | CA (US) |
| STAR | CONCORD | 1, 2 | | KSMF | SACRAMENTO | CA (US) |
| STAR | WRAPS | 1, 2 | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** STAR, IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 4 **DATE OF REVISION:** 09/20/2012

**REASON FOR REVISION:**
1. UPDATED FAC 1 TRUE/MAG BRG FROM 329.00/312.00 TO 328.99/311.99.
2. UPDATED FAC 2 DME FROM 29.52 TO 29.51.
3. ADDED DIS FROM FAC TO FAC 1 AND 2.
4. ADDED IAP TO REQUIRED CHARTING.
5. UPDATED FIX USE.
6. ADDED WP TO FIX TYPE.

**DEVELOPED BY:** **DATE:** 05/10/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** FIKAN **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384541.86N/1214136.64W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16R | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** JULUK **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384751.70N/1213846.31W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** MUKVY **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384838.42N/1213441.90W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** OVOME **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384241.71N/1214139.65W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16R | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** TENCO **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 385328.01N/1212314.70W **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 | SQUAW VALLEY | SWR | VOR/DME | L | 236.00 | 252.00 | 55.06 | 55.06 | | 5000 | 17500 |
| 2 | SACRAMENTO | SAC | VORTAC | H | 359.01 | 016.01 | | 27.90 | | 5000 | 17500 |
| 3 | MARYSVILLE | MYV | VOR/DME | T | 129.02 | 145.02 | | 15.17 | | 5000 | 17500 |

**EXPANDED SERVICE VOLUME (ESV):**

| FAC IDENT | FAC TYPE | RADIAL/BEARING | DISTANCE | MIN ALTITUDE | MAX ALTITUDE |
|---|---|---|---|---|---|
| SWR | VOR/DME | R-236 | 56 | 5000 | 17500 |

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

**REMARKS:**
SQUAW VALLEY (FAC 1) USED TO ESTABLISH FIX COORDINATES

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16R | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 34L | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 34R | | | KSMF | SACRAMENTO | CA (US) |
| STAR | FLUNK (RNAV) | 1, 2, 3 | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** STAR, IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 5 **DATE OF REVISION:** 09/20/2012

**REASON FOR REVISION:**
1. ADDED DIST FROM FAC TO FACS 1,2,3.
2. FAC 2 TRUE/MAG BRG CHANGED FROM 016.00/359.00 TO 016.01/359.01
3. FAC 3 TRUE/MAG BRG CHANGED FROM 145.03/129.03 TO 145.02/129.02
4. UPDATED FIX USE.
5. ADDED WP TO FIX TYPE.

**DEVELOPED BY:** **DATE:** 04/12/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** TUDOR **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 385911.49N/1213547.25W **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 | SACRAMENTO | I-SMF | LOC/DME | | 345.75 | 000.75 | 18.60 | 18.58 | | 2000 | 10000 |
| 2 | WILLIAMS | ILA | VORTAC | L | 086.00 | 104.00 | | 20.77 | | 2000 | 17500 |
| 3 | SACRAMENTO | SAC | VORTAC | H | 339.31 | 356.31 | 32.60 | 32.60 | | 2000 | 17500 |

**EXPANDED SERVICE VOLUME (ESV):**

| FAC IDENT | FAC TYPE | RADIAL/BEARING | DISTANCE | MIN ALTITUDE | MAX ALTITUDE |
|---|---|---|---|---|---|
| I-SMF | LOC/DME | R-346 | 19 | 2000 | 10000 |

**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 | N | | WP | 343.74 | 163.74 | R | | 4 | 2000 | 6000 | 4 | 6 |

**CONTROLLING OBSTRUCTIONS:**

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|---|---|---|---|---|---|
| 1 | 200 | AAO | 385942.00N/1213445.00W | 305 | 4E |

**HOLDING RESTRICTIONS:**
HOLDING LIMITED TO ESTABLISHED PATTERN.

**REMARKS:**
SACRAMENTO (FAC 1) AND WILLIAMS (FAC 2) USED TO ESTABLISH FIX COORDINATES
LOC DME COORDINATES. 384034.70N/1213603.05W
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | ILS OR LOC RWY 16R | 1, 2, 3 | | KSMF | SACRAMENTO | CA (US) |
| IAP | ILS RWY 16R (CAT II, CAT III) | 1, 2, 3 | | KSMF | SACRAMENTO | CA (US) |
| IAP | ILS RWY 16R (SA CAT I) | 1, 2, 3 | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (GPS) Y RWY 16R | | 1 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16R | | | KSMF | SACRAMENTO | CA (US) |
| STAR | TUDOR | 1, 2, 3 | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** STAR, IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 9 **DATE OF REVISION:** 09/20/2012

**REASON FOR REVISION:**
1. FAC 3 DME/DIST FROM FAC CHANGED FROM 32.61 TO 32.60.

**DEVELOPED BY:** **DATE:** 06/04/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**REASON FOR REVISION:**
1. FAC 3 DME/DIST FROM FAC CHANGED FROM 32.61 TO 32.60.

**DEVELOPED BY:** **DATE:** 06/04/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:** SMF ATCT

QUALITY 4 CHECKED

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** UWFUR **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384538.30N/1213444.95W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** UZIZY **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384750.85N/1213729.68W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** WENUD **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 385238.63N/1213437.81W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** WOSKI **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 384714.16N/1213348.51W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 16L | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** ZIMAM **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 385012.04N/1212929.00W **TYPE:** WP

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

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE |
|---|---|---|---|---|---|---|
| IAP | RNAV (RNP) Z RWY 18L | | | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16R | | | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** ORIG **DATE OF REVISION:** 09/20/2012

**DEVELOPED BY:** **DATE:** 05/22/2012 **OFFICE:** AJV-354 **NAME:** JIMMY HUGHES

**APPROVED BY:** **DATE:** **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:**
**NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

INFO ONLY

# RADIO FIX AND HOLDING DATA RECORD

**NAME:** GRIME **STATE:** CA **COUNTRY:** US

**LATITUDE/LONGITUDE:** 390049.33N/1214401.81W **TYPE:** WP, INT, 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 | DIST FROM FAC FEET | MRA | MAA |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SACRAMENTO | SAC | VORTAC | H | 329.00 | 346.00 | 35.22 | 35.22 | | 2000 | 17500 |
| 2 | WILLIAMS | ILA | VORTAC | L | 086.00 | 104.00 | | 14.14 | | 2000 | 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 | SAC | VORTAC | 329.00 | 329.00 | R | 1 | | 2000 | 4000 | 5 | 6 |
| 2 | SE | | WP | 149.00 | 329.00 | R | | 4 | 2000 | 4000 | 4 | 5 |

**CONTROLLING OBSTRUCTIONS:**

| PAT | AIRSPEED | OBSTRUCTION | COORDINATES | ELEVATION | ACCURACY CODE |
|---|---|---|---|---|---|
| UPN | 200 | TOWER (06-020287) | 391220.00N/1214914.00W | 2353 | 5E |
| 1 | 200 | AAO | 385306.00N/1214606.00W | 358 | 4E |
| 2 | 200 | AAO | 385703.00N/1214633.00W | 322 | 4E |

**HOLDING RESTRICTIONS:**
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 4000.
HOLDING BELOW 4000 LIMITED TO ESTABLISHED PATTERN(S).

**REMARKS:**
WILLIAMS (FAC 2) AND SACRAMENTO (FAC 1) USED TO ESTABLISH FIX COORDINATES.
PRECIPITOUS TERRAIN EVALUATION COMPLETE.

**FIX USE:**

| USE TYPE | USE TITLE | FAC | PAT | AIRPORT IDENT | CITY | STATE (US) |
|---|---|---|---|---|---|---|
| EN ROUTE | V23 | 1, 2 | | | | |
| IAP | GPS RWY 31 | | | KO08 | COLUSA | CA (US) |
| IAP | RNAV (GPS) RWY 33 | | | KLHM | LINCOLN | CA (US) |
| IAP | ILS OR LOC RWY 16L | 1, 2 | 1 | KSMF | SACRAMENTO | CA (US) |
| IAP | ILS OR LOC RWY 16R | 1, 2 | 1 | KSMF | SACRAMENTO | CA (US) |
| IAP | ILS OR LOC RWY 34L | 1, 2 | 1 | KSMF | SACRAMENTO | CA (US) |
| IAP | ILS RWY 16R (CAT II) | 1, 2 | 1 | KSMF | SACRAMENTO | CA (US) |
| IAP | ILS RWY 16R (CAT III) | 1, 2 | 1 | KSMF | SACRAMENTO | CA (US) |
| IAP | ILS RWY 16R (SA CAT I) | 1, 2 | 1 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (GPS) Y RWY 16L | | 2 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (GPS) Y RWY 16R | | 2 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (GPS) Y RWY 34L | | 2 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (GPS) Y RWY 34R | | 2 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16L | | 2 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 16R | | 2 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 34L | | 2 | KSMF | SACRAMENTO | CA (US) |
| IAP | RNAV (RNP) Z RWY 34R | | 2 | KSMF | SACRAMENTO | CA (US) |

**REQUIRED CHARTING:** IAP, CONTROLLER, EN ROUTE LOW

**COMPULSORY REPORTING POINT:** NO

**REQUIRED CHARTING:** IAP, CONTROLLER, EN ROUTE LOW

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 10 **DATE OF REVISION:** 05/31/2012

**REASON FOR REVISION:**
1. REVISED PAT 1 AND 2 AC
2. REVISED PAT 1 CONTROLLING OBSTACLE TO 358 AAO.
3. REVISE FIX USE.

**DEVELOPED BY:** **DATE:** 10/26/2011 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (ROSS BARTO)

**APPROVED BY:** **DATE:** 03/01/2012 **OFFICE:** AJV-354 **NAME:** DEZ SILAGYI

**SIGNATURE:**

**DISTRIBUTION:** **NFDC**
**FPO:** WST
**ARTCC:** ZOA
**ATC FACILITY:** NORCAL APP CON
**OTHER:**

# TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **SACRAMENTO** STATE: **CA**

AIRPORT NAME: **SACRAMENTO INTL** ID: **KSMF**

PROCEDURE: **RNAV (RNP) Z RWY 16L** 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 **2.89**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **180.76**
4. High Terrain in **FINAL** segment containing 1000' point **26**
5. Distance from **THLD** to 1500' point **4.46**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **INTERMEDIATE** segment at 1500' point **4.00**
7. True Course of **INTERMEDIATE** segment containing 1500' point **180.76**
8. High Terrain in **INTERMEDIATE** segment containing 1500' point **99**

8. High Terrain in **INTERMEDIATE** segment containing 1500' point **99**

9. Threshold Coordinates (if straight-in) ... **384225.70N** / **1213448.21W**
10. ARP Coordinates ..... **384143.60N** / **1213526.80W**
11. Runway Approach End and distance furthest from ARP.....RWY **34R**
    Distance **.86** NM
12. FAF Coordinates ..... **384538.30N** / **1213444.95W**
    (Click to Select)

**REMARKS: Approach/Drawing attached.** THIS IS AIRSPACE FORM 1 OF 3

# TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **SACRAMENTO** STATE: **CA**

AIRPORT NAME: **SACRAMENTO INTL** ID: **KSMF**

PROCEDURE: **RNAV (RNP) Z RWY 16L** 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 **2.89**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **180.76**
4. High Terrain in **FINAL** segment containing 1000' point **26**
5. Distance from **THLD** to 1500' point *****
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **INTERMEDIATE** segment at 1500' point **2.00**
7. True Course of **INTERMEDIATE** segment containing 1500' point *****
8. High Terrain in **INTERMEDIATE** segment containing 1500' point **60**

8. High Terrain in **INTERMEDIATE** segment containing 1500' point **60**

9. Threshold Coordinates (if straight-in) ... **384225.70N** / **1213448.21W**
10. ARP Coordinates ..... **384143.60N** / **1213526.80W**
11. Runway Approach End and distance furthest from ARP.....RWY **34R**
    Distance **.86** NM
12. FAF Coordinates ..... **384538.30N** / **1213444.95W**
    (Click to Select)

**REMARKS: Approach/Drawing attached.** *RF SEGMENTUWFUR TO WOSKI, RADIUS TURN CENTERPOINT CNF (CFBFX) ARC RADIUS 2.19 NM. RF SEGMENT LERIY TO JUNBO, RADIUS TURN CENTERPOINT CNF (CFBFZ ARC RADIUS 2.21 NM. THIS IS AIRSPACE FORM 2 OF 3.

# TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **SACRAMENTO** STATE: **CA**

AIRPORT NAME: **SACRAMENTO INTL** ID: **KSMF**

PROCEDURE: **RNAV (RNP) Z RWY 16L** 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 **2.89**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment , final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **180.76**
4. High Terrain in **FINAL** segment containing 1000' point **26**
5. Distance from **THLD** to 1500' point **4.46**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **INTERMEDIATE** segment at 1500' point **1.60**
7. True Course of **INTERMEDIATE** segment containing 1500' point *****
8. High Terrain in **INTERMEDIATE** segment containing 1500' point **43**

9. Threshold Coordinates (if straight-in) **384225.70N / 1213448.21W**
8. High Terrain in **INTERMEDIATE** segment containing 1500' point **43**

9. Threshold Coordinates (if straight-in) ... **384225.70N / 1213448.21W**
10. ARP Coordinates ..... **384143.60N / 1213526.80W**
11. Runway Approach End and distance furthest from ARP.....RWY **34R**
    Distance **.86** NM
12. FAF Coordinates ..... **384538.30N / 1213444.95W**
    (Click to Select)

**REMARKS: Approach/Drawing attached.** *RF SEGMENT UWFUR TO UZIZY, RADIUS TURN CENTERPOINT CNF (CFBGB) ARC RADIUS 2.18 NM. THIS IS AIRSPACE FORM 3 OF 3.

US Department of Transportation
Federal Aviation Administration

# FLIGHT PROCEDURES STANDARDS WAIVER

FLIGHT STANDARDS USE ONLY

CONTROL NO:

1. Flight Procedure Identification:
**SACRAMENTO, CA**
**SACRAMENTO INTL**
**RNAV (RNP) Z RWY 16L**

2. Waiver Required and Applicable Standard:
**INTERMEDIATE RF SEGMENT WAIVER REQUIRED TO AFS400 MEMORANDUM DATED OCT 3, 2011, 1. B. RF RULE: CALCULATED RF BANK ANGLE BASED ON THE DESIGN RADIUS NOT TO EXCEED 25 DEGREES (20 DEGREES FOR RNP/ATT VALUES LESS THAN 1.0)**

3. Reason for Waiver *(Justification for nonstandard treatment)*:
**BANK ANGLE AT UZIZY TO UWFUR IS 21.83 DEGREES.**
**BANK ANGLE AT WOSKI TO UWFUR IS 22.33 DEGREES.**

4. Equivalent Level of Safety Provided:
1. **AUTHORIZATION REQUIRED FOR THIS PROCEDURE.**
2. **THE PROCEDURE WAS VALIDATED IN SIMULATOR WITH SATISFACTORY RESULTS.**
3. **RF INTERMEDIATE SEGMENT WAS SATISFACTORILY EVALUATED FOR OBSTACLES BASED ON AN RNP VALUE OF 1.00.**

5. How Relocation or Additional Facilities Will Affect Waiver Requirement:
**N/A - RNAV PROCEDURE**

6. Coordination With User Organizations *(Specify)*:
**AJV-354**_____

7. SUBMITTED BY

| DATE: | Office Identification: | Title: | Signature: |
|---|---|---|---|
| | **AJV-35** | **MANAGER, TERMINAL PRODUCTS GROUP** | **GREGORY YAMAMOTO** |

| 8. CONTINUATION |
|---|
| Comments: |

| 9. AFS ACTION | | |
|---|---|---|
| | | Approved |
| | | Disapproved |
| | | Not Required |

| Comments: | | |
|---|---|---|
| Date: | Routing Symbol: | Signature: |