OAKLAND ARTCC

San Francisco ATCT - STANDARD OPERATING PROCEDURE
Version 1.6

List of Changes

VERSION	DATE	DESCRIPTION
1.0		
1.1	28FEB2019	Reformatted SOP for consistency purposes, combined NCT LOA into SOP.
1.2	20OCT2019	Removed VOX Channel due to AFV release
1.3	21MAY2020	Correct typos
1.4	03DEC2020	New diagrams in attachments, Added scratchpads, SVFR, LUAW procedures simplified, removed most taxiway restrictions and runway clearing for large aircraft, removed GH position and added TMC position, clarified VFR altitudes, updated taxiway Y references to taxiway Z2, added no s turn or 360s on final, missed approaches converted to table, changed Candlestick Point to Hunters point, Removed Military and Photo from local VFR, clarified TWR airspace is 2,000
1.5	07FEB2022	Readded dedicated Gate Hold position. LUAW clarification. Removed SFO_TMC position.
1.6	16JUN2022	Clean up unnecessary verbiage, re-format various tables, add route assignment table, update for new west end configuration, update missed approaches, add section about simultaneous departure procedures, add GC control for pushbacks on certain parts of the ramp, update diagrams, add ramp diagram, add VFR handoff boundaries, add runway distances from intersections, add equipment section and radar service notes

Section 1. General Information

1-1 Purpose

This Standard Operating Procedure (SOP) outlines the procedures to be used by controllers working San Francisco ATCT positions on the VATSIM network, to ensure that traffic flows are handled in as efficient and timely a manner as possible. This SOP is for simulation purposes only and shall not be used for real world use or reference.

1-2 Distribution

This SOP is distributed to all members of the Oakland ARTCC on VATSIM.

1-3 Cancellation

All previous procedures are canceled.

1-4 Equipment

San Francisco ATCT has a radar display (CTRD), ground radar (ASSC), and ability to process flight plans (FDIO)

1-5 Runway Use Waiver

SFO has received a waiver to FAA Order 8400.9, National Safety and Operational Criteria for Runway Use Programs. Provisions of the waiver are:

a. Tower may operate on runways 28R/L and 01R/L with up to a 25-knot crosswind component on DRY runways, and up to a 10-knot tailwind component on runways "not clear or not dry". This waiver must NOT be used for runways 10/19.
   NOTE- *The term "Runways not clear or not dry" has replaced the term "wet runways".*
b. When using the provisions of this waiver on runways 01, the runways MUST be departure only.
c. Before using the provisions of this waiver on runways 28 or 01 Tower must check for FICON NOTAMs that indicate the runway condition. If the FICON shows no standing water or slippery surface conditions, tower may use the subject runways (28 or 01 only) under the provisions of the waiver.

1-6 Positions Table

The following position table details authorized positions for San Francisco Tower.

POSITION	CALLSIGN	RADIO CALLSIGN	FREQUENCY
Clearance Delivery	SFO_DEL	San Francisco Clearance	121.100
*Gate Hold**	*SFO_GH_DEL*	*San Francisco Gate Hold*	*124.250*
Ground Control	SFO_GND	San Francisco Ground	121.800
Local Control	SFO_TWR	San Francisco Tower	120.500
D-ATIS	KSFO_ATIS		118.850

** Indicates event only position, activated by the event CIC during published event times*

1-7 Runway Configurations

CONFIGURATION	DESCRIPTION
01/01	Landing and departing runways 01
28/01	Landing runways 28, departing runways 01
28 RT RT – Right Turn	Landing and departing runways 28 – TRUKN DP in use
28 SO SO – Straight Out	Landing and departing runways 28 – TRUKN DP not in use ***NOTE-*** *This is the preferred runway configuration for SFOW/OAKE*
10/10	Landing and departing runways 10
19/10	Landing runways 19, departing runways 10
19/19	Landing and departing runways 19

1-8 Preferential Runway Assignment

The table below shows the runway configurations in order of preference, most preferred at the top

Daytime (0600L – 0100L)		Nighttime (0100L – 0600L)	
West Plan	**Southeast Plan**	**West Plan**	**Southeast Plan**
28/01	19/10	28/28 RT	19/10
28/28	19/19	28/01	19/19
01/01	10/10	28/28 SO	10/10
		01/01	

1-9 Scratchpads

The following scratchpads can be utilized by SFO ATCT or NCT to reduce verbal coordination.

ID	DEFINITION	ID	DEFINITION
2ER	Bay Tour	OPN	Operational Law Enforcement
BJJ	San Mateo Bridge	PIX	Photo Mission
CTN	Landing Seton Hospital	STF	Stanford University Hospital
GGB	Golden Gate Bridge	STK	Candlestick Point
HPT	Hunters Point	BNR	Banner Tow
LCL	Local traffic, no specific destination	USG	Benioff Children's Hospital
MPH	Mills Peninsula Hospital		
LFT	Arrival to the left runway	RGT	Arrival to the right runway
VSL	Landing 28L visual separation with preceding aircraft	VSR	Landing 28R, visual separation with preceding aircraft

Section 2. Flight Data/Clearance Delivery

2-1 General Procedures

a. Issue departure clearance in accordance with current directives, Letters of Agreement and this section.
b. Issue TEC routes for aircraft with destinations within NCT (except RNO and satellites). If a pilot is unable to accept a TEC route, issue vectors direct destination and coordinate with NCT.
c. Pre-Departure Clearances (PDC) are authorized for use with PDC capable aircraft in accordance with CPS-001.
d. When an aircraft requesting clearance requires route or traffic management coordination, advise the TMU/CIC so that they can complete the coordination prior to issuing the clearance.
e. Oceanic, Far East, and Cargo flights usually require runway 28L/R for departure for performance reasons. When runway 01 is the advertised departure runway, these aircraft may be issued runways 28L/R and assigned the appropriate SID.
f. When gate hold procedures are in effect, advise each aircraft to request push and start on the appropriate frequency.
PHRASEOLOGY-
READBACK CORRECT, CONTACT GROUND ON (frequency) WHEN READY FOR PUSHBACK
READBACK CORRECT, ADVISE READY FOR PUSHBACK THIS FREQUENCY

2-2 IFR Departures

a. DP/Route and Departure Sector
    i. SFOW

<table>
<tr><th>DEST/ROUTE</th><th>RUNWAY</th><th>AIRCRAFT</th><th>DP</th><th>DEP SECTOR</th></tr>
<tr><td rowspan="4">Northbound</td><td>01 / 28 RT</td><td rowspan="4">P, T, J</td><td>TRUKN#</td><td rowspan="4">Richmond</td></tr>
<tr><td>28 SO</td><td>SNTNA#</td></tr>
<tr><td>01</td><td>SFO#</td></tr>
<tr><td>28</td><td>GAPP#</td></tr>
<tr><td rowspan="4">Southbound</td><td>01</td><td rowspan="3">J</td><td>SSTIK#</td><td rowspan="6">Sutro</td></tr>
<tr><td>28</td><td>WESLA#</td></tr>
<tr><td rowspan="2">01 / 28</td><td>OFFSH#</td></tr>
<tr><td>P, T, J</td><td>GAPP#</td></tr>
<tr><td rowspan="3">Oceanic</td><td rowspan="2">28</td><td rowspan="2">J</td><td>GNNRR#</td></tr>
<tr><td>MOLEN#</td></tr>
<tr><td>01 / 28</td><td>P, T, J</td><td>GAPP#</td></tr>
</table>

ii. SFOE

DEST/ROUTE	RUNWAY	AIRCRAFT	DP	DEP SECTOR
Northbound	10 / 19	P, T, J	CIITY# GAPP#	Richmond
Southbound		J	SAHEY#	Sutro
		P, T, J	GAPP#	
Oceanic		J	MOLEN#	
		P, T, J	GAPP#	

b. Altitude Assignment

i. SFO ATCT must issue interim altitudes as specified below when a Top of Climb (TOC) or Top Altitude is not published

ii. SFOW

ROUTE	RUNWAY	AIRCRAFT	ALTITUDE
GAPP#, MOLEN#, OFFSH#, SFO#, WESLA#	28	P, T, J	3,000 or CVS x 3,000
All others	01 / 28	P, T	5,000 or CVS x 5,000
		J	10,000 or CVS x 10,000

iii. SFOE

ROUTE	RUNWAY	AIRCRAFT	ALTITUDE
All	10 / 19	P, T	5,000 or CVS x 5,000
		J	15,000 or CVS x 10,000

iv. When instructed by NCT to issue a non-standard interim altitude, advise the aircraft to expect filed altitude three (3) minutes after departure.

2-3 VFR Departures

a. Ensure VFR departures have their aircraft type, origin, and destination filled out in their flight plan.
b. Clear VFR departures out of the Bravo airspace. Do not clear the aircraft to a specific destination or fix.
c. Assign VFR Prop departures an interim altitude of (at or below) 2,000

PHRASEOLOGY-
CLEARED OUT OF SAN FRANCISCO BRAVO AIRSPACE, MAINTAIN VFR AT OR BELOW 2,000 WHILE IN BRAVO AIRSPACE. SQUAWK (code)

d. Assign VFR Jet departures an interim altitude of (at or below) 3,000
    i. When departing runway 28s, assign heading 280

PHRASEOLOGY-
CLEARED OUT OF SAN FRANCISCO CLASS BRAVO AIRSPACE, MAINTAIN VFR AT OR BELOW 3,000, DEPARTURE FREQUENCY (frequency), SQUAWK (code)

CLEARED OUT OF SAN FRANCISCO CLASS BRAVO AIRSPACE, ON DEPARTURE FLY HEADING 280, MAINTAIN VFR AT OR BELOW 3,000, DEPARTURE FREQUENCY 135.100, SQUAWK (code)

2-4 Noise Abatement

a. Departure noise abatement hours are daily from 2200L until 0700L Monday – Saturday and until 0800L on Sundays.
b. There are no preferred noise abatement procedures during SFOE.
c. SFO ATCT is in CFR status for all departures.
d. Noise Abatement DP/Route/Heading Assignments

DEST/ROUTE	RUNWAY	AIRCRAFT	DP/HDG	DEP SECTOR
Northbound	01 / 28	P, T, J	NIITE#	Richmond
All	01	P	RWY	
All others	01	P, T, J	*050°*[1] GAPP#	*Varies**
	28		GAPP#	

[1] 050° RV first fix is preferred over GAPP#

** Richmond for northbound/050 departures, Sutro for southbound/GAPP# departures*

Section 3. Ground Control

3-1 Area of Jurisdiction

a. Ground control has jurisdiction over all airport movement areas, **EXCEPT** those indicated below:
    i. Runway(s) designated active. The inactive runways shall be released to Ground Control.
    ii. All taxiways between active runways
    iii. When departing Runways 01 or 19, taxiways east of Alpha 1.
    iv. When landing Runways 01, all taxiways south of taxiway Mike 1.
    v. When departing Runways 19, all taxiways south of taxiway Mike 1.
    vi. The West End; Taxiway Zulu from Taxiway Charlie to Taxiway Zulu 2 as follows:
        1. When landing Runways 10 (SFO10);
        2. When departing Runways 28 (SFOW);
        3. When Local Control has been given jurisdiction.

3-2 Separation

a. Coordinate with LC for the use and/or crossing of an active runway and the West End. Report when runway/West End is clear.
b. Coordination between Local Control and Ground Control involving the opening/closing of active/inactive status of a runway shall be done through voice. Ground Control has jurisdiction over all inactive/closed runways and coordination with Local Control to use those runways is not required.
c. When Local Control has coordinated a helicopter landing or departing on the movement area, do not taxi any aircraft so that it would conflict with or be over-flown by the helicopter.
d. When runways 01 are used for landing, ensure that all aircraft taxiing to Runway 01R are instructed to hold short of Mike 1.

3-3 Runway Clearing and Crossings

a. Be aware of the operational need for Local Control to issue appropriate turn instructions to aircraft exiting runways as necessary. Ensure that all runway exits are left unimpeded for arrival aircraft to taxi clear of the runway.
b. SFO has received approval to conduct multiple runway crossings in accordance with JO 7210.3. Approval authorized on the following taxi routes, all of which are less than 1000 feet between runway center lines.

i. Taxi routes crossing runways 28/10: Taxiways K, D, E, L, P, N, C, C3 to S1 to S to S3 to Z1, R, Runways 1R/19L, 1L/19R.
ii. Taxi routes crossing runways 01/19: Taxiways E, V, C, F, F1, G, M, M1 to A2 to A1 to L2, Runways 28R/10L, 28L/10R
iii. Multiple runway crossings are not authorized on taxiway H.

3-4 Runway Assignment

a. Sequence taxiing aircraft to provide for minimal delay and an optimal order for expeditious takeoff clearance by Local Control. Aircraft subject to in-trail restrictions should be alternately sequenced with unrestricted departures.
b. Unless otherwise coordinated, departing aircraft shall be assigned runways as follows:
    i. Advertised Departing Runways 01:
        1. Right Turns – Runway 01R
        2. Left Turns – Runways 01L
        3. Oceanic, Far East, Cargo – Runways 28L/28R if operationally necessary
    ii. Advertising Runways 28:
        1. Aircraft south of Runway 28L – Taxi to Runway 28L
        2. Aircraft north of Runway 28R – Taxi to Runway 28R
    iii. Advertising Departing Runways 10:
        1. Landing Runways 19
            a. Aircraft south of Runway 10R
                i. Routed via CIITY# DP – Runway 10L/S1 via Z, S
                ii. All other departures – Runway 10R/S3 via Z, S
            b. Aircraft north of Runway 10L – Runway 10L
        2. Landing Runways 10
            a. Aircraft south of Runway 10R – Runway 10R/Z1
            b. Aircraft north of Runway 10L – Runway 10L
    iv. Advertising Runways 19:
        1. Taxi all aircraft to Runway 19R. If an aircraft requests taxi to Runway 19L, issue instructions to Runway 19L and hold the aircraft short of the first active runway.
        2. If runway other than advertised is requested, issue instructions to the requested runway with instructions to hold short of the first active runway.
c. During a L28/D01 operating, all departing aircraft parked on ramps north of runway 28R shall be routed to runways 01L or 01R around the west end of the airport via taxiway Z, except as follows:
    i. VFR aircraft shall be assigned 28R at taxiway E or 28R full length.
    ii. Lifeguard aircraft are exempt from this section.

iii. Aircraft that identify an operational requirement for use of Runway 28R. (e.g. cargo aircraft parked at the northwest ramp)
iv. Aircraft may be assigned runway 28R/E intersection departure after prior coordination with Local Control.

3-5 Non-Movement/Movement Area Operating Procedures

a. All aircraft that push back onto taxiway Alpha shall be instructed "push back onto taxiway Alpha approved"
b. All aircraft that push back onto taxiway Alpha but need to be held short of Alpha shall be instructed "push back your discretion, hold short of taxiway Alpha". When aircraft can be pushed back onto Alpha, the aircraft shall be instructed "push back onto taxiway Alpha approved."
c. Aircraft that push back onto the non-movement between boarding areas E and D, boarding areas D and C, and taxilane Y will contact Ground Control for pushback. They shall be given appropriate pushback instructions and a spot to exit the ramp at (if applicable). For example, "pushback approved, call spot 5A for taxi."
d. All other aircraft that do not push back onto the movement area shall be instructed "push back your discretion." Examples of the areas that do not push back onto the taxiway are cargo areas like Plot 41.
e. All inbound traffic shall be instructed to "taxi to the ramp." Specific instruction shall be given when operationally necessary.
f. Workload permitting, traffic advisories in the non-movement area will be given. Do not issue control instructions to aircraft in the non-movement area. Use only advisory phrases in exchange of traffic information.

Section 4. Local Control

4-1 General Information

a. Verbally coordinate:
    i. All departures from a non-advertised runway.
    ii. All Runway 28 RT departures during 28/01 and 28/28 SO configurations.
    iii. All departures when the assigned DP is not printed on the strip/ flight plan.
b. The following departures are subject to release by NCT:
    i. Runway 01 departures to Napa CX (KAPC, KSTS, KDVO, etc.)
    ii. Runway 01 GAPP# departures
c. NCT has control for turns after a departure leaves 1,500 feet

4-2 Area of Jurisdiction

a. Local Control has been delegated the surface area consisting of the area depicted in Attachment 3 from surface to 2,000.
b. Local Control has jurisdiction over the following airport surfaces:
    i. Runway(s) designated active. The inactive runways shall be released to Ground Control.
    ii. All taxiways between active runways.
    iii. When departing Runways 01 or 19, taxiways east taxiway Alpha 1.
    iv. When landing Runways 01, all taxiways south of taxiway Mike 1.
    v. When departing Runways 19, all taxiways south of taxiway Mike 1.
    vi. Taxiway Zulu from Taxiway Charlie to Taxiway Zulu 2 as follows:
        1. When landing Runways 10 (SFO10);
        2. When departing Runways 28 (SFOW);
        3. When local control has been given jurisdiction

4-3 Runway Selection

a. Runway selection shall be made in accordance with Sections 1-5 and 1-8 of this SOP
b. During arrival noise abatement (0100L – 0600L), LC shall advertise Quiet Bridge Visual approaches if feasible, otherwise they shall advertise the Runway 28R ILS.

4-4 Position Procedures

a. Separate/space arrival, departure and transitioning traffic in accordance with JO 7110.65 and current directives. Local Control may transfer communications and control of departing aircraft maintaining visual separation to NCT.

b. LC shall provide Class B radar service within their delegated airspace.
    i. This may involve radar identifying VFR aircraft (and advising them of radar contact) and making radar handoffs to NCT.
    ii. LC shall quick look the NCT position(s) working SFO finals. NCT shall not make radar handoffs for IFR arrivals to LC (VFR arrivals/overflights can be handed off).
c. Coordinate with GC, thru the CIC or TMU when staffed, for the use and/or crossing of an active runway and the West End. Coordination between Ground Control and Local Control shall be conducted via voice. Report when the runway/West End is clear.
d. Coordination between Local Control and Ground Control involving the opening/closing or active/inactive status of a runway shall be recorded. Ground Control has jurisdiction over all inactive/closed runways and coordination with Local Control to use those runways is not required.
e. Coordinate with Ground Control a helicopter landing or departing on the movement area under Ground Control's jurisdiction.
f. Provide instructions to VFR non-jet departures so they may safely exit Bravo airspace.

    EXAMPLE-
    "Make right crosswind departure to follow highway 101"
    "Make left turnout to intercept the coastline"
    "Make a left turn to pass over the tower heading 050"

g. Issue taxi instructions to aircraft exiting the runways when compliance will be required prior to changing that aircraft to Ground Control frequency. Inform Ground Control when an aircraft is instructed to turn onto a taxiway that is Ground Control's jurisdiction.
h. S-turns or a 360-degree turns are not authorized on the final approach course. Aircraft requesting these procedures shall be given missed approach instructions for re-sequencing.
i. Line up and wait (LUAW) procedures shall be applied as prescribed in JO 7110.65 and 7210.3. For the purposes of simulation, it can be assumed that SFO has a full operating safety logic system. Due to special authorizations from the FAA SFO may do the following differently:
    i. LUAW is authorized at the following intersections between sunset and sunrise:
        1. 1R/M
        2. 1L/M, 1L/H
        3. 10L/S2, 10L/R
        4. 10R/S3, 10R/R
    ii. Only one aircraft may be held in position on a given runway at a time. (e.g. cannot have 1 aircraft in position at 10L/S2 and another at 10L/S1 at the same time) between sunset and sunrise.
        1. Aircraft may be held in position simultaneously on runway 1L and 1R (e.g. 1 aircraft on 1L while another is on 1R).

4-5 Simultaneous Parallel Departures

a. When utilizing simultaneous departure procedures, LC shall ensure aircraft turn onto their assigned heading or toward their assigned RNAV fix prior to transfer of communications.
b. When tower-applied visual separation can be applied until course divergence, simultaneous departures can be conducted, if wake turbulence separation is applied.
    i. If one aircraft in a pair is heavy or super, LC shall ensure the non-heavy/super aircraft begins its roll first and will not be overtaken by the heavy/super
    ii. Simultaneous departures are not possible when both aircraft in a pair are heavy/super
c. When tower-applied visual separation cannot be applied, simultaneous departures shall be spaced by 1 mile separation, in accordance with FAA JO 7110.65 5-8-3 a.
d. Simultaneous departures from Runways 10
    i. Verbally coordinate auto-releases on heading 085° and runway heading with NCT
        1. NCT will place OAK into call for release status
    ii. Verbally coordinate termination of headings
    iii. Runway 10L: Richmond departures only
        1. Issue a heading of 085°
        2. Aircraft cannot be a super, heavy, A321, B717, or B38M
    iv. Runway 10R: Sutro departures only
        1. Issue runway heading
        2. Aircraft can be any category
    v. Aircraft departing into the same sector may be approved with verbal coordination; ensure no crossovers

4-6 Missed Approaches/ Go-Around Procedures

a. All go-arounds and missed approaches must be coordinated with NCT. Coordination shall include route and altitude, which may vary from those listed below as required for separation. Transfer of communication shall occur within 1/2-mile of the departure end of the runway or as soon as possible after conflicts are resolved.
b. Tower must issue the following to all unplanned missed approaches:

RUNWAY	INSTRUCTION	AUTHORIZED HEADINGS	ALTITUDE	SECTOR / FREQ
01L / 01R	As coordinated	345° to 125° CW	As coordinated	As coordinated
10L / 10R	As coordinated	345° to 125° CW	As coordinated	Sutro – 135.100
19L / 19R	Published missed	None	3,100	
28L / 28R	Published missed	None	3,000	

c. When needed for separation between a departure and a missed approach, or a visual approach go-around, local control may issue the following headings:

RUNWAY	HEADING	ALTITUDE	SECTOR / FREQ
19L / 19R	170°	3,100	Sutro – 135.100
28L / 28R	RWY	3,000	
	260°	3,100	

4-7 VFR Transition Procedures

a. Apply these procedures to VFR aircraft in the San Francisco Class B surface area
b. When in west plan, the following procedures shall be used to provide additional separation between runways 28 departures and VFR transitions in the runways 28 departure corridor
    i. When a runway 28R/L departure taxies across runways 1 or a runway 28R/E departure has been approved, LC shall clear the runways 28 departure corridor. The corridor is defined as that airspace from the approach ends of runways 1 clockwise to abeam Fullers Point, including overhead of SFO.
    ii. The Local controller can either hold the runways 28 departures or hold the transitions.
    iii. For transition aircraft that are north of SFO proceeding southbound:
        1. If the aircraft is north of Hunters Point, provide instructions to keep the airplane north of Hunters Point until the runways 28 departures are at least 2 miles west of SFO.
        2. If the aircraft is south of Hunters Point hold the departure until the aircraft is abeam the approach ends of runways 1.
    ii. For transition aircraft that are south of SFO proceeding northbound:
        1. If the aircraft is east/southeast of SFO, provide instructions to keep the aircraft east/southeast of the approach end of runways 1 until the runways 28 departures are at least 2 miles west of SFO.
        2. If the aircraft is west of the approach end of runways 1, hold the runways 28 departure until the transition aircraft is north of a point abeam Fullers point.
b. When there are projected periods of multiple runways 28 departures anticipated, or when advertising departing runways 28, the CIC shall coordinate with NCT and SQL to terminate VFR transitions in SFO airspace.
c. LC can request at any time to terminate Class B transitions due to traffic volume or complexity.

4-8 Runway/Taxiway Restrictions

a. DC10, MD11 and L1011 aircraft are prohibited from departing runway 1L.
b. Aircraft will not be on taxiway L directly behind runway 1R when a runway 1R departure begins takeoff roll at full length.
c. No 4-engine or Super aircraft on taxiway A1.

Section 5. Gate Hold Procedures

5-1 Position Procedures

a. Gate Hold may be operated when activated during an event period only. If Gate Hold is not opened as a separate position, it shall by operated by Clearance Delivery, otherwise it will be operated by Ground until a Delivery position can be staffed.
b. Initiate Gate Hold Procedures when:
    i. Directed by the TMU/CIC/EC (in that order).
    ii. Delays at the departure runway expected to exceed 15 minutes. Fifteen (15) minute delays are normally encountered whenever:
        1. There are 8 or more aircraft at both Runways 01 (16 or more total) when in a L28/D01 runway configuration
        2. There are more than 14 aircraft awaiting departure when in a L28/D28 RT runway configuration.
        3. There are more than 10 aircraft awaiting departure and when in a L28/D28 SO, L10, L01, or L19 runway configuration.
c. Notify all tower cab positions when Gate Hold procedures are initiated.
d. Advise aircraft that "gate hold procedures are in effect" when needed.

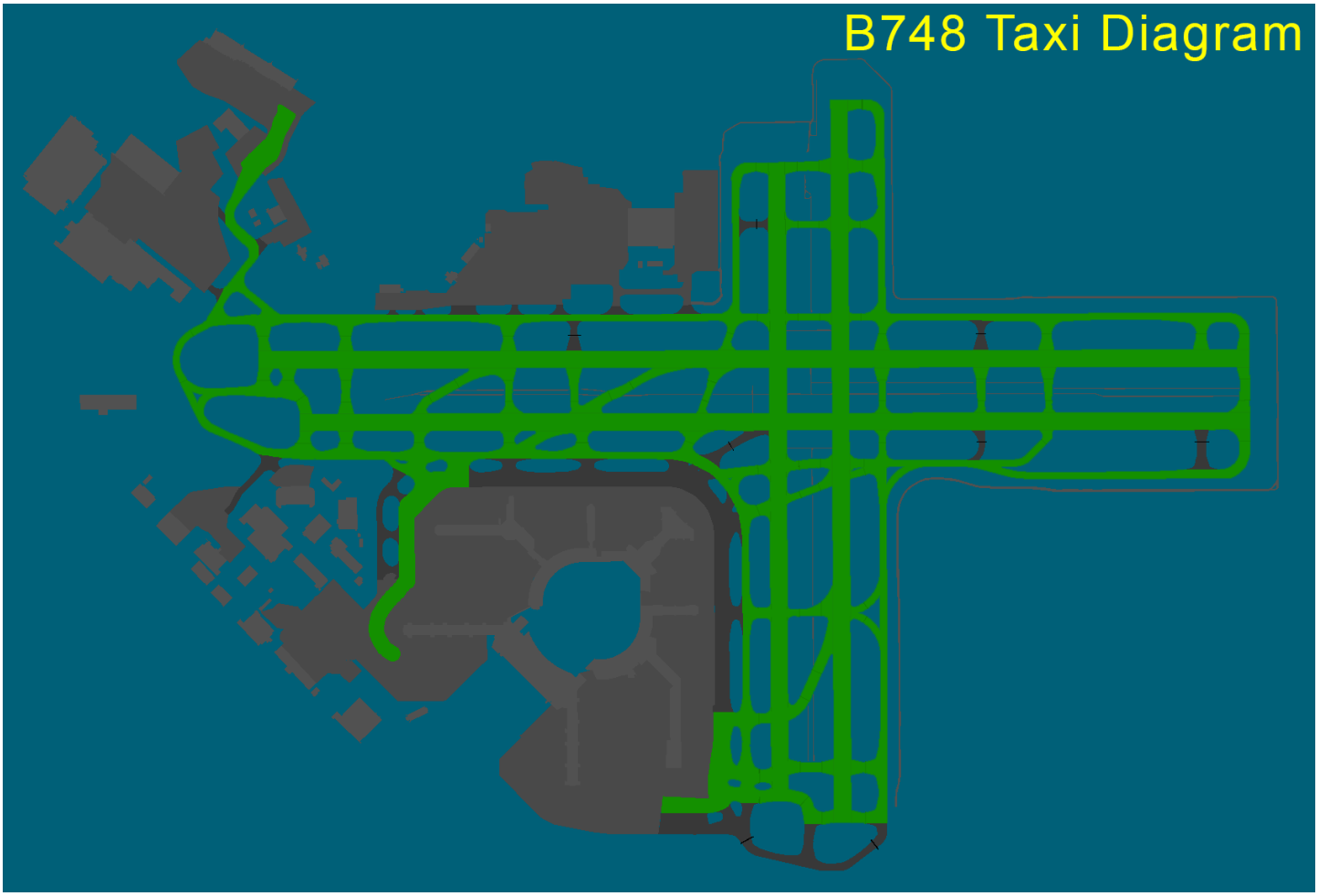
    PHRASEOLOGY-
    GATEHOLD PROCEDURES ARE IN EFFECT. CONTACT (position name) ON (frequency) WHEN READY FOR ENGINE START OR PUSHBACK

e. Gate Hold shall give special handling to EDCT and CFR aircraft.
f. When aircraft request engine start or push back, note the time they made their request, ensure that the aircraft has the current D-ATIS, request the gate number, if appropriate, and advise the pilot of the estimated delay in minutes.
g. Place the flight in the VRC reminders list or appropriate flight strip category. The reminders list/flight strip category shall be maintained on first come, first served basis, so that the first aircraft in line shall be at the top of the stack.
h. Advise the pilot to monitor the frequency for updates.
i. Monitor the rate of arrivals and departures to ensure a proper number of aircraft are ready for departure; normally, no fewer than 5 and no more than 10 aircraft should be at the departure runway(s).
j. Adjust order and timing of aircraft release based on ground congestion and length of departure queues. Release aircraft to provide operation benefit for outbound flow, by being aware of varying destinations/exit fixes/DPs.

k. If the proper number of aircraft are at the runway(s), normally one aircraft should be released to Ground Control each time an aircraft departs, unless arrival traffic is light
    i. Avoid releasing an aircraft to Ground Control if its ramp area is congested.
    ii. When releasing an aircraft to Ground Control, Gate Hold should use phraseology that minimizes congestion on the Ground Control frequency.

    PHRASEOLOGY-
    (Callsign), MONITOR GROUND ON 121.800.

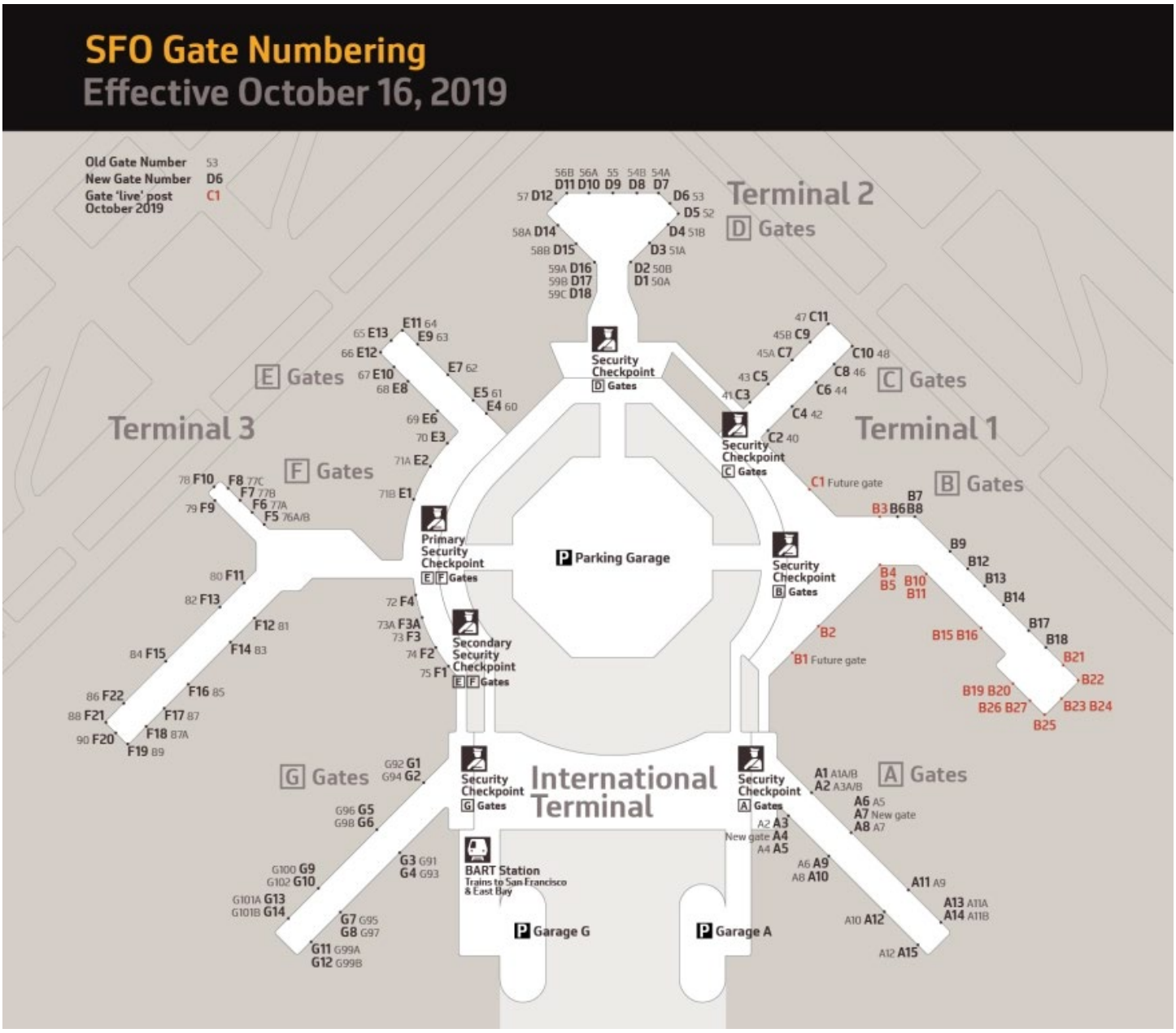
Attachment 1. A380 and B747-8 Taxi Diagrams


B748 Taxi Diagram

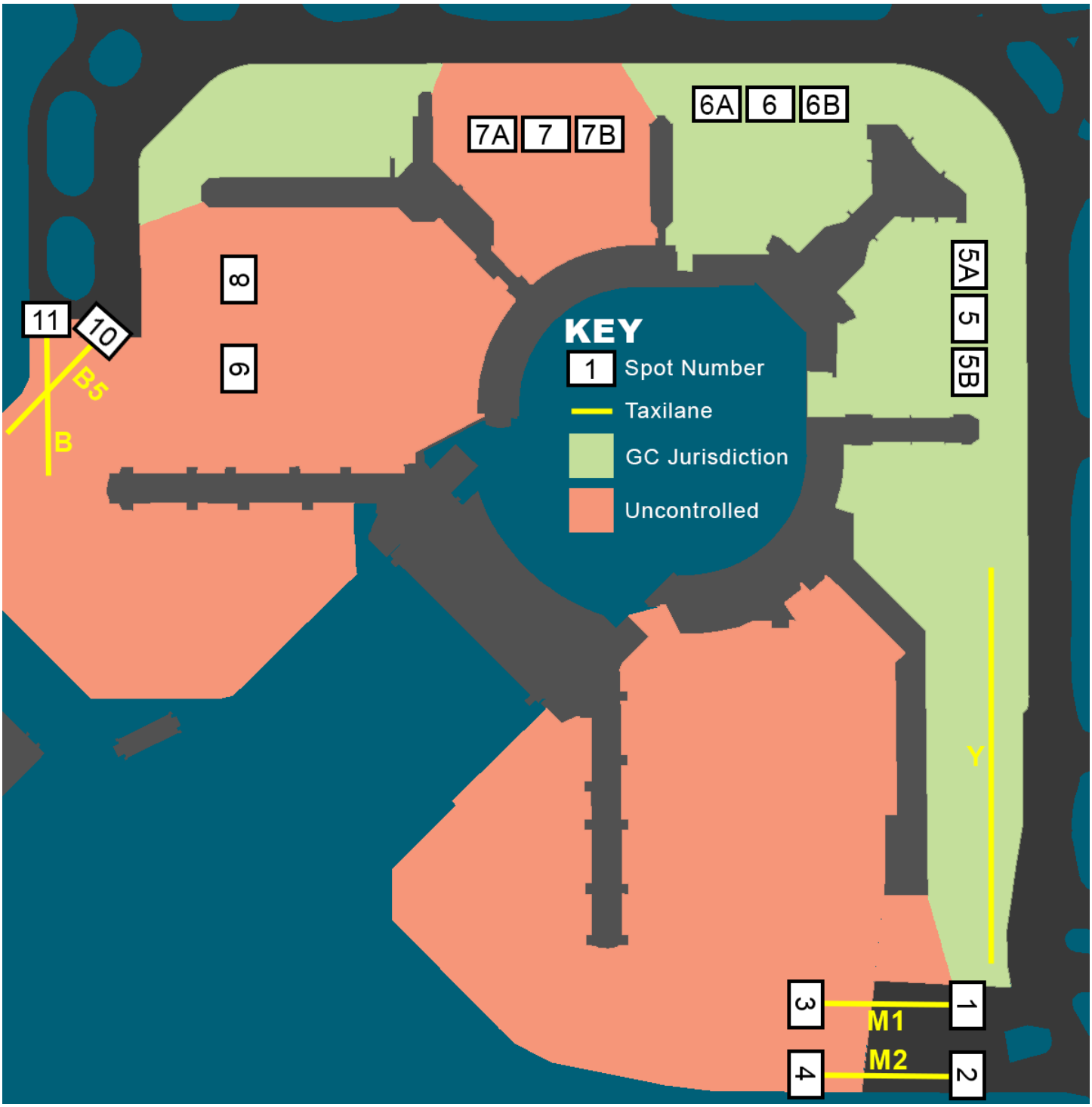
Attachment 2. GC & LC Jurisdiction


KEY - SFOE
Ground Control
Local Control
19L
19R
10L
10R
28R
28L
1L
1R

Attachment 3. SFO Gate Map



Attachment 4. Ramp Diagram



Attachment 5. Runway Distance Remaining

Note: full length distances not shown

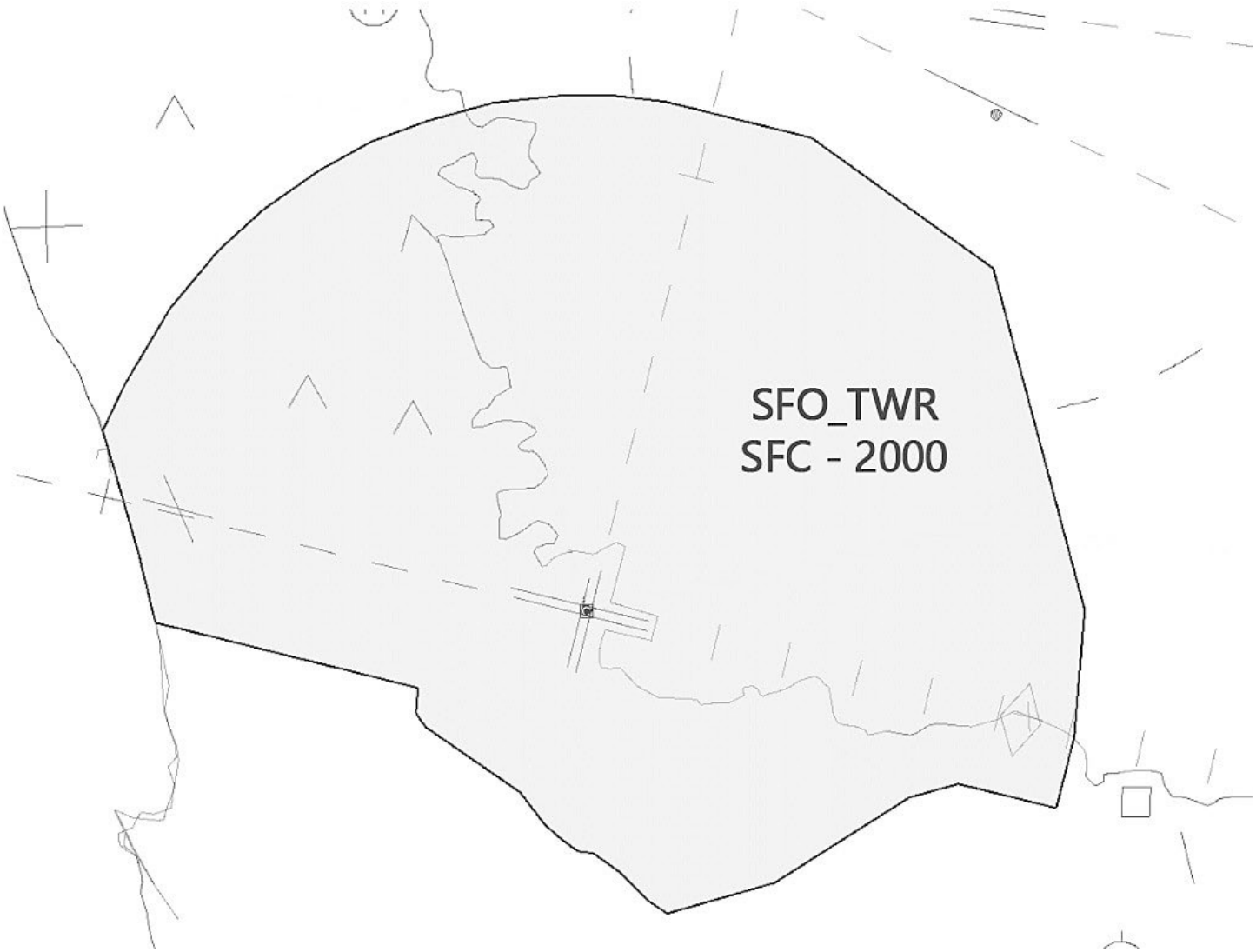
TWY/RWY	DIST. 28L	DIST. 28R
C2	N/A	11,250
F2	10,800	N/A
N	8,950	9,450
P	8,150	8,600
L	6,950	7,450
01R/19L	6,450	6,950
01L/19R	5,700	6,200
E	4,800	5,550
T	N/A	
D	3,250	3,750
K	2,500	2,950
Q	1,400	N/A
R	750	1,200
S2	N/A	350

TWY/RWY	DIST. 10L	DIST. 10R
S2	11,200	N/A
R	10,300	10,300
Q	N/A	9,650
K	8,550	8,550
D	7,750	7,750
T	N/A	
E	6,000	6,250
01L/19R	5,300	5,300
01R/19L	4,550	4,550
L	4,050	4,050
P	2,900	2,900
N	2,100	2,100
F2	N/A	250
C2	250	N/A

TWY/RWY	DIST. 01L	DIST. 01R
M (west)	7,300	N/A
M (east)	7,200	7,950
H	6,600	N/A
G	5,350	6,100
F1	N/A	
F	3,650	4,350
28L/10R	3,100	3,850
28R/10L	2,350	3,100
C	1,850	2,600
V	700	1,450
E	N/A	750

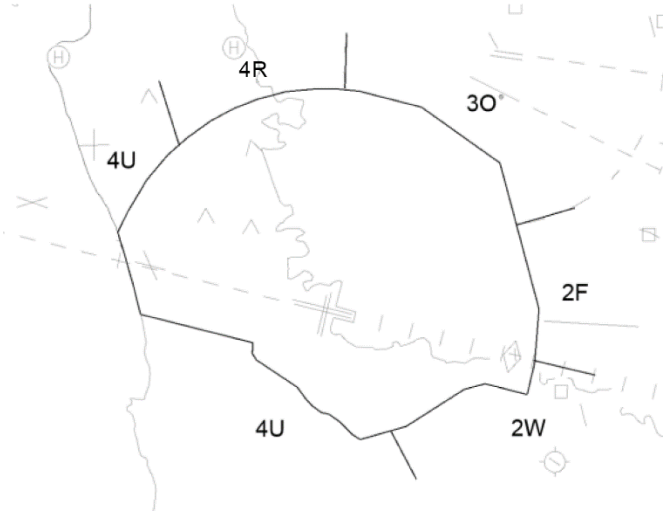
TWY/RWY	DIST. 19L	DIST. 19R
E	7,850	FULL
V	7,150	6,900
C	6,050	5,800
28R/10L	5,550	5,300
28L/10R	4,800	4,550
F	4,300	4,000
F1	N/A	
G	2,500	2,250
H	N/A	1,000
M (east)	650	400
M (west)	N/A	300

Attachment 6. Tower Delegated Airspace



Attachment 7. VFR Handoff Boundaries

a. SFOW



b. SFOE (10/19)

c. SFOE (10/10)