



**JUNE 21-22, 2019** 

# LIVERMORE MUNICIPAL AIRPORT (LVK) LIVERMORE, CA

# NOTAM

#### SPECIAL FLIGHT PROCEDURES

EFFECTIVE:	:			
Thursday	June 20, 2019	12:00 NOON	<b>PDT</b> until	8:30 PM PDT
Friday	June 21, 2019	7:00 AM	PDT until	7:30 PM PDT
Saturday	June 22, 2019	7:00 AM	PDT until	6:00 PM PDT





### IMPORTANT INFORMATION



#### PLEASE NOTE NOTAM EFFECTIVE TIMES

12:00 PM PDT until 8:30 PM PDT Thursday, June 20, 2019

7:00 AM PDT until 7:30 PM PDT Friday, June 21, 2019

7:00 AM PDT until 6:00 PM PDT Saturday, June 22, 2019

#### AIRPORT CLOSED DURING THE FOLLOWING TIMES

8:30 PM PDT Thursday, June 20, 2019 to 7:00 AM PDT Friday, June 21, 2019.

7:30 PM PDT Friday, June 21, 2019 to 7:00 AM PDT Saturday, June 22, 2019.

12:00 Noon PDT to 1:15 PM PDT Saturday, June 22, 2019.

STOL Demonstration. Arrivals and departures **will be stopped** for the duration of the demonstration. Please plan accordingly.

#### **RUNWAY CLOSURE**

Runway 7R/25L expected to be closed for aircraft parking on Friday, June 21, 2019 and Saturday, June 22, 2019.

#### CHOCKS AND/OR TIE DOWNS ARE REQUIRED AND NOT PROVIDED. PLEASE BRING YOUR OWN.

# EARLY ARRIVALS (PRIOR TO THURSDAY, JUNE 20, 2019 - 12:00 NOON PDT) WILL NOT BE ACCOMMODATED IN THE AOPA ATTENDEE PARKING

- Camping will NOT be permitted prior to Thursday, June 20, 2019
- Aircraft parking will be at designated transient spaces managed by the FBOs
- · Overnight fees may apply

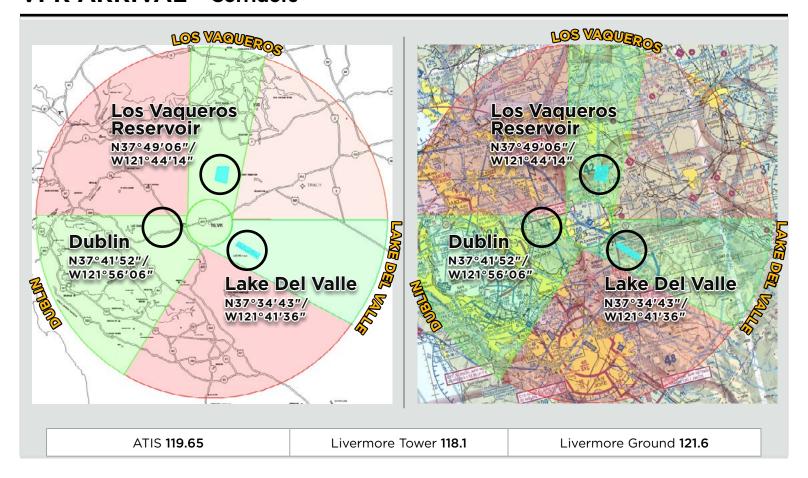
#### AIRCRAFT CAMPING

- All campers must pre-pay and pre-register. Camping availability not assured without reservation.
- Please bring your own food and water. Food is **NOT** provided on the airfield.
- Ground transportation is **NOT** provided to get to locations offsite. Taxi or rental car reservations must be made on your own.
- Food, Water, Sunscreen, and Rain gear is highly recommended.
- Restroom and shower facilities are "primitive". Portable toilets and handwashing stations will be provided.
   Limited shower facilities might be available but not assured. No guarantee on hot water. Please come prepared!
- Aircraft camping is open from 12:00 Noon PDT Thursday, June 20, 2019 until 12:00 Noon PDT Sunday, June 23, 2019.

### **TABLE OF CONTENTS**

NOTAM—TEMPORARY VFR PROCEDURES 1-17	FREQUENCIES & WAYPOINT INFORMATION12-13
Graphic—VFR Arrival Corridors1	Enroute frequencies12
Graphic—VFR Arrival Corridors—sectional view1	Livermore Municipal Airport Frequencies12
VFR Arrival Corridors1	Specific Latitude/Longitude Coordinates13
Graphic—VFR Arrivals Overview—sectional view2	Degrees, Minutes, Seconds converted to
Temporary VFR Procedures2	Decimal Degrees
Graphic—VFR Arrivals over Los Vaqueros Reservoir —sectional view3	GENERAL INFORMATION: LIVERMORE MUNICIPAL AIRPORT14
VFR Procedures: Arrivals over Los Vaqueros Reservoir3	Graphic—Livermore Municipal Airport—satellite view14
Graphic—Los Vaqueros Reservoir VFR Hold —satellite view4	Non-movement Areas14
Graphic—Over Los Vaqueros Reservoir looking SW	Parking Areas14
toward LVK—sat. view4	Vehicular Traffic14
Graphic—VFR Arrivals over Lake Del Valle	Preflight Planning14
-sectional view5	Parking and Service Details14
VFR Procedures: Arrivals over Lake Del Valle5	Chocks and Tie Downs14
Graphic - Lake Del Valle VFR Hold—satellite view6	Camping14
Graphic - Over Lake Del Valle looking northwest toward LVK—satellite view4	After-Hours Departures14
Graphic - VFR arrivals over Dublin—sectional view7	DEPARTURE PROCEDURES: LIVERMORE
VFR Procedures: Arrivals over Dublin7	MUNICIPAL AIRPORT15-18
Graphic - Dublin VFR Hold—satellite view8	IFR Departures15
Graphic—Over Dublin looking east toward LVK —satellite view8	VFR Departures15
Graphic—Landing 25R—satellite view9	VFR Flight Following15
Graphic—Landing 7L—satellite view9	Prior to Start-up15
Graphic—Landing 25L—satellite view10	Engine Start/Run-up15
Graphic—Landing 7R—satellite view10	Taxi15
IFR Arrivals/IFR Delays11	Departure15
VFR Turbojet Arrivals11	Depart via Dublin Corridor15
Traffic Management Initiatives11	Depart via Los Vaqueros Corridor15
Airport Closures11	Depart via Lake Del Valle Corridor15
Helicopter Operations11	Graphic—Depart via Los Vaqueros Reservoir Corridor —sectional view16
Local Training and Practice Approaches11	Graphic—Depart via Lake Del Valle Corridor
No Radio Aircraft11	-sectional view16
Student Pilots11	Graphic—Depart via Dublin Corridor—sectional view 17
Noise-Sensitive Areas11	Graphic—Livermore Municipal Airport diagram18
Cautions11	IFR WINDSHIELD GRAPHIC—PRINTABLE19

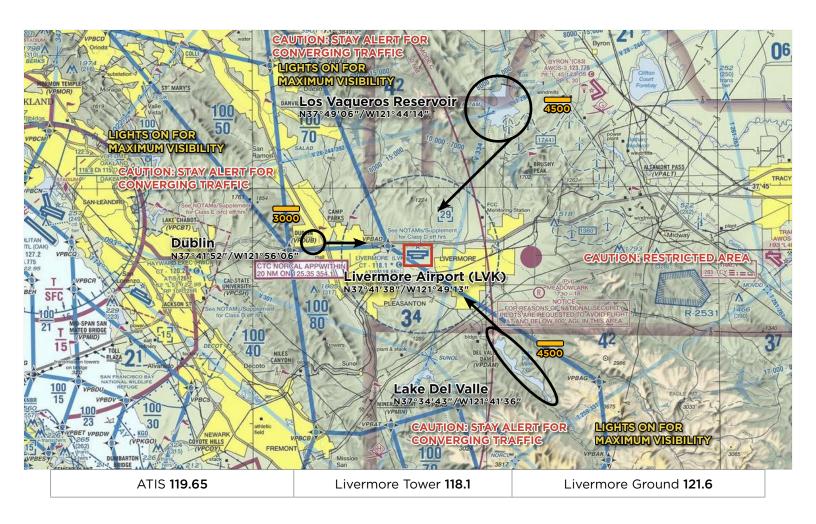
### VFR ARRIVAL - Corridors



#### ALL VFR ARRIVALS SHOULD UTILIZE ONE OF THE FOLLOWING ARRIVAL CORRIDORS:

- Los Vaqueros Corridor. Arrivals utilizing this corridor should enter within six (6) nautical miles east/west of Isleton, CA and then proceed to the Los Vaqueros Reservoir at or below 4500 feet MSL.
- 2. Lake Del Valle Corridor. Arrivals utilizing this corridor should enter over or east of the San Luis Reservoir and should turn west toward Lake Del Valle over or south of the intersection of I-5 and I-580 and proceed to Lake Del Valle at or below 4500 feet MSL.
- 3. **Dublin Corridor.** This arrival corridor is only for aircraft departing Half Moon Bay, Hayward, Oakland, Palo Alto, San Francisco or San Carlos Airports. Aircraft should proceed to Dublin at or below 3,000 feet MSL.

### VFR ARRIVALS OVERVIEW



#### **TEMPORARY VFR PROCEDURES**

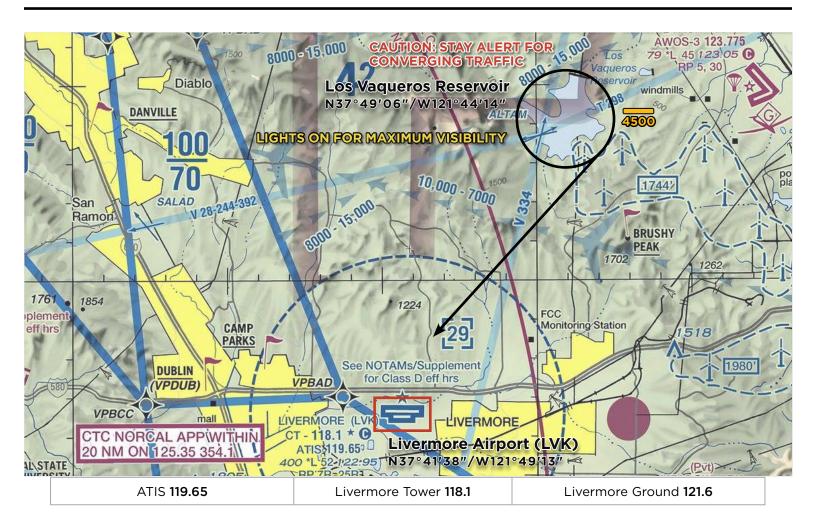
Specific procedures contained within this NOTAM may be revised at the time of the event. Pilots are urged to review all applicable NOTAMs and arrival/departure procedures prior to conducting a flight to Livermore Municipal Airport. Users are encouraged to check NOTAMs frequently to verify they possess the most current revisions. This NOTAM does not supersede restrictions pertaining to the use of airspace contained in FDC NOTAMS.

#### **VFR ARRIVALS:**

VFR arrivals should proceed to one of the following after entering the appropriate arrival corridor:

- Los Vaqueros Reservoir, 9 NM northeast of Livermore Municipal Airport (LVK), or.
- Lake Del Valle, 6 NM southeast of Livermore Municipal Airport (LVK), or
- **Dublin,** 6 NM west of Livermore Municipal Airport (LVK).

### VFR PROCEDURES - Arrivals over Los Vaqueros Reservoir



#### CHECK ATIS ON 119.65 AS SOON AS PRACTICAL.

This procedure begins over the Los Vaqueros Reservoir at or below 4500 feet MSL. If receiving flight following from NorCal Approach, expect radar service termination and a frequency change to Livermore Tower on 118.1 prior to reaching the Los Vagueros Reservoir. Do not change frequency until instructed to do so. If not in communication with ATC, contact Livermore Tower on 118.1 prior to reaching the Los Vaqueros Reservoir. Do not proceed beyond the Los Vagueros Reservoir until communication has been established with Livermore Tower.



CAUTION: Stay alert for converging traffic over the Los Vaqueros Reservoir.

If traffic volume requires holding, follow instructions from ATC and expect to fly the hold procedure as depicted in the LOS VAQUEROS RESERVOIR VFR HOLD GRAPHIC. (See graphic on page 4). All aircraft should fly right turns at or below 4500 feet MSL.



**CAUTION:** Stay alert for traffic holding around the Los Vaqueros Reservoir

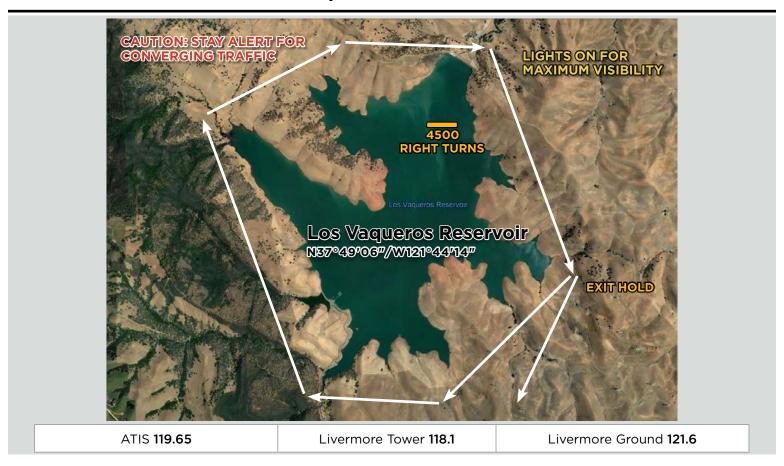
When ATC advises that holding is no longer required, aircraft should proceed inbound from the Los Vagueros Reservoir toward Livermore Municipal Airport. Begin descent to traffic pattern altitude as directed by ATC or at pilot's discretion. Aircraft in the hold should complete the hold and exit at the southeast side of the reservoir before proceeding inbound toward Livermore Municipal Airport. (See graphic on page 4)

Follow landing instructions from Livermore Tower on 118.1.

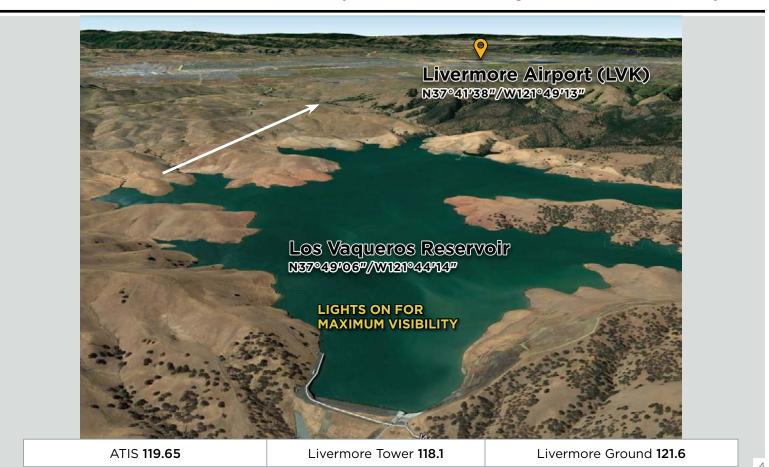
#### LVK TPA: 1400 feet MSL light aircraft; 1900 feet MSL multiengine/turbine aircraft

After landing, do not stop on the runway unless necessary. Exit the runway as quickly and as safely as possible at the first available taxiway. Continue far enough forward so as not to block subsequent arrivals. Follow instructions from Livermore Tower on 118.1 and MONITOR Livermore Ground on 121.6. Marshallers will guide you to a parking space once you have arrived in the non-movement/aircraft parking area.

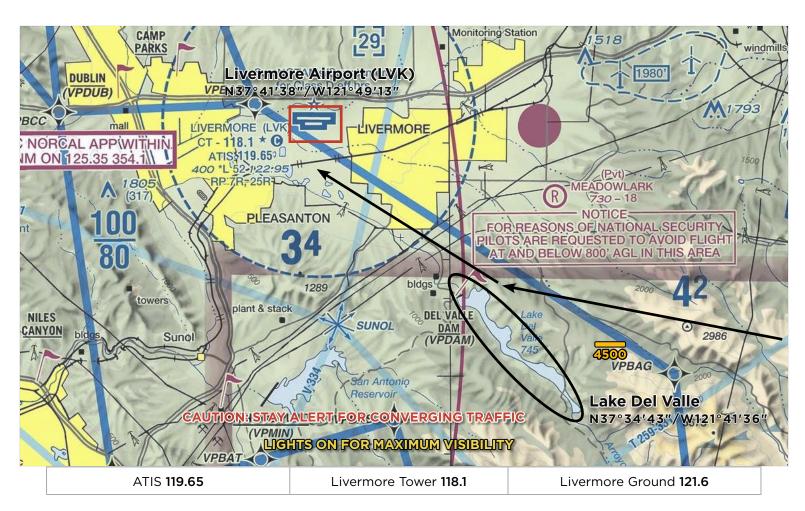
### VFR PROCEDURES - Los Vaqueros Reservoir VFR Hold



# VFR PROCEDURES - Over Los Vaqueros Reservoir Looking SW toward Livermore Airport



### VFR PROCEDURES - Arrivals over Lake Del Valle



#### CHECK ATIS ON 119.65 AS SOON AS PRACTICAL.

This procedure begins over Lake Del Valle at or below 4500 feet MSL. If receiving flight following from NorCal Approach, expect radar service termination and a frequency change to Livermore Tower on 118.1 prior to reaching Lake Del Valle. Do not change frequency until instructed to do so. If not in communication with ATC, contact Livermore Tower on 118.1 prior to reaching Lake Del Valle. Do not proceed beyond Lake Del Valle until communication has been established with Livermore Tower.



CAUTION: Stay alert for converging traffic over Lake Del Valle.

If traffic volume requires holding, follow instructions from ATC and expect to fly the hold procedure as depicted in the LAKE DEL VALLE VFR HOLD GRAPHIC. (See graphic on page 6). All aircraft should fly left turns at or below 4500 feet MSL.



CAUTION: Stay alert for traffic holding around Lake Del Valle.

When ATC advises that holding is no longer required, aircraft should proceed inbound from Lake Del Valle toward Livermore Municipal Airport. Begin descent to traffic pattern altitude as directed by ATC or at pilot's discretion. Aircraft in the hold should complete the hold and exit at the northeast side of the lake before proceeding inbound toward Livermore Municipal Airport. (See graphic on page 6)

Follow landing instructions from Livermore Tower on 118.1.

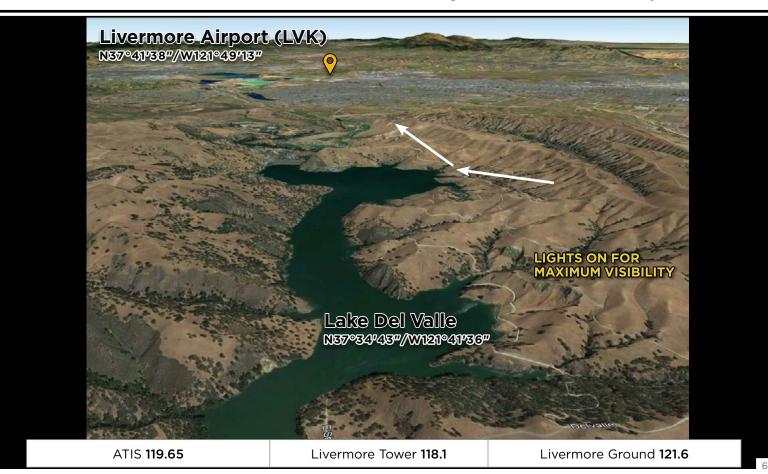
#### LVK TPA: 1400 feet MSL light aircraft; 1900 feet MSL multiengine/turbine aircraft

After landing, do not stop on the runway unless necessary. Exit the runway as quickly and as safely as possible at the first available taxiway. Continue far enough forward so as not to block subsequent arrivals. Follow instructions from Livermore Tower on 118.1 and MONITOR Livermore Ground on 121.6. Marshallers will guide you to a parking space once you have arrived in the non-movement/aircraft parking area.

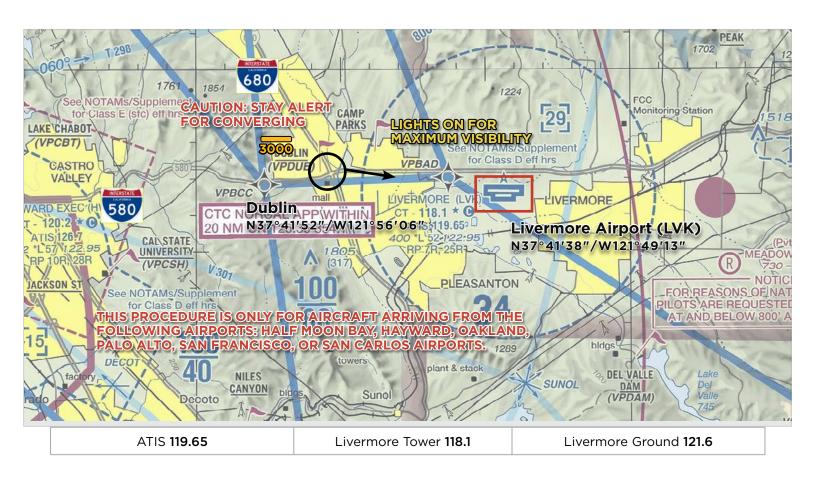
### VFR PROCEDURES - Lake Del Valle VFR Hold



# VFR PROCEDURES - Over Lake Del Valle Looking NW toward Livermore Airport



### VFR PROCEDURES - Arrivals over Dublin





#### CHECK ATIS ON 119.65 AS SOON AS PRACTICAL.

This procedure begins over Dublin at or below **3000** feet MSL. If receiving flight following from NorCal Approach, expect radar service termination and a frequency change to Livermore Tower on 118.1 prior to reaching Dublin. Do not change frequency until instructed to do so. If not in communication with ATC, contact Livermore Tower on 118.1 prior to reaching Dublin. Do not proceed beyond Dublin until communication has been established with Livermore Tower.



CAUTION: Stay alert for converging traffic over Dublin.

If traffic volume requires holding, follow instructions from ATC and expect to fly the hold procedure as depicted in the DUBLIN VFR HOLD GRAPHIC. (See graphic on page 8). All aircraft should fly left turns at or below 3000 feet MSL.



CAUTION: Stay alert for traffic holding around Dublin.

When ATC advises that holding is no longer required, aircraft should proceed inbound from Dublin toward Livermore Municipal Airport. Begin descent to traffic pattern altitude as directed by ATC or at pilot's discretion. Aircraft in the hold should complete the hold and exit at the southeast side of the hold before proceeding inbound toward Livermore Municipal Airport. (See graphic on page 8)

Follow landing instructions from Livermore Tower on 118.1.

#### LVK TPA: 1400 feet MSL light aircraft; 1900 feet MSL multiengine/turbine aircraft

After landing, do not stop on the runway unless necessary. Exit the runway as quickly and as safely as possible at the first available taxiway. Continue far enough forward so as not to block subsequent arrivals. Follow instructions from Livermore Tower on 118.1 and MONITOR Livermore Ground on 121.6. Marshallers will guide you to a parking space once you have arrived in the non-movement/aircraft parking area.

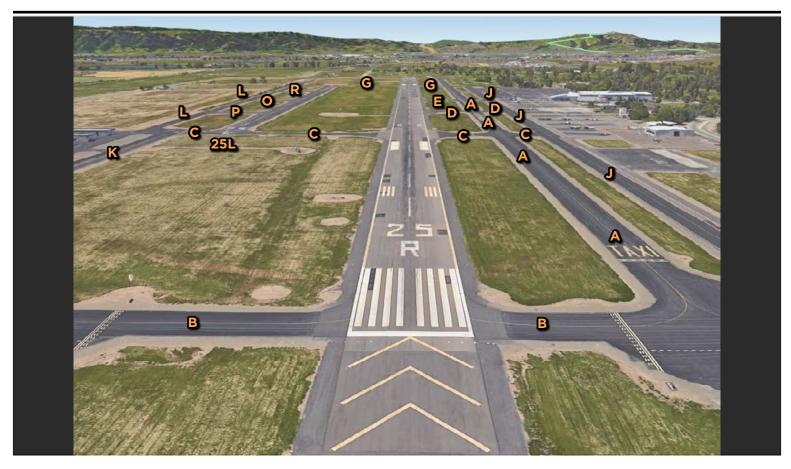
### VFR PROCEDURES - Dublin VFR Hold



### VFR PROCEDURES - Over Dublin Looking East toward Livermore Airport



### **LANDING 25R**



# LANDING 7L



### **LANDING 25L**



# **LANDING 7R**



#### IFR ARRIVALS/IFR DELAYS

There is no Special Traffic Management Program for this event. No arrival or departure reservations are required. IFR separation requirements may cause delays when arrival rates exceed airport capacity. Pilots on an IFR flight plan should be prepared for potential holding. IFR flight plans to Livermore Municipal Airport should be filed at least 4 hours prior to proposed departure time.

VFR flight on designated arrival routes is highly recommended if practical except turbojet aircraft.

#### **VFR TURBOJET ARRIVALS**

VFR Jet Arrivals should contact NorCal Approach no later than 30 miles from Livermore airport and expect to receive a straight-in arrival; or holding instructions at Tracy intersection.

#### TRAFFIC MANAGEMENT INITIATIVES

Livermore Tower may be **unable** to accept arrivals from 3:00 PM PDT to 6:00 PM PDT on Saturday, June 22, 2019 during the expected heavy departure push. Please plan accordingly.

#### **AIRPORT CLOSURES**

Livermore Municipal Airport will be closed during the following times during the AOPA Fly-In.

#### **Thursday**

 8:30 PM PDT Thursday, June 20, 2019 to 7:00 AM PDT Friday, June 21, 2019.

#### Friday

 7:30 PM PDT Friday, June 21, 2019 to 7:00 AM PDT Saturday, June 22, 2019.

#### Saturday

 12:00 Noon PDT to 1:15 PM PDT Saturday, June 22, 2019.

#### **RUNWAY CLOSURE**

Runway 25L/7R is expected to be closed for aircraft parking on Friday, June 21, 2019 and Saturday, June 22, 2019.

#### **HELICOPTER OPERATIONS**

Helicopters are not expected to fly the special VFR Arrival Procedures. When inbound, contact Livermore Tower on 118.1 as soon as practical for specific instructions.

#### LOCAL TRAINING AND PRACTICE APPROACHES

Local traffic pattern, closed traffic training, and practice instrument approaches will not be available at Livermore Municipal Airport (LVK) during the AOPA Fly-In.

#### **NO RADIO AIRCRAFT**

Due to high density traffic, aircraft operations without a radio are not authorized.

#### **STUDENT PILOTS**

Due to high density traffic, solo student pilot operations are not recommended.

#### **CAUTIONS**

Possible lengthy delays associated with heavy arrival and departure times. Heavy arrivals expected 7:00 AM PDT-10:00 AM PDT Friday, June 21, 2019 and Saturday, June 22, 2019. Heavy departures expected **3:00 PM PDT—6:00 PM PDT** Saturday, June 22, 2019.

High degree of bird activity in all quadrants at Livermore Municipal Airport. Please do not advise the tower of the activity as they are already aware of it and it will only increase frequency congestion.

**Lawrence Livermore National Laboratory and Sandia** National Laboratory; 5 NM east of Livermore Municipal Airport. Pilots are requested to avoid flight at or below 800 feet AGL in this area.

Restricted Area R-2531, 12 NM east of Livermore Municipal Airport.

Wind turbines northeast and east of Livermore Municipal Airport.

Class B Airspace: San Francisco International Airport (SFO)

Class C Airspace: Oakland International Airport

Class C Airspace: San Jose International Airport (SJC)

Heavy airline traffic inbound for Oakland International Airport south of Livermore Municipal Airport.

**Skydiving/Glider** activity at Byron Airport (C83), 12 NM northeast of Livermore Municipal Airport.

Hang gliding activity at Mission Peak, west and northwest of the Calaveras Reservoir.

Do not mistake parallel taxiway north of Runway 25R/7L as a runway.

### FREQUENCIES AND WAYPOINT INFORMATION

EN ROUTE FREQUENCIES	
NorCal Approach—Arrivals over Los Vaqueros Reservoir	123.85
NorCal Approach—Arrivals over Lake Del Valle	123.85
NorCal Approach—Arrivals over Dublin	123.85

LIVERMORE MUNICIPAL AIRPORT FREQUENCIES		
ATIS	119.65 (925-447-9516)	
ASOS	925-606-5412	
Livermore Tower	118.1	
Livermore Ground	121.6	
UNICOM	122.95	

### FREQUENCIES AND WAYPOINT INFORMATION - continued

#### SPECIFIC LATITUDE/LONGITUDE COORDINATES

ARRIVALS OVER LOS VAQUEROS RESERVOIR		
Isleton, CA	N38°09´42´´/W121°36´42´´	
Los Vaqueros Reservoir	N37°49′06′′/W121°44′14′′	
Livermore Municipal Airport (LVK)	N37°41′38′′/W121°49′13′′	

ARRIVALS OVER LAKE DEL VALLE		
San Luis Reservoir	N37°03′05′′/W121°06′50′′	
Intersection of I-5 and I-580	N37°35´51´´/W121°20´31´´	
Lake Del Valle	N37°34´43´´/W121°41´36´´	
Livermore Municipal Airport (LVK)	N37°41′38′′/W121°49′13′′	

ARRIVALS OVER DUBLIN		
Dublin	N37°41′52′′/W121°56′06′′	
Livermore Municipal Airport (LVK)	N37°41′38′′/W121°49′13′′	

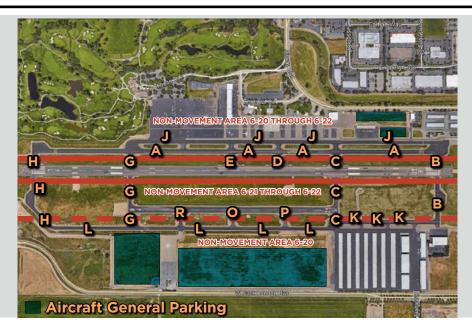
#### DEGREES, MINUTES, SECONDS CONVERTED TO DECIMAL DEGREES

ARRIVALS OVER LOS VAQUEROS RESERVOIR		
Isleton, CA	38.161667°/121.611667°	
Los Vaqueros Reservoir	37.818333°/ 121.737222°	
Livermore Municipal Airport (LVK)	37.693889°/121.820278°	

ARRIVALS OVER LAKE DEL VALLE		
San Luis Reservoir	37.051389°/ 121.113889°	
Intersection of I-5 and I-580	37.5975°/ 121.341944°	
Lake Del Valle	37.578611°/ 121.693333°	
Livermore Municipal Airport (LVK)	37.693889°/121.820278°	

ARRIVALS OVER DUBLIN		
Dublin	37.697778°/ 121.935°	
Livermore Municipal Airport (LVK)	37.693889°/ 121.820278°	

### LIVERMORE MUNICIPAL AIRPORT GENERAL INFORMATION



#### **NON-MOVEMENT AREAS**

- Thursday, June 20, 2019 will be south of runway 25L/7R and north of runway 25R/7L.
- Friday, June 21, 2019 and Saturday, June 22, 2019 will be south of runway 25R/7L and north of runway 25R/7L. Follow instructions from marshallers to parking areas.

#### **PARKING AREAS**

- When operating in the parking areas, pilots are encouraged to be extra alert for taxiing aircraft, aircraft with engine(s) running, and vehicle/pedestrian traffic.
- Marshallers will be assisting aircraft to and from parking areas and run-up areas.
- For safety reasons, high RPM engine running is prohibited in designated parking areas. For departure, it is recommended that pilots conduct their run-up procedures in queue if practical.
- Please review the parking map prior to landing and departing.

#### **VEHICULAR TRAFFIC**

• Vehicles are not allowed on ramps except those belonging to airport operators and tenants.

#### PREFLIGHT PLANNING

- Please ensure that you have reviewed the special flight information, departure procedures, and temporary taxi procedures prior to engine start.
- High density traffic is expected Friday and Saturday morning. Consider arriving during off-peak hours.

#### PARKING AND SERVICE DETAILS

• Fuel/oil orders will be taken at the time your aircraft is parked. If you need either, please make sure to make the request at that time. Orders made at a later time might delay your departure. Credit card information will be requested at the time the order is placed. Receipts if requested will be emailed or available in the FBO. Order slip will be attached to propeller. If you are uncomfortable providing credit card information on the ramp, you can provide the information directly to the FBOs front desk.

#### **CHOCKS AND TIE DOWNS**

 Chocks will not be available, so we highly recommend that you bring your own. Tie down hooks are few and far between and parking on a tie down space is very unlikely. It is recommended that you bring tie-downs and anchors for any additional aircraft securing needs.

#### **CAMPING**

 Aircraft camping will be permitted at Livermore Municipal Airport (LVK) from 12:00 Noon PDT Thursday, June 20, 2019 until 12:00 Noon PDT Sunday, June 23, 2019. Space is limited and will be available on a first-come, first-served basis. If you plan to camp, you must RSVP ahead of time. A confirmation will be sent with additional information. Camping aircraft will be requested to prominently display the letter C in the windshield. See the AOPA website for more information.

#### **AFTER-HOURS DEPARTURES**

 If you will be departing after the airports normal operating hours, please contact the after-hours Line Service number for the FBO that serviced you. An after-hours callout is subject to an additional fee.

# LIVERMORE MUNICIPAL AIRPORT DEPARTURE PROCEDURES

#### **IFR DEPARTURES**

Place printed large IFR letters in the windshield. Follow marshallers instructions to taxi to the nearest designated IFR departure holding area. IFR departures may obtain their clearance from Livermore Ground on **121.6**.

#### **VFR DEPARTURES**

**VFR Flight Following:** Pilots wanting VFR flight-following should make the request to the appropriate ATC facility when at least **25** NM from Livermore Municipal Airport.

VFR Traffic Advisories/Flight Following will be provided on a workload-permitting basis only and will not be available for departing aircraft within **25** NM of Livermore Municipal Airport.

**Prior to start-up** — Please ensure that you have reviewed the special flight information, departure procedures, and temporary taxi procedures prior to engine start. Check ATIS on **119.65**.

- Engine start/Run Up If practical, it is recommended that you conduct your run-up while in queue for departure. Please consider propeller blast during your run-up..
- Taxi Follow instructions from marshallers and MONITOR ONLY Livermore ground on 121.6. Be prepared for immediate departure when number one for take-off.
- Departure Contact Livermore Tower on 118.1 when NUMBER 1 for departure. State ATIS code and direction of departure on initial call.

#### Depending on destination expect the following:

#### a. Depart via Dublin Corridor

- (1) This procedure should only be used by aircraft departing to Half Moon Bay, Hayward, Oakland, Palo Alto, San Francisco or San Carlos Airports.
- (2) Follow departure instructions from Livermore Tower.

#### **b.Depart via Los Vaqueros Corridor**

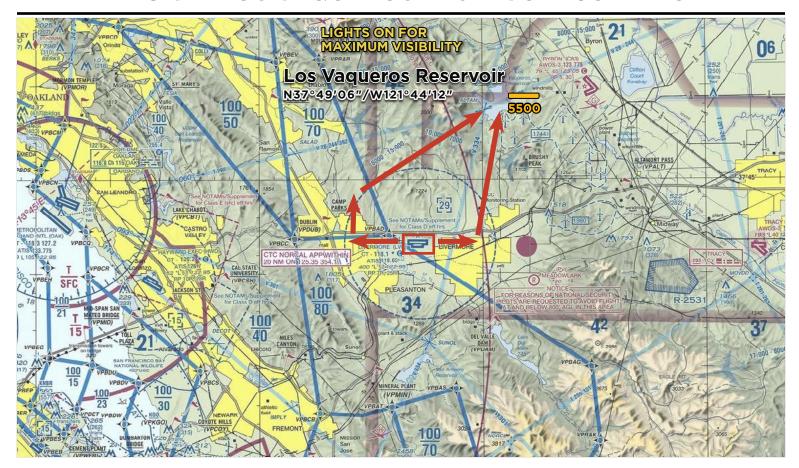
- Departures with destinations to the Northwest through East may request to depart via the Los Vagueros Corridor.
- (2) Aircraft should cross over or abeam the Los Vaqueros Reservoir at or below **5,500** feet before climbing/turning on course.
- (3) Do not request VFR advisories until at least **25** miles from Livermore Airport.

#### c. Depart via Lake Del Valle Corridor

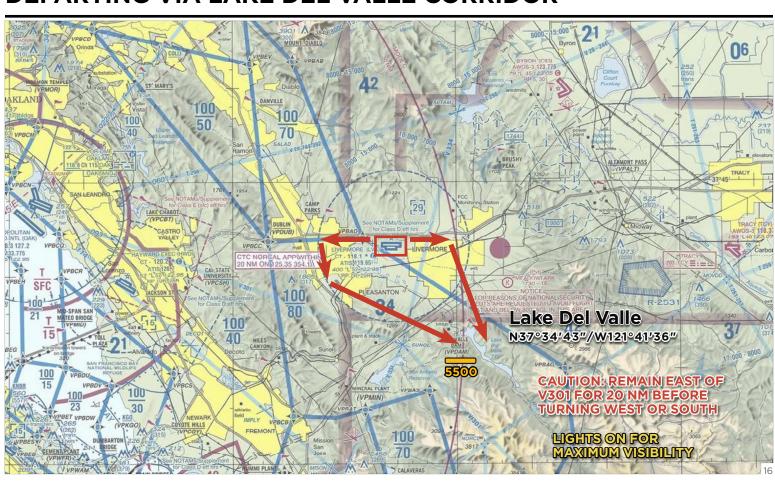
- Departures with destinations to the Southwest through East may request to depart via the Lake Del Valle Corridor.
- (2) Aircraft should cross over or abeam Lake Del Valle, at or below 5,500 feet. Remain east of V301 for 20 miles before climbing or turning West/South.
- (3) Do not request VFR advisories until at least 25 miles from Livermore Airport.

**Note:** Once clear of Livermore Class D Airspace change frequency at pilot's discretion. (There is no need to contact tower for frequency change if you are clear of the airspace.)

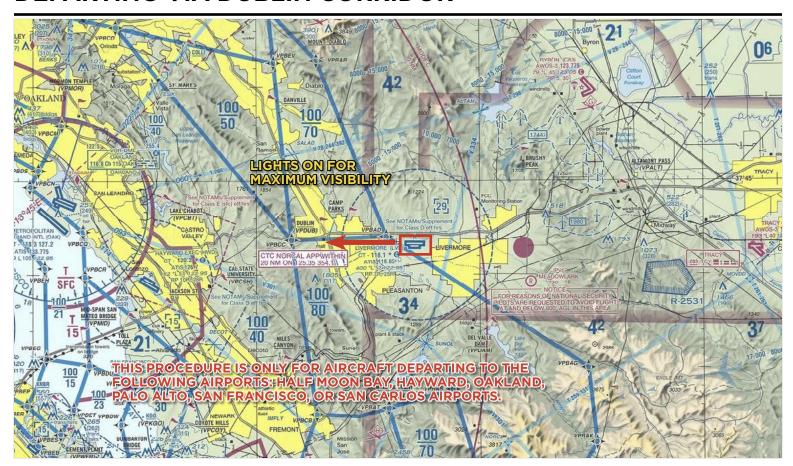
### **DEPARTING VIA LOS VAQUEROS RESERVOIR CORRIDOR**



### **DEPARTING VIA LAKE DEL VALLE CORRIDOR**



### **DEPARTING VIA DUBLIN CORRIDOR**

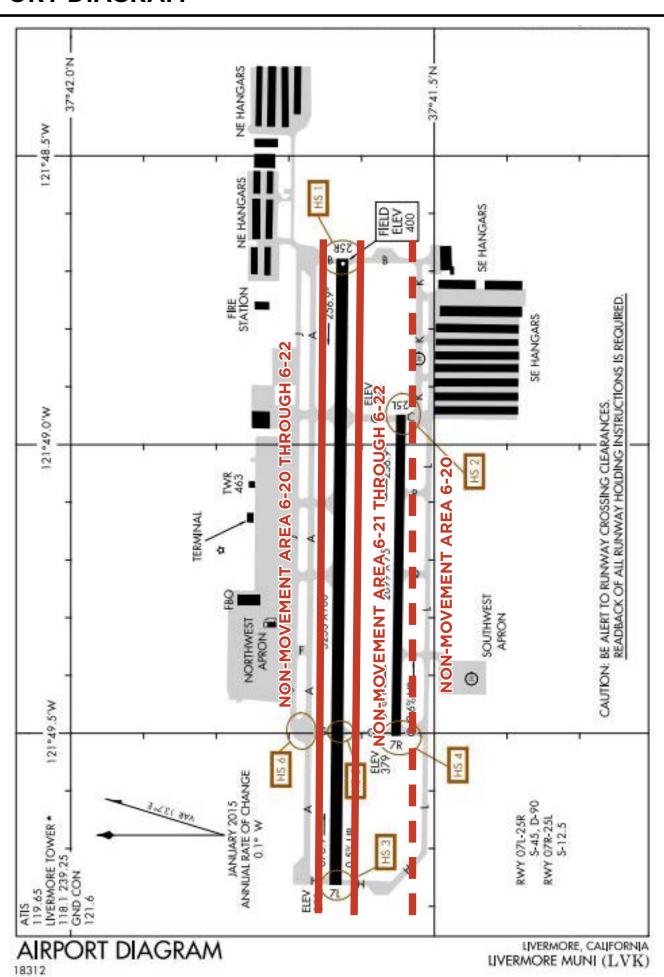




### **SEE AND BE SEEN!**

REMEMBER, LIGHTS ON FOR SAFETY!

### AIRPORT DIAGRAM





Print & place graphic in aircraft windshield if departing IFR