US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.33

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
BOLDR (IAF)	RAMND (FB)	335.06 / 16.03	4700
RAMND	ROKME (FB)	338.89 / 4.78	4000
FAITH (IAF)	ROKME (FB)	281.23 / 14.51	4000
ROKME (IF)	DUYET (FB)	280.95 / 6.91	1800
DUYET (FAF)	RW28L (MAP) (FO)	280.87 / 5.43	
RW28L (MAP)	269 MSL	280.87	
269 MSL	JABGO (FB)		
JABGO	OLYMM (FO)	279.75 / 8.46	4000

MISSED APPROACH

LPV: DA
LNAV/VNAV: DA
LNAV: RW28L

CLIMB TO 4000 DIRECT JABGO AND ON TRACK 279.75 TO OLYMM AND HOLD, CONTINUE CLIMB-IN-HOLD TO 4000.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT ROKME
3. FAC: 280.87 FAF: DUYET DIST FAF TO MAP: 5.43 THLD: 5.43
4. MIN. ALT: ROKME 4000, DUYET 1800
5. DIST TO THLD FROM OM: ____ MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 1800 GS ALT AT: DUYET 1800 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 57.1 34:1 IS CLEAR
8. MSA FROM: RW28L 5000

ADDITIONAL FLIGHT DATA:
HOLD E, RT, 280.00 INBOUND.
CHART FAS OBST: 312 T-L TWR 373457N/1221506W
DISTANCE TO THLD FROM 256 HATH: 0.62 NM.
CHART VDP AT 1.86 MILES TO RW28L*
*LNAV ONLY.
WAAS CHANNEL # 53415
REFERENCE PATH ID: W28B
LTP HAE: -28.7 M

MAG VAR: 17E EPOCH YEAR: 1975

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
LPV DA	269	2400	256	269	2400	256	269	2400	256	269	2400	256			
LNAV/VNAV DA	589	1 1/2	576	589	1 1/2	576	589	1 1/2	576	589	1 1/2	576			
LNAV MDA	680	2400	667	680	2400	667	680	1 1/2	667	680	1 1/2	667			
CIRCLING	740	1	727	900	1 1/4	887	1040	3	1027	1140	3	1127			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -15C (5F) OR ABOVE 54C (130F).
CHART NOTE: DME/DME RNP-0.3 NA.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.

@ CAT B 900-2, CAT C 1100-3, CAT D 1200-3

CITY AND STATE	ELEVATION: 13 THRE: 13	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
SAN FRANCISCO, CA	AIRPORT NAME: SAN FRANCISCO INTL	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED 10/22/2009

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] **ZOA, NORCAL APP CON, AMGR, CA AERO**

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME: **VICTOR BOONE**	FIFO **AJV-354**	DATE: **05/16/2012**
APPROVED BY		
NAME: **DEZ SILAGYI** **MANAGER**	FIFO **AJV-354**	DATE:

CHANGES:

1. **LOWERED LPV DA/HATH FROM 287/274 TO 269/256.**
2. **LOWERED LNAV/VNAV DA/HATH FROM 945/932 TO 589/576.**
3. **LOWERED LNAV MDA/HATH FROM 1120/1107 TO 680/667.**
4. **LOWERED CIRCLING CAT A MDA/HAA FROM 1120/1107 TO 740/727, CAT B MDA/HAA FROM 1120/1107 TO 900/887.**
5. **LOWERED CIRCLING CAT C MDA/HAA FROM 1120/1107 TO 1040/1027, CAT D MDA/HAA FROM 1160 /1147 TO 1140/1127.**
6. **MOVED VDP FROM 3.2 NM TO 1.86 NM FROM RW28L.**
7. **LOWERED LNAV/VNAV ALL CATS VISIBILITY FROM 4 TO 1 .**
8. **LOWERED LNAV VIS CAT A FROM 4000 TO 2400, CAT B FROM 5000 TO 2400, CAT C FROM 2 TO 1 .**
9. **LOWERED CIRCLING VIS CAT A FROM 1 1/4 to 1**
10. **IAF FAITH TO ROKME DISTANCE CHANGED FROM 14.9 TO 14.51.**
11. **IF ROKME TO DUYET DISTANCE CHANGED FROM 6.6 TO 6.91.**
12. **PFAF MOVED .08 NM SOUTHEAST.**
13. **LOWERED MSA FROM 5100 TO 5000.**

REASONS:

1-9. NEW CRITERIA PROVIDED SMALLER EVALUATION AREA AND LOWER OBSTACLE DATA.
10, 11. ROKME MOVED .40 NM SOUTHEAST FOR CRITERIA.
12. RNP PFAF FORMULA USED.
13. NEW OBSTACLE DATA.

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FAS DATA BLOCK INFORMATION

DATA FIELD	DATA
OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KSFO
RUNWAY	RW28L
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W28B
LTP/FTP LATITUDE	373642.1595N
LTP/FTP LONGITUDE	1222130.0560W
LTP/FTP ELLIPSOIDAL HEIGHT	-00287
FPAP LATITUDE	373734.6400N
FPAP LONGITUDE	1222335.1900W
THRESHOLD CROSSING HEIGHT (TCH)	00057.1
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0000
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0
CRC REMAINDER	018CF059

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K2
LTP ORTHOMETRIC HEIGHT	+00039
FPAP ORTHOMETRIC HEIGHT	+00039

5

CITY AND STATE	ELEVATION: 13 THRE: 13	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
SAN FRANCISCO, CA	AIRPORT NAME: SAN FRANCISCO INTL	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED: 10/22/2009

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
☐ YES ☐ NO		

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

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ARINC PACKET - 424-18 - RNAV (GPS)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   BOLDR K20    C     N37101519W122043420                      E0139     NAR           BOLDR
        SUSAEAENRT   DUYET K20    C     N37340974W122152738                      E0140     NAR           DUYET
        SUSAEAENRT   FAITH K20    C     N37240438W121514284                      E0139     NAR           FAITH
        SUSAEAENRT   JABGO K20    W     N37400972W122294561                      E0140     NAR           JABGO
        SUSAEAENRT   OLYMM K20    C     N37435805W122391683                      E0141     NAR           OLYMM
        SUSAEAENRT   RAMND K20    W     N37260920W122072103                      E0139     NAR           RAMND
        SUSAEAENRT   ROKME K20    C     N37305550W122074687                      E0139     NAR           ROKME

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2ASFO     0     118YHN37370830W122222960E017000013         1800018000C    MNAR    SAN FRANCISCO INTL

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2FR28L  ABOLDR 010BOLDRK2EA0E  A    IF                                                18000                A JS
        SUSAP KSFOK2FR28L  ABOLDR 020RAMNDK2EA0E    010TF                      33510160    + 04700                           A JS
        SUSAP KSFOK2FR28L  ABOLDR 030ROKMEK2EA0EE B 010TF                      33890048    + 04000                           A JS
        SUSAP KSFOK2FR28L  AFAITH 010FAITHK2EA0E  A    IF                                                18000                A JS
        SUSAP KSFOK2FR28L  AFAITH 020ROKMEK2EA0EE B 010TF                      28120145    + 04000                           A JS
        SUSAP KSFOK2FR28L  R      010ROKMEK2EA0E  I    IF                                  + 04000     18000                A JS
        SUSAP KSFOK2FR28L  R      020DUYETK2EA1E  F 051TF                      28100069    + 01800                 RW28L K2PGA JS
        SUSAP KSFOK2FR28L  R      020DUYETK2EA2WALPV       ALNAV/VNAV ALNAV                                                   JS
        SUSAP KSFOK2FR28L  R      030RW28LK2PG0GY M 031TF                      28090054      00070            -300          A JS
        SUSAP KSFOK2FR28L  R      040         0  M     CA                      2809        + 00269                           A JS
        SUSAP KSFOK2FR28L  R      050JABGOK2EA0E       DF                                                                     A JS
        SUSAP KSFOK2FR28L  R      060OLYMMK2EA0EY   010TF                      2798        + 04000                           A JS
        SUSAP KSFOK2FR28L  R      070OLYMMK2EA0EE  R   HM                      28000040    + 04000                           A JS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2GRW28L   0113812808 N37364216W122213006+0000    -0028700013000057200I

                 1         2         3         4         5         6         7         8         9         0         1         2         3
PP      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2PR28L  RW28L001 0000W28B0N3736421595W12221300560-002870300N3737346400W1222335190010675000000571F400500018CF059
        SUSAP KSFOK2PR28L  RW28L002E      +00039+00039LPV       53415
```

QUALITY 1 CHECKED

CITY AND STATE	ELEVATION: 13 THRE: 13	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SAN FRANCISCO, CA	AIRPORT NAME: SAN FRANCISCO INTL	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED: 10/22/2009

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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```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KSFOK2SRW28LK2PG                0   18018005025                                                                          M
```

CITY AND STATE	ELEVATION: 13 THRE: 13	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SAN FRANCISCO, CA	AIRPORT NAME: SAN FRANCISCO INTL	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED: 10/22/2009

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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ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	BOLDR	BOLDR	010	IAF	IF		FB					
	BOLDR	RAMND	020		TF		FB	1.0	335.1(352.1T)	016.0	AA 04700	
	BOLDR	ROKME	030		TF		FB	1.0	338.9(355.9T)	004.8	AA 04000	
	FAITH	FAITH	010	IAF	IF		FB					
	FAITH	ROKME	020		TF		FB	1.0	281.2(298.2T)	014.5	AA 04000	
		ROKME	010	FACF	IF		FB				AA 04000	
		DUYET	020	FAF	TF		FB	0.5	281.0(298.0T)	006.9	AA 01800	
		RW28L	030	MAP	TF		FO	0.3	280.9(297.9T)	005.4	AT 00070	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		280.9(297.9T)		AA 00269	
	JABGO	050		DF		FB					
	OLYMM	060		TF		FO	1.0	279.8(296.8T)		AA 04000	
	OLYMM	070		HM	R	FO		280.0(297.0T)	004.0	AA 04000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	BOLDR	N371015.19	W1220434.20	N3710.253	W12204.570
	DUYET	N373409.74	W1221527.38	N3734.162	W12215.456
	FAITH	N372404.38	W1215142.84	N3724.073	W12151.714
	JABGO	N374009.72	W1222945.61	N3740.162	W12229.760
	OLYMM	N374358.05	W1223916.83	N3743.968	W12239.281
	RAMND	N372609.20	W1220721.03	N3726.153	W12207.351
	ROKME	N373055.50	W1220746.87	N3730.925	W12207.781
	RW28L	N373642.16	W1222130.06	N3736.703	W12221.501

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW28L	00013	57

QUALITY 1 CHECKED

CITY AND STATE	ELEVATION: 13 THRE: 13	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
SAN FRANCISCO, CA	AIRPORT NAME: SAN FRANCISCO INTL	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AMDT: 1
				DATED: 10/22/2009

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	BOLDR	RAMND	1. AAO	371324.00N/1220536.00W	3432 (4E)	1000		4500
			2. TERRAIN	371324.00N/1220536.00W	3232 (3200)		AS1500	4700
INITIAL: STEPDOWN	RAMND	ROKME	3. T-L TWR (06-001221)	373028.00N/1220701.00W	377 (3C)	1000	DG2623	4000
			4. TERRAIN	372606.00N/1220951.00W	69 (100)		AS1500	1600
INITIAL	FAITH	ROKME	5. AAO	372503.00N/1214939.00W	1490 (4E)	1000	AT1510	4000
			6. TERRAIN	372503.00N/1214939.00W	1290 (1300)		AS1500	2800
INTERMEDIATE	ROKME	DUYET	7. TOWER (06-000075)	373250.00N/1221402.00W	560 (1C)	500	DG740	1800
			8. TERRAIN	373245.00N/1220645.00W	20 (0)		AS1500	1500
FINAL: LPV	DUYET	RW28L				ASC	MA56	269/256
FINAL: LNAV/VNAV	DUYET	RW28L				ASC	MA326	589/576
FINAL: LNAV	DUYET	RW28L	9. T-L TWR (06-000132)	373457.00N/1221506.00W	312 (4D)	250	AC50 MA46	680
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / DA / RW28L	OLYMM	10. AAO	373739.32N/1222748.06W	959 (2C)	ASC	AC20	4000
			11. TOWER (06-000465)	374106.54N/1222604.58W	1545 (1A)	1000		2600
ELEV:	75/428/580		12. TERRAIN	373724.00N/1222748.00W	952 (1000)		AS1500	2500
			13. AAO	373541.99N/1222412.77W	424 (2C)	300		740
			14. AAO	373515.60N/1222402.84W	599 (2C)	300		900
			15. AAO	373506.00N/1222405.00W	724 (2C)	300		1040
			16. AAO	373508.43N/1222515.17W	824 (2C)	300		1140

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL
CATEGORY A	1.3 NM	350	727
CATEGORY B	1.5 NM	450	887
CATEGORY C	1.7 NM	450	1027
CATEGORY D	2.3 NM	550	1127
CATEGORY E	4.5 NM	550	

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: RW28L

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (06-000124)	035/ 26.4	3901 (2C)	5000					

CITY AND STATE	ELEVATION: 13 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
SAN FRANCISCO, CA	SAN FRANCISCO INTL	RNAV	RNAV (GPS) RWY 28L, AMDT 2	AWP

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE			3. ALTIMETER SETTING
ZOA ARTCC NORCAL APP CON SFO TOWER		N W S	OTHER: ASOS	SOURCE: KSFO
		F A A		DISTANCE: 0
SATISFACTORY ON:		A / C		HOURS REMOTE OPERATION: 24
X V H F X U H F H F	LOCATION: KSFO			ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3
5. APPROACH & RUNWAY LIGHTING	X	ALSF-2 28R
		(S) SALS
	X	MALSF 19L
	X	HIRL 01R, 19L, 01L, 10L, 10R, 19R, 28R, 28L
		MIRL
	X	REIL 01R, 01L, 10L
	X	TDZ 19L, 28R
	X	C/L 01R, 19L, 01L, 10L, 10R, 19R, 28R, 28L
	X	OTHER (SPECIFY) SSALR 28L PAPI-4L 19L, 10L, 10R, 19R, 28R, 28L

6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	PIR-G 01R, 19L, 10L, 10R, 28R, 28L
	INSTRUMENT	NPI-G 01L, 19R
7. RUNWAY VISUAL RANGE	APPROACH	01R, 19L, 01L, 10L, 10R, 19R, 28R, 28L
	MIDFIELD	01R, 19L, 01L, 10L, 10R, 19R, 28R, 28L
	ROLL OUT	01R, 19L, 01L, 10L, 10R, 19R, 28R, 28L

8. GLIDE PATH	GP ANGLE: 3.00	ELEV RWY THRESHOLD: 12.7
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT: 57.1

9. FINAL APPROACH COURSE AIMING	X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY: VICTOR BOONE	DATE: 05/16/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-354

PART C - REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

TAA AND FEEDERS NOT DEVELOPED PER ATC REQUEST.

LPV OCS 34:1

LNAV/VNAV SURFACE 23.4:1

INTERMEDIATE CONTROLLING OBSTACLE THE SAME FOR ALL FINAL TYPES.

ACT= -30

BACK-UP ALTIMETER NOT REQUIRED. REDUNDANT REPORTING ON AIRPORT.

KSFO ASOS ON SERVICE A/24 HRS

VGSI DATA: 3.00/75

SEE ATTACHED AIRSPACE LETTER.

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

NAME: BOLDR **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 371015.19N/1220434.20W **TYPE:** WP, 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	OAKLAND	OAK	VORTAC	H	151.00	168.00	34.00	34.00		6000	17500

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

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	SE	OAK	VORTAC	151.00	331.00	L	1-1 1/2		6000	16000	9	17
2	SE		WP	151.00	331.00	L		6	6000	16000	8	16

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	230	200' AAO	371400.00N/1220500.00W	3699	6F
2	230	200' AAO	371400.00N/1220500.00W	3699	6F

REASON FOR NONSTANDARD HOLDING:
PAT 2 AIR TRAFFIC REQUEST
PAT 1 AIR TRAFFIC REQUEST

HOLDING RESTRICTIONS:
HOLDING RESTRICTED TO ESTABLISHED PATTERN(S).

REMARKS:
HOLDING PAT 1 AND 2 REQUESTED BY AIR TRAFFIC.
PRECIPITOUS TERRAIN EVALUATION COMPLETE.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KSFO	SAN FRANCISCO	CA (US)
STAR	BIG SUR	1		KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

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

REASON FOR REVISION:
FAC1 IN HISTORY STATUS.
ADDED IAP TO REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 04/30/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)

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

SIGNATURE:

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

INFO ONLY

QUALITY CHECKED 5

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

NAME: DUYET **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373409.74N/1221527.38W **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	SAN FRANCISCO	I-SFO	LOC/DME		100.81	117.81	7.42	7.41	45004	1800	4500
2	OAKLAND	OAK	VORTAC	H	172.81	189.81		9.52		1800	17500

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

REMARKS:
8260.54A RNP PFAF L-V FORMULA USED TO ESTABLISH COORDINATES.
I-SFO/DME ANTENNA COORDINATES: 373739.54N-1222341.45W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 28L	1, 2		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L (SIM CLOSE PAR)	1, 2		KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) RWY 28L			KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FIX MOVED SE 480.05 FT, DUE TO 8260.54A L-V FORMULA.
UPDATED FACILITIES, ALL FACILITIES IN HISTORY STATUS.
I-SFO LOC AND DME MOVED.
CHANGED LAT/LONG IN I-SFO/DME ANTENNA COORDINATES REMARK TO NEW COORDINATES.
UPDATED FAC1 DME DIST FROM 7.27 TO 7.42.
UPDATED FAC1 DIST FROM FAC IN NM AND FEET FROM 7.26/44133 TO 7.41/45004.
UPDATED FAC2 DIST FROM FAC FROM 9.50 TO 9.52, AND BRG FROM 190.27/173.27 TO 189.81/172.81.
DELETED FAC2 DME, NOT USED FOR FIX.
DELETED FAC3 SFO VOR/DME, NO LONGER USED FOR FIX.
REMOVED REMARK: PFAF COORDINATES DERIVED FROM 8260.54 RNP FORMULA.
ADDED REMARK: 8260.54A RNP PFAF L-V FORMULA USED TO ESTABLISH COORDINATES.

DEVELOPED BY: **DATE:** 05/20/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

"INFO ONLY"

NAME: FAITH **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 372404.38N/1215142.84W **TYPE:** WP, 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	SAN FRANCISCO	SFO	VOR/DME	L	101.00	118.00	27.72	27.72		4100	17500

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 28L	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L (SIM CLOSE PAR)	1		KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) RWY 28L			KSFO	SAN FRANCISCO	CA (US)
STAR	YOSEM (RNAV)			KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FAC1 IN HISTORY STATUS.

DEVELOPED BY: **DATE:** 05/20/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)

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

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: JABGO **STATE:** CA **COUNTRY:** US

"INFO ONLY"

LATITUDE/LONGITUDE: 374009.72N/1222945.61W **TYPE:** WP

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

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

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 10/22/2009

REASON FOR REVISION:
REMOVED ALL FACILITIES.
REMOVED INT AND DME FROM FIX TYPE.

DEVELOPED BY: **DATE:** 05/04/2009 **OFFICE:** AVN-130 **NAME:** CATHERINE CHILDRESS

APPROVED BY: **DATE:** 09/16/2009 **OFFICE:** AVN-130 **NAME:** RICK WEBB

SIGNATURE:

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

RADIO FIX AND HOLDING DATA RECORD

NAME: OLYMM **STATE:** CA **COUNTRY:** US

"INFO ONLY"

LATITUDE/LONGITUDE: 374358.05N/1223916.83W **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	SAN FRANCISCO	SFO	VOR/DME	L	280.00	297.00	15.00	15.00		3000	17500
2	SAUSALITO	SAU	VORTAC	L	203.54	220.54		9.66		3000	17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	E	SFO	VOR/DME	280.00	280.00	R	1		3000	6000	5	6
2	E		WP	100.00	280.00	R		4	3000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	374116.54N/1222621.56W	1374	2C
2	200	AAO	374116.54N/1222621.56W	1374	2C

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERN(S)

REMARKS:
SAN FRANCISCO (FAC 1) USED TO ESTABLISH FIX COORDINATES
PRECIPITOUS TERRAIN EVALUATION COMPLETED

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 28L	1, 2	1	KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L (SIM CLOSE PAR)	1, 2	1	KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) RWY 28L		2	KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) Z RWY 28R		2	KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: IAP, AREA

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 11 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FAC1 IN HISTORY STATUS.
UPDATED PAT1 AND PAT2 MIN TEMPLATE PAT FROM 4 TO 5.
UPDATED PAT1 AND PAT2 OBST FROM 06-000120 1811FT MSL, TO AAO; 06-000120 IS CTRL FOR TEMPLATE 6, BUT SHOULD NOT BE LISTED.
ADDED REMARK: SAN FRANCISCO (FAC 1) USED TO ESTABLISH FIX COORDINATES.

DEVELOPED BY: **DATE:** 05/20/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)

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

SIGNATURE:

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

INFO ONLY

RADIO FIX AND HOLDING DATA RECORD

NAME: ROKME **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 373055.50N/1220746.87W **TYPE:** WP, 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	SAN FRANCISCO	I-SFO	LOC/DME		100.81	117.81	14.33	14.31		4000	6000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-SFO	LOC/DME	R-101	15	4500	6000

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

REMARKS:
I-SFO/DME ANTENNA COORDINATES: 373739.54N-1222341.45W.
GS ANTENNA COORDINATES: 373650.12N-1222140.09W.
8260.54A RNP PFAF L-V FORMULA USED TO ESTABLISH COORDINATES WHERE ILS GLIDEPATH INTERCETS THE SPECIFIED MSL ALTITUDE.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 28L	1		KSFO	SAN FRANCISCO	CA (US)
IAP	ILS PRM RWY 28L (SIM CLOSE PAR)	1		KSFO	SAN FRANCISCO	CA (US)
IAP	RNAV (GPS) RWY 28L			KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3 **DATE OF REVISION:** 09/20/2012

REASON FOR REVISION:
FAC1 IN HISTORY STATUS, LOC AND DME MOVED.
FIX MOVED SE 2407.25 FT.
UPDATED FAC1 DME FROM 13.86 TO 14.33.
UPDATED FAC1 DIST FROM FAC NM 1385 TO 14.31.
ESV FORMAT AND USE UPDATED.
REMARK ISFO/DME ANTENA COORDINATES UPDATED TO NEW LAT/LONG.
REMOVED REMARK RNP PFAF FORMULA USED.
ADDED REMARK 8260.54A RNP PFAF L-V FORMULA USED TO ESTABLISH COORDINATES WHERE ILS GLIDEPATH INTERCETS THE SPECIFIED MSL ALTITUDE.

DEVELOPED BY: **DATE:** 05/20/2012 **OFFICE:** AJV-354 **NAME:** ADOLFO URRUTIA (AMANDA ROBBINS)

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

SIGNATURE:

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

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: SAN FRANCISCO STATE: CA

AIRPORT NAME: SAN FRANCISCO INTL ID: KSFO

PROCEDURE: RNAV (GPS) RWY 28L AMDT: 2

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

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

1. Distance from THLD to 1000' point 3.10
   (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 297.87
4. High Terrain in FINAL segment containing 1000' point 82
5. Distance from THLD to 1500' point 5.03
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of FINAL segment at 1500' point 1.76
7. True Course of FINAL segment containing 1500' point 297.87
8. High Terrain in FINAL segment containing 1500' point 82
9. Threshold Coordinates (if straight-in) ... 373642.16N / 1222130.06W
10. ARP Coordinates..... 373708.30N / 1222229.60W
11. Runway Approach End and distance furthest from ARP ..... RWY 10L
    Distance 1.06 NM
12. FAF Coordinates 373409.74N 1221527.38W
    (Click to Select)

REMARKS: Approach/Drawing attached.

RADIO FIX AND HOLDING DATA RECORD

"INFO ONLY"

NAME: RAMND **STATE:** CA **COUNTRY:** US

LATITUDE/LONGITUDE: 372609.20N/1220721.03W **TYPE:** WP

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

CANCELLED
BY
DATE

HOLDING: **HOLDING TYPE OF ACTION:** CANCEL

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (GPS) RWY 28L			KSFO	SAN FRANCISCO	CA (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5 **DATE OF REVISION:** 10/22/2009

REASON FOR REVISION:
MOVED FIX 4.12 NM SW.
REMOVED ALL FACILITIES.
DELETED ALL HOLDING PATTERNS.
REMOVED ILS RWY 28L FROM FIX USE.

DEVELOPED BY: **DATE:** 05/04/2009 **OFFICE:** AVN-130 **NAME:** CATHERINE CHILDRESS

APPROVED BY: **DATE:** 09/16/2009 **OFFICE:** AVN-130 **NAME:** RICK WEBB

SIGNATURE:

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